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Chevron Environmental Management Company

REMEDIAL INVESTIGATION REPORT ADDENDUM 1

Former Texaco Research Center Beacon

Glenham, New York

Site ID# 314004
NYSDEC ID# 3-1330-48/16-0
EPA ID# 091894899

November 2, 2020

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Prepared for:
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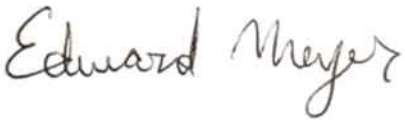

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Date:

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ACRONYMS AND ABBREVIATIONS

BTEX	Benzene, Toluene, Ethylbenzene, Xylene
CEMC	Chevron Environmental Management Company
COC	Constituent of Concern
1,1-DCA	1,1-dichloroethane
Cis-1,2-DCE	cis-1,2,-dichloroethene
DER	Division of Environmental Remediation
HCBD	Hexachlorobutadiene
HHEA	Human Health Exposure Assessment
NYSDEC	New York State Department of Environmental Conservation
OU	Operable Unit
RIR	Remedial Investigation Report
SVOC	Semivolatile Organic Compounds
1,1,1-TCA	1,1,1-Trichloroethane
TCE	Trichloroethylene
TOGS	Technical and Operational Guidance Series
TRCB	Texaco Research Center, Beacon
WATF	Washington Avenue Tank Farm

Qualified Environmental Professional Certification

I, Ellen Haggerty, certify that I am currently a Qualified Environmental Professional as defined in 6 NYCRR Part 375 and that this Remedial Investigation Report was prepared in accordance with all applicable statutes and regulations and in substantial conformance with the Division of Environmental Remediation (DER) Technical Guidance for Site Investigation and Remediation (DER-10) and that all activities were performed in full accordance with the DER-approved work plans and DER-approved modifications.

Ellen Haggerty, PE
NJ PE License #: 24GE04558400
Arcadis Principal Engineer

1 INTRODUCTION

On behalf of Chevron Environmental Management Company (CEMC), Arcadis U.S., Inc. (Arcadis) has prepared this Remedial Investigation Report (RIR) Addendum at the request of the New York State Department of Environmental Conservation (NYSDEC) in its October 2, 2020 Report Comments letter (Appendix A, NYSDEC 2020). This report is an addendum to the Remedial Investigation Report submitted to the NYSDEC by Arcadis on June 29, 2020 (Arcadis 2020) and includes supplemental evaluations and revisions requested by the NYSDEC.

1.1 Objectives

The purpose of this RIR Addendum is to present supplementary details and information collected at the former Texaco Research Center, Beacon (TRCB) facility (the Site) (Figure 1-1) located in the Hamlet of Glenham, New York. The RIR Addendum includes revisions to the text of the RIR and supplemental information requested by the NYSDEC. All environmental investigations performed at the former TRCB facility were completed to evaluate the nature and extent of potential impacts on site through the development of conceptual site models and to assess potential exposure of humans and ecological receptors to site related COCs.

1.2 Report Organization

This RIR addendum provides both errata to the formerly submitted revised RIR and supplemental information requested by the NYSDEC. Section 2 lists the NYSDEC's requested Report Modification Comments, and then provides replacement text for use in the RIR and replacement files where necessary. Subsection 2.5 contains supplemental documents that were added to the RIR without text revisions, though additional explanations of these files are included within this report.

2 ERRATA

The text in this section shall be used to note replacement text from the previous RIR. Each text revision will represent the modifications made based on the requests by the NYSDEC to revise the RIR.

2.1 Section 2.4.3.2, Section 3.3, Section 4.3

"Report Modification 2, 3D Figure Format and Functionality: 3D figures provided with the RI Report are difficult to navigate in pdf format. A single frame version of each 3D figure must be generated for the RI Report. The single frame version must zoom to the most relevant angle of each figure. Figure sizes should be increased as appropriate so that single frame pdf versions of 3D figures are legible."

Per the NYSDEC's comment, the 3D figures have been revised into single-frame figures for ease of use and navigability. The following subsections identify the various replaced figures and provide revised text for the report.

2.1.1 Section 2.4.3.2 – Geology, pp.15-16

Figures depicting the bedrock surface at the site are now provided in Figures 2-1 through 2-5. These figures provide an improved view of the bedrock surface onsite. The text in Section 2.4.3.2 should read as follows:

> To evaluate site geology, Arcadis consulted regional geologic literature and previously published reports for the Site (Dunn 1984, 1989; Parsons 2007, 2009b, 2019a; IT Corporation 2000a, 2000b), and reviewed site boring logs. To further evaluate site geology and to visualize certain aspects in three-dimensional (3D) space, Arcadis prepared an interactive model using Earth Volumetric Studio (C Tech Development Corporation 2020). Selected output from this model is presented throughout this report, in the form of single frame captures of the 3D model. Modeled bedrock surface images and key features are presented on Figures 2-1 through 2-5.

2.1.2 Section 3.3 – Soil Analytical Data Summaries, pp. 33-34

Figures depicting the soil exceedances at the site are now provided in Figures 2-6 through 2-16. These figures provide information regarding the extent of soil impacts for select compounds detected frequently in soils. The text in Paragraph 5 of Section 3.3 should read as follows:

> Summaries of screening results are presented in Tables 3-1A through 3-1K. Analytical data are provided in Appendix G, and soil boring locations are shown on Figures 3-1 and 3-2. Soil exceedances for specific analytes are provided on Figures 3-3(A-K) through 3-9. Three-dimensional presentations of the soil screening level exceedances are provided on Figures 2-6 through 2-16. These figures present single frames of the 3D model prepared for the site, with an expected areal extent of soil screening level exceedances based on detections.

2.1.3 Section 4.3 – Groundwater Analytical Data Summary, p. 74

Figures depicting groundwater exceedance locations at the site are now provided in Figures 2-16 through 2-30. These figures provide information regarding the individual locations of detections above the NYSDEC Technical and Operational Guidance Series (TOGS) 1.1.1 Class GA Groundwater Quality Standards. The text in Paragraph 2 of Section 4.3 should now read as follows:

> As stated in Section 4.1, the NYSDEC TOGS standards and the USEPA Tap Water RSLs were used as the applicable screening values. The screening was performed on a point-by-point basis, meaning no statistical evaluations or calculations of representative concentrations were performed. Groundwater concentrations exceeding criteria for specific analytes described in this section are depicted on single frame captures of the 3D model in Figures 2-17 through 2-30.

2.2 Section 6.2.2 – Soil Vapor Sample Results, Figure 2-31

“Report Modification 3, Soil Vapor Intrusion Figure: Detected concentrations of constituents encountered in soil vapor samples must be presented on a figure in the RI Report. The Department and NYSDOH will review detected concentrations of constituents in soil vapor to determine if additional sampling or action is necessary.”

Per the NYSDEC's comment on the revised RIR, Figure 2-31 has been developed to supplement the Soil Vapor Intrusion portion of the RIR. Summary text detailing the addition of this figure within Section 6.2.2 of the RIR should read as follows:

> Figure 2-31 presents the detections of constituents in soil vapor. The figure presents only detected concentrations of compounds present in the New York State Department of Health's Vapor Intrusion Decision Matrices. All vapor sample locations without posted data on Figure 2-31 are nondetect for these compounds. Two locations of passive soil vapor sampling identified constituents at detectable concentrations, OU1EPSV014 and OU1EPSV095.

2.3 Section 2.3 – Potential Sources, Tables 2-1A and 2-1B, p.11

"**Report Modification 4, Status of Storage Tanks**: The RI Report must include the current status of all storage tanks listed in Table 2"

Per the NYSDEC's comment, Tables 2-1A and 2-1B attached to this Addendum have been revised from the previously submitted Table 2-1A and 2-1B to include an additional column identifying the status of the tanks. The text in the introduction of Section 2.3 should now read as follows:

> The locations of former piping, tanks, and drum storage areas at the former TRCB facility are detailed on Figure 1-2, and tables that describe these potential sources are provided as Tables 2-1A through 2-1D. During demolition of the site in 2012, most of the remaining aboveground storage tanks that remained on site were closed and demolished. The remaining currently in place tanks are actively used and are related to the mill buildings and industrial wastewater treatment plant. Underground storage tanks onsite have all been closed in place or removed through the numerous remedial activities on site. Remaining underground storage tanks onsite will be further evaluated and remediated appropriately during future site efforts.

2.4 Section 4 – Monitoring Well Information, Table 2-2

"**Report Modification 5, Monitoring Well Summary Table**: The monitoring well summary table Chevron provided to the Department by e-mail on June 5, 2019 must be incorporated into the RI Report."

Per the NYSDEC's comment on the RIR, Table 2-2 has been provided in this Addendum. Summary text in support of the addition of Table 2-2 should be inserted as the second paragraph in the Section 4 introduction. The following new text to the RIR should read as follows:

> Table 2-2 has been added to provide the construction information for all monitoring wells currently installed on-site. This table was developed using site investigation findings and review of construction logs from installed monitoring well records.

2.5 Section 2.1 – Constituents of Concern, List of COCs, p.10

"**Report Modification 6, 1,4-Dioxane**: The RI Report must identify 1,4-Dioxane as a constituent of concern for the site based on its presence in groundwater samples collected from OU-1A and OU-1E. The presence of 1,4-Dioxane in OU-1A is likely associated with co-located levels of 1,1,1-TCA and will be addressed in the remedy selection process. At this time, the presence of 1,4-Dioxane in OU-1E may be

addressed by the addition of 1,4-Dioxane to the semi-annual groundwater monitoring program currently in place for OU-1E. The Department requests that 1,4-Dioxane samples at wells DB-8A and DB-17 be added to the semi-annual groundwater monitoring program at this time."

Per the NYSDEC's comments on the RIR, 1,4-dioxane must be added to the list of COCs. The list of COCs provided in Section 2.1 should now read as follows:

- Petroleum organics: Benzene, Toluene, Ethylbenzene, Xylene (BTEX)
- Chlorinated solvents and breakdown products:
  - 1,1,1-trichloroethane (1,1,1-TCA; breakdown – 1,1-dichloroethane [1,1-DCA]; chloroethane[1]; stabilizer – 1,4-dioxane)
  - Tetrachloroethane[1], trichloroethylene[1] (TCE; breakdown – cis-1,2-dichloroethene[1] [cis-1,2-DCE], vinyl chloride[1])
  - Chlorobenzene, 1,2-dichlorobenzene, 1,3-dichlorobenzene[1], 1,4-dichlorobenzene.
- Semivolatile Organic Compounds (SVOCs): 2-methylnaphthalene, benzo(a)anthracene, benzo(a)pyrene, benzo(b)fluoranthene, benzo(k)fluoranthene, chrysene, dibenz(a,h)anthracene, dibenzofuran, fluoranthene, hexachlorobutadiene[1] (HCBD), indeno(1,2,3-cd)pyrene, naphthalene
- Metals: arsenic, mercury, lead

2.6 Section 8.1.8 – Path Forward, p. 127

"**Report Modification 7, Section 8.1.8**: The RI Report must state that a Human Health Exposure Assessment (HHEA) will be completed in accordance with DER-10, Appendix 3B"

Per the NYSDEC's comments on the RIR, the path forward section must be revised to specify the follow-up Human Health Exposure Assessment (HHEA) will be a qualitative assessment, rather than a full evaluation requiring a work plan. In addition to the HHEA, a Background evaluation including an evaluation of constituents for retention as COCs, and a further review of potential soil sources to groundwater have been requested by the NYSDEC. The path forward section has been updated to indicate these evaluations will be presented in follow-up RIR Addendum. The second paragraph of Section 8.1.8 as revised shall read as follows:

> A Qualitative Human Health Exposure Assessment will be prepared to evaluate constituents for potential ingestion pathways in accordance with Division of Environmental Remediation (DER)-10 Appendix 3-B. The assessment will estimate potential human intake for the planned usage of the site during the upcoming remedial stages and for future use. An evaluation of background conditions in comparison to detected site concentrations will be prepared along with the qualitative Human Health Exposure Assessment following submittal of the RIR to assess potential background contributions. Using information in the Human Health Exposure Assessment and background evaluation, an additional evaluation of constituents onsite will be performed to evaluate which constituents, if any,

[1] Identified COC has been detected in groundwater, but not in soil analytical data.

should be retained as COCs. These evaluations will be submitted prior to the Feasibility Study, in a follow-up RIR Addendum.

3 CONCLUSIONS AND PATH FORWARD

With the revisions and supplemental files presented in Section 2, the NYSDEC's requested RIR Report Modification Comments from the October 2, 2020 correspondence have been fulfilled with the exception of "**Report Modification 1, Groundwater Isopleths**: Groundwater concentration contour figures for key constituents of concern which display concentration gradients must be included in the RI Report. These figures were previously provided in Appendix H of the August 2019 version of the RI Report and must be amended to the final RI Report." The requested groundwater isopleth contour figures for key constituents of concern will be updated and provided after collecting new groundwater samples to present a more accurate representation of current conditions on site. Groundwater analysis and supporting isopleth figures will be completed and provided to NYSDEC as a future RIR Addendum after approval of a sampling work plan and collection of the samples has been completed.

Following this submittal, it is Arcadis' understanding the NYSDEC considers the revised RIR to be complete. Follow-up RIR Addenda will be submitted to address the remaining supplemental RIR modifications and Report Modification 1 as requested by NYSDEC. These supplemental deliverables will be provided in the future with the Feasibility Study Reports. The follow-up addenda will contain an evaluation of the data presented in the revised RIR to confirm constituents of concern (COCs) and evaluate the potential to affect Human Health, the effect of background concentrations, and identify potential soil sources to groundwater.

4 REFERENCES

Arcadis U.S. Inc. 2020. Remedial Investigation Report. Former Texaco Research Center, Beacon, New York. June.

NYSDEC. 2010a. Division of Environmental Remediation, Draft DER-10 Technical Guidance for Site Investigation and Remediation. May 3.

NYSDEC. 2010b. CP-51/Soil Cleanup Guidance. DEC Policy. October 21.

NYSDEC. 2020. Re: Remedial Investigation Report, Revision 1, June 2020. Former Texaco Research Center Site, Site No. 3-14-004. Town of Fishkill, Dutchess County. October 2.

TABLES

Table 2-1A
Underground Storage Tanks
Chevron Environmental Management Company
Former Texaco Research Center Beacon
Glenham, New York

ARCADIS Design & Consultancy for natural and built assets

Underground Storage Tanks Map Designator	Name/Location	Description	Products/Chemicals Stored	Current Status
U1	Building 83 Tank	Tank #200 - oil/water separator tank connected to drains in Bldgs. 58/83/89	Waste solvents and fuels	Closed and Excavated (2006)
U2	Road Simulator Tanks - Northeast of Bldg. 36	14 USTs ranging in size from 550 gallons to 1,000 gallons (installed circa 1970). Containment area is reinforced concrete (one wall) and concrete block (three walls) walls	Gasoline (research and conventional) (leaded and unleaded); diesel fuel	Closed and Excavated (1988/1998)
U3	Garage Tanks	Two 1,000-gallon USTs (double-walled fiberglass with leak detection)	Gasoline; diesel fuel	Closed and Excavated (1998)
U4	Building 70 Tanks	Building 70 Tanks - Bank of 60 USTs (historically) (installed circa 1960s) - ranging from 125 to 500 gallons	Diesel fuel; various raw gasoline fractions; finished gasolines	Closed and Excavated (1988/1998)
U5	Industrial Wastewater Treatment Plant Tanks	Historical oil/water separator	Waste oils, fuels, solvents (?)	Closed and Excavated
U6	Building 37	Building 37 Tanks - 21 USTs ranging from 550 gallons to 6,000 gallons. Reinforced concrete containment vault	Gasolines (conventional/ research grades and gasohols); diesel fuels (conventional/ research grades	Closed and Excavated (1984/2003)
U7	Fleet Test Area near Parking Area "C"	Fleet Test Area Tanks - 7 USTs ranging from 1,000 gallons to 6,000 gallons	Gasoline; diesel; alternate fuels (methanol; M85); MTBE	Closed and Excavated (2001)
U8	Pre-Building 51 Tanks	Historical USTs installed and removed prior to construction of Bldg. 51	Vinyl chloride; solvents	Removed prior to construction of B-51
U9	Pre-Building 37 Tanks	Historical USTs and pump prior to construction of Bldgs. 37 and 39	Gasoline (?)	Removed prior to construction of B-37&39
U10	Former Truscan Buildings	Petroleum fuel USTs and pump island	Petroleum Fuel	Closed and Excavated
U11	Former Building 25	Unknown	Unknown	Excavated (1963)
U12	West of Building 3	Tank 35	Industrial Waste	Closed and Abandoned (1997)

Notes:
Information sourced from GSC, Phase II Environmental Site Assessment, June 2005.
MTBE = methyl tertiary-butyl ether
UST = underground storage tank

Table 2-1B
Aboveground Storage Tanks
Chevron Environmental Management Company
Former Texaco Research Center Beacon
Glenham, New York

Aboveground Storage Tanks Map Designator	Name/Location	Description	Products/Chemicals Stored	Current Status
A1	Building 82	Unknown	Unknown	Demolished
A2	Building 36 - east of and behind building	Two 3,000-gallon ASTs (each tank has three 1,000-gallon compartments)	Unleaded gasoline	Demolished
A3	Boiler House (Bldg. 26) Tanks	Five ASTs ranging from 250 gallons to 110,389 gallons. All ASTs have concrete secondary containent (installed in 1990/1991) except for the 275-gallon tank (see below)	Diesel fuel; stoddard solvent; type "A" waste oil; No. 6 fuel oil	Demolished (2004/2006)
A4	Boiler House (Bldg. 26) Tank	275-gallon AST		Demolished (2006)
A5	Building 81	275-gallon AST	Heating oil (?)	Demolished
A6	Building 55	Unknown	Unknown	Demolished
A7	Building 27 Tank	One 275-gallon AST	Heating oil (?)	Demolished
A8	Building 70 Tanks	Seven ASTs ranging from 1,000 gallons to 8,000 gallons	Lubricant base oil stocks; gasoline; methanol	Demolished
A9	Between Bldg. 55 and Bldg. 65	Historical AST	Unknown	Demolished
A10	Building 3	ASTs located immediately south of Bldg. 3	Unkown	In Place
A11	Outside Building 6	One 275-gallon AST. Fuel in tank used to run emergency generator during emergencies. A metal containment tray provides secondary containment. Tank in an enclosed storage shed	Diesel fuel	In Place
A12	Building 37	One 110-gallon AST with a secondary tank for containment	Unknown	Demolished (2003)
A13	Southeast of Bldgs. 37/39	Historical ASTs prior to construction of Blgs. 37 & 39	Unknown	Removed prior to construction of B-37&39
A14	Building 51	ASTs installed and removed prior to construction of Bldg. 51 addition	Unknown	Removed prior to construction of B-51
A15	Building 68	Two 550-gallon ASTs with metal secondary containment	Diesel fuel; naphthalene	Demolished
A16	Washington Avenue Tank Farm	27 ASTs ranging from 3,000 gallons to 21,000 gallons. As of 1997: 16 21,000-gallon steel vertical; one 10,000-gallon steel vertical; one 10,000-gallon steel vertical; three 5,000-gallon. Concrete secondary containment basins for ASTs (three basins)	Diesel fuel; stoddard solvent; various raw gasoline fractions gasoline	Demolished (2004)
A17	South of Bldg. 65	One 3,000-gallon steel horizontal AST in tank storage shed	Unknown	Demolished
A18	Industrial Wastewater Treatment Plant Tanks	One oil/water separator tank (Tank #259) One 275-gallon diesel fuel tank (Tank #296) - fuels emergency generator for power to treatment plant	Oil/water waste (sludge) (#259); diesel fuel (#296); lubricant oil	In Place

Notes:
Information sourced from GSC, Phase II Environmental Site Assessment, June 2005.
AST = aboveground storate tank

Table 2-2
Monitoring Well Construction Table
Chevron Environmental Management Company
Former Texaco Research Center
Beacon (Glenham), NY

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Well ID	Area of Site	Well Type	X_COORD	Y_COORD	Ground Elevation (Ft.-MSL)	TOC Elevation (Ft.-MSL)	Screen top (Ft.-MSL)	Screen bottom (Ft.-MSL)	TD of Boring (bgs)	Well Depth (Ft.-BGS)	Casing Diameter (Inches)	Casing Length (Ft.-BGS)	Screen Length (Ft.)	STICKUP (Ft.)	Well Screen Start Depth (Ft.-BGS)	Well Screen End Depth (Ft.-BGS)	Well Component Material	Well Use/ Purpose
BR-2	Bldg 36/58/83	B	645375.69	977965.17	217.47	216.93	200.43	185.43	31.50	31.50	2.00	16.50	15.00	0.00	17.00	32.00	PVC	Monitoring
DB-17	B93	O	646916.58	975948.74	NA	231.77	NA	9.10		9.10	2.00	NA	NA	NA	NA	9.10	PVC	Monitoring
DB-8A	B93	O	646960.53	976102.93	NA	232.60	227.60	217.60	20.00	15.00	2.00	5.00	10.00	NA	5.00	15.00	PVC	Monitoring
DC-1	B93	O	646806.23	976713.89	226.10	229.30	224.00	214.00	16.00	12.00	2.00	2.00	10.00	NA	2.00	12.00	PVC	Monitoring
DC-2	B93	O	646692.32	976732.82	227.30	229.10	220.00	210.00	30.00	17.50	2.00	7.50	10.00	NA	7.50	17.50	PVC	Monitoring
GT-1	"missing"	B	645285.98	978013.14	219.82	219.44	204.44	189.44		30.00	2.00	15.00	15.00	0.00	15.00	30.00	PVC	Monitoring
GT-2	Bldg 36/58/83	O	645373.19	977962.79	217.38	217.06	213.06	208.06	9.00	9.00	2.00	4.00	5.00	0.00	4.00	9.00	PVC	Monitoring
ITMW-10		O							14.00	14.00	2.00		10.00					
ITMW-11	Bldg 45/55	B	645673.79	978738.04	262.39	261.89	251.89	241.89	20.00	20.00	2.00	10.00	10.00	0.00	11.00	21.00	PVC	Monitoring
ITMW-12	Bldg 36/58/83	B	645601.44	978216.42	234.76	234.36	224.36	214.36	20.00	20.00	2.00	10.00	10.00	0.00	10.00	20.00	PVC	Monitoring
ITMW-13	Bldg 36/58/83	B	645154.57	977786.13	217.00	216.58	206.58	196.58	20.00	20.00	2.00	10.00	10.00	0.00	10.00	20.00	PVC	Monitoring
ITMW-14	Bldg 36/58/83	B	645192.82	977848.27	216.83	216.56	206.56	196.56	20.00	20.00	2.00	10.00	10.00	0.00	10.00	20.00	PVC	Monitoring
ITMW-2	OU-1A	B	646963.36	978809.25	244.37	244.10	208.60	158.60	85.50	85.50	2.00	35.50	50.00	0.00	36.00	86.00	PVC	Monitoring
ITMW-20	Bldg 36/58/83	B	645107.10	977844.52	217.76	217.36	202.36	192.36	25.00	25.00	2.00	15.00	10.00	0.00	15.00	25.00	PVC	Monitoring
ITMW-21	Bldg 36/58/83	B	645579.86	978226.50	233.87	233.62	223.62	213.62	20.00	20.00	2.00	10.00	10.00	0.00	10.00	20.00	PVC	Monitoring
ITMW-22	Bldg 36/58/83	B	645620.94	978170.15	233.38	233.17	223.17	193.17	40.00	40.00	2.00	10.00	30.00	0.00	10.21	40.00	PVC	Monitoring
ITMW-23	Bldg 45/55 (south of building B-78)	B							22.00	22.00	2.00	12.00	10.00					
ITMW-24	Bldg 45/55	B	645760.63	978518.89	237.26	236.98	231.98	221.98	15.00	15.00	2.00	5.00	10.00	0.00	5.00	15.00	PVC	Monitoring
ITMW-25	Bldg 45/55	O	645800.82	978374.48	232.43	232.09	217.09	207.09	25.00	25.00	2.00	15.00	10.00	0.00	15.00	25.00	PVC	Monitoring
ITMW-26	OU-1A	B							31.00	31.00	2.00	20.50	10.00					
ITMW-27	OU-1A	B							60.00	60.00	2.00	29.00	40.00					
ITMW-28	Bldg 45/55	B	645837.93	978331.18	189.68	191.06	181.06	171.06	20.00	20.00	2.00	10.00	10.00	0.00	9.00	19.00	PVC	Monitoring
ITMW-29	Bldg 36/58/83	B	645546.16	978187.81	232.29	231.90	221.90	211.90	20.00	20.00	2.00	10.00	10.00	0.00	10.00	20.00	PVC	Monitoring
ITMW-3	OU-1A	B	646963.36	978813.87	243.92	243.50	216.00	206.00	37.50	37.50	2.00	27.50	10.00	0.00	28.00	38.00	PVC	Monitoring
ITMW-30	Bldg 36/58/83	B	645575.24	978147.17	232.05	231.55	221.55	191.55	40.00	40.00	2.00	10.00	30.00	0.00	11.00	41.00	PVC	Monitoring
ITMW-31	Bldg 36/58/83	B	645592.38	978156.42	232.47	232.12	222.12	192.12	40.00	40.00	2.00	10.00	30.00	0.00	10.00	40.00	PVC	Monitoring
ITMW-4	OU-1A	B	647071.24	978418.29	222.93	222.32	207.32	197.32	25.00	25.00	2.00	15.00	10.00	0.00	16.00	26.00	PVC	Monitoring
ITMW-5	OU-1A	O	646620.00	978258.52	220.49	220.18	210.18	190.18	30.00	30.00	2.00	10.00	20.00	0.00	10.00	30.00	PVC	Monitoring
ITMW-6	OU-1A	B	646594.16	978253.50	220.56	220.16	192.16	172.16	48.00	48.00	2.00	28.00	20.00	0.00	28.00	48.00	PVC	Monitoring
ITMW-7	OU-1A	B	646390.52	978372.02	224.01	223.76	208.76	188.76	35.00	35.00	2.00	15.00	20.00	0.00	15.00	35.00	PVC	Monitoring
ITMW-8	OU-1A	B	646297.69	978199.05	216.59	216.37	207.87	179.87	38.00	36.50	2.00	8.50	28.00	0.00	9.00	37.00	PVC	Monitoring
ITMW-9	Bldg 45/55	B	645906.74	978570.10	241.88	241.57	228.57	218.57	23.00	23.00	2.00	13.00	10.00	0.00	13.00	23.00	PVC	Monitoring
OR-2	B93	B	647209.85	976175.46	NA	221.92	195.92	175.92	51.00	46.00	4.00	26.00	20.00	NA	26.00	46.00	PVC	Monitoring
OR-3	B93	B	647183.12	975791.78	NA	233.23	167.73	157.73	91.00	75.50	4.00	65.50	10.00	NA	65.50	75.50	PVC	Monitoring
OS-2	B93	O	647209.85	976175.46	NA	221.76	215.76	205.76		16.00	4.00	6.00	10.00	NA	6.00	16.00	PVC	Monitoring
OS-3	B93	O	647178.66	975792.79	NA	233.02	227.02	217.02		16.00	4.00	6.00	10.00	NA	6.00	16.00	PVC	Monitoring
SB35-1R	OU-4 (N of Creek)	O	645931.05	978225.11	184.43	183.68	181.18	171.18	12.50	12.50	2.00	2.50	10.00	0.00	3.00	13.00	PVC	Monitoring
SB35-3R	OU-4 (N of Creek)	O	645946.19	978316.39	191.11	190.89	187.89	180.89	10.00	10.00	2.00	3.00	7.00	0.00	3.00	10.00	PVC	Monitoring
SB35-4R	OU-1A	O	645774.65	978199.26	185.66	185.22	181.22	171.22	13.90	14.00	2.00	4.00	10.00	0.00	4.00	14.00	PVC	Monitoring
SWMW-1	OU-1A	B	645941.22	978448.08	229.03	228.85	213.85	198.85		30.00	2.00	15.00	15.00	0.00	15.00	30.00	PVC	Monitoring
SWMW-10	OU-1A (along fault)	O	645845.98	978447.92	231.40	231.19	227.69	222.19	9.00	9.00	2.00	3.50	5.50	0.00	4.00	9.00	PVC	Monitoring

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Beacon (Glenham), NY

ARCADIS Design & Consultancy for natural and built assets

Well ID	Area of Site	Well Type	X_COORD	Y_COORD	Ground Elevation (Ft.-MSL)	TOC Elevation (Ft.-MSL)	Screen top (Ft.-MSL)	Screen bottom (Ft.-MSL)	TD of Boring (bgs)	Well Depth (Ft.-BGS)	Casing Diameter (Inches)	Casing Length (Ft.-BGS)	Screen Length (Ft.)	STICKUP (Ft.)	Well Screen Start Depth (Ft.-BGS)	Well Screen End Depth (Ft.-BGS)	Well Component Material	Well Use/ Purpose
SWMW-101	OU-4 (S of Creek)	O	646879.19	977845.45	206.54	206.32	201.32	196.32	10.00	10.00	2.00	5.00	5.00	0.00	5.00	10.00	PVC	Monitoring
SWMW-102	OU-4 (S of Creek)	O	646942.34	977832.90	207.46	207.19	202.19	197.19	12.00	10.00	2.00	5.00	5.00	0.00	5.00	10.00	PVC	Monitoring
SWMW-103	OU-1A - Deep Bedrock Well	B	646407.73	978220.75	217.45	217.08	162.08	152.08	70.00	65.00	2.00	55.00	10.00	0.00	55.00	65.00	PVC	Monitoring
SWMW-104	OU-1A	B	646445.02	978507.76	238.23	239.51	193.23	173.23	70.00	65.00	2.00	46.28	20.00	1.28	45.00	65.00	PVC	Monitoring
SWMW-105	OU-1A	B	646369.44	978434.90	232.54	233.95	177.04	167.04	71.00	65.50	2.00	56.91	10.00	1.41	56.00	66.00	PVC	Monitoring
SWMW-106	OU-1A	B	646396.74	978368.69	223.92	225.98	178.42	158.42	65.50	65.50	2.00	47.56	20.00	2.06	43.00	63.00	PVC	Monitoring
SWMW-107	OU-1A																	
SWMW-108	OU-1A	B	646410.67	978280.46	220.34	222.11	180.34	165.34	55.00	55.00	2.00	41.77	15.00	1.77	40.00	55.00	PVC	Monitoring
SWMW-109	OU-1A	B	646761.45	978222.11	218.19	219.60	193.19	183.19	38.00	35.00	2.00	26.41	10.00	1.41	25.00	35.00	PVC	Monitoring
SWMW-11	OU-4	B	646168.37	978231.23	210.36	210.05	185.05	165.05	60.00	45.00	2.00	25.00	20.00	0.00	25.00	45.00	PVC	Monitoring
SWMW-110	OU-1A	B	646819.27	978292.49	219.88	219.76	174.76	154.76	65.00	65.00	2.00	45.00	20.00	0.00	45.00	65.00	PVC	Monitoring
SWMW-111	OU-1A	B	646473.90	978224.30	218.26	217.92	177.92	157.92	60.00	60.00	2.00	40.00	20.00	0.00	40.00	60.00	PVC	Monitoring
SWMW-112	OU-1A	B	646639.57	978212.25	207.04	206.72	151.72	141.72	70.00	65.00	2.00	55.00	10.00	0.00	55.00	65.00	PVC	Monitoring
SWMW-113	OU-1A	O	646643.04	978159.93	206.76	206.48	186.48	176.48	30.00	30.00	2.00	20.00	10.00	0.00	20.00	30.00	PVC	Monitoring
SWMW-114	Bldg 36/58/83	B	645130.42	977779.33	217.06	219.07	177.06	172.06	45.00	45.00	2.00	42.01	5.00	2.01	40.00	45.00	PVC	Monitoring
SWMW-115	Bldg 36/58/83	B	645248.82	977918.93	216.81	216.37	166.37	156.37	60.50	60.00	2.00	50.00	10.00	0.00	50.00	60.00	PVC	Monitoring
SWMW-116	Bldg 36/58/83	B	645542.81	978184.81	231.89	231.68	191.68	171.68	65.00	60.00	2.00	40.00	20.00	0.00	40.00	60.00	PVC	Monitoring
SWMW-117	OU-1A	B	645881.08	978509.77	232.77	232.29	197.29	177.29	61.00	55.00	2.00	35.00	20.00	0.00	35.00	55.00	PVC	Monitoring
SWMW-118	OU-4	B	645951.35	978311.77	191.06	190.46	130.46	115.46	81.00	75.00	2.00	60.00	15.00	0.00	61.00	76.00	PVC	Monitoring
SWMW-119	OU-1A	B	646677.12	978373.53	225.70	227.67	175.70	155.70	100.00	70.00	2.00	51.97	20.00	1.97	50.00	70.00	PVC	Monitoring
SWMW-12	OU-1A	B	646271.37	978277.86	217.47	217.07	176.07	166.07	55.00	51.00	2.00	41.00	10.00	0.00	41.00	51.00	PVC	Monitoring
SWMW-120 (1)	OU-4 (S of Creek)	B	646513.84	977904.66	207.79	NA	NA	NA		NA	NA	NA	NA	0.86	NA	NA	NA	Monitoring
SWMW-121	OU-4 (S of Creek)	B	646648.09	977899.09	205.30	207.07	170.30	150.30	60.00	55.00	2.00	36.77	20.00	1.77	35.00	55.00	PVC	Monitoring
SWMW-122	OU-1A	B	646773.07	978225.22	217.54	219.58	167.54	117.54	101.00	100.00	2.00	52.04	50.00	2.04	50.00	100.00	PVC	Monitoring
SWMW-123	Bldg 36/58/83	B	645536.29	978087.01	230.52	230.39	180.39	150.39	80.00	80.00	2.00	50.00	30.00	0.00	50.00	80.00	PVC	Monitoring
SWMW-124	Bldg 45/55	B	645281.00	977898.42	216.39	216.05	174.05	154.05	80.00	62.00	2.00	42.00	20.00	0.00	42.00	62.00	PVC	Monitoring
SWMW-125	Bldg 36/58/83	B	645129.12	977799.11	217.25	219.63	188.25	178.25	39.00	39.00	2.00	31.38	10.00	2.38	29.00	39.00	PVC	Monitoring
SWMW-126	OU-1A	B	646624.13	978211.63	206.93	206.44	166.44	156.44	50.00	50.00	2.00	40.00	10.00	0.00	40.00	50.00	PVC	Monitoring
SWMW-127	OU-4 (S of Creek)	O	646898.06	977805.67	211.34	211.05	206.55	196.55	14.50	14.50	2.00	4.50	10.00	0.00	5.00	15.00	PVC	Monitoring
SWMW-128	S. of RR Track, near OU-1D	O	646880.78	977753.98	211.40	213.70	203.90	198.90	12.50	12.50	2.00	9.80	5.00	2.30	8.00	13.00	PVC	Monitoring
SWMW-129	OU-1D (S of RR Tracks)	O	646676.00	977781.69	211.53	213.43	206.53	191.53	20.00	20.00	2.00	6.90	15.00	1.90	5.00	20.00	PVC	Monitoring
SWMW-13	OU-1A	B	646458.55	978424.18	233.73	236.34	187.73	162.73	71.00	71.00	2.00	48.61	25.00	2.61	46.00	71.00	PVC	Monitoring
SWMW-130 (D)	B93 (NE Part of Site)	B	644570.94	977275.43	206.18	209.83	160.18	150.18	60.00	56.00	2.00	49.65	10.00	3.65	46.00	56.00	PVC	Monitoring
SWMW-130 (S)	B93 (NE Part of Site)	B	644570.93	977275.12	206.18	209.79	180.18	165.18	60.00	41.00	2.00	29.61	15.00	3.61	26.00	41.00	PVC	Monitoring
SWMW-131	B93 (NE Part of Site)	B	644827.44	977505.73	223.80	227.13	77.13	57.13	184.00	170.00	2.00	150.00	20.00	3.33	150.00	170.00	PVC	Monitoring
SWMW-132 (D)	B93 (NE Part of Site)	B	644931.22	977543.77	216.87	219.67	124.87	104.87	150.00	112.00	2.00	94.80	20.00	2.80	92.00	112.00	PVC	Monitoring

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SWMW-132 (S)	B93 (NE Part of Site)	B	644931.46	977543.74	216.87	219.80	181.87	161.87	150.00	55.00	2.00	37.93	20.00	2.93	35.00	55.00	PVC	Monitoring
SWMW-133	OU-4 (S of Creek)	B	645912.09	977974.53	221.84	222.32	165.32	135.32		86.80	2.00	57.00	29.80	0.48	57.00	87.00	PVC	Monitoring
SWMW-134	OU-4 (S of Creek)	B	646205.21	977953.54	206.05	207.03	172.03	152.03		54.70	2.00	35.00	19.70	0.98	35.00	55.00	PVC	Monitoring
SWMW-135	Bldg 36/58/83	O	645088.80	977849.75	218.40	220.89	216.89	208.89	12.00	12.00	2.00	4.00	8.00	2.49	4.00	12.00	PVC	Monitoring
SWMW-136	Bldg 36/58/83	B	645093.22	977853.59	218.51	220.34	196.34	176.34	44.80	44.00	2.00	24.00	20.00	1.83	24.00	44.00	PVC	Monitoring
SWMW-137	Bldg 36/58/83	O	645453.81	978296.10	233.76	233.34	231.84	228.34		5.00	2.00	1.50	3.50	0.00	228.34	231.84	PVC	Monitoring
SWMW-138	Bldg 36/58/83	B	645459.79	978296.70	235.77	236.28	218.28	203.28	33.00	33.00	2.00	18.00	15.00	2.50	18.00	33.00	PVC	Monitoring
SWMW-139	Bldg 45/55	O	645923.82	978788.51	261.11	263.65	260.65	252.65	12.20	11.00	2.00	3.00	8.00	2.53	3.00	11.00	PVC	Monitoring
SWMW-14	OU-1A	B	646456.66	978148.44	206.53	206.23	181.23	166.23	41.00	40.00	2.00	25.00	15.00	0.00	26.00	41.00	PVC	Monitoring
SWMW-140	Bldg 45/55	B	645929.13	978789.56	260.64	262.70	223.70	193.70	69.00	69.00	2.00	39.00	30.00	2.06	39.00	69.00	PVC	Monitoring
SWMW-15	OU-1A	O	646638.40	978297.15	221.27	220.97	215.97	195.97	25.00	25.00	2.00	5.00	20.00	0.00	5.00	25.00	PVC	Monitoring
SWMW-16	OU-1A	B	646703.82	978564.01	242.60	245.39	201.60	161.60	81.00	81.00	2.00	43.79	40.00	2.79	41.00	81.00	PVC	Monitoring
SWMW-17	OU-1A	B	646922.54	978895.41	244.18	246.84	199.68	184.68		59.50	2.00	47.16	15.00	2.66	45.00	60.00	PVC	Monitoring
SWMW-18	OU-1C (well replaces TF-24)	O	646786.75	977965.07	201.98	204.49	198.98	189.98	18.00	12.00	2.00	5.51	9.00	2.51	3.00	12.00	PVC	Monitoring
SWMW-19	OU-1C (well replaces TF-25)	O	646831.89	978000.29	200.70	203.41	197.70	192.20	9.00	8.50	2.00	5.71	5.50	2.71	3.00	9.00	PVC	Monitoring
SWMW-2	Bldg 36/58/83	B	645279.93	977874.71	216.79	216.56	203.56	193.56	24.00	23.00	2.00	13.00	10.00	0.00	13.00	23.00	PVC	Monitoring
SWMW-20	OU-1C	O	646880.51	977993.22	202.41	204.83	199.41	190.41	12.00	12.00	2.00	5.42	9.00	2.42	3.00	12.00	PVC	Monitoring
SWMW-21	OU-1C	O	646876.92	977924.16	203.83	206.11	200.83	191.83	12.00	12.00	2.00	5.28	9.00	2.28	3.00	12.00	PVC	Monitoring
SWMW-22	OU-1C (well replaces TF-14)	O	647079.99	977977.81	204.92	207.22	201.92	192.92	12.00	12.00	2.00	5.30	9.00	2.30	3.00	12.00	PVC	Monitoring
SWMW-23	OU-1A (along fault)	O	645903.32	9785773.02	241.82	241.59	237.59	232.59	9.00	9.00	2.00	4.00	5.00	0.00	4.00	9.00	PVC	Monitoring
SWMW-24	OU-1A	O	645773.49	978452.19	234.20	233.99	230.49	224.49	9.50	9.50	2.00	3.50	6.00	0.00	4.00	10.00	PVC	Monitoring
SWMW-25	OU-1A (along fault)	B	645870.37	978511.22	232.81	232.61	229.11	222.11	10.50	10.50	2.00	3.50	7.00	0.00	4.00	11.00	PVC	Monitoring
SWMW-26	OU-1A (along fault)	B	645876.25	978510.80	232.78	232.52	219.52	204.52	28.00	28.00	2.00	13.00	15.00	0.00	13.00	28.00	PVC	Monitoring
SWMW-27	Bldg 45/55	B	645818.60	978223.11	186.13	185.65	159.65	129.65	56.00	56.00	2.00	26.00	30.00	0.00	26.00	56.00	PVC	Monitoring
SWMW-28	Bldg 45/55	O	645897.22	978219.99	185.84	185.61	182.11	169.11	16.50	16.50	2.00	3.50	13.00	0.00	4.00	17.00	PVC	Monitoring
SWMW-29	OU-1C (well replaces TF-9 and TF-9A)	O	647154.47	977996.82	202.54	204.69	199.54	192.54	10.00	10.00	2.00	5.15	7.00	2.15	3.00	10.00	PVC	Monitoring
SWMW-3	Bldg 36/58/83	O	645145.26	977896.81	218.72	221.02	215.72	210.72	8.00	8.00	2.00	5.30	5.00	2.30	3.00	8.00	PVC	Monitoring
SWMW-30	OU-1C (well replaces TF-18)	O	646925.85	978006.34	203.37	205.44	200.44	191.44	12.00	12.00	2.00	5.00	9.00	2.00	3.00	12.00	PVC	Monitoring
SWMW-31	OU-1C (well replaces TF-27)	O	646904.70	978036.38	201.39	203.82	198.39	192.39	9.00	9.00	2.00	5.43	6.00	2.43	3.00	9.00	PVC	Monitoring
SWMW-32	OU-1C (well replaces TF-7)	O	646934.90	978034.88	202.06	204.46	199.06	190.06	12.00	12.00	2.00	5.40	9.00	2.40	3.00	12.00	PVC	Monitoring
SWMW-33	OU-1C (well replaces TF-28)	O	646962.24	978062.33	201.16	203.63	198.16	192.66	9.00	8.50	2.00	5.47	5.50	2.47	3.00	9.00	PVC	Monitoring

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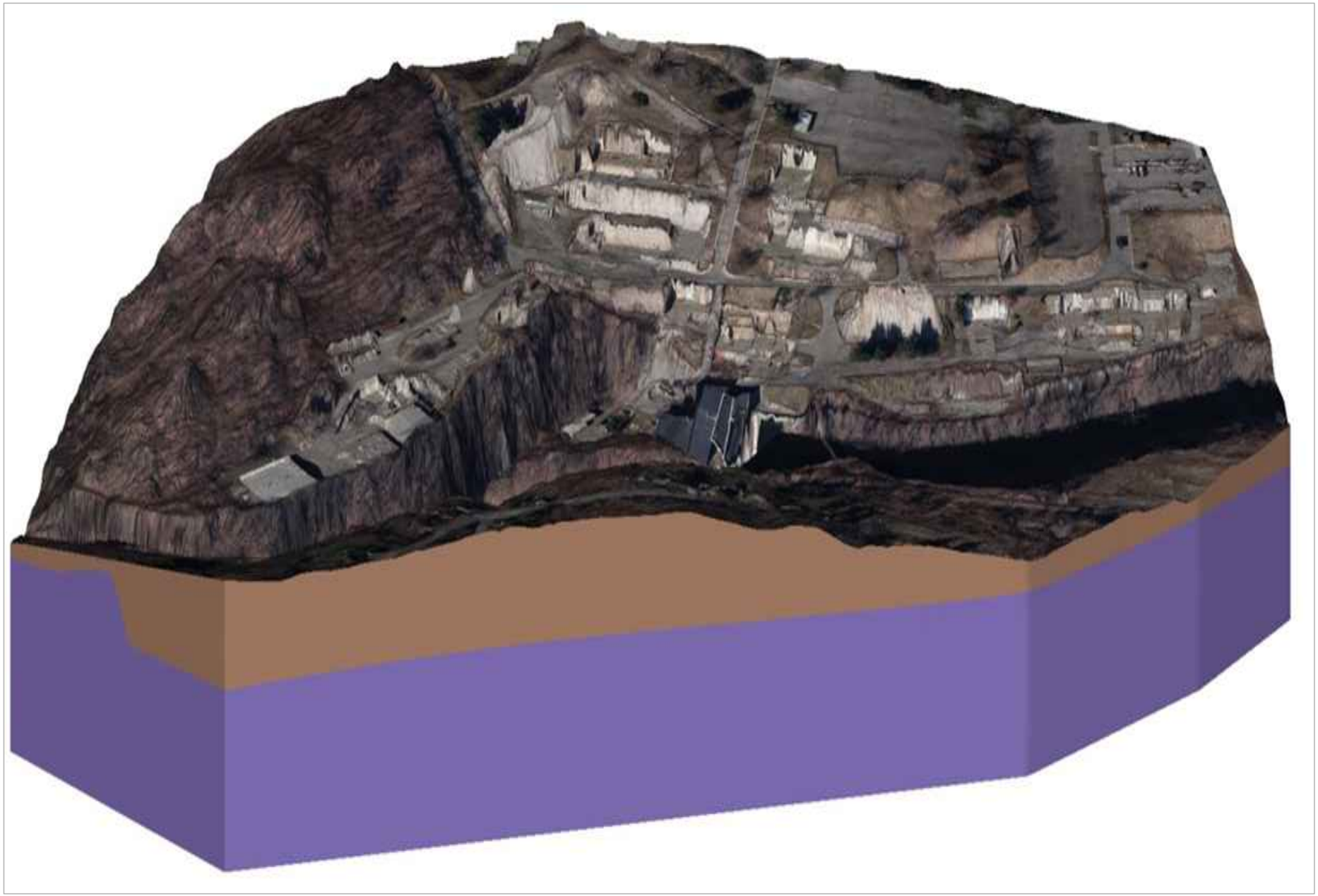
SWMW-34	OU-1C (well replaces TF-29)	O	646982.60	978060.72	201.09	203.46	198.09	192.59	9.00	8.50	2.00	5.37	5.50	2.37	3.00	9.00	PVC	Monitoring
SWMW-35	OU-1C (well replaces TF-8)	O	647002.02	978035.59	201.73	204.12	198.73	189.73	12.00	12.00	2.00	5.39	9.00	2.39	3.00	12.00	PVC	Monitoring
SWMW-36	OU-1C (well replaces TF-30)	O	647026.67	978061.65	200.95	203.29	197.95	193.45	8.00	7.50	2.00	5.34	4.50	2.34	3.00	8.00	PVC	Monitoring
SWMW-37	OU-1C (well replaces TF-10)	O	647112.07	977909.84	204.25	206.08	201.25	194.25	10.00	10.00	2.00	4.83	7.00	1.83	3.00	10.00	PVC	Monitoring
SWMW-38	OU-1C	O	646987.28	977986.84	202.00	204.38	199.00	190.00	12.00	12.00	2.00	5.38	9.00	2.38	3.00	12.00	PVC	Monitoring
SWMW-39	OU-1A	B	646984.23	978653.19	239.54	239.22	207.22	197.22	55.00	42.00	2.00	32.00	10.00	0.00	32.00	42.00	PVC	Monitoring
SWMW-4	Bldg 36/58/83	B	645348.34	978159.50	229.46	229.10	219.10	204.10	25.00	25.00	2.00	10.00	15.00	0.00	10.00	25.00	PVC	Monitoring
SWMW-40	OU-1A	B	646174.71	978886.25	257.75	257.29	253.29	247.79	9.50	9.50	2.00	4.00	5.50	0.00	4.00	10.00	PVC	Monitoring
SWMW-41	OU-1A	B	646570.82	978146.50	206.48	206.02	181.02	161.02	51.00	45.00	2.00	25.00	20.00	0.00	25.00	45.00	PVC	Monitoring
SWMW-42	Bldg 36/58/83	B	645149.89	977899.66	218.66	221.15	206.66	191.66	27.00	27.00	2.00	14.49	15.00	2.49	12.00	27.00	PVC	Monitoring
SWMW-43	OU-1A	B	646251.64	978207.60	214.61	214.12	185.12	155.12	60.00	59.00	2.00	29.00	30.00	0.00	29.00	59.00	PVC	Monitoring
SWMW-44	OU-1A (along fault)	B	645841.83	978448.37	231.70	231.53	216.53	201.53	30.00	30.00	2.00	15.00	15.00	0.00	15.00	30.00	PVC	Monitoring
SWMW-45	Bldg 36/58/83	B	645477.81	978148.33	230.60	229.99	213.99	198.99	31.00	31.00	2.00	16.00	15.00	0.00	17.00	32.00	PVC	Monitoring
SWMW-46	Bldg 36/58/83	B	645199.24	977982.62	220.83	223.31	210.83	200.83	30.00	20.00	2.00	12.48	10.00	2.48	10.00	20.00	PVC	Monitoring
SWMW-47	Bldg 36/58/83	B	645284.47	977916.87	216.21	215.78	200.78	185.78	30.00	30.00	2.00	15.00	15.00	0.00	15.00	30.00	PVC	Monitoring
SWMW-48	OU-1A	B	645947.55	978447.79	228.89	228.60	225.10	218.60	10.00	10.00	2.00	3.50	6.50	0.00	4.00	10.00	PVC	Monitoring
SWMW-49	Bldg 36/58/83	B	645029.69	977782.94	218.04	220.74	208.04	188.04	30.00	30.00	2.00	12.70	20.00	2.70	10.00	30.00	PVC	Monitoring
SWMW-5	Bldg 36/58/83	B	645361.99	978033.91	220.00	219.82	204.82	189.82	30.00	30.00	2.00	15.00	15.00	0.00	16.00	31.00	PVC	Monitoring
SWMW-50	OU-1C (well replaces TFSB-4)	O	647004.50	977943.72	203.30	205.54	200.30	190.30	14.00	13.00	2.00	5.24	10.00	2.24	3.00	13.00	PVC	Monitoring
SWMW-51	Bldg 36/58/83	B	645217.84	977885.62	216.98	216.76	208.76	200.26	20.00	16.50	2.00	8.00	8.50	0.00	8.00	17.00	PVC	Monitoring
SWMW-52	Bldg 36/58/83	O	645195.51	977976.19	220.51	223.49	216.01	211.01	9.50	9.50	2.00	7.48	5.00	2.98	4.00	9.00	PVC	Monitoring
SWMW-53	OU-1C (well replaces TF-16)	O	646974.87	978042.14	201.44	203.77	197.94	192.94	9.00	8.50	2.00	5.83	5.00	2.33	4.00	9.00	PVC	Monitoring
SWMW-54	Bldg 36/58/83	O	645482.73	978154.44	230.57	229.93	226.43	220.93	9.00	9.00	2.00	3.50	5.50	0.00	4.00	10.00	PVC	Monitoring
SWMW-55	Bldg 36/58/83	B	645533.14	978105.31	230.61	230.19	220.19	210.19	20.00	20.00	2.00	10.00	10.00	0.00	10.00	20.00	PVC	Monitoring
SWMW-56	OU-1A (see SWMW-15 for first 27')	B	646637.73	978303.11	221.11	221.09	186.09	166.09	55.00	55.00	2.00	35.00	20.00	0.00	35.00	55.00	PVC	Monitoring
SWMW-57	Bldg 45/55	B	645712.68	978543.74	239.69	239.44	219.44	199.44	40.00	40.00	2.00	20.00	20.00	0.00	20.00	40.00	PVC	Monitoring
SWMW-58	OU-1A	O	646727.68	978283.92	219.66	219.38	214.38	189.38	30.00	30.00	2.00	5.00	25.00	0.00	5.00	30.00	PVC	Monitoring
SWMW-59	Bldg 36/58/83	O	645365.69	978031.47	217.79	217.27	214.27	207.27	10.30	10.00	2.00	3.00	7.00	0.00	4.00	11.00	PVC	Monitoring
SWMW-6	Bldg 36/58/83	B	645528.88	978498.69	249.30	251.70	229.30	211.30	38.00	38.00	2.00	22.40	18.00	2.40	20.00	38.00	PVC	Monitoring
SWMW-60	OU-1C	O	646945.34	977916.78	203.78	206.00	200.78	191.78	14.00	12.00	2.00	5.22	9.00	2.22	3.00	12.00	PVC	Monitoring
SWMW-61	OU-1C	O	646998.33	977913.39	201.40	203.76	198.40	189.40	14.00	12.00	2.00	5.36	9.00	2.36	3.00	12.00	PVC	Monitoring
SWMW-62	OU-1A	O	646577.49	978147.74	206.41	206.07	202.07	187.07	19.50	19.00	2.00	4.00	15.00	0.00	4.00	19.00	PVC	Monitoring
SWMW-63	OU-1D (S of RR Tracks)	O	646675.54	977788.41	211.30	213.38	201.30	196.30		15.00	2.00	12.08	5.00	2.08	10.00	15.00	PVC	Monitoring
SWMW-64	Bldg 45/55	B	645902.52	978217.43	185.68	184.98	154.98	144.98	40.00	40.00	2.00	30.00	10.00	0.00	31.00	41.00	PVC	Monitoring
SWMW-65	Bldg 45/55	O	645813.11	978227.33	186.32	185.81	179.81	169.81	16.00	16.00	2.00	6.00	10.00	0.00	7.00	17.00	PVC	Monitoring

Table 2-2
Monitoring Well Construction Table
Chevron Environmental Management Company
Former Texaco Research Center
Beacon (Glenham), NY

ARCADIS Design & Consultancy for natural and built assets

Well ID	Area of Site	Well Type	X_COORD	Y_COORD	Ground Elevation (Ft.-MSL)	TOC Elevation (Ft.-MSL)	Screen top (Ft.-MSL)	Screen bottom (Ft.-MSL)	TD of Boring (bgs)	Well Depth (Ft.-BGS)	Casing Diameter (Inches)	Casing Length (Ft.-BGS)	Screen Length (Ft.)	STICKUP (Ft.)	Well Screen Start Depth (Ft.-BGS)	Well Screen End Depth (Ft.-BGS)	Well Component Material	Well Use/ Purpose
SWMW-66	OU-1A	B	646721.79	978279.38	219.32	218.82	176.82	156.82	62.00	62.00	2.00	42.00	20.00	0.00	43.00	63.00	PVC	Monitoring
SWMW-67	OU-1A	O	646522.54	978302.03	221.94	224.58	218.94	194.94	27.00	27.00	2.00	5.64	24.00	2.64	3.00	27.00	PVC	Monitoring
SWMW-68	OU-1A	B	646525.08	978295.72	221.81	224.45	190.81	170.81	51.00	51.00	2.00	33.64	20.00	2.64	31.00	51.00	PVC	Monitoring
SWMW-69	OU-1A	O	646680.63	978380.59	226.44	228.41	223.44	204.44	22.20	22.00	2.00	4.97	19.00	1.97	3.00	22.00	PVC	Monitoring
SWMW-7	Bldg 36/58/83	B	645566.59	978346.63	236.00	238.44	226.50	206.50	29.50	29.50	2.00	11.94	20.00	2.44	10.00	30.00	PVC	Monitoring
SWMW-70	OU-1A	B	646673.20	978380.52	226.59	228.45	200.59	180.59	46.00	46.00	2.00	27.86	20.00	1.86	26.00	46.00	PVC	Monitoring
SWMW-71	OU-1C (well replaces TF-22)	O	646965.06	977951.82	205.37	207.54	202.37	192.37	14.00	13.00	2.00	5.17	10.00	2.17	3.00	13.00	PVC	Monitoring
SWMW-72	OU-4 (S of Creek)	O	646912.30	977862.01	205.93	205.36	202.36	193.36	12.00	12.00	2.00	3.00	9.00	0.00	4.00	13.00	PVC	Monitoring
SWMW-73	OU-1C (replacement well for ITMW-19)	O	646842.70	977915.66	204.13	206.30	201.63	192.13	12.00	12.00	2.00	4.67	9.50	2.17	2.00	12.00	PVC	Monitoring
SWMW-73/ ITMW-19 (installed in 2000)		O							12.00	12.00	1.00							
SWMW-74	OU-1C (replacement well for ITMW-18)	O	646801.24	977918.93	204.01	206.35	202.51	186.01	18.00	18.00	2.00	3.84	16.50	2.34	2.00	18.00	PVC	Monitoring
SWMW-74/ ITMW-18 (installed in 2000)		O							11.50	11.50	1.00							
SWMW-8	Bldg 45/55	O	645683.45	978537.65	240.88	240.67	236.67	232.67	8.00	8.00	2.00	4.00	4.00	0.00	4.00	8.00	PVC	Monitoring
SWMW-9	Bldg 45/55	B	645762.91	978454.83	234.83	234.44	214.44	194.44	40.00	40.00	2.00	20.00	20.00	0.00	20.00	40.00	PVC	Monitoring
TF-15	OU-1C	O	647066.79	978038.53	202.11	205.26	197.11	187.11	12.00	15.00	2.00	8.15	10.00	3.15	5.00	15.00	PVC	Monitoring
TF-23	OU-1C	O	646801.66	977849.33	205.46	207.20	200.20	195.20	12.00	12.00	2.00	7.00	5.00	0.00	5.26	10.26	PVC	Monitoring
TF-26	OU-1C	O	646849.17	977956.43	202.49	203.82	198.99	193.99	9.50	8.50	2.00	4.83	5.00	1.33	4.00	9.00	PVC	Monitoring
TF-5	OU-1C	O	6469999.01	977867.27	207.17	207.58	202.58	197.58	10.00	10.00	2.00	5.00	5.00	0.00	4.59	9.59	PVC	Monitoring
TF-6	OU-1C	O	646819.67	977979.48	201.71	202.63	198.91	193.91	8.00	7.80	2.00	3.72	5.00	0.92	3.00	8.00	PVC	Monitoring
Unknown Well 1	Bldg 36/58/83	O	645210.21	977853.44	216.73	216.73	NA	208.08		8.65	2.00	NA	NA	NA	0.00	8.65	PVC	Monitoring
Unknown Well 2	Bldg 36/58/83	O	645201.88	977843.45	216.52	216.52	NA	208.52		8.00	2.00	NA	NA	NA	0.00	8.00	PVC	Monitoring
Unknown Well 3	Bldg 36/58/83	O	645197.27	977845.49	216.74	216.74	NA	209.39		7.35	2.00	NA	NA	NA	0.00	7.35	PVC	Monitoring

FIGURES



Legend:

Geology

Overburden

Bedrock

Notes:

1. Scales are approximated: 1 inch = 375 feet
2. Ground surface digital elevation model (DEM) from United States Geological Service (USGS) accessed from Global Mapper
3. Aerial imagery from Environmental Systems Research Institute (ESRI) World Imagery (accessed April 2020)

CHEVRON ENVIRONMENTAL MANAGEMENT COMPANY
FORMER TEXACO RESEARCH CENTER BEACON
GLENHAM, NEW YORK
REMEDIAL INVESTIGATION REPORT ADDENDUM 1

3D BLOCK MODEL – SHOWING AERIAL PHOTO AND SITE GEOLOGY

ARCADIS Design & Consultancy for natural and built assets

FIGURE
2-1

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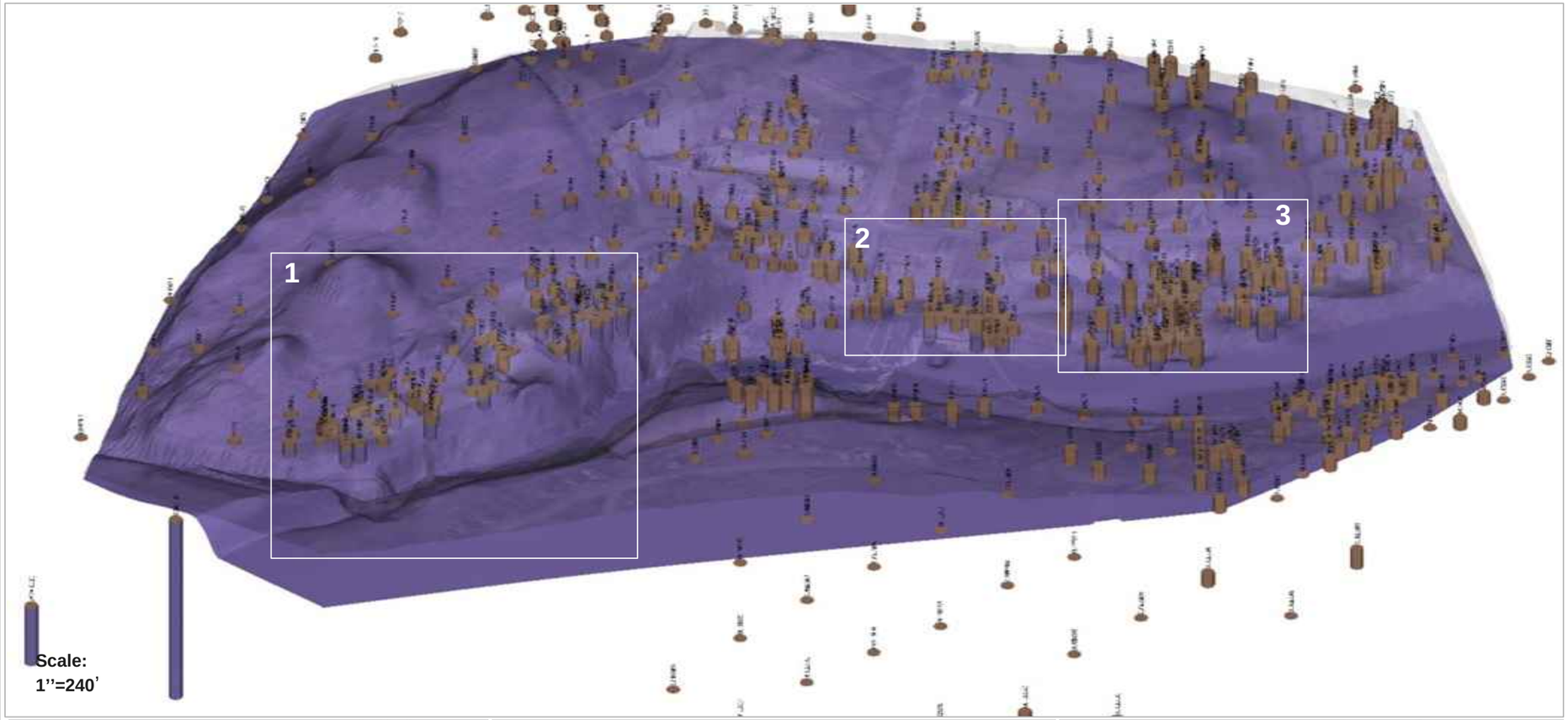

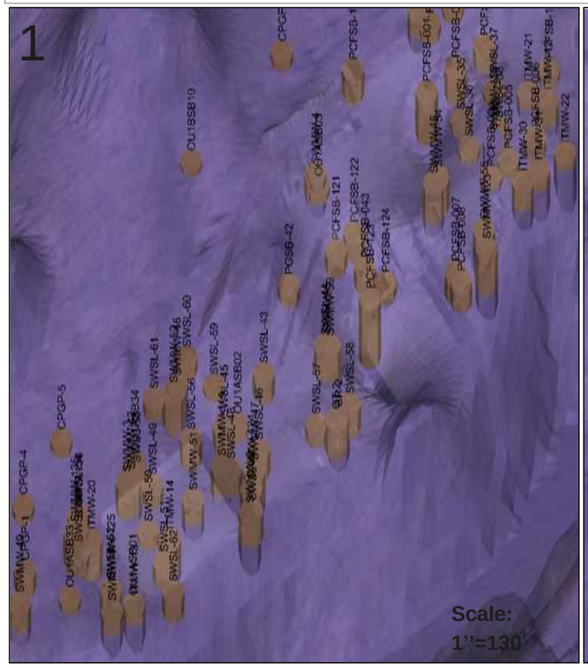

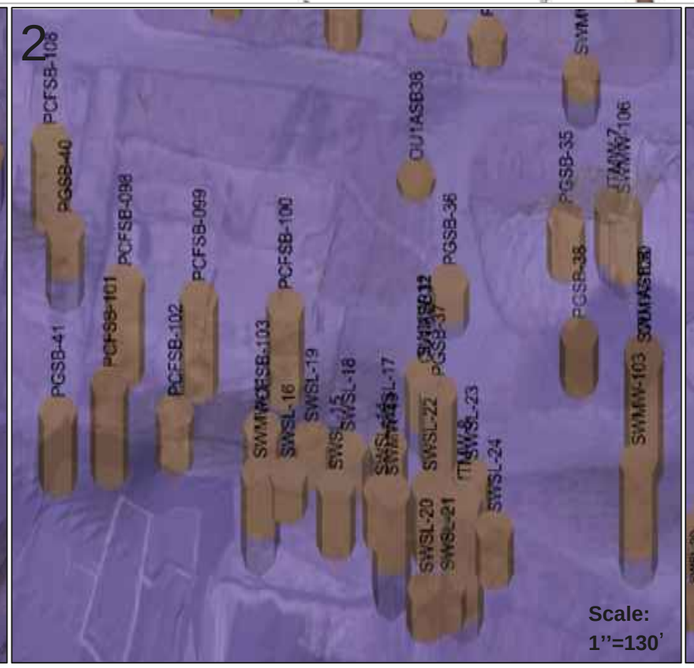

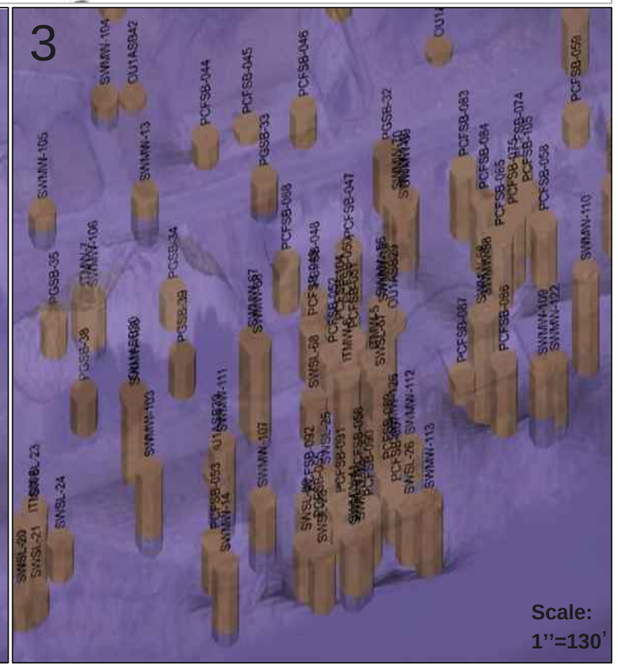

Legend:

Geology

Overburden

Bedrock

Notes:

1. Scales are approximated.
    1. Key Map: 1 inch = 240 feet
    2. Focused areas: 1 inch = 130 feet
2. Ground surface digital elevation model (DEM) from United States Geological Service (USGS) accessed from Global Mapper
3. Aerial imagery from Environmental Systems Research Institute (ESRI) World Imagery (accessed April 2020)

CHEVRON ENVIRONMENTAL MANAGEMENT COMPANY
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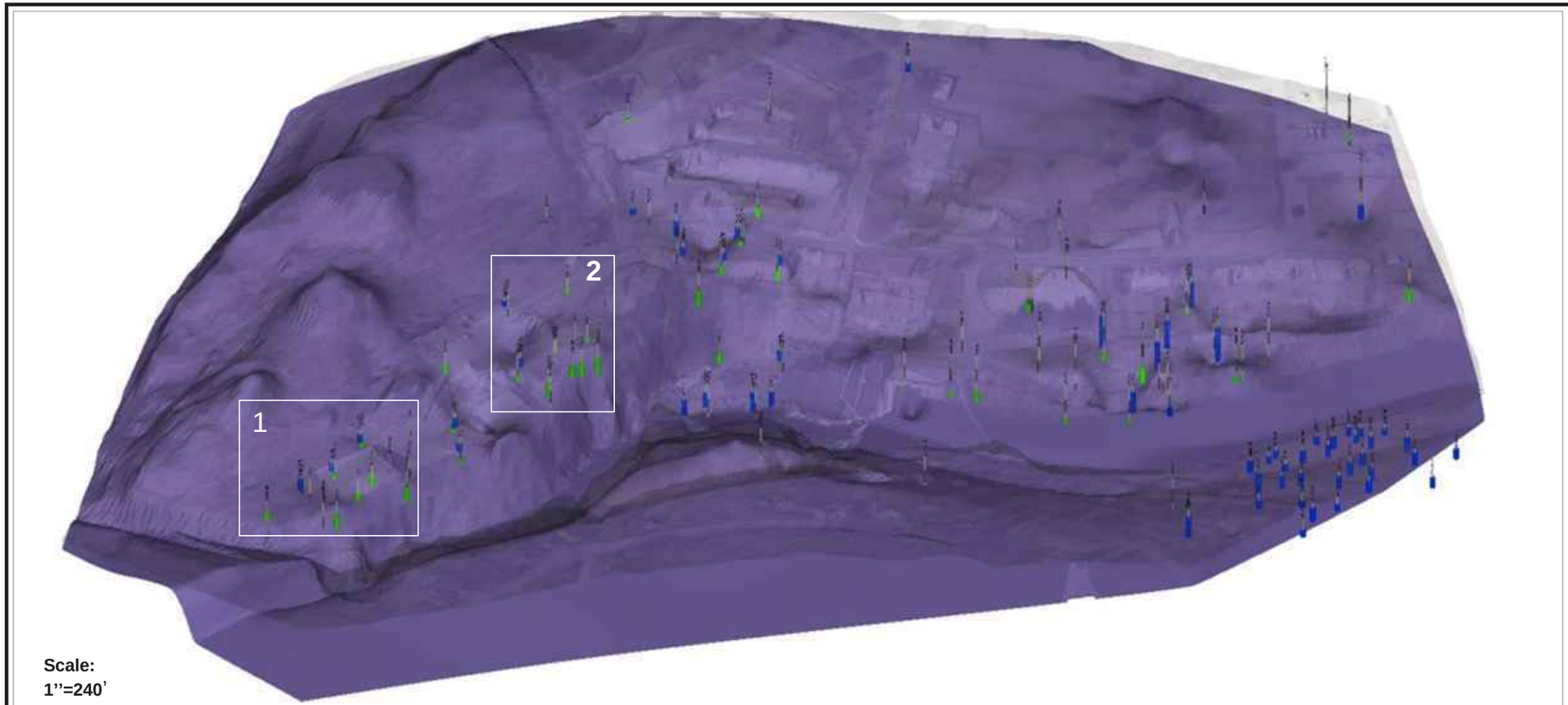
REMEDIAL INVESTIGATION REPORT ADDENDUM 1

MODELED BEDROCK SURFACE AND GEOLOGY AT RELEVANT BORINGS

ARCADIS Design & Consultancy for natural and built assets

FIGURE
2-2

10/30/2020 12:06:24 PM



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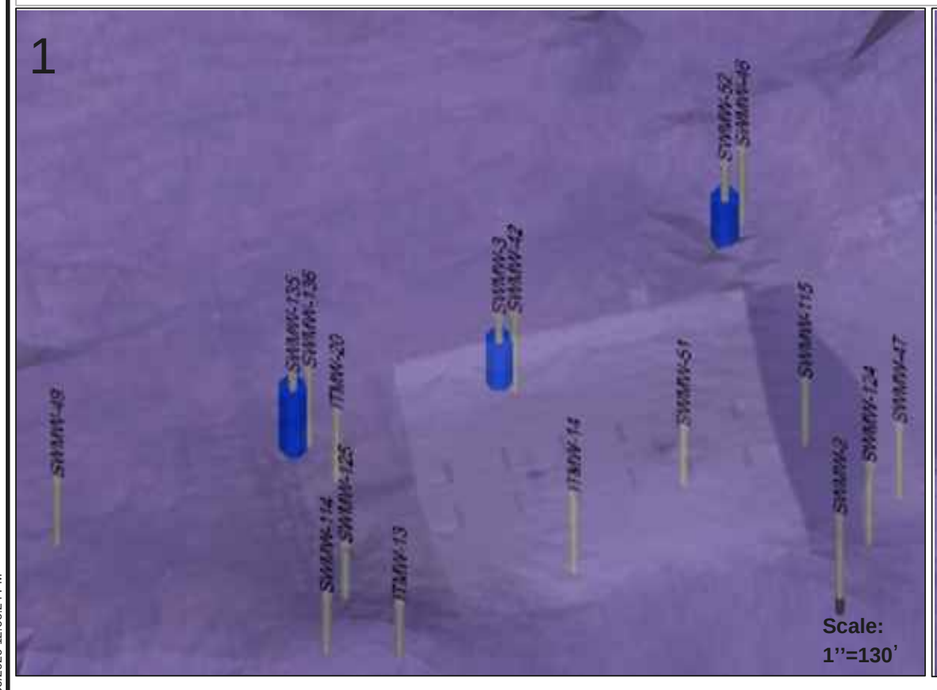

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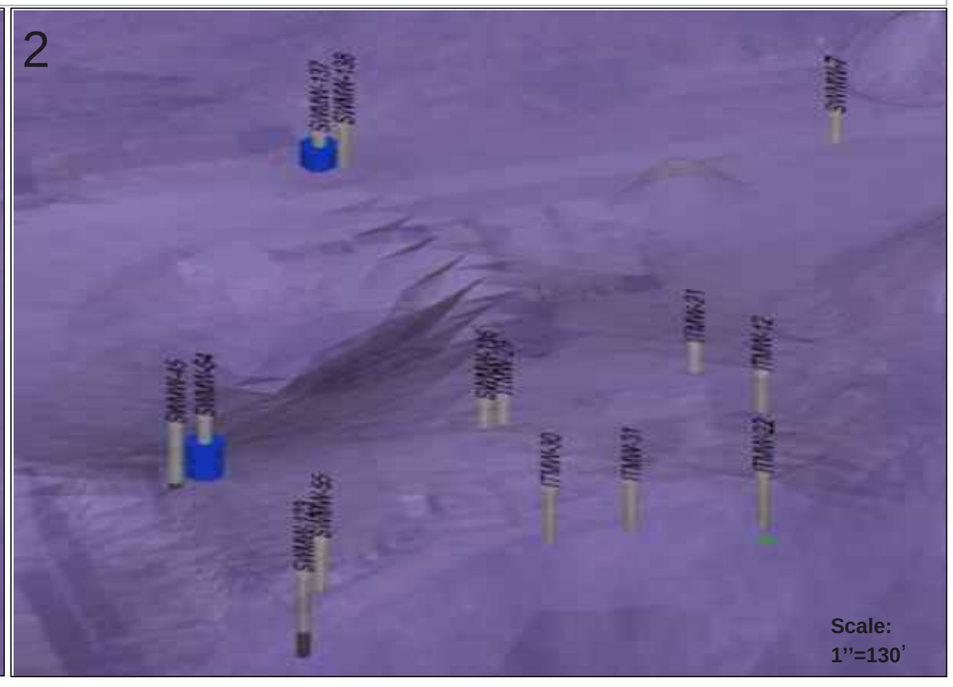

Scale:
1''=130'

Legend:

Monitoring Wells
- Overburden
- Bedrock

Geology
- Overburden
- Bedrock

Notes:

1. Scales are approximated.
    1. Key Map: 1 inch = 240 feet
    2. Focused areas: 1 inch = 130 feet
2. Ground surface digital elevation model (DEM) from United States Geological Service (USGS) accessed from Global Mapper
3. Aerial imagery from Environmental Systems Research Institute (ESRI) World Imagery (accessed April 2020)

CHEVRON ENVIRONMENTAL MANAGEMENT COMPANY
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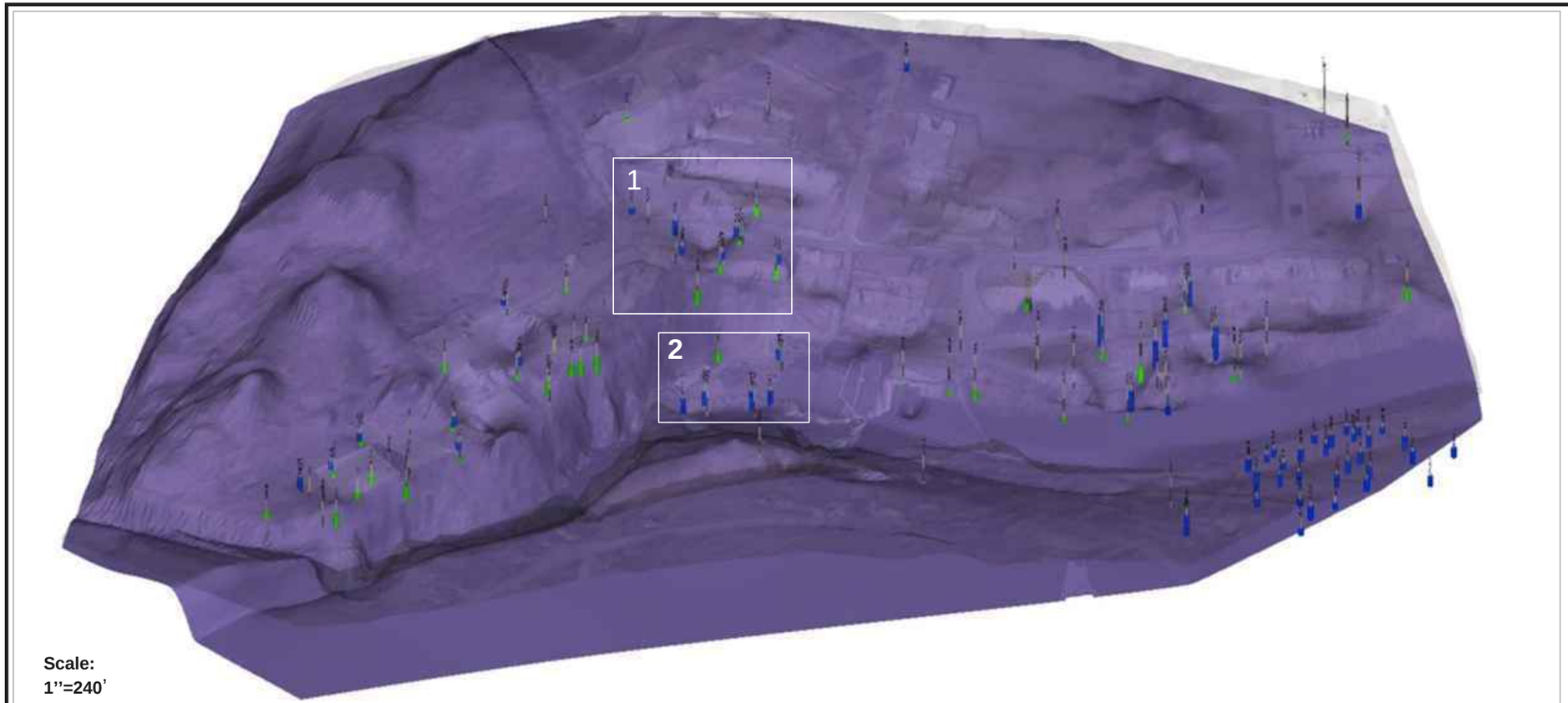
REMEDIAL INVESTIGATION REPORT ADDENDUM 1

MODELED BEDROCK SURFACE AND CURRENT GROUNDWATER MONITORING NETWORK

ARCADIS Design & Consultancy for natural and built assets

FIGURE
2-3A

10/30/2020 12:06:24 PM



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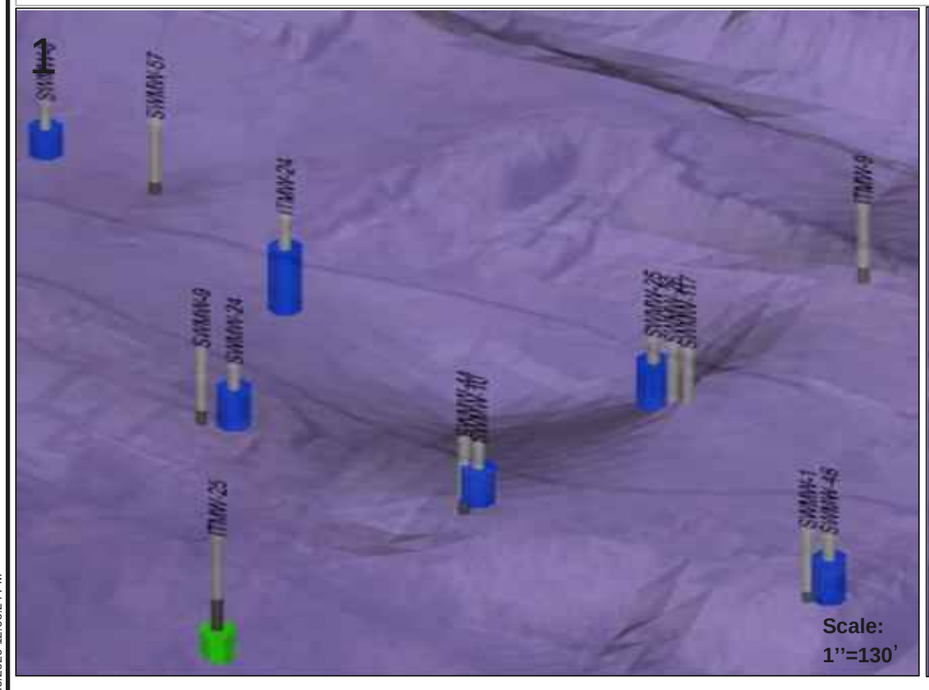

Scale:
1''=130'

Scale:
1''=130'

Legend:

Monitoring Wells
- Overburden
- Bedrock

Geology
- Overburden
- Bedrock

Notes:

1. Scales are approximated.
    1. Key Map: 1 inch = 240 feet
    2. Focused areas: 1 inch = 130 feet
2. Ground surface digital elevation model (DEM) from United States Geological Service (USGS) accessed from Global Mapper
3. Aerial imagery from Environmental Systems Research Institute (ESRI) World Imagery (accessed April 2020)

CHEVRON ENVIRONMENTAL MANAGEMENT COMPANY
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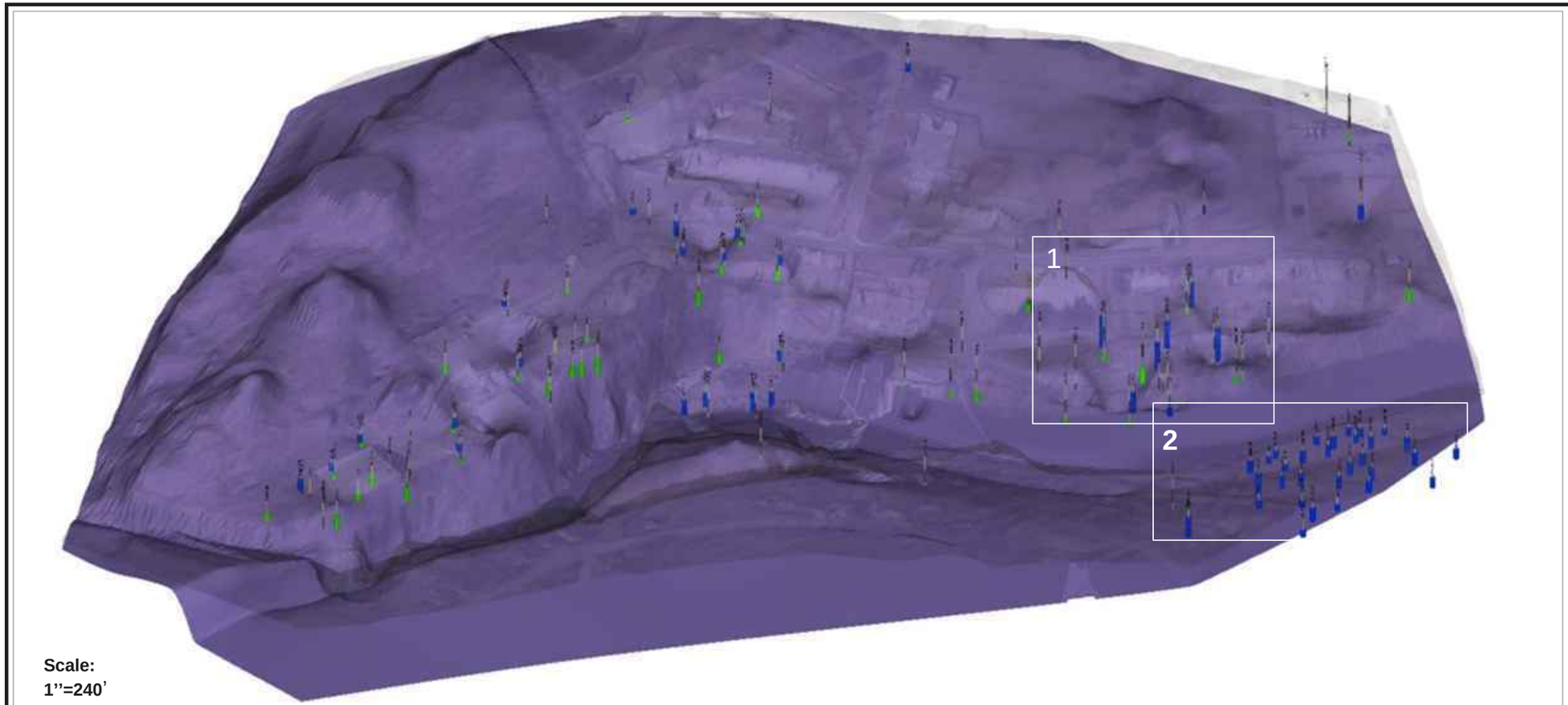
REMEDIAL INVESTIGATION REPORT ADDENDUM 1

MODELED BEDROCK SURFACE AND CURRENT GROUNDWATER MONITORING NETWORK

ARCADIS Design & Consultancy for natural and built assets

FIGURE
2-3B

10/30/2020 12:06:24 PM



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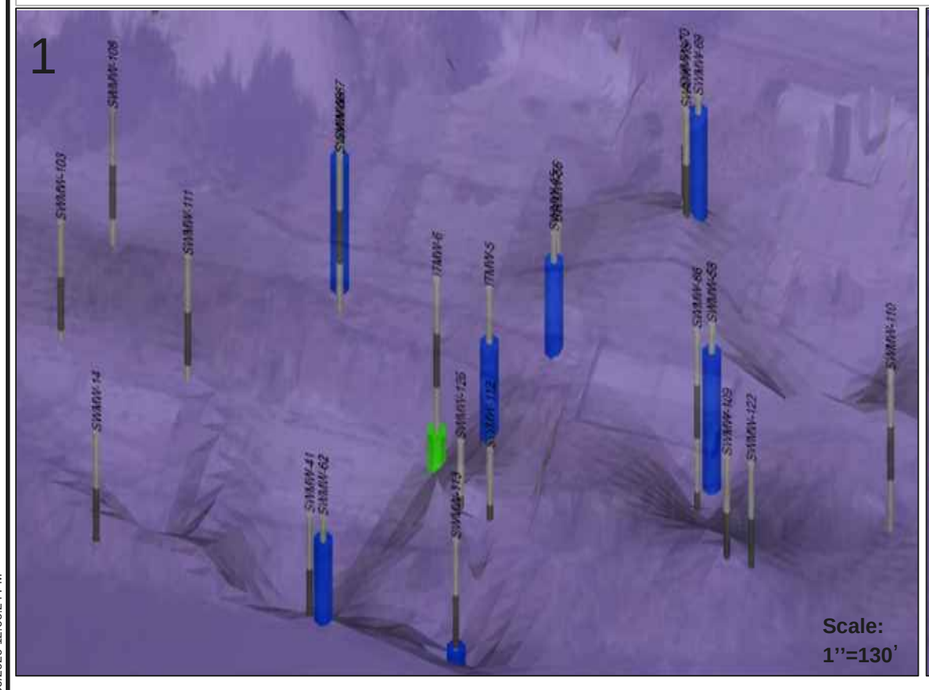

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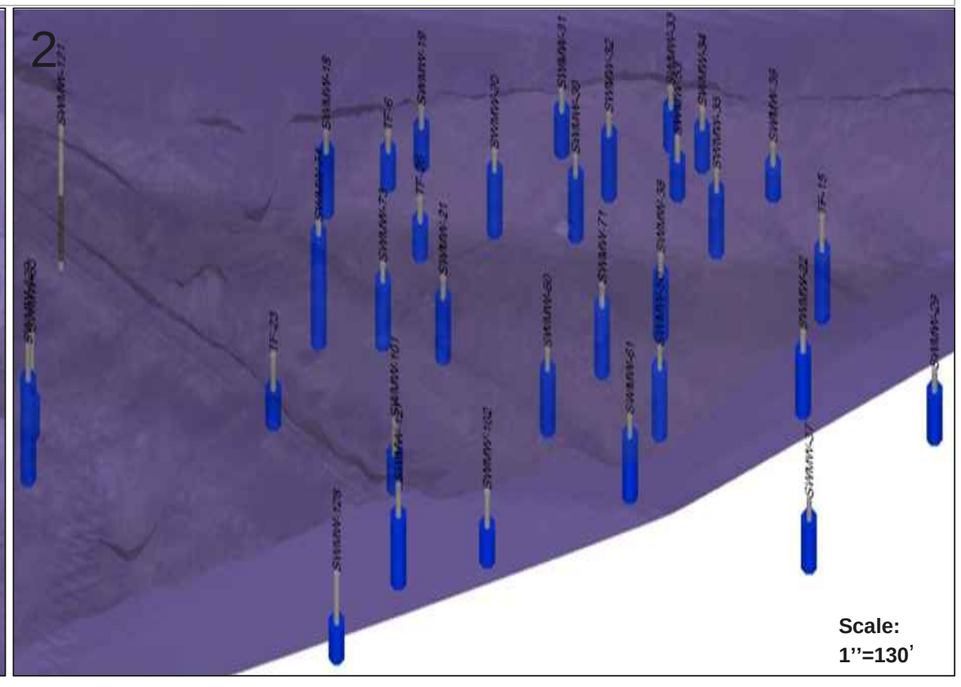

Scale:
1''=130'

Legend:

Monitoring Wells

- Overburden
- Bedrock

Geology

- Overburden
- Bedrock

Notes:

1. Scales are approximated.
    1. Key Map: 1 inch = 240 feet
    2. Focused areas: 1 inch = 130 feet
2. Ground surface digital elevation model (DEM) from United States Geological Service (USGS) accessed from Global Mapper
3. Aerial imagery from Environmental Systems Research Institute (ESRI) World Imagery (accessed April 2020)

CHEVRON ENVIRONMENTAL MANAGEMENT COMPANY
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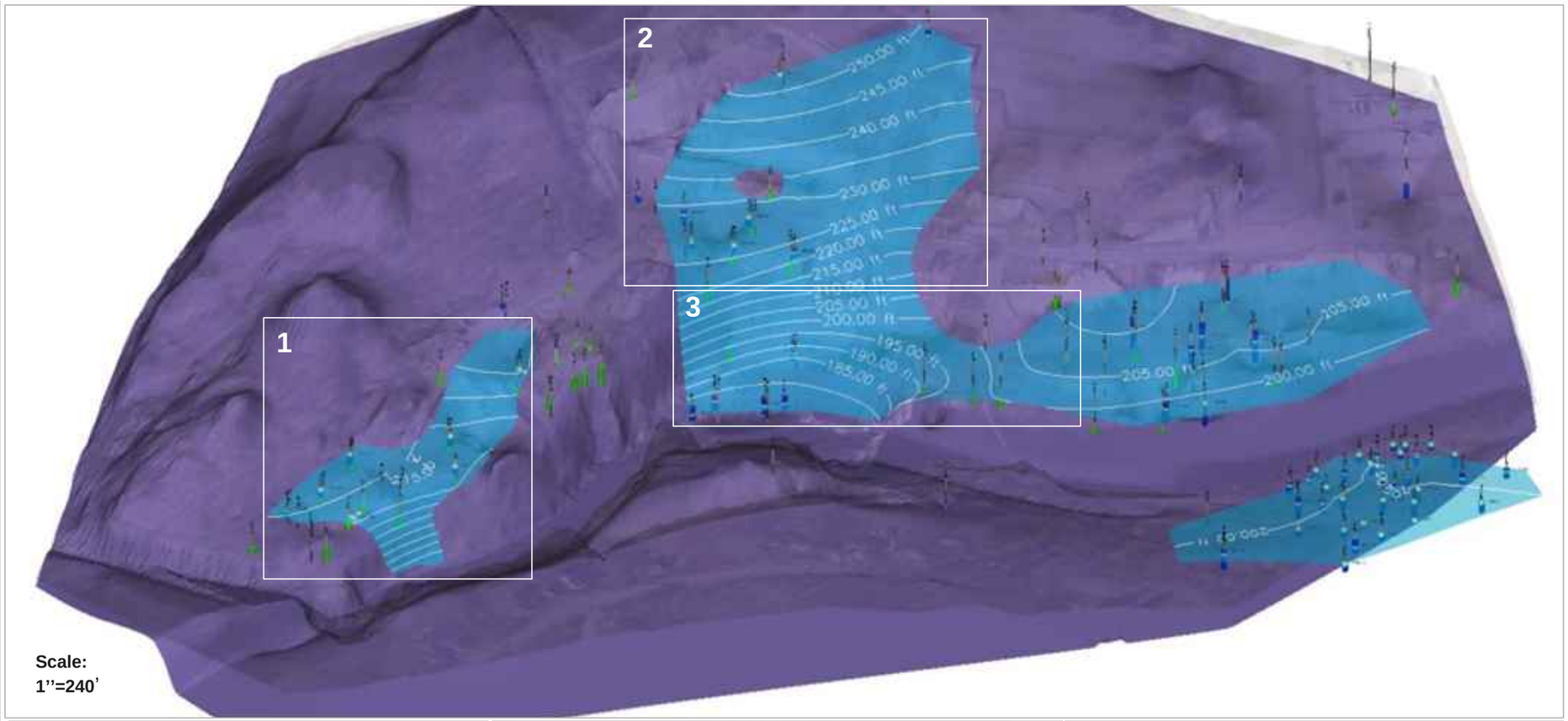
GLENHAM, NEW YORK
REMEDIAL INVESTIGATION REPORT ADDENDUM 1

MODELED BEDROCK SURFACE AND CURRENT GROUNDWATER MONITORING NETWORK

ARCADIS Design & Consultancy for natural and built assets

FIGURE
2-3C

10/30/2020 12:06:24 PM



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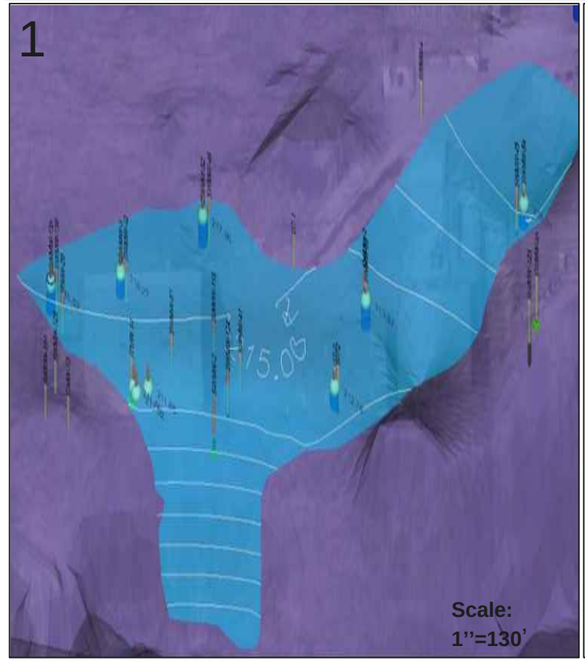

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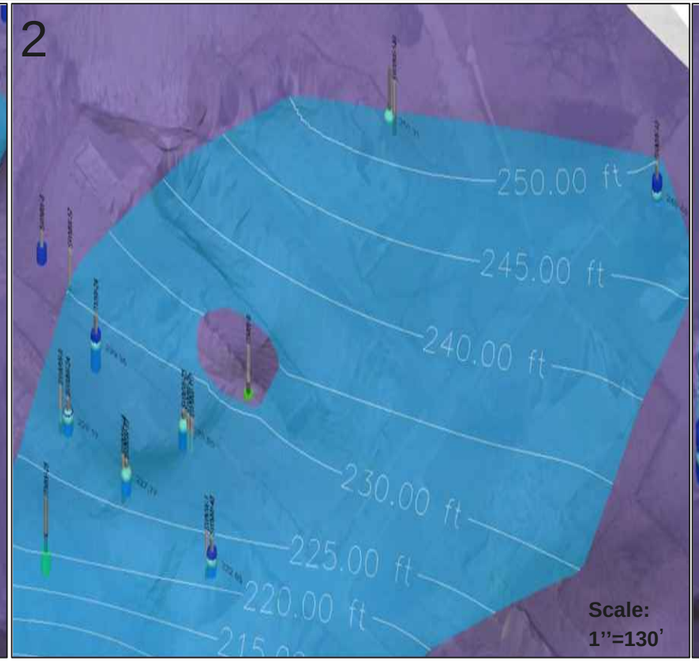

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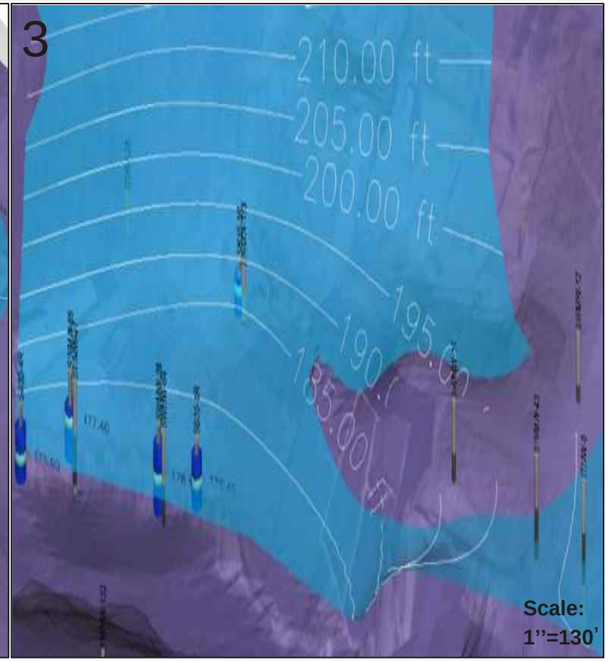

Scale:
1''=130'

Legend:

OB GW SURFACE - JUNE 2013

Monitoring Wells

- Overburden
- Bedrock

Geology

- Overburden
- Bedrock

Notes:

1. Scales are approximated.
    1. Key Map: 1 inch = 240 feet
    2. Focused areas: 1 inch = 130 feet
2. Ground surface digital elevation model (DEM) from United States Geological Service (USGS) accessed from Global Mapper
3. Aerial imagery from Environmental Systems Research Institute (ESRI) World Imagery (accessed April 2020)
4. Figure shows transparent groundwater and gauged groundwater elevations at wells

CHEVRON ENVIRONMENTAL MANAGEMENT COMPANY
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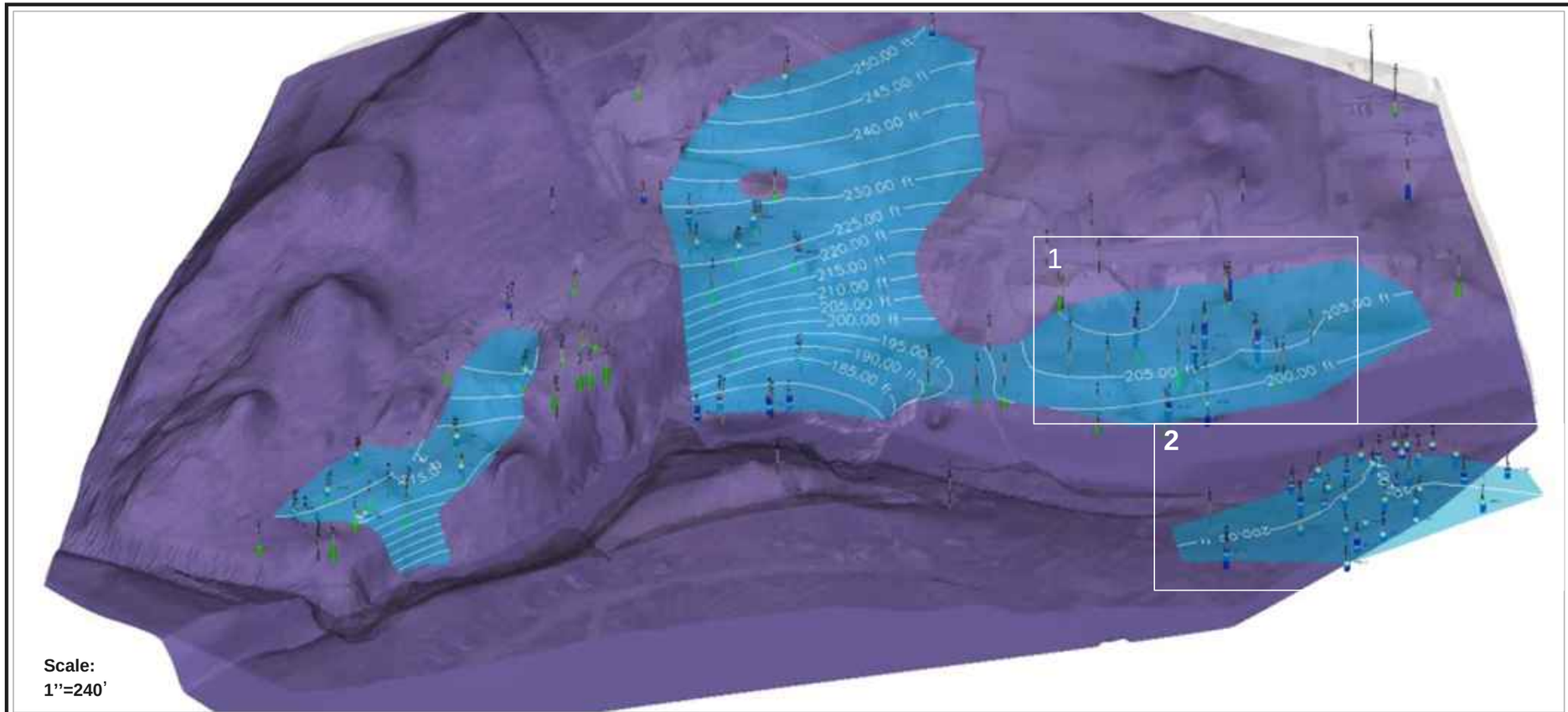
GLENHAM, NEW YORK
REMEDIAL INVESTIGATION REPORT ADDENDUM 1

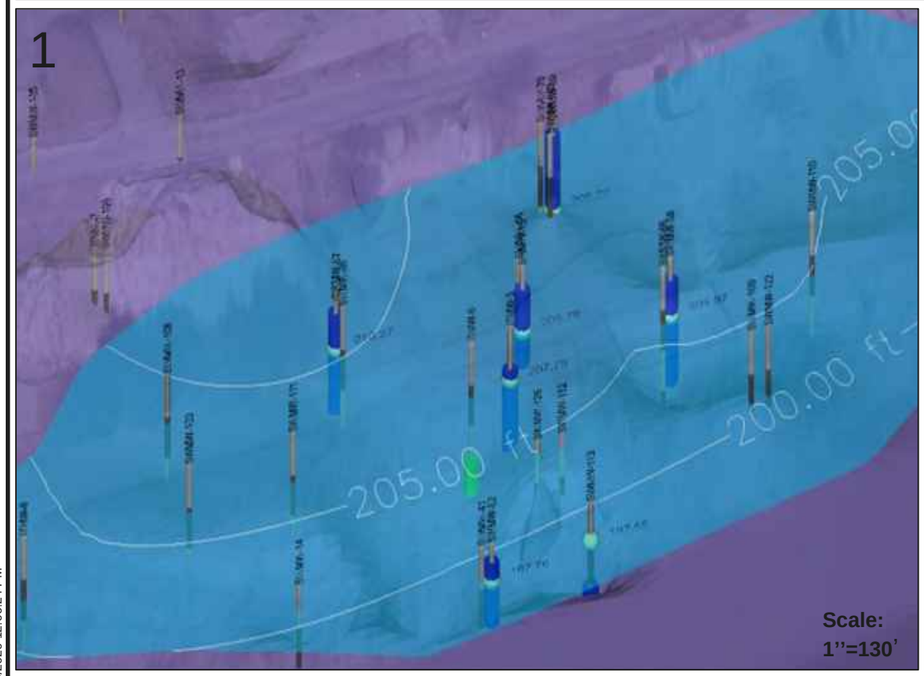
MODELED BEDROCK SURFACE AND JUNE 2013 OVERBURDEN POTENTIOMETRIC SURFACE

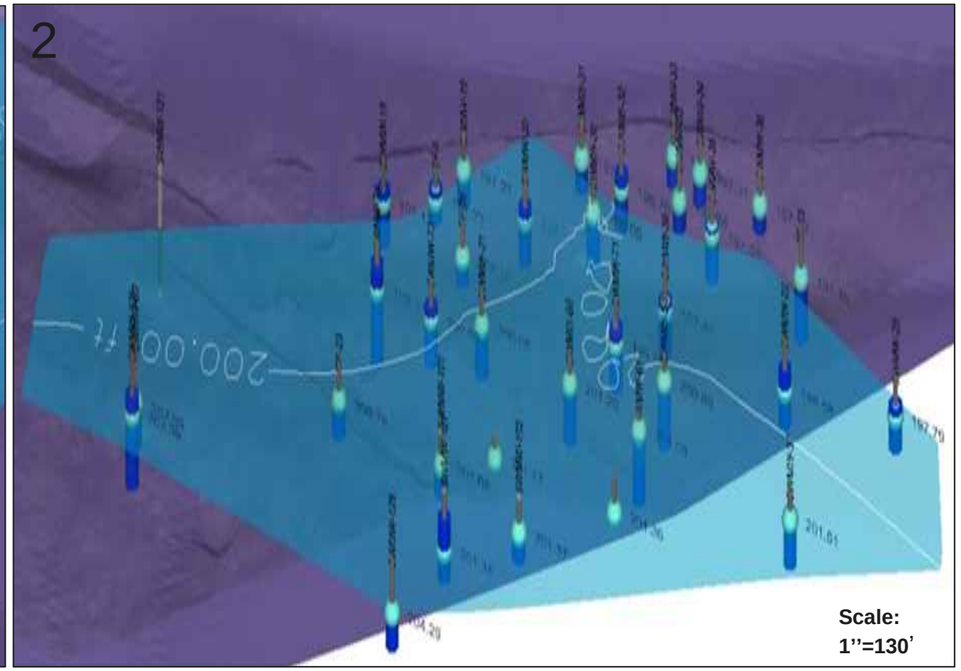
ARCADIS Design & Consultancy for natural and built assets

FIGURE
2-4A

10/30/2020 12:06:24 PM







Legend:

Monitoring Wells

- Overburden
- Bedrock

Geology

- Overburden
- Bedrock

Notes:

1. Scales are approximated.
    1. Key Map: 1 inch = 240 feet
    2. Focused areas: 1 inch = 130 feet
2. Ground surface digital elevation model (DEM) from United States Geological Service (USGS) accessed from Global Mapper
3. Aerial imagery from Environmental Systems Research Institute (ESRI) World Imagery (accessed April 2020)
4. Figure shows transparent groundwater and gauged groundwater elevations at wells

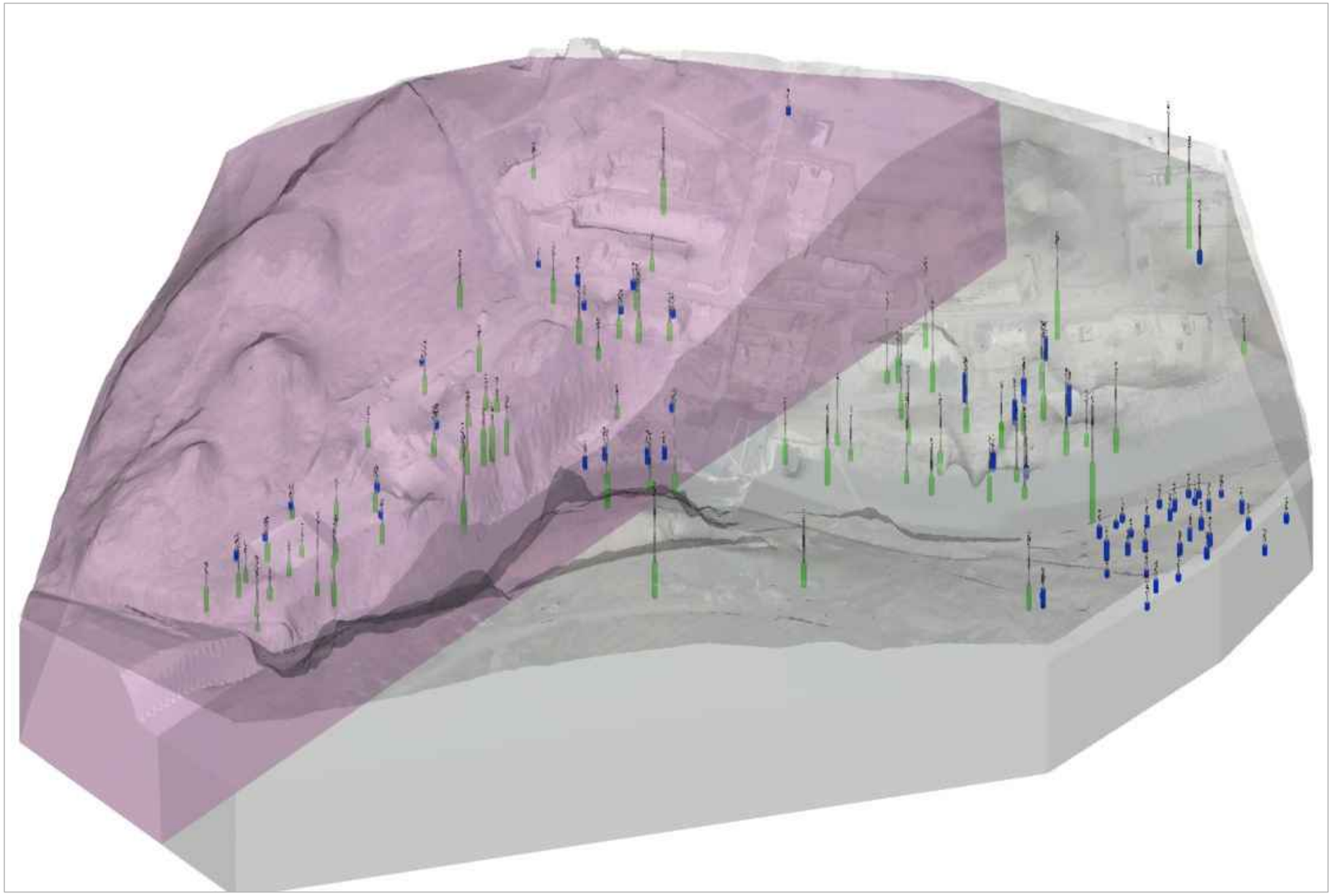
CHEVRON ENVIRONMENTAL MANAGEMENT COMPANY
FORMER TEXACO RESEARCH CENTER BEACON
GLENHAM, NEW YORK
REMEDIAL INVESTIGATION REPORT ADDENDUM 1

MODELED BEDROCK SURFACE AND JUNE 2013 OVERBURDEN POTENTIOMETRIC SURFACE

ARCADIS Design & Consultancy for natural and built assets

FIGURE
2-4B

10/30/2020 12:06:24 PM



Legend:

Monitoring Wells

- Overburden
- Bedrock

Geology

- Overburden
- Bedrock
  - DOLOSTONE
  - GRANITIC GNEISS

Notes:

1. Scales are approximated: 1 inch = 375 feet
2. Ground surface digital elevation model (DEM) from United States Geological Service (USGS) accessed from Global Mapper
3. Aerial imagery from Environmental Systems Research Institute (ESRI) World Imagery (accessed April 2020)

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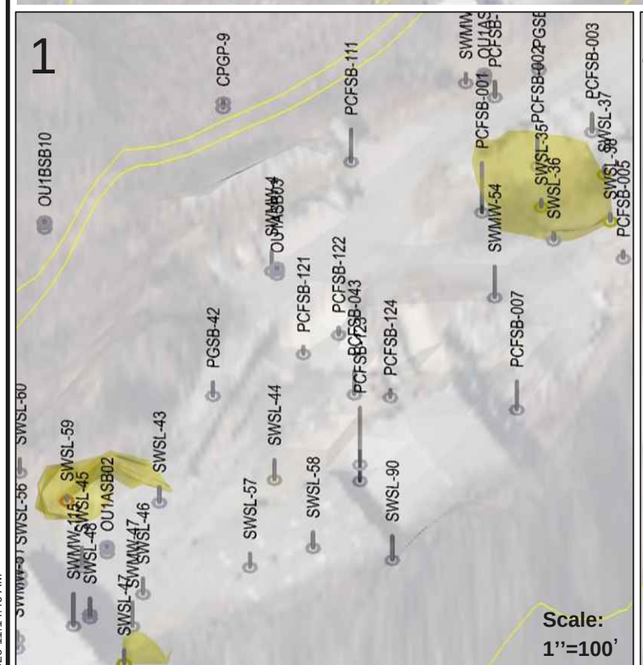
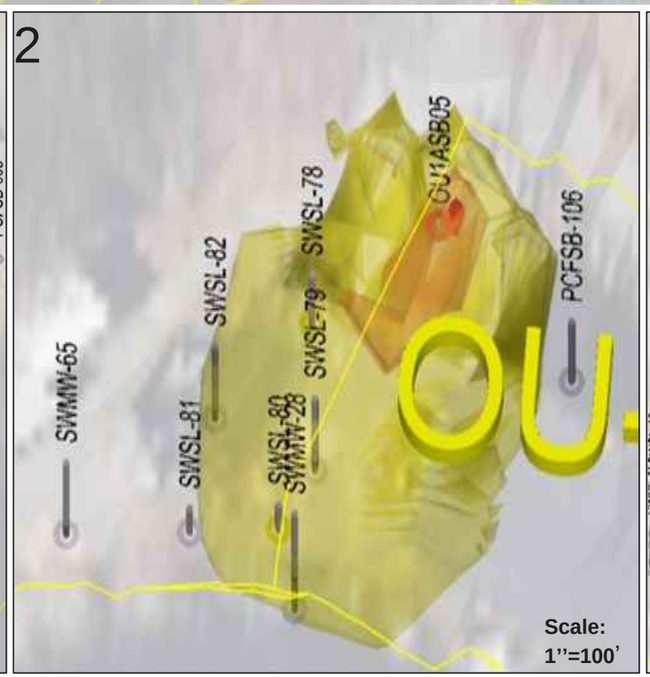
FAULTED BEDROCK AND GROUNDWATER MONITORING NETWORK

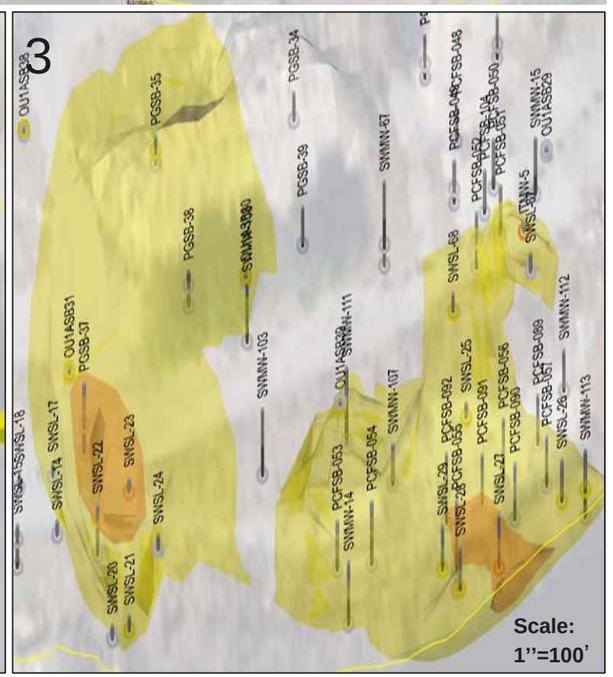
ARCADIS Design & Consultancy for natural and built assets

FIGURE
2-5

10/30/2020 12:06:24 PM







Legend:

Operable Unit (OU) Boundaries

New York Soil Screening Levels (mg/Kg)

- Above Industrial SL
- Above Commercial SL
- Above Residential Restricted SL
- Above Residential SL
- Above Unrestricted Value
- Below Unrestricted Value

Mercury: mg/kg

45.1
5.7
2.8
0.81
0.0077

Notes:

1. Results colored by least restrictive screening level exceeded
2. Scales are approximated.
    1. Key Map: 1 inch = 670 feet
    2. Focused areas: 1 inch = 100 feet
3. Ground surface digital elevation model (DEM) from United States Geological Service (USGS) accessed from Global Mapper
4. Aerial imagery from Environmental Systems Research Institute (ESRI) World Imagery (accessed April 2020)
5. Non-detect samples colored at their reporting limit (RL) and modeled at 1/10 of their RL.
6. mg/kg: milligram per kilogram
7. OU: Operable Unit
8. SL: Screening Level

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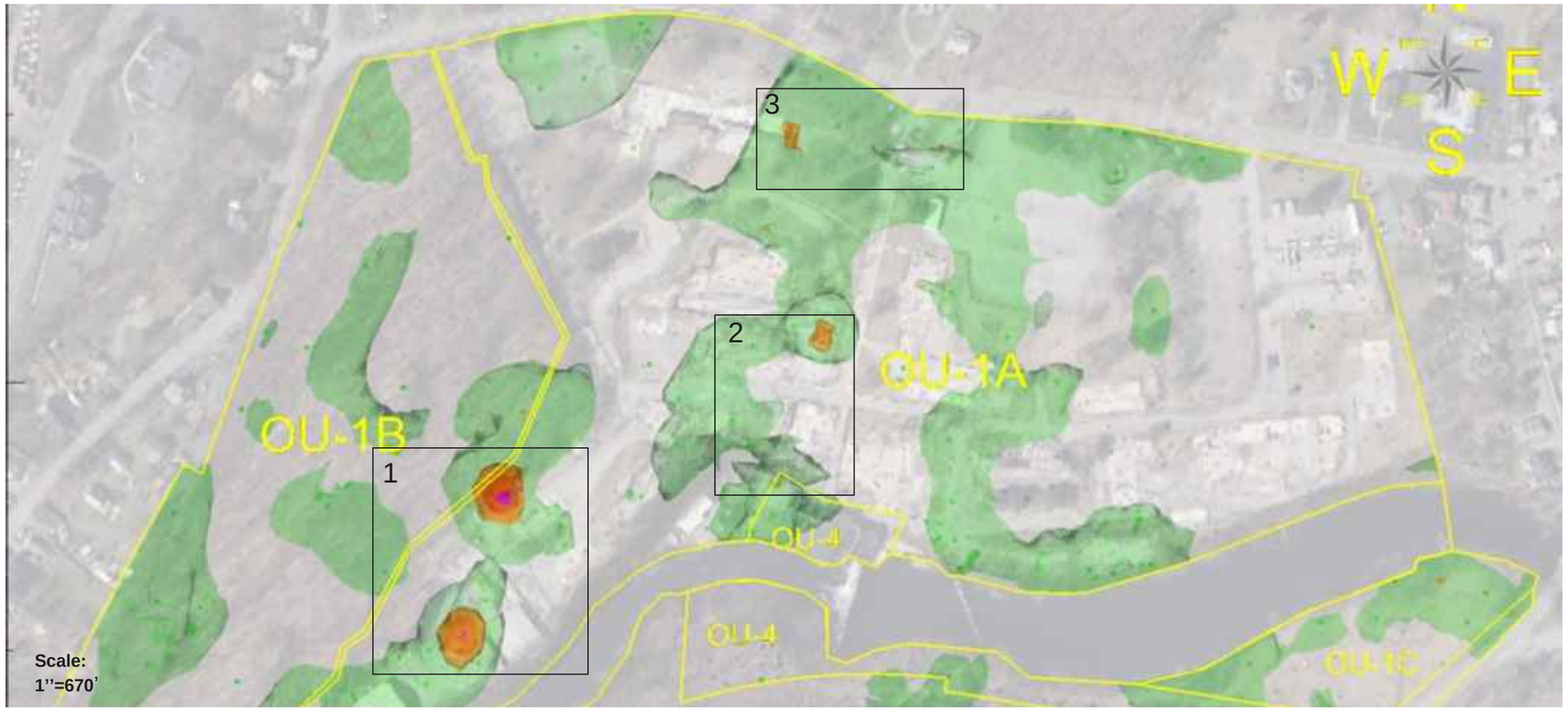
REMEDIAL INVESTIGATION REPORT ADDENDUM 1

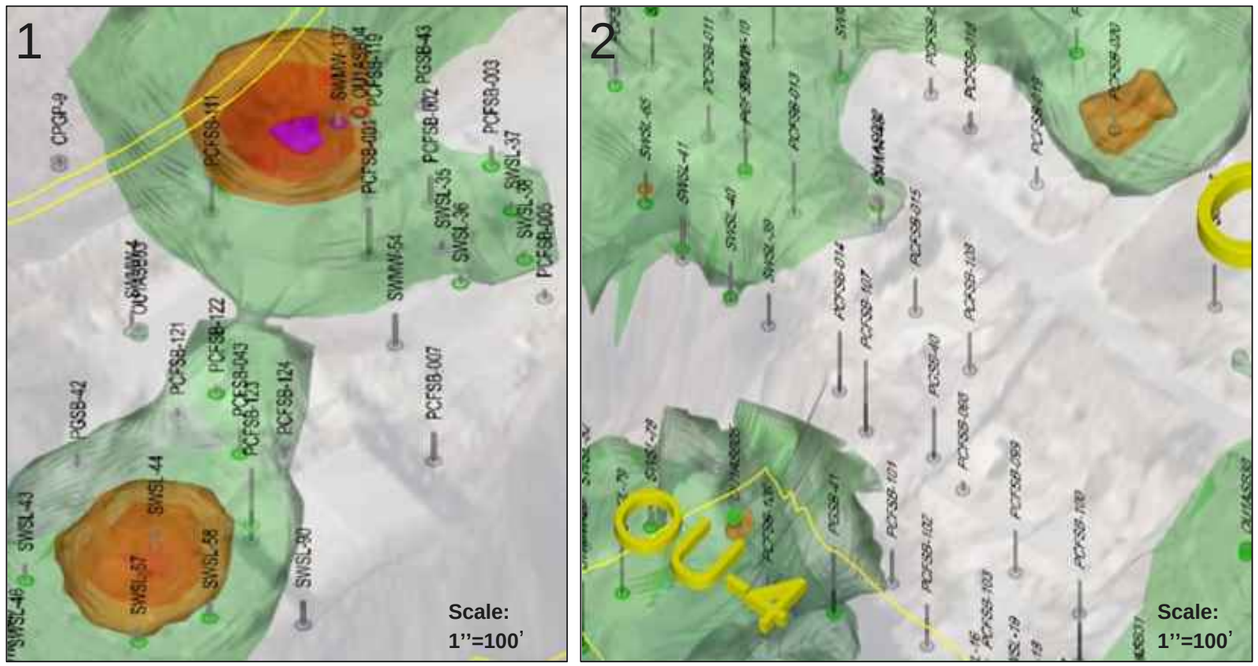
MERCURY SOIL SCREENING LEVEL EXCEEDANCES

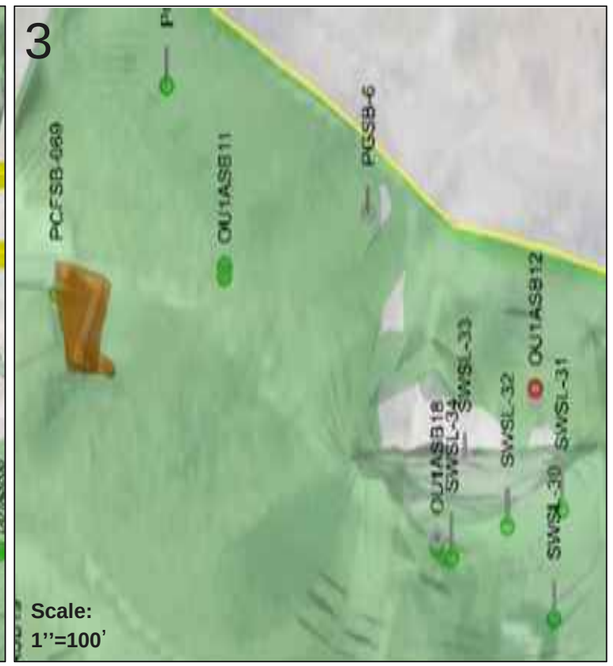
ARCADIS Design & Consultancy for natural and built assets

FIGURE
2-6

10/30/2020 11:14:40 AM







Legend:

Operable Unit (OU) Boundaries

New York Soil Screening Levels (mg/Kg)

- Above Industrial SL
- Above Commercial SL
- Above Residential Restricted SL
- Above Residential SL
- Above Unrestricted Value
- Below Unrestricted Value

Lead: mg/kg

34,100.0
3,900.0
1,000.0
400.0
63.0
0.48

Notes:

1. Results colored by least restrictive screening level exceeded
2. Scales are approximated.
    1. Key Map: 1 inch = 670 feet
    2. Focused areas: 1 inch = 100 feet
3. Ground surface digital elevation model (DEM) from United States Geological Service (USGS) accessed from Global Mapper
4. Aerial imagery from Environmental Systems Research Institute (ESRI) World Imagery (accessed April 2020)
5. Non-detect samples colored at their reporting limit (RL) and modeled at 1/10 of their RL.
6. mg/kg: milligram per kilogram
7. OU: Operable Unit
8. SL: Screening Level

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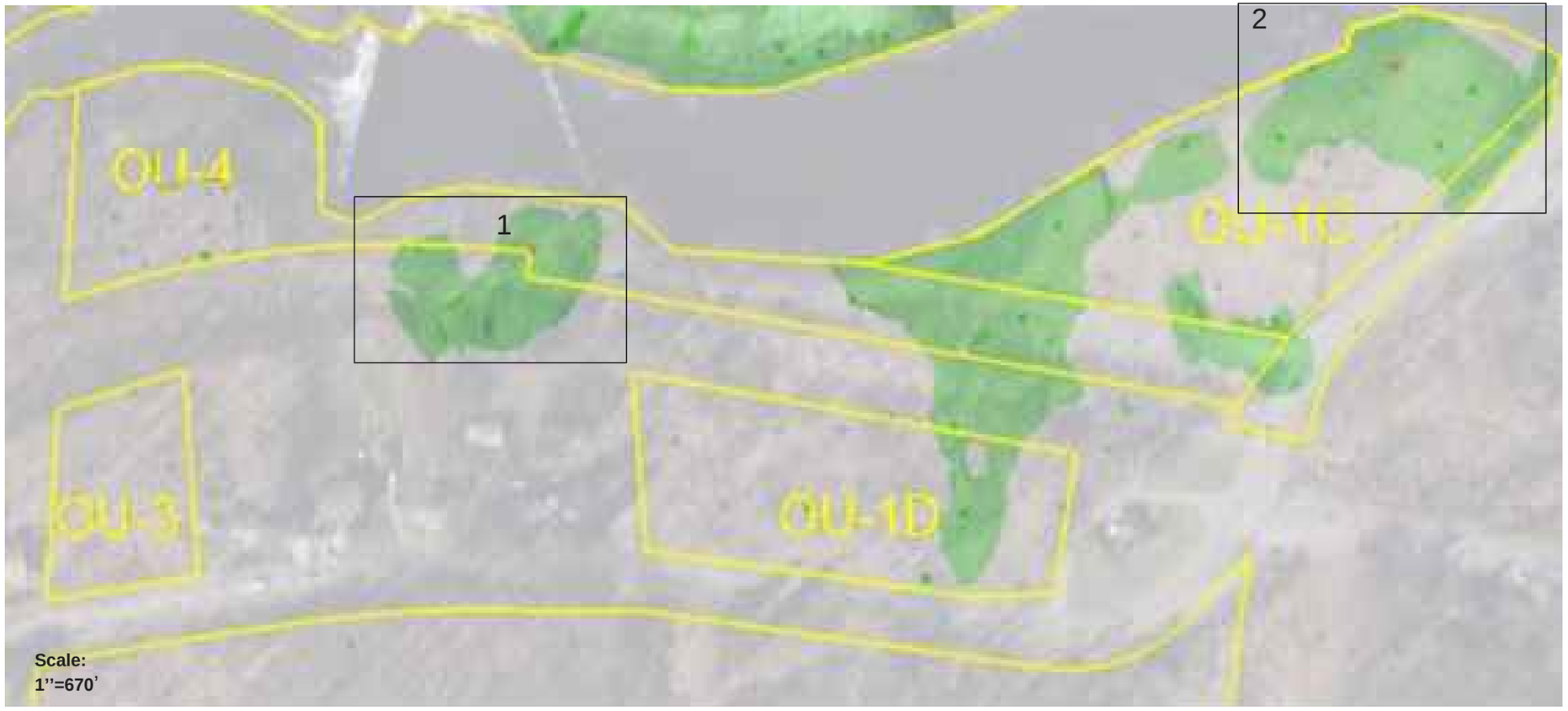
REMEDIAL INVESTIGATION REPORT ADDENDUM 1

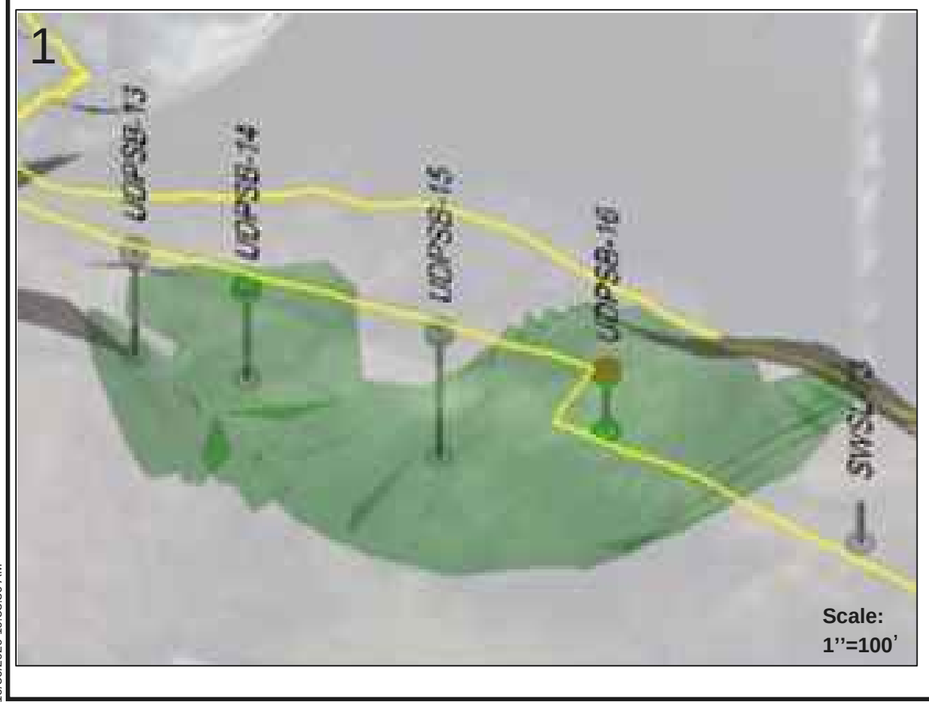
LEAD SOIL SCREENING LEVEL EXCEEDANCES

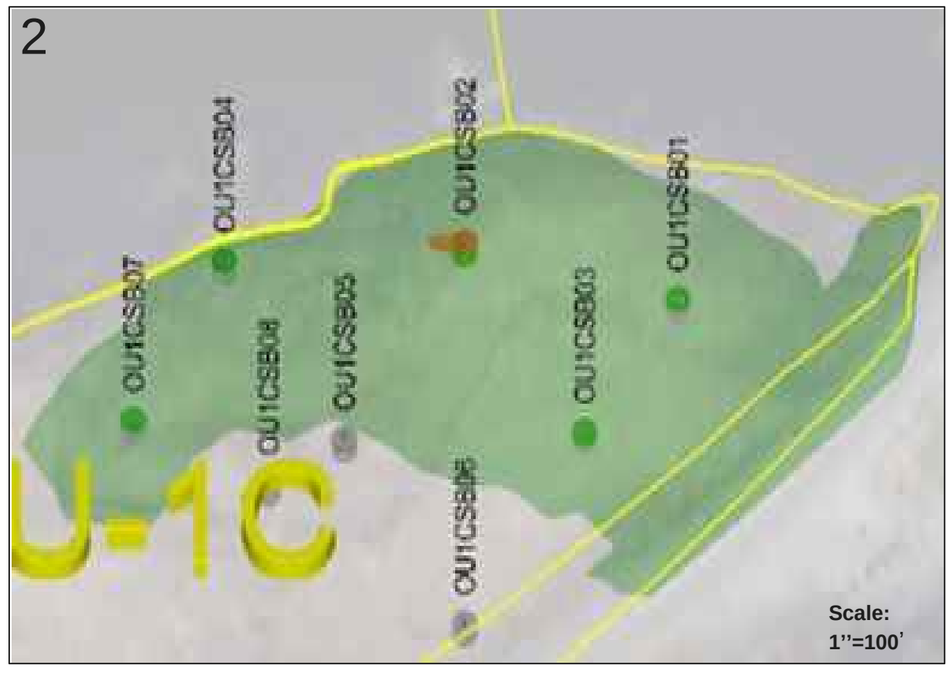
ARCADIS Design & Consultancy for natural and built assets

FIGURE
2-7A

10/30/2020 10:53:30 AM







Legend:

Operable Unit (OU) Boundaries

New York Soil Screening Levels (mg/Kg)

- Above Industrial SL
- Above Commercial SL
- Above Residential Restricted SL
- Above Residential SL
- Above Unrestricted Value
- Below Unrestricted Value

Lead: mg/kg

34,100.0
3,900.0
1,000.0
400.0
63.0
0.48

Notes:

1. Results colored by least restrictive screening level exceeded
2. Scales are approximated.
    1. Key Map: 1 inch = 670 feet
    2. Focused areas: 1 inch = 100 feet
3. Ground surface digital elevation model (DEM) from United States Geological Service (USGS) accessed from Global Mapper
4. Aerial imagery from Environmental Systems Research Institute (ESRI) World Imagery (accessed April 2020)
5. Non-detect samples colored at their reporting limit (RL) and modeled at 1/10 of their RL.
6. mg/kg: milligram per kilogram
7. OU: Operable Unit
8. SL: Screening Level

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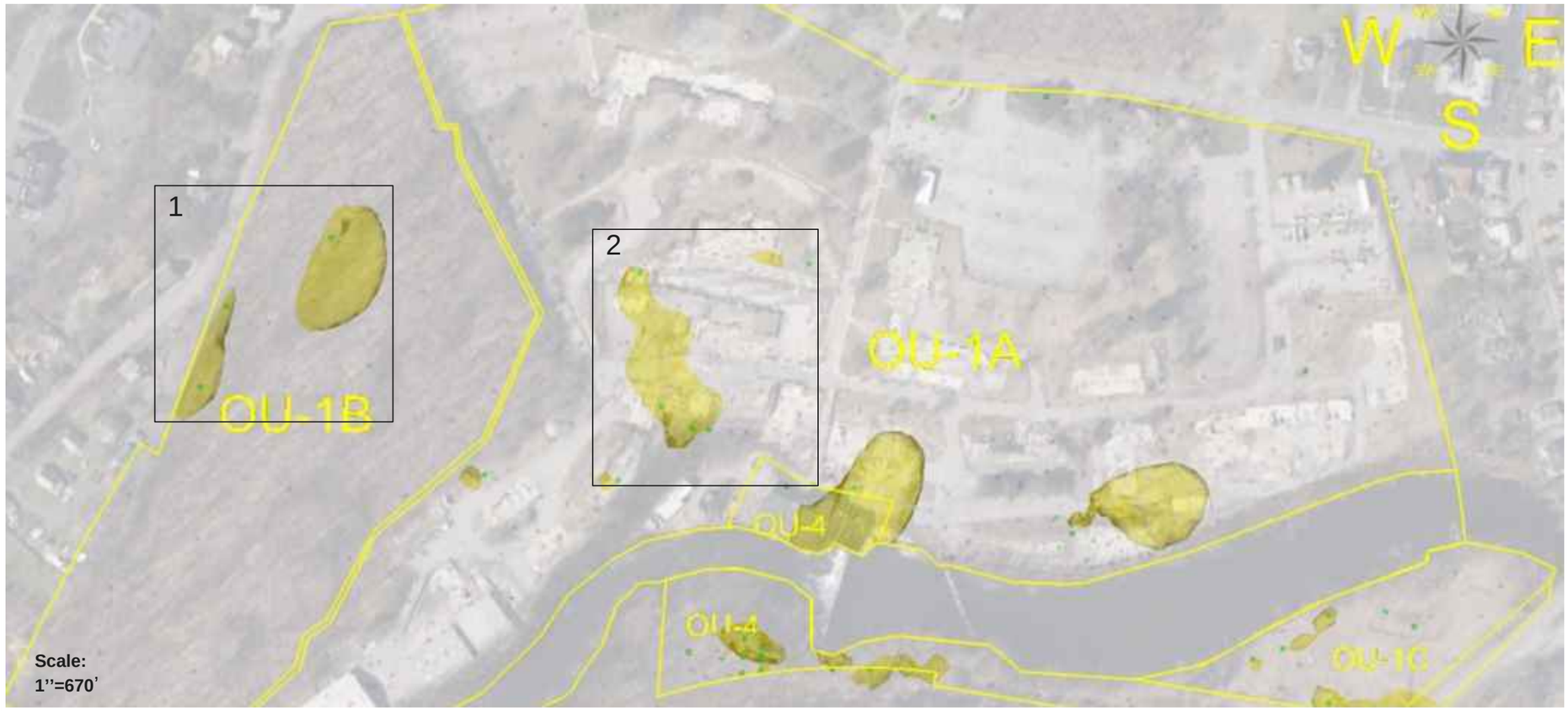
REMEDIAL INVESTIGATION REPORT ADDENDUM 1

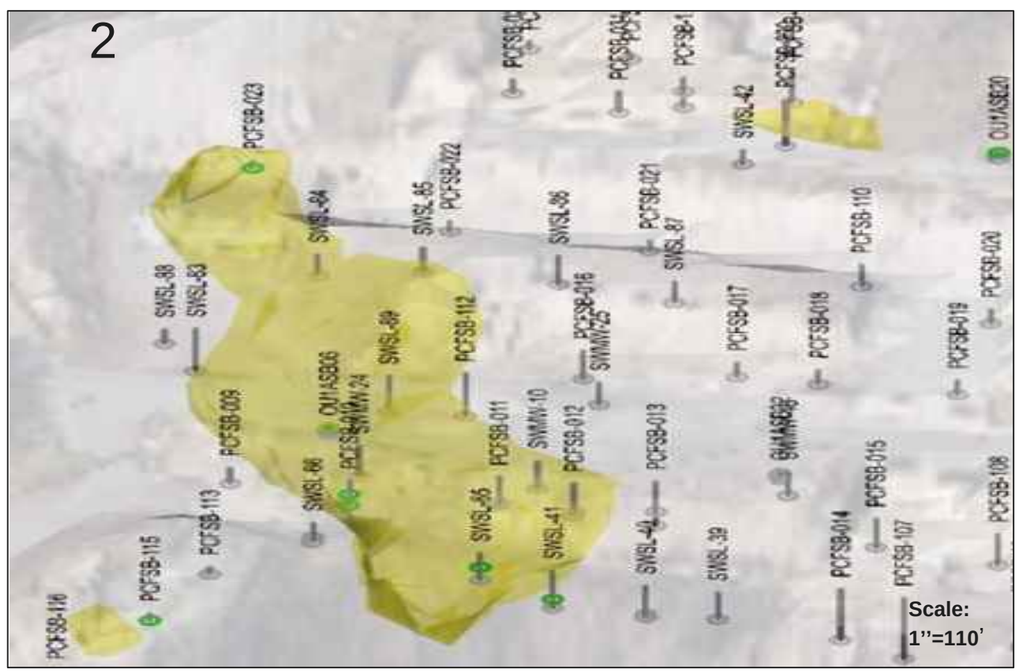
LEAD SOIL SCREENING LEVEL EXCEEDANCES

ARCADIS Design & Consultancy for natural and built assets

FIGURE
2-7B

10/30/2020 10:53:30 AM





Legend:

Operable Unit (OU) Boundaries

New York Soil Screening Levels (mg/Kg)

- Above Industrial SL
- Above Commercial SL
- Above Residential Restricted SL
- Above Residential SL
- Above Unrestricted Value
- Below Unrestricted Value

Nickel: mg/kg

20,000.0
10,000.0
310.0
140.0
30.0
1.2

Notes:

1. Results colored by least restrictive screening level exceeded
2. Scales are approximated.
    1. Key Map: 1 inch = 670 feet
    2. Focused areas: 1 inch = 110 feet
3. Ground surface digital elevation model (DEM) from United States Geological Service (USGS) accessed from Global Mapper
4. Aerial imagery from Environmental Systems Research Institute (ESRI) World Imagery (accessed April 2020)
5. Non-detect samples colored at their reporting limit (RL) and modeled at 1/10 of their RL.
6. mg/kg: milligram per kilogram
7. OU: Operable Unit
8. SL: Screening Level

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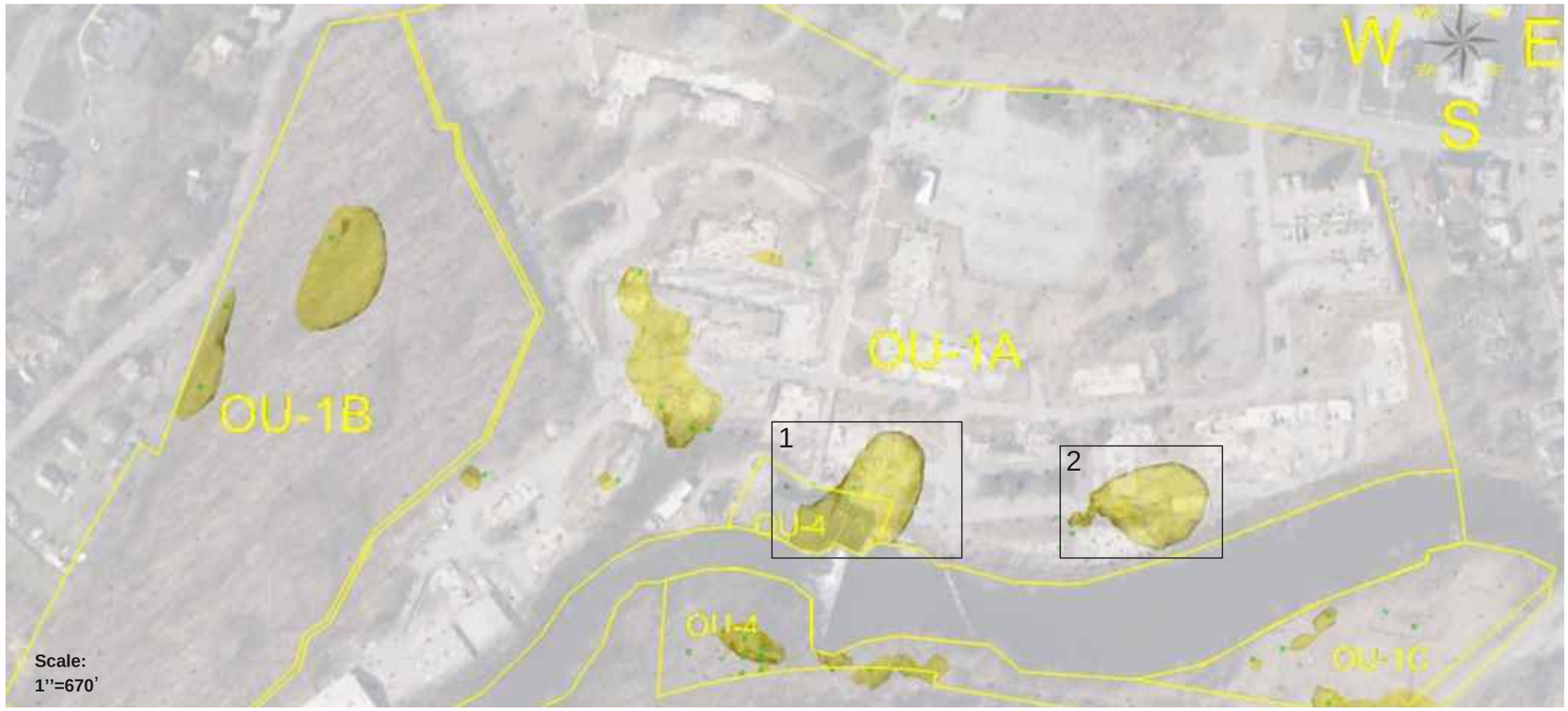
REMEDIAL INVESTIGATION REPORT ADDENDUM 1

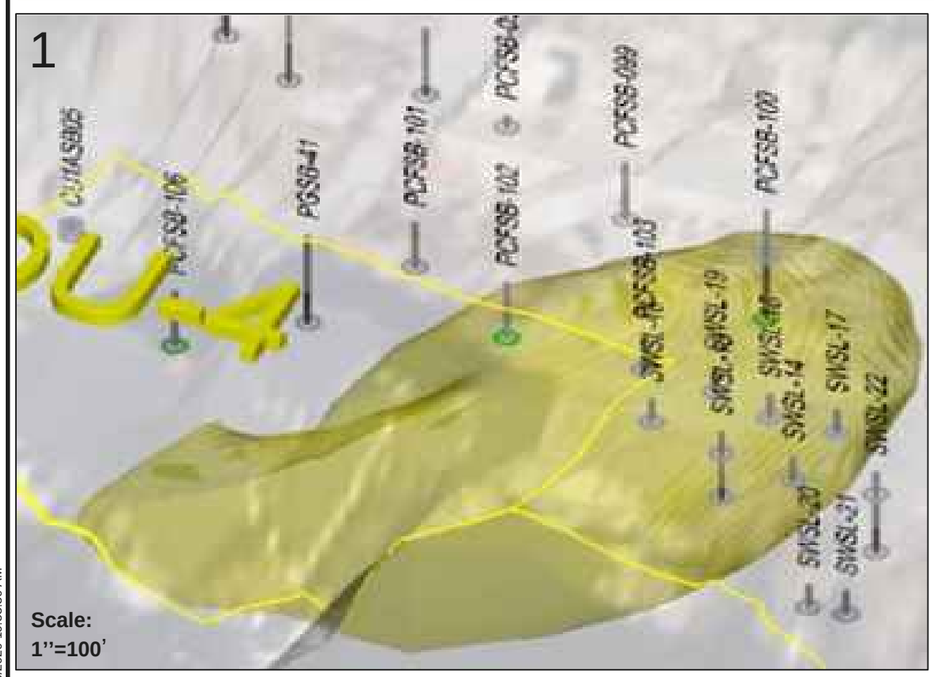
NICKEL SOIL SCREENING LEVEL EXCEEDANCES

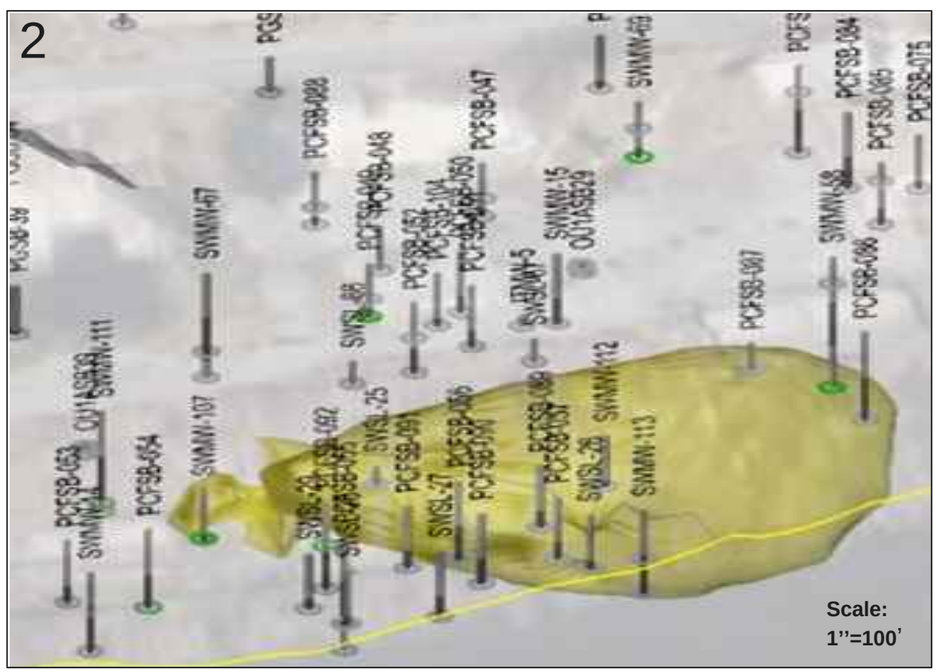
ARCADIS Design & Consultancy for natural and built assets

FIGURE
2-8A

10/30/2020 10:53:30 AM







Legend:

Operable Unit (OU) Boundaries

New York Soil Screening Levels (mg/Kg)

- Above Industrial SL
- Above Commercial SL
- Above Residential Restricted SL
- Above Residential SL
- Above Unrestricted Value
- Below Unrestricted Value

Nickel: mg/kg

20,000.0
10,000.0
310.0
140.0
30.0
1.2

Notes:

1. Results colored by least restrictive screening level exceeded
2. Scales are approximated.
    1. Key Map: 1 inch = 670 feet
    2. Focused areas: 1 inch = 100 feet
3. Ground surface digital elevation model (DEM) from United States Geological Service (USGS) accessed from Global Mapper
4. Aerial imagery from Environmental Systems Research Institute (ESRI) World Imagery (accessed April 2020)
5. Non-detect samples colored at their reporting limit (RL) and modeled at 1/10 of their RL.
6. mg/kg: milligram per kilogram
7. OU: Operable Unit
8. SL: Screening Level

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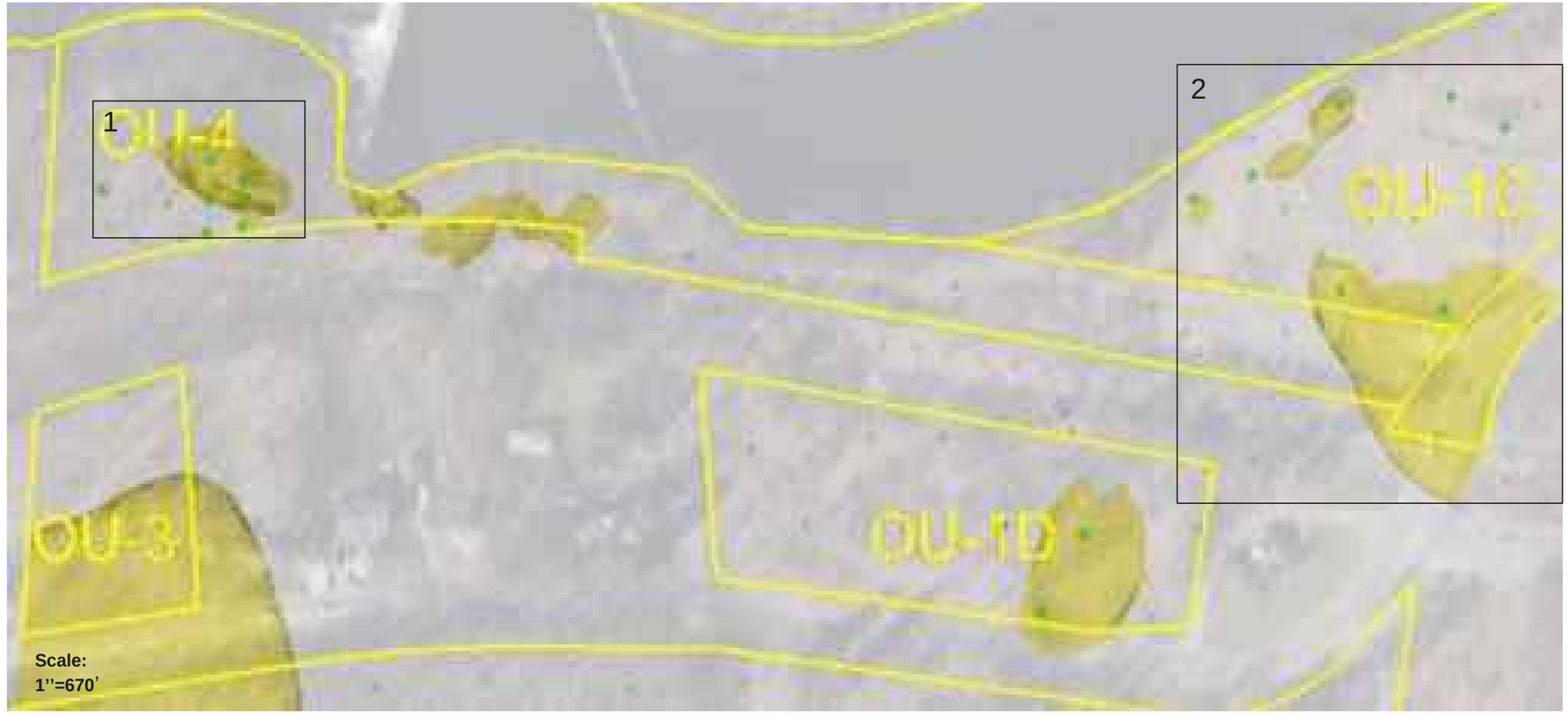
REMEDIAL INVESTIGATION REPORT ADDENDUM 1

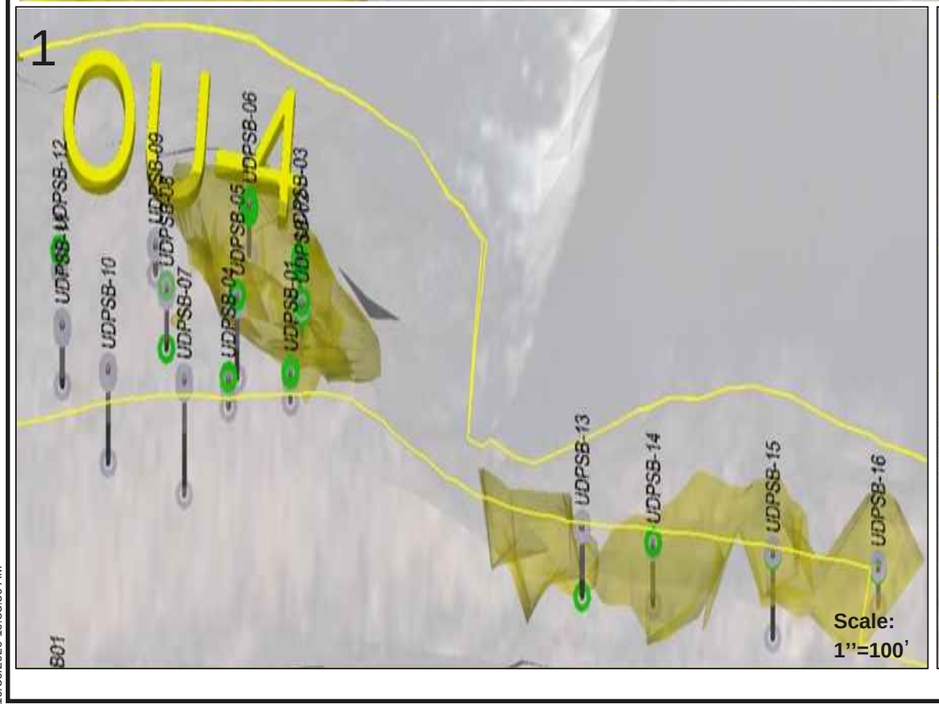
NICKEL SOIL SCREENING LEVEL EXCEEDANCES

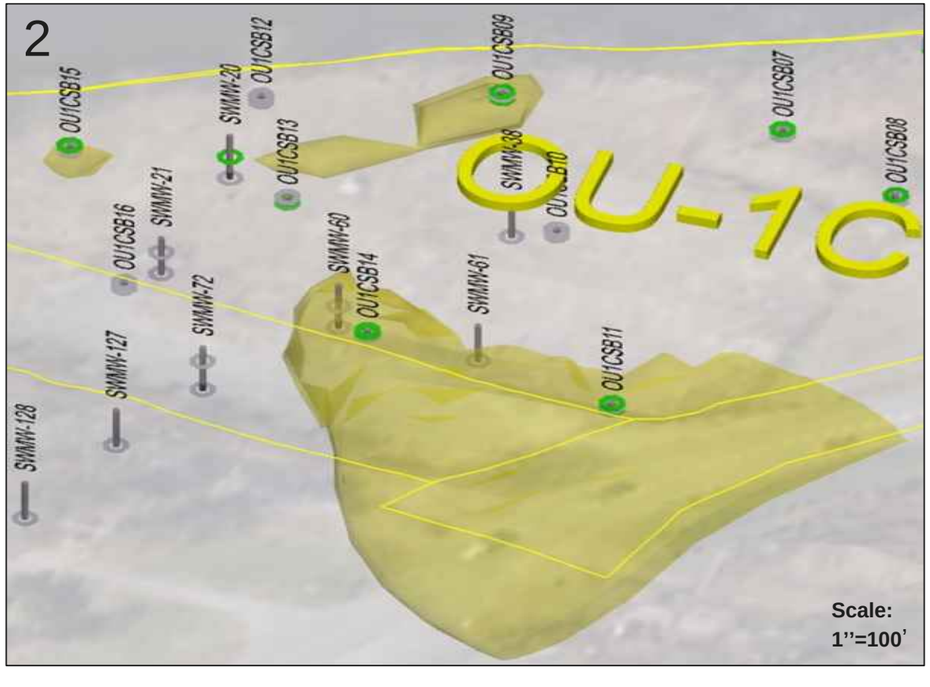
ARCADIS Design & Consultancy for natural and built assets

FIGURE
2-8B

10/30/2020 10:53:30 AM







Legend:

Operable Unit (OU) Boundaries

New York Soil Screening Levels (mg/Kg)

- Above Industrial SL
- Above Commercial SL
- Above Residential Restricted SL
- Above Residential SL
- Above Unrestricted Value
- Below Unrestricted Value

Nickel: mg/kg

20,000.0
10,000.0
310.0
140.0
30.0
1.2

Notes:

1. Results colored by least restrictive screening level exceeded
2. Scales are approximated.
    1. Key Map: 1 inch = 670 feet
    2. Focused areas: 1 inch = 100 feet
3. Ground surface digital elevation model (DEM) from United States Geological Service (USGS) accessed from Global Mapper
4. Aerial imagery from Environmental Systems Research Institute (ESRI) World Imagery (accessed April 2020)
5. Non-detect samples colored at their reporting limit (RL) and modeled at 1/10 of their RL.
6. mg/kg: milligram per kilogram
7. OU: Operable Unit
8. SL: Screening Level

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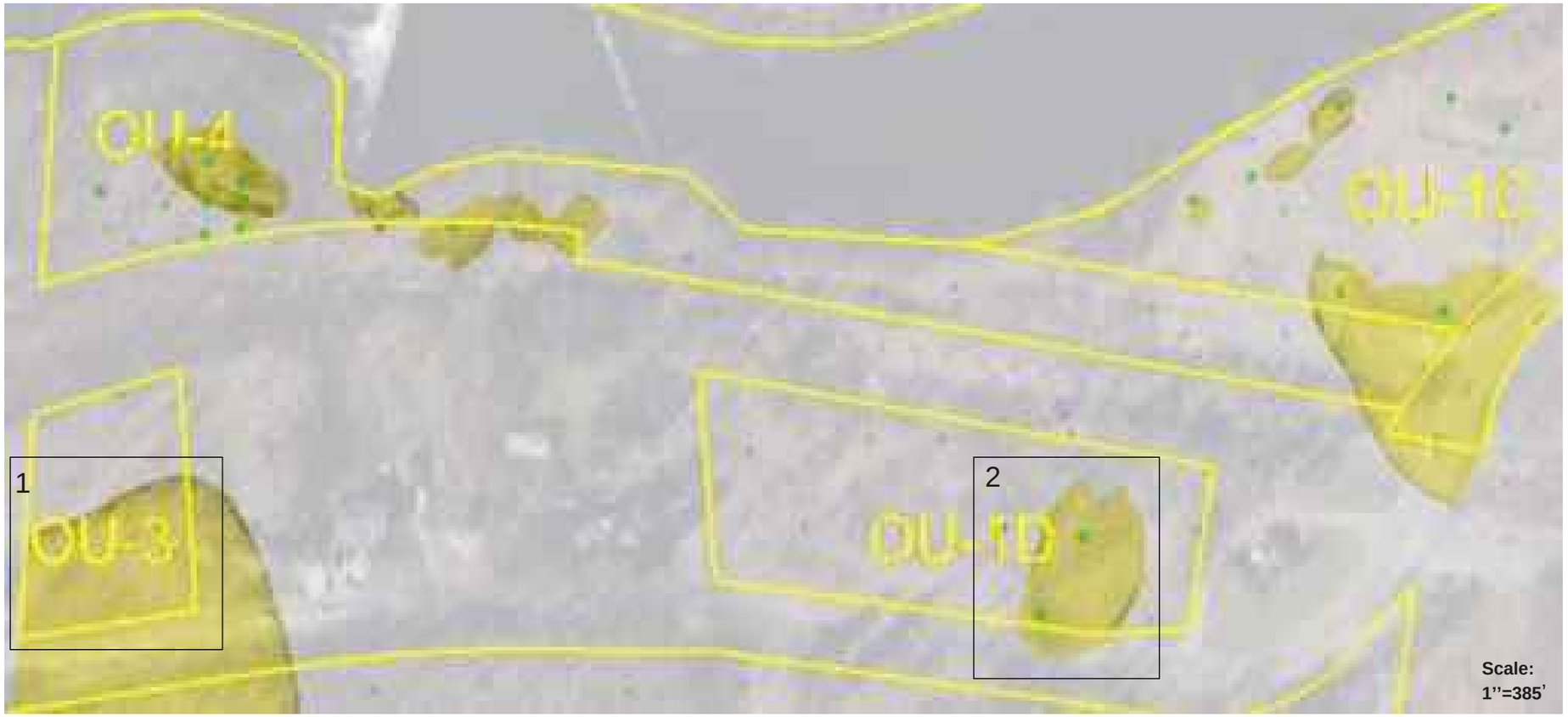
REMEDIAL INVESTIGATION REPORT ADDENDUM 1

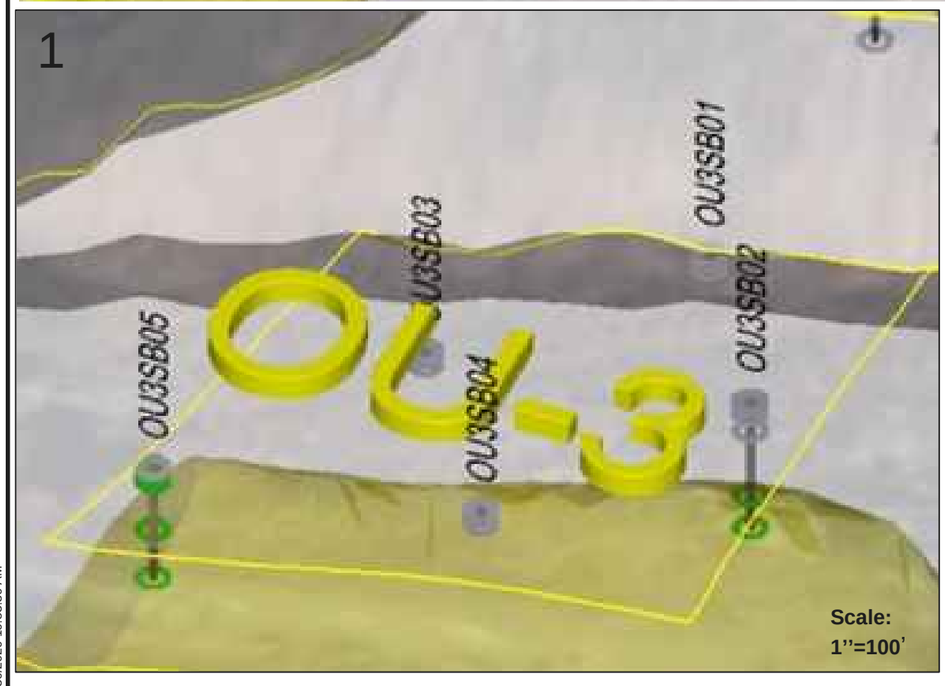
NICKEL SOIL SCREENING LEVEL EXCEEDANCES

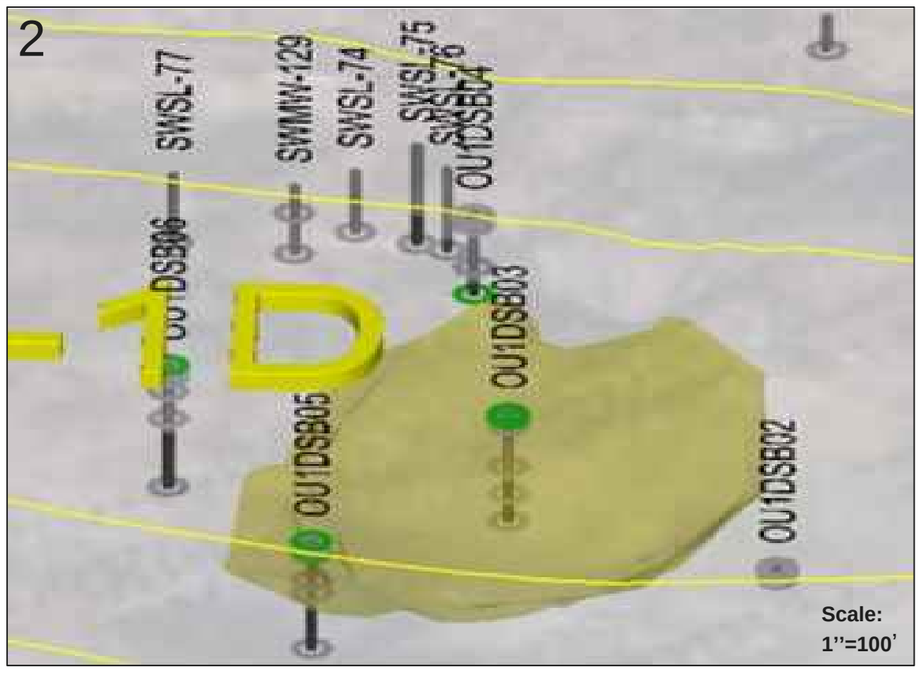
ARCADIS Design & Consultancy for natural and built assets

FIGURE
2-8C

10/30/2020 10:53:30 AM







Legend:

Operable Unit (OU) Boundaries

New York Soil Screening Levels (mg/Kg)

- Above Industrial SL
- Above Commercial SL
- Above Residential Restricted SL
- Above Residential SL
- Above Unrestricted Value
- Below Unrestricted Value

Nickel: mg/kg

20,000.0
10,000.0
310.0
140.0
30.0
1.2

Notes:

1. Results colored by least restrictive screening level exceeded
2. Scales are approximated.
    1. Key Map: 1 inch = 385 feet
    2. Focused areas: 1 inch = 100 feet
3. Ground surface digital elevation model (DEM) from United States Geological Service (USGS) accessed from Global Mapper
4. Aerial imagery from Environmental Systems Research Institute (ESRI) World Imagery (accessed April 2020)
5. Non-detect samples colored at their reporting limit (RL) and modeled at 1/10 of their RL.
6. mg/kg: milligram per kilogram
7. OU: Operable Unit
8. SL: Screening Level

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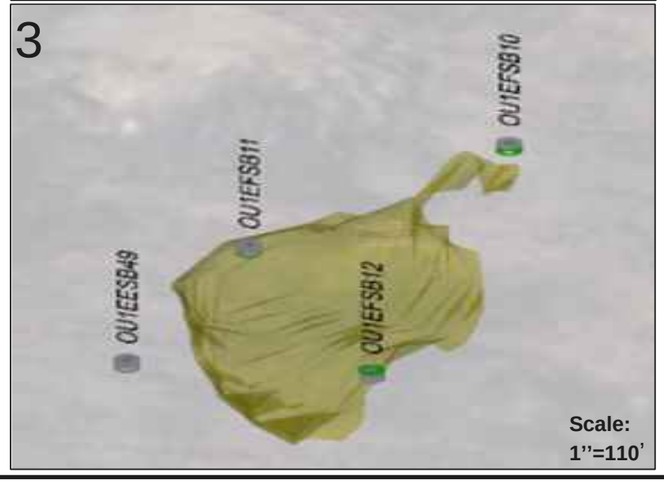
REMEDIAL INVESTIGATION REPORT ADDENDUM 1

NICKEL SOIL SCREENING LEVEL EXCEEDANCES

ARCADIS Design & Consultancy for natural and built assets

FIGURE
2-8D

10/30/2020 10:53:30 AM



Legend:

Operable Unit (OU) Boundaries

New York Soil Screening Levels (mg/Kg)

- Above Industrial SL
- Above Commercial SL
- Above Residential Restricted SL
- Above Residential SL
- Above Unrestricted Value
- Below Unrestricted Value

Lead: mg/kg

34,100.0
3,900.0
1,000.0
400.0
63.0
0.48

Notes:

1. Results colored by least restrictive screening level exceeded
2. Scales are approximated.
    1. Key Map: 1 inch = 670 feet
    2. Focused areas: 1 inch = 110 feet
3. Ground surface digital elevation model (DEM) from United States Geological Service (USGS) accessed from Global Mapper
4. Aerial imagery from Environmental Systems Research Institute (ESRI) World Imagery (accessed April 2020)
5. Non-detect samples colored at their reporting limit (RL) and modeled at 1/10 of their RL.
6. mg/kg: milligram per kilogram
7. OU: Operable Unit
8. SL: Screening Level

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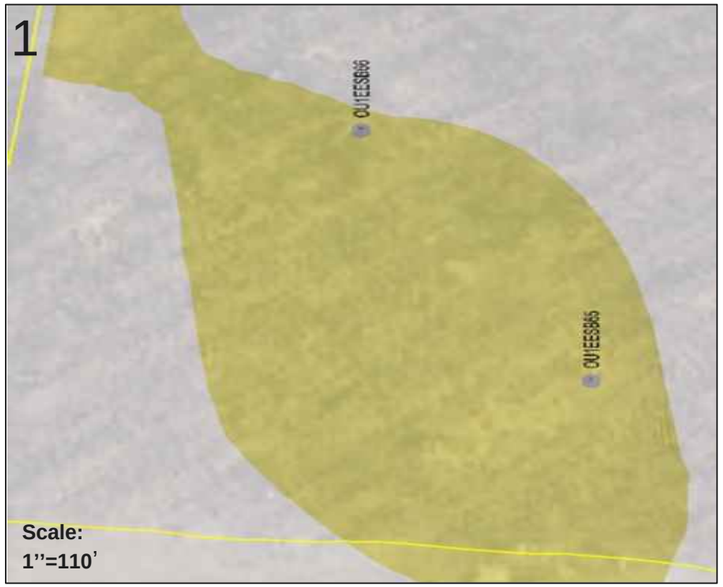
REMEDIAL INVESTIGATION REPORT ADDENDUM 1

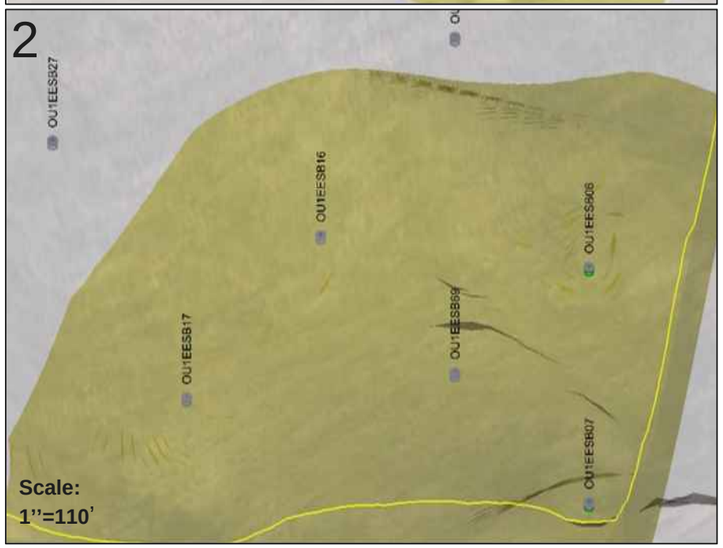
NICKEL SOIL SCREENING LEVEL EXCEEDANCES

ARCADIS Design & Consultancy for natural and built assets

FIGURE
2-8E

10/30/2020 10:53:30 AM





Legend:

Operable Unit (OU) Boundaries

New York Soil Screening Levels (mg/Kg)

- Above Industrial SL
- Above Commercial SL
- Above Residential Restricted SL
- Above Residential SL
- Above Unrestricted Value
- Below Unrestricted Value

Lead: mg/kg

34,100.0
3,900.0
1,000.0
400.0
63.0
0.48

Notes:

1. Results colored by least restrictive screening level exceeded
2. Scales are approximated.
    1. Key Map: 1 inch = 670 feet
    2. Focused areas: 1 inch = 110 feet
3. Ground surface digital elevation model (DEM) from United States Geological Service (USGS) accessed from Global Mapper
4. Aerial imagery from Environmental Systems Research Institute (ESRI) World Imagery (accessed April 2020)
5. Non-detect samples colored at their reporting limit (RL) and modeled at 1/10 of their RL.
6. mg/kg: milligram per kilogram
7. OU: Operable Unit
8. SL: Screening Level

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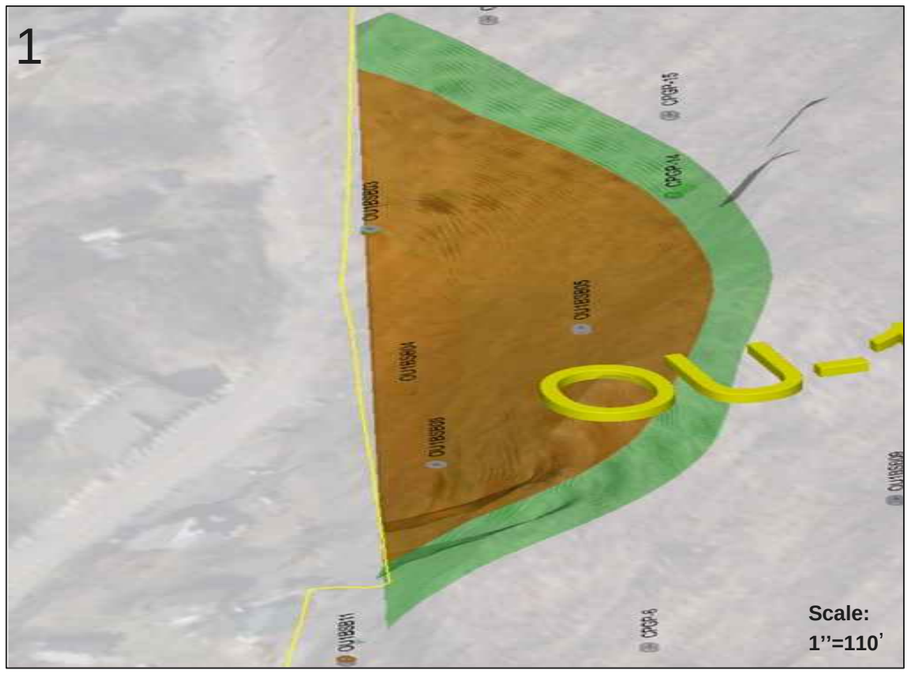
REMEDIAL INVESTIGATION REPORT ADDENDUM 1

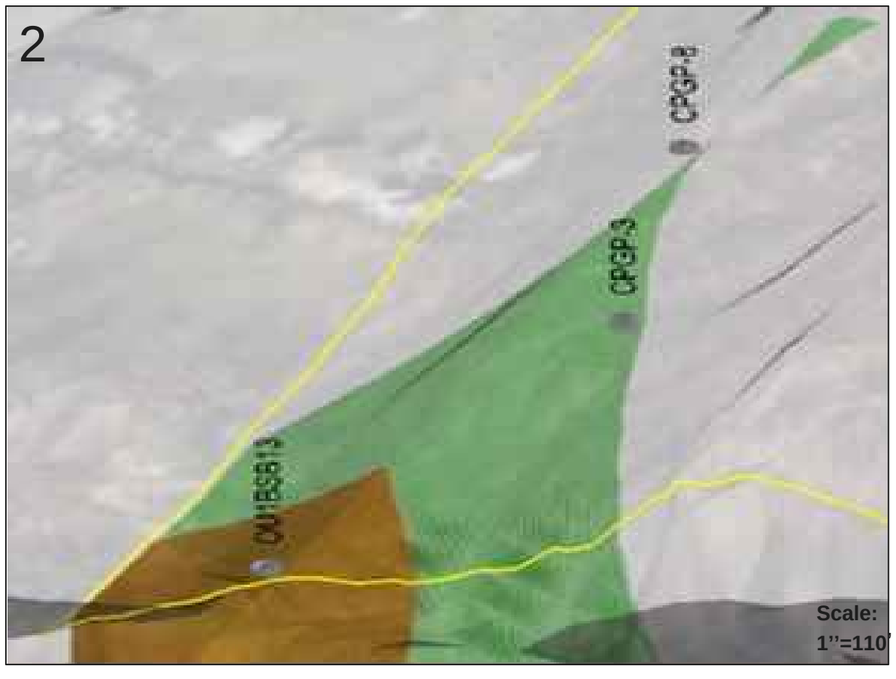
NICKEL SOIL SCREENING LEVEL EXCEEDANCES

ARCADIS Design & Consultancy for natural and built assets

FIGURE
2-8F

10/30/2020 10:53:30 AM





Legend:

Operable Unit (OU) Boundaries

New York Soil Screening Levels (mg/Kg)

- Above Industrial SL
- Above Commercial SL
- Above Residential Restricted SL
- Above Residential SL
- Above Unrestricted Value
- Below Unrestricted Value

Manganese: mg/kg

- 20,000.0
- 10,000.0
- 2,000.0
- 1,600.0
- 107.0

Notes:

1. Results colored by least restrictive screening level exceeded
2. Scales are approximated.
    1. Key Map: 1 inch = 670 feet
    2. Focused areas: 1 inch = 110 feet
3. Ground surface digital elevation model (DEM) from United States Geological Service (USGS) accessed from Global Mapper
4. Aerial imagery from Environmental Systems Research Institute (ESRI) World Imagery (accessed April 2020)
5. Non-detect samples colored at their reporting limit (RL) and modeled at 1/10 of their RL.
6. mg/kg: milligram per kilogram
7. OU: Operable Unit
8. SL: Screening Level

CHEVRON ENVIRONMENTAL MANAGEMENT COMPANY
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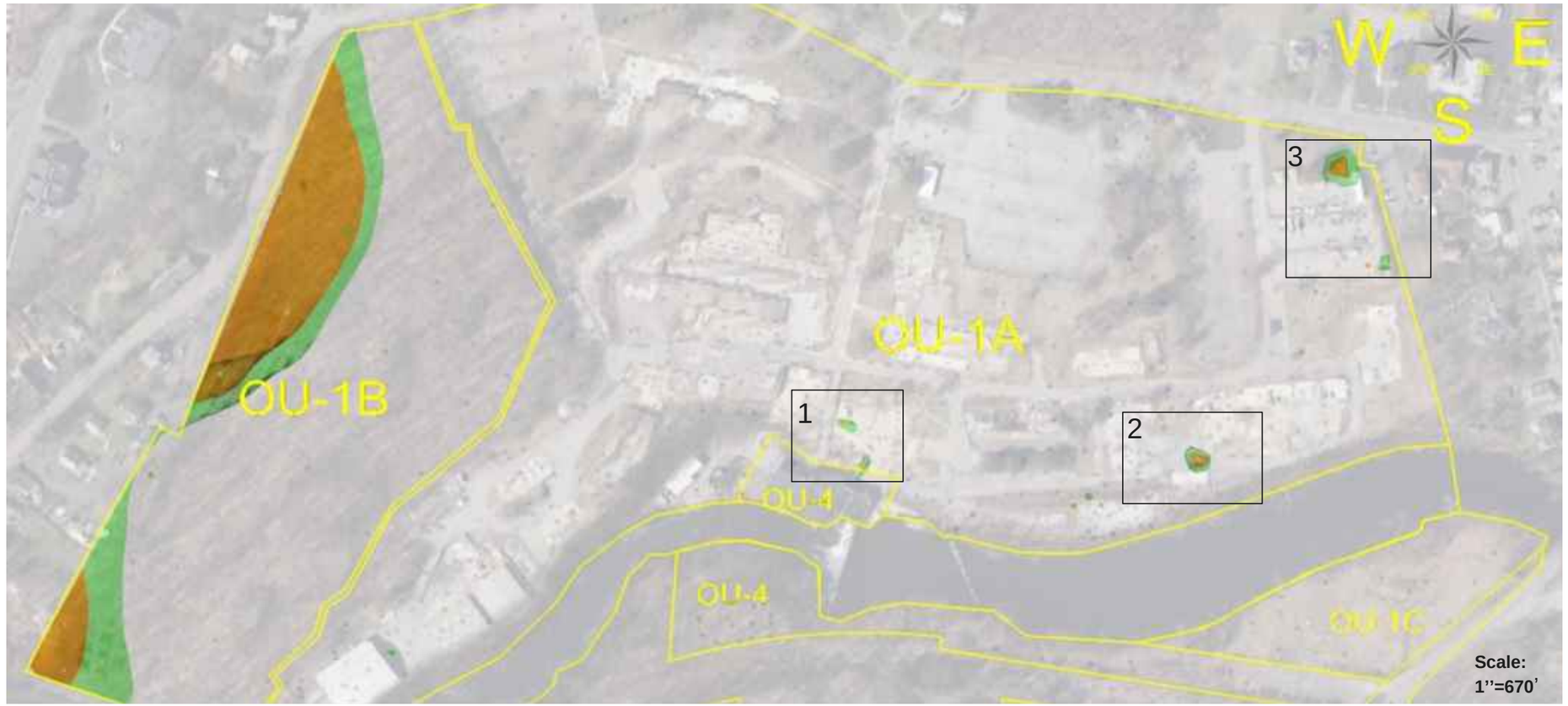
GLENHAM, NEW YORK
REMEDIAL INVESTIGATION REPORT ADDENDUM 1

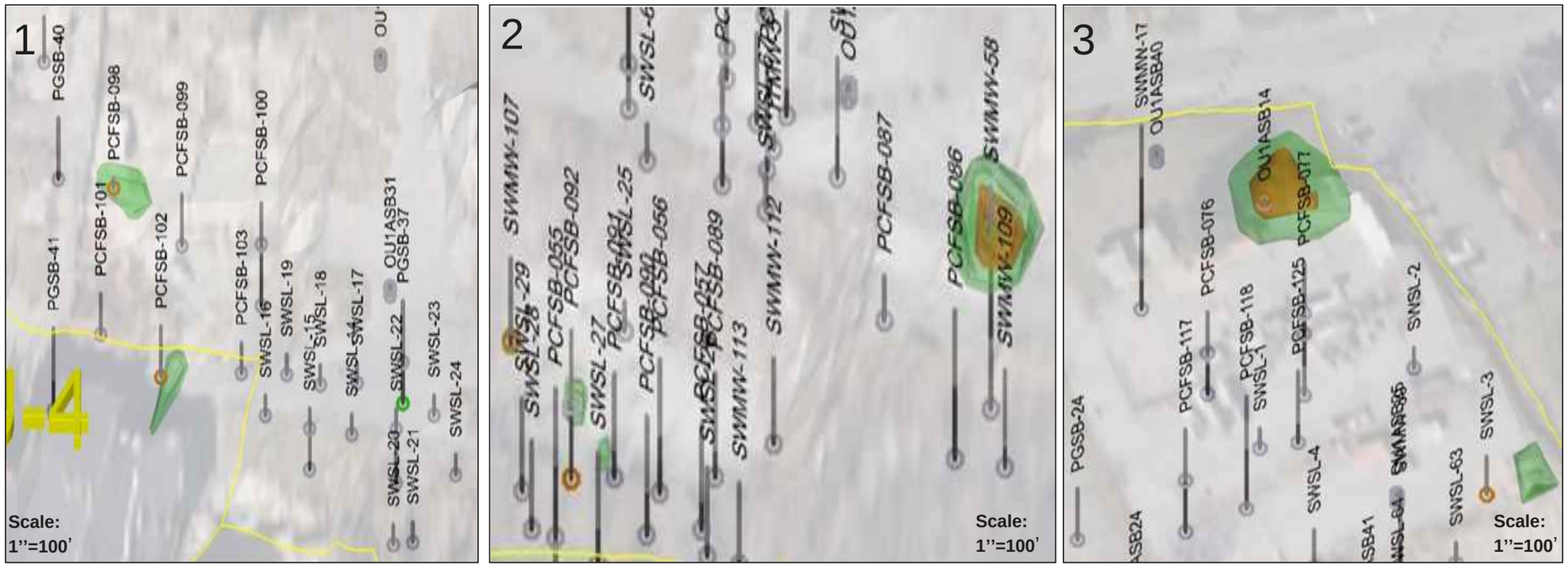
MANGANESE SOIL SCREENING LEVEL EXCEEDANCES

ARCADIS Design & Consultancy for natural and built assets

FIGURE
2-9A

10/30/2020 10:53:30 AM





Legend:

Operable Unit (OU) Boundaries

New York Soil Screening Levels (mg/Kg)

- Above Industrial SL
- Above Commercial SL
- Above Residential Restricted SL
- Above Residential SL
- Above Unrestricted Value
- Below Unrestricted Value

Manganese: mg/kg

20,000.0
10,000.0
2,000.0
1,600.0
107.0

Notes:

1. Results colored by least restrictive screening level exceeded
2. Scales are approximated.
    1. Key Map: 1 inch = 670 feet
    2. Focused areas: 1 inch = 100 feet
3. Ground surface digital elevation model (DEM) from United States Geological Service (USGS) accessed from Global Mapper
4. Aerial imagery from Environmental Systems Research Institute (ESRI) World Imagery (accessed April 2020)
5. Non-detect samples colored at their reporting limit (RL) and modeled at 1/10 of their RL.
6. mg/kg: milligram per kilogram
7. OU: Operable Unit
8. SL: Screening Level

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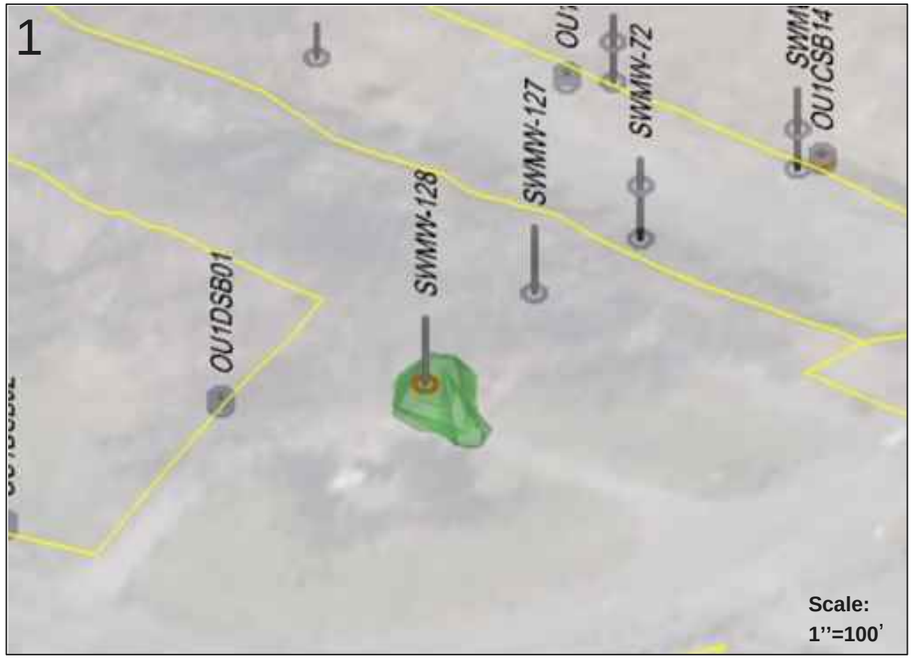
REMEDIAL INVESTIGATION REPORT ADDENDUM 1

MANGANESE SOIL SCREENING LEVEL EXCEEDANCES

ARCADIS Design & Consultancy for natural and built assets

FIGURE
2-9B

10/30/2020 10:53:30 AM



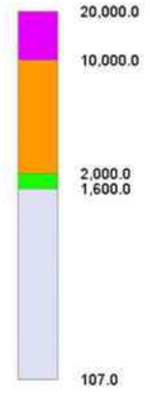
Legend:

Operable Unit (OU) Boundaries

New York Soil Screening Levels (mg/Kg)

- Above Industrial SL
- Above Commercial SL
- Above Residential Restricted SL
- Above Residential SL
- Above Unrestricted Value
- Below Unrestricted Value

Manganese: mg/kg



Notes:

1. Results colored by least restrictive screening level exceeded
2. Scales are approximated.
    1. Key Map: 1 inch = 385 feet
    2. Focused areas: 1 inch = 100 feet
3. Ground surface digital elevation model (DEM) from United States Geological Service (USGS) accessed from Global Mapper
4. Aerial imagery from Environmental Systems Research Institute (ESRI) World Imagery (accessed April 2020)
5. Non-detect samples colored at their reporting limit (RL) and modeled at 1/10 of their RL.
6. mg/kg: milligram per kilogram
7. OU: Operable Unit
8. SL: Screening Level

CHEVRON ENVIRONMENTAL MANAGEMENT COMPANY
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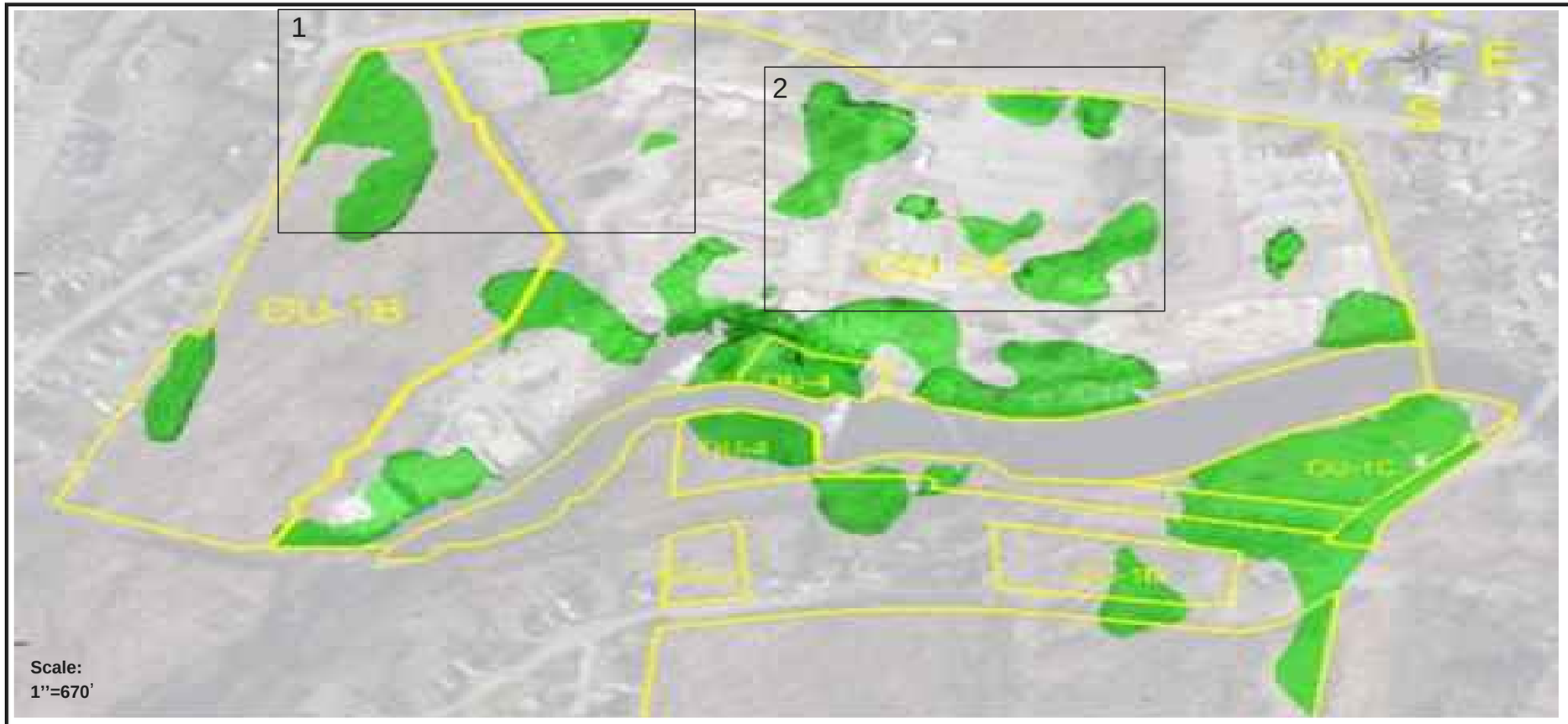
GLENHAM, NEW YORK
REMEDIAL INVESTIGATION REPORT ADDENDUM 1

MANGANESE SOIL SCREENING LEVEL EXCEEDANCES

ARCADIS Design & Consultancy for natural and built assets

FIGURE
2-9C

10/30/2020 10:53:30 AM



Legend:

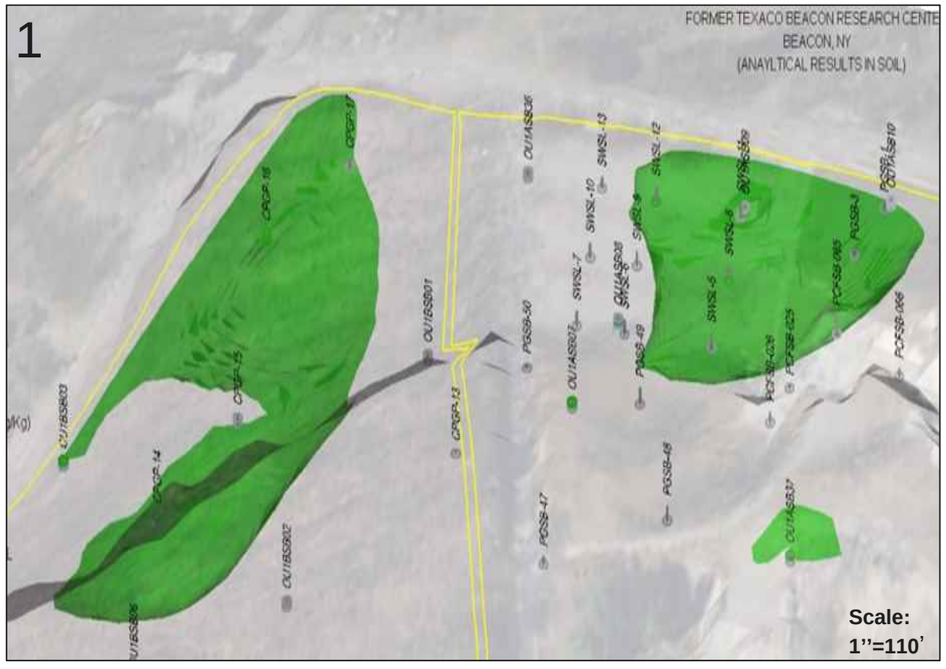
- Operable Unit (OU) Boundaries

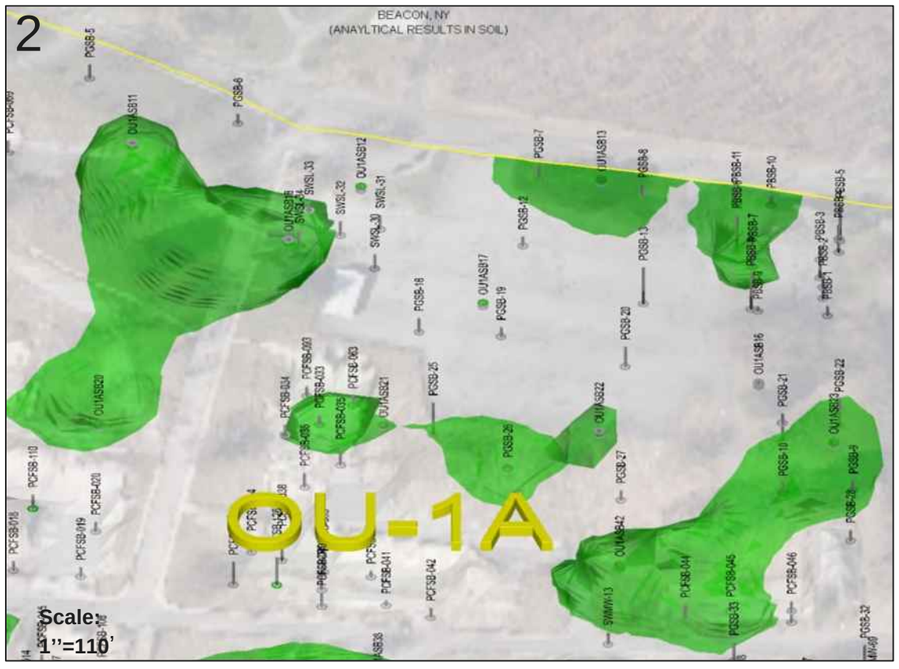
New York Soil Screening Levels (mg/Kg)

- Above Industrial SL
- Above Commercial SL
- Above Residential Restricted SL
- Above Residential SL
- Above Unrestricted Value
- Below Unrestricted Value

Zinc: mg/kg

20,000.0
10,000.0
2,200.0
109.0
11.2





Notes:

1. Results colored by least restrictive screening level exceeded
2. Scales are approximated.
    1. Key Map: 1 inch = 670 feet
    2. Focused areas: 1 inch = 110 feet
3. Ground surface digital elevation model (DEM) from United States Geological Service (USGS) accessed from Global Mapper
4. Aerial imagery from Environmental Systems Research Institute (ESRI) World Imagery (accessed April 2020)
5. Non-detect samples colored at their reporting limit (RL) and modeled at 1/10 of their RL.
6. mg/kg: milligram per kilogram
7. OU: Operable Unit
8. SL: Screening Level

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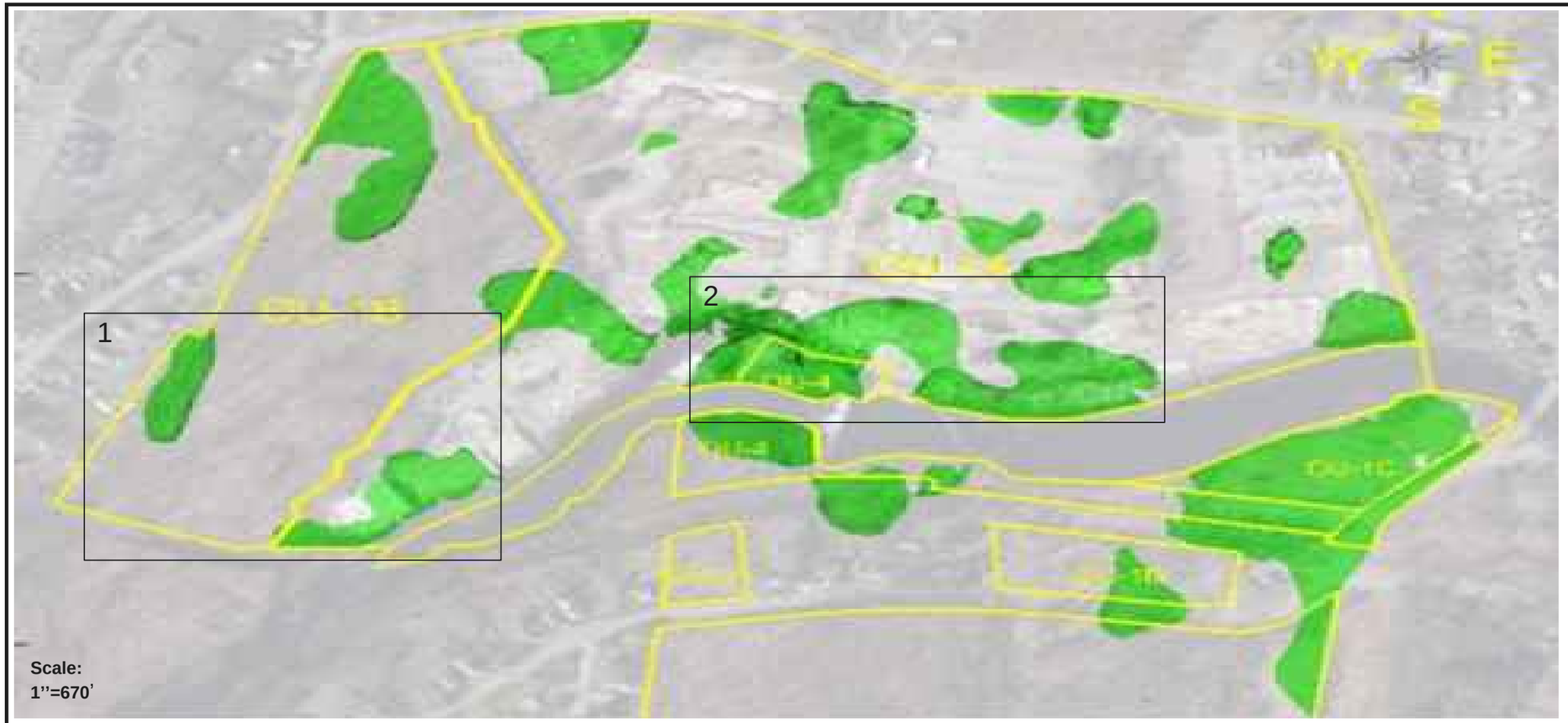
REMEDIAL INVESTIGATION REPORT ADDENDUM 1

ZINC SOIL SCREENING LEVEL EXCEEDANCES

ARCADIS Design & Consultancy for natural and built assets

FIGURE
2-10A

10/30/2020 10:53:30 AM



Legend:

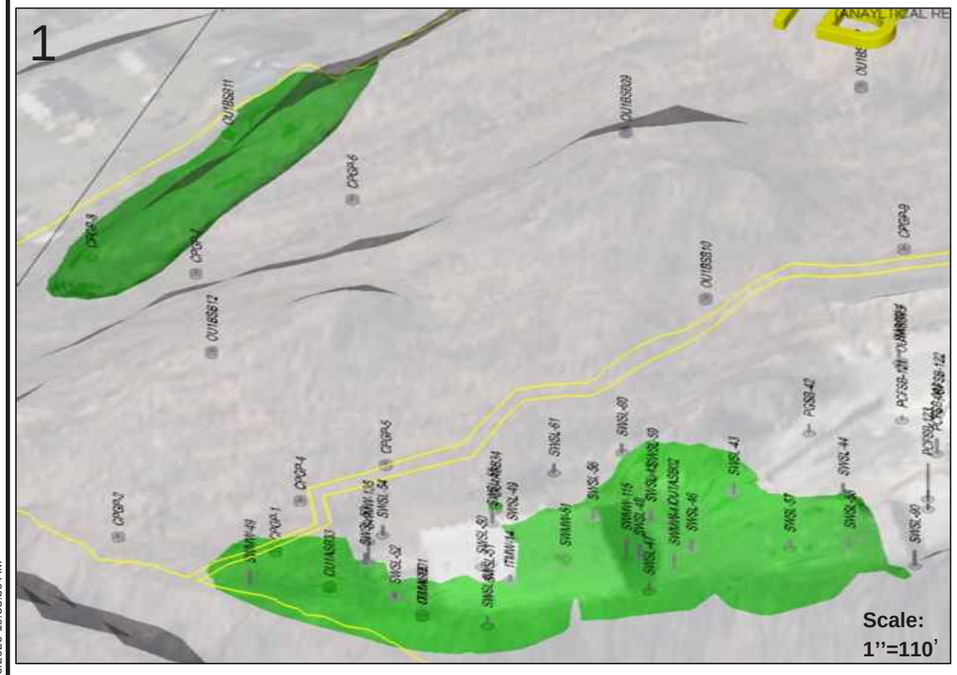
- Operable Unit (OU) Boundaries

New York Soil Screening Levels (mg/Kg)

- Above Industrial SL
- Above Commercial SL
- Above Residential Restricted SL
- Above Residential SL
- Above Unrestricted Value
- Below Unrestricted Value

Zinc: mg/kg

20,000.0
10,000.0
2,200.0
109.0
11.2



Notes:

1. Results colored by least restrictive screening level exceeded
2. Scales are approximated.
    1. Key Map: 1 inch = 670 feet
    2. Focused areas: 1 inch = 110 feet
3. Ground surface digital elevation model (DEM) from United States Geological Service (USGS) accessed from Global Mapper
4. Aerial imagery from Environmental Systems Research Institute (ESRI) World Imagery (accessed April 2020)
5. Non-detect samples colored at their reporting limit (RL) and modeled at 1/10 of their RL.
6. mg/kg: milligram per kilogram
7. OU: Operable Unit
8. SL: Screening Level

CHEVRON ENVIRONMENTAL MANAGEMENT COMPANY
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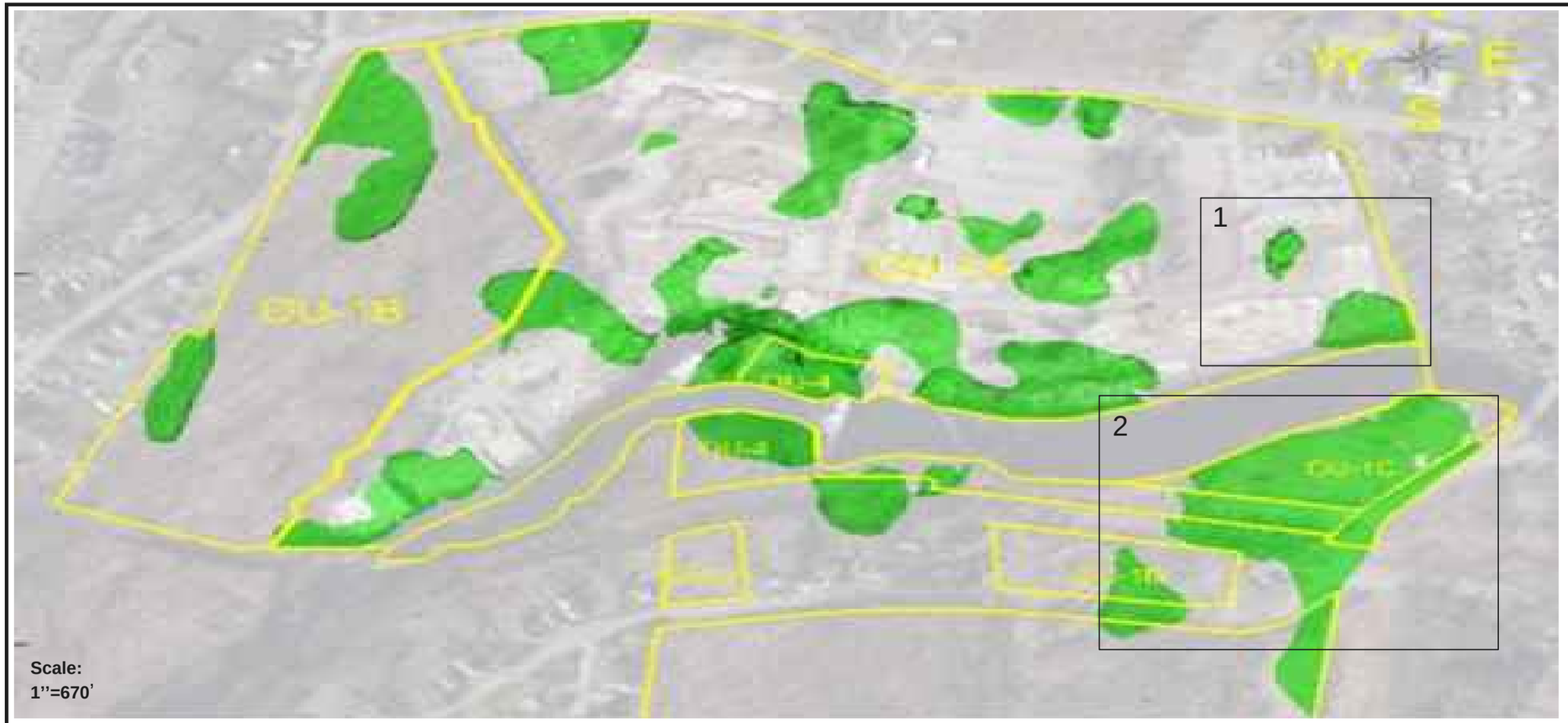
GLENHAM, NEW YORK
REMEDIAL INVESTIGATION REPORT ADDENDUM 1

ZINC SOIL SCREENING LEVEL EXCEEDANCES

ARCADIS Design & Consultancy for natural and built assets

FIGURE
2-10B

10/30/2020 10:53:30 AM



Legend:

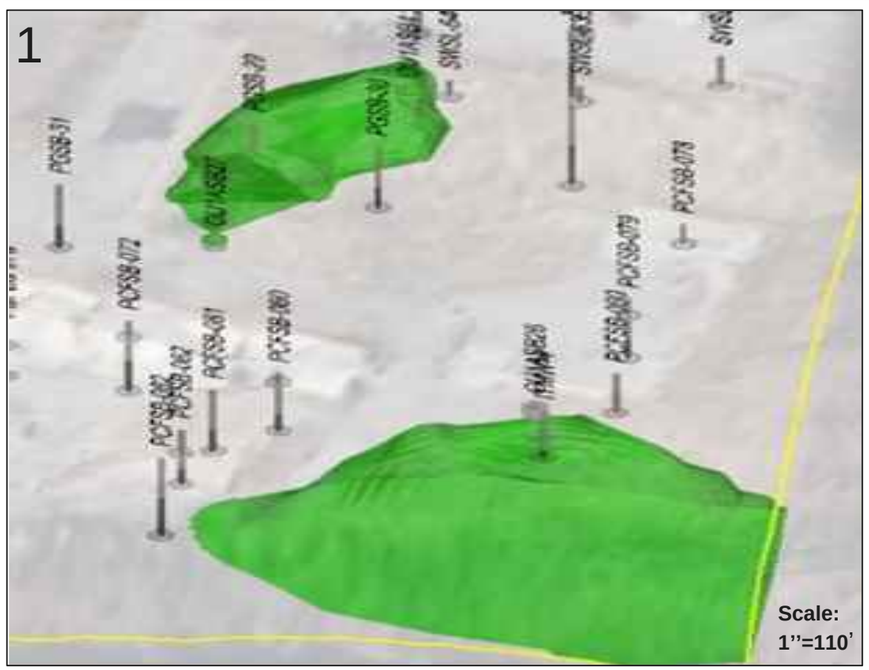
Operable Unit (OU) Boundaries

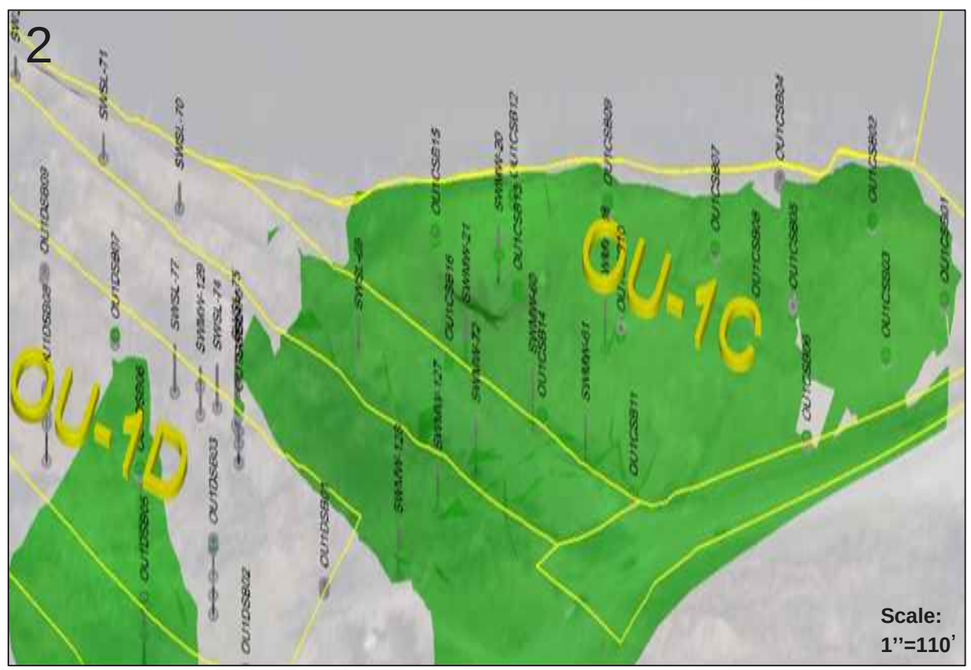
New York Soil Screening Levels (mg/Kg)

- Above Industrial SL
- Above Commercial SL
- Above Residential Restricted SL
- Above Residential SL
- Above Unrestricted Value
- Below Unrestricted Value

Zinc: mg/kg

- 20,000.0
- 10,000.0
- 2,200.0
- 109.0
- 11.2





Notes:

1. Results colored by least restrictive screening level exceeded
2. Scales are approximated.
    1. Key Map: 1 inch = 670 feet
    2. Focused areas: 1 inch = 110 feet
3. Ground surface digital elevation model (DEM) from United States Geological Service (USGS) accessed from Global Mapper
4. Aerial imagery from Environmental Systems Research Institute (ESRI) World Imagery (accessed April 2020)
5. Non-detect samples colored at their reporting limit (RL) and modeled at 1/10 of their RL.
6. mg/kg: milligram per kilogram
7. OU: Operable Unit
8. SL: Screening Level

CHEVRON ENVIRONMENTAL MANAGEMENT COMPANY
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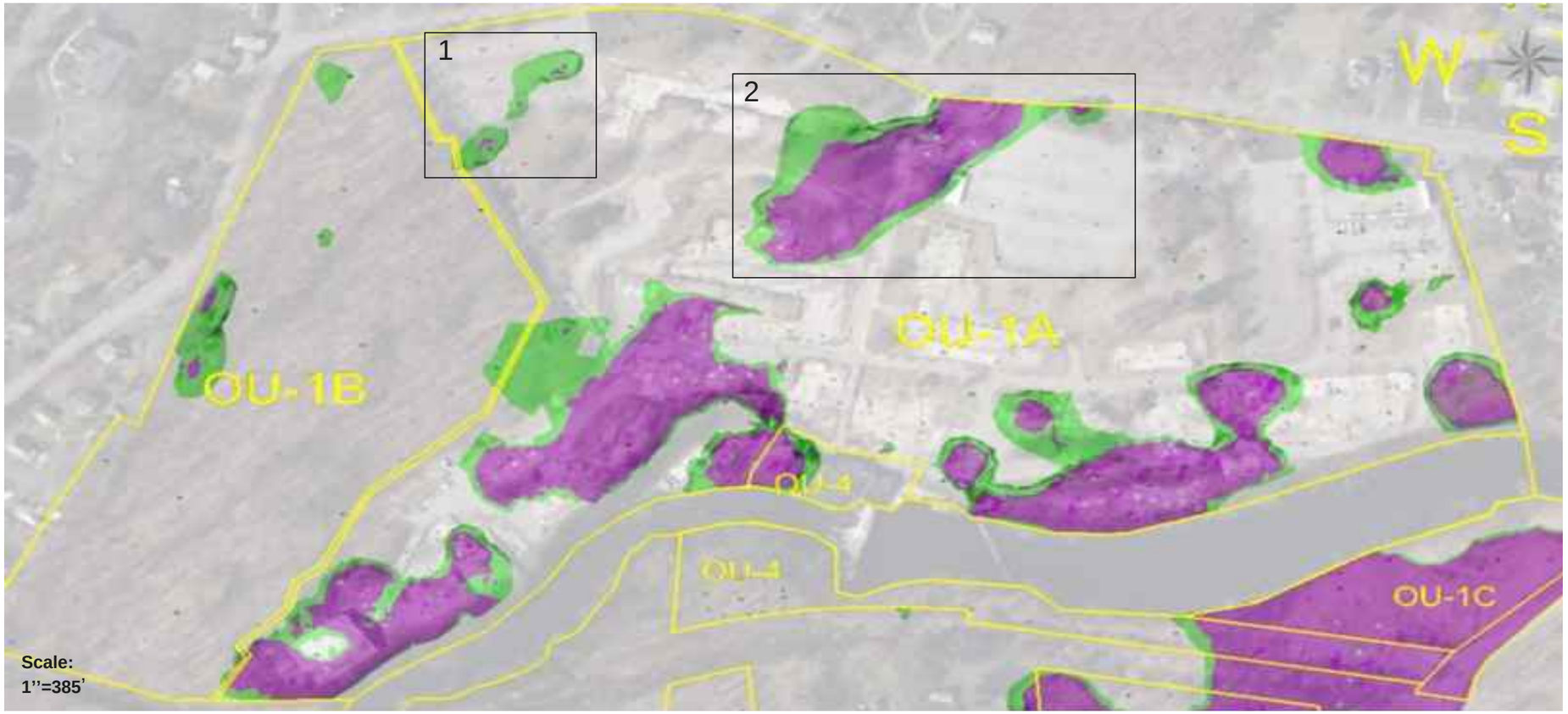
GLENHAM, NEW YORK
REMEDIAL INVESTIGATION REPORT ADDENDUM 1

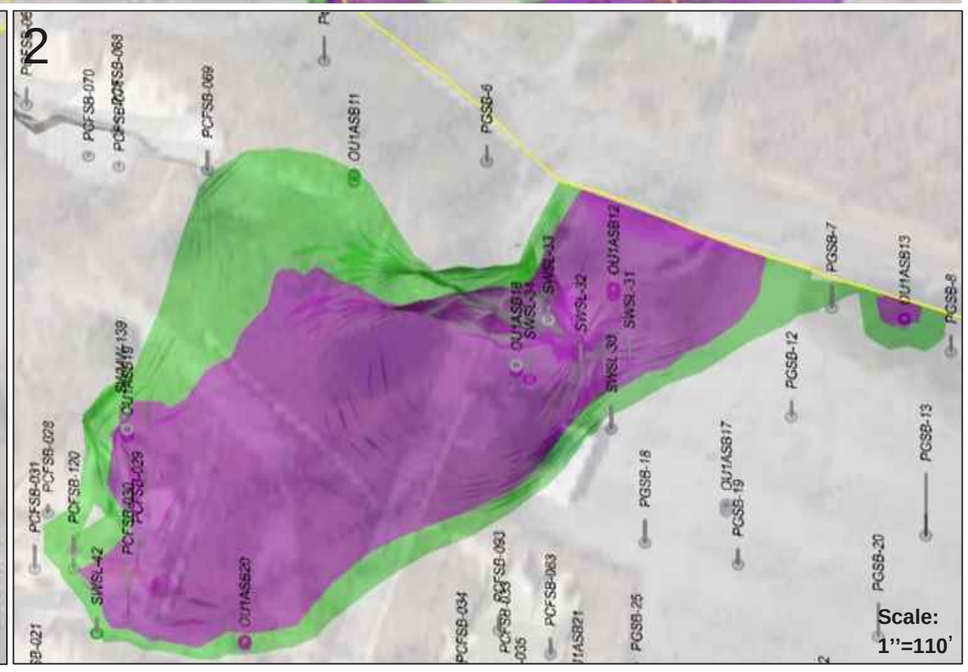
ZINC SOIL SCREENING LEVEL EXCEEDANCES

ARCADIS Design & Consultancy for natural and built assets

FIGURE
2-10C

10/30/2020 10:53:30 AM





Legend:

Operable Unit (OU) Boundaries

New York Soil Screening Levels (mg/Kg)

- Above Industrial SL
- Above Commercial SL
- Above Residential Restricted SL
- Above Residential SL
- Above Unrestricted Value
- Below Unrestricted Value

Arsenic: mg/kg

527.0

16.0
13.0

0.70

Notes:

1. Results colored by least restrictive screening level exceeded
2. Scales are approximated.
    1. Key Map: 1 inch = 385 feet
    2. Focused areas: 1 inch = 110 feet
3. Ground surface digital elevation model (DEM) from United States Geological Service (USGS) accessed from Global Mapper
4. Aerial imagery from Environmental Systems Research Institute (ESRI) World Imagery (accessed April 2020)
5. Non-detect samples colored at their reporting limit (RL) and modeled at 1/10 of their RL.
6. mg/kg: milligram per kilogram
7. OU: Operable Unit
8. SL: Screening Level

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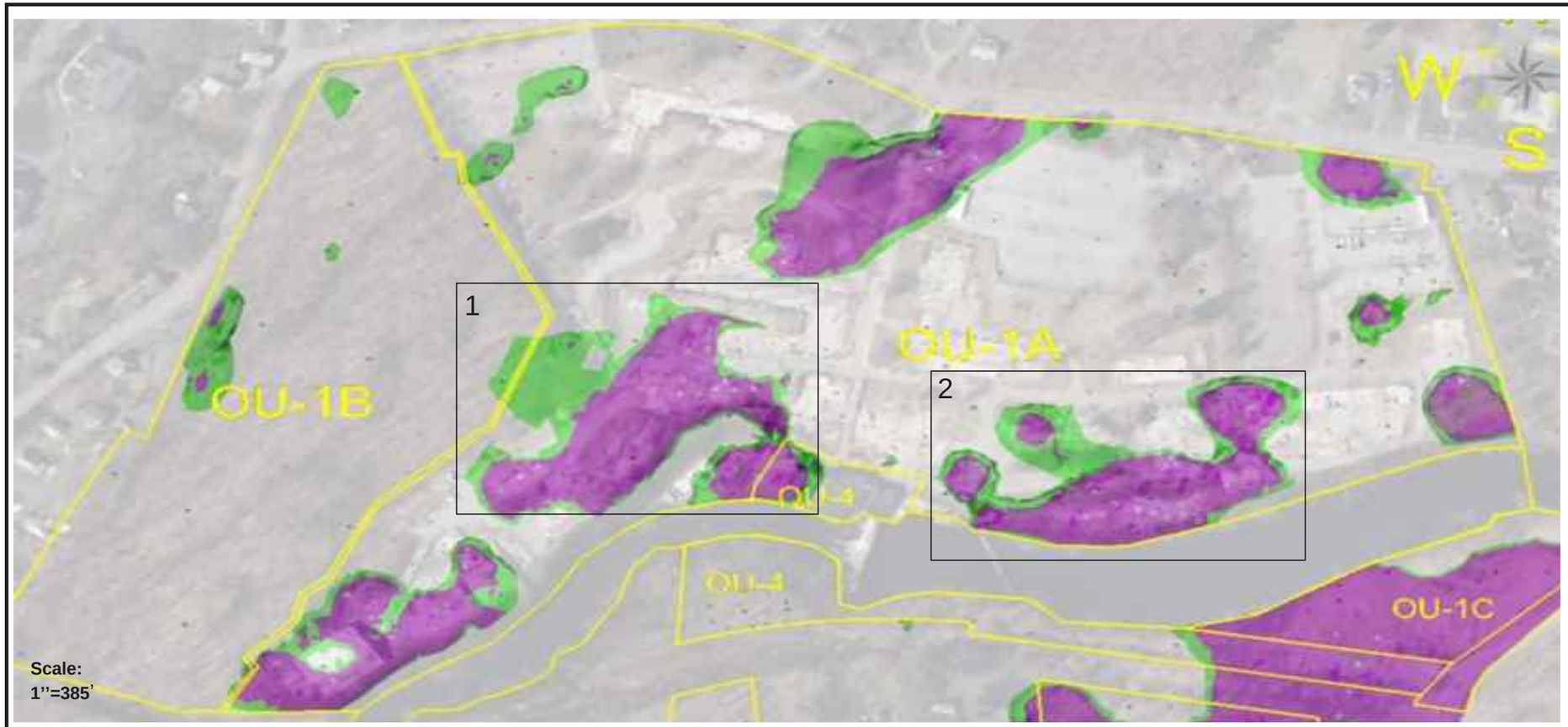
GLENHAM, NEW YORK
REMEDIAL INVESTIGATION REPORT ADDENDUM 1

ARSENIC SOIL SCREENING LEVEL EXCEEDANCES

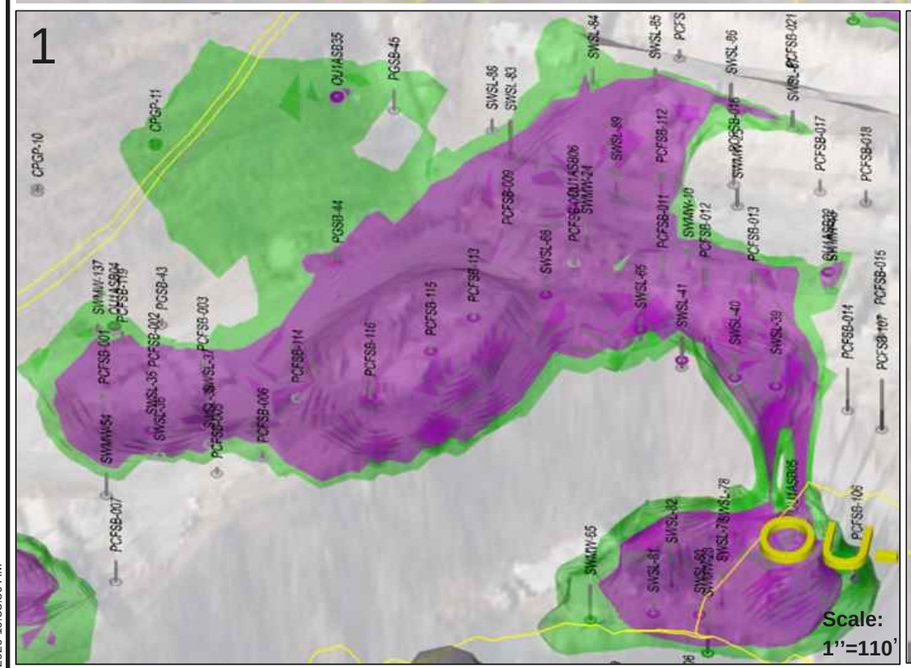
ARCADIS Design & Consultancy for natural and built assets

FIGURE
2-11A

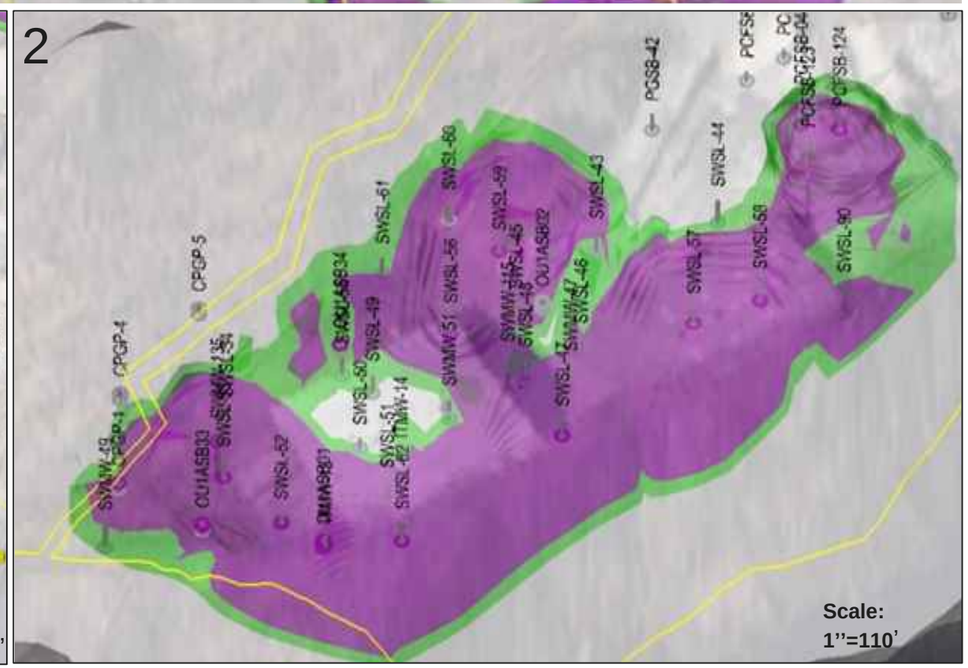
10/30/2020 10:53:30 AM



Scale:
1''=385'



Scale:
1''=110'



Scale:
1''=110'

Legend:

Operable Unit (OU) Boundaries

New York Soil Screening Levels (mg/Kg)

- Above Industrial SL
- Above Commercial SL
- Above Residential Restricted SL
- Above Residential SL
- Above Unrestricted Value
- Below Unrestricted Value

Arsenic: mg/kg

527.0

16.0
13.0

0.70

Notes:

1. Results colored by least restrictive screening level exceeded
2. Scales are approximated.
    1. Key Map: 1 inch = 385 feet
    2. Focused areas: 1 inch = 110 feet
3. Ground surface digital elevation model (DEM) from United States Geological Service (USGS) accessed from Global Mapper
4. Aerial imagery from Environmental Systems Research Institute (ESRI) World Imagery (accessed April 2020)
5. Non-detect samples colored at their reporting limit (RL) and modeled at 1/10 of their RL.
6. mg/kg: milligram per kilogram
7. OU: Operable Unit
8. SL: Screening Level

CHEVRON ENVIRONMENTAL MANAGEMENT COMPANY
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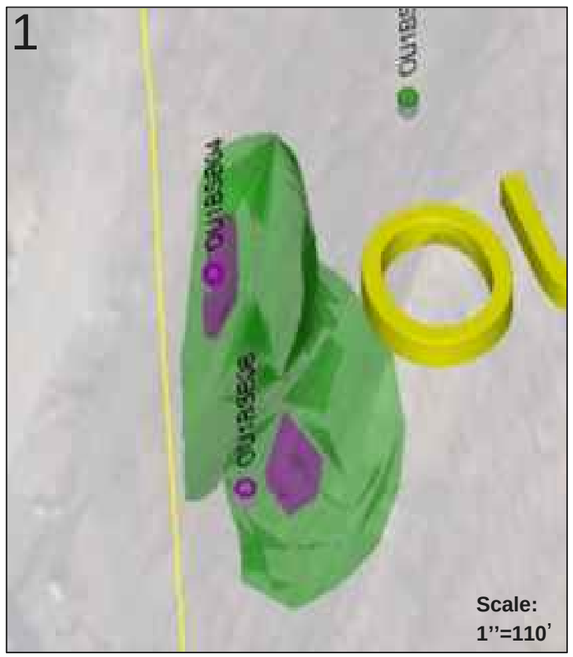
GLENHAM, NEW YORK
REMEDIAL INVESTIGATION REPORT ADDENDUM 1

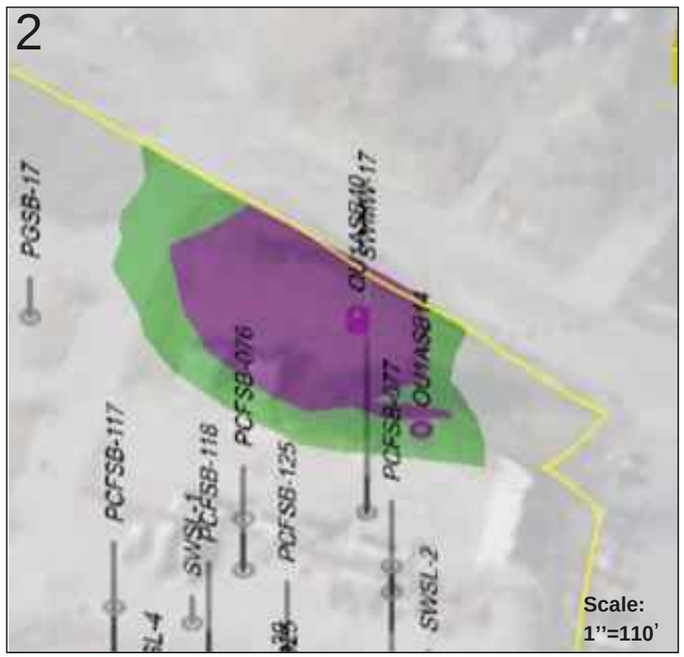
ARSENIC SOIL SCREENING LEVEL EXCEEDANCES

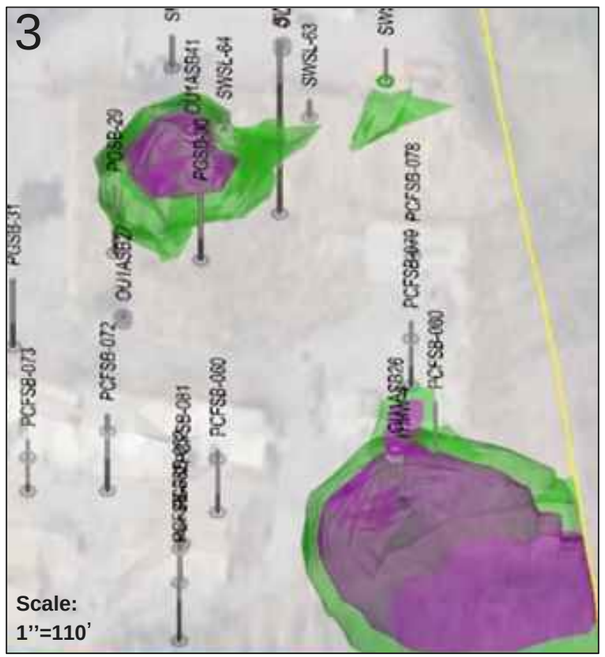
ARCADIS Design & Consultancy for natural and built assets

FIGURE
2-11B

10/30/2020 10:53:30 AM







Legend:

Operable Unit (OU) Boundaries

New York Soil Screening Levels (mg/Kg)

- Above Industrial SL
- Above Commercial SL
- Above Residential Restricted SL
- Above Residential SL
- Above Unrestricted Value
- Below Unrestricted Value

Arsenic: mg/kg

527.0

16.0
13.0

0.70

Notes:

1. Results colored by least restrictive screening level exceeded
2. Scales are approximated.
    1. Key Map: 1 inch = 385 feet
    2. Focused areas: 1 inch = 110 feet
3. Ground surface digital elevation model (DEM) from United States Geological Service (USGS) accessed from Global Mapper
4. Aerial imagery from Environmental Systems Research Institute (ESRI) World Imagery (accessed April 2020)
5. Non-detect samples colored at their reporting limit (RL) and modeled at 1/10 of their RL.
6. mg/kg: milligram per kilogram
7. OU: Operable Unit
8. SL: Screening Level

CHEVRON ENVIRONMENTAL MANAGEMENT COMPANY
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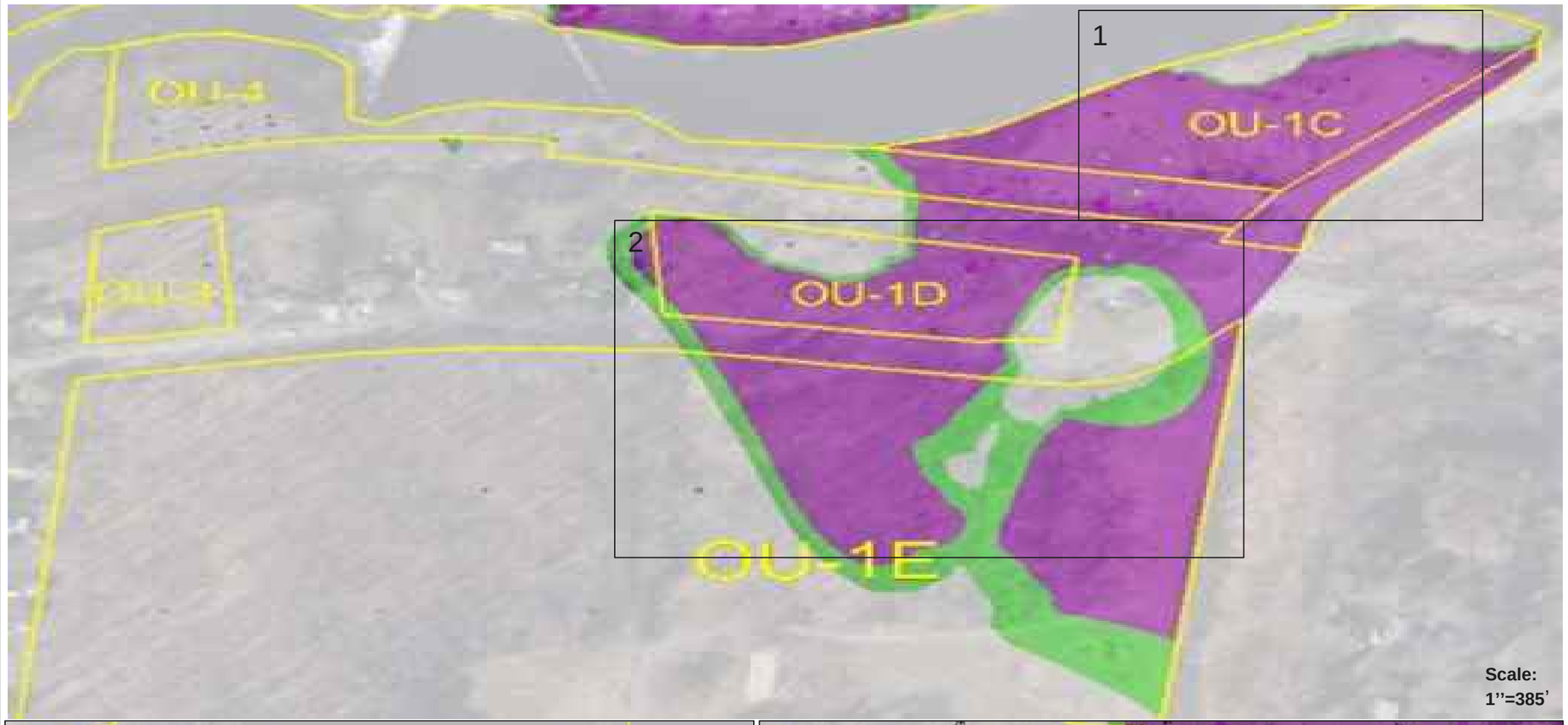
REMEDIAL INVESTIGATION REPORT ADDENDUM 1

ARSENIC SOIL SCREENING LEVEL EXCEEDANCES

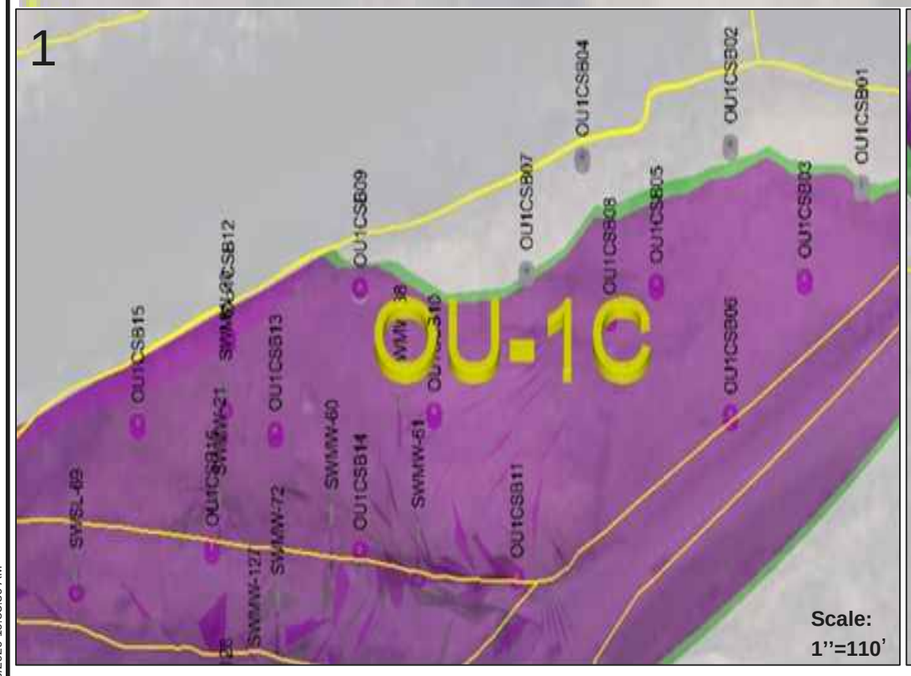
ARCADIS Design & Consultancy for natural and built assets

FIGURE
2-11C

10/30/2020 10:53:30 AM



Scale:
1''=385'



Scale:
1''=110'

Scale:
1''=110'

Legend:

- Operable Unit (OU) Boundaries

New York Soil Screening Levels (mg/Kg)

- Above Industrial SL
- Above Commercial SL
- Above Residential Restricted SL
- Above Residential SL
- Above Unrestricted Value
- Below Unrestricted Value

Arsenic: mg/kg

527.0
16.0
13.0
0.70

Notes:

1. Results colored by least restrictive screening level exceeded
2. Scales are approximated.
    1. Key Map: 1 inch = 385 feet
    2. Focused areas: 1 inch = 110 feet
3. Ground surface digital elevation model (DEM) from United States Geological Service (USGS) accessed from Global Mapper
4. Aerial imagery from Environmental Systems Research Institute (ESRI) World Imagery (accessed April 2020)
5. Non-detect samples colored at their reporting limit (RL) and modeled at 1/10 of their RL.
6. mg/kg: milligram per kilogram
7. OU: Operable Unit
8. SL: Screening Level

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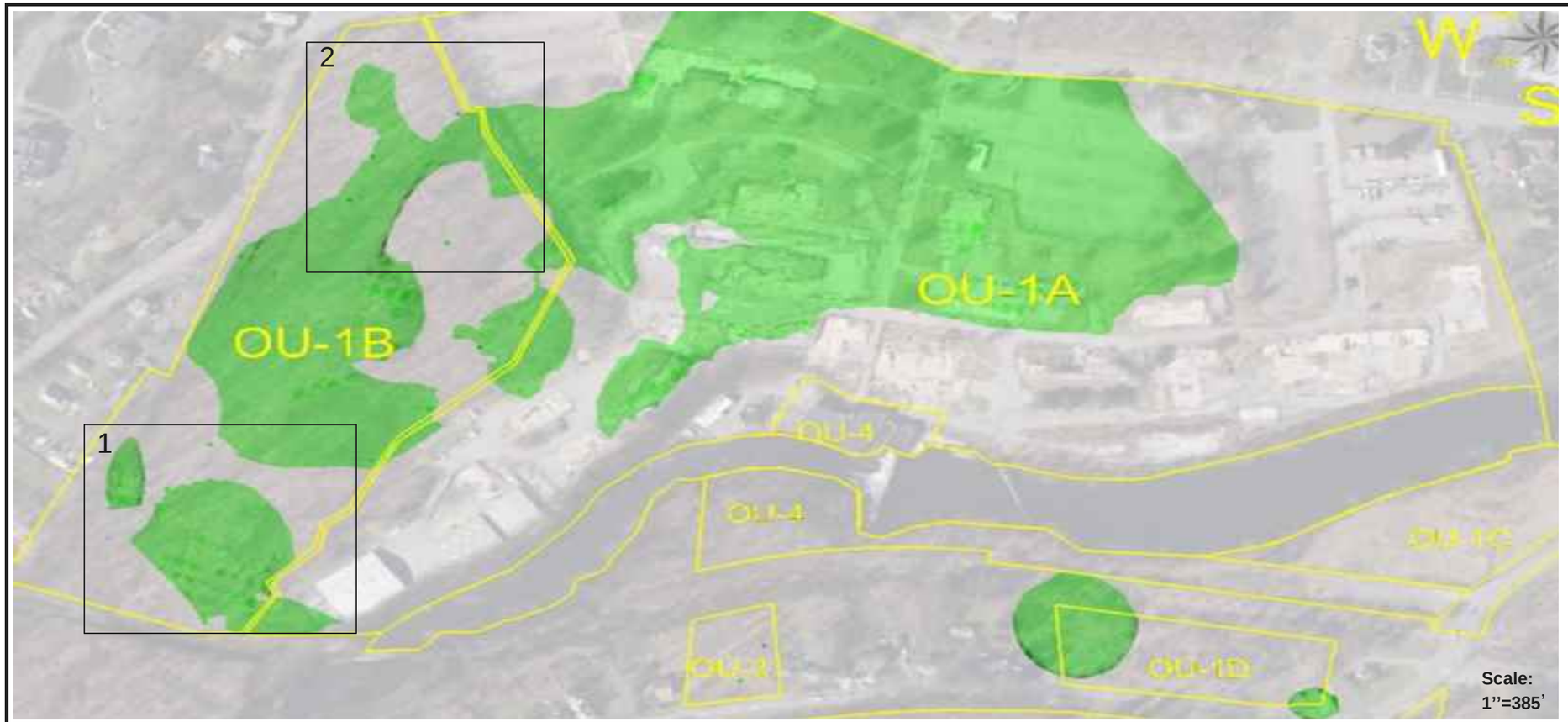
REMEDIAL INVESTIGATION REPORT ADDENDUM 1

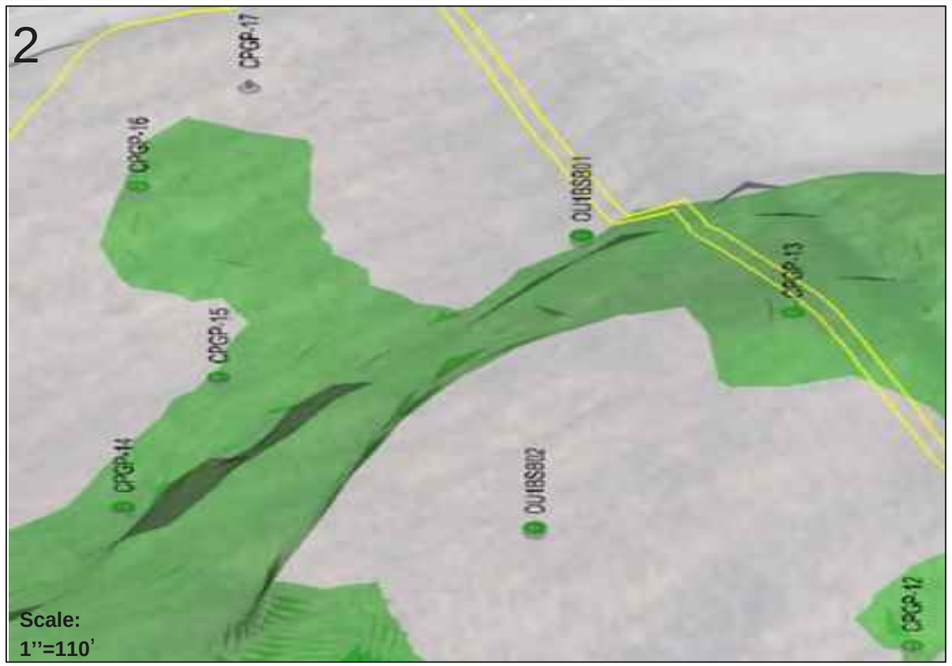
ARSENIC SOIL SCREENING LEVEL EXCEEDANCES

ARCADIS Design & Consultancy for natural and built assets

FIGURE
2-11D

10/30/2020 10:53:30 AM





Legend:

Operable Unit (OU) Boundaries

New York Soil Screening Levels (mg/Kg)

- Above Industrial SL
- Above Commercial SL
- Above Residential Restricted SL
- Above Residential SL
- Above Unrestricted Value
- Below Unrestricted Value

4,4-DDT: mg/kg

200.0
94.0
47.0
7.9
1.7
0.0033
0.000037

Notes:

1. Results colored by least restrictive screening level exceeded
2. Scales are approximated.
    1. Key Map: 1 inch = 385 feet
    2. Focused areas: 1 inch = 110 feet
3. Ground surface digital elevation model (DEM) from United States Geological Service (USGS) accessed from Global Mapper
4. Aerial imagery from Environmental Systems Research Institute (ESRI) World Imagery (accessed April 2020)
5. Non-detect samples colored at their reporting limit (RL) and modeled at 1/10 of their RL.
6. mg/kg: milligram per kilogram
7. OU: Operable Unit
8. SL: Screening Level

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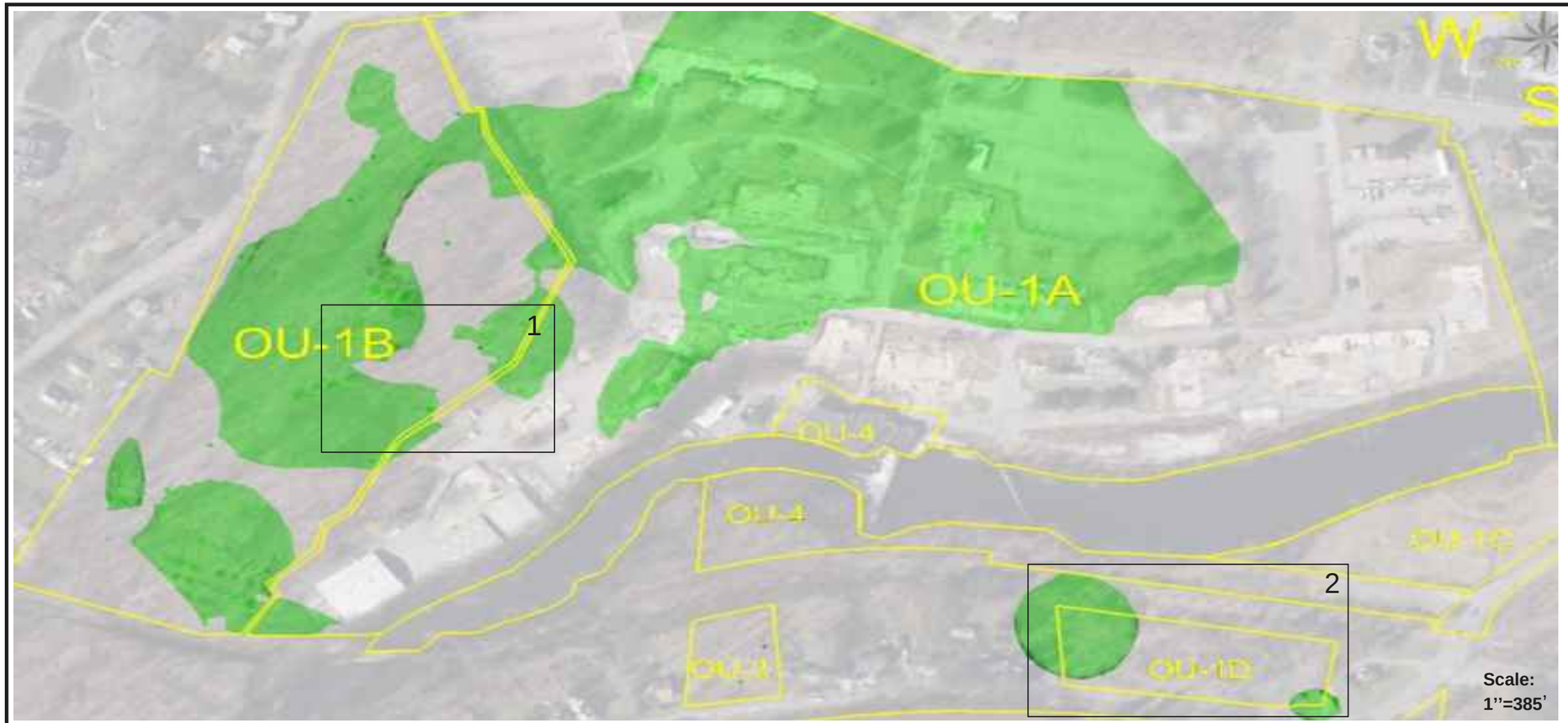
REMEDIAL INVESTIGATION REPORT ADDENDUM 1

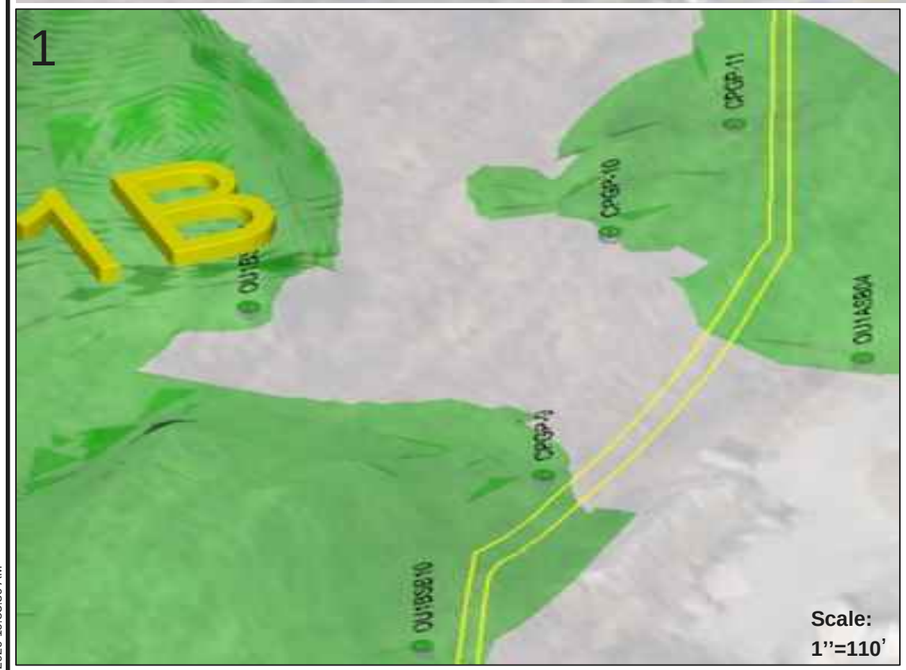
4-DDT SOIL SCREENING LEVEL EXCEEDANCES

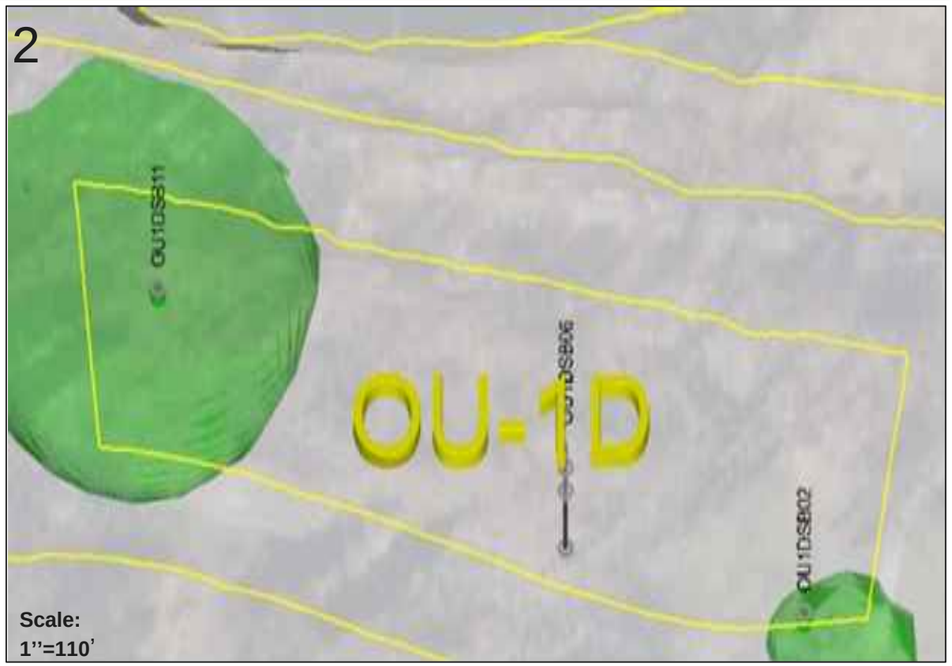
ARCADIS Design & Consultancy for natural and built assets

FIGURE
2-12A

10/30/2020 10:53:30 AM







Legend:

Operable Unit (OU) Boundaries

New York Soil Screening Levels (mg/Kg)

- Above Industrial SL
- Above Commercial SL
- Above Residential Restricted SL
- Above Residential SL
- Above Unrestricted Value
- Below Unrestricted Value

4,4-DDT: mg/kg

200.0
94.0
47.0
7.9
1.7
0.0033
0.000037

Notes:

1. Results colored by least restrictive screening level exceeded
2. Scales are approximated.
    1. Key Map: 1 inch = 385 feet
    2. Focused areas: 1 inch = 110 feet
3. Ground surface digital elevation model (DEM) from United States Geological Service (USGS) accessed from Global Mapper
4. Aerial imagery from Environmental Systems Research Institute (ESRI) World Imagery (accessed April 2020)
5. Non-detect samples colored at their reporting limit (RL) and modeled at 1/10 of their RL.
6. mg/kg: milligram per kilogram
7. OU: Operable Unit
8. SL: Screening Level

CHEVRON ENVIRONMENTAL MANAGEMENT COMPANY
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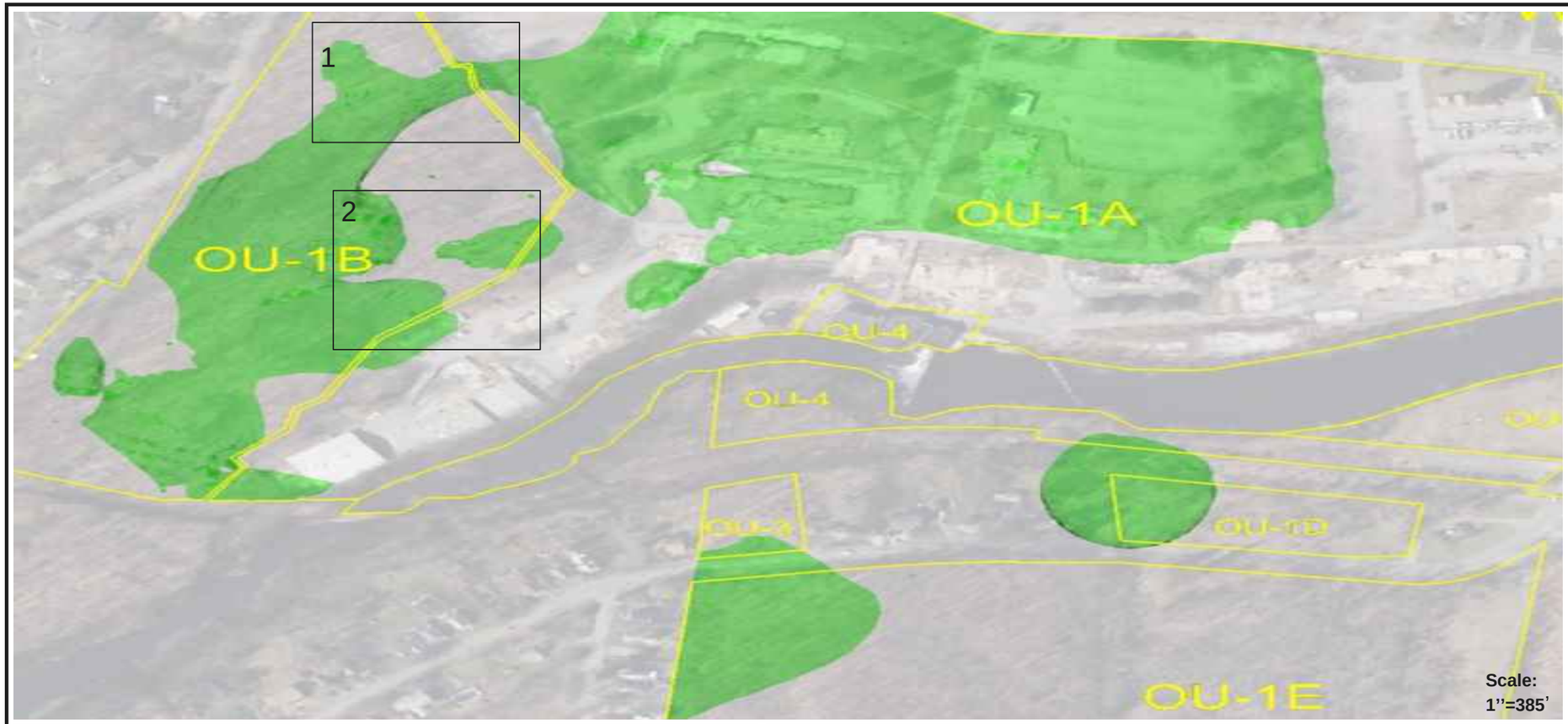
REMEDIAL INVESTIGATION REPORT ADDENDUM 1

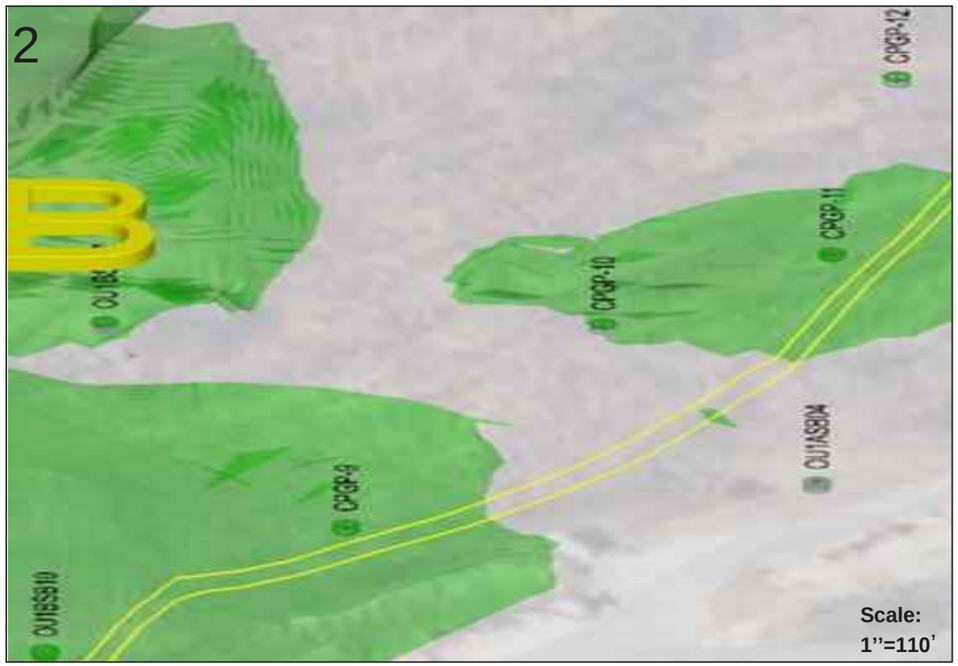
4-DDT SOIL SCREENING LEVEL EXCEEDANCES

ARCADIS Design & Consultancy for natural and built assets

FIGURE
2-12B

10/30/2020 10:53:30 AM





Legend:

Operable Unit (OU) Boundaries

New York Soil Screening Levels (mg/Kg)

- Above Industrial SL
- Above Commercial SL
- Above Residential Restricted SL
- Above Residential SL
- Above Unrestricted Value
- Below Unrestricted Value

4,4-DDE: mg/kg

200.0
120.0
62.0
8.9
1.8
0.0033
0.000035

Notes:

1. Results colored by least restrictive screening level exceeded
2. Scales are approximated.
    1. Key Map: 1 inch = 385 feet
    2. Focused areas: 1 inch = 110 feet
3. Ground surface digital elevation model (DEM) from United States Geological Service (USGS) accessed from Global Mapper
4. Aerial imagery from Environmental Systems Research Institute (ESRI) World Imagery (accessed April 2020)
5. Non-detect samples colored at their reporting limit (RL) and modeled at 1/10 of their RL.
6. mg/kg: milligram per kilogram
7. OU: Operable Unit
8. SL: Screening Level

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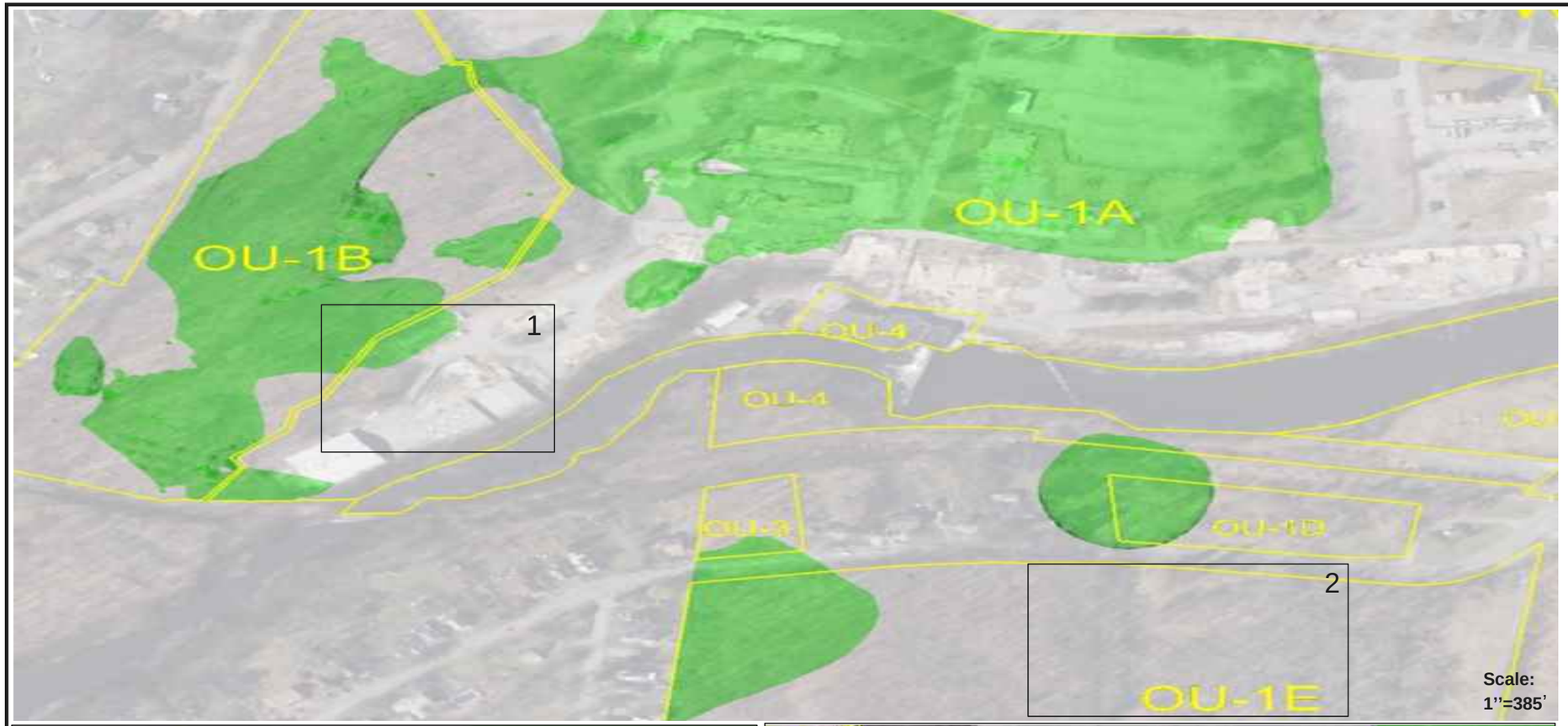
REMEDIAL INVESTIGATION REPORT ADDENDUM 1

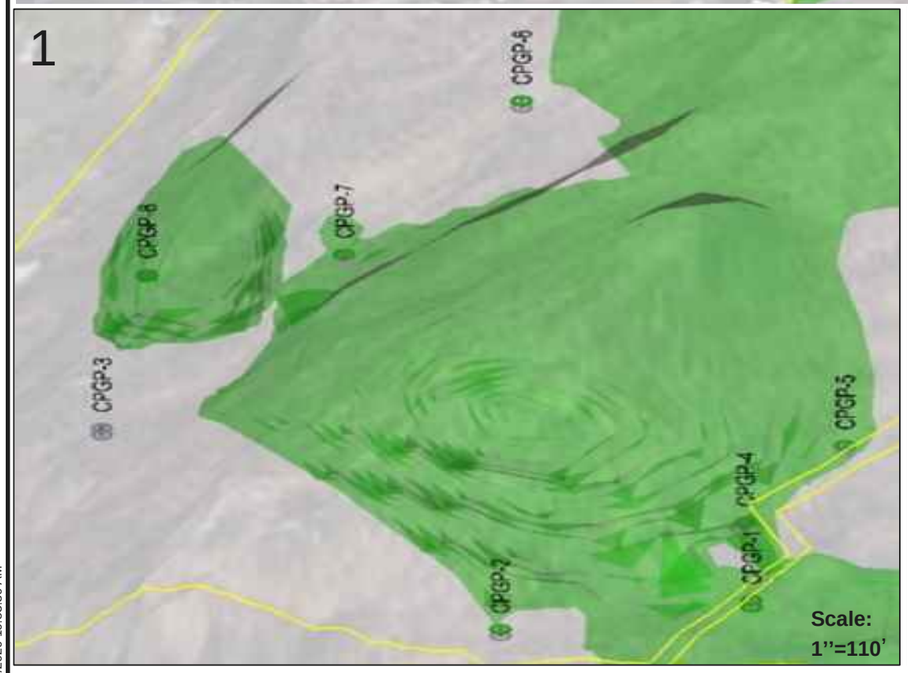
4-DDE SOIL SCREENING LEVEL EXCEEDANCES

ARCADIS Design & Consultancy for natural and built assets

FIGURE
2-13A

10/30/2020 10:53:30 AM





Legend:

Operable Unit (OU) Boundaries

New York Soil Screening Levels (mg/Kg)

- Above Industrial SL
- Above Commercial SL
- Above Residential Restricted SL
- Above Residential SL
- Above Unrestricted Value
- Below Unrestricted Value

4,4-DDE: mg/kg

200.0
120.0
62.0
8.9
1.8
0.0033
0.000035

Notes:

1. Results colored by least restrictive screening level exceeded
2. Scales are approximated.
    1. Key Map: 1 inch = 385 feet
    2. Focused areas: 1 inch = 110 feet
3. Ground surface digital elevation model (DEM) from United States Geological Service (USGS) accessed from Global Mapper
4. Aerial imagery from Environmental Systems Research Institute (ESRI) World Imagery (accessed April 2020)
5. Non-detect samples colored at their reporting limit (RL) and modeled at 1/10 of their RL.
6. mg/kg: milligram per kilogram
7. OU: Operable Unit
8. SL: Screening Level

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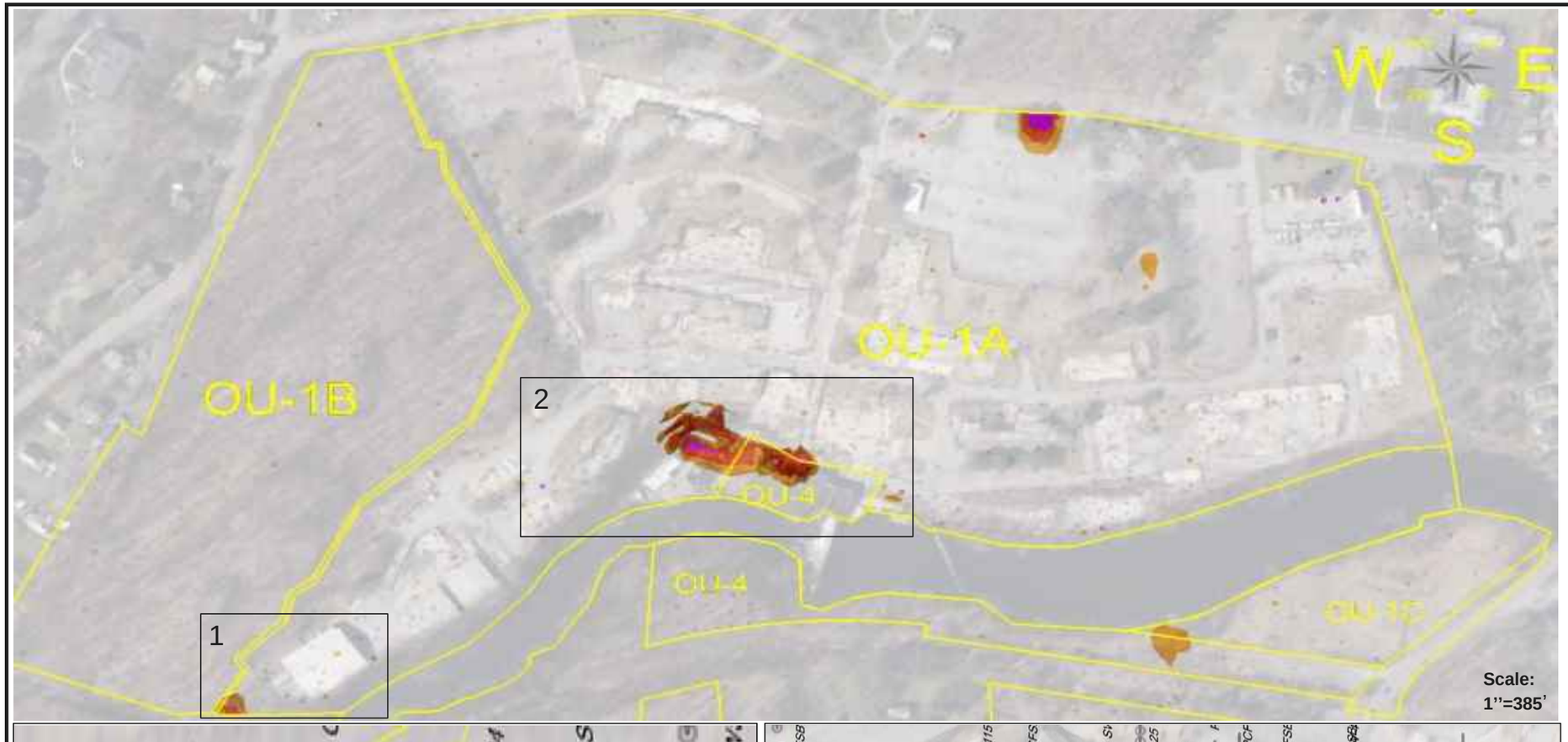
REMEDIAL INVESTIGATION REPORT ADDENDUM 1

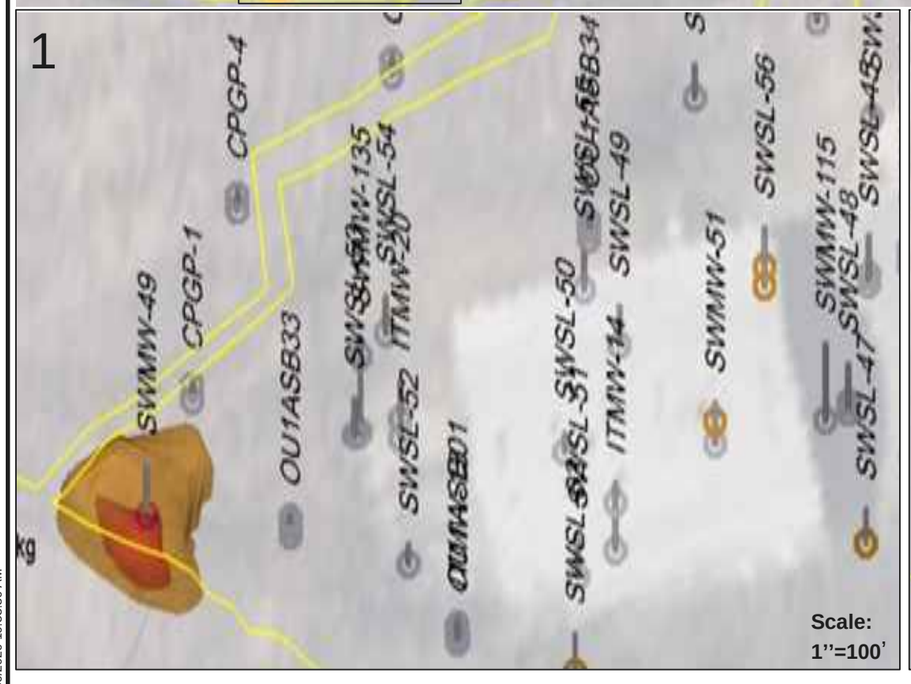
4-DDE SOIL SCREENING LEVEL EXCEEDANCES

ARCADIS Design & Consultancy for natural and built assets

FIGURE
2-13B

10/30/2020 10:53:30 AM





Legend:

Operable Unit (OU) Boundaries

New York Soil Screening Levels (mg/Kg)

- Above Industrial SL
- Above Commercial SL
- Above Residential Restricted SL
- Above Residential SL
- Above Unrestricted Value
- Below Unrestricted Value

Dibenz(a,h)anthracene: mg/kg

- 7.2
- 1.1
- 0.56
- 0.33
- 0.0030

Notes:

1. Results colored by least restrictive screening level exceeded
2. Scales are approximated.
    1. Key Map: 1 inch = 385 feet
    2. Focused areas: 1 inch = 100 feet
3. Ground surface digital elevation model (DEM) from United States Geological Service (USGS) accessed from Global Mapper
4. Aerial imagery from Environmental Systems Research Institute (ESRI) World Imagery (accessed April 2020)
5. Non-detect samples colored at their reporting limit (RL) and modeled at 1/10 of their RL.
6. mg/kg: milligram per kilogram
7. OU: Operable Unit
8. SL: Screening Level

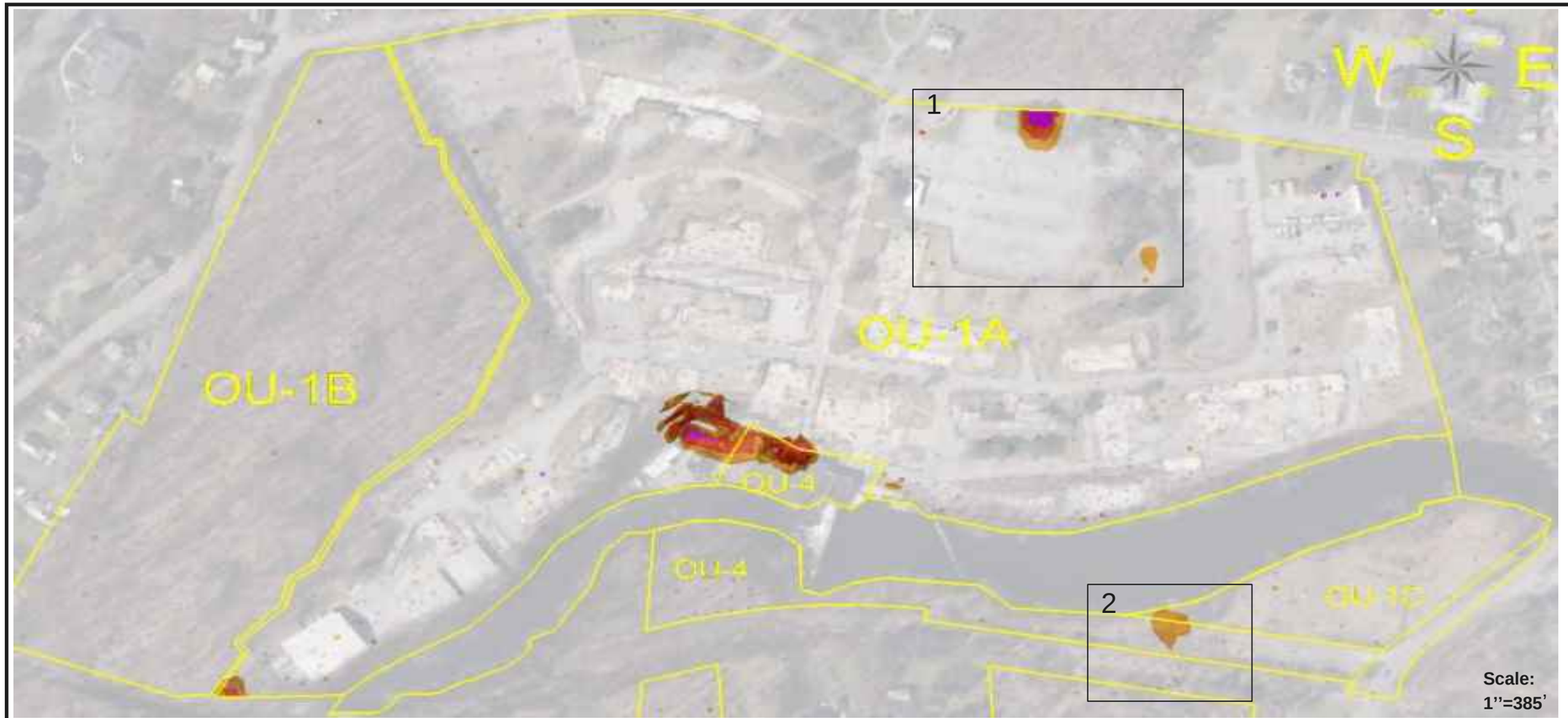
CHEVRON ENVIRONMENTAL MANAGEMENT COMPANY
FORMER TEXACO RESEARCH CENTER BEACON
GLENHAM, NEW YORK
REMEDIAL INVESTIGATION REPORT ADDENDUM 1

DIBENZ(A,H)ANTHRACENE SOIL SCREENING LEVEL EXCEEDANCES

ARCADIS Design & Consultancy for natural and built assets

FIGURE
2-14A

10/30/2020 10:53:30 AM



Legend:

Operable Unit (OU) Boundaries

New York Soil Screening Levels (mg/Kg)

- Above Industrial SL
- Above Commercial SL
- Above Residential Restricted SL
- Above Residential SL
- Above Unrestricted Value
- Below Unrestricted Value

Dibenz(a,h)anthracene: mg/kg

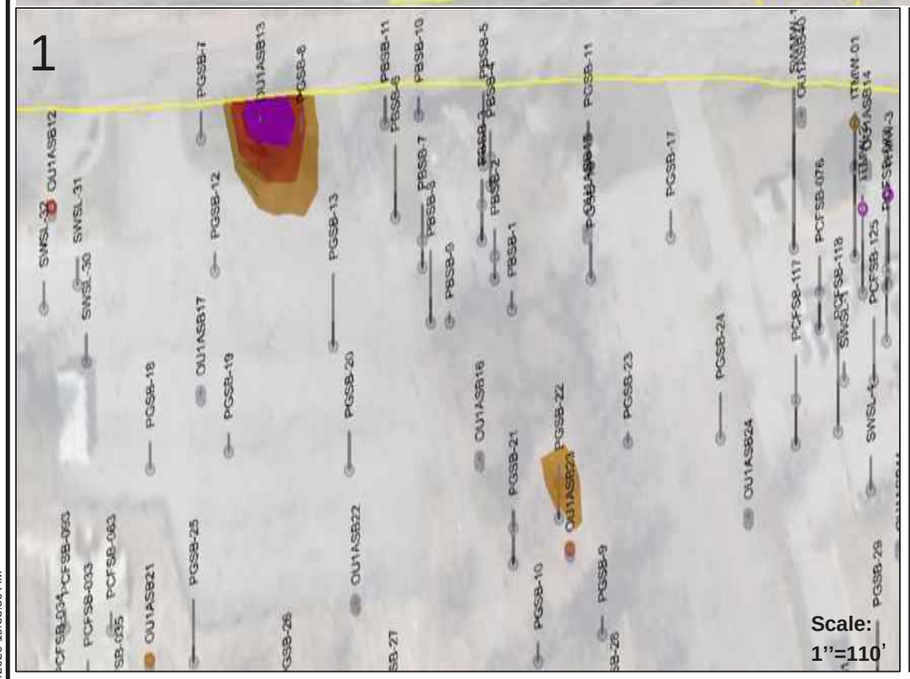
7.2

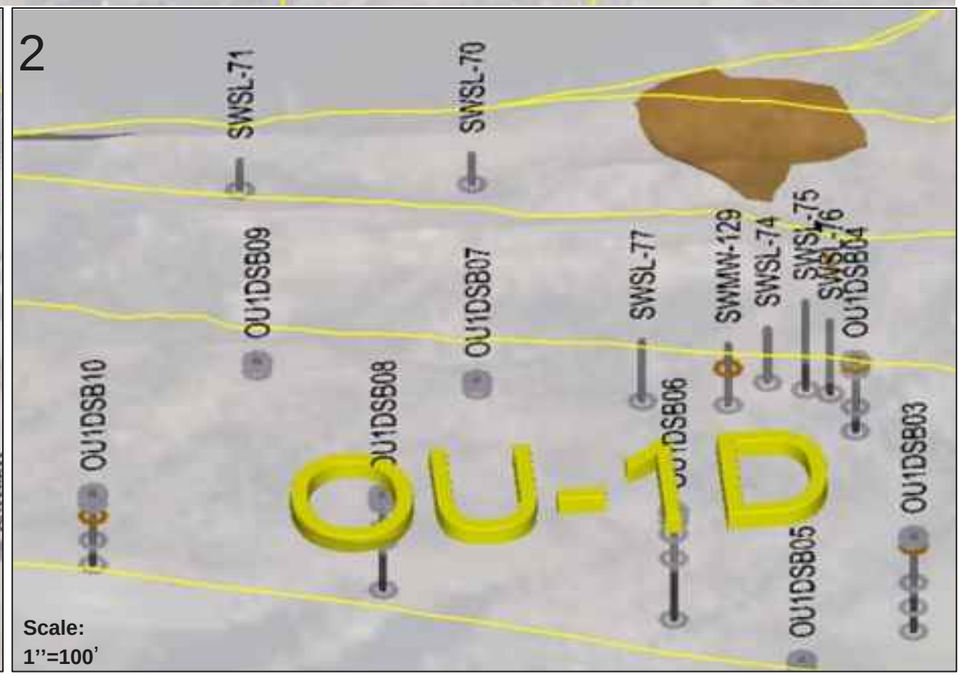
1.1

0.56

0.33

0.0030





Notes:

1. Results colored by least restrictive screening level exceeded
2. Scales are approximated.
    1. Key Map: 1 inch = 385 feet
    2. Focused areas: 1 inch = 110 feet
3. Ground surface digital elevation model (DEM) from United States Geological Service (USGS) accessed from Global Mapper
4. Aerial imagery from Environmental Systems Research Institute (ESRI) World Imagery (accessed April 2020)
5. Non-detect samples colored at their reporting limit (RL) and modeled at 1/10 of their RL.
6. mg/kg: milligram per kilogram
7. OU: Operable Unit
8. SL: Screening Level

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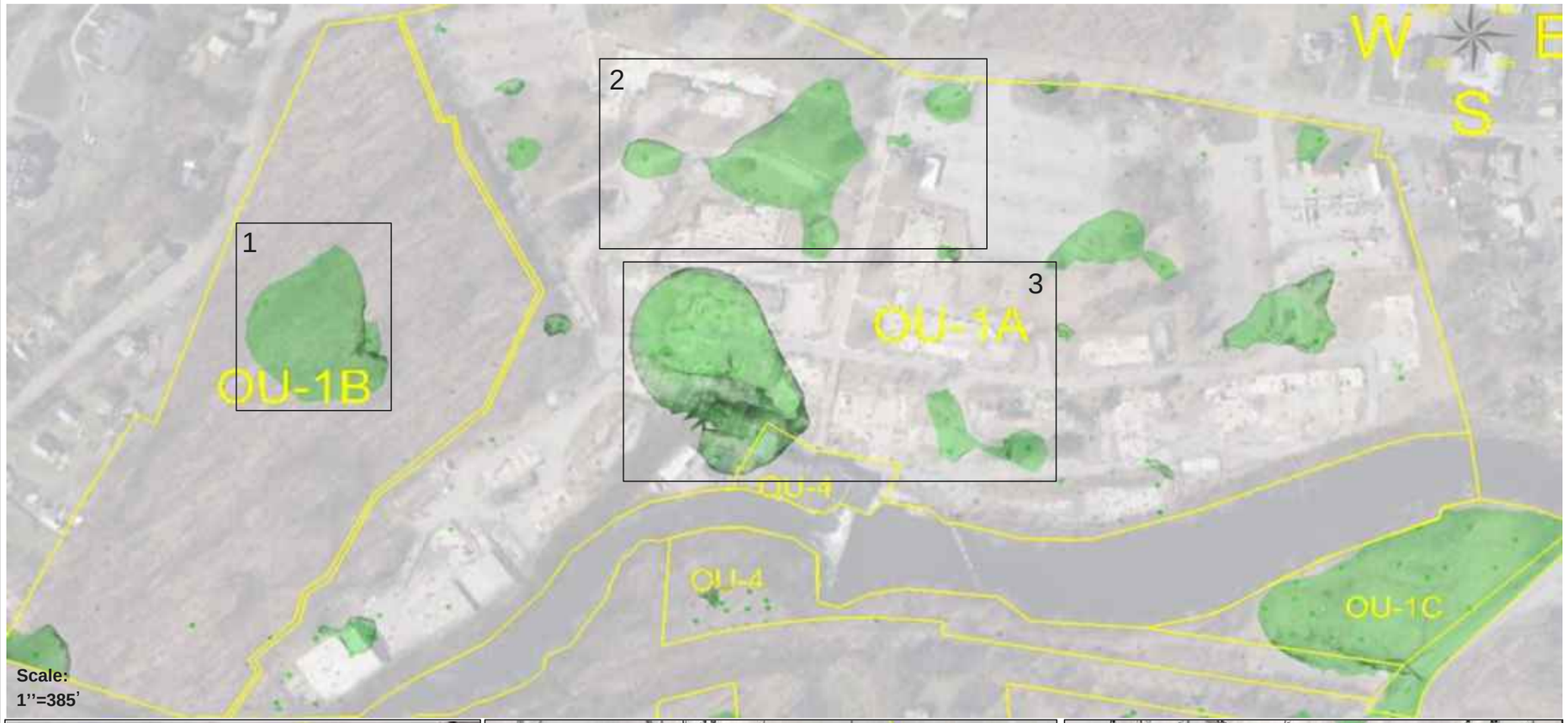
REMEDIAL INVESTIGATION REPORT ADDENDUM 1

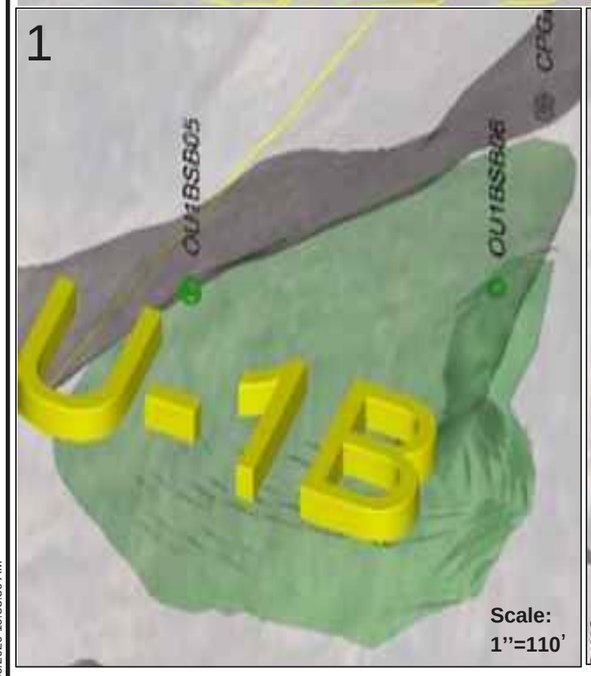
DIBENZ(A,H)ANTHRACENE SOIL SCREENING LEVEL EXCEEDANCES

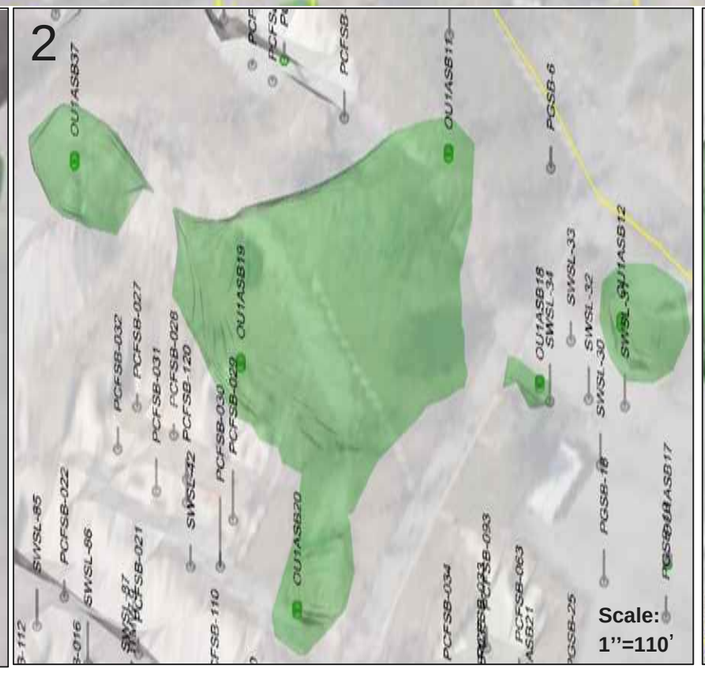
ARCADIS Design & Consultancy for natural and built assets

FIGURE
2-14B

10/30/2020 10:53:30 AM







Legend:

Operable Unit (OU) Boundaries

New York Soil Screening Levels (mg/Kg)

- Above Industrial SL
- Above Commercial SL
- Above Residential Restricted SL
- Above Residential SL
- Above Unrestricted Value
- Below Unrestricted Value

Acetone: mg/kg

- 2,000.0
- 1,000.0
- 500.0
- 100.0
- 0.050
- 0.00070

Notes:

1. Results colored by least restrictive screening level exceeded
2. Scales are approximated.
    1. Key Map: 1 inch = 3855 feet
    2. Focused areas: 1 inch = 110 feet
3. Ground surface digital elevation model (DEM) from United States Geological Service (USGS) accessed from Global Mapper
4. Aerial imagery from Environmental Systems Research Institute (ESRI) World Imagery (accessed April 2020)
5. Non-detect samples colored at their reporting limit (RL) and modeled at 1/10 of their RL.
6. mg/kg: milligram per kilogram
7. OU: Operable Unit
8. SL: Screening Level

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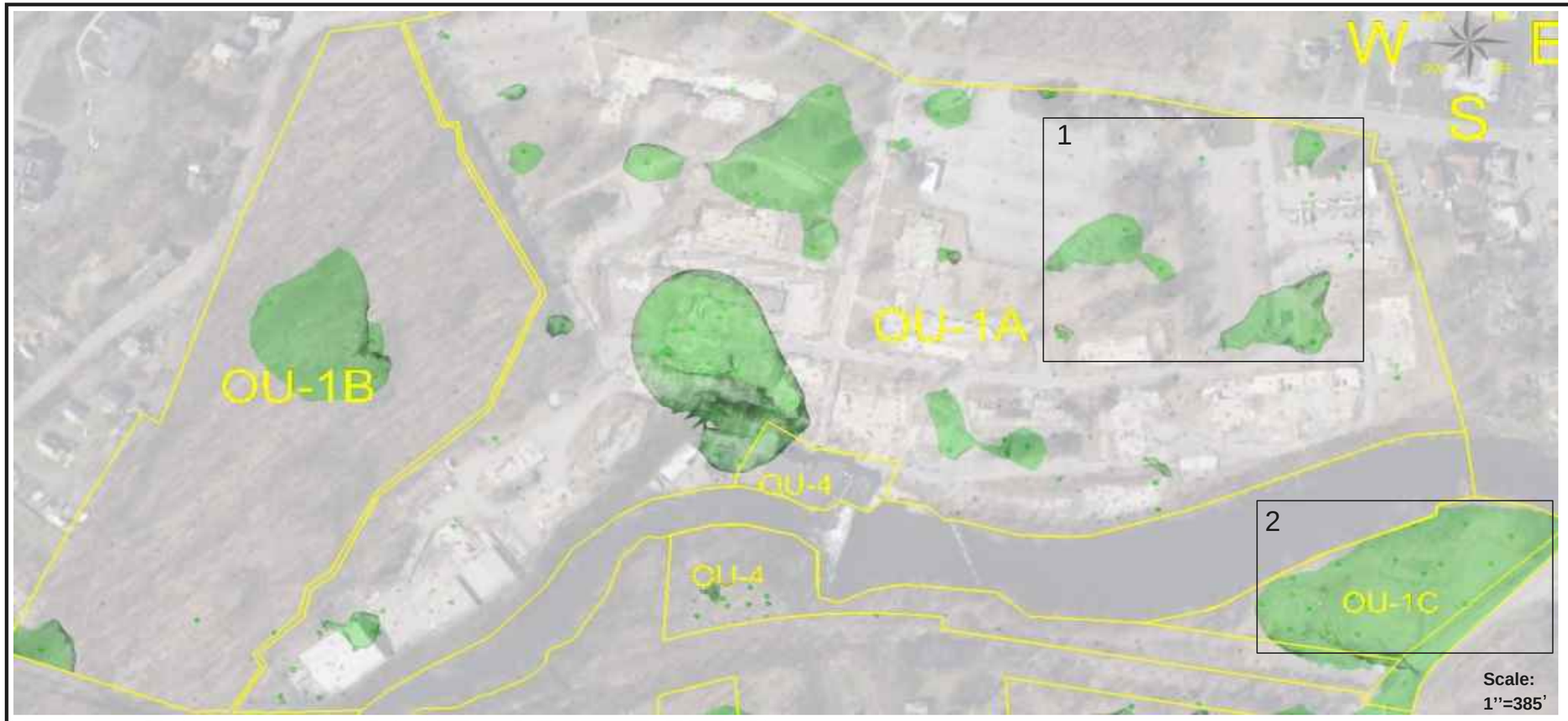
REMEDIAL INVESTIGATION REPORT ADDENDUM 1

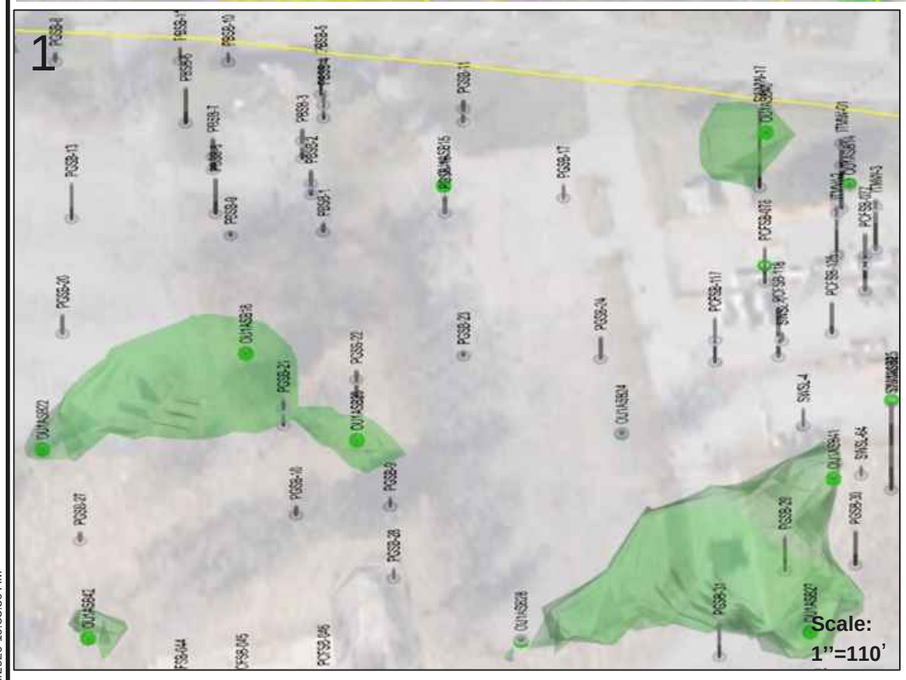
ACETONE SOIL SCREENING LEVEL EXCEEDANCES

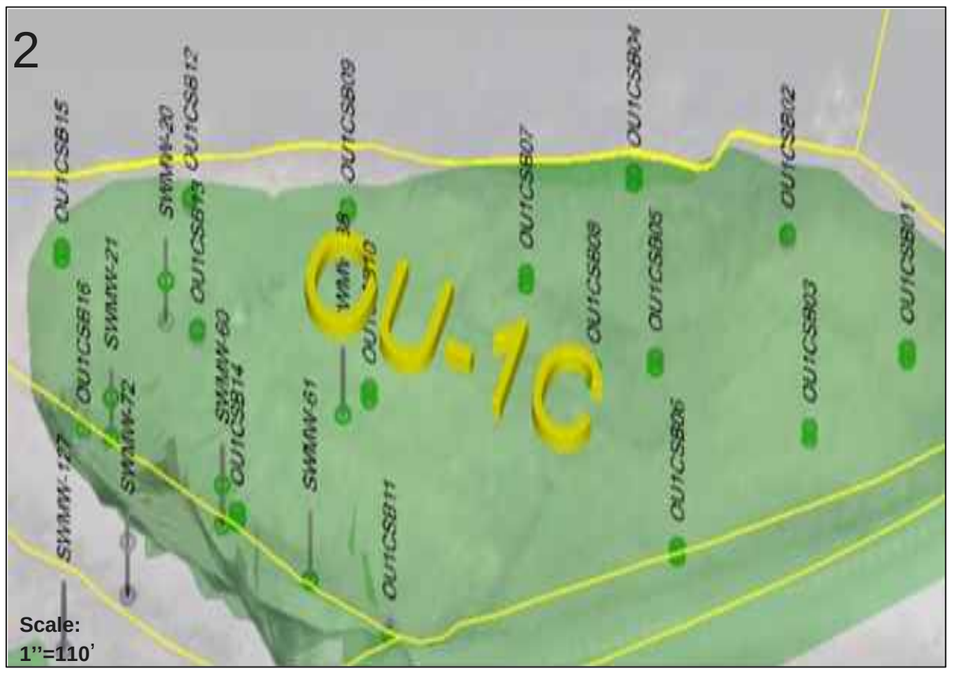
ARCADIS Design & Consultancy for natural and built assets

FIGURE
2-15A

10/30/2020 10:53:30 AM







Legend:

Operable Unit (OU) Boundaries

New York Soil Screening Levels (mg/Kg)

- Above Industrial SL
- Above Commercial SL
- Above Residential Restricted SL
- Above Residential SL
- Above Unrestricted Value
- Below Unrestricted Value

Acetone: mg/kg

- 2,000.0
- 1,000.0
- 500.0
- 100.0
- 0.050
- 0.00070

Notes:

1. Results colored by least restrictive screening level exceeded
2. Scales are approximated.
    1. Key Map: 1 inch = 385 feet
    2. Focused areas: 1 inch = 110 feet
3. Ground surface digital elevation model (DEM) from United States Geological Service (USGS) accessed from Global Mapper
4. Aerial imagery from Environmental Systems Research Institute (ESRI) World Imagery (accessed April 2020)
5. Non-detect samples colored at their reporting limit (RL) and modeled at 1/10 of their RL.
6. mg/kg: milligram per kilogram
7. OU: Operable Unit
8. SL: Screening Level

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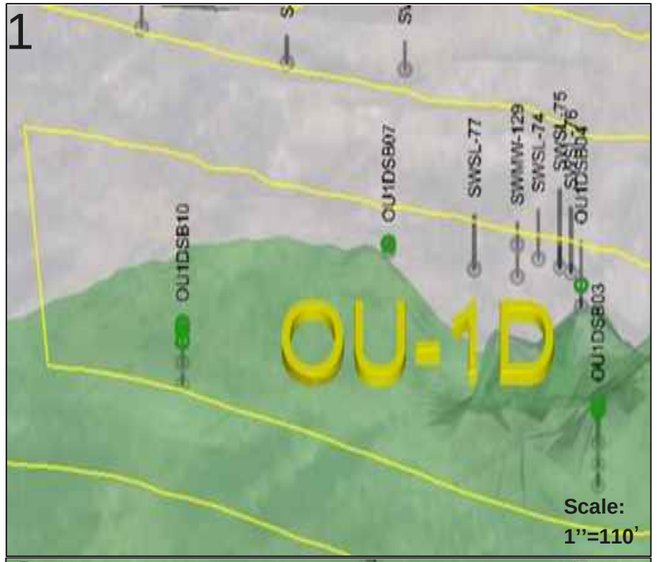
REMEDIAL INVESTIGATION REPORT ADDENDUM 1

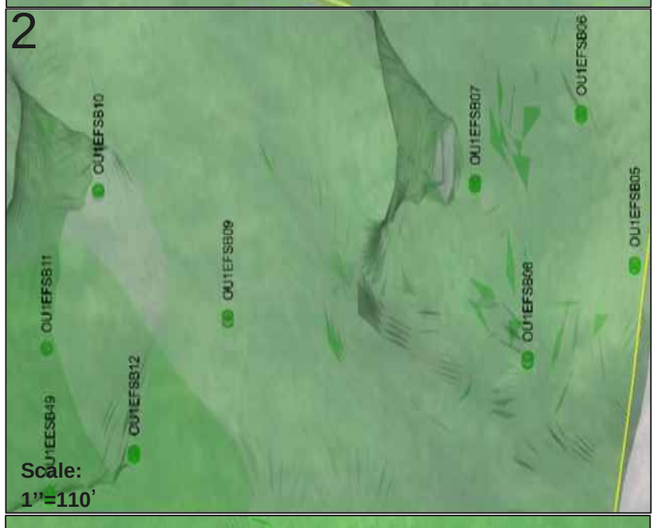
ACETONE SOIL SCREENING LEVEL EXCEEDANCES

ARCADIS Design & Consultancy for natural and built assets

FIGURE
2-15B

10/30/2020 10:53:30 AM





Legend:

Operable Unit (OU) Boundaries

New York Soil Screening Levels (mg/Kg)

- Above Industrial SL
- Above Commercial SL
- Above Residential Restricted SL
- Above Residential SL
- Above Unrestricted Value
- Below Unrestricted Value

Acetone: mg/kg

2,000.0
1,000.0
500.0
100.0
0.050
0.00070

Notes:

1. Results colored by least restrictive screening level exceeded
2. Scales are approximated.
    1. Key Map: 1 inch = 670 feet
    2. Focused areas: 1 inch = 110 feet
3. Ground surface digital elevation model (DEM) from United States Geological Service (USGS) accessed from Global Mapper
4. Aerial imagery from Environmental Systems Research Institute (ESRI) World Imagery (accessed April 2020)
5. Non-detect samples colored at their reporting limit (RL) and modeled at 1/10 of their RL.
6. mg/kg: milligram per kilogram
7. OU: Operable Unit
8. SL: Screening Level

CHEVRON ENVIRONMENTAL MANAGEMENT COMPANY
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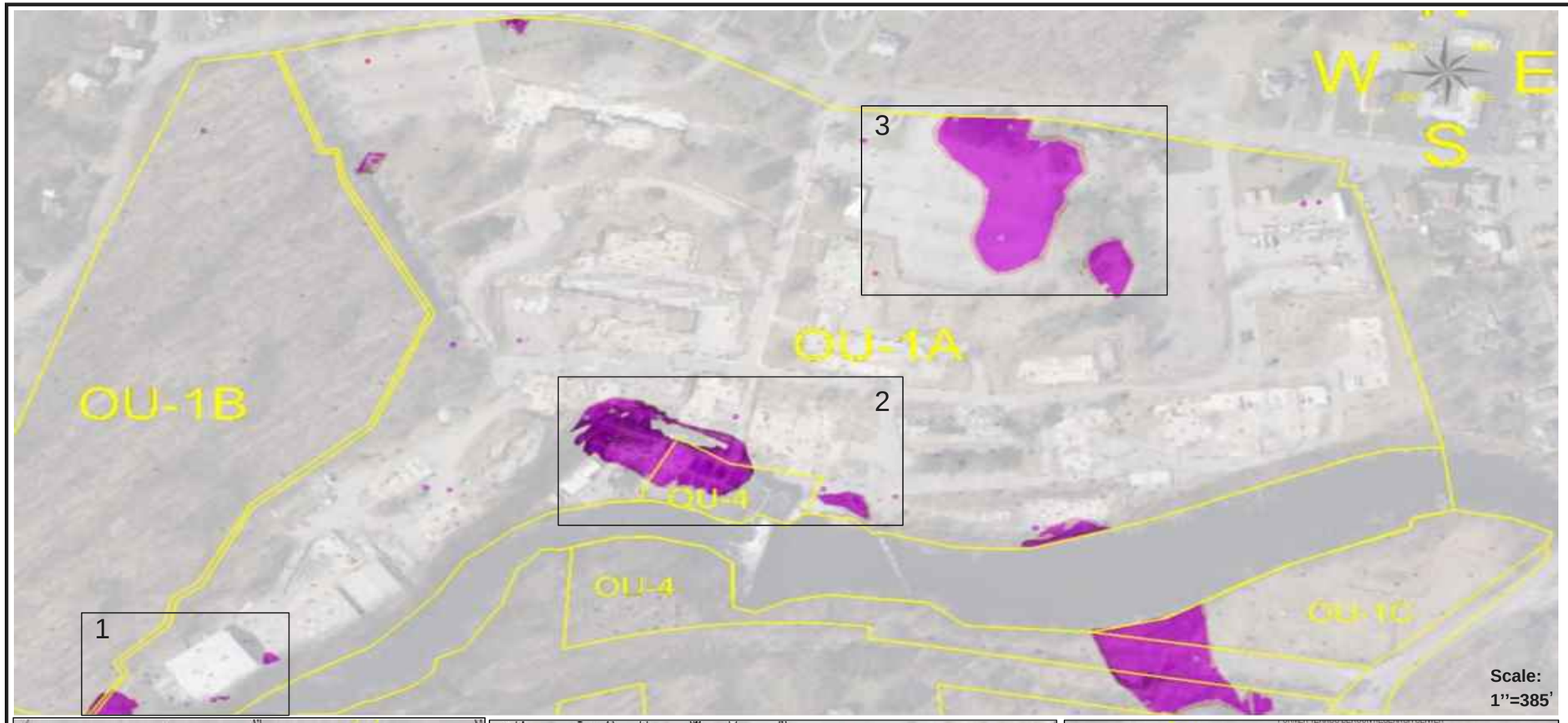
REMEDIAL INVESTIGATION REPORT ADDENDUM 1

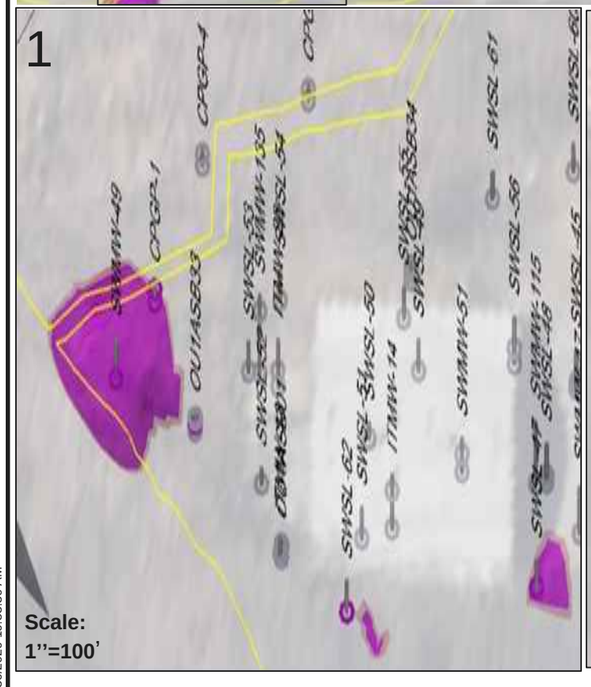
ACETONE SOIL SCREENING LEVEL EXCEEDANCES

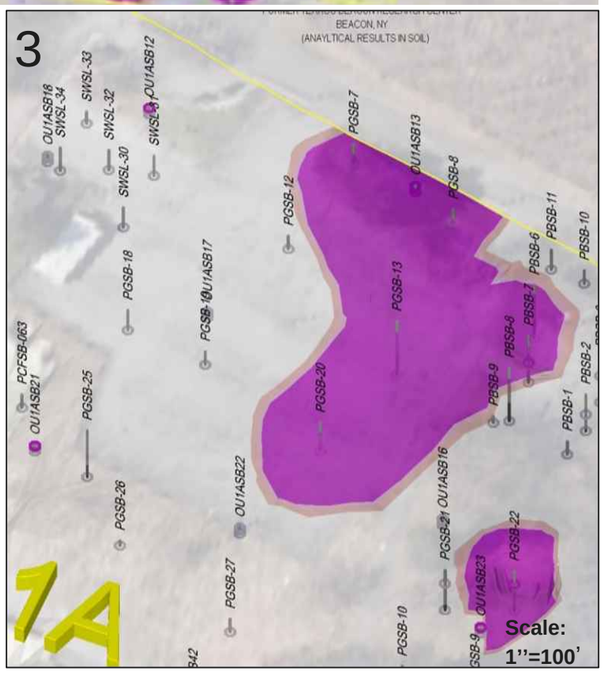
ARCADIS Design & Consultancy for natural and built assets

FIGURE
2-15C

10/30/2020 10:53:30 AM







Legend:

Operable Unit (OU) Boundaries

New York Soil Screening Levels (mg/Kg)

- Above Industrial SL
- Above Commercial SL
- Above Residential Restricted SL
- Above Residential SL
- Above Unrestricted Value
- Below Unrestricted Value

Benzo(a)pyrene: mg/kg

43.0

1.0

0.0030

Notes:

1. Results colored by least restrictive screening level exceeded
2. Scales are approximated.
    1. Key Map: 1 inch = 385 feet
    2. Focused areas: 1 inch = 100 feet
3. Ground surface digital elevation model (DEM) from United States Geological Service (USGS) accessed from Global Mapper
4. Aerial imagery from Environmental Systems Research Institute (ESRI) World Imagery (accessed April 2020)
5. Non-detect samples colored at their reporting limit (RL) and modeled at 1/10 of their RL.
6. mg/kg: milligram per kilogram
7. OU: Operable Unit
8. SL: Screening Level

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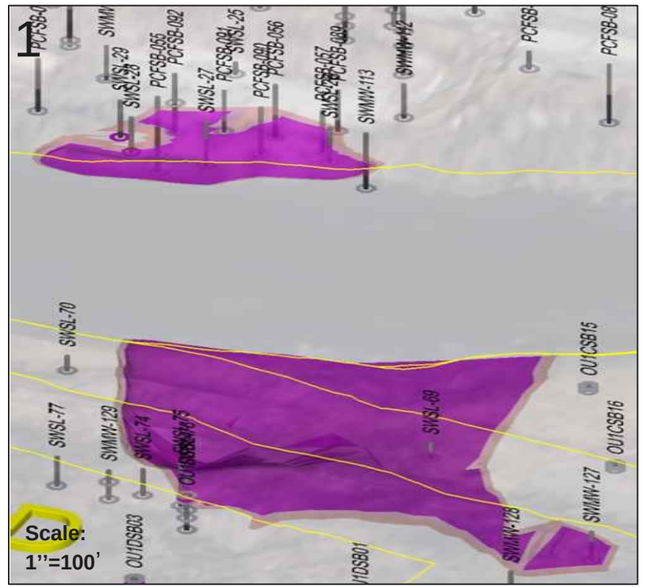
REMEDIAL INVESTIGATION REPORT ADDENDUM 1

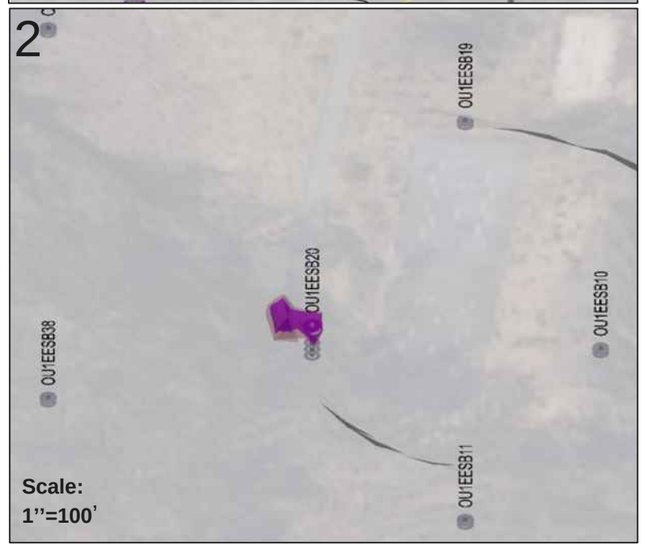
BENZO(A)PYRENE SOIL SCREENING LEVEL EXCEEDANCES

ARCADIS Design & Consultancy for natural and built assets

FIGURE
2-16A

10/30/2020 10:53:30 AM





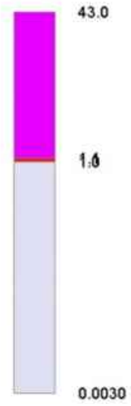
Legend:

Operable Unit (OU) Boundaries

New York Soil Screening Levels (mg/Kg)

- Above Industrial SL
- Above Commercial SL
- Above Residential Restricted SL
- Above Residential SL
- Above Unrestricted Value
- Below Unrestricted Value

Benzo(a)pyrene: mg/kg



Notes:

1. Results colored by least restrictive screening level exceeded
2. Scales are approximated.
    1. Key Map: 1 inch = 385 feet
    2. Focused areas: 1 inch = 100 feet
3. Ground surface digital elevation model (DEM) from United States Geological Service (USGS) accessed from Global Mapper
4. Aerial imagery from Environmental Systems Research Institute (ESRI) World Imagery (accessed April 2020)
5. Non-detect samples colored at their reporting limit (RL) and modeled at 1/10 of their RL.
6. mg/kg: milligram per kilogram
7. OU: Operable Unit
8. SL: Screening Level

CHEVRON ENVIRONMENTAL MANAGEMENT COMPANY
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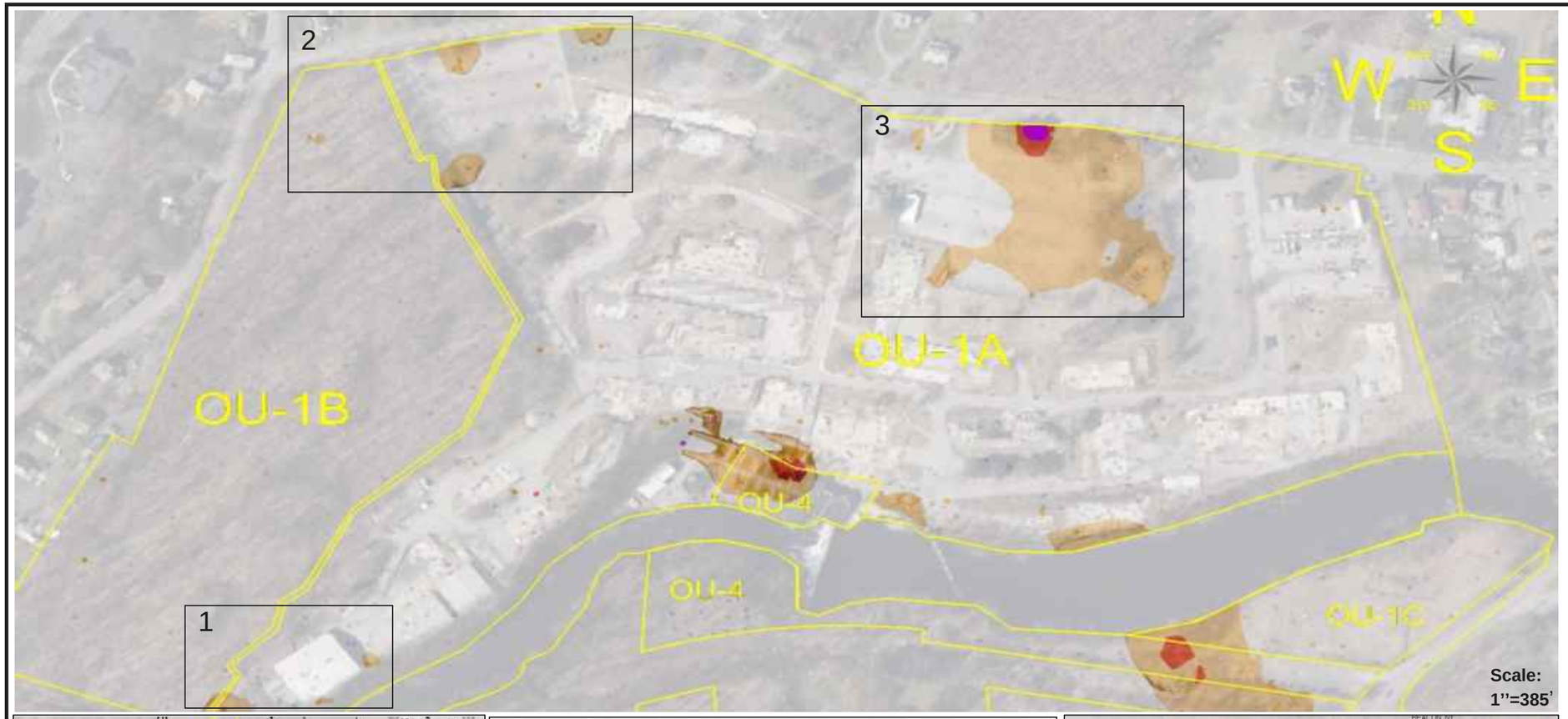
GLENHAM, NEW YORK
REMEDIAL INVESTIGATION REPORT ADDENDUM 1

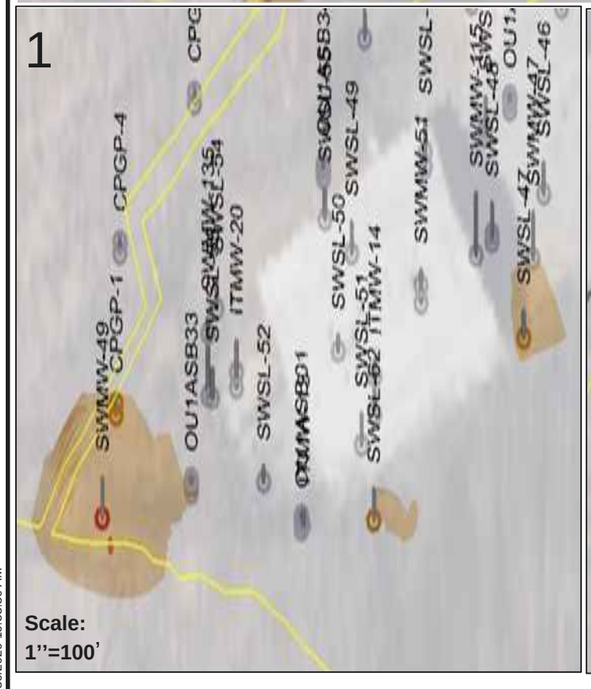
BENZO(A)PYRENE SOIL SCREENING LEVEL EXCEEDANCES

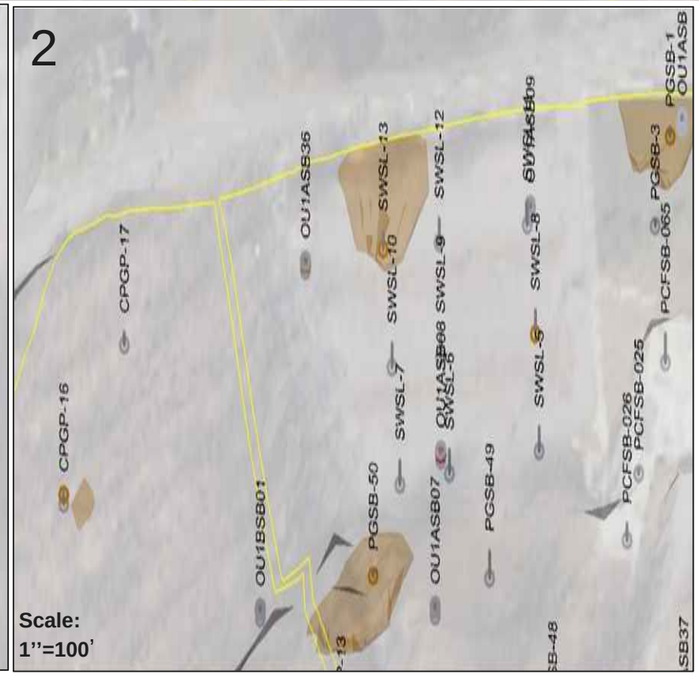
ARCADIS Design & Consultancy for natural and built assets

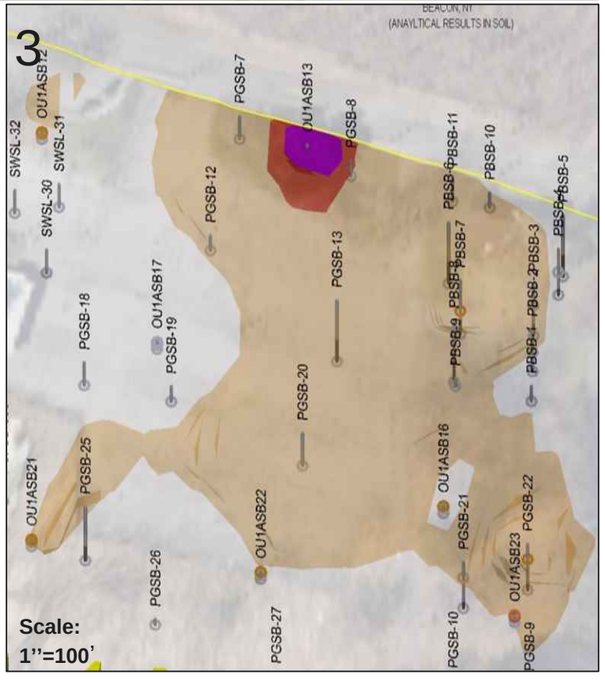
FIGURE
2-16B

10/30/2020 10:53:30 AM









Legend:

Operable Unit (OU) Boundaries

New York Soil Screening Levels (mg/Kg)

- Above Industrial SL
- Above Commercial SL
- Above Residential Restricted SL
- Above Residential SL
- Above Unrestricted Value
- Below Unrestricted Value

Benzo(b)fluoranthene: mg/kg

53.0
11.0
5.6
1.0
0.0030

Notes:

1. Results colored by least restrictive screening level exceeded
2. Scales are approximated.
    1. Key Map: 1 inch = 385 feet
    2. Focused areas: 1 inch = 100 feet
3. Ground surface digital elevation model (DEM) from United States Geological Service (USGS) accessed from Global Mapper
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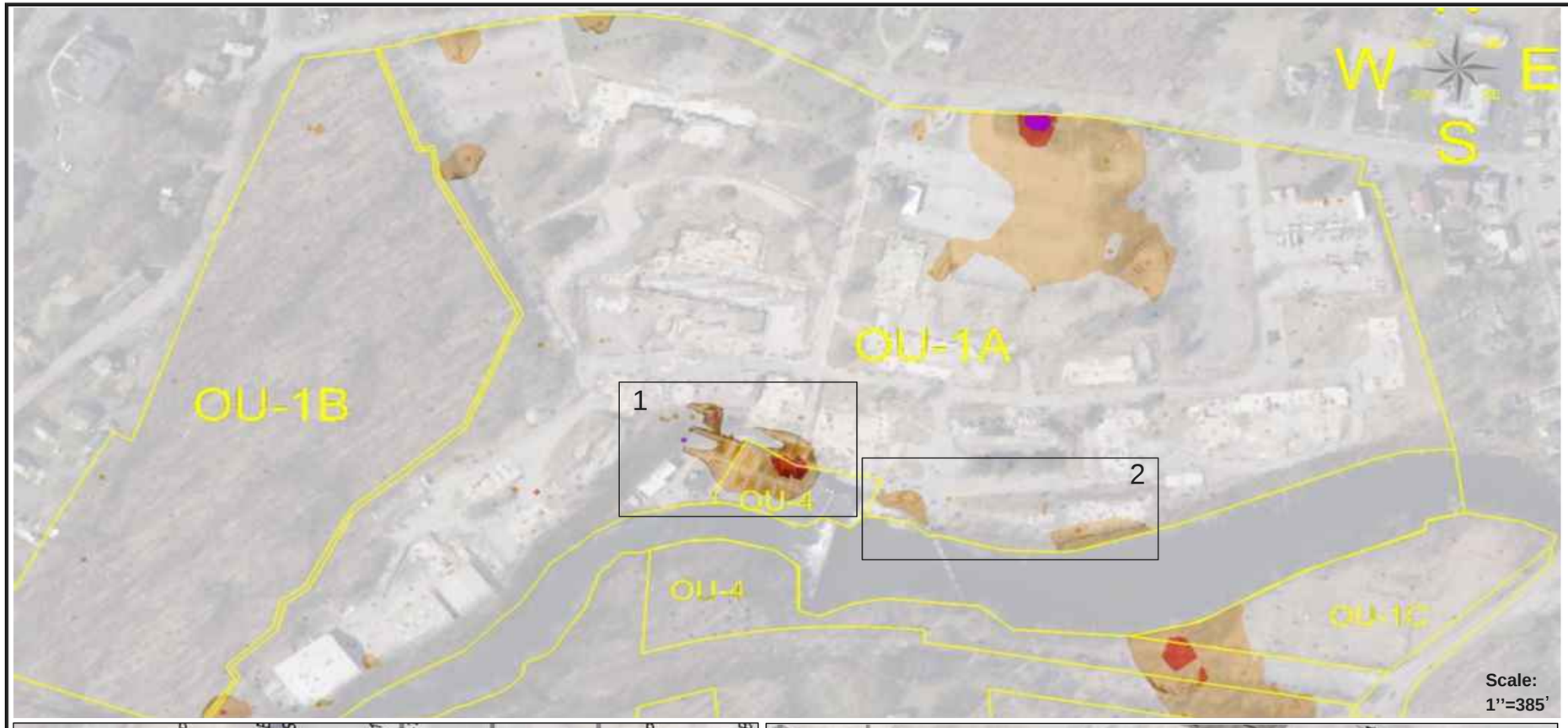
REMEDIAL INVESTIGATION REPORT ADDENDUM 1

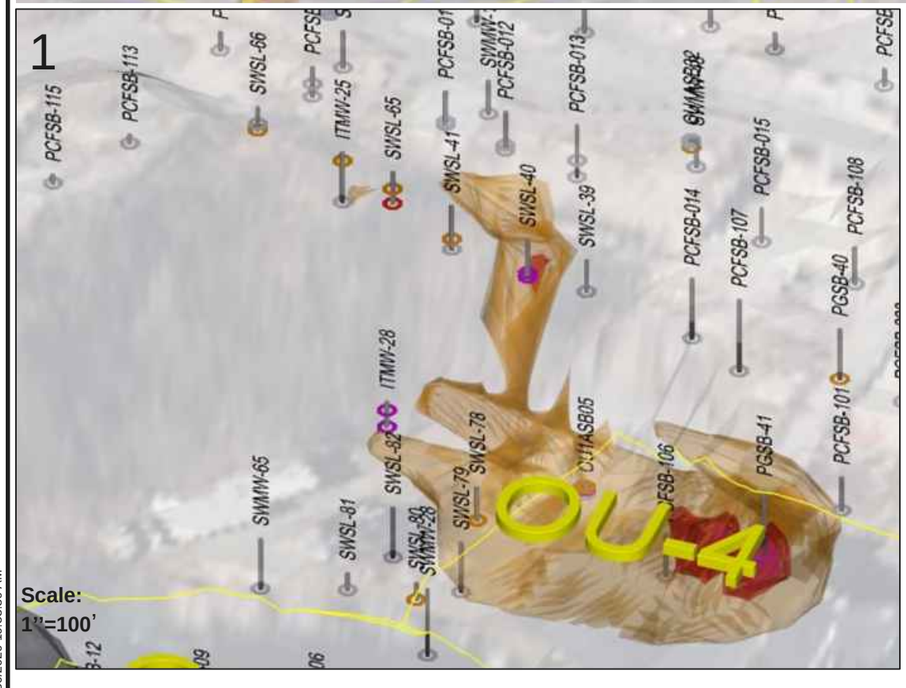
BENZO(B)FLUORANTHENE SOIL SCREENING LEVEL EXCEEDANCES

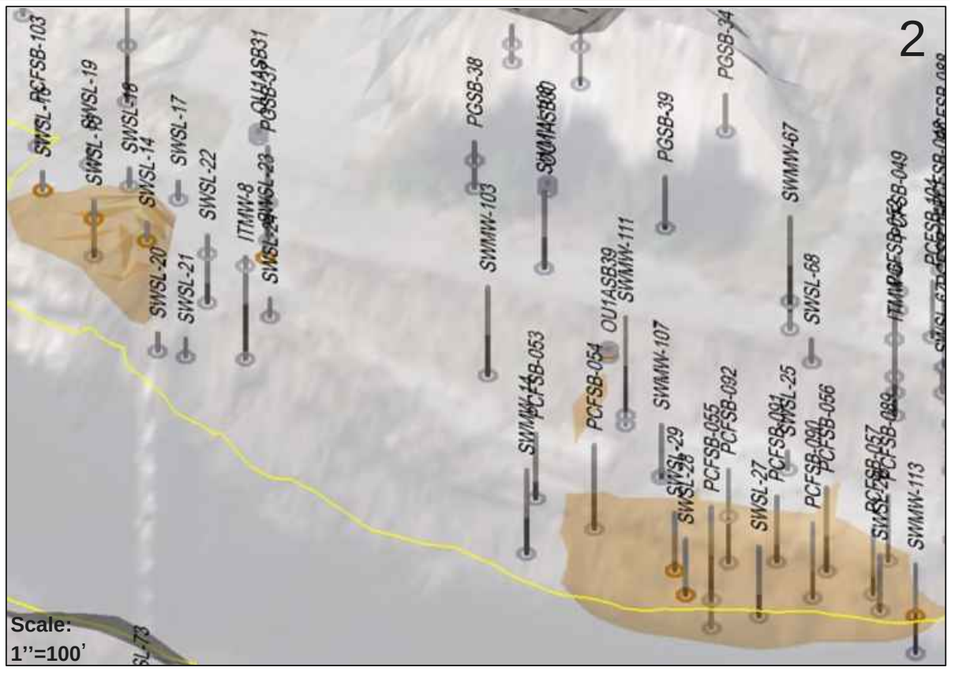
ARCADIS Design & Consultancy for natural and built assets

FIGURE
2-17A

10/30/2020 10:53:30 AM







Legend:

Operable Unit (OU) Boundaries

New York Soil Screening Levels (mg/Kg)

- Above Industrial SL
- Above Commercial SL
- Above Residential Restricted SL
- Above Residential SL
- Above Unrestricted Value
- Below Unrestricted Value

Benzo(b)fluoranthene: mg/kg

53.0
11.0
5.6
1.0
0.0030

Notes:

1. Results colored by least restrictive screening level exceeded
2. Scales are approximated.
    1. Key Map: 1 inch = 385 feet
    2. Focused areas: 1 inch = 100 feet
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4. Aerial imagery from Environmental Systems Research Institute (ESRI) World Imagery (accessed April 2020)
5. Non-detect samples colored at their reporting limit (RL) and modeled at 1/10 of their RL.
6. mg/kg: milligram per kilogram
7. OU: Operable Unit
8. SL: Screening Level

CHEVRON ENVIRONMENTAL MANAGEMENT COMPANY
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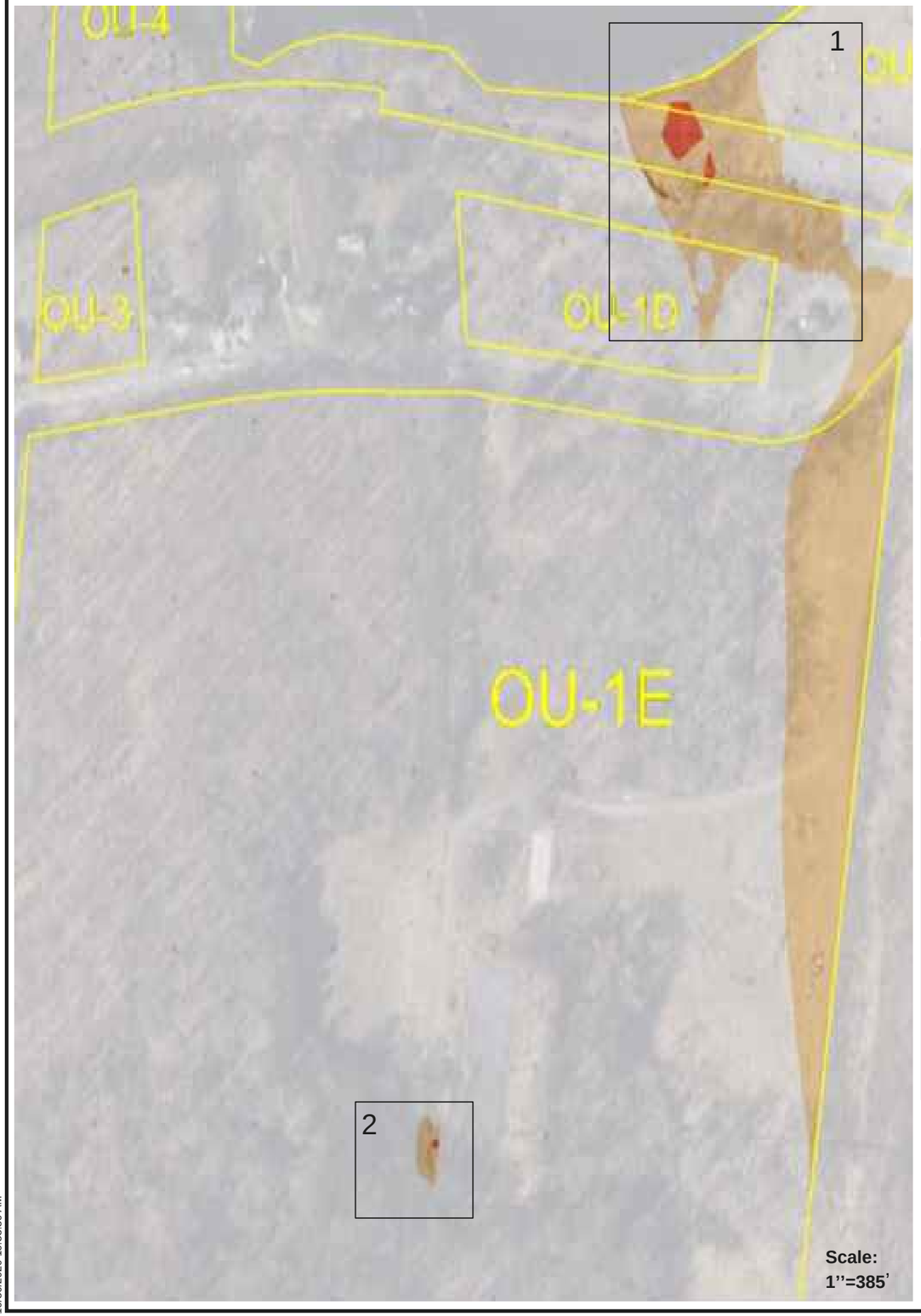
GLENHAM, NEW YORK
REMEDIAL INVESTIGATION REPORT ADDENDUM 1

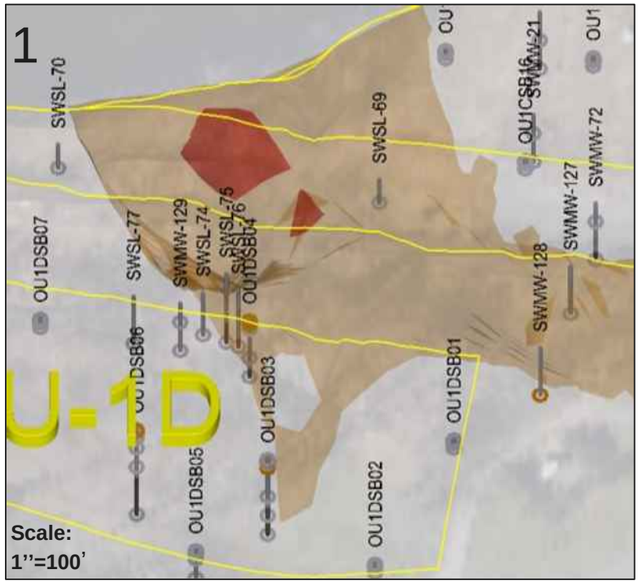
BENZO(B)FLUORANTHENE SOIL SCREENING LEVEL EXCEEDANCES

ARCADIS Design & Consultancy for natural and built assets

FIGURE
2-17B

10/30/2020 10:53:30 AM





Legend:

Operable Unit (OU) Boundaries

New York Soil Screening Levels (mg/Kg)

- Above Industrial SL
- Above Commercial SL
- Above Residential Restricted SL
- Above Residential SL
- Above Unrestricted Value
- Below Unrestricted Value

Benzo(b)fluoranthene: mg/kg

53.0
11.0
5.6
1.0
0.0030

Notes:

1. Results colored by least restrictive screening level exceeded
2. Scales are approximated.
    1. Key Map: 1 inch = 385 feet
    2. Focused areas: 1 inch = 100 feet
3. Ground surface digital elevation model (DEM) from United States Geological Service (USGS) accessed from Global Mapper
4. Aerial imagery from Environmental Systems Research Institute (ESRI) World Imagery (accessed April 2020)
5. Non-detect samples colored at their reporting limit (RL) and modeled at 1/10 of their RL.
6. mg/kg: milligram per kilogram
7. OU: Operable Unit
8. SL: Screening Level

CHEVRON ENVIRONMENTAL MANAGEMENT COMPANY
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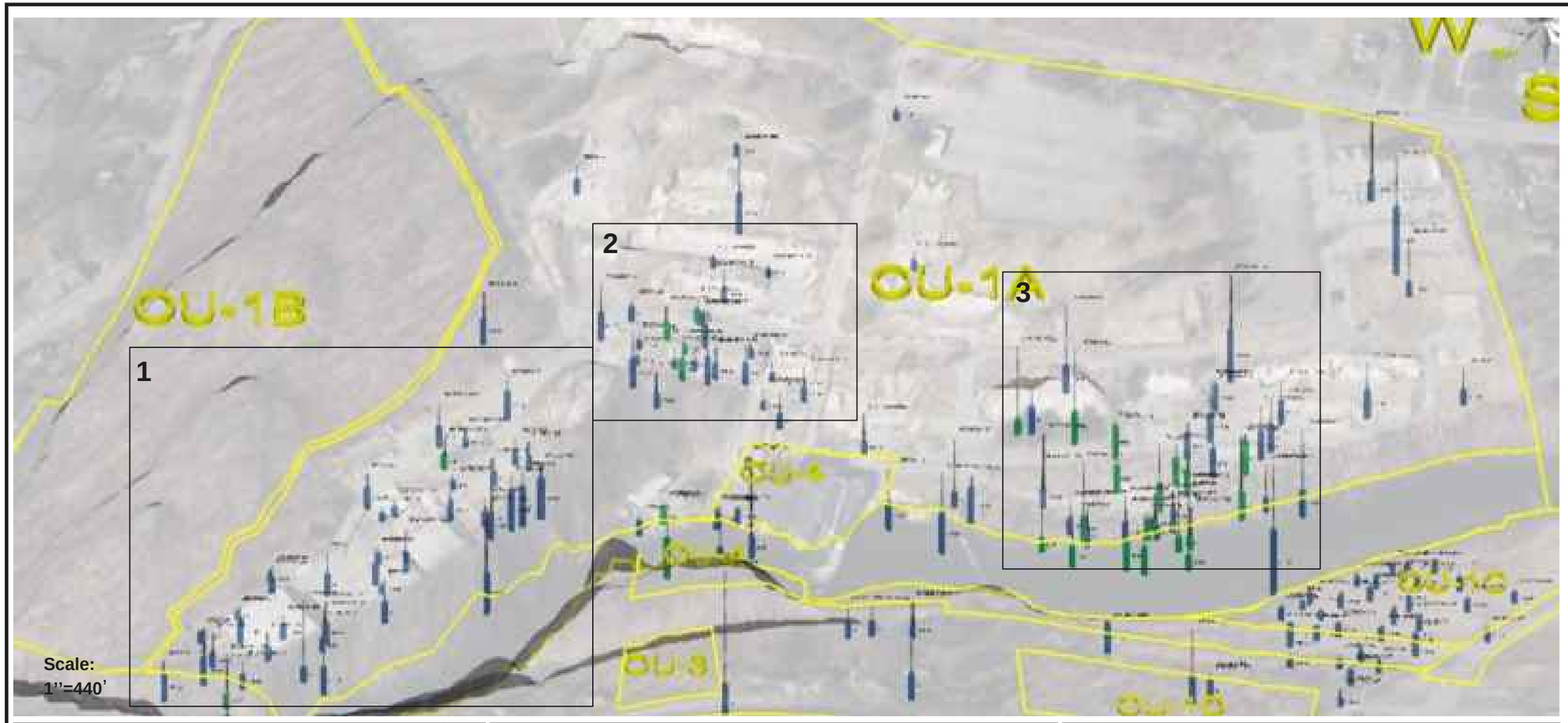
GLENHAM, NEW YORK
REMEDIAL INVESTIGATION REPORT ADDENDUM 1

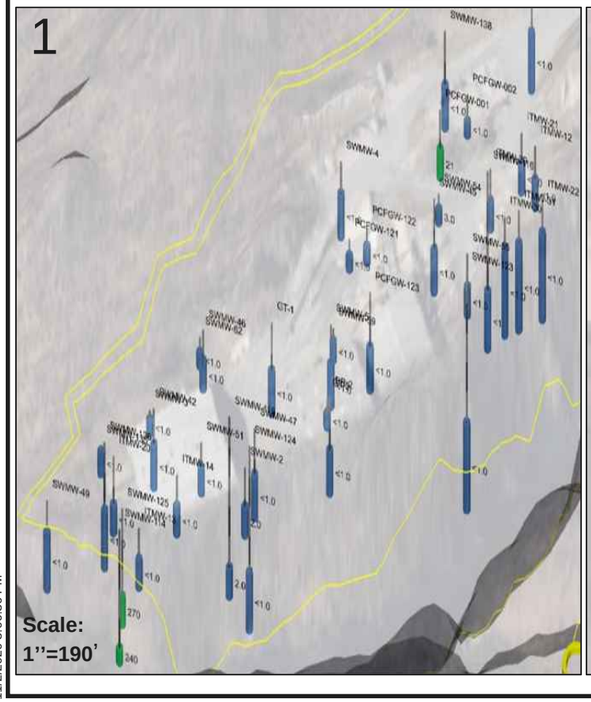
BENZO(B)FLUORANTHENE SOIL SCREENING LEVEL EXCEEDANCES

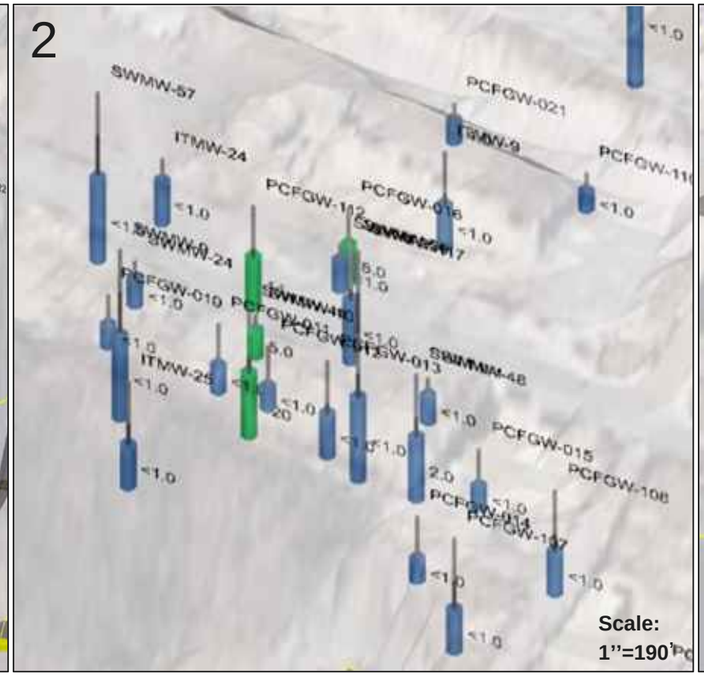
ARCADIS Design & Consultancy for natural and built assets

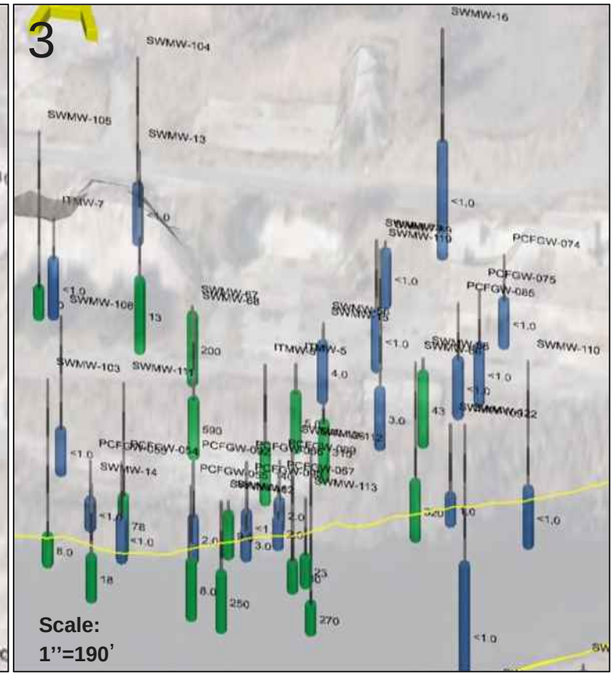
FIGURE
2-17C

10/30/2020 10:53:30 AM









Legend:

Operable Unit (OU) Boundaries

Trichloroethene: ug/L

- Above NY TOGS
- Below NY TOGS

Notes:

1. Results colored by least restrictive screening level exceeded
2. Scales are approximated.
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7. OU: Operable Unit
8. NY TOGS: New York Technical and Operational Guidance Series

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REMEDIAL INVESTIGATION REPORT ADDENDUM 1

TRICHLOROETHYLENE GROUNDWATER SCREENING LEVEL EXCEEDANCES 2012-2013

ARCADIS Design & Consultancy for natural and built assets

FIGURE
2-18A

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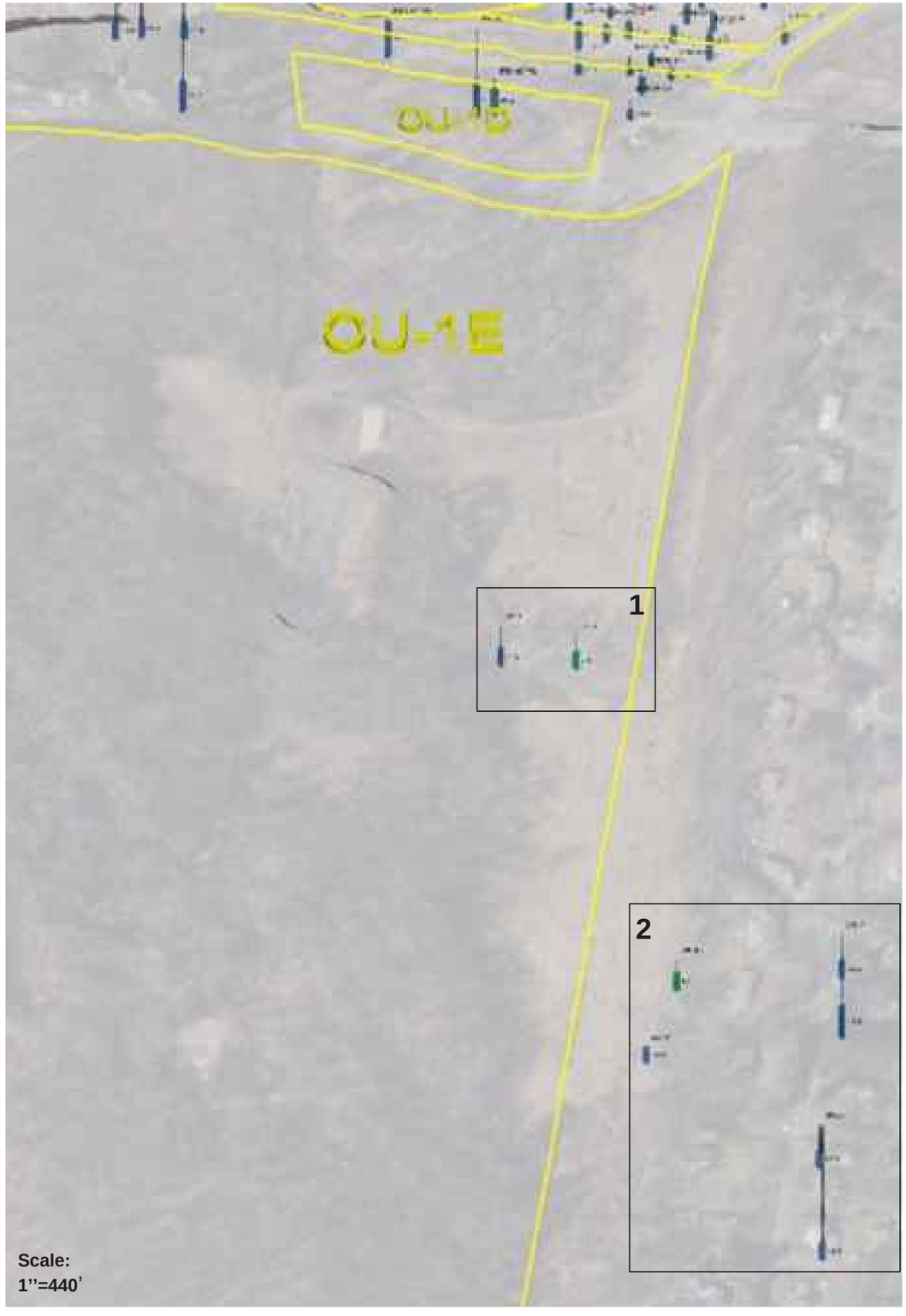

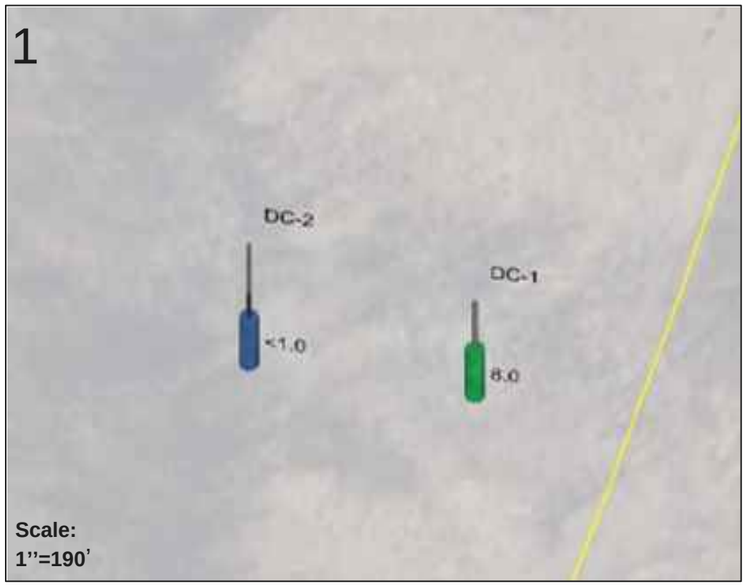

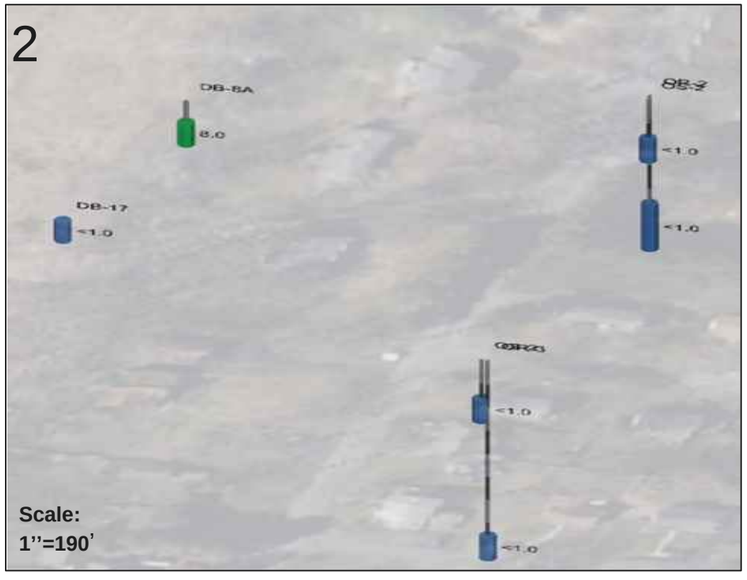

Legend:

Operable Unit (OU) Boundaries

Trichloroethene: ug/L

Above NY TOGS

Below NY TOGS

Notes:

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TRICHLOROETHYLENE GROUNDWATER SCREENING LEVEL EXCEEDANCES 2012-2013

ARCADIS Design & Consultancy for natural and built assets

FIGURE
2-18B

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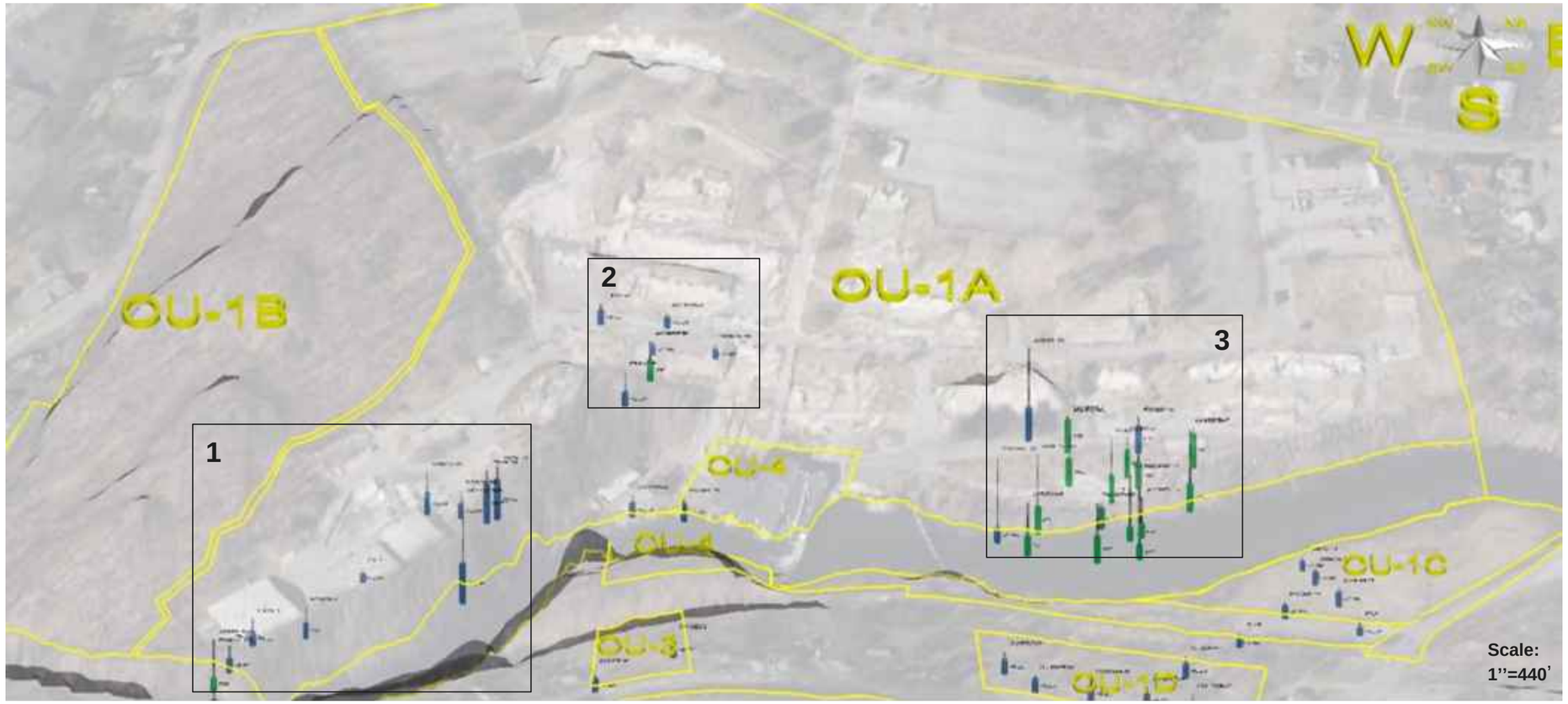

Legend:

Operable Unit (OU) Boundaries

Trichloroethene: ug/L

- Above NY TOGS
- Below NY TOGS

Notes:

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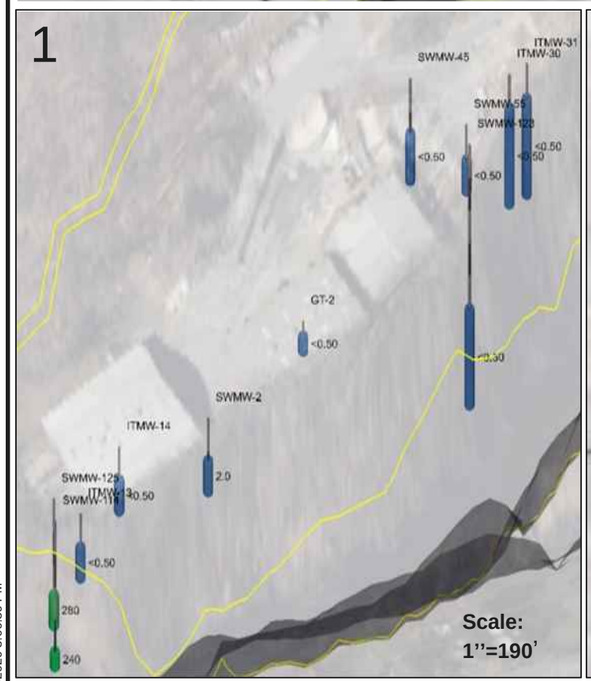

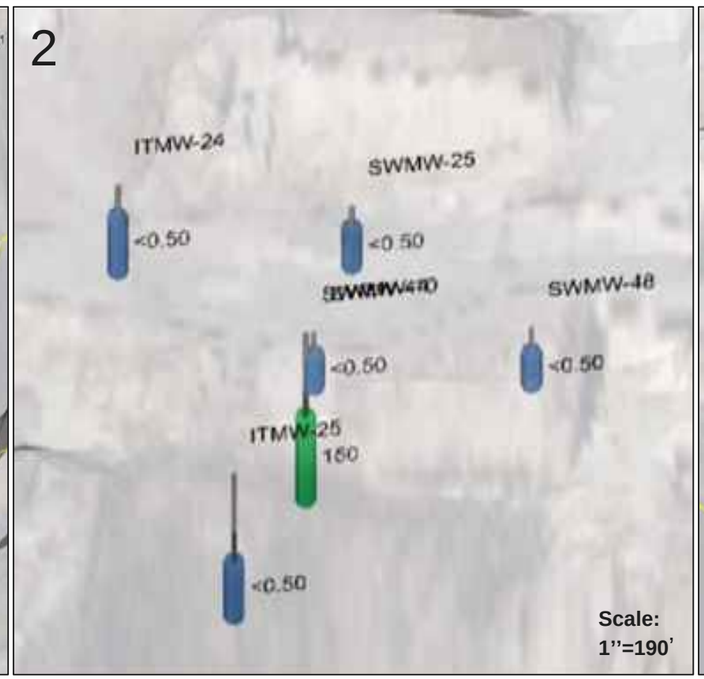

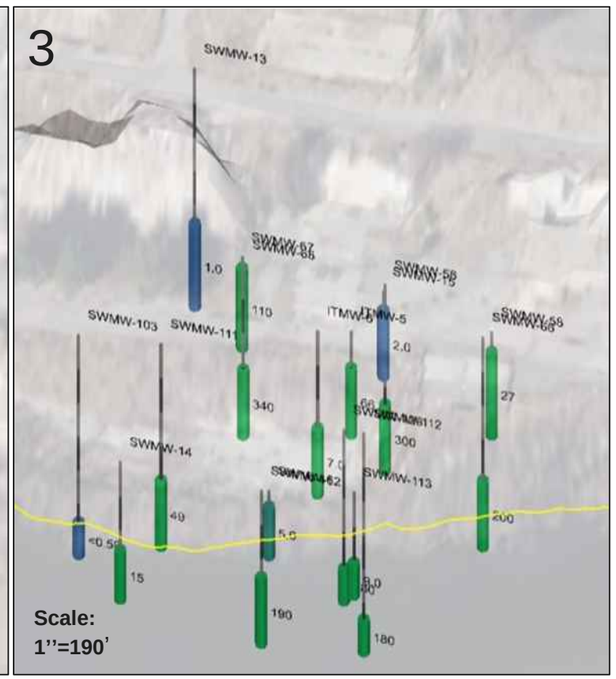

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REMEDIAL INVESTIGATION REPORT ADDENDUM 1

TRICHLOROETHYLENE GROUNDWATER SCREENING LEVEL EXCEEDANCES 2016-2018

ARCADIS Design & Consultancy for natural and built assets

FIGURE
2-18C

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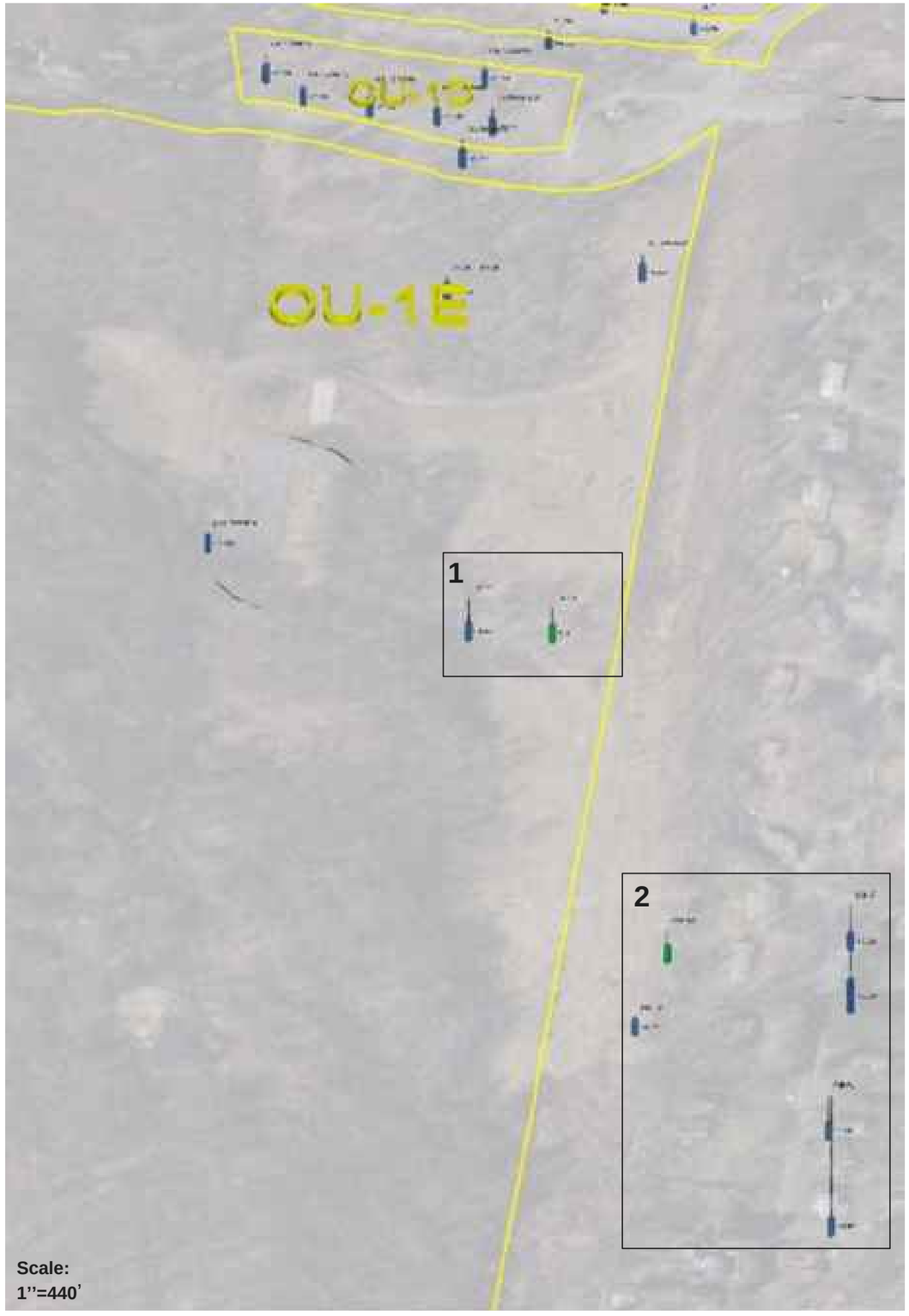

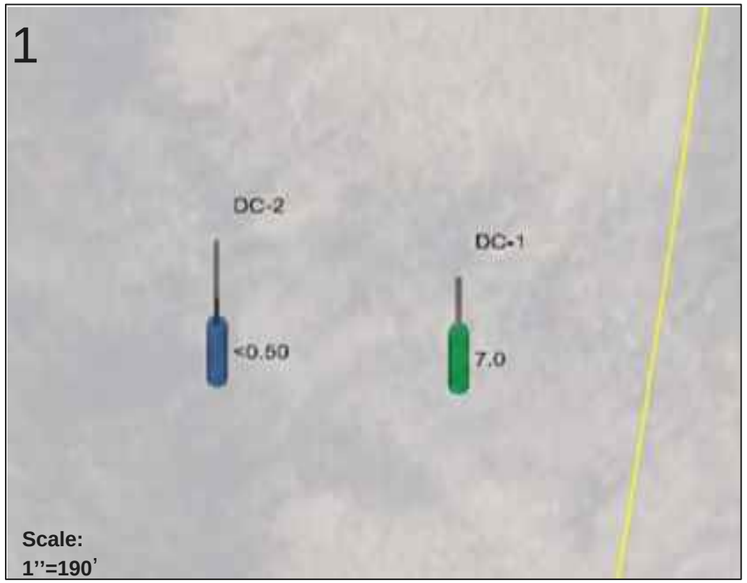

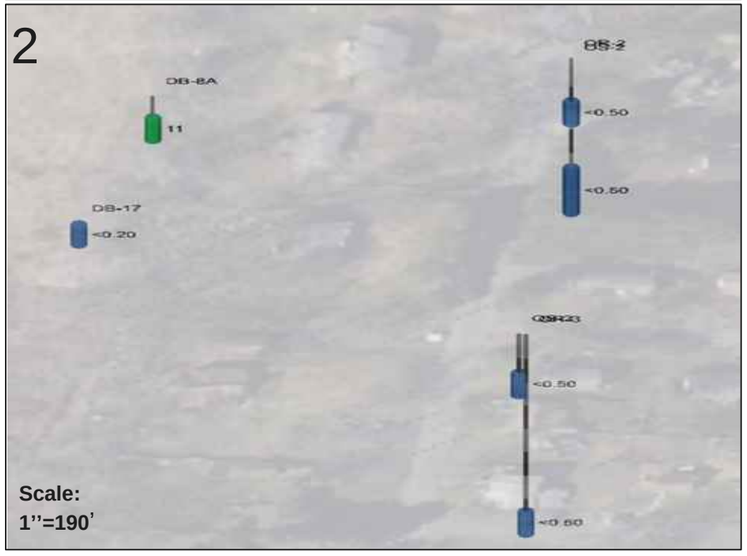

Legend:

Operable Unit (OU) Boundaries

Trichloroethene: ug/L

- Above NY TOGS
- Below NY TOGS

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TRICHLOROETHYLENE GROUNDWATER SCREENING LEVEL EXCEEDANCES 2016-2018

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FIGURE
2-18D

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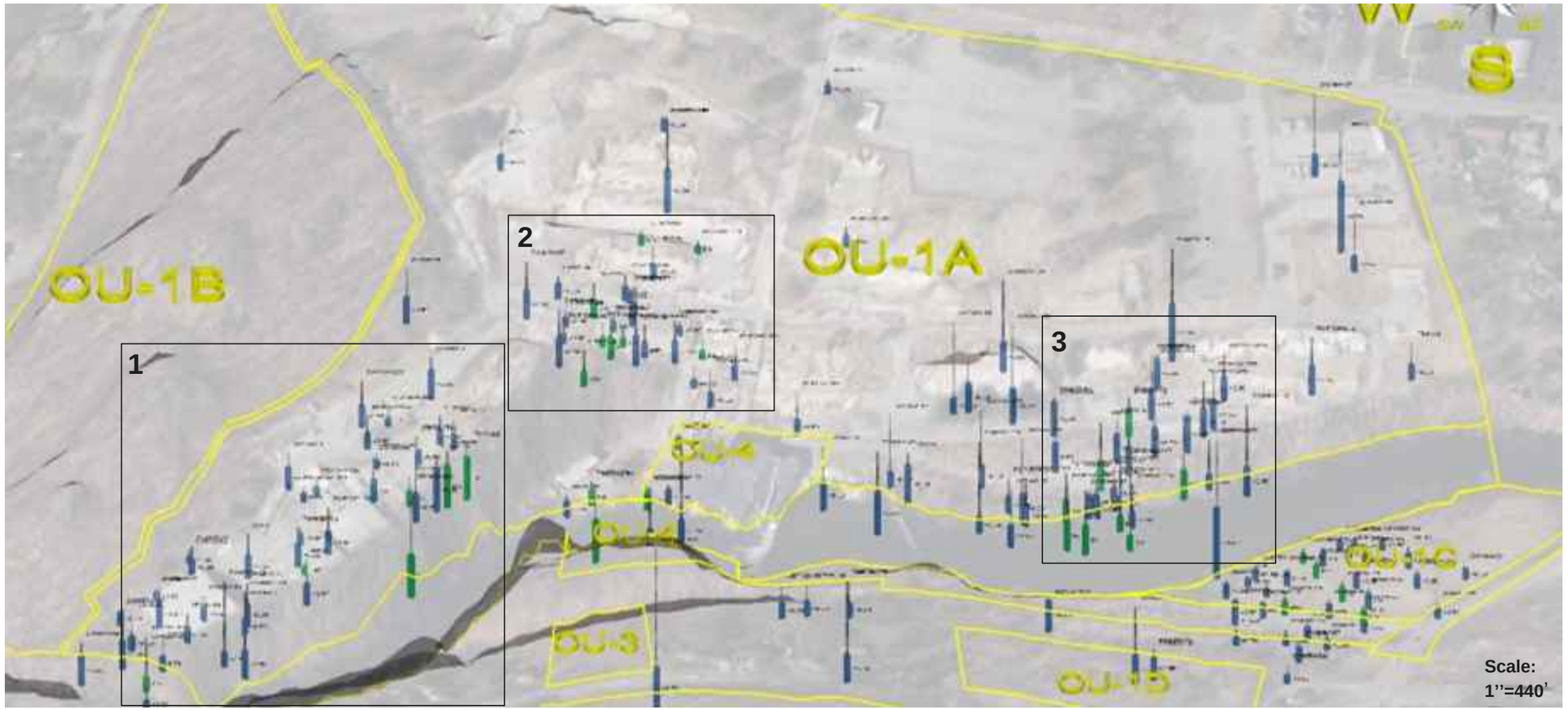

Legend:

Operable Unit (OU) Boundaries

Benzene: ug/L

Above NY TOGS

Below NY TOGS

Notes:

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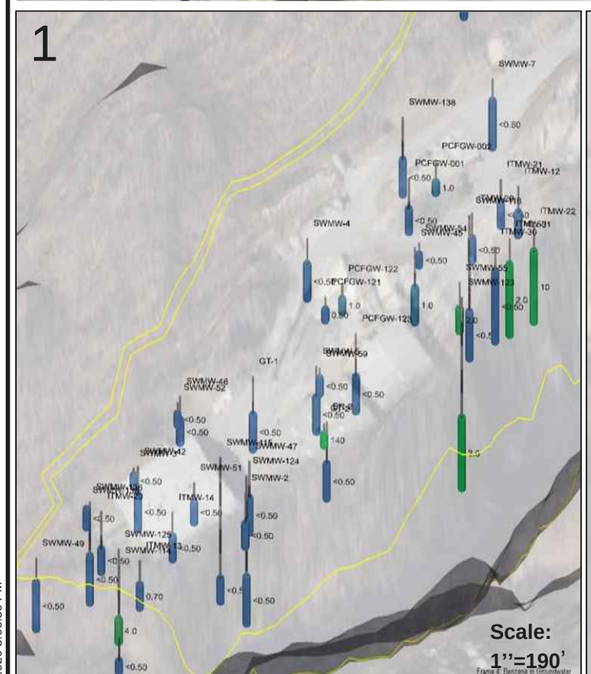

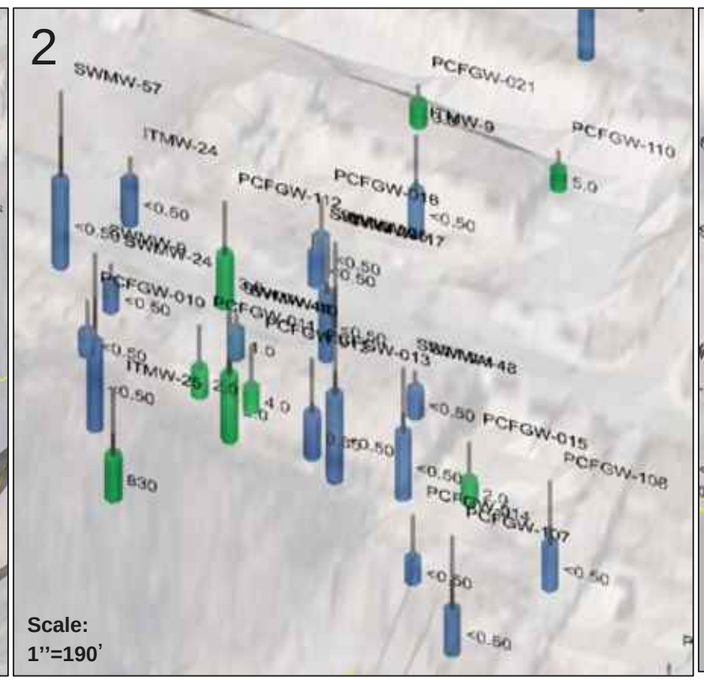

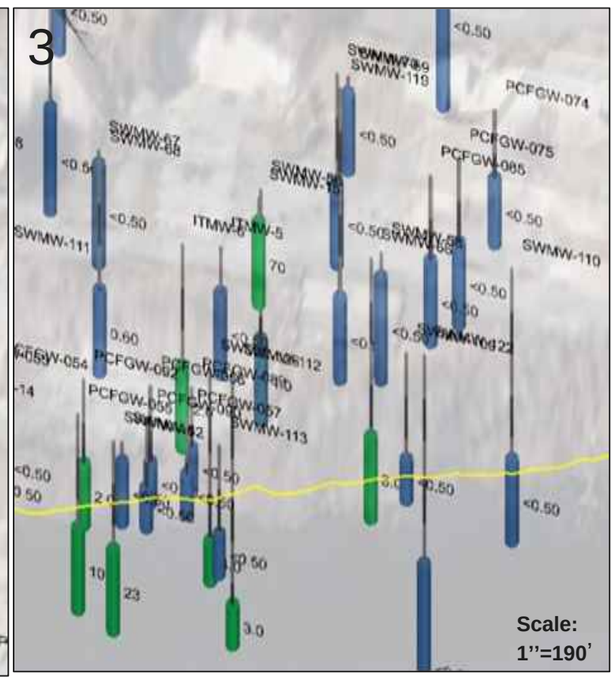

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REMEDIAL INVESTIGATION REPORT ADDENDUM 1

BENZENE GROUNDWATER SCREENING LEVEL EXCEEDANCES 2012-2013

ARCADIS Design & Consultancy for natural and built assets

FIGURE
2-19A

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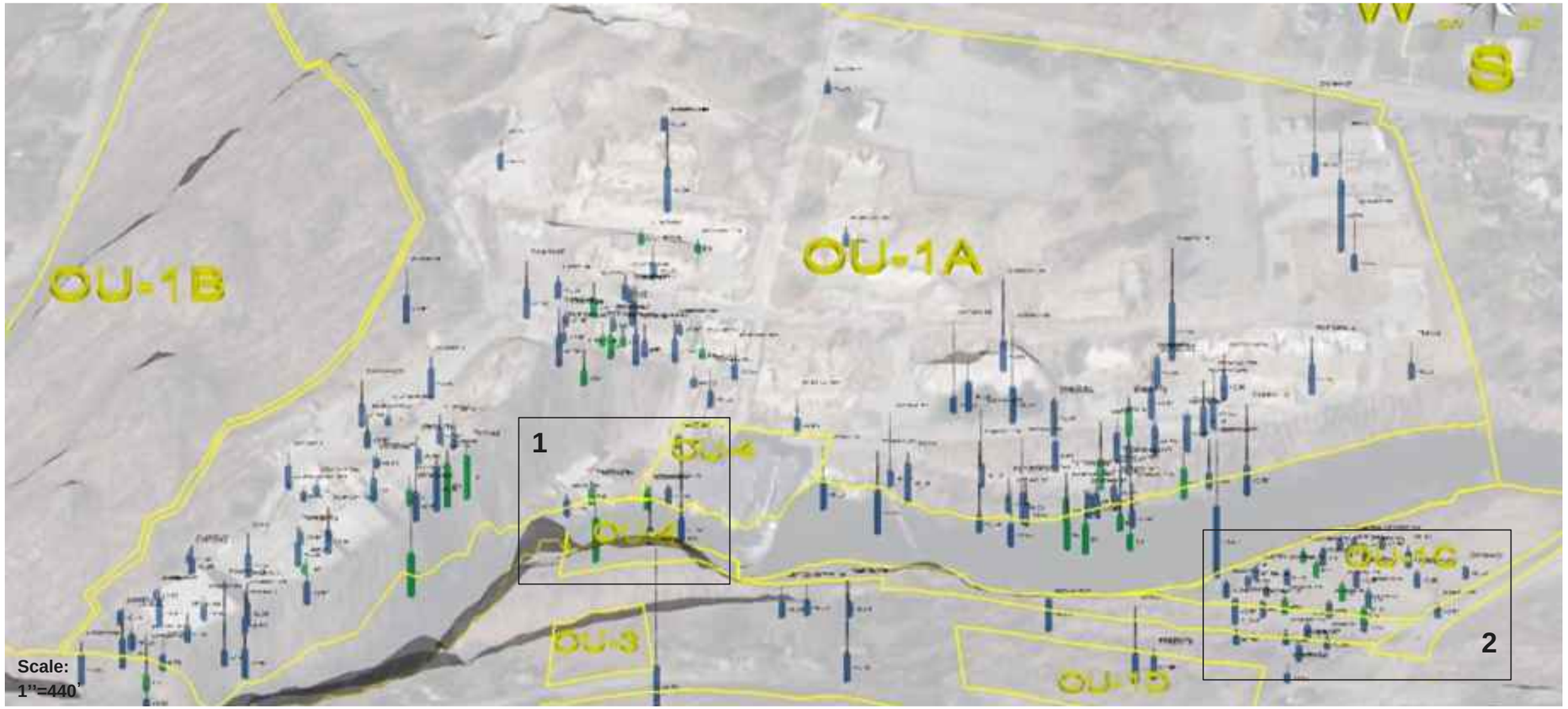

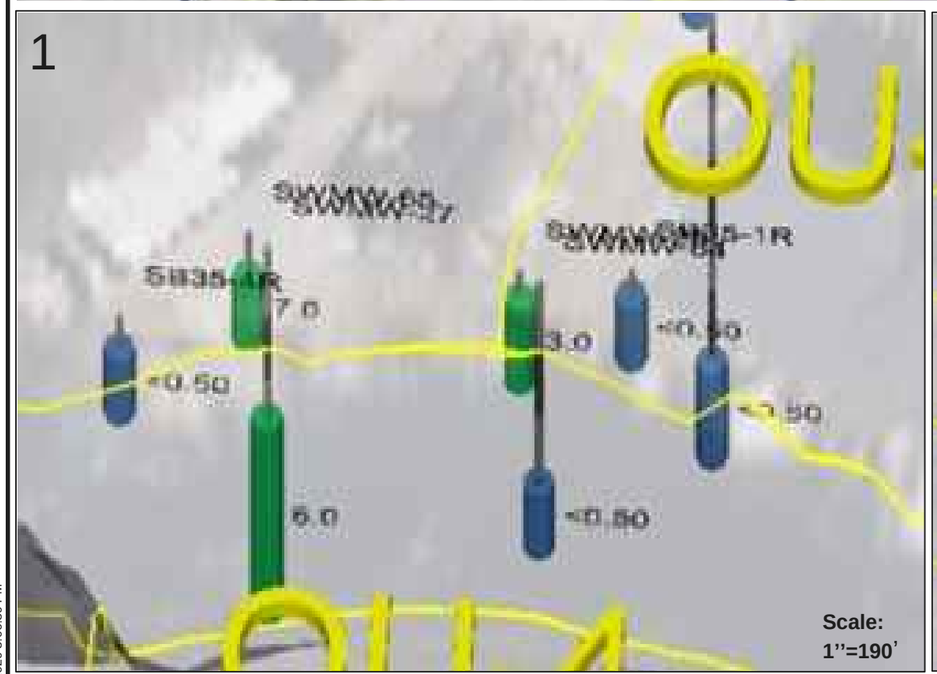

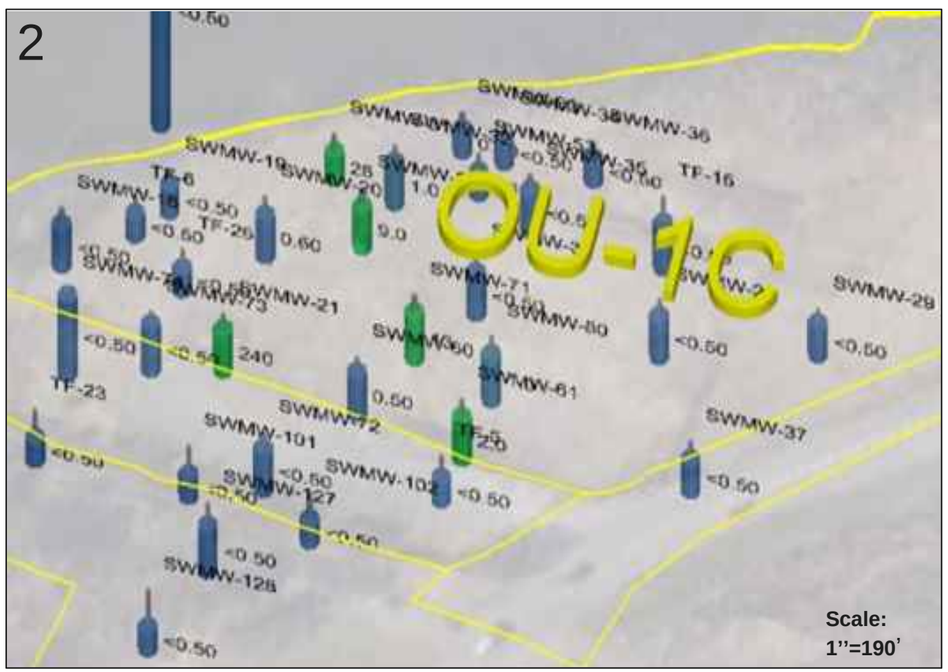

Legend:

Operable Unit (OU) Boundaries

Benzene: ug/L

Above NY TOGS

Below NY TOGS

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REMEDIAL INVESTIGATION REPORT ADDENDUM 1

BENZENE GROUNDWATER SCREENING LEVEL EXCEEDANCES 2012-2013

ARCADIS Design & Consultancy for natural and built assets

FIGURE
2-19B

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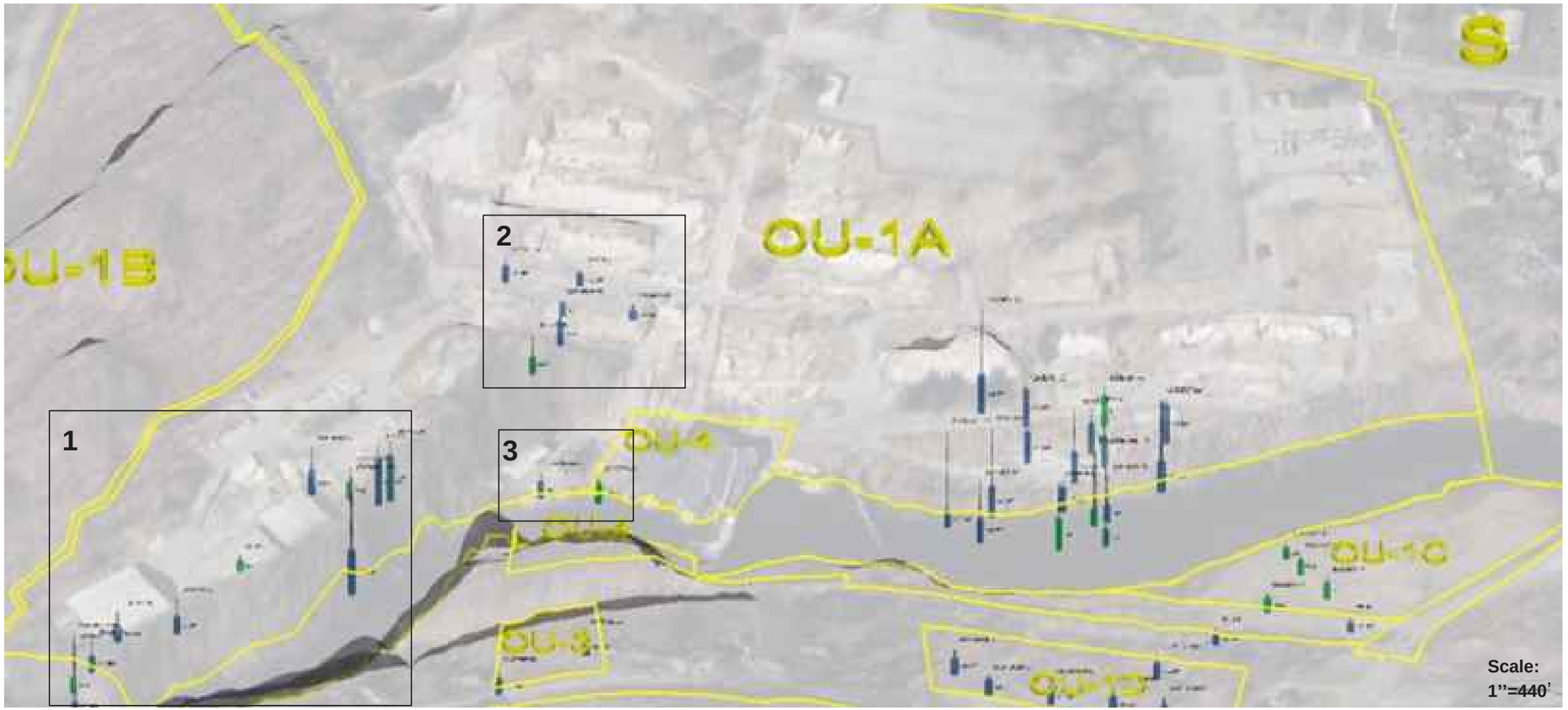

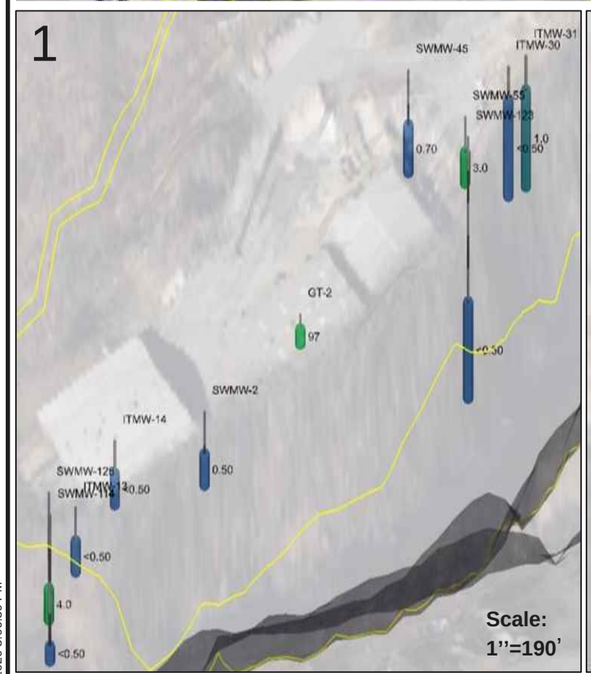

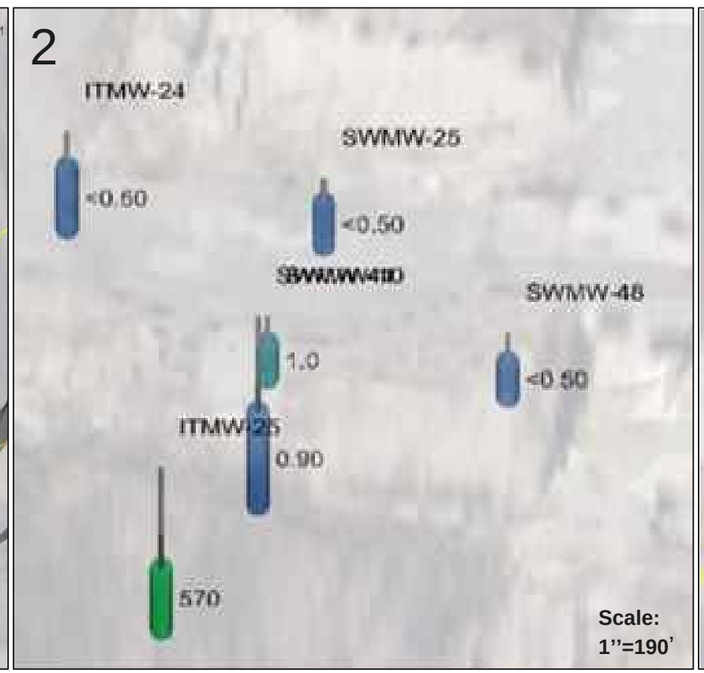

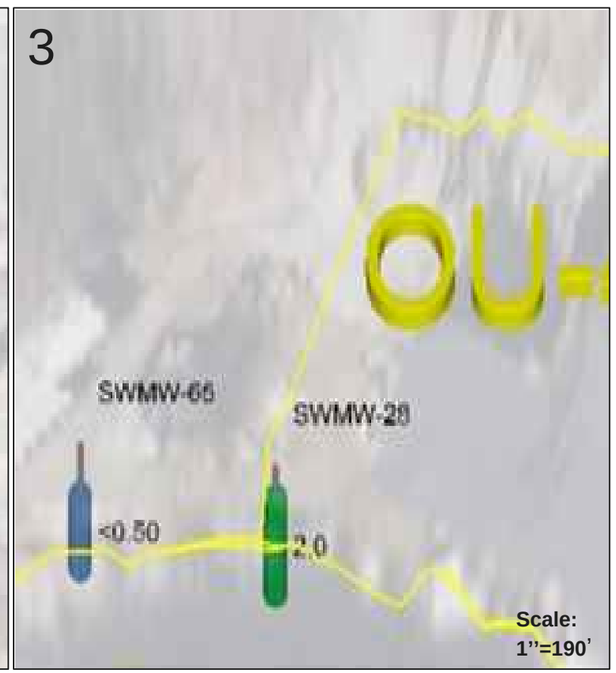

Legend:

Operable Unit (OU) Boundaries

Benzene: ug/L

- Above NY TOGS
- Below NY TOGS

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REMEDIAL INVESTIGATION REPORT ADDENDUM 1

BENZENE GROUNDWATER SCREENING LEVEL EXCEEDANCES 2016-2018

ARCADIS Design & Consultancy for natural and built assets

FIGURE
2-19C

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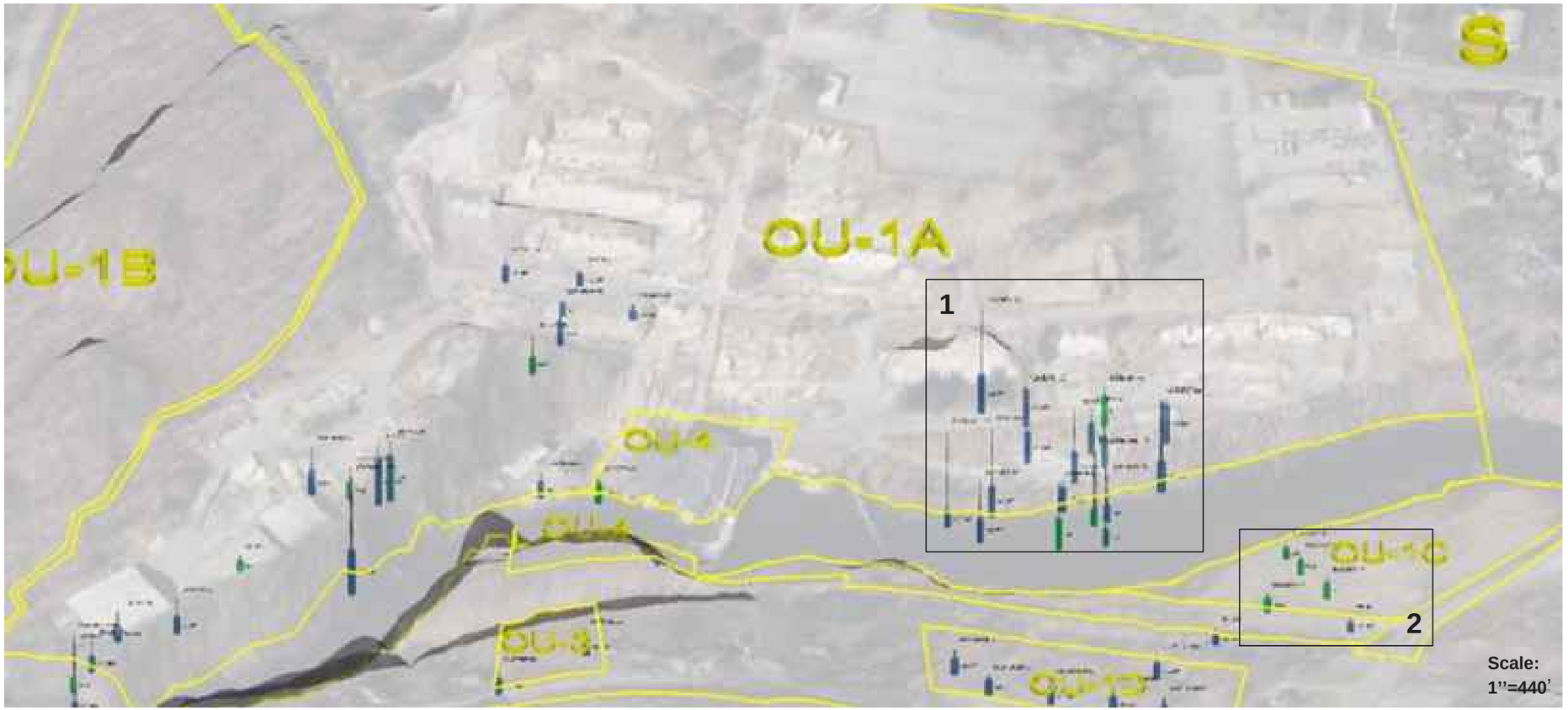

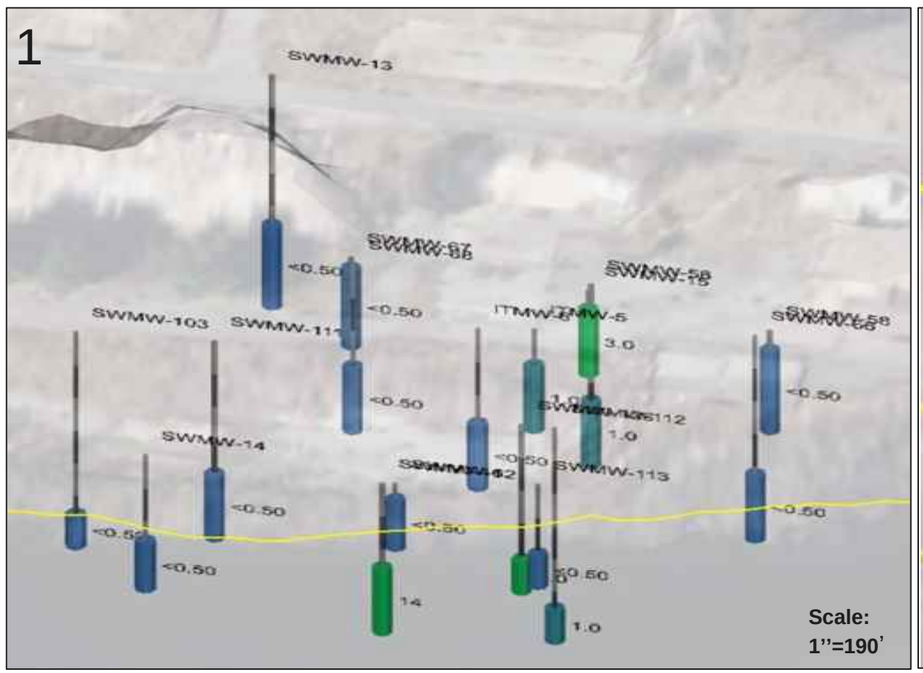

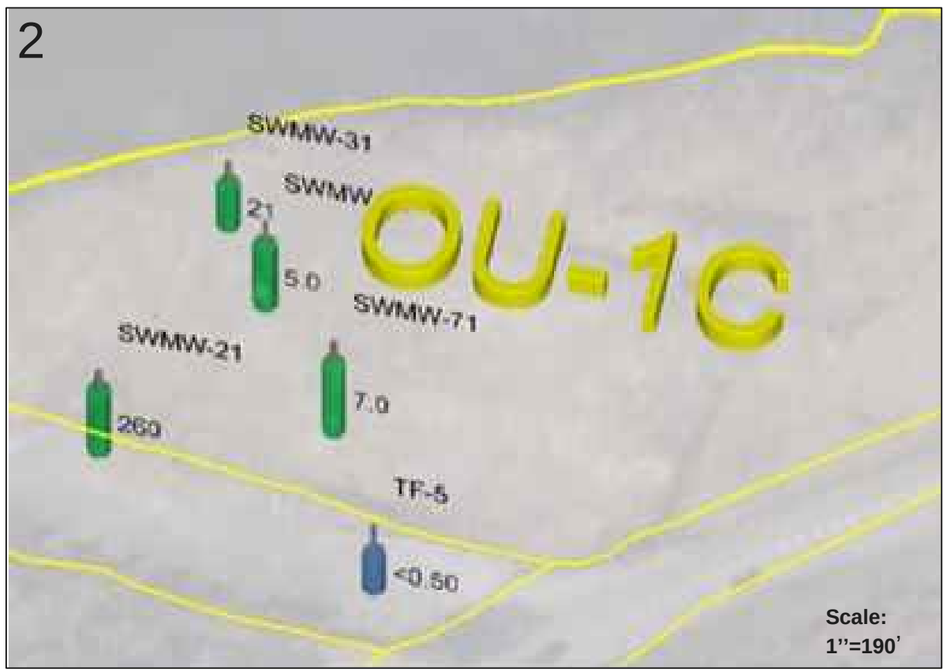

Legend:

Operable Unit (OU) Boundaries

Benzene: ug/L

- Above NY TOGS
- Below NY TOGS

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REMEDIAL INVESTIGATION REPORT ADDENDUM 1

BENZENE GROUNDWATER SCREENING LEVEL EXCEEDANCES 2016-2018

ARCADIS Design & Consultancy for natural and built assets

FIGURE
2-19D

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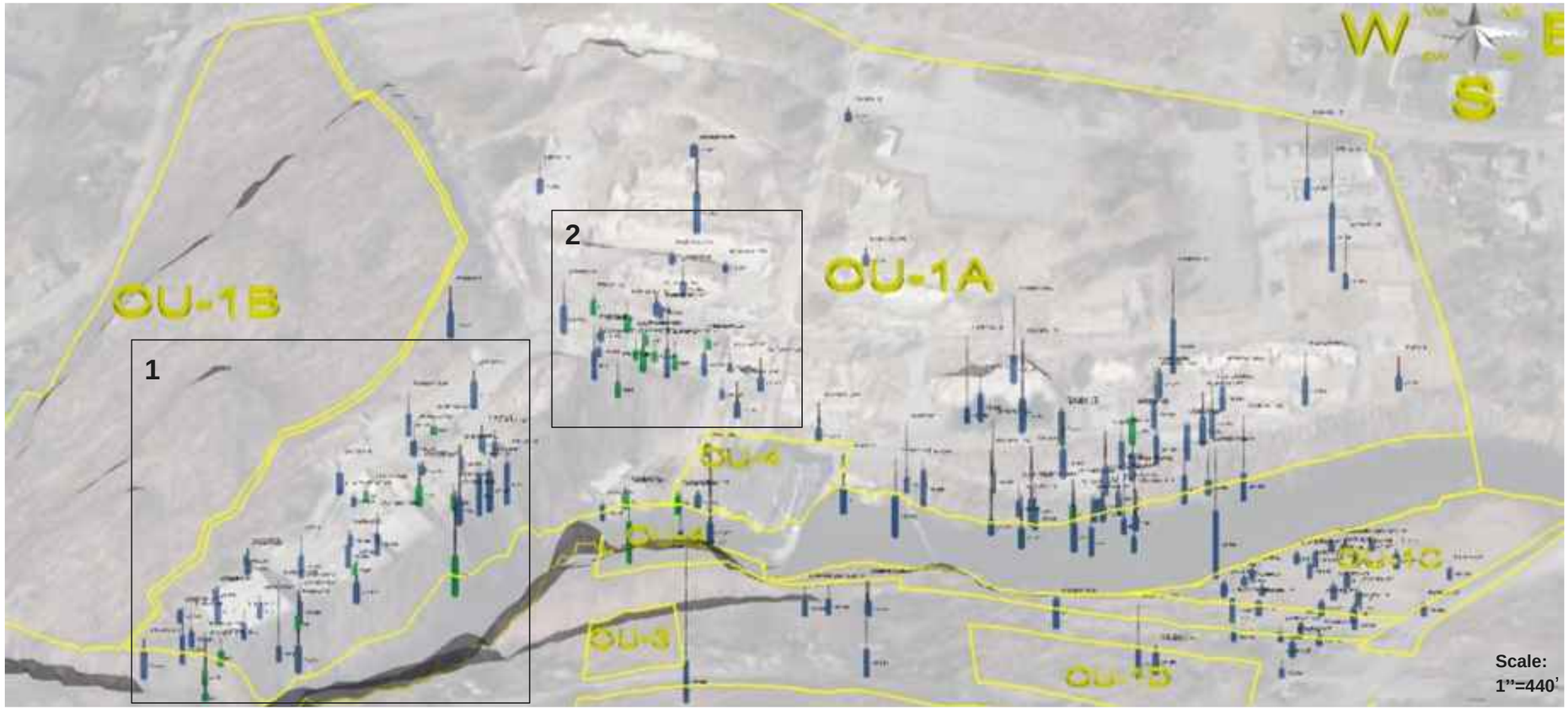

Legend:

Operable Unit (OU) Boundaries

Chlorobenzene: ug/L

Above NY TOGS

Below NY TOGS

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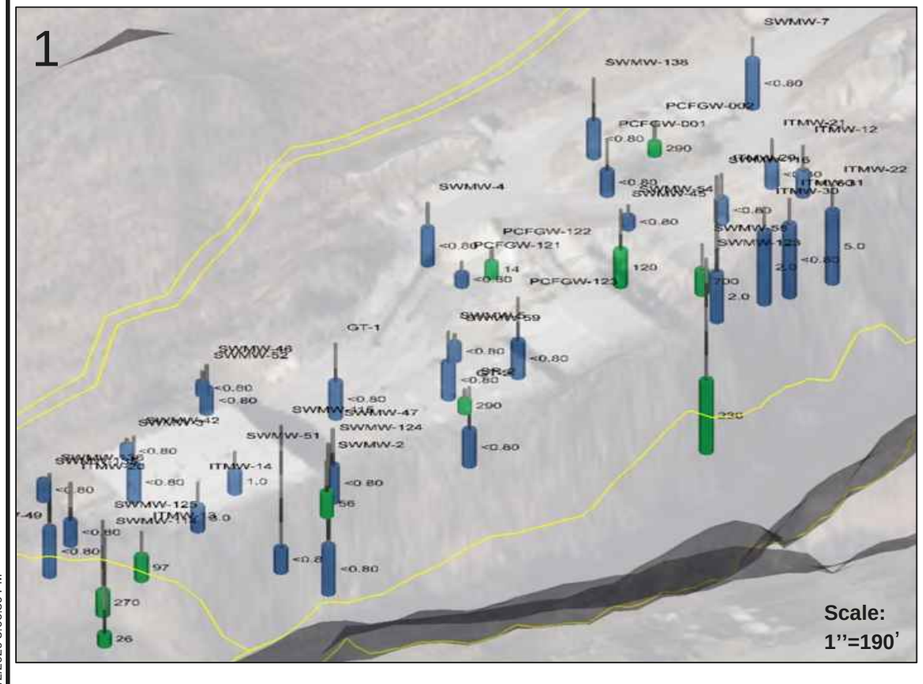

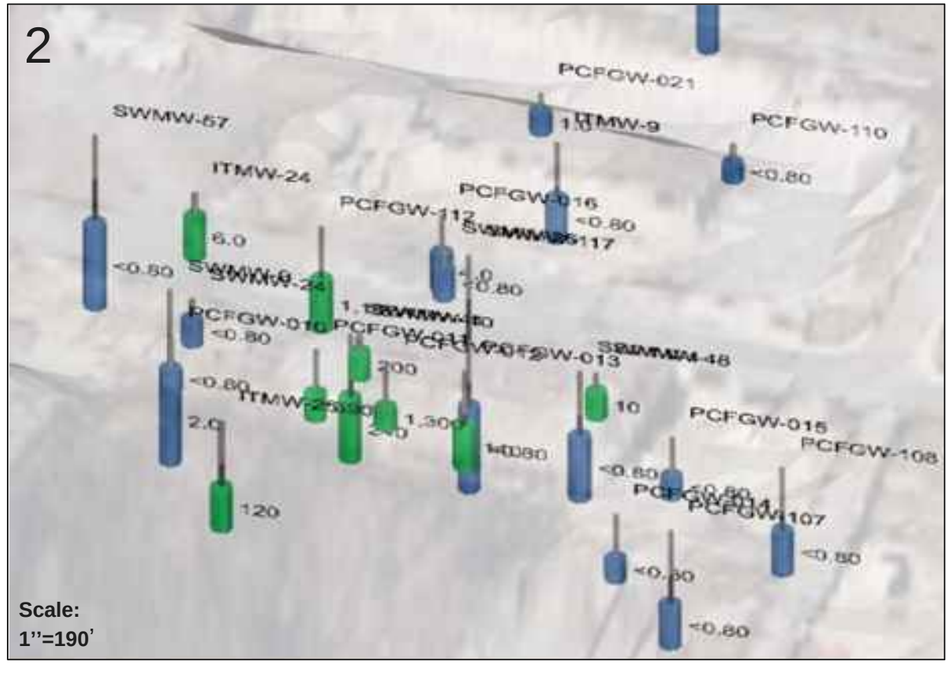

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REMEDIAL INVESTIGATION REPORT ADDENDUM 1

CHLOROBENZENE GROUNDWATER SCREENING LEVEL EXCEEDANCES 2012-2013

ARCADIS Design & Consultancy for natural and built assets

FIGURE
2-20A

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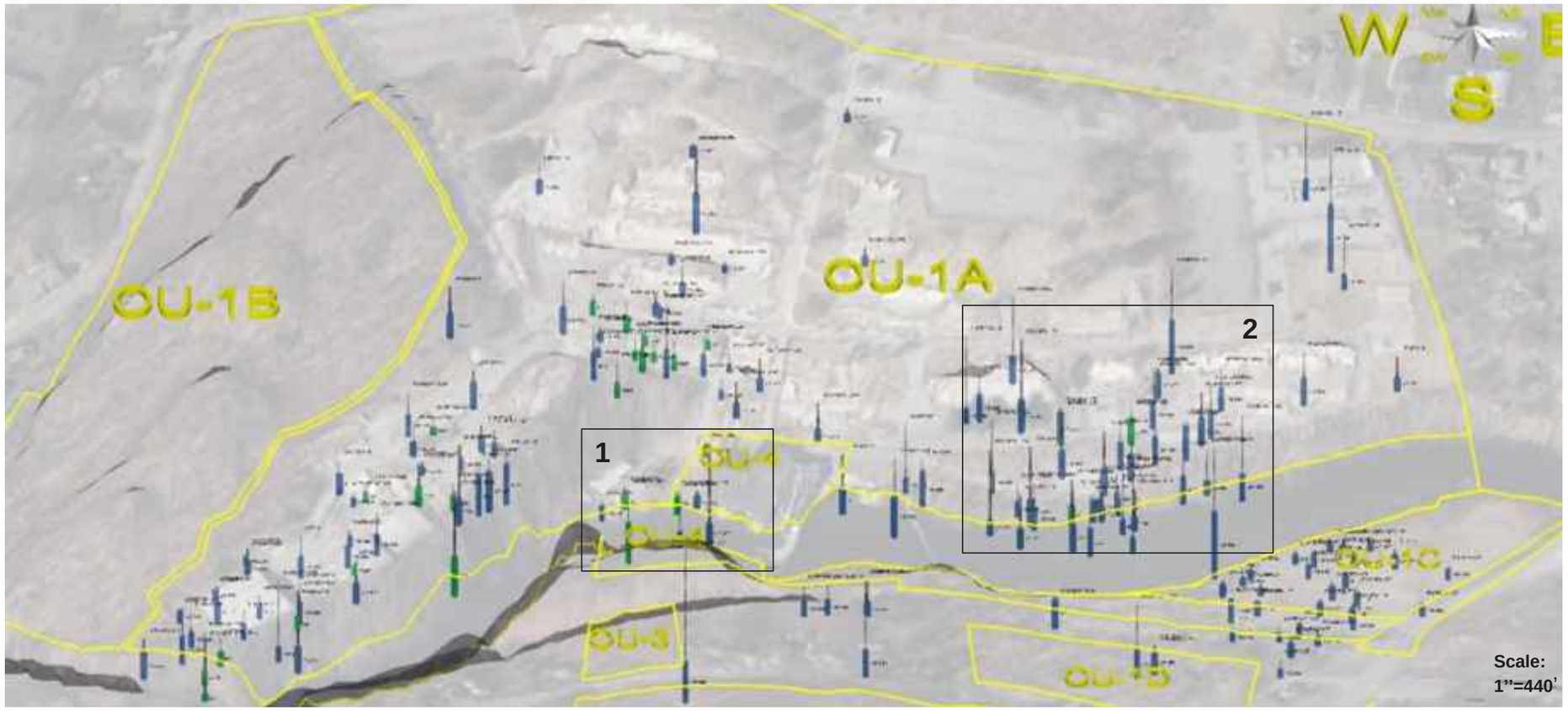

Legend:

Operable Unit (OU) Boundaries

Chlorobenzene: ug/L

Above NY TOGS

Below NY TOGS

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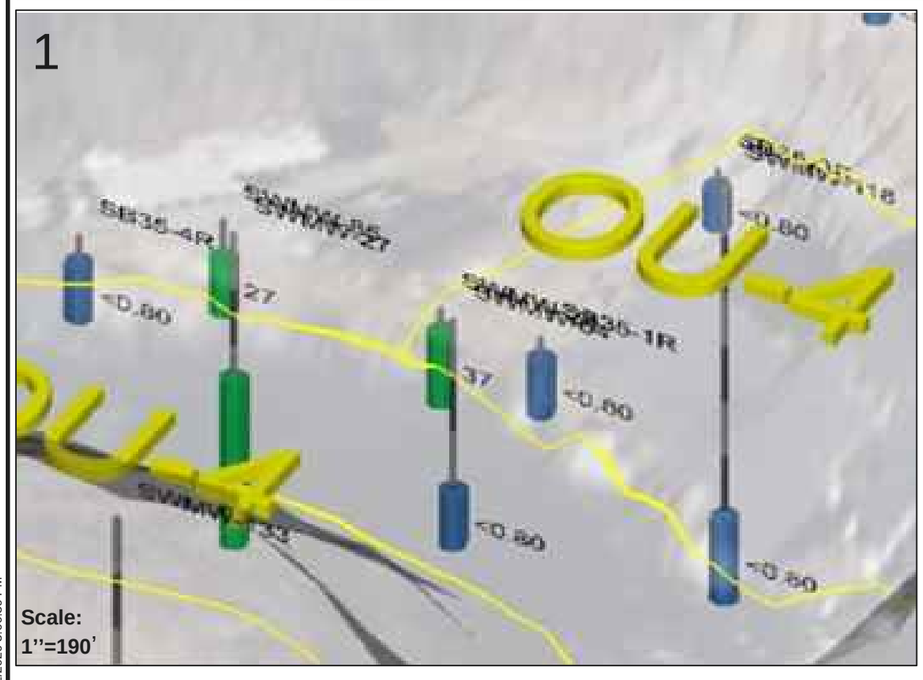

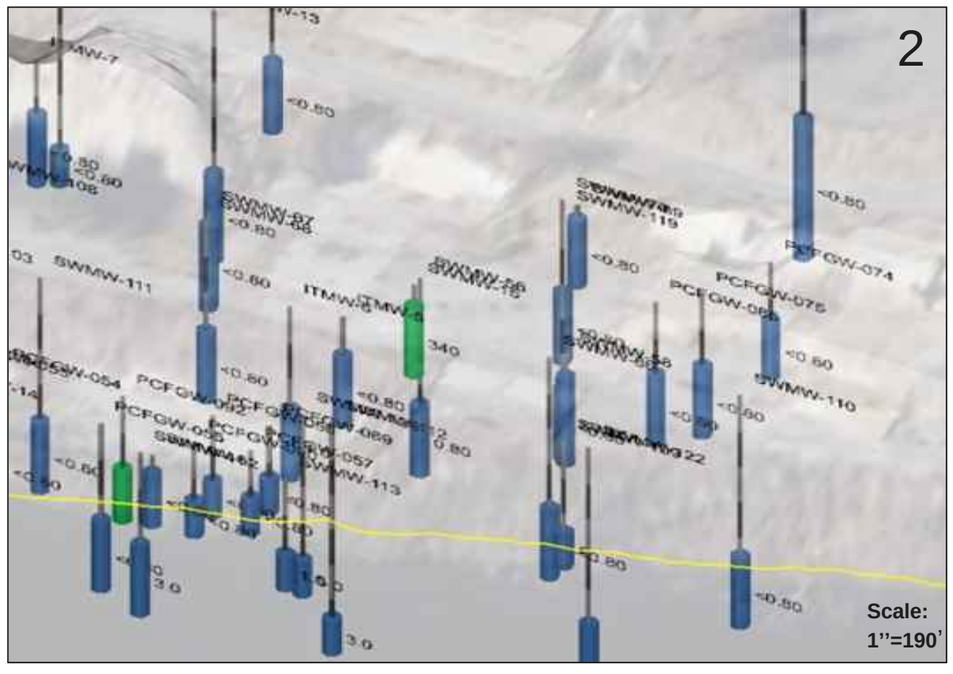

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CHLOROBENZENE GROUNDWATER SCREENING LEVEL EXCEEDANCES 2012-2013

ARCADIS Design & Consultancy for natural and built assets

FIGURE
2-20B

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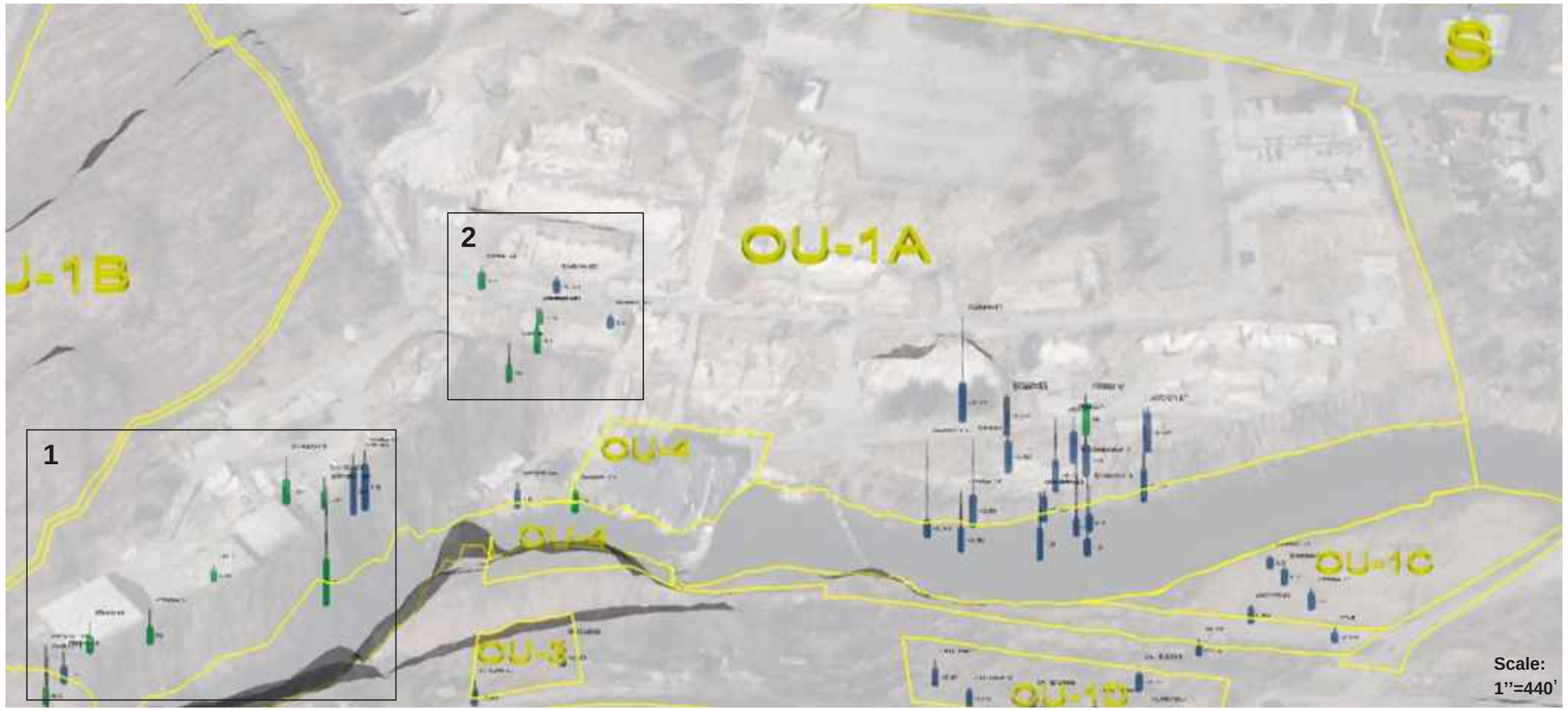

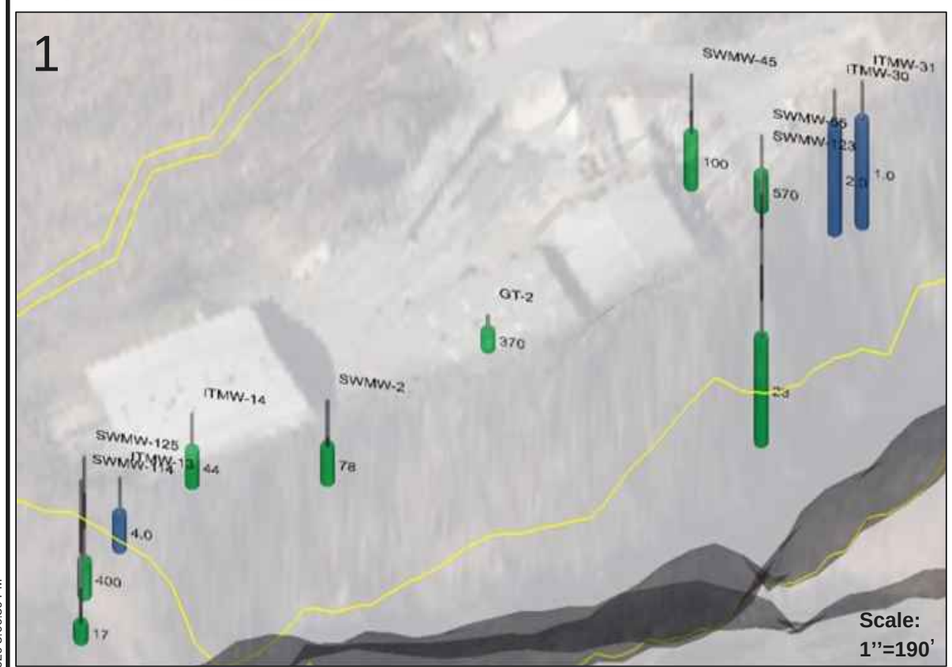

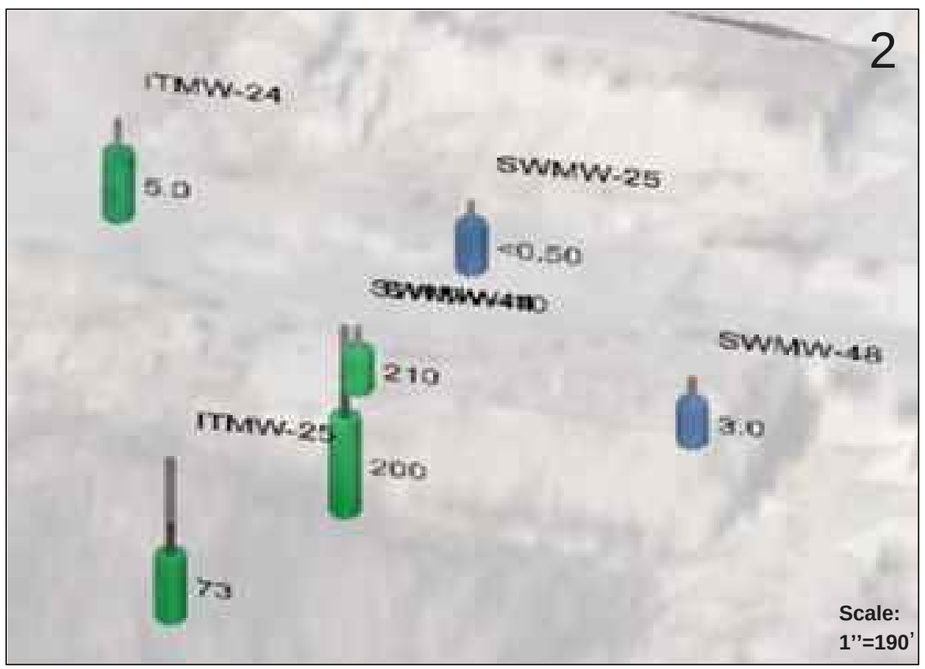

Legend:

Operable Unit (OU) Boundaries

Chlorobenzene: ug/L

- Above NY TOGS
- Below NY TOGS

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FIGURE
2-20C

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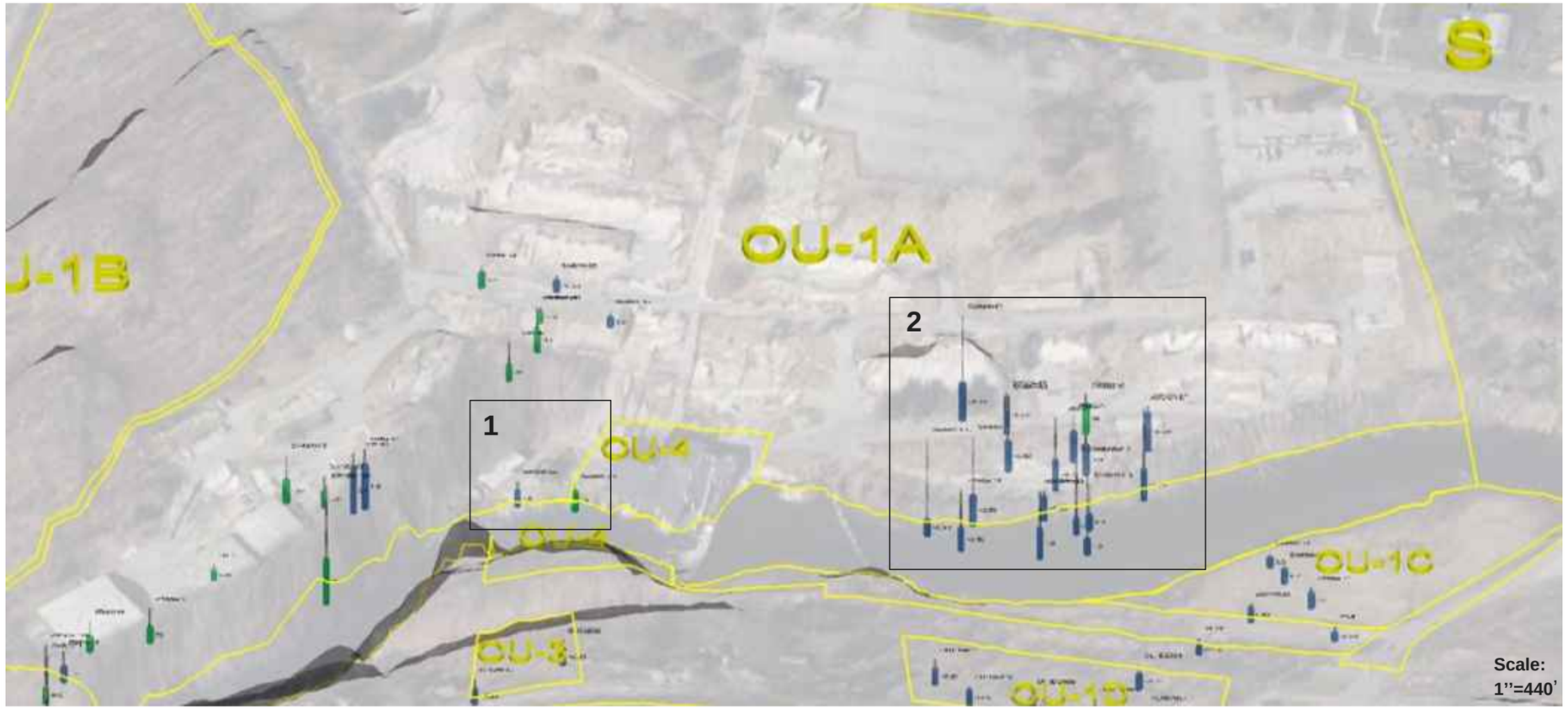

Legend:

Operable Unit (OU) Boundaries

Chlorobenzene: ug/L

- Above NY TOGS
- Below NY TOGS

Notes:

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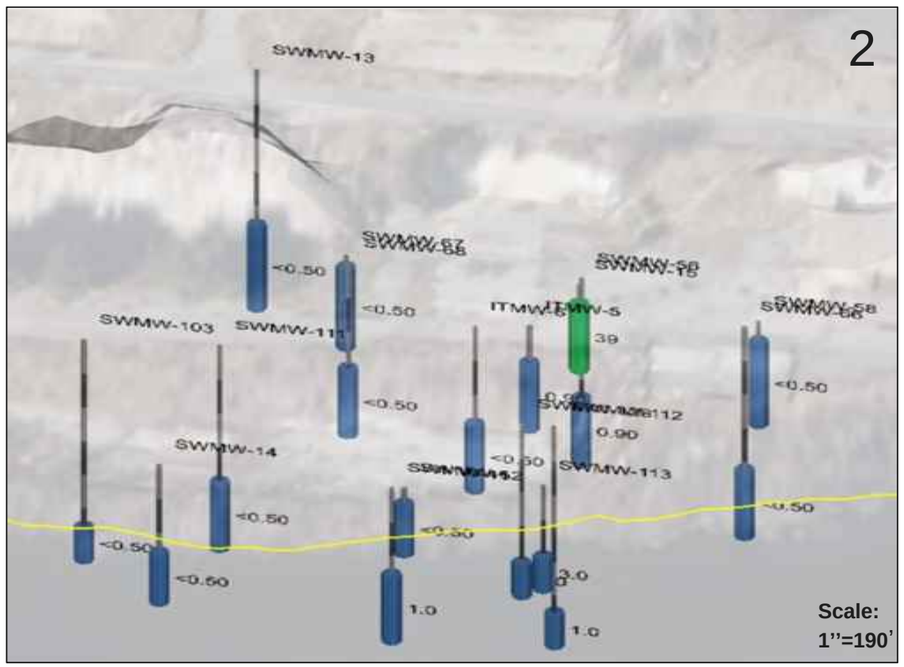
8. NY TOGS: New York Technical and Operational Guidance Series



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CHLOROBENZENE GROUNDWATER SCREENING LEVEL EXCEEDANCES 2016-2018

ARCADIS Design & Consultancy for natural and built assets

FIGURE
2-20D

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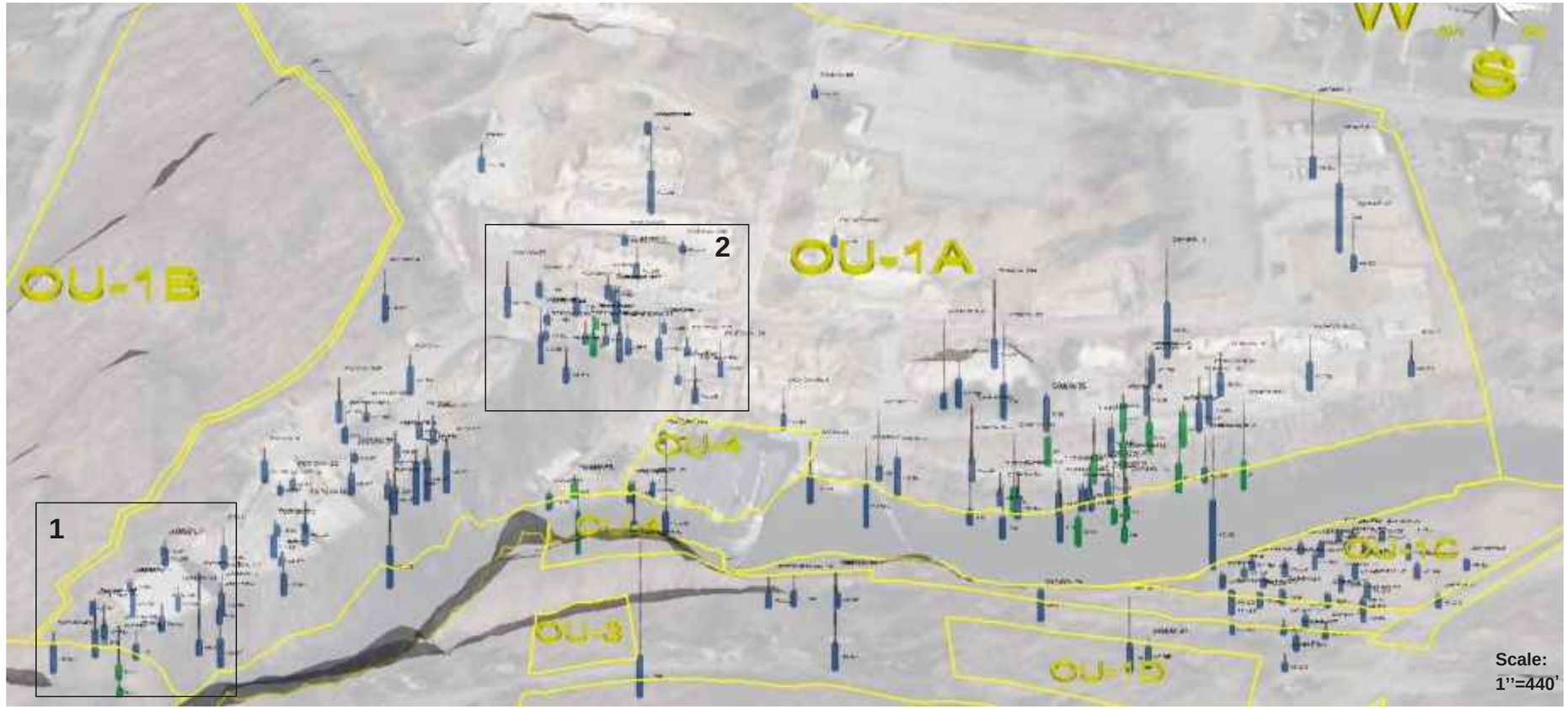

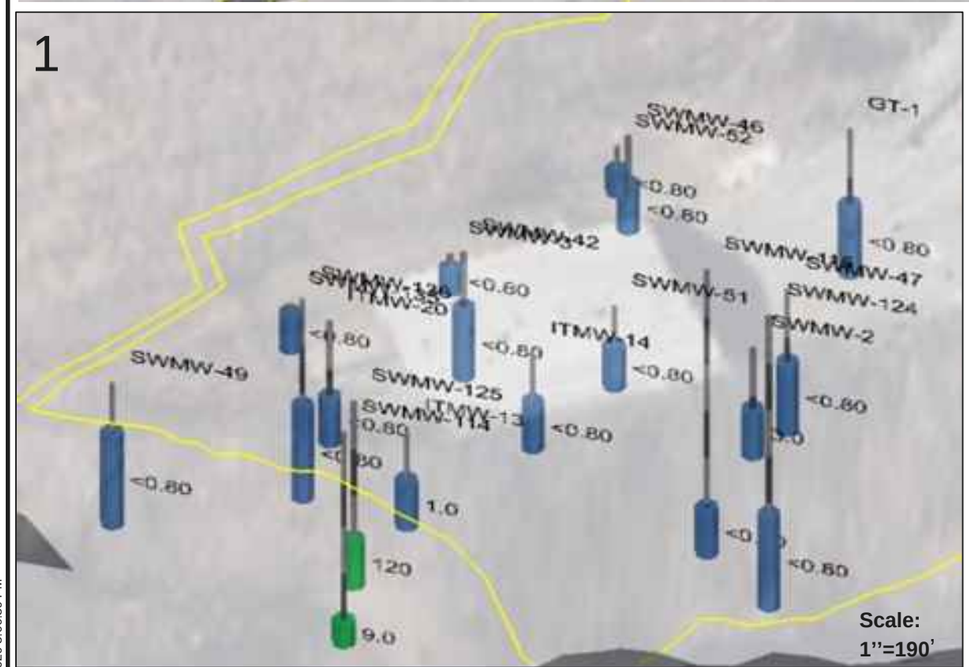

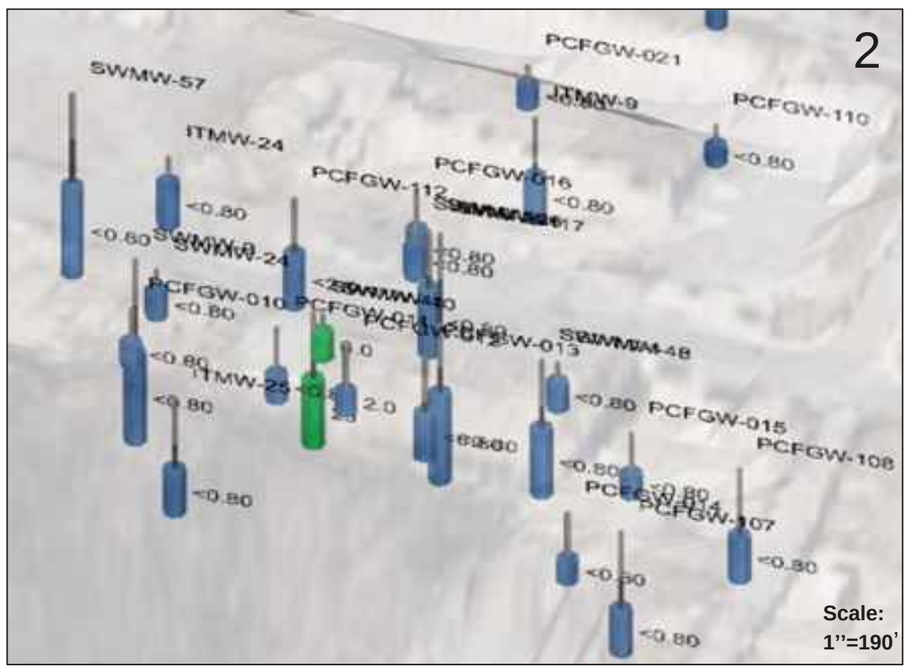

Legend:

Operable Unit (OU) Boundaries

cis-1,2-dichloroethene: ug/L

Above NY TOGS

Below NY TOGS

Notes:

1. Results colored by least restrictive screening level exceeded
2. Scales are approximated.
    1. Key Map: 1 inch = 440 feet
    2. Focused areas: 1 inch = 190 feet
3. Ground surface digital elevation model (DEM) from United States Geological Service (USGS) accessed from Global Mapper
4. Aerial imagery from Environmental Systems Research Institute (ESRI) World Imagery (accessed April 2020)
5. Non-detect samples colored at their reporting limit (RL) and modeled at 1/10 of their RL.
6. µg/L: microgram per liter
7. OU: Operable Unit
8. NY TOGS: New York Technical and Operational Guidance Series

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REMEDIAL INVESTIGATION REPORT ADDENDUM 1

CIS-1,2-DCE GROUNDWATER SCREENING LEVEL EXCEEDANCES 2012-2013

ARCADIS Design & Consultancy for natural and built assets

FIGURE
2-21A

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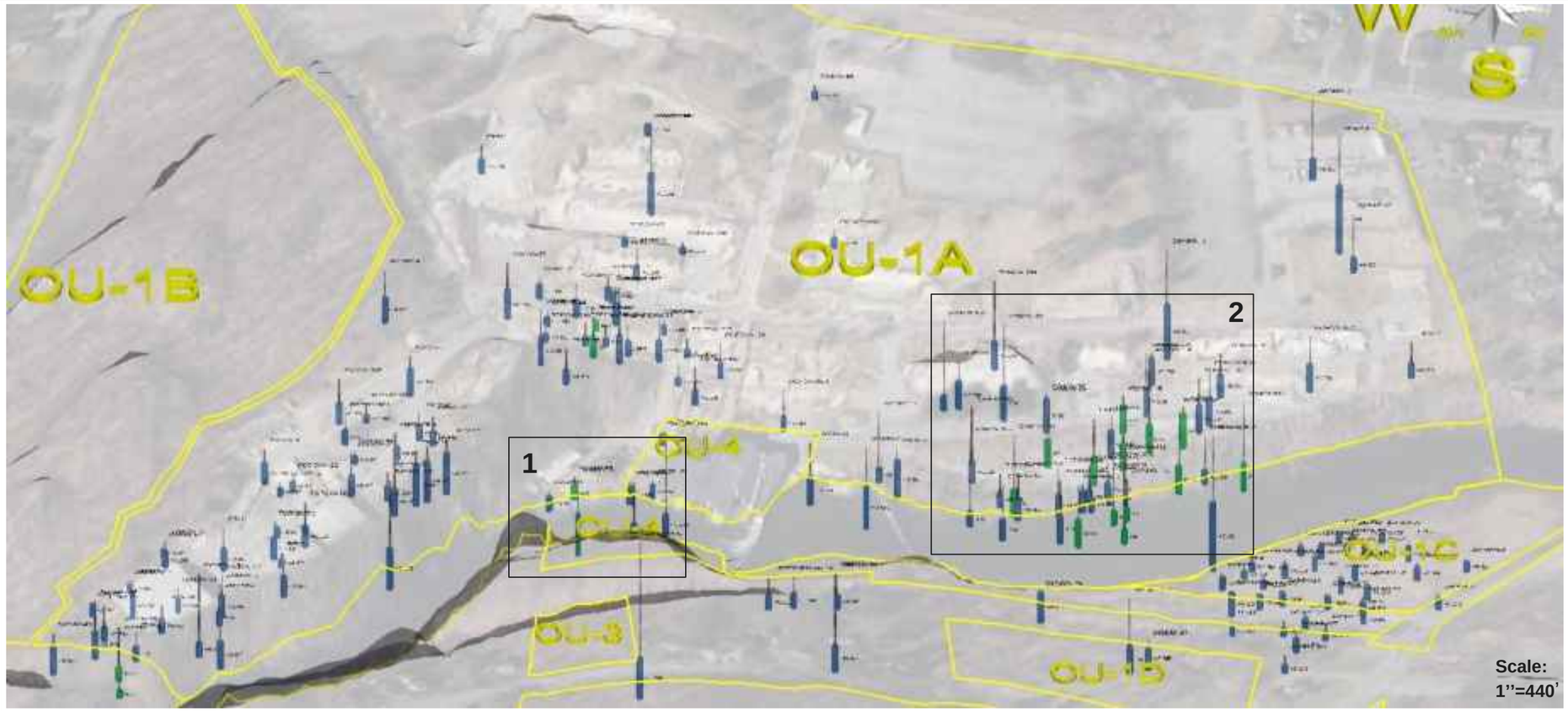

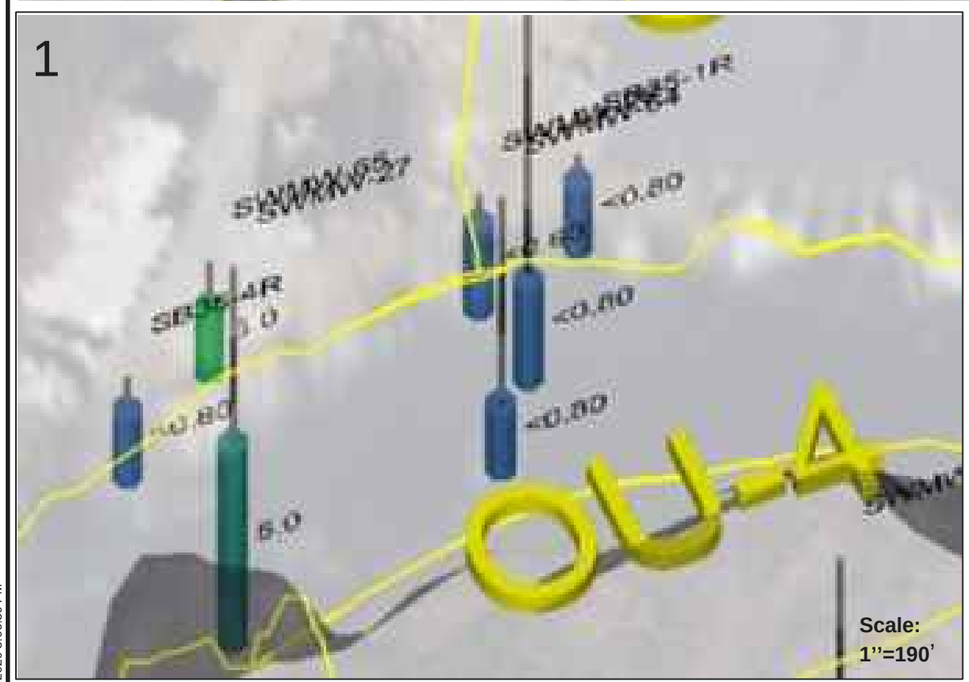

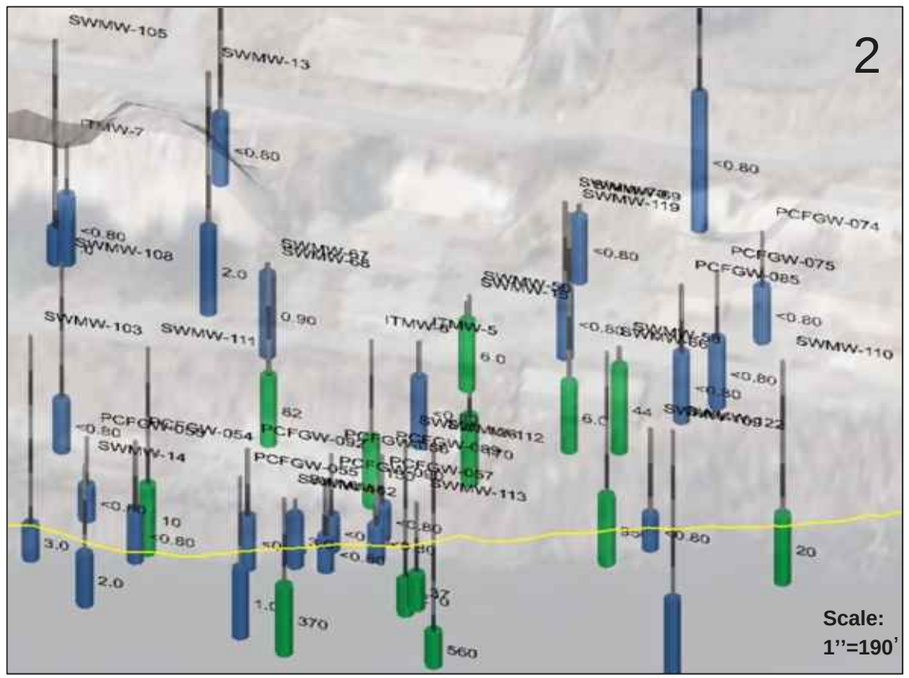

Legend:

Operable Unit (OU) Boundaries

cis-1,2-dichloroethene: ug/L

Above NY TOGS

Below NY TOGS

Notes:

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2. Scales are approximated.
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CIS-1,2-DCE GROUNDWATER SCREENING LEVEL EXCEEDANCES 2012-2013

ARCADIS Design & Consultancy for natural and built assets

FIGURE
2-21B

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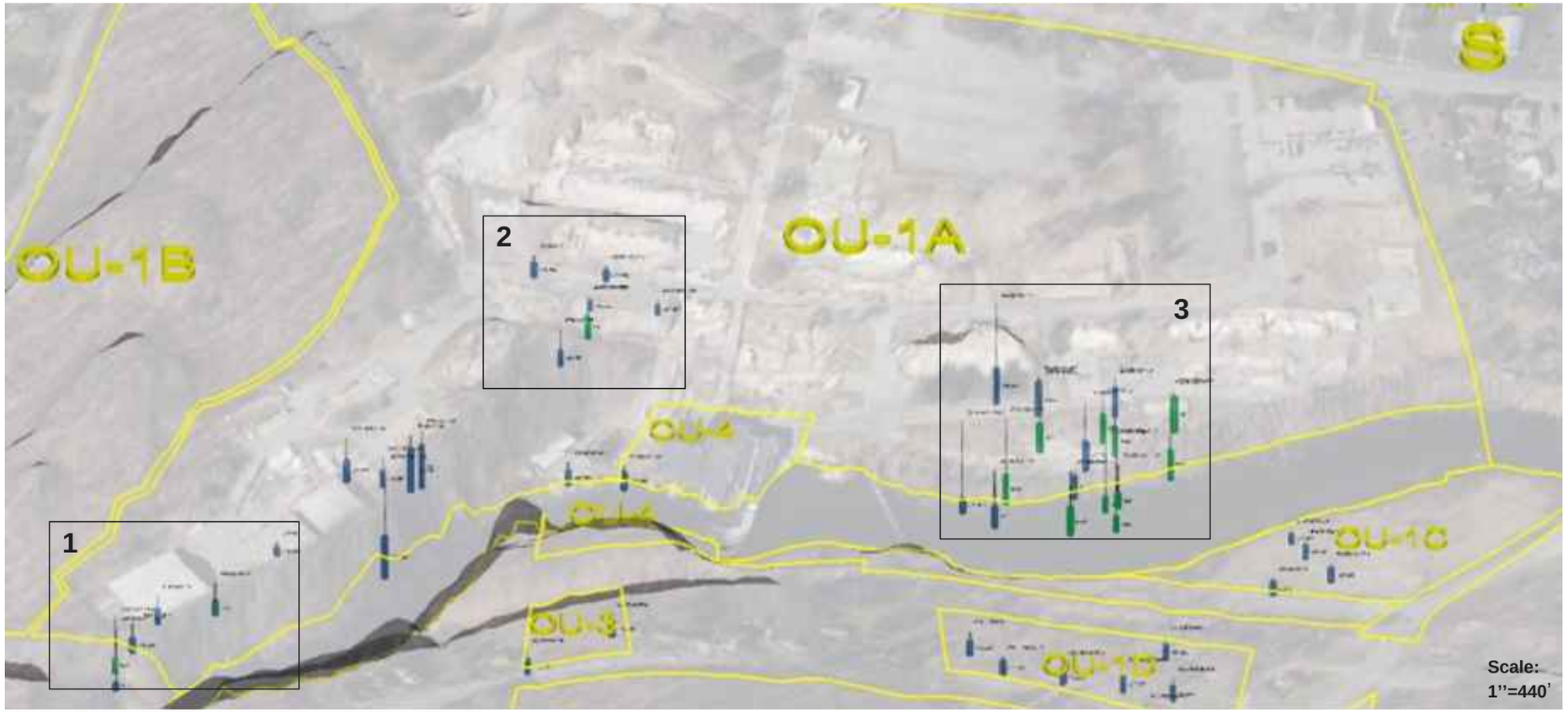

Legend:

Operable Unit (OU) Boundaries

cis-1,2-dichloroethene: ug/L

Above NY TOGS

Below NY TOGS

Notes:

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2. Scales are approximated.
    1. Key Map: 1 inch = 440 feet
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7. OU: Operable Unit
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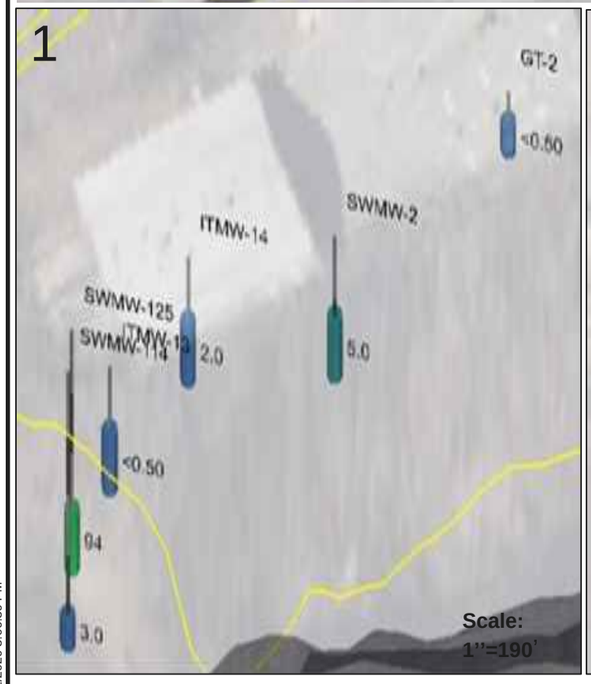

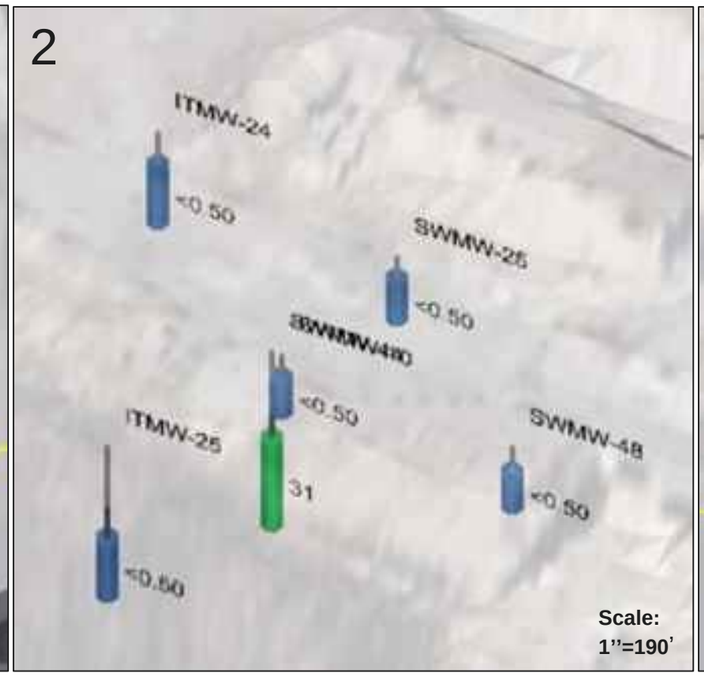

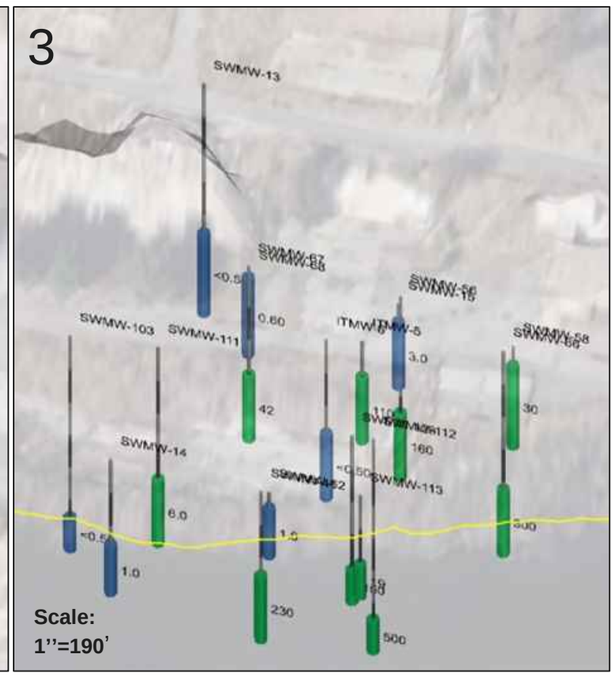

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CIS-1,2-DCE GROUNDWATER SCREENING LEVEL EXCEEDANCES 2016-2018

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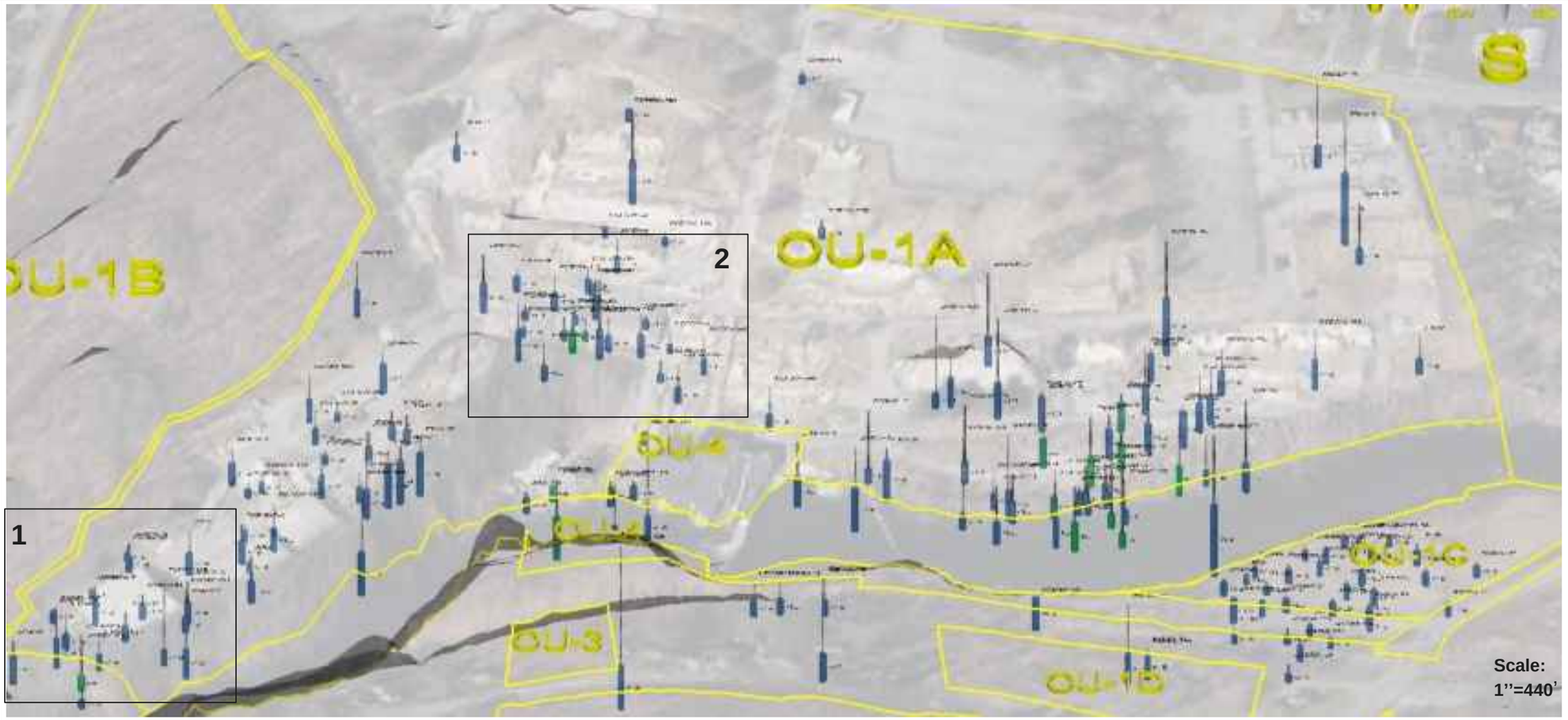
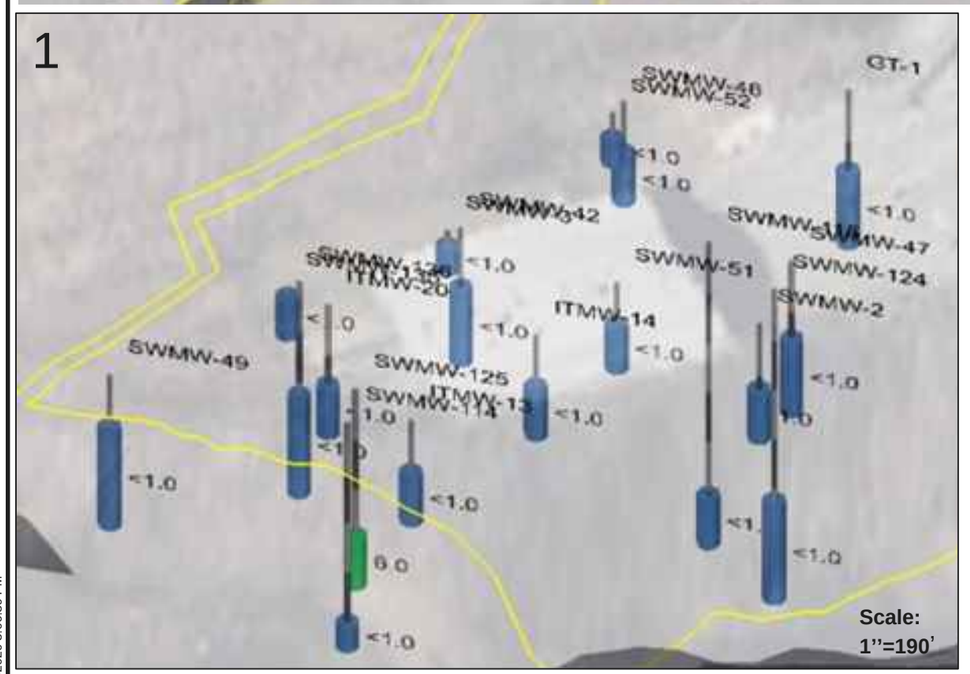
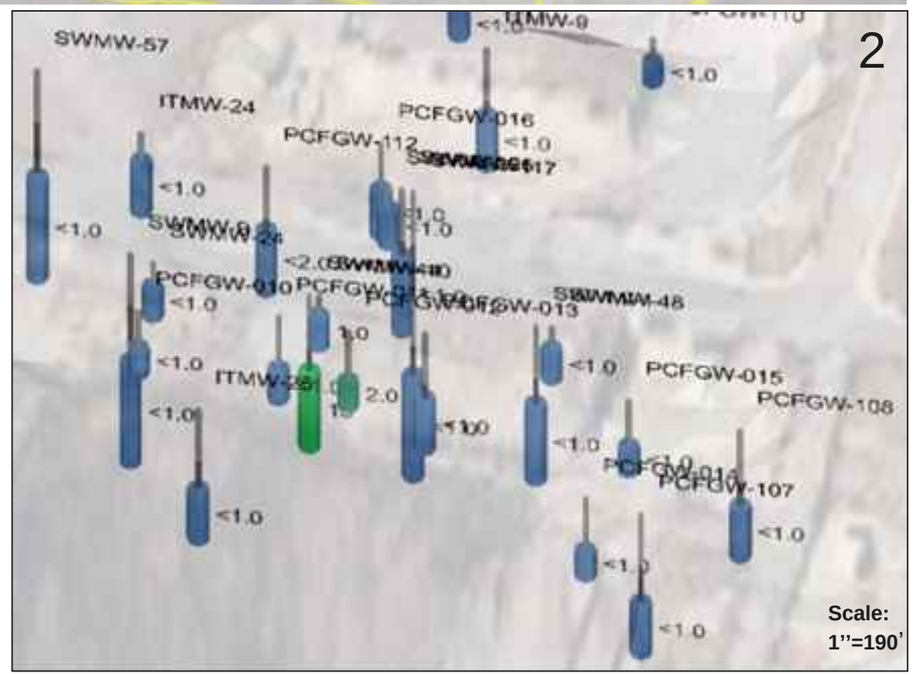
FIGURE
2-21C

11/2/2020 3:06:39 PM







Legend:

Operable Unit (OU) Boundaries

vinyl chloride: ug/L

Above NY TOGS

Below NY TOGS

Notes:

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VINYL CHLORIDE GROUNDWATER SCREENING LEVEL EXCEEDANCES 2012-2013

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FIGURE
2-22A

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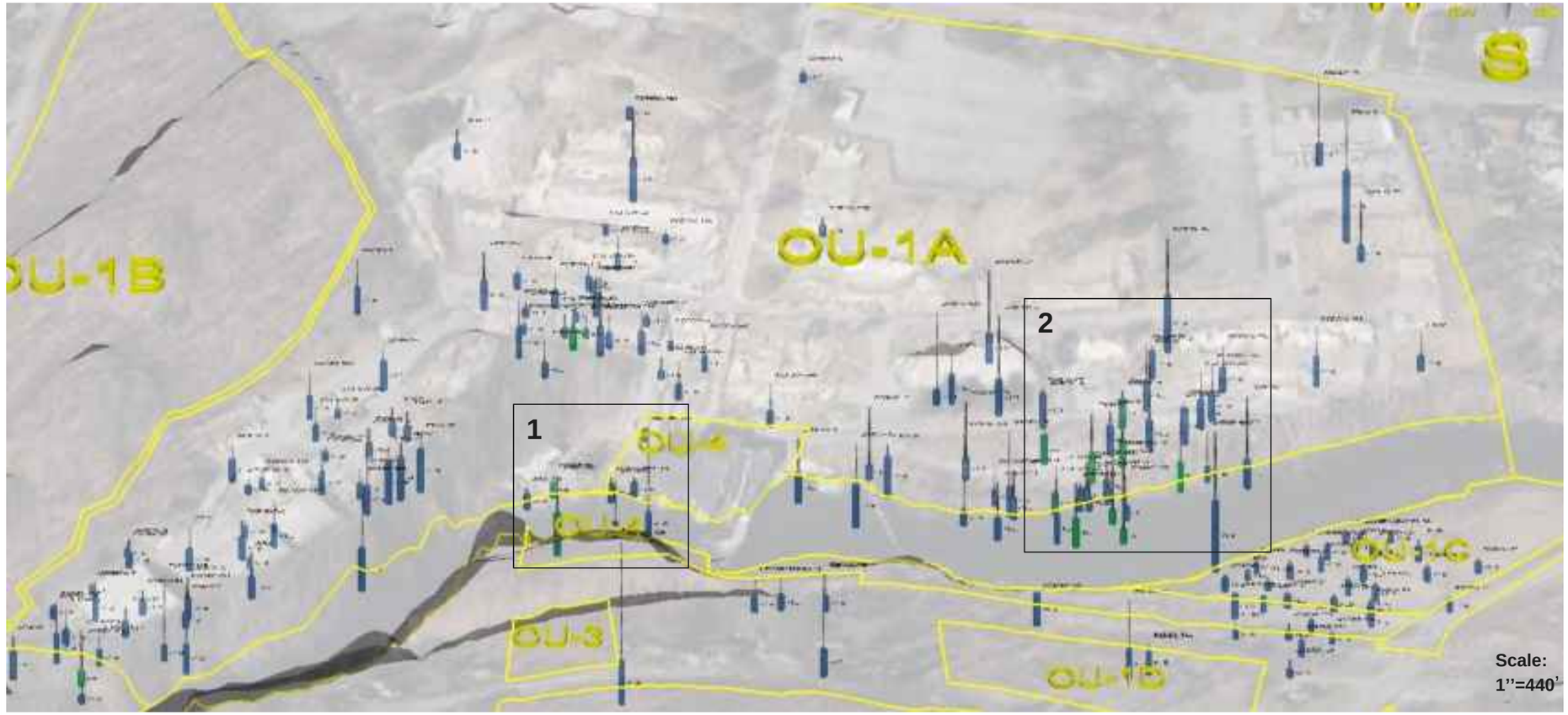

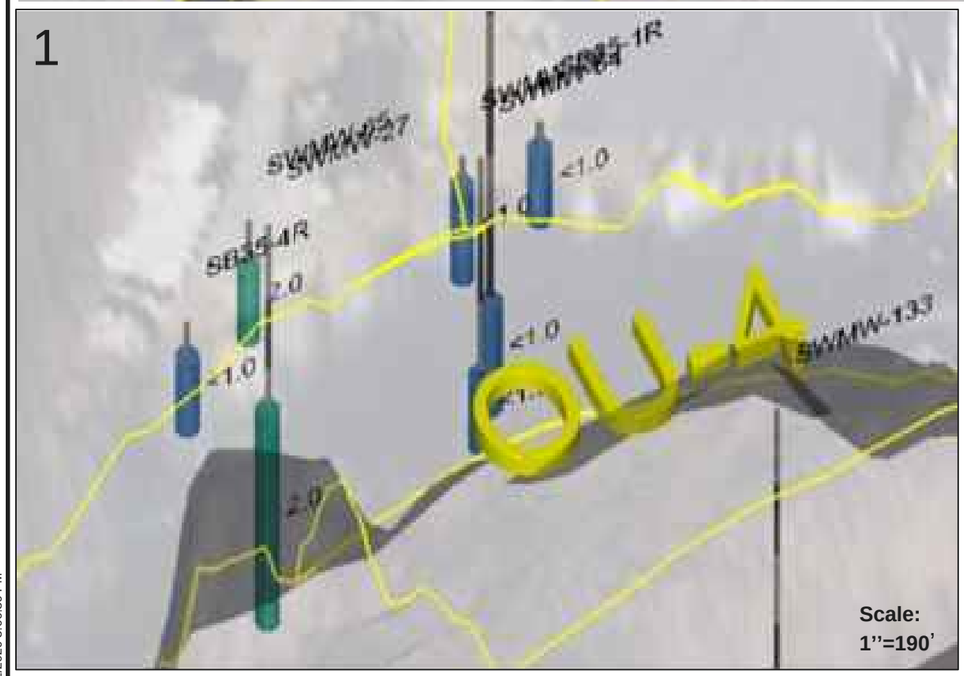

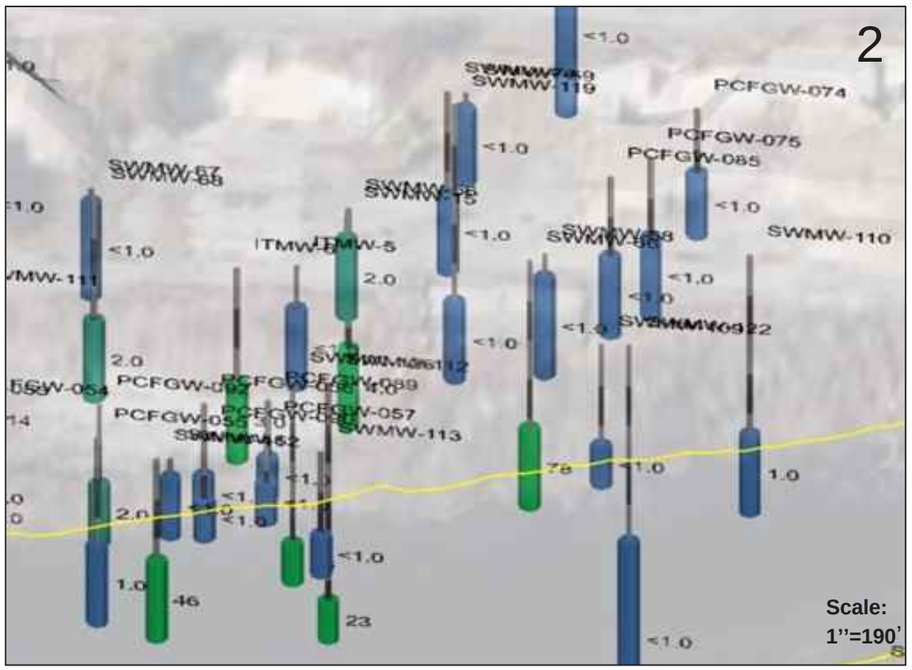

Legend:

Operable Unit (OU) Boundaries

vinyl chloride: ug/L

Above NY TOGS

Below NY TOGS

Notes:

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REMEDIAL INVESTIGATION REPORT ADDENDUM 1

VINYL CHLORIDE GROUNDWATER SCREENING LEVEL EXCEEDANCES 2012-2013

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FIGURE
2-22B

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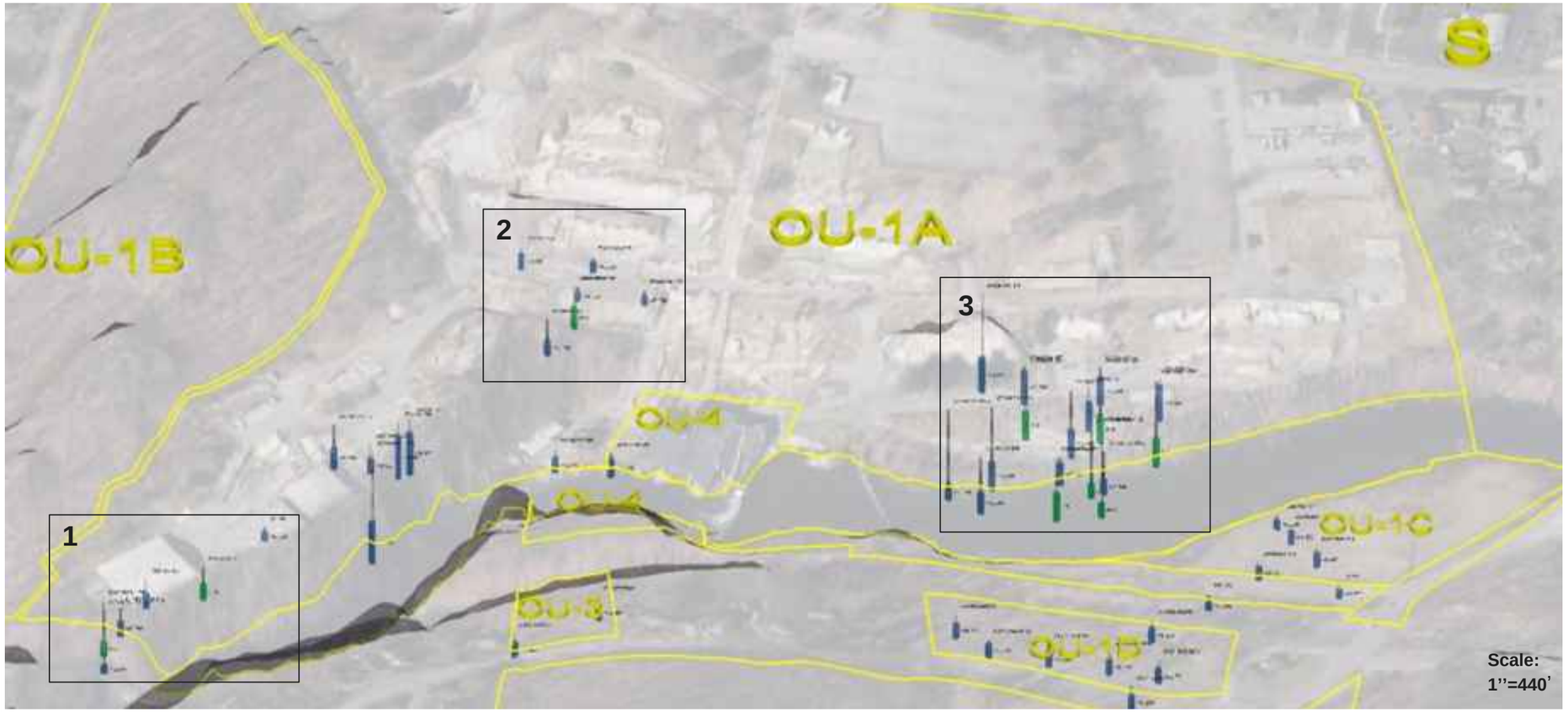

Legend:

Operable Unit (OU) Boundaries

vinyl chloride: ug/L

Above NY TOGS

Below NY TOGS

Notes:

1. Results colored by least restrictive screening level exceeded
2. Scales are approximated.
    1. Key Map: 1 inch = 440 feet
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7. OU: Operable Unit
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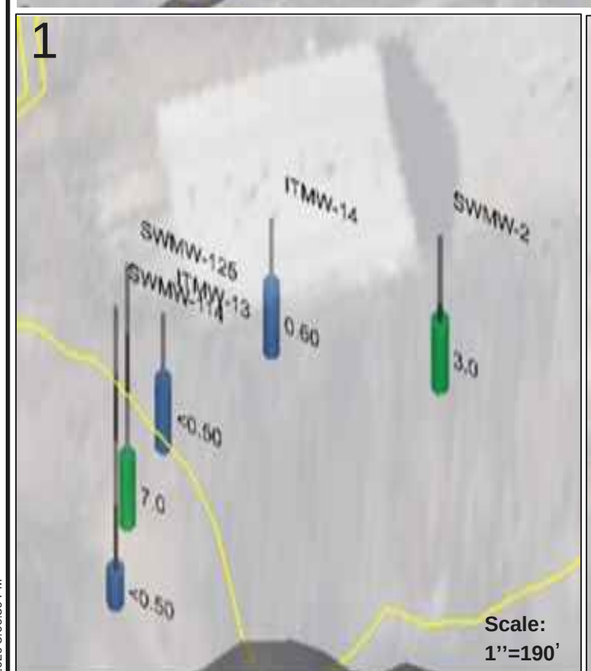

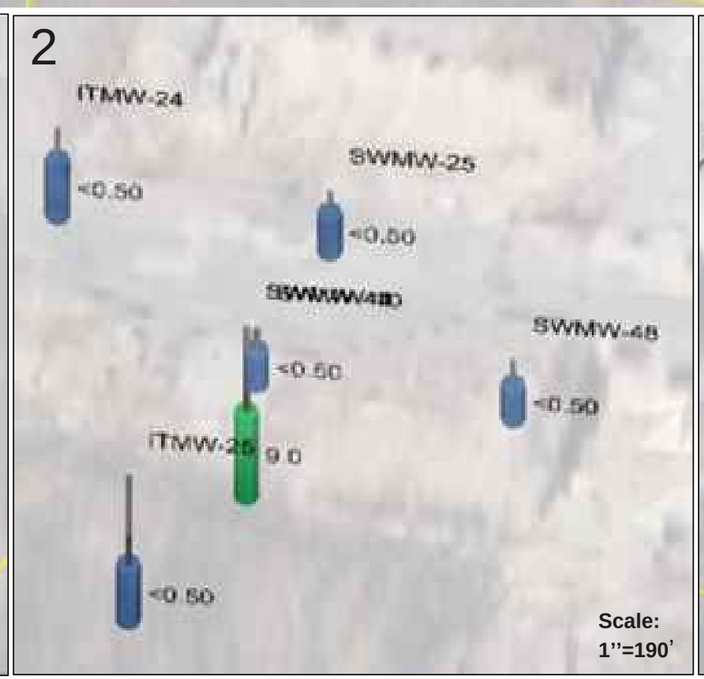

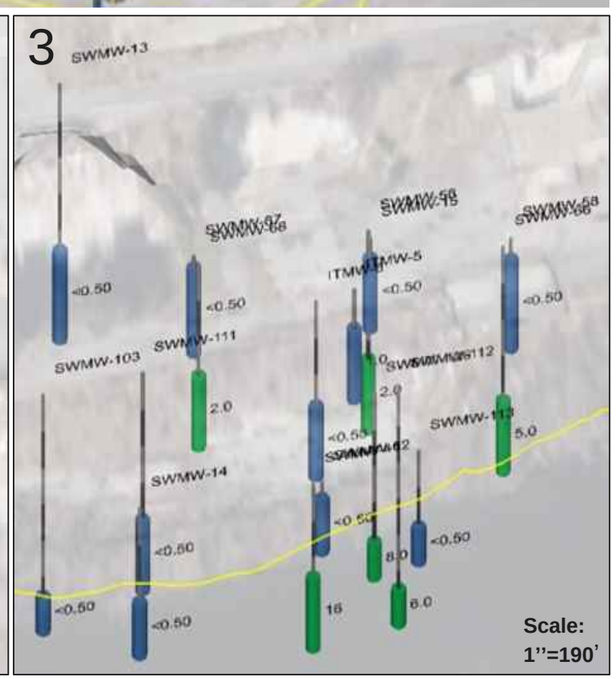

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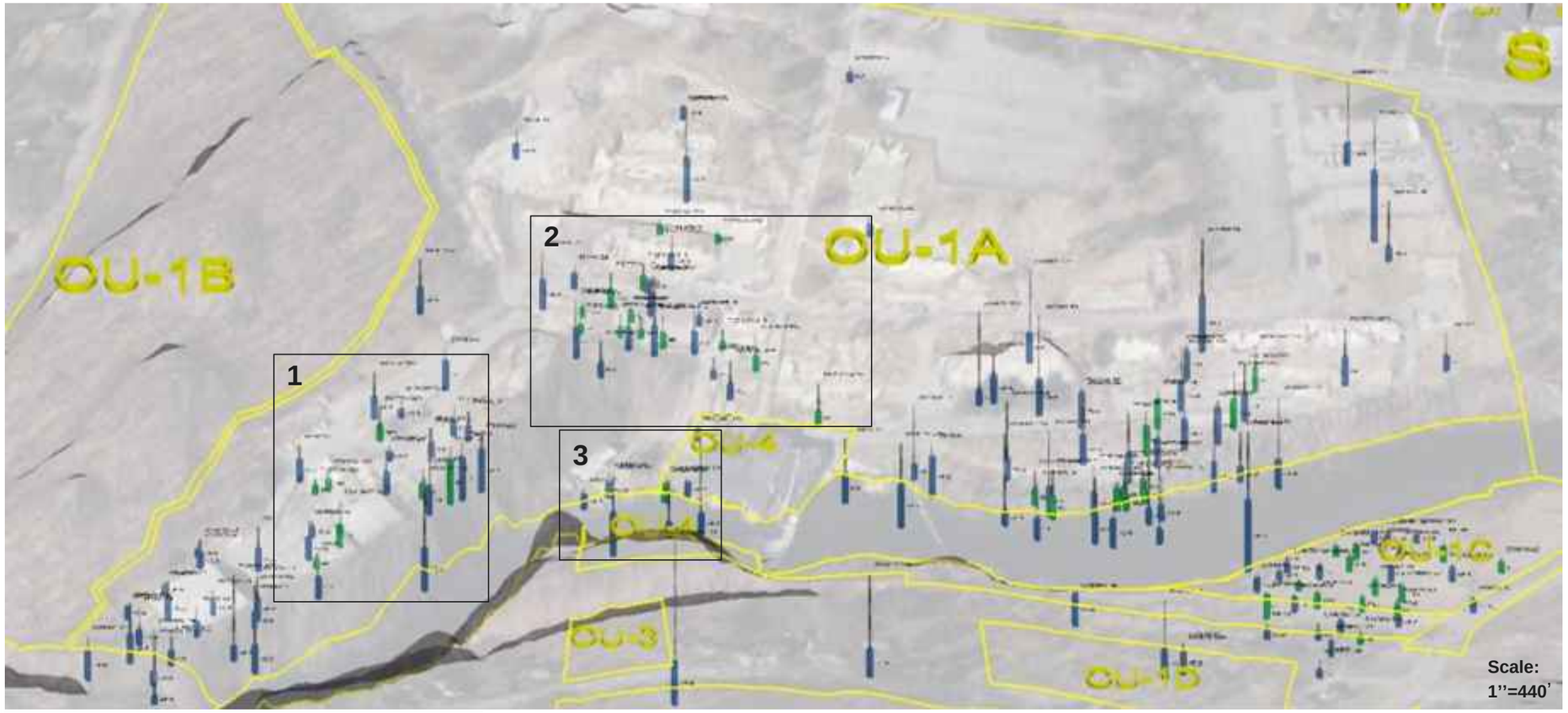
REMEDIAL INVESTIGATION REPORT ADDENDUM 1

VINYL CHLORIDE GROUNDWATER SCREENING LEVEL EXCEEDANCES 2016-2018

ARCADIS Design & Consultancy for natural and built assets

FIGURE
2-22C

11/2/2020 3:06:39 PM



Legend:

Operable Unit (OU) Boundaries

Arsenic: ug/L

- Above NY TOGS
- Below NY TOGS

Notes:

1. Results colored by least restrictive screening level exceeded
2. Scales are approximated.
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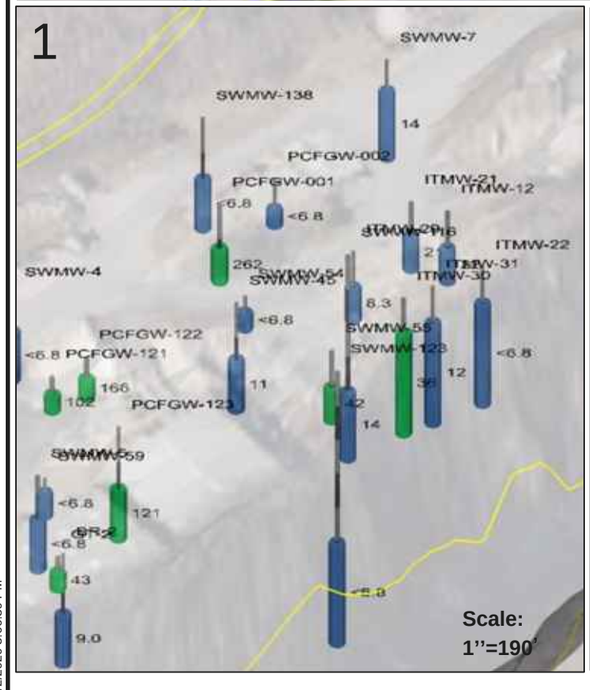

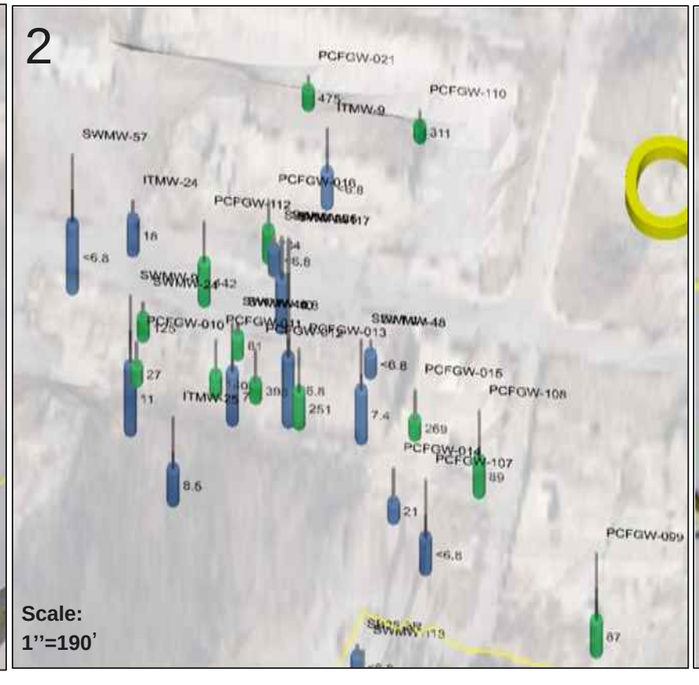

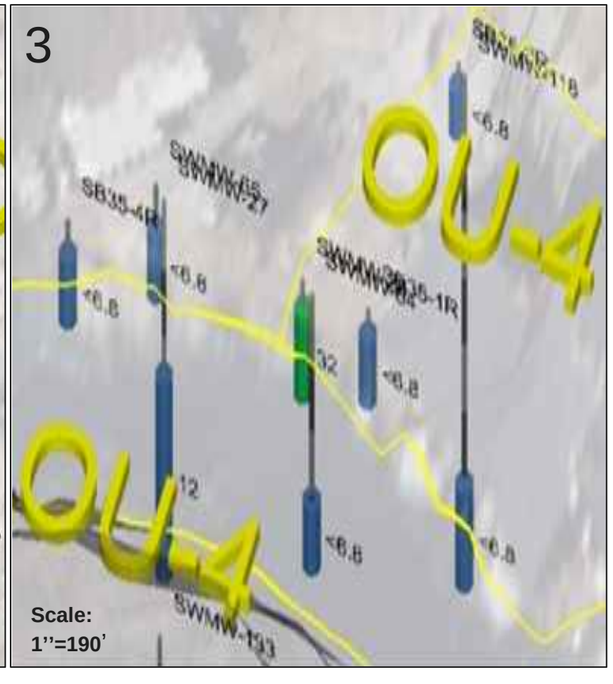

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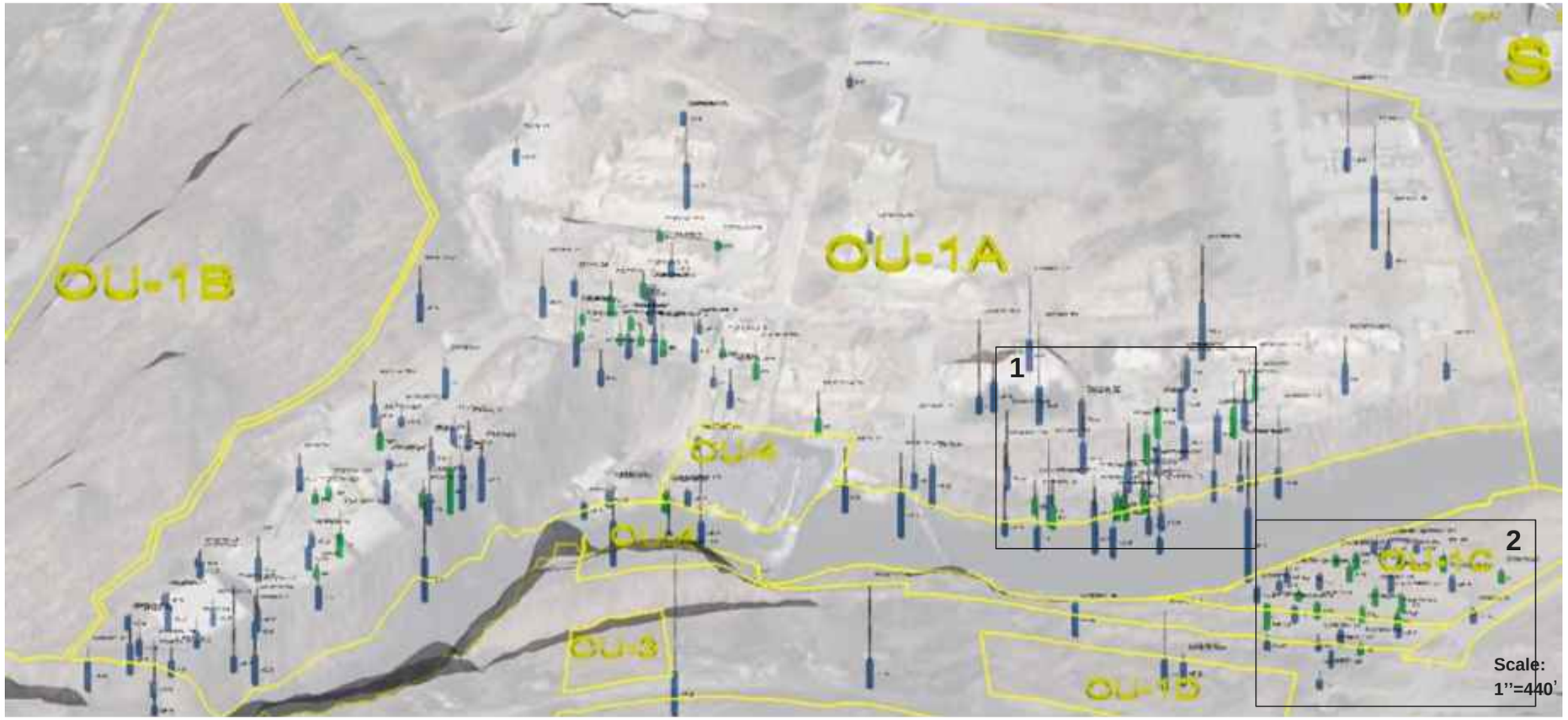
GLENHAM, NEW YORK
REMEDIAL INVESTIGATION REPORT ADDENDUM 1

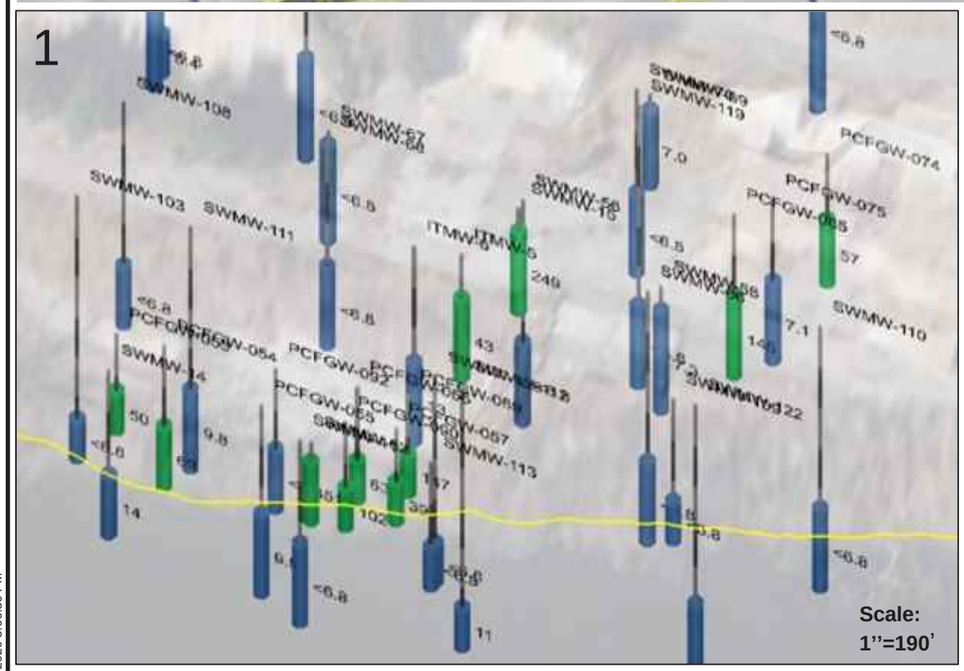
ARSENIC GROUNDWATER SCREENING LEVEL EXCEEDANCES 2012-2013

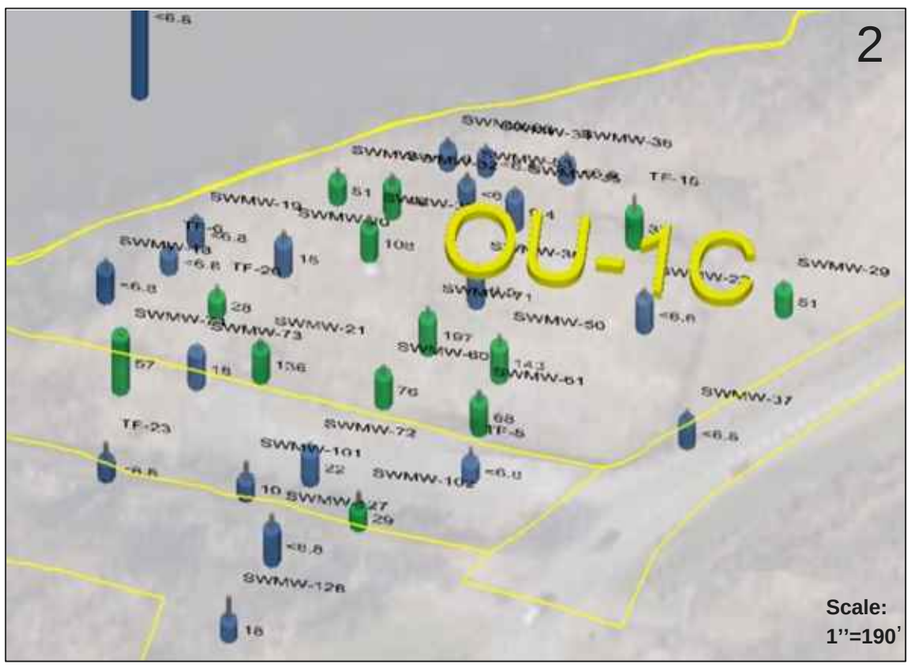
ARCADIS Design & Consultancy for natural and built assets

FIGURE
2-23A

11/2/2020 3:06:39 PM







Legend:

Operable Unit (OU) Boundaries

Arsenic: ug/L

- Above NY TOGS
- Below NY TOGS

Notes:

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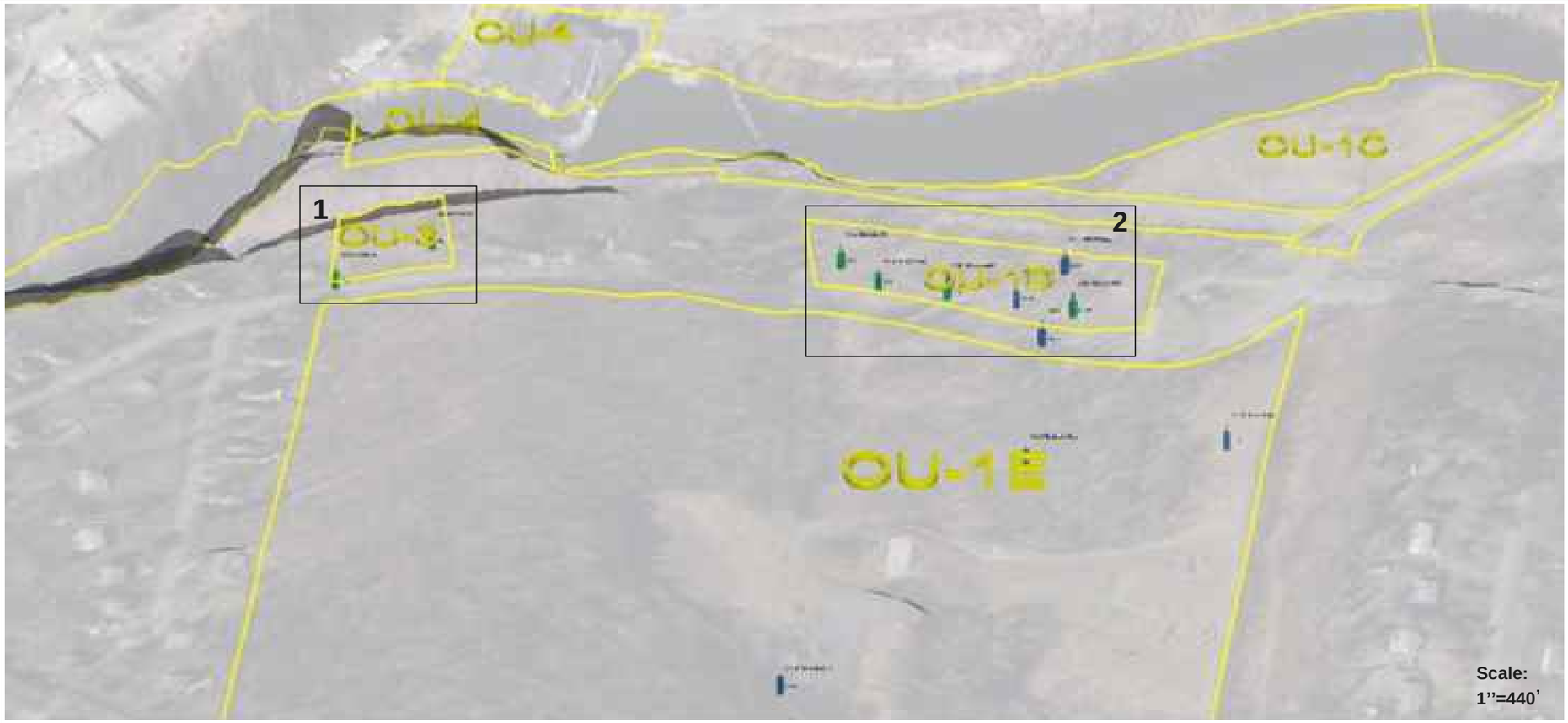
REMEDIAL INVESTIGATION REPORT ADDENDUM 1

ARSENIC GROUNDWATER SCREENING LEVEL EXCEEDANCES 2012-2013

ARCADIS Design & Consultancy for natural and built assets

FIGURE
2-23B

11/2/2020 3:06:39 PM



Legend:

Operable Unit (OU) Boundaries

Arsenic: ug/L

- Above NY TOGS
- Below NY TOGS

Notes:

1. Results colored by least restrictive screening level exceeded
2. Scales are approximated.
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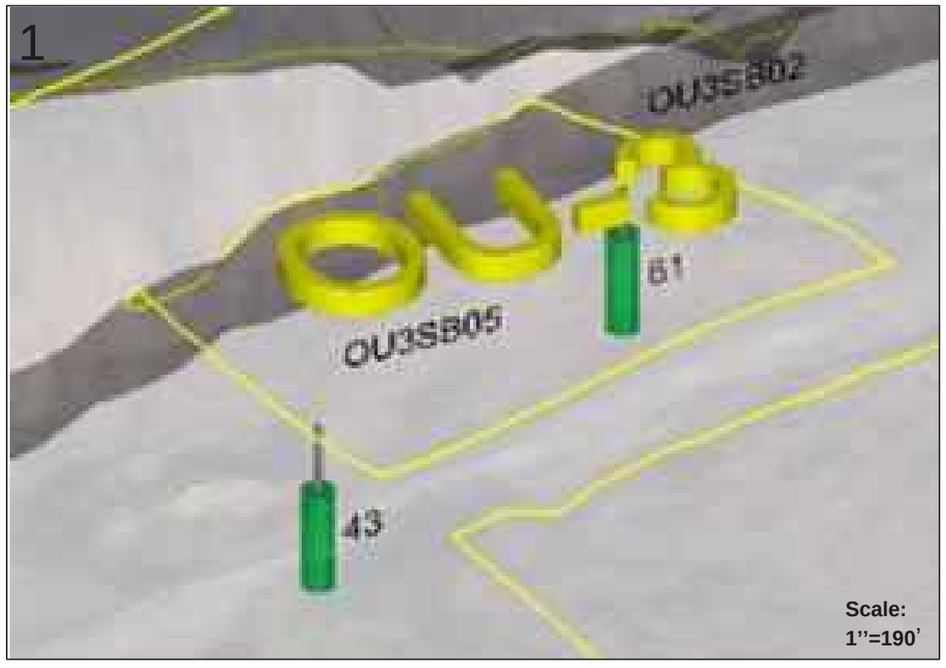

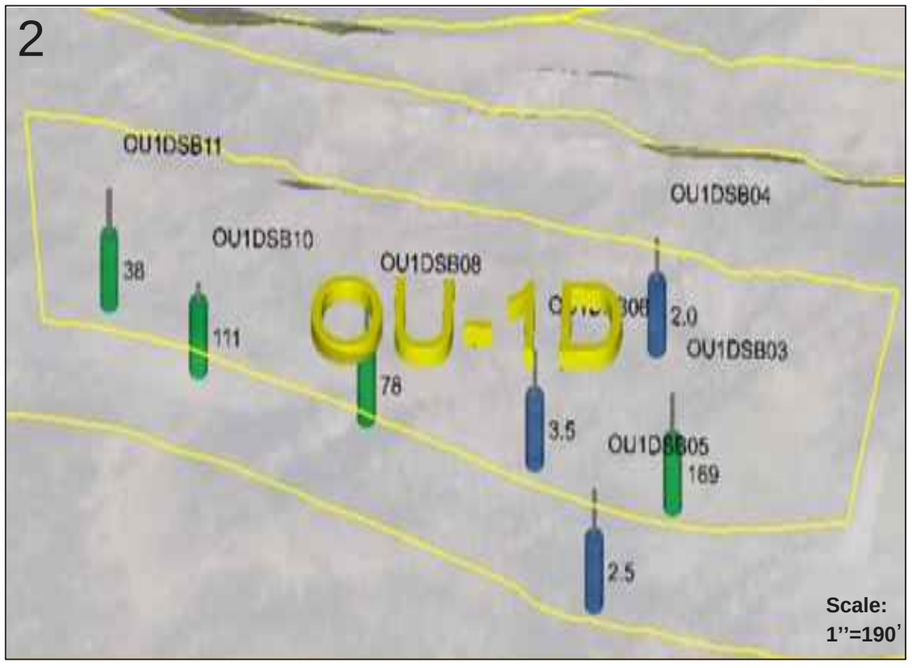

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GLENHAM, NEW YORK
REMEDIAL INVESTIGATION REPORT ADDENDUM 1

ARSENIC GROUNDWATER SCREENING LEVEL EXCEEDANCES 2016-2018

ARCADIS Design & Consultancy for natural and built assets

FIGURE
2-23C

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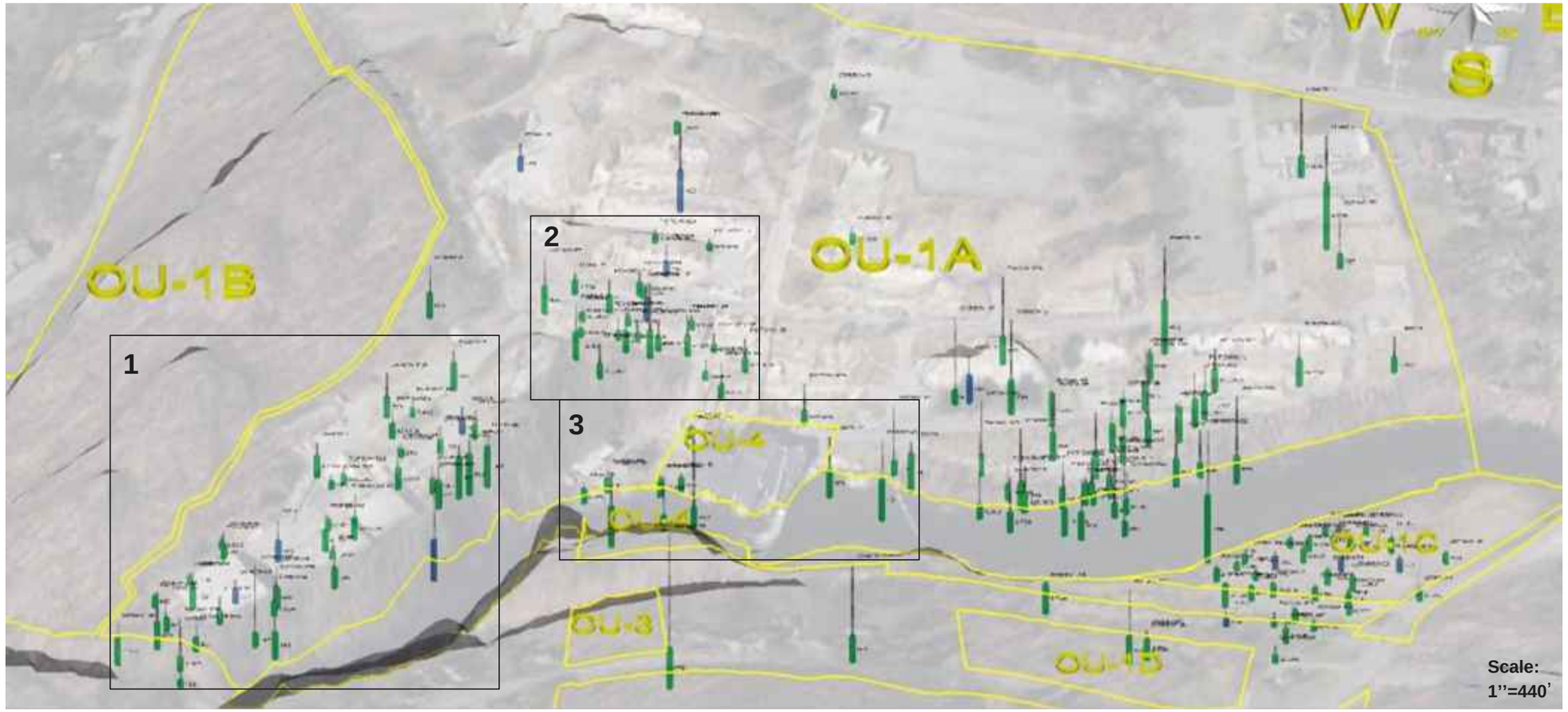

Legend:

Operable Unit (OU) Boundaries

Aluminum: ug/L

Above NY TOGS

Below NY TOGS

Notes:

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2. Scales are approximated.
    1. Key Map: 1 inch = 440 feet
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3. Ground surface digital elevation model (DEM) from United States Geological Service (USGS) accessed from Global Mapper
4. Aerial imagery from Environmental Systems Research Institute (ESRI) World Imagery (accessed April 2020)
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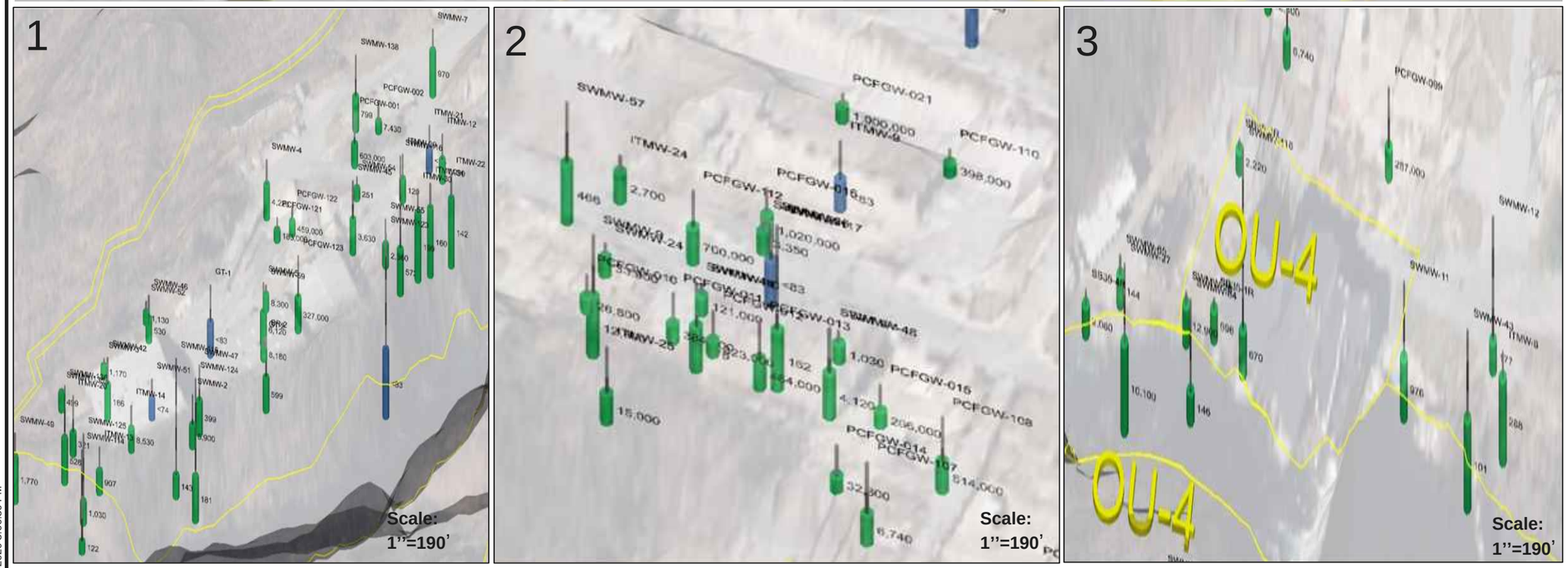

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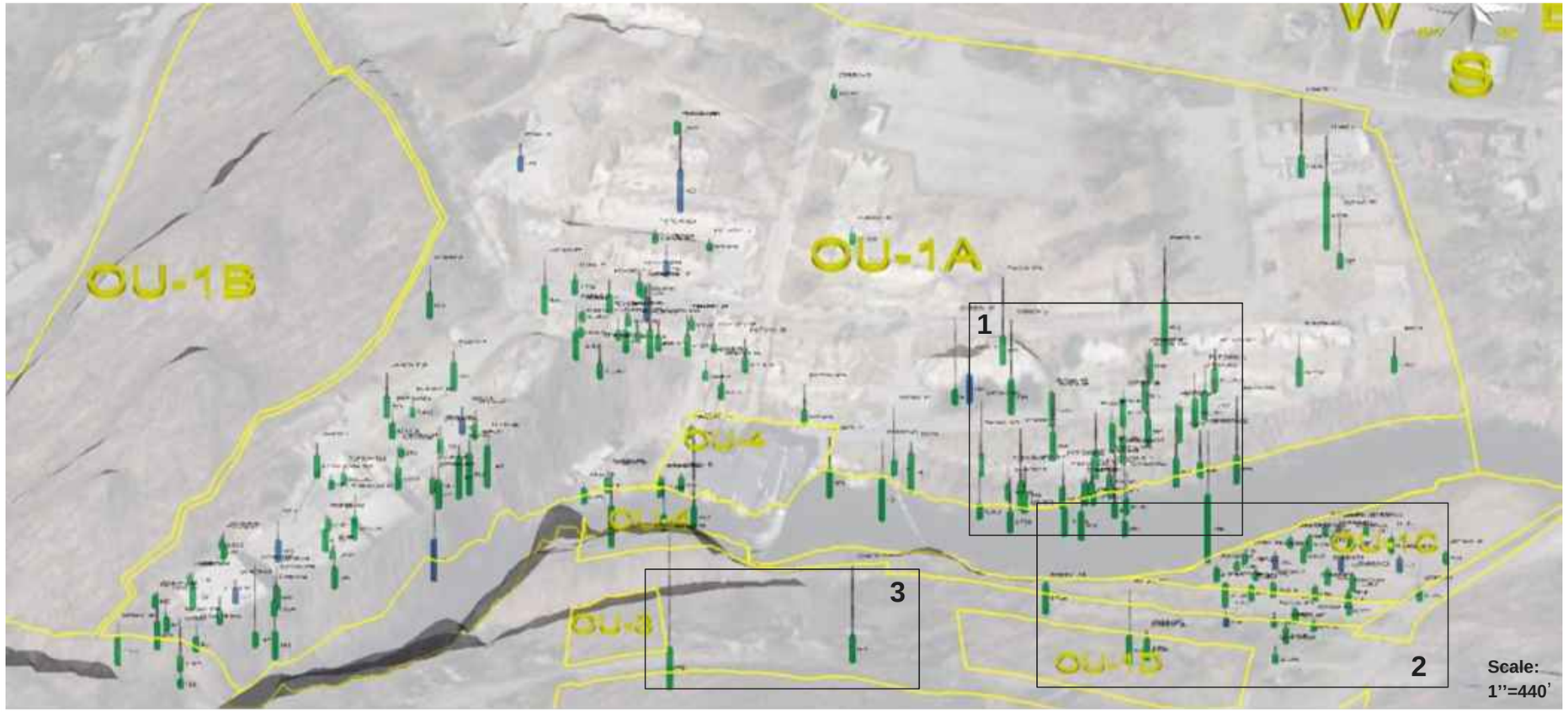
REMEDIAL INVESTIGATION REPORT ADDENDUM 1

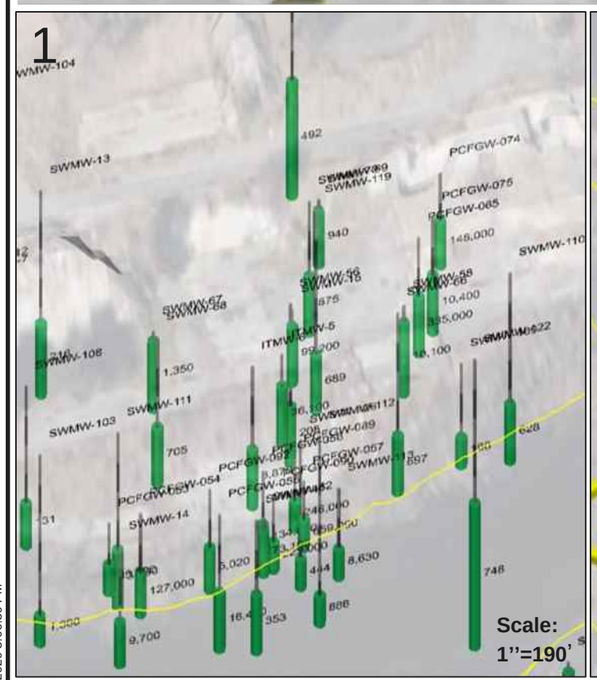
ALUMINUM GROUNDWATER SCREENING LEVEL EXCEEDANCES 2012-2013

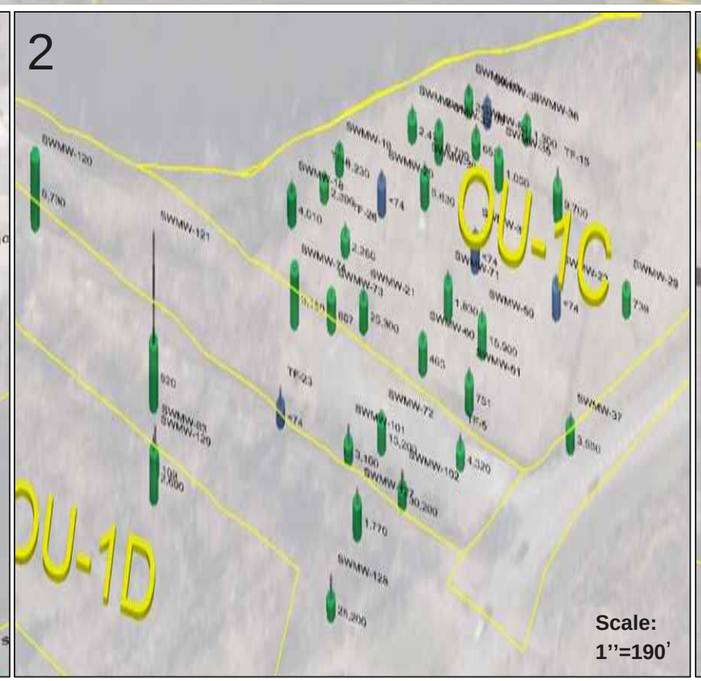
ARCADIS Design & Consultancy for natural and built assets

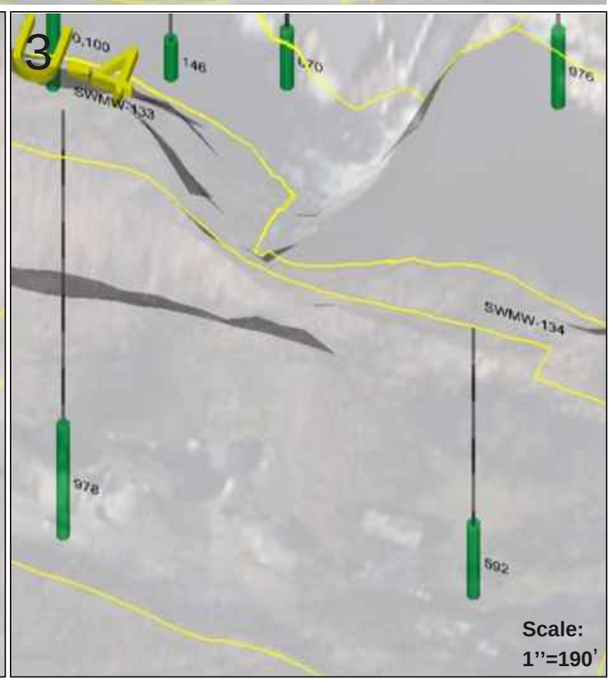
FIGURE
2-24A

11/2/2020 3:06:39 PM









Legend:

Operable Unit (OU) Boundaries

Aluminum: ug/L

Above NY TOGS

Below NY TOGS

Notes:

1. Results colored by least restrictive screening level exceeded
2. Scales are approximated.
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4. Aerial imagery from Environmental Systems Research Institute (ESRI) World Imagery (accessed April 2020)
5. Non-detect samples colored at their reporting limit (RL) and modeled at 1/10 of their RL.
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7. OU: Operable Unit
8. NY TOGS: New York Technical and Operational Guidance Series

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REMEDIAL INVESTIGATION REPORT ADDENDUM 1

ALUMINUM GROUNDWATER SCREENING LEVEL EXCEEDANCES 2012-2013

ARCADIS Design & Consultancy for natural and built assets

FIGURE
2-24B

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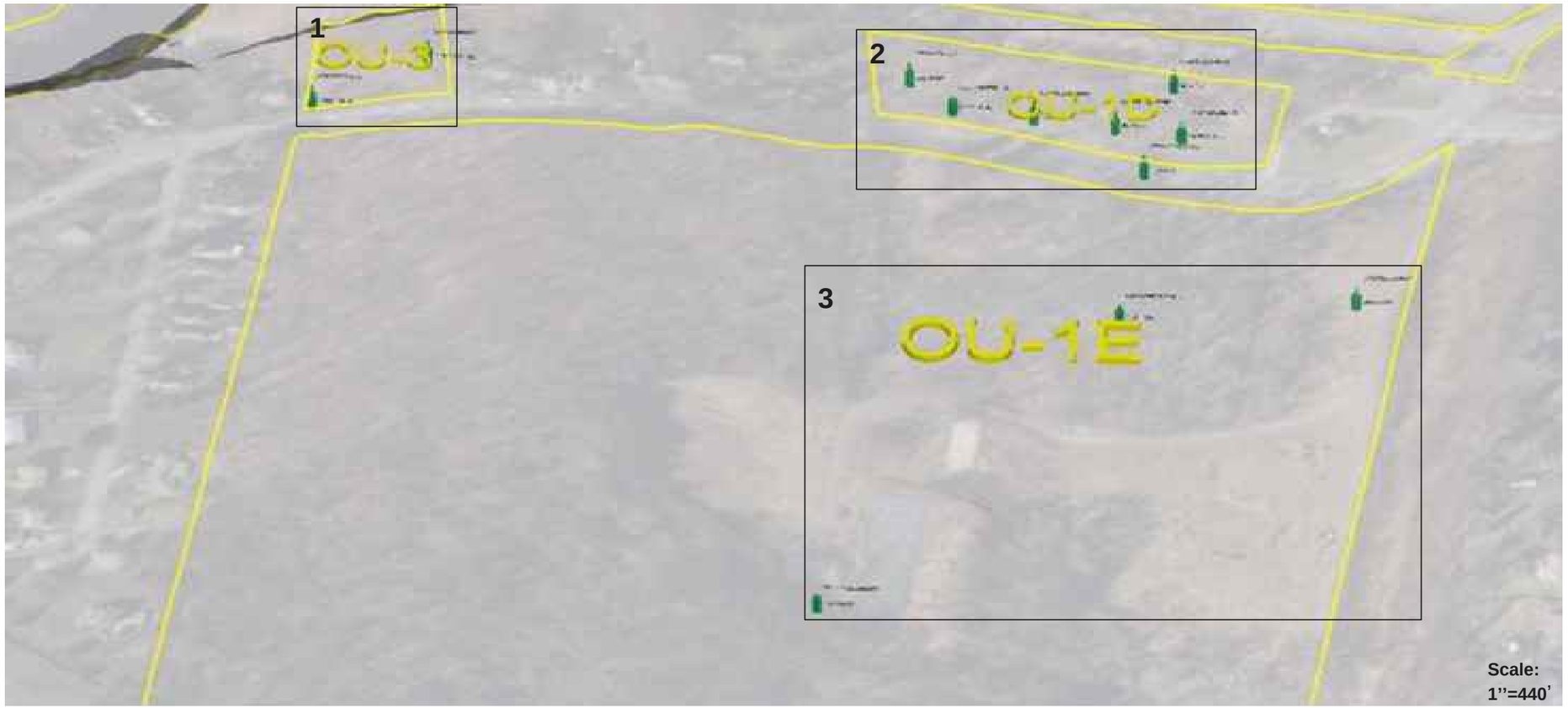

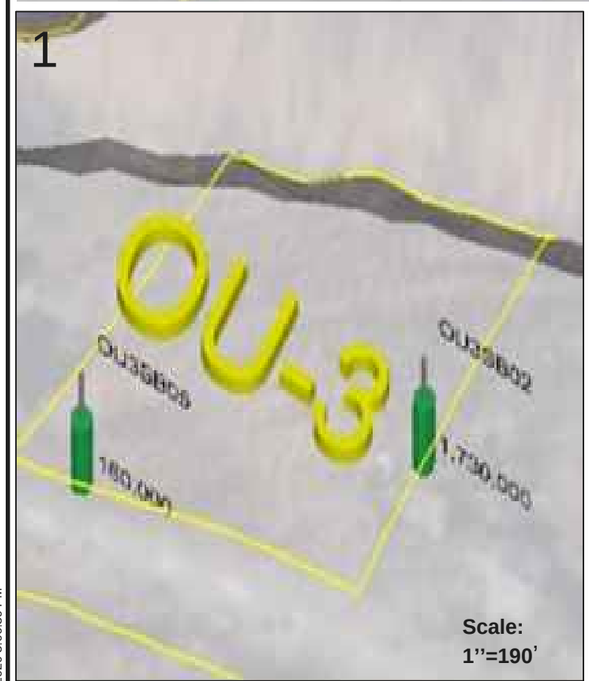

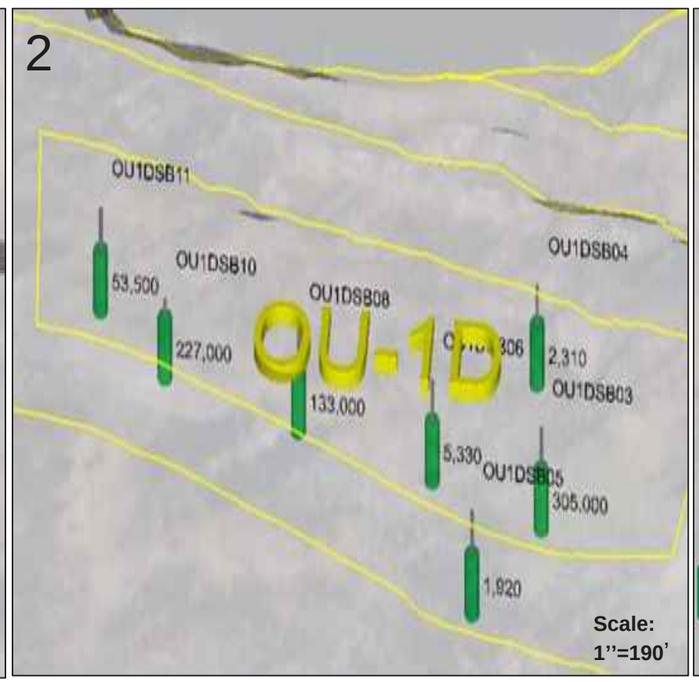

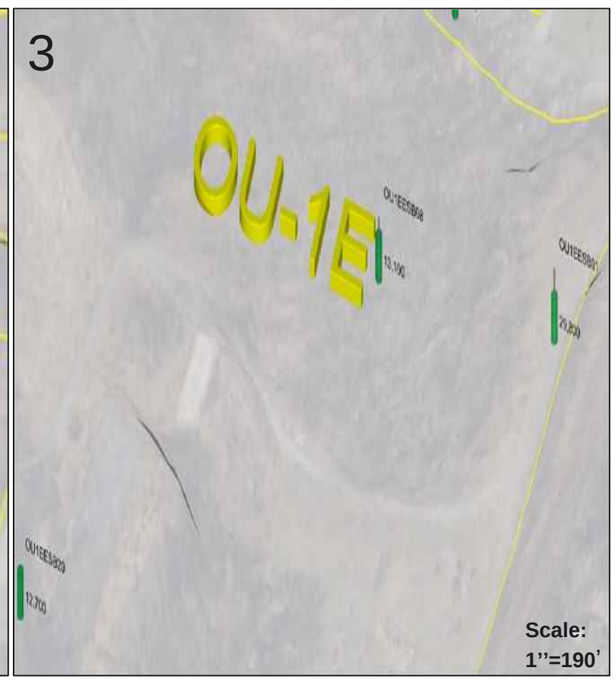

Legend:

Operable Unit (OU) Boundaries

Aluminum: ug/L

Above NY TOGS

Below NY TOGS

Notes:

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    1. Key Map: 1 inch = 440 feet
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5. Non-detect samples colored at their reporting limit (RL) and modeled at 1/10 of their RL.
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REMEDIAL INVESTIGATION REPORT ADDENDUM 1

ALUMINUM GROUNDWATER SCREENING LEVEL EXCEEDANCES 2016-2018

ARCADIS Design & Consultancy for natural and built assets

FIGURE
2-24C

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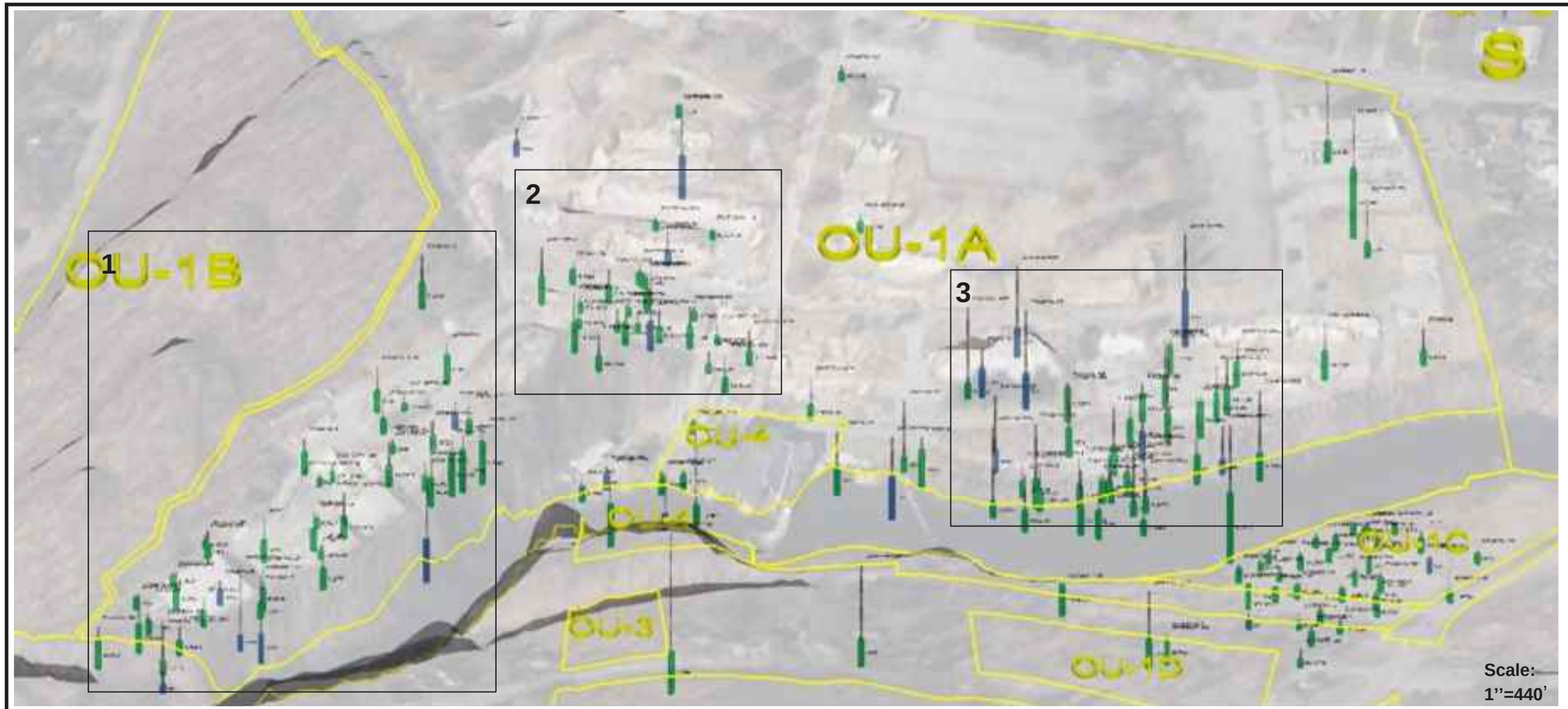

Legend:

Operable Unit (OU) Boundaries

Iron: ug/L

Above NY TOGS

Below NY TOGS

Notes:

1. Results colored by least restrictive screening level exceeded
2. Scales are approximated.
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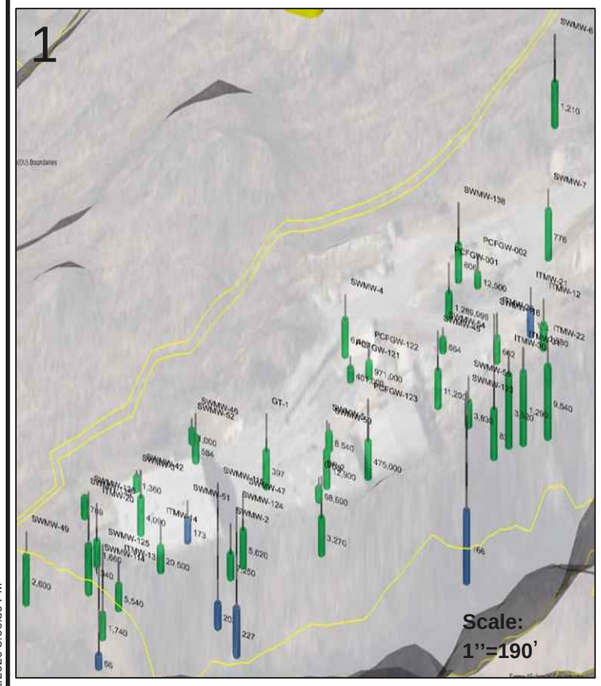

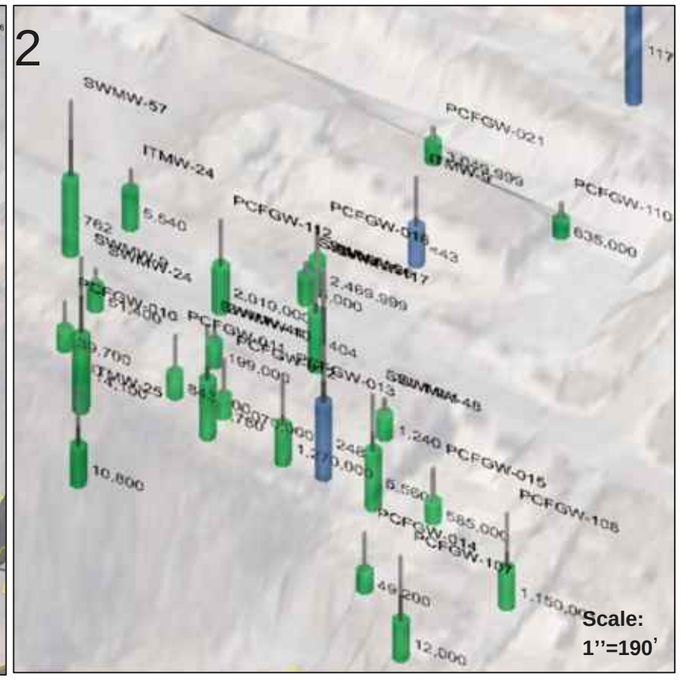

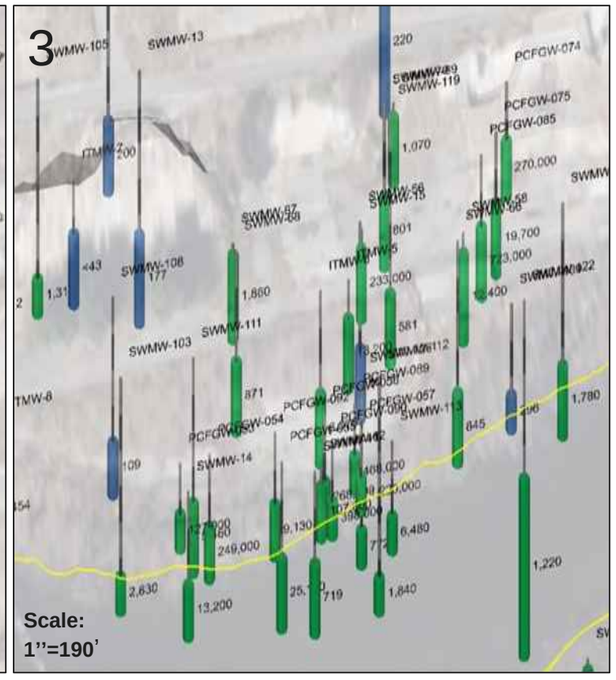

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REMEDIAL INVESTIGATION REPORT ADDENDUM 1

IRON GROUNDWATER SCREENING LEVEL EXCEEDANCES 2012-2013

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FIGURE
2-25A

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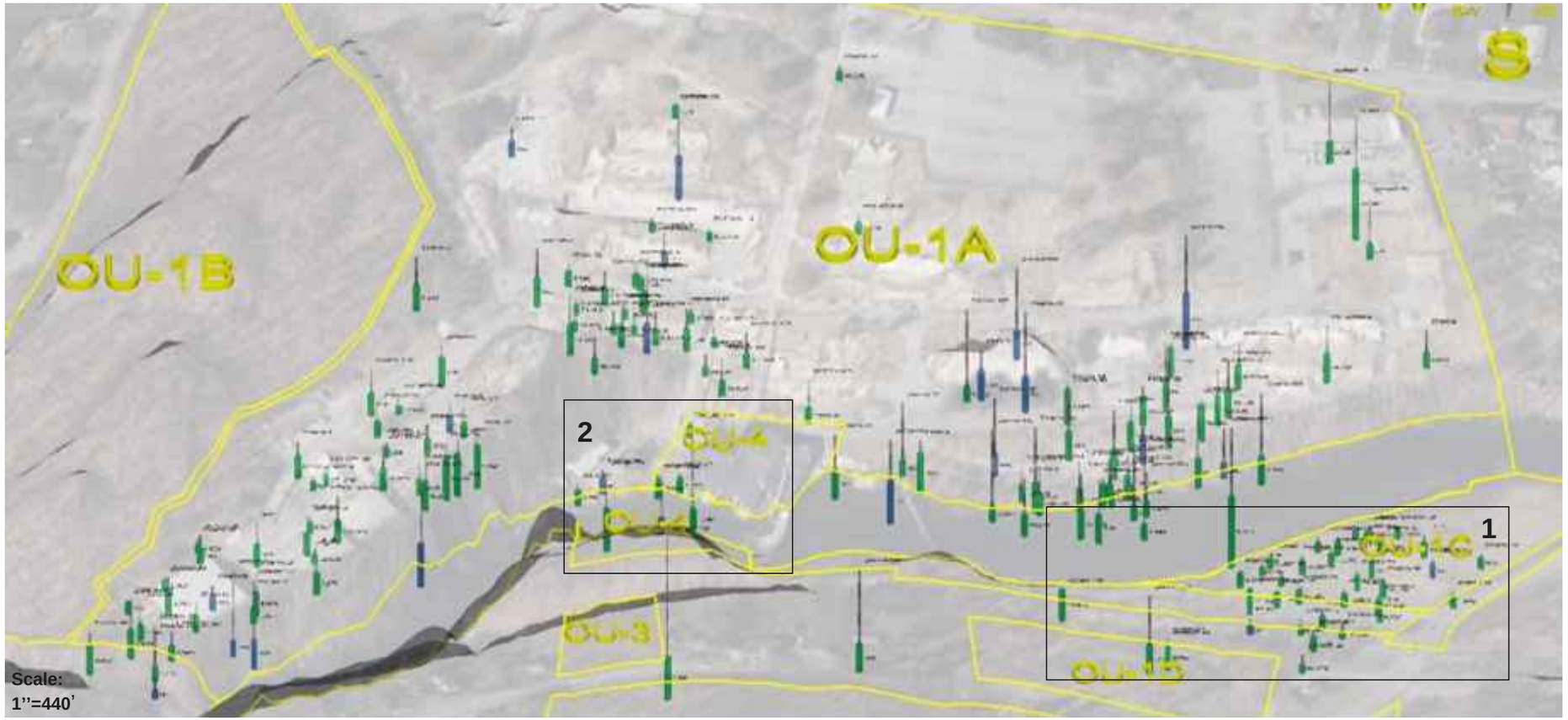

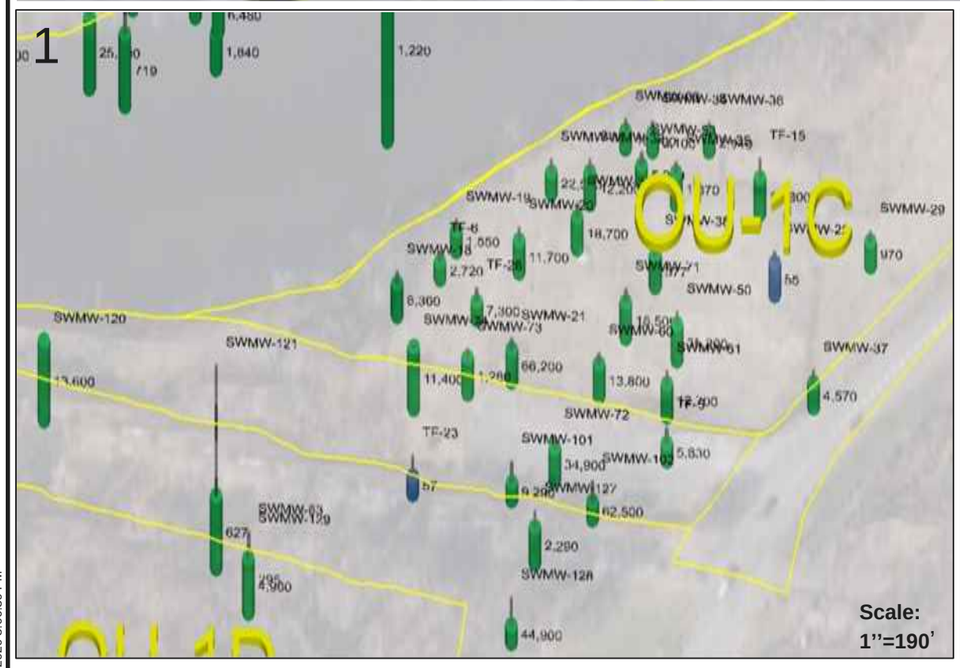

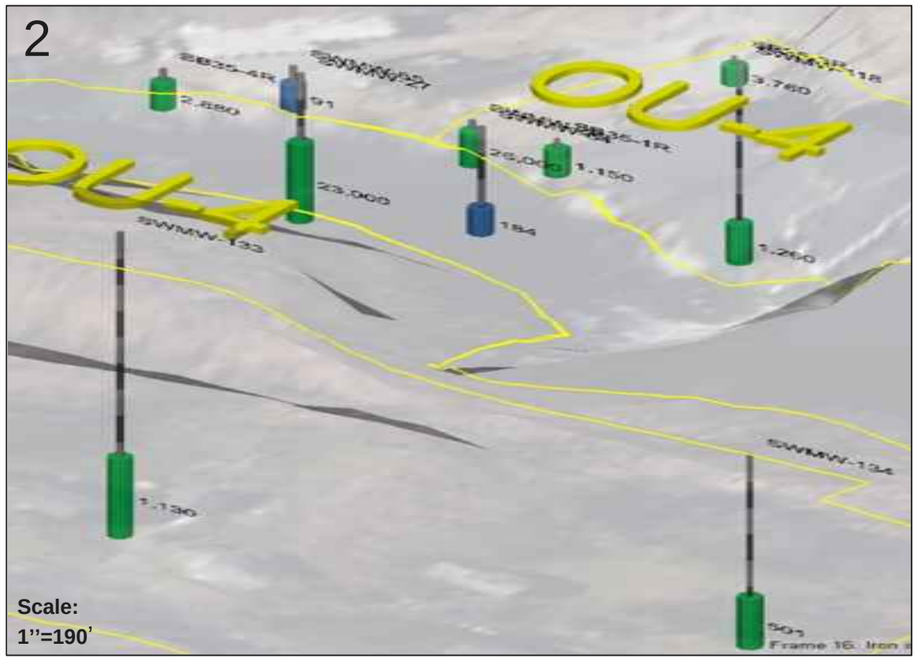

Legend:

Operable Unit (OU) Boundaries

Iron: ug/L

- Above NY TOGS
- Below NY TOGS

Notes:

1. Results colored by least restrictive screening level exceeded
2. Scales are approximated.
    1. Key Map: 1 inch = 440 feet
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7. OU: Operable Unit
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REMEDIAL INVESTIGATION REPORT ADDENDUM 1

IRON GROUNDWATER SCREENING LEVEL EXCEEDANCES 2012-2013

ARCADIS Design & Consultancy for natural and built assets

FIGURE
2-25B

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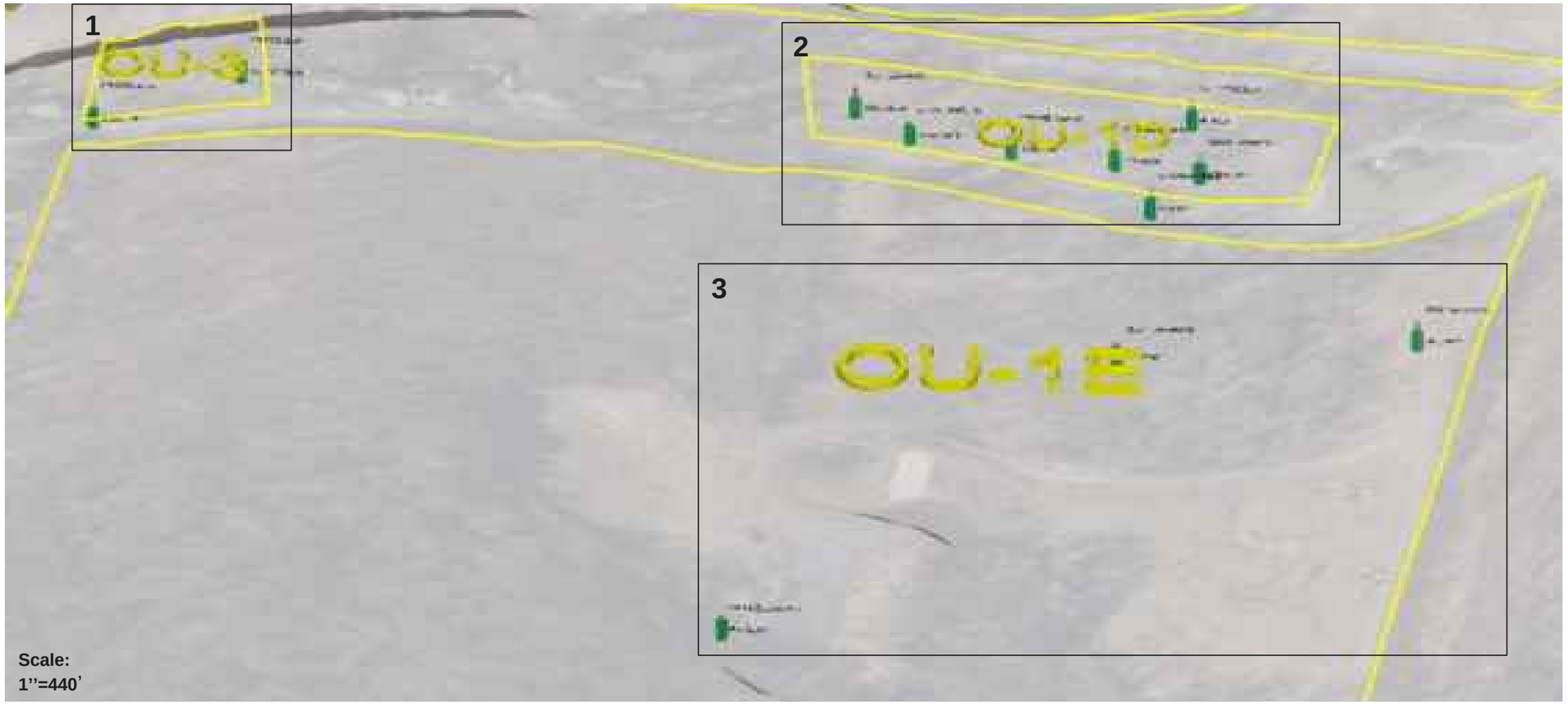

Legend:

Operable Unit (OU) Boundaries

Iron: ug/L

Above NY TOGS

Below NY TOGS

Notes:

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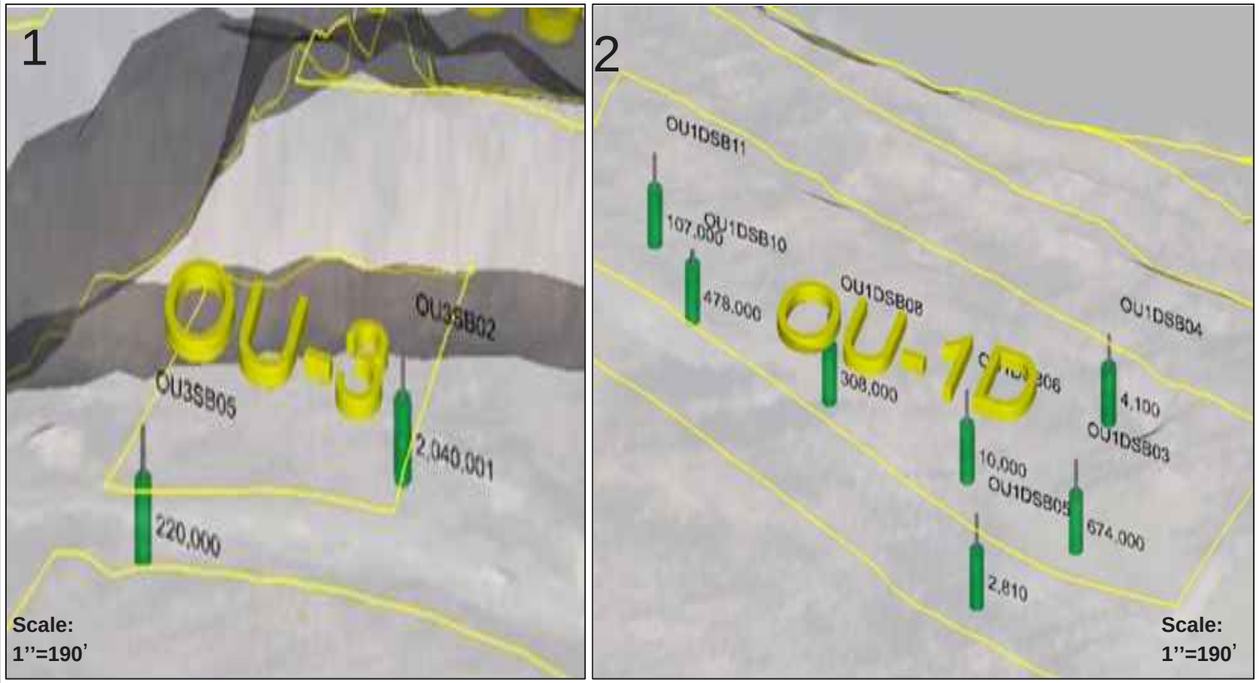

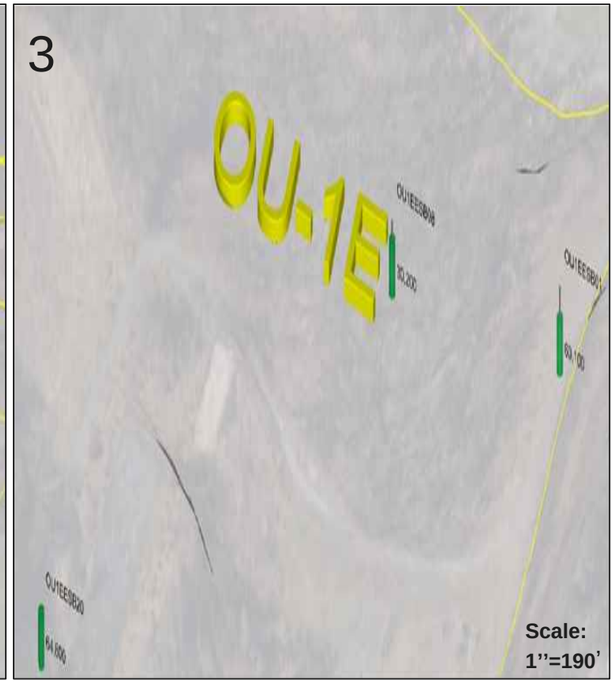

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REMEDIAL INVESTIGATION REPORT ADDENDUM 1

IRON GROUNDWATER SCREENING LEVEL EXCEEDANCES 2016-2018

ARCADIS Design & Consultancy for natural and built assets

FIGURE
2-25C

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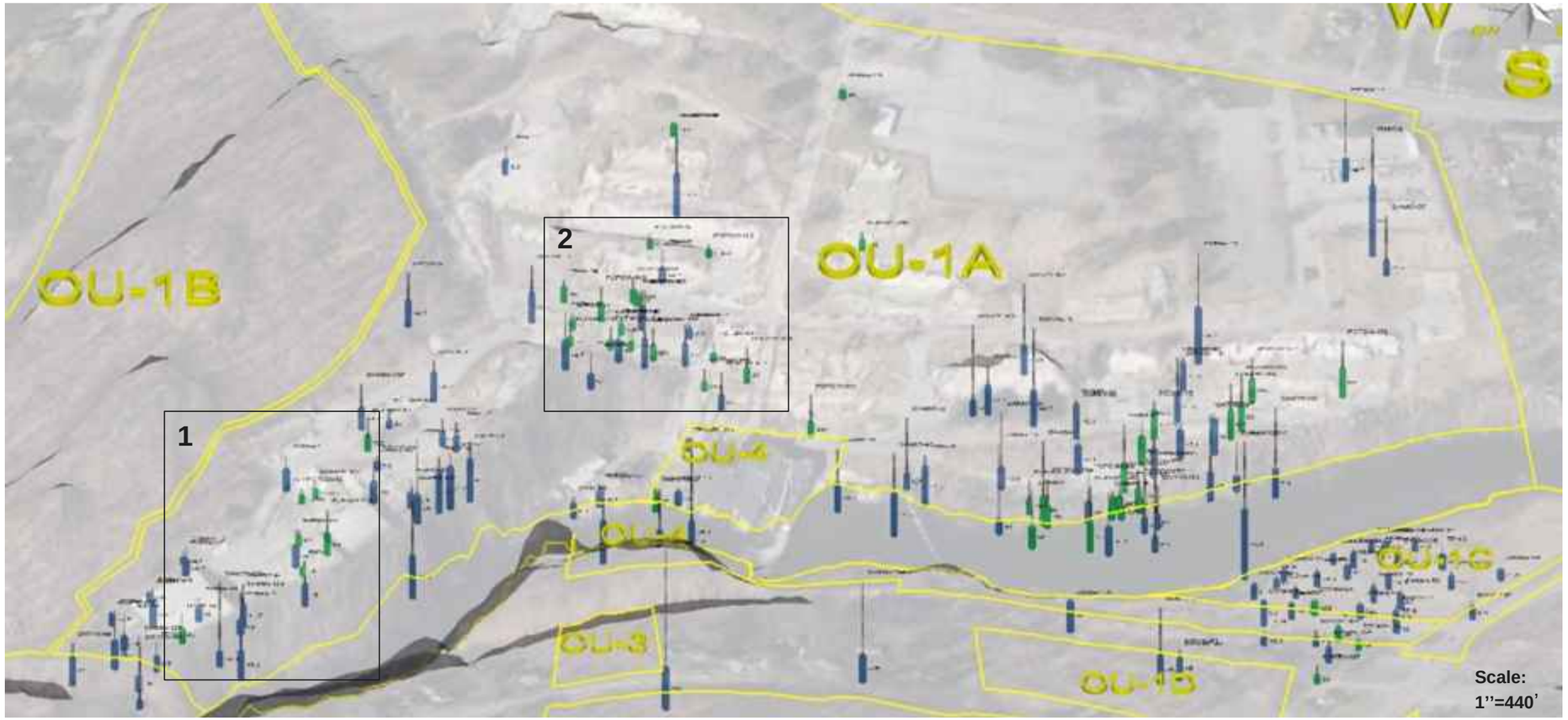

Legend:

Operable Unit (OU) Boundaries

Lead: ug/L

- Above NY TOGS
- Below NY TOGS

Notes:

1. Results colored by least restrictive screening level exceeded
2. Scales are approximated.
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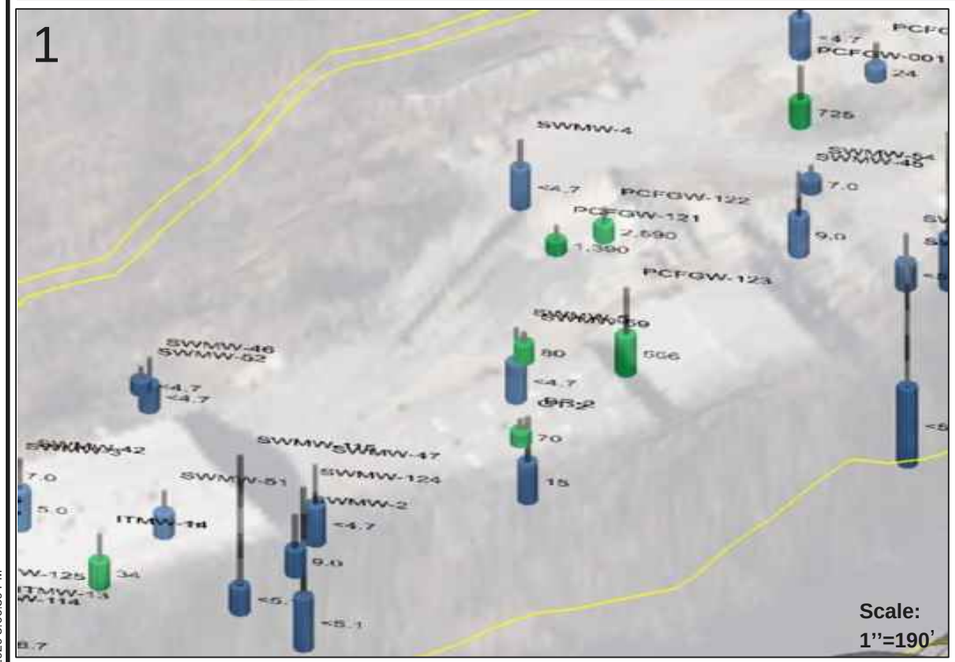

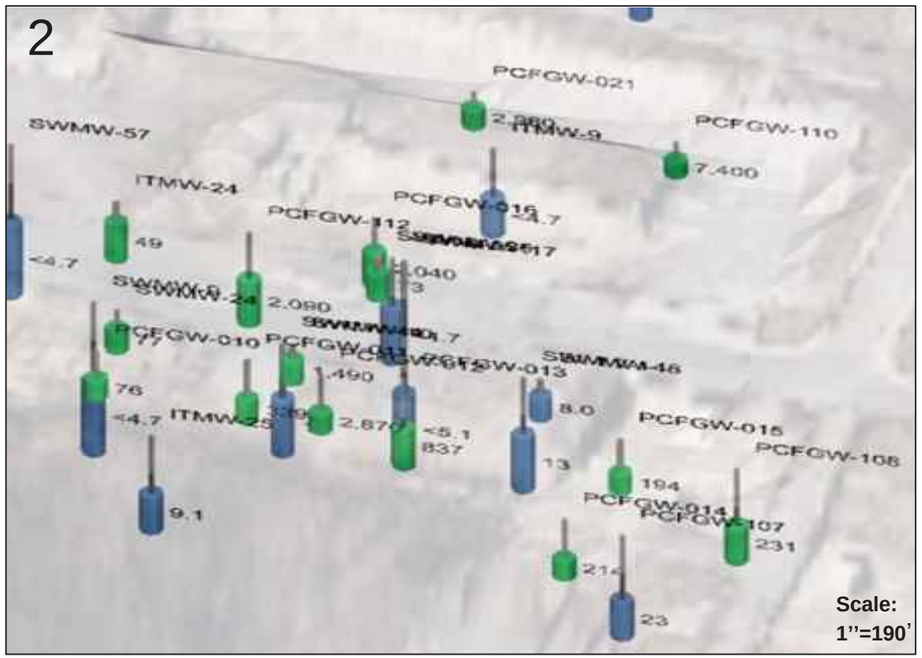

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REMEDIAL INVESTIGATION REPORT ADDENDUM 1

LEAD GROUNDWATER SCREENING LEVEL EXCEEDANCES 2012-2013

ARCADIS Design & Consultancy for natural and built assets

FIGURE
2-26A

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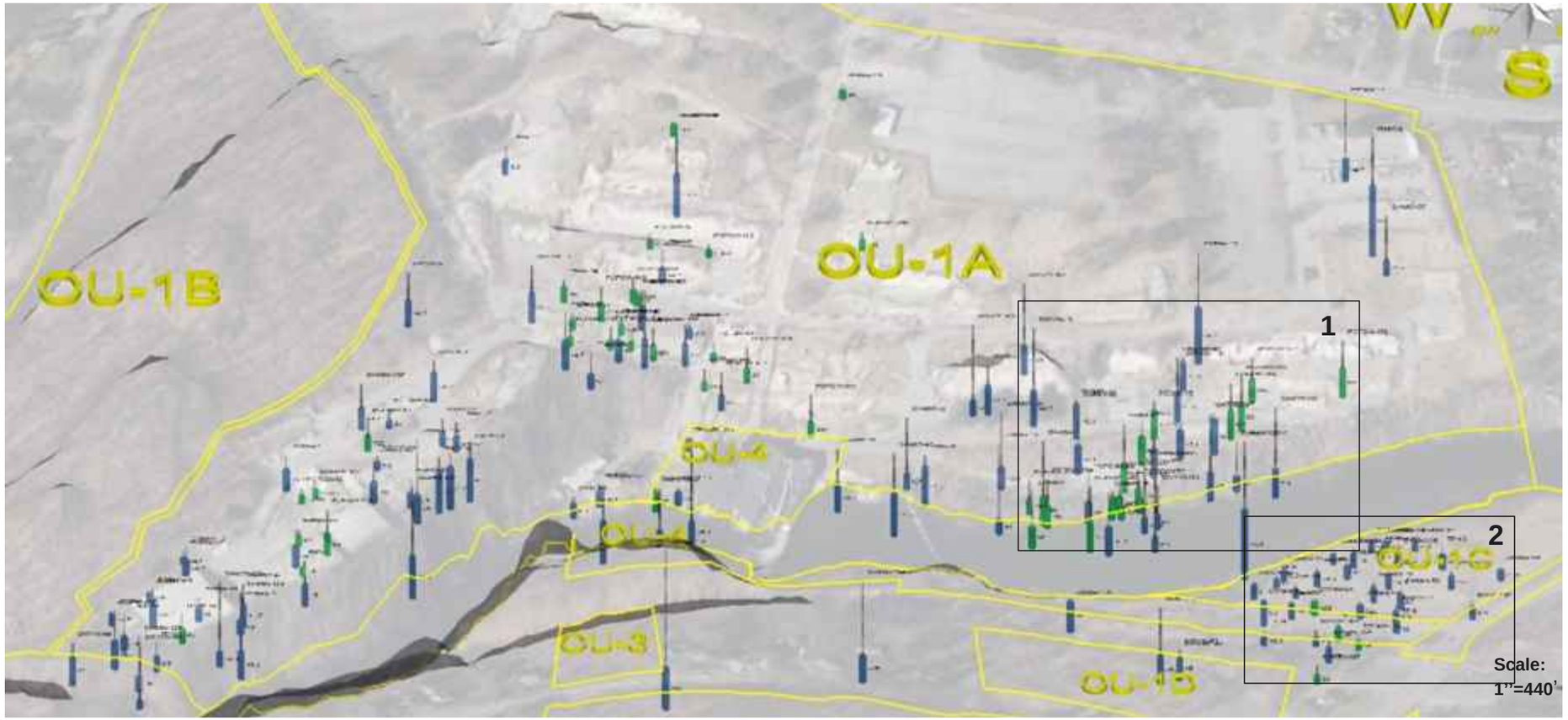

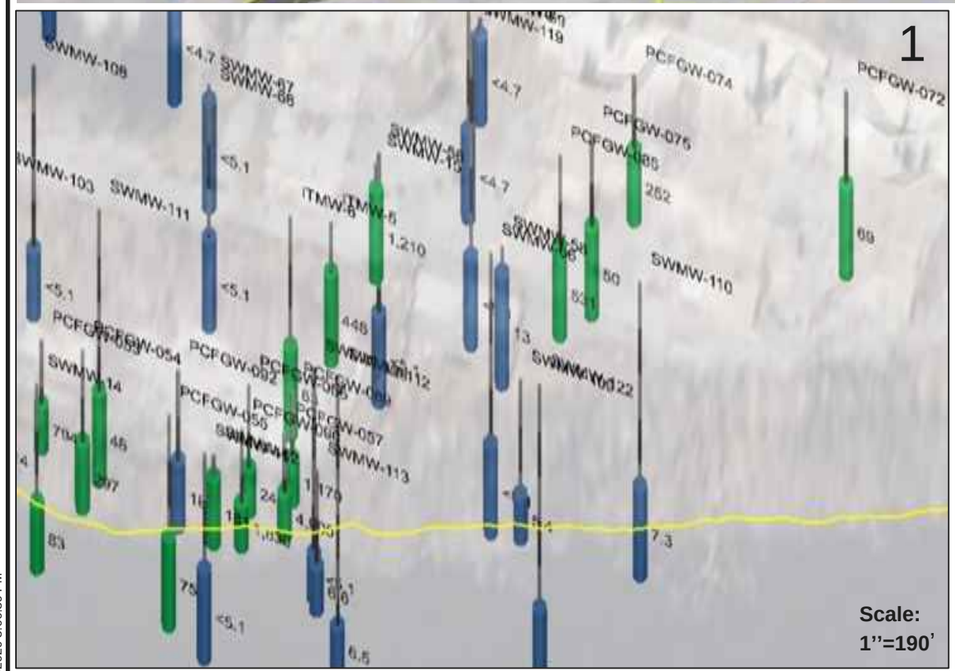

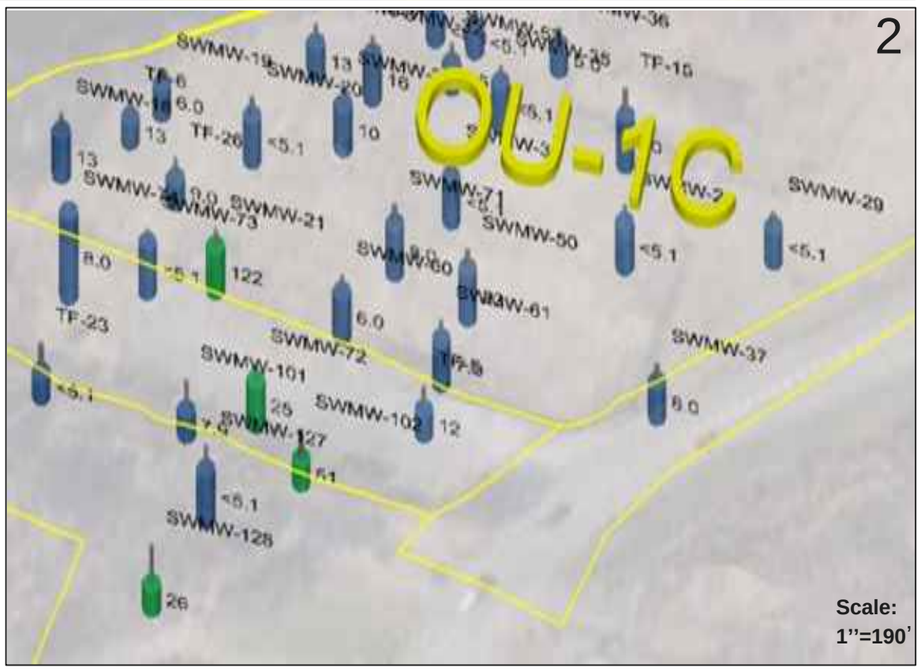

Legend:

Operable Unit (OU) Boundaries

Lead: ug/L

- Above NY TOGS
- Below NY TOGS

Notes:

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REMEDIAL INVESTIGATION REPORT ADDENDUM 1

LEAD GROUNDWATER SCREENING LEVEL EXCEEDANCES 2012-2013

ARCADIS Design & Consultancy for natural and built assets

FIGURE
2-26B

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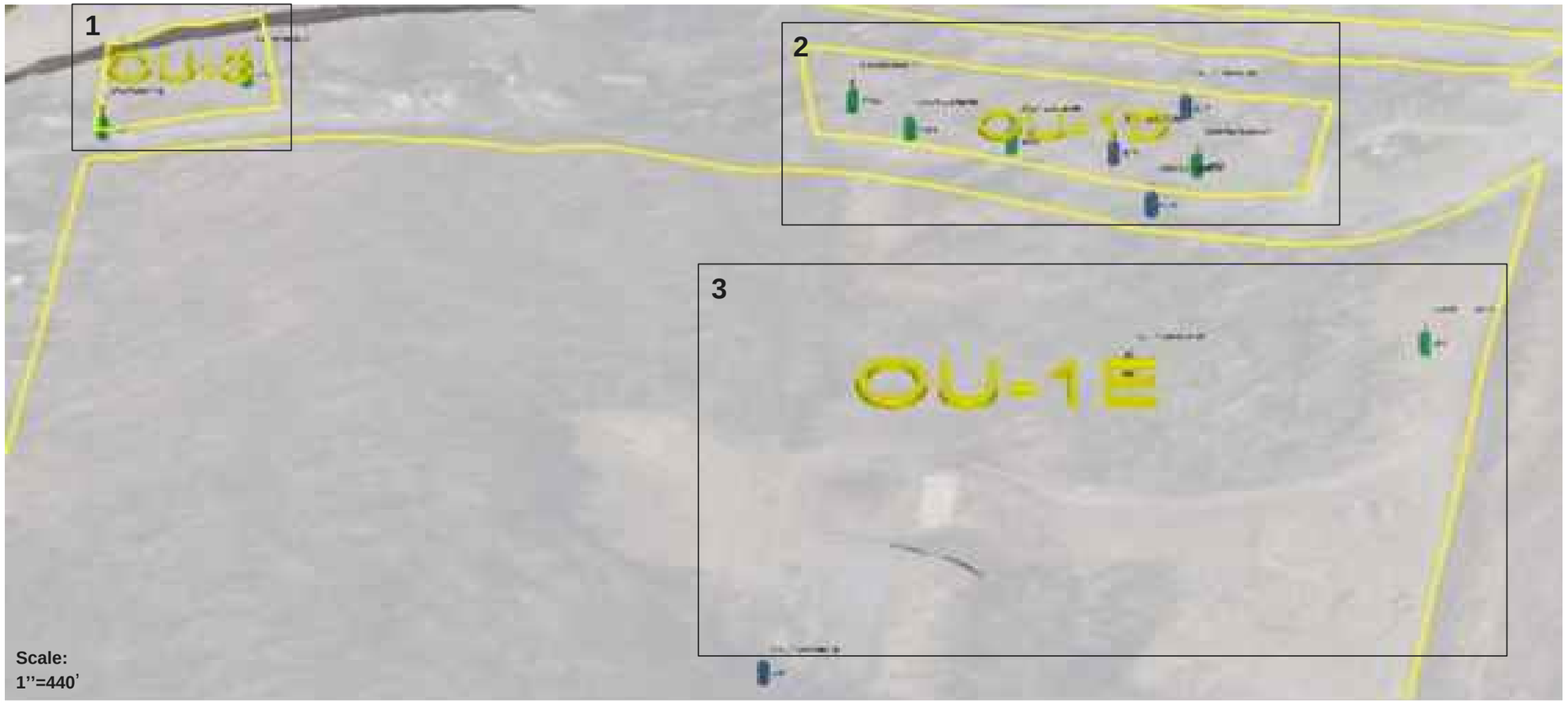
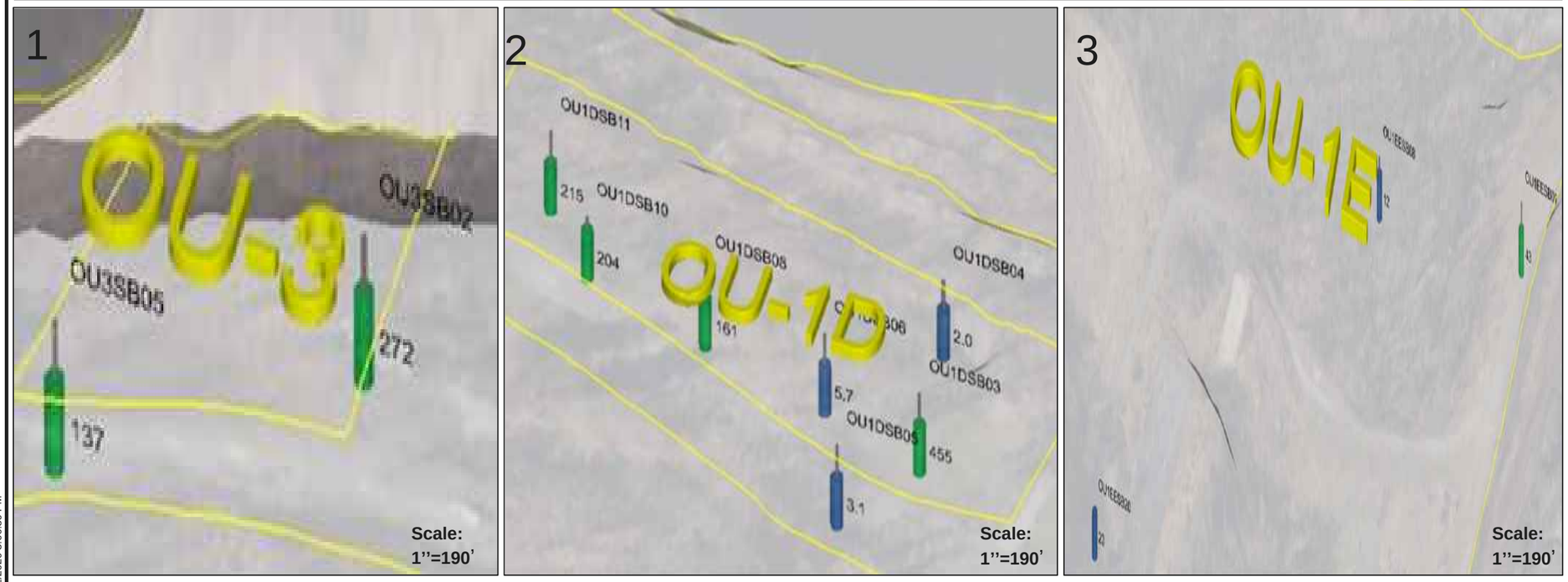


Scale:
1''=440'



Legend:

Operable Unit (OU) Boundaries

Lead: ug/L

- Above NY TOGS
- Below NY TOGS

Notes:

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REMEDIAL INVESTIGATION REPORT ADDENDUM 1

LEAD GROUNDWATER SCREENING LEVEL EXCEEDANCES 2016-2018

ARCADIS Design & Consultancy for natural and built assets

FIGURE
2-26C

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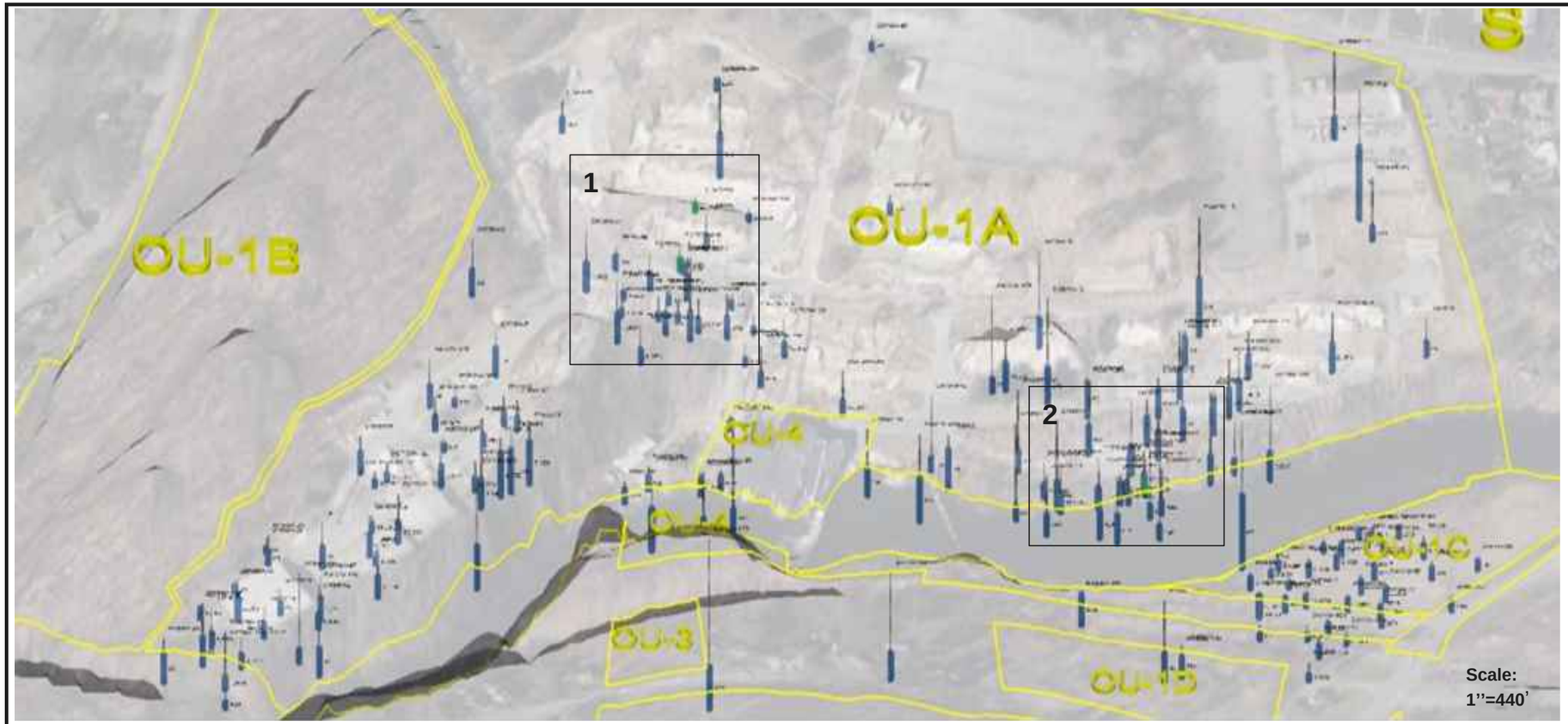

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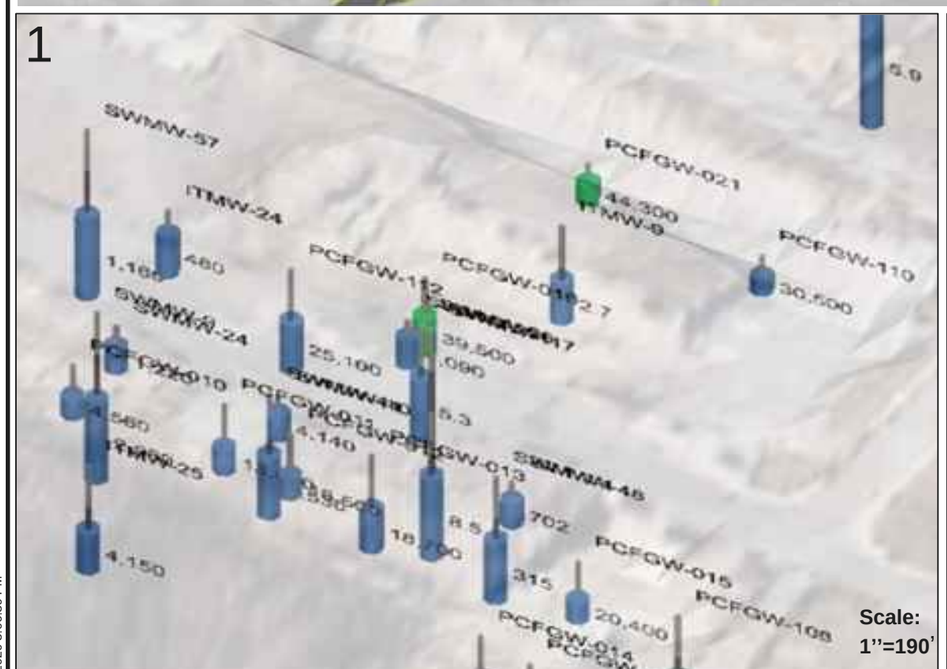
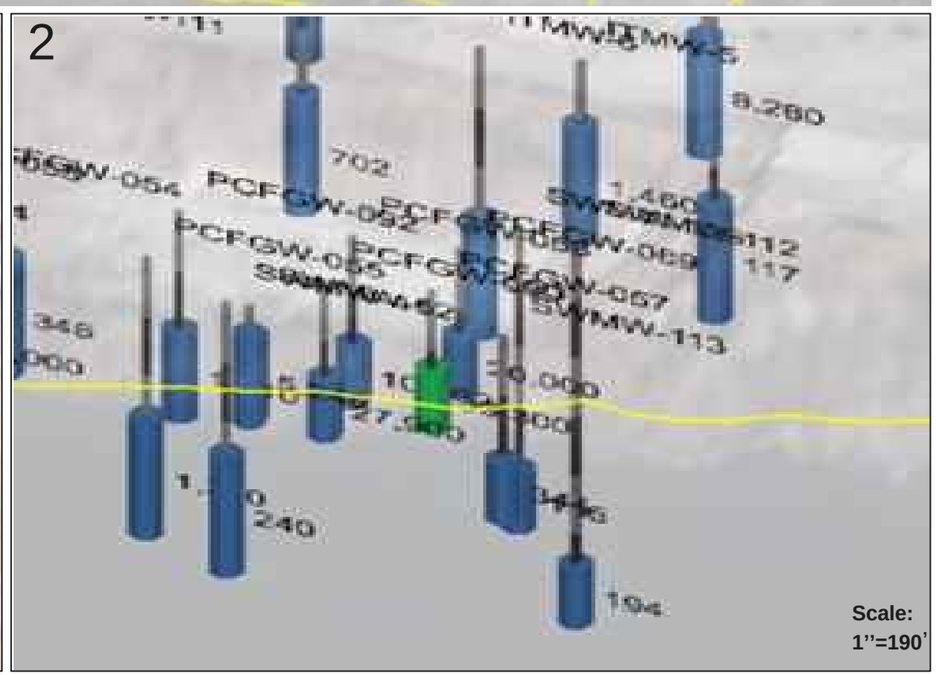


Scale: 1''=190'



Scale: 1''=190'

Legend:

Operable Unit (OU) Boundaries

Manganese: ug/L

Above NY TOGS

Below NY TOGS

Notes:

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REMEDIAL INVESTIGATION REPORT ADDENDUM 1

MANGANESE GROUNDWATER SCREENING LEVEL EXCEEDANCES 2012-2013

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FIGURE
2-27A

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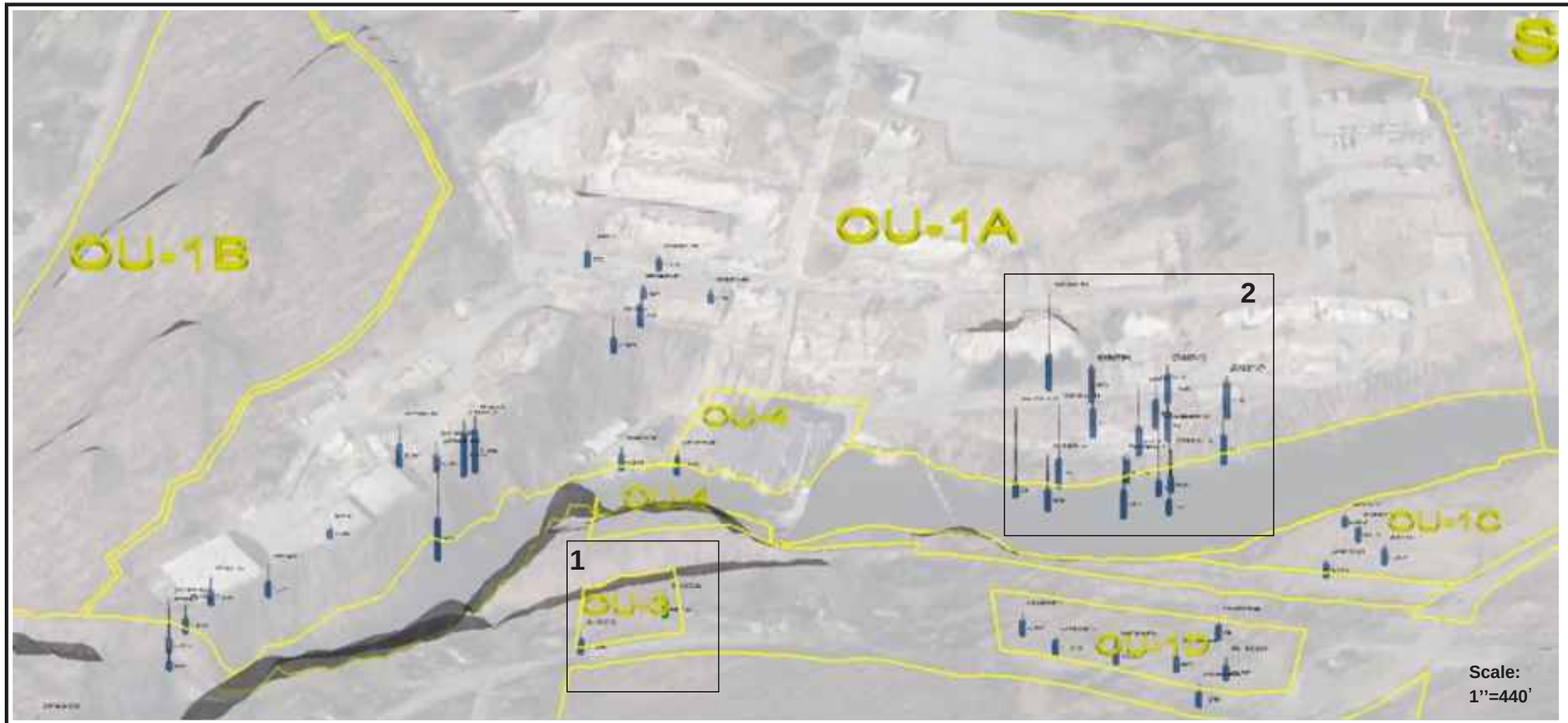

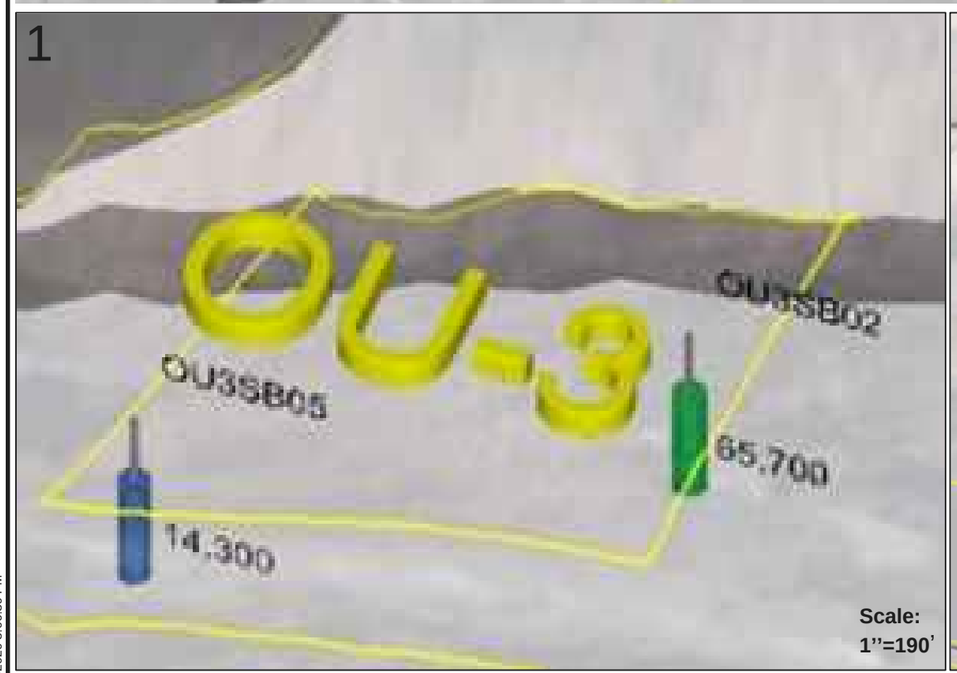

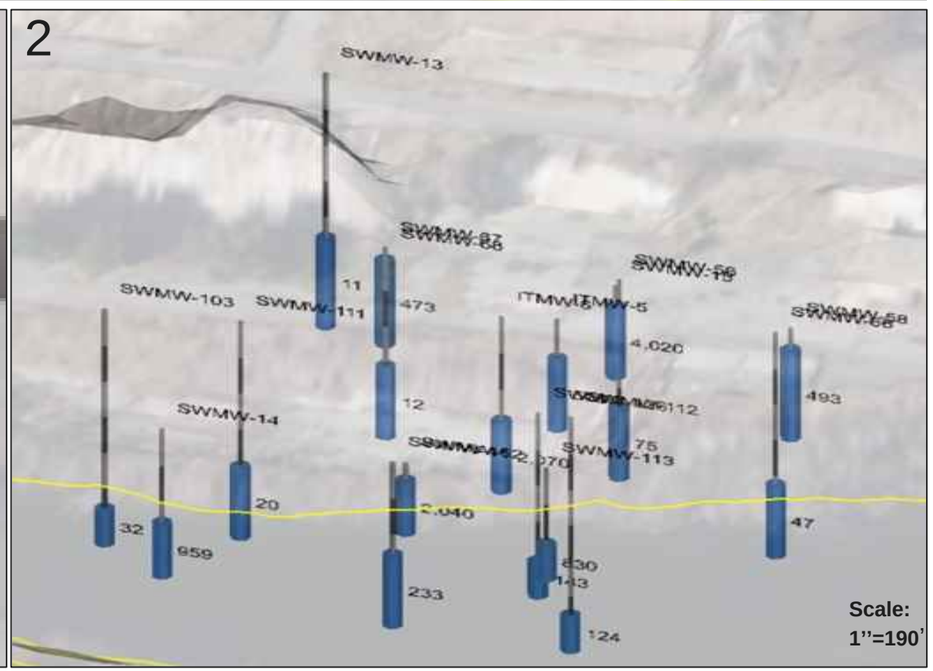

Legend:

Operable Unit (OU) Boundaries

Manganese: ug/L

Above NY TOGS

Below NY TOGS

Notes:

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2. Scales are approximated.
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MANGANESE GROUNDWATER SCREENING LEVEL EXCEEDANCES 2016-2018

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FIGURE
2-27B

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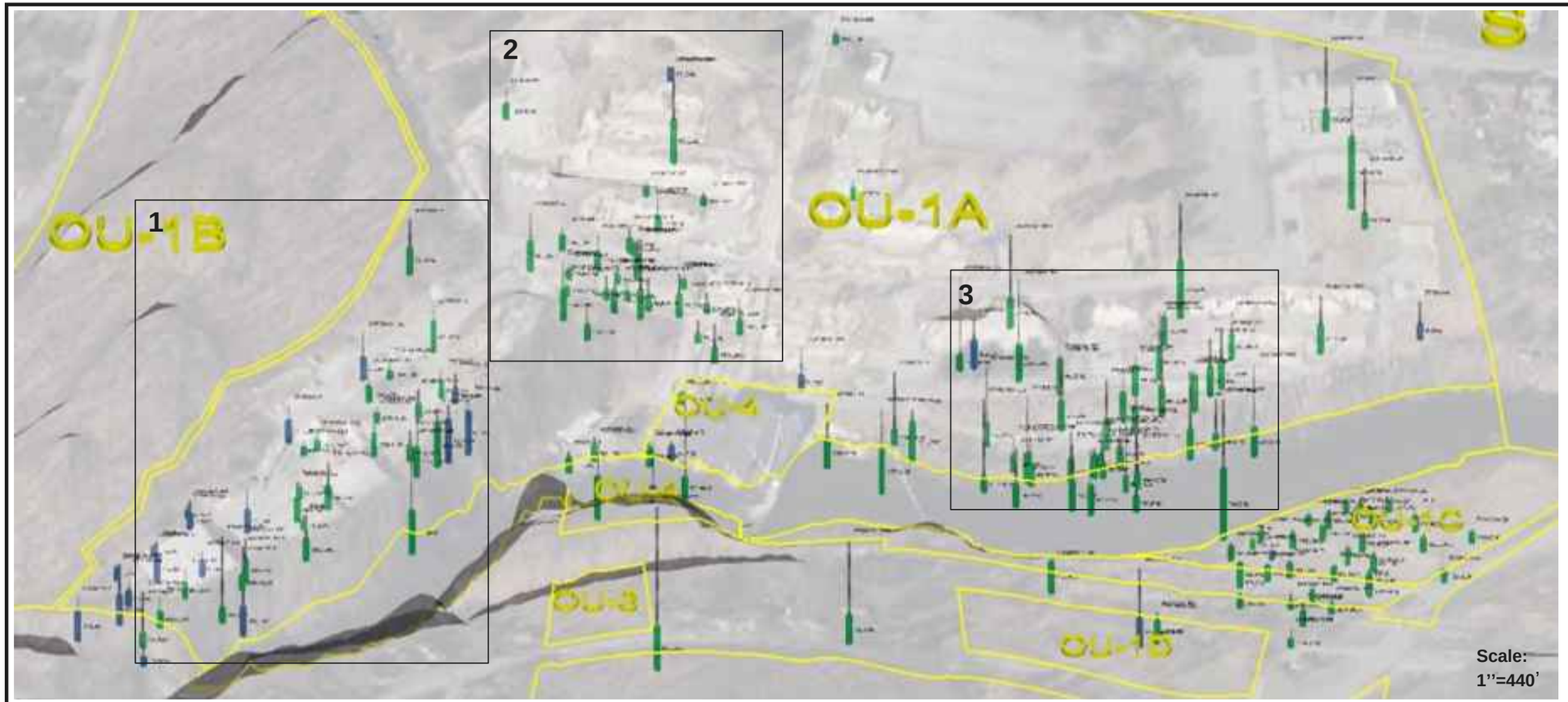

Legend:

Operable Unit (OU) Boundaries

Sodium: ug/L

- Above NY TOGS
- Below NY TOGS

Notes:

1. Results colored by least restrictive screening level exceeded
2. Scales are approximated.
    1. Key Map: 1 inch = 440 feet
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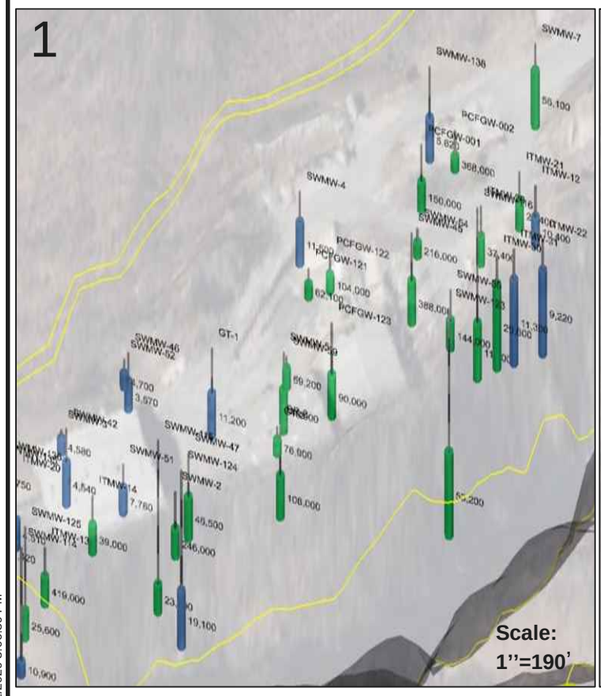

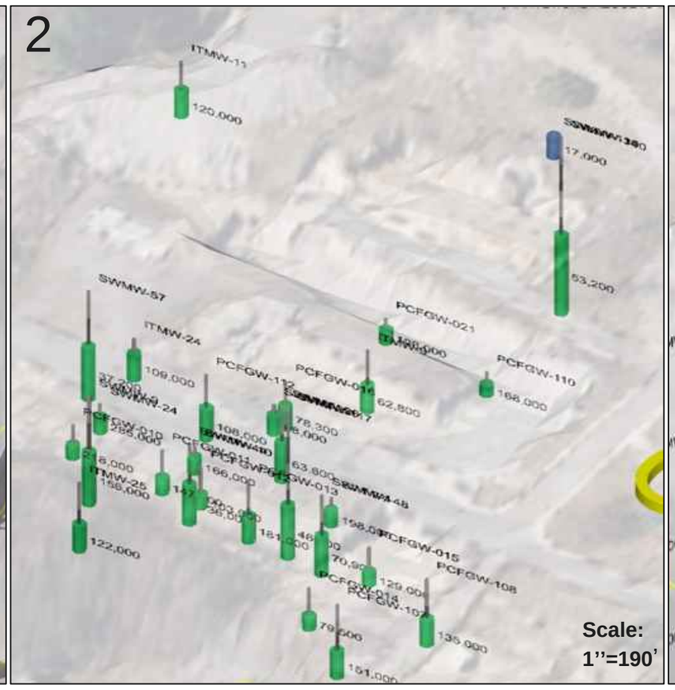

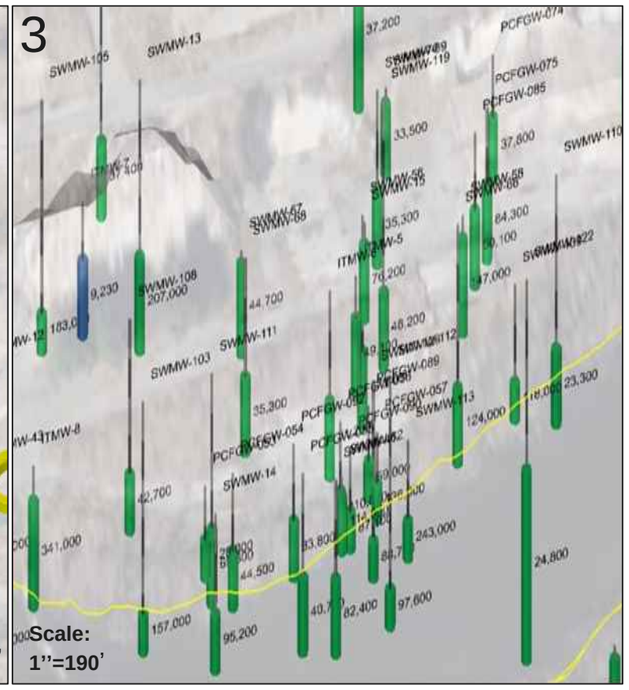

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REMEDIAL INVESTIGATION REPORT ADDENDUM 1

SODIUM GROUNDWATER SCREENING LEVEL EXCEEDANCES 2012-2013

ARCADIS Design & Consultancy for natural and built assets

FIGURE
2-28A

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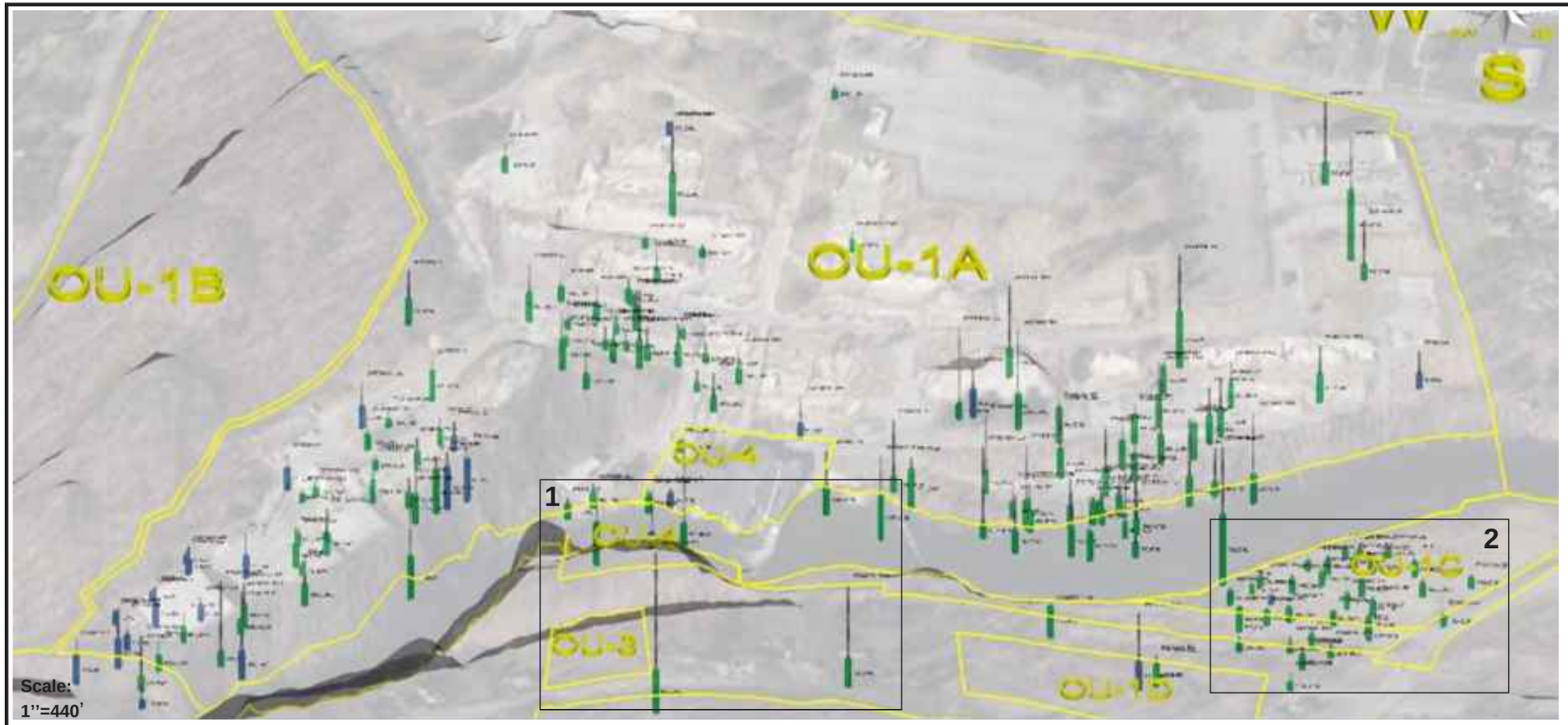

Legend:

Operable Unit (OU) Boundaries

Sodium: ug/L

- Above NY TOGS
- Below NY TOGS

Notes:

1. Results colored by least restrictive screening level exceeded
2. Scales are approximated.
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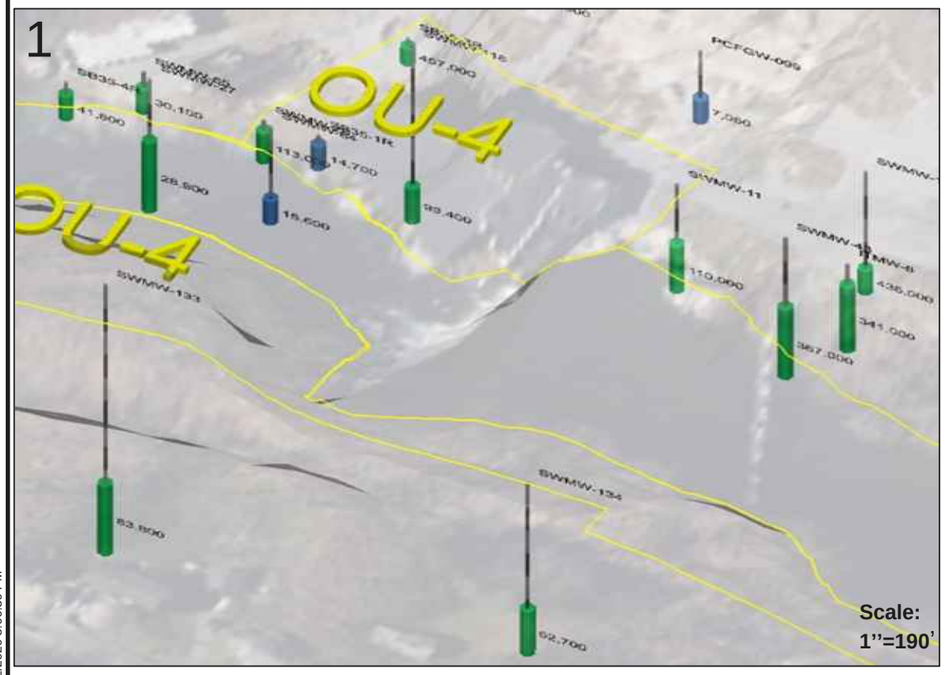
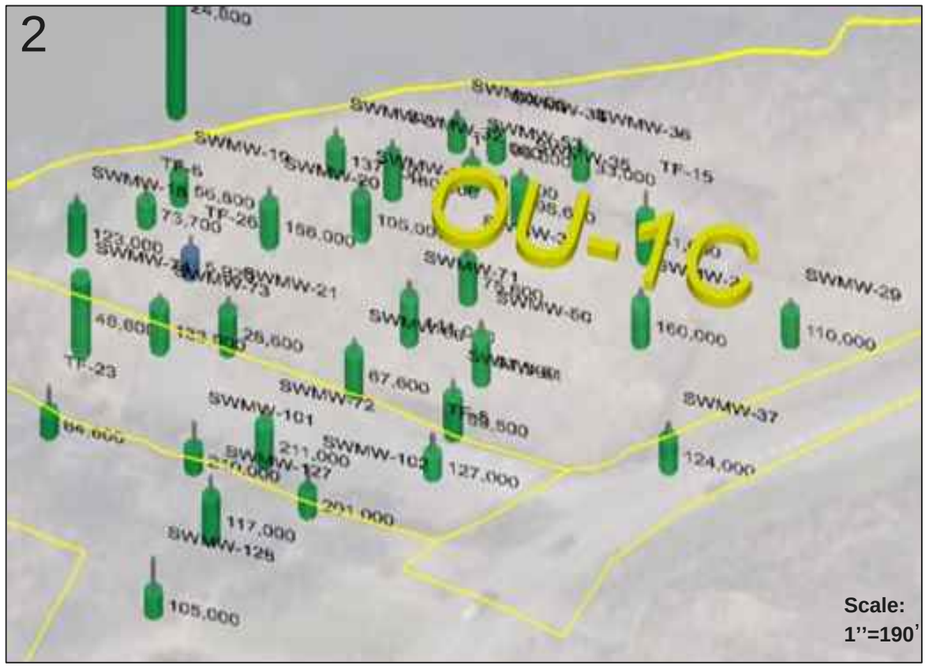
5. Non-detect samples colored at their reporting limit (RL) and modeled at 1/10 of their RL.
6. µg/L: microgram per liter
7. OU: Operable Unit
8. NY TOGS: New York Technical and Operational Guidance Series





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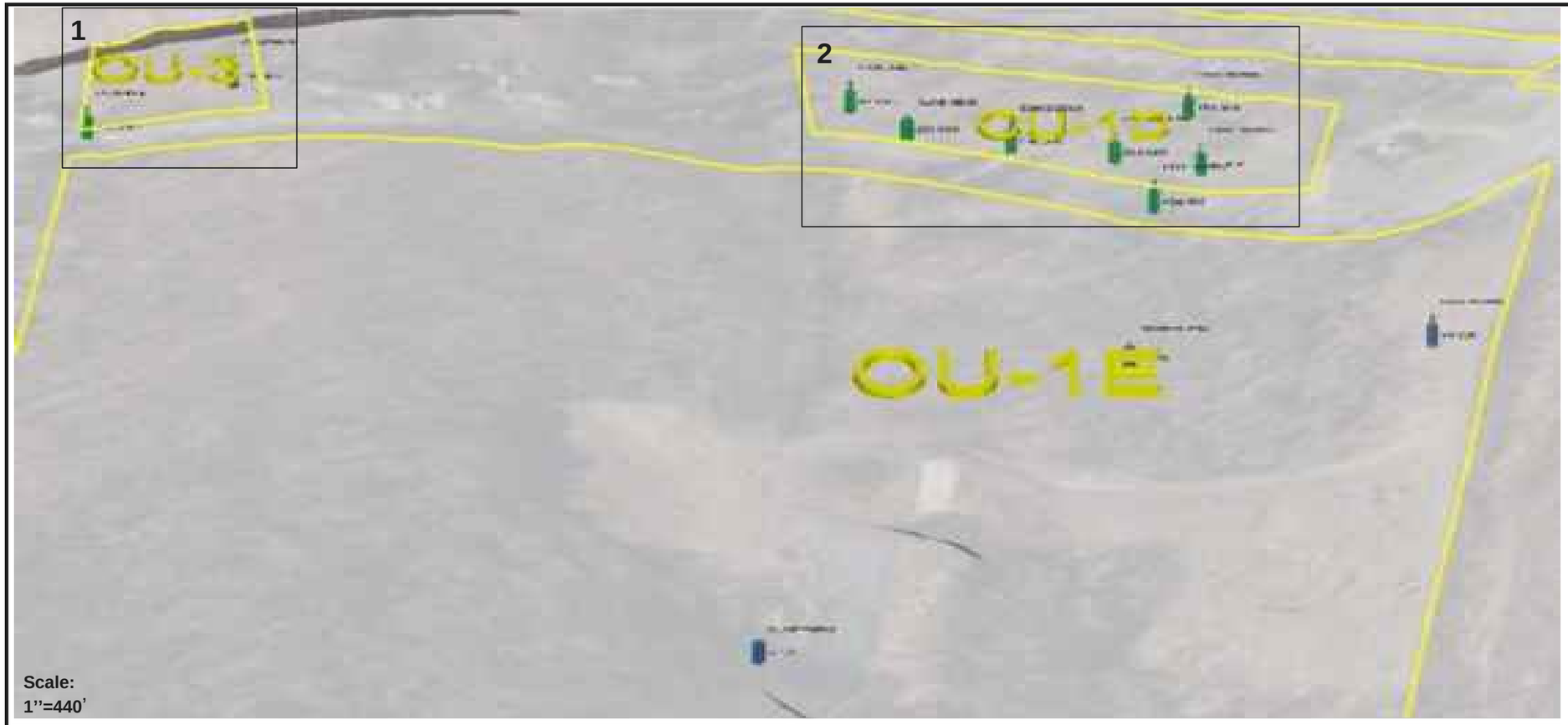
REMEDIAL INVESTIGATION REPORT ADDENDUM 1

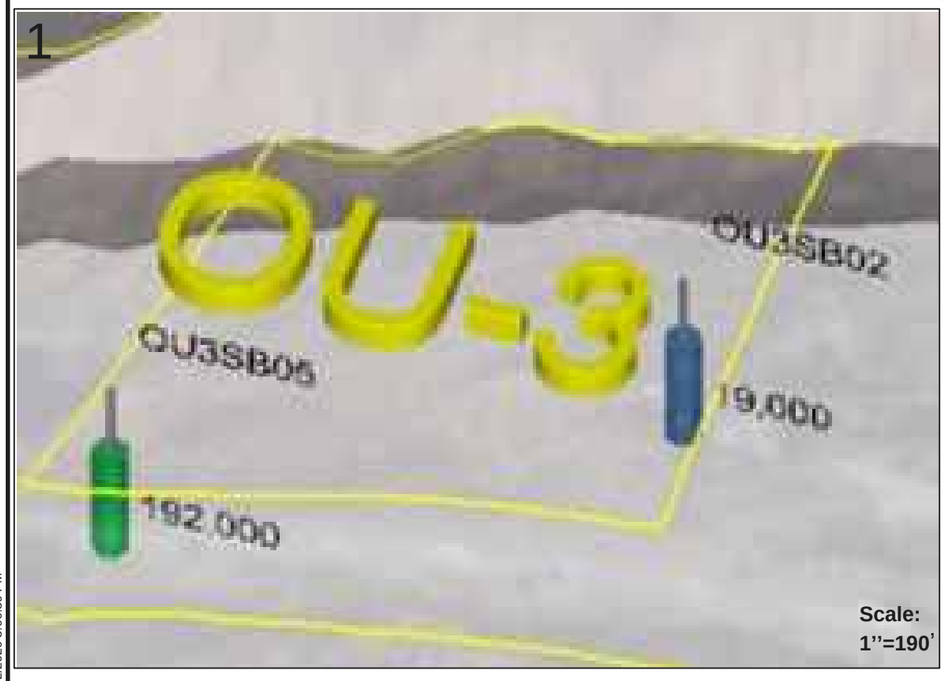
SODIUM GROUNDWATER SCREENING LEVEL EXCEEDANCES 2012-2013

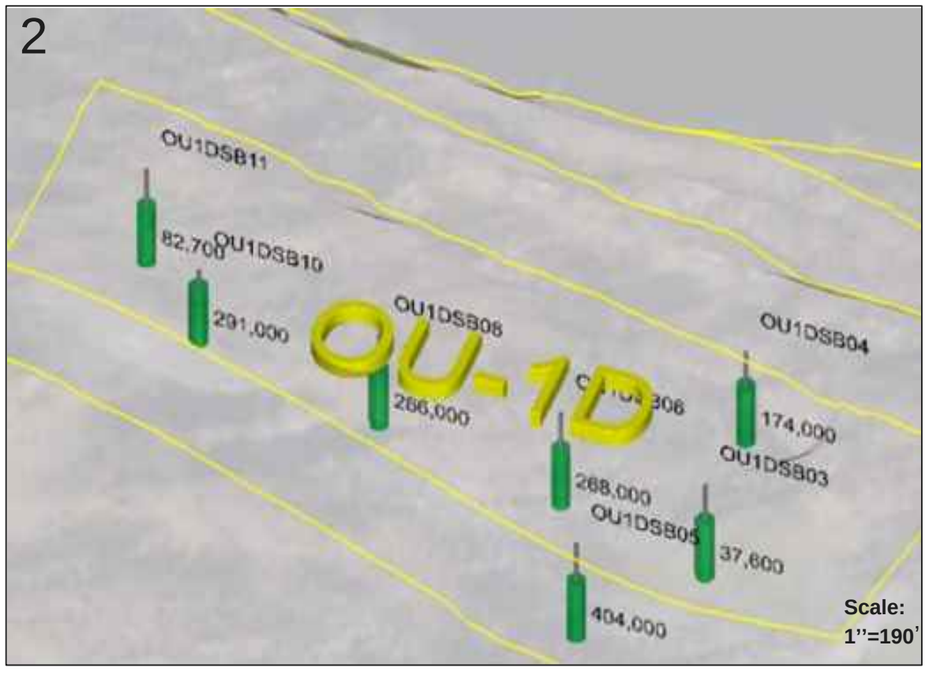
ARCADIS Design & Consultancy for natural and built assets

FIGURE
2-28B

11/2/2020 3:06:39 PM







Legend:

Operable Unit (OU) Boundaries

Sodium: ug/L

- Above NY TOGS
- Below NY TOGS

Notes:

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REMEDIAL INVESTIGATION REPORT ADDENDUM 1

SODIUM GROUNDWATER SCREENING LEVEL EXCEEDANCES 2016-2018

ARCADIS Design & Consultancy for natural and built assets

FIGURE
2-28C

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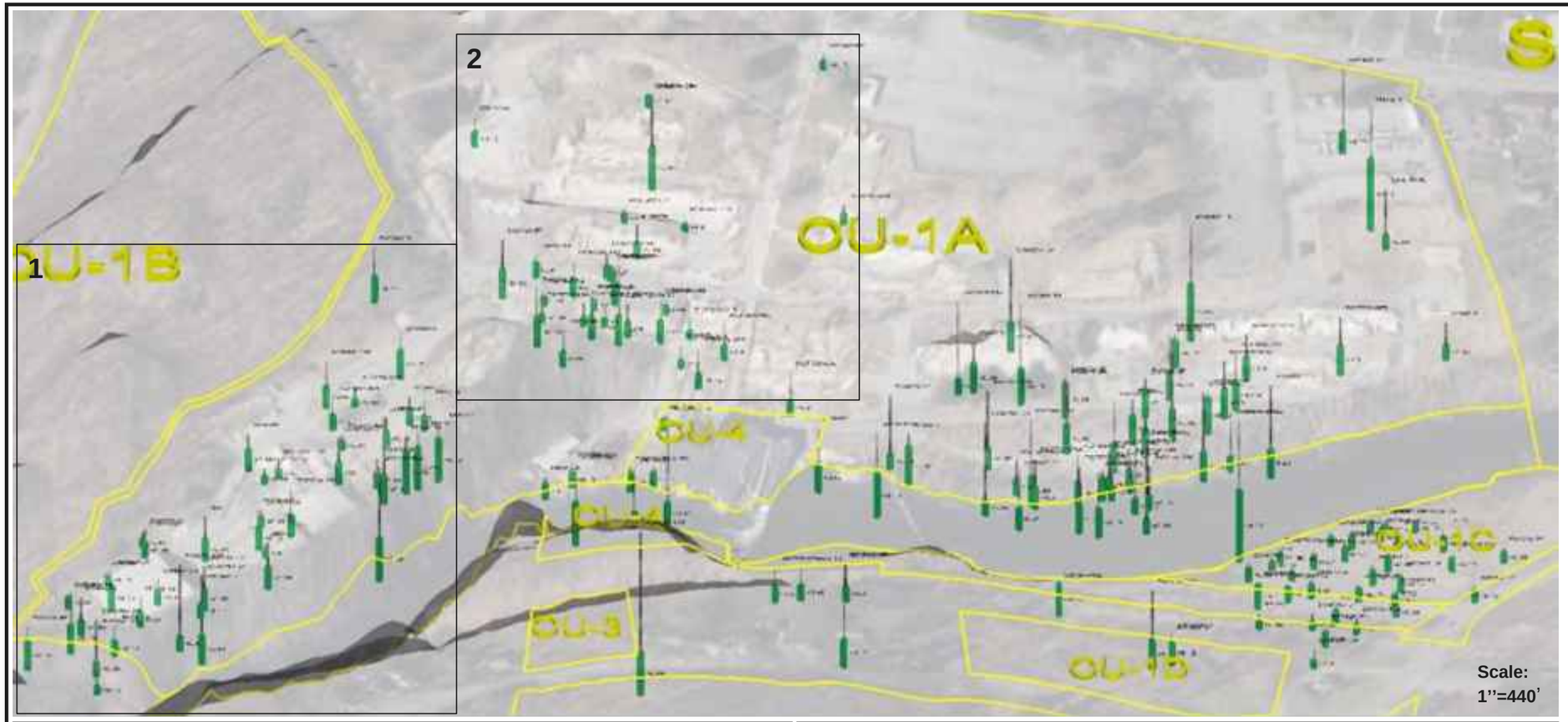

Legend:

Operable Unit (OU) Boundaries

Benzo(b)fluoranthene: ug/L

Above NY TOGS

Notes:

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2. Scales are approximated.
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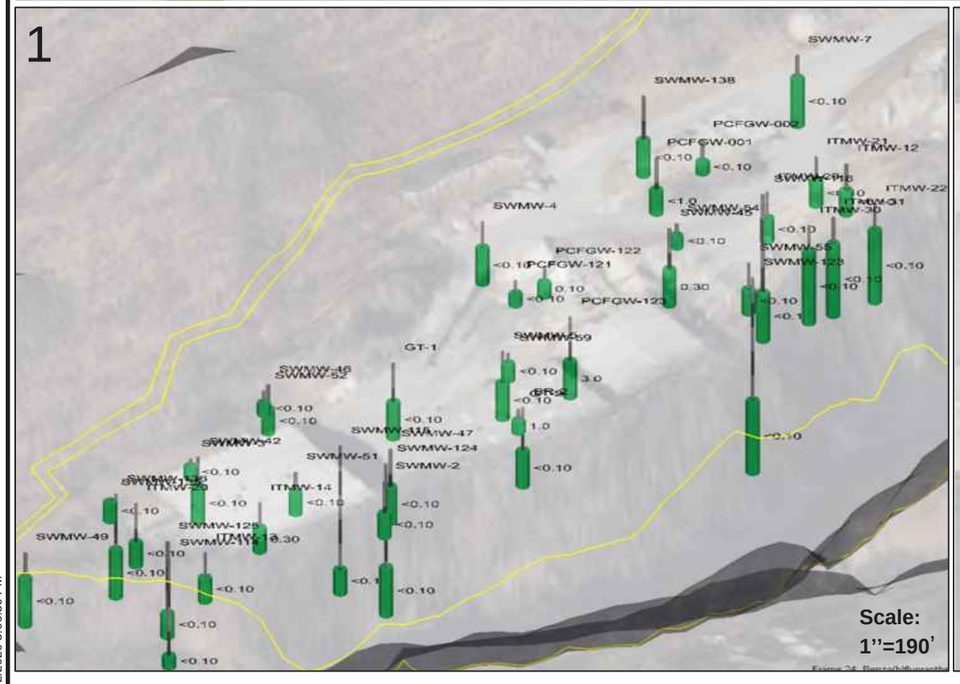

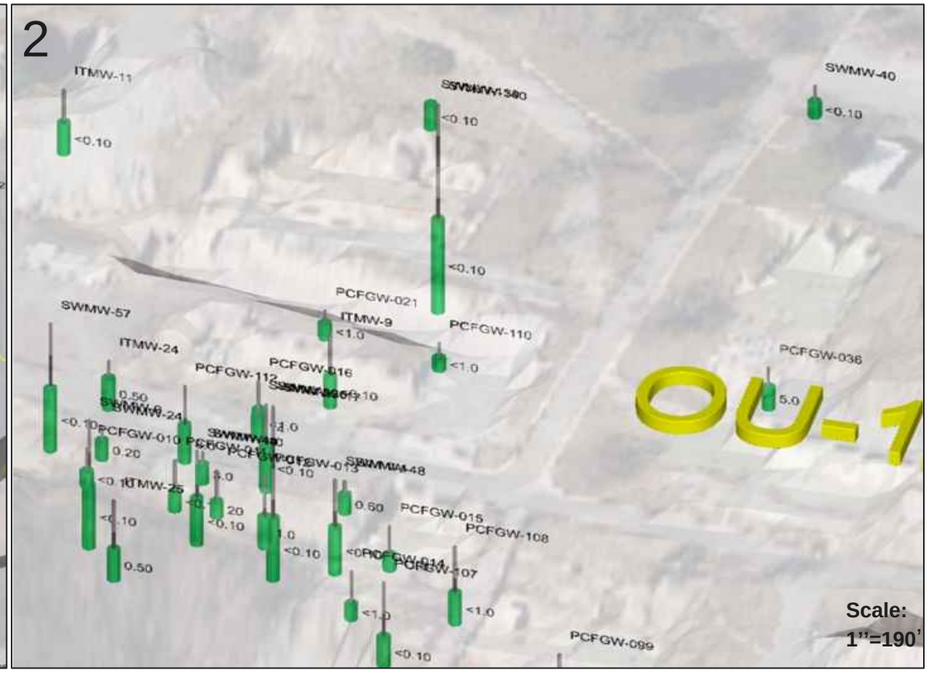

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REMEDIAL INVESTIGATION REPORT ADDENDUM 1

BENZO(B)FLUORANTHENE GROUNDWATER SCREENING LEVEL EXCEEDANCES 2012-2013

ARCADIS Design & Consultancy for natural and built assets

FIGURE
2-29A

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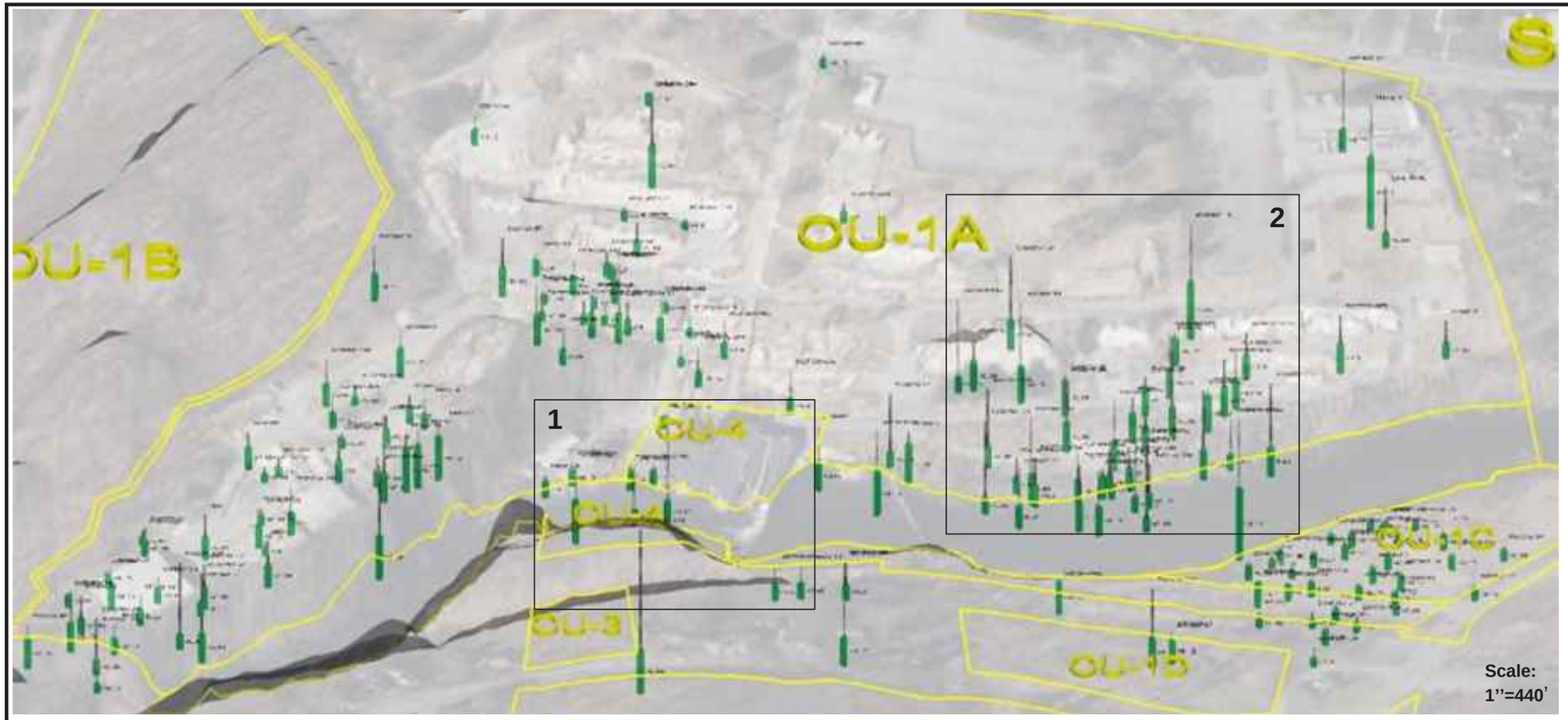
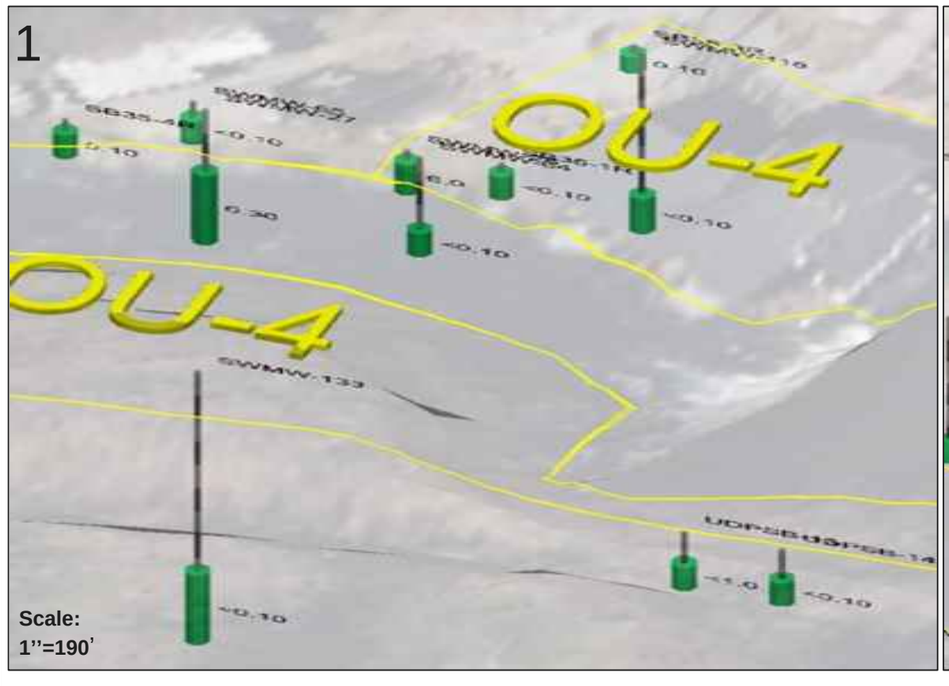
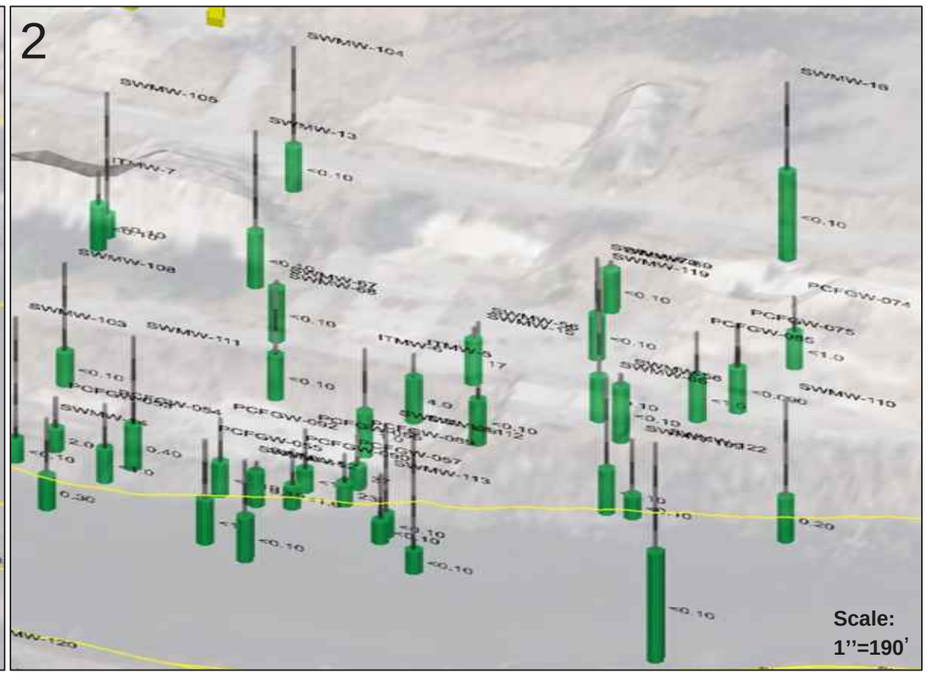


Scale:
1''=440'



Scale:
1''=190'



Scale:
1''=190'

Legend:

Operable Unit (OU) Boundaries

Benzo(b)fluoranthene: ug/L

Above NY TOGS

Notes:

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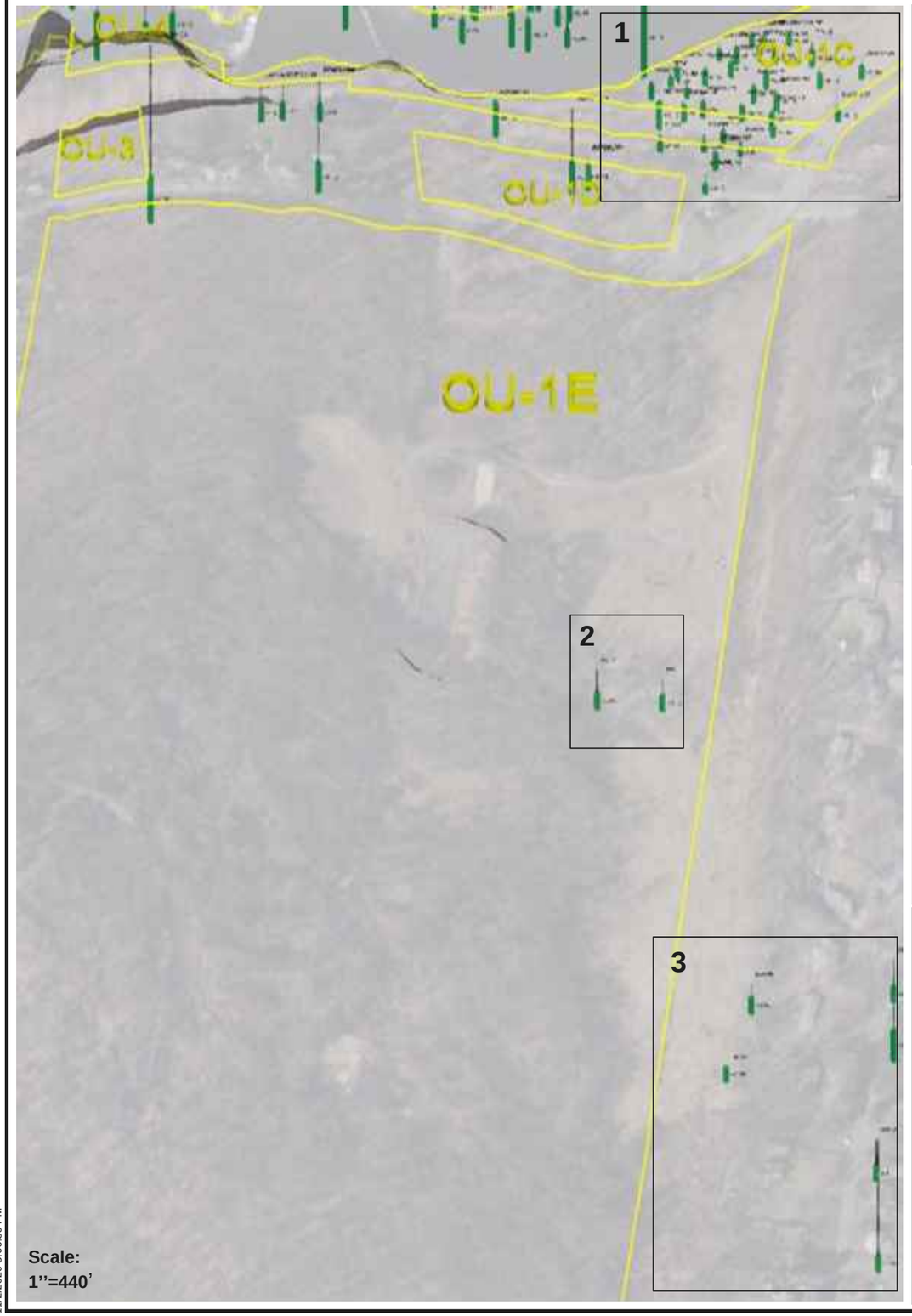
REMEDIAL INVESTIGATION REPORT ADDENDUM 1

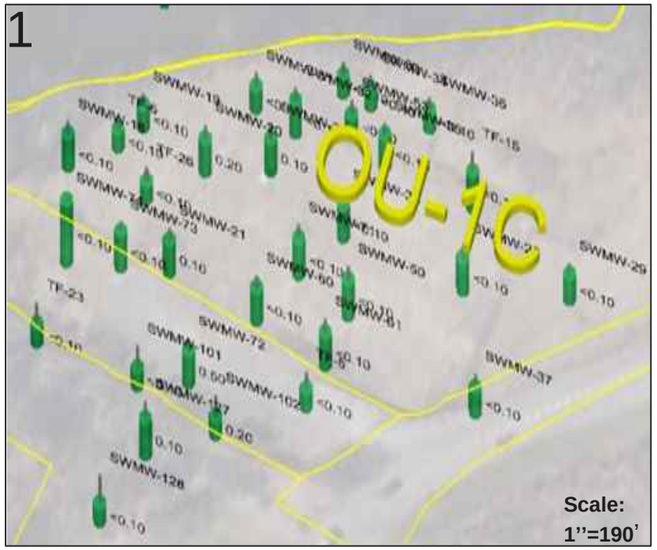
BENZO(B)FLUORANTHENE GROUNDWATER SCREENING LEVEL EXCEEDANCES 2012-2013

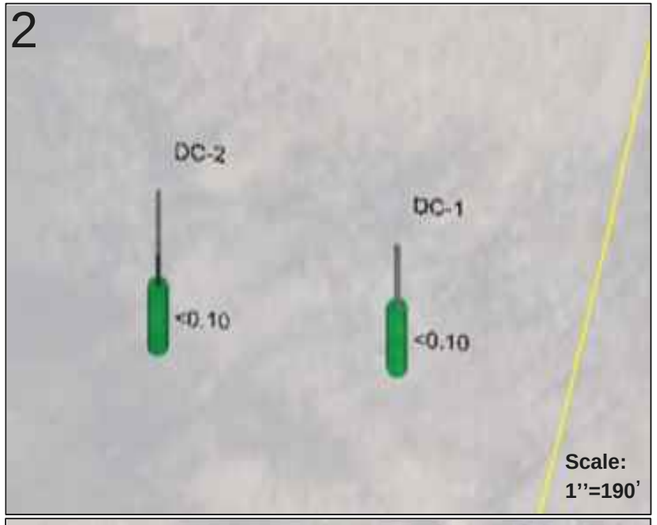
ARCADIS Design & Consultancy for natural and built assets

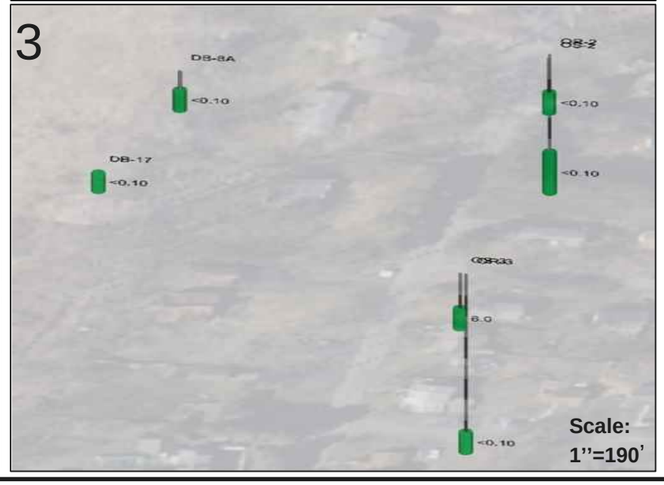
FIGURE
2-29B

11/2/2020 3:06:39 PM









Legend:

Operable Unit (OU) Boundaries

Benzo(b)fluoranthene: ug/L

Above NY TOGS

Notes:

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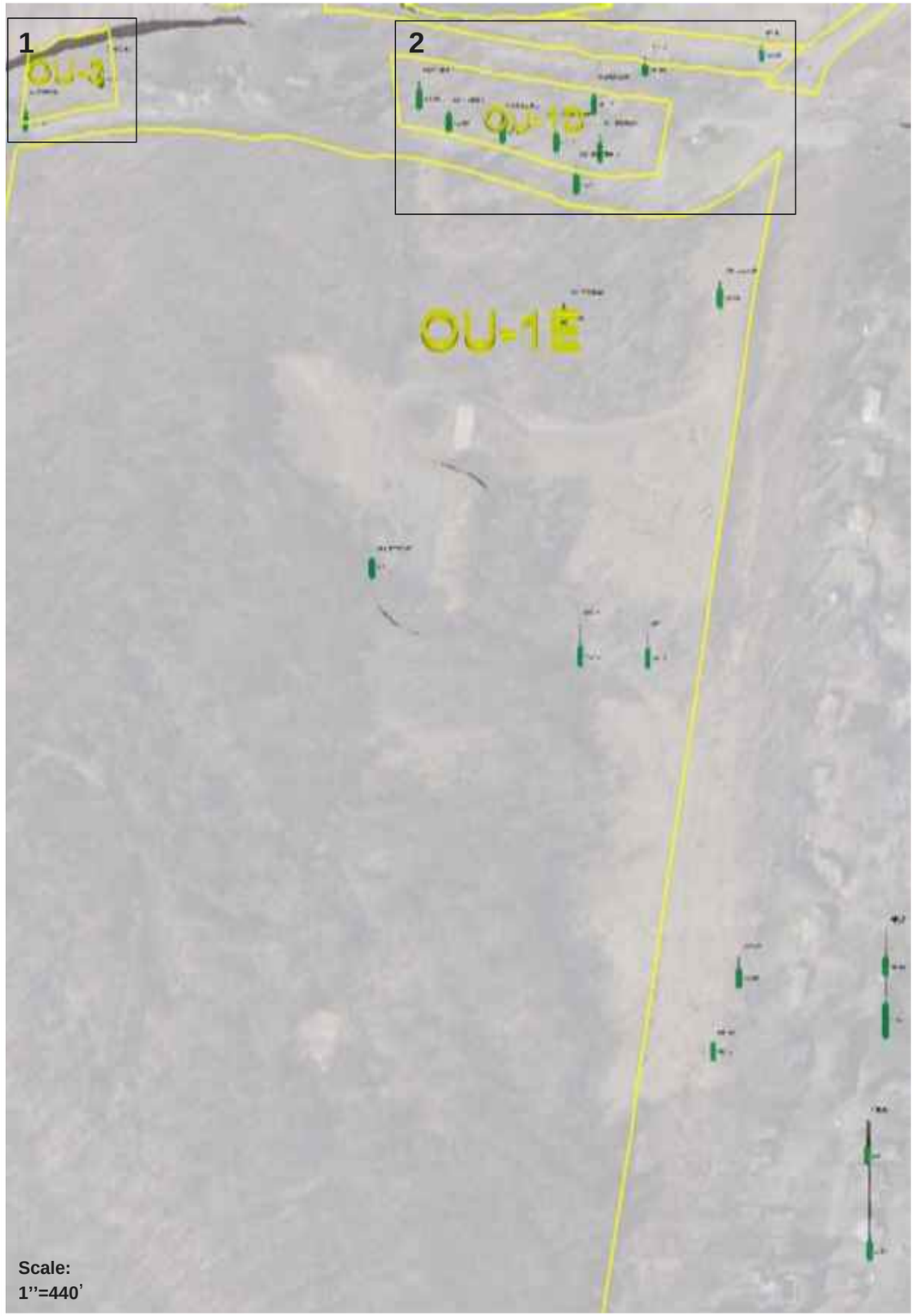
REMEDIAL INVESTIGATION REPORT ADDENDUM 1

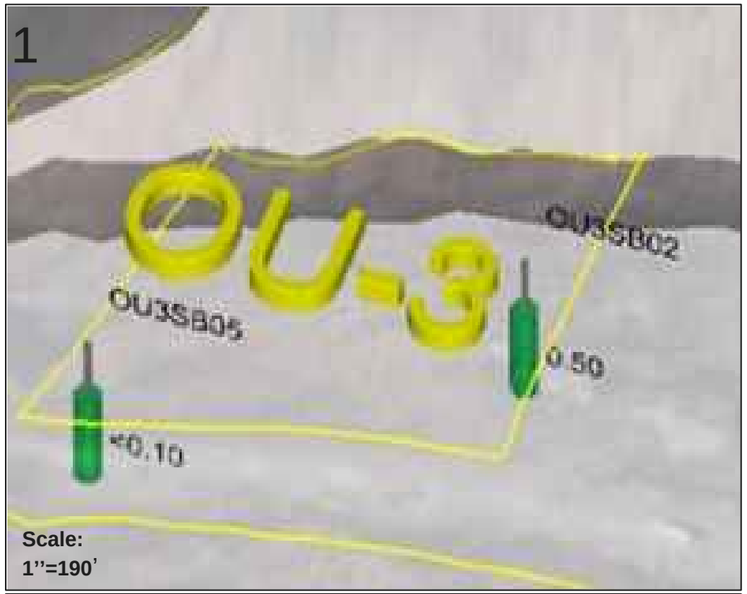
BENZO(B)FLUORANTHENE GROUNDWATER SCREENING LEVEL EXCEEDANCES 2012-2013

ARCADIS Design & Consultancy for natural and built assets

FIGURE
2-29C

11/2/2020 3:06:39 PM





Legend:

Operable Unit (OU) Boundaries

Benzo(b)fluoranthene: ug/L

Above NY TOGS

Notes:

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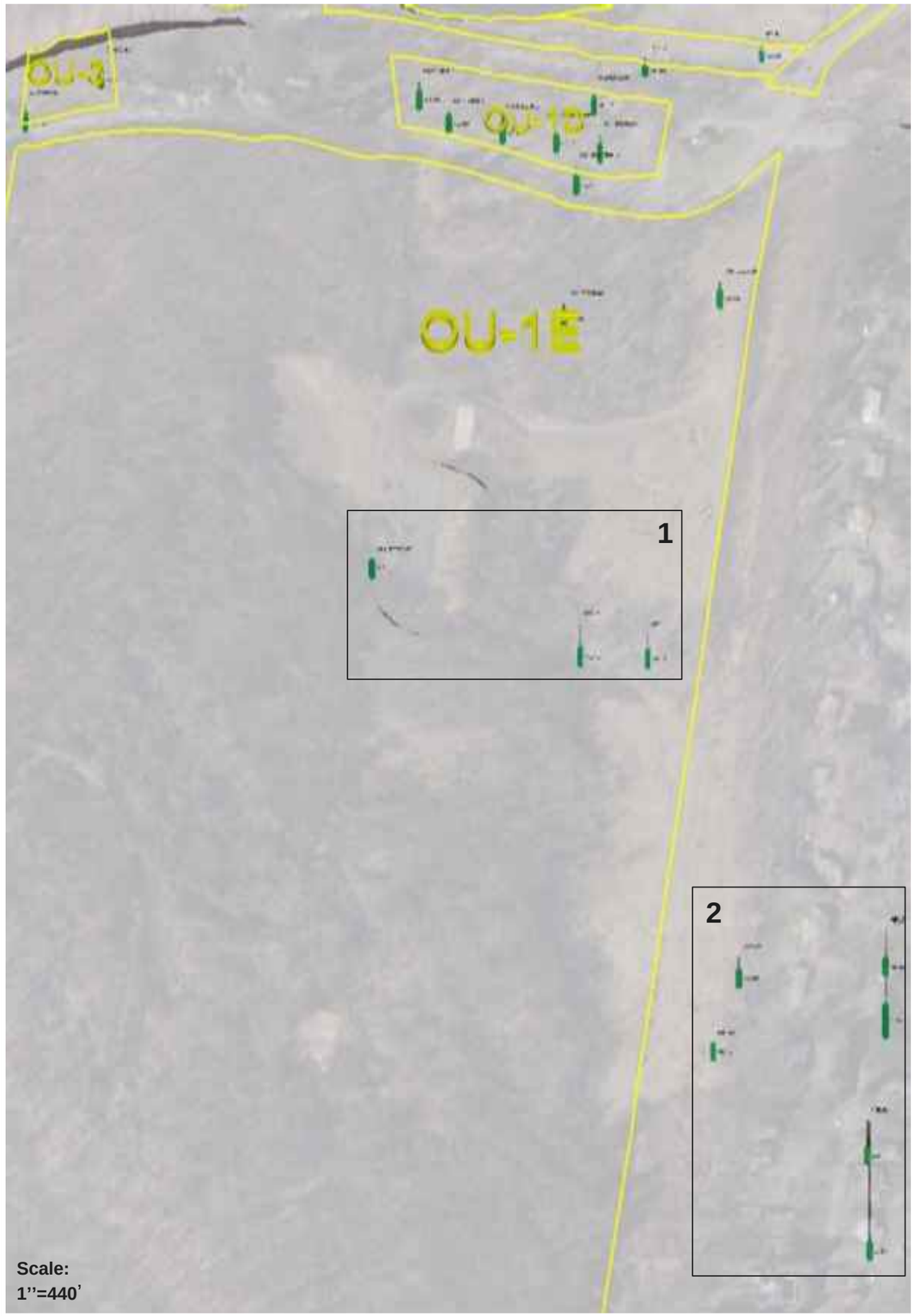
REMEDIAL INVESTIGATION REPORT ADDENDUM 1

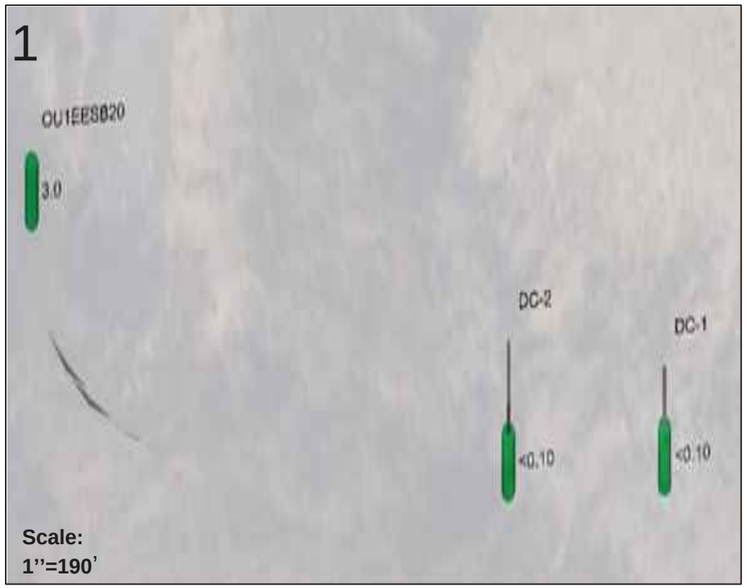
BENZO(B)FLUORANTHENE GROUNDWATER SCREENING LEVEL EXCEEDANCES 2016-2018

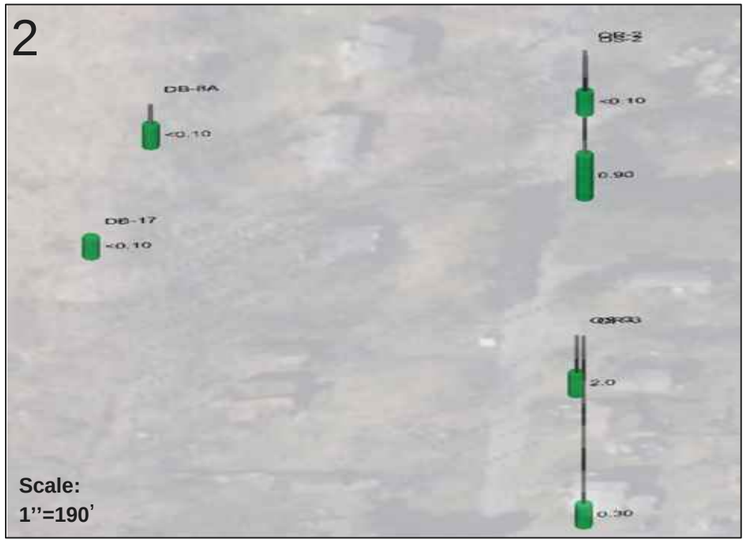
ARCADIS Design & Consultancy for natural and built assets

FIGURE
2-29D

11/2/2020 3:06:39 PM







Legend:

Operable Unit (OU) Boundaries

Benzo(b)fluoranthene: ug/L

Above NY TOGS

Notes:

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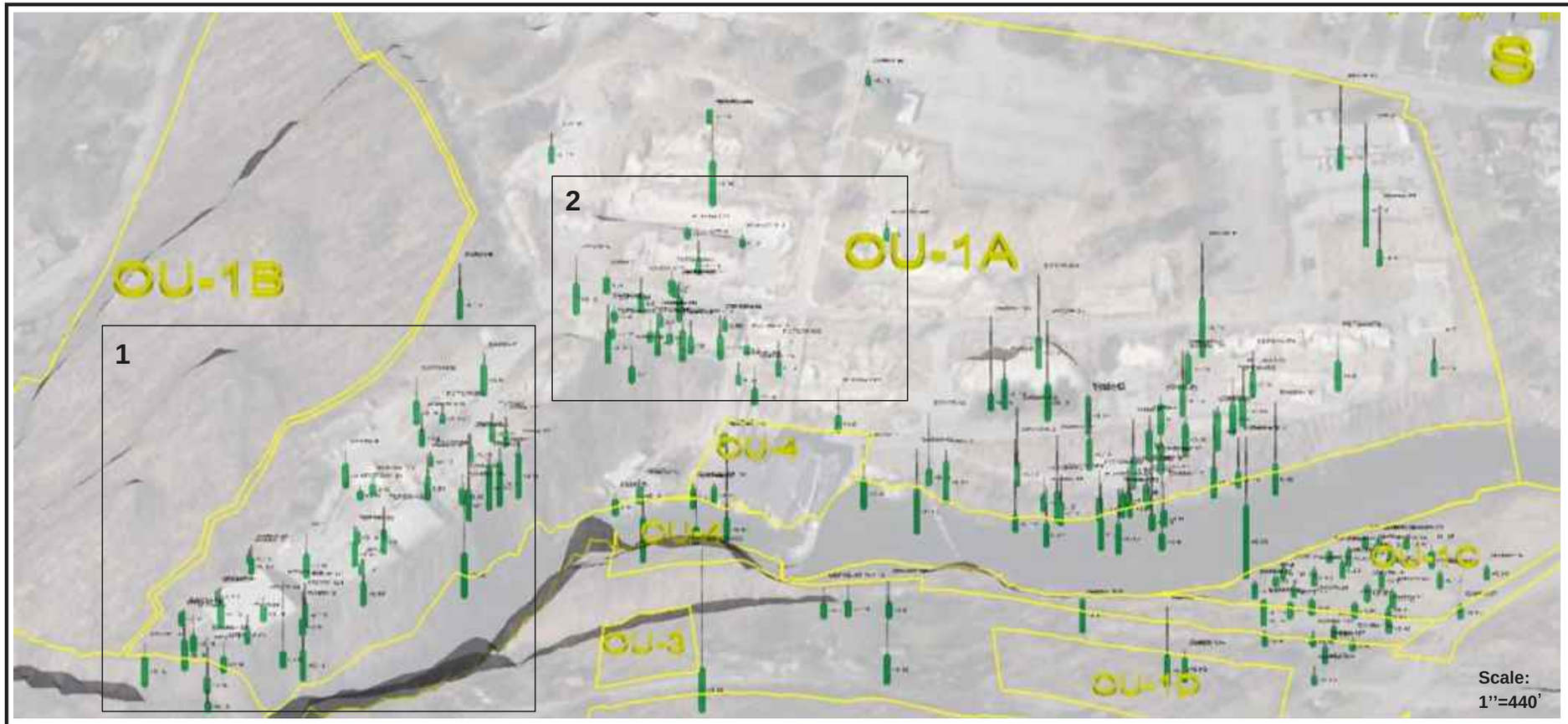
REMEDIAL INVESTIGATION REPORT ADDENDUM 1

BENZO(B)FLUORANTHENE GROUNDWATER SCREENING LEVEL EXCEEDANCES 2016-2018

ARCADIS Design & Consultancy for natural and built assets

FIGURE
2-29E

11/2/2020 3:06:39 PM



Legend:

Operable Unit (OU) Boundaries

Chrysene: ug/L

Above NY TOGS

Notes:

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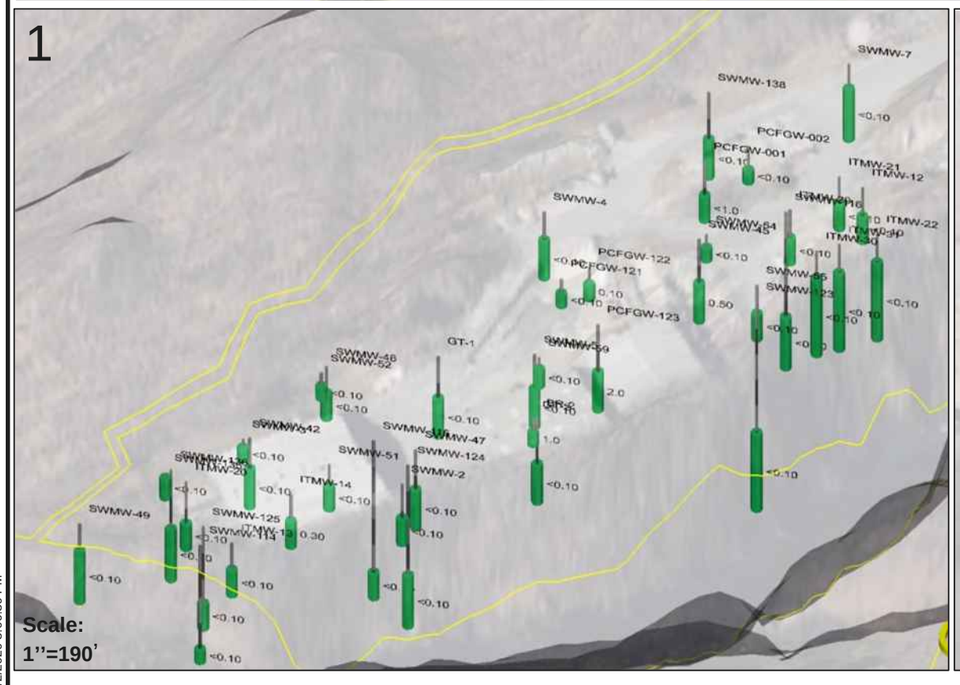

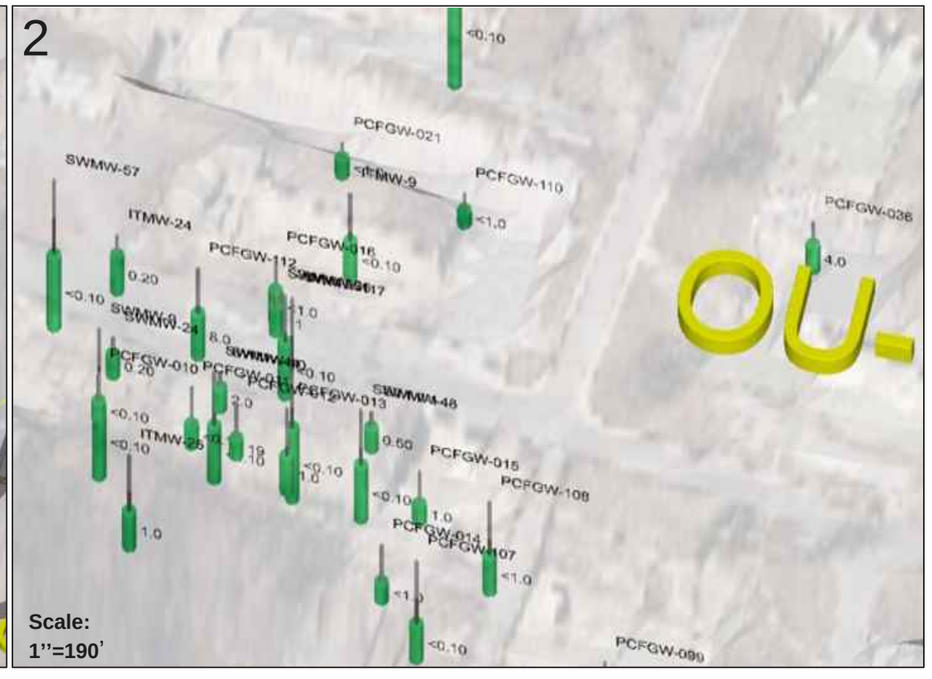

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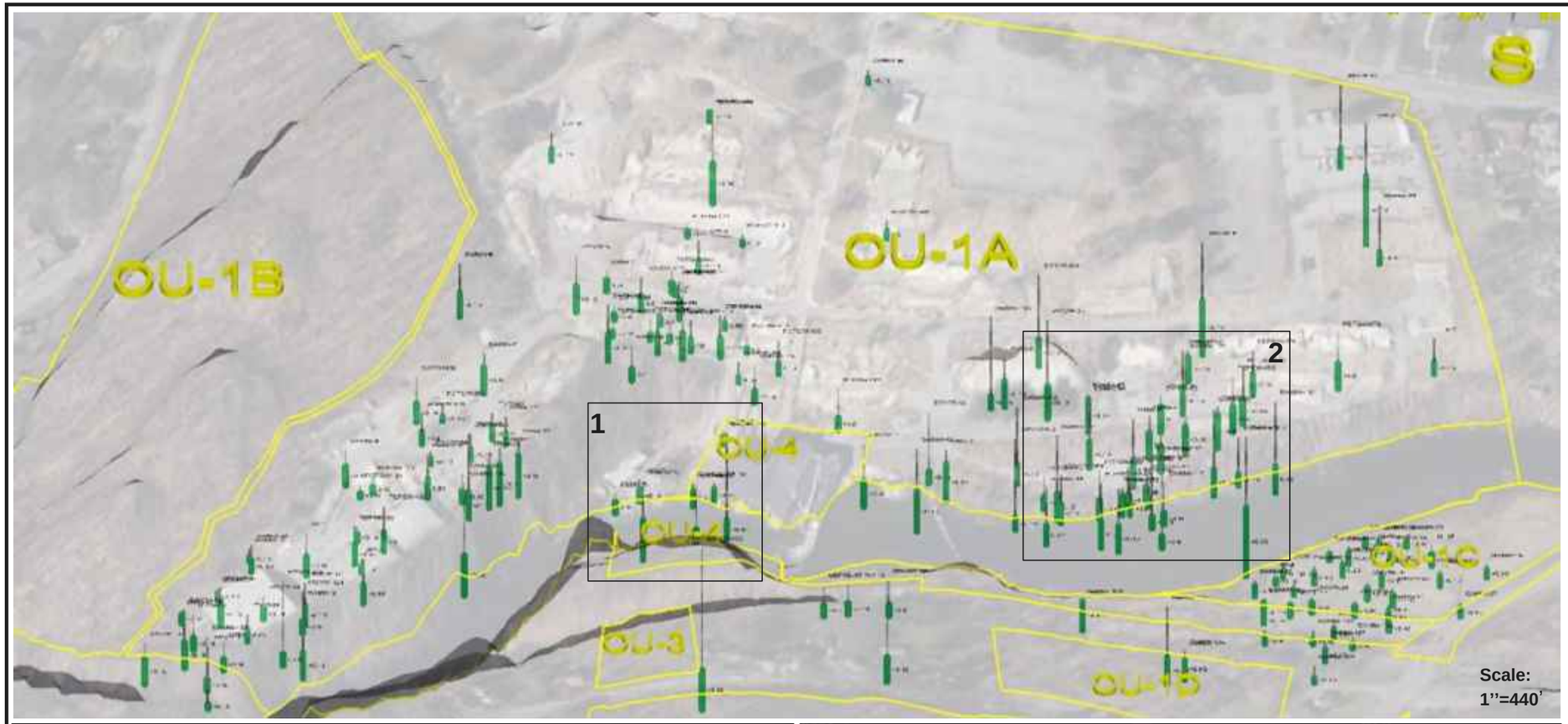
REMEDIAL INVESTIGATION REPORT ADDENDUM 1

CHRYSENE GROUNDWATER SCREENING LEVEL EXCEEDANCES 2012-2013

ARCADIS Design & Consultancy for natural and built assets

FIGURE
2-30A

11/2/2020 3:06:39 PM



Legend:

Operable Unit (OU) Boundaries

Chrysene: ug/L

Above NY TOGS

Notes:

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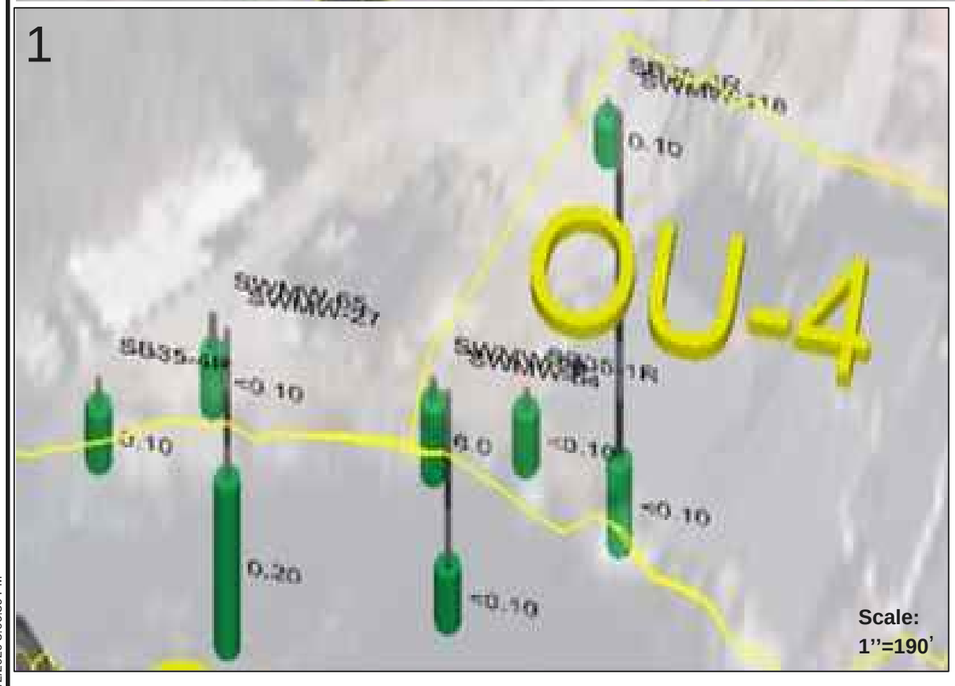

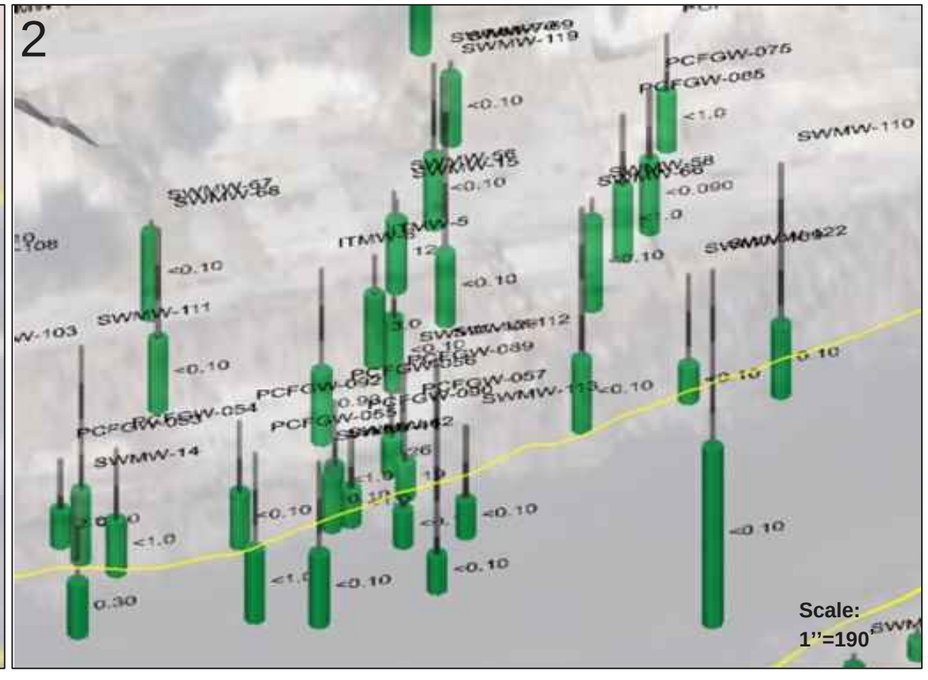

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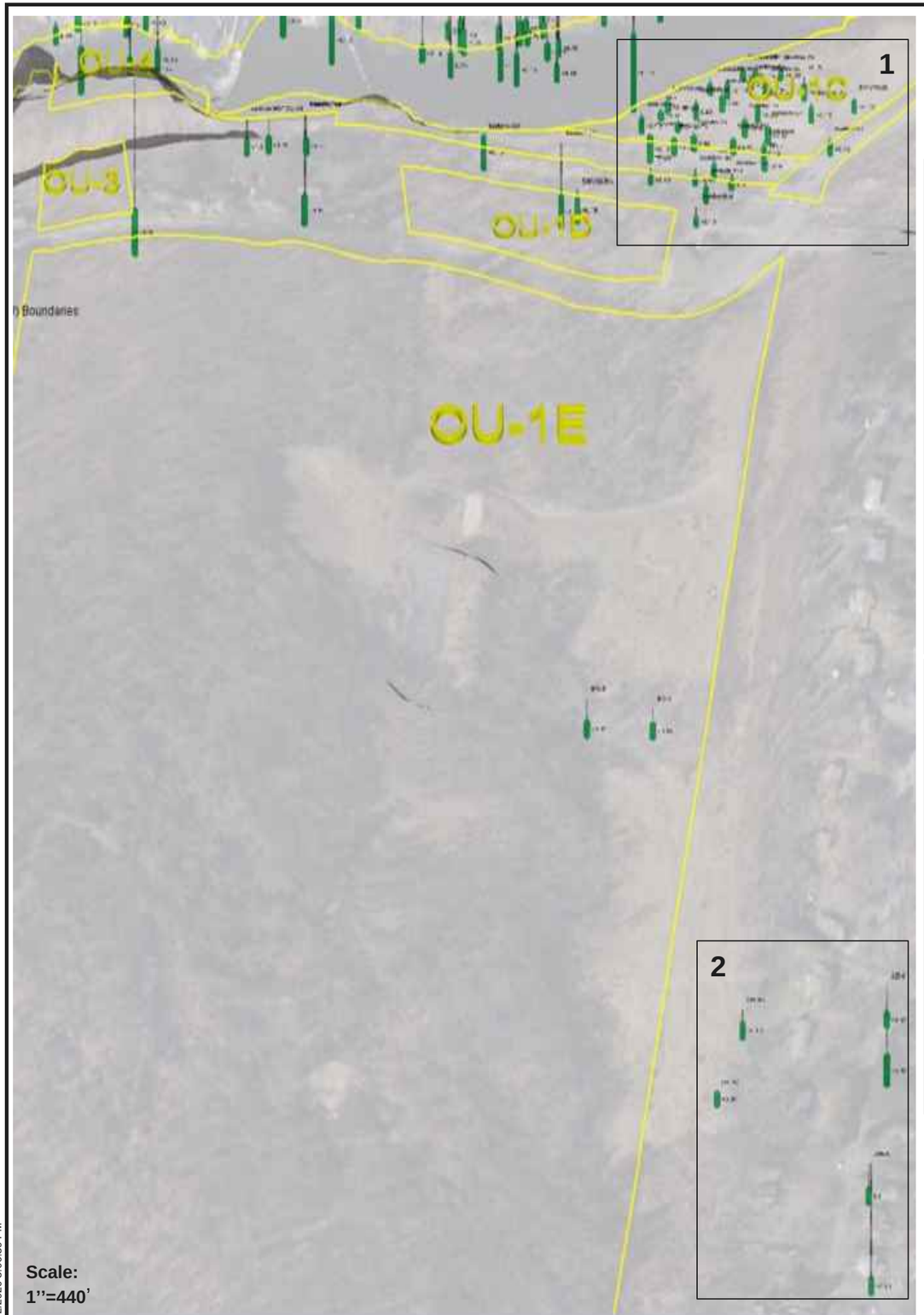
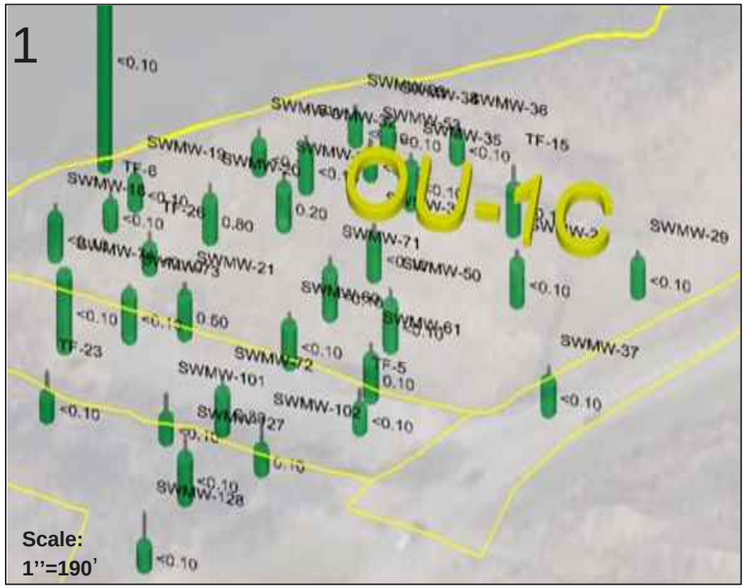
CHRYSENE GROUNDWATER SCREENING LEVEL EXCEEDANCES 2012-2013

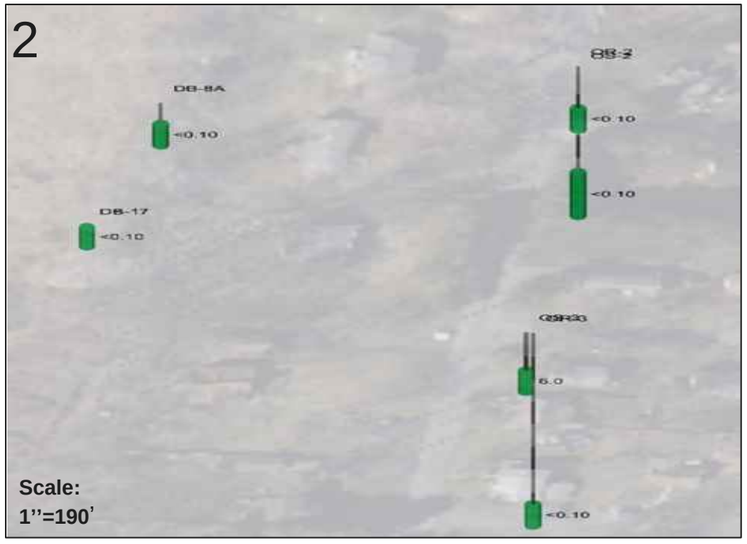
ARCADIS Design & Consultancy for natural and built assets

FIGURE
2-30B

11/2/2020 3:06:39 PM







Legend:

Operable Unit (OU) Boundaries

Chrysene: ug/L

Above NY TOGS

Notes:

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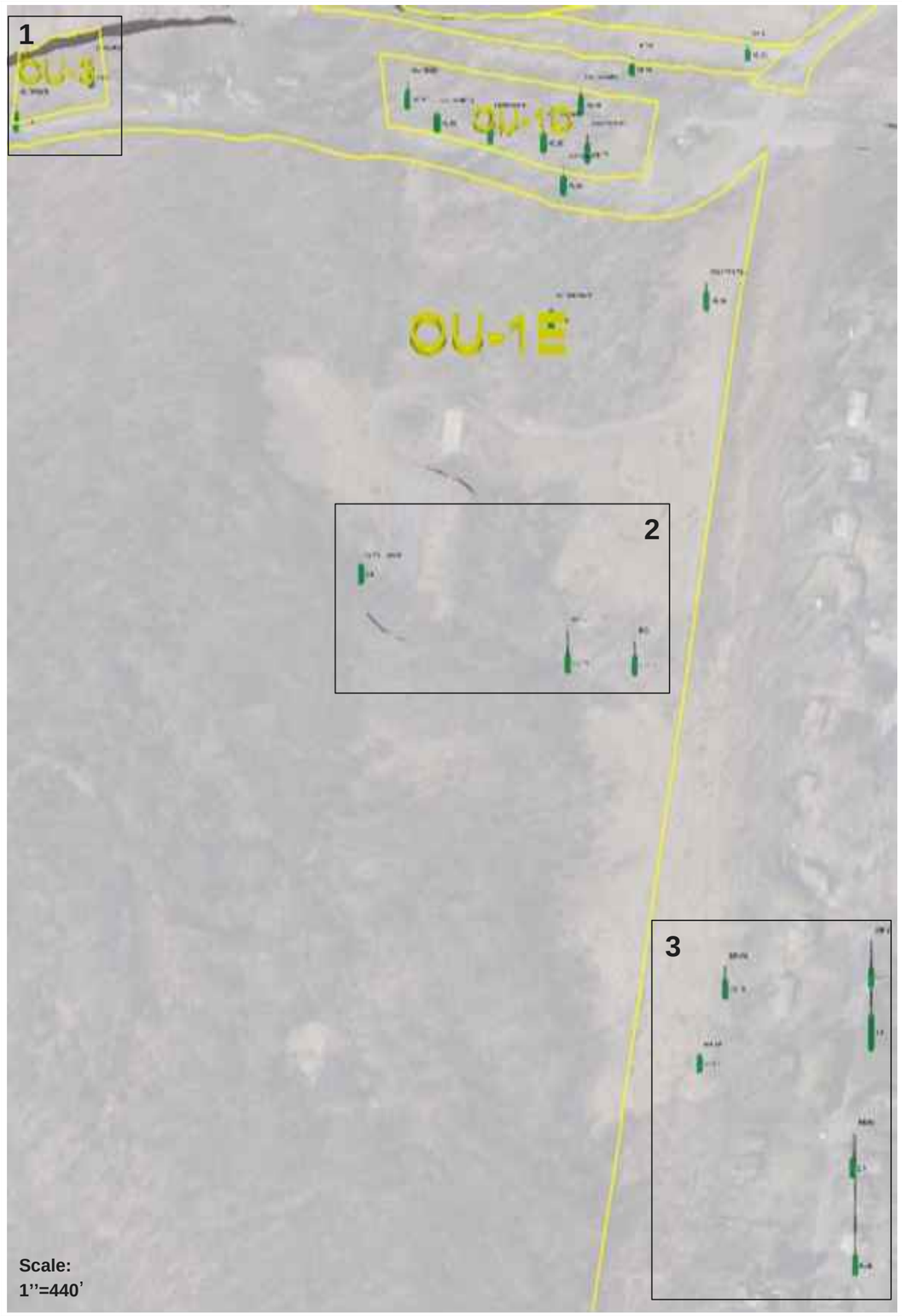
REMEDIAL INVESTIGATION REPORT ADDENDUM 1

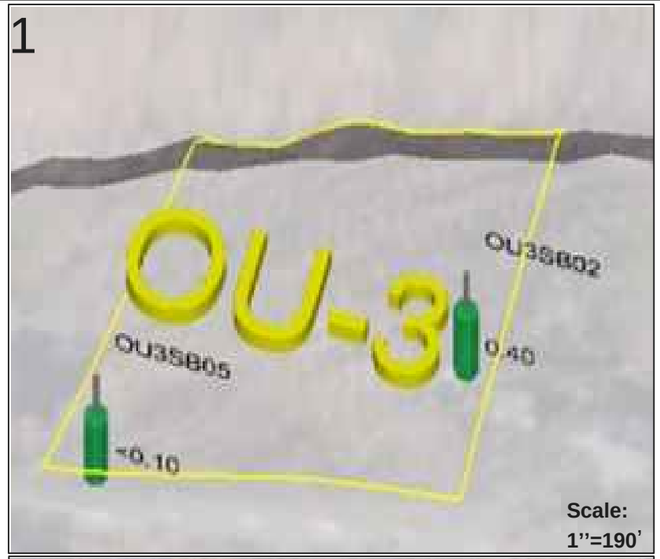
CHRYSENE GROUNDWATER SCREENING LEVEL EXCEEDANCES 2012-2013

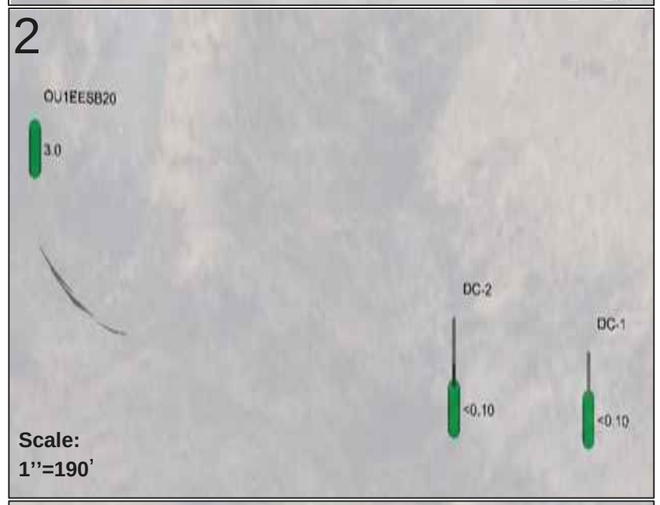
ARCADIS Design & Consultancy for natural and built assets

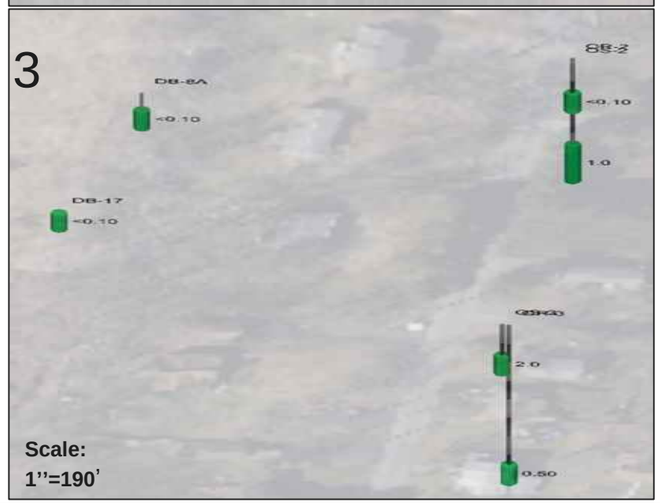
FIGURE
2-30C

11/2/2020 3:06:39 PM









Legend:

Operable Unit (OU) Boundaries

Chrysene: ug/L

Above NY TOGS

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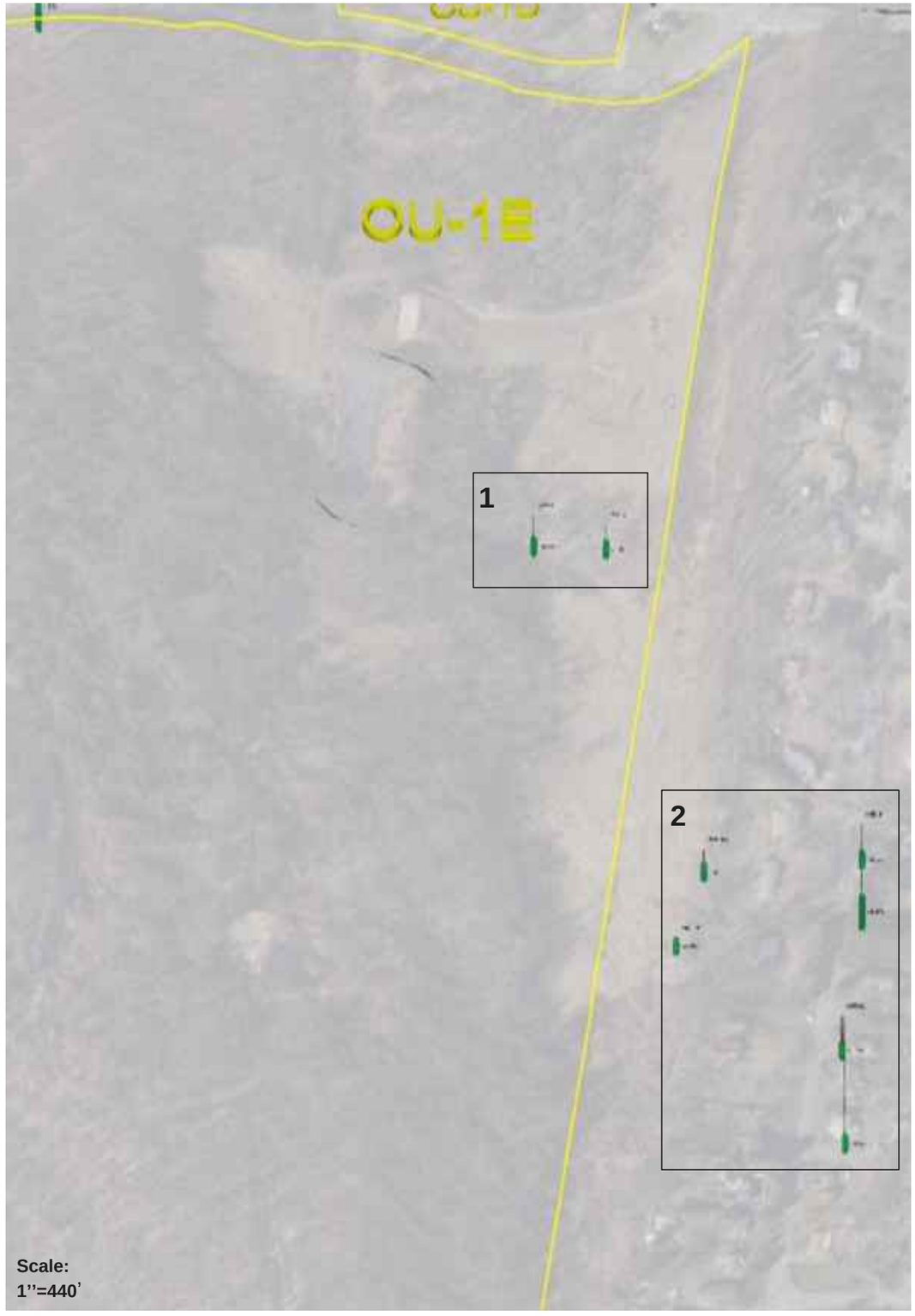
REMEDIAL INVESTIGATION REPORT ADDENDUM 1

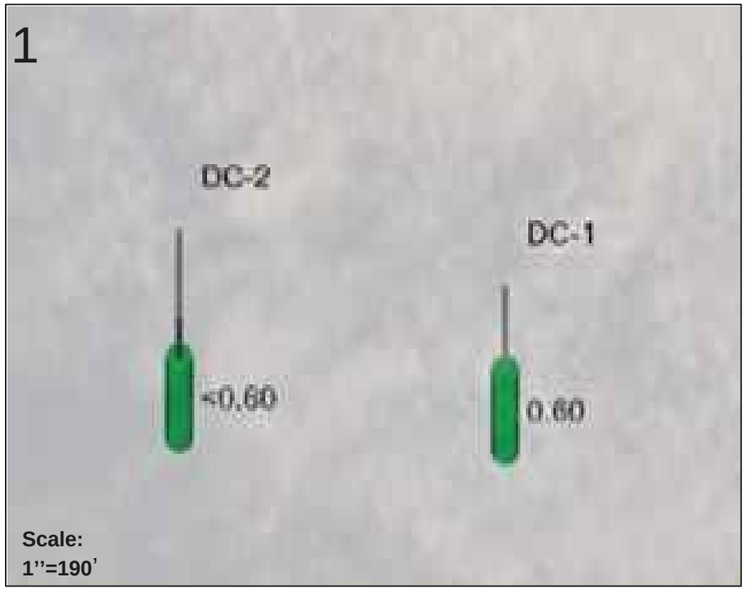
CHRYSENE GROUNDWATER SCREENING LEVEL EXCEEDANCES 2016-2018

ARCADIS Design & Consultancy for natural and built assets

FIGURE
2-30D

11/2/2020 3:06:39 PM





Legend:

Operable Unit (OU) Boundaries

Hexachlorobutadiene: ug/L

Above NY TOGS

Notes:

1. Results colored by least restrictive screening level exceeded
2. Scales are approximated.
    1. Key Map: 1 inch = 440 feet
    2. Focused areas: 1 inch = 190 feet
3. Ground surface digital elevation model (DEM) from United States Geological Service (USGS) accessed from Global Mapper
4. Aerial imagery from Environmental Systems Research Institute (ESRI) World Imagery (accessed April 2020)
5. Non-detect samples colored at their reporting limit (RL) and modeled at 1/10 of their RL.
6. µg/L: microgram per liter
7. OU: Operable Unit
8. NY TOGS: New York Technical and Operational Guidance Series

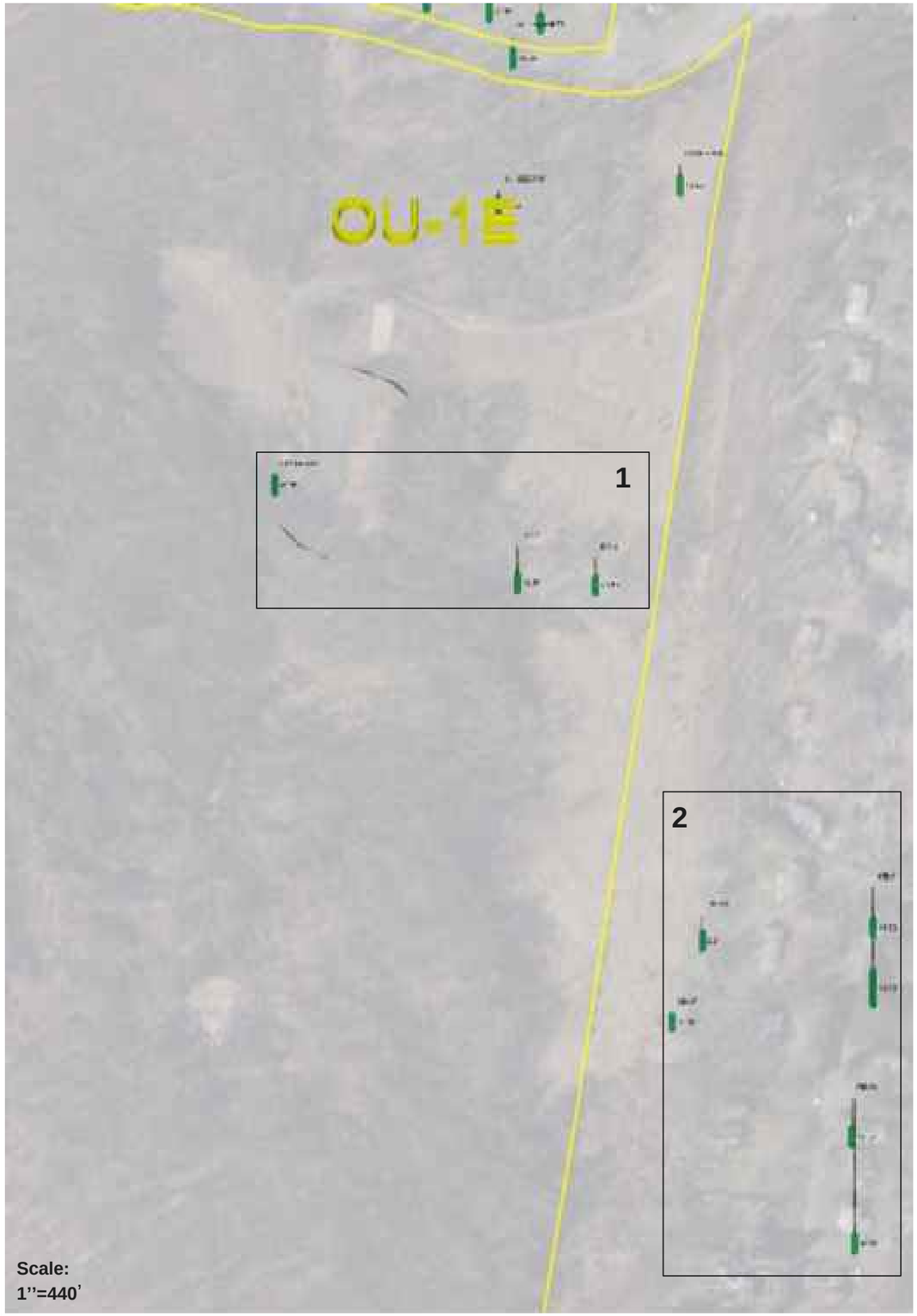
CHEVRON ENVIRONMENTAL MANAGEMENT COMPANY
FORMER TEXACO RESEARCH CENTER BEACON
GLENHAM, NEW YORK
REMEDIAL INVESTIGATION REPORT ADDENDUM 1

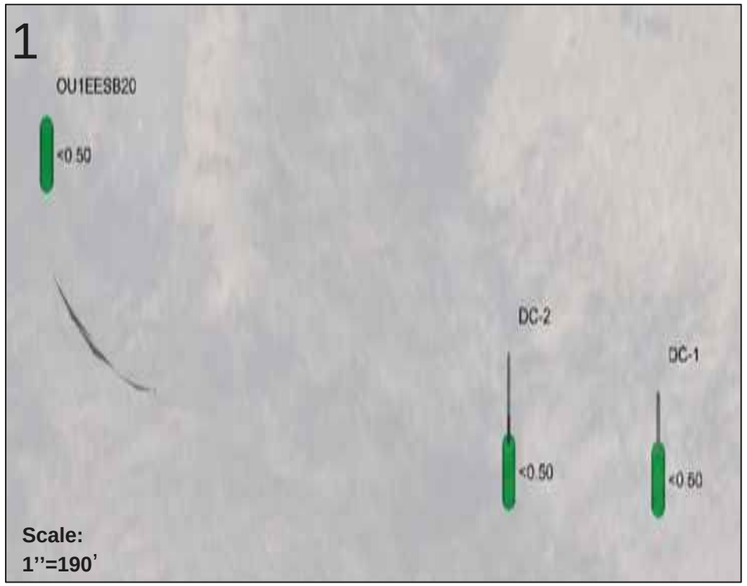
HEXACHLOROBUTADIENE GROUNDWATER SCREENING LEVEL EXCEEDANCES 2012-2013

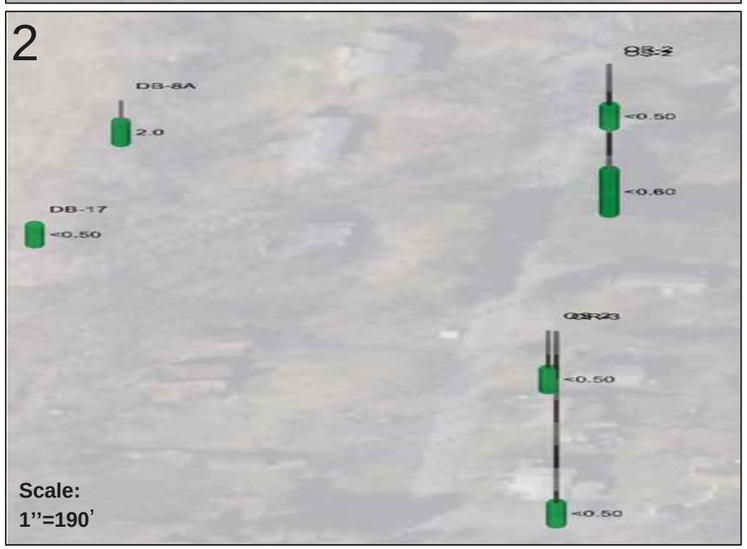
ARCADIS Design & Consultancy for natural and built assets

FIGURE
2-31A

11/2/2020 3:06:39 PM







Legend:

Operable Unit (OU) Boundaries

Hexachlorobutadiene: ug/L

Above NY TOGS

Notes:

1. Results colored by least restrictive screening level exceeded
2. Scales are approximated.
    1. Key Map: 1 inch = 440 feet
    2. Focused areas: 1 inch = 190 feet
3. Ground surface digital elevation model (DEM) from United States Geological Service (USGS) accessed from Global Mapper
4. Aerial imagery from Environmental Systems Research Institute (ESRI) World Imagery (accessed April 2020)
5. Non-detect samples colored at their reporting limit (RL) and modeled at 1/10 of their RL.
6. µg/L: microgram per liter
7. OU: Operable Unit
8. NY TOGS: New York Technical and Operational Guidance Series

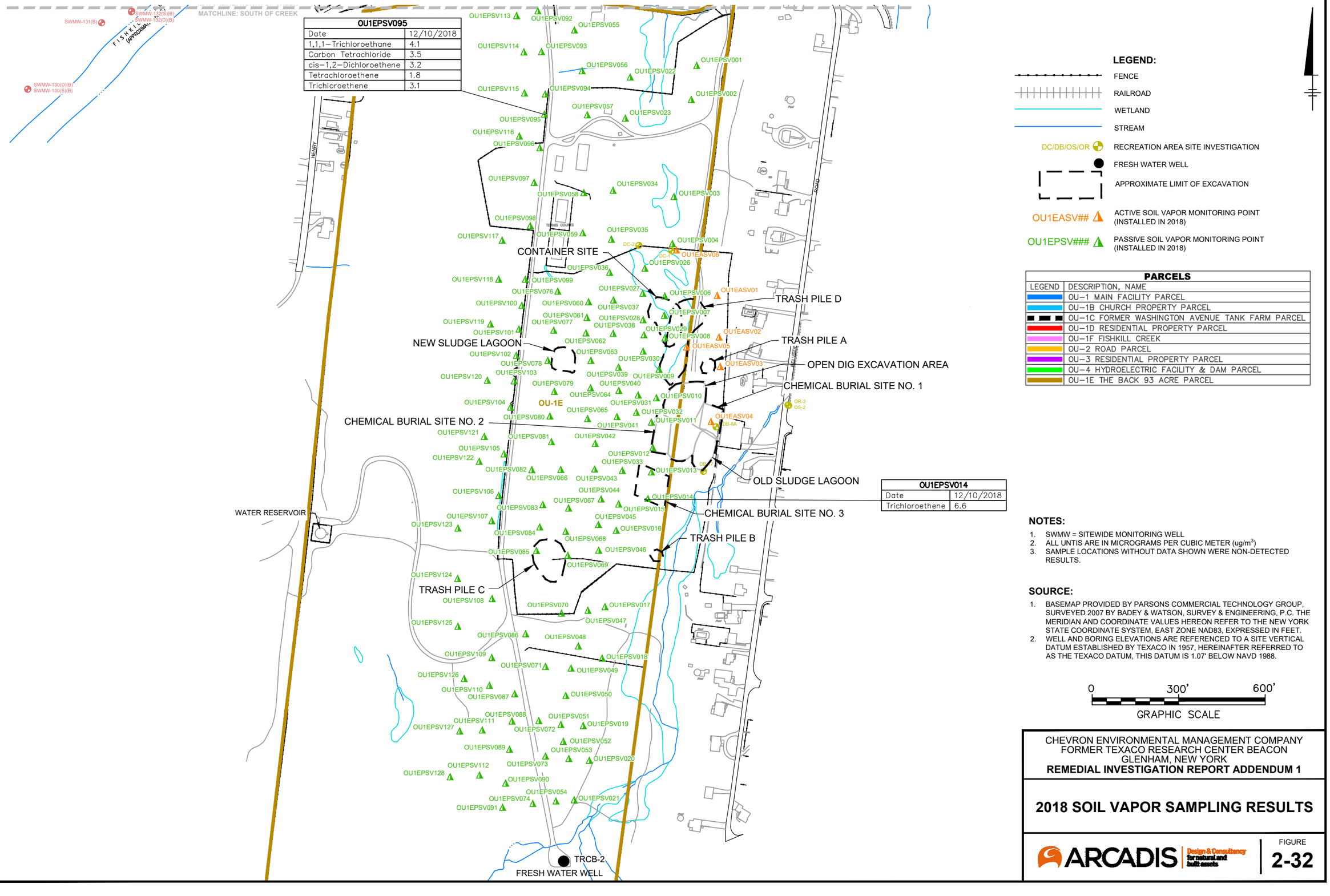
CHEVRON ENVIRONMENTAL MANAGEMENT COMPANY
FORMER TEXACO RESEARCH CENTER BEACON
GLENHAM, NEW YORK
REMEDIAL INVESTIGATION REPORT ADDENDUM 1

HEXACHLOROBUTADIENE GROUNDWATER SCREENING LEVEL EXCEEDANCES 2016-2017

ARCADIS Design & Consultancy for natural and built assets

FIGURE
2-31B

11/2/2020 3:06:38 PM



OU1EPSV095	
Date	12/10/2018
1,1,1–Trichloroethane	4.1
Carbon Tetrachloride	3.5
cis–1,2–Dichloroethene	3.2
Tetrachloroethene	1.8
Trichloroethene	3.1

OU1EPSV014	
Date	12/10/2018
Trichloroethene	6.6

LEGEND:

- FENCE
- RAILROAD
- WETLAND
- STREAM
- DC/DB/OS/OR — RECREATION AREA SITE INVESTIGATION
- FRESH WATER WELL
- APPROXIMATE LIMIT OF EXCAVATION
- OU1EASV## — ACTIVE SOIL VAPOR MONITORING POINT (INSTALLED IN 2018)
- OU1EPSV### — PASSIVE SOIL VAPOR MONITORING POINT (INSTALLED IN 2018)

PARCELS	
LEGEND	DESCRIPTION, NAME
	OU–1 MAIN FACILITY PARCEL
	OU–1B CHURCH PROPERTY PARCEL
	OU–1C FORMER WASHINGTON AVENUE TANK FARM PARCEL
	OU–1D RESIDENTIAL PROPERTY PARCEL
	OU–1F FISHKILL CREEK
	OU–2 ROAD PARCEL
	OU–3 RESIDENTIAL PROPERTY PARCEL
	OU–4 HYDROELECTRIC FACILITY & DAM PARCEL
	OU–1E THE BACK 93 ACRE PARCEL

NOTES:

1. SWMW = SITEWIDE MONITORING WELL
2. ALL UNTIS ARE IN MICROGRAMS PER CUBIC METER (ug/m^3)
3. SAMPLE LOCATIONS WITHOUT DATA SHOWN WERE NON-DETECTED RESULTS.

SOURCE:

1. BASEMAP PROVIDED BY PARSONS COMMERCIAL TECHNOLOGY GROUP, SURVEYED 2007 BY BADEY & WATSON, SURVEY & ENGINEERING, P.C. THE MERIDIAN AND COORDINATE VALUES HEREON REFER TO THE NEW YORK STATE COORDINATE SYSTEM, EAST ZONE NAD83, EXPRESSED IN FEET.
2. WELL AND BORING ELEVATIONS ARE REFERENCED TO A SITE VERTICAL DATUM ESTABLISHED BY TEXACO IN 1957, HEREINAFTER REFERRED TO AS THE TEXACO DATUM, THIS DATUM IS 1.07' BELOW NAVD 1988.

0 300' 600'

GRAPHIC SCALE

CHEVRON ENVIRONMENTAL MANAGEMENT COMPANY
FORMER TEXACO RESEARCH CENTER BEACON
GLENHAM, NEW YORK
REMEDIAL INVESTIGATION REPORT ADDENDUM 1

2018 SOIL VAPOR SAMPLING RESULTS

ARCADIS Design & Consultancy for natural and built assets

FIGURE
2-32

APPENDIX A

October 2, NYSDEC Revised RIR Comment Letter

NEW YORK STATE DEPARTMENT OF ENVIRONMENTAL CONSERVATION

Division of Environmental Remediation, Remedial Bureau C
625 Broadway, 11th Floor, Albany, NY 12233-7014
P: (518) 402-9662 I F: (518) 402-9679
www.dec.ny.gov

Sent via E-mail

October 2, 2020

Mark R. Hendrickson
Project Manager
Chevron Environmental Management Company
Specialty EM Business Unit
1500 Louisiana Street
Houston, Texas 77002
mhendrickson@chevron.com

Re: Remedial Investigation Report, Revision 1, June 2020
Former Texaco Research Center Site, Site No. 3-14-004
Town of Fishkill, Dutchess County

Dear Mr. Hendrickson,

The New York State Department of Environmental Conservation (the Department) in consultation with the New York State Department of Health has completed its review of the Remedial Investigation Report (RI Report), Revision 1, dated June 2020 submitted by Arcadis on behalf of Chevron Environmental Management Company for the site listed above. In accordance with 6 NYCRR Part 375-1.6(d)(3) the Department requests the following modifications be made to the RI Report:

The modifications provided below are separated into two groups. Report Modifications are changes which must be made to the RI Report, Revision 1 document. These changes may be made by adding to or replacing applicable portions of the RI Report, Revision 1. Upon incorporation of these modifications, the Department will consider the RI Report complete.

Supplemental Modifications are tasks which must be completed as part of the Remedial Investigation for the site but may be provided to the Department for review separately or in addendums to the RI Report. These tasks may be completed concurrently with the Feasibility Study for the site.

Report Modifications:

Report Modification 1, Groundwater Isopleths: Groundwater concentration contour figures for key constituents of concern which display concentration gradients must be

included in the RI Report. These figures were previously provided in Appendix H of the August 2019 version of the RI Report and must be amended to the final RI Report.

Report Modification 2, 3D Figure Format and Functionality: 3D figures provided with the RI Report are difficult to navigate in pdf format. A single frame version of each 3D figure must be generated for the RI Report. The single frame version must zoom to the most relevant angle of each figure. Figure sizes should be increased as appropriate so that single frame pdf versions of 3D figures are legible.

Report Modification 3, Soil Vapor Intrusion Figure: Detected concentrations of constituents encountered in soil vapor samples must be presented on a figure in the RI Report. The Department and NYSDOH will review detected concentrations of constituents in soil vapor to determine if additional sampling or action is necessary.

Report Modification 4, Status of Storage Tanks: The RI Report must include the current status of all storage tanks listed in Table 2.

Report Modification 5, Monitoring Well Summary Table: The monitoring well summary table Chevron provided to the Department by e-mail on June 5, 2019 must be incorporated into the RI Report.

Report Modification 6, 1,4-Dioxane: The RI Report must identify 1,4-Dioxane as a constituent of concern for the site based on its presence in groundwater samples collected from OU-1A and OU-1E. The presence of 1,4-Dioxane in OU-1A is likely associated with co-located levels of 1,1,1-TCA and will be addressed in the remedy selection process. At this time, the presence of 1,4-Dioxane in OU-1E may be addressed by the addition of 1,4-Dioxane to the semi-annual groundwater monitoring program currently in place for OU-1E. The Department requests that 1,4-Dioxane samples at wells DB-8A and DB-17 be added to the semi-annual groundwater monitoring program at this time.

Report Modification 7, Section 8.1.8: The RI Report must state that a Human Health Exposure Assessment (HHEA) will be completed in accordance with DER-10, Appendix 3B.

<u>Supplemental Modifications:</u>

Supplemental Modification 1, Human Health Exposure Assessment (HHEA): Based on a review of the data provided in the RI Report (including a review of background soil data summarized in Tables 3-8A and 3-8B), the Department recommends that the qualitative HHEA be completed based on the comparisons of concentrations to Department Standards, Criteria, and Guidelines currently included in the RI Report. The Department's SCGs take into consideration quantitative risk assessment

Supplemental Modification 2, Constituent of Concern, Acetone: Acetone must be identified as a constituent of concern only in cases where concentrations cannot be attributed to lab contamination. Following review, the status of acetone as a contaminant of concern for the site should be reconsidered.

Supplemental Modification 3, Site Constituents of Concern Evaluation: The Department generally concurs with the identification of site constituents of concerns (COCs) as identified in Section 2.1 of the RI Report. As identified above, 1,4-Dioxane must be added as a COC and acetone's status as a COC must be reviewed further. Given the historic use and nature of contamination at the site, a review of all other constituents detected above SCGs needs to be completed to determine if these constituents are COCs.

Supplemental Modification 4, SVOC and Metal Impacts to Subsurface Soil and Groundwater: The RI Report illustrates metal and SVOC concentrations above Protection of Groundwater SCOs and the locations where metals and SVOCs exceed groundwater standards. From these illustrations, it is difficult to tell which metals and SVOCs in soil are contributing to groundwater impacts. A more thorough analysis is needed of the connection between elevated SVOC and metal concentrations in soils and groundwater. Groundwater concentration isopleth maps should be generated for key SVOC and metal constituents for comparison to soil data.

Supplemental Modification 5, Operable Unit 2: Characterization of Operable Unit 2 (OU-2) will be necessary in order to confirm that OU-2 is not impacted by site contaminants. This characterization may be deferred at this time and is not required for completion of the RI Report. It is recommended that OU-2 be combined with the adjacent OU-1C for the Feasibility Study phase of the remedial program for the site. If present, impacts to OU-2 soil and groundwater would most likely originate in OU-1C. The proposed realignment of Washington Ave and the Washington Ave bridge may result in greater ease of access to OU-2 during subsequent phases of the remedial program.

In accordance with 6 NYCRR Part 375-1.6(d)(3), the Department requests that Chevron notify the Department within 15 days of receipt of this letter whether it accepts the Department's modifications provided above.

The Department requests that Chevron provide a revised RI Report incorporating Report Modifications within 30 days of receipt of this letter. The Department further requests that within 45 days of receipt of this letter, Chevron provide a revised project schedule which includes supplemental modification tasks and implementation of feasibility studies for each Operable Unit.

If you have any questions or concerns, please feel free to contact me at (518) 402-9662.

Sincerely,

William Bennett

William Bennett
Professional Engineer 1
Remedial Bureau C
Division of Environmental Remediation

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