December 14, 2017 Project No. 123-93309-03

USEPA Region V
Attention: Jose G. Cisnero
Mail Code LU-9J
77 West Jackson Blvd.
Chicago, IL 60604

Ohio Environmental Protection Agency
Attention: Maria Galanti
Division of Environmental and Remedial Response (DERR)
Southeast District Office
2195 Front Street
Logan, OH 43138

RE: COMPLETION REPORT FOR SELF-IMPLEMENTING PCB CLEAN-UP FORMER SATRALLOY SITE

Dear Sir and Ma'am:

On behalf of the Cyprus Amax Minerals Company (Cyprus Amax), Golder Associates Inc. (Golder) is submitting this Completion Report for a Self-Implementing Clean-up and Disposal of Polychlorinated Biphenyls (PCBs) Remediation Waste (Report) for remediation of PCB-impacted soil and concrete at the Former Satralloy Site (the Site) in Cross Creek Township, Jefferson County, Ohio. The Satralloy Site address is 4243 County Road 74 (Gould Road), Mingo Junction, Jefferson County, Ohio (Figure 1).

Notification and a clean-up workplan for the self-implementing PCB clean-up on behalf of Cyprus Amax were submitted to U.S. Environmental Protection Agency (U.S. EPA) and Ohio Environmental Protection Agency (OEPA) on May 16, 2016. An approval letter from the U.S. EPA Region V was received on May 26, 2016.

The location of the self-implementing PCB clean-up was confined to a relatively small area (approximately 1,400 square feet) of a decommissioned electrical switchyard within the Former Satralloy Site. Soil sampling conducted in 2014 and 2015 at the Electrical Switchyard indicated that total PCBs exceed 50 mg/kg in a small (270 square feet), well-defined area in the northwestern corner of the switchyard (Figure 2). This report addresses the clean-up and disposal of PCB-impacted soil and concrete from this area.

INTRODUCTION

Background

The Site consists of approximately 333.5 acres of land and includes an abandoned ferrochromium alloy processing plant (Figure 2). The Site is located on County Road 74 in Cross Creek Township, Jefferson County, Ohio, approximately four miles southwest of Steubenville. Portions of the Site are bordered on the west, south, and east by Cross Creek, a perennial stream which discharges into the Ohio River. Access to the Site is via County Road 74.

A Consent Order and Preliminary Injunction (COPI) between Cyprus Amax and OEPA to perform a Remedial Investigation/Feasible Study (RI/FS) for the Site was entered with the Court on

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November 3, 2010. Pursuant to the COPI, Cyprus Amax has been performing interim action activities at the Site since that time. As part of interim action performed in 2016 and 2017, Cyprus Amax completed removal and off-site disposal of the PCB-impacted soil and concrete.

PCB Removal Area

The PCB removal area was located at the northwestern corner of the Electrical Switchyard (Figure 3), where electrical transformers were formerly located. These transformers were removed by the U.S. EPA as part of a Site-wide PCB removal action in the 1990s. The PCB removal area within the Electrical Switchyard was approximately 1,400 square feet upon completion of clean-up.

PCB Removal Scope and Objectives

The objective of the clean-up action was to remove PCB-impacted soil and concrete with total PCB concentrations exceeding 2 mg/kg. The removal area is within a remediation site with no permanent occupants. The site has security guards present 24 hours/day, 7 days/week. The area of PCB removal has low occupancy use.

The concrete transformer foundations have been tested and found to contain surficial PCB concentrations less than 50 mg/kg. For simplicity, the concrete transformer foundations in the switchyard were removed and disposed off-site as non-hazardous waste.

PCB-impacted soil was categorized into two groups: one with PCB concentrations above 50 mg/kg (Level A) for disposal at a Toxic Substances Control Act (TSCA) facility permitted to receive PCB waste; and another group with PCB concentrations below 50 mg/kg (Level B) for disposal as non-hazardous waste.

Initial Sampling

The area designated for clean-up was defined through soil and concrete testing completed in 2014 and 2015. Soil grab samples were collected from several locations in the 100 and 200 areas (Figure 4) to determine the lateral extent of the impacted soils. To determine the vertical extent of PCB-impacted soils, soil samples were collected from two hand-auger borings in the 200 Area near the foundations located there. The hand auger samples represented 6-inch depth intervals to a maximum depth of 4.5 feet below the ground surface (bgs). The soils around the foundations in the 100 Area were previously sampled and PCBs were determined to be <50 mg/kg. The results were sufficient to support delineation of removal areas and development of the removal workplan.

PCB REMOVAL

Concrete

The upper portion of the concrete foundations from the main transformers in the 100 Area (Figure 4) were removed to 3 feet bgs. The lower bases of these foundations were massive and were not removed. The foundations in the 200 area were much smaller and were completely removed. The concrete foundations, all of which had total PCB concentrations below 50 mg/kg, were disposed of as non-hazardous waste along with the Level B soils (<50 mg/kg).

Soil

Based on the results of the initial soil sampling, two removal areas were delineated (Figure 5). Level A soils were designated as those with total PCB concentrations above 50 mg/kg. Level B soils were those with total PCB concentrations below 50 mg/kg. The Level A and Level B excavation areas were surveyed and staked by a land surveyor prior to beginning excavation.

Excavation grids were established within the Level A and Level B areas for sequencing, soil tracking, profile sampling and disposal. The excavation areas were divided into grids with a maximum of 10 cubic yards of soil to be excavated per grid. During the initial round of excavation from the ground surface, excavation

grids were independent of the clean-up verification sample grids (described below). Additional excavations coincided with the clean-up verification sample grids, which were based on verification samples with results >2 mg/kg total PCBs (clean-up criteria).

Clean-up excavation began October 26, 2016 and was completed December 29, 2016. Four rounds of excavation and verification sampling were required to achieve the clean-up criteria. After each round of excavation, Golder performed verification sampling of the excavated areas. If a verification sample exceeded the clean-up criteria, additional excavation was performed in that area to remove additional soil and verification sampling was repeated.

Excavated soils were placed directly in double-thickness, lined super sacks of approximately 1-cubic yard capacity as the soil was being excavated. Individual bags were labeled with a unique identification number corresponding to the soil level (A or B) area, excavation grid number and the bag number from where it was removed. Once the super sacks were filled, they were closed, labeled and staged for waste characterization sampling. The sacks from each grid were treated as one “lot” or group for waste characterization sampling, disposal and documentation.

The filled sacks were staged on reinforced, 10-mil plastic sheeting and covered with heavy (14 millimeter) polyethylene tarps until waste characterization sampling was completed. Once all lots were characterized, the super sacks were loaded on flat-bed rail cars, then moved off-site where they were transferred to box trucks for transport to the disposal facility.

Clean-up Verification

Golder collected clean-up verification samples following each round of soil excavation. Verification samples were collected separately from the bottom and sidewall (where present) of the excavated area(s). Bottom samples were collected to establish the vertical extent and sidewall samples were used to verify the lateral extent of clean-up.

The samples were composited in accordance with 40 CFR §761.289. The grab samples from which the composites were generated were collected using a device that conforms to the specifications in §761.286, which extended to a maximum depth of 7.5 cm. Composite samples included between 3 and 8 sample locations within a specific sample grid as specified in §761.286.

Composite sample locations for each grid were laid-out on a maximum spacing of 1.5-meter in accordance with 40 CFR §761.283. The size of each sample area was determined by the maximum (1.5-meter) spacing and the maximum number of sample points per composite (nine). A minimum of three sample locations were included per composite.

The sample grids were oriented with one grid axis parallel to the crib-wall that forms the western boundary of the clean-up area, rather than a magnetic north orientation as described in §761.280. This is the orientation of the rectangular Level A clean-up area; it simplified the sampling grid system and met the intent of the sample grid described in §761.280. The orientation of the wall is approximately 45° east of magnetic north. Thus, one grid axis was oriented N45°E with the second northwest-southeast axis was perpendicular to the first axis (i.e., 45° west of magnetic north).

Following the initial excavation from the surface to a depth of 1.5 feet bgs, three additional rounds of excavation of some grids were required to achieve the clean-up level of <2 mg/kg. Verification samples were shipped to TestAmerica (Canton, OH), under standard chain-of-custody and shipping protocols for analysis for PCBs by EPA Method 8082. Where the total PCBs in any verification sample exceeded 2 mg/kg, additional excavation (a minimum of 6-inches) of soil was removed from within the grid area represented by the sample(s) in accordance with 40 CFR §761.283. Additional verification samples were collected for the additional soil excavation according to the protocols presented above until all removal areas have been shown to have <2 mg/kg total PCBs. Verification samples confirmed that the total PCB levels were <2 mg/kg throughout the clean-up area. Final verification sample (<2 mg/kg) analytical results are shown in Table 1.

Site Restoration

Following completion of removal and verification, the excavation areas were backfilled with Site soils, graded for proper stormwater drainage, and hydroseeded for soil stabilization.

WASTE CHARACTERIZATION AND DISPOSAL

Waste Characterization

After the super sacks with excavated soil were staged on plastic sheeting, NorthStar collected composite waste characterization soil samples were collected from each lot (group) of super sacks from individual excavation areas. The number of super sacks per lot ranged between one and ten sacks depending upon size and location of the grid. The composite samples were composed of approximately equal volume from each individual sack from each lot to represent the bulk characteristics of the lot. The results of the waste characterization samples are presented in Table 2. The soil from two Level B excavation areas (B5 and B10 on Figure 5) outside of the Level A areas were found to have PCB concentrations >50 mg/kg. The soil from these two areas were handled and disposed of along with the Level A (>50 mg/kg) soils.

In addition to the waste characterization samples, a bulk waste profile sample, comprised of the "U" Suite of analytes, was analyzed for disposal at the Greentree Municipal Solid Waste Landfill (Greentree Landfill) in Kersey, Pennsylvania for disposal of <50 mg/kg soil and concrete. These same analytical results also were provided to the Wayne Disposal in Belleville, Michigan

Waste characterization and profile soil samples were hand-delivered to TestAmerica in Pittsburgh, Pennsylvania under standard chain-of-custody and transport protocols for analysis for PCBs by EPA Method 8082.

Disposal

Clean Harbors, Inc. transported the impacted soil and concrete to the disposal facility. Hauling was begun on January 12, 2017 and completed on February 2, 2017. The excavated soils that were >50 mg/kg (based on sampling) were shipped by truck to Wayne Disposal in Belleville, Michigan. Wayne Disposal is a hazardous waste landfill permitted to receive PCB waste under TSCA.

Due to scheduling and coordination issues with the Greentree Landfill, the excavated Level B soils (<50 mg/kg) were also disposed of at the Wayne Disposal landfill as was concrete foundation debris, which was characterized as non-hazardous. Disposal information if presented in Table 3.

Disposal quantities were as follows:

- Level A (>50 mg/kg PCBs) – 28.9 cubic yards (35.6 tons)
- Level B (<50 mg/kg PCBs) – 121.7 cubic yards (149 tons)
- Concrete (<50 mg/kg PCBs) – 26.6 tons.

CLOSING

Please contact Lee Holder at (425) 883-0777, if you have questions or require additional information.

Sincerely,

GOLDER ASSOCIATES INC.

Michael S. Lumpkin, LG, LEG
Senior Engineering Geologist

Lee K. Holder, P.E.
Project Manager

List of Attachments:

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MSL/LKH/

CERTIFICATION

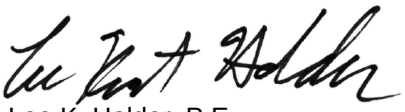
The Cyprus Amax Minerals Company, which owns the Former Satralloy Site where the removal of PCB-impacted soil took place, and Golder Associates Inc., which directed the soil excavation and removal on behalf of Cyprus Amax, certify in accordance with Part 40 of the Code of Federal Regulations § 761.61 that documentation regarding the clean-up, sampling plans, sample collection procedures, sample preparation procedures, extraction procedures, and instrumental/chemical analysis procedures used to assess or characterize the PCB impacts at the clean-up site, are on file and available for USEPA inspection at the following address:

Golder Associates Inc.
18300 Union Hill Road, Suite 200
Redmond, WA 98065

CYPRUS AMAX MINERALS COMPANY

Barbara Nielsen
Cyprus Amax Project Manager

GOLDER ASSOCIATES INC.



Lee K. Holder, P.E.
Golder Associates Inc. Project Manager

TABLES

Table 1: Verification Sample Results

Sample ID [1]	Result (mg/kg)	Meets Cleanup Criteria (<2 mg/kg)	Sample Area of Excavation	Sample Location
LEVEL A AREA SAMPLES				
A1a	0.41	Y	bottom	Below A1
A2b	ND	Y	bottom	Below A2a
A3a	0.28	Y	bottom	Below A3
A4	0.99	Y	bottom	South-middle of Level A area
A5a	0.31	Y	bottom	Below A5
A6a	0.43	Y	bottom	Below A6
A7	0.3	Y	bottom	North end Level A area
LEVEL B AREA SAMPLES				
B1	0.59	Y	bottom	South of area A1
B2Eb	0.042	Y	bottom	Below B2Ea
B2Wa	0.36	Y	bottom	West half of B2
B3a	1.5	Y	bottom	Below B3
B4Na	0.29	Y	bottom	North half of B4
B4Sa	1.2	Y	bottom	South half of B4
B5	0.48	Y	bottom	North half east end
B6	ND	Y	bottom	Northeast corner
B7	0.4	Y	bottom	Northwest corner
B8Wa	0.15	Y	bottom	West half of B8
B14	0.92	Y	sidewall	North sidewall of B8Wa
B8Ea	0.54	Y	bottom	East half of B8
B15	1.6	Y	sidewall	North sidewall of B8Ea
B9	0.086	Y	sidewall	northeast corner
B10Na	0.06	Y	bottom	north half of B10
B16Na	ND	Y	bottom	North half of B16
B19	0.22	Y	sidewall	East sidewall of B16Na
B16Sa	ND	Y	bottom	South half of B16
B20	0.18	Y	sidewall	East sidewall of B16sa
B10Sa	0.09	Y	bottom	South half of B10
B17	0.8	Y	sidewall	East sidewall of B10Sa
B11a	0.5	Y	bottom	Below B11
B18a	0.316	Y	bottom	Below B18
B12Ec	1.45	Y	bottom & sidewall	East sidewall & bottom of B12Eb
B12Sb	0.69	Y	bottom & sidewall	South sidewall & bottom of B12
B13	0.35	Y	bottom & sidewall	Isolated 3'x3' area SW from Level A area

Notes:

1 Sample number prefix PHS has been omitted for simplicity.

2 Verification sample grids were sized to comply with 40 CFR §761.

3 A = within initial Level A soil areas limits.
B = within the Level B soil area outside the Level A areas.
N= north, S=south, E=east, W=west
a, b, c = subsequent samples collected after additional excavation to achieve site cleanup <2 mg/kg total PCB.

4 ND = non-detect at reporting limit

5 Bottom = the bottom of an excavated area, collected to determine the vertical depth of cleanup.

6 Sidewall = the side(s) of an excavated area, collected to determine the lateral extent of cleanup.

7 Verification samples were composite samples collected from within the indicated area, included between 3 and 8 aliquot locations.

Table 2: Waste Characterization Sample Results

Sample ID [1]	Sacks per Grid [2]	Excavation Dates		Volume (CY)	Sample Date	Total PCBs (mg/kg)	>50 mg/kg (y or n)	Soil Level (A or B)	Laboratory Report ID
		Start	Finish						
Initial Excavation									
A1	6	10/26/16	10/27/16	5.19	11/3/16	78	**Y**	**A**	J60542-1
A2	5	10/26/16	10/26/16	4.79	11/3/16	470	**Y**	**A**	
A3	1	10/27/16	10/27/16	0.67	11/3/16	1300	**Y**	**A**	
B1	3	10/27/16	10/27/16	3.25	11/4/16	10	N	B	
B2	3	10/27/16	10/27/16	2.9	11/4/16	8.90	N	B	
B3	10	10/28/16	10/28/16	12.43	11/3/16	5.20	N	B	
B4	10	10/28/16	10/31/16	11.29	11/3/16	14	N	B	
B5	10	10/31/16	10/31/16	9.33	11/3/16	59	**Y**	**A**	
B6	6	10/28/16	10/28/16	7.05	11/4/16	44	N	B	
B8	5	11/1/16	11/1/16	4.91	11/4/16	2.58	N	B	
B7	4	11/1/16	11/1/16	3.7	11/4/16	2.34	N	B	
B9	10	10/31/16	11/1/16	9.61	11/4/16	48	N	B	
B10	7	11/1/16	11/1/16	7.09	11/4/16	100	**Y**	**A**	
Round 2 Excavation									
2-A1	2	11/17/16	11/17/16	1.79	11/18/16	1.53	N	B	J60990-1
2-A3	7	11/17/16	11/17/16	7.05	11/18/16	0.44	N	B	
2-A6	5	11/16/16	11/16/16	4.98	11/18/16	1.63	N	B	
2-B3	2	11/17/16	11/17/16	2.00	11/18/16	2.79	N	B	
2-B4	6	11/16/16	11/17/16	6.14	11/18/16	5.41	N	B	
2-B8	4	11/16/16	11/16/16	4.23	11/18/16	1.23	N	B	
2-B10	7	11/16/16	11/17/16	7.02	11/18/16	1.75	N	B	
2-B11	2	11/16/16	11/16/16	2.11	11/18/16	0.00	N	B	
2-B12	2	11/16/16	11/16/16	1.94	11/18/16	3.26	N	B	
Round 3 Excavation									
3-A2	2	12/8/16	12/8/16	2.11	12/29/16	0.31	N	B	J62186-1
3-B2	4	12/8/16	12/8/16	4.20	12/29/16	0.07	N	B	
3-B12	5	12/8/16	12/9/16	5.87	12/29/16	8.60	N	B	
3-B16	6	12/7/16	12/8/16	6.00	12/29/16	0.39	N	B	
3-B18	3	12/8/16	12/8/16	3.80	12/29/16	0.38	N	B	
Round 4 Excavation									
4-B12	5	12/29/16	12/29/16	5.06	12/29/17	2.49	N	B	J62186-1
TOTALS	**142**			**146.51**					

Notes:

1 Sample number is same as the excavation grid number.

2 Samples were composites from of each of the super-sacks from individual excavation grids.

3 Sample results with Total PCB >50mg/kg are designated Level A Soil.

4 Sample results with Total PCB <50mg/kg are designated Level B soil.

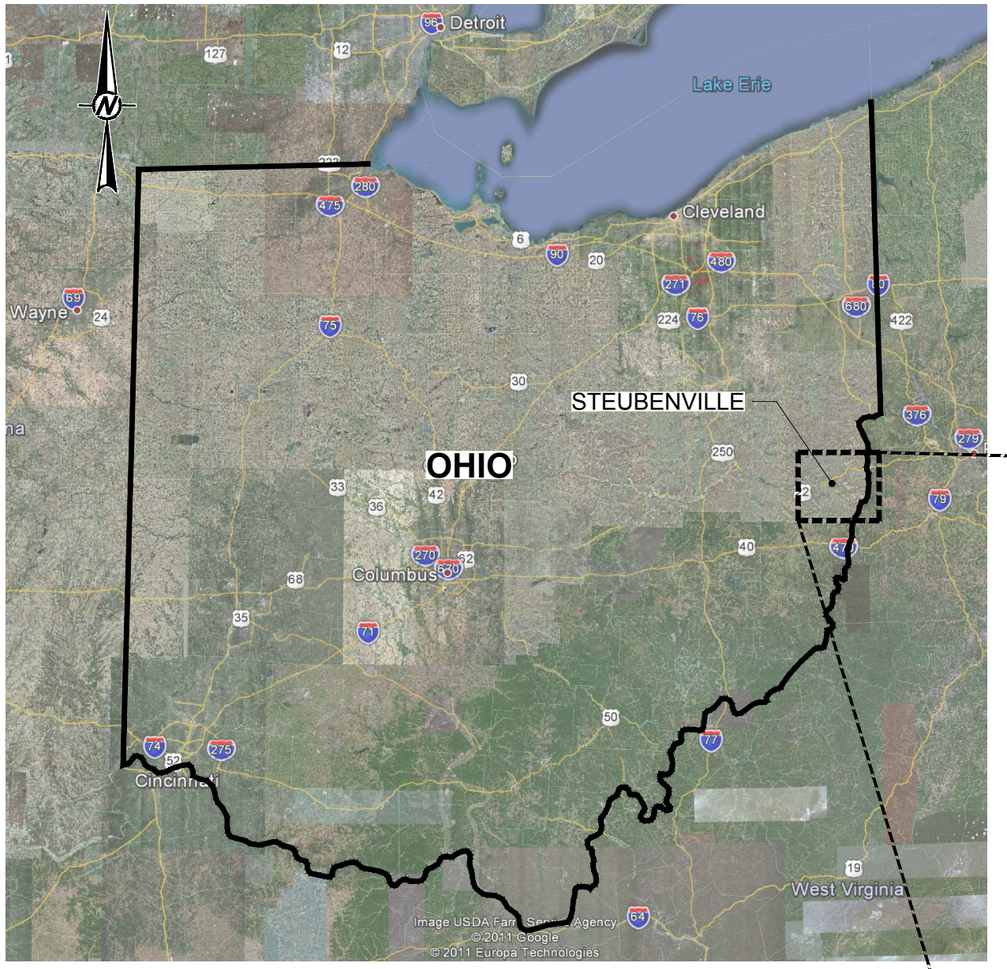
Table 3: PCB Waste Shipments

						LEVEL A SOIL [1]			LEVEL B SOIL [2]			CONCRETE [3]		
Transport Date	**Disposal Date**	**Truck No.**	**Number of Bags per Load**	**Material**	**Total Wt (tons)**	**Number of Bags**	**Weight (tons)**	**Volume (CY)**	**Number of Bags**	**Weight (tons)**	**Volume (CY)**	**Number of Bags**	**Weight (tons)**	**Manifest No.**
1/12/2017	13-Jan-17	9128	13	Soil	16.24				13	16.24	13.31			5675337 SKS
	13-Jan-17	218	14	Soil	17.30				14	17.3	14			5675335 SKS
	13-Jan-17	9132	15	Soil	19.73				15	19.73	18.15			5675338 SKS
1/19/2017	20-Jan-17	9128	16	Soil	19.63	16	19.63	16.36						5675344 SKS
	23-Jan-17	218	16	Soil	19.70	13	16.01	12.51	3	3.69	3.50			5675341 SKS
	20-Jan-17	9142	16	Soil	19.12				16	19.12	16.16			5675343 SKS
1/24/2017	25-Jan-17	9128	16	Soil	21.19				16	21.19	17.7			5675346 SKS
	25-Jan-17	9130	16	Soil	19.14				16	19.14	17.04			5675348 SKS
	25-Jan-17	218	16	Soil	21.83				16	21.83	16.88			5675339 SKS
2/2/2017	3-Feb-17	9146	5	Soil	10.75				5	10.75	4.92			5675356 SKS
			4	Concrete	10.75							4	10.75	5675363 SKS
	3-Feb-17	9140	1	Plastic Sheeting										5765364 SKS
			5	Concrete	9.67							5	9.67	
2/6/2017	6-Feb-17	9140	2	Concrete	6.13							2	6.13	16299021 JJK
	6-Feb-17		1	Plastic Sheeting										16299019 JJK
			1	Crushed PPE Drum										
				TOTALS	211.18	29	35.64	28.87	114	148.99	121.66	11	26.55	

Notes:

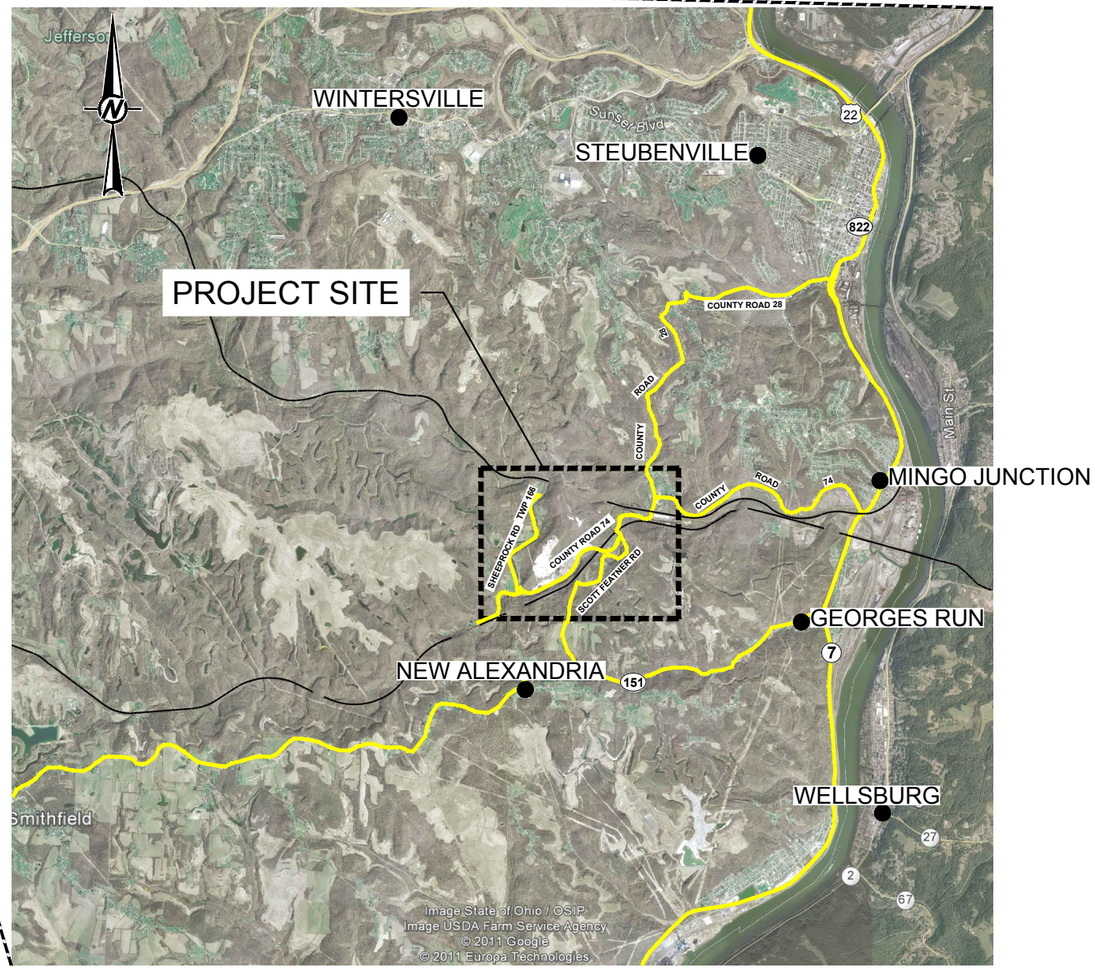
1 Level A soil contained >50 mg/kg Total PCB based on waste characterization sampling.
2 Level B Soil contained <50 mg/kg total PCB based on waste characterization sampling.
3 Concrete foundations were designated as non-hazardous based on sampling performed in 2014 and 2015.
4 The PCB impacted materials listed above were disposed of at US Ecology, Belleville, MI - Hazardous Waste Landfill permitted to receive PCB waste.

FIGURES



LOCATION MAP

NOT TO SCALE



VICINITY MAP

NOT TO SCALE

REV.	YYYY-MM-DD	DESCRIPTION	DESIGNED	PREPARED	REVIEWED	APPROVED
0	2017-12-14	FINAL	ML	VMN	FSS	LH
A	2017-12-13	DRAFT	ML	VMN	FSS	LH

CLIENT
CYPRUS AMAX MINERALS COMPANY

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PROJECT
FORMER SATRALLOY SITE
SELF-IMPLEMENTING PCB CLEANUP

TITLE
SITE LOCATION

PROJECT NO.
1239330903

PHASE
003

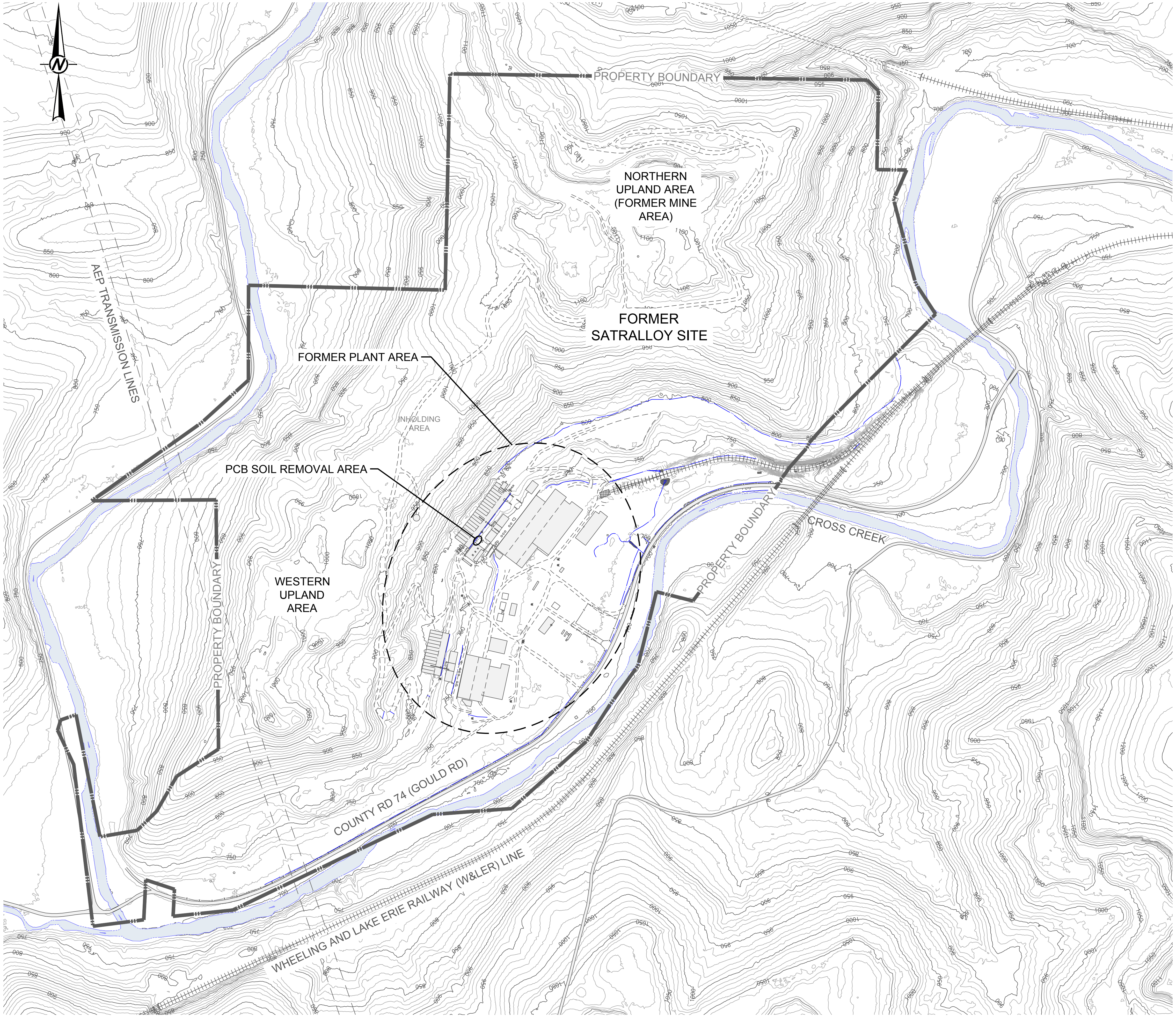
REV.
A

1 of 5

FIGURE
1

IF THIS MEASUREMENT DOES NOT MATCH WHAT IS SHOWN, THE SHEET SIZE HAS BEEN MODIFIED FROM: ANSI D

Path: \\redmond\geomat$\geomatic\sf\Freeport\Former_Satralloy\99_PROJECTS\1239330903_Satralloy\A_Phase\2\300_PCB\Removal\02_PRODUCTION\DWG\ | File Name: 1239330903_300_001.dwg



NOTES:

1. BASE TOPOGRAPHY DATED 2003 PROVIDED BY JEFFERSON COUNTY, OHIO, ENGINEER'S OFFICE.
   1.a. HORIZONTAL DATUM: OHIO NORTH ZONE NAD 83 - STATE PLANE U.S. SURVEY FEET.
   1.b. VERTICAL DATUM: NAVD 88 (EST. 1991).
   1.c. CONTOUR INTERVAL: 2 FT.
   ADDITIONAL TOPOGRAPHY BASED ON FIELD OBSERVATIONS AND MEASUREMENTS.
2. PROPERTY BOUNDARY BY BONAR SURVEYING, BERGHOLZ, OHIO, DATED OCTOBER 17, 2006.

LEGEND:

- EXISTING PROPERTY BOUNDARY
- EXISTING ON-SITE ACCESS ROAD
- EXISTING COUNTY ROAD (PAVED)
- EXISTING RAILROAD
- EXISTING FENCE
- DRAINAGE DITCH
- CROSS CREEK
- EXISTING FACILITY

REV.	YYYY-MM-DD	DESCRIPTION	DESIGNED	PREPARED	REVIEWED	APPROVED
A	2017-12-13	DRAFT	ML	VMN	FSS	LH
0	2017-12-14	FINAL	ML	VMN	FSS	LH

CLIENT
CYPRUS AMAX MINERALS COMPANY

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PROJECT
FORMER SATRALLOY SITE
SELF-IMPLEMENTING PCB CLEANUP

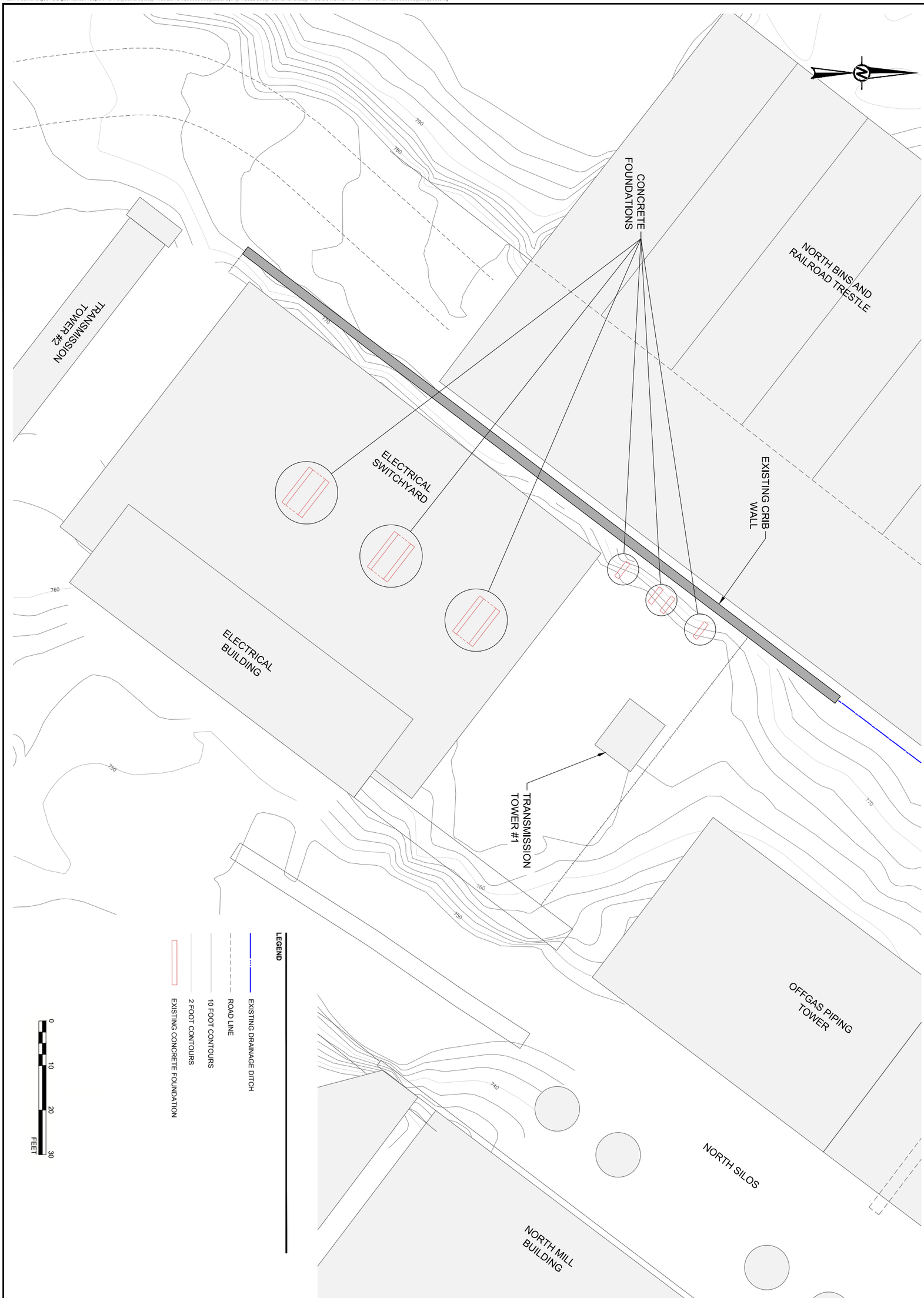
TITLE
SITE LAYOUT

PROJECT NO. 1239330903 | PHASE 003

REV. A | 2 of 5 | FIGURE 2

IF THIS MEASUREMENT DOES NOT MATCH WHAT IS SHOWN, THE SHEET SIZE HAS BEEN MODIFIED FROM: ANSI D

Path: \\redmond\geomatics\Freeport\Former_Satralloy\99_PROJECTS\1239330903_Satralloy\A_Phase2\300_PCBRemoval\02_PRODUCTION\DWG\ | File Name: 1239330903_300_002.dwg



PROJECT
FORMER SATRALLOY SITE
SELF-IMPLEMENTING PCB CLEANUP

CLIENT
CYPRUS AMAX MINERALS COMPANY

TITLE
ELECTRICAL SWITCHYARD AREA

CONSULTANT
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REDMOND
18300 NE UNION HILL RD, SUITE 200
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USA
[+1] (425) 883 0777
www.golder.com

PROJECT NO.
1239330903

PHASE
003

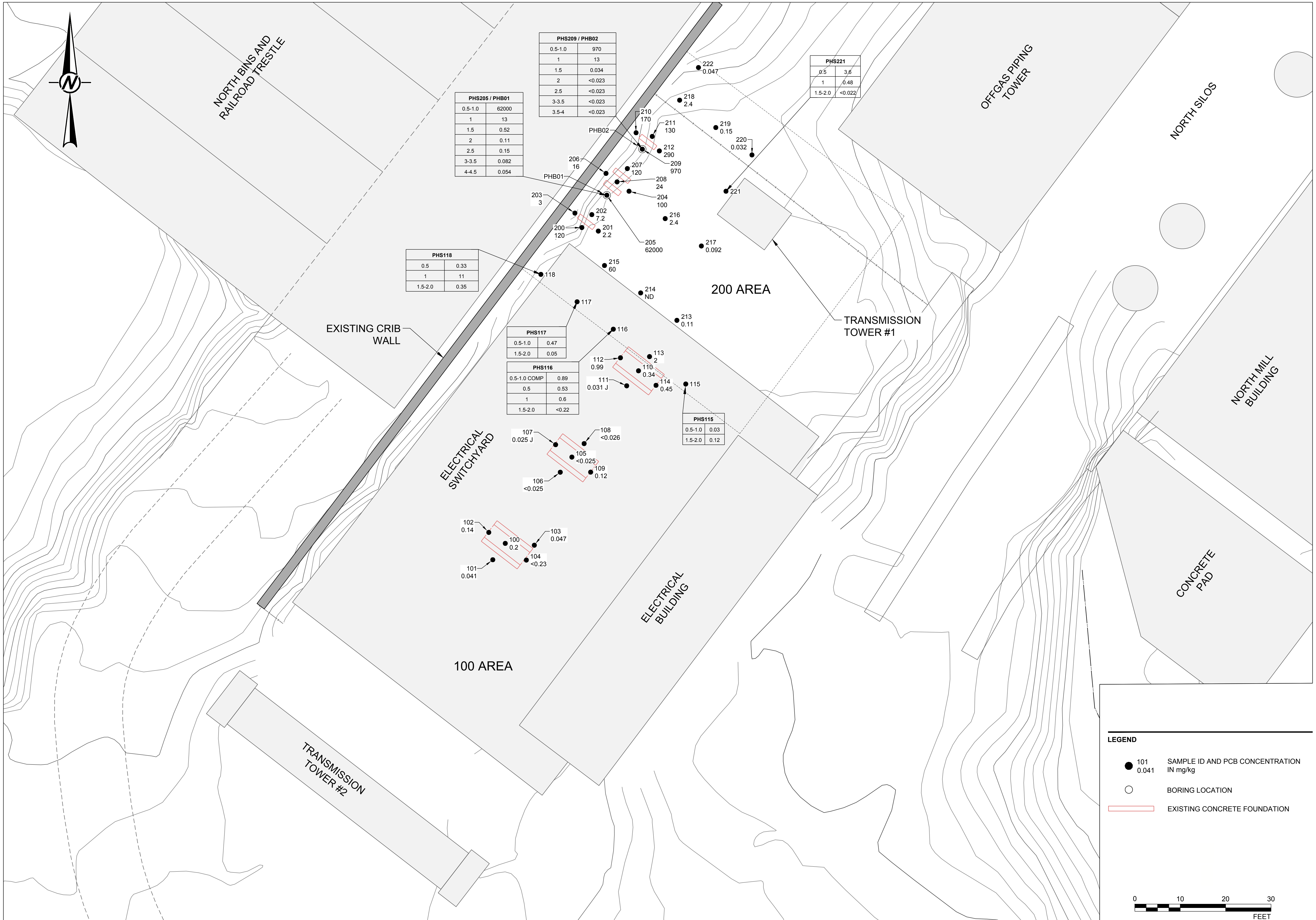
REV. A

3 of 5

FIGURE 3

REV.	YYYY-MM-DD	DESCRIPTION	DESIGNED	PREPARED	REVIEWED	APPROVED
0	2017-12-14	FINAL	ML	VMN	FSS	LH
A	2017-12-13	DRAFT	ML	VMN	FSS	LH

0 1 in IF THIS MEASUREMENT DOES NOT MATCH WHAT IS SHOWN, THE SHEET SIZE HAS BEEN MODIFIED FROM: ANSI D



PHS209 / PHB02	
0.5-1.0	970
1	13
1.5	0.034
2	<0.023
2.5	<0.023
3-3.5	<0.023
3.5-4	<0.023

PHS205 / PHB01	
0.5-1.0	62000
1	13
1.5	0.52
2	0.11
2.5	0.15
3-3.5	0.082
4-4.5	0.054

PHS221	
0.5	3.6
1	0.48
1.5-2.0	<0.022

PHS118	
0.5	0.33
1	11
1.5-2.0	0.35

PHS117	
0.5-1.0	0.47
1.5-2.0	0.05

PHS116	
0.5-1.0 COMP	0.89
0.5	0.53
1	0.6
1.5-2.0	<0.22

PHS115	
0.5-1.0	0.03
1.5-2.0	0.12

REV.	DATE	DESCRIPTION	DESIGNED	PREPARED	REVIEWED	APPROVED
0	2017-12-14	FINAL	ML	VMN	FSS	LH
A	2017-12-13	DRAFT	ML	VMN	FSS	LH

CLIENT
CYPRUS AMAX MINERALS COMPANY

CONSULTANT
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REDMOND, WA 98052
USA
[+1] (425) 883 0777
www.golder.com

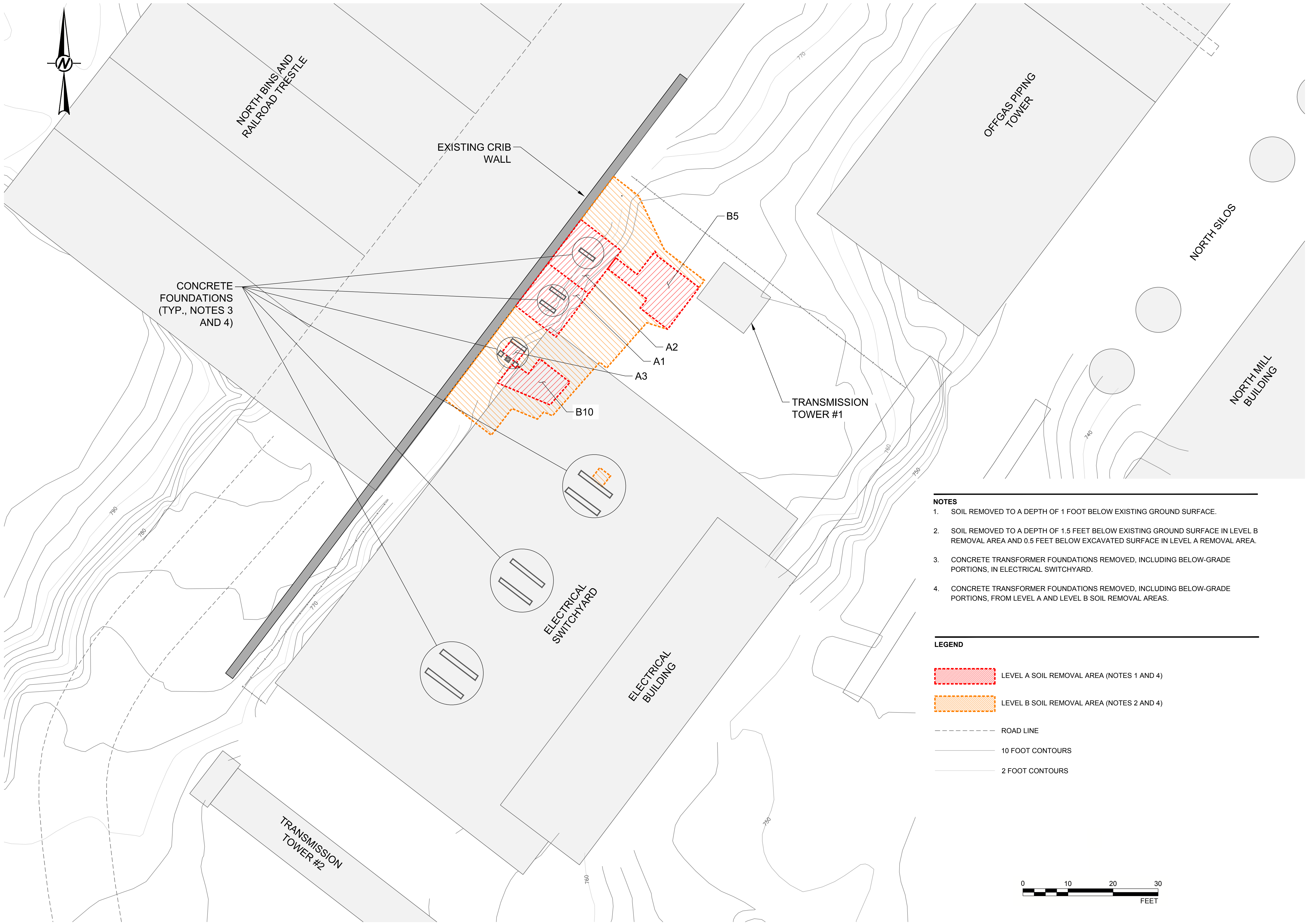
PROJECT
FORMER SATRALLOY SITE
SELF-IMPLEMENTING PCB CLEANUP

TITLE
PCB SAMPLE LOCATIONS AND CONCENTRATIONS

PROJECT NO. 1239330903 PHASE 003

REV. A 4 of 5 FIGURE 4

IF THIS MEASUREMENT DOES NOT MATCH WHAT IS SHOWN, THE SHEET SIZE HAS BEEN MODIFIED FROM: ANSI D



NOTES

1. SOIL REMOVED TO A DEPTH OF 1 FOOT BELOW EXISTING GROUND SURFACE.
2. SOIL REMOVED TO A DEPTH OF 1.5 FEET BELOW EXISTING GROUND SURFACE IN LEVEL B REMOVAL AREA AND 0.5 FEET BELOW EXCAVATED SURFACE IN LEVEL A REMOVAL AREA.
3. CONCRETE TRANSFORMER FOUNDATIONS REMOVED, INCLUDING BELOW-GRADE PORTIONS, IN ELECTRICAL SWITCHYARD.
4. CONCRETE TRANSFORMER FOUNDATIONS REMOVED, INCLUDING BELOW-GRADE PORTIONS, FROM LEVEL A AND LEVEL B SOIL REMOVAL AREAS.

LEGEND

- LEVEL A SOIL REMOVAL AREA (NOTES 1 AND 4)
- LEVEL B SOIL REMOVAL AREA (NOTES 2 AND 4)
- ROAD LINE
- 10 FOOT CONTOURS
- 2 FOOT CONTOURS

REV.	YYYY-MM-DD	DESCRIPTION	DESIGNED	PREPARED	REVIEWED	APPROVED
A	2017-12-13	DRAFT	ML	VMN	FSS	LH
0	2017-12-14	FINAL	ML	VMN	FSS	LH

CLIENT
CYPRUS AMAX MINERALS COMPANY

CONSULTANT
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PROJECT
FORMER SATRALLOY SITE
SELF-IMPLEMENTING PCB CLEANUP

TITLE
PCB SOIL FINAL EXCAVATION

PROJECT NO. 1239330903
PHASE 300
REV. A
5 of 5
FIGURE 5

IF THIS MEASUREMENT DOES NOT MATCH WHAT IS SHOWN, THE SHEET SIZE HAS BEEN MODIFIED FROM: ANSI D
0 1 in