

FINAL

**ADDENDUM TO THE MILL AREA
REMOVAL ACTION WORK PLAN
CHEVRON QUESTA MINE
SUPERFUND SITE**

Revision 1

Prepared for
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Attachment 1 Addendum to the 2018 Mill Work Plan Addendum

List of Acronyms

≥	greater than or equal to
ACM	asbestos containing material
bgs	below ground surface
EPA	Environmental Protection Agency
ft	feet
ft bgs	feet below ground surface
mg/kg	milligrams per kilogram
OSP	Overall Site Plan
PCB	polychlorinated biphenyl
PM ¹⁰	particulate matter
PPE	personal protective equipment
ppm	parts per million
RA	Removal Action
RPM	Regional Project Manager
SOP	Standard Operating Procedure
URS	URS Corporation

The purpose of this Addendum to the approved Chevron Questa Mill Area Removal Action (RA) Work Plan (URS, 2012a) (dated June 15, 2012) is to describe the tasks and activities necessary to conduct the RA in the area of the former Reagent, Drying & Packaging, and Lead Leach Plant Buildings (Drawing C-1A). This addendum provides the scope of work, project elements, and schedule for the additional field activities.

1.0 SITE DESCRIPTION

As part of the removal action, approximately 2,900 cubic yards of polychlorinated biphenyl (PCB) impacted soil was removed in 2012 from the Mill area. During the work in 2012, PCBs in soil were left in place in the buffer area surrounding the 175 Thickener Pump House, Reagent Building, Drying & Packaging Building, and Lead Leach Plant Building. Excavation was not performed within buffer areas consisting of, in most cases, 2-3 horizontal feet (ft) from buildings or secondary containment for above ground storage tanks, in the excavation area to avoid adversely impacting building foundations. In 2014 approximately 9 cubic yards of PCB impacted soil were removed from around the 175 Thickener Pump House. More recently, in 2017/2018 the Reagent, Drying & Packaging, and Lead Leach Plant buildings were removed as part of the Decommissioning and Demolition (D&D) project. However, the foundations of these buildings were left in place and are approximately 6 inches thick. Soil with concentrations of PCBs exceeding the cleanup level were left in place near these buildings. Visual markers (snow fence) were placed in previously excavated areas where PCB concentrations in soil exceeding cleanup levels were left in place. Drawing C-1A is based on the 2012 confirmation soil samples and identifies the locations where soil concentrations exceeding the cleanup levels of 25 milligrams per kilogram (mg/kg) (Table 1). Remaining PCB concentrations in soil range from 31.9 to 12,000 (mg/kg).

2.0 SCOPE OF WORK

The removal action includes excavation and disposal/treatment of PCB impacted soils as identified on Drawing C-1A – Existing Conditions and 2018 Excavation Plan. This Scope of Work includes removal of PCB impacted soil left in place around the former buildings discussed above.

2.1 Site Preparation

Prior to excavation, utilities will be identified (“Best Management Practices – Conducting Work in Areas with Unknown Utilities and Structures at the Questa Mine”, Chevron Ground Disturbance Operational Excellence Standard, and Standard Operating Procedure (SOP) 22.0) and erosion control measures (as necessary) such as straw wattles will be constructed (Overall Site Plan (URS 2012b) [OSP] Section 2.1.2, and Appendix A). If utilities are identified and encountered, soil in the area may be excavated with smaller equipment, hand tools or hydroexcavating, if necessary. Drawings C-1A and C-2 show the location and status of utilities as identified from the following:

- 2004 utility drawing provided by Chevron Mining;
- 2011 Geophysical Investigation performed by URS; and
- Utilities uncovered during the 2012 RA (utilities surveyed by Redtail Surveying);

- Utilities disconnected during the 2017/2018 D&D project.
- Known utilities have been identified and disconnected as part of the D&D project. There is a potential to encounter unknown utilities that to our knowledge should be no longer live. Known live utilities have been documented on as-built drawings as part of the utility corridor project.

Utilities shown in, or near, the proposed areas of excavation include:

- Water line running southwest to northeast through the southern portion of the initial excavation to the southwest of the former Lead Leach Plant Building.
- Non potable water running southwest to northeast through the southern portion of the initial excavation to the southwest of the former Lead Leach Plant Building.
- Electric lines running in a northwest to southeast direction through the initial excavation to the west of the former Drying & Packaging Building (sample location Mill 050) and the north portion of the initial excavation to the southwest of the former Drying & Packaging Building with one electric line running almost due south along the west side of the southern portion of the initial excavation to the southwest of the former Drying & Packaging Building. Electric lines are estimated to be shallower than 3 ft below ground surface (bgs). Drawing C-2 indicates that these electric lines were disconnected at River Divers during the D&D project.
- Water line running north to south through the north portion of the initial excavation to the southwest of the former Drying & Packaging Building and then turning to the east and running through the middle portion of the initial excavation to the southwest of the former Drying & Packaging Building.
- Gas line running northwest to southeast along the west side of the northern initial excavation (sample locations Mill 139 and Mill 135) to the southwest of the former Lead Leach Plant. This gas line also runs into the southern initial excavation (sample location Mill 134) to the southwest of the former Lead Leach Plant.
- Electric line running north to south to the east of the initial excavation at the southwest corner of the former Lead Leach Plant (sample location Mill 134). Drawing C-2 indicates that this electric line was disconnected at the substation during the D&D project.

Due to the number of utilities present in the excavation area, excavation equipment equipped with a smooth-blade bucket (versus a bucket with teeth) may be used where practical to reduce chances of damaging a utility line. Other less intrusive techniques such as hand excavation or, if necessary, hydroexcavating may be used.

After the utility locate is completed, the work area will be delineated by the excavation contractor and divided into an exclusion zone, contamination reduction zone, and a support zone as discussed in Section 4.6 and shown on Figure 3-1 of the Mill Area Removal Action Work Plan (URS, 2012a). The exclusion zone will block access by vehicles and personnel not involved in excavation and sampling activities by re-routing traffic and barricading the area. The exclusion zone will be maintained around the work area by placing signs, barricades, and red tape. If the work area is left unattended, red tape may be placed around the excavation area until

the excavation is backfilled to its original ground surface level. Barricades will be used whenever safe worker access to paved areas such as roads, parking areas, and sidewalks is prevented by construction activities, or as otherwise necessary, to protect the safety of surrounding workers and vehicular traffic. Barricades should be securely placed and clearly visible with adequate illumination to provide sufficient visual warning of hazards. Traffic controls will be set up in the Mill Area (as necessary) from the exclusion zone to State Highway 38.

2.2 Excavation

The initial excavations will focus on removing the impacted soil left behind at soil confirmation sample locations Mill 063, Mill 089, Mill 165, Mill 166, Mill 167, Mill 168, Mill 060, Mill 050, Mill 134, Mill 135, and Mill 139 as described below. Excavation will continue until sample results (see Section 2.3) indicate that PCBs are less than the cleanup level (25 mg/kg). Based upon current information, excavation to 5 ft below ground surface (ft bgs) is anticipated at one location. Otherwise, excavation is anticipated to 4 ft bgs, unless further contamination is encountered. The total volume of soil containing PCBs greater than or equal to (\geq) 25 mg/kg is estimated to be 230 bank cubic yards. Excavated soil quantities will be estimated based on the weights of the trucks as measured at the scale located at the entrance to the Mill.

Excavation activities will attempt to leave concrete foundations in place and soil will be excavated adjacent to the foundation. To readily access soils under concrete foundations, concrete may need to be broken and removed.

2.2.1 Southwest Corner of Former Lead Leach Plant Excavation (Excavation Area 1)

The PCB concentrations at sample locations Mill 063 and Mill 089 (Drawing C-1A) are \geq 50 mg/kg. Per the approved work plan (URS 2012a), the combined initial excavation for these 2 locations will be from approximately 5-ft to the South of sample location Mill 063 to approximately 5-ft to the north of sample location Mill 089 to a depth of approximately 3-ft bgs (target depth) and will extend to the foundation of the Lead Leach Plant (approximately 3 to 4 ft from the edge of the 2012 excavation).

2.2.2 Southwest Corner of Former Drying & Packaging Building Excavation (Excavation Areas 2 and 3)

The PCB concentrations at sample locations Mill 060, Mill 165, Mill 166, Mill 167, and Mill 168 (Drawing C-1A) are \geq 50 mg/kg. Per the approved work plan (URS 2012a), the combined initial excavation (Excavation Area 3) for these 5 locations will be from approximately 5-ft to the South of sample location Mill 165 to approximately 5-ft to the East of sample location Mill 166, extending to the foundation of the Drying & Packaging Building (approximately 4 ft from the northern edge of the 2012 excavation at sample location Mill 167) and to the boundary of the 2012 excavation to the west of sample locations Mill 167 and Mill 165 to a depth of approximately 3 ft bgs. This excavation will also extend approximately 5-ft to the East, North, and West of sample location Mill 060 and approximately 3 ft bgs deep. In the area around sample location Mill 168 (Excavation Area 2) bounded by sample location Mill 059 on the west and the extents of the 2012 excavation on the remaining sides, a portion of the concrete apron was previously removed, and impacted soils were excavated to approximately 4 ft bgs.

Excavation ceased at this depth due to structural concerns regarding the Drying & Packaging Building and Lead Leach Plant. A visual marker (snow fence) was placed at the bottom of the excavation to indicate that impacted soils were left in place, the excavation was backfilled with clean fill, and the concrete apron that was removed was replaced with new concrete (approximately 6 inches thick). In Excavation Area 2 beneath the concrete apron clean fill (approximately 10 cubic yards) from approximately 0.5 to 4 ft bgs should be excavated and segregated for reuse as backfill, and the impacted soil from approximately 4 to 5 ft bgs should be excavated for disposal.

A portion of the concrete apron (~8 ft by 10 ft) overlies clean fill and a portion (~175 square ft) overlies impacted soil. Concrete that overlies clean fill should be considered as construction debris (Excavation Area 2). Concrete that overlies impacted soil (Excavation Area 3) should be disposed in the same manner that the underlying soil is disposed. For these excavation areas it is estimated that approximately 2 cubic yards of concrete overlie the clean fill and 3 cubic yards of concrete overlie the impacted soil.

2.2.3 West of Former Drying & Packaging Building Excavation (Excavation Area 4)

The PCB concentration at sample location Mill 050 (Drawing C-1A) is ≥ 25 mg/kg. Per the approved work plan (URS 2012a), the initial excavation will be approximately 10 ft to the east and 10 ft to the south of sample location Mill 050 along the footprint of the 2012 excavation, a minimum of 1 ft of impacted soil to the south and east of the 2012 excavation boundary should be removed to an approximate depth of 3 ft bgs.

2.2.4 Southwest Corner of Former Reagent Building Excavations (Excavation Areas 5 and 6)

The PCB concentration at sample location Mill 134 (Drawing C-1A) is ≥ 50 mg/kg. Per the approved work plan (URS 2012a), the initial excavation will be from approximately 5-ft to the South and North of sample location Mill 134, extending East to the foundation of the Reagent Building (approximately 5 to 7 ft from the footprint of the 2012 excavation) and to a depth of approximately 3 ft.

To the northwest of sample location Mill 134, the PCB concentrations at sample locations Mill 135 and Mill 139 are ≥ 50 mg/kg. Per the approved work plan (URS 2012a), the initial excavation will be approximately 5-ft to the East and north of sample location Mill 135 extending West to sample location Mill 139 along the footprint of the 2012 excavation and to a depth of approximately 3 ft.

2.2.5 Post Excavation Surface Soil Removal

After excavation activities are completed and prior to post-excavation sampling, additional excavation of a minimum of six inches of the ground surface within the exclusion zone (outside of the excavations) in areas used for stockpiling without a liner or where heavy equipment used in the excavation or loading of impacted soils traveled will be conducted. This will be done to prevent cross-contamination from removal activities.

2.3 Confirmation Sampling

The initial excavation confirmation samples will be collected as discussed in the sections below. If a confirmation soil sample exceeds the cleanup level, one ft or more of additional material will be removed from the area where the exceedance occurred (base or sidewall), and the excavation will be resampled at the same vertical depth (sidewall) or horizontal location (base) as the confirmation sample(s). If confirmation field sample results indicate that PCBs are ≥ 50 mg/kg in a sidewall, then a 5-ft extension of the excavation will be performed (unless an obstruction is present) and the sidewall will be resampled as described below.

Confirmation and post-excavation (discussed below) sampling will consist of grab samples and will be conducted using a shovel or stainless steel spoon, brick layer hammer, stainless steel bowls, and a #10 sieve. Sidewall samples will either be collected directly from the sidewall as described above or will be collected from the excavator bucket. Personnel will not enter an excavation that is greater than 4 ft bgs unless the excavation has been stabilized (sloping, benching, etc.). Decontamination procedures will be followed between sampling locations as described in Section 2.5. Refer to the Mill Area RA Work Plan (URS 2012a), and SOP 4.0 in the OSP (URS 2012b), for additional details regarding sampling and analysis activities.

Soil and wipe (discussed below) samples will be analyzed using an on-site L2000DX analyzer and field test kits manufactured by Dexsil Corporation (SOP 36.0 in the Overall Site Plan (OSP) [URS, 2012b]). The field test kits have detection limits between 3 and 2,000 mg/kg. The on-site analysis will be used as a field screening confirmation tool. Split samples of the soil samples will be submitted to an off-site laboratory for confirmation/verification of the on-site analytical results. Samples submitted for confirmation laboratory analysis will be randomly selected, whereas, samples submitted for verification laboratory analysis will be selected from samples with field analysis results for PCBs that are ≥ 25 mg/kg. Twenty percent, or greater, of the field soil samples will be split, and the split samples will be submitted to the off-site laboratory for confirmation/verification laboratory analysis of PCBs by Environmental Protection Agency (EPA) method 8082. Split samples will be submitted (SOP 9.0 in the OSP [URS 2012b]) to the off-site laboratory with a 48 hour turnaround time for analysis.

2.3.1 Southwest Corner of Former Lead Leach Plant Excavation

The initial excavation confirmation samples in this area will be collected from the center of the south and north sidewalls from six inches and 1.5 ft bgs. The east sidewall samples will be collected from six inches and 1.5 ft bgs from two locations due east of sample locations Mill 089 and Mill 063. Two samples will be collected from the base of the excavation, equidistant between sample location Mill 089 and the concrete pad of the Lead Leach Plant and between sample location Mill 063 and the concrete pad of the Lead Leach Plant.

2.3.2 Southwest Corner of Former Drying & Packaging Building Excavation

The initial excavation confirmation samples in the concrete apron area will be collected from the center of the south, east and north sidewalls from six inches and 1.5 ft bgs, and three samples will be collected from the base of the excavation equidistant between sample location Mill 165 and the south excavation sidewall, sample location Mill 166 and the east excavation sidewall, and sample location Mill 167 and the concrete pad of the Drying & Packaging Building.

Another sample will be collected from the base of the excavation in the same horizontal location as sample location Mill 168.

The initial excavation confirmation samples to the northwest of the concrete apron (at sample location Mill 060) will be collected from the center of the east, north, and west sidewalls from six inches and 1.5 ft bgs. A sample will be collected from the center of the base of the excavation.

2.3.3 West of Former Drying & Packaging Building Excavation

The initial excavation confirmation sample in this area will be collected perpendicular from sample location Mill 050 from the sidewall at a depth of 1.5 ft bgs since the concentration in this area is between 25 and 50 parts per million (ppm).

2.3.4 Southwest Corner of Former Reagent Building Excavations

The initial excavation confirmation samples in the area of sample location Mill 134 will be collected from the center of the east and north sidewalls from six inches and 1.5 ft bgs. A sample will be collected from the center of the base of the excavation. Confirmation samples will not be collected along the south sidewall since it will extend to sample location Mill 025, which has a concentration less than 25 ppm.

The initial excavation confirmation samples in the area to the northwest of the sample location Mill 134 excavation (at sample locations Mill 135 and Mill 139) will be collected from the center of the east and north sidewalls from six inches and 1.5 ft bgs. A sample will be collected from the center of the base of the excavation.

2.4 Decontamination

A decontamination area will be set up with plastic sheeting within the exclusion zone for decontamination of sampling equipment used for confirmation sampling. Visible soil will be scraped off of the sampling equipment followed by an alconox wash and a double rinse with distilled or deionized water. This procedure (SOP 6.0 in the OSP [URS 2012b]) will be followed outside of the exclusion zone for decontamination of sampling equipment used for post excavation sampling. Generation of decontamination water should be minimized by using hand sprayers and wipes as much as possible.

Decontamination of heavy equipment will include setting up a decontamination pad, removing visible contamination and soil, and washing the heavy equipment with a scrub brush and soapy water. The heavy equipment will then be double rinsed with water.

2.5 Materials Handling and Disposal

Excavated impacted soils and debris will be loaded into either excavation contractor lined roll-off bins or lined trucks (Section 3.1.4 of the RA Work Plan [URS 2012a] and Section 2.2.3 of the OSP [2012 b]). Roll offs or trucks will be lined with 6 millimeter thick plastic by the excavation contractor prior to loading. Excavated impacted material will be manifested and shipped off-site to the following EPA-approved disposal facilities:

- Deer Trail, Colorado facility (soil with PCBs < 50 mg/kg)
- Aragonite, Utah facility (soils with PCBs \geq 50 mg/kg), or the Deer Park, Texas facility (soils with PCBs \geq 50 mg/kg).

Mixing of similar (e.g., PCB concentration) excavated material from several areas or sampling locations is permissible to fill containers. Stockpiles of impacted soil (see Section 3.1.1 of the RA Work Plan [URS 2012a] and Section 2.2.3.2 of the OSP [URS 2012b]) will be located within the exclusion zone and can be placed on plastic sheeting (see Section 2.2 if plastic sheeting is not used). Stockpiled material will be stored in a manner to eliminate the need for disposal trucks to enter the project area, thus eliminating the need to decontaminate haul trucks. Haul truck loading areas will be lined and routinely cleaned to keep contaminated material off of truck tires. Additional detail regarding transportation and disposal procedures is included in the specification on Drawing G-2, under Removal and Disposal of PCB Contaminated Soil.

Concrete that is considered construction waste should be sized to a maximum width of 1 ft in diameter and transported by truck to the open pit. Extruding rebar should be cut off as concrete transported to the open pit must be free of extruding rebar. Construction debris including non-impacted concrete and rebar will be disposed at the open pit as previously approved by NMED and MMD. Concrete that is considered to be impacted should be sized so that it will fit into a roll off or truck bed as specified on Drawing G-2.

Prior to truck mobilization off site, the loaded trailer bed will be covered with tarps or plastic sheeting and secured to prevent contaminated soils from migrating off site. Each truck will be inspected and cleaned, prior to leaving the mine site, of mud or other materials that may need to be removed prior to entering a public road. Manifests will be completed on site after the soil has been loaded into the truck. Since the haul trucks will be staged outside the exclusion zone, they will not require decontamination prior to leaving the site. Transportation and hauling guidelines (included in the OSP [Waste Management Plan] [URS 2012b]) will be provided to truck drivers prior to commencing site activities.

Before off-site shipment of hazardous substances from the site for disposal exceeding a total volume of 10 cubic yards, Chevron will provide written notification of the shipment to EPA's designated Regional Project Manager (RPM) and to the appropriate state environmental official in the receiving state, please refer to Section 3.1.4 in the Mill Area RA Work Plan (URS 2012a) for further details.

In addition to the excavated material, waste will also be generated from the soil/wipe sampling, and on-site laboratory analysis. Waste generated from these field activities will consist of decontamination water (lab and sampling), organic liquid (lab), and soil (lab and sampling). These wastes will be managed in accordance with Sections 2.1 and 2.2 of the OSP and SOPs 6.0 and 23.0 found in Appendix C of the OSP (URS 2012b). Decontamination water will be containerized and disposed of in a roll off or truck bed containing soil. Solid waste (PPE) generated within the exclusion zone (including items that cannot be decontaminated) will be disposed of in a roll off or truck bed. Solid waste (PPE) generated outside of the exclusions zone will be disposed of as solid waste.

2.6 Surveying

Prior to initiating excavation activities confirmation soil sample locations shown on Drawing C-1A will be located and marked using 2012 survey coordinates and a total station by the excavation contractor's survey subcontractor. During the field effort, sample locations will be surveyed with a survey wheel and/or handheld tape measure after sample collection. Sample locations will be surveyed prior to backfill with the use of a total station by the excavation contractor's survey subcontractor, per SOP 20.0.

2.7 Site Restoration

Borrow areas for backfill will be from 3 potential locations. Material from a borrow area at the Tailing Facility (shown in Appendix A of the Questa Tailings Pipeline Removal Stage 2 Work Plan [Trihydro, 2017]) is an EPA approved source. Two additional locations on the Mine Site include material from previous Mill excavations placed at the top of Spring Gulch Rock Pile and material that will be excavated as part of the drainage diversion to the 005 Catchment and will be stockpiled at the Mill. These two borrow sources are currently being characterized and results will be submitted to EPA for approval prior to use.

Clean backfill material will be placed and compacted. Lifts of backfill material will be compacted a minimum of 4 passes in the excavation per the specifications on Drawing G-3. Backfill should be re-graded as shown on Drawing C-3 to allow adequate drainage of the adjacent ground surface upon completion of excavation activities. Backfill quantities will be estimated based on truck size and the number of truck loads.

2.8 Post Excavation Soil Samples and Decontamination Wipe Samples

After backfilling and scraping activities are completed, post-excavation samples will be collected from the surface (0 to 6 inches bgs) of the exclusion zone(s) on a 50-ft by 50-ft grid spacing, per SOP 4.0.

Upon completion of excavation activities, baseline wipe samples will be collected (SOP 41 in the OSP [URS 2012b]) from the barricade used to delineate the exclusion zone, and the heavy equipment used for excavation. After the heavy equipment and the barricade (if necessary) are decontaminated, additional wipe samples will be collected in order to determine if further decontamination is necessary. If wipe samples are below the detection limit of the field test kits (3 mg/kg), then further decontamination will not be necessary.

2.9 Health and Safety Measures

Level D personal protective equipment (PPE) will be worn while on site and when conducting sampling at the mine property outside of the exclusion zone. Level D PPE will include steel toe boots, high-visibility vests (Class II or greater) and work gloves, safety glasses, and white or yellow hard hats. To prevent potential exposure of personnel to soil containing PCBs, specific safety measures will be implemented during soil excavation activities within the exclusion zone. PPE within the exclusion zone will include Tyvek[®] suits; yellow latex boot covers, steel toed boots, safety glasses, high-visibility vests (Class II or greater) and work gloves, and white or yellow hard hats with red tape around the hard hat. Additionally, high visibility nitrile gloves will be used for collecting soil samples, and performing decontamination of equipment both

inside and outside the exclusion zone. Kevlar liners will be worn underneath nitrile gloves when handling glass containers. Prior to leaving the exclusion zone, field personnel will remove outer PPE and either dispose of perishable items (e.g., Tyvek[®]) or stage them in the contamination reduction zone (decontamination trailer) (e.g., hard hats used in the exclusion zone). Personnel will then wash their hands and don PPE for the mine property outside the exclusion zone. Personnel performing field laboratory testing will wear steel toed boots, high visibility nitrile gloves, and goggles. The laboratory testing area will be well-ventilated. If asbestos containing material (ACM) is discovered during the excavation, additional safety precautions will be put into place to increase worker safety (see AECOM Health and Safety Plan for details).

Water will be applied within and around the work area to suppress dust during excavation, backfilling, and trucking activities. The excavation contractor will conduct air monitoring for particulate matter (PM¹⁰) throughout the removal action. On an as needed basis, monitoring will also be performed with a 4-Gas Monitor (Lower Explosive Limit, Hydrogen Sulfide, Carbon Monoxide, and Oxygen) and a Photoionization Detector. If necessary, half face respirators may be used in order to work in dusty conditions. If ACM is encountered during excavation, stop work authority will be exercised. ACM will be managed using proper abatement procedures by certified personnel consistent with other ongoing abatement activities performed at Questa Mine.

Safety measures (e.g., shoring or benching) will be implemented, per Occupational Safety and Health Administration requirements, for excavations deeper than 4 ft bgs.

3.0 PROJECT SCHEDULE

A general project schedule for the RA is provided in Figure 1. The schedule includes tasks to be performed during and following the field portion of the RA. Scheduled tasks include the pre-construction meeting, pre-final inspection, completion of work, pre-final inspection report, and RA completion report. The schedule will be updated as needed and agreed upon by the Project Coordinator and EPA RPM.

4.0 REFERENCES

- URS Corporation (URS). 2012a. Final Mill Area Removal Action Work Plan, Chevron Questa Mine Superfund Site, Questa, New Mexico, prepared by URS Corporation. June.
- URS. 2012b. Overall Site Plan for Removal Actions, Chevron Questa Mine Superfund Site, Prepared for Chevron Mining Inc. Questa Mine, Questa, New Mexico. June.
- Trihydro. 2017. Questa Tailings Pipeline Removal Stage 2 Work Plan Chevron Environmental Management Company Questa Mine. October.

TABLE

Table 1
Questa Mill Area - Select On-Site Field Laboratory and Off-Site Confirmation Sampling Results

Sample ID ¹	Sample Description	Date Collected	Sample Depth (feet bgs)	Laboratory Location	Analyte ²	Laboratory Results	Units
MILL025-T01N-SOL-FA	Northeast corner of excavation (south/southwest of Reagent Building's southwest corner)	7/23/2012	0.5	Onsite	1242 SOIL	7	PPM
MILL048-T01N-SOL-FA	25 feet south of MILL036, along east sidewall of excavation	7/31/2012	0.5	Onsite	1242 SOIL	18	PPM
MILL050-T02N-SOL-FA	East sidewall, 25 feet south of MILL048, 1.5 feet deep (resample of MILL049 area)	8/1/2012	1.5	Onsite	1242 SOIL	20.9	PPM
MILL050-T02N-SOL-LA	East sidewall, 25 feet south of MILL048, 1.5 feet deep (resample of MILL049 area)	8/1/2012	1.5	Offsite	Aroclor 1248	39	mg/kg-dry
MILL051-T01N-SOL-FA	East sidewall, 25 feet south of MILL049, 6 inches deep	8/1/2012	0.5	Onsite	1242 SOIL	5.33	PPM
MILL059-T01N-SOL-FA	East sidewall of the additional excavation from the east side of the RI hot spot, 6 inches deep	8/2/2012	0.5	Onsite	1242 SOIL	43.3	PPM
MILL059-T02N-SOL-FA	East sidewall of the additional excavation from the east side of the RI hot spot, 1.5 feet deep	8/2/2012	1.5	Onsite	1242 SOIL	136	PPM
MILL059-T01N-SOL-LA	East sidewall of the additional excavation from the east side of the RI hot spot, 6 inches deep	8/2/2012	0.5	Offsite	Aroclor 1248	36	mg/kg-dry
MILL059-T02N-SOL-LA	East sidewall of the additional excavation from the east side of the RI hot spot, 1.5 feet deep	8/2/2012	1.5	Offsite	Aroclor 1248	140	mg/kg-dry
MILL060-T01N-SOL-FA	North sidewall of the additional excavation from the north side of the RI hot spot, 6 inches deep	8/2/2012	0.5	Onsite	1242 SOIL	67.1	PPM
MILL060-T02N-SOL-FA	North sidewall of the additional excavation from the north side of the RI hot spot, 1.5 feet deep	8/2/2012	1.5	Onsite	1242 SOIL	371	PPM
MILL060-T01N-SOL-LA	North sidewall of the additional excavation from the north side of the RI hot spot, 6 inches deep	8/2/2012	0.5	Offsite	Aroclor 1248	64	mg/kg-dry
MILL060-T02N-SOL-LA	North sidewall of the additional excavation from the north side of the RI hot spot, 1.5 feet deep	8/2/2012	1.5	Offsite	Aroclor 1248	270	mg/kg-dry
MILL062-T02N-SOL-FA	East sidewall, 25 feet south of MILL059, 1.5 feet deep	8/6/2012	1.5	Onsite	1242 SOIL	7.57	PPM
MILL063-T01N-SOL-FA	East sidewall, 25 feet south of MILL062, 6 inches deep	8/7/2012	0.5	Onsite	1242 SOIL	43.5	PPM
MILL063-T01N-SOL-LA	East sidewall, 25 feet south of MILL062, 6 inches deep	8/7/2012	0.5	Offsite	Aroclor 1248	63	mg/kg-dry
MILL089-T01N-SOL-FA	East sidewall, near MILL063 but approximately 2 feet further east toward the Lead Leach Plant, 6 inches deep	8/14/2012	0.5	Onsite	1242 SOIL	95.5	PPM
MILL089-T02N-SOL-FA	East sidewall, near MILL063 but approximately 2 feet further east toward the Lead Leach Plant, 1.5 feet deep	8/15/2012	1.5	Onsite	1242 SOIL	73.8	PPM
MILL089-T01N-SOL-LA	East sidewall, near MILL063 but approximately 2 feet further east toward the Lead Leach Plant, 6 inches deep	8/14/2012	0.5	Offsite	Aroclor 1248	150	mg/kg-dry
MILL089-T02N-SOL-LA	Surface sample east of the Thickener #5 (approximately 28 feet west of the northwest corner of the Decline Shop)	8/15/2012	1.5	Offsite	Aroclor 1248	82	mg/kg-dry
MILL108-T02N-SOL-FA	North sidewall of excavation, south of the Lead Leach Plant and 25 feet east of MILL063, 1.5 feet deep	8/15/2012	1.5	Onsite	1242 SOIL	5.82	PPM
MILL134-T01N-SOL-FA	NW of Drying and Packaging, east sidewall, 6 inches bgs, north of MILL025	9/20/2012	0.5	Onsite	1242 SOIL	184	PPM
MILL134-T02N-SOL-FA	NW of Drying and Packaging, east sidewall, 1.5 feet bgs, north of MILL025	9/20/2012	1.5	Onsite	1242 SOIL	31.9	PPM
MILL134-T01N-SOL-LA	NW of Drying and Packaging, east sidewall, 6 inches bgs, north of MILL025	9/20/2012	0.5	Offsite	Aroclor 1248	140	mg/kg-dry
MILL134-T02N-SOL-LA	NW of Drying and Packaging, east sidewall, 1.5 feet bgs, north of MILL025	9/20/2012	1.5	Offsite	Aroclor 1248	24	mg/kg-dry
MILL135-T01N-SOL-FA	NW of Drying and Packaging, north sidewall, 6 inches bgs, north of MILL030	9/20/2012	0.5	Onsite	1242 SOIL	10.6	PPM
MILL135-T02N-SOL-FA	NW of Drying and Packaging, north sidewall, 1.5 feet bgs, north of MILL030	9/20/2012	1.5	Onsite	1242 SOIL	104	PPM
MILL135-T02N-SOL-LA	NW of Drying and Packaging, north sidewall, 1.5 feet bgs, north of MILL030	9/20/2012	1.5	Offsite	Aroclor 1248	67	mg/kg-dry
MILL139-T01N-SOL-FA	Northern hotspot in NE corner; east sidewall; 6 inches below ground surface; west of MILL135	9/24/2012	0.5	Onsite	1242 SOIL	4.01	PPM
MILL139-T02N-SOL-FA	Northern hotspot in NE corner; east sidewall; 1.5 feet below ground surface; west of MILL135	9/24/2012	1.5	Onsite	1242 SOIL	137	PPM
MILL139-T02N-SOL-LA	Northern hotspot in NE corner; east sidewall; 1.5 feet below ground surface; west of MILL135	9/24/2012	1.5	Offsite	Aroclor 1248	110	mg/kg-dry
MILL145-T02N-SOL-FA	Northern hotspot in NE corner; north sidewall extension; 1.5 feet below ground surface; northeast of MILL141	9/24/2012	1.5	Onsite	1242 SOIL	4.01	PPM
MILL165-T01N-SOL-FA	West of Lead Leach Plant; south sidewall, 6 inches bgs, north of MILL062	9/27/2012	0.5	Onsite	1242 SOIL	152	PPM
MILL165-T02N-SOL-FA	West of Lead Leach Plant; south sidewall, 1.5 feet bgs, north of MILL062	9/27/2012	1.5	Onsite	1242 SOIL	13.7	PPM

Table 1
Questa Mill Area - Select On-Site Field Laboratory and Off-Site Confirmation Sampling Results

Sample ID ¹	Sample Description	Date Collected	Sample Depth (feet bgs)	Laboratory Location	Analyte ²	Laboratory Results	Units
MILL165-T01N-SOL-LA	West of Lead Leach Plant; south sidewall, 6 inches bgs, north of Mill062	9/27/2012	0.5	Offsite	Aroclor 1248	130	mg/kg-dry
MILL166-T01N-SOL-FA	West of Lead Leach Plant; east sidewall, 6 inches bgs, north of MILL062	9/27/2012	0.5	Onsite	1242 SOIL	HIGH³	PPM
MILL166-T02N-SOL-FA	West of Lead Leach Plant; east sidewall, 1.5 feet bgs, north of MILL062	9/27/2012	1.5	Onsite	1242 SOIL	3525	PPM
MILL166-T01N-SOL-LA	West of Lead Leach Plant; east sidewall, 6 inches bgs, north of Mill062	9/27/2012	0.5	Offsite	Aroclor 1248	12000	mg/kg-dry
MILL166-T02N-SOL-LA	West of Lead Leach Plant; east sidewall, 1.5 feet bgs, north of Mill062	9/27/2012	1.5	Offsite	Aroclor 1248	1700	mg/kg-dry
MILL167-T01N-SOL-FA	West of Lead Leach Plant; north sidewall, 6 inches bgs, north of MILL062	9/27/2012	0.5	Onsite	1242 SOIL	130	PPM
MILL167-T02N-SOL-FA	West of Lead Leach Plant; north sidewall, 1.5 feet bgs, north of MILL062	9/27/2012	1.5	Onsite	1242 SOIL	109	PPM
MILL167-T01N-SOL-LA	West of Lead Leach Plant; north sidewall, 6 inches bgs, north of Mill062	9/27/2012	0.5	Offsite	Aroclor 1248	91	mg/kg-dry
MILL167-T02N-SOL-LA	West of Lead Leach Plant; north sidewall, 1.5 feet bgs, north of Mill062	9/27/2012	1.5	Offsite	Aroclor 1248	90	mg/kg-dry
MILL168-T01N-SOL-FA	West of Lead Leach Plant; base of excavation, 4 feet bgs, north of MILL062	9/27/2012	4	Onsite	1242 SOIL	100	PPM
MILL168-T01N-SOL-LA	West of Lead Leach Plant; base of excavation, 4 feet bgs, north of Mill062	9/27/2012	4	Offsite	Aroclor 1248	68	mg/kg-dry

Notes:

bgs = below ground surface

FA = field analysis (using Dextsil L2000 DX)

ID = identification

LA = laboratory analysis

mg/kg = milligram/kilogram

PCB = polychlorinated biphenyl

PPM = parts per million

SOL = soil sample

T01N = normal (primary) sample collected from 6 inches below surface

T02N = normal (primary) sample collected from 1.5 feet below surface

Concentrations greater than the cleanup level are in **bold**

¹ See Drawing C-1A for sample locations. The identifier "T01N" indicates a 6 inch bgs sample from either the side or base of the excavation. See sample description for details.

² Value listed indicates the aroclor method selected in the Dextsil unit. The Dextsil unit does not actually analyze for a specific aroclor, but rather measures the total organic chlorine content of a sample and equates that to an estimated equivalent concentration of the selected aroclor. Therefore, the aroclor selected was based on the most conservative method and does not indicate the concentration of that specific aroclor, but rather the estimated concentration of that form of aroclor.

³ Concentration exceeded the limits of the Dextsil analyzer (>5,000 ppm).

 Indicates where cleanup levels were not attained and could not be further excavated due to the presence of structures, and a visual marker (orange snow fence) was installed in the excavation prior to backfill.

FIGURE

**Figure 1
MILL AREA REMOVAL ACTION SCHEDULE**

ID	Task Name	Duration	Start	Finish	2019					
					Sep	Oct	Nov	Dec	Jan	Feb
1	Mill Area - PCB Soil Removal	108 days	Tue 9/18/18	Thu 2/14/19						
2	Mobilization	6 days	Tue 9/18/18	Tue 9/25/18						
3	Pre-Construction Meeting	1 day	Tue 9/25/18	Tue 9/25/18						
4	Perform PCB Removal	11 days	Wed 9/26/18	Wed 10/10/18						
5	Pre-Final Inspection	1 day	Wed 10/10/18	Wed 10/10/18						
6	Pre-Final Inspection Report	6 days	Wed 10/10/18	Wed 10/17/18						
7	Address Punch List Items (if necessary)	6 days	Wed 10/10/18	Wed 10/17/18						
8	Final Inspection (if necessary)	1 day	Wed 10/17/18	Wed 10/17/18						
9	Demobilization	5 days	Thu 10/11/18	Wed 10/17/18						
10	Draft Removal Action Completion Report Addendum (with Certified Record Drawings)	44 days	Wed 10/17/18	Mon 12/17/18						
11	EPA Review	25 days	Mon 12/17/18	Fri 1/18/19						
12	Final Removal Action Completion Report Addendum	20 days	Fri 1/18/19	Thu 2/14/19						

Project: Figure 1_Mill Area Remov Date: Thu 9/27/18	Task		External Milestone		Manual Summary Rollup	
	Split		Inactive Task		Manual Summary	
	Milestone		Inactive Milestone		Start-only	
	Summary		Inactive Summary		Finish-only	
	Project Summary		Manual Task		Deadline	
	External Tasks		Duration-only		Progress	

DRAWINGS

INDEX OF DRAWINGS

Table with 2 columns: SHEET NO., DESCRIPTION. Includes General notes 1, 2, and 3.

CIVIL

Table with 2 columns: SHEET NO., DESCRIPTION. Includes Civil notes C-1, C-1A, C-2, and C-3.

GENERAL NOTES:

- 1. ALL DRAWING SURVEY COORDINATES ARE 2011 NEW MEXICO STATE PLANE (NAD 83).
2. TITLES (E.G. PROJECT MANAGER) REFERENCED HEREIN ARE CONSISTENT WITH THE ORGANIZATION CHART PROVIDED IN THE OVERALL SITE PLAN...
7. DEFINITIONS:
7.1 CONTAMINATED MATERIAL: THE PRESENCE OF PCBs EXCEEDING THE TSCA LOW OCCUPANCY LEVEL OF 25 MG/KG...
7.2 EXCAVATED MATERIAL: ANY MATERIAL EXCAVATED FROM THE MILL AREA DURING THE REMOVAL ACTION.
7.3 OFF-SITE: OUTSIDE THE QUESTA MINE SITE BOUNDARY AS SHOWN ON THE TRANSPORTATION DRAWINGS INCLUDED IN THE OVERALL SITE PLAN (MANAGEMENT PLAN SECTION).
7.4 LIQUID IDW: DECONTAMINATION LIQUID THAT HAS BEEN CONTAMINATED WITH PCB MATERIAL.
7.5 BORROW MATERIAL: SOIL AND AGGREGATE MATERIALS PROPOSED FOR USE IN THE RA AND OBTAINED FROM OFF-SITE SOURCES...
7.6 FILL: SOIL AND OTHER APPROVED MATERIALS FROM APPROVED OFF-SITE BORROW SOURCE(S) THAT WILL BE PLACED TO ACHIEVE REQUIRED SITE GRADING CONTOURS.
A. FILL MATERIALS: GRANULATED WELL GRADED SOIL FILL MATERIAL SHALL BE SELECTED TO MEET REQUIREMENTS AND CONDITIONS OF THE PARTICULAR FILL FOR WHICH IT IS TO BE USED AND CONSISTENT WITH THE CONSTRUCTION CONTRACTOR'S GRADATIONS INCLUDED IN THE OVERALL SITE PLAN, OR EQUIVALENT.
B. BEDDING SAND: GRANULATED WELL GRADED MATERIAL PRIMARILY PLACED AS BEDDING AROUND UTILITIES AND CONSISTENT WITH THE CONSTRUCTION CONTRACTOR'S GRADATIONS INCLUDED IN THE OVERALL SITE PLAN, OR EQUIVALENT.
C. PIT RUN/GRAVEL: POORLY GRADED COARSE MATERIAL

PLACED PRIMARILY AS A ROAD BASE AND CONSISTENT WITH THE CONSTRUCTION CONTRACTOR'S GRADATIONS INCLUDED IN THE OVERALL SITE PLAN, OR EQUIVALENT.

EXCAVATION AND HANDLING OF CONTAMINATED MATERIAL:

- 1. EXCAVATION:
1.1 EXCAVATION LIMITS: CONTAMINATED MATERIAL SHALL BE REMOVED CONSISTENT WITH THE MILL AREA RA WORK PLAN. THE EXCAVATION SHALL NOT EXTEND INTO THE ZONES OF INFLUENCE OF FOUNDATIONS OR FOOTINGS OF EXISTING STRUCTURES. SOIL WITHIN 3 FEET OF A BUILDING OR STRUCTURE SHALL ONLY BE EXCAVATED TO 1 FOOT BELOW GROUND SURFACE. SOIL OUTSIDE OF A 1H:1V PROJECTION FROM THE BOTTOM OUTSIDE EDGE OF A FOOTING SHALL BE OUTSIDE THE ZONE OF INFLUENCE. THE SLOPE OF THE EXCAVATION SIDEWALLS SHALL BE GOVERNED BY THE CMI STANDARD SAFE WORK PRACTICE. NO EXCAVATION ACTIVITIES SHALL BE CONDUCTED THAT MAY ADVERSELY IMPACT FOUNDATIONS OR FOOTINGS.
1.2 CONCRETE: EXCAVATIONS SHALL PROCEED TO THE EDGE OF EXISTING CONCRETE STRUCTURES (I.E., DRIVEWAYS AND SIDEWALKS). CONCRETE SHALL ONLY BE REMOVED IF SIDEWALL SAMPLE ANALYSIS INDICATES PCB CONCENTRATIONS EXCEED 25 MG/KG. IF CONCRETE IS REMOVED DURING REMOVAL ACTION ACTIVITIES, IT WILL BE BROKEN INTO MANAGEABLE PIECES (E.G., ABLE TO FIT WITHIN A STANDARD ROLL-OFF CONTAINER).
1.3 UTILITIES: EXCAVATION SHALL BE LIMITED WITHIN 1 FOOT OF HIGH RISK UTILITIES (E.G., ELECTRICAL AND HIGH PRESSURE GAS LINES) OR TO A SAFE LIMIT THAT WILL BE DETERMINED IN THE FIELD. WHERE EXCAVATION EXPOSES UTILITIES, THEY MUST BE PROTECTED AND/OR SUPPORTED, AS NECESSARY. IN AREAS OF UTILITIES, SMALL EXCAVATION EQUIPMENT WITH A KNIFE OR SMOOTH-BLADE BUCKET AND/OR HAND EQUIPMENT SHALL BE USED TO PROTECT UTILITIES. IF THE AMOUNT OF MATERIAL NEEDING EXCAVATION UNDER A UTILITY COULD UNDERMINE THE INTEGRITY OF THE UTILITY, THE MATERIAL SHALL ONLY BE REMOVED, IN A SEQUENCING MANNER, IF DETERMINED IN THE FIELD TO BE SAFE.
1.4 ACCESS/EGRESS: ALL EXCAVATIONS SHALL BE CONDUCTED IN ACCORDANCE WITH THE CMI STANDARD SAFE WORK PRACTICE. EXCAVATIONS WITH RESTRICTED ACCESS/EGRESS (E.G. AGAINST A PERMANENT STRUCTURE) MUST BE PROVIDED WITH A MEANS OF ACCESS AND EGRESS EVERY 25 FEET OF HORIZONTAL TRAVEL. UNLESS OTHER SAFETY MEASURES ARE IN PLACE (E.G., SHORING AND BENCHING), EXCAVATION ACTIVITIES THAT REQUIRE RESTRICTED ACCESS/EGRESS SHALL BE CONDUCTED IN A SEQUENCING MANNER, NEVER EXCEEDING THE 25-FOOT HORIZONTAL REQUIREMENT UNTIL THE PREVIOUS EXCAVATION SEGMENT IS SUITABLY BACKFILLED (SEE FILL).
1.5 SLOPING/BENCHING: FOR EXCAVATIONS THAT ARE DEEMED UNSAFE BY THE CONSTRUCTION CONTRACTOR OR HEALTH AND SAFETY OVERSIGHT, SAFE SLOPES SHOULD NOT EXCEED 1H:1V OR THE ANGLE OF REPOSE, WHICHEVER IS FLATTER, FOR SOILS ABOVE THE GROUNDWATER TABLE CONSISTENT WITH THE CMI STANDARD SAFE WORK PRACTICE OR AT THE DISCRETION OF THE CONSTRUCTION CONTRACTOR. WHERE THE SLOPE OF AN EXCAVATION IS BENCHED, THE MAXIMUM HEIGHT BETWEEN BENCHES SHOULD NOT EXCEED 5 FEET, WITH THE EXCEPTION OF THE BENCH ADJACENT TO THE WORK AREA, WHICH SHOULD NOT EXCEED 3 FEET. WHERE BENCHING IS SUBSTITUTED FOR SHORING, THE BENCHING SHALL HAVE A SLOPE RATIO OF 1.5H:1V, UNLESS THE INSTABILITY OF THE SOIL REQUIRES A FLATTER SLOPE AS IS DETERMINED IN THE FIELD.
1.6 CONVEYOR SUPPORT: IF EXCAVATION ACTIVITIES NEAR THE FOOTINGS OF THE CONVEYOR WITHIN THE EXCAVATION LIMITS COULD COMPROMISE THE STRUCTURE OR POSE A POTENTIAL HAZARD TO PERSONNEL OR OTHER STRUCTURES, AN EXCAVATION SUPPORT SYSTEM MAY BE INSTALLED. THE SYSTEM CONSISTS OF TEMPORARY GROUND SUPPORTS AND BRACING USED TO KEEP THE SIDES OF THE VERTICAL EXCAVATION AROUND THE FOOTING(S) STABLE DURING THE EXCAVATION AND SUBSEQUENT BACKFILLING. THE CONSTRUCTION CONTRACTOR IS RESPONSIBLE FOR DETERMINING THE NEED FOR THIS SYSTEM AND INSTALLATION.
1.7 DRAINAGE: EXCAVATION SHALL BE PERFORMED IN A MANNER AND SEQUENCE THAT WILL PROVIDE EFFECTIVE SURFACE WATER DRAINAGE CONSISTENT WITH THE OVERALL SITE PLAN (SITE MANAGEMENT PLAN).
1.8 DEWATERING: ACTIVITIES SHALL BE CONDUCTED CONSISTENT WITH THE OVERALL SITE PLAN (POLLUTION CONTROL AND

MITIGATION PLAN).

EXCAVATION AND HANDLING OF CONTAMINATED MATERIAL (CONTINUED):

- 1.9 THE OVERALL SITE PLAN (CONTINGENCY PLAN) PROVIDES MEASURES TO BE IMPLEMENTED IN THE EVENT OF POTENTIAL SPILLS AND DISCHARGES (HAZARDOUS AND NON-HAZARDOUS) OR FOR ANY UNEXPECTED MATERIALS THAT MAY BE EXCAVATED.
1.10 EQUIPMENT DECONTAMINATION SHALL BE CONDUCTED IN ACCORDANCE WITH THE OVERALL SITE PLAN (SITE MANAGEMENT PLAN). AREAS SURROUNDING STAGING AND LOADING AREAS WILL BE INSPECTED FOLLOWING EXCAVATION AND DISPOSAL ACTIVITIES, AND ADDITIONAL SURFICIAL SOIL REMOVED AS NECESSARY.

- 2. DUST CONTROL SHALL BE IMPLEMENTED CONSISTENT WITH THE OVERALL SITE PLAN (POLLUTION CONTROL AND MITIGATION PLAN).

REMOVAL AND DISPOSAL OF PCB CONTAMINATED MATERIAL:

- 1. DISPOSAL AND TRANSPORTATION OF EXCAVATED MATERIALS SHALL BE CONDUCTED CONSISTENT WITH THE MILL AREA RA WORK PLAN AND THE OVERALL SITE PLAN (WASTE MANAGEMENT PLAN).



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MILL AREA REMOVAL ACTION
PREPARED FOR
CHEVRON QUESTA MINE
SUPERFUND SITE
QUESTA, NEW MEXICO

ISSUED FOR BIDDING DATE BY

ISSUED FOR CONSTRUCTION DATE BY

REVISIONS

Table with 3 columns: NO., DESCRIPTION, DATE. Includes revision 4 for RECORD DRAWING and RECORD DRAWING REVISED.

AECOM PROJECT NO: 22242831
DRAWN BY: YLP
DESIGNED BY:
CHECKED BY: EB
DATE CREATED: 11/05/2012
PLOT DATE: 8/24/2018
SCALE: SEE DRAWING
ACAD VER: AutoCAD 2016

SHEET TITLE

INDEX OF DRAWINGS AND GENERAL NOTES 1

G-2

FILL:

1. MATERIALS SHALL BE TESTED IN ACCORDANCE WITH THE OVERALL SITE PLAN.
2. PREPARATION:
 - 2.1 THE CONSTRUCTION CONTRACTOR SHALL NOT PLACE MATERIALS UNTIL THE FOUNDATION HAS BEEN SUITABLY DEWATERED, PREPARED, AND APPROVED BY THE PROJECT MANAGER OR THEIR DESIGNEE.
 - 2.2 DO NOT PLACE MATERIALS WHEN TEMPERATURES COULD RESULT IN FROZEN GROUND CONDITIONS.
 - 2.3 THE BOTTOM OF THE EXCAVATION SHALL BE THOROUGHLY SCARIFIED TO A DEPTH OF 3 INCHES BEFORE PLACING THE FIRST LIFT OF FILL.
 - 2.4 WHERE THE SUBGRADE IS FOUND TO CONTAIN FROZEN OR NATURAL SOFT AREAS, AS DETERMINED BY THE CONSTRUCTION CONTRACTOR, FROZEN OR SOFT MATERIALS SHALL BE EXCAVATED AND BACKFILLED.
 - 2.5 WHERE THE NATURAL SUBGRADE IS LOOSENED OR DISTURBED BY THE CONSTRUCTION CONTRACTOR, THE CONSTRUCTION CONTRACTOR SHALL PROOF-ROLL THE LOOSENED OR DISTURBED SUBGRADE AND REMOVE/REPLACE MATERIAL AT THE DIRECTION OF THE PROJECT MANAGER OR THEIR DESIGNEE AT NO ADDITIONAL COST.
3. FILL PLACEMENT:
 - 3.1 THE TOP SURFACE AND EDGES OF EACH LIFT SHALL BE SCARIFIED, AND MOISTURE ADDED AS NECESSARY BEFORE PLACEMENT OF SUBSEQUENT LIFTS, TO PROVIDE A HOMOGENEOUS MASS AS DEEMED NECESSARY BY THE CONSTRUCTION CONTRACTOR.
 - 3.2 THE MOISTURE CONTENT OF FILL SHALL BE ADJUSTED BY WETTING OR DRYING, AS REQUIRED, AT THE DISCRETION OF THE CONSTRUCTION CONTRACTOR. DRYING AND WETTING OF THE SOIL BY APPROVED MANIPULATION METHODS MAY BE NECESSARY TO OBTAIN THE REQUIRED MOISTURE CONTENT, AND SHALL BE ACCOMPLISHED BY THE CONSTRUCTION CONTRACTOR IN APPROVED AREAS BY METHODS ACCEPTABLE TO THE PROJECT MANAGER OR THEIR DESIGNEE.
 - 3.3 GRADING: FILLS SHALL BE CONSTRUCTED TO LINES AND GRADES SIMILAR TO EXISTING CONDITIONS PRIOR TO EXCAVATION ACTIVITIES. THE COMPLETED FILL SHALL CONFORM TO THE TOPOGRAPHY INDICATED OR SHALL BE APPROVED BY THE PROJECT MANAGER OR THEIR DESIGNEE IF DIFFERENT THAN SHOWN. THE ULTIMATE OBJECTIVE OF GRADING IS TO PROVIDE A SLOPED SURFACE WITH POSITIVE DRAINAGE THAT MINIMIZES SURFACE WATER INFILTRATION IN THE MILL AREA.
 - 3.4 PLACING GENERAL FILL:
 - A. PLACE FILL IN THE EXCAVATION IN LAYERS WITH A MAXIMUM LOOSE LIFT THICKNESS OF 12 INCHES BEFORE COMPACTION, AND IN ACCORDANCE WITH THE MOISTURE AND DENSITY REQUIREMENTS LISTED ABOVE OR APPROVED BY THE CONSTRUCTION CONTRACTOR.
 - B. BEFORE PLACING FILL ON OR AGAINST THE SURFACES OF PREVIOUSLY PLACED FILL MATERIALS, ALL PREVIOUSLY PLACED MATERIALS WHICH HAVE BECOME SOFT OR LOOSE, WHICH CONTAIN EROSION CHANNELS OR CRACKS, OR ARE EXCESSIVELY DRY SHALL BE REWORKED BY REMOVING, REPLACING, OR RECOMPACTING AS DIRECTED BY THE CONSTRUCTION CONTRACTOR. NO SEPARATE PAYMENT WILL BE MADE FOR PLACING, REWORKING, REMOVING, REPLACING, OR RECOMPACTING PREVIOUSLY PLACED SOFT OR LOOSE EMBANKMENT MATERIAL.
 - C. DISTRIBUTE FILL SUCH THAT IT IS FREE FROM LENSES, POCKETS, STREAKS, LUMPS, OR LAYERS OF MATERIAL DIFFERING SUBSTANTIALLY IN TEXTURE, GRADATION, OR MOISTURE CONTENT FROM THE SURROUNDING MATERIAL SO AS TO FORM AS HOMOGENEOUS LAYER OF MATERIAL AS PRACTICAL.
 - D. IN ANY SEPARATE PORTION OF THE AREAS WHERE FILL IS BEING PLACED, CONSTRUCT EACH LAYER CONTINUOUSLY AND APPROXIMATELY HORIZONTAL FOR THE WIDTH AND LENGTH OF SUCH PORTION AT THE ELEVATION OF THE LAYER. INCLINE EACH LAYER SLIGHTLY FROM THE HORIZONTAL TO PROVIDE DRAINAGE OF SURFACE WATER. WATER SHALL NOT BE ALLOWED TO POND ON PREPARED FOUNDATION OR FILL SURFACES.

- E. IF, IN THE OPINION OF THE CONSTRUCTION CONTRACTOR, THE SURFACE OF THE PREPARED FOUNDATION OR THE SURFACE OF ANY PREVIOUSLY COMPACTED LAYER OF BERM FILL IS TOO DRY OR TOO SMOOTH TO BOND PROPERLY WITH THE LAYER OF FILL TO BE PLACED THEREON, THE FOUNDATION OR SURFACE OF THE PREVIOUSLY COMPACTED LAYER SHALL BE MOISTENED BY AN AMOUNT APPROVED BY THE CONSTRUCTION CONTRACTOR AND DISKED OR SCARIFIED TO A MINIMUM DEPTH OF 3 INCHES TO PROVIDE A SATISFACTORY BONDING SURFACE BEFORE THE LAYER OF FILL IS PLACED.
- F. IF, IN THE OPINION OF THE CONSTRUCTION CONTRACTOR, THE SURFACE OF ANY PREVIOUSLY COMPACTED LAYER OF FILL IS PLACED TOO WET FOR PROPER COMPACTION OF THE LAYER OF FILL TO BE PLACED THEREON, THE WET LAYER OF FILL SHALL BE REMOVED, ALLOWED TO DRY, OR REWORKED WITH A DISK TO REDUCE THE WATER CONTENT BY AN AMOUNT APPROVED BY THE CONSTRUCTION CONTRACTOR, AND THEN RECOMPACTED BEFORE THE NEXT SUCCEEDING LAYER OF BERM FILL IS PLACED.
- 3.5 PLACING BEDDING SAND:
 - A. SAND SHALL BE PLACED AROUND UTILITIES TO MAINTAIN THE INTEGRITY OF THE UTILITY, AS NECESSARY.
 - B. SAND SHALL BE PLACED IN MAXIMUM 9-INCH LOOSE LIFTS, THOROUGHLY WETTED IMMEDIATELY BEFORE COMPACTION, AND THEN COMPACTED IT AT A MINIMUM OF TWO COVERAGES WITH APPROVED COMPACTION EQUIPMENT. SAND SHALL NOT BE OVER COMPACTED AND/OR BREAKDOWN OF SAND GRAINS TO CREATE FINES IN THE SAND MASS SHALL NOT BE ALLOWED.
 - C. MATERIALS SHALL BE REWORKED, WHICH HAVE NOT BEEN PLACED IN ACCORDANCE WITH THESE SPECIFICATIONS. REWORKING MAY INCLUDE REMOVAL, COMPACTING, RECONDITIONING, RECOMPACTING OR COMBINATIONS OF THESE PROCEDURES, AS REQUIRED BY THE PROJECT MANAGER OR THEIR DESIGNEE.
 - D. SAND SHALL NOT BE PLACED WHEN THE SAND OR THE FOUNDATION ON WHICH IT WOULD BE PLACED IS FROZEN. FILL PLACEMENT SHOULD STOP TEMPORARILY DURING UNSUITABLE WEATHER CONDITIONS, AS DIRECTED BY THE CONSTRUCTION CONTRACTOR OR PROJECT MANAGER (OR THEIR DESIGNEE)

- 3.6 PLACING PIT RUN/GRAVEL
 - A. PIT RUN/GRAVEL SHALL BE PLACED AT THE SURFACE OF THE MILL AREA, AS REQUIRED FOR ADEQUATE ROAD BASE, AND AT THE DISCRETION OF THE CONSTRUCTION CONTRACTOR AND PROJECT MANAGER OR THEIR DESIGNEE.
 - B. PIT RUN/GRAVEL MATERIAL SHALL BE PLACED IN ONE CONTINUOUS LIFT AND THEN COMPACTED WITH FOUR COVERAGES OF APPROVED COMPACTION EQUIPMENT.
 - C. MATERIALS SHALL BE REWORKED, WHICH HAVE NOT BEEN PLACED IN ACCORDANCE WITH THESE SPECIFICATIONS. REWORKING MAY INCLUDE REMOVAL, RECOMPACTING, RECONDITIONING, RECOMPACTING OR COMBINATIONS OF THESE PROCEDURES, AS REQUIRED BY THE DESIGN CONTRACTOR AND PROJECT MANAGER OR THEIR DESIGNEE.
 - D. PIT RUN/GRAVEL MATERIAL SHALL NOT BE PLACED WHEN THE PIT RUN/GRAVEL MATERIAL OR THE FOUNDATION ON WHICH IT WOULD BE PLACED IS FROZEN. FILL PLACEMENT SHOULD STOP TEMPORARILY DURING UNSUITABLE WEATHER CONDITIONS, AS DIRECTED BY THE DESIGN CONTRACTOR AND PROJECT MANAGER OR THEIR DESIGNEE.

4. COMPACTION
 - 4.1 THE CONSTRUCTION CONTRACTOR SHALL USE ONLY APPROVED TYPES OF COMPACTORS WHICH CAN DEMONSTRATE, TO THE SATISFACTION OF THE PROJECT MANAGER OR THEIR DESIGNEE, THAT THE REQUIRED DEGREE OF COMPACTION CAN BE ACHIEVED WITHOUT DAMAGING ANY OF THE OTHER ELEMENTS OF THE PROJECT. BEFORE PLACEMENT OF ANY LIFT OR LAYER, ANY PORTIONS OF THE FOUNDATION OR PREVIOUS LIFT OR LAYER THAT ARE UNSATISFACTORY, IN THE JUDGMENT OF THE PROJECT MANAGER OR THEIR DESIGNEE, SHALL BE REWORKED AS REQUIRED BY THE PROJECT MANAGER OR THEIR DESIGNEE.
 - 4.2 SPECIAL COMPACTION SHALL BE REQUIRED IN THE FOLLOWING LOCATIONS:
 - A. AROUND UTILITIES AND NEAR BUILDINGS, FROM THE BASE OF THE UTILITY OR STRUCTURE TO AN ELEVATION OF TWO FEET ABOVE THE TOP OF THE PIPE OR STRUCTURE, UNLESS SHOWN DIFFERENTLY ON THE DRAWINGS, AND WITHIN 2 FEET LATERALLY ON EACH SIDE OF THE UTILITY OR STRUCTURE.
 - B. IN TIGHT, RESTRICTED, OR STEEP AREAS NOT ACCESSIBLE BY LARGER ROLLERS.
 - 4.3 SPECIALLY COMPACTED FILLS SHALL BE COMPACTED IN MAXIMUM SIX INCH THICK LOOSE LIFTS.
 - 4.4 COMPACTION EQUIPMENT USED IN SPECIAL COMPACTION AREAS SHALL BE SMALL ROLLERS, WALK-BEHIND ROLLERS, VIBRATORY PLATES, OR OTHER SMALL COMPACTORS AS APPROVED BY THE PROJECT MANAGER OR THEIR DESIGNEE.

ABBREVIATIONS

1H:1V	1 HORIZONTAL:1 VERTICAL	
ASTM	AMERICAN SOCIETY FOR TESTING AND MATERIALS	1
CMI	CHEVRON MINING INCORPORATED	
e.g.	EXAMPLE	
IDW	INVESTIGATIVE-DERIVED WASTE	
i.e.	THAT IS/ IN OTHER WORDS	
MG/KG	MILLIGRAM/KILOGRAM	
MSHA	MINING SAFETY AND HEALTH ADMINISTRATION	
OSHA	OCCUPATIONAL SAFETY AND HEALTH ACT	
PCB	POLYCHLORINATED BIPHENYL	
RA	REMOVAL ACTION	
TSCA	TOXIC SUBSTANCES CONTROL ACT	2



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MILL AREA REMOVAL ACTION
PREPARED FOR
CHEVRON QUESTA MINE SUPERFUND SITE
QUESTA, NEW MEXICO

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REVISIONS

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△	FINAL	5/14/12
△	RECORD DRAWING	2/15/13
△	RECORD DRAWING REVISED	8/24/18
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AECOM PROJECT NO:	22242831
DRAWN BY:	YLP
DESIGNED BY:	---
CHECKED BY:	EB
DATE CREATED:	11/05/2012
PLOT DATE:	8/24/2018
SCALE:	SEE DRAWING
ACAD VER:	AutoCAD 2016

SHEET TITLE

GENERAL NOTES 2 AND ABBREVIATION

G-3

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MILL AREA REMOVAL ACTION
PREPARED FOR
CHEVRON QUESTA MINE
SUPERFUND SITE
QUESTA, NEW MEXICO

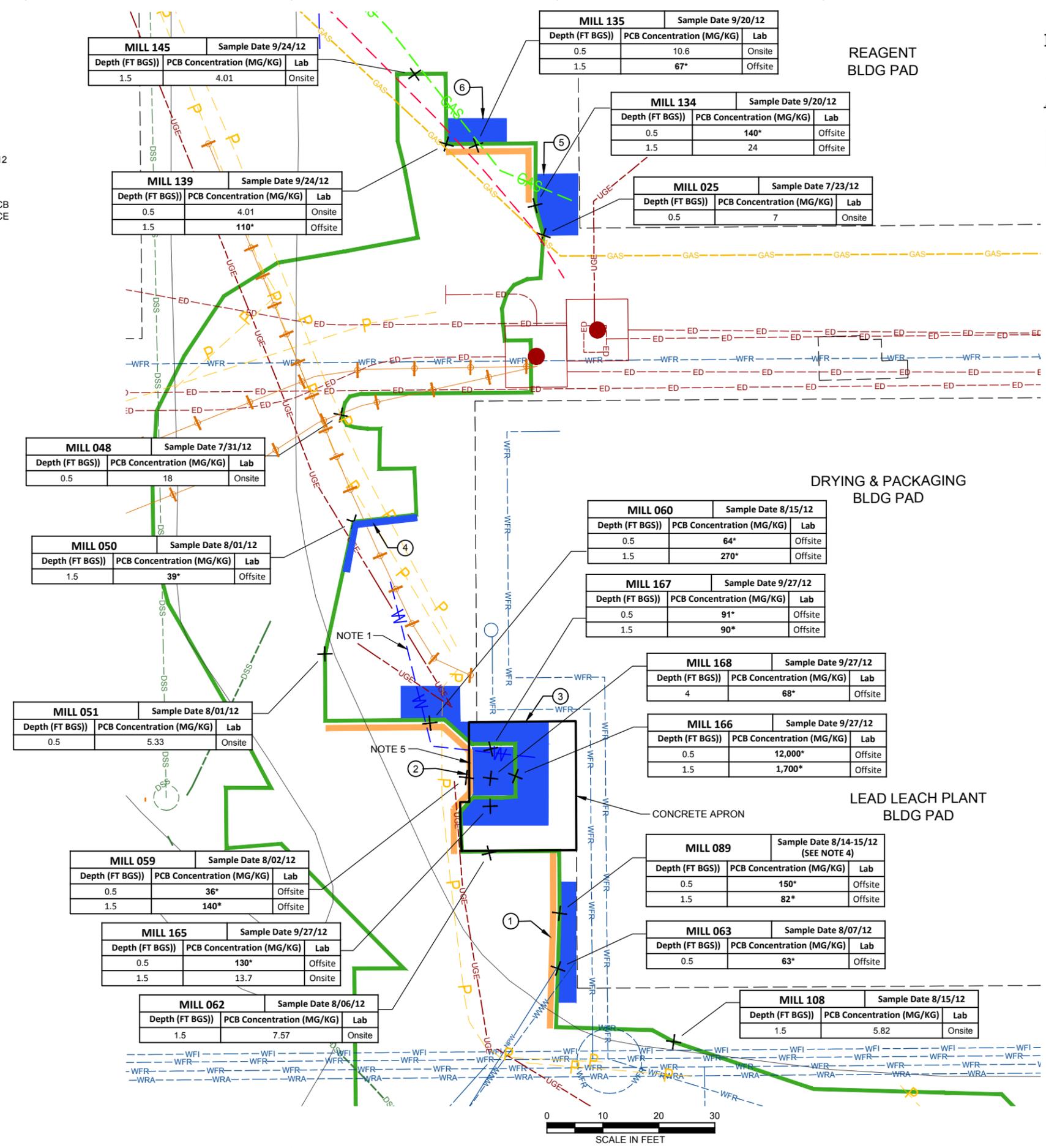
LEGEND:

- APPROXIMATE FOOTPRINT AREA OF PRIOR SOIL REMOVAL IN 2012 (PCBs > 25 MG/KG)
- LOCATION OF VISUAL MARKER INSTALLED IN AN AREA WHERE PCB LEVELS GREATER THAN 25 MG/KG REMAIN DUE TO THE PRESENCE OF STRUCTURES
- APPROXIMATE MINIMAL AREA OF SOIL REMAINING WITH PCB CONCENTRATIONS AT OR ABOVE CLEANUP LEVEL (25 MG/KG)
- X CONFIRMATION SOIL SAMPLE LOCATION DURING PCB RA
- REMAINING BUILDING PAD
- APPROXIMATE LOCATION OF EXISTING CONCRETE APRON
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- UNDERGROUND ELECTRIC LINES (QUESTA MINE DRAWINGS)
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- GAS LINE (2012 REDTAIL SURVEY)
- POWER LINE (2012 REDTAIL SURVEY)
- ELECTRICAL LINES (2011 URS GEOPHYSICAL INVESTIGATION)
- ELECTRIC MANHOLE
- MANHOLE
- 1 EXCAVATION AREA

NOTES:

1. REDTAIL SURVEYED WATER LINE IS APPROXIMATELY 2 FT BGS.
2. UTILITY LOCATIONS FROM QUESTA MINE DRAWING "KEY TO UTILITIES", 6/21/04, PROVIDED BY CMI.
3. INTERPRETED LINES SURVEYED BY URS DURING A GEOPHYSICAL INVESTIGATION CONDUCTED IN OCTOBER 2011 USING PIPE AND CABLE LOCATORS, GROUND- PENETRATING RADAR, ELECTROMAGNETICS, OR VISUAL OBSERVATIONS.
4. THE SAMPLE COLLECTED FROM 0.5 FT BGS WAS COLLECTED ON 8/14/12 AND THE SAMPLE FROM 1.5 FT BGS WAS COLLECTED ON 8/15/12.
5. CONCRETE IN AREA 2 OVERLIES CLEAN FILL AND SHOULD BE CONSIDERED CONSTRUCTION DEBRIS.

* NUMBER IN BOLD INDICATES EXCEEDANCE OF CLEANUP LEVEL.
 FT BGS = FEET BELOW GROUND SURFACE
 MG/KG = MILLIGRAM PER KILOGRAM
 PCB = POLYCHLORINATED BIPHENYL
 RA = REMOVAL ACTION

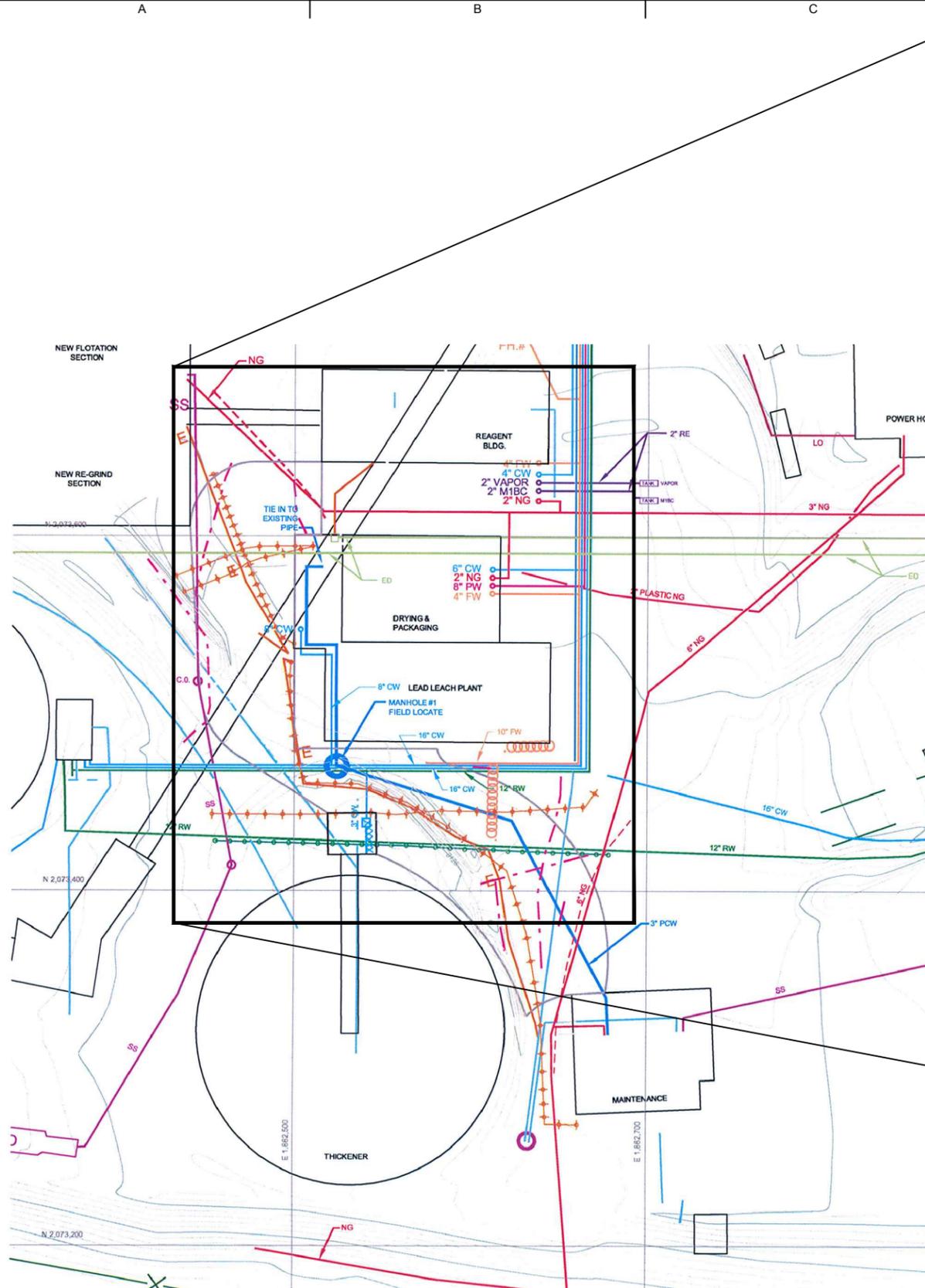


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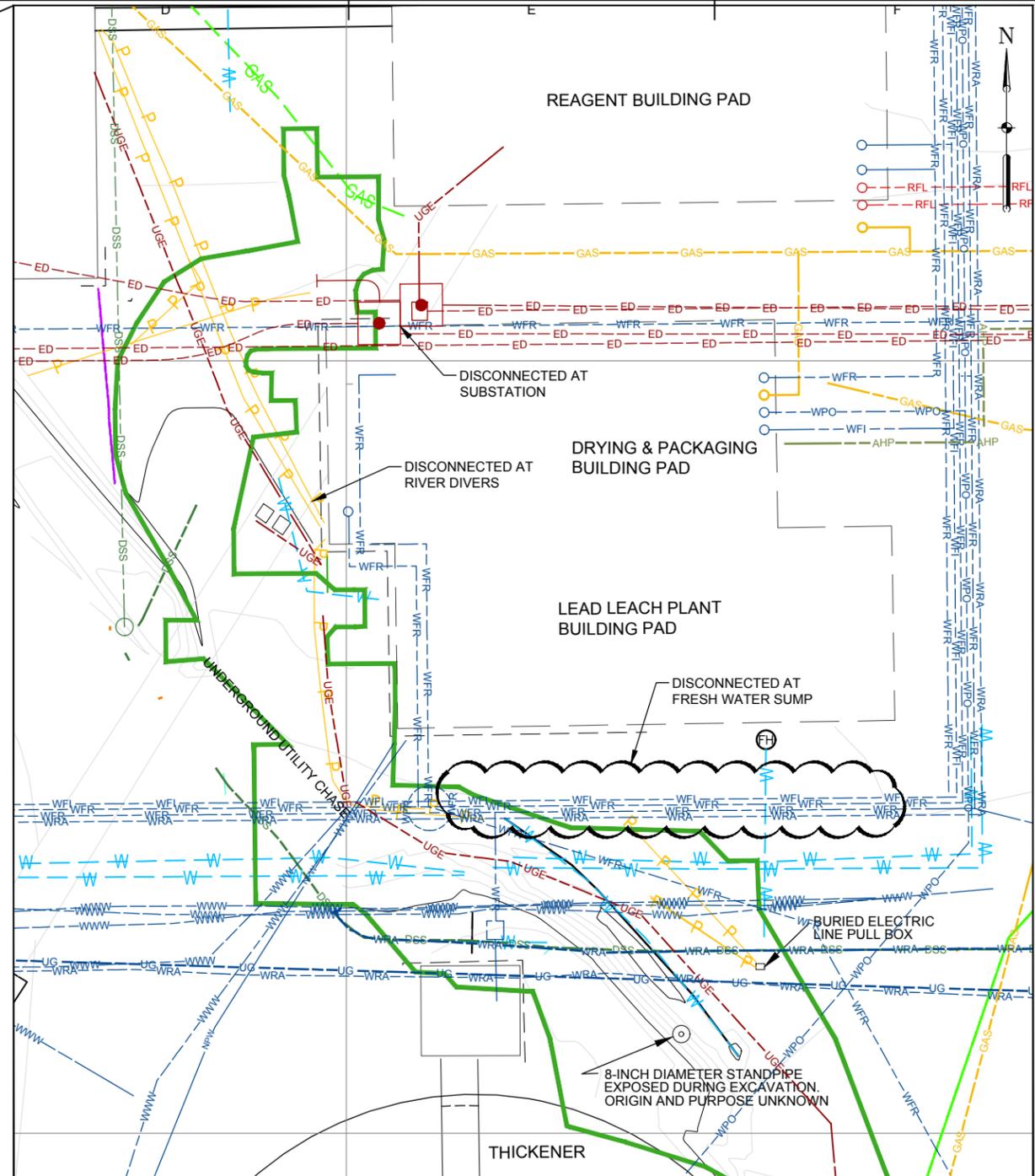
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AECOM PROJECT NO: 22242831
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 PLOT DATE: 8/24/2018
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 ACAD VER: AutoCAD 2016

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EXISTING CONDITIONS AND 2018 EXCAVATION PLAN
C-1A
 SHEET C-1A OF 5



ORIGINAL WORK PLAN (2012) DRAWING C-2



SURVEYED UTILITY LINES



LEGEND:

- GAS LINE
- POWERLINE
- WATER LINE
- SEWER LINE
- FIRE HYDRANT
- 2-FOOT BUFFER NEAR BUILDINGS AND STRUCTURES, DEPTH NOT TO EXCEED 1 FOOT WITHIN THE BUFFER
- APPROXIMATE AREA EXCAVATED (PCBs ≥ 25 MG/KG)

NOTES:

1. UTILITY SURVEY COORDINATES PROVIDED BY RED TAIL SURVEYING, INC.
2. UTILITIES SHOWN ON INSET ARE PER THE MILL AREA REMOVAL ACTION WORK PLAN, DRAWING C-2 AND ASSOCIATED NOTES (URS 2012a).

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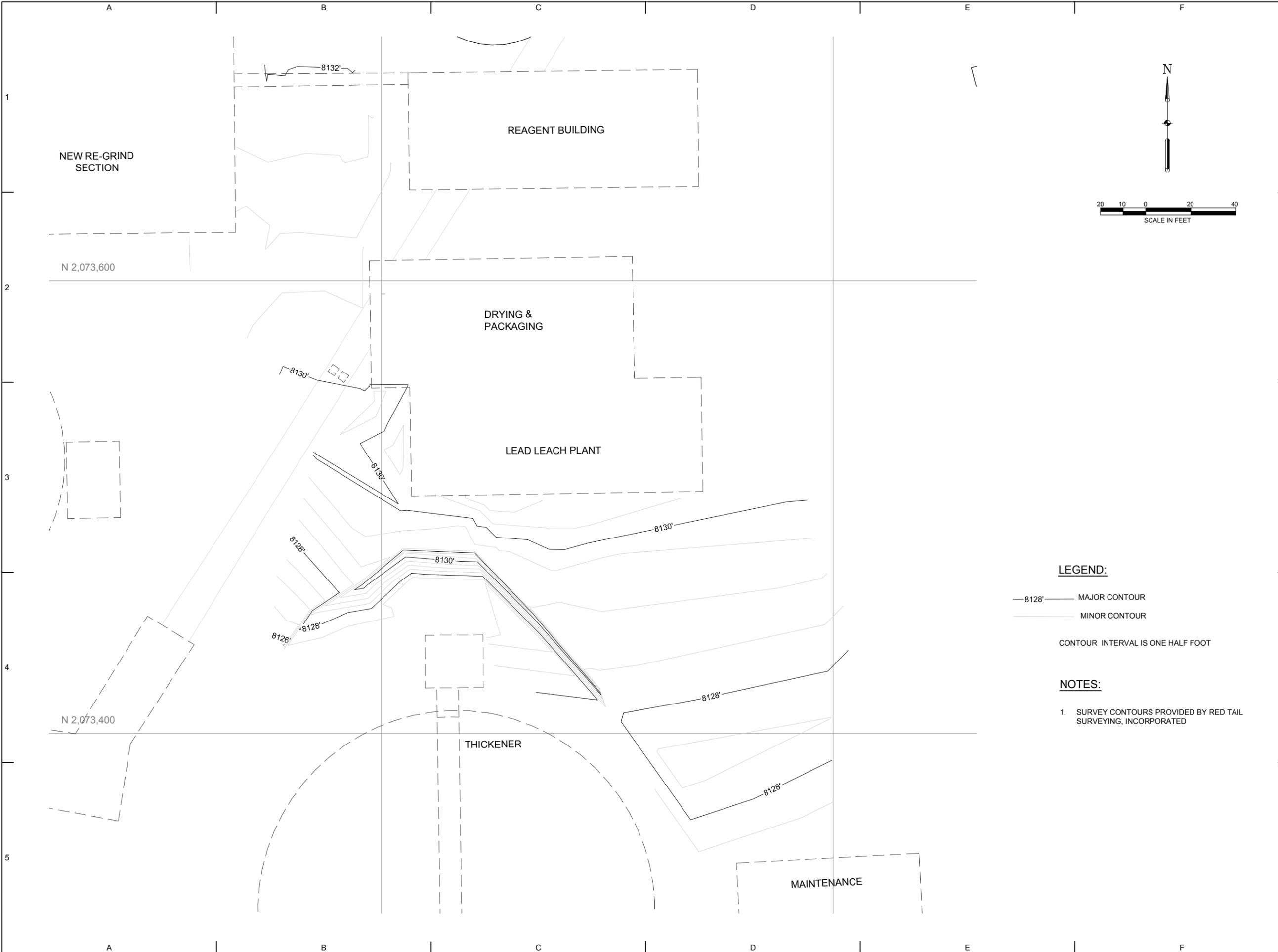
UTILITY PLAN

C-2

SHEET C-2 OF 5

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MILL AREA REMOVAL ACTION
PREPARED FOR
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QUESTA, NEW MEXICO

LEGEND:

- 8128' — MAJOR CONTOUR
- 8130' — MINOR CONTOUR

CONTOUR INTERVAL IS ONE HALF FOOT

NOTES:

1. SURVEY CONTOURS PROVIDED BY RED TAIL SURVEYING, INCORPORATED

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FINAL GRADING

C-3

SHEET C-3 OF 5

ATTACHMENT 1
Addendum to the 2018 Mill Work Plan Addendum

Attachment 1

Addendum to the 2018 Mill Work Plan Addendum

The 2010 Molycorp Inc. Record of Decision Section 12.2.1 selected remedy for the Mill Area states that soil with total polychlorinated biphenyl (PCB) concentrations above the TSCA cleanup level of 25 milligrams per kilogram (mg/kg) for low occupancy / commercial / industrial use will be excavated. Affected soil will be removed initially to a depth of 2.5 feet. Confirmation soil sampling will be conducted to determine if cleanup levels have been attained. If not, additional soil will be excavated until clean up levels are met or an Environmental Protection Agency (EPA) acceptable depth has been reached.

The EPA approved 2012 Mill Area Removal Action Work Plan Section 3 describes the activities of the Mill Removal Action and identifies the acceptable depth in the statement:

“Excavate soil greater than the TSCA cleanup level for total PCBs for low occupancy / commercial / industrial use areas (25 mg/kg) to an agreed maximum depth (four feet).”

In accordance with the 2012 approved work plan Section 3.1.1, the 2018 work plan addendum is revised as follows:

The target depth of the excavations shown in Drawing C-1A will be three feet below ground surface (bgs); however, if sampling confirms PCB concentrations ≥ 25 mg/kg below three feet bgs, additional excavation and sampling may be required. Excavation activities will continue until either PCB concentrations are < 25 mg/kg or the maximum excavation depth of four feet is achieved.

Safety measures (e.g., shoring and benching) are required for excavations deeper than four feet per Occupational Safety and Health Administration (OSHA). Additionally, utilities are primarily located in the Mill Area between two and four feet bgs. Therefore, the maximum excavation depth will be no more than four feet bgs. If field sample analysis indicates cleanup levels have not been attained at the maximum depth, a visual marker (e.g., color textile) will be installed at the base of the excavation prior to backfill as was done during field activities in 2012 in the area between sample locations MILL167 and MILL165 (Drawing C-1A). This information would be added to the mine's Hazard Communication Program identifying that the visual marker serves as an indicator to personnel conducting future excavations that may go deeper than four feet that the potential for encountering soils containing PCBs at concentrations > 25 mg/kg exists and activities should cease until proper handling procedures are in place.

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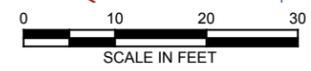
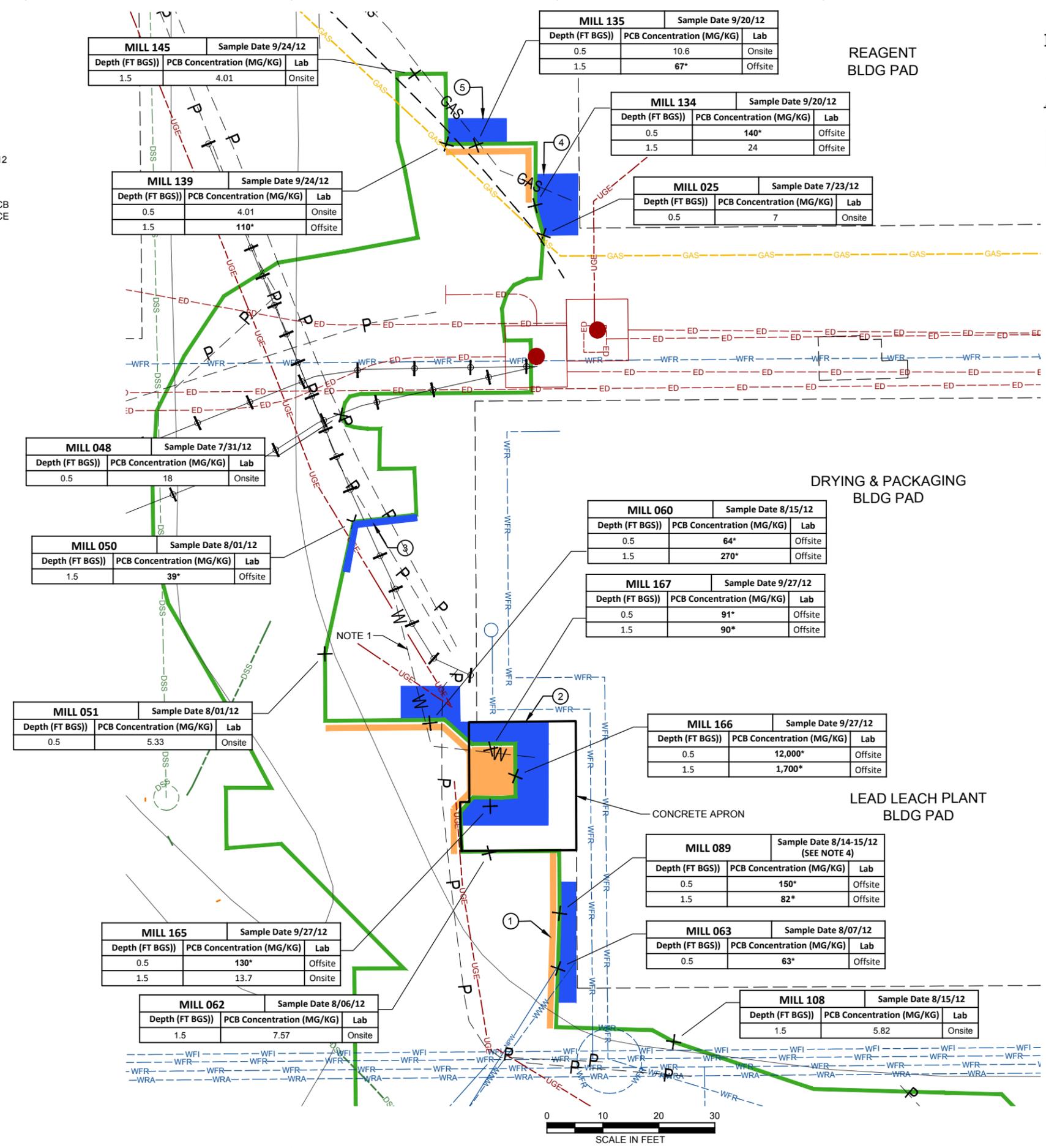
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EXISTING
CONDITIONS AND
2018 EXCAVATION
PLAN

C-1A

SHEETC-1A OF 5