



UNITED STATES

ENVIRONMENTAL PROTECTION AGENCY

REGION III

STATEMENT OF BASIS

MOLYCORP, INCORPORATED WASHINGTON PLANT

WASHINGTON, PENNSYLVANIA

PAD 030 068 282

I. Introduction

The United States Environmental Protection Agency (EPA) has prepared this Statement of Basis (SB) to solicit public comment on its proposed decision for the Molycorp Incorporated Washington Plant located at 300 Caldwell Avenue, Washington, PA 15301 (the Facility). EPA's proposed decision consists of a combination of engineering controls ("ECs") and institutional controls ("ICs") which are designed to minimize the potential for human exposure to contamination. This SB highlights key information relied upon by EPA in making its proposed decision.

The Facility is subject to EPA's Corrective Action Program under the Solid Waste Disposal Act, as amended by the Resource Conservation and Recovery Act (RCRA) of 1976, and the Hazardous and Solid Waste Amendments (HSWA) of 1984, 42 U.S.C. §§ 6901 *et seq.* (Corrective Action Program). The Corrective Action Program is designed to ensure that certain facilities subject to RCRA have investigated and addressed any releases of hazardous waste and hazardous constituents that have occurred at their property. Pennsylvania is not authorized for the Corrective Action Program under Section 3006 of RCRA. Therefore, EPA retains primary authority in the Commonwealth for the Corrective Action Program.

The Administrative Record (AR) for the Facility contains documents, including data and quality assurance information, which EPA considered or relied upon in reaching its proposed decision. Attachment 1 contains an index to documents in the AR. See Section IX, Public Participation, for information on how you may review these documents.

II. Facility Background

The Facility property consists of approximately 73 acres (the Property) and is surrounded by industrial properties to the north, Interstate I-70 to the east, and a mixture of residential properties and undeveloped land to the south and west. A location map is attached as Figure 1.

The Property is comprised of three distinct areas: the North Process Area, the Southeast Low-lying Storage Area and the Southwest Hill Area. These areas were further subdivided into Area Nos. 1 through 10 during the Facility's characterization and assessment phases. Two surface water bodies, Chartiers Creek and Sugar Run, bisect the property and form the boundaries of several of the subdivided areas. Figure 2 provides an area designation map and Table 1 provides descriptions of the individual areas. Parcels of land owned by Molycorp, Incorporated (Molycorp) to the west/northwest (Area 8) and east (Area 9) of the North Process Area (Areas 1A, 1B and 2) were never used for industrial activities and have no known impacts associated with any Facility operations. Similarly, parcels of land in the Southwest Low-lying Storage Area including Areas 4, 7B-C and 7B-W have no known impacts. The Facility has been owned by the Chevron Mining Co. (Chevron) since August 2005.

Molycorp operated as a manufacturer of ferroalloys and molybdenum products from the 1920s through 1991. All plant buildings and structures except for the guardhouse and scales were demolished and removed from the property in 2002. The Facility underwent extensive remediation from 2006 through 2011 for both radiological and nonradiological contamination. EPA last visited the Facility on June 29, 2010 to view the progress of the remediation effort.

Radiological Contamination

The clean-up of the radiological contamination was overseen by the Nuclear Regulatory Commission (NRC) and the Pennsylvania Department of Environmental Protection (PADEP) Bureau of Radiation Protection (BRP). From 1964 through 1970, Molycorp produced a ferro-columbium alloy that generated a radioactive thorium-bearing slag, some of which was used as fill material over portions of the Facility. From April 2006 through May 2009, approximately 104,000 cubic yards of radiological materials were excavated from the North Process Area and the Southeast Low-lying Storage Area and shipped to the U.S. Ecology facility in Grand View, Idaho for disposal. During the remediation, more than 31 million gallons of groundwater and surface runoff water entering into excavation areas were pumped to an onsite treatment plant, resulting in the removal of approximately 9,100 pounds of contaminants, primarily metals. Excavated areas were covered with a minimum of two feet of clean soil. The radioactive materials license for the Facility was terminated by PADEP's BRP on December 20, 2010.

Non-Radiological Contamination

Molycorp conducted an investigation pursuant to the Pennsylvania Land Recycling and Environmental Remediation Standards Act (Act 2), 35 P.S. Sections 6026.101, *et seq.* PADEP and EPA are addressing the Molycorp facility under the One Cleanup Program Memorandum of Agreement (MOA) signed by EPA and PADEP in 2004. The MOA is in the Administrative Record. Molycorp received PADEP approval for its Act 2 Final Report in August 2011. Below is a summary of the work that was completed by the Facility.

Portions of the Southeast Low-lying Storage Area and the Southwest Hill Area were formerly owned by the Hazel Atlas Glass Company (Hazel), which housed its operations on a parcel of land east of the Facility, and is known to have operated a manufactured gas plant (MGP). A byproduct of the MGP coal gasification process is coal tar, an oily, viscous liquid that would condense out of the gas at various stages during gas production. The portion of the east Low-lying Storage Area previously owned by Hazel contained at least two coal tar ponds (North and South) and several tar seepage areas when Molycorp purchased the property in the mid-1970s. Coal tar was also present in the soils upon which Interstate 70 (I-70) was constructed in the 1950s and the substance was historically observed seeping from the I-70 embankment onto the Low-Lying Storage Area. Additional coal tar was observed in an approximately 15,000 square-foot uncovered concrete foundation in the Southwest Hill Area. The coal tar was tested several times using the Toxicity Characteristic Leaching Procedure (TCLP), but no constituents were ever detected at levels above the TCLP limits.

From April 2006 through May 2009, approximately 71,000 cubic yards of soils with visual indications of coal tar were excavated and shipped off-site for disposal, including 200 cubic yards of sediments from Chartiers Creek and 3,900 cubic yards of stream bank soils. Chevron developed the remediated South Tar Pond Area into a viable 3.6-acre wetland habitat. A sheet pile/jet grout wall was installed along the eastern boundary of the Southeast Low-lying Storage Area to prevent seepage of coal tar from beneath Interstate 70 onto the Facility. Finally,

Chevron repaired and realigned a state-owned storm sewer system which greatly reduced the amount of contaminated runoff and groundwater discharging into Chartiers Creek.

III. Summary of Environmental Investigation

The extent of radiological and non-radiological contamination in soil, groundwater, surface water and sediment is described in the Site Characterization Report (Foster Wheeler, 1995), Supplemental Site Characterization Report (Malcolm Pirnie, 2004), Remedial Investigation Report (Malcolm Pirnie, 2005), Final Report for Remediation of Areas 5A and 5B (Malcolm Pirnie, 2008), Final Report for the Molycorp Washington Remediation Site (Malcolm Pirnie, 2009) and Act 2 Final Report (Arcadis, 2011). PADEP approved the Act 2 Final Report on August 3, 2011 and an Environmental Covenant for the Facility (Attachment 2) was recorded on September 27, 2011. All of these documents are available for review in the administrative record.

The above investigations were completed pursuant to PADEP's Act 2 Program and sampling results in those reports were compared to Act 2 Statewide Health Standards (SHSs) Medium Specific Concentrations (MSCs). Unless otherwise noted, these standards are equivalent to EPA standards for the identified constituents of concern (COCs).

Soil

Soils in many areas of the Facility were found to contain several contaminants above PADEP SHSs. Prior to remediation, soils in the North Process Area and portions of the Southeast Low-lying Storage Area (Areas 1, 2, 3 and 10A) also contained licensed radiologic material at levels in excess of unrestricted release criteria. After all radiologic materials in excess of the unrestricted release criteria were removed, all excavated portions of Areas 1, 2, 3 and 10A were covered with at least two feet of clean soil which serves as an engineering control preventing exposure to any remaining residual contamination.

In the South Tar Pond Area (Areas 5A and 5B), the North Tar Pond Area (Areas 5C and 5D), the portion of the Southwest Hill Area where coal tar was observed (Area 7A), and western portions of the Southeast Low-lying Storage Area (Areas 5E and 7B-E), the remedial action consisted of the removal of all soil with visual indications of tar. Post-remedial soil samples in these areas attained the residential SHS for all constituents analyzed for except benzo(a)pyrene. The remaining benzo(a)pyrene does meet the nonresidential SHS. The North Tar Pond Area also contains concentrations of arsenic and molybdenum in the unexcavated portions that were above residential but below nonresidential SHSs. A combination of engineering and institutional controls contained in the executed environmental covenant ensures that the exposure pathways for these areas will remain incomplete.

It should be noted that at the time the Final Report for Remediation of Areas 5A and 5B was written (June 2008), exceedances of residential and nonresidential SHSs were reported for dibenzofuran. The SHSs for dibenzofuran at the time were based on generic values. PADEP has since published toxicological-based dibenzofuran SHSs and the residential SHS for that contaminant was met in this and all other areas where post-excavation sampling was conducted.

Groundwater

In the North Process Area and Southeast Low-lying Storage Area, groundwater in the unconsolidated deposits and bedrock flows west across the Facility toward Chartiers Creek. An upward vertical gradient in the bedrock monitoring wells located adjacent to the creek indicates that Chartiers Creek acts as the local discharge zone for both the overburden and uppermost bedrock water bearing zones. In the Southwest Hill Area of the Facility, groundwater discharges into either Sugar Run or Chartiers Creek through the alluvium along the valley floor.

Between 1982 and 2010, the Facility conducted five major investigations of groundwater beneath the Facility. Full reports can be found in the Administrative Record. These investigations formed the basis of the monitoring program that concluded in 2010.

Molycorp demonstrated that groundwater at the Facility has been impacted by on-site operations with molybdenum being the most consistent and widespread contaminant. Other metals found in groundwater at levels above their respective PADEP MSCs include arsenic, lead, boron, thallium, iron and manganese. Volatiles and semi-volatile organics were also found sporadically, but generally not at levels of concern.

Molycorp's post-remediation monitoring program routinely found boron, iron, manganese and molybdenum at concentrations exceeding both residential and nonresidential PADEP SHSs. There were no detections of PAHs in the groundwater samples and radiological constituents were not detected above background levels.

In summary, EPA and PADEP have concluded that Molycorp has demonstrated that groundwater contamination remains beneath the Facility. The contamination consists primarily of four inorganic chemicals: molybdenum, boron, iron and manganese. Iron and manganese are naturally occurring, while molybdenum and boron are the results of releases from former plant operations. The contamination is confined to the uppermost aquifer, which ultimately discharges into Chartiers Creek. There are no other off-site impacts.

Surface Water

Historical (pre-remediation) surface water sampling of Chartiers Creek indicates the stream was impacted by the Facility activities. Concentrations of molybdenum in surface water have been observed to increase in Chartiers Creek from the furthest upstream to downstream surface water sample locations. While EPA and PADEP do not have numeric surface water quality criterion for molybdenum, Molycorp and PADEP agreed to a risk-based surface water quality standard of 175 micrograms per liter ($\mu\text{g/l}$) as part of the Act 2 process for the Facility. Elevated concentrations of aluminum and iron were present in both the pre-remedial and post-remedial surface water samples collected at the Facility, but the upstream concentrations of these metals were of the same order of magnitude as the furthest downstream samples indicating that this contamination originated from an off-site upstream source.

The highest molybdenum surface water concentration observed as part of the 1994 Site Characterization was from the furthest downstream sample located near the northwest corner of

the North Process Area (Sample No. CR4 - 1,500 µg/l). Surface water samples collected during the remediation saw molybdenum concentrations greater than 12,000 µg/l at sample location SS-01 (approximately same location as CR4). These elevated concentrations were related to the dewatering activities that occurred during the remediation. Surface water samples were collected from five locations along Chartiers Creek in the eight rounds of post remedial surface water sampling from June 2009 to December 2010 for the Act 2 Final Report. Molybdenum concentrations in the surface water have decreased dramatically since the remediation efforts have been completed. Comparison of the sample results to the agreed upon surface water quality standard of 175 µg/l indicates compliance with that standard.

IV. Corrective Action Objectives

EPA's Corrective Action Objectives for the Facility are the following:

1. Soils

EPA has determined that the combination of Pennsylvania's residential, nonresidential and site-specific standards set forth in the PADEP Final Report Summary dated August 3, 2011 is protective of human health and the environment for individual contaminants at this Facility. Therefore, EPA's Corrective Action Objective for Facility soils is to control exposure to the hazardous constituents remaining in soils by requiring the compliance with and maintenance of land use restrictions at the Facility where necessary.

Table 2 provides the maximum site-specific soil concentrations per area for those contaminants remaining in Facility soils for which the site-specific standard was achieved under PADEP's Act 2. In the areas where no post-remediation soil sampling occurred because the remediation with the selected land use restrictions resulted in pathway elimination, Table 2 lists the maximum concentrations detected prior to remediation.

2. Groundwater

EPA has determined that the combination of Pennsylvania's residential, nonresidential and site-specific standards set forth in the PADEP Final Report Summary dated August 3, 2011 is protective of human health and the environment for individual contaminants at this Facility provided that consumptive uses of groundwater are prohibited. Therefore, EPA's Corrective Action Objective for Facility groundwater is to control exposure to the hazardous constituents remaining in the groundwater by requiring the compliance with and maintenance of groundwater use restrictions at the Facility.

Table 3 provides the maximum site-specific groundwater concentrations per area for those contaminants remaining in groundwater for which the site-specific standard was achieved under PADEP's Act 2. The executed environmental covenant placed a protective site-wide restriction on the use of groundwater for potable, commercial/industrial and commercial/agricultural purposes.

V. Proposed Decision

EPA's proposed decision for the Molycorp, Inc. Washington Plant is engineering and institutional controls, and their continued maintenance.

Engineering Controls

The engineering controls hereby proposed and already in place at the Facility include the engineered barrier of two feet of clean soil in areas where excavation occurred during the remediation (Areas 1, 2, 3, 5C, 5D, 7B-E and 10). Prior to the start of significant excavation activity, a concrete Transshipment Pad, which would later be used as a staging area for shipping the radiological material, was constructed in the North Process Area. This is a permanent structure that also serves as an engineered barrier to residual contamination in the North Process Area subsurface. The sheet pile/jet grout wall in the Southeast Low-lying Storage Area is another engineering control designed to prevent coal tar seepage onto the Facility property.

Institutional Controls

Institutional controls (ICs) are non-engineered instruments such as administrative and/or legal controls that minimize the potential for human exposure to contamination and/or protect the integrity of the decision by limiting land or resource use. Under this proposed decision, some contaminants remain in the groundwater and soil at the Facility above levels appropriate for residential uses. Because some contaminants remain in the groundwater and soil at the Facility at levels which exceed residential use, EPA's proposed decision requires the compliance with and maintenance of land and groundwater use restrictions.

EPA has determined that the environmental covenant with Chevron, as both Grantor and Grantee, which was recorded in the Washington County Recorder of Deeds Office on September 27, 2011, imposes land and groundwater use restrictions necessary to prevent human exposure to contaminants at the Facility. The covenant includes the following restrictions and conditions (See Attachment 2 for more details):

- Facility-wide restriction of groundwater use for potable, commercial/industrial, or commercial/agricultural purposes, including, but not limited to, irrigation of crops, watering of livestock, and food production, processing or packaging. Any conveyances, excavation or grading that may increase the flow of groundwater to Chartiers Creek are also prohibited without prior approval from PADEP.
- Prohibition of residential redevelopment unless additional remediation is performed to address direct contact exposure in Areas 1, 2, 3, 5A, 5B, 5C, 5D, 7B-E and 10.
- Prohibition of redevelopment along the railroad spur in Area 1 until the bed soils and stones are further characterized and remediated, if necessary.
- Prohibition of excavation through or beneath the engineered barriers without prior written notice and PADEP approval. Any plan to disturb the engineered barrier must include a schedule of implementation, applicable worker health and safety requirements, access limitations during excavation, disposal or reuse of excavated

materials requirements, and plans for the restoration of the clean fill cover or suitable alternatives.

If PADEP were to approve changes to the environmental covenant that EPA determined made the ICs no longer protective of human health and the environment, EPA would take steps under applicable law to ensure protection of human health and the environment.

VI. Evaluation of EPA's Proposed Decision

This section provides a description of the criteria EPA uses to evaluate proposed remedies under the Corrective Action program. The criteria are applied in two phases. In the first phase, EPA evaluates three criteria, known as Threshold Criteria. EPA's Threshold Criteria evaluation can be found in Subsection A below. In the second phase, EPA sometimes uses as many as seven balancing criteria to select among alternative solutions, if more than one is proposed. The Current conditions at the Facility meet the threshold criteria established by EPA. Although EPA is not selecting among alternatives, the balancing criteria are evaluated in Subsection B below in further support of the proposed remedy.

A. Threshold Criteria

1. Protect Human Health and the Environment

The Facility remediation included the removal of 104,000 cubic yards of radiological materials and 71,000 cubic yards of soils containing coal tar, including coal-tar contaminated sediments and stream banks soils of Chartiers Creek. These materials, if left on-site without a cover, would have continued to pose direct contact threats to human health and the environment as well as threats related to the potential for migration of contamination in the soils via soil erosion, surface water run-off and leaching to groundwater. The engineered barrier of two feet of clean soil effectively eliminates the potential for direct contact to contaminants remaining in the subsurface for future Property occupants and the restriction of certain portions of the Property to nonresidential use will prevent direct exposures to more sensitive residential receptors.

The Act 2 Final Report evaluated all relevant exposure pathways, including the potential for vapor intrusion into future buildings, the groundwater to surface water migration pathway as well as potential areas of ecological concern. No unacceptable ecological risks or risks associated with vapor intrusion were identified. With respect to groundwater, while significant levels of contaminants remain in the groundwater beneath the Facility, Chartiers Creek, which receives groundwater from both the unconsolidated and upper bedrock water bearing zones, is not being significantly impacted. Groundwater is not used as a source of drinking water, for agricultural purposes, or for any other known purpose in the Facility vicinity.

Based on the results summarized in the Act 2 Final Report, EPA has determined that the remedial activities described above are protective of human health and the environment provided that the land and water use restrictions detailed in the environmental covenant, recorded on September 27, 2011, continue to be implemented and maintained. The environmental covenant restrictions are enforceable by Pennsylvania, and provide long-term assurance that the exposure

assumptions used in developing EPA's proposed remedy are not changed without State approval. If PADEP were to approve changes to the environmental covenant that EPA determined made the ICs no longer protective of human health and the environment, EPA would take steps under applicable law to ensure protection of human health and the environment.

2. Achieve Media Cleanup Objectives

The Facility has achieved a combination of Pennsylvania's residential Statewide Health Standards (SHSs), nonresidential SHSs and site-specific standards for soils and groundwater. These standards meet EPA risk guidelines for human health and the environment at the Facility provided that certain activity and use limitations are imposed on the Property. EPA's proposed decision requires the implementation and maintenance of institutional controls to ensure that portions of the Property are not used for residential purposes and groundwater beneath the Property is not used for any purpose.

3. Remediating the Source of Releases

In all proposed decisions, EPA seeks to eliminate or reduce further releases of hazardous wastes or hazardous constituents that may pose a threat to human health and the environment. As shown in the Act 2 Final Report, the Facility met this objective by excavating and disposing of 104,000 cubic yards of radiologic materials and 71,000 cubic yards of coal tar impacted soils, as well as the installation of a two foot barrier consisting of clean, compacted soil in excavated areas and the installation of a jet-grouted sheet pile wall to prevent coal tar seepage onto the property from beneath highway I-70. There are no remaining large, discrete sources of waste from which constituents would be released to the environment. Therefore, EPA has determined that this criterion has been met.

B. Balancing/Evaluation Criteria

1. Long-Term Effectiveness

The proposed ICs will maintain protection of human health and the environment over time by controlling exposure to the hazardous constituents and hazardous wastes remaining in soils and groundwater. EPA's proposed decision requires the compliance with and maintenance of land use and groundwater use restrictions at the Facility. The land use and groundwater use restrictions have already been implemented through an environmental covenant recorded with the deed for the Facility property. The environmental covenant runs with the land and as such will be enforceable by the State against future land owners.

2. Reduction of Toxicity, Mobility, or Volume of the Hazardous Constituents

The reduction of toxicity, mobility and volume of hazardous constituents and hazardous wastes at the Facility has already been achieved by soil excavation activities, which resulted in the removal of more than 175,000 cubic yards of radiologic and contaminated soils/materials from the Facility. During excavation activities, groundwater and surface runoff entering into excavation areas were pumped to an onsite treatment plant prior to being discharged through a National Pollutant Discharge Elimination System (NPDES) permitted outfall to Chartiers Creek.

More than 31 million gallons of water were treated in that system, resulting in the removal of approximately 9,100 pounds of contaminants, primarily metals. Excavated areas were backfilled with compacted clay loams that serve to reduce the hydraulic gradient in the overburden aquifer, reducing the flow of contaminated groundwater into the creek. The repaired storm sewer now discharges to the ground surface in a remote area away from former Facility operations, which effectively removed a preferential pathway for Facility-contaminated groundwater to enter Chartiers Creek. The jet grout sheet pile wall in the Southeast Low-lying Storage Area prevents the migration of off-site sources of coal tar from reaching the Property.

3. Short-Term Effectiveness

EPA's proposed decision does not involve any activities, such as construction or excavation, that would pose short-term risks to workers, residents, or the environment. In addition, the land use and/or groundwater use restrictions have already been implemented through an environmental covenant recorded with the deed for the Facility property.

4. Implementability

EPA's proposed decision is readily implementable. The ICs are in place. Therefore, EPA does not anticipate any regulatory constraints in implementing its proposed decision.

5. Cost

EPA's proposed decision is cost effective. An environmental covenant has already been recorded with the deed to the Facility property. Therefore, there should be no additional costs associated with implementing the proposed decision.

6. Community Acceptance

EPA will evaluate Community acceptance of the proposed decision during the public comment period, and this evaluation will be described in the Final Decision and Response to Comments.

7. State/Support Agency Acceptance

EPA will evaluate State acceptance based on comments received from PADEP during the public comment period. This evaluation will be described in the Final Decision and Response to Comments.

VII. Environmental Indicators

EPA sets national goals to measure progress toward meeting the nation's major environmental objectives. For Corrective Action, EPA evaluates two key environmental indicators for each Facility: (1) current human exposures under control and (2) migration of contaminated groundwater under control. The EPA determined that the Facility met the indicator for Human Health on November 4, 2003 and that the Facility met the indicator for Groundwater on December 27, 2011.

VIII. Financial Assurance

EPA has evaluated whether financial assurance for corrective action is necessary to implement EPA's proposed decision at the Facility. Given that EPA's proposed decision does not require any further engineering actions to remediate soil, groundwater or indoor air contamination at this time and given that the costs of implementing institutional controls at the Facility will be de minimis, EPA is proposing that no financial assurance be required.

IX. Public Participation

Before EPA makes a final decision on its proposal for the Facility, the public may participate in the decision selection process by reviewing this SB and the documents contained in the Administrative Record (AR) for the Facility. The AR contains information considered or relied upon by EPA in reaching this proposed decision. It is available for public review during normal business hours at:

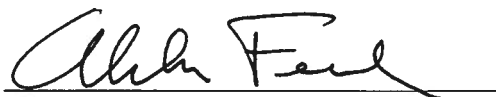
U.S. EPA Region III
1650 Arch Street
Philadelphia, PA 19103
Contact: Andrew Clibanoff
Phone: (215) 814-3391
Fax: (215) 814-3113
Email: clibanoff.andrew@epa.gov

Interested parties are encouraged to review the AR and comment on EPA's proposed decision. The public comment period will last thirty (30) calendar days from the date that notice is published in a local newspaper. You may submit comments by mail, fax, or e-mail to Andrew Clibanoff. EPA will hold a public meeting to discuss this proposed decision upon request. Requests for a public meeting should be made to Andrew Clibanoff.

EPA will respond to all relevant comments received during the comment period. If EPA determines that new information warrant a modification to the proposed decision, EPA will modify the proposed decision or select other alternatives based on such new information and/or public comments. EPA will announce its final decision and explain the rationale for any changes in a document entitled the Final Decision and Response to Comments (FDRTC). All persons who comment on this proposed decision will receive a copy of the FDRTC. Others may obtain a copy by contacting Andrew Clibanoff at the address listed above.

Date:

7/25/12



Abraham Ferdas, Director
Land and Chemicals Division
US EPA, Region III

Figures

Figure 1 - Molycorp, Inc. Washington Plant Facility Location Map

Figure 2 - Molycorp, Inc. Washington Plant Area Designation Map

Tables

Table 1 - Summary of Areas of Interest

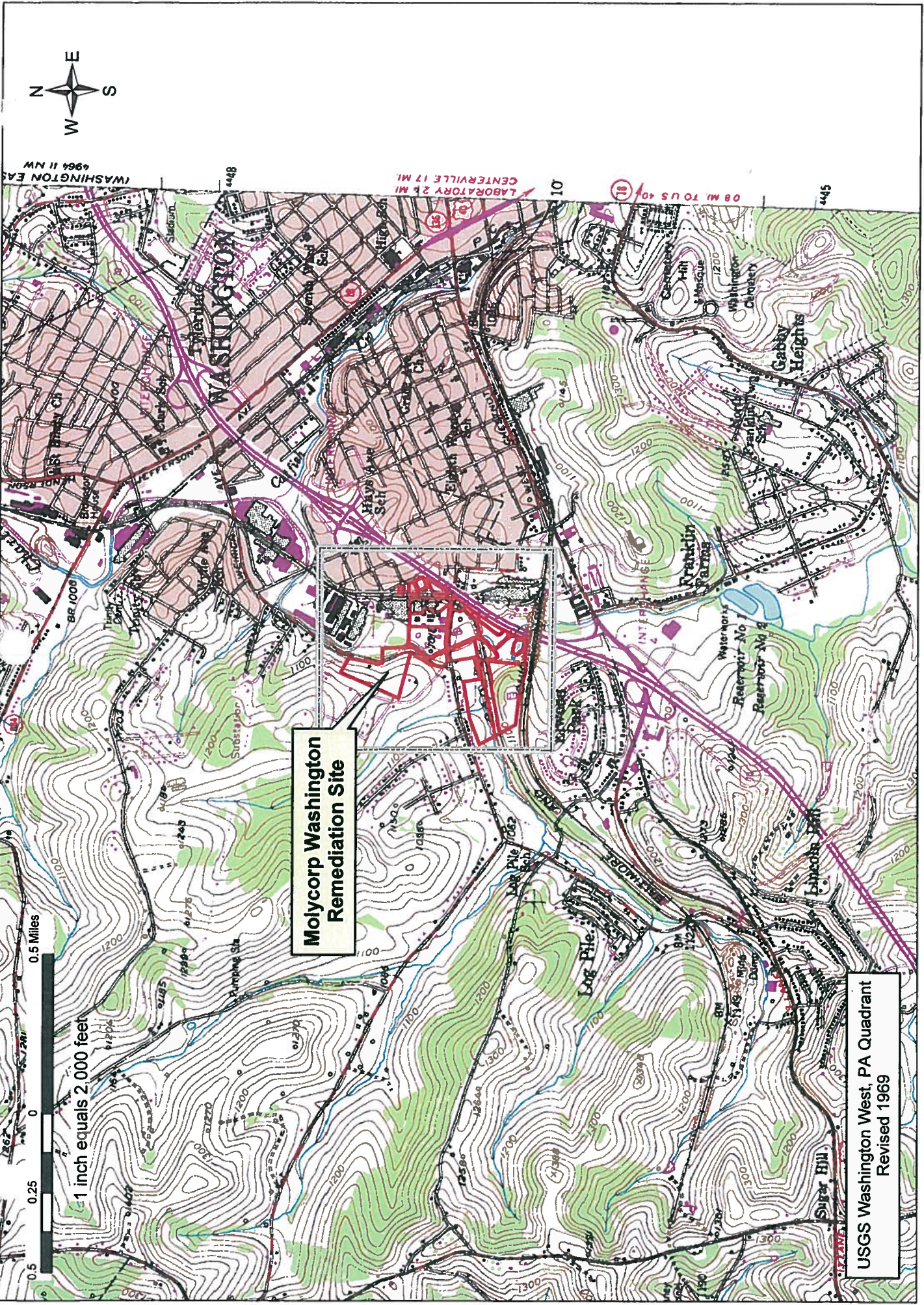
Table 2 – Maximum Site-Specific Constituent Concentrations In Soil

Table 3 – Maximum Site-Specific Constituent Concentrations In Groundwater

Attachments

Attachment 1 – Index to Administrative Record

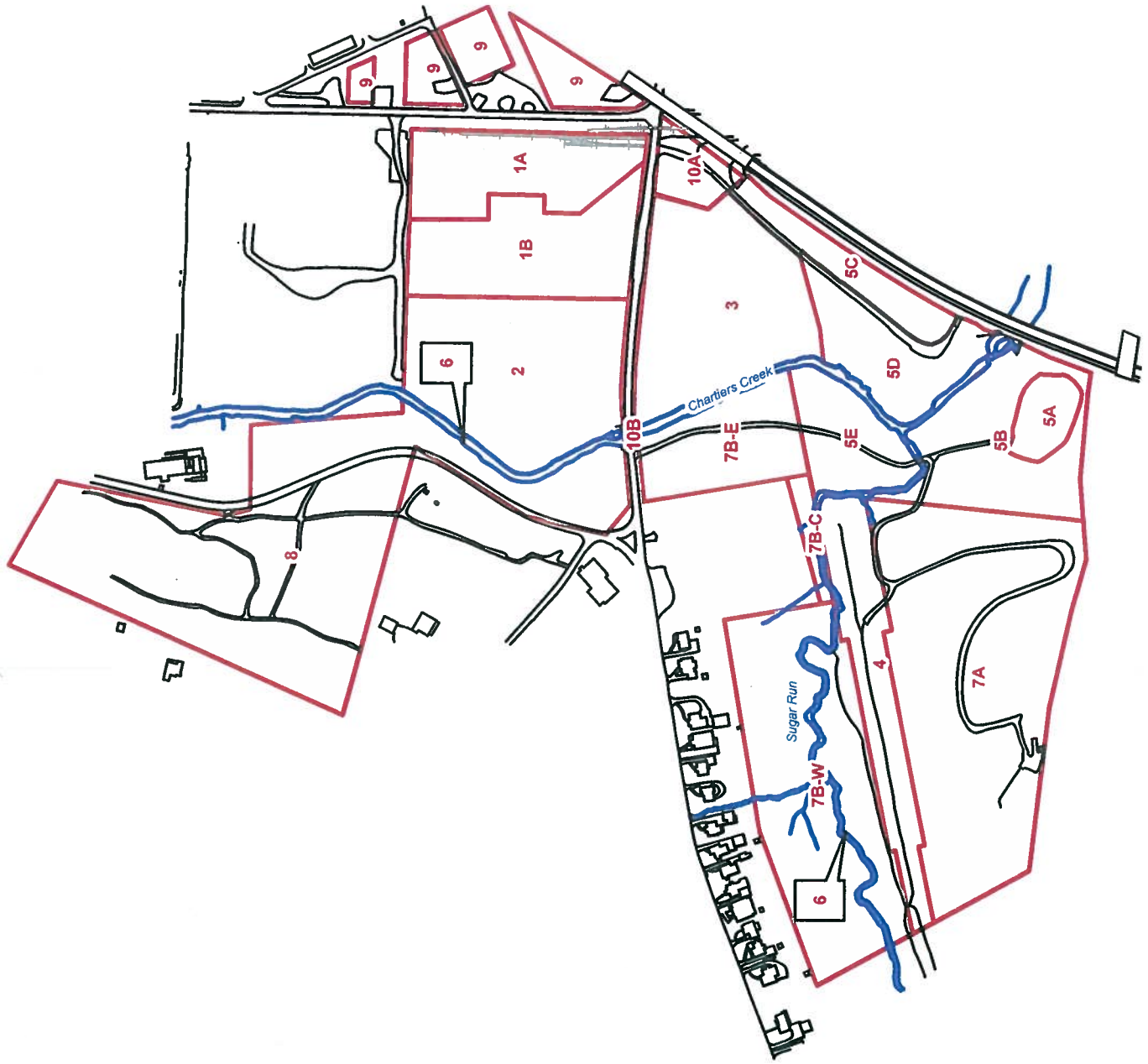
Attachment 2 - Executed Environmental Covenant



Molycorp Washington Remediation Site

USGS Washington West, PA Quadrant
Revised 1969

Figure 1
USGS Site Location Map



Legend

- Area Designations
- Creeks and Streams
- Existing Railroad
- Roads and Area Features



Table 1

SUMMARY OF AREAS OF INTEREST MOLYCORP INC., WASHINGTON, PA FACILITY		
Area Number	Designation	Reason for Designation
Area 1	Process Plant (Subdivided into 1A and 1B)	Location of original manufacturing operations.
Area 2	North Slag Area	Lowlands west of Facility that contained various ponds, impoundments and slag fill.
Area 3	South Slag Area	Area containing slag fill and a former pond containing ball mill slag.
Area 4	Tylerdale Connecting Railroad	Former railroad right-of-way
Area 5	MGP Tar Pond Area (Subdivided into 5A – 5E)	Area containing the South Tar Pond (5A) and area north of the South Tar Pond (5B), North Tar Pond (5C and 5D) and adjacent area (5E)
Area 6	Streams	Chartiers Creek and Sugar Run bisect the Property. Tar noted along banks and in bottom of Chartiers Creek at a few locations
Area 7	Hill Area (Subdivided into 7A and 7B)	Hill area that contains an old foundation with MGP tar (7A) and a former farm area west of Chartiers Creek and north of Sugar Run (7B). Area 7B-E is adjacent to Chartiers Creek, while 7B-C and 7B-W were never used by Molycorp
Area 8	Cox Plus	Primarily undeveloped land. No known impacts by Facility operations.
Area 9	Green Street	Former residential area. No known impacts by Facility operations.
Area 10	Offsite Areas (Subdivided into 10A and 10B)	Offsite areas investigated for radiological constituents because of their location near impacted areas. They include: -The area located adjacent to the northeast corner of Area 3 where a temporary rail line was located in the 1979-1981 period (10A) -Vicinity of the abutment of the small bridge on Caldwell Avenue over Chartiers Creek near the southwest corner of Area 2 (10B) -Caldwell Avenue between Areas 1 and 2, and Area 3 (also 10B)

Table 2
 Maximum Site Specific Constituent Concentrations in Soil
 MolyCorp Washington Remediation Site
 Additional Information Provided to USEPA for Statement of Basis

Chemical	CAS No.	Area A Areas 1 and 2	Area B Areas 3 and 10A	South Tar Pond Areas 5A and 5B	Tar Area Below 1-70 Areas 5C and 5D	Hill Area Areas 7A	Road Next to Fire House Areas 5E and 7B-E
Polycyclic Aromatic Hydrocarbons							
Naphthalene	91-20-3	SHS	SHS	290	6.6	SHS	SHS
Benzo(a)anthracene	56-55-3	SHS	SHS	110	7.9	SHS	SHS
Benzo(b)fluoranthene	205-99-2	SHS	SHS	47	SHS	SHS	SHS
Dibenz(a,h)anthracene	53-70-3	SHS	SHS	SHS	SHS	SHS	SHS
Carbazole	86-74-8	SHS	SHS	90	SHS	SHS	SHS
Metals							
Antimony	7440-36-0	SHS	SHS	SHS	SHS	SHS	SHS
Arsenic	7440-38-2	SHS	SHS	SHS	SHS	SHS	SHS
Barium	7440-39-3	SHS	SHS	SHS	SHS	SHS	SHS
Boron	7440-42-8	SHS	SHS	SHS	SHS	SHS	SHS
Cadmium	7440-43-9	SHS	SHS	SHS	SHS	SHS	SHS
Chromium	18540-29-9	SHS	SHS	SHS	SHS	SHS	SHS
Cobalt	7440-48-4	SHS	SHS	SHS	SHS	SHS	SHS
Iron	7439-89-6	SHS	SHS	SHS	SHS	SHS	SHS
Lead	7439-92-1	SHS	SHS	SHS	SHS	SHS	SHS
Manganese	7439-96-5	SHS	SHS	SHS	SHS	SHS	SHS
Molybdenum	7439-98-7	SHS	SHS	SHS	SHS	SHS	SHS
Nickel	7440-02-0	SHS	SHS	SHS	SHS	SHS	SHS
Selenium	7782-49-2	SHS	SHS	SHS	SHS	SHS	SHS
Thallium	7440-28-0	SHS	SHS	SHS	SHS	SHS	SHS
Zinc	7440-66-6	SHS	SHS	SHS	SHS	SHS	SHS
Environmental Covenants in Place:							
		B, C, D	B, C, D	C, E	B, C, D	NA	B

Notes:

- 1) All concentrations presented in milligrams per kilogram (mg/kg).
- 2) NA - Not analyzed - Constituent was not analyzed for in this Area. The constituent was not a constituent of concern in the Area based on the Risk Assessment and Remediation Selection Report (Malcolm Pirnie, 2005).
- 3) SHS - Indicates constituent concentrations detected in this Area met the Statewide Health Standard.
- 4) Bolded and shaded concentrations represent the maximum concentration detected prior to remediation. Post-remediation data were not collected per the Risk Assessment and Remediation Selection Report (Malcolm Pirnie, 2005).
- 5) Non-bolded concentrations represent maximum concentration detected in post-remediation samples.
- 6) As presented in the Act 2 Final Report (ARCADIS, 2010) and the Risk Assessment and Remediation Selection Report (Malcolm Pirnie, 2005), acetone, 2-butanone, carbon disulfide, methylene chloride, bis(2-Ethylhexyl)phthalate, di-n-butylphthalate, di-n-octylphthalate and dimethylphthalate were not target analytes in post-remediation samples. These constituents were associated with laboratory blank contamination.
- 7) Detections of lead and molybdenum in soil samples are below the PADEP Non-residential direct contact MSC for subsurface soil and are located beneath a cap.
- 8) - 62 samples were collected and analyzed for arsenic. Detected arsenic concentrations ranged from 1.6 to 600 mg/kg with an average concentration of 50 mg/kg and a median of 17.5 mg/kg.
- 9) - 62 samples were collected and analyzed for lead. Detected lead concentrations ranged from 6.3 to 20,000 mg/kg with an average concentration of 641 mg/kg and a median of 30 mg/kg.
- 10) - 62 samples were collected and analyzed for molybdenum. Detected molybdenum concentrations ranged from 0.018 to 57,000 mg/kg with an average concentration of 3,956 mg/kg and a median of 320 mg/kg.
- 11) - 31 samples were collected and analyzed for molybdenum. Detected molybdenum concentrations ranged from 1.1 to 23,000 mg/kg with an average concentration of 2,405 mg/kg and a median of 130 mg/kg.

Environmental Covenants in Place

- B - Land use restricted to non-residential
- C - Engineered barrier in-place consisting of at least 2 feet of clean soil or concrete pad (cap).
- D - No excavation of soil with this Area without approval from the PADEP Environmental Cleanup Group and Bureau of Radiation Protection (BRP).
- E - Portion of this Area is a wetland and shall not be redeveloped.

Table 3
Maximum Site-Specific Constituent Concentrations in Groundwater
MolyCorp Washington Remediation Site
Additional Information Provided to USEPA for Statement of Basis

Chemical	CAS No.	Area A Areas 1 and 2	Area B Areas 3 and 10A	South Tar Pond Areas 5A and 5B	Tar Area Below 1-70 Areas 5C and 5D	Hill Area Areas 7A	Road Next to Fire House Areas 5E and 7B-E
Aromatic Volatile Organic Compounds							
Benzene	71-43-2	0.0058	SHS*	SHS*	SHS*	SHS*	SHS*
Other Volatile Organic Compounds							
Vinyl chloride	75-01-4	0.0031	SHS*	SHS*	SHS*	SHS*	SHS*
Polycyclic Aromatic Hydrocarbons							
Naphthalene	91-20-3	SHS	SHS	ND	SHS	NI	NI
Benzo(a)anthracene	56-55-3	SHS	SHS	ND	SHS	NI	NI
Chrysene	218-01-9	SHS	SHS	ND	SHS	NI	NI
Benzo(b)fluoranthene	205-99-2	SHS	SHS	ND	SHS	NI	NI
Benzo(k)fluoranthene	207-08-9	SHS	SHS	ND	SHS	NI	NI
Indeno(1,2,3-cd)pyrene	183-39-5	SHS	SHS	ND	SHS	NI	NI
Benzo(ghi)perylene	191-24-2	SHS	SHS	0.00035	SHS	NI	NI
Metals							
Aluminum	7429-90-5	0.374	SHS	SHS	SHS	NI	NI
Arsenic	7440-38-2	0.0305	ND	0.0105	SHS	NI	NI
Boron	7440-42-8	43.6	2.33	0.2	0.0197	NI	NI
Chromium	18540-29-9	ND	SHS	SHS	10.4	NI	NI
Iron	7439-89-6	508	12	13.9	SHS	NI	NI
Lead	7439-92-1	0.034	ND	ND	16.1	NI	NI
Manganese	7439-96-5	32.6	1.23	2.96	0.0024	NI	NI
Molybdenum	7439-98-7	[48]	6.3	0.231	1.99	NI	NI
Selenium	7782-49-2	0.0153	SHS	SHS	0.0896	NI	NI
Thallium	7440-28-0	0.0255	ND	ND	SHS	NI	NI
Vanadium	7440-62-2	0.0304	SHS	SHS	ND	NI	NI
Environmental Covenants in Place:		A	A	A	A	A	A

Notes:

- 1) All concentrations presented in milligrams per liter (mg/L).
- 2) NI - Not included - Post-remediation monitoring wells were not installed in this Area. Per the Act 2 regulations, the groundwater assessment was completed by collecting samples from point of compliance wells, which were located along Chartiers Creek.
- 3) ND- Not detected at or above laboratory practical quantitation limit in post-remediation groundwater samples.
- 4) Bolded and bracketed concentration represent a one time exceedance for molybdenum that occurred during the March 2009 sampling event. Molybdenum was detected at a concentration above the PADEP Non-Use MSC in only one of the 72 of post-remediation groundwater samples collected.
- 5) Bolded and shaded concentrations represent maximum concentration detected prior to remediation. Post-remediation data were not collected per the PADEP Non-Use MSC.
- 6) SHS - Indicates the Statewide Health Standard for this constituent was met in noted area.
- 7) SHS* - Indicates the Statewide Health Standard for this constituent was met in pre-remediation samples collected.
- 8) Non-bolded concentrations represent maximum concentrations detected in post-remediation samples.
- 9) As presented in the Act 2 Final Report (ARCADIS, 2010) and the Risk Assessment and Remediation Selection Report (Malcolm Pirnie, 2005), acetone, 2-butanone, carbon disulfide, methylene chloride, bis(2-Ethylhexyl)phthalate, di-n-butylphthalate, di-n-octylphthalate and dimethylphthalate were not target analytes in post-remediation samples. These constituents were associated with laboratory blank contamination.
- 10) Detections of lead are below the PADEP non-use aquifer MSC.

Environmental Covenants in Place

A - Groundwater at and under the Area shall not be used for potable, commercial/industrial or commercial/agricultural purposes including, but not limited to, irrigation of crops, watering of livestock, and food production, processing and packaging.

Attachment 1 – Index to Administrative Record

ATTACHMENT ONE

INDEX TO ADMINISTRATIVE RECORD FORMER MOLYCORP FACILITY

1. Molycorp, Inc. Site Characterization Report for License Termination of the Washington, PA Facility, prepared by Foster Wheeler Environmental Corporation, January 1995.
2. Molycorp Supplemental Site Characterization Report for the Washington, PA Site, prepared by Malcolm Pirnie, Inc., April 2004.
3. One Cleanup Program Memorandum of Agreement Between the Commonwealth of Pennsylvania Department of Environmental Protection and Region 3 of the United States Environmental Protection Agency, April 2004.
4. Remedial Investigation Report, Molycorp Washington, PA Site, prepared by Malcolm Pirnie, Inc., March 2005.
5. Risk Assessment and Remedy Selection Report, prepared by Malcolm Pirnie, Inc., April 2005.
6. Cleanup Plan, Molycorp Washington, PA Site, prepared by Malcolm Pirnie, Inc., January 2006.
7. MGP Tar Areas Post Remediation Sampling and Analysis Plan, Molycorp Washington Remediation Project, prepared by Malcolm Pirnie, Inc., September 2007.
8. Final Report for Remediation of Areas 5A and 5B, Molycorp Washington Remediation Project, prepared by Malcolm Pirnie, Inc., June 2008.
9. Post Remediation Groundwater and Surface Water Monitoring Plan, Proposed Monitoring Well Installation and Quarterly Sampling Program, Molycorp Washington Remediation Project, prepared by Malcolm Pirnie, Inc., September 2008.
10. Post Remediation Final Dose Assessment Report, Molycorp, Washington Remediation Site, prepared by Malcolm Pirnie, Inc., September 2009.
11. Final Report for the Molycorp Washington Remediation Site, prepared by Malcolm Pirnie, Inc., September 2009.

12. Chain of Custody and Sampling Reports associated with 2004 Supplemental Site Characterization Report, 2005 Remedial Investigation Report, and Post-Remediation Quarterly/Annual Groundwater and Monitoring Report (Revised April 2011), September 2003 – November 2010.
13. Final Post Remediation Quarterly/Annual Groundwater and Surface Water Monitoring Report, Molycorp Washington Site, prepared by Arcadis U. S., Inc., Revised April 2011.
14. Act 2 Final Report for the Molycorp Washington Remediation Site, prepared by Arcadis U. S., Inc., April 2011.
15. Correspondence from David Eberle, Program Manager, Environmental Cleanup Program, PADEP, to Mark Lafferty, Chevron Environmental Management Company, Site Specific Final Report Approval, August 3, 2011.
16. Correspondence from Mark Lafferty, Chevron Environmental Management Company to Andrew Clibanoff, RCRA Project Manager, EPA, Technical Memorandum, Site Groundwater Cleanup Standards, Molycorp Washington Remediation Project Site, December 5, 2011.
17. Correspondence from Cullen Flanders, Project Manager, Arcadis U. S., Inc. to Andrew Clibanoff, RCRA Project Manager, EPA, Molycorp Washington Remediation Site – Maximum Site-Specific Constituent Concentration Tables, January 19, 2012.

Attachment 2 - Executed Environmental Covenant

Environmental Covenant

Date: August 29, 2011

When recorded, return to:
David G. Ries, Esq.
Thorp Reed & Armstrong, LLP
One Oxford Centre
301 Grant St., 14th Fl.
Pittsburgh, PA 15219

The County Parcel Identification Nos. of the Property are:

120-011-00-00-0016-00	120-011-07-04-0052-01
120-011-00-00-0017-00	120-011-07-04-0053-01
120-011-00-00-0018-00	120-011-07-04-0060-01
120-011-00-00-0019-01	120-011-07-04-0060-02
120-011-00-00-0019-03	120-011-07-04-0062-00
120-011-00-00-0021-00	120-011-07-04-0063-00
120-011-00-00-0024-00	120-011-07-04-0064-00
120-011-00-00-0026-08	120-011-07-04-0065-00
120-011-04-01-0001-00	120-011-07-04-0067-00
120-011-04-01-0002-00	120-011-07-04-0068-00
120-011-04-01-0004-00	120-011-19-00-0007-03
120-011-04-01-0023-00	

GRANTOR: Chevron Mining Inc.
PROPERTY ADDRESS: 1217 West Wayne St. (former remediation site office)
300 Caldwell Avenue (former plant address)
Washington, PA 15301

ENVIRONMENTAL COVENANT

This Environmental Covenant is executed pursuant to the Pennsylvania Uniform Environmental Covenants Act, Act No. 68 of 2007, 27 Pa. C.S. §§ 6501 – 6517 (UECA). This Environmental Covenant subjects the Property identified in Paragraph 1 to the activity and/or use limitations in this document. As indicated later in this document, this Environmental Covenant has been approved by the Pennsylvania Department of Environmental Protection (Department).

1. **Property affected.** The property affected (Property or Site) by this Environmental Covenant is located in Canton Township, Washington County.

The postal street address of the Property is: 1217 West Wayne St. (former remediation site office), 300 Caldwell Avenue (former plant address), Washington, PA 15301.

The latitude and longitude of the center of the Property affected by this Environmental Covenant is: X -80.27527670140
Y 40.17106046030
(PA State Plane NAD 1983 decimal degrees format)

The Property has been known by the following name(s): Molycorp Washington Remediation Site.

The DEP Primary Facility ID# is: 6650032
The Land Recycling Program ID# is: 5-63-918-18880

A complete description of the Property is attached to this Environmental Covenant as Exhibit A. A set of maps of the Property, including an overview of the remediation Areas and details of each Area are attached to this Environmental Covenant as Exhibit B.

2. **Property Owner / GRANTOR / GRANTEE.** Chevron Mining Inc., successor by merger to Molycorp, Inc., is the owner(s) of the Property. The mailing address of the owner is

Chevron Mining Inc.
116 Inverness Drive East
Suite 207
Englewood, CO 80112

3. **Holder(s) / GRANTEE(S).** The following is the GRANTEE and a "holder," as that term is defined in 27 Pa. C.S. § 6502, of this Environmental Covenant: The mailing address of the holder is

Chevron Mining Inc.
116 Inverness Drive East
Suite 207
Englewood, CO 80112

4. **Description of Contamination & Remedy.** The Site is approximately 73 acres in size, about 20 acres of which were involved in manufacturing activities conducted by Molycorp, Inc. (Molycorp), the predecessor to Chevron Mining Inc. The majority of products generated by Molycorp consisted of molybdenum trioxide powder, ferromolybdenum and other metal alloys. Molycorp has ceased operations at the Site and all of the buildings on the Site were demolished. Industrial activities took place on other portions of the Property prior to Molycorp's ownership. The southeastern portion of the Site received tar-containing residuals that have been attributed to a manufactured gas plant (MGP) operated by the Hazel-Atlas Glass Company on property to the east of the site.

Based on the diverse historical uses of the Site, the Site was divided into ten areas of interest for purposes of the site investigation, risk assessment and remediation.

**SUMMARY OF AREAS OF INTEREST
MOLYCORP INC., WASHINGTON, PA FACILITY**

Area Number	Designation	Reason for Designation
Area 1	Process Plant (Subdivided into 1A and 1B)	Location of original manufacturing operations.
Area 2	North Slag Area	Lowlands west of facility that contained various ponds, impoundments and slag fill.
Area 3	South Slag Area	Area containing slag fill and a former pond containing ball mill slag.
Area 4	Tylerdale Connecting Railroad	Former railroad right-of-way.
Area 5	MGP Tar Pond Area (Subdivided into 5A-5E)	Area containing the South Tar Pond (Area 5A) and area north of South Tar Pond (Area 5B), North Tar Pond Area (Areas 5C and 5D) and the adjacent area 5E.
Area 6	Streams	Chartiers Creek and Sugar Run bisect the Site. Tar noted along banks and in bottom of Chartiers Creek at a few locations.
Area 7	Hill Area (Subdivided into 7A and 7B)	Hill area that contains an old foundation with MGP tar (Area 7A), and a former farm area west of Chartiers Creek and north of Sugar Run (Area 7B). Area 7B-E is adjacent to Chartiers Creek, while Areas 7B-C and 7B-W were never used by MolyCorp.
Area 8	Cox Plus	Primarily undeveloped land. No known impacts by Site operations.
Area 9	Green Street	Former residential area. No known impacts by Site operations.
Area 10	Offsite Areas (Subdivided into 10A and 10B)	Offsite areas investigated for radiological constituents because of their location near impacted areas. They include: <ul style="list-style-type: none"> - The area located adjacent to the northeast corner of Area 3 where a temporary rail line was located in the 1979-1981 period (Area 10A); - Vicinity of the abutment of the small bridge on Caldwell Avenue over Chartiers Creek near the southwest corner of Area 2 (Area 10B); and - Caldwell Avenue between Areas 1 and 2, and Area 3 (Area 10B).

Area 1 was the original location of plant building and processing equipment. Area 2 was a lowland containing ponds of various configurations. Over the years, this area was filled with various slag byproducts and buildings were erected over the area. Eight surface impoundments were constructed along the western boundary near Chartiers Creek in 1968. These impoundments were closed in 1995 and backfilled with clean soil. Area 3 is located south of Caldwell Avenue. The western part of Area 3, adjacent to Chartiers Creek, was the location of a pile containing thoriated slag. East of this pile was a pond that received ball milled slag in the form of a slurry. Further east, a building was located that stored spare parts. Area 10A is where a temporary rail line was located from 1978-

1981 to allow receipt of raw materials during demolition and reconstruction activities that occurred in the main plant area.

Findings of the radiological investigations as described in the Remedial Investigation Report (RIR) (Malcolm Pirnie, 2005) led to the conclusion that only soils in the former manufacturing areas (Areas 1, 2 and 3) and Area 10A contained licensed material at levels in excess of unrestricted release criteria. Consequently, an alternatives evaluation was conducted to assess methods for remediating soils to achieve the unrestricted use criteria provided in the approved Washington, PA Facility Decommissioning Plan.

Soil with MGP tar had been observed or measured in Areas 5A, 5B, 5C, 5D, 5E, 7A and 7B-E, but no radiological impacts were identified in these areas during the pre-remedial site characterization. The tar-impacted soil in Areas 5A, 5B, 5C, 5D, 5E and 7B-E originated from a MGP that was owned and operated by the Hazel Atlas Glass Company. Tar-impacted soil was also identified in an old foundation in Area 7A at the top of a hill that is about 100 feet higher than the other areas. The tar in Area 7A was believed to be MGP tar.

In the 1980s, Areas 5A, 5B, 5C and 5D were investigated by MolyCorp. Tar-impacted soil was identified in all of these areas. Around 1985, a berm was constructed around Area 5A and tar-impacted soils from Areas 5B and 5D were excavated and consolidated within the bermed area (Area 5A). The construction of the berm and consolidation of the tar-impacted soil within the bermed area were accomplished with the approval of Pennsylvania Department of Environmental Resources (PADER), the predecessor to the Department. Historical records indicate that before I-70 was built in the 1950s, tar-impacted soil extended further to the east to where I-70 currently is located. The records review confirmed that I-70 had been constructed over this soil.

When MolyCorp purchased Area 7A, there was an uncovered concrete foundation approximately 100-feet by 150-feet in this area. The bottom of the foundation contained a layer of tar reported to be less than a foot thick. In the 1980s, the walls of the foundation were pushed in and the foundation was filled with soil. As the backfill settled the tar migrated upward and tar could be seen on the soil surface at some locations of the foundation.

Areas 7B-E and 5E are south of Caldwell Avenue, adjacent to and west of Chartiers Creek. No significant industrial activities or waste disposal activities occurred in these areas. However, the areas provided an access road to the South Tar Pond area (Areas 5A and 5B) and the Foundation area (Area 7A). Tar-impacts were observed in the surface soil surface in isolated locations of Areas 5E and 7B-E. Area 4, Areas 7B-C and 7B-W, Area 8 and Area 9 was residential properties that MolyCorp purchased after Site activities stopped.

A supplemental site characterization took place at the Site and is documented in the RIR.

Findings of the radiological investigations, as described in the RIR, led to the conclusion that only soils in Areas 1, 2, 3 and 10A contained licensed material at levels in excess of

unrestricted release criteria. Consequently, an alternatives evaluation was conducted to assess methods for remediating soils to achieve the unrestricted use criteria provided in the approved Washington, PA Facility Decommissioning Plan. The selected remediation involved excavating soil in Areas 1, 2, 3 and 10A, segregating the soil based on radiological testing, shipping soil with radiological impacts above release criteria offsite to an approved offsite facility and reusing soil with radiological impacts below release criteria. A minimum of two feet cover of clean, imported material then was placed over all of the area.

To evaluate possible nonradiological impacts at the Site, samples were analyzed for volatile organic compounds (VOCs), semi-volatile organic compounds (SVOCs) and metals. Soil and groundwater samples collected from the Site were compared to medium-specific concentrations (MSCs) and vapor intrusion screening values under the Statewide Health Standard. There were exceedances of residential and nonresidential MSCs and vapor intrusion screening values in soil samples collected from many areas of the Site. There were also exceedances of residential and nonresidential MSCs in groundwater samples collected from all areas of the Site, including upgradient areas where there was never industrial activity. Consequently, potential human health risks were evaluated under the Site-Specific Standard and this evaluation was presented in the Risk Assessment and Remedy Selection Report (Malcolm Pirnie 2005). The development of a remedial action to address chemical impacts at the Site was warranted because the fate and transport analysis and risk assessment for the Site indicated that some potential exposures and risks exceeded target levels under the Land Recycling and Environmental Remediation Standards Act, Act of May 19, 1995, P.L. 4, No.2, 35 P.S. §§ 6026.101-6026.908 ("Act 2").

A Cleanup Plan for the Site under Act 2 was submitted to the Department in 2006 (Malcolm Pirnie 2006). All of the plans and reports were reviewed and approved by the Department before remediation began in 2006.

The remediation included a combination of 1) active remediation involving removal of soil, 2) pathway elimination through engineering controls, and 3) pathway elimination through institutional controls to achieve the objectives of addressing critical exposure pathways.

The active remediation component involved excavation of soil from a variety of areas on the Site. For Areas 1, 2, 3 and 10A, approximately 169,000 tons of radiological materials were excavated and transported offsite for disposal. Following removal of radiological material, the surface of these areas was backfilled with at least two feet of clean fill, to serve as an engineering control. For Areas 5A, 5B, 5C, 5D, 5E, 7A, and 7B-E, the remedial action included excavating soils with visual indications of tar and disposing of this soil at an approved offsite landfill. The excavations were backfilled with clean fill. In addition, sediment with tar was removed in a few locations along Chartiers Creek. Approximately 59,000 tons of tar-impacted soil was transported offsite for disposal.

During remediation, approximately 31,000,000 gallons of water was treated at a Contact Water Treatment Plant that was constructed and operated for the remediation. This included groundwater removed for dewatering during excavation, contact stormwater, and contact floodwater. After treatment, the water was discharged in accordance with the Site's NPDES permit.

Overall, the Site is being closed under a combination of Statewide Health Standards and Site Specific Standards, as detailed in the Final Report submitted to the Department in April 2011 (Arcadis 2011). Attached as Exhibit C to this Environmental Covenant is a table that lists chemicals on the Site and the selected Act 2 standards for them for the various Areas of the Site.

The chemicals remaining in soil and groundwater include polyaromatic hydrocarbons (PAHs) and select metals including molybdenum, iron, manganese, arsenic and antimony. The chemicals remaining in place are addressed through the activity and use limitations in this Environmental Covenant.

Remediation of radiological constituents is separate from the Act 2 process and was addressed in reports submitted to the Department's Bureau of Radiation Protection. Following a Decommissioning Departmental Evaluation, the radioactive materials license for the site was terminated by the Department on December 20, 2010.

5. **Activity & Use Limitations.** The Property is subject to the following activity and use limitations, which the then current owner of the Property, and its tenants, agents, employees and other persons under its control, shall abide by:

Areas 1 and 2

Activity & Use Limitations: Areas 1 and 2 are subject to the following activity and use limitations:

1. Groundwater at and under Areas 1 and 2 shall not be used for potable purposes, or commercial/industrial or commercial/agricultural activities including, but not limited to, irrigation of crops, watering of livestock, and food production, processing or packaging.
2. No conveyances (storm drains, ditches, utilities, etc.) that may increase the flow of groundwater to Chartiers Creek shall be installed, without prior approval in writing by the Department.
3. No excavation or grading that may increase the flow of groundwater to Chartiers Creek shall be conducted, without prior approval in writing by the Department.

4. Areas 1 and 2 shall be used only for non-residential purposes in accordance with Act 2 and Department regulations. Non-residential use excludes schools, nursing homes or other residential-style facilities or recreational areas.
5. The engineered barrier in Areas 1 and 2 (i.e., the concrete pad in part of Area 1 and the two feet of clean fill in the remainder of Areas 1 and 2) must be maintained (i.e., if the barrier is breached, it must be restored). For any excavation of the clean fill cover, the clean fill shall be segregated, properly staged, and returned as cover to the excavated area or the excavated area shall be covered with replacement clean fill or covered with pavement. Returned or replaced clean fill must be a minimum thickness of 2 feet.
6. No excavation through or beneath the engineered barrier (clean fill cover and concrete pad) shall be conducted without prior written notice and a plan, for soil and groundwater, submitted for approval to the Department (Environmental Cleanup Program and Bureau of Radiation Protection), with a schedule of implementation, setting forth worker health and safety requirements, access limitations during excavation, disposal or reuse of excavated materials, and restoration of the clean fill cover or other alternatives that are approved by the Department in writing.
7. Soil and gravel in the railroad bed in Area 1 has not been characterized and this railroad bed should not be redeveloped for other purposes unless the soil and gravel is characterized in Area 1.
8. After realignment of the storm sewer system in Areas 1 and 2, in accordance with a Consent Order and Agreement between Chevron Mining and the Department dated August 9, 2011, any future use of the original conveyance to Outfall 001 under NPDES Permit No. PA0040312 (expired) must be authorized in writing by the Department.

Figure 1 demonstrates the location of Areas 1 and 2 within the Site boundary and the surround properties. A close up of each area is demonstrated on Figures 2 through 4 that demonstrates the extents of each area and presents the Pennsylvania State Plane NAD 1983 coordinates of major corners associated with each area in decimal format.

Areas 3 and 10

Activity & Use Limitations: Areas 3 and 10 are subject to the following activity and use limitations:

1. Groundwater at and under Areas 3 and 10 shall not be used for potable purposes, or commercial/industrial or commercial/agricultural activities

including, but not limited to, irrigation of crops, watering of livestock, and food production, processing or packaging.

2. No conveyances (storm drains, ditches, utilities, etc.) that may increase the flow of groundwater to Chartiers Creek shall be installed, without prior approval in writing by the Department.

3. No excavation or grading that may increase the flow of groundwater to Chartiers Creek shall be conducted, without prior approval in writing by the Department.

4. Areas 3 and 10 shall be used only for non-residential purposes in accordance with Act 2 and Department regulations. Non-residential use excludes schools, nursing homes or other residential-style facilities or recreational areas.

5. The engineered barrier in Areas 3 and 10 (i.e., the two feet of clean fill in Areas 3 and 10) must be maintained (i.e., if the barrier is breached, it must be restored). For any excavation of the clean fill cover, the clean fill shall be segregated, properly staged, and returned as cover to the excavated area or the excavated area shall be covered with replacement clean fill or covered with pavement. Returned or replaced clean fill must be a minimum thickness of 2 feet.

6. No excavation through or beneath the engineered barrier (clean fill cover) shall be conducted without prior written notice and a plan, for soil and groundwater, submitted for approval to the Department (Environmental Cleanup Program and Bureau of Radiation Protection), with a schedule of implementation, setting forth worker health and safety requirements, access limitations during excavation, disposal or reuse of excavated materials, and restoration of the clean fill cover or other alternatives that are approved by the Department in writing.

Figure 1 demonstrates the location of Areas 3 and 10 within the Site boundary and the surround properties. A close up of each area is demonstrated on Figures 5 and 18 that demonstrates the extents of each area and presents the Pennsylvania State Plane NAD 1983 coordinates of major corners associated with each area in decimal format.

Areas 5A and 5B

Activity & Use Limitations: Areas 5A and 5B are subject to the following activity and use limitations:

1. Groundwater at and under Area 5A and Area 5B shall not be used for potable purposes, or commercial/industrial or commercial/agricultural

activities including, but not limited to, irrigation of crops, watering of livestock, and food production, processing or packaging.

2. No conveyances (storm drains, ditches, utilities, etc.) that may increase the flow of groundwater to Chartiers Creek shall be installed, without prior approval in writing by the Department.

3. No excavation or grading that may increase the flow of groundwater to Chartiers Creek shall be conducted, without prior approval in writing by the Department.

4. Areas 5A and 5B shall not be used for residential purposes in accordance with Act 2 and Department regulations. Nonresidential use excludes schools, nursing homes or other residential-style facilities or recreational areas.

5. The wetlands (natural and constructed) in Area 5A and 5B shall remain as wetlands and shall not be developed for any other use.

Figure 1 demonstrates the location of Areas 5A and 5B within the Site boundary and the surround properties. A close up of each area is demonstrated on Figures 7 and 8 that demonstrates the extents of each area and presents the Pennsylvania State Plane-NAD 1983 coordinates of major corners associated with each area in decimal format.

Areas 5C and 5D

Activity & Use Limitations: Areas 5C and 5D are subject to the following activity and use limitations:

1. Groundwater at and under Areas 5C and 5D shall not be used for potable purposes, or commercial/industrial or commercial/agricultural activities including, but not limited to, irrigation of crops, watering of livestock, and food production, processing or packaging.

2. No conveyances (storm drains, ditches, utilities, etc.) that may increase the flow of groundwater to Chartiers Creek shall be installed, without prior approval in writing by the Department.

3. No excavation or grading that may increase the flow of groundwater to Chartiers Creek shall be conducted, without prior approval in writing by the Department.

4. Areas 5C and 5D shall not be used for residential purposes in accordance with Act 2 and Department regulations. Nonresidential use excludes schools, nursing homes or other residential-style facilities or recreational areas.

5. The engineered barrier in Areas 5C and 5D (i.e., the two feet of clean fill in Areas 5C and 5D) must be maintained (i.e., if the barrier is breached, it must be restored). For any excavation of the clean fill cover, the clean fill shall be segregated, properly staged, and returned as cover to the excavated area or the excavated area shall be covered with replacement clean fill. Returned or replaced clean fill must be a minimum thickness of 2 feet.

6. No excavation through or beneath the engineered barrier (clean fill cover) shall be conducted without prior written notice and a plan, for soil and groundwater, submitted for approval to the Department, with a schedule of implementation, setting forth worker health and safety requirements, access limitations during excavation, disposal or reuse of excavated materials, and restoration of the clean fill cover or other alternatives that are approved by the Department in writing.

Figure 1 demonstrates the location of Areas 5C and 5D within the Site boundary and the surround properties. A close up of each area is demonstrated on Figures 9 and 10 that demonstrates the extents of each area and presents the Pennsylvania State Plane NAD 1983 coordinates of major corners associated with each area in decimal format.

Areas 4, 5E, 7A, 7B-E, 7B-C, 7B-W, 8 and 9

Activity & Use Limitations: Areas 4, 5E, 7A, 7B-E, 7B-C, 7B-W, 8 and 9 are subject to the following activity and use limitations:

1. Groundwater at and under Areas 4, 5E, 7A, 7B-E, 7B-C, 7B-W, 8 and 9 shall not be used for potable purposes, or commercial/industrial or commercial/agricultural activities including, but not limited to, irrigation of crops, watering of livestock, and food production, processing or packaging.
2. No conveyances (storm drains, ditches, utilities, etc.) that may increase the flow of groundwater to Chartiers Creek shall be installed, without prior approval in writing by the Department.
3. No excavation or grading that may increase the flow of groundwater to Chartiers Creek shall be conducted, without prior approval in writing by the Department.
4. Areas 7B-E shall not be used for residential purposes in accordance with Act 2 and Department regulations. Non-residential use excludes schools, nursing homes or other residential-style facilities or recreational areas.

Figure 1 demonstrates the location of Areas 4, 5E, 7A, 7B-E, 7B-C, 7B-W, 8 and 9 within the Site boundary and the surround properties. A close up of each area is demonstrated on Figures 4 and 11 through 17 that demonstrates

the extents of each area and presents the Pennsylvania State Plane NAD 1983 coordinates of major corners associated with each area in decimal format.

6. **Notice of Limitations in Future Conveyances.** Each instrument hereafter conveying any interest in the Property subject to this Environmental Covenant shall contain a notice of the activity and use limitations set forth in this Environmental Covenant and shall provide the recorded location of this Environmental Covenant.

7. **Compliance Reporting.** Every January following the Department's approval of this Environmental Covenant for a period of 5 years, the then current owner of the Property shall submit, to the Department and any Holder listed in Paragraph 3, written documentation stating whether or not the activity and use limitations in this Environmental Covenant are being abided by. After 5 years, such written documentation shall be submitted every third January. In addition, within 1 month after any of the following events, the then current owner of the Property shall submit, to the Department and any Holder listed in Paragraph 3, written documentation: noncompliance with the activity and use limitations in this Environmental Covenant; transfer of the Property; changes in use of the Property; or filing of applications for building permits for the Property and any proposals for any site work, if the building or proposed site work will affect the contamination on the Property subject to this Environmental Covenant.

8. **Access by the Department.** In addition to any rights already possessed by the Department, this Environmental Covenant grants to the Department a right of reasonable access of the Property in connection with implementation or enforcement of this Environmental Covenant.

9. **Recording & Proof & Notification.** Within 30 days after the date of the Department's approval of this Environmental Covenant, the Grantor shall file this Environmental Covenant with the Recorder of Deeds for each County in which the Property is located, and send a file-stamped copy of this Environmental Covenant to the Department within 60 days of recording. Within that time period, the Grantor also shall send a file-stamped copy to each of the following: Canton Township, Washington County, Pennsylvania Department of Transportation; and each person holding a recorded interest in the Property.

10. **Termination or Modification.**

a. This Environmental Covenant shall terminate upon attainment, in accordance with 35 P.S. §§ 6026.101 – 6026.908, with an unrestricted use remediation standard for the above-described contamination at the Property. The Department must approve, in writing, of such termination.

b. This Environmental Covenant may be amended or terminated as to any portion of the real property subject to the covenant that is acquired for use as highway right of way by the Commonwealth, providing that:

(i) The Department waives the requirements for an environmental covenant and for conversion under section 6517 of UECA (relating to relationship to other laws) to the same extent that the environmental covenant is amended or terminated.

(ii) The Department determines that termination or modification of the environmental covenant will not adversely affect human health or the environment.

(iii) The Department will provide 30-days advance written notice to the current property owner, each holder, and, as practicable, each person that originally signed the environmental covenant or successors in interest to those persons.

The documents submitted under the Pennsylvania Land Recycling and Remediation Standards Act, Act 2, that are referenced in this Environmental Covenant are available at the Pennsylvania Department of Environmental Protection, Southwest Regional Office, 400 Waterfront Drive, Pittsburgh, PA 15222 (Land Recycling Program ID# 5-63-918-18880).

11. **Department's address.** Communications with the Department regarding this Environmental Covenant shall be sent to:

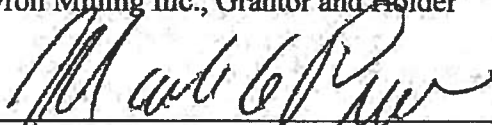
Environmental Cleanup Program Manager

Pennsylvania Department of Environmental Protection
Southwest Regional Office
400 Waterfront Drive
Pittsburgh, PA 15222-4745

ACKNOWLEDGMENT by Owner and Holder:

Chevron Mining Inc., Grantor and Holder

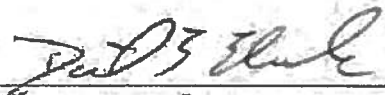
Date: August 29, 2011



Mark G. Premo, President and CEO

APPROVED, by Commonwealth of Pennsylvania,
Department of Environmental Protection

Date: 9/14/11

By: 

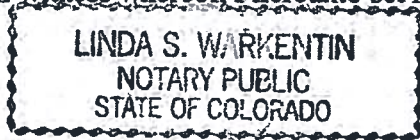
Name: David E. Eppelke

Title: ECP Manager

STATE OF COLORADO)
) ss.
COUNTY OF ARAPAHOE)

On this 29th day of August, 2011, before me, the undersigned officer, personally appeared Mark G. Premo, the President and Chief Executive Officer of Chevron Mining Inc., Owner, who acknowledged himself to be the person whose name is subscribed to this Environmental Covenant, and acknowledged that he executed same for the purposes therein contained.

In witness whereof, I hereunto set my hand and official seal.



Linda S. Warkentin

Notary Public
My Commission Expires
08/19/2014

COMMONWEALTH OF PENNSYLVANIA)
)
COUNTY OF ALLEGHENY) SS:

On this 14th day of September, 2011, before me, the undersigned officer, personally appeared DAVID E. EBELLE, who acknowledged himself/herself to be the Environmental Cleanup Manager of the Commonwealth of Pennsylvania, Department of Environmental Protection, Southwestern Regional Office, whose name is subscribed to this Environmental Covenant, and acknowledged that s/he executed same for the purposes therein contained.

In witness whereof, I hereunto set my hand and official seal.

Flora E. Wilson

Notary Public

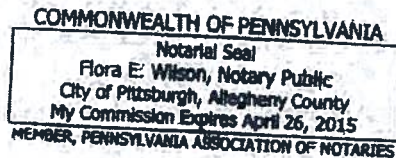


EXHIBIT A – PROPERTY DESCRIPTION

To help present the locations where the environmental covenants are assigned to the Site, the Site is divided into three distinct sections, divided by Caldwell Avenue and Green Street. The three sections are:

- 1) **North of Caldwell Avenue:** This section is the area of the Site that is located north of Caldwell Avenue and west of Green Street. The section was further subdivided during remediation activities into Areas 1A, 1B, 2 and 8 as presented in **Figure 1**. A description of the boundary of the section based on the deed descriptions is presented below.
- 2) **South of Caldwell Avenue:** This section is the area of the Site that is located south of Caldwell Avenue. The section was further subdivided during remediation activities into Areas 3, 4, 5A, 5B, 5C, 5D, 5E, 7A, 7B-E, 7B-W and 10A as presented on **Figure 1**. A description of the boundary of the section based on the deed descriptions is presented below. It should be noted deeds demonstrate that portions of this section are noted as being east of Service Roads No. 1 and 2 and Water Street.
- 3) **East of Green Avenue:** This section is the area of the Site that is north of Caldwell Ave and east of Green Street. The section was noted as Area 9 during remediation as presented in **Figure 1**. A description of the boundary of the section based on the deed descriptions is presented below.

Section 1 - North of Caldwell Avenue:

STARTING at a point at the Southeastly corner of property herein designated as Parcel A, said point of beginning also being the Northerly line of Caldwell Avenue, forty (40) feet wide, where the same is intersected by the Westerly right of way line of the Tylerdale connecting Railroad company, thence from said point of beginning and along the Northerly line of said Caldwell Avenue N 86° 10' is ninety and no hundredths (90.00) feet to a point on the said Northerly line of Caldwell Avenue where the same is intersected by the Easterly line of other lands of Molycorp, Inc. Thence at a stake on Caldwell Avenue, corner of property of the Tylerdale Connecting Rail Road Company, thence North 85° 45' West Five Hundred Twenty-nine (529) feet to an iron pin, thence South eighty-two degrees fifty-seven minutes thirty seconds West, within said lines of the Caldwell Avenue Extension by land of the Manor Real Estate and Trust Company, sixty-eight feet and seventy-five one-hundredths of a foot (68.75) ; thence Westerly across South 1° 00' East to a spike; thence continuing along said line of lands now or formerly of Blaine A. Beeghly and continuing within the lines of Caldwell Avenue, a 40 foot wide street, South 83° 23' West a distance of 153.89 feet to a spike in Caldwell Avenue at the Northeast corner of land new or formerly of Ralph Morris. Then continuing along the line of land new or formerly of said Blaine A. Beeghly North 52°

23' West a distance of 137.40 feet to a point within the lines of Weirich Avenue (also known as State Highway L.B. 62201), a 50 feet wide street; thence continuing within the line of said Weirich Avenue and along the line of lands now or formerly of said Blaine A. Beeghly North 10° 29' East a distance of 235.10 feet to a point; thereafter continuing within the lines of said Weirich Avenue and along the line of lands now or formerly of said Blaine A. Beeghly North 30 47' East a distance of 368.80 feet to a point East of the Easterly line of said Weirich and common to said lands now or formerly of Blaine A. Beeghly and lands now or formerly of Jessop Steel Co. ; thence within the lines of said Weirich Avenue and along the line of lands now or formerly of said Jessop Steel Co. North 20° 52' West a distance of 547.14 feet to a point; thence continuing within the lines of said Weirich Avenue and along the line of said last-mentioned lands North 10 58' East a distance of 493.90 feet to a railroad spike; thence leaving Weirich Avenue and along the line of lands now or formerly of said Jessop Steel Co. South 61 49' East a distance of 118.36 feet to an iron pipe; forward continuing along same Southwardly on a curve to the left having a radius of 676.78 feet, an arc distance of 123.86 feet , and having a chord bearing South 1° 33' 25'' East and a chord length of 123.69 feet to an iron pipe; henceforth continuing along the line of said lands now or formerly of Findlay Refractories Co. South 6° 48' East a distance of 629.65 feet to an iron pipe; thence continuing along the line of lands now or formerly of said Findlay Refractories Co. Southwardly, on a curve to the right having a radius of 2904.93 feet, an arc distance of 151.04 feet, and having a chord bearing South 5° 18' 37'' East and a chord length of 151.04 feet to an iron pipe; thence continuing along same and crossing Chartiers Creek North 89 50' East a distance of 80.16 feet to an iron pipe. Thence West, along the Westerly line of said land of the Molybdenum Corporation of America and along the Westerly line of land now or formerly of the Gordon Land Company; thence by land of Gordon Land company North eighty-nine and one-fourth (89-1/4) degrees East four hundred fifty-eight (458) feet to a point in the center line of said right of way of the Tylerdale connecting Railroad; thence along said center line South forty-five (45) minutes East four hundred seventy (470) feet to the PLACE OF BEGINNING.

Section 2 - South of Caldwell Avenue:

STARTING at a point found abutting the South side of Caldwell Avenue Extension and Westerly of Tylerdale Connecting Railroad continuing South 5° 24' 30'' West 67.87 feet to a point distant 75 feet Northwestwardly and radially from the center line of railroad of the Tylerdale Connecting Railroad Company known as the Sugar Run Branch. Thence on a course South 3° 27' West following along said Westerly lands of said William R. Weirich, for a distance of one hundred thirty-two and four-tenths (132.4) feet to the place of beginning at Station 5 plus 75 of the enumeration of stationing of the center line of said railroad - and continuing on the course of S. 3° 27' W one hundred thirty-two and four-tenths (132.4) feet. Thence along the Westerly right of way line of Water Street, a forty foot street, from North 6° 40' East, two hundred and two feet and no hundredths of a foot (272) to a point also located in the Westerly right of way of said Water Street. From the point of intersection of Water Street and Highway 70 from the highway center line is 76.00 feet from North 32° 29' 04'' East. Then proceeding along the center line of Highway 70 an arc distance of five hundred and seven feet and fifty six hundredths of a

foot (587.56) to a point over a right curve with a radius of 2292.01 feet. From the center line of the highway South $80^{\circ} 12' 00''$ East 185.00 feet to the center line of Wheeling, Pittsburgh and Baltimore Railroad Company; thence North $17^{\circ} 47' 44''$ East 225.00 feet to a point. Thence with the said Northerly property line of the Wheeling, Pittsburgh and Baltimore Railroad Company North $82^{\circ} 22' 50''$ West 1126.09 feet to an iron pipe thence, still following the Northerly property line of the Wheeling, Pittsburgh and Baltimore Railroad Company, by a line curving to the left, the radius of which curve is 1609.38 feet, 143.40 feet to an iron pipe in the Easterly line of the said Weirich North $29^{\circ} 21' 44''$ West (passing through a concrete monument at 12.21 feet) 354.41 feet to a concrete monument in the Southerly right of way line of the Sugar Creek Branch of the Tylerdale Connecting Railroad. Thence from a point thirty-three (33) feet Southerly by rectangular measurement from the center line of proposed railroad on a course N. 27° W. following along the said diving line and crossing said center line at Station 27 plus 50.6 of the enumeration of said railroad center line. Thence North $30^{\circ} 00'$ West a distance of 310.43 feet; thence by line common to Lots 50 through 57 in said Lacock Plan of Lots number two, North $57^{\circ} 30'$ East a distance of 468.40 feet to a Hub set; thence North $78^{\circ} 32'$ East a distance of 169.02 feet to a point; continuing by line common to the Southerly boundary of Lot 60 in the Lacock Plan of Lots Number Five, which Plan is recorded in Plan Book 8, page 56 in the Office of Recorder of Deeds of county, North $79^{\circ} 01'$ East a distance of 68.70 feet to a point; thence by line common to the Southerly boundary of Lots 61 through 65 in said last mentioned Lacock Plan North $78^{\circ} 50'$ East a distance of 370.26 feet to a Hub Set; thence by line common to the Easterly boundary of Lot 65 in said last mentioned plan North $11^{\circ} 10'$ West a distance of 180 feet to a Hub Set on the Southerly right-of-way line of Township Road 390; forward along the Southerly right-of-way line of said Township Road North $77^{\circ} 26' 40''$ East a distance of 256.01 feet to a point. Thereafter from the point in the title line within the lines of Caldwell Avenue at the distance of 160.77 feet measured N. $82^{\circ} 57' 30''$ E., along said title line from an iron spike in the Easterly line of land now or formerly of A. Harold Lacock; thence North $82^{\circ} 57' 30''$ East along the Southerly line of said parcel of land conveyed as aforesaid to Findlay Clay Products Company and along the Southerly line of the parcel of land containing 2.313 acres, more or less, the distance of 98.39 feet to an iron spike in the Southeasterly corner of said last mentioned parcel of land to the PLACE OF BEGINNING.

East of Water Street:

BEGINNING at a point at the northeasterly corner of property herein designated as Parcel B, said point of beginning also being the southerly line of Caldwell Avenue, forty (40) feet wide, where the same is intersected by the easterly line of Water Street, forty (40) feet wide. This area contains two parcels of property herein described as Parcel B and Lot 36. Forward from the beginning point and along the easterly line of said Water Street S $8^{\circ} 15' W$ one hundred forty and eleven hundredths (140.11) feet to a point where the easterly line of said Water Street intersects the northerly line of a twenty (20) foot alley; thence along the northerly line of said alley S $86^{\circ} 00' E$ thirty-one and twenty hundredths (31.20) feet to a point where the northerly line of the said twenty foot alley intersects the westerly line of the I-79 service road of undefined width; thence along the

westerly line of said service road N 43° 27' E fifty-one and thirty-two hundredths (51.32) feet to a point thence along same and by the arc of a curve to the left having a radius of one hundred thirty and no hundredths (130.00) feet, a distance of two and sixty-two hundredths (2.62) feet to a point; continuing along the Easterly border of Lot 36; thence along N 86° 00' W sixty and no hundredths (60.00) feet to a point, the PLACE OF BEGINNING.

East of Service Road and South of Caldwell Street:

BEGINNING at the corner of the intersection between the southerly line of Caldwell Avenue and the Easterly line of Service Road Number Two the parcel section is made up of two deeds, lot 34 and lot 35. Fronting 30 feet on Caldwell Avenue and extending back of equal width therefrom, 140 foot to First Alley, bounded on the North by Caldwell Avenue; on the East by lot No. 34; on the South by First alley and on the West by Lot No. 36. The Northerly and Easterly portion of the two lots are contained in Lot 34. Beginning at the northwest corner of Lot 34, being in the South right-of-way line of Caldwell Avenue, having a 40 foot right-of-way; thence south 82° 30' East, along the south right-of-way of said Caldwell Avenue to the right-of-way of said limited access highway, a distance of 39.40 feet; thence South 36° 37' 49'' West, departing the South right-of-way of said Caldwell Avenue and along the right-of-way of said limited access highway to the west line of said Lot 34, a distance 80.94 feet; forward 70.70 feet North along the Eastern side of Lot 35 ending at the PLACE OF BEGINNING.

South of First Alley and East of Service Road No. 2:

BEGINNING at the corner of the Easterly boundary of Service Road No. 2 and South of Ellis Avenue the parcel section contains deeds of lot 74 and lot 75. Lot 74 fronts 30 foot on Ellis Avenue and extends back of equal width therefrom 140 foot to First Alley, being bounded on the North by First Alley, on the East by Lot 75, on the South by Ellis Avenue, and on the West by Lot 73. Lot 75, being bounded on the West by Water Street, on the East by Ellis Avenue, and on the North by Service Road Number Two abuts Lot 74 along Service Road Number Two to the PLACE OF BEGINNING.

Section 3 – East of Green Avenue:

Lots 306,307,308,309 west line of I-70

BEGINNING at a point, said point being the intersection of Green Avenue and an alley; thence extending along said Green Avenue, North 1° West 108 feet, more or less, to a point; thence North 65° East 100 feet, more or less, to a point on the diving line between Lot No. 309 and Lot No. 310; South 27° East 20 feet, more or less, to a point; thence South 36° West 165 feet, more or less, to a point, the PLACE OF BEGINNING.

Lots 499, 498,497 between Greene Avenue and Griffith Avenue just north of the 20 foot road

BEGINNING at the Northwesterly point of Lot No. 499 on the Eastern side of Greene Avenue continuing East 203.8 feet to the Western boundary of Griffith Avenue; thence South 10 feet; thence Southwesterly towards Lot No. 498; thence West 72.9 feet, hereforth South 3 feet and completing the 100 foot West distance to the Easterly boundary of Greene Avenue. Thence North 3 feet to a point and continuing 30 feet further North to the PLACE OF BEGINNING.

Lots 487-496 between Greene, Griffith, and Wayne Street

BEGINNING at the point between Lot No. 495 and Lot No. 494 at the Northwesterly point of the combined property begin east 180 feet across Lot Numbers 489, 490, 491, 492, 493, and 494 in the reverse order; thence continuing in an Easterly direction along the southerly line of Alley B the distance of 60 feet to a point in the Westerly line of Griffith Avenue; thence in a southerly direction along the Westerly line of Griffith Avenue the distance of 75 feet. Thence from the point by line of Griffith Avenue continue 75 feet to a point. At a point, the Northerly line of Wayne Street and the Westerly line of Griffith Avenue; thence by line of Wayne Street, 60 feet to line of Lot No. 489 in said plan. In a Southwesterly direction, 50 feet, more or less, to a point on the northerly side of Wayne Street; thence along the northerly side of Wayne Street in a westerly direction, a distance of 40 feet, more or less, to a point on the dividing line between Lots. 491 and 492 in said Plan. Thence, continuing 30 feet southwesterly to the point between Lots 492 and 493. Thence continuing along the Northern line of Wayne Street 131.4 feet across Lots 493, 494, 495 and 496 to a point intersection Wayne Street and Greene Avenue on the northern eastern border; continuing north along the triangular property of Lot No. 494 46 feet to the border before Lot No. 495 and 65 feet to the northwesterly point of the combined property area, the PLACE OF BEGINNING.

BEGINNING at the Northwesterly point of Lot No. 24 as designated by Canton Township, Washington County, Pennsylvania moving east 30 feet to the boundary of Lot No. 23, thence south 140 feet to the Northern boundary of the alley; thence 30 feet west to the boundary of Lot No. 25, from this point north 140 feet to the southern boundary of Caldwell Avenue to the PLACE OF BEGINNING.

BEGINNING at an iron pin three feet West of the center of the Public Road at a corner common to lands now or formerly of Gordon Land Company, Jessop Steel Company, Manor Realty Estate and Trust Company and the tract hereby conveyed; thence along the Township Road and lands now or formerly of Manor Real Estate and Trust Company, South $10^{\circ} 58'$ West, 493.9 feet to an iron pin on the West side of said Road; thence by same, South $20^{\circ} 52'$ East, 547.2 feet to an iron pin on the East side of said road; thence by lands formerly of A. A. Lacock, North $76^{\circ} 56'$ West, 787.9 feet to an iron pin; thence by lands now or formerly of Mark Karoula, North $22^{\circ} 39'$ East, 1042.84 feet to a stone; thence by lands now or formerly of Gordon Land Company, South $61^{\circ} 51'$ East 304.6 feet to the place of beginning, passing through a concrete monument 22.5 feet to the PLACE OF BEGINNING.

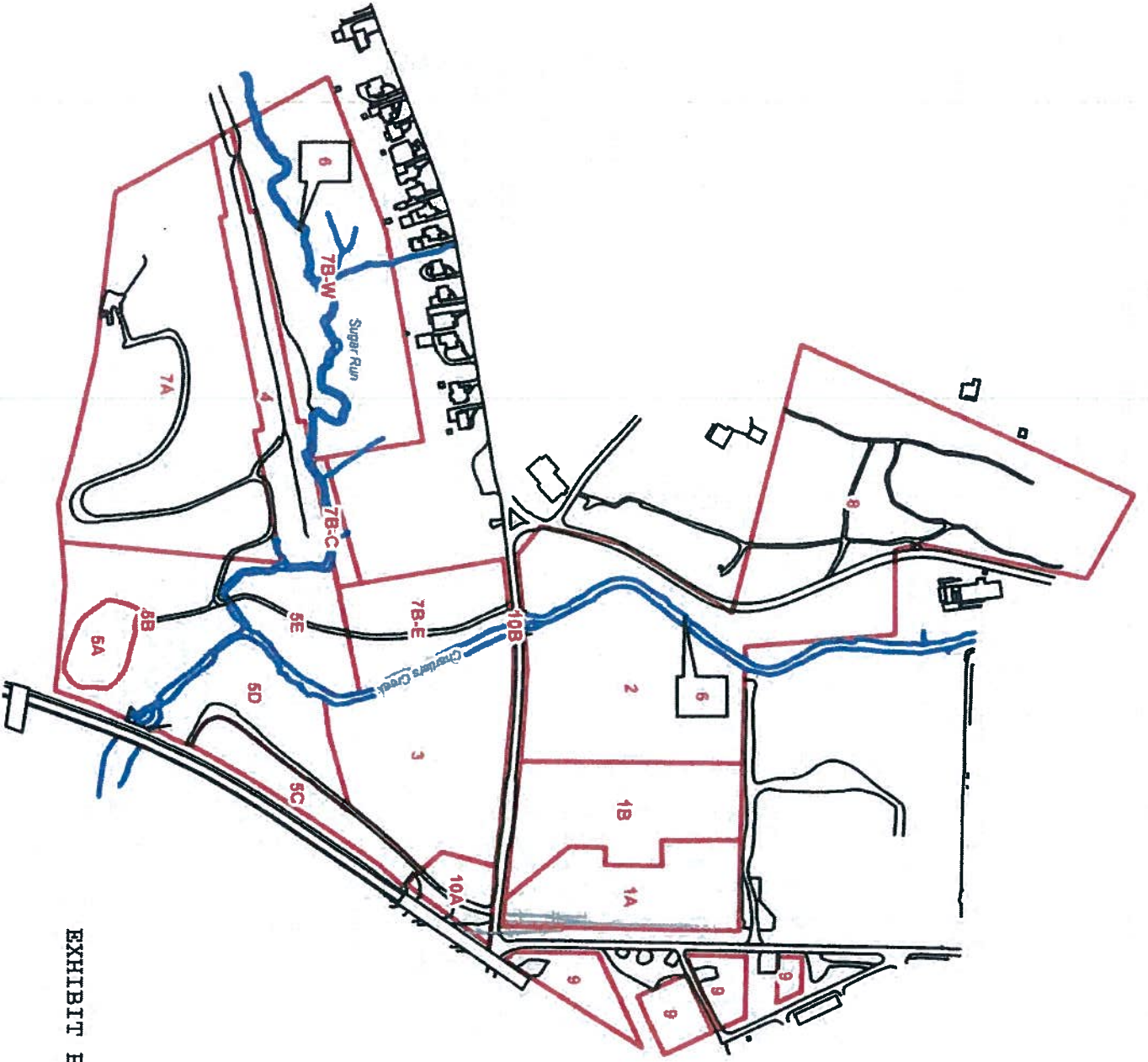
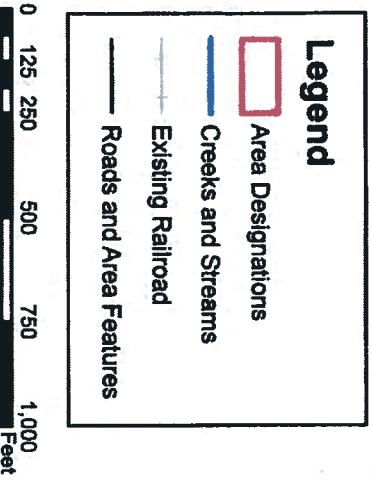
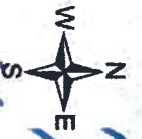


EXHIBIT B



Area Extent Coordinate Points

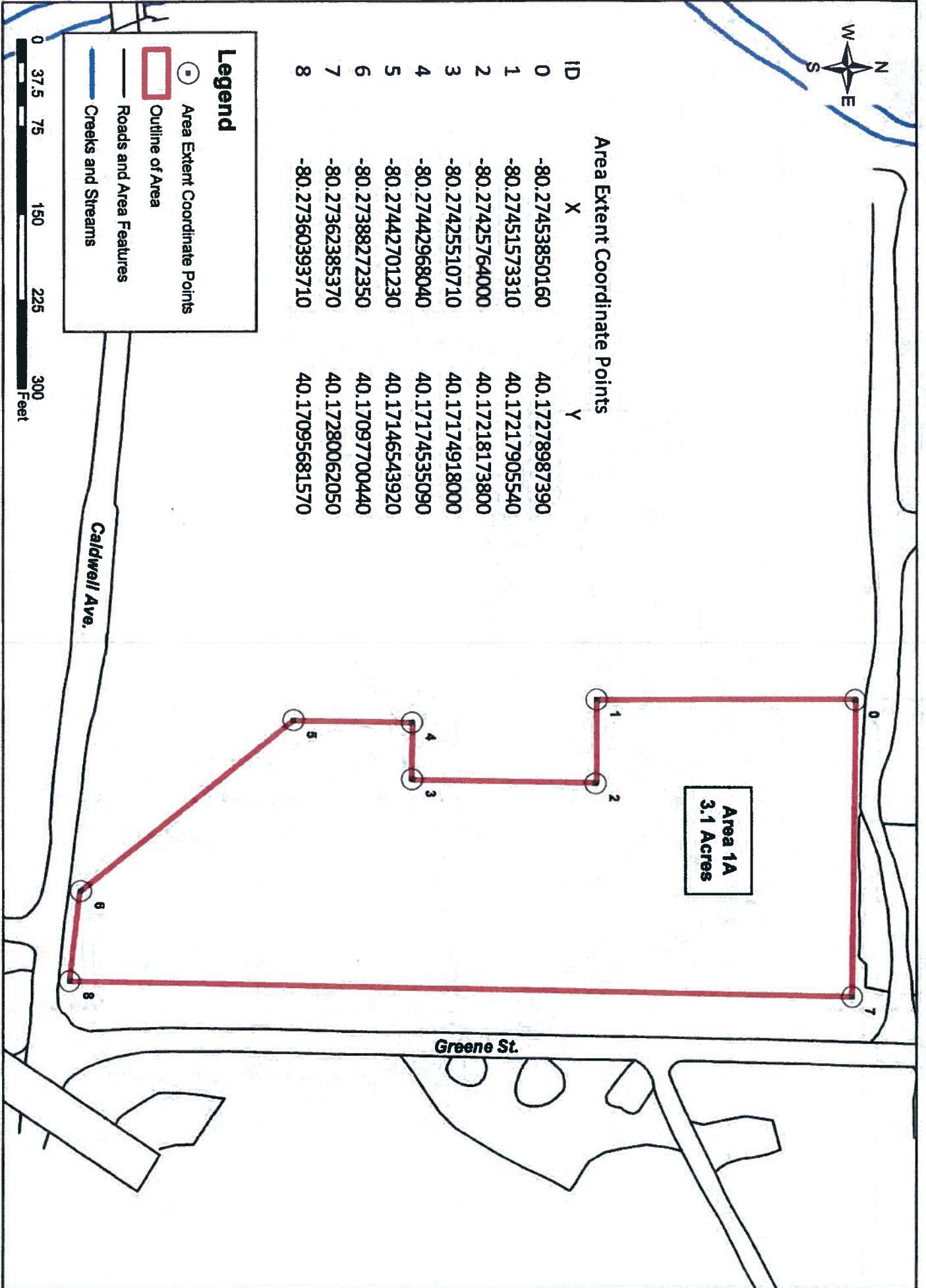
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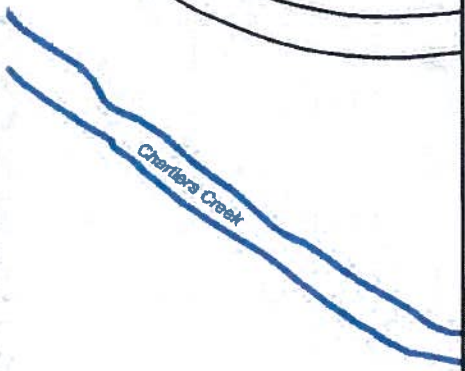
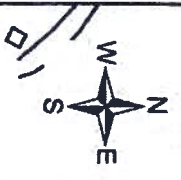
Legend

- Area Extent Coordinate Points
- Outline of Area
- Roads and Area Features
- Creeks and Streams



Area 1A
3.1 Acres





Area Extent Coordinates

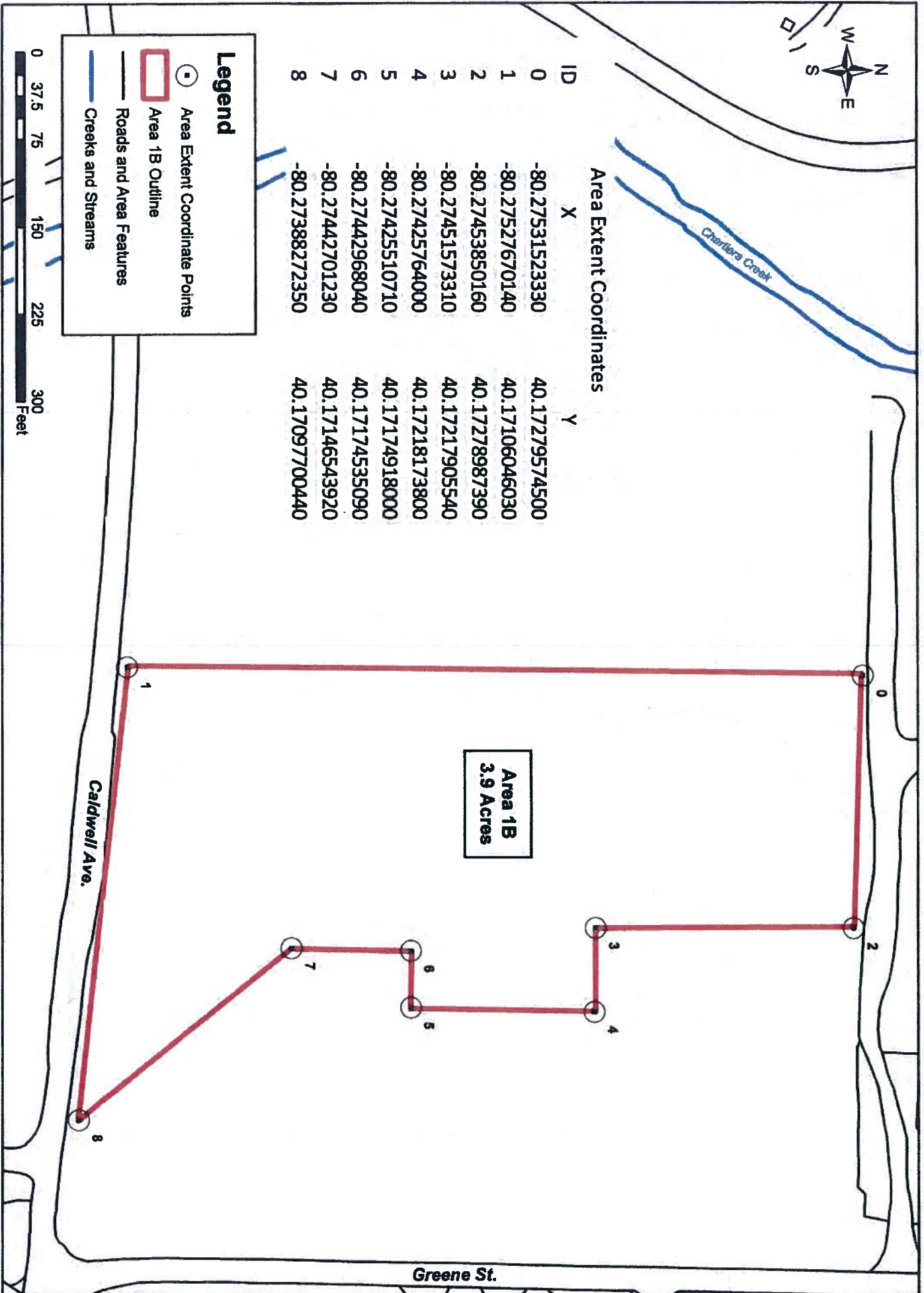
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Legend

- Area Extent Coordinate Points
- Area 1B Outline
- Roads and Area Features
- Creeks and Streams

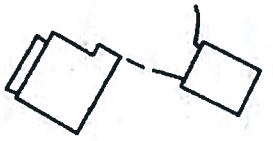


**Area 1B
3.9 Acres**



Molycorp Washington Remediation Project
Extent of Area Information





Area 1B
Outline of Area, Major Corner Points, and Acreage

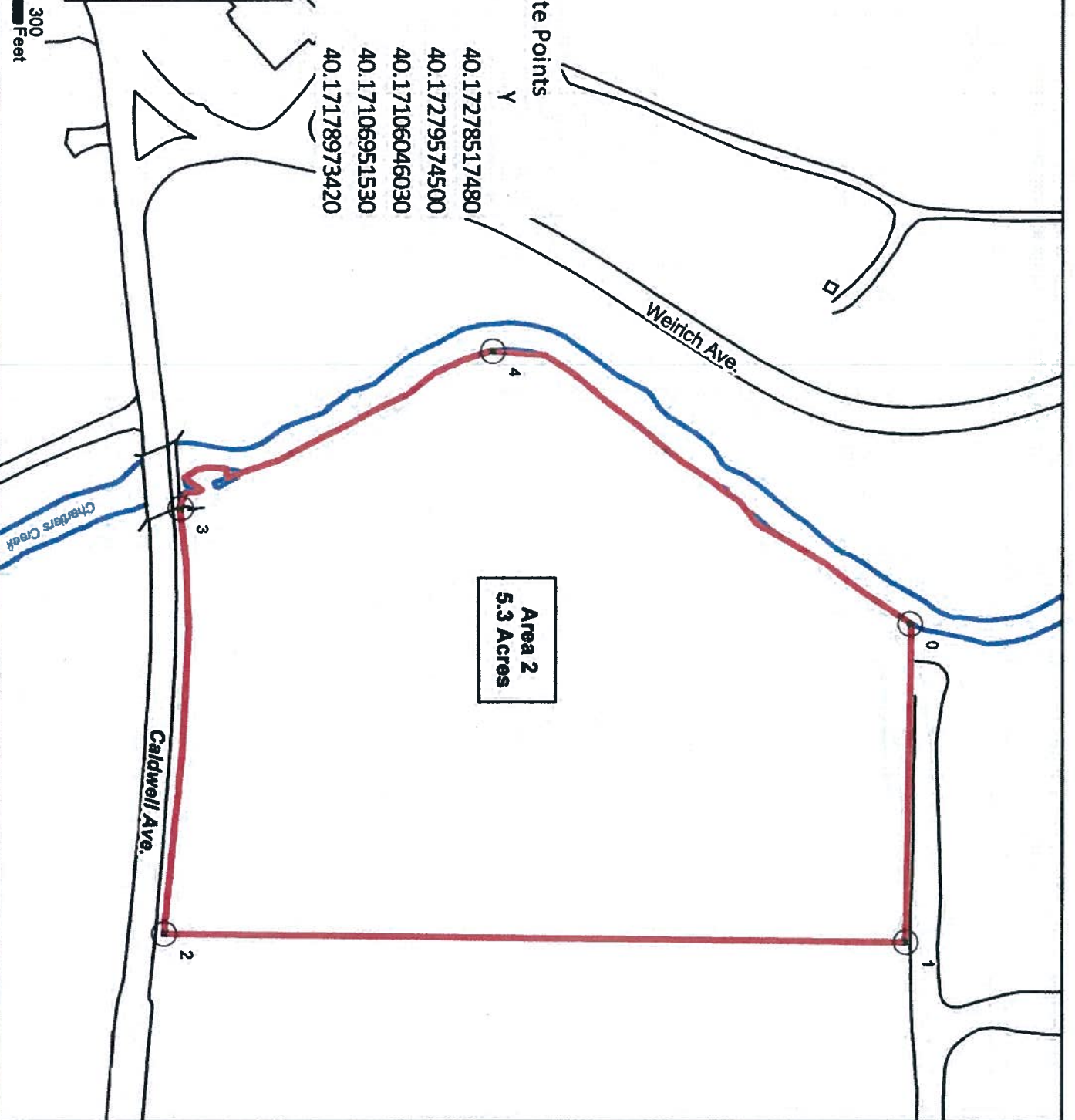


Area Extent Coordinate Points

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Legend

-  Area Extent Coordinate Points
-  Outline of Area 2
-  Roads and Area Features
-  Creeks and Streams



Area 2
5.3 Acres



Molycorp Washington Remediation Project
Extent of Area Information

Area 2
Outline of Area, Major Corner Points, and Acreage

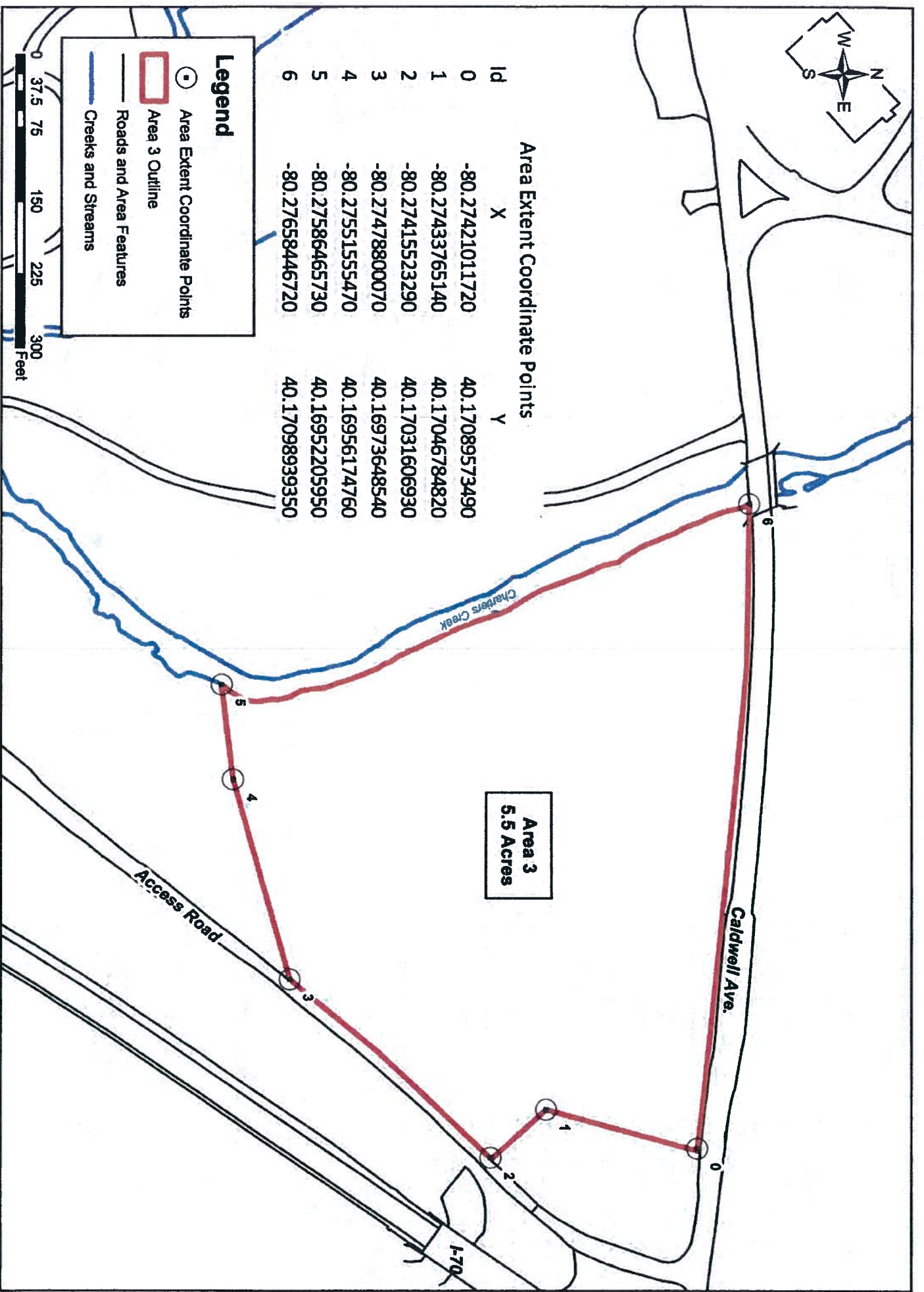


Area Extent Coordinate Points

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Legend

- Area Extent Coordinate Points
- Area 3 Outline
- Roads and Area Features
- Creeks and Streams

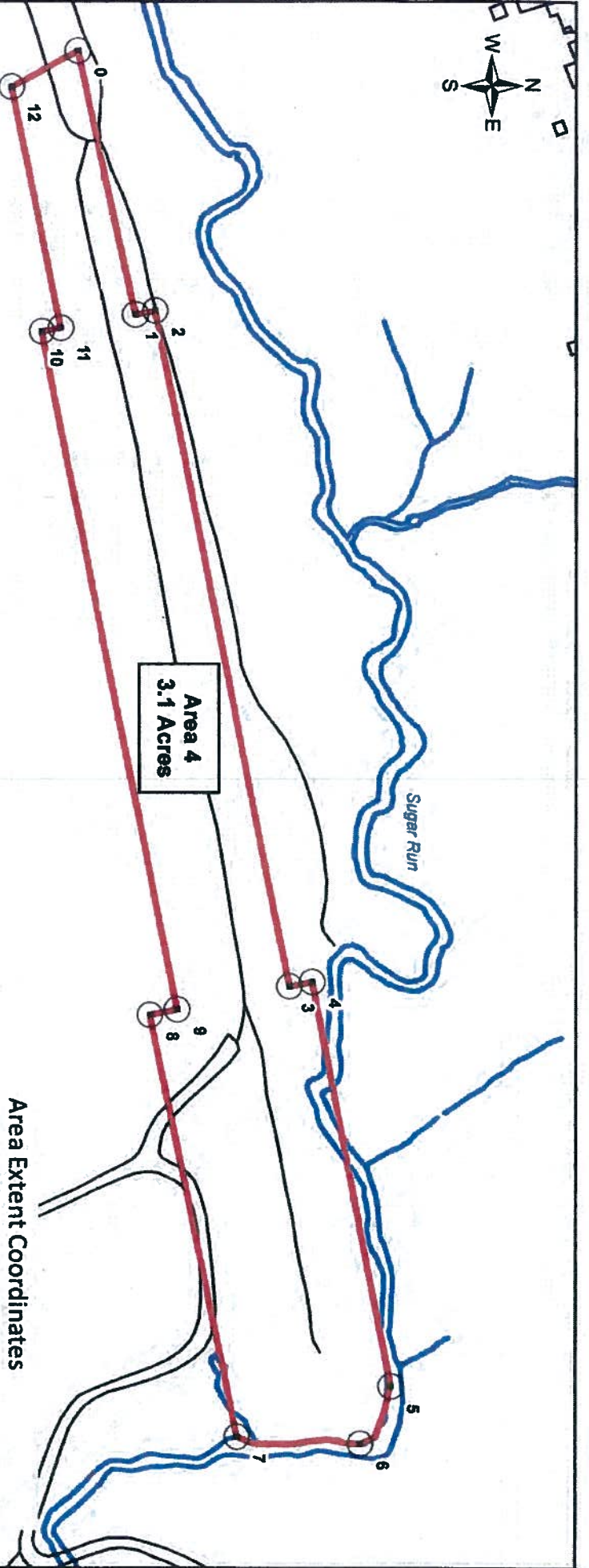


Area 3
5.5 Acres



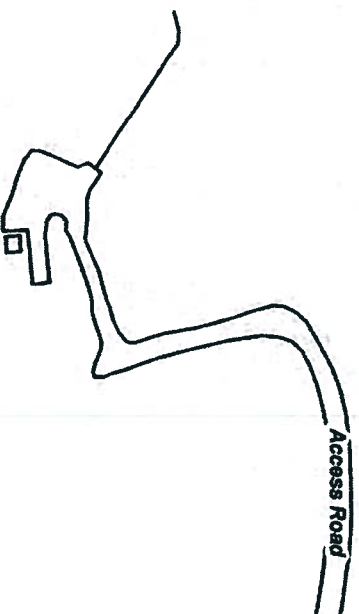
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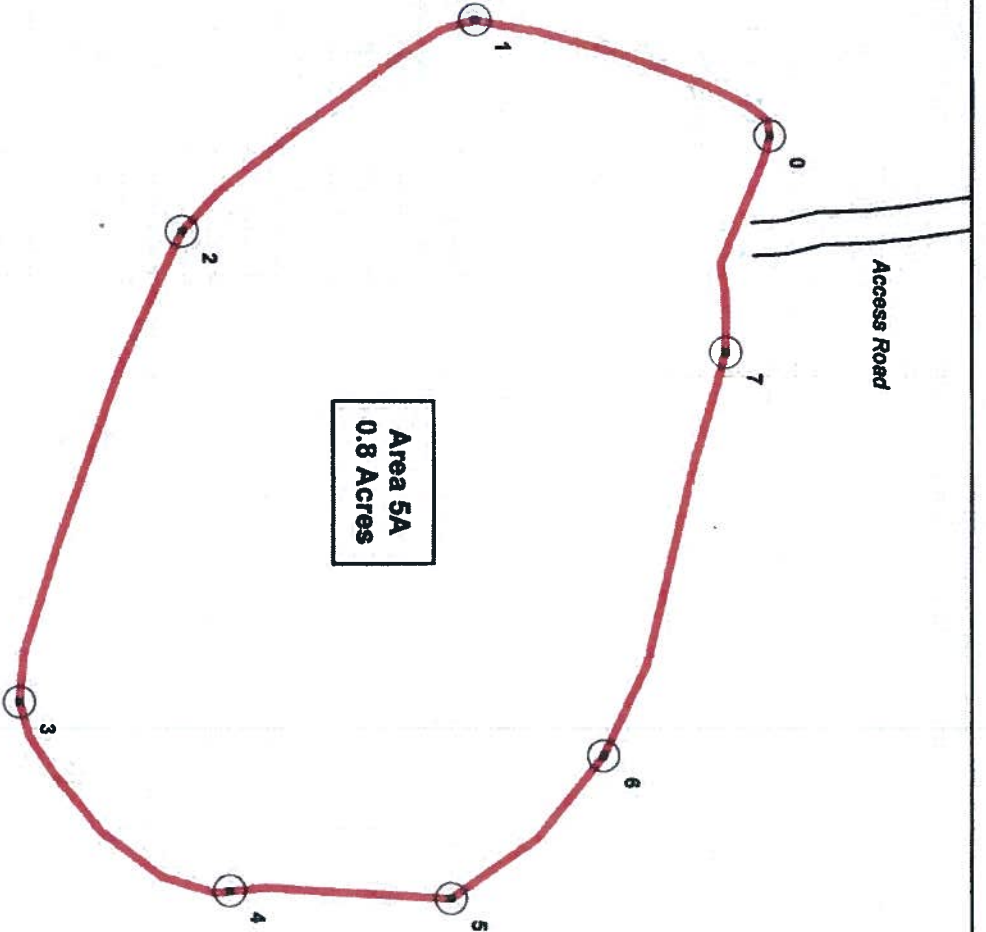
- Area Extent Coordinate Points
- Area 4 Outline
- Roads and Area Features
- Creeks and Streams



Area 4
3.1 Acres

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Legend

- Area Extent Coordinate Points
- Area 5A Outline
- Roads and Area Features
- Creeks and Streams



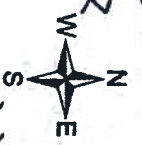
Area 5A
0.8 Acres

Area Extent Coordinate Points		
Id	X	Y
0	-80.27669275750	40.16806033820
1	-80.27680165550	40.16782898710
2	-80.27657936490	40.16760648890
3	-80.27609764100	40.16749094400
4	-80.27591205440	40.16765840220
5	-80.27591066910	40.16783011130
6	-80.27606025370	40.16794538760
7	-80.27647250190	40.16803135690



Molycorp Washington Remediation Project
Extent of Area Information

Area 5A
Outline of Area, Major Corner Points, and Acreage

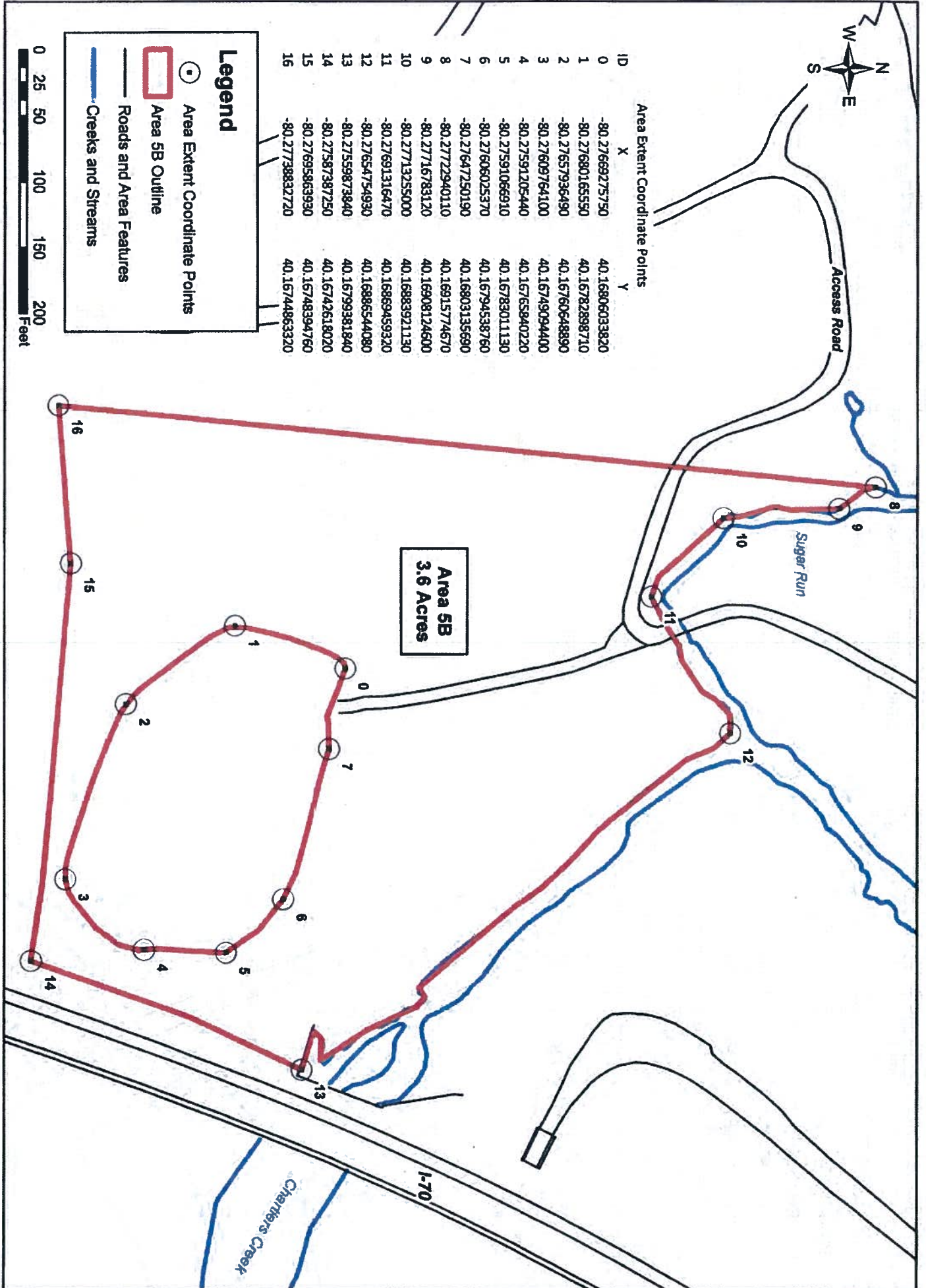


Area Extent Coordinate Points

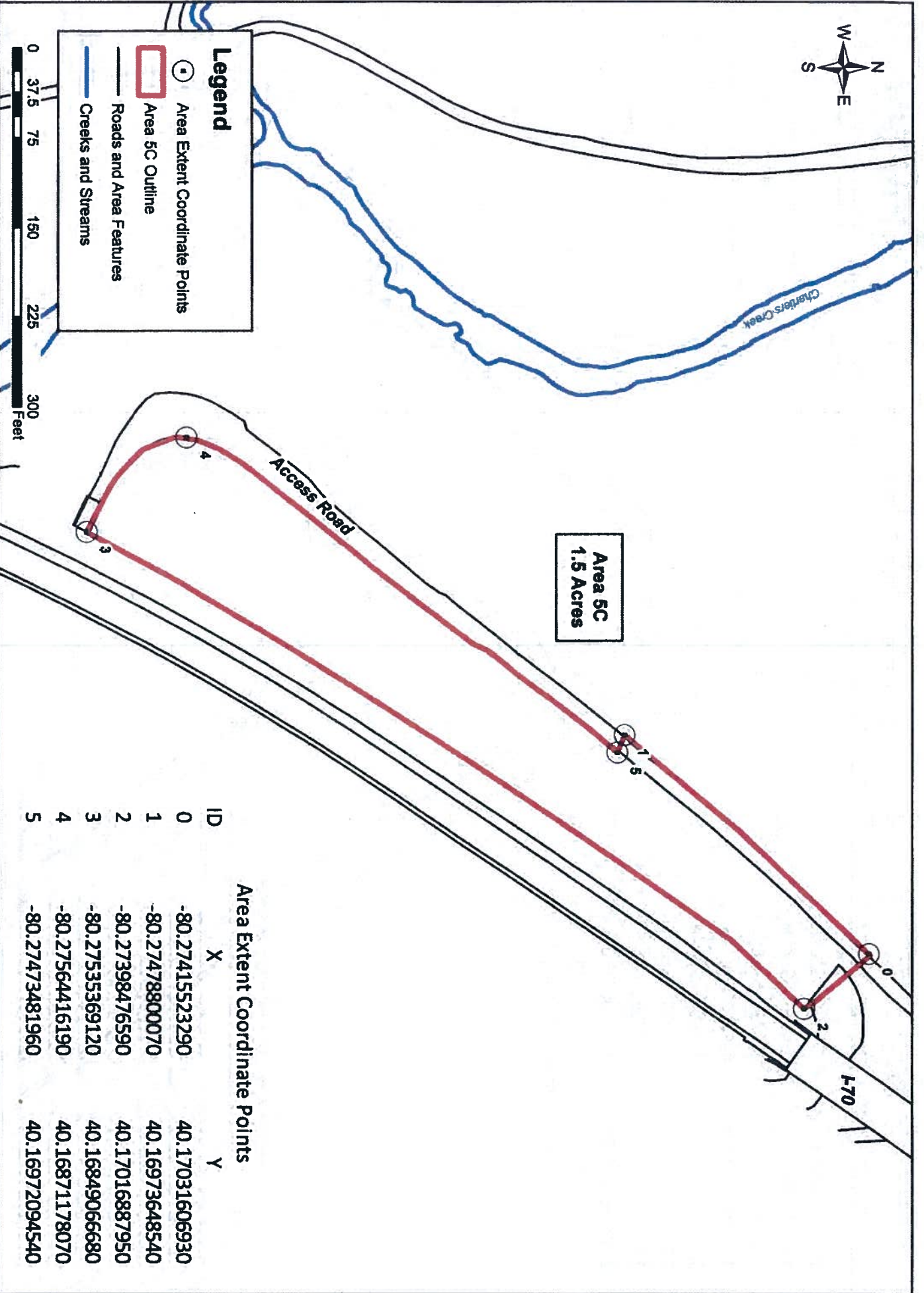
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1	-80.27680165550	40.16782898710
2	-80.27657936490	40.16760648890
3	-80.27609764100	40.16749094400
4	-80.27591205440	40.16765940220
5	-80.27591066910	40.16783011130
6	-80.27606025370	40.16794538760
7	-80.27647250190	40.16803135690
8	-80.27722940110	40.16915774670
9	-80.27716783120	40.16908124600
10	-80.27713255000	40.16883921130
11	-80.27691316470	40.16869459320
12	-80.27654754930	40.16886544080
13	-80.27559873840	40.16799381840
14	-80.27587387250	40.16742618020
15	-80.27695863930	40.16748394760
16	-80.27738832720	40.16744863320

Legend

- Area Extent Coordinate Points
- Area 5B Outline
- Roads and Area Features
- Creeks and Streams



Area 5B
3.6 Acres



Legend

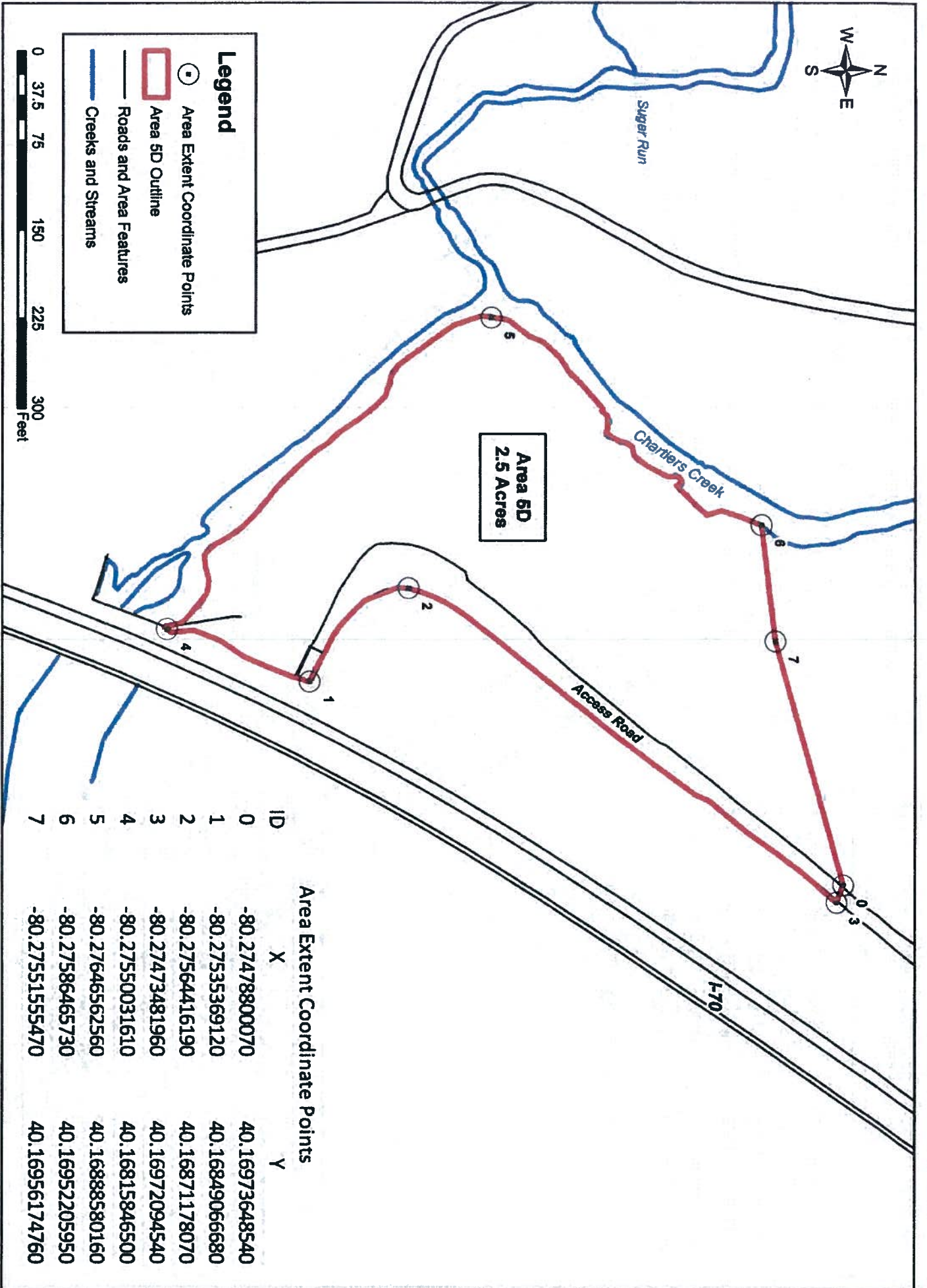
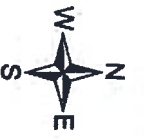
- Area Extent Coordinate Points
- Area 5C Outline
- Roads and Area Features
- Creeks and Streams



**Area 5C
1.5 Acres**

Area Extent Coordinate Points

ID	X	Y
0	-80.27415523290	40.17031606930
1	-80.27478800070	40.16973648540
2	-80.27398476590	40.17016887950
3	-80.27535369120	40.16849066680
4	-80.27564416190	40.16871178070
5	-80.27473481960	40.16972094540



Legend

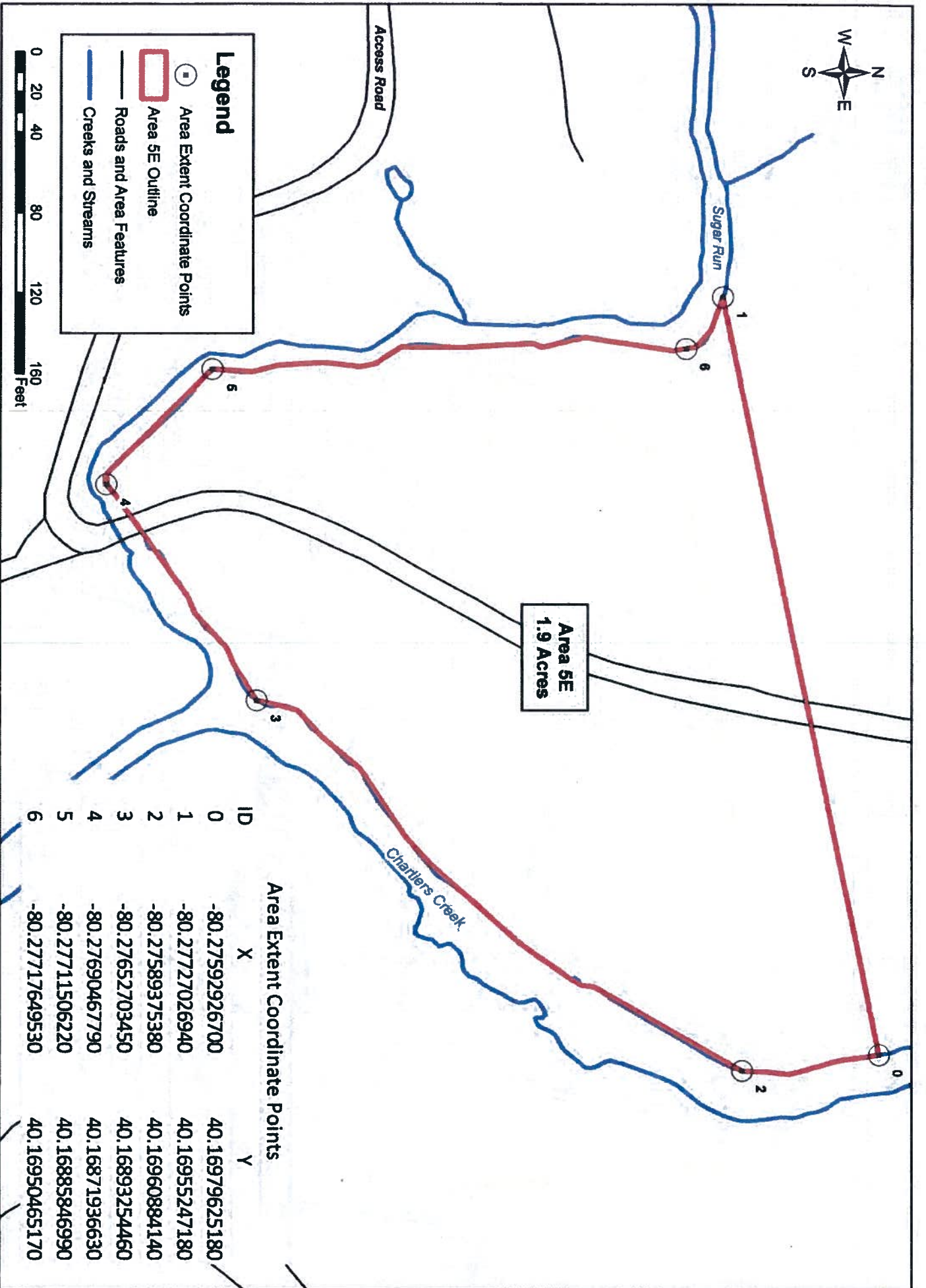
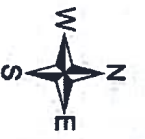
- Area Extent Coordinate Points
- Area 5D Outline
- Roads and Area Features
- Creeks and Streams



**Area 5D
2.5 Acres**

Area Extent Coordinate Points

ID	X	Y
0	-80.2747880070	40.16973648540
1	-80.27535369120	40.16849066680
2	-80.27564416190	40.16871178070
3	-80.27473481960	40.16972094540
4	-80.27550031610	40.16815846500
5	-80.27646562560	40.16888580160
6	-80.27586465730	40.16952205950
7	-80.27551555470	40.16956174760



Legend

- Area Extent Coordinate Points
- Area 5E Outline
- Roads and Area Features
- Creeks and Streams

Area 5E
1.9 Acres

Area Extent Coordinate Points

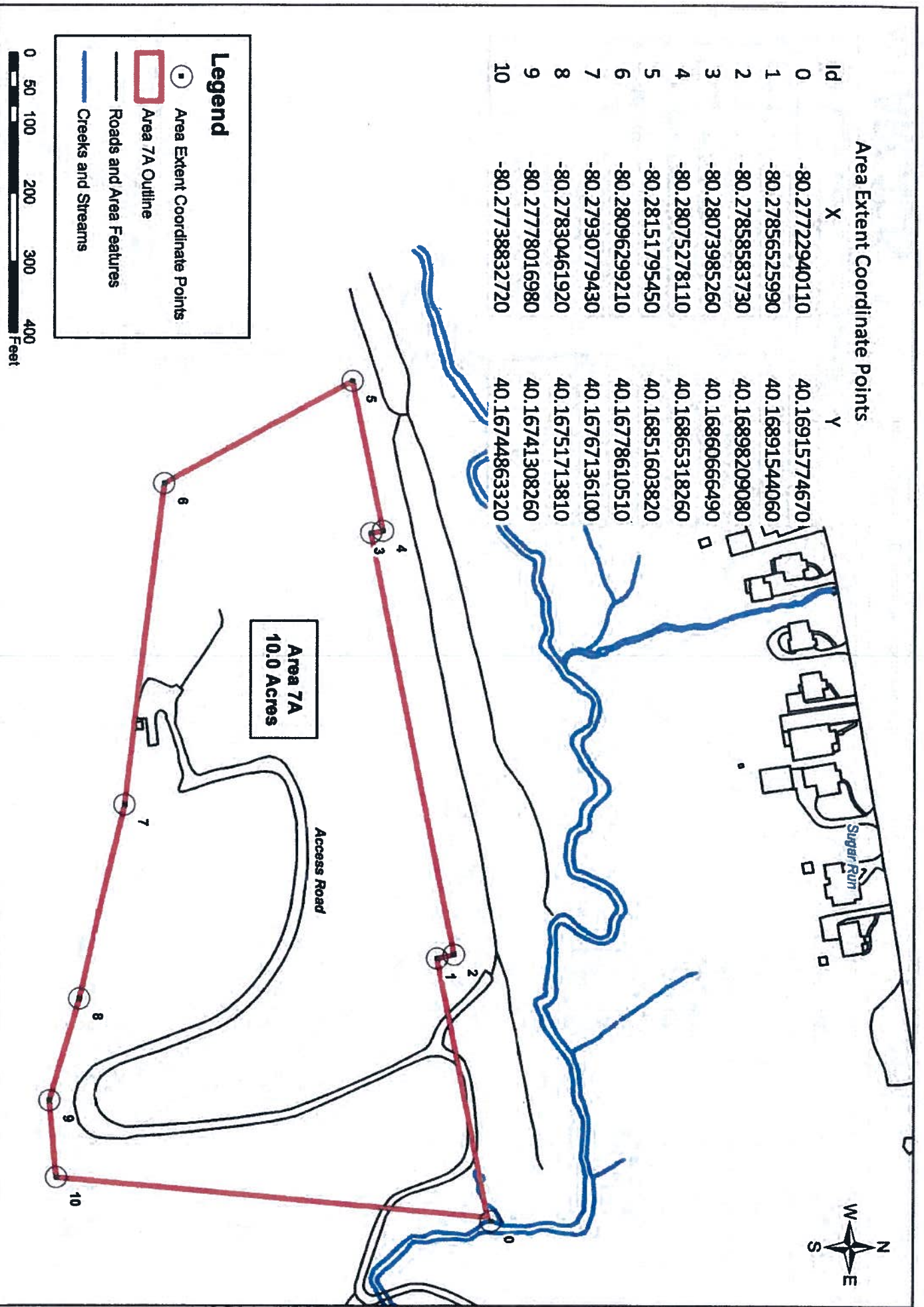
ID	X	Y
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2	-80.27589375380	40.16960884140
3	-80.27652703450	40.16893254460
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6	-80.27717649530	40.16950465170

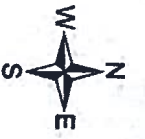


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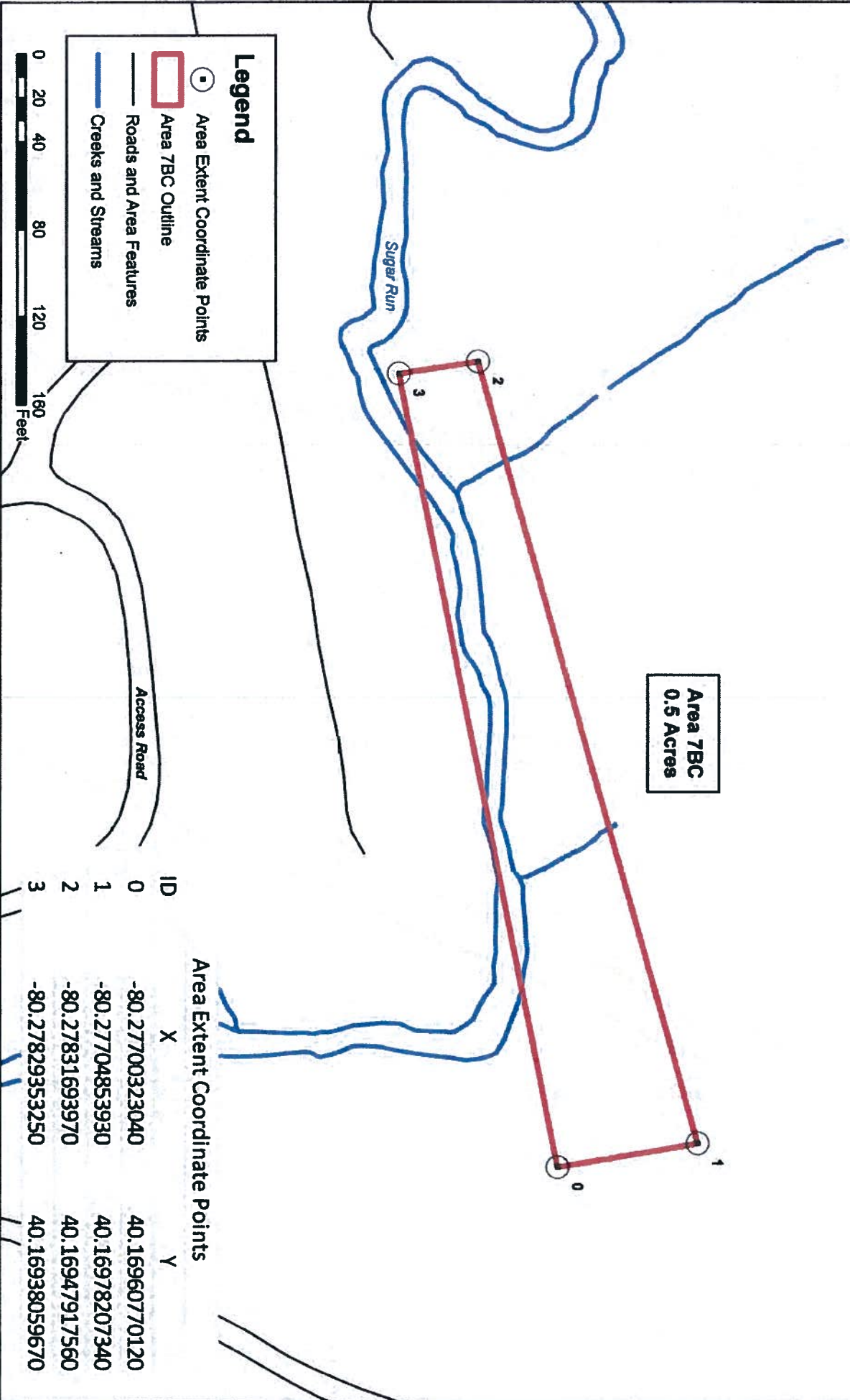
Molycorp Washington Remediation Project
Extent of Area Information

Area 5E
Outline of Area, Major Corner Points, and Acreage





Area 7BC
0.5 Acres



Legend

- Area Extent Coordinate Points
- Area 7BC Outline
- Roads and Area Features
- Creeks and Streams



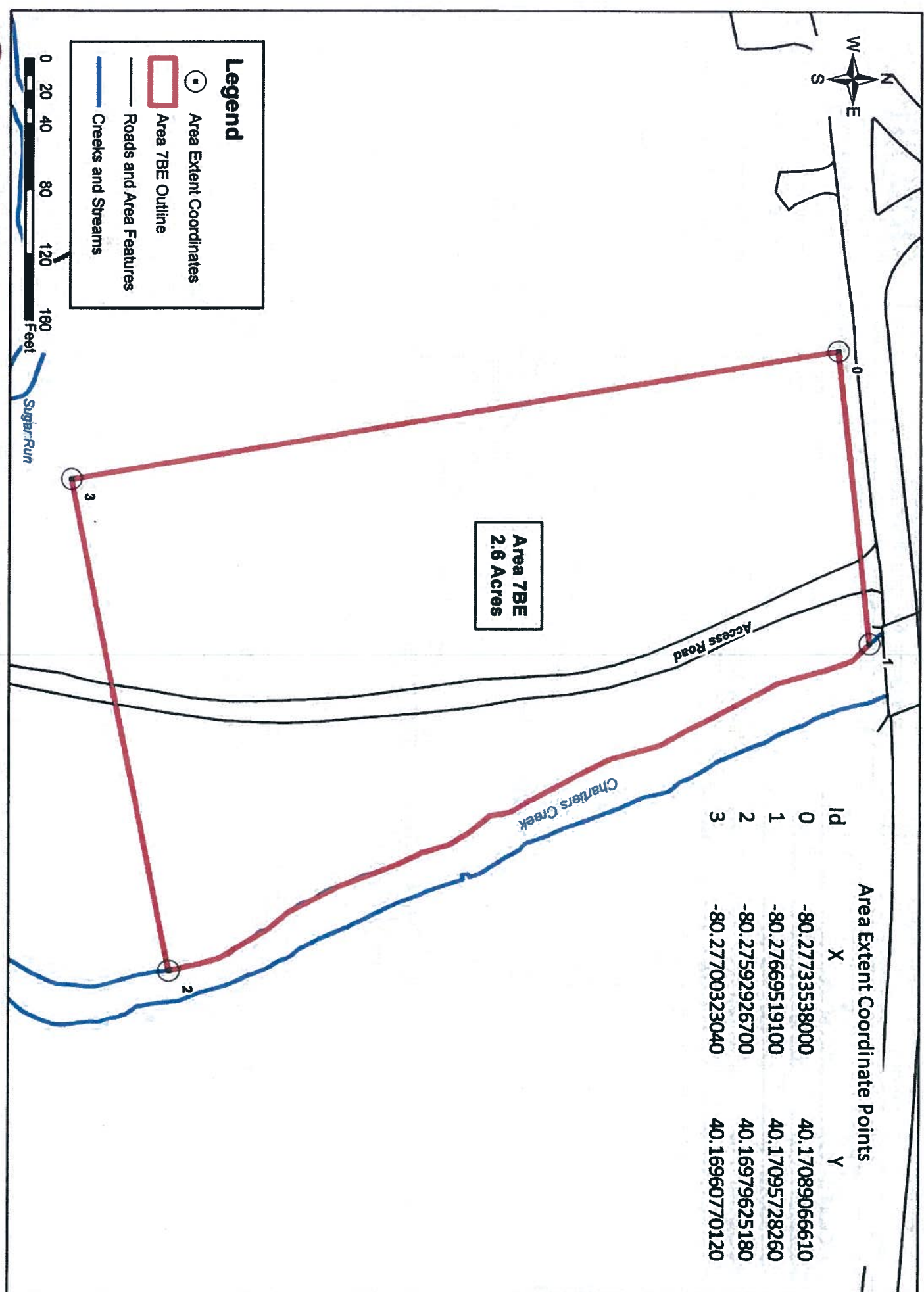
ID	X	Y
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1	-80.27704853930	40.16978207340
2	-80.27831693970	40.16947917560
3	-80.27829353250	40.16938059670

Area Extent Coordinate Points



Molycorp Washington Remediation Project
Extent of Area Information

Area 7BC
Outline of Area, Major Corner Points, and Acreage



**Area 7BE
2.6 Acres**

Area Extent Coordinate Points		
Id	X	Y
0	-80.27733538000	40.17089066610
1	-80.27669519100	40.17095728260
2	-80.27592926700	40.16979625180
3	-80.27700323040	40.16960770120

Legend

- Area Extent Coordinates
- Area 7BE Outline
- Roads and Area Features
- Creeks and Streams





Weirich Ave.

**Area 7BW
7.9 Acres**

Sugar Run

Access Road

Legend

- Area Extent Coordinate Points
- Area 7BW Outline
- Roads and Area Features
- Creeks and Streams



ID	X	Y
0	-80.27829353250	40.16938059670
1	-80.27868550670	40.16931127080
2	-80.27866986570	40.16925610440
3	-80.28081613230	40.16888078710
4	-80.28080215370	40.16883298780
5	-80.28163876950	40.16867616770
6	-80.28219434100	40.16941218250
7	-80.28064663190	40.16990577620
8	-80.27851326470	40.17023285700

Area Extent Coordinate Points

Molycorp Washington Remediation Project
Extent of Area Information





Area 7BW
Outline of Area, Major Corner Points, and Acreage

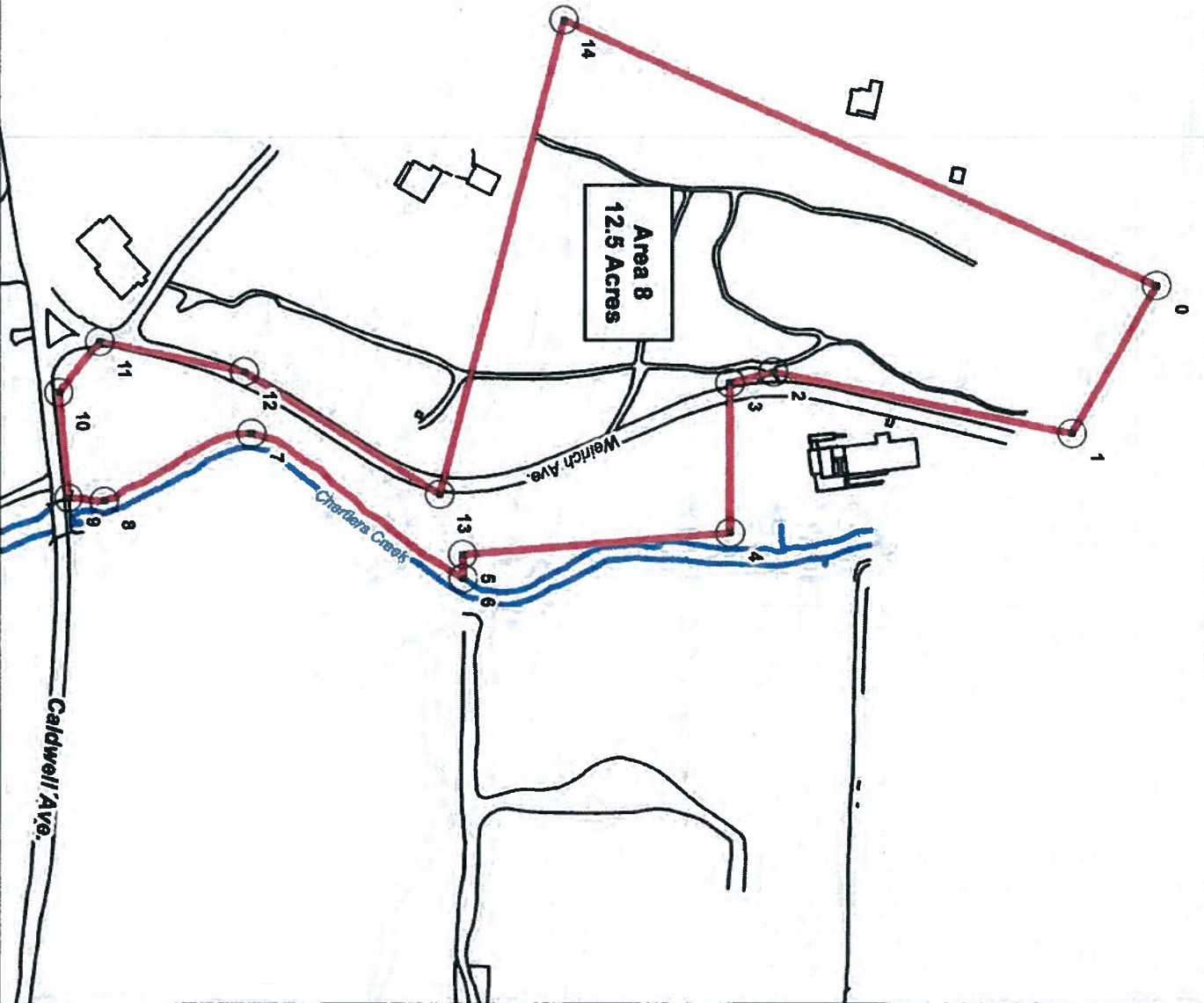


Area Extent Coordinate Points

ID	X	Y
0	-80.27817429390	40.17580545500
1	-80.27730737830	40.17544984260
2	-80.27760954610	40.17412643010
3	-80.27753946040	40.17393925210
4	-80.27668088110	40.17395810400
5	-80.27651118870	40.17278752850
6	-80.27637596740	40.17279134790
7	-80.27717142420	40.17184542940
8	-80.27676166610	40.17121072690
9	-80.27677283450	40.17105419190
10	-80.27737780690	40.17099689860
11	-80.2767664220	40.17117289390
12	-80.27752505390	40.17180770160
13	-80.27685158290	40.17267846650
14	-80.27959915130	40.17316337410

Legend

-  Area Extent Coordinate Points
-  Area 8 Outline
-  Roads and Area Features
-  Creeks and Streams



Area 8
12.5 Acres

Weitch Ave.

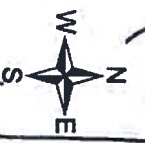
Cherbers Creek

Caldwell Ave.



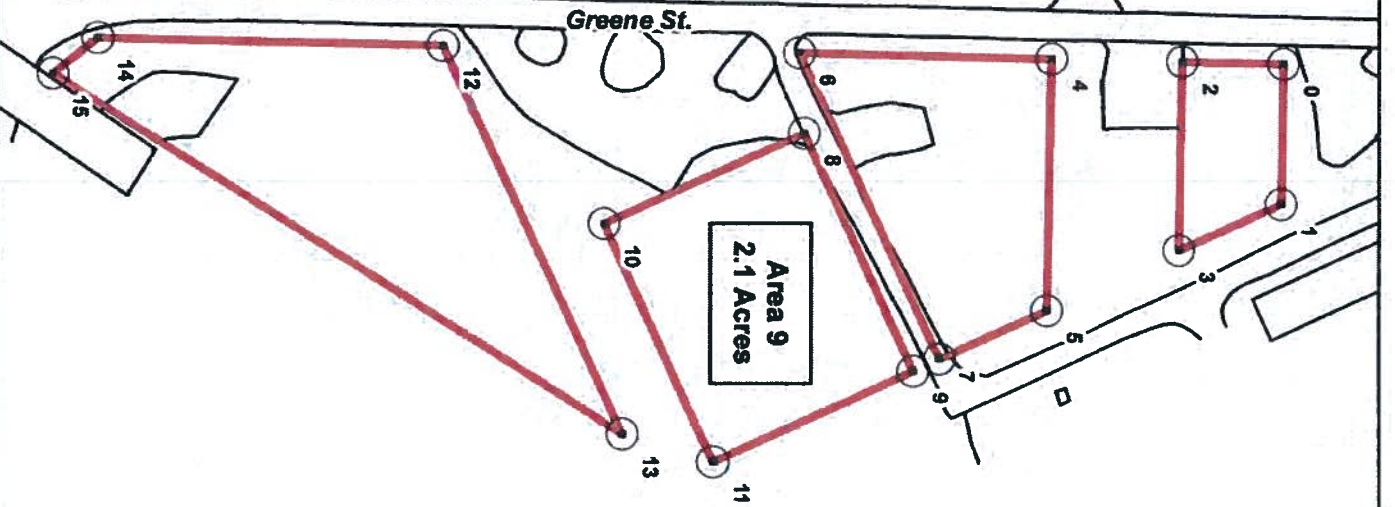
Molycorp Washington Remediation Project
Extent of Area Information

Area 8
Outline of Area, Major Corner Points, and Acreage



Legend

- Area Extents Coordinate Points
- Area 9 Outline
- Roads and Area Features
- Creeks and Streams



Area Extents Coordinate Points

ID	X	Y
0	-80.27337335720	40.17329828310
1	-80.27302867860	40.17300047310
2	-80.27337128210	40.17310613350
3	-80.27290596210	40.17310908920
4	-80.27336861460	40.17285908380
5	-80.27274818630	40.17286302460
6	-80.27336348070	40.17238274410
7	-80.27262008770	40.17266323950
8	-80.27316649120	40.17239588880
9	-80.27258849970	40.17261397410
10	-80.27292957920	40.17202640200
11	-80.27235159010	40.17224448620
12	-80.27335624270	40.17171245250
13	-80.27241295170	40.17207185860
14	-80.27334980520	40.17106365350
15	-80.27325907050	40.17098031780

Molycorp Washington Remediation Project
Extent of Area Information

Area 9
Outline of Area, Major Corner Points, and Acreage



Caldwell Ave.

Greene St.

Area 10A
0.9 Acres

H-70

Access Road

Legend

- Area Extent Coordinate Points
- Area 10A Outline
- Roads and Area Features
- Creeks and Streams



ID	Area Extent Coordinate Points	
	X	Y
0	-80.27421011720	40.17089573490
1	-80.27340208070	40.17086290810
2	-80.27433765140	40.17046784820
3	-80.27400773050	40.17019334120



Molycorp Washington Remediation Project
Extent of Area Information

Area 10A
Outline of Area, Major Corner Points, and Acreage

Summary Showing Which Groundwater Standard is Attained by Constituents
MolyCorp Washington Remediation Project

Constituent	Attained Groundwater Standard
Polycyclic Aromatic Hydrocarbons	
Acenaphthene	Residential
Acenaphthylene	Residential
Anthracene	Residential
Benzo(a)anthracene	Residential
Benzo(a)pyrene	Residential
Benzo(b)fluoranthene	Residential
Benzo(ghi)perylene	Residential
Benzo(k)fluoranthene	Residential
Chrysene	Residential
Dibenz(a,h)anthracene	Residential
Fluoranthene	Residential
Fluorene	Residential
Indeno(1,2,3-cd)pyrene	Residential
Naphthalene	Residential
Phenanthrene	Residential
Pyrene	Residential
Metals	
Aluminum	Residential
Antimony	Site Specific
Arsenic	Site Specific
Barium	Residential
Beryllium	Residential
Boron	Site Specific
Cadmium	Residential
Chromium	Residential
Cobalt	Residential
Copper	Residential
Iron	Site Specific
Lead	Site Specific
Manganese	Site Specific
Mercury	Site Specific
Molybdenum	Site Specific
Nickel	Residential
Selenium	Site Specific
Silver	Residential
Thallium	Site Specific
Tin	Residential
Vanadium	Residential
Zinc	Residential

Notes:

Residential = Attains the Used Aquifer Residential Medium Specific Concentrations

Site Specific = Environmental Covenant restricting groundwater use

Summary Showing Which Soil Standard is Attained by Constituents
MolyCorp Washington Remediation Project

Chemical	Attained Soil Standard				
	Areas 1 and 2	Areas 3 and 10a	Areas 5C and 5D	Area 7A	Areas 5E, 7B-E
Volatile Organic Compounds					
Benzene	Residential	Residential	Residential	Residential	Residential
Chloromethane	Residential	Residential	Residential	Residential	Residential
Vinyl chloride	Residential	Residential	Residential	Residential	Residential
Polycyclic Aromatic Hydrocarbons					
Naphthalene	Residential	Residential	Residential	Residential	Residential
2-Methylnaphthalene	Residential	Residential	Residential	Residential	Residential
Acenaphthylene	Residential	Residential	Residential	Residential	Residential
Fluorene	Residential	Residential	Residential	Residential	Residential
Phenanthrene	Residential	Residential	Residential	Residential	Residential
Anthracene	Residential	Residential	Residential	Residential	Residential
Fluoranthene	Residential	Residential	Residential	Residential	Residential
Pyrene	Residential	Residential	Residential	Residential	Residential
Benzo(a)anthracene	Residential	Residential	Non-residential	Non-residential	Residential
Chrysene	Residential	Residential	Residential	Residential	Residential
Benzo(b)fluoranthene	Residential	Residential	Non-residential	Non-residential	Residential
Benzo(k)fluoranthene	Residential	Residential	Residential	Residential	Residential
Benzo(a)pyrene	Residential	Non-residential	Non-residential	Non-residential	Non-residential
Indeno(1,2,3-cd)pyrene	Residential	Residential	Residential	Residential	Residential
Dibenz(a,h)anthracene	Residential	Residential	Residential	Residential	Residential
Benzo(ghi)perylene	Residential	Residential	Residential	Residential	Residential
Carbazole	Residential	Residential	Residential	Residential	Residential
Dibenzofuran	Residential	Residential	Site Specific	Site Specific	Site Specific
Other Semivolatile Organic Compounds					
o-Cresol	Residential	Residential	Residential	Residential	Residential
p-Cresol	Residential	Residential	Residential	Residential	Residential
2,4-Dimethylphenol	Residential	Residential	Residential	Residential	Residential
Hexachlorocyclohexane	Residential	Residential	Residential	Residential	Residential
Pentachlorophenol	Residential	Residential	Residential	Residential	Residential
Phenol	Residential	Residential	Residential	Residential	Residential
1,2,4-Trichlorobenzene	Residential	Residential	Residential	Residential	Residential
Metals					
Aluminum	Residential	Residential	Residential	Residential	Residential
Antimony	Non-residential	Residential	Residential	Residential	Residential
Arsenic	Non-residential	Non-residential	Non-residential	Non-residential	Non-residential
Barium	Residential	Residential	Residential	Residential	Residential
Boron	Non-residential	Non-residential	Non-residential	Residential	Residential
Cadmium	Residential	Residential	Residential	Residential	Residential
Chromium	Non-residential	Residential	Non-residential	Residential	Residential
Cobalt	Non-residential	Residential	Residential	Residential	Residential
Iron	Non-residential	Non-residential	Residential	Non-residential	Non-residential
Lead	Non-residential	Non-residential	Residential	Residential	Residential
Manganese	Non-residential	Residential	Residential	Residential	Residential
Molybdenum	Non-residential	Non-residential	Non-residential	Residential	Residential
Nickel	Residential	Residential	Residential	Residential	Residential
Selenium	Non-residential	Residential	Non-residential	Residential	Residential
Thallium	Non-residential	Residential	Residential	Residential	Residential
Titanium	Residential	Residential	Residential	Residential	Residential
Tungsten	Residential	Residential	Residential	Residential	Residential
Vanadium	Residential	Residential	Residential	Residential	Residential
Zinc	Residential	Residential	Residential	Residential	Residential

Notes:

Non-residential = Attains the Non-residential Soil Medium Specific Concentrations

Residential = Attains the Residential Soil Medium Specific Concentrations

Site Specific = Environmental Covenant restricting groundwater use