



REPORT

LOADOUT INTERMEDIATE ROCK STOCKPILE

TYPE 2.02 GENERAL AQUIFER PROTECTION PERMIT

Notice of Intent and Supplemental Information

Submitted To: Resolution Copper Mining LLC
102 Magma Heights
Superior, Arizona 85273

Submitted By: Golder Associates Inc.
4730 N. Oracle Road, Suite 210
Tucson, AZ 85705 USA

Distribution:
3 Copies – ADEQ
1 Copy – RCML
2 Copies – Golder Associates Inc.



Expires 6/30/12

May 17, 2011

113-92508

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1.0 NOTICE OF INTENT TO DISCHARGE FOR A TYPE 2 GENERAL PERMIT



ARIZONA DEPARTMENT OF ENVIRONMENTAL QUALITY

Water Permits Section

1110 West Washington Street, MC 5415-B3 • Phoenix, Arizona 85007
(602) 771-4428 • www.azdeq.gov

Instructions: Every person who applies for a Type 2 general permit, as provided by Arizona Administrative Code (A.A.C.) Title 18, Chapter 9, Article 3, must file a Notice of Intent to Discharge (NOI) required by A.A.C. R18-9-A301(B). In addition to this form, applicants must complete the appropriate NOI Supplemental Form. A separate NOI form and NOI Supplemental form must be completed for each discharging facility (i.e., unit, discharge point) intended to be covered under a general permit. A person intending to operate under a general permit must comply with all the provisions of the general permit and other applicable requirements of statute and rule.

1. Type 2 General Permits: Requires notification to the agency of activities to be conducted. Persons must: 1) Meet the requirements of Article 3, Part A and the specific terms of the applicable Type 3 General Permit; 2) File the appropriate NOI forms and supplemental information; 3) Pay applicable general permit review fees. Review fees, which are flat rate fees specified in A.A.C. R18-14-102(C), are NONREFUNDABLE; 4) Satisfy any deficiency requests from the Department; and 5) Receive a written Verification of General Permit Conformance from the Department.

2. Type 2 General Permit Notification (check the applicable box):

- ☐ 2.01 Dry Wells that Drain Areas Where Hazardous Substances are Used, Stored, Loaded, or Treated
- ☒ 2.02 Intermediate Stockpiles at Mining Sites
- ☐ 2.03 Hydrologic Tracer Studies
- ☐ 2.04 Dry Wells that Drain Areas Where Motor Fuels are Used, Stored, or Loaded
- ☐ 2.05 Capacity, Management, Operation, and Maintenance of a Sewage Collection System
- ☐ 2.06 Fish Hatchery Discharge to a Perennial surface Water

3. Applicant: Resolution Copper Mining Limited (RCML)

Address:
102 Magma Heights
PO Box 1944
Superior, Arizona 85273

Phone No.: 520/689-9374
Fax No.: 520/689-9304

**4. Contact Person for Facility Operations:** Mr. Jonathan C. Cherry, Vice President

Address:
Resolution Copper Mining Limited
102 Magma Heights
P.O. Box 1944
Superior, Arizona 85273

Phone No.: 520/689-9374
Fax No.: 520/689-9304

5. Name of Owner/Operator responsible for ensuring compliance with this permit if different from No. 3, above:

Same as No. 3.

6. Specify a name, number or other identifier that can be used as a permanent reference to the discharging facility proposed to be covered under this General Permit:

Loadout Intermediate Rock Stockpile, West Plant Site

7. Location of the discharging facility proposed to be covered under this General Permit (**Figure 1**):

a. County: Pinal County, AZ

b. Nearest Community: Superior, AZ

c. Legal Description (please reference the property deed. May be by Township, Range, Section; parcel numbers; metes and bounds; subdivision identifiers, etc. Attach separate page if lengthy):

Facility Name	Facility Location
Loadout Intermediate Rock Stockpile	SW1/4 of NE1/4 of Sec 35 T1S R12E

Latitude/ Longitude:

Facility Name	Facility Location
Intermediate Rock Stockpile	LAT 33.302202° LONG 111.102751°

8. Expected dates of discharge: Date discharges are expected to begin: November 2011. Date discharges are anticipated to cease: December 2019.**9. Existing Environmental Permits:** List all types of state or federal environmental permits already held by the applicant or owner at this location or that are needed for the location: (Attach additional pages if necessary)

**Table 1 Existing Environmental Permits for the Superior Mine**

Type of Permit	Permit Number	Expiration Date	Description
Notice of Disposal		Property Transfer	Filed January 9, 1985
National Pollutant Discharge Elimination System	AZ0020389	January 9, 2016	Release of stormwater at Outfall 001 and Treated Effluent at Outfall 002
Groundwater Withdrawal Permit	59-524492	September 20, 2009	Withdrawal of groundwater not to exceed 5,000 acre/feet/year.
	58-130703	August 18, 2005	Withdrawal of groundwater not to exceed 315 acre/feet/year.
	58-117402	June 12, 2011	Withdrawal of groundwater not to exceed 1,490 acre/feet/year.
Wastewater Certificates	WW012411	---	Wastewater treatment operations Grade 1 Certification
Hazardous Waste / RCRA Identification Number	AZD0018866 54	Facility Life	United States Environmental Protection Agency (USEPA) Hazardous Waste Identification Number for Annual Reporting
Air Quality Control Permit (Pinal County)	B30820.R3	November 16, 2009	Issued by Pinal County Air Quality Control District
USEPA Stormwater Multi-sector General Permits	AZR05A799 Current # AZR05B240	October 2005	No. 9 Shaft (East Plant Site)
	AZR05A800 Current # AZR05B241	October 2005	West Plant Site
Potable Groundwater(ADEQ Drinking Water Division)	11-078	Unknown	No record of renewal can be found
Individual Aquifer Protection Permit	15877.01	Life of Facility	Landfill APP, Nonmunicipal solid waste
Area-wide Aquifer Protection Permit	P-101703	Life of Facility	West Plant Operational, Closure & Post Closure - Discharging Facilities at the West Plant Site
Area-wide Aquifer Protection Permit	P-105823	Life of Facility	Regulated by both APP #105823 & AZPDES #AZ0020389. Authorizes RCM to discharge mine dewatering water from the Superior Mine. The treated mine water will be conveyed to the NMIDD for irrigation use.
General Aquifer Protection Permit		Pending	Type 2.02 General APP for Intermediate Rock Stockpile
General Aquifer Protection Permit	105727	April 11, 2016	Type 3.02 General APP for LTF #53822-North and LTF #53821-South Sludge Storage Impoundments

10. **Certification of Compliance.** To be completed by the applicant.

I, Jonathan C. Cherry, certify that this document and all attachments were prepared under my direction or supervision and all information is, to the best of my knowledge, true, accurate and complete. I also certify that the facility described in this form is or will be constructed, designed, and operated in accordance with the provisions of Article 3 of the Aquifer Protection Permit rules as they pertain to this General Permit. I am aware that there are significant penalties for submitting false information, including permit revocation as well as the possibility of fine and imprisonment for knowing violations.


Signature

5-19-11
Date



2.0 NOTICE OF INTENT SUPPLEMENT FOR TYPE 2.02 GENERAL APP FOR INTERMEDIATE STOCKPILES AT MINING SITES



ARIZONA DEPARTMENT OF ENVIRONMENTAL QUALITY

Water Permits Section

1110 West Washington Street, MC 5415-B3 • Phoenix, Arizona 85007
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This General Permit allows for intermediate stockpiles at mining sites not qualifying as inert under A.R.S. § 49-201(19).

Note: Please ensure that the narrative, design drawings, and any supplemental information provided is comprehensive and adequate to demonstrate conformance with A.A.C. R18-9-D302.

1. Provide a **narrative description** of the stockpile addressed under this permit. Specify the expected dates of operation, rate and volume of material to be stockpiled. Include the nature of the material, proposed location, size of footprint, maximum height, and overall slope angle of the intermediate stockpile. See *Section 2.1*.
2. Have you attached the construction and operation specifications to demonstrate:
 - ☒ Yes a. The stockpile is designed, constructed, and operated not to impound water. See *Section 2.2*.
 - ☒ Yes b. Inspections will be performed at least quarterly to ensure the design and performance, with any necessary repairs to be made as soon as possible. See *Section 2.3*.
 - ☒ Yes c. All stormwater runoff contacting the pile will be directed to a mine pit or other facility permitted under the Aquifer Protection Program. See *Section 2.4*.
 - ☒ Yes d. All engineered features designed to aid compliance with this permit will be adequately maintained. See *Section 2.5*.
 - ☒ Yes e. No hazardous substances will be added to the stockpile. See *Section 2.6*.



2.1 Narrative Description of the Loadout Intermediate Rock Stockpile

Resolution Copper Mining LLC (RCML) intends to temporarily stockpile ore-grade (non-inert) rock generated during the advancement of shafts and underground exploration activities. This ore-grade development rock will be generated at the East Plant Site and conveyed to the West Plant Site via the Neversweat Tunnel that connects the two areas of RCML's contiguous property. The development rock will be dumped at the Loadout Intermediate Rock Stockpile prior to staging at the Intermediate Rock Stockpile or the Development Rock Stockpile. RCML anticipates that the same rock will not remain in the Loadout area for more than a few days prior to being relocated to one of the other permitted stockpiles.

The Loadout Intermediate Rock Stockpile will be located at RCML's West Plant Site, immediately east of the former Settling Pond 1 (**Figure 1**). At full capacity, the footprint of the stockpile will be approximately 0.8 acres and the volume will be approximately 4,000 cubic yards (5,700 metric tons [tonnes]). The size and shape of the stockpile will vary as rock is dumped and then loaded out. At a maximum, the stockpile is anticipated to be an oval shape approximately 125 feet long by 94 feet wide with a height of approximately 19.5 feet. The slope angles will vary throughout operations (as rock is dumped and then loaded out) and will generally be at the angle of repose rather than a design angle.

RCML will prepare the area to receive development rock by:

- Placing run-on controls consisting of earthen berms to prevent surface water from running into the loadout area (**Figure 2**).
- Grading the loadout area to drain to a sump provided by the former conveyor structure (**Figure 2**).

The life cycle for the Intermediate Rock Stockpile consists of three phases described below:

- **Current Operation.** Inert development rock is placed within the run-on and runoff controls, and then removed as the material is later used as fill material at the West Plant Site.
- **Future Operation.** Ore-grade development rock will be temporarily staged within the Loadout area run-on and runoff controls prior to being moved to the Intermediate Stockpile or the Development Rock Stockpile.
- **Closure.** The ore-grade rock will be removed to the extent practical. RCML will submit a narrative description of closure to ADEQ within 30 days after closure.

RCML expects to begin generating ore-grade development rock in November 2011. The stockpile will receive material for approximately eight years ending in December 2019.



As described in Sections 2.2 and 2.4 below, runoff from the Loadout Intermediate Rock Stockpile will be discharged to the stormwater pond on Tailings Pond 6/7. Thus, for the purposes of evaluating whether the development rock stockpiled in the Loadout area will discharge any additional pollutant to the receiving facility, the appropriate comparison is between the composition of the runoff from the development rock and the composition of the ponded water on Tailings Pond 6/7 (TP 6/7). The ore-grade material to be stockpiled was characterized using drill core (Geochimica, 2007) and the characterization was reviewed by ADEQ (ADEQ, 2007). According to Geochimica:

“Geochemical reactivity that could adversely affect water quality in rocks to be mined during sinking of Shaft No. 10 is limited to rocks below 1633 meters below ground surface (m bgs) (5,360 feet below ground surface). At and above 1633 m bgs, there is no discernible risk of acid generation, leachable metals (by Method 1312) are not a risk, and total metal concentrations are very low. Below 1633 m bgs, sulfide concentrations are elevated (> 1% weight), there are elevated total metals present, and metals and some metalloids are leachable under synthetic precipitation testing”.

Leachable metals data (via the Synthetic Precipitation Leaching Procedure [SPLP]) from deeper than 1633 meters below ground surface (m bgs) in the No. 10 Shaft, was used as a surrogate for the runoff from the development rock; leachable metals data is presented in Appendix A, Table 1. Metals concentration data for the TP 6/7 ponded water is presented in Appendix A, Table 2. Comparison of the median and maximum metals concentrations in development rock runoff to concentrations of the same metals in the ponded water on TP 6/7 is presented in Appendix A, Table 3. This comparison shows that development rock runoff would not add any additional, new pollutants to TP 6/7 water. Furthermore, the comparison shows that the development rock runoff might be expected to be of better or similar quality than the ponded water on TP 6/7. In general, the compositions of these waters are similar with respect to constituents and concentrations. RCML previously provided ADEQ with this comparison of leachable metals from the development rock with the ponded water on TP 6/7 that will receive that runoff (RCML, 2011).

2.2 Design, Construction, and Operation to Not Impound Water

The Loadout area has been designed to direct runoff into a sump provided by the former concrete conveyor structure located in the northwest section of the area (**Figure 2**). During operation, the stockpile will be a transfer point, receiving new material with existing materials loaded out of the area on a regular basis, probably daily but in no case more than every few days. Thus, the shape of the stockpile will be changing shape frequently but it will be operated so as to not impound water.

Potential run-on from the northwest will be directed around the Loadout area to the southeast and northwest using earthen berms and an existing road and channel (**Figure 2**). Potential run-on and runoff are separated by earthen berms and concrete barricades.



Runoff from the stockpile will be collected in a sump provided by a large concrete structure formerly housing an ore loadout and conveyor (**Figure 2**). The conveyor structure has approximate dimensions of 84 feet long, by 20 feet wide and the depth varies from approximately 10 to 25 feet below ground surface. The structure was constructed with thick (approximately 12 inches) concrete walls and was graded to drain to a sump located at the northeast end. RCML and Golder Associates Inc. observed that the concrete is in good condition during a recent inspection. During operation, a dedicated submersible pump will be kept in the conveyor structure sump. On an as-needed basis (after stormwater collects in the sump), the water will be pumped from the conveyor structure into a water truck for transport to TP 6/7 (**Figure 1**); RCML intends to operate the sump such that it is generally dry (not storing water). The conveyor structure has capacity to contain a 100-year, 24-hour event while maintaining significant freeboard (approximately 7 feet); a schematic cross section of the conveyor structure is presented on **Figure 3**.

RCML will maintain the Loadout grading and berms to separate the potential run-on and runoff, and to direct runoff into the former conveyor structure. The conveyor structure (sump) will be checked for water on a weekly basis and be generally pumped dry. The run-on and runoff controls will be inspected as described in Section 2.3.

2.3 Inspections

RCML will visually inspect the facility on at least a quarterly basis, as well as after significant precipitation events. The run-on and runoff controls will be visually inspected for erosion, blockages, excessive vegetation, evidence of overtopping and similar conditions that might affect performance. RCML will document the inspections using the form in Appendix B.

2.4 Disposition of Runoff

The runoff from the stockpile will be pumped from the sump into trucks for discharge at the inactive TP 6/7. TP 6/7 is permitted for storage of impacted runoff from the West Plant Site under Area-wide APP No. P-101703.

2.5 Maintenance of Engineered Features

RCML will maintain the engineered features in a timely manner as indicated by the quarterly inspections described in Section 2.3. The engineered features consist of the run-on controls (i.e., earthen berms, channel, culvert) and the runoff controls (i.e., grading in the Loadout area).

2.6 Restriction of Hazardous Substances

Only development rock will be added to the stockpile. RCML will not add hazardous substances to the stockpile.



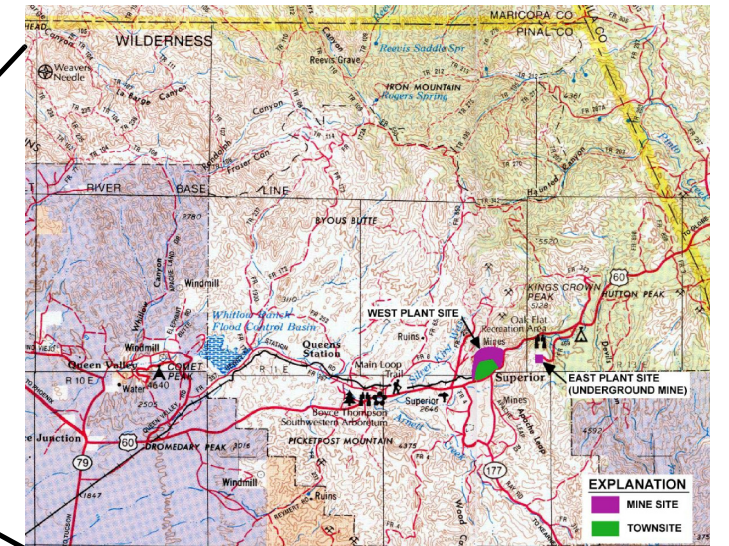
3.0 REFERENCES


Arizona Department of Environmental Quality, 2007. Technical Memorandum re: Draft Inertness Demonstration Technical Review, Resolution Copper Mining LLC Mine Development Rock, Task Assignment No. EV06-0157, ADEQ Contract No. EV06-0060, Inventory No. 101703, Project LTF 36954, and Site Code 502878-00. March 13, 2007.

Geochimica, 2007. Geochemical Characterization of Development Rock for Proposed Shaft No. 10, Resolution Project: ADEQ Tier 1 Results and Inertness Analysis. Prepared for Resolution Copper Mining LLC. January 26, 2007.

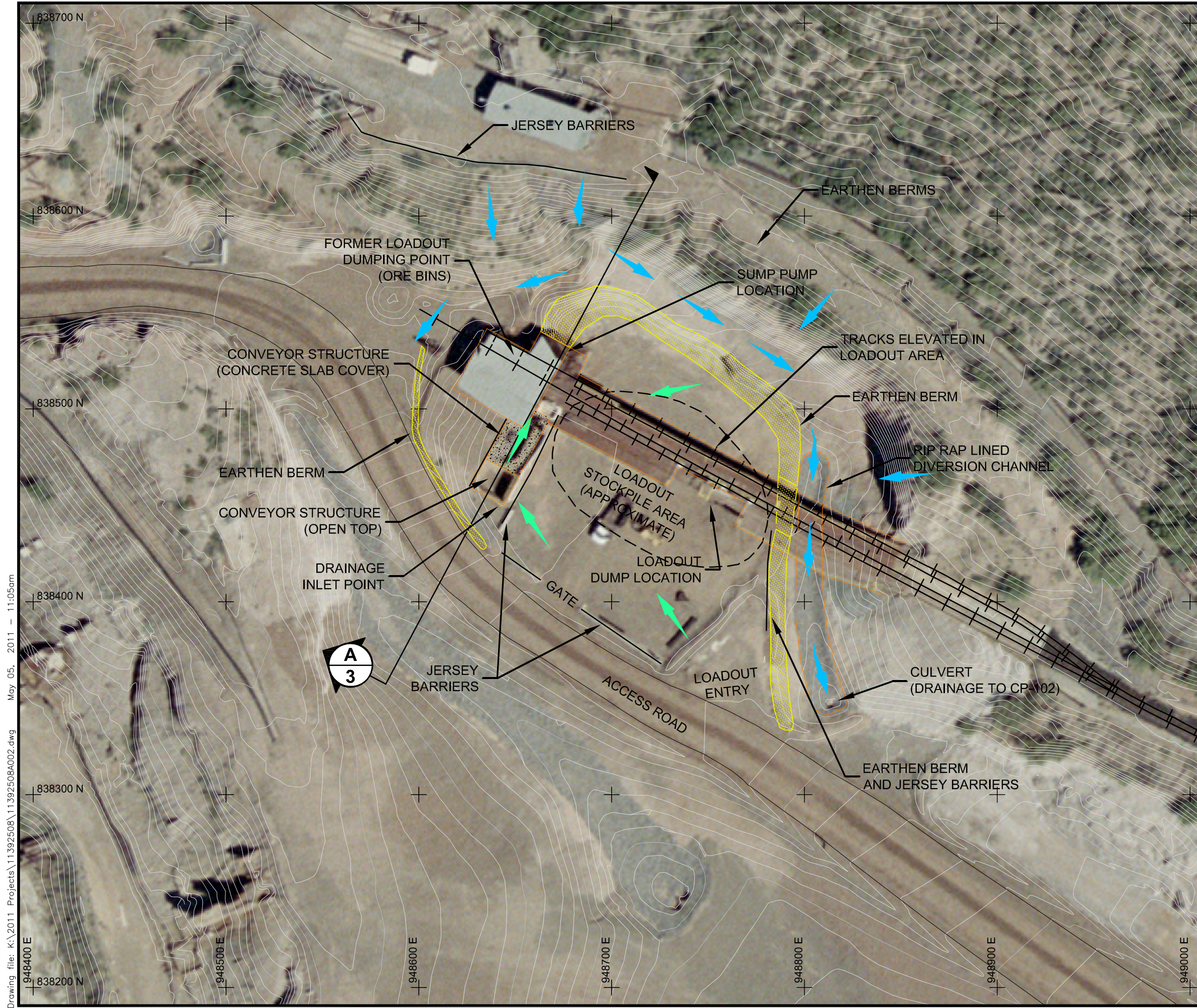
Resolution Copper Mining LLC, 2011. Letter to Mr. Spencer York, Aquifer Protection Permit and Drywell Unit, Arizona Department of Environmental Quality, RE: Arizona Aquifer Protection Permit Other Amendment – Response to Comments, Area-wide Aquifer Protection Permit No. P-101703, Superior Mine, Superior, Arizona. April 11, 2011.

FIGURES



PROJECT  <b style="font-size: 1.2em; margin-left: 10px;">Resolution Copper Mining	LOADOUT GENERAL APP SUPERIOR MINE WEST PLANT SITE SUPERIOR, ARIZONA
<div style="border: 1px solid black; padding: 10px; margin: auto; width: 80%;"> <h2 style="margin: 0;">SITE LOCATION MAP</h2> </div>	

Drawing file: K:\2011 Projects\11392508\11392508A002.dwg May 05, 2011 - 11:05am



LEGEND

- 3000 EXISTING CONTOURS
- JERSEY BARRIERS
- CROSS SECTION LOCATION
- RUN ON FLOW DIRECTION
- RUN OFF FLOW DIRECTION
- RAILROAD TRACK
- APPROXIMATE LOCATION OF LOADOUT INTERMEDIATE ROCK STOCKPILE
- RUN ON CONTROL FEATURE (EARTHEN BERM)

NOTES:

1. LOCATIONS SHOULD BE CONSIDERED APPROXIMATE.
2. ANTICIPATED MAXIMUM DIMENSIONS OF LOADOUT STOCKPILE: 125' X 94' X 19.5'. (3,900 CUBIC YARDS)

SCALE

Resolution
Copper Mining

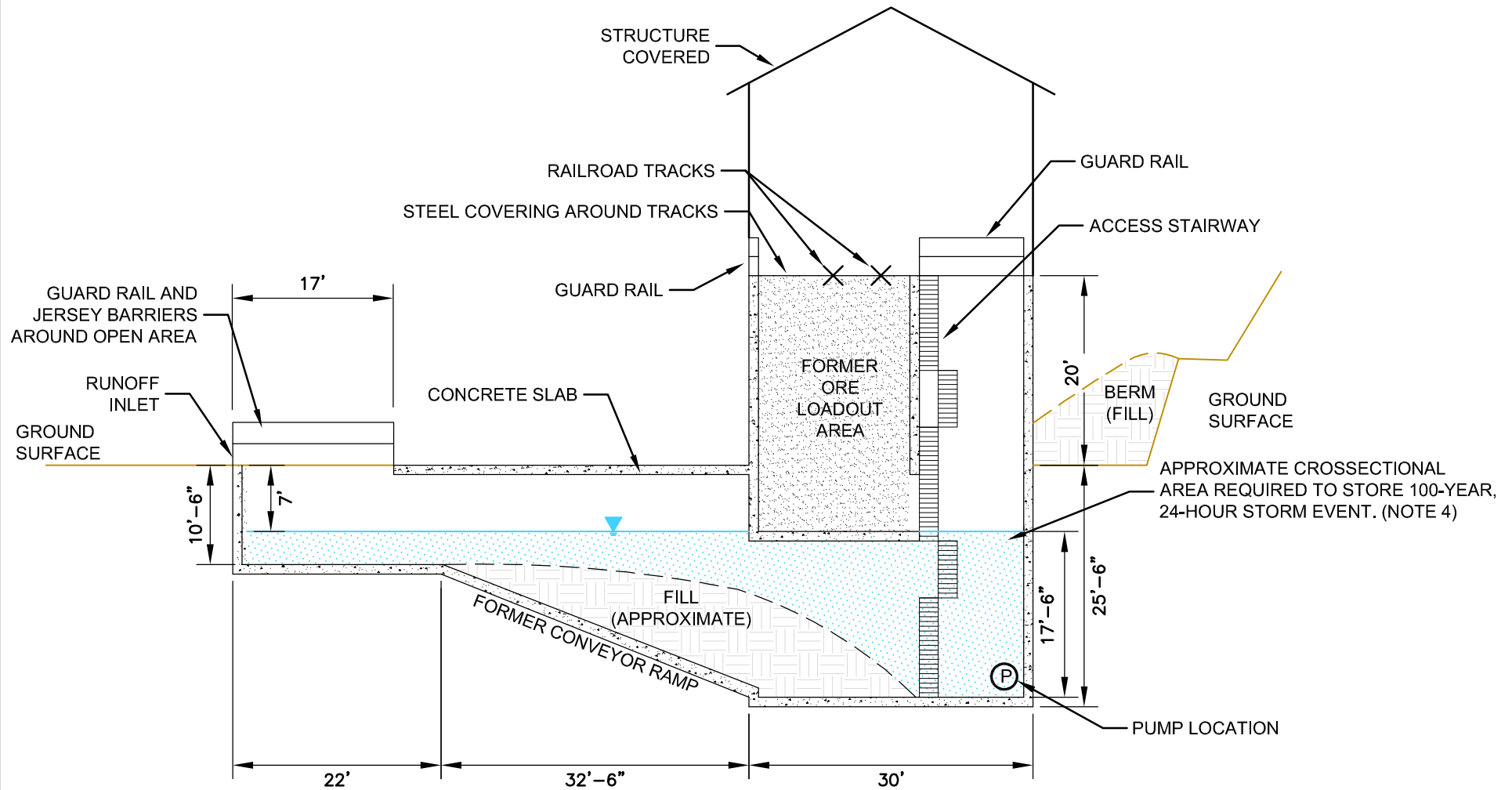
LOADOUT GENERAL APP
WEST PLANT SITE
SUPERIOR, ARIZONA

Golder
Associates

PROJECT No.	113-92508	FILE No.	11392508A002
DESIGN	CDJ	03/03/11	SCALE AS SHOWN REV. A
CADD	ANV	03/11/11	
CHECK	JC	03/14/11	
REVIEW	KRJ	03/14/11	

FIGURE 2

LOADOUT AREA PLAN




VIEW TO NORTHWEST

NOT TO SCALE

NOTES:

1. CONCRETE IS GENERALLY 12 IN. THICK.
2. STRUCTURE HAS AN INTERIOR WIDTH OF APPROXIMATELY 19.5 FT. (NOT INCLUDING THE FORMER ORE LOADOUT AREA EXTENDING TO THE NORTHWEST.)
3. FORMER ORE LOADOUT AREA IS OPEN TO THE CONVEYOR STRUCTURE AND PROVIDES ADDITIONAL STORAGE AREA.
4. 100 YEAR, 24 HR. STORM EVENT YIELDS APPROXIMATELY 83,100 GALLONS REPORTING TO THE CONVEYOR STRUCTURE. (APPROXIMATELY 11,107 CUBIC FEET)
5. DIMENSIONS SHOULD BE CONSIDERED APPROXIMATE.

PROJECT		LOADOUT GENERAL APP	
		WEST PLANT SITE	
		SUPERIOR, ARIZONA	
TITLE			
CONVEYOR STRUCTURE SCHEMATIC CROSS SECTION			
PROJECT No. 113-92508		FILE No. 11392508A004	
DESIGN	JC	04/05/11	SCALE AS SHOWN
CADD	CM	04/25/11	REV. 0
CHECK	JC	04/25/11	FIGURE 3
REVIEW	KRJ	04/06/11	



APPENDIX A
ANALYTICAL DATA FOR DEVELOPMENT ROCK LEACHABLE METALS AND TP 6/7
PONDED WATER

Appendix A - Table 1: Development Rock (>1,633 m bgs) Leachable Metals Data by SPLP

Sample Depth in No. 10 Shaft (m bgs)	Antimony (mg/L)	Arsenic (mg/L)	Barium (mg/L)	Beryllium (mg/L)	Cadmium (mg/L)	Chromium (mg/L)	Fluoride (mg/L)	Lead (mg/L)	Mercury (mg/L)	Selenium (mg/L)	Thallium (mg/L)
1,670.00	<0.0004	0.003	0.003	<0.002	<0.0001	<0.01	<0.1	<0.0001	<0.0002	0.0003	<0.0001
1,717.00	<0.0004	<0.0005	<0.003	<0.002	<0.0001	<0.01	<0.1	<0.0001	<0.0002	0.0002	<0.0001
1,768.84	<0.0004	<0.0005	0.004	<0.002	<0.0001	<0.01	<0.1	<0.0001	<0.0002	<0.0001	<0.0001
1,777.19	<0.0004	<0.0005	0.004	<0.002	<0.0001	<0.01	<0.1	<0.0001	<0.0002	<0.0001	<0.0001
1,781.56	<0.0004	<0.0005	<0.003	<0.002	<0.0001	<0.01	<0.1	<0.0001	<0.0002	<0.0001	<0.0001
1,815.10	<0.0004	<0.0005	0.006	0.003	<0.0001	<0.01	<0.1	<0.0001	<0.0002	0.0001	<0.0001
1,844.10	<0.0004	<0.0005	<0.003	<0.002	<0.0001	<0.01	0.6	<0.0001	<0.0002	0.001	<0.0001
1,853.09	<0.0004	<0.0005	0.004	<0.002	<0.0001	<0.01	2.3	<0.0001	<0.0002	0.0021	<0.0001
1,859.26	<0.0004	<0.0005	0.069	<0.002	<0.0001	<0.01	1.6	<0.0001	<0.0002	0.0018	0.0004
1,878.00	<0.0004	<0.0005	<0.003	<0.002	<0.0001	<0.01	1.5	<0.0001	<0.0002	0.0009	<0.0001
1,893.50	<0.0004	<0.0005	0.008	<0.002	0.0001	<0.01	1.3	<0.0001	<0.0002	0.0082	<0.0001
1,913.00	<0.0004	<0.0005	0.003	<0.002	<0.0001	<0.01	0.7	<0.0001	<0.0002	0.0015	<0.0001
1,927.83	<0.0004	<0.0005	<0.003	<0.002	<0.0001	<0.01	1.3	<0.0001	0.0003	0.002	<0.0001
1,944.40	<0.0004	<0.0005	0.008	<0.002	0.0003	<0.01	0.8	<0.0001	<0.0002	0.0083	<0.0001
1,952.68	<0.0004	<0.0005	<0.003	<0.002	<0.0001	<0.01	0.9	<0.0001	<0.0002	0.003	<0.0001
1,970.61	<0.0004	<0.0005	0.005	<0.002	<0.0001	<0.01	0.4	<0.0001	<0.0002	0.0012	<0.0001
1,973.98	<0.0004	<0.0005	<0.003	<0.002	<0.0001	<0.01	1	<0.0001	<0.0002	0.0014	<0.0001
1,979.95	<0.0004	<0.0005	<0.003	<0.002	<0.0001	<0.01	1	<0.0001	<0.0002	0.0055	<0.0001
1,983.83	<0.0004	<0.0005	<0.003	<0.002	<0.0001	<0.01	1.2	<0.0001	<0.0002	0.0003	<0.0001
1,987.30	<0.0004	<0.0005	0.007	<0.002	<0.0001	<0.01	0.7	<0.0001	<0.0002	0.0018	<0.0001
1,990.33	<0.0004	<0.0005	0.005	<0.002	<0.0001	<0.01	0.6	<0.0001	<0.0002	0.0072	<0.0001
1,993.64	<0.0004	<0.0005	<0.003	<0.002	<0.0001	<0.01	0.4	<0.0001	<0.0002	0.0016	<0.0001
1,997.63	<0.0004	<0.0005	<0.003	<0.002	<0.0001	<0.01	0.2	<0.0001	<0.0002	0.0006	<0.0001
2,002.60	<0.0004	0.0008	0.015	<0.002	<0.0001	<0.01	0.3	<0.0001	<0.0002	0.0033	<0.0001
2,006.60	<0.0004	<0.0005	<0.003	<0.002	0.0001	<0.01	0.2	0.0001	<0.0002	0.0053	0.0004
2,009.61	<0.0004	<0.0005	<0.003	<0.002	0.0005	<0.01	0.5	<0.0001	<0.0002	0.0023	<0.0001
2,020.19	<0.0004	<0.0005	<0.003	<0.002	<0.0001	<0.01	0.5	0.0004	<0.0002	0.0003	<0.0001
2,029.21	<0.0004	<0.0005	<0.003	0.022	0.0007	<0.01	3	<0.0001	<0.0002	0.0008	<0.0001
2,030.00	<0.0004	<0.0005	<0.003	0.004	<0.0001	<0.01	2	<0.0001	<0.0002	0.0006	0.0004
2,042.17	<0.0004	<0.0005	<0.003	<0.002	<0.0001	<0.01	0.7	<0.0001	<0.0002	0.0007	<0.0001
2,053.81	<0.0004	<0.0005	<0.003	<0.002	<0.0001	<0.01	0.3	<0.0001	<0.0002	0.0003	<0.0001
2,061.02	<0.0004	<0.0005	<0.003	<0.002	<0.0001	<0.01	0.8	<0.0001	<0.0002	0.0008	<0.0001
2,073.40	<0.0004	<0.0005	<0.003	<0.002	<0.0001	<0.01	0.8	<0.0001	<0.0002	0.0005	<0.0001
2,079.83	<0.0004	<0.0005	<0.003	<0.002	<0.0001	<0.01	0.4	<0.0001	<0.0002	0.0003	<0.0001
2,089.45	<0.0004	<0.0005	0.008	<0.002	<0.0001	<0.01	5	0.0001	<0.0002	0.0005	<0.0001
2,106.77	<0.0004	0.0009	0.013	<0.002	<0.0001	0.02	0.9	<0.0001	<0.0002	0.0005	<0.0001
2,116.23	<0.0004	0.0014	0.005	0.004	0.0001	0.1	1.9	0.0002	<0.0002	0.0016	<0.0001
2,136.10	<0.0004	<0.0005	0.013	<0.002	<0.0001	<0.01	2.1	<0.0001	<0.0002	0.0003	<0.0001
2,150.75	<0.0004	0.0007	0.021	<0.002	<0.0001	<0.01	4.4	0.0023	<0.0002	0.0005	<0.0001
2,171.36	<0.0004	0.0006	0.006	<0.002	<0.0001	<0.01	7.5	0.0002	<0.0002	0.0005	<0.0001
2,181.56	<0.0004	<0.0005	<0.003	<0.002	<0.0001	<0.01	4.1	0.0014	<0.0002	0.0002	<0.0001
2,187.77	<0.0004	0.0021	0.019	<0.002	0.0002	<0.01	1.2	0.0156	<0.0002	0.0005	0.0002
Summary Statistics (n = 42)											
Number of Non-detects	42	35	22	38	35	40	6	34	41	3	38
% Non-detects	100	83	52	90	83	95	14	81	98	7	90
Median	---	0.0009	0.0065	0.0040	0.0002	0.0600	0.9000	0.0003	0.0003	0.0008	0.0004
Maximum	---	0.0030	0.0690	0.0220	0.0007	0.1000	7.50	0.0156	0.0003	0.0083	0.0004

Notes:

SPLP = Synthetic Precipitation Leaching Procedure

m bgs = meters below ground surface

mg/L = milligrams per liter

--- no meaningful comparison can be made due to percentage of non-detects

Appendix A - Table 2: TP 6/7 Poned Water Metals Data

Sample Date	Antimony	Arsenic	Barium	Beryllium	Cadmium	Chromium	Fluoride	Lead	Mercury	Selenium	Thallium
	(mg/L)	(mg/L)	(mg/L)	(mg/L)	(mg/L)	(mg/L)	(mg/L)	(mg/L)	(mg/L)	(mg/L)	(mg/L)
5/2/1995	<0.5	<0.01	0.025	<0.01	0.007	<0.005	0.25	<0.005	<0.0002	<0.01	<0.5
4/25/1996	<0.006	<0.01	0.025	<0.004	<0.005	<0.005	1.7	<0.005	<0.0002	<0.01	<0.002
9/6/1996	<0.006	<0.01	0.025	<0.004	<0.005	NA	0.25	0.016	<0.0002	<0.01	<0.002
1/9/1997	0.0076	<0.01	0.025	<0.004	<0.005	<0.005	1.1	<0.005	<0.0002	<0.01	<0.002
5/7/1997	<0.002	<0.002	0.03	<0.0025	<0.005	<0.01	0.7	<0.002	<0.0002	<0.01	<0.002
9/16/1997	<0.004	<0.001	0.033	<0.0025	<0.0025	<0.005	1.2	<0.001	<0.0002	<0.001	<0.001
1/15/1998	<0.001	<0.001	0.026	<0.001	<0.0025	<0.005	0.7	<0.001	<0.0002	0.003	<0.001
4/8/1998	<0.001	0.004	0.024	0.0009	<0.002	<0.005	1.3	<0.001	<0.0002	0.004	<0.0001
11/18/2010	<0.003	0.034	0.0039	0.020	0.017	0.110	7.4	0.0034	<0.0002	<0.002	<0.001
2/11/2011	<0.015	0.075	0.016	0.024	0.02	0.150	NA	0.019	<0.0002	<0.01	<0.005
Summary Statistics (n = 10)											
Number of Non-detects	9	7	0	7	7	8	1	7	10	8	10
% Non-detects	90	70	0	70	70	80	10	70	100	80	100
Median	0.0076	0.0340	0.0250	0.0200	0.0170	0.1300	1.1000	0.0160	---	0.0035	---
Maximum	0.0076	0.0750	0.0330	0.0240	0.0200	0.1500	7.4000	0.0190	---	0.0040	---

Notes:

mg/L = milligrams per liter

NA = not analyzed

--- no meaningful comparison can be made due to percentage of non-detects

Appendix A - Table 3: Comparison of TP 6/7 Poned Water and Development Rock (>1,633 m bgs) Leachable Metals

Sample Group and Statistic	Antimony	Arsenic	Barium	Beryllium	Cadmium	Chromium	Fluoride	Lead	Mercury	Selenium	Thallium
	(mg/L)	(mg/L)	(mg/L)	(mg/L)	(mg/L)	(mg/L)	(mg/L)	(mg/L)	(mg/L)	(mg/L)	(mg/L)
AWQS	0.006	0.05	2	0.004	0.005	0.1	4	0.05	0.002	0.05	0.002
Median Comparison											
Median TP 6/7 Poned Water	0.0076	0.0340	0.0250	0.0200	0.0170	0.1300	1.10	0.0160	100% ND	0.0035	100% ND
Median Development Rock SPLP	100% ND	0.0009	0.0065	0.0040	0.0002	0.0600	0.9000	0.0003	0.0003	0.0008	0.0004
Maxima Comparison											
Maximum TP 6/7 Poned Water	0.0076	0.0750	0.0330	0.0240	0.0200	0.1500	7.40	0.0190	<0.0002	0.0040	<0.500*
Maximum Development Rock SPLP	<0.0004	0.0030	0.0690	0.0220	0.0007	0.1000	7.50	0.0156	0.0003	0.0083	0.0004

Notes

mg/L = milligrams per liter

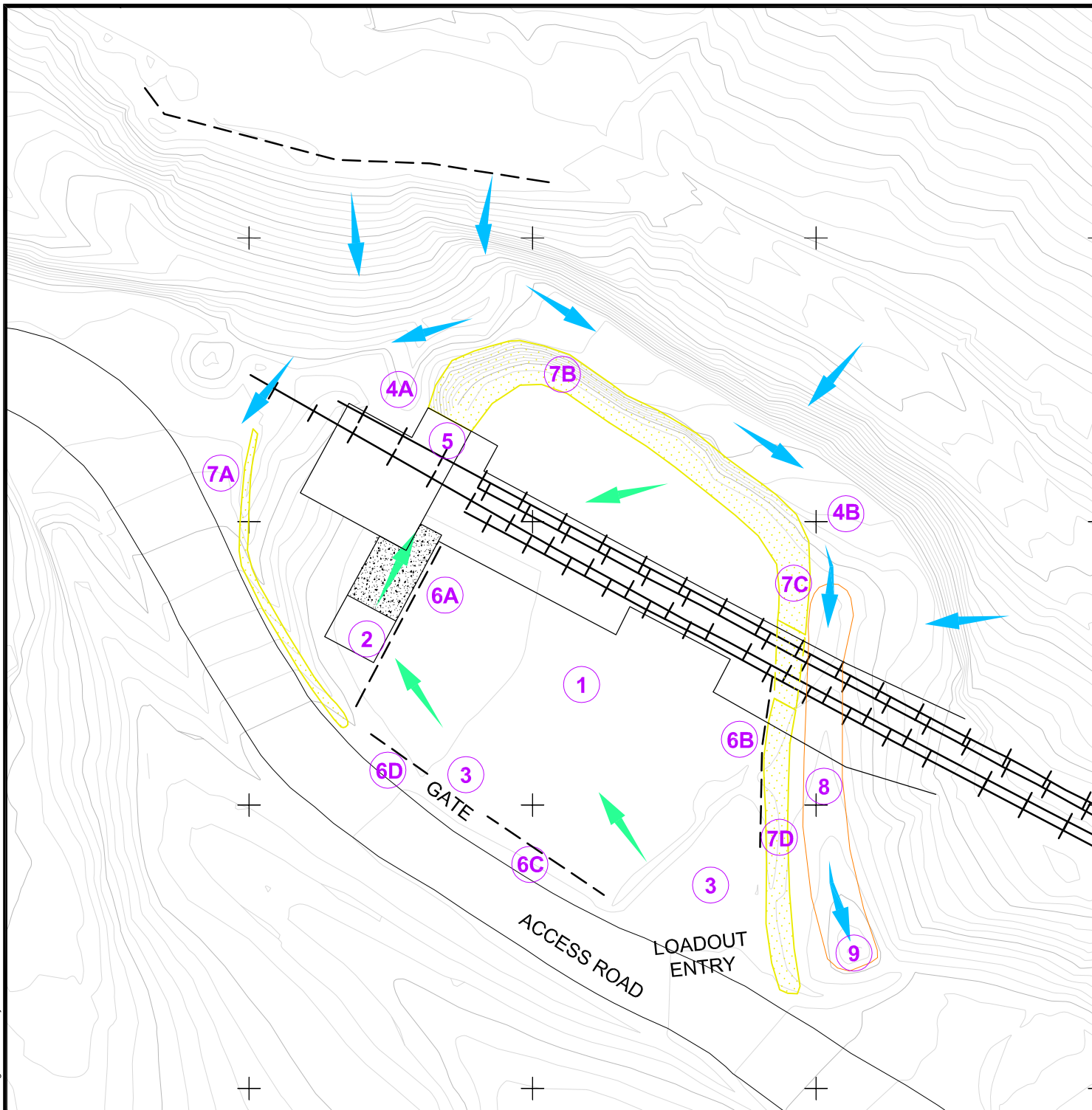
AWQS = Aquifer Water Quality Standard

ND = non-detect

* <DL is greater than result value to which it is compared

APPENDIX B
INSPECTION FORM FOR THE LOADOUT INTERMEDIATE ROCK STOCKPILE

Drawing file: K:\2011 Projects\11392508\11392508B002.dwg May 10, 2011 - 11:01am



LEGEND

- 3000 EXISTING CONTOURS
- RUN ON FLOW DIRECTION
- RUN OFF FLOW DIRECTION
- RAILROAD TRACK
- JERSEY BARRIERS
- RUN ON CONTROL FEATURE (EARTHEN BERM)
- RIP RAP LINED CHANNEL
- INSPECTION FEATURE

NOTES:
1. LOCATIONS SHOULD BE CONSIDERED APPROXIMATE.

MONITORING EVENT: SIGNIFICANT RAINFALL / QUARTERLY

INSPECTOR: _____ DATE / TIME: _____

WEATHER CONDITIONS: _____

LOADOUT AREA DRAINAGE CONDITIONS:

(1) STANDING WATER IN LOADOUT AREA: YES / NO
REQUIRED MAINTENANCE: _____

(2) DRAINAGE INLET CLEAR: YES / NO
REQUIRED MAINTENANCE: _____

(3) RUNOFF FROM LOADOUT AREA REPORTING TO SUMP: YES / NO
REQUIRED MAINTENANCE: _____

RUN ON DIRECTED AROUND LOADOUT AREA:
(4A) NORTHEAST SIDE: YES / NO (4B) NORTHWEST SIDE: YES / NO
REQUIRED MAINTENANCE: _____

(5) DEPTH OF WATER IN SUMP: _____
PUMPING REQUIRED: YES / NO


JERSEY BARRIERS INTACT AND FUNCTIONAL:
(6A) YES / NO (6C) YES / NO
(6B) YES / NO (6D) YES / NO
REQUIRED MAINTENANCE: _____

BERMS INTACT AND FREE OF SIGNIFICANT EROSION:
(7A) YES / NO (7C) YES / NO
(7B) YES / NO (7D) YES / NO
REQUIRED MAINTENANCE: _____


(8) RIP RAP LINED DRAINAGE CLEAR: YES / NO
REQUIRED MAINTENANCE: _____

(9) CULVERT CLEAR: YES / NO
REQUIRED MAINTENANCE: _____

NOTES / OTHER CORRECTIVE ACTIONS REQUIRED: _____



LOADOUT GENERAL APP
WEST PLANT SITE
SUPERIOR, ARIZONA



PROJECT No.	113-92508	FILE No.	11392508B002
DESIGN	JAC	05/05/11	SCALE AS SHOWN REV. A
CADD	JAC	05/05/11	
CHECK	JAC	05/05/11	
REVIEW	KRJ	05/06/11	

LOADOUT INTERMEDIATE ROCK
STOCKPILE MONITORING

B1