REPORT

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 Copies - RCML
2 Copies – Golder Associates Inc.

December 1, 2010 **103-92570**

A world of capabilities delivered locally

Golder Associates

Table of Contents

List of Tables

List of Figures

List of Appendices

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.) Title18, 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, 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:

Intermediate Rock Stockpile, West Plant Site

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

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
Intermediate Rock Stockpile	SW1/4 of NE1/4 or NW1/4 of Sec 35 T1S R12E

Latitude/ Longitude:

Facility Name	Facility Location
Intermediate Rock Stockpile	LAT 33° 36’ 16.1764” LONG 111° 27’ 33.6415”

8. **Expected dates of discharge:** Date discharges are expected to begin: November 2011. Date discharges are anticipated to cease: December 2019 (i.e., the year closure is complete).

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 1-1 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	Pending	Release of stormwater at Outfall 001 and Treated Effluent at Outfall 002 (renewal application under process)
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	AZD001886654	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	Discharging Facilities at the West Plant Site
General Aquifer Protection Permit	LTF No. 39202 Inventory No. 105727	February 8, 2011	Type 3.02 General APP for North and 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 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
(602) 771-4428 • www.azdeq.gov

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 Intermediate Rock Stockpile

Resolution Copper Mining LLC (RCML) intends to construct an Intermediate Rock Stockpile for the purpose of staging ore-grade (non-inert) development rock from 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 ore-grade development rock will be staged in an engineered facility at the West Plant Site until it is processed in the first years of operation of RCML's new mill.

The Intermediate Rock Stockpile will be located at RCML's West Plant Site, immediately north of the closed Tailings Pond 5 and east of the inactive Tailings Ponds 6/7. At full capacity, the footprint of the stockpile will be approximately 6 acres and the volume will be approximately 498,000 cubic yards (702,000 metric tons [tonnes]). The maximum height will be approximately 100 feet as measured from the downhill toe of the stockpile and approximately 50 feet as measured from the uphill toe of the stockpile. The slope angles will range from 1.5H:1V to 3H:1V (horizontal:vertical).

Design drawings for the Intermediate Rock Stockpile are contained in Appendix A. The life cycle for the Intermediate Rock Stockpile will consist of four phases:

- **Site excavation (Drawings 2 and 3).** Approximately 255,000 cubic yards of Gila Conglomerate will be excavated to create a surface for the stockpile, as well as to generate cover material for closure of historic facilities at the West Plant Site. Only a portion of the excavated surface will be used for the stockpile, however.
- **Site preparation (Drawings 4 and 5).** This phase will consist of three activities:
  - Two low areas within the footprint of the stockpile will be backfilled with low permeability material to prevent ponding of runoff and/or seepage.
  - Approximately 1,200 linear feet of vee ditch and swale will be used to control runoff from the north side of the stockpile. Approximately 1,400 linear feet of runoff control berm and channel will be constructed to control runoff from west and south sides of the stockpile. A culvert to direct the runoff under a road and then to Tailings Pond 6/7 will also be installed.
  - A third low area uphill from the footprint of the stockpile will be backfilled with compacted common fill to direct potential run-on around the facility. A small existing culvert will be removed and overflow from an existing water tank will be redirected.
- **Operation (Drawings 6 and 7).** Approximately 498,000 cubic yards (702,000 tonnes) of development rock will be placed within the run-on and runoff controls, and then removed as the material is later processed in RCML's new mill.
- **Closure.** The ore-grade rock will be removed to the extent practical and the area will be regraded to prevent ponding. The runoff control berm will be removed. RCML will submit a narrative description of closure to ADEQ within 30 days after closure.

Site excavation is expected to begin in January 2011 with site preparation in the third quarter of 2011 and operation beginning in November 2011. The stockpile will receive material for approximately four years at

the approximate rates shown in Table 2-1 and then be inactive for approximately one year while the new mill is being completed. RCML may then take up to two years to run the material through its new mill. The expected date for cessation of operation is December 2018 with closure to occur in 2019.

Table 2-1: Approximate Loading and Removal Rate

Date		Approximate Volume Loaded (+) or Removed (-)		Approximate Cumulative Volume	
		Metric Tonnes	Cubic Yards	Metric Tonnes	Cubic Yards
Jan-Oct 2011	Excavation / site preparation	0	0	0	0
Nov-Dec 2011	First year of operation (partial)	+17,000	+12,000	17,000	12,000
2012	Second year of operation	+81,000	+58,000	98,000	70,000
2013	Third year of operation	+127,000	+90,000	225,000	160,000
2014	Fourth year of operation	+263,000	+187,000	488,000	346,000
2015	Fifth year of operation	+214,000	+152,000	702,000	498,000
2016	Sixth year of operation	0	0	702,000	498,000
2017	Seventh year of operation	-351,000	-249,000	351,000	249,000
2018	Eighth year of operation	-351,000	-249,000	0	0
2019	Closure	0	0	0	0

The material to be stockpiled was characterized using drill core (Geochimica, 2008) with the characterization approved by ADEQ in 2009 (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 preset, and metals and some metalloids are leachable under synthetic precipitation testing".

2.2 Design, Construction, and Operation to Not Impound Water

Golder designed the Intermediate Rock Stockpile to not impound water, as shown on the drawing set in Appendix A (particularly Drawings 5, 6, and 7). The top surface, access road, access ramp and outslopes will be graded to prevent ponding. Potential run-on from the northeast will be directed to the southeast around the stockpile using an existing road, thence to the channels on the closed Tailings Pond 5. Runoff from the north outslope of the stockpile will be collected in a vee ditch formed by the intersection of the stockpile toe and the existing hillside. A combination hump and swale will direct runoff from the access ramp and access road to the vee ditch. The vee ditch will report to the berm and channel that collect runoff from the south and west outslopes of the stockpile. The runoff control berm and channel will direct flow to a culvert at the west end of the stockpile, which in turn will direct runoff to the inactive Tailings Pond 6/7. The vee ditch, swales, channel and culvert are designed with continuous downhill grades so as

to not impound water. The engineered features for runoff control are designed for the 100-year, 24-hour event.

Under the current topographical configuration, stormwater from the planned stockpile footprint, as well as from uphill of the footprint, reports to the closure channels on Tailings Pond 5, and thence to Tailings Pond 6/7. Under the planned stockpile configuration, potential run-on will report to Tailings Pond 5 and thence to Tailings Pond 6/7; runoff will report to Tailings Pond 6/7. Therefore, the end destination of the stormwater will not change from the current to the planned configurations.

RCML will construct and operate the stockpile to not impound water. The top surface will be routinely graded to not pond water. The design grades in the vee ditch, swales, channel and culvert will be maintained so as to allow continuous flow and not impound water. The inspections described in Section 2.3 will ensure that water is not inadvertently impounded.

2.3 Quarterly 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, sedimentation, excessive vegetation, evidence of overtopping and similar conditions that might affect performance. The outslopes of the stockpile will be visually inspected for evidence of potential mass failure (e.g., cracking, sloughing, slumping). RCML will document the inspections using the form in Appendix B.

2.4 Disposition of Runoff

The runoff from the stockpile will be routed to the inactive Tailings Pond 6/7. Tailings Pond 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., roads and safety berms) and the runoff controls (i.e., berm, channel, culvert, vee ditch and humps/swales).

2.6 Restriction of Hazardous Substances

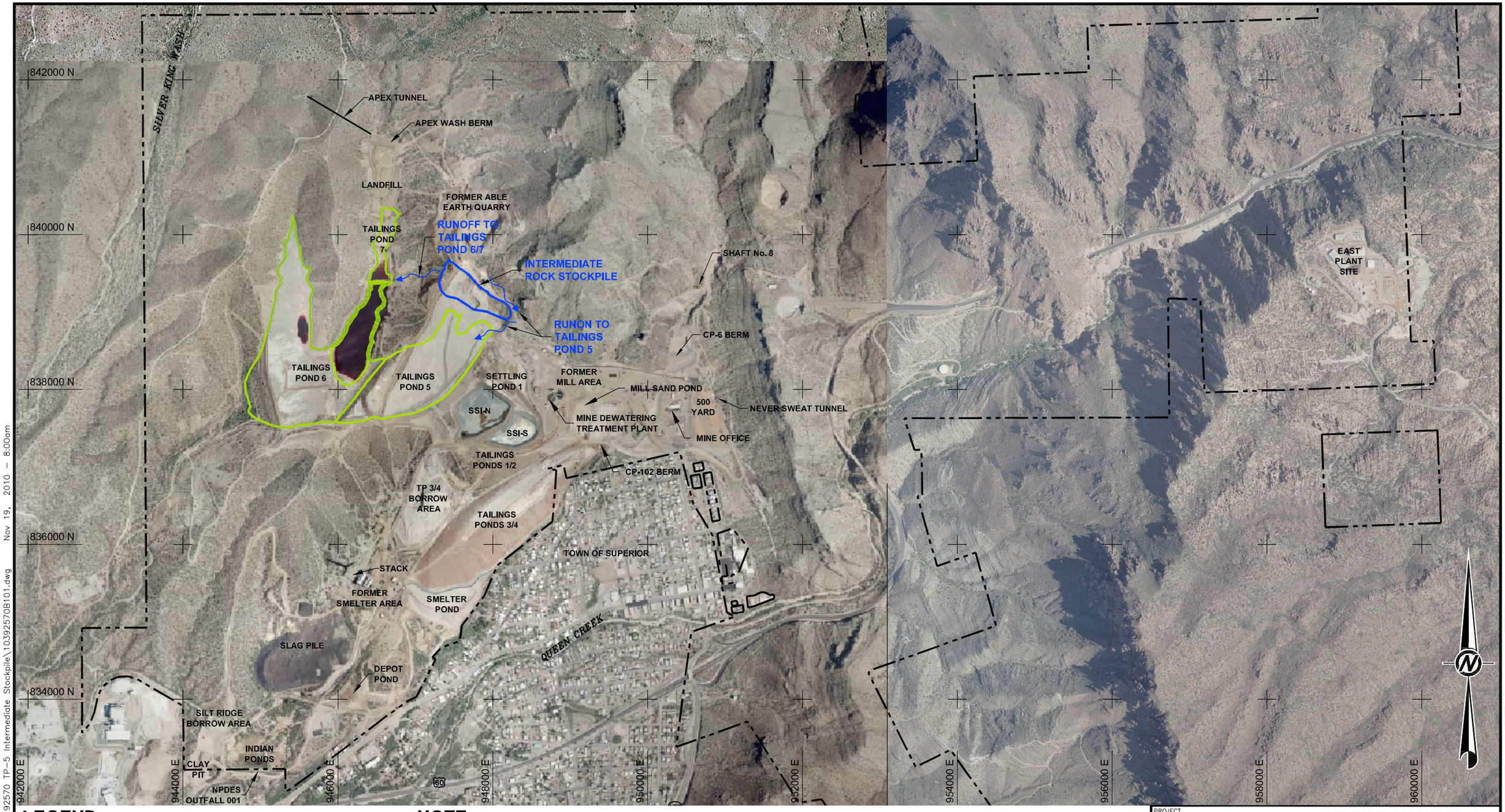
Only development rock will be added to the stockpile. RCML will not add hazardous substances to the stockpile.

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.

FIGURE 1.1
VICINITY MAP



LEGEND

- PROPERTY LINE
- RELEVANT FACILITY PERMITTED UNDER INDIVIDUAL APP (P-101703)
- GENERAL APP INTERMEDIATE ROCK STOCKPILE

NOTE

1.) SSI = SLUDGE STORAGE IMPOUNDMENT.

2.) APP = AQUIFER PROTECTION PERMIT

REFERENCES

1.) 2008 AERIAL PHOTOGRAPH PROVIDED BY RCML.

2.) 2005 USGS DOQQ AERIAL PHOTOGRAPH OBTAINED FROM ALRIS.

1200 0 1200

SCALE 1" to 1200' FEET

PROJECT

Resolution Copper Mining

INTERMEDIATE ROCK STOCKPILE
TYPE 2.02 GENERAL APP
WEST PLANT SITE, SUPERIOR, ARIZONA

TITLE

VICINITY MAP

Golder Associates

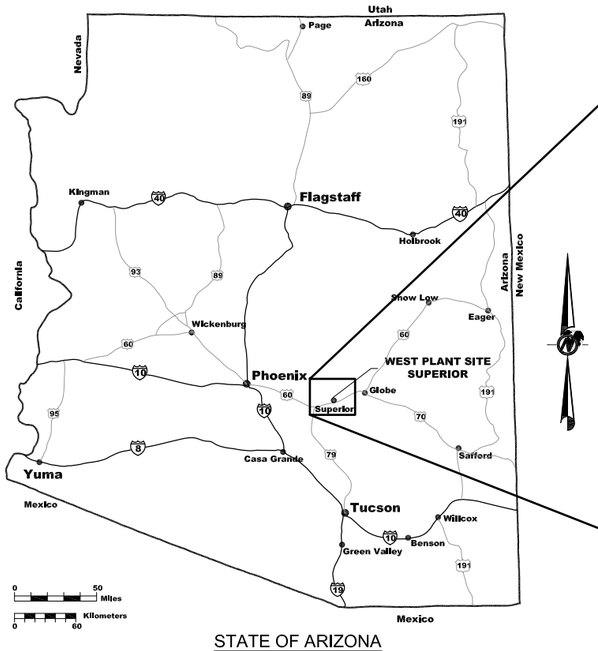
PROJECT No.		103-92570	FILE No.		10392570B101
DESIGN	KRJ	11/17/10	SCALE	AS SHOWN	REV. A
CADD	NIL	11/18/10			
CHECK	MJG	11/19/10			
REVIEW	KRJ	11/19/10			

FIGURE 1-1

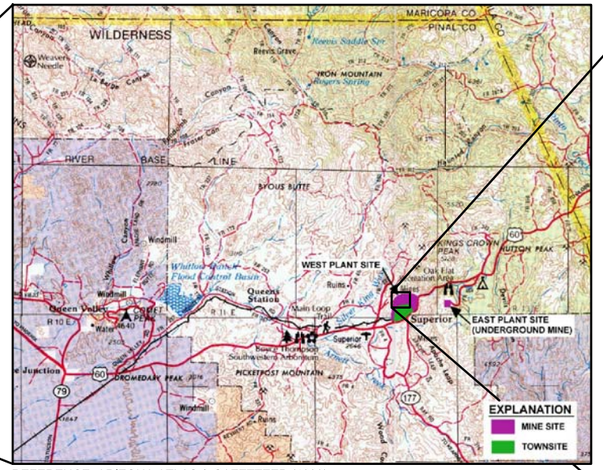
Drawing file: K:\2010 Projects\103-92570 TP-5 Intermediate Stockpile\10392570B101.dwg Nov 19, 2010 - 8:00am

APPENDIX A
DESIGN DRAWINGS FOR INTERMEDIATE ROCK STOCKPILE

INTERMEDIATE ROCK STOCKPILE
WEST PLANT SITE, SUPERIOR MINE, SUPERIOR, ARIZONA
DECEMBER 2010

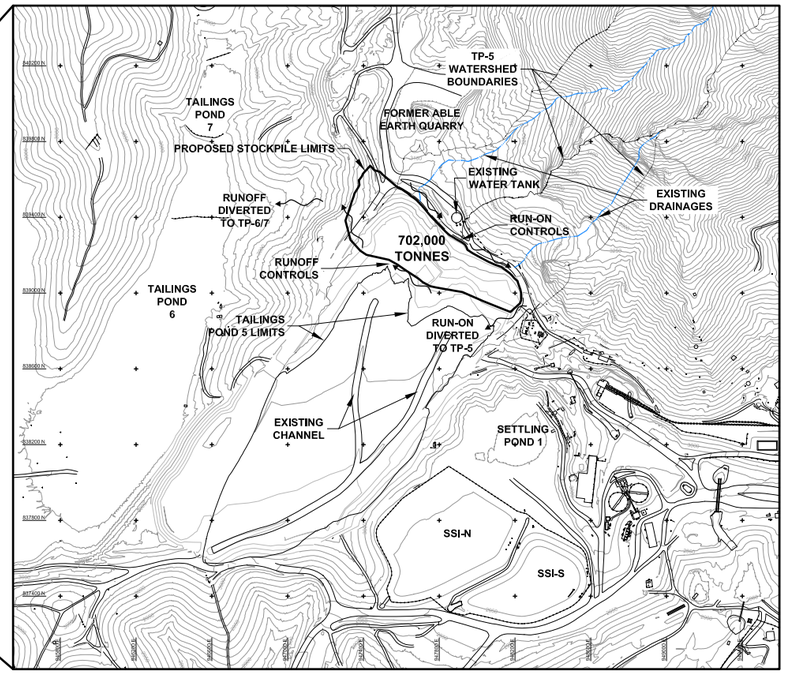


STATE OF ARIZONA



REFERENCE: ARIZONA ATLAS & GAZETTEER (1993).

LOCATION MAP



GENERAL ARRANGEMENT

400 0 400 800
SCALE FEET

LIST OF DRAWINGS

SPECIFICATIONS

1.) LOW PERMEABILITY FILL SHALL CONSIST OF ONSITE SOIL MATERIALS FROM A SOURCE APPROVED BY THE RCML REPRESENTATIVE. THE MATERIALS SHALL CONSIST OF SILTY SANDS OR SANDY LEAN CLAYS WITH GREATER THAN 40 PERCENT PASSING THE #200 SIEVE. THE LOW PERMEABILITY MATERIAL SHALL BE PLACED IN TWO (2) FOOT LIFTS AND COMPACTED TO 95 PERCENT OF STANDARD PROCTOR DENSITY AT OPTIMUM WATER CONTENT (PLUS OR MINUS 2 PERCENT).

2.) STRUCTURAL FILL COVER SHALL CONSIST OF ONSITE SOIL MATERIALS FROM A SOURCE APPROVED BY THE RCML REPRESENTATIVE. THE MATERIALS SHALL CONSIST OF WELL-TO-POORLY GRADED SAND WITH SILT WITH LESS THAN 15 PERCENT PASSING THE #200 SIEVE. STRUCTURAL FILL SHALL BE PLACED IN TWO (2) FOOT LIFTS AND COMPACTED TO 95 PERCENT OF STANDARD PROCTOR DENSITY AT OPTIMUM WATER CONTENT (PLUS OR MINUS 2 PERCENT).

3.) COMPACTED COMMON FILL SHALL CONSIST OF CLEAN SOIL MATERIAL EXCAVATED FROM A SOURCE APPROVED BY THE RCML REPRESENTATIVE WITH A MAXIMUM PARTICLE SIZE OF TWELVE (12) INCHES IN DIAMETER. ANY MATERIAL GREATER THAN THE ALLOWABLE PARTICLE SIZE SHALL BE BROKEN DOWN OR REMOVED. COMPACTED COMMON FILL SHALL BE PLACED IN TWO (2) FT LIFTS AND COMPACTED BY TRACKING IN WITH EQUIPMENT WITH AT LEAST THREE (3) PASSES.

4.) CORRUGATED METAL PIPE (CMP) SHALL BE BITUMINOUS COATED AND FITTINGS SHALL CONFORM TO ASTM A742, A760, A761, A762, A849, A875 AND A929.

5.) COARSE ROCK COVER SHALL CONSIST OF ONSITE ROCK MATERIALS FROM A SOURCE APPROVED BY THE RCML REPRESENTATIVE. THE MATERIALS SHALL CONSIST OF NON-MINERALIZED -3 INCH ROCK.

GENERAL NOTES

1.) TOPOGRAPHIC INFORMATION WAS DEVELOPED BY COOPER AERIAL SURVEYS Co. JULY 18, 2008. TP-5 AS-BUILT CONTOURS AND EXISTING GROUND COUNTOURS PROVIDED BY RCML. ACTUAL GROUND SURFACE ELEVATIONS IN THE PROJECT CAN BE EXPECTED TO VARY PLUS OR MINUS ONE (1) FOOT FROM THOSE INDICATED ON THE DRAWINGS. ACTUAL GROUND SURFACE SHOULD BE VERIFIED BY TOPOGRAPHIC SURVEY BY CONTRACTOR AS NEEDED (AS DETERMINED BY CONTRACTOR) PRIOR TO CONSTRUCTION.

2.) CONTRACTOR IS RESPONSIBLE FOR APPROPRIATE BLUESTAKE PROCEDURES PRIOR TO EARTHWORK ACTIVITIES. IF AN OVERHEAD, SURFACE, OR SUBSURFACE UTILITY IS ENCOUNTERED, WORK IN THAT AREA WILL BE STOPPED AND THE RCML REPRESENTATIVE WILL BE NOTIFIED IMMEDIATELY. WORK IN THAT AREA WILL NOT RESUME UNTIL DIRECTED BY THE RCML REPRESENTATIVE.

3.) THE CONTRACTOR IS RESPONSIBLE FOR THE CONSTRUCTION PROCESS AND THE SAFETY OF THE WORKERS. THIS INCLUDES BUT IS NOT LIMITED TO, THE CONSTRUCTION SEQUENCE, EXCAVATION ACCESS, AND BARRIERS. IT ALSO INCLUDES LIFTING OF MATERIALS AND EQUIPMENT INTO AND OUT OF EXCAVATIONS, TEMPORARY SHORING OF EXCAVATIONS, STABILITY OF ALL TEMPORARY CUT SLOPES, ETC.

4.) CONTRACTOR IS RESPONSIBLE FOR SLOPING EXCAVATIONS TO MAINTAIN SAFE WORKING CONDITIONS IN ACCORDANCE WITH APPLICABLE STANDARDS.

5.) TEMPORARY EROSION CONTROL SYSTEMS ARE TO BE PLACED AS FIELD DETERMINED BY THE RCML REPRESENTATIVE TO PROTECT EROSION PRONE AREAS.

6.) THE CONTRACTOR IS RESPONSIBLE FOR SALVAGE OF CACTI OR OTHER PLANTS AS DIRECTED BY THE RCML REPRESENTATIVE.

7.) THE CONTRACTOR IS RESPONSIBLE FOR DUST CONTROL, AS DIRECTED BY THE RCML REPRESENTATIVE.

Golder Associates
ISSUED FOR PERMITTING
ISSUE DATE: 12/01/10

APPROVED FOR RESOLUTION COPPER MINING, LLC.

PROJECT MANAGER	DATE:
CONSTRUCTION MANAGER	DATE:
SAFETY MANAGER	DATE:
EPCM MANAGER	DATE:
ENGINEERING MANAGER	DATE:
SITE ENGINEER (MECHANICAL & ELECTRICAL)	DATE:
SITE ENGINEER (MINING)	DATE:
GEOTECHNICAL ENGINEER	DATE:
ENVIRONMENTAL ENGINEER	DATE:
PACKAGE MANAGER	DATE:

APPROVED FOR GOLDER

PROJECT MANAGER	DATE: 11/09/10
ENGINEERING MANAGER	DATE:
PACKAGE MANAGER	DATE:
CIVIL ENGINEER	DATE:
STRUCTURAL ENGINEER	DATE:
MECHANICAL ENGINEER	DATE:
ELECTRICAL ENGINEER	DATE:
INSTRUMENTATION ENGINEER	DATE:
REFRIGERATION ENGINEER	DATE:
VENTILATION ENGINEER	DATE:
PIPING ENGINEER	DATE:
SECTION LEADER	DATE:
CHECKER WK	DATE: 10/29/10
DESIGNER WK	DATE: 10/29/10

REV	REF DWG NO	REFERENCE DRAWING TITLE	REV	DESCRIPTION	DATE	BY	DES	PROJ MGR
B			B	ISSUED FOR PERMITTING	12/01/10	ANV	WK	KRJ
			A	ISSUED FOR PERMITTING	11/12/10	ANV	WK	KRJ

THIS DRAWING IS NOT VALID UNLESS THE LAST REVISION IS HAND SIGNED

WBS CODE:
DISCIPLINE:
DWG No: 1

THIS DRAWING PRODUCED BY
Golder Associates

APPROVED BY PA ENG. / PR ENGINEER
NAME
SIGNATURE
REG No
ORIGINAL DATE
REVISION DATE

DRAWN BY: ANV
DATE: 11/03/10

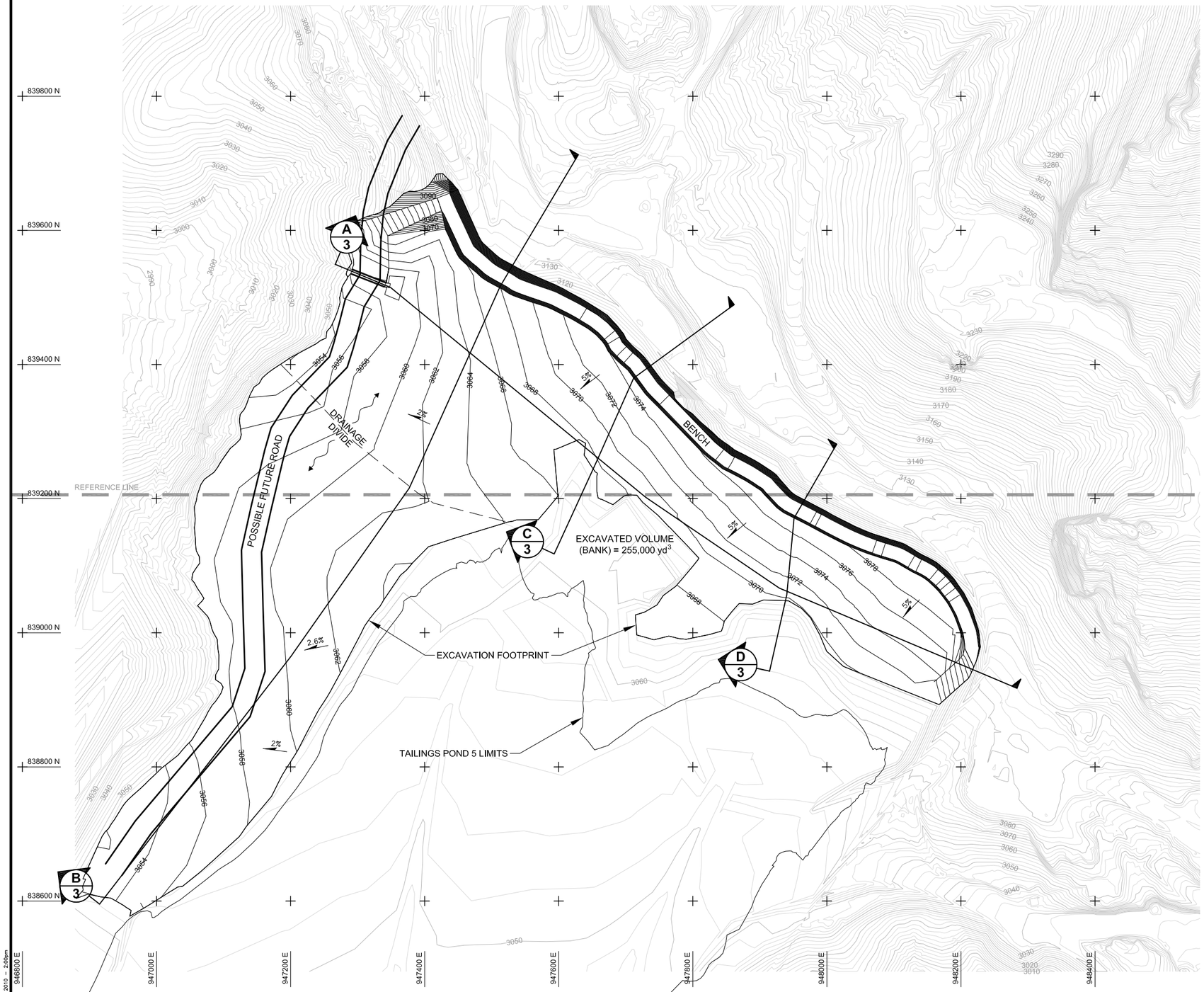
Resolution Copper Mining

CLIENT	Resolution Copper Mining
PROJECT	INTERMEDIATE ROCK STOCKPILE
LOCATION	SUPERIOR MINE, SUPERIOR, ARIZONA
AREA	WEST PLANT SITE
SUB-AREA	TP-5 AND TP-6/7
TITLE	TITLE SHEET

SCALE: AS SHOWN

PROJECT CODE	WBS LOCATION	WBS AREA CODE	WBS SUBAREA CODE	PROJECT PHASE	INITIATOR	ENG CODE	DISC	SEQUENTIAL NUMBER	REV
GOLDER FILE No 103925708001								1	B

Drawing file: 103925708001.dwg Dec 01, 2010 - 1:58pm



LEGEND

- EXISTING CONTOURS
- DESIGN CONTOURS
- REFERENCE LINE
- DIRECTION OF SURFACE FLOW
- CROSS-SECTION (A / 3)

REFERENCE

1.) DESIGN BASE DEVELOPED BY GOLDER USING 2008 AS-BUILT TOPOGRAPHY PROVIDED BY RCML AND JULY 18, 2008 TOPOGRAPHY FROM COOPER AERIAL SURVEYS Co.

N

80 0 80 160
SCALE FEET

Golder Associates
ISSUED FOR PERMITTING
ISSUE DATE: 12/01/10

APPROVED FOR RESOLUTION COPPER MINING, LLC.

PROJECT MANAGER	DATE: .
CONSTRUCTION MANAGER	DATE: .
SAFETY MANAGER	DATE: .
EPCM MANAGER	DATE: .
ENGINEERING MANAGER	DATE: .
SITE ENGINEER (MECHANICAL & ELECTRICAL)	DATE: .
SITE ENGINEER (MINING)	DATE: .
GEOTECHNICAL ENGINEER	DATE: .
ENVIRONMENTAL ENGINEER	DATE: .
PACKAGE MANAGER	DATE: .

APPROVED FOR GOLDER

PROJECT MANAGER	KRJ DATE: 11/09/10
ENGINEERING MANAGER	DATE: .
PACKAGE MANAGER	DATE: .
CIVIL ENGINEER	DATE: .
STRUCTURAL ENGINEER	DATE: .
MECHANICAL ENGINEER	DATE: .
ELECTRICAL ENGINEER	DATE: .
INSTRUMENTATION ENGINEER	DATE: .
REFRIGERATION ENGINEER	DATE: .
VENTILATION ENGINEER	DATE:
PIPING ENGINEER	DATE: .
SECTION LEADER	DATE: .
CHECKER	WK DATE: 10/29/10
DESIGNER	WK DATE: 10/29/10

REV	REF DWG NO	REFERENCE DRAWING TITLE
B		
2		
.	.	

REV	DESCRIPTION	DATE	BY	DES	PROJ MGR
A	ISSUED FOR PERMITTING	12/01/10	ANV	WK	KRJ
A	ISSUED FOR PERMITTING	11/12/10	ANV	WK	KRJ

THIS DRAWING IS NOT VALID UNLESS THE LAST REVISION IS HAND SIGNED

THIS DRAWING PRODUCED BY
Golder Associates

APPROVED BY PR ENG / PR TECH ENG
NAME .....
SIGNATURE .....
REG No .....
ORIGINAL DATE .....
REVISION DATE .....

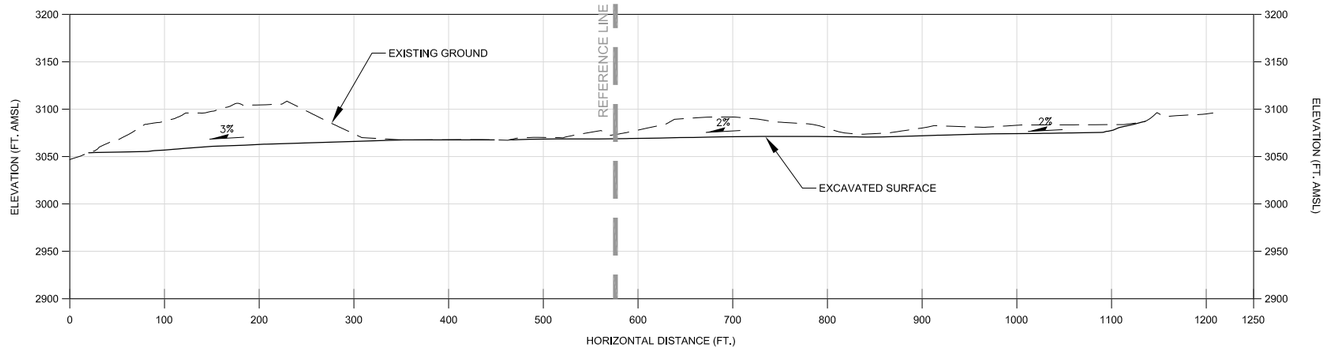
DRAWN BY: ANV DATE: 11/04/10

Resolution Copper Mining

CLIENT	Resolution Copper Mining
PROJECT	INTERMEDIATE ROCK STOCKPILE
LOCATION	SUPERIOR MINE, SUPERIOR, ARIZONA
AREA	WEST PLANT SITE
SUB-AREA	TP-5 AND TP-6/7
TITLE	EXCAVATION PLAN

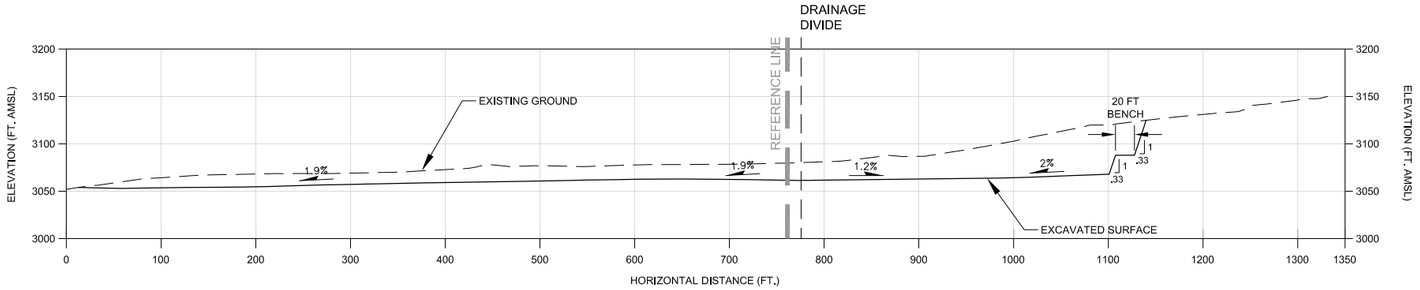
SCALE: SCALE	PROJECT CODE	WBS LOCATION	WBS AREA CODE	WBS SUBAREA CODE	PROJECT PHASE	INITIATOR	ENG CODE	DISC	SEQUENTIAL NUMBER	REV
GOLDER FILE No 10392570B002									2	B

Drawing file: 10392570B002.dwg
Dec 01, 2010 - 2:20pm
WBS CODE:
DISCIPLINE:
DWG No: 2



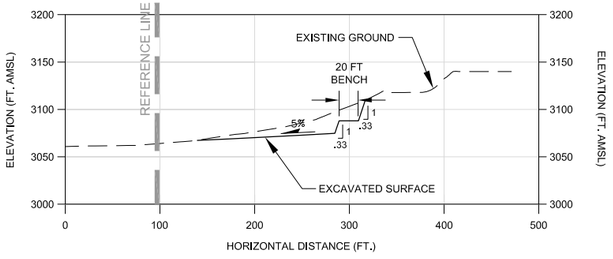
A/3 CROSS-SECTION A

SCALE 80 0 80 160 FEET



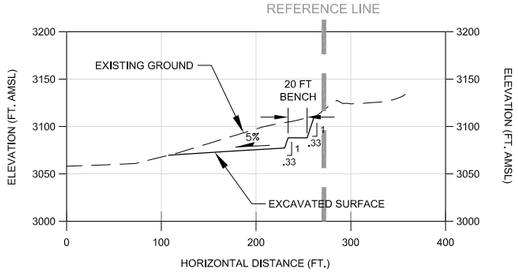
B/3 CROSS-SECTION B

SCALE 80 0 80 160 FEET



C/3 CROSS-SECTION C

SCALE 80 0 80 160 FEET



D/3 CROSS-SECTION D

SCALE 80 0 80 160 FEET

APPROVED FOR RESOLUTION COPPER MINING, LLC.

PROJECT MANAGER . DATE: .

CONSTRUCTION MANAGER . DATE: .

SAFETY MANAGER . DATE: .

EPCM MANAGER . DATE: .

ENGINEERING MANAGER . DATE: .

SITE ENGINEER (MECHANICAL & ELECTRICAL) . DATE: .

SITE ENGINEER (MINING) . DATE: .

GEOTECHNICAL ENGINEER . DATE: .

ENVIRONMENTAL ENGINEER . DATE: .

PACKAGE MANAGER . DATE: .

APPROVED FOR GOLDER

PROJECT MANAGER
KRJ
DATE: 11/09/10

ENGINEERING MANAGER . DATE: .

PACKAGE MANAGER . DATE: .

CIVIL ENGINEER . DATE: .

STRUCTURAL ENGINEER . DATE: .

MECHANICAL ENGINEER . DATE: .

ELECTRICAL ENGINEER . DATE: .

INSTRUMENTATION ENGINEER . DATE: .

REFRIGERATION ENGINEER . DATE: .

VENTILATION ENGINEER . DATE:

PIPING ENGINEER . DATE: .

SECTION LEADER . DATE: .

CHECKER
WK
DATE: 10/29/10

DESIGNER
WK
DATE: 10/29/10

Golder Associates
ISSUED FOR PERMITTING
ISSUE DATE: 12/01/10

REV	REF DWG NO	REFERENCE DRAWING TITLE
B	.	.

REV	DESCRIPTION	DATE	BY	DES	PROJ MGR
B	ISSUED FOR PERMITTING	12/01/10	ANV	WK	KRJ
A	ISSUED FOR PERMITTING	11/12/10	ANV	WK	KRJ

THIS DRAWING IS NOT VALID UNLESS THE LAST REVISION IS HAND SIGNED

WBS CODE:
DISCIPLINE:
DWG No: 3

THIS DRAWING PRODUCED BY
Golder Associates

APPROVED BY PR ENG / PR TECH ENG
NAME .
SIGNATURE .
REG No .
ORIGINAL DATE .
REVISION DATE .

DRAWN BY: ANV
DATE: 11/04/10

THIS DRAWING MAY BE REDUCED FROM ORIGINAL SIZE, DO NOT SCALE
This drawing is produced electronically and is only valid for construction if it contains the seal and original signature of an authorised Professional Engineer

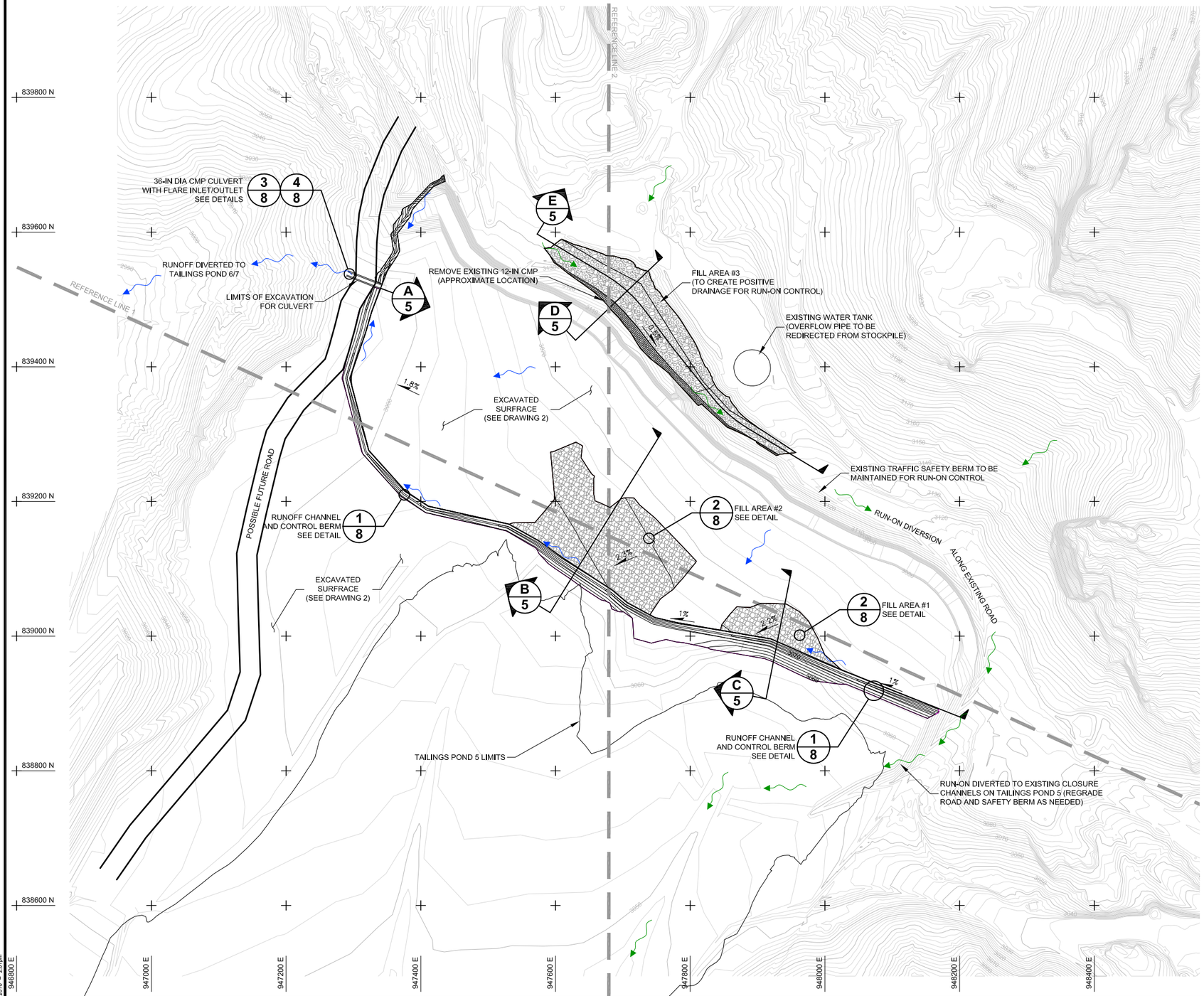
Resolution Copper Mining

CLIENT Resolution Copper Mining
PROJECT INTERMEDIATE ROCK STOCKPILE
LOCATION SUPERIOR MINE, SUPERIOR, ARIZONA
AREA WEST PLANT SITE
SUB-AREA TP-5 AND TP-6/7
TITLE EXCAVATION CROSS-SECTIONS

SCALE: SCALE

PROJECT CODE	WBS LOCATION	WBS AREA CODE	WBS SUBAREA CODE	PROJECT PHASE	INITIATOR	ENG CODE	DISC	SEQUENTIAL NUMBER	REV
GOLDER FILE No 10392570B003								3	B

Drawing file: 10392570B003.dwg Dec 01, 2010 - 2:01pm



LEGEND

- EXISTING CONTOURS
- DESIGN CONTOURS
- REFERENCE LINE
- DIRECTION OF SURFACE FLOW (RUNOFF)
- DIRECTION OF SURFACE FLOW (RUN-ON)
- COMPACTED COMMON FILL
- LOW PERMEABILITY FILL
- 1/8 DETAIL CALLOUT
- A/5 CROSS-SECTION CALLOUT

ESTIMATED QUANTITIES

	AREA (SQ. FT.)	VOLUME (CU. YD.)	TYPE OF FILL
FILL AREA #1	7,000	1,300	LOW-PERM.
FILL AREA #2	29,000	4,600	LOW-PERM.
FILL AREA #3	23,000	5,600	COMMON
RUNOFF CONTROL BERM	---	1,900	STRUCTURAL

REFERENCE

1.) DESIGN BASE DEVELOPED BY GOLDER USING 2008 AS-BUILT TOPOGRAPHY PROVIDED BY RCML AND JULY 18, 2008 TOPOGRAPHY FROM COOPER AERIAL SURVEYS Co.

80 0 80 160
SCALE FEET

Golder Associates
ISSUED FOR PERMITTING
ISSUE DATE: 12/01/10

APPROVED FOR RESOLUTION COPPER MINING, LLC.

PROJECT MANAGER — DATE:
CONSTRUCTION MANAGER — DATE:
SAFETY MANAGER — DATE:
EPCM MANAGER — DATE:
ENGINEERING MANAGER — DATE:
SITE ENGINEER (MECHANICAL & ELECTRICAL) — DATE:
SITE ENGINEER (MINING) — DATE:
GEOTECHNICAL ENGINEER — DATE:
ENVIRONMENTAL ENGINEER — DATE:
PACKAGE MANAGER — DATE:

APPROVED FOR GOLDER

PROJECT MANAGER — KRJ — DATE: 11/09/10
ENGINEERING MANAGER — DATE:
PACKAGE MANAGER — DATE:
CIVIL ENGINEER — DATE:
STRUCTURAL ENGINEER — DATE:
MECHANICAL ENGINEER — DATE:
ELECTRICAL ENGINEER — DATE:
INSTRUMENTATION ENGINEER — DATE:
REFRIGERATION ENGINEER — DATE:
VENTILATION ENGINEER — DATE:
PIPING ENGINEER — DATE:
SECTION LEADER — DATE:
CHECKER — WK — DATE: 10/29/10
DESIGNER — WK — DATE: 10/29/10

REV	REF DWG NO	REFERENCE DRAWING TITLE
B		
4		

WBS CODE:
DISCIPLINE:
DWG No:

REV	DESCRIPTION	DATE	BY	DES	PROJ MGR
B	ISSUED FOR PERMITTING	12/01/10	ANV	WK	KRJ
A	ISSUED FOR PERMITTING	11/12/10	ANV	WK	KRJ

THIS DRAWING IS NOT VALID UNLESS THE LAST REVISION IS HAND SIGNED

THIS DRAWING PRODUCED BY
Golder Associates

APPROVED BY PP DIC / PP TECH DIC
NAME
SIGNATURE
REG No
ORIGINAL DATE
REVISION DATE

DRAWN BY: ANV — DATE: 11/04/10

Resolution Copper Mining

THIS DRAWING MAY BE REDUCED FROM ORIGINAL SIZE, DO NOT SCALE
This drawing is produced electronically and is only valid for construction if it contains the seal and original signature of an authorised Professional Engineer

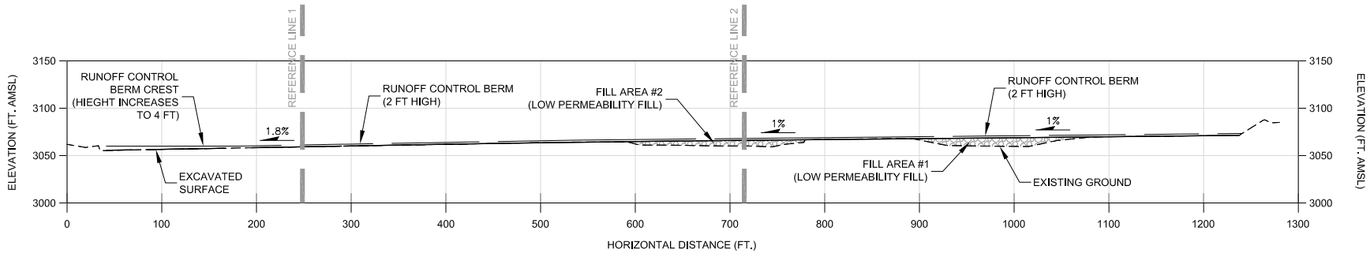
CLIENT	Resolution Copper Mining
PROJECT	INTERMEDIATE ROCK STOCKPILE
LOCATION	SUPERIOR MINE, SUPERIOR, ARIZONA
AREA	WEST PLANT SITE
SUB-AREA	TP-5 AND TP-6/7
TITLE	SITE PREPARATION PLAN

SCALE: SCALE

PROJECT CODE	WBS LOCATION	WBS AREA CODE	WBS SUBAREA CODE	PROJECT PHASE	INITIATOR	ENG CODE	DISC	SEQUENTIAL NUMBER	REV
								4	B

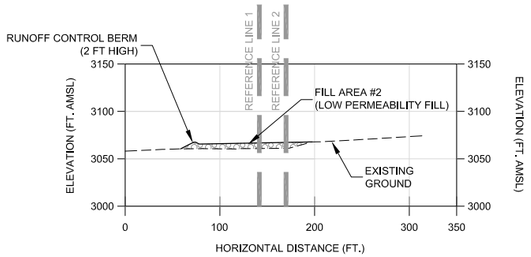
GOLDER FILE No 10392570B004

Drawing file: 10392570B004.dwg Dec 01, 2010 - 2:01pm



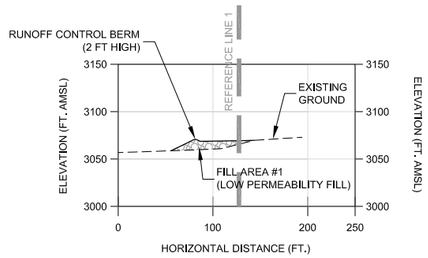
A/5 CROSS-SECTION A

SCALE 80 0 80 160 FEET



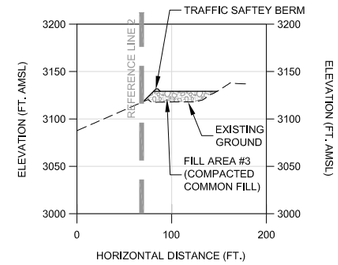
B/5 CROSS-SECTION B

SCALE 80 0 80 160 FEET



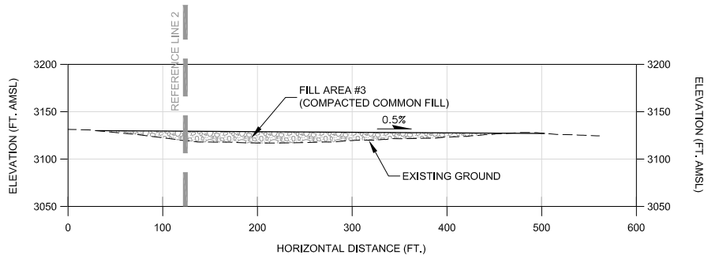
C/5 CROSS-SECTION C

SCALE 80 0 80 160 FEET



D/5 CROSS-SECTION D

SCALE 80 0 80 160 FEET



E/5 CROSS-SECTION E

SCALE 80 0 80 160 FEET

APPROVED FOR RESOLUTION COPPER MINING, LLC.

PROJECT MANAGER
DATE:
CONSTRUCTION MANAGER
DATE:
SAFETY MANAGER
DATE:
EPCM MANAGER
DATE:
ENGINEERING MANAGER
DATE:
SITE ENGINEER (MECHANICAL & ELECTRICAL)
DATE:
SITE ENGINEER (MINING)
DATE:
GEOTECHNICAL ENGINEER
DATE:
ENVIRONMENTAL ENGINEER
DATE:
PACKAGE MANAGER
DATE:

APPROVED FOR GOLDER

PROJECT MANAGER
KRJ
DATE: 11/09/10
ENGINEERING MANAGER
DATE:
PACKAGE MANAGER
DATE:
CIVIL ENGINEER
DATE:
STRUCTURAL ENGINEER
DATE:
MECHANICAL ENGINEER
DATE:
ELECTRICAL ENGINEER
DATE:
INSTRUMENTATION ENGINEER
DATE:
REFRIGERATION ENGINEER
DATE:
VENTILATION ENGINEER
DATE:
PIPING ENGINEER
DATE:
SECTION LEADER
DATE:
CHECKER
WK
DATE: 10/29/10
DESIGNER
WK
DATE: 10/29/10

Golder Associates
ISSUED FOR PERMITTING
ISSUE DATE: 12/01/10

REV	REF DWG NO	REFERENCE DRAWING TITLE	REV	DESCRIPTION	THIS DRAWING IS NOT VALID UNLESS THE LAST REVISION IS HAND SIGNED	DATE	BY	DES	PROJ MGR
B			A	ISSUED FOR PERMITTING		12/01/10	ANV	WK	KRJ
			1	ISSUED FOR PERMITTING		11/12/10	ANV	WK	KRJ

WBS CODE:
DISCIPLINE:
DWG No: 5

THIS DRAWING PRODUCED BY
Golder Associates

APPROVED BY PR ENG / PR TECH ENG
NAME
SIGNATURE
REG No
ORIGINAL DATE
REVISION DATE

DRAWN BY: ANV
DATE: 11/04/10

Resolution Copper Mining

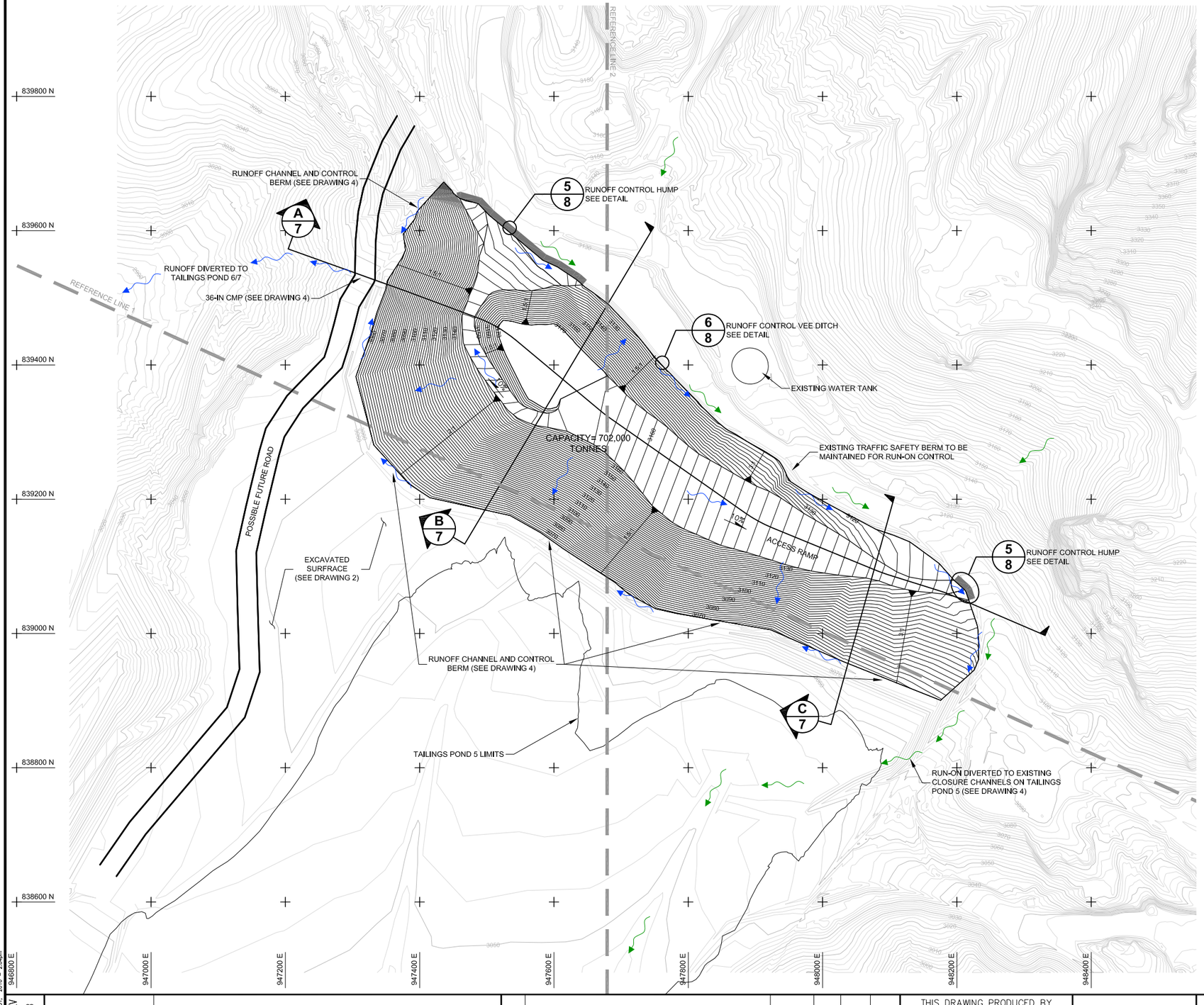
CLIENT	Resolution Copper Mining
PROJECT	INTERMEDIATE ROCK STOCKPILE
LOCATION	SUPERIOR MINE, SUPERIOR, ARIZONA
AREA	WEST PLANT SITE
SUB-AREA	TP-5 AND TP-6/7
TITLE	SITE PREPARATION CROSS-SECTIONS

SCALE: SCALE

PROJECT CODE	WBS LOCATION	WBS AREA CODE	WBS SUBAREA CODE	PROJECT PHASE	INITIATOR	ENG CODE	DISC	SEQUENTIAL NUMBER	REV
								5	B

GOLDER FILE No 10392570B005

Drawing file: 10392570B005.dwg
Dec 01, 2010 - 2:02pm



LEGEND

- EXISTING CONTOURS
- DESIGN CONTOURS
- REFERENCE LINE
- DIRECTION OF SURFACE FLOW (RUNOFF)
- DIRECTION OF SURFACE FLOW (RUN-ON)
- 5/8 DETAIL CALLOUT
- A/5 CROSS-SECTION CALLOUT

REFERENCE

1.) DESIGN BASE DEVELOPED BY GOLDER USING 2008 AS-BUILT TOPOGRAPHY PROVIDED BY RCML AND JULY 18, 2008 TOPOGRAPHY FROM COOPER AERIAL SURVEYS Co.

N

80 0 80 160
SCALE FEET

Golder Associates
ISSUED FOR PERMITTING
ISSUE DATE: 12/01/10

APPROVED FOR RESOLUTION COPPER MINING, LLC.

PROJECT MANAGER	DATE:
CONSTRUCTION MANAGER	DATE:
SAFETY MANAGER	DATE:
EPCM MANAGER	DATE:
ENGINEERING MANAGER	DATE:
SITE ENGINEER (MECHANICAL & ELECTRICAL)	DATE:
SITE ENGINEER (MINING)	DATE:
GEOTECHNICAL ENGINEER	DATE:
ENVIRONMENTAL ENGINEER	DATE:
PACKAGE MANAGER	DATE:

APPROVED FOR GOLDER

PROJECT MANAGER KRJ	DATE: 11/09/10
ENGINEERING MANAGER	DATE:
PACKAGE MANAGER	DATE:
CIVIL ENGINEER	DATE:
STRUCTURAL ENGINEER	DATE:
MECHANICAL ENGINEER	DATE:
ELECTRICAL ENGINEER	DATE:
INSTRUMENTATION ENGINEER	DATE:
REFRIGERATION ENGINEER	DATE:
VENTILATION ENGINEER	DATE:
PIPING ENGINEER	DATE:
SECTION LEADER	DATE:
CHECKER WK	DATE: 10/29/10
DESIGNER WK	DATE: 10/29/10

REV	REF DWG NO	REFERENCE DRAWING TITLE	REV	DESCRIPTION	DATE	BY	DES	PROJ MGR
B			B	ISSUED FOR PERMITTING	12/01/10	ANV	WK	KRJ
			A	ISSUED FOR PERMITTING	11/12/10	ANV	WK	KRJ

THIS DRAWING IS NOT VALID UNLESS THE LAST REVISION IS HAND SIGNED

WBS CODE: 6
DISCIPLINE:
DWG No:

THIS DRAWING PRODUCED BY
Golder Associates

APPROVED BY PR ENG / PR TECH ENG
NAME
SIGNATURE
REG NO
ORIGINAL DATE
REVISION DATE

DRAWN BY: ANV
DATE: 11/04/10

THIS DRAWING MAY BE REDUCED FROM ORIGINAL SIZE. DO NOT SCALE
This drawing is produced electronically and is only valid for construction if it contains the seal and original signature of an authorised Professional Engineer

Resolution Copper Mining

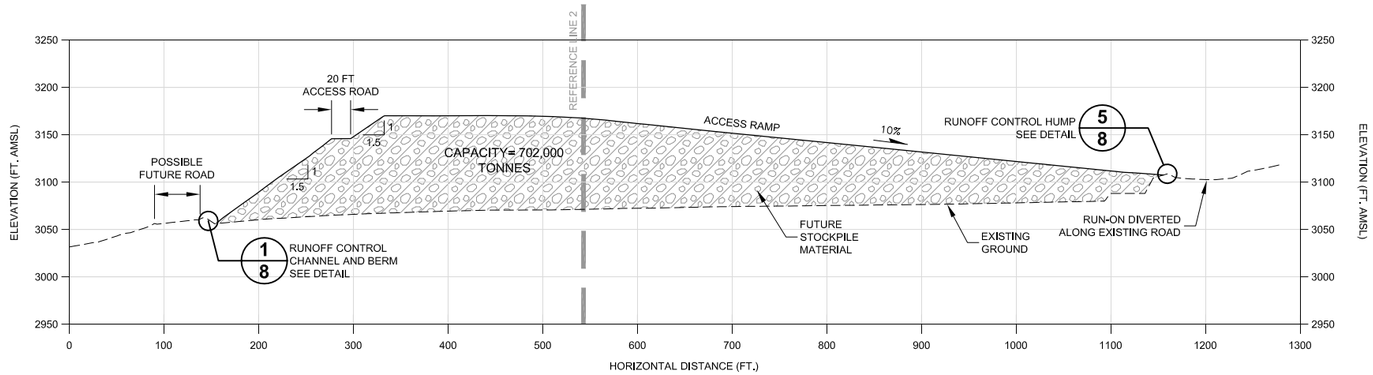
CLIENT	Resolution Copper Mining
PROJECT	INTERMEDIATE ROCK STOCKPILE
LOCATION	SUPERIOR MINE, SUPERIOR, ARIZONA
AREA	WEST PLANT SITE
SUB-AREA	TP-5 AND TP-6/7
TITLE	STOCKPILE PLAN

SCALE: SCALE

PROJECT CODE	WBS LOCATION	WBS AREA CODE	WBS SUBAREA CODE	PROJECT PHASE	INITIATOR	ENG CODE	DISC	SEQUENTIAL NUMBER	REV
								6	B

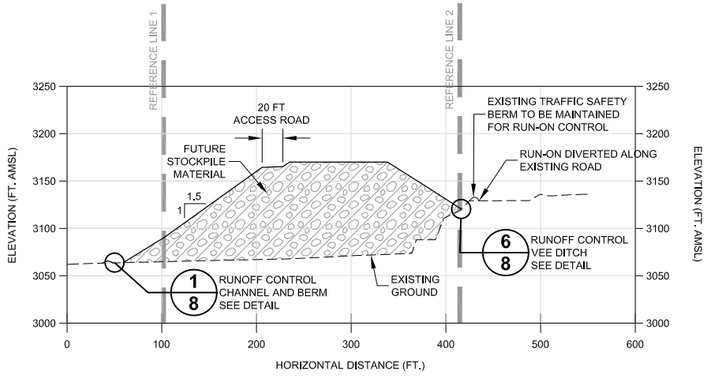
GOLDER FILE No 10392570B006

Dec. 01, 2010 - 2:54pm
Drawing File: 10392570B006.dwg



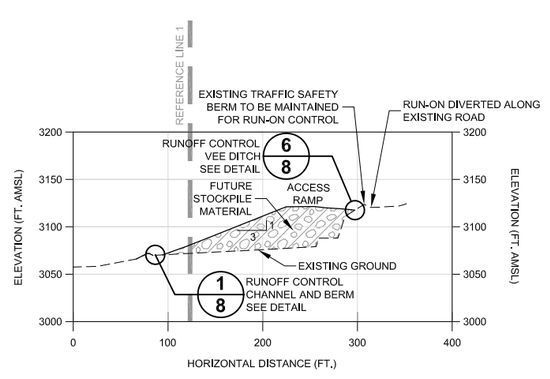
A/7 **CROSS-SECTION A**

80 0 80 160
SCALE FEET



B/7 **CROSS-SECTION B**

80 0 80 160
SCALE FEET



C/7 **CROSS-SECTION C**

80 0 80 160
SCALE FEET

APPROVED FOR RESOLUTION COPPER MINING, LLC.

PROJECT MANAGER — DATE:
CONSTRUCTION MANAGER — DATE:
SAFETY MANAGER — DATE:
EPCM MANAGER — DATE:
ENGINEERING MANAGER — DATE:
SITE ENGINEER (MECHANICAL & ELECTRICAL) — DATE:
SITE ENGINEER (MINING) — DATE:
GEOTECHNICAL ENGINEER — DATE:
ENVIRONMENTAL ENGINEER — DATE:
PACKAGE MANAGER — DATE:

APPROVED FOR GOLDER

PROJECT MANAGER — KRJ — DATE: 11/09/10
ENGINEERING MANAGER — DATE:
PACKAGE MANAGER — DATE:
CIVIL ENGINEER — DATE:
STRUCTURAL ENGINEER — DATE:
MECHANICAL ENGINEER — DATE:
ELECTRICAL ENGINEER — DATE:
INSTRUMENTATION ENGINEER — DATE:
REFRIGERATION ENGINEER — DATE:
VENTILATION ENGINEER — DATE:
PIPING ENGINEER — DATE:
SECTION LEADER — DATE:
CHECKER — WK — DATE: 10/23/10
DESIGNER — WK — DATE: 10/23/10

Golder Associates
ISSUED FOR PERMITTING
ISSUE DATE: 12/01/10

REV	REF DWG NO	REFERENCE DRAWING TITLE	REV	DESCRIPTION	DATE	BY	DES	PROJ MGR
B			A	ISSUED FOR PERMITTING	12/01/10	ANV	WK	KRJ
			1	ISSUED FOR PERMITTING	11/12/10	ANV	WK	KRJ

THIS DRAWING IS NOT VALID UNLESS THE LAST REVISION IS HAND SIGNED

WBS CODE:
DISCIPLINE:
DWG No: 7

THIS DRAWING PRODUCED BY
Golder Associates

APPROVED BY PR ENG / PR TECH ENG
NAME
SIGNATURE
REG NO.
ORIGINAL DATE
REVISION DATE

DRAWN BY: ANV — DATE: 11/04/10

Resolution Copper Mining

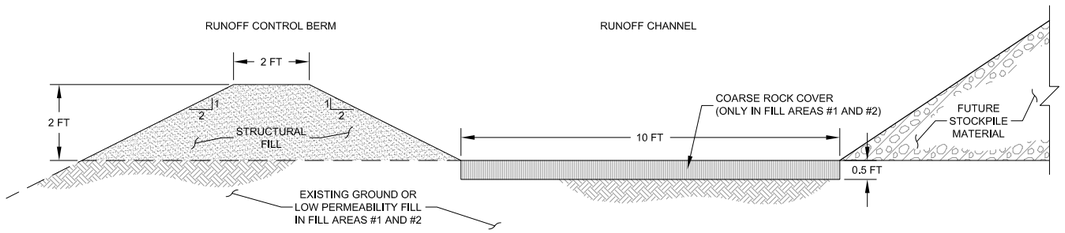
CLIENT	Resolution Copper Mining
PROJECT	INTERMEDIATE ROCK STOCKPILE
LOCATION	SUPERIOR MINE, SUPERIOR, ARIZONA
AREA	WEST PLANT SITE
SUB-AREA	TP-5 AND TP-6/7
TITLE	STOCKPILE CROSS-SECTIONS

SCALE: SCALE

PROJECT CODE	WBS LOCATION	WBS AREA CODE	WBS SUBAREA CODE	PROJECT PHASE	INITIATOR	ENG CODE	DISC	SEQUENTIAL NUMBER	REV
								7	B

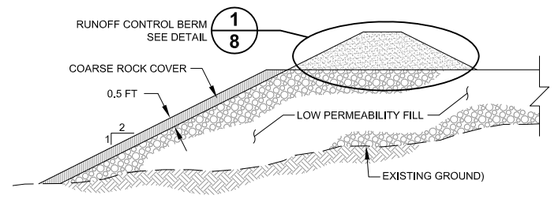
GOLDER FILE No 10392570B007

Drawing file: 10392570B007.dwg Dec 01, 2010 - 2:03pm



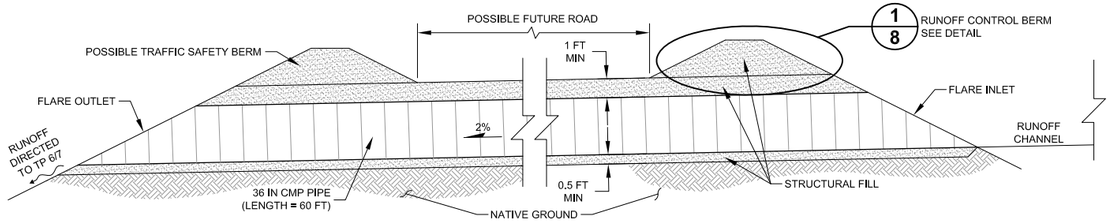
1/8 RUNOFF CHANNEL AND CONTROL BERM DETAIL

NOT TO SCALE



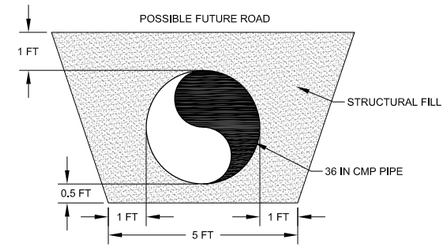
2/8 FILL AREAS #1 AND #2

NOT TO SCALE



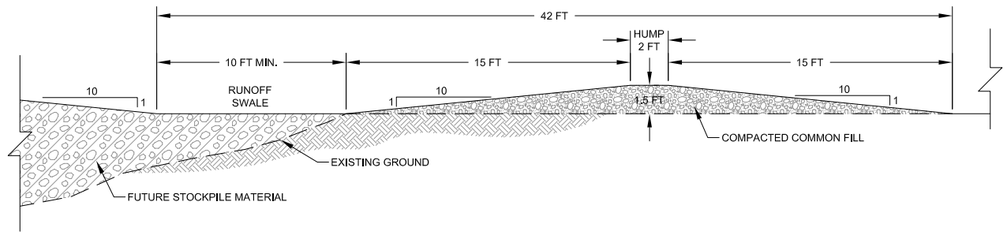
3/8 RUNOFF CONTROL CULVERT DETAIL

NOT TO SCALE



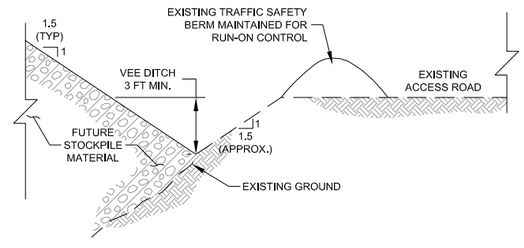
4/8 RUNOFF CONTROL CULVERT SECTION

NOT TO SCALE



5/8 RUNOFF CONTROL HUMP DETAIL

NOT TO SCALE



6/8 RUNOFF CONTROL VEE DITCH DETAIL

NOT TO SCALE

APPROVED FOR
RESOLUTION COPPER
MINING, LLC.

PROJECT MANAGER
DATE:
CONSTRUCTION MANAGER
DATE:
SAFETY MANAGER
DATE:
EPCM MANAGER
DATE:
ENGINEERING MANAGER
DATE:
SITE ENGINEER (MECHANICAL & ELECTRICAL)
DATE:
SITE ENGINEER (MINING)
DATE:
GEOTECHNICAL ENGINEER
DATE:
ENVIRONMENTAL ENGINEER
DATE:
PACKAGE MANAGER
DATE:

APPROVED FOR GOLDER

PROJECT MANAGER
KRJ
DATE: 11/09/10
ENGINEERING MANAGER
DATE:
PACKAGE MANAGER
DATE:
CIVIL ENGINEER
DATE:
STRUCTURAL ENGINEER
DATE:
MECHANICAL ENGINEER
DATE:
ELECTRICAL ENGINEER
DATE:
INSTRUMENTATION ENGINEER
DATE:
REFRIGERATION ENGINEER
DATE:
VENTILATION ENGINEER
DATE:
PIPING ENGINEER
DATE:
SECTION LEADER
DATE:
CHECKER
WK
DATE: 10/29/10
DESIGNER
WK
DATE: 10/29/10

Golder Associates
ISSUED FOR PERMITTING
ISSUE DATE: 12/01/10

REV								
B								
			A	ISSUED FOR PERMITTING	12/01/10	ANV	WK	KRJ
			A	ISSUED FOR PERMITTING	11/12/10	ANV	WK	KRJ
	REF DWG NO	REFERENCE DRAWING TITLE	REV	DESCRIPTION THIS DRAWING IS NOT VALID UNLESS THE LAST REVISION IS HAND SIGNED	DATE	BY	DES	PROJ MGR

WBS CODE:
DISCIPLINE:
DWG No: 8

THIS DRAWING PRODUCED BY
Golder Associates

APPROVED BY PR ENG / PR TECH ENG
NAME
SIGNATURE
REG NO
ORIGINAL DATE
REVISION DATE

DRAWN BY: ANV
DATE: 11/03/10

Resolution Copper Mining

THIS DRAWING MAY BE REDUCED FROM ORIGINAL SIZE, DO NOT SCALE
This drawing is produced electronically and is only valid for construction if it contains the seal and original signature of an authorized Professional Engineer

CLIENT	Resolution Copper Mining
PROJECT	INTERMEDIATE ROCK STOCKPILE
LOCATION	SUPERIOR MINE, SUPERIOR, ARIZONA
AREA	WEST PLANT SITE
SUB-AREA	TP-5 AND TP-6/7
TITLE	DETAILS

SCALE: AS SHOWN

PROJECT CODE	WBS LOCATION	WBS AREA CODE	WBS SUBAREA CODE	PROJECT PHASE	INITIATOR	ENG CODE	DISC	SEQUENTIAL NUMBER	REV
GOLDER FILE No 10392570B008								8	B

Dec 01, 2010 - 2:05pm
Drawing file: 10392570B008.dwg

APPENDIX B
INSPECTION FORM FOR THE INTERMEDIATE ROCK STOCKPILE

INTERMEDIATE ROCK STOCKPILE MONITORING
Type 2.02 General Aquifer Protection Permit
West Plant Site, Superior Mine

Quarterly Monitoring: _____ Date: _____
Significant Event: _____ Inspector Initials: _____

1.- Top Surface

Facility	Ponding Water	Other	Corrective Actions Required	Corrective Actions Completed
Top Surface				

2.- Slope Stability of Outslopes/Embankments

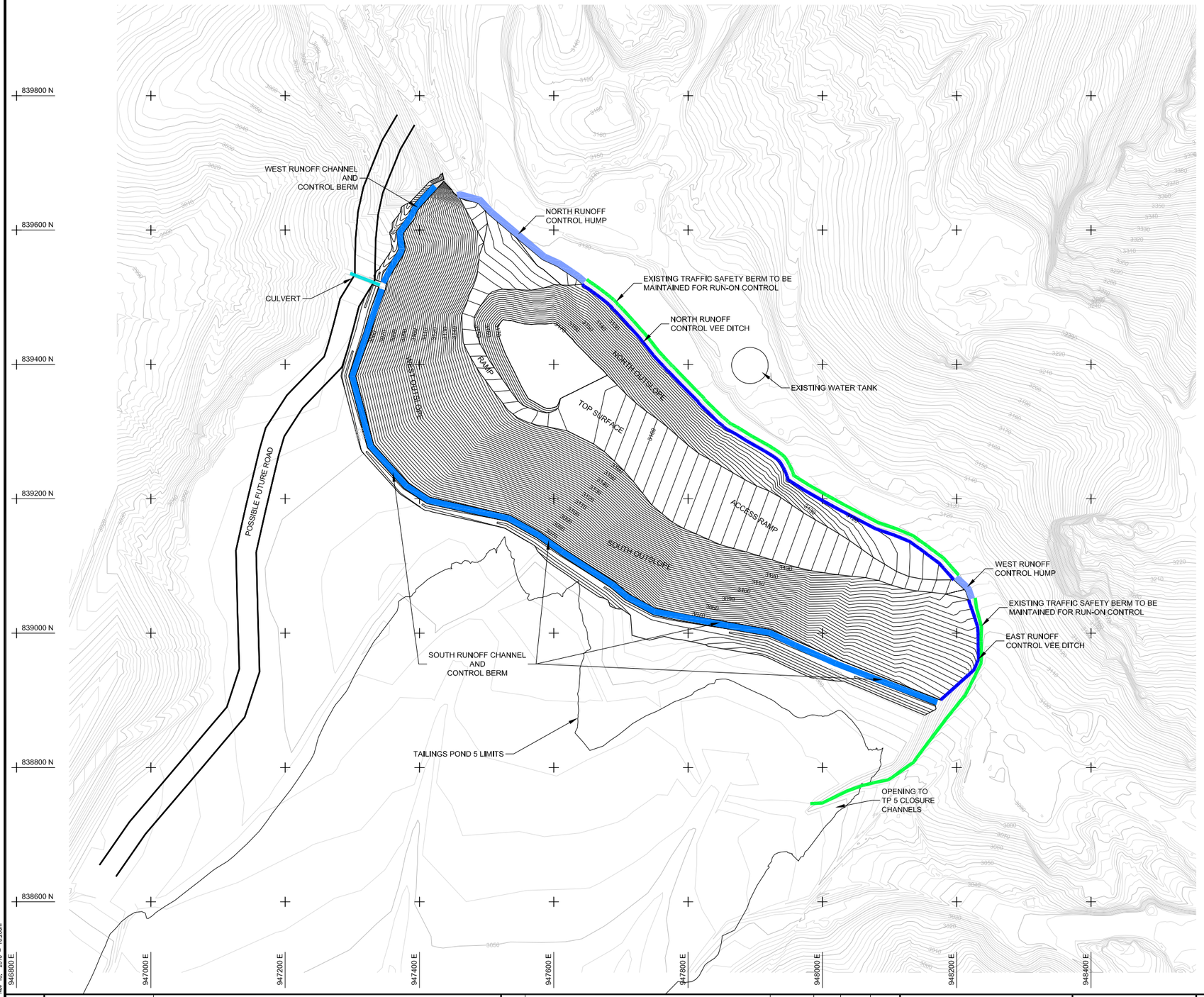
Facility	Visible Cracks	Sloughing	Slumps	Corrective Actions Required	Corrective Actions Completed
North					
South					
West					

3.- Runoff Controls

Facility	Deformities	Overtopping	Obstructions/ Sedimentation	Other	Corrective Actions Required	Corrective Actions Completed
North Control Hump						
North Vee Ditch						
East Control Hump						
East Vee Ditch						
South Runoff Channel & Berm						
West Runoff Channel & Berm						
Culvert						

4.- Run-on Controls

Facility	Erosion	Overtopping	Obstructions	Other	Corrective Actions Required	Corrective Actions Completed
Existing Road Traffic Safety Berm						
Opening to TP 5 Channels						



LEGEND

- EXISTING CONTOURS
- DESIGN CONTOURS
- RUNOFF CONTROL HUMP
- RUNOFF CONTROL VEE DITCH
- RUNOFF CONTROL CHANNEL
- CULVERT
- EXISTING TRAFFIC SAFETY BERM (RUN-ON CONTROL)

REFERENCE

1.) DESIGN BASE DEVELOPED BY GOLDER USING 2008 AS-BUILT TOPOGRAPHY PROVIDED BY RCML AND JULY 18, 2008 TOPOGRAPHY FROM COOPER AERIAL SURVEYS Co.

80 0 80 160
SCALE FEET

QUARTERLY MONITORING: _____

SIGNIFICANT EVENT: _____

DATE: _____ INSPECTOR INITIALS: _____

Golder Associates
ISSUED FOR PERMITTING
ISSUE DATE: 11/17/10

APPROVED FOR RESOLUTION COPPER MINING, LLC.

PROJECT MANAGER	DATE:
CONSTRUCTION MANAGER	DATE:
SAFETY MANAGER	DATE:
EPCM MANAGER	DATE:
ENGINEERING MANAGER	DATE:
SITE ENGINEER (MECHANICAL & ELECTRICAL)	DATE:
SITE ENGINEER (MINING)	DATE:
GEOTECHNICAL ENGINEER	DATE:
ENVIRONMENTAL ENGINEER	DATE:
PACKAGE MANAGER	DATE:

APPROVED FOR GOLDER

PROJECT MANAGER	DATE:
ENGINEERING MANAGER	DATE:
PACKAGE MANAGER	DATE:
CIVIL ENGINEER	DATE:
STRUCTURAL ENGINEER	DATE:
MECHANICAL ENGINEER	DATE:
ELECTRICAL ENGINEER	DATE:
INSTRUMENTATION ENGINEER	DATE:
REFRIGERATION ENGINEER	DATE:
VENTILATION ENGINEER	DATE:
PIPING ENGINEER	DATE:
SECTION LEADER	DATE:
CHECKER	DATE: 11/23/10
DESIGNER	DATE: 11/23/10

REV	REF DWG NO	REFERENCE DRAWING TITLE	REV	DESCRIPTION	DATE	BY	DES	PROJ MGR
A			A	ISSUED FOR PERMITTING	11/12/10	ANV	WK	KRJ

THIS DRAWING IS NOT VALID UNLESS THE LAST REVISION IS HAND SIGNED

WBS CODE:
DISCIPLINE:
DWG No: 6

THIS DRAWING PRODUCED BY
Golder Associates

DRAWN BY: WK DATE: 11/17/10

THIS DRAWING MAY BE REDUCED FROM ORIGINAL SIZE. DO NOT SCALE.
This drawing is produced electronically and is only valid for construction if it contains the seal and original signature of an authorised Professional Engineer

Resolution Copper Mining

CLIENT	Resolution Copper Mining
PROJECT	INTERMEDIATE ROCK STOCKPILE
LOCATION	SUPERIOR MINE, SUPERIOR, ARIZONA
AREA	WEST PLANT SITE
SUB-AREA	TP-5 AND TP-6/7
TITLE	STOCKPILE MONITORING

SCALE: SCALE

PROJECT CODE	WBS LOCATION	WBS AREA CODE	WBS SUBAREA CODE	PROJECT PHASE	INITIATOR	ENG CODE	DISC	SEQUENTIAL NUMBER	REV
GOLDER FILE No 10392570B006-APP								—	A

Nov 18, 2010 - 10:20am
Drawing file: 10392570B006-For APP.dwg

At Golder Associates we strive to be the most respected global group of companies specializing in ground engineering and environmental services. Employee owned since our formation in 1960, we have created a unique culture with pride in ownership, resulting in long-term organizational stability. Golder professionals take the time to build an understanding of client needs and of the specific environments in which they operate. We continue to expand our technical capabilities and have experienced steady growth with employees now operating from offices located throughout Africa, Asia, Australasia, Europe, North America and South America.

Africa	+ 27 11 254 4800
Asia	+ 852 2562 3658
Australasia	+ 61 3 8862 3500
Europe	+ 356 21 42 30 20
North America	+ 1 800 275 3281
South America	+ 55 21 3095 9500

solutions@golder.com
www.golder.com

Golder Associates Inc.
4730 N. Oracle Road, Suite 210
Tucson, AZ 85705 USA
Tel: (520) 888-8818
Fax: (520) 888-8817

Golder Associates