SD C7: Drawings from Back Dam Investigation and Design
(Golder Associates 2006)
Back Dam Investigation Drawings
LEGEND

• G05-OS-3  GOLDER 2005/2006 BOREHOLES
• DM-8  DAMES & MOORE 1999 BOREHOLES
• BH-G04-3  GOLDER 2004 BOREHOLES
• G06-TP-1  GOLDER 2006 TEST PIT

NOTES

1. BOREHOLES GENERALLY DRILLED IN TWO PHASES AT TWO LOCATIONS WITH TWO SEPARATE DRILL RIGS. OVERBURDEN MATERIALS TYPICALLY DRILLED FIRST WITH AUGER RIG FOLLOWED BY ROCK DRILLING WITH CORE RIG. SEE REPORT TEXT AND BOREHOLE LOGS FOR DETAILS.

2. BOREHOLE LOCATIONS SHOWN REPRESENT ROCK CORING LOCATIONS. LOCATION OF OVERBURDEN BOREHOLES GENERALLY WITHIN 10 FT. EXACT LOCATION OF OVERBURDEN BOREHOLES SHOWN ON BOREHOLE LOG NOTES.

REFERENCE

BASE MAP SHOWING 2004 TOPOGRAPHY (RD200.DWG) PROVIDED BY TCAK.
NOTES

1. SUBSURFACE PROFILE BASED ON 2005/2006 BOREHOLE DATA EXTENDED PERPENDICULAR TO PROFILE ALIGNMENT. WATER DEPTHS AND FROZEN GROUND NOT SHOWN. LIMITS ARE ESTIMATED AND MAY DIFFER FROM ACTUAL CONDITIONS.

2. DEPTH OF BEDROCK WITH APPARENT LOW PERMEABILITY BASED ON VISUAL EXAMINATION OF ROCK CORE SAMPLES AS DESCRIBED IN THE REPORT TEXT.

3. ESTIMATED CUT-OFF WALL SURFACE FOR 960 FT CREST ELEVATION ASSUMES EXCAVATION OF ICE-RICH AND ORGANIC MATERIALS AND BACKFILL TO 980 FT ELEVATION.
NOTES

1. SUBSURFACE PROFILE BASED ON BOREHOLE DATA. ACTUAL CONDITIONS BETWEEN BOREHOLES MAY VARY FROM WHAT IS SHOWN.

2. PROPOSED CUT-OFF WALL EMBANKMENT CONSTRUCTED OVER APPROVED SUBGRADE FOLLOWING EXCAVATION OF ICE, ICE-RICH SOIL AND ORGANICS.

3. UPSTREAM AND DOWNSTREAM SIDES OF PROPOSED CUT-OFF WALL EMBANKMENT BUTTRESSED WITH TAILINGS AND EXCAVATED OVERBURYDEN MATERIALS, RESPECTIVELY, TO PROVIDE SEISMIC STABILITY. BUTTRESS SLOPES MAY BE INCREASED TO 3H:1V BEYOND TAILINGS IMPOUNDMENT AND OVERBURYDEN STOCKPILE.
NOTES

1. WHEN BOTTOM OF EXCAVATION SURFACE IS BELOW AN ELEVATION OF 950 FT, THE EXCAVATION LIMITS SHALL BE DETERMINED BY PROCEEDING A 4 FT DEEP, AND 1 FT OUT FROM ALIGNMENT CENTERLINE FROM AN ELEVATION OF 950 FT.

2. EXCAVATION OF ORGANIC AND NIC-ROCKY MATERIÁLS SHALL BE COVERED BY DRAINAGE PRIOR TO BACKFILL.

3. UPSTREAM EXCAVATION SURFACE SHALL BE EXCAVATED TO 24 IN. WITHIN THE ENHANCEMENT LIMITS. EXHABITUPSTREAM SLOPES AND UPSTREAM SURFACES OUTSIDE OF THE ENHANCEMENT LIMITS SHALL BE COVERED WITH A MINIMUM DEPTH OF ORGANIC AND NIC-ROCKY MATERIALS.

4. SELECT FILL SHALL HAVE A MINIMUM WIDTH OF 20 FT AT CREST ELEVATIONS OF 950 FT AND HIGHER. THE SELECT FILL UTILIZED BELOW A CREST ELEVATION SHALL BE DETERMINED TO PROVIDE A 5 FT DEEP, 1 FT OUT FROM THE ALIGNMENT CENTERLINE AS SHOWN.

5. SELECT FILL AND ROCKFILL SHALL BE PLACED AND COMPACTED AS DESCRIBED IN THE SPECIFICATIONS, OR AS DIRECTED BY ENGINEER.

6. MAINTAIN D mine GRADING ALONG T DIAMETER SURFACE ON NORTH SIDE OF FULL SECTION.

7. DRIVE AND/OR LEAF ONIC-ROCKY MATERIALS ALONG CUT-OFF WALL EXCAVATION TO PREVENT DRAINAGE PROBLEMS. DRAINAGE PROBLEMS WILL OCCUR IN THE ELECTRONIC DRAINAGE PROBLEMS IN THE ELECTRONIC DRAINAGE PROBLEMS IN THE ELECTRONIC DRAINAGE PROBLEMS. DRAINAGE PROBLEMS SHOULD BE DIRECTED TO DRAINAGE PROBLEMS ON CAPTURE COLLECTION SYSTEM.

FILL SECTIONS AND BENCH DETAIL

ISSUED FOR CONSTRUCTION
NOTES

1. THE GUIDE WALLS SHALL BE CONSTRUCTED WITH JOINTS TO FACILITATE TO PERMISSIVE CONSTRUCTION AT ALL STAGED BENCH LOCATIONS. MINIMUM JOINT SHAPING SHALL ALLOW FOR EXCEDENCE WITH LOCAL CONSTRUCTION EQUIPMENT.

2. STAGED BENCH EXTENSION DETAIL SHALL BE PERMITTED AS APPROVED BY THE ENGINEER. FLEXIBILITY WITH MINIMUM 4 FEET COMPRESSIBLE STRENGTH SHALL BE USED AT NO MORE THAN 20 FEET.

3. THE GUIDE WALLS SHALL BE PLACED IN 2 FEET AND THE FIRST SET SHALL BE PLACED WITH 4 FEET STAGE PAST OF A 10-TON KOLLER. FILL PLACED OVER THE INSULATION SHALL BE COMPACTED EXCEPT AT THE KOLLER POINT LOCATION.
COMBINATION EXTENSOMETER / INCLINOMETER SYSTEM DETAIL

NOT TO SCALE

COMBINATION PIEZOMETER / THERMISTOR SYSTEM DETAIL

NOT TO SCALE

INSTRUMENT QUAD PROTECTION

NOT TO SCALE

NOTES

1. ALL MONITORING INSTRUMENTATION SHALL BE INSTALLED FOLLOWING INSTALLATION OF INSULATION AND SELECT FILL COVER.

2. SURFACE MONITORING WALLS CONSIST OF VERTICAL & MASONRY WITH ST STAINLESS STEEL BRACE FINISHED SURFACE AND CEMENTED WALL METAL PLATE INSIDE WALL.

3. MASONRY WALLS CONSIST OF CONCRETE PICTURE-LIUNING PIPE WITH GASKET OR APPROVED EQUIPMENT TO OVERCOME BARRIER DURING DRAINAGE OF WALL GRIT.

4. PROTRACTOR SURFACE RINGS AND INSTRUMENT QUAD SHALL BE COATED WITH ORANGE PAINT OR EQUIVALENT TO IMPROVE VIZIBILITY DURING WINTER.

5. INSTRUMENTS SHALL BE PLACED ANYWHERE EXCEPT PIERED OR THERMISTOR AND EXTENSION/INCLINOMETER SYSTEMS FOR PROTECTION AND INCREASED VIZIBILITY.

TECK COMINCO ALASKA INC.
BACK DAM CUT-OFF WALL CONSTRUCTION
RED DOG MINE, ALASKA

ISSUED FOR CONSTRUCTION

INSTRUMENTATION

PROJECT NO. 200-ST-15991 FILE NO. 200-15994 5762-11
SCALE 1:100 1/8 IN. = 1'-0"
5/8/04 DRAWN BY A.GREIB 5/8/04 CHECKED BY D.WILLIAMS
5/8/04 ISSUED BY A.GREIB 5/8/04 PRINTED BY A.GREIB
NOTES
1. BASE MAP SHOWING ZONE TOPOGRAPHY [DOUGLASS] PROVIDED BY TELKOM.
2. NORTHINGS AND EASTINGS ARE IN FEET REFERENCED TO UTM 69.
3. ELEVATIONS ARE IN FEET AND ARE REFERENCED TO GEODETIC Datum.
4. REMOVE EXISTING DUGOUT WALLS WITHIN Fill AND CUT-OFF WALL CONSTRUCTION LIMITS TO FACILITATE REINSAL TO THE EXISTING CUT-OFF WALL. SMOUTH WITH COMPACTED E01 FILL ACCORDING TO THE SPECIFICATIONS.
5. ADDITION COMBINED PERMEAMETER/PRESSURE AND EXTENSION/EXTRUSION MONITOR SYSTEMS AND DRAINAGE WITH SPECIFIED CRUSH.
6. CUT-OFF WALLS SHALL BE REMOVED AT A SPECIFIED DATE. REMOVE PANEL VEIN MATERIALS TO THE 5" OFF TOP OF ALUMINUM AND REMOVE WITH SPECIFIED MATERIAL.
7. 1' ELEVATION OF EMBANKMENT BASE TO 986' CREST ELEVATION SHALL BE PERFORMED ACCORDING TO E01 STRAIN-OIL SPECIFICATIONS A & B. EMBANKMENT AREA OF EXISTING E01 ACCURACY FOR FUTURE WORK ABOVE BASE ELEVATION. ALL EMBANKMENT SHALL BE PERFORMED A MINIMUM OF 2' 0" CUT-OFF SOIL LEVEL (CLASS is USED TO ALLOW FOR WORKING TRACK.)
8. MATERIAL SHOULD BE COVERED WITH A LAYER OF POLYETHYLENE (PE) INSULATION THAT WILL LOW WATER ABSORPTION, DURABILITY AND PREVENT CUT-OFF WALL FOR CULLED CONDITIONS. 5% POLYETHYLENE IS HERE REFER TO EMBANKMENT ELEVATION.
9. FITTINGS INSTALLATION AND ADJOIN INSTALLATION BOTTOMS ACCORDING TO ABOVE FILL THICKNESS.

CUT-OFF WALL RAISE PROFILE TO 986' CREST ELEVATION