
To:	Karyn Lewis Lupin Mine Incorporated	From:	Alvin Tong Stantec Consulting Ltd.
File:	Supporting Information for the Dam Stability and Cover Design	Date:	January 10, 2020

Reference: Supporting Information for the Dam Stability and Cover Design

Lupin Mine Incorporated (LMI), a wholly owned subsidiary of Mandalay Resources is requesting the renewal and amendment of their existing Type "A" Water License No. 2AM-LUP1520, to allow for Final Closure and Reclamation of the Lupin Mine Project (Lupin). The Nunavut Water Board (NWB or Board) Water License Application No. 2AM-LUP1520 Technical Meeting was held June 6-7th, 2019 in Kugluktuk and Appendix D of the June 18, 2018 Pre-Hearing Conference Decision Report outlines the agreed upon List of Commitments (Commitments). Stantec Consulting Ltd. (Stantec) was retained by LMI to support the responses to select commitments and this technical memo provides the responses to fulfill Commitment No. 6.

The original response to the commitment was provided on November 14, 2019. Follow up comments and a meeting with CIRNAC on January 7th, 2020 identified that additional information is needed to provide details for the resloping for Dam K and M. The figures provided herein is revised from the original submission in November 2019 to provide the additional information as requested in the January meeting.

Stantec Consulting Ltd.

Alvin Tong P. Eng.
Senior Geotechnical Engineer

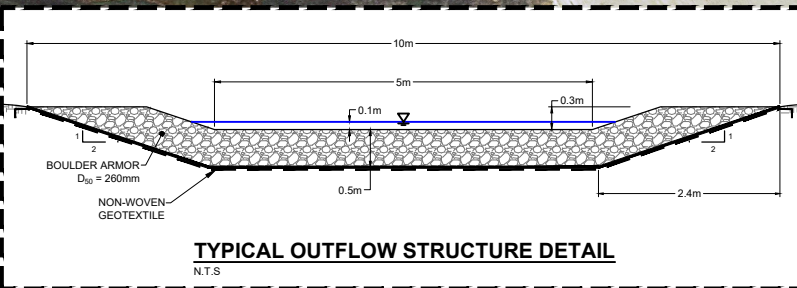
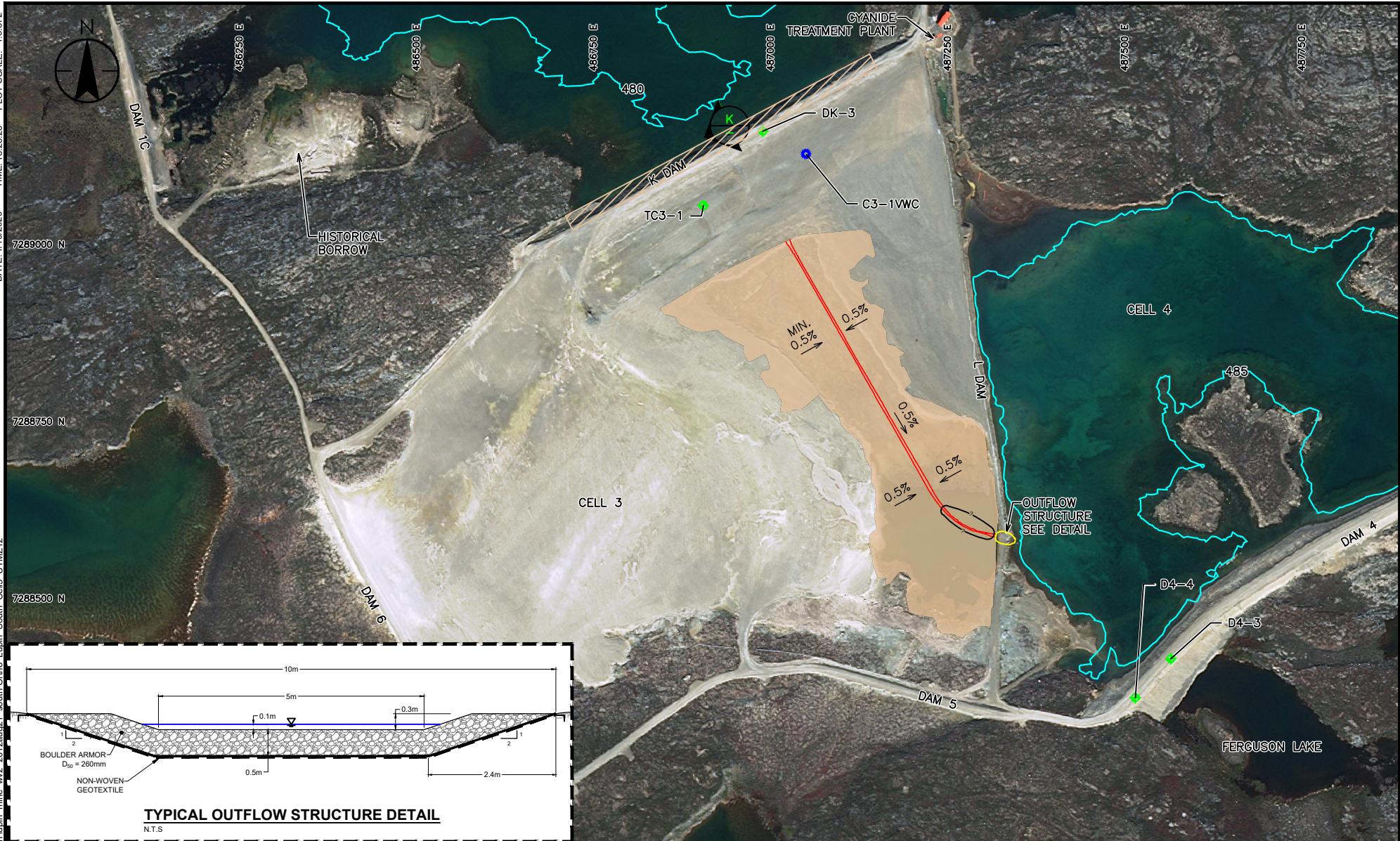
Phone: 604 630 5833
Fax:
alvin.tong@stantec.com

Attachment: Figure 2-4

c. Sara Wilkins; Jim McKinley

FILENAME: \\CA0200\PPFSS01\SHARED_PROJECTS\125000081\DISC\DRAWING\04. TAILINGS CONTAINMENT AREA\01. CELL DESIGN DWG
XREF FILE(S): 190924 Topo cell 3 FIXED 0.5m contours, 03 Merge Design contours 1.0
IMAGE FILE(S): lupin_mine_wv2_2012aug21_south.ortho, lupin_south_cell5_UTMZ12

DATE: 1/10/2020 TIME: 13:26:26 PLOT SCALE: 1:3.872



LEGEND

THERMISTORS STATUS

- ACTIVELY MONITORED
- DAMAGED
- MONITORED DURING DSR-NO CALIBRATION DATA
- UNLOCATED-LOCATION ESTIMATED FROM HISTORICAL MAP
- VOLUMETRIC WATER CONTENT SENSOR STRINGS
- TEST PITS

- SHALLOW SURFACE CHANNEL
- TAILINGS COVER
- SURFACE WATER LEVEL
- POTENTIAL ADDITION RIPRAP
- RESLOPE AREA



SCALES INDICATED BASED ON AN 8.5"x11" PLOT CONFIGURATION

LUPIN MINES INC.

PHC COMMENTS RESPONSE

SCALE:	AS SHOWN
DATE:	2020-01-10
CO-ORD. SYS:	UTM83-12
DRW'N BY:	JL
DSG'N BY:	LK
REV'D BY:	AT
APP'D BY:	SE

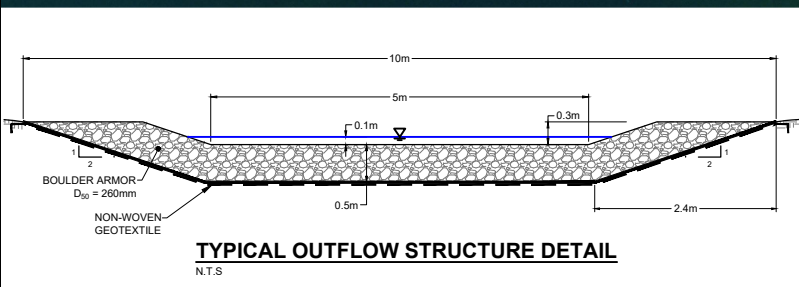
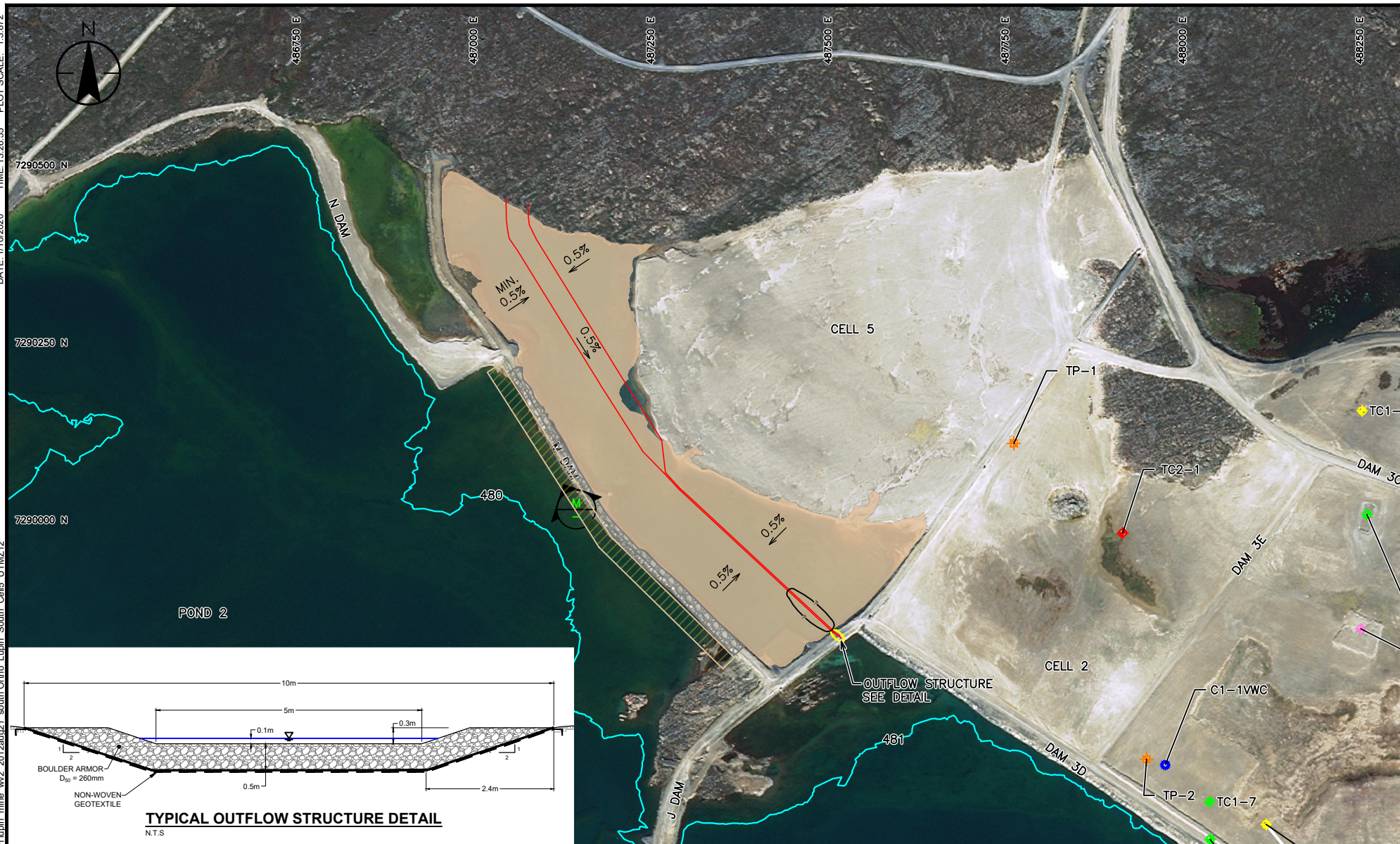
TAILINGS CONTAINMENT AREA
CELL 3 COVER AND SURFACE
WATER MANAGEMENT



PROJECT NO.:	FIG. NO.:	REV.:
129500081	2	A

FILENAME: \\CA0200\PPFSS01\SHARED_PROJECTS\125000081\DISC\DRAWING\04. TAILINGS CONTAINMENT AREA\01. CELL DESIGN.DWG
XREF FILE(S): 190924 Topo cell 3 FIXED 0.5m contours; 03 Merge Design contours 1.0
IMAGE FILE(S): lupin_mine_wv2_2012aug21_north_lupin_mine_wv2_2012aug21_south_ortho_lupin_south_cells UTMZ12

DATE: 1/10/2020 TIME: 13:26:55 PLOT SCALE: 1:3.872



LEGEND

THERMISTORS STATUS

- ACTIVELY MONITORED
- DAMAGED
- MONITORED DURING DSR-NO CALIBRATION DATA
- UNLOCATED-LOCATION ESTIMATED FROM HISTORICAL MAP
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- TEST PITS

- SHALLOW SURFACE CHANNEL
- TAILINGS COVER
- SURFACE WATER LEVEL
- POTENTIAL ADDITION RIPRAP
- RESLOPE AREA



SCALES INDICATED BASED ON AN 8.5"x11" PLOT CONFIGURATION

LUPIN MINES INC.

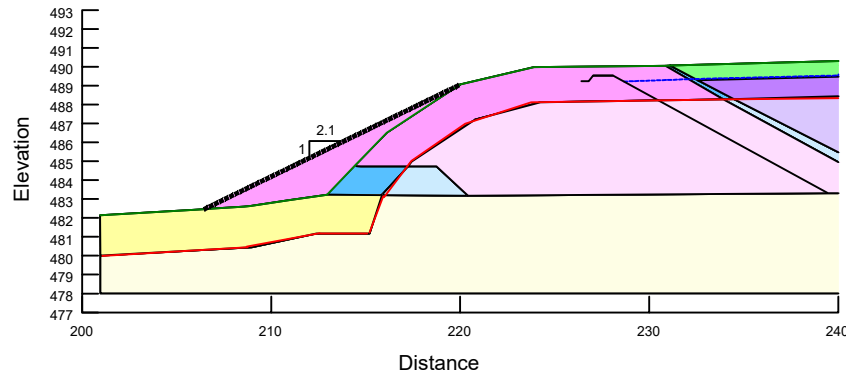
PHC COMMENTS RESPONSE

TAILINGS CONTAINMENT AREA CELL 5 COVER AND SURFACE WATER MANAGEMENT

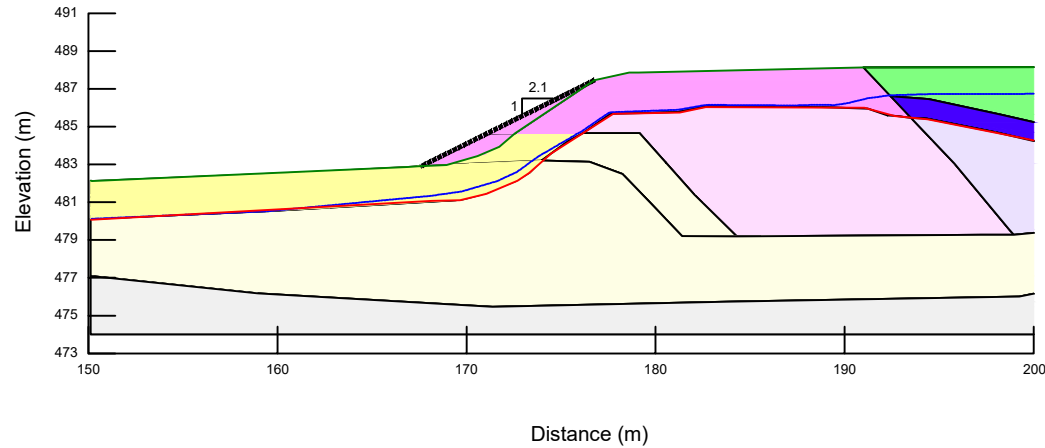
SCALE:	AS SHOWN
DATE:	2020-01-10
CO-ORD. SYS:	UTM83-12
DRWN BY:	JL
DSGN BY:	LK
REV'D BY:	AT
APP'D BY:	SE



PROJECT NO.:	FIG. NO.:	REV.:
129500081	3	A



K SECTION
 FIG 2 1:400



M SECTION
 FIG 3 1:400

LEGEND

- | | | |
|---|--|---|
| ESKER | TAILINGS (UNDRAINED) | SURVEYED SURFACE |
| ESKER PERMA | TAILINGS PERMA | RESLOPE AREA |
| GRAVELLY SAND | TILL | ASSUMED PHREATIC SURFACE |
| ROCKFILL | TILL PERMA | |
| ROCKFILL PERMA | | |



SCALES INDICATED BASED ON AN 8.5"x11" PLOT CONFIGURATION

LUPIN MINES INC.

PHC COMMENTS RESPONSE

SCALE:	AS SHOWN
DATE:	2020-01-08
CO-ORD. SYS:	UTM83-12
DRWN BY:	JL
DSGN BY:	LK
REV'D BY:	AT
APP'D BY:	SE

TAILINGS CONTAINMENT AREA
 CELL 3 & CELL 5 COVER AND
 SURFACE WATER SECTIONS



PROJECT NO.:	FIG. NO.:	REV.:
129500081	4	A