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NUNAVUT WATER BOARD
Date: January 15, 2020
Exhibit No.: 7

Memo

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.

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Senior Geotechnical Engineer

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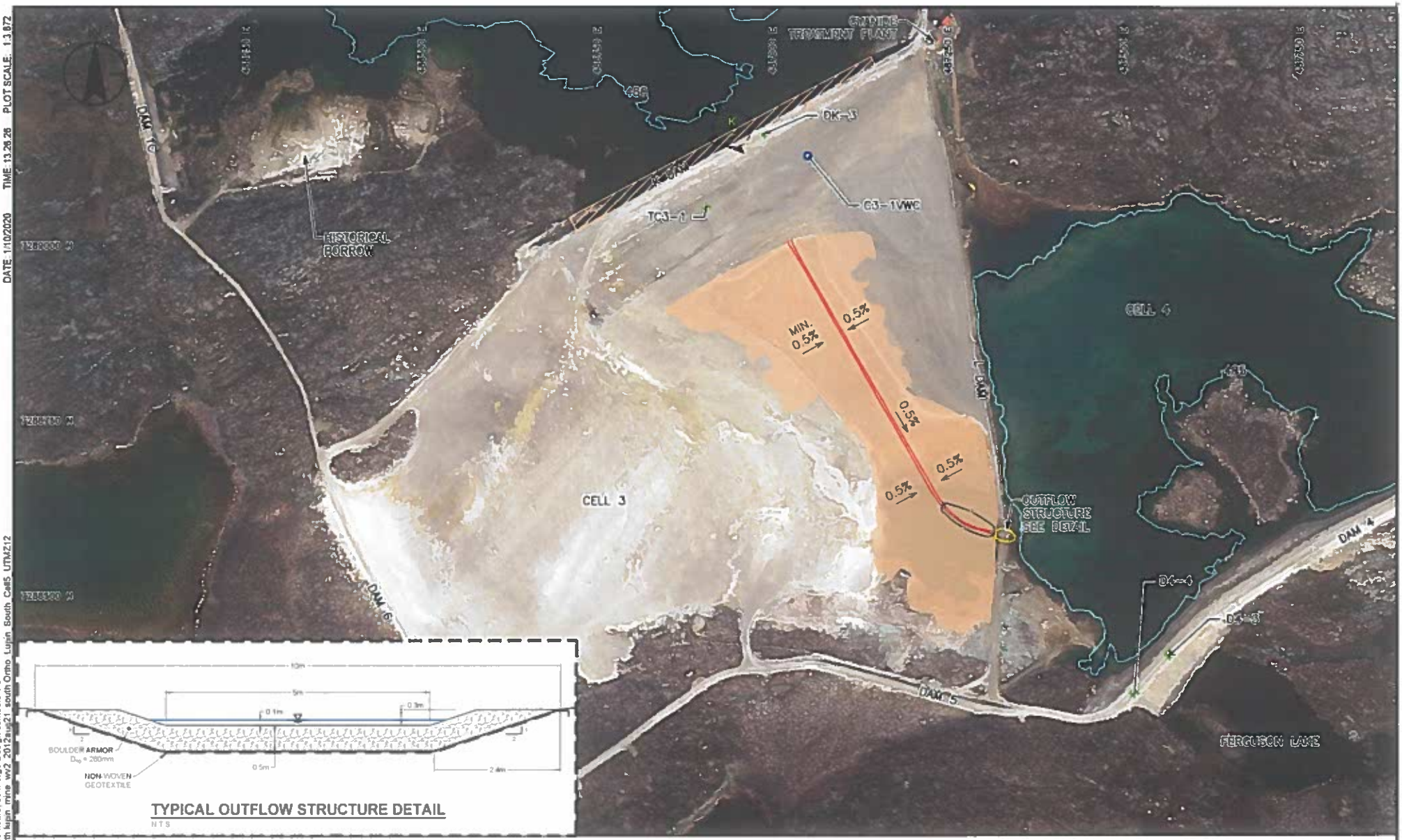
Attachment: Figure 2-4

c. Sara Wilkins; Jim McKinley



TYPICAL OUTFLOW STRUCTURE DETAIL

NTS

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

100m 50 0 100 200 300 400 500m

SCALE 1:7500

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
DRWN BY:	JL
DSGN BY:	LK
REVD BY:	AT
APP'D BY:	SE

TAILINGS CONTAINMENT AREA
CELL 3 COVER AND SURFACE
WATER MANAGEMENT

Stantec

PROJECT NO:	FIG NO:	REV:
129500081	2	A

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IMAGE FILE(S): lupin mine wv2 2012aug21 north lupin mine wv2 2012aug21 south Ortho_Lupin_South_Cell5_UTMZ12
DATE: 1/10/2020 TIME: 13:28:28 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

100m 50 0 100 200 300 400 500m

SCALE 1 7500

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
DRWN BY:	JL
DSGN BY:	LK
REVD BY:	AT
APPD BY:	SE

TAILINGS CONTAINMENT AREA
CELL 5 COVER AND SURFACE
WATER MANAGEMENT

Stantec

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

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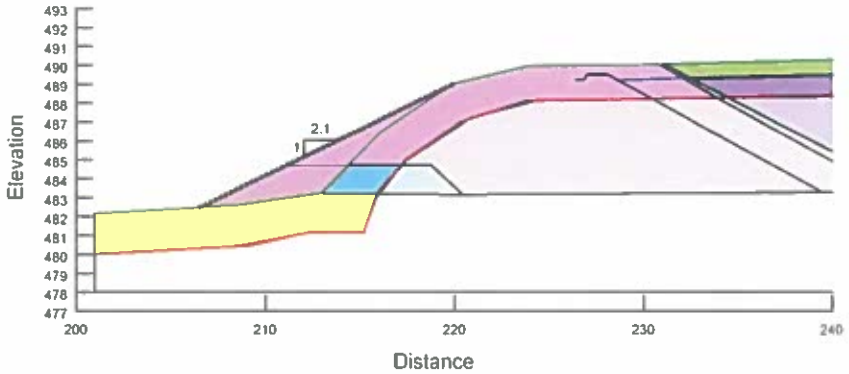
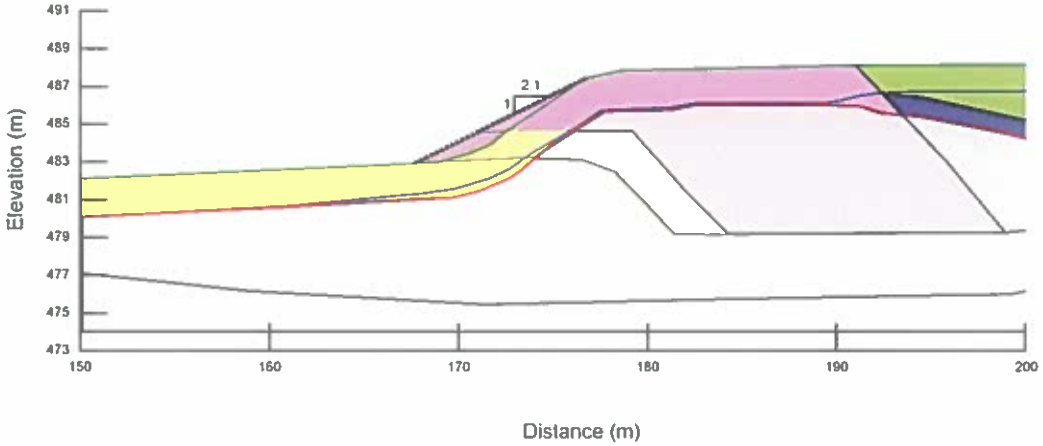


K SECTION



M SECTION

LEGEND

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

10m 0 10 20m

SCALE 1:400

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
DSG'N BY:	LK
REV'D BY:	AT
APP'D BY:	SE

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

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

FILENAME: \\CA0200-PPFSS01\SHARED_PROJECTS\129500081\DISC\DRAFTING\04_TAILINGS CONTAINMENT AREA\01 CELL DESIGN.DWG
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IMAGE FILE(S): lupin_mine_wv2_2012aug21_north lupin_mine_wv2_2012aug21_south Ortho_Lupin_South_Cell5_UTMZ12

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