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12 November 2021

Mr. Brent Martellaro
Division Mining, Land and Water
Department of Natural Resources
3700 Airport Way
Fairbanks, AK 99709-4699

Reference: Request to delay covering a small section of the Main Waste Dump (MWD)

Dear Mr. Martellaro:

Per our Teams Meeting discussion on October 19th, 2021 regarding “re-phasing” the Main Waste Dump (MWD) Cover Project to defer approximately 12.3 acres of the cover project until the low grade ore stockpiled material can be processed, Red Dog Operations (RDO) is requesting an amendment to the original design plan submitted on July 22, 2019. It was determined through material inventory reports that approximately 655k tonnes of low-grade ore is currently stockpiled in the northern end of the MWD and above the area desired to be covered, RDO began stockpiling the low grade ore in this area during 2018-19. RDO reviewed the economic feasibility of two alternatives; the first was to cover the low-grade ore and remove it from future revenue and the second was relocating the material.

It was determined the value of the low grade ore stockpile is too valuable and RDO would process at a later date so covering it was not an option. RDO looked at the second alternative and determined that relocating the low grade ore would be very costly, require round the clock work for months and eliminate future storage space for additional low-grade ore placement. Based on the evaluation of both alternatives, RDO is requesting to defer covering the area near the low grade stockpile (see figure *Construction Phasing Main Waste Stockpile*) until the material can be processed at a later date.

During 2021 RDO installed approximately 31.4 acres of the MWD Cover, effectively referred to as the Phase IB area. RDO plans to complete Phase II and Phase III during 2022 and Phase IV is planned for completion by 2023.

RDO is requesting add a Phase V to the cover project, four Phases were originally presented in the workplan submitted on July 22, 2019 and approved on February 14, 2020 as RPA F20169958.03. The Phase V area will be deferred the low-grade ore is processed. Currently the low-grade ore material is not planned to be processed until 2030, so it is expected Phase V will commence in 2031.

The uncovered Phase V (8.5 acre) area will continue to collect and treat surface drainage/infiltration water. The upper Phase V (3.8 acre) section of the MWD cover project will effectively be a road to maintain access to the dump.

While this amendment request incorporates no engineering changes to the original design, should you have any questions or inquires regarding technical aspects of the proposed change please contact Autumn Hadley at autumn.hadley@teck.com or (907) 754-5590. For non technical inquires I may be reached at (907) 754-5138.

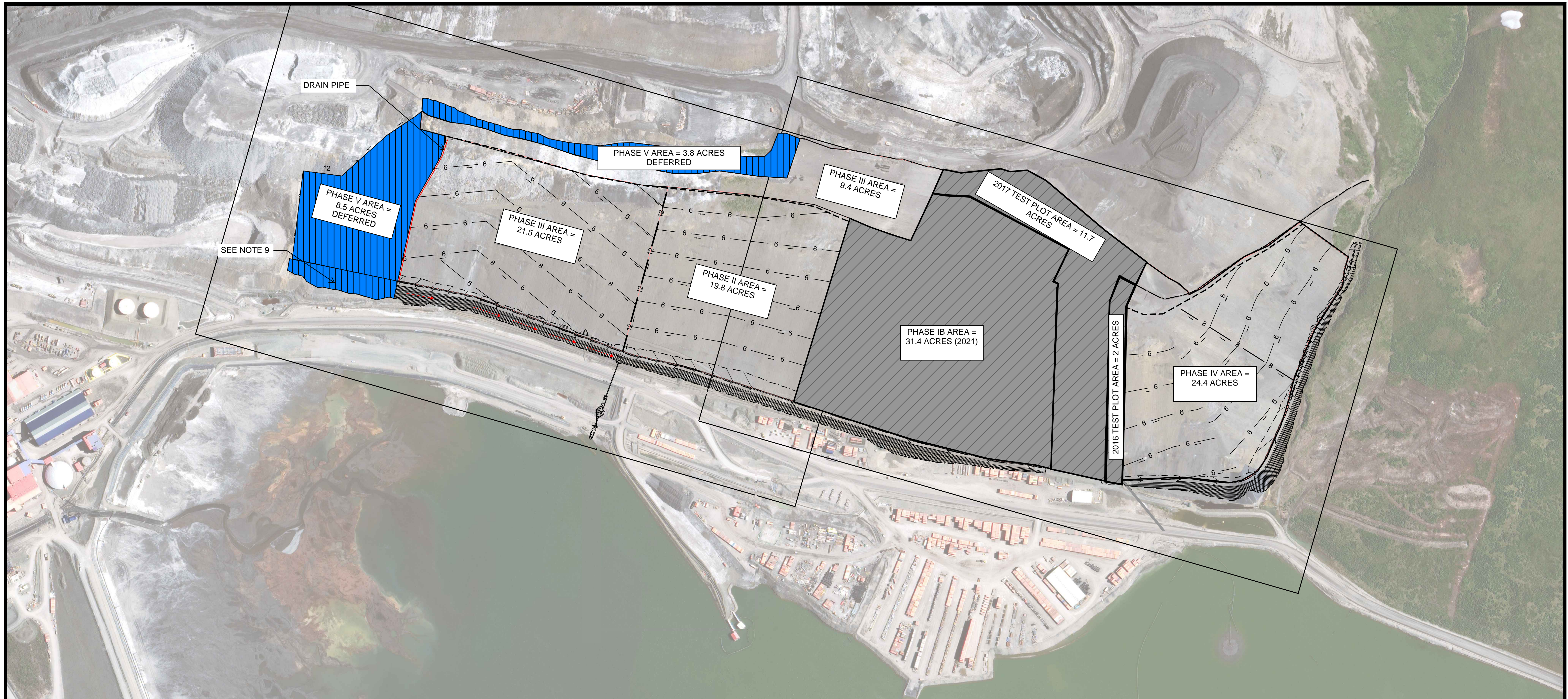
Sincerely,

Frank Bendrick

Frank Bendrick
Environmental Coordinator
Teck Alaska Inc., Red Dog Operations (RDO)

cc: *Tim Pilon, PE. ADEC- Division of Water*
Les Yesnik, RDO General Manger
Francois Tremblay, RDO Manager, Projects
Mike Gonzales, RDO Superintendent Tailings & Water Mgt
Martin Petrucha, RDO Engineering Manager, Projects

Attachment: Construction Phasing Main Waste Stockpile



SEE NOTE 9

PHASE V AREA = 8.6 ACRES DEFERRED

PHASE III AREA = 21.5 ACRES

PHASE II AREA = 19.8 ACRES

PHASE IB AREA = 31.4 ACRES (2021)

PHASE IV AREA = 24.4 ACRES

PHASE III AREA = 9.4 ACRES

PHASE V AREA = 3.8 ACRES DEFERRED

2017 TEST PLOT AREA = 11.7 ACRES

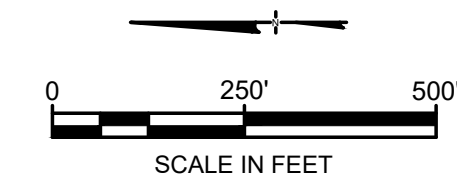
2016 TEST PLOT AREA = 2 ACRES

DRAIN PIPE

NOTES

1. EXISTING TOPOGRAPHY FROM JUNE 2020, PROVIDED BY TECK.
2. BASIS FOR HORIZONTAL COORDINATES IS NAD27 ALASKA STATE PLANE ZONE 7 IN US FEET.
3. BASIS FOR THE VERTICAL DATUM IS RED DOG MINE LOCAL DATUM IN US FEET.
4. PIPE SHOWN IN BOTH THE TEST PLOT LOCATIONS, AND PHASE IB HAVE BEEN INSTALLED.
5. LOCATION OF OBJECTS IN AERIAL PHOTO ARE APPROXIMATE. AERIAL IMAGE FROM JUNE 2020, PROVIDED BY TECK.
6. TEMPORARY TERMINATIONS BETWEEN PHASES SHALL FOLLOW DETAIL 6 ON 1001-CE-0003.
7. PROJECT UNDER WENT RE-PHASING IN OCTOBER 2021 TO ACCOMMODATE LOW GRADE ORE STOCKPILES.
8. A 1-WAY ROAD AND LAYDOWN YARD NECESSARY FOR COVER CONSTRUCTION WAS ADDED TO THE TOP OF THE MWS STOCKPILE.
9. INTERIM DRAINAGE FOR THE LOW GRADE ORE STOCKPILE AND UNCOVERED SECTIONS OF THE MWS WILL DRAIN TO THE ACID ROCK DRAINAGE HUTS FOR TRANSFER TO THE MILL FOR TREATMENT.

REVISED CONSTRUCTION PHASES		
AREA	3D AREA (ACRES)	STATUS
2016 TEST PLOT	2.0	COMPLETE
2017 TEST PLOT	11.7	COMPLETE
PHASE IB (2021)	31.4	COMPLETE
PHASE II	19.8	
PHASE III	30.9	
PHASE IV	24.4	
PHASE V	12.3	
TOTAL ACERAGE	132.5	



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No.	Revision Description	Revised By	Checked By	Approved By	No.	Dwg. No.	Reference Drawings
5	PROPOSED RE-PHASING	SMA	10/28/2021	AH/AU	10/29/2021	FB	10/29/2021
4	UPDATED DESIGN SUBMITTAL	EM	9/20/2021	JG	9/20/2021	JG	9/20/2021
3	FINAL DESIGN SUBMITTAL	MC	12/22/2020	GC	12/22/2020	JG	12/22/2020
2	UPDATED DESIGN SUBMITTAL	MC	9/2/2020	GC	9/2/2020	JG	9/2/2020
1	UPDATED DESIGN SUBMITTAL	MC	12/11/19	GC	12/11/19	JG	12/11/19
0	ORIGINAL DESIGN SUBMITTAL	MC	12/29/17	GC	12/29/17	JG	12/29/17

Geosyntec
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Project #: 50010

Scale: AS SHOWN

Red Dog Operations

Teck

Title: CONSTRUCTION PHASING
MAIN WASTE STOCKPILE
RED DOG MINE

Dwg Size: D Drawing #: 1001-GA-0001 Rev: 5