Technical Summary

November 2023

Pit Name: Lund Pit

Provincial Pit Number: 0464

Location: Lund Pit is approximately 12.8km west of Keremeos on Highway 3 (Figure 1).

Legal Land Description: The site is currently a Section 16 Map Reserve (LF# 0165072) held by the British Columbia Ministry of Transportation and Infrastructure (BC MoTI). The legal description of the Map Reserve is “All that Unsurveyed Crown land in the vicinity of District Lot 3207, Similkameen Division of Yale District and containing 34.92 hectares, more or less”. The layout of the Map Reserve boundary is shown in the legal plan (Figure 2).

Subsurface Investigation: Subsurface investigations at Lund Pit were carried out in October of 2021 by Ministry of Transportation & Infrastructure.

In 2021 eleven (11) test pits were excavated to depths ranging from 3.0 to 5.5m and in 2012, fourteen (14) test pits were excavated to depths ranging from 3.4 to 4.6m. During the test pitting, subsurface soil and groundwater conditions were logged and representative samples of the granular materials were collected for laboratory testing and future reference. Laboratory testing was carried out on thirteen (13) of these samples at AMEC laboratories to assess the gradation and durability characteristics. The tests completed were wet sieve analysis, micro deval, sand equivalent, relative density, and absorption.

Based on the results of the 2021 and 2012 investigations, one (1) granular area was defined (Figure 3). The detailed results of the subsurface testing are provided in the Test Pit Summaries and test pit locations are shown on the Pit Development Plan (Figure 3).

Material Gradation: Table 1 shows the gradation as a percentage by weight of the fines (silts and clays), sand and gravel components as well as the Unified Soil Classification (USC [included after test pit summary]) for the samples tested.

Table 1: Pit Run Gradation

Test Pit	Depth (m)	Fines (%)* <0.075mm	Sand (%)* 0.075-4.75mm	Gravel (%)* 4.75-75mm	USC
TP21-01	2.0 - 3.1	9.6	28.5	61.8	GP-GM
TP21-02	1.5 - 2.5	6.1	30.3	63.7	GW-GM
TP21-03	0 – 3.0	3.0	24.6	72.3	GW
TP21-04	0 – 4.0	5.6	28.9	65.4	GW-GM
TP21-05	1.1 – 5.0	4.3	29.4	66.3	GW
TP21-06	0.2 – 5.0	3.4	24.2	72.4	GW
TP21-07	0.1 – 1.4	2.7	23.8	73.5	GW
TP21-08	0 – 3.8	6.1	27.8	66.2	GP-GM
TP21-09	0.15 – 4.0	3.2	20.1	76.7	GW
TP21-10	0 – 3.5	4.9	26.6	68.5	GW
2021 Averages		**4.9**	**26.4**	**68.7**	-
TP12-01	0 – 4.0	3	22	75	GP
TP12-05	2.2 – 4.3	7	33	60	GP-GM
TP12-10	1.1 – 4.6	6	31	63	GP-GM
2012 Averages		**5.3**	**28.7**	**66**	-

Table 2 shows the estimated percent of oversize rock as noted in the field during exploration.

Table 2: Oversize Field Estimates

2021

Classification	Average (%)	Range (%)
Boulders (>375mm)	1	1 - 2
Cobbles (150-375mm)	2	1 - 4
Cobbles (75-150mm)	4	1 - 8

Maximum rock size observed was 1300mm.

2012

Classification	Average (%)	Range (%)
Boulders (>375mm)	0.7	0 - 3
Cobbles (150-375mm)	2.5	0 - 6
Cobbles (75-150mm)	6.5	2 - 12

Maximum rock size observed was 750mm.

Material Durability: Table 3 shows the results of the durability tests as well as the specifications as required in the Standard Specifications for Highway Construction.

Table 3: Durability Test Results

Test Pit	Sand Equivalent (%)	Micro Deval (%)		Absorption		Relative Density	
		Coarse	Fine	Coarse	Fine	Coarse	Fine
2021							
TP21-03	50						
TP21-04		9.3	12.4				
TP21-05				0.79	1.33	2.661	2.627
2012							
2012 Averages	48.2			0.79	1.33	2.691	2.648
BC MoTI Specifications							
Sand Equivalent	≥40 for base coarse and fine asphalt mix aggregate ≥20 for surfacing, sub-base and bridge end fill aggregates						
Micro Deval	≤30% for sub-base and bridge end fill aggregates ≤25% for surfacing & base course aggregates ≤18% for Class 1 Pavement asphalt mix aggregates ≤20% for Class 2 Pavement asphalt mix aggregates						
Absorption	<2.0% for coarse paving aggregates ≤1.0% for coarse and ≤1.5% for fine graded aggregate seals						
Relative Density	~2.65 for all aggregate products						

Material Suitability: Based on the 2021 and 2012 investigation results, the material is judged to be suitable for the following purposes:

Table 4: Suitability

	Pit Run	Crush
Lund Pit Suitability Area	Bridge End Fill SGSB	25mm WGB Asphalt Mix Aggregates Graded Agg Seals

The samples tested meet the gradation, sand equivalent, and micro-deval specifications for base course, subbase course, bridge end fill, and asphalt mix aggregate. Based on the absorption results the samples meet the specification for paving aggregates and coarse and fine graded aggregate seals.

Sulphate and Chloride Testing

Table 5 shows the sulphate and chloride test results for select samples from the suitability area. These results are provided for information and have not been considered for material suitability.

Table 5: Sulphate and Chloride Test Results

Test Pit	Water-Soluble Sulphate	Water-Soluble Chloride
TP21-04	<0.050	<50

Volume Estimates: Table 6 shows the volume estimates that can be expected for gravel from the proposed suitability area. This is based on the measured depths encountered during the subsurface investigation. The potential volumes of granular material were calculated by averaging the total thickness of granular material encountered in test pits and multiplying by the estimated surface area.

Table 6: Volume Estimates

Suitability Area ~0.8ha.	Topsoil	Overburden	Granular Material
Average Layer Thickness (m)			5
Volume (m^3)			40,000

Pit Development Notes

- All development must be carried out in accordance with the Health, Safety, and reclamation Code for Mines in British Columbia, BC Ministry of Energy, Mines and Low Carbon Innovation (2022, or later edition), the Standard Specifications for Highway Construction, BC Ministry of Transportation and Infrastructure (2020, or later edition) and the Aggregate Operators Best Management Practices Handbook for BC.

- All trees, vegetation, and overburden are to be removed within 2m of the top of the pit faces. Topsoil, overburden, and aggregate cannot be removed within five meters of the reserve boundary.

- The processing area is recommended to be located on the pit floor as identified on the Pit Development Plan (near TP21-08), with mining proceeding in a northern direction as indicated.

- Processed aggregate may be stockpiled to the south of the production site (near TP21-01), where space permits as indicated on the Pit Development Plan.

- No dumping of debris or petroleum products will be permitted, and the site must be left in a clean and safe condition.

- At the completion of the pit development operations, but prior to the depletion of the pit, the sides of the pit faces, waste piles, and overburden stockpiles must be trimmed to a 1.5H:1V slope. Active pit faces must be reshaped with native granular materials.

- Upon depletion of the pit, all disturbed areas are to be reclaimed. The minimum reclamation procedure should include re-sloping of the pit faces and waste piles to a 2H:1V slope, contouring the area for appropriate drainage, spreading of overburden followed by topsoil, and seeding.

- Should any of the above conditions conflict with the Health, Safety, and Reclamation Code for Mines in British Columbia, then the Code will prevail.

Closure

The findings of this report and the soil conditions noted above are inferred from the extrapolation of limited surface and subsurface data collected during the site investigation. It should be noted that different and possibly poorer soil conditions may exist between the test pit locations and volume estimates may vary from those reported in this report.

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Reviewed by:

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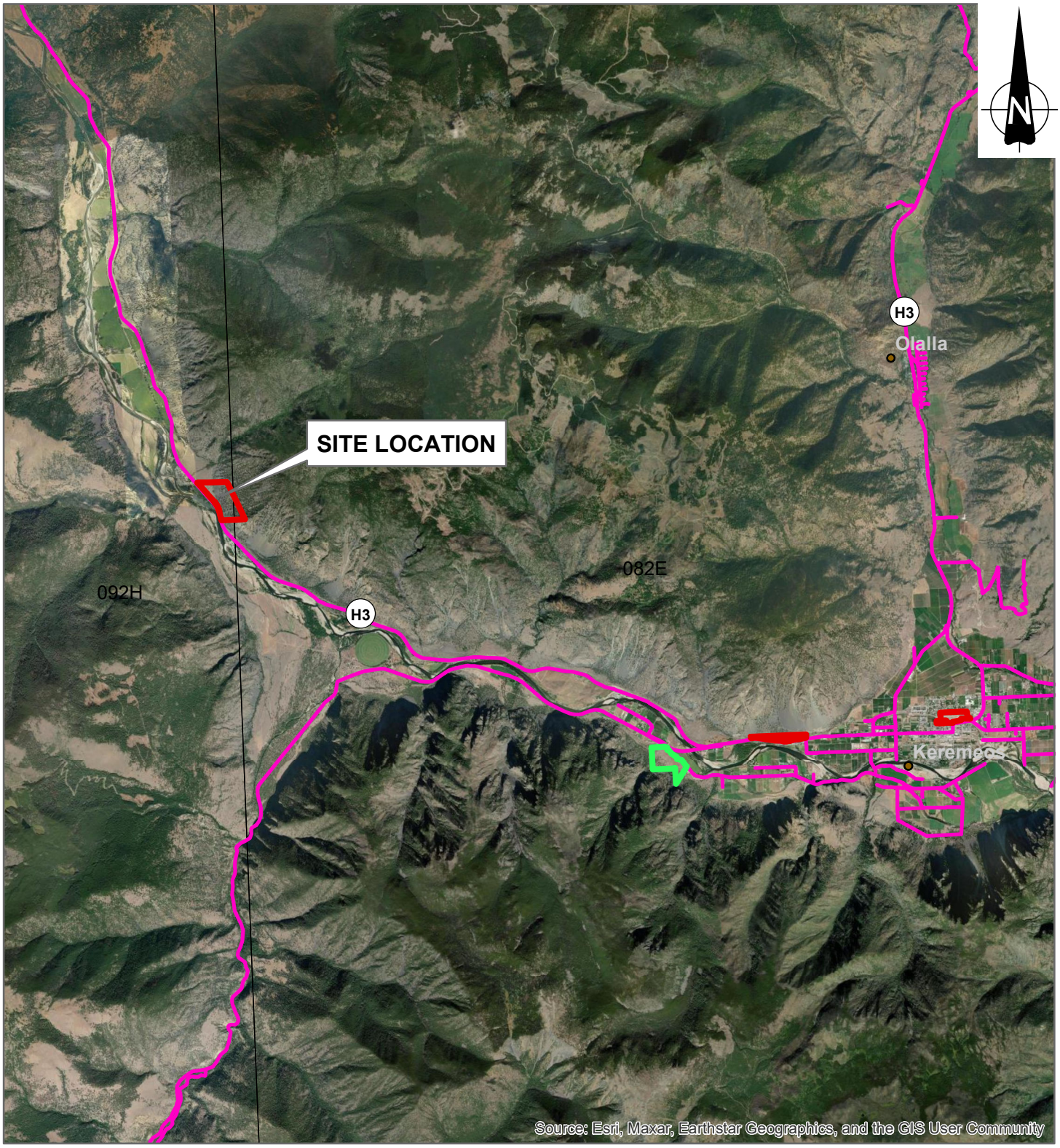
Enclosures

Figures:
- Figure 1 - Location Plan
- Figure 2 - Legal Plan
- Figure 3 – Pit Development Plan

Test Pit Summaries
- Test Pit Logs (2021)
- Test Pit Logs (2012)
- Wet Sieve Analysis Charts (2021)
- Aggregate Gradation Charts (2021)

USC Legend
Photos

Figures



0 1 2 4 6 8 Kilometers

Scale 1:100,000

Ministry of Transportation and Infrastructure
Geotechnical and Materials Branch

LOCATION PLAN (2023)

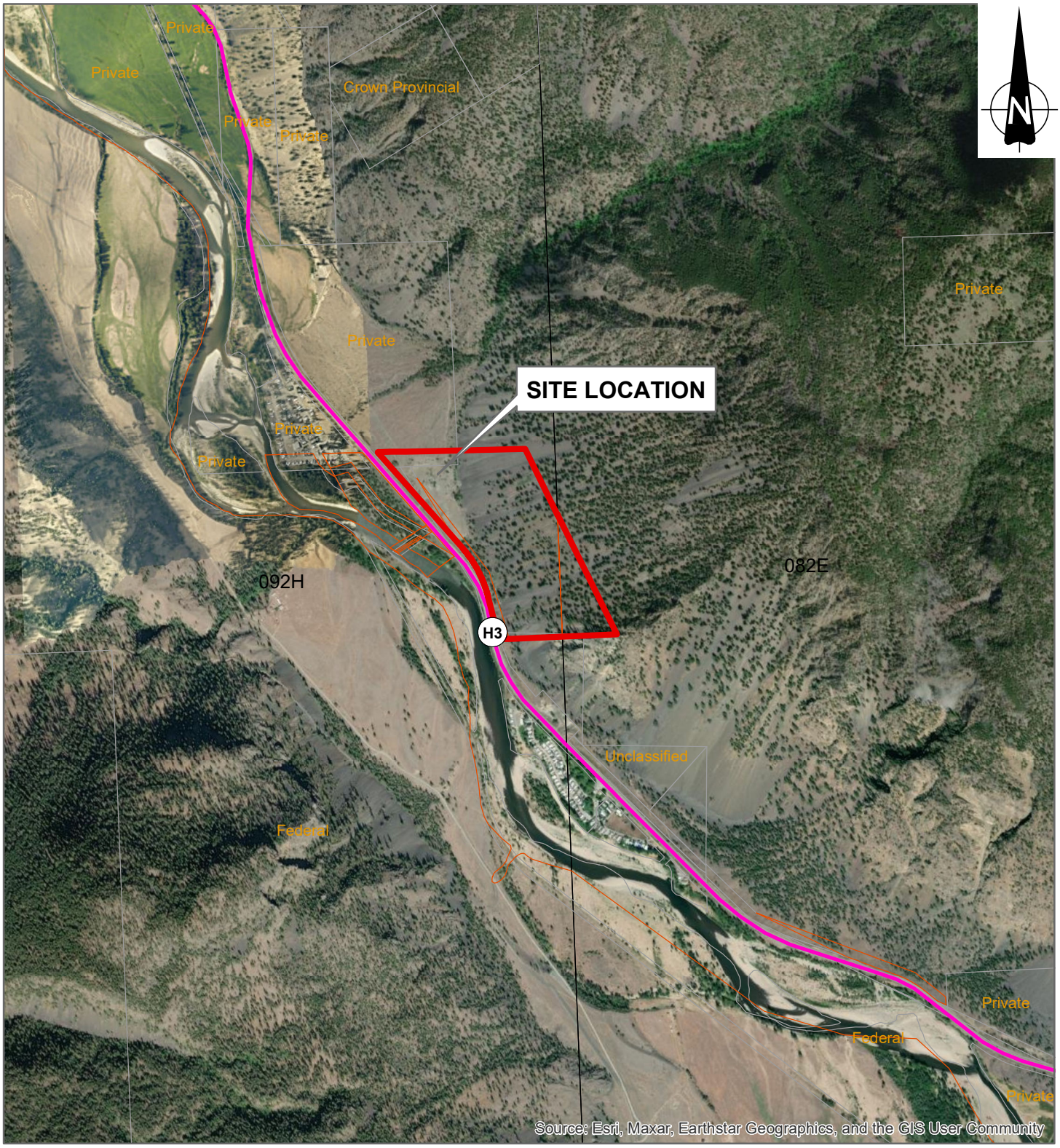
Lund Pit No. 0464

SA 08 - OKANAGAN SHUSWAP DISTRICT

DRAWN BY: LACOURTE	PROJECTION: NAD 1983 UTM Zone 10N		SCALE: As Shown
CHECKED BY: A.Mitchell	DATUM: NAD 1983 UTM Zone 10N		DATE: 2023-11-08
FileName: GISTemplate_Gravel_R2_2021-11-18	Geotech Project No:	Reg: 2	Drawing No: **FIGURE 1**

Document Path: C:\Users\LACOURTE\Desktop\GISTemplate_Gravel_R2_2021-11-18.mxd

This drawing was originally produced in colour.



0 0.2 0.4 0.8 1.2 1.6 Kilometers

Scale 1:20,000

Ministry of Transportation and Infrastructure
Geotechnical and Materials Branch

LEGAL PLAN (2023)

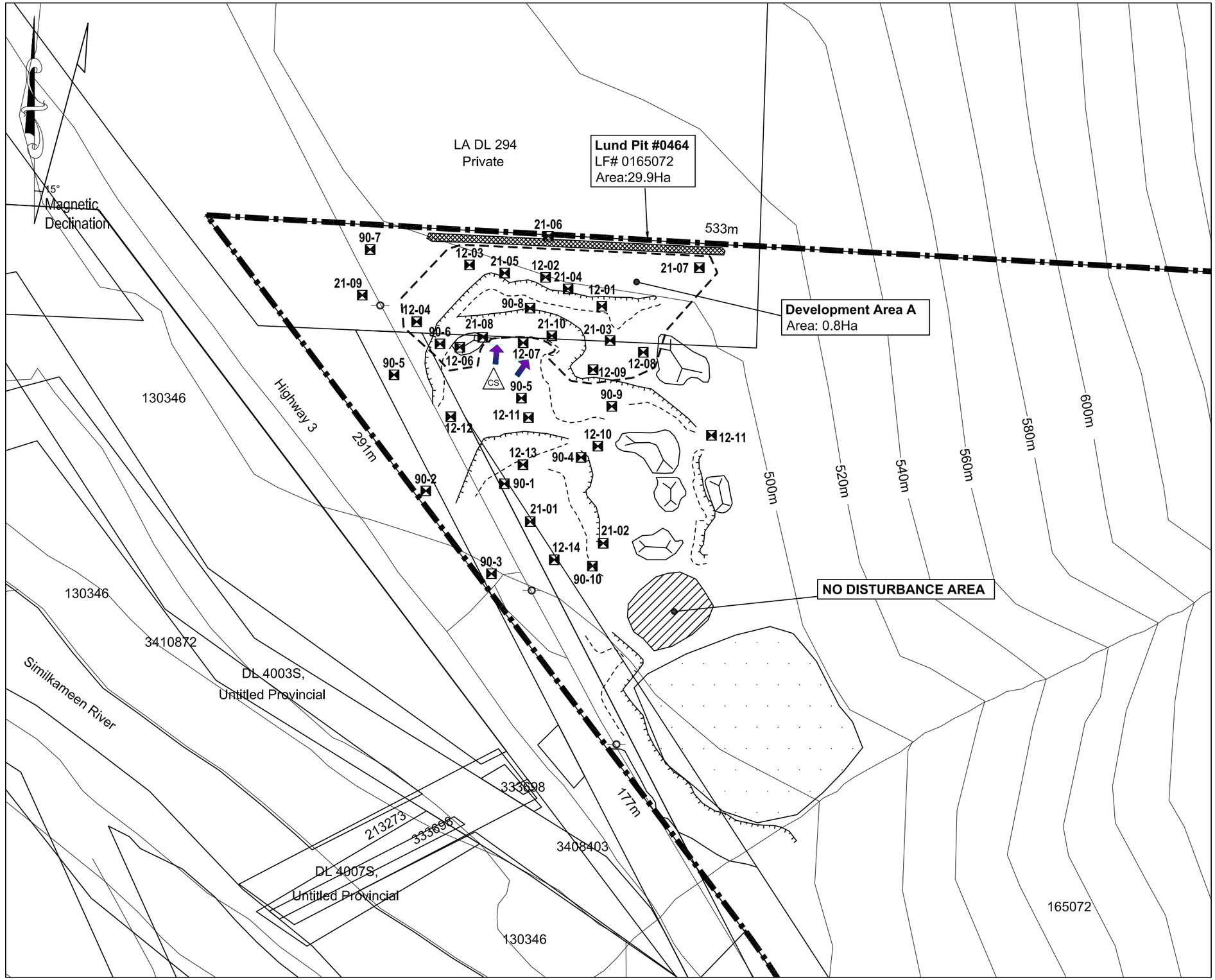
Lund Pit No. 0464

SA 08 - OKANAGAN SHUSWAP DISTRICT

DRAWN BY: LACOURTE	PROJECTION: NAD 1983 UTM Zone 10N		SCALE: As Shown
CHECKED BY: A.Mitchell	DATUM: NAD 1983 UTM Zone 10N		DATE: 2023-11-08
FileName: GISTemplate_Gravel_R2_2021-11-18	Geotech Project No:	Reg: 2	Drawing No: **FIGURE 2**

Document Path: C:\Users\LACOURTE\Desktop\GISTemplate_Gravel_R2_2021-11-18.mxd

This drawing was originally produced in colour.



PIT DEVELOPMENT LEGEND

- NATURAL EMBANKMENT
- PIT FACE
- TEST PIT
- TEST HOLE
- TEST PIT (DEPLETED)
- ROAD
- CREEK
- TRAIL
- CADASTRE
- TANTALIS
- GRAVEL RESERVE BOUNDARY
- TRANSMISSION LINE
- HYDRO POLE
- DEVELOPMENT AREA A
- PROPOSED STOCKPILE AREA
- TREELINE
- CONTOURS
- BUILDING (symbolic)
- IRON PIN
- SWAMP
- STOCKPILE
- NO DISTURBANCE
- DEVELOPMENT DIRECTION
- OVERBURDEN STOCKPILE
- CRUSHER LOCATION

DRAWING NOTES:

1. Base data provided from Trim Map 92H.030/82E.021 (20m Contours)
2. Cadastre and Tantalis Lines were provided from online sources.
3. Some testpits and/or testholes may not be representative of current conditions due to development and excavation done after testing.
4. Some extraction may have occurred since the last GPS survey of the pit was undertaken, therefore pit faces and stockpiles may not be representative of current conditions.

PIT DEVELOPMENT NOTES:

1. Pit development must be carried out in accordance with the Health, Safety, and Reclamation Code for Mines in BC, the current Standard Specifications for Highway Construction, and the Aggregate Operations Best Management Practices Handbook for BC.
2. Development Area A may require minor grubbing and stripping.
3. Development of Area A should commence from the existing pit face and directed towards the Northwest, North and Northeast.
4. The contractor must ensure that all materials passing through 375mm x 450mm slotted openings shall be used in the production of the crushed aggregates.
5. Pit excavations must not take place to within a minimum distance of 2m from the edge of clearing & stripped areas.
6. When the contractor discontinues operations in the pit, all working pit faces and stockpiles must be trimmed to 1.5H to 1V slope. Working pit faces must be reshaped with native granular materials. All other permanent slopes must be re-sloped to no steeper than 2H:1V.
7. No dumping of debris or petroleum products is permitted. The pit must be left in a clean and safe condition.

0m 20 40 60 80

1 : 2000

Ministry of Transportation and Infrastructure
Southern Interior Region
Geotechnical and Materials Branch

PIT DEVELOPMENT PLAN
LUND PIT #0464
SA08 - OKANAGAN SHUSWAP DISTRICT

DRAWN BY: S.Rutz	PROJECTION: UTM Zone 11	SCALE: AS SHOWN
CHECKED BY: A.Mitchell	DATUM: NAD83	DATE: 14 November 2023
FILE NAME: 0464_f3p_2023.dwg	REG. 2	DRAWING NUMBER: FIGURE 3

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This drawing was originally produced in colour.

Test Pit Summaries

AGGREGATE LOG

PROJECT: Lund Pit Testing
PIT #: Lund Pit #0464
DISTRICT: Okanagan Shuswap District
SAMPLED BY: L. Courtenay
METHOD: Excavator
DATE: October 6, 2021

TEST PIT NO.	DEPTH		SAMPLE BAG NO.	SOILS CLASS	ESTIMATED GRADATION			ESTIMATED ROCK 75mm				SAND TYPE	REMARKS
	FROM	TO			G	S	F	MAX SIZE	75mm - 150mm	150mm - 375mm	>375mm	F M C	Lab Sieve
21-01	0.0	2.0		Fill									Pit floor, buried red plastic @ 2m indicates fill above.
	2.0	3.1	21-01	GP	60	37	3	950	5	1	1	F-M	Gravel and sand
				GP-GM	61.8	28.5	9.6						
	3.1	4.7		SP	45	52	3	75	0	0	0	F-M	Less gravel after 3.1m
21-02	0.0	1.5		Fill									Access ramp, fill material, buried asphalt at 0.5-1.5m
	1.5	2.5	21-02	GP	65	31	4	650	5	1	1	F-C	Difficult to differentiate between fill and native material. Inconsistent material throughout
				GW-GM	63.7	30.3	6.1						
	2.5	3.5		GP-GM	60	33	7	750	7	2	1	F-C	*Not a good hole
21-03	0.0	3.0	21-03	GP	70	28	2	1000	8	2	1	F-C	Top of face; brown gravel, consistent
				GW	72.3	24.6	3						
	3.0	5.2		GP	65	33	2	500	5	1	1	F-C	Slightly finer gravel, a bit sandier
													Hole bottomed-out in gravel
21-04	0.0	4.0	21-04	GP	65	34	1	750	5	1	1	M-C	Top of face, roots to 0.3m
				GW-GM	65.4	28.9	5.6						Consistent brown gravel
21-05	0.0	1.1		GP-GM	65	30	5	1200	3	2	2	F-C	Top of face, roots to 0.15m, some large boulders
	1.1	5.0	21-05	GP	60	38	2	400	2	1	1	F-C	Brown gravel throughout, this layer sandier
				GW	66.3	29.4	4.3						Some small roots throughout hole
21-06	0.0	0.2		O/B									
	0.2	4.5	21-06	GP	70	28	2	200	6	1	0	F-C	Consistent brown gravel
				GW	72.4	24.2	3.4						No large boulders here
21-07	0.0	0.1		O/B									Roots to 0.9m
	0.1	1.4	21-07	GP	70	29	1		2	1	0	M-C	
				GW	73.5	23.8	2.7						
	1.4	2.9		GP	65	33	2	1300	6	4	2	M-C	More cobbles, large boulders
	2.9	5.3		GP	60	39	1		2	1	0	M-C	Gravel and sand
21-08	0.0	3.8	21-08	GP	70	28	2	700	4	2	1	F-C	Pit floor
	3.8	5.5		GP-GM SP	66.2 32	27.8 65	6.1 3		1	1	1	F-C	Turns sandy

AGGREGATE LOG

PROJECT: Lund Pit Testing
PIT #: Lund Pit #0464
DISTRICT: Okanagan Shuswap District
SAMPLED BY: L. Courtenay
METHOD: Excavator
DATE: October 6, 2021

TEST PIT NO.	DEPTH		SAMPLE BAG NO.	SOILS CLASS	ESTIMATED GRADATION			ESTIMATED ROCK 75mm				SAND TYPE	REMARKS
	FROM	TO			G	S	F	MAX SIZE	75mm - 150mm	150mm - 375mm	>375mm	F M C	Lab Sieve
21-09	0	0.15		O/B									
	0.15	4	21-09	GP	75	23	2	450	8	3	1	M-C	Consistent brown gravels; dusty/dry; very rocky
				GW	76.7	20.1	4.9						Slightly sandier at the bottom of hole
													Sloughing at 4m
21-10	0	3.5	21-10	GP	70	28	2	900	4	2	1	F-C	Pit floor; fairly consistent brown gravels
				GW	68.5	26.6	4.9						
	3.5	5.2		GP	60	36	4		2	1	0	F-C	Sandier than layer above
21-11	0	0.5		Fill									Fill; buried asphalt to .2m; root layer at 0.5m
	0.5	3		LB	0	20	30			5	45	F	Difficult digging due to large boulders
			NS										No sample because of large boulders / fines
													Hole located at toe of talus slope

AGGREGATE LOG

PROJECT: LUND
PIT #:
DISTRICT: OKANAGAN SHUSWAP
SAMPLED BY: Bill Richards
METHOD: Excavator
DATE: MARCH 7 2012

TH / TP	DEPTH		SAMPLE	SOILS CLASS	ESTIMATED GRADATION			ESTIMATED ROCK 75mm				SAND TYPE	REMARKS
	FROM	TO	BAG No.		G	S	F	MAX SIZE	75mm - 150mm	150mm - 375mm	375mm	F M C	LAB TEST -VISUAL TEST
12-01	0.0	4.0	728	GP	75	22	3	150	4	0	0		CONSISTENT GRAVELS
12-02	0.0	4.0		GP	62	34	4	350	6	2	0		CONSISTENT GRAVELS
12-03	0.0	0.3		TS									
	0.3	4.3		GP	72	25	3	150	7	1	0		VERY ROCKY
12-04	0.0	0.2		TS									
	0.2	2.0		GP	71	26	3	200	7	3	0		LARGER ROCK AT 2M
	2.0	4.3		GP/GM	75	19	6						
12-05	0.0	2.2		GP	72	25	3						
	2.2	4.3	729	GP/GM	60	33	7	600	12	5	1		LARGE BOULDERS
12-06	0.0	0.2		OB									PIT FLOOR
	0.2	4.3		GP	72	24	4	350	10	4	2		
12-07	0.0	0.2		OB									PIT FLOOR
	0.2	4.0		GP	73	23	4						
12-08	0.0	1.0		OB									
	1.0	4.2		GP	76	21	3	750	7	6	3		LB
12-09	0.0	0.2		OB									
	0.2	4.0		GP	66	31	3	450	4	2	1		FINER GRAVEL
12-10	0.0	0.2		TS									
	0.2	1.1		OB									
	1.1	4.6	730	GP/GM	63	31	6	150	2	0	0		

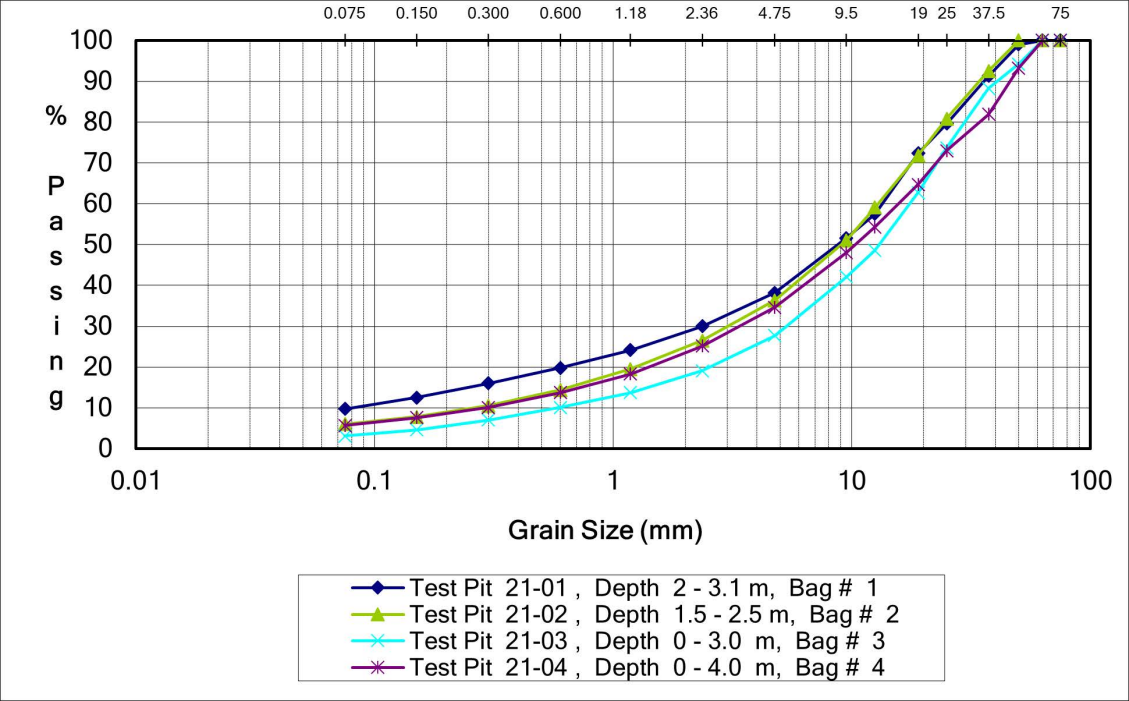
TH / TP	DEPTH		SAMPLE	SOILS CLASS	ESTIMATED GRADATION			ESTIMATED ROCK 75mm				SAND TYPE	REMARKS
	FROM	TO	BAG No.		G	S	F	MAX SIZE	75mm - 150mm	150mm - 375mm	375mm	F M C	LAB TEST -VISUAL TEST
12-11	0.0	0.8		SP/SM	41	51	8						
	0.8	4.0		GP	70	25	5	900	7	5	2	F	
12-12	0.0	2.0		OB									WASTE MATERIAL
	2.0	4.0		GP	70	26	4					F	
12-13	0.0	1.0		GP	56	40	4						
	1.0	4.3		GP	66	31	3	600	3	2	1		
12-14	0.0	1.2		OB									WASTE MATERIAL
	1.2	4.4		GP	62	34	4						
	2.6	3.4		SP	23	75	2	150	2	0	0		

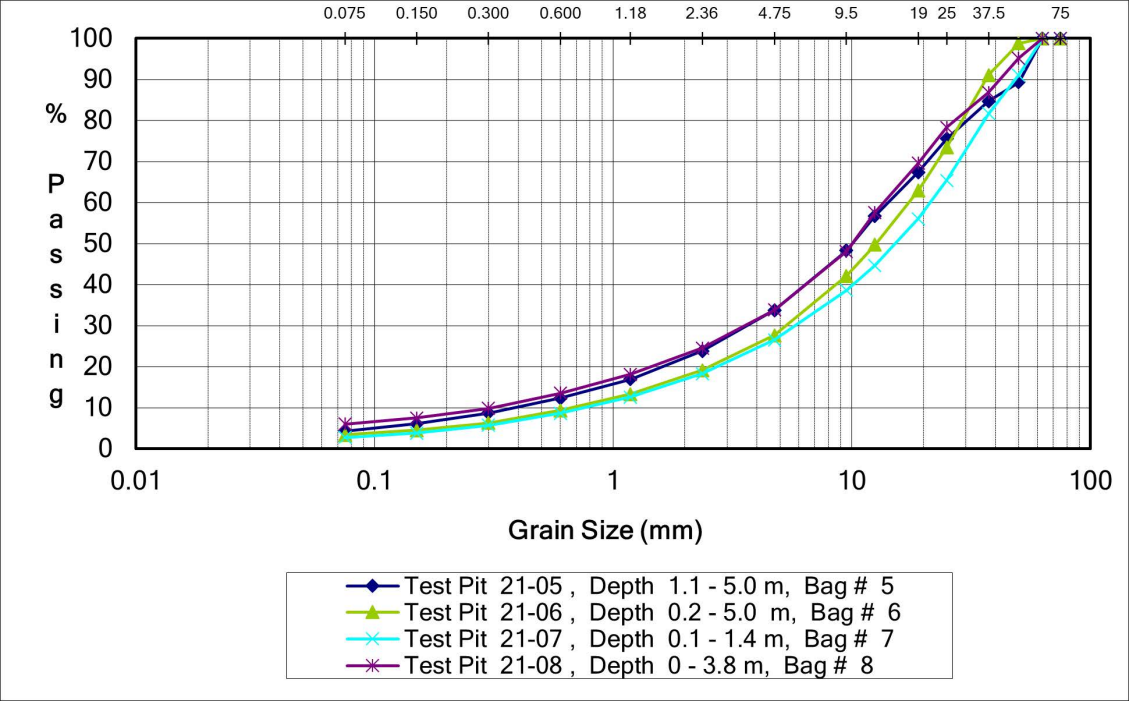
PROJECT REPORT OF
SIEVE ANALYSIS SUMMARIES

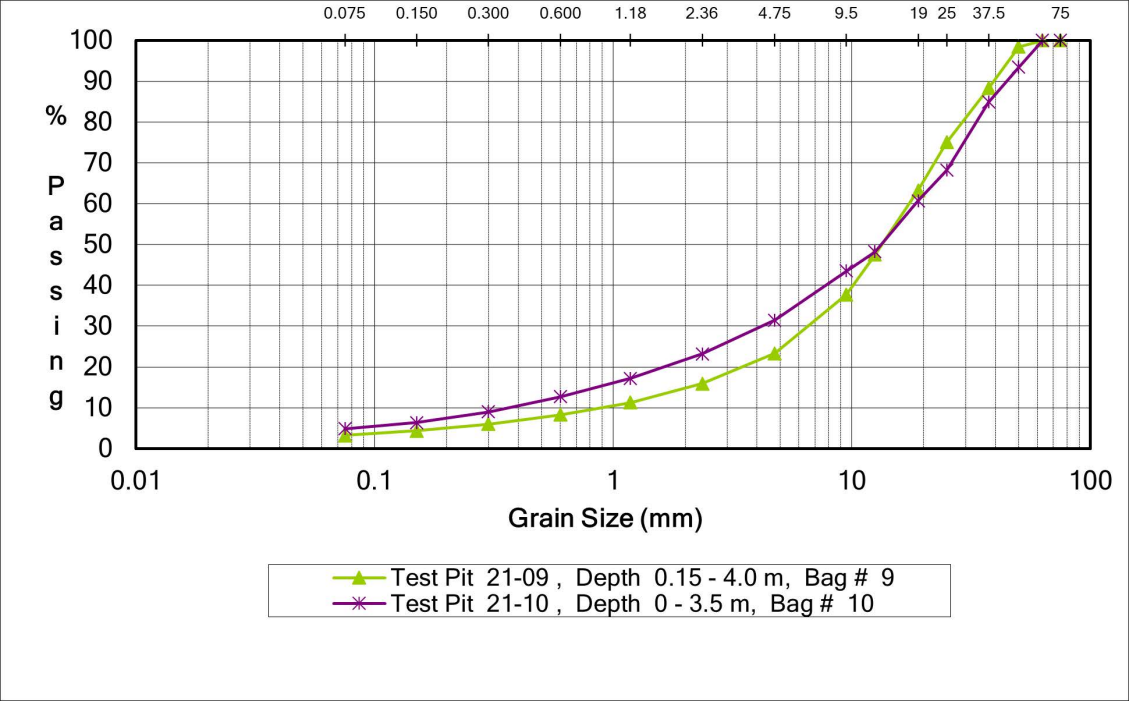
PERCENT PASSING

Project:	Lund Test Pitting	Project No.:	0
Sample Source:	Lund Pit #0464	Client:	0
Material:	PIT RUN	Date:	06 Oct 2021

Sample Information			Percent Passing Pit Run Sieve Sizes (mm)													
Test Pit	Depth (m)	Bag #	75	63	50	37.5	25	19	12.5	9.5	4.75	2.36	1.18	0.6	0.3	0.15	0.075
21-01	2 - 3.1	1	100.0	100.0	99.0	91.3	79.6	72.3	57.5	51.6	38.2	30.0	24.1	19.8	16.0	12.5	9.7
21-02	1.5 - 2.5	2	100.0	100.0	100.0	92.5	80.8	71.8	59.1	51.0	36.3	26.5	19.5	14.4	10.5	7.8	6.0
21-03	0 - 3.0	3	100.0	100.0	94.2	88.2	73.7	62.7	48.6	42.1	27.7	19.1	13.7	10.1	7.0	4.6	3.1
21-04	0 - 4.0	4	100.0	100.0	93.2	81.9	73.0	64.7	54.3	48.0	34.6	25.1	18.3	13.7	10.1	7.6	5.7
21-05	1.1 - 5.0	5	100.0	100.0	89.3	84.7	75.5	67.4	56.7	48.3	33.7	23.8	16.9	12.3	8.7	6.1	4.3
21-06	0.2 - 5.0	6	100.0	100.0	98.8	91.1	73.5	62.9	49.7	42.1	27.6	19.1	13.3	9.3	6.3	4.5	3.4
21-07	0.1 - 1.4	7	100.0	100.0	91.1	81.6	65.4	56.0	44.7	38.6	26.5	18.3	12.6	8.6	5.7	3.8	2.7
21-08	0 - 3.8	8	100.0	100.0	95.2	86.8	78.3	69.6	57.6	48.1	33.8	24.5	18.1	13.5	9.8	7.5	6.0
21-09	0.15 - 4.0	9	100.0	100.0	98.4	88.3	75.0	63.3	47.5	37.7	23.3	15.9	11.3	8.3	6.0	4.4	3.2
21-10	0 - 3.5	10	100.0	100.0	93.4	84.9	68.2	60.7	48.2	43.5	31.5	23.2	17.2	12.7	9.0	6.4	4.9
MAX			100.0	100.0	100.0	92.5	80.8	72.3	59.1	51.6	38.2	30.0	24.1	19.8	16.0	12.5	9.7
MIN			100.0	100.0	89.3	81.6	65.4	56.0	44.7	37.7	23.3	15.9	11.3	8.3	5.7	3.8	2.7
SD			0	0	3.659144	3.850267	4.800231	5.146995	5.19304	4.969686	4.821664	4.339547	3.85198362	3.459945	3.060301	2.568527	2.099735
MEAN			100	100.0	95	87.1	74	65.1	52	45.1	31	22.6	17	12.3	9	6.5	5
MEAN-2SD			100	100.0	87.9	79.4	64.7	54.8	42.0	35.2	21.7	13.9	8.8	5.4	2.8	1.4	0.7
MEAN+2SD			100	100.0	100.0	94.8	83.9	75.4	62.8	55.0	41.0	31.2	24.2	19.2	15.0	11.7	9.1


0.075
0.150
0.300
0.600
1.18
2.36
4.75
9.5
19
25
37.5
75
100
90
80
70
60
50
40
30
20
10
0
% Passing
0.01
0.1
1
10
100
Grain Size (mm)
Test Pit 21-01 , Depth 2 - 3.1 m, Bag # 1
Test Pit 21-02 , Depth 1.5 - 2.5 m, Bag # 2
Test Pit 21-03 , Depth 0 - 3.0 m, Bag # 3
Test Pit 21-04 , Depth 0 - 4.0 m, Bag # 4


0.075
0.150
0.300
0.600
1.18
2.36
4.75
9.5
19
25
37.5
75
100
90
80
70
60
50
40
30
20
10
0
% Passing
0.01
0.1
1
10
100
Grain Size (mm)
Test Pit 21-05 , Depth 1.1 - 5.0 m, Bag # 5
Test Pit 21-06 , Depth 0.2 - 5.0 m, Bag # 6
Test Pit 21-07 , Depth 0.1 - 1.4 m, Bag # 7
Test Pit 21-08 , Depth 0 - 3.8 m, Bag # 8


0.075
0.150
0.300
0.600
1.18
2.36
4.75
9.5
19
25
37.5
75
100
90
80
70
60
50
40
30
20
10
0
% Passing
0.01
0.1
1
10
100
Grain Size (mm)
Test Pit 21-09 , Depth 0.15 - 4.0 m, Bag # 9
Test Pit 21-10 , Depth 0 - 3.5 m, Bag # 10

USC Legend

MATERIALS CLASSIFICATION LEGEND

MAJOR DIVISIONS		SYMBOL	SOIL TYPE
COARSE GRAINED SOILS	GRAVEL AND GRAVELLY SOILS	GW	WELL GRADED GRAVELS OR GRAVEL–SAND MIXTURES, < 5% FINES
		GP	POORLY–GRADED GRAVELS OR GRAVEL–SAND MIXTURES, < 5% FINES
		GM*	SILTY GRAVELS, GRAVEL–SAND–SILT MIXTURES
		GC*	CLAYEY GRAVELS, GRAVEL–SAND–CLAY MIXTURES
	SAND AND SANDY SOILS	SW	WELL–GRADED SANDS OR GRAVELLY SANDS, < 5% FINES
		SP	POORLY–GRADED SANDS OR GRAVELLY SANDS, < 5% FINES
		SM*	SILTY SANDS SAND–SILT MIXTURES
		SC*	CLAYEY SANDS SAND–CLAY MIXTURES
FINE GRAINED SOILS	SILTS AND CLAYS w_L <50	ML	INORGANIC SILTS AND VERY FINE SANDS, ROCK FLOUR, SILTY OR CLAYEY FINE SANDS OR CLAYEY SILTS WITH SLIGHT PLASTICITY
		CL	INORGANIC CLAYS OF LOW TO MEDIUM PLASTICITY, GRAVELLY CLAYS, SANDY CLAYS, SILTY CLAYS, LEAN CLAYS
		OL	ORGANIC SILTS AND ORGANIC SILT–CLAYS OF LOW PLASTICITY
	SILTS AND CLAYS w_L >50	MH	INORGANIC SILTS, MICACEOUS OR DIATOM–ACEOUS FINE SANDY OR SILTY SOILS, PLASTIC SILTS
		CH	INORGANIC CLAYS OF HIGH PLASTICITY, FAT CLAYS
		OH	ORGANIC CLAYS OF MEDIUM TO HIGH PLASTICITY, ORGANIC SILTS
ORGANIC SOILS		Pt	PEAT AND OTHER HIGHLY ORGANIC SOILS
TOPSOIL		TS	TOPSOIL WITH ROOTS, ETC.
COBBLES		SB	ROCK FRAGMENTS AND COBBLES, PARTICLE SIZE 75mm TO 300mm
LARGE BOULDERS		LB	BOULDERS, PARTICLE SIZE OVER 300mm
BEDROCK		BR	BEDROCK

FOR SOILS HAVING 5 – 12% PASSING .075 SIEVE, USE DUAL SYMBOL

*GM1; GC1; SM1; SC1; 12 – 20%
GM2; GC2; SM2; SC2; 20 – 30%
GM3; GC3; SM3; SC3; 30 – 40%
GM4; GC4; SM4; SC4; 40 – 50%

} PASSING .075mm SIEVE

REV. 90–04–26

PROVINCE of BRITISH COLUMBIA
MINISTRY OF TRANSPORTATION & HIGHWAYS
Geotechnical & Materials Engineering

UNIFIED SOIL CLASSIFICATION LEGEND

Drawn: LU	Date: JULY'97	Scale:
File No.:		ACAD File: ACADSTDS C:\ACADSTDS\SOIL-APP

Photos

Site Photographs:

Photo 1 View of the pit floor and crusher set-up location from the top of the pit face (July 2021).

Photo 2 View of the pit face, some minor stripping of shrubs is required (Oct. 2021). Note the power lines running along the west side of the pit (on the far left of the photo). The proposed mining area is to the east of the powerlines.

Photo 3 TP21-03 test pit and spoil pile (well-graded gravel) (Oct. 2021).

Photo 4 TP21-05 test pit and spoil pile (well-graded gravel). Located at the top of the pit face (Oct. 2021).

Photo 5 TP21-06 test pit and spoil pile (well-graded gravel). Located farther back from the pit face along the northern pit boundary (Oct. 2021).

Photo 6 TP21-10 test pit and spoil pile (well-graded gravel). Test pit is located on the pit floor at the base of the pit face (Oct. 2021).