

## TECHNICAL SUMMARY REPORT

Updated: November 17, 2008

Pit Name: Granisle Pit

Provincial Pit #: 5586

### Location

The Granisle Pit is located on Hwy 118, approximately 3km north of the Fulton River Bridge and to the west of Hwy #118 Topley Landing Road.

### Legal Description

The Granisle Gravel Reserve is legally described as "Unsurveyed Crown Land, west of District Lot 7911, Range 5, Coast District."

### Material Gradation

The material gradation and durability characteristics are based on the 1983 subsurface investigation results. It should be noted that area investigated in 1983 is probably mined out and that material gradation values may differ in the areas that have not been investigated.

#### Average Gradation

<b>Area</b>	<b>Fines &lt;0.075mm</b>	<b>Sand 0.075 - 4.75mm</b>	<b>Gravel 4.75 - 75mm</b>
A	5%	29%	66%
B	6%	71%	23%

#### Overall Gradation

<b>Area</b>	<b>Fines &lt;0.075 mm</b>	<b>Sand 0.075 - 4.75mm</b>	<b>Gravel 4.75 - 75mm</b>	<b>Oversize Material</b>		
				<b>75 - 150mm</b>	<b>150 - 225mm</b>	<b>&gt;225m m</b>
A	4%	26%	61%	5%	2%	1%

### Material Durability

<b>Test Hole #</b>	<b>Degradation Value</b>	<b>Sand Equivalent Value</b>
83 - 1	31	68
83 - 3	45	72
83 - 11	9	29
83 - 16	26	85
83 - 19	3	31
<b>Average</b>	<b>23</b>	<b>57</b>

The Magnesium Sulphate soundness test showed a 10.2% loss on the course aggregate and a 15.6% loss on the fine aggregate.

### Volume Estimates

<b>Area</b>	<b>Average Gravel Thickness (m)</b>	<b>Volume (m<sup>3</sup>)</b>
A	3.0	27,000
B	2.5	15,000

The gravel volume is estimated to be 42,000m<sup>3</sup> in the area investigated in 1983.

### Suitability

Overall gradation and durability characteristics indicate that the gravel in Area A is suitable for:

- Bituminous concrete and paving aggregate
- 19mm crushed granular surfacing aggregate
- 37.5mm crushed granular surfacing aggregate
- 75mm crushed granular base aggregate
- Select Granular Sub-base aggregate

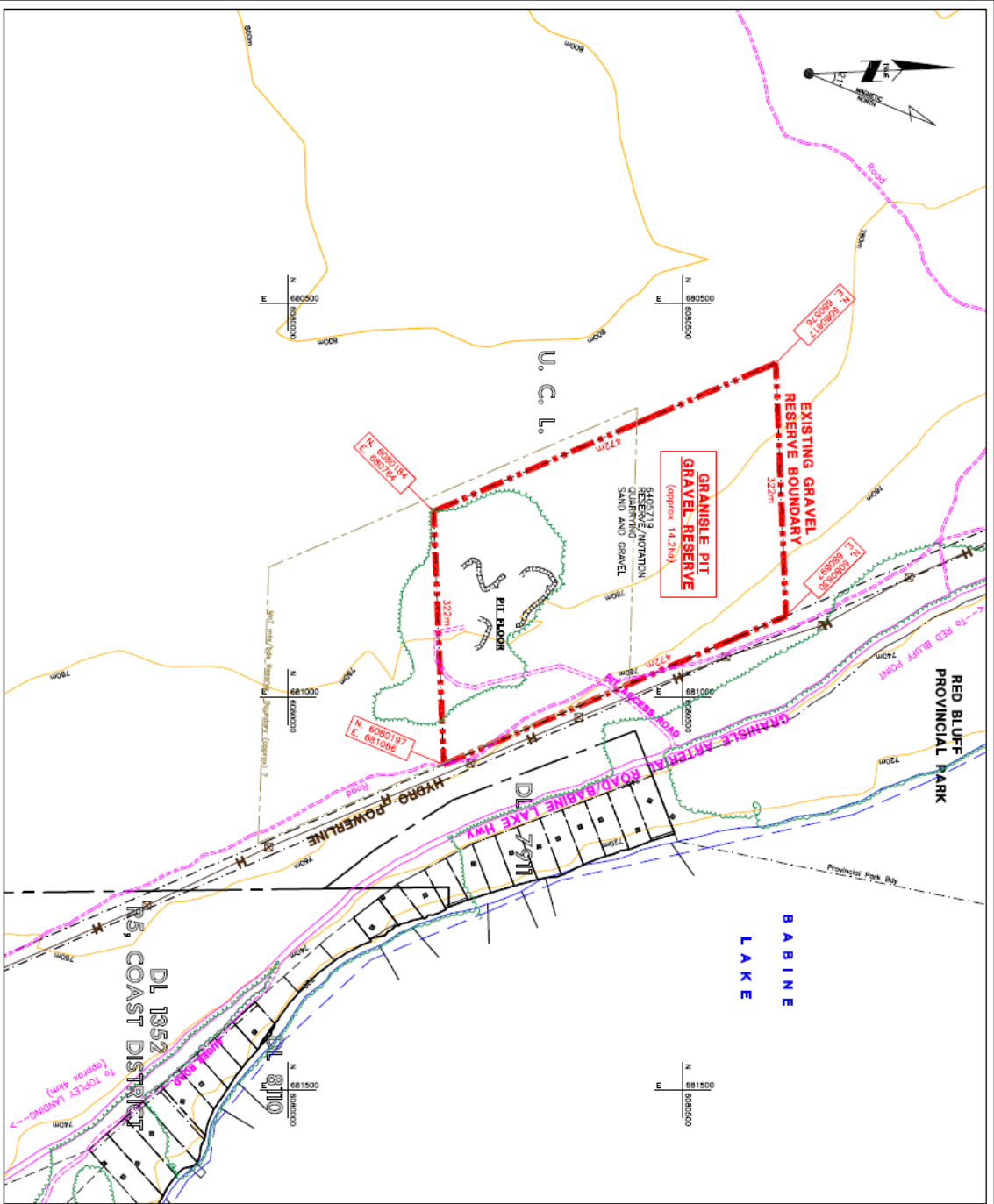
The material within Area “B” was found to be suitable for:

- Borrow
- Possible winter sand if crushed

### Pit Development

- The topography is hilly.
- Overburden and vegetation is sparse as the area has already been developed (1983).
- Test hole 83 – 2 showed 5.08 cm layer of clay to a depth of 3 meters. Selective mining will be required here.
- Water table was not encountered in any of the test pits.
- Access to the pit is off Hwy #118 (Topley Landing Road).

## Pit Plan



**PIT LEGEND**

	NATIONAL DELINEATION		STREAM
	PIT FACE		CENTER
	BEAR PIT		BUILDING (onfield)
	BEAR HOLE		FENCE
	GRAVEL ROAD		SIGN POST
	GRAVEL ROAD		UTILITY POLE
	TRAIL		GRAVEL RESERVE BOUNDARY (100m Interval)
	TRENCH		CENTER LINE (50m Interval)
	DISTRICT LOT LINE		CENTER LINE (20m Interval)
	IRON PIN		

**IRLM NOTE:**

- 1) Contour Interval @ 20 metres
- 2) Base Map derived from:  
-Map No: 93L/16-000  
-Plan: TRM/2(-1996)  
-Datum/Zone: UTM NAD83(10)

**LEGAL NOTE:**

1) District lot lines are derived from digital Crown Cadastre reference mapping supplied by Crown Land Services, Victoria

**DRAWING NOTES:**

- 1) Updated pit topography derived from Mat Geotech 2005 (granisle-loudscarf), surveyed Nov 2005.

Scale - 1:5,000

0m 100 200m



GOVERNMENT OF BRITISH COLUMBIA  
Geotechnical & Materials Engineering

Figure 2  
PIT PLAN (2008)  
GRANISLE PIT  
BUKLEY-STIKINE HIGHWAY DISTRICT

Drawn: dth/SF Date: Nov /08 Scale: As Shown  
File No.: 93L/16-003  
ACAD File: gravel/gravel

# Test Pit Summary

MINISTRY OF TRANSPORTATION, COMMUNICATION & HIGHWAYS  
 GEOTECHNICAL & MATERIALS BRANCH  
 AGGREGATE TESTHOLE SUMMARY SHEET

PROJECT GRANISLE PIT  
 REGION 5 DISTRICT BURNS LAKE

FILE NO MSS-10-5586  
 DATE AUG. 29/83  
 CALCULATIONS BY S. LIRNESS  
 SHEET 1 OF 3

TESTHOLE NO.	DEPTH OF OVERBURDEN (METER)	WASTE MAT.	DEPTH OF SOIL BOUNDARIES (METER)	SOIL CLASSIFICATION	GRADATION OF MATERIALS								SOUNDNESS INDICATORS		SOUNDNESS TEST				MATERIAL AT BOTTOM OF HOLE	REMARKS	
					75/150 mm.	NO. 20	75 mm.	GRAVEL	SAND	FINES	ORGANIC	DOMINANT ROCK TYPE	SOUNDNESS	SOUNDNESS	MAGNESIUM SULPHATE		L.A. ABRASION				
															FA	CA	FA	CA			
1	0.0 3.0		0.0 3.0	GP	3	1	-	64	34	2	-		31	68						GP	MAX SIZE 200mm
2	0.0 2.5		0.0 2.5	SP/SM	-	-	-	-	94	6	-									SP-SM	2" LAYERS OF CLAY THROUGHOUT TESTHOLE
3	0.0 1.0		0.0 1.0	GP/SM	-	-	-	70	23	7	-										
	1.0 3.0		1.0 3.0	SP/SM	2	-	-	40	54	6	-	45	72							SP-SM	MAX SIZE 150mm
4	0.0 1.0		0.0 1.0	GP/SM	-	-	-	70	22	8	-										
	1.0 3.0		1.0 3.0	SP/SM	-	-	-	5	87	8	-									SP-SM	
5	3.0		0.0 3.0	SM <sub>2</sub>																SM <sub>2</sub>	WASTE
6	2.5		0.0 2.5	SM <sub>1</sub>																SM <sub>1</sub>	WASTE
7	3.0		0.0 3.0	SM <sub>3</sub>																SM <sub>3</sub>	WASTE
8			0.0 3.0	GP	7	3	1	70	28	2	-									GP	MAX SIZE 450mm



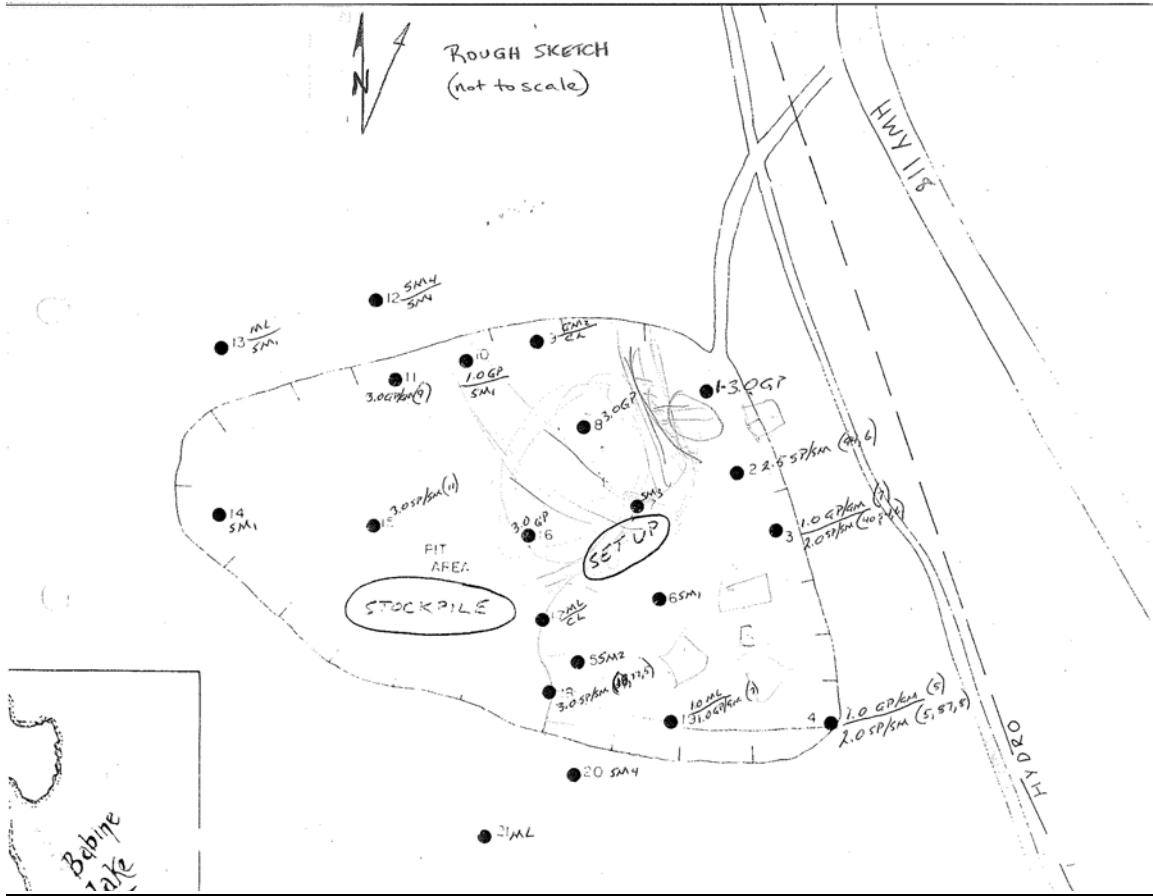
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PROJECT GRANISLE PIT  
 REGION 5 DISTRICT BURNS LAKE

FILE NO MSS-10-5586  
 DATE AUG 29/83  
 CALCULATIONS BY S. LIRNESS  
 SHEET 3 OF 3

TESTHOLE NO.	DEPTH OF OVERBURDEN DEPTH OF WASTE MAT.	DEPTH OF SOIL BOUNDARIES	SOIL CLASSIFICATION	GRADATION OF MATERIALS										SOUNDNESS INDICATORS		SOUNDNESS TEST				MATERIAL AT BOTTOM OF HOLE	WATER LEVEL (METRIC)	REMARKS						
				75/150 mm	60/75 mm	425 µm	75 µm	SAND	FINES	ORGANIC	DOMINANT ROCK TYPE	MOISTURE (%)	SHRINKAGE (%)	MAGNESIUM SULPHATE		LA ABRASION												
														FA	CA	FA	CA											
15		0.0 3.0	SP/SM	3	1	-	37	52	11	-													SP-SM		MAX SIZE 150mm			
16		0.0 3.0	GP	7	4	2	85	14	1	-			26	85										GP		MAX SIZE 350mm		
17	2.0	0.0 2.0	ML																							WASTE		
		3.0 3.0	CL																							WASTE		
18		0.0 3.0	SP/SM	-	-	-	18	77	5	-																SP-SM		
19	2.0	0.0 2.0	ML																							WASTE		
		2.0 3.0	GP	5	3	1	51	42	7	-			3	31												GP-GM	MAX SIZE 450mm	
20	3.0	0.0 3.0	SM4																								SM4	WASTE
21	3.0	0.0 3.0	ML																								ML	WASTE

# Sketch Plan



# Photos – Nov 2008









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