



Ministry of Transportation

Geotechnical Engineering

Aggregate

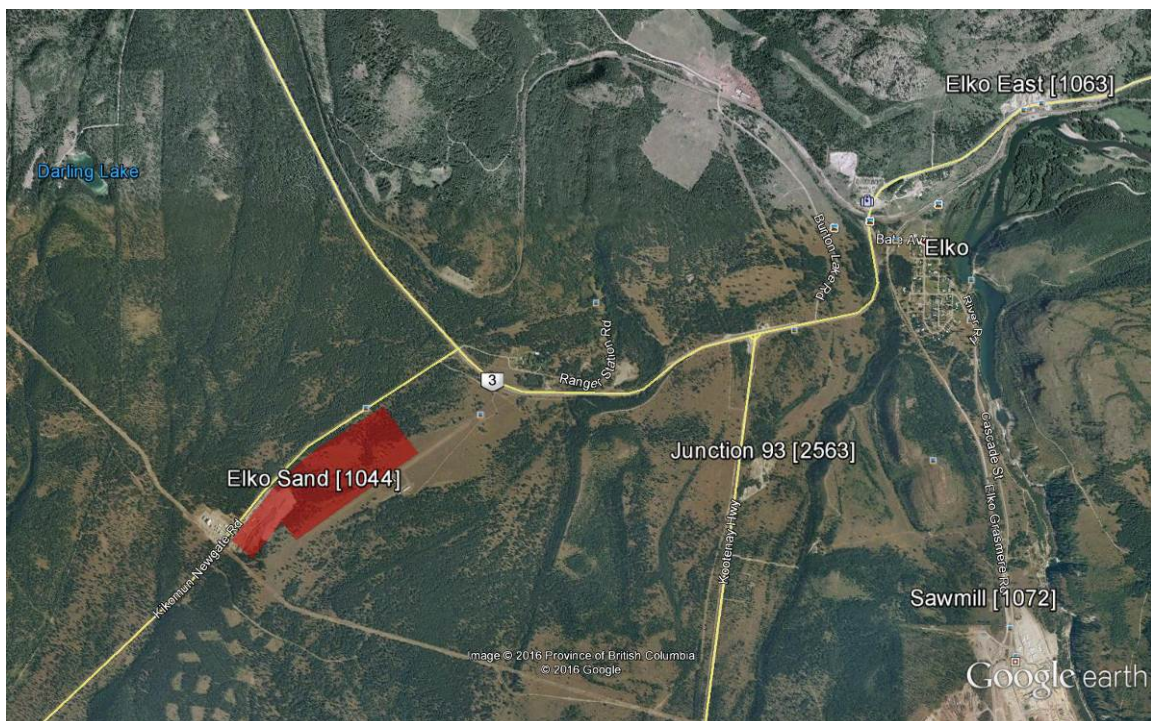
Southern Interior Region

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Elko Sand Pit No. 1044

2016 Technical Information Report

Location: Elko Sand Pit is located southwest of Elko on Kikomun Newgate Road, approximately 1.5 km southwest of the Junction of Highway 3. The approximate UTM coordinates of the pit are Zone 11, 633200E and 5460500N.



Legal Description: The deposit is situated within those portions of sub-lots 7, 8, 9, & 10 of District Lot 320, Plan X40 and sub-lot 12 of District Lot 321, Plan X4 of the Kootenay District. MoTI maintains a Section 16 Reserve, #0215042, on this property.

Gradation: A sampling program was conducted in 2012. The average and range of laboratory samples as well as oversize rock field estimates for material sampled within the *Suitability Area* are as follows:

Laboratory Results:

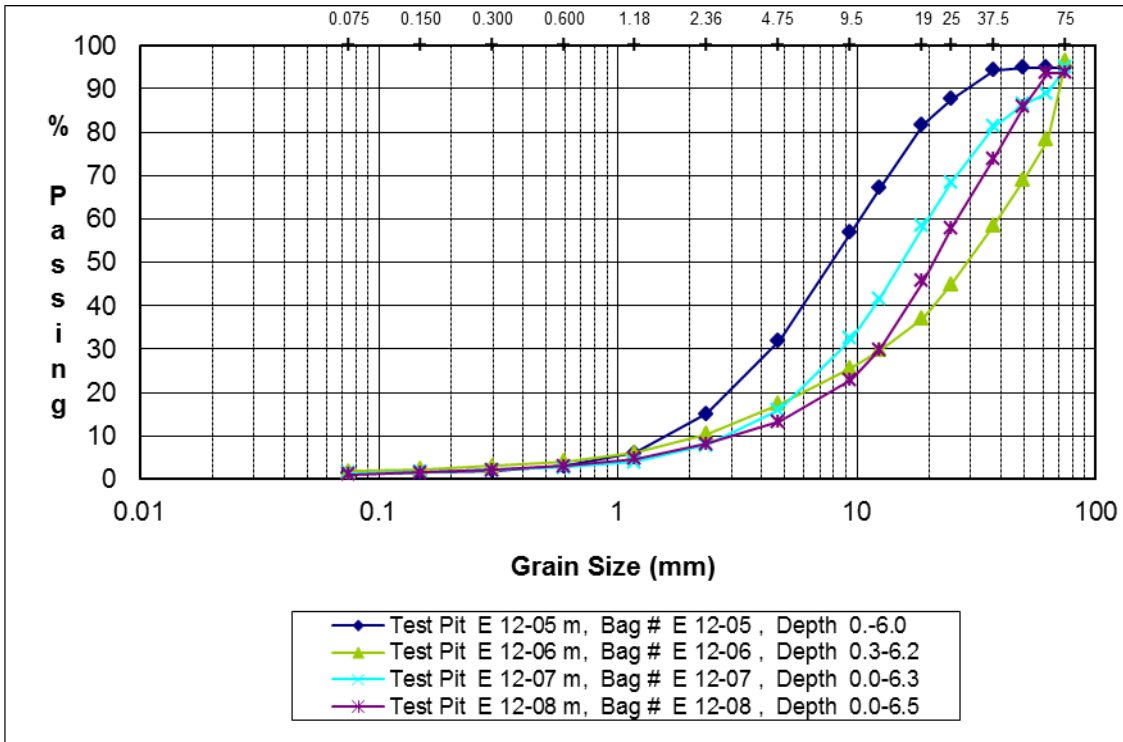
Classification:	Average (%)	Range (%)
Gravel (4.75 - 75mm)	80.3	67.9 – 86.6
Sand (0.075 - 4.75mm)	18.3	12.2 – 30.7
Fines (< 0.075mm)	1.4	1.2 – 1.8

Oversize Rock Estimates:

Classification:	Average (%)	Range (%)
Boulders (> 375mm)	3	2 - 5
Cobbles (150 - 375mm)	5	3 - 10
Cobbles (75 - 150mm)	9	5 - 20

The maximum size rock observed within the suitability area from the 2012 investigation was 2000mm.

Aggregate Gradation Chart:



Summary of Test Pit Logs:
 (Including Laboratory Results – **bolded in red**)

AGGREGATE LOG												
PROJECT:		Elko Sand Pit						SAMPLED BY: OC / SCL				
PIT #:		1104						METHOD: EXCAVATOR				
DISTRICT:		Rocky Mountain						DATE: January 22-3, 2012				
TH / TP	DEPTH (m)		SAMPLE BAG No.	SOILS CLASS	ESTIMATED GRADUATION			ESTIMATED ROCK >75mm				Laboratory Results
	FROM	TO			G	S	F	MAX SIZE	75mm - 150mm	150mm - 375mm	375mm	
TP E12-05	0.0	6.0	E12-05	GP	70	27	3	1200	5	3	5	GW 67.9/30.7/1.3
TP E12-06	0.0	0.2	NS	TS								
	0.2	6.2	E12-06	GP	80	17	3	430	20	10	5	GW 82.6/15.6/1.8
TP E12-07	0.0	6.3	E12-07	GP	75	22	3	600	5	3	2	GW 84.0/14.7/1.4
TP E12-08	0.0	6.5	E12-08	GP	78	20	2	520	5	3	2	GW 86.6/12.2/1.2

Aggregate Quality: A summary of aggregate quality tests performed on pit run samples from the pit are as follows:

TEST	AVERAGE	RANGE
Micro-Deval %	16.2	13.6 – 18.67
Sand Equivalent %	79	69.41 – 91.55
Bulk Relative Density (Coarse)	2.59	n/a
Bulk Relative Density (Fine)	2.59	n/a
Absorption (Coarse)	1.49	n/a
Absorption (Fine)	1.81	n/a

Granular Volumes:

Suitability Area: +/- 100,000 m³

This is based on mining the Suitability Area, to an average gravel depth of 10 meters.

Pit Development and Recommendations:

- The Ministry of Transportation and Infrastructure (MoTI) has previously developed the proposed mining area. Any additional development will be the responsibility of the contractor and shall be completed as per the pit development plan or as directed by the Ministry Representative. The Ministry shall obtain an Occupant Licence to Cut for logging any merchantable timber.
- The processing plant may be set up on the pit floor at the north end of the pit as indicated on the Pit Development Plan. This may require moving existing stockpiles.
- Mining is to proceed in a southerly direction;
- All oversize material in the pit is available for use and in order to maximize the use of the larger oversize material within the deposit, a primary crusher capable of reducing material between 375 and 450 mm is required;
- Processed aggregate may be stockpiled west of the crusher site;
- At the completion of mining, active pit faces shall be sloped to a minimum of 1 ½:1 with granular material. **Reject material from aggregate production is not to be used to slope or infill pit faces without the prior approval of the Ministry Gravel Resource Manager.**

Pit Photographs

Mining area in background (looking south)



Crusher location

Prepared By:

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