



**Ministry of Transportation and Infrastructure**

Geotechnical and Materials Engineering

**Southern Interior Region**

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**Trinity Creek Pit No. 0441**

**2018 Technical Information Report**

**Location:** Trinity Creek Pit is located approximately 14km east of Enderby, taking Enderby Mabel Lake Road to Trinity Valley Road and then Durnin Road. The entrance to the pit is 200 metres up Durnin Road on the left hand side.



**Legal Description:** Trinity Creek Pit is a Section 16 map reserve tenure held by the Ministry of Transportation and Infrastructure, legally described as That part of the Northeast ¼ of Section 13, Township 18, Range 8, West of the Sixth Meridian, Kamloops Division of Yale District, containing 32.28 hectares, more or less. UTM 11, 359900 Easting, 5599600 Northing.

**Gradation:** The average and range of laboratory samples as well as oversize rock field estimates for material from the 2018 testing program at Trinity Creek Pit are as follows:

**Laboratory Samples**

Classification	Average (%)	Range (%)
Gravel (4.75-75mm)	42.7	35.2-50.7
Sand (0.075-4.75mm)	53.7	43-59
Fines (<0.075mm)	3.6	1.1-9.2

**Oversize Field Estimates**

Classification	Average (%)	Range (%)
Boulders (>375mm)	0	0
Cobbles (150-375mm)	1	0-3
Cobbles (75-150mm)	4	1-10

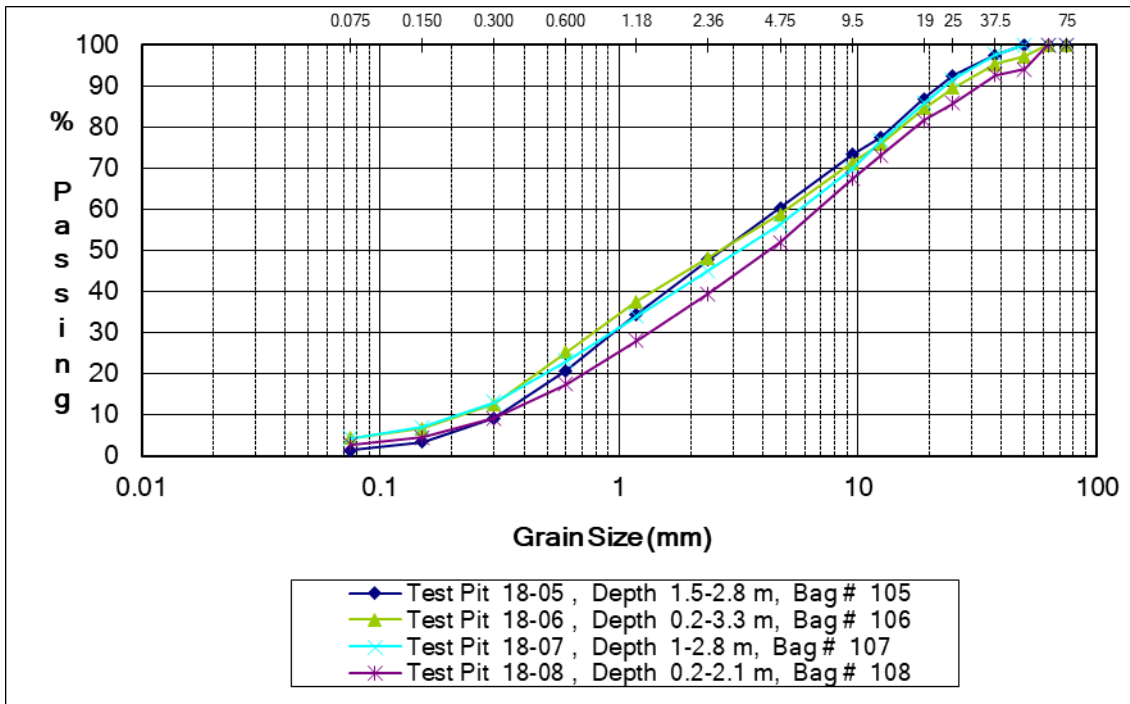
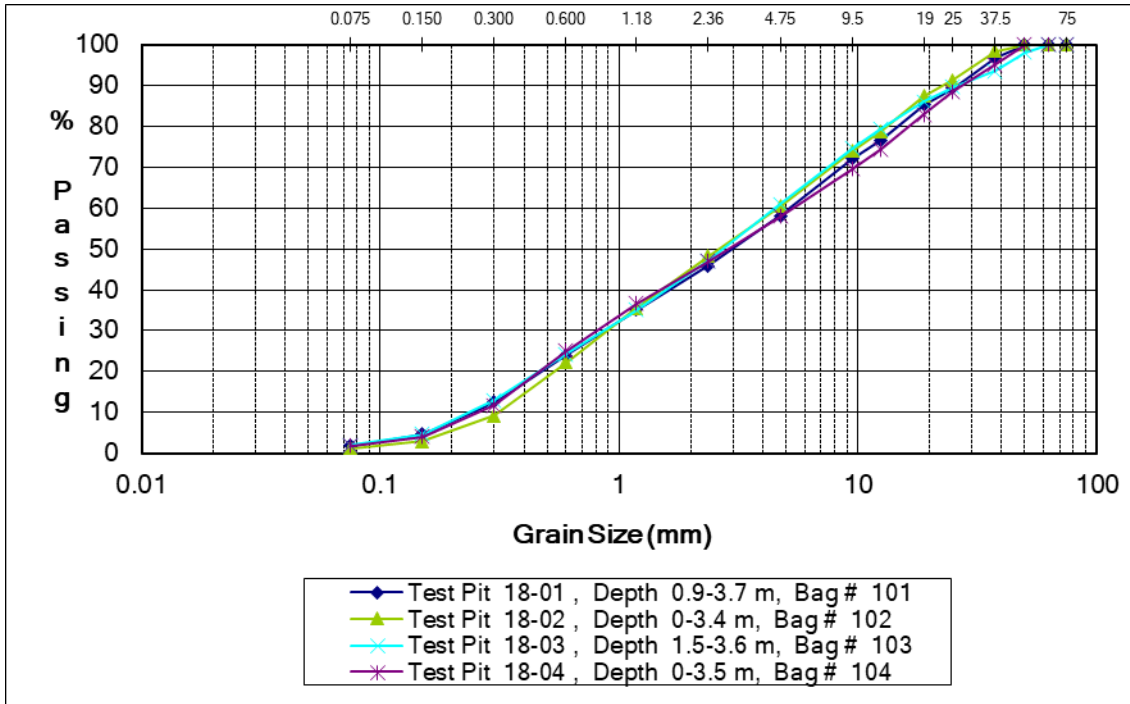
Maximum rock size observed was 270mm.

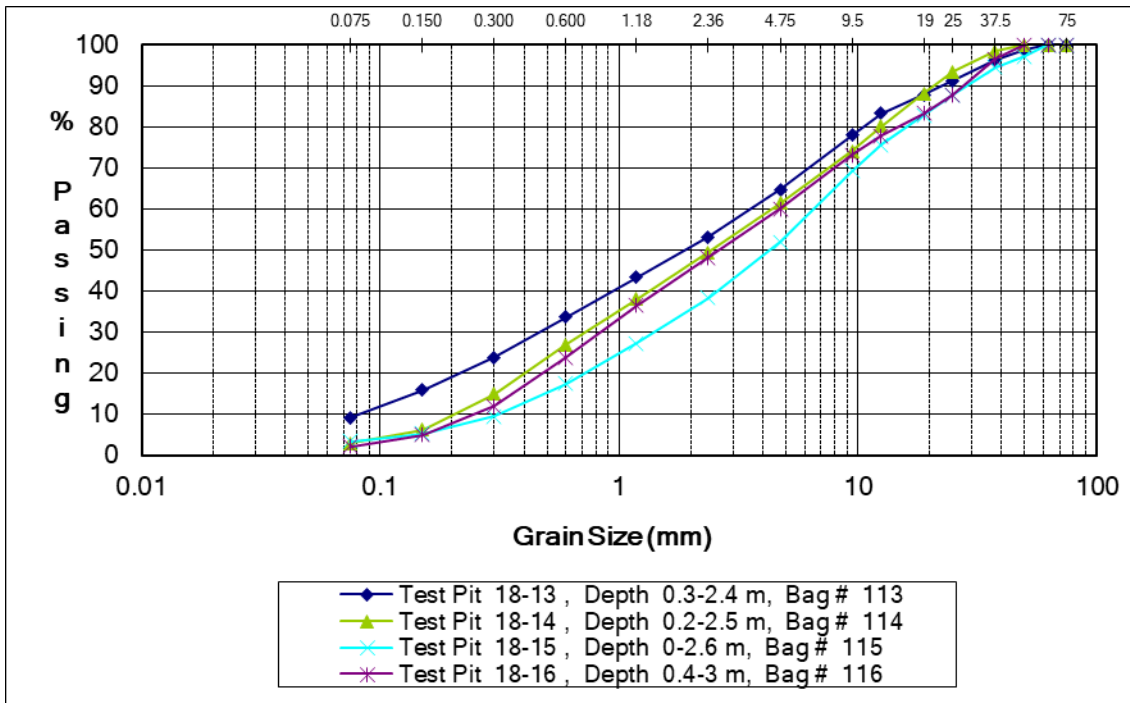
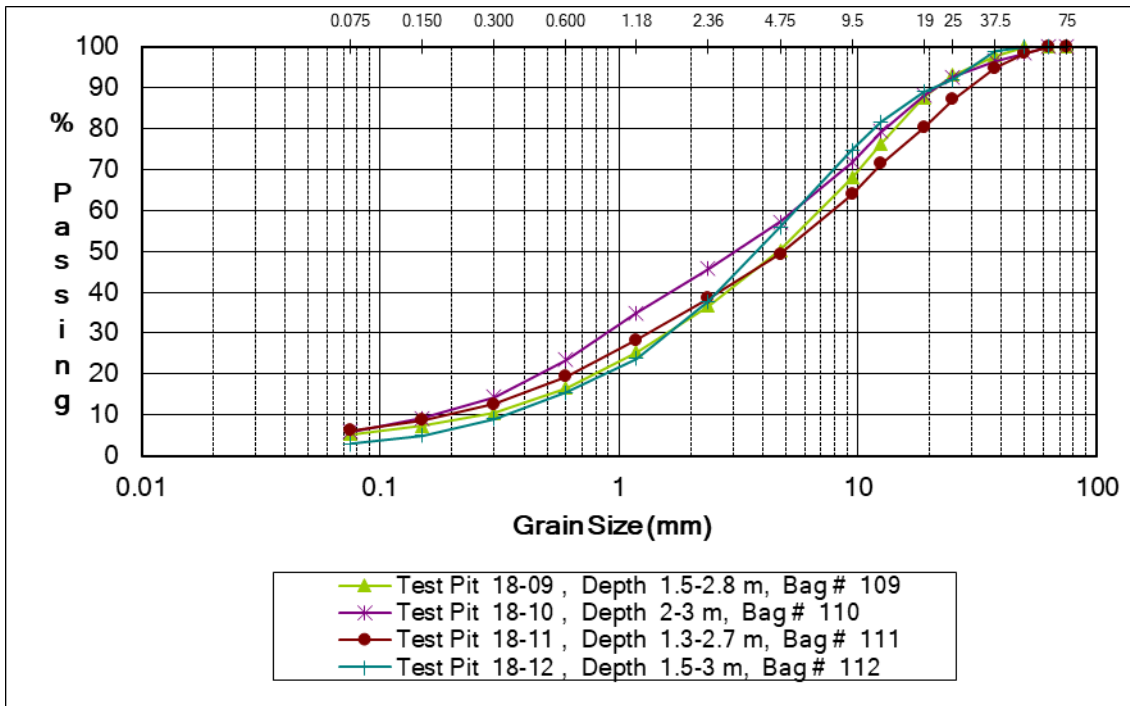
**Wet Sieve Analysis Chart:**

2018

PROJECT REPORT OF SIEVE ANALYSIS SUMMARIES										PERCENT PASSING								
Project:					Project No.:					86004								
Sample Source:					Client:					0								
Material:					Date:					May 26-27 2018								
Sample Information			Percent Passing															
Test Pit	Depth (m)	Bag #	Pit Run Sieve Sizes (mm)															
			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	
18-01	0.9-3.7	101	100.0	100.0	100.0	96.9	89.4	85.2	76.6	72.1	58.1	45.9	35.1	24.0	12.5	4.6	1.8	
18-02	0-3.4	102	100.0	100.0	100.0	98.4	91.4	87.4	78.8	74.0	60.4	48.3	35.6	22.2	9.1	2.9	1.1	
18-03	1.5-3.6	103	100.0	100.0	98.1	93.5	89.6	86.0	79.5	74.6	60.9	47.2	35.0	24.3	12.9	4.7	2.0	
18-04	0-3.5	104	100.0	100.0	100.0	95.2	88.6	82.9	74.5	69.6	57.9	47.0	36.7	25.0	11.7	4.0	1.8	
18-05	1.5-2.8	105	100.0	100.0	100.0	97.5	92.5	86.8	77.5	73.3	60.3	47.7	34.4	20.7	9.2	3.4	1.3	
18-06	0.2-3.3	106	100.0	100.0	97.2	95.3	89.5	84.6	76.0	71.3	58.7	48.1	37.5	25.2	12.6	6.6	4.3	
18-07	1-2.8	107	100.0	100.0	100.0	97.7	91.6	85.8	76.8	69.7	56.3	45.1	33.9	23.1	13.0	6.9	4.3	
18-08	0.2-2.1	108	100.0	100.0	94.0	92.6	85.8	81.5	73.1	67.4	51.9	39.4	28.0	17.4	9.1	4.5	2.7	
18-09	1.5-2.8	109	100.0	100.0	100.0	97.9	93.1	87.6	76.4	68.0	50.3	36.7	25.3	16.6	10.5	7.3	5.2	
18-10	2-3	110	100.0	100.0	98.5	96.6	92.6	88.1	79.3	71.8	57.2	45.8	34.9	23.4	14.3	9.2	5.9	
18-11	1.3-2.7	111	100.0	100.0	98.5	94.9	87.1	80.2	71.4	63.9	49.3	38.6	28.4	19.4	12.7	8.7	6.2	
18-12	1.5-3	112	100.0	100.0	100.0	98.9	92.0	89.1	81.7	74.7	56.0	37.8	23.8	15.5	9.1	5.0	2.9	
18-13	0.3-2.4	113	100.0	100.0	98.7	96.3	91.2	87.9	83.3	78.0	64.8	53.2	43.3	33.7	23.8	15.8	9.2	
18-14	0.2-2.5	114	100.0	100.0	100.0	98.5	93.4	88.1	80.1	74.1	61.5	49.5	38.1	26.9	14.9	6.2	2.9	
18-15	0-2.6	115	100.0	100.0	97.2	94.5	87.8	82.9	75.6	69.2	52.0	38.3	27.2	17.5	9.5	5.2	3.3	
18-16	0.4-3	116	100.0	100.0	100.0	96.5	87.9	83.3	77.8	73.2	60.1	48.2	36.4	23.8	12.0	4.9	2.2	

**Aggregate Gradation Charts:**





**Summary of Test Pit Logs** (with results bolded in the chart):

<b>AGGREGATE LOG</b>														
<b>PROJECT:</b>		Trinity Creek Pit				<b>SAMPLED BY:</b>		Samantha Kinniburgh & Laura Courtenay						
<b>PIT #:</b>		441				<b>METHOD:</b>		Excavator						
<b>DISTRICT:</b>		Okanagan Shuswap - SA 13				<b>DATE:</b>		May 22-23 2018						
TEST PIT NO.	DEPTH		SAMPLE BAG NO.	SOILS CLASS	ESTIMATED GRADATION			ESTIMATED ROCK 75mm				SAND TYPE F M C	REMARKS	
	FROM	TO			G	S	F	MAX SIZE	75mm - 150mm	150mm - 375mm	>375mm			
18-01	0	0.4		SP	21	70	4							Black material at 0.1 and 0.8-0.9m
	0.4	0.9		GP	55	43	2							Consistent after 0.9m
	0.9	3.7	101	SP	33	65	2	130	3	0	0	M		
				<b>SP</b>	<b>42</b>	<b>56</b>	<b>1.8</b>							
18-02	0	3.4	102	SP	37	60	3	270	5	1	0	M-C		Sloughing at 0.5m
				<b>SP</b>	<b>40</b>	<b>59</b>	<b>1.1</b>							More rock than 18-01, small dark patch
														at 1.5m
18-03	0	0.4		SP	27	70	3							Needed to remove 1.5m of ditching waste
	0.4	1.5		GP	50	47	3							Sloughing at 0.5m
	1.5	3.6	103	SP	39	60	1	150	5	1	0	M-C		Gravel lenses towards the pit face
				<b>SP</b>	<b>39</b>	<b>59</b>	<b>2</b>							Darker, moist sand
18-04	0	3.5	104	SP	34	63	3	120	5	0	0	M-C		Sloughing at 0.4m
				<b>SP</b>	<b>42</b>	<b>56</b>	<b>1.8</b>							
18-05	0	1.5		SP										Sloughing at 0.3m
	1.5	2.5	105	SP	18	80	2							Change in stratum, finer sand layer
	2.5	2.8		SP	33	65	2	130	3	0	0	M-C		
				<b>SP</b>	<b>40</b>	<b>59</b>	<b>1.3</b>							
18-06	0	0.2		OB/Soil										Lots of soil on top layer
	0.2	3.3	106	SP	35	60	5	190	3	1	0	M		
				<b>SP</b>	<b>41</b>	<b>54</b>	<b>4.3</b>							
18-07	0	1		SP	15	80	5							Roots all the way down
	1	2.8	107	SP	30	65	5	140	3	0	0	M-C		Sloughing at 1m
				<b>SP</b>	<b>44</b>	<b>52</b>	<b>4.3</b>							
18-08	0	0.2		OB/Soil										Roots, sloughing at 0.5m
	0.2	2.1	108	SP	32	65	3	120	5	0	0	M-C		Consistent
				<b>SP</b>	<b>48</b>	<b>49</b>	<b>2.7</b>							



AGGREGATE LOG														
<b>PROJECT:</b> Trinity Creek Pit - Baxter Bridge				<b>SAMPLED BY:</b> Samantha Kinniburgh & Laura Courtenay										
<b>PIT #:</b> 441				<b>METHOD:</b> Excavator										
<b>DISTRICT:</b> Okanagan Shuswap - SA 13				<b>DATE:</b> May 22-23 2018										
TEST PIT NO.	DEPTH		SAMPLE BAG NO.	SOILS CLASS	ESTIMATED GRADATION			ESTIMATED ROCK 75mm				SAND TYPE F M C	REMARKS	
	FROM	TO			G	S	F	MAX SIZE	75mm - 150mm	150mm - 375mm	>375mm			
18-09	0	1.5		SM	27	65	8							Fines in the top layer
	1.5	2.8	109	GP	48	46	6	220	3	2	0	M-C		Wet, gravelly sand
				GP-GM	49.7	45.1	5.2							
18-10	0	2	110	SM	10	80	10							Dirty, compacted soil and sand in top 2m
	2	3		SP	44	50	6	240	3	1	0	M-C		2-3m same gravelly sand as 18-09
				SP-SM	42.8	51.3	5.9							
18-11	0	0.3		OB/Soil										Sandy with oversize
	0.3	1.3		SP	20	75	5							Sloughing at 0.5m
	1.3	2.7	111	SP	32	62	6	150	10	3	0	M-C		
			GP-GM	50.7	43	6.2								
18-12	0	0.2		OB/Soil										Sloughing at 0.3m, consistent
	0.2	1.5		SP	37	60	3							
	1.5	3	112	SP	31	67	2	160	7	1	0	M-C		
			SP	44	53.1	2.9								
18-13	0	0.3		OB/Soil										Sloughing at the top layer
	0.3	2.4	113	SP	32	63	5	260	4	2	0	M-C		Sandy with oversize
				SP-SM	35.2	55.7	9.2							TP at edge of east downhill
18-14	0	0.25		OB/Soil										Sloughing at top layer
	0.25	2.5	114	SP	21	78	1	120	1	0	0	M		Small gravel lens on NW side of TP at 0.5-1m
				SP	38.5	58.6	2.9							
18-15	0	2.6	115	SP	38	60	2	150	3	1	0	M		Some roots in the TP
				SP	48	48.7	3.3							Sloughing at 0.4m
														Consistent, no distinct layers
18-16	0	0.4		OB/Soil										Gravelly sand, sloughing at 0.4m
	0.4	3	116	SP	33	65	2	110	3	0	0	M-C		
				SP	39.9	57.8	2.2							

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

TP or Year	Micro-Deval (%) (C/F)	Sand Equivalent (%)	Bulk Relative Density (C/F)	Absorption (%) (C/F)
18-10			2.597/2.622	1.25/1.07
18-13	15.3/15.2			
18-15		64		

**Granular Volume:**

Estimated Volume: 36,000 m<sup>3</sup>

- The proven volume has been determined by multiplying the surface area of the suitability boundary by an average depth of 3 metres.

**Pit Development and Recommendations:**

- The mining area has been previously developed by the Ministry of Transportation and Infrastructure (MoTI). 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 crusher is recommended to be located as identified on the Pit Development Plan, with mining proceeding in a north-easterly direction as indicated.
- Processed aggregate may be stockpiled at the west end of the pit as indicated on the Pit Development Plan and where space permits.
- Some minor stripping may be required prior to mining and aggregate stockpiling. If additional development is required, it shall conform to the requirements of the pit development plan or be completed as directed by the Ministry Representative.
- Due to the high amount of sand present, some bleeding off may be necessary in order to obtain the correct specifications for certain aggregate products.
- At the completion of mining, active pit faces shall be sloped to a minimum of 1 ½:1 with pit run granular material.
- **All reject materials resulting from aggregate production are to be placed in separate stockpiles free from deleterious material and in an easily accessible location. No stockpiling against the pit face is permitted without the permission from the Aggregate Resource Manager.**

**Site Photographs:**



TP18-06, May 22 2018.



TP18-08, May 22 2018.





TP18-11, May 23 2018.



TP18-14, May 23 2018.





TP18-15, May 23 2018.



West view of crusher set up in foreground, overburden stockpile to left. October 2018.





Northeast view of mining area, October 2018.



Northeast view of mining area, with potential aggregate stockpile area on the right. October 2018.

Samantha Kinniburgh  
Senior Aggregate Resource Specialist

