Photo 1: Propane tank and view of the base work area. Camera facing southwest.

Photo 2: View of the propane tank in the 'Base Work' area. Concrete pad has dimension of 2.4 x 1.8m (8 x 6 feet).

Photo 3: Fuel AST in the 'Optional Work' area. No concrete pad.

Photo 4: View of the manhole to the sanitary utility line and the sani dump in the background within the 'Optional Work' area.

Photo 5: Man hole and sani dump in the background showing general alignment of sanitary sewer.

Photo 6: Compliant Stockpile in LTF to be used for backfill.

TETRA TECH

CONSTRUCTION MEMO

ISSUED FOR USE

To:	John Dewis	**Date:**	August 3, 2017
c:		**Memo No.:**	01
From:	Chad Cowan, P.Eng., Taidhg Mulroy, EIT	**File:**	ENG.WARC03305-01
Subject:	Erik Nielsen International Airport North Apron Remediation – Backfill Recommendations Whitehorse, YT		

1.0 INTRODUCTION

SLR Consulting Ltd. (SLR) retained Tetra Tech Canada Inc. (Tetra Tech) to provide recommendations for backfill of the remediation excavation at the Erik Nielsen International Airport north apron, to be completed in autumn of 2017. The excavation area has been outlined in Drawing No. 6 for project number 205.03874.00000, provided by SLR.

2.0 BACKFILL RECOMMENDATIONS

Following the completion of the excavation, backfill should be carried out according to the following recommendations:

- Prior to commencing backfilling, Standard Proctor laboratory tests should be performed for both the native overburden material and the material from the clean stockpiles at the airport LTF in order to determine the materials' Standard Proctor Maximum Dry Density (SPMDD);
- The native overburden material, or the material from the clean stockpiles at the airport LTF, should be placed in maximum 300 mm lifts, moisture conditioned, and compacted to 95% Standard Proctor Maximum Dry Density (SPMDD). This material should be placed up to 1 m below final grade; and
- The final metre of backfill should be composed of 80 mm pit run gravel, placed in maximum 300 mm thick lifts, moisture conditioned, and compacted to 98% SPMDD. The recommended gradation for 80 mm pit run gravel is provided below in Table 1.

Table 1: Recommended Gradation for Granular Fill Material

80 mm Pit Run Gravel	
Particle Size (mm)	**% Passing (by weight)**
80	100
25	55 – 100
12.5	42 – 84
5.00	26 – 65
1.25	11 – 47
0.315	3 – 30
0.080	0 – 8

Tetra Tech Canada Inc.
61 Wasson Place
Whitehorse, YT Y1A 0H7 CANADA
Tel 867.668.3068 Fax 867.668.4349

3.0 LIMITATIONS OF REPORT

This report and its contents are intended for the sole use of SLR Consulting Ltd. and their agents. Tetra Tech Canada Inc. (Tetra Tech) does not accept any responsibility for the accuracy of any of the data, the analysis, or the recommendations contained or referenced in the report when the report is used or relied upon by any Party other than SLR Consulting Ltd., or for any Project other than the proposed development at the subject site. Any such unauthorized use of this report is at the sole risk of the user. Use of this report is subject to the terms and conditions stated in Tetra Tech Canada Inc.'s Services Agreement. Tetra Tech's General Conditions are attached to this memo.

4.0 CLOSURE

We trust this technical memo meets your present requirements. If you have any questions or comments, please contact the undersigned.

Respectfully submitted,
Tetra Tech Canada Inc.

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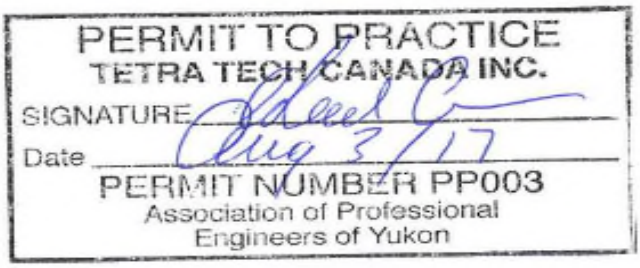
/tm



GENERAL CONDITIONS

GEOTECHNICAL REPORT

This report incorporates and is subject to these “General Conditions”.

1.1 USE OF REPORT AND OWNERSHIP

This geotechnical report pertains to a specific site, a specific development and a specific scope of work. It is not applicable to any other sites nor should it be relied upon for types of development other than that to which it refers. Any variation from the site or development would necessitate a supplementary geotechnical assessment.

This report and the recommendations contained in it are intended for the sole use of TETRA TECH’s Client. TETRA TECH does not accept any responsibility for the accuracy of any of the data, the analyses or the recommendations contained or referenced in the report when the report is used or relied upon by any party other than TETRA TECH’s Client unless otherwise authorized in writing by TETRA TECH. Any unauthorized use of the report is at the sole risk of the user.

This report is subject to copyright and shall not be reproduced either wholly or in part without the prior, written permission of TETRA TECH. Additional copies of the report, if required, may be obtained upon request.

1.2 ALTERNATE REPORT FORMAT

Where TETRA TECH submits both electronic file and hard copy versions of reports, drawings and other project-related documents and deliverables (collectively termed TETRA TECH’s instruments of professional service); only the signed and/or sealed versions shall be considered final and legally binding. The original signed and/or sealed version archived by TETRA TECH shall be deemed to be the original for the Project.

Both electronic file and hard copy versions of TETRA TECH’s instruments of professional service shall not, under any circumstances, no matter who owns or uses them, be altered by any party except TETRA TECH. TETRA TECH’s instruments of professional service will be used only and exactly as submitted by TETRA TECH.

Electronic files submitted by TETRA TECH have been prepared and submitted using specific software and hardware systems. TETRA TECH makes no representation about the compatibility of these files with the Client’s current or future software and hardware systems.

1.3 ENVIRONMENTAL AND REGULATORY ISSUES

Unless stipulated in the report, TETRA TECH has not been retained to investigate, address or consider and has not investigated, addressed or considered any environmental or regulatory issues associated with development on the subject site.

1.4 NATURE AND EXACTNESS OF SOIL AND ROCK DESCRIPTIONS

Classification and identification of soils and rocks are based upon commonly accepted systems and methods employed in professional geotechnical practice. This report contains descriptions of the systems and methods used. Where deviations from the system or method prevail, they are specifically mentioned.

Classification and identification of geological units are judgmental in nature as to both type and condition. TETRA TECH does not warrant conditions represented herein as exact, but infers accuracy only to the extent that is common in practice.

Where subsurface conditions encountered during development are different from those described in this report, qualified geotechnical personnel should revisit the site and review recommendations in light of the actual conditions encountered.

1.5 LOGS OF TESTHOLES

The testhole logs are a compilation of conditions and classification of soils and rocks as obtained from field observations and laboratory testing of selected samples. Soil and rock zones have been interpreted. Change from one geological zone to the other, indicated on the logs as a distinct line, can be, in fact, transitional. The extent of transition is interpretive. Any circumstance which requires precise definition of soil or rock zone transition elevations may require further investigation and review.

1.6 STRATIGRAPHIC AND GEOLOGICAL INFORMATION

The stratigraphic and geological information indicated on drawings contained in this report are inferred from logs of test holes and/or soil/rock exposures. Stratigraphy is known only at the locations of the test hole or exposure. Actual geology and stratigraphy between test holes and/or exposures may vary from that shown on these drawings. Natural variations in geological conditions are inherent and are a function of the historic environment. TETRA TECH does not represent the conditions illustrated as exact but recognizes that variations will exist. Where knowledge of more precise locations of geological units is necessary, additional investigation and review may be necessary.

1.7 PROTECTION OF EXPOSED GROUND

Excavation and construction operations expose geological materials to climatic elements (freeze/thaw, wet/dry) and/or mechanical disturbance which can cause severe deterioration. Unless otherwise specifically indicated in this report, the walls and floors of excavations must be protected from the elements, particularly moisture, desiccation, frost action and construction traffic.

1.8 SUPPORT OF ADJACENT GROUND AND STRUCTURES

Unless otherwise specifically advised, support of ground and structures adjacent to the anticipated construction and preservation of adjacent ground and structures from the adverse impact of construction activity is required.

1.9 INFLUENCE OF CONSTRUCTION ACTIVITY

There is a direct correlation between construction activity and structural performance of adjacent buildings and other installations. The influence of all anticipated construction activities should be considered by the contractor, owner, architect and prime engineer in consultation with a geotechnical engineer when the final design and construction techniques are known.

1.10 OBSERVATIONS DURING CONSTRUCTION

Because of the nature of geological deposits, the judgmental nature of geotechnical engineering, as well as the potential of adverse circumstances arising from construction activity, observations during site preparation, excavation and construction should be carried out by a geotechnical engineer. These observations may then serve as the basis for confirmation and/or alteration of geotechnical recommendations or design guidelines presented herein.

1.11 DRAINAGE SYSTEMS

Where temporary or permanent drainage systems are installed within or around a structure, the systems which will be installed must protect the structure from loss of ground due to internal erosion and must be designed so as to assure continued performance of the drains. Specific design detail of such systems should be developed or reviewed by the geotechnical engineer. Unless otherwise specified, it is a condition of this report that effective temporary and permanent drainage systems are required and that they must be considered in relation to project purpose and function.

1.12 BEARING CAPACITY

Design bearing capacities, loads and allowable stresses quoted in this report relate to a specific soil or rock type and condition. Construction activity and environmental circumstances can materially change the condition of soil or rock. The elevation at which a soil or rock type occurs is variable. It is a requirement of this report that structural elements be founded in and/or upon geological materials of the type and in the condition assumed. Sufficient observations should be made by qualified geotechnical personnel during construction to assure that the soil and/or rock conditions assumed in this report in fact exist at the site.

1.13 SAMPLES

TETRA TECH will retain all soil and rock samples for 30 days after this report is issued. Further storage or transfer of samples can be made at the Client's expense upon written request, otherwise samples will be discarded.

1.14 INFORMATION PROVIDED TO TETRA TECH BY OTHERS

During the performance of the work and the preparation of the report, TETRA TECH may rely on information provided by persons other than the Client. While TETRA TECH endeavours to verify the accuracy of such information when instructed to do so by the Client, TETRA TECH accepts no responsibility for the accuracy or the reliability of such information which may affect the report.

TABLE 1: OVERBURDEN SOIL ANALYTICAL RESULTS - PETROLEUM HYDROCARBON CONSTITUENTS AND MTBE (mg/kg)

Sample ID	Date	HSVL (ppmv)	Benzene	Ethylbenzene	Toluene	Xylenes	Styrene	MTBE	VPHs	EPHs (C10-19)	EPHs (C19-32)	LEPHs	HEPHs
OVERBURDEN													
OB-DEC02-001	02-Dec-2016	LTDL	< 0.0050	< 0.010	< 0.020	< 0.040	< 0.030	< 0.10	< 10	< 100	< 100	< 100	< 100
OB-DEC02-002	02-Dec-2016	5	< 0.0050	< 0.010	< 0.020	< 0.040	< 0.030	< 0.10	< 10	< 100	< 100	< 100	< 100
OB-DEC02-003	02-Dec-2016	LTDL	< 0.0050	< 0.010	< 0.020	< 0.040	< 0.030	< 0.10	< 10	< 100	< 100	< 100	< 100
OB-DEC02-004	02-Dec-2016	LTDL	< 0.0050	< 0.010	< 0.020	< 0.040	< 0.030	< 0.10	< 10	< 100	< 100	< 100	< 100
OB-DEC02-005	02-Dec-2016	10	< 0.0050	< 0.010	< 0.020	< 0.040	< 0.030	< 0.10	< 10	< 100	120	< 100	120
OB-DEC02-006	02-Dec-2016	LTDL	< 0.0050	< 0.010	< 0.020	< 0.040	< 0.030	< 0.10	< 10	< 100	< 100	---	---
OB-DEC03-007	03-Dec-2016	25	< 0.0050	< 0.010	< 0.020	< 0.040	< 0.030	< 0.10	< 10	< 100	< 100	---	---
OB-DEC03-008	03-Dec-2016	LTDL	< 0.0050	0.013	< 0.020	< 0.040	< 0.030	< 0.10	< 10	< 100	< 100	---	---
OB-DEC03-009	03-Dec-2016	45	< 0.0050	< 0.010	< 0.020	< 0.040	< 0.030	< 0.10	< 10	< 100	< 100	---	---
OB-DEC03-010	03-Dec-2016	65	< 0.0050	< 0.010	< 0.020	< 0.040	< 0.030	< 0.10	< 10	< 100	440	---	---
DUP A			< 0.0050	< 0.010	< 0.020	< 0.040	< 0.030	< 0.10	< 10	< 100	190	---	---
OB-DEC03-011	03-Dec-2016	20	< 0.0050	< 0.010	< 0.020	< 0.040	< 0.030	< 0.10	< 10	< 100	360	---	---
OB-DEC03-012	03-Dec-2016	LTDL	< 0.0050	< 0.010	< 0.020	< 0.040	< 0.030	< 0.10	< 10	< 100	< 100	---	---
OB-DEC03-013	03-Dec-2016	40	< 0.0050	< 0.010	< 0.020	< 0.040	< 0.030	< 0.10	< 10	< 100	280	---	---
OB-DEC03-014	03-Dec-2016	LTDL	< 0.0050	< 0.010	0.024	< 0.040	< 0.030	< 0.10	< 10	< 100	< 100	---	---
OB-DEC03-015	03-Dec-2016	65	< 0.0050	< 0.010	< 0.020	< 0.040	< 0.030	< 0.10	< 10	< 100	< 100	---	---
OB-DEC03-016	03-Dec-2016	70	< 0.0050	< 0.010	< 0.020	< 0.040	< 0.030	< 0.10	< 10	< 100	< 100	---	---
OB-DEC03-017	03-Dec-2016	40	< 0.0050	< 0.010	< 0.020	< 0.040	< 0.030	< 0.10	< 10	< 100	< 100	---	---
OB-DEC03-018	03-Dec-2016	---	< 0.010	< 0.017	0.053	< 0.080	< 0.060	< 0.20	< 20	< 100	110	---	---
OB-DEC 05-019	05-Dec-2016	20	< 0.0050	< 0.010	< 0.020	< 0.040	< 0.030	< 0.10	< 10	< 100	< 100	---	---
OB-DEC 05-020	05-Dec-2016	40	< 0.0050	< 0.010	< 0.020	< 0.040	< 0.030	< 0.10	< 10	< 100	< 100	---	---
OB-DEC 05-021	05-Dec-2016	LTDL	< 0.0050	< 0.010	< 0.020	< 0.040	< 0.030	< 0.10	< 10	< 100	< 100	---	---
OB-DEC 05-022	05-Dec-2016	480	0.019	0.023	0.042	0.15	< 0.030	< 0.10	120	550	< 100	---	---
OB-DEC 05-023	05-Dec-2016	90	< 0.0050	< 0.010	< 0.020	< 0.040	< 0.030	< 0.10	< 10	< 100	< 100	---	---
OB-DEC 05-024	05-Dec-2016	---	< 0.0050	< 0.010	< 0.020	< 0.040	< 0.030	< 0.10	< 10	< 100	< 100	---	---
OB-DEC 05-025	05-Dec-2016	20	< 0.0050	< 0.010	< 0.020	< 0.040	< 0.030	< 0.10	< 10	< 100	< 100	---	---
OB-DEC 05-026	05-Dec-2016	---	< 0.0050	< 0.010	< 0.020	< 0.040	< 0.030	< 0.10	< 10	< 100	< 100	---	---
OB-DEC 05-027	05-Dec-2016	45	< 0.0050	< 0.010	< 0.020	< 0.040	< 0.030	< 0.10	< 10	< 100	< 100	---	---
OB-DEC 05-028	05-Dec-2016	15	< 0.0050	< 0.010	< 0.020	< 0.040	< 0.030	< 0.10	< 10	< 100	< 100	---	---
OB-DEC 05-DUPB			< 0.0050	< 0.010	< 0.020	< 0.040	< 0.030	< 0.10	< 10	< 100	< 100	---	---
OB-DEC 05-029	05-Dec-2016	45	< 0.0050	< 0.010	< 0.020	< 0.040	< 0.030	< 0.10	< 10	< 100	< 100	---	---
OB-024-1SC	05-Dec-2016	140	< 0.0050	< 0.010	< 0.020	< 0.040	< 0.030	< 0.10	< 10	< 100	< 100	---	---
OB-026-5SC	05-Dec-2016	>11,000	0.24	3.0	4.6	14	< 0.030	< 0.10	130	< 100	< 100	---	---
OB-DEC06-030	06-Dec-2016	LTDL	< 0.0050	< 0.010	< 0.020	< 0.040	< 0.030	< 0.10	< 10	< 100	< 100	---	---
DUP C			< 0.0050	< 0.010	< 0.020	< 0.040	< 0.030	< 0.10	< 10	< 100	< 100	---	---
OB-DEC06-031	06-Dec-2016	LTDL	< 0.0050	< 0.010	< 0.020	< 0.040	< 0.030	< 0.10	< 10	< 100	< 100	---	---
OB-DEC06-032	06-Dec-2016	25	< 0.0050	< 0.010	< 0.020	< 0.040	< 0.030	< 0.10	< 10	< 100	< 100	---	---
OB-DEC06-033	06-Dec-2016	45	< 0.0050	< 0.010	< 0.020	< 0.040	< 0.030	< 0.10	< 10	< 100	< 100	---	---
OB-DEC06-034	06-Dec-2016	25	< 0.0050	< 0.010	< 0.020	< 0.040	< 0.030	< 0.10	< 10	< 100	< 100	---	---
OB-DEC06-035	06-Dec-2016	20	< 0.0050	< 0.010	< 0.020	< 0.040	< 0.030	< 0.10	< 10	< 100	< 100	---	---
OB-DEC06-036	06-Dec-2016	10	< 0.0050	< 0.010	< 0.020	< 0.040	< 0.030	< 0.10	< 10	< 100	< 100	---	---
OB-DEC06-037	06-Dec-2016	5	< 0.0050	< 0.010	< 0.020	< 0.040	< 0.030	< 0.10	< 10	< 100	< 100	---	---
OB-DEC06-038	06-Dec-2016	45	< 0.0050	< 0.010	< 0.020	< 0.040	< 0.030	< 0.10	12	< 100	< 100	---	---
OB-DEC06-039	06-Dec-2016	45	< 0.0050	< 0.010	0.024	< 0.040	< 0.030	< 0.10	< 10	< 100	< 100	---	---
OB-DEC07-040	07-Dec-2016	15	< 0.0050	< 0.010	< 0.020	< 0.040	< 0.030	< 0.10	< 10	< 100	< 100	---	---
OB-DEC07-041	07-Dec-2016	15	< 0.0050	< 0.010	< 0.020	< 0.040	< 0.030	< 0.10	< 10	< 100	< 100	---	---
OB-DEC07-042	07-Dec-2016	20	< 0.0050	< 0.010	< 0.020	< 0.040	< 0.030	< 0.10	< 10	< 100	< 100	---	---
OB-DEC07-DUPD			< 0.0050	< 0.010	< 0.020	< 0.040	< 0.030	< 0.10	< 10	< 100	< 100	---	---
OB-DEC07-043	07-Dec-2016	140	< 0.0050	< 0.010	< 0.020	< 0.040	< 0.030	< 0.10	< 10	< 100	< 100	---	---
OB-DEC07-044	07-Dec-2016	85	< 0.0050	0.022	0.025	0.080	< 0.030	< 0.10	< 10	< 100	< 100	---	---
OB-DEC07-045	07-Dec-2016	45	< 0.0050	< 0.010	< 0.020	< 0.040	< 0.030	< 0.10	< 10	< 100	< 100	---	---
OB-DEC07-046	07-Dec-2016	35	< 0.0050	< 0.010	< 0.020	< 0.040	< 0.030	< 0.10	< 10	< 100	< 100	---	---
OB-DEC07-047	07-Dec-2016	55	< 0.0050	0.013	0.024	0.048	< 0.030	< 0.10	< 10	< 100	< 100	---	---
OB-DEC07-048	07-Dec-2016	45	< 0.0050	< 0.010	< 0.020	< 0.040	< 0.030	< 0.10	< 10	< 100	< 100	---	---
OB-DEC07-049	07-Dec-2016	80	< 0.0050	0.020	< 0.020	0.065	< 0.030	< 0.10	< 10	< 100	< 100	---	---
OB-DEC07-DUPE			< 0.0050	0.016	0.035	0.050	< 0.030	< 0.10	< 10	< 100	< 100	---	---
OB-DEC07-050	07-Dec-2016	45	< 0.0050	< 0.010	< 0.020	< 0.040	< 0.030	< 0.10	< 10	< 100	< 100	---	---
OB-DEC07-051	07-Dec-2016	LTDL	< 0.0050	< 0.010	0.030	< 0.040	< 0.030	< 0.10	< 10	< 100	< 100	---	---
OB-DEC07-052	07-Dec-2016	160	< 0.0050	0.076	0.12	0.40	< 0.030	< 0.10	< 10	< 100	< 100	---	---
OB-044-5SC	07-Dec-2016	1950	0.015	0.36	0.36	1.9	< 0.030	< 0.10	< 10	< 100	< 100	---	---
OB-052-4SC	07-Dec-2016	840	0.021	0.12	0.23	0.61	< 0.030	< 0.10	< 10	< 100	< 100	---	---
OB-DEC08-053	08-Dec-2016	LTDL	< 0.0050	0.013	< 0.020	0.041	< 0.030	< 0.10	< 10	< 100	< 100	---	---
OB-DEC08-055	08-Dec-2016	240	< 0.0050	0.057	< 0.020	0.98	< 0.030	< 0.10	65	720	< 100	---	---
OB-DEC08-056	08-Dec-2016	170	0.016	0.12	0.17	0.74	< 0.030	< 0.10	< 10	< 100	< 100	---	---
OB-DEC08-057	08-Dec-2016	160	< 0.0050	0.037	< 0.020	0.43	< 0.030	< 0.10	11	< 100	< 100	---	---
OB-DEC08-058	08-Dec-2016	340	< 0.0050	< 0.010	< 0.020	< 0.040	< 0.030	< 0.10	< 10	< 100	< 100	---	---
OB-DEC08-059	08-Dec-2016	LTDL	< 0.0050	< 0.010	< 0.020	< 0.040	< 0.030	< 0.10	< 10	< 100	< 100	---	---
OB-DEC08-060	08-Dec-2016	45	< 0.0050	< 0.010	< 0.020	< 0.040	< 0.030	< 0.10	< 10	< 100	< 100	---	---
OB-DEC08-061	08-Dec-2016	45	< 0.0050	< 0.010	< 0.020	< 0.040	< 0.030	< 0.10	< 10	< 100	< 100	---	---
DUP F			< 0.0050	< 0.010	< 0.020	< 0.040	< 0.030	< 0.10	< 10	< 100	< 100	---	---
OB-DEC08-062	08-Dec-2016	---	< 0.0050	< 0.010	< 0.020	< 0.040	< 0.030	< 0.10	< 10	< 100	< 100	---	---
OB-DEC15-063	15-Dec-2016	LTDL	< 0.0050	< 0.010	< 0.020	< 0.040	< 0.030	< 0.10	< 10	< 100	< 100	---	---
OB-DEC15-064	15-Dec-2016	20	< 0.0050	< 0.010	< 0.020	< 0.040	< 0.030	< 0.10	< 10	< 100	120	---	---
OB-DEC15-065	15-Dec-2016	LTDL	< 0.0050	0.031	0.026	0.19	< 0.030	< 0.10	< 10	< 100	< 100	---	---
OB-06S-65C	15-Dec-2016	5600	0.015	0.15	< 0.020	2.4	< 0.030	< 0.10	130	< 100	< 100	---	---
OB-DEC16-066	16-Dec-2016	LTDL	< 0.0050	0.045	< 0.020	0.22	< 0.030	< 0.10	< 10	< 100	< 100	---	---
OB-DEC16-067	16-Dec-2016	80	< 0.0050	0.012	< 0.020	0.056	< 0.030	< 0.10	< 10	< 100	100	---	---
OB-DEC16-068	16-Dec-2016	65	< 0.0050	< 0.010	< 0.020	< 0.040	< 0.030	< 0.10	< 10	< 100	< 100	---	---
OB-DEC16-069	16-Dec-2016	10	< 0.0050	< 0.010	< 0.020	< 0.040	< 0.030	< 0.10	< 10	< 100	< 100	---	---
OB-DEC16-070	16-Dec-2016	LTDL	< 0.0050	< 0.010	< 0.020	< 0.040	< 0.030	< 0.10	< 10	< 100	< 100	---	---
OB-DEC16-DUPH			0.023	0.012	< 0.020	< 0.040	< 0.030	< 0.10	< 10	< 100	< 100	---	---
OB-DEC16-071	16-Dec-2016	LTDL	< 0.0050	< 0.010	< 0.020	< 0.040	< 0.030	< 0.10	< 10	< 100	< 100	---	---
OB-DEC16-072	16-Dec-2016	LTDL	< 0.0050	< 0.010	< 0.020	< 0.040	< 0.030	< 0.10	< 10	< 100	< 100	---	---
OB-DEC16-073	16-Dec-2016	LTDL	< 0.0050	< 0.010	< 0.020	< 0.040	< 0.030	< 0.10	< 10	< 100	< 100	---	---
OB-DEC17-074	17-Dec-2016	LTDL	< 0.0050	< 0.010	< 0.020	< 0.040	< 0.030	< 0.10	< 10	< 100	< 100	---	---
OB-DEC17-075	17-Dec-2016	10	< 0.0050	< 0.010	< 0.020	< 0.040	< 0.030	< 0.10	< 10	< 100	< 100	---	---
OB-DEC17-076	17-Dec-2016	LTDL	< 0.0050	< 0.010	< 0.020	< 0.040	< 0.030	< 0.10	< 10	< 100	< 100	---	---
Yukon CLfw		ns	10	20	25	50	50	ns	200	2000	5000	2000	5000

Notes:
m - metres
mg/kg - milligrams per kilogram
HSVL (ppmv) - headspace vapour level (parts per million by volume)
< - less than analytical detection limit indicated
'---' - sample not analyzed for parameter indicated
EPH(C10-19) standard is the CSR standard for LEPH. MOE advised (June 06, 10) that EPH(C10-19) and LEPH are equivalent for screening purposes but EPH cannot be used to demonstrate legal compliance with CSR standards
EPH(C19-32) standard is the CSR standard for HEPH. MOE advised (June 06, 10) that EPH(C19-32) and HEPH are equivalent for screening purposes but EPH cannot be used to demonstrate legal compliance with CSR standards
MTBE - methyl tert-butyl ether
VPHs - volatile petroleum hydrocarbons (C6-10), excluding benzene, ethylbenzene, toluene, xylenes
EPHs - extractable petroleum hydrocarbons
LEPHs - light extractable petroleum hydrocarbons (C10-19), excluding specific polycyclic aromatic hydrocarbon parameters
HEPHs - heavy extractable petroleum hydrocarbons (C19-32), excluding specific polycyclic aromatic hydrocarbon parameters
ns - no standard listed
n.c. - not calculated
Exceeds Yukon CLfw: Yukon CSR, Schedule 1, Schedule 2 (groundwater flow to surface water used by Freshwater Aquatic Life, includes mandatory site-specific factors), Commercial

TABLE 2: OVERBURDEN SOIL ANALYTICAL RESULTS - PAH PARAMETERS (mg/kg)

Sample ID	Date	Acenaphthene	Acenaphthylene	Anthracene	Benzo(a)anthracene	Benzo(a)pyrene	Benzo(b)fluoranthene	Benzo(g,h,i)perylene	Benzo(k)fluoranthene	Chrysene	Dibenz(a,h)anthracene	Fluoranthene	Fluorene	Indeno(1,2,3-c,d)pyrene	2-Methylnaphthalene	Naphthalene	Phenanthrene	Pyrene	PAHs, Total
OVERBURDEN																			
OB-DEC02-001	02-Dec-2016	< 0.050	< 0.050	< 0.050	< 0.050	< 0.050	< 0.050	< 0.050	< 0.050	< 0.050	< 0.050	0.077	< 0.050	< 0.050	< 0.050	< 0.050	< 0.050	0.076	0.15
OB-DEC02-002	02-Dec-2016	< 0.050	< 0.050	< 0.050	< 0.050	< 0.050	< 0.050	< 0.050	< 0.050	< 0.050	< 0.050	0.051	< 0.050	< 0.050	< 0.050	< 0.050	< 0.050	0.056	0.11
OB-DEC02-003	02-Dec-2016	< 0.050	< 0.050	< 0.050	< 0.050	< 0.050	< 0.050	< 0.050	< 0.050	< 0.050	< 0.050	< 0.050	< 0.050	< 0.050	< 0.050	< 0.050	< 0.050	< 0.050	< 0.050
OB-DEC02-004	02-Dec-2016	< 0.050	< 0.050	< 0.050	< 0.050	< 0.050	< 0.050	< 0.050	< 0.050	< 0.050	< 0.050	< 0.050	< 0.050	< 0.050	< 0.050	< 0.050	< 0.050	< 0.050	< 0.050
OB-DEC02-005	02-Dec-2016	< 0.050	< 0.050	< 0.050	< 0.050	< 0.050	< 0.050	< 0.050	< 0.050	0.052	< 0.050	0.087	< 0.050	< 0.050	< 0.050	< 0.050	0.11	0.087	0.34
Yukon CLfw		ns	ns	ns	10	10	10	ns	10	ns	10	ns	ns	10	ns	50	50	100	ns

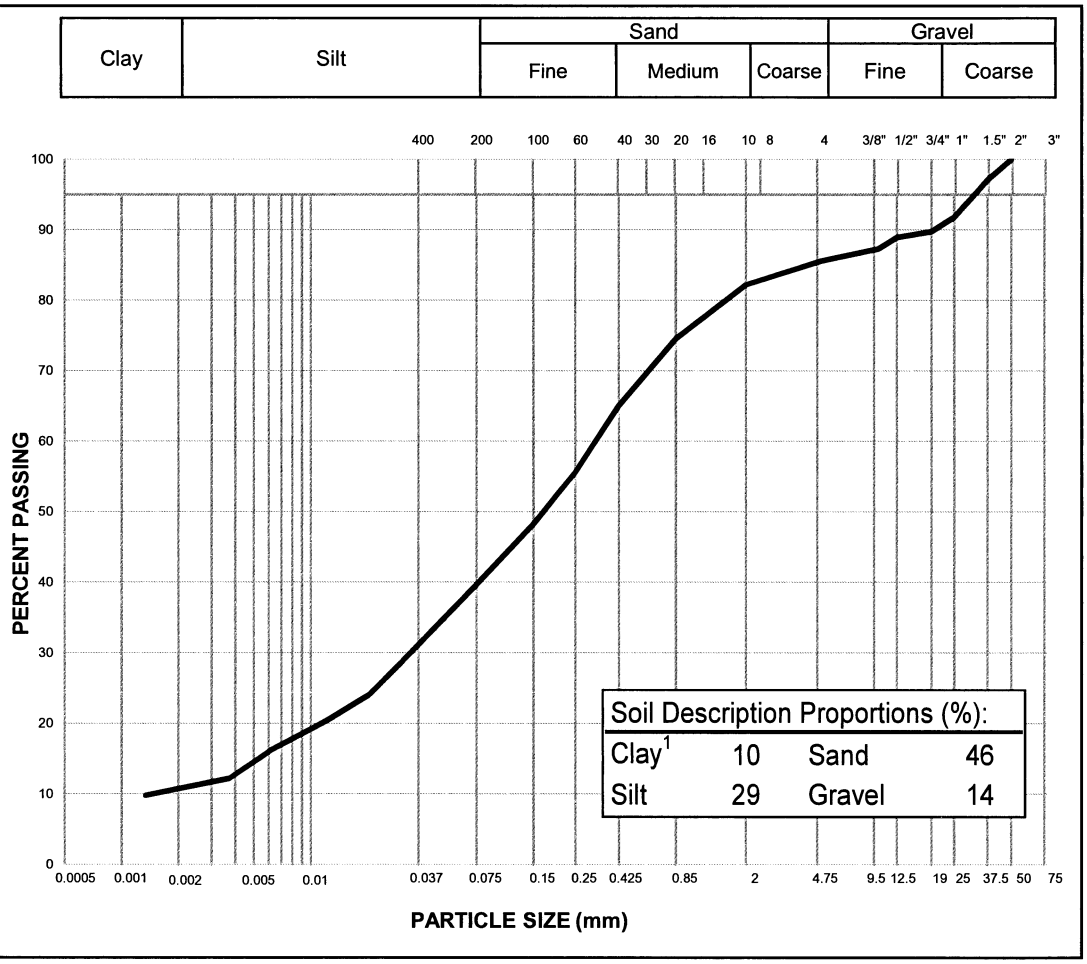
Notes:
m - metres
PAH - polycyclic aromatic hydrocarbons
mg/kg - milligrams per dry kilogram
< - less than analytical detection limit indicated
'---' - sample not analyzed for parameter indicated
ns - no standard/guideline listed
Exceeds Yukon CLfw: Yukon CSR, Schedule 1, Schedule 2 (groundwater flow to surface water used by Freshwater Aquatic Life, includes mandatory site-specific factors), Commercial

PARTICLE SIZE ANALYSIS REPORT

ASTM D422, C136 & C117

Project:	North Apron QC Testing Summer 2017	Sample No.:	SA01
Project No.:	ENG.WARC03305-01	Material Type:	-
Site:	Whitehorse Airport	Sample Loc.:	-
Client:	SLR Consulting (Canada) Inc.	Sample Depth:	-
Client Rep.:	John Dewis	Sampling Method:	Grab
Date Tested:	August 8, 2017 By: AMT	Date sampled:	-
Soil Description[2]:	SAND - silty, some gravel, trace clay	Sampled By:	-
		USC Classification:	Cu: 211.0
Moisture Content:	10.3%		Cc: 2.4

Particle Size (mm)	Percent Passing
75	
50	100
38	97
25	92
19	90
12.5	89
10	87
5	86
2	82
0.85	75
0.425	65
0.25	56
0.15	48
0.075	39.6
0.0308	28.9
0.0203	24.0
0.0121	20.3
0.0087	18.3
0.0063	16.3
0.0037	12.2
0.0013	9.8



Notes: [1] The upper clay size of 2 um, per the Canadian Foundation Engineering Manual

[2] The description is visually based & subject to EBA description protocols

Specification: _____

Remarks: _____

Reviewed By: _____ P.Eng.

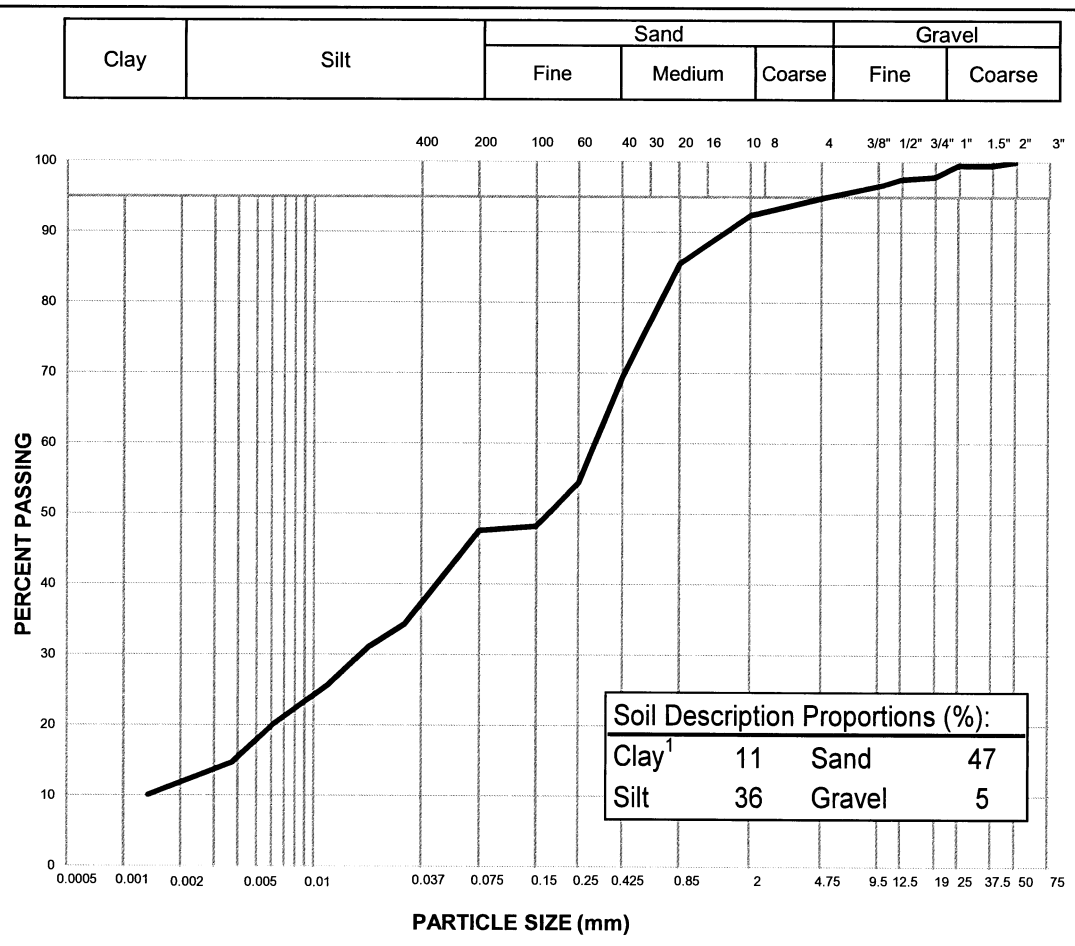
TETRA TECH

PARTICLE SIZE ANALYSIS REPORT

ASTM D422, C136 & C117

Project:	North Apron QC Testing Summer 2017	Sample No.:	SA02
Project No.:	ENG.WARC03305-01	Material Type:	-
Site:	Whitehorse Airport	Sample Loc.:	-
Client:	SLR Consulting (Canada) Inc.	Sample Depth:	-
Client Rep.:	John Dewis	Sampling Method:	Grab
Date Tested:	August 8, 2017 By: AMT	Date sampled:	-
Soil Description[2]:	SAND and SILT - some clay, trace gravel	Sampled By:	-
		USC Classification:	Cu: #N/A
Moisture Content:	11.7%		Cc: #N/A

Particle Size (mm)	Percent Passing
75	
50	100
38	99
25	99
19	98
12.5	98
10	97
5	95
2	92
0.85	86
0.425	69
0.25	54
0.15	48
0.075	47.6
0.0303	34.3
0.0197	31.1
0.0119	25.6
0.0086	22.9
0.0062	20.1
0.0037	14.6
0.0013	10.1



Notes: [1] The upper clay size of 2 um, per the Canadian Foundation Engineering Manual

[2] The description is visually based & subject to EBA description protocols

Specification: _____

Remarks: _____

Reviewed By: _____ P.Eng.

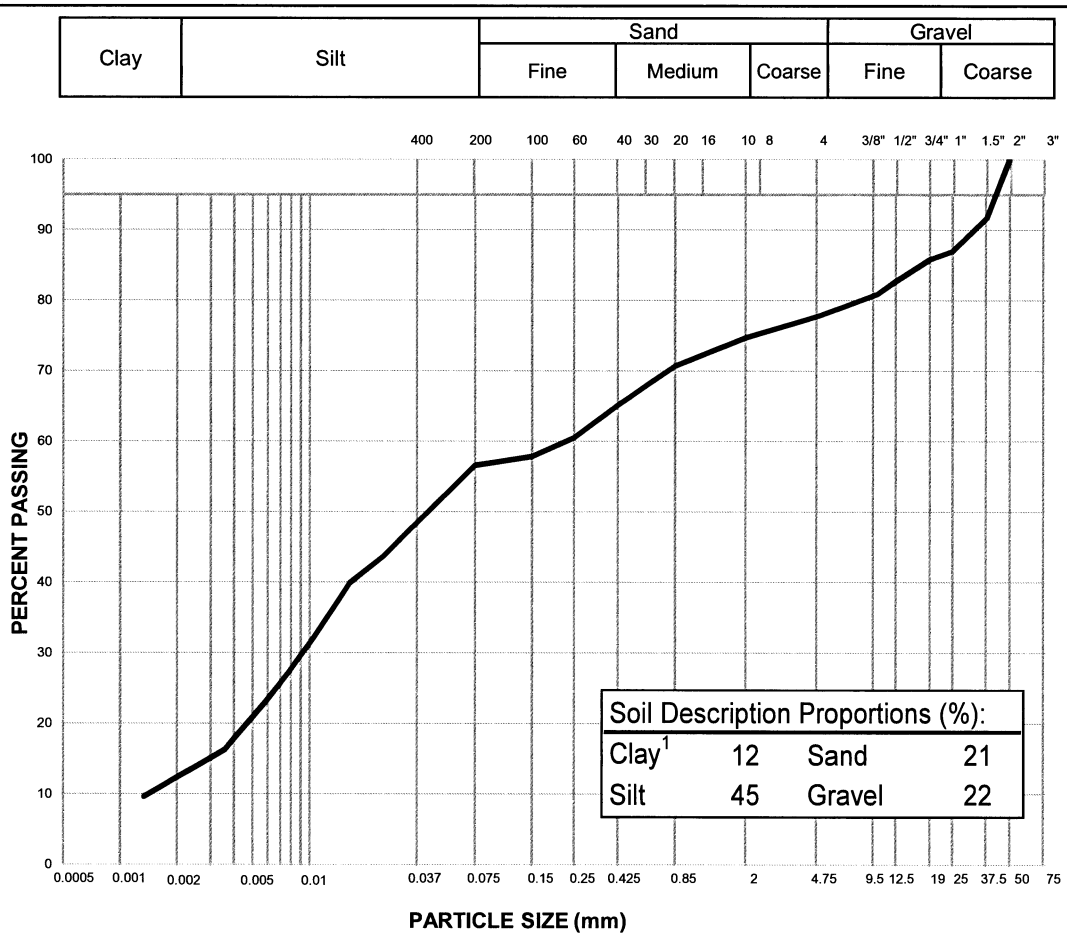
TETRA TECH

PARTICLE SIZE ANALYSIS REPORT

ASTM D422, C136 & C117

Project:	North Apron QC Testing Summer 2017	Sample No.:	SA03
Project No.:	ENG.WARC03305-01	Material Type:	-
Site:	Whitehorse Airport	Sample Loc.:	-
Client:	SLR Consulting (Canada) Inc.	Sample Depth:	-
Client Rep.:	John Dewis	Sampling Method:	Grab
Date Tested:	August 8, 2017 By: AMT	Date sampled:	-
Soil Description[2]:	SILT - gravelly, sandy, some clay	Sampled By:	-
		USC Classification:	Cu: 157.0
Moisture Content:	9.9%		Cc: 0.3

Particle Size (mm)	Percent Passing
75	
50	100
38	92
25	87
19	86
12.5	83
10	81
5	78
2	75
0.85	71
0.425	65
0.25	61
0.15	58
0.075	56.6
0.0244	43.6
0.0164	39.9
0.0105	32.1
0.0078	27.3
0.0058	22.9
0.0036	16.3
0.0013	9.6



Notes: [1] The upper clay size of 2 um, per the Canadian Foundation Engineering Manual

[2] The description is visually based & subject to EBA description protocols

Specification: _____

Remarks: _____

Reviewed By: _____ P.Eng.

TETRA TECH