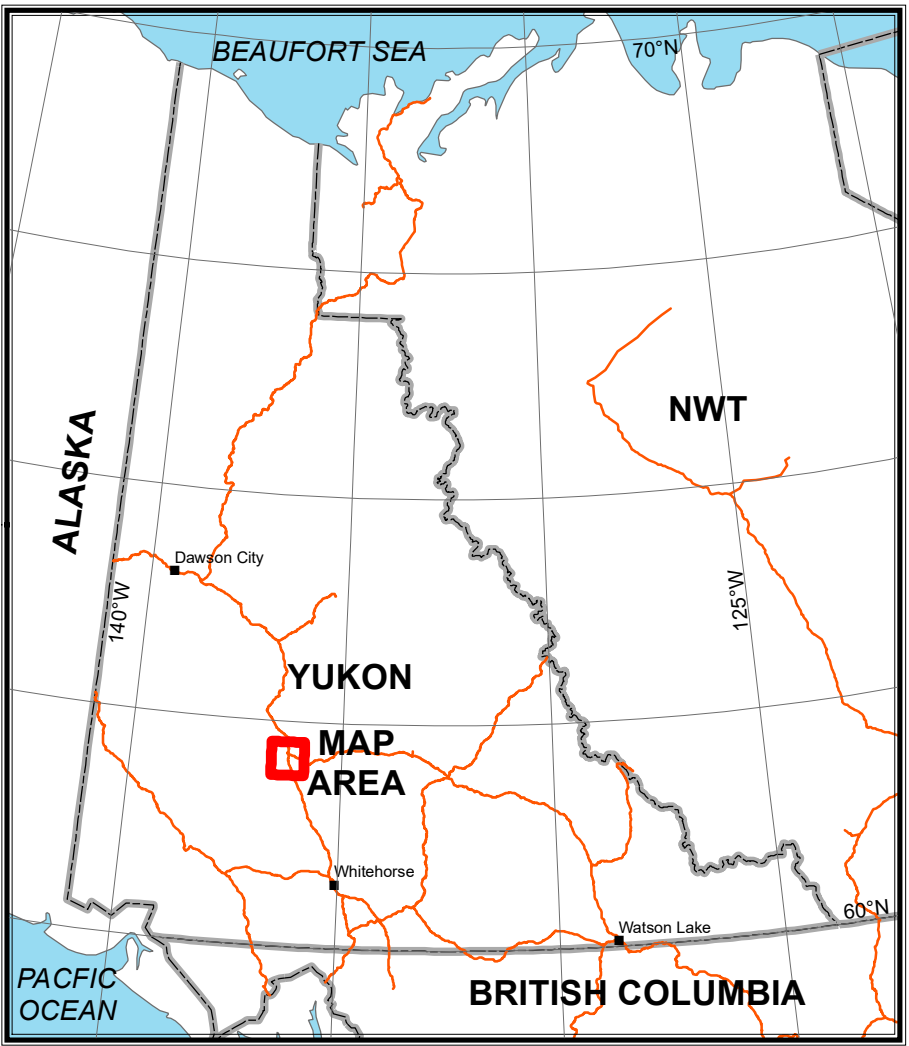


Open File 2021-3  
Aggregate Potential, Carmacks area, Yukon  
Parts of 105E 13; 105L 05; 115H 15,16; and 115I 07, 08  
1:60 000 scale  
by  
Derek Cronmiller



**LEGEND**

- Communities
- Gravel Pits
- Territorial Border
- Roads
- Creeks
- Distance from Community Centre
  - 5 km
  - 10 km
  - 20 km
- Aggregate Potential
  - Water
  - 0 - 1.25 Low
  - >1.25 - 2.5 Moderate
  - >2.5 - 3.0 High

**AGGREGATE POTENTIAL CLASSIFICATION DESCRIPTIONS**

**High** - potential aggregate sources represent those with good material potential and limited or no constraints from permafrost or overburden. Typical materials are well sorted gravels with minimal silt and clay content. Minor constraint from overburden or permafrost may be present. Aggregate Potential Scores >2.5 - 3.0.

**Moderate** - potential aggregate sources represent good material potential with significant overburden or moderate overburden and permafrost and sources of moderate material potential (moderately sorted). These may consist of gravels and mixed fragments with some silt or clay content or well sorted materials with more significant constraints from overburden and/or permafrost. Aggregate Potential Scores >1.25 - 2.5.

**Low** - potential aggregate sources represent those with unsuitable materials or materials of moderate aggregate potential with significant constraints from overburden and/or permafrost. Aggregate Potential Scores >0 - 1.25.

**AGGREGATE POTENTIAL DERIVATION METHODOLOGY**

Surficial geology polygons from the Yukon Digital Surficial Geology Compilation (Yukon Geological Survey, 2020) are ranked by material type and texture with weighting applied for material abundance and penalties applied for stripping and permafrost. The equation used to calculate the aggregate potential score for each polygon is as follows:

$$\text{Aggregate Potential Score} = \text{Max Value} ((\text{Material A Proportion} \times \text{Material A Suitability}) \text{ or } (\text{Material B Proportion} \times \text{Material B Suitability})) - 0.25 \times \text{Stripping Value} - 0.25 \times \text{Permafrost Value}$$

Possible aggregate potential scores range from 0.75 - 3, with higher scores representing better potential for an aggregate resource. Scores should be used as guidelines and not rules as surficial geology polygons are classified based on little or no ground investigation and considerable variability may be present with a polygon.

**REFERENCE**

Yukon Geological Survey, 2020. Surficial Geology data set. Yukon Geological Survey, <http://data.geology.gov.yk.ca/Compilation/33>

**ACKNOWLEDGEMENTS**

Methods and map review was provided by Jeff Bond and Karen MacFarlane. Cartographic assistance was provided by Bailey Staffen.

**RECOMMENDED CITATION**

Cronmiller, D.C., 2021. Aggregate potential, Carmacks area, Yukon. In: Aggregate potential mapping centred on Yukon communities and highway corridors, Open File 2021-3, scale 1:60 000

1:50,000 scale topographic base data produced by Centre for Topographic Information, Natural Resources Canada. Contour interval 100 ft.

FIVE THOUSAND METRE GRID  
Universal Transverse Mercator Projection  
North American Datum 1983  
Zone 8

February 2021

Any revisions or additional geological information known to the user would be welcomed by the Yukon Geological Survey.

Paper copies of this map may be obtained from Yukon Geological Survey, Room 102 - 300 Main St., Whitehorse, Yukon, Y1A 2B5. E-mail: [geology@gov.yk.ca](mailto:geology@gov.yk.ca).

A digital PDF (Portable Document Format) file of this map may be downloaded free of charge from the Yukon Geological Survey website: <http://data.geology.gov.yk.ca>

