Carmacks Water Well Borehole Log

Location: Carmacks Riverside Park
Coordinates: ~62.0969; -136.3066
Elevation: ~517 m
Borehole name: YWON #?
Date drilled: Nov. 17, 2020
Drilled by: [redacted]
Core size/type: sonic
Total length: 225 ft (68.5 m)
Core condition: good
Total boxes:
Logged by [redacted]ns
Logged date: Jan. 8, 2021
Photos: M:\Kristen\Projects\Community_Mapping\Carmacks\aquifer mapping\YOWN Carmacks Photos
Logging comments: Depths (in feet) poorly recorded at time of drilling - all log depths approximate

start depth (ft)	end depth (ft)	start depth (m)	end depth (m)	interval length (m)	Material	Texture	Colour
0	6	0	1.8	**1.8**	surface overbank	clayey silt and sand	dark grey
6	13	1.8	3.9	**2.1**	sand	silty fine sand coarsening up to fine sand	tan brown

13	36	3.9	11	**7.1**	matrix-supported sandy pebble gravel	gravel (60-70%) subround pebble (avg 2-4 cm; range 1-10 cm); medium sand (30%) with some muddier intervals.	15-34 ft (4.5-10 m) medium brown; otherwise grey
36	105	11	32	**21**	fine sand	uniform, clean fine sand with <10% silt	light grey
105	120	32	36.5	**4.5**	medium sand	uniform, clean medium sand	light medium to grey
120	157	36.5	47.8	**11.3**	fine sand	uniform, clean fine sand with <10% silt	light grey
157	172	47.8	52.4	**4.6**	silty fine sand	uniform, silty-rich (30-40%) very fine sand	medium to dark grey

172	202	52.4	61.5	**9.1**	silty sand and gravel	predominantly medium sand with interbeds of silty sand and silty sandy gravel	medium to dark grey
202	205	61.5	62.5	**1**	diamict	compact silty sand matrix; coarse sand to pebble clasts	medium to dark grey
205	211	62.5	64.3	**1.8**	coarse sand and gravel	fining up from pebble gravel to coarse sand	grey
211	224	64.3	68.3	**4**	interbedded sand and gravel	pebble gravel and coarse sand	grey
224	225	68.3	68.5	**0.2**	bedrock		green

General Comments	Photos	Depositional setting
no visible stratigraphy, poor recovery, organics thoroughout	M:\Kristen\Projects\Community_Mapping\Carmacks	modern overbank
clean, fine sand, bottom few feet are silty fine sand (~20% silt). Well sorted, uniform, no visible structures. Weakly motteled. Sharp lower contact.	M:\Kristen\Projects\Community_Mapping\Carmacks\aquifer_mapping\YOWN	modern overbank and terrace

Upper and lower boundaries of this interval are marked by large (10-15 cm) well-rounded clasts (one at top and two at bottom) that may represent units that were poorly recovered or poorly preserved in the stratigraphy. More pronounced at sharp lower contact with underlying massive sand. Colour change in middle parts of gravel may be related to subaerial exposure? Incresed organics? Overall, typical fluvial gravel.	M:\Kristen\Projects\Community_Mapping\Carmacks\aquifer mapping\YOWN Carmacks Photos	Holocene Yukon River
thick interval of massive sand, uniform textures, structureless, unremarkable	M:\Kristen\Projects\Community_Mapping\Carmacks\aquifer	Eolian or fluvial post-glacial or paraglacial?
coarser interval of sand, slightly darker, gradational with fine sand above and below.	M:\Kristen\Projects\Community_Mapping\Carmacks\aquifer	Eolian or fluvial post-glacial or paraglacial?
thick interval of massive sand, uniform textures, structureless, unremarkable	M:\Kristen\Projects\Community_Mapping\Carmacks\aquifer	Eolian or fluvial post-glacial or paraglacial?
weakly tranmissive unit? Compact, structureless, massive, silty fine sand with minor clay (10%?); contact obscured, but probaby; gradational; thin sandy sub-round to sub-angular gravel lenses (15-30cm) in bottom 2-3 feet of unit (167-169ft); seems to be higher clay (20%?)in lower gravel lens. Sharp boundary with underlying gravelly unit, but conformable/gradational.	M:\Kristen\Projects\Community_Mapping\Carmacks\aquifer mapping\YOWN Carmacks Photos	Eolian or fluvial post-glacial or paraglacial?

gradational boundaries between finer and coarser intervals - includes clean, uniform medium sand intervals, silty fine sand intervals, and sandy pebbley (1-5 cm D) intervals. Gravel intervals comprise ~10% of unit; medium sand comprises ~60%; and silty fine sand (<5% clay?) comprises ~30% of overall unit.	M:\Kristen\Projects\Community_Mapping\Carmacks\aquifer mapping\YOWN Carmacks Photos	Eolian or fluvial post-glacial or paraglacial?
gradtionally bound compact silty diamict (203-204) - gradtional boundaries are loose, sandy diamict (202-203; 204-205). Clasts are matrix supported; sub-angular to sub-round; max size in box is 5-6 cm.	M:\Kristen\Projects\Community_Mapping\Carmacks\aquifer mapping\YOWN	Glacial?
clean, well-sorted, open-work fine pebble gravel grades up into very well sorted granules and coarse sand. Average pebble size is ~1cm, max size is 5-6 cm. Some muddy matrix (silty) in coarser gravel units, with coarse sand and granules filling interstices. Pre-glacial or interglacial fluvial unit?	M:\Kristen\Projects\Community_Mapping\Carmacks\aquifer mapping\YOWN Carmacks Photos	Pre-glacial
similar or coarser to coarsest beds above, these are interbedded well-sorted pebble gravel and well-sorted uniform coarse gravel. Passes through boulder ? ~ 2 feet above lower contact. Similar to bedrock interval.	M:\Kristen\Projects\Community_Mapping\Carmacks\aquifer mapping\YOWN Carmacks Photos	Pre-glacial
mafic volcanic rock.	M:\Kristen\Projects\Community_Mapping\Carmacks	