



Pottinger Caherty
Environmental Consultants Ltd.

LOG OF BORING BH5M

(Page 1 of 1)

Client: Kirkpatrick Sand and Gravel Ltd.
Site Address: 26015-128th Avenue,
Maple Ridge, BC

Installation Date : May 9, 2008
Contractor : Beck
Drill Type : truck rig
Logged By : CSB
Well Installed : Yes

Elevation (Surface) :
Elevation (TOC) : 134.33
Depth to water : 2.610
Elevation of water : 131.72
Well Type : PVC (2" diameter)

DEPTH (m)	USCS	GRAPHIC	Water Level		SAMPLES	SAMPLE NAME	Vapour	REMARKS	Well: BH5M
			▼ 2.610m My 9, 2008	▼					
			DESCRIPTION						
0			Grey medium SAND with some fine to medium angular gravel and cobbles. Dry and compact						Bentonite
.5				⊗	BH5-1	25 ppm			Filter Sand
1			Cobbles at 1m						Bentonite
1.5				⊗	BH5-2	15 ppm			Solid PVC
2	SP			⊗	BH5M-3				
2.5			Soil wet at 2.4m						
3				⊗	BH5M-4				Filter Sand
3.5									PVC Screen
4									
4.5			End of hole @ 4.3 meters						

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5.4.2 Hydrogeology

Hydrogeology at the Site was assessed through water level, stratigraphic and topographic data. Sands and gravels were present at all investigation locations to the maximum depth of investigation of 7.16m bgs.

Groundwater is present at depths ranging from 1.026m to 5.811m, and the flow direction is discussed below. Shallow groundwater intersects with North Kanaka Creek where we expect the groundwater discharges to the creek. Based on this interpretation, AWf Standards are considered applicable at this Site.

5.4.2.1 Hydraulic Conductivity

Hydraulic conductivity was evaluated by conducting slug tests on three monitoring wells (BH1M, BH5M, and BH6M). These tests were completed using a Solinst Levellogger data logger/pressure transducer set to record a reading every 0.5 seconds. The data logger was lowered into the water column, and the water level was then perturbed by the insertion or removal of a 'slug' or piece of solid pipe filled with sand. The insertion and removal of the slug was repeated several times to ensure that there were enough datasets of sufficient quality to allow the evaluation of the hydraulic conductivity for these monitoring wells. The recovery of the water levels with time following these perturbations was later evaluated through the use of the program Aqtesolv. As these monitoring wells are all completed in an unconfined aquifer, the analytical solution of Bouwer and Rice was applied using the Aqtesolv program. Copies of the slug test data interpretations are provided in Appendix 17, and are summarized in the following table.

Table G: Summary of Slug Testing Data

Monitoring Well	Slug Test #	Measured Hydraulic Conductivity (m/s)	Comments
BH1M	n/a	n/a	Noisy data, not usable.
BH5M	1	1.6×10^{-5}	Soils logged as sand, some fine to medium angular gravel and cobbles
	2	1.7×10^{-5}	
	Average	1.7×10^{-5}	
BH6M	1	5.5×10^{-5}	
	2	4.4×10^{-5}	
	3	3.6×10^{-5}	
	4	4.5×10^{-5}	
	5	3.5×10^{-5}	
	Average	4.3×10^{-5}	

The average measured hydraulic conductivity for the two monitoring wells successfully tested is 3×10^{-5} m/s.