

PROJECT: Watson Lake Well 4	CLIENT: Yukon Government	TESTHOLE NO: Well 4
LOCATION: Watson Lake Well Field, Southwest of Well 1a		PROJECT NO.: 60214577
CONTRACTOR: Midnight Sun Drilling Inc.	METHOD: Air Rotary, Sandvik M5	ELEVATION (m): 695.131
SAMPLE TYPE	<input checked="" type="checkbox"/> GRAB <input type="checkbox"/> SHELBY TUBE <input type="checkbox"/> SPLIT SPOON <input type="checkbox"/> BULK <input type="checkbox"/> NO RECOVERY <input type="checkbox"/> CORE	
BACKFILL TYPE	<input checked="" type="checkbox"/> BENTONITE <input type="checkbox"/> GRAVEL <input type="checkbox"/> SLOUGH <input type="checkbox"/> GROUT <input type="checkbox"/> CUTTINGS <input type="checkbox"/> SAND	

DEPTH (m)	WELL INSTALLATION	SOIL SYMBOL	SOIL DESCRIPTION	SAMPLE TYPE	SAMPLE #	COMMENTS	ELEVATION (m)
0			SAND and GRAVEL Light brown, angular, coarse sand, fine to coarse gravel. Fill material.			<p>Sanitary surface seal completed with bentonite grout to a depth of 4.9 m bgs. Free annular space following removal of surface casing was filled with bentonite chips, with positive drainage around well casing. Well stick-up = 0.69m Well UTM Coordinates: E 0510821 N 665894</p> <p>Depth to Groundwater 5.56 m below ground surface on April 25, 2012.</p> <p>Significant water encountered, discharging from air rotary.</p> <p>Well Casing Information: ID: 0.304m (12 in) OD: 0.330m (13 in)</p> <p>Screen Information: Depth: 28.3m below ground surface ID: 0.269m (10.5 in) OD: 0.283m (11 in) Opening: 60-Slot (1.52mm) V-wire screen Screen Length: 3.04m Total Screen Assembly Length: 3.95m - includes 0.91m of riser pipe Screen exposed to the formation (Watson Lake Aquifer)</p> <p>Formation slumped inside driven well casing at bottom of hole prior to placement of well screen.</p>	694
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ENVIRO (VAPOUR/F2/F3) BH-2012-05-07-WATSON LAKE WELL4-60214577 GPJ AECOM_BBY.GDT 4/10/12

Table 1: Well Drilling and Completion Summary
Town of Watson Lake
GUDI Assessment for Wells 1, 1A, 3 and 4

Well ID	Date Drilled	Lithology (m)	Screened Interval (m)	Slot Size ¹	Pumping Rates
Well 1	December 1973	0 - 5.8 Gravel, Boulders, some clay 5.8 - 12.8 Gravel and Boulders	8.8 - 13	0.125" (125 slot)	11.7 L/sec (186 USgpm)
Well 1A	May 1977	0 - 14.3 Gravel and Sand 14.3 - 15.2 Till 15.2 - 25.9 Sand and Gravel 25.9 - 32 Sand, trace silt & wood	20 - 23.2	0.040" (40 slot)	10.1 L/sec (160 USgpm); later reduced to 8.3 L/sec (132 USgpm)
Well 2	September 1993	0 - 24.9 Gravel 24.9 - 25.6 Silt	21.85 - 24.9 ²	0.200" (200 slot)	11.9 L/sec (189 USgpm)
Well 3	November 2005	0 - 11.9 Sand and Gravel 11.9 - 16.5 Silt and Sand (Till) 16.5 - 23.8 Silty Sand 23.8 - 29 Silt and Sand, wood 29 - 35 Peat 35 - 36 Silty Sand 36 - 41.1 Sand and Gravel	36.4 - 38.8	0.080" (80 slot) 36.4 - 37.6 m 0.040" (40 slot) 37.6 - 38.8 m	12.7 L/sec (202 USgpm)
Well 4 ³	April 2012	0 - 12.2 Sand and Gravel 12.2 - 13.8 Till 13.8 - 22.9 Gravelly Sand 22.9 - 29.9 Sand, trace gravel	28.3 - 31.34	0.060" (60 slot)	30 L/sec (475 USgpm) ⁴

Notes:

Well details from EBA 2006, unless otherwise noted.

1. Slot sizes are given in 1/1000 inch. So, a 100 slot well screen is 1/10 inch or 2.54 mm. The maximum typically manufactured slot size is 250 slot or 1/4 inch, 6.25 mm.

2. Screen depths from RCPL 1993.

3. Well information from AECOM, 2012.

4. Estimated long-term yield