

120346

**Initial Drill Program**

**For**

**2D Resistivity Confirmation,**

**Placer Investigation**

**Cabin Creek**

**Nansen District**

**105 I 03**

**On Placer Claims P26395-6**

**UTM Zone 8V 0386098/6881135**

**62 02 42.8N**

**137 10 29.6W**

**For/by**

**Ron Berdahl**

**Box 11250**

**Whitehorse, YT Y1A 6N4**

**Work Performed**

**September 4-6, 2016**

**Report Date**

**January 31, 2017**



**Table of Contents:**

**Introduction** 2

**Placer Tenures** 2

**Location** 2

**Access** 2

**Goal** 3

**Methodology** 3

**Log Interpretation/2D Res. Correlation** 4

**Conclusion** 5

**Appendices:**

-Statement of Costs

-Claim Map

-2D Resistivity Profile/Description

-Drill Logs

### **Introduction:**

An initial auger drill program was carried out on Cabin Creek in the Nansen District by the claim owner using an 8" skid mounted auger drill pulled by a D6 CAT. The drilling program was multi-purpose: First to "ground truth a 2D resistivity survey carried out in 2014 by Arctic Geophysics. And secondly to test the creek for gold on bedrock and/or clay layers. There has been no modern day production on the creek despite its location draining several known gold deposits.

### **Placer Tenures:**

The grouped claims consist of 15 "Gene" claims, tenure numbers P26383-97. Drilling was done on Gene 13 and 14, P26395 and 96.

### **Location:**

1. CABIN CREEK PLACER CLAIMS GENE 1- 15 P26383-397
2. The Cabin Creek project is located in the Mt. Nansen Placer district, Whitehorse Mining district, NTS Map Sheet 115I3 on the Gene 1-15 claims, LAT 62° 02' 41.85" N Long 137° 10' 58.03" W.

See Appended Placer Claim Map

### **Access:**

Cabin Creek Placers is located approximately 63 Kilometers along the Mt. Nansen Road west of Carmacks, Yukon. Carmacks is approximately 200 km north of the applicant's base, south of Whitehorse. The road is maintained to Cabin Creek year round by YTG Highways to access the BYG mine site reclamation. The road is drivable by car/truck.

The traditional camp location is near the "flex zone" on claim number 14

## **Goal:**

The purpose of the program was two- fold. First to ground truth the afore mentioned 2D resistivity survey and second to ascertain where, and at what depth a non- pervious clay layer, or bedrock might be reached in order that the prospector might locate a suitable spot for a winter shafting program.

Apparently most, if not all gold production in the Nansen District is coming from various clay layers found above bedrock.

Cabin Creek potentially sources placer gold from three known gold deposits (Huestis proven and probable 85727tn @ 4gltAu Webber (partial) 58,524tn of 10.9glt Au, and Flex 114,851 tn of 7.5 glt Au) within its drainage. The creek drains the same hill where the Brown McDade deposit occurred (320,000 tons @ >12g (tn Au) (600,000 tons@ 6.1 g Au) (YEG 1997 and Yukon minfile).

## **Methodology:**

A stand alone, skid mounted 8 inch auger drill, utilizing 5 foot drill steel, was used for the program. The unit was pulled by a D6 Cat with a winch assembly. The two components were rented from A-1 Cats, whose operation on Back Creek is about 4 kms distant.

The wide track CAT was used blade up to minimize any disturbance to the vegetation. The area consists of willow and buckbrush that simply rebounded after being driven over. A winch pulls the drill unit over the desired location, where it is leveled using hydraulic jacks mounted on the four corners.

Unfortunately the driller and driller's helper contracted to run the equipment quit immediately prior to the program start date. A quickly assembled make up crew was called from Haines Jct. and Whitehorse and drilling proceeded.

One full days drilling in ideal conditions, with a seasoned crew, might have tested all seven geophysics lines with at least one hole per line. This would have allowed for a more robust evaluation of the 2D surveys usefulness and Arctic's interpretations. With a new crew and early September conditions four holes were drilled, and three completed for a total of 81 feet of drilling.

Samples were taken, on for each 5 foot drill steel section and placed in a large rice bag, labelled and then panned both on site and in Whitehorse.

Early September equates to the maximum thaw of permafrost in this area. This situation created two problems. First, ground water was at its maximum, often leading to less than optimum sample recovery. Second, it quickly became apparent that the thaw under the moss mat precluded the CAT from maneuvering any slope without threatening damage to the vegetative layer, or simply spinning out. These wet conditions were not expected as water flow in Cabin Creek is minimal at the best of times. The end result was less robust, though successful, program.

Based on the small, tight drainage, and similar drainages (Webber) in the Nansen District a very narrow pay streak was anticipated. In most of the Arctic Geophysics interpretations the basin low point, where gold accumulations are to be expected, is at, or very near the existing creek.. One exception is a high channel on Line 4. Thawing permafrost conditions made it impossible to mobilize to that site.

Because of the expected narrow paystreak the holes were drilled on a very tight fence. Holes 1-3 are within 30feet of each other. Wet conditions and poor recovery on the second fence precluded more holes.

All holes were plugged and marked with a stake and numbered flagging.

#### **2D Log Interpretations:**

Arctic Geophysics interpretations suggested bedrock would be encountered near 6m depth on Line one (see attached). Holes 16-1 to 16-3 did not reach bedrock at that depth.

Hole 16-1 was stopped at 31 feet., approaching double the expected bedrock depth. However upon looking at the samples a distinctive clay layer was encountered at about 6m (18 ft). Hole 16-2 hit something impenetrable at 7 feet. This shows on the 2D profile as an intense zone of permafrost. It makes sense.

Hole 16-3 again hit a clay layer near 18 feet, with accompanying magnetite.

Geophysics Line 2 has a similar profile to 1, just deeper, with the proposed "bedrock" at 7-5m. In hole 16-4 no clay as such was seen, but the largest gravels, 3"x1", were common at that zone. Elsewhere in all holes gravels were <<2". Groundwater was a serious problem for sample recovery.

### **Conclusion/Recommendations:**

Generally, while not accurate to a bedrock interface, and given the small sample size, the 2D resistivity survey did demark the anticipated pay zone (clay layer) in the two lines tested. Thus I believe there might be some benefit to this type of survey to initially survey a new placer creek for depth to target information. It would be more useful in a broader, blind valley where the pay channel was less obvious.

Shafting at 16-4 is recommended as gold was present above 25 foot depth. The gold there was very small, but rough. It has not come far. This is not unexpected given the proximity to known deposits and the angular nature of the gravels encountered. The presence of gold was also encouraging given the amount of ground water in the hole. It is possible gold was missed in the other holes, especially 16-3 where significant magnetite was collected.

**Appendices:**

**Statement of Costs**

**Claim Map**

**2D Resistivity Profile and Description**

**Drill Log**

**Statement of Expenditures**

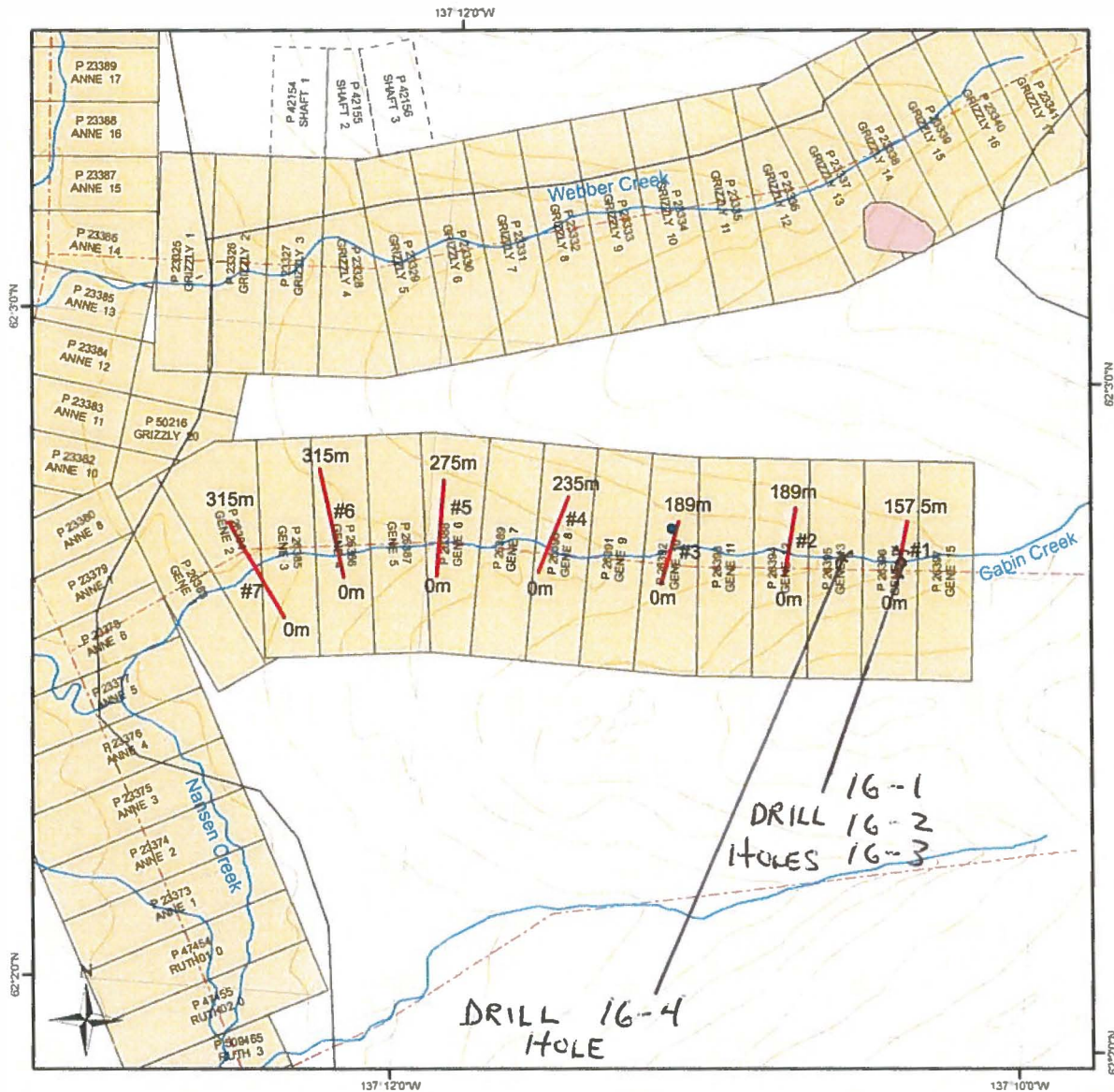
**For**

**Cabin Creek Placer Drill Program**

**September 4-6, 2016**

CAT and 8" Auger drill Rental (A-1 CATS)	\$6,057.00
Driller, helper, sampler (R Hamel, W MacKellar, R Berdahl)	
9 man days @ \$300/day (driller and sampler traded labor)	\$2,700.00
3 Trucks Haines Jct to Nansen rtn and Whse to Nansen rtn	
1,568 km @ \$0.60/km	\$ 940.80
Per Diem 9 man days @ \$100/man/day	\$ 900.00
Report prep	<u>\$ 350.00</u>
<b>TOTAL</b>	<b>\$10,947.80</b>

# 9.1 Survey Map<sup>6</sup>



## Legend

- cabin
- measuring line
- road
- - - trail
- contour line
- watercourse
- waterbody
- - - - - placer baseline
- placer claims**
- Active
- - - - - Expired
- mining area

## Survey Map

115103 (Mount Nansen)  
 Universal Transverse Mercator Zone8  
 North America Datum 1983

Scale 1:15,000



<sup>6</sup> Government of Canada, Natural Resources Canada, Centre for Topographic Information  
<ftp://ftp.geomaticsukon.ca/Mining>

**Line 02**

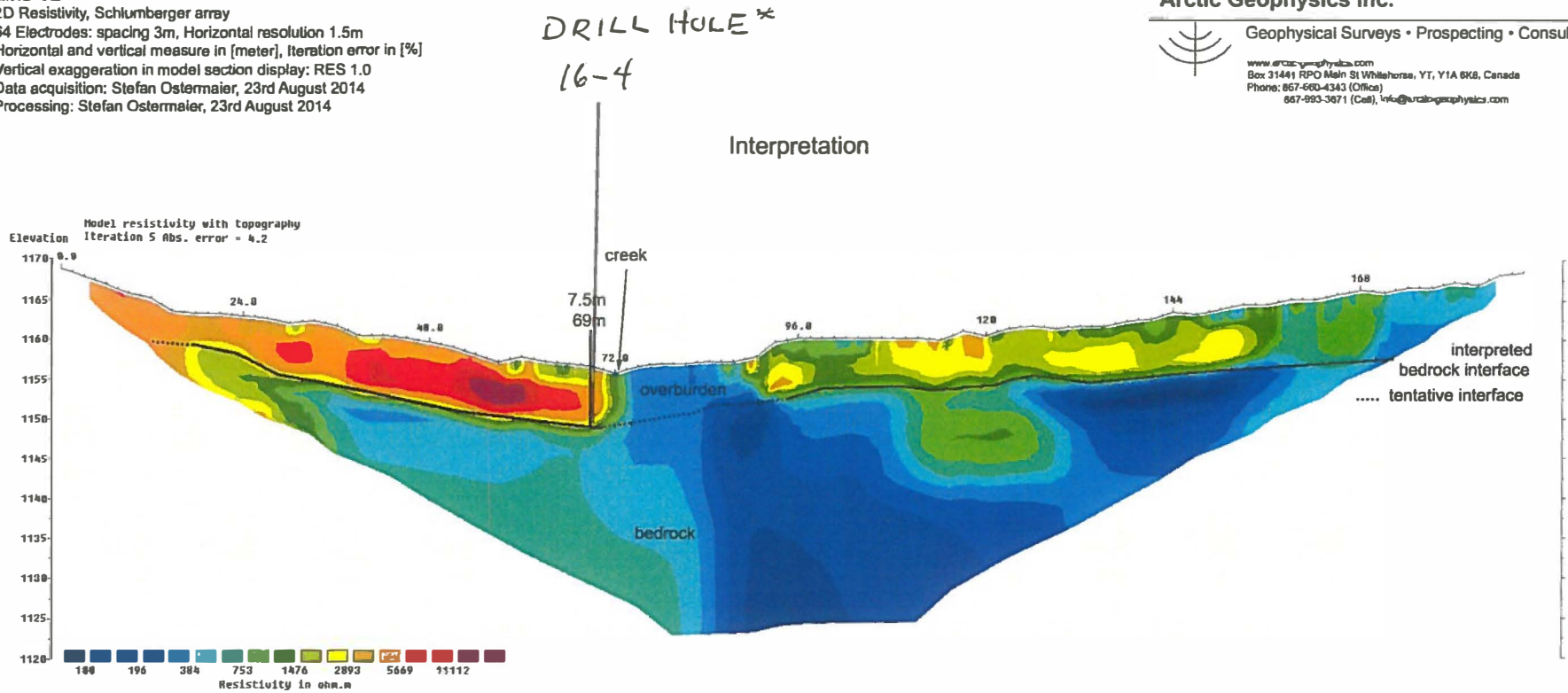
2D Resistivity, Schlumberger array  
 64 Electrodes: spacing 3m, Horizontal resolution 1.5m  
 Horizontal and vertical measure in [meter], Iteration error in [%]  
 Vertical exaggeration in model section display: RES 1.0  
 Data acquisition: Stefan Ostermaier, 23rd August 2014  
 Processing: Stefan Ostermaier, 23rd August 2014

**Arctic Geophysics Inc.**



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\* - 50 m upstream  
 from profile

The profile might show the ground-layers up to approximately 15% thicker than they are in reality.

This 2D Resistivity measuring result is an interpretation of geophysical data. We recommend the verification of the profile interpretation with test pits, drilling, or shafting.

## Line 1

<b>Interpretation</b>	<b>Recommendation</b>
<p>This profile suggests 4-6m of partly frozen overburden.</p> <p>The overburden appears to be mostly colluvial in origin. Angular gravels with slightly rounded edges were observed on the surface.</p> <p>In the red/violet data zone (0m-45m) the overburden seems to be frozen (north facing slope); the green zone indicates discontinuous frost; and the blue area shows thawed conditions.</p> <p>At approximately 45m in the profile the bedrock appears to change from a poorly conducting rock (yellow/brown) to a well conducting rock (blue). This data transition could be an indication of a fault line or the change of frozen bedrock (left) to thawed bedrock (right).</p>	<p>We would recommend shafting at 40m where bedrock is expected at 6m depth. At this location the overburden should be frozen which allows for safer shafting and more realistic gold samples.</p>

Line 02

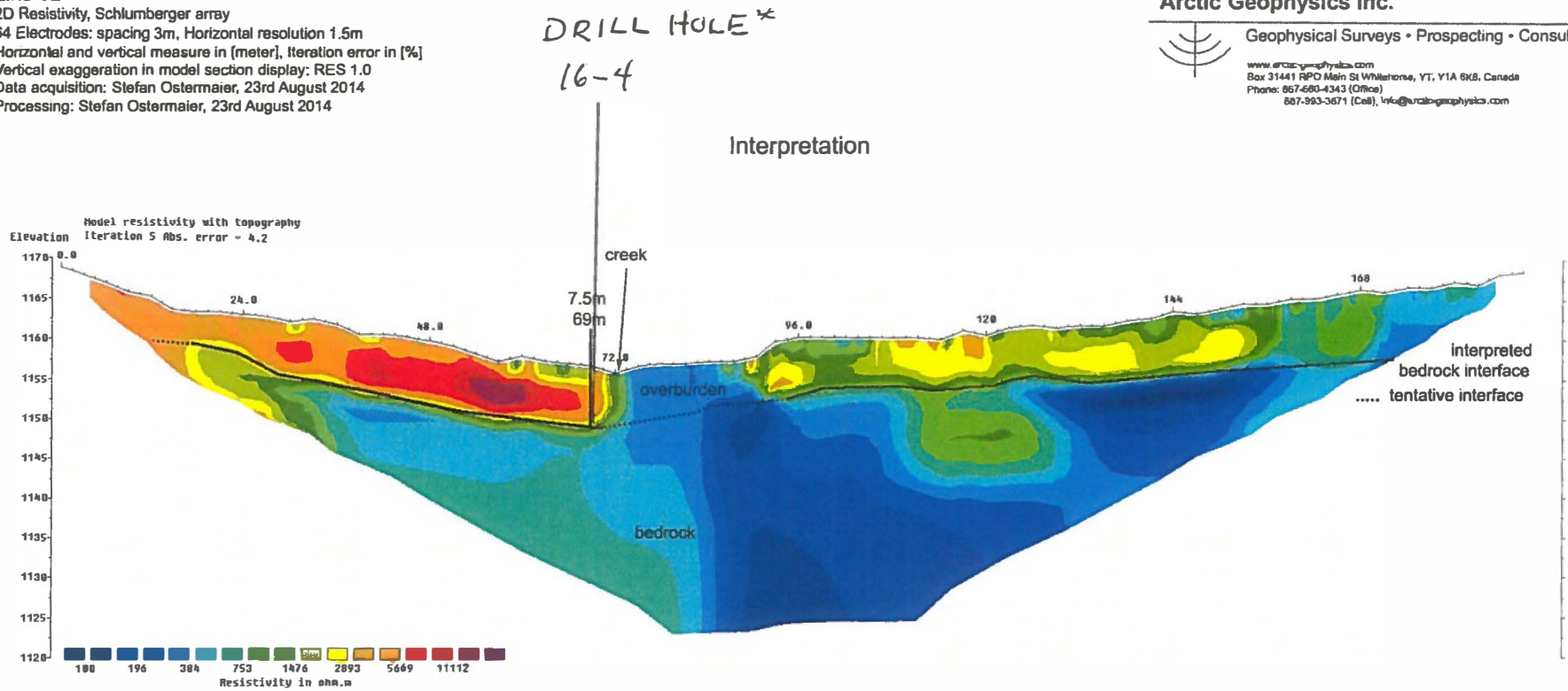
2D Resistivity, Schlumberger array  
64 Electrodes: spacing 3m, Horizontal resolution 1.5m  
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\* - 50 m upstream  
from profile

The profile might show the ground-layers up to approximately 15% thicker than they are in reality.

This 2D Resistivity measuring result is an interpretation of geophysical data. We recommend the verification of the profile interpretation with test pits, drilling, or shafting.

**Line 2**

<b>Interpretation</b>	<b>Recommendation</b>
<p>The bedrock in this profile is interpreted at a depth of 6-8m.</p> <p>Again the overburden is dominated by material of colluvial origin and there appears to be very little alluvial transport.</p> <p>In the violet/red/orange data zone (0-72m) the overburden seems to be frozen; the green/yellow zone indicates discontinuous frost. The blue area shows thawed conditions (caused by the recent stream).</p> <p>The bedrock changes from higher resistivity (turquoise) to a lower resistivity (blue) at approximately 75m. This may be an indication of a fault line however is more likely is due to the permafrost border in the bedrock, which would be consistent with Line 1.</p>	<p>We would recommend shafting at 69m. Here bedrock is expected at approximately 7.5m. At this location the ground may still be frozen, however groundwater influences could appear.</p>

PLACER LOG to be used for Drilling and Hand Shovelled Test Pits

Print Name

DATE: Sept 5, 2016 TIME:        DRILLER: R Hamel HELPER: W Muckelbauer

TYPE OF DRILL: auger INSIDE DIAMETER OF DRILL: 8"

LOCATION: Cabin Creek Nansen District LEASE/GRA NT #: P26383 - P26397

DRILL HOLE / TEST PIT	TOTAL FEET / DIMENSIONS	BREAKDOWN IN FEET (of materials encountered)	REMARKS (Samples/Results)
16-1	31 feet	<del>0-5</del> 0-2'	organics
		3-5	angular gravels
62° 02	42.8 N	5-10'	frozen, angular gravels < 2"
137° 10	29.6 W	10-15'	+ frozen "brown" gravel
		15-20	gravels - Clay Layer - schist <sup>frag</sup>
		20-25	gravels, angular, rust < 1"
		25-31 Boff	wet angular gravel/sub angular
16-2	7 ft <del>18 feet</del>	0-5'	organics, perm @ 4'
		5-10'	gravel - frozen - no progress past 7'; hole moved 4' Boff
16-3	18 ft	(0-10 as above) 10-15	subangular to sub rounded gravel 1"
		15-18	water & clay - angular gravels
			lots of magnetite
16-4	25 ft.	0-5	organics, water
@ 08V 0386098		5-10	1" angular gravels, wet
6881135		10-15	poor recovery <sup>sub</sup> angular 1" gravel
#7083		15-20 20-2	" " sub angular pieces - gray

20-25 - 3" x 1" angular rock <sup>frag</sup> wet - piece to schist

DATE: Sept 6, '16

SIGNED: (Driller or Representative)

*[Signature]*