

EXCAVATION OBSERVATION SERVICES
PROPOSED A1 MET TOWER CONSTRUCTION
KIBBY MOUNTAIN SITE
KIBBY TOWNSHIP (T1 R6 WBKP), MAINE

06-0039 S

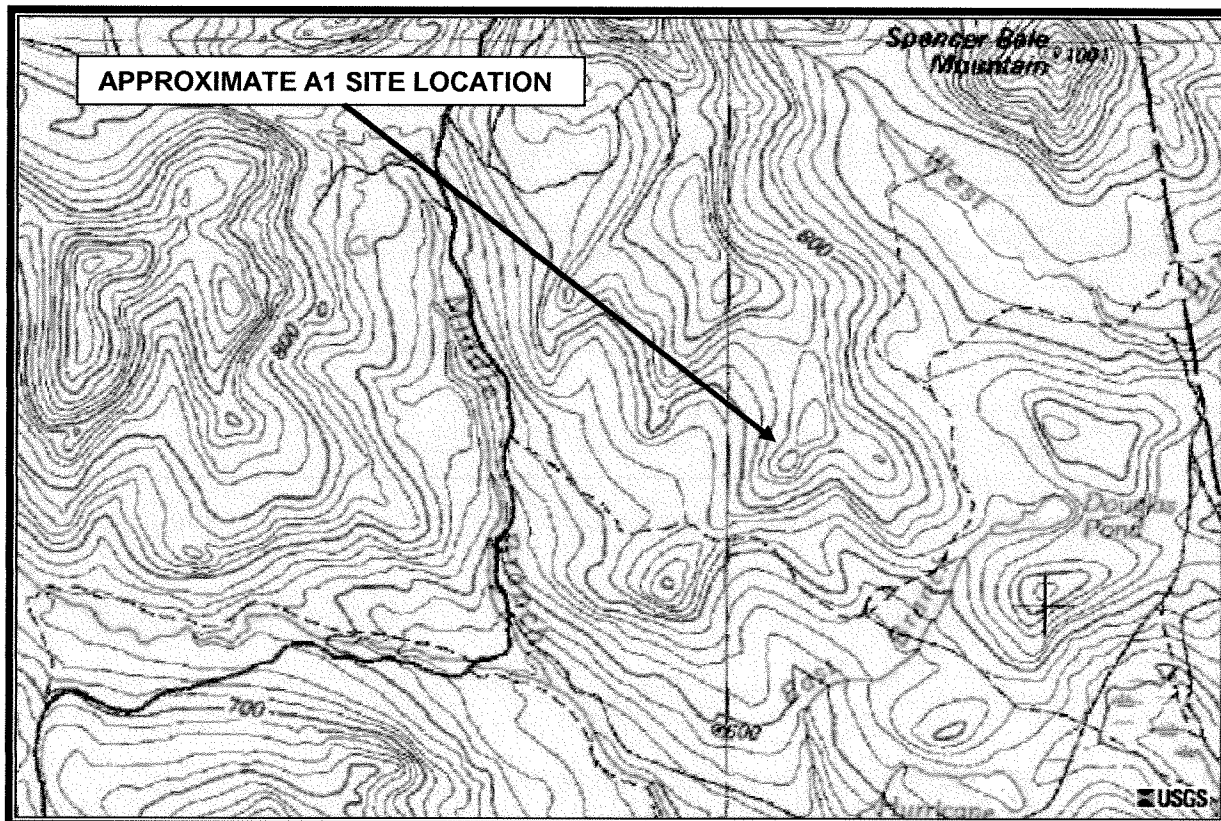
FEBRUARY 21, 2006

PREPARED BY



FOR

AMEC AMERICAS LIMITED



NOTE: Base Map from terraserver.com. Map not to scale.



06-0039 S

February 21, 2006

AMEC Americas Limited
Attention: Mr. J. H. McCrea, P. Eng.
2020 Winston Park Drive
Suite 700
Oakville, ON, Canada L6H 6X7

Subject: Excavation Observation Services
A1 MET Tower Construction
Kibby Mountain
Kibby Township (T1 R6 WBKP), Maine

Dear Jim:

In accordance with our Agreement dated January 19, 2006, we have undertaken excavation observation services for the A1 MET Tower construction located in Kibby Township (T1 R6 WBKP), Maine. The purpose was to provide preliminary soils and bedrock information in anticipation of future wind tower construction. Our work consisted of observations of excavation work during foundation preparation for construction of A1 MET Tower foundation/guy anchorage systems, and collection of selected soil samples for laboratory testing. Per our January 19, 2006 Agreement, our services did not include construction monitoring or testing. The contents of this report are subject to the limitations set forth in Attachment A.

The A1 MET Tower site is located near a remote mountain top in the northeast corner of Kibby Township (T1 R6 WBKP), Maine. The approximate location of the site is shown on a U.S. Geological Survey 7.5 Minute Topographic Map (Kibby Mountain, Maine Quadrangle), which is presented on the cover page of this report. According to the U.S.G.S. topographic map, the Middle Branch of Kibby Stream is located approximately 8,000 feet west of the site, and Douglas Pond is located approximately 6,000 feet east of the site. Topographic mapping indicates that the elevation at the site is approximately 2,920 feet above mean sea level.

The site consists of the MET Tower location and four foundation/guy anchorage locations approximately 148 feet from the tower location at north, east, south, and west directions from the tower. We have represented this orientation in our Site Sketch presented as Sheet 1.

We reviewed Maine Geological Survey mapping for the site area. According to the *Surficial Geologic Map of Maine* (Thompson et al., 1985), surficial soils in the area are mapped as till. MGS describes till as being a heterogeneous mixture of sand, silt, clay, and stones. A copy of the surficial mapping is presented as Sheet 2. According to the *Bedrock Geologic Map of Maine* (Osberg et al., 1985), bedrock in the area is mapped as gneiss of the Chain Lakes Massif. MGS describes the Chain Lakes Massif as being Precambrian age (>650 million years old), but notes that rocks over a billion years old may be present in these units. A copy of the bedrock mapping is presented as Sheet 3.

On January 26, 2006, personnel from S. W. COLE ENGINEERING, INC. made a visit to the site to observe excavation work during foundation preparation being conducted by the tower installation contractor and collect samples for physical testing. We were escorted to the site by Prapote Boonsinsuk of AMEC and Tom Rankin of EPRO. We observed the excavation of three test pits at the site with an excavator operated by Radian's on-site subcontractor MAJETEL. The test pits were located by MAJETEL. The test pits were conducted at the east, south, and west foundation/guy anchorage locations. We designated the test pit locations A1 EA (A1 MET Tower East Anchor), A1 SA (A1 MET Tower South Anchor), and A1 WA (A1 MET Tower West Anchor). The approximate test pit locations are shown on Sheet 1.

Test Pit TP-A1 EA was dug to a bedrock refusal depth of 3.0 feet in an area that slopes downward to the east. According to measurements taken by MAJETEL, the bedrock surface at this location is approximately 13 feet lower in elevation than the ground surface at the A1 Tower location. We observed organic duff and roots at the surface, over gravelly silty sand with roots and cobbles, over silty gravelly sand with cobbles, over silt with a trace of sand, gravel, and clay. We observed gravel and cobbles through the test pit that appeared to be fragmented bedrock. Gneiss bedrock refusal

was encountered at 3.0 feet. The bedrock did not appear weathered at the surface and was not rippable by the on-site excavator.

Test Pit TP-A1 SA was dug to a bedrock refusal depth of 2.4 feet in an area that slopes downward to the south. According to measurements taken by MAJETEL, the bedrock surface at this location is approximately 17 feet lower in elevation than the ground surface at the A1 Tower location. We observed organic duff and roots at the surface, over gravelly silty sand with roots and cobbles, over silty gravelly sand with cobbles, over silt with a trace of sand, gravel, and clay. We observed gravel and cobbles through the test pit that appeared to be fragmented bedrock. Gneiss bedrock refusal was encountered at 2.4 feet. The bedrock did not appear weathered at the surface and was not rippable by the on-site excavator.

Test Pit TP-A1 WA was dug to a bedrock refusal depth of 2.5 feet in an area that slopes downward to the west. According to measurements taken by MAJETEL, the bedrock surface at this location is approximately 15 feet lower in elevation than the ground surface at the A1 Tower location. We observed organic duff and roots at the surface, over gravelly silty sand with cobbles and with some roots within about 6 inches of the ground surface. We observed gravel and cobbles through the test pit that appeared to be fragmented bedrock. Gneiss bedrock refusal was encountered at 2.5 feet. The bedrock did appear weathered at the surface, but was not rippable by the on-site excavator.

The A1 NA (A1 MET Tower North Anchor) and the A1 (MET Tower) locations had been excavated prior to our arrival at the site, and we were informed the soils observed at these locations were similar to those that we observed at the other test pits. We were informed by MAJETEL that the test pits conducted at A1 NA and the A1 Tower location encountered bedrock at a depth of approximately 2.5 feet. According to measurements taken by MAJETEL, the bedrock at A1 NA is approximately 7 feet lower in elevation than the ground surface at the A1 Tower location. The bedrock in the exposed sidewall of the partially backfilled test pit at A1 NA appeared to be gneiss. The bedrock appeared to be weathered at the surface, but was excavated to more competent bedrock surface about 1 to 2 feet below the weathered bedrock. The actual thickness

of the fractured and loose weathered bedrock was difficult to observe due to the topographical slope at this location and the test pit was partially backfilled. The surface of the competent bedrock at this location was weathered but not rippable by the on-site excavator.

We did not observe water at any of the test pits excavated at the site. Bedrock refusal was encountered at all the test pits conducted at the site. Logs of the materials encountered during the test pit program are presented as Sheets 4 and 5. A key to the notes and symbols shown on the test pit logs is presented as Sheet 6. Penetrometer tests were performed on the test pit sidewalls. Results are presented on the test pit logs. Three samples were collected from the test pits to characterize the types of material encountered during excavation at the site. Grain size analysis tests were conducted on the samples and the results are presented on Sheets 7 through 9. We also conducted moisture content tests on these samples and the results of those tests are presented on the boring logs.

In accordance with your request, we collected a sample from a borrow pit located adjacent to the gravel logging road that provides access to the site. We named the sample *Borrow Pit, 6½ Mile* since the pit is located near the logging road mile marker 6½. The sample was collected under the direction of Prapote Boonsinsuk of AMEC and we conducted grain size, Modified Proctor, and moisture content tests on the sample. The test results indicate that the soil is gravelly silty sand (see Sheet 10) with a moisture content of 14.1%. The results of the Modified Proctor test are presented on Sheet 11.

On January 30, 2006, personnel from S. W. COLE ENGINEERING, INC. made a visit to the site to observe bedrock drilling during foundation preparation work being conducted by MAJETEL. We were escorted to the site by Tom Rankin of EPRO. When we arrived at the site, MAJETEL had just completed drilling five 2 foot deep holes at the A1-NA location and had finished drilling for the day.

On January 31, 2006 we returned to the site to continue our observations of bedrock drilling. We observed drilling being conducted at the A1 NA location. Five holes were drilled, two to about 4 feet and three to about 11.5 feet. Based on the samples of

bedrock fragments we observed created by the drilling, the bedrock appeared to be weathered gneiss to the completion depth of 11.5 feet. Each hole was drilled at 2 foot vertical intervals (with the exception of the 10.0 foot to 11.5 foot interval), and we timed some of the drilling intervals. The average drilling rate during the drilling of A1 NA was approximately 0.39 feet per minute.

On February 01, 2006 we returned to the site to continue our observations of bedrock drilling at the south anchor location A1 SA. Five holes were drilled to the completion depth as noted at A1 NA. Based on the samples of bedrock fragments we observed, the bedrock appeared to be gneiss with some weathering below a depth of about 8.5 feet. The average drilling rate at A1 SA for the 0.0 foot to 8.5 foot depth interval was approximately 0.35 feet per minute, and approximately 0.68 feet per minute for the 8.5 foot to 11.5 foot depth interval.

Note that the drilling rates are approximate. Not every depth interval was timed, clearing rock dust and fragments from the hole took longer in some instances than others, and pneumatic jack hammer was manually operated.

We were asked by Prapote Boonsinsuk of AMEC to attempt to visually estimate the rock quality designation (RQD) by looking down the drill holes, but were unable to do so because rock dust and fragments had filled the visible fractures.

Color photographs of site features we observed during test pit excavation and drilling are presented on Sheets 12 through 16.

It has been a pleasure to assist you in this matter. This evaluation is based on a site visit, published mapping and laboratory tests of selected samples, and is subject to the




06-0039 S
February 21, 2006


findings of a detailed subsurface investigation. If you have any questions, please contact us.

Very truly yours,

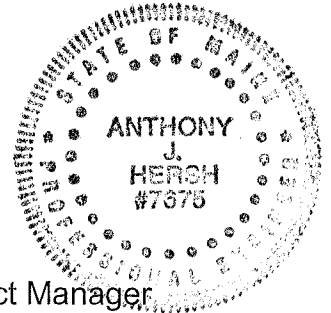
S. W. COLE ENGINEERING, INC.



Jeff W. McElroy, Geologist



Anthony J. Hersh, P.E., Project Manager



JWM-AJH:jwm/slh

P:\2006\06-0039 S - AMEC Americas - Stratton, ME - Met Tower Kibby Mt - Exploration - AJH\Reports and Letters\Report A1 Revised.doc

BIBLIOGRAPHY

Osberg, P. H., A. M. Hussey II, and G. M. Boone. 1985. *Bedrock Geologic Map of Maine*. Maine Geological Survey. Department of Conservation. Augusta, Maine.

Thompson, W. B., H. W. Borns. 1985. *Surficial Geologic Map of Maine*. Maine Geological Survey. Department of Conservation. Augusta, Maine.

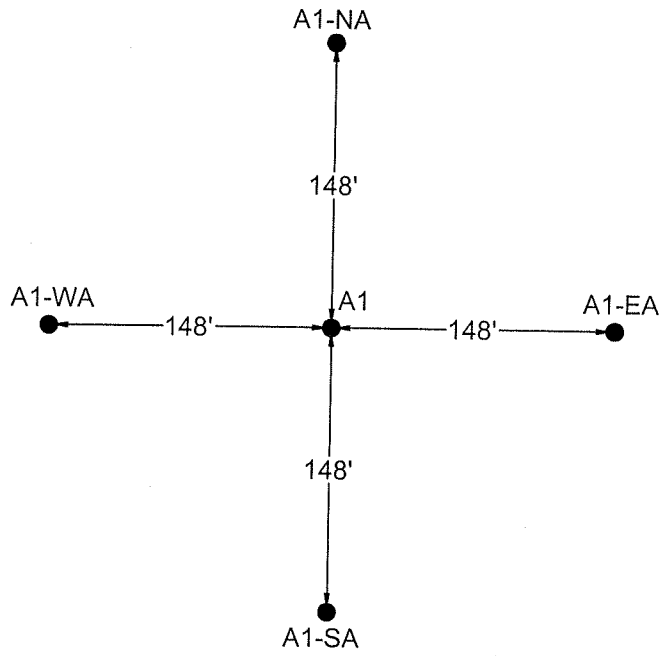
United States Department of the Interior. Geological Survey, 7.5-Minute Series. *Salsbury Cove, Maine, Topographic Quadrangle Map*.

Attachment A Limitations

This report has been prepared for the exclusive use of AMEC Americas Limited for specific application to excavation observation services for the A1 MET Tower project at the Kibby Mountain Site in Kibby Township (T1 R6 WBKP), Maine. S. W. COLE ENGINEERING, INC. has endeavored to conduct the work in accordance with generally accepted soil and foundation engineering practices. No other warranty, expressed or implied, is made.

The soil profiles described in the report are intended to convey general trends in subsurface conditions. The boundaries between strata are approximate and are based upon interpretation of exploration data and samples.


Observations have been made during exploration work to assess site groundwater levels. Fluctuations in water levels will occur due to variations in rainfall, temperature, and other factors.



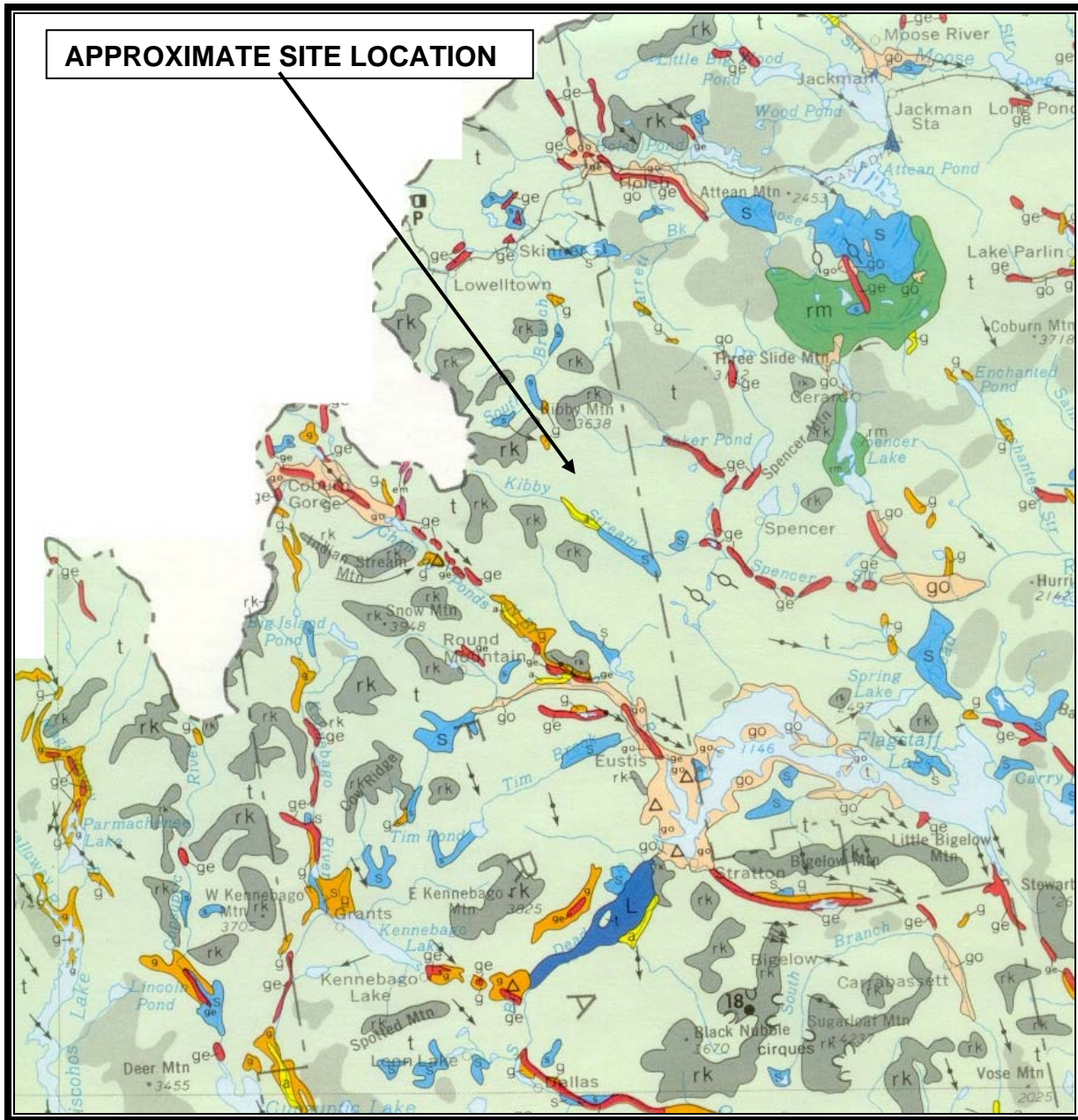
LEGEND

- A1 = PROPOSED A1 METEOROLOGICAL TOWER LOCATION
- A1-NA = PROPOSED A1 NORTH ANCHOR LOCATION
- A1-EA = PROPOSED A1 EAST ANCHOR LOCATION
- A1-SA = PROPOSED A1 SOUTH ANCHOR LOCATION
- A1-WA = PROPOSED A1 WEST ANCHOR LOCATION



 S.W. COLE ENGINEERING, INC.	
AMEC AMERICAS LIMITED SITE SKETCH Proposed A1 MET Tower Kibby Mountain Kibby Twp (T1 R6 WBKP), Maine	
Job No. 06-0039 S Date : 02/16/06	Scale 1" = 100' Sheet 1

SURFICIAL GEOLOGY MAP



LEGEND:

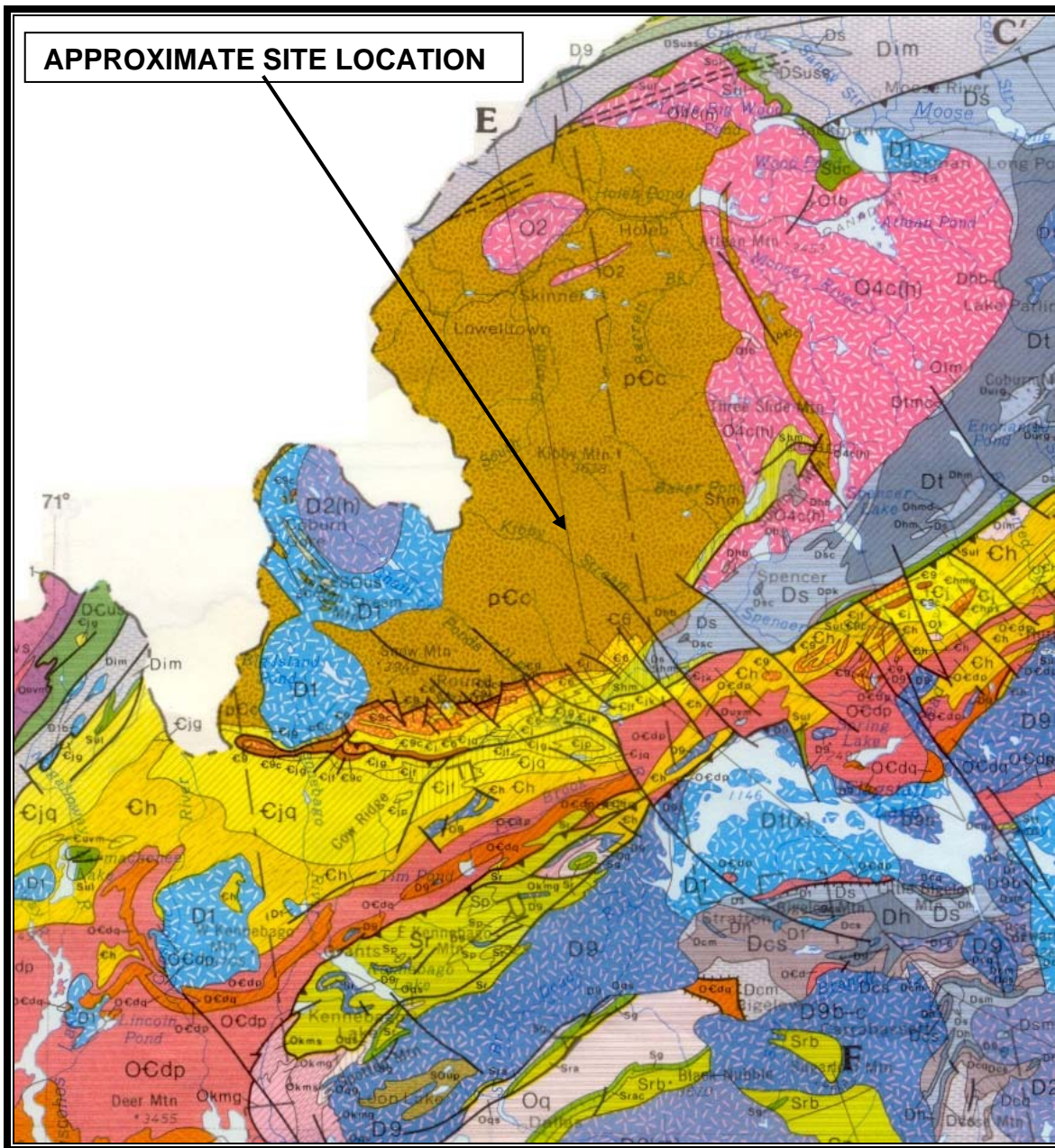
t	Till
g	Ice-contact glaciofluvial deposits (exclusive of eskers)
a	Stream alluvium (includes Holocene flood plain, stream terrace, and alluvial fan deposits)
s	Swamp, marsh, and bog deposits (includes both fresh-water and salt-water marshes)

NOTES:

Map not to scale.

Base map from Thompson and others, 1985.

BEDROCK GEOLOGY MAP



LEGEND:

pCc = Precambrian age Gneiss bedrock of the Chain Lakes Massif

NOTES:

Map not to scale.
Base map from Osberg and others, 1985.

PROJECT/CLIENT: MET TOWER EXCAVATION OBSERVATION SERVICES / AMEC AMERICAS LIMITED
 LOCATION: KIBBY MOUNTAIN, KIBBY TOWNSHIP, MAINE
 BACKHOE FIRM: MAJETEL OPERATOR: STEVE

PROJECT NO.: 06-0039
 SWC REP.: JWM

TEST PIT <u>TP-A1-EA</u>			
DATE: <u>1/26/2006</u>		SURFACE ELEVATION: _____	LOCATION: <u>A1 MET TOWER EAST ANCHOR</u>
SAMPLE NO.	DEPTH (FT)	STRATUM DESCRIPTION	TEST RESULTS
	0.2'	BROWN ORGANIC DUFF AND ROOTS	
S1	0.2'-1.6'	DARK BROWN GRAVELLY SILTY SAND WITH A TRACE OF COBBLES, AND ROOTS	$q_p = 2.5 \text{ Ksf @ } 2.2'$ W = 14.1% W = 29.5%
S2	1.6'-2.9'	BROWN SILTY GRAVELLY SAND WITH A TRACE OF COBBLES	
	3.0'	LIGHT BROWN SILT WITH A TRACE OF SAND, GRAVEL, AND CLAY	
		GNEISS BEDROCK REFUSAL AT 3.0'	
NOTE: GRAVEL AND COBBLES ARE BEDROCK FRAGMENTS			
COMPLETION DEPTH: <u>3.0'</u>		DEPTH TO WATER: <u>NONE OBSERVED</u>	TEST PIT WALL: <u>STABLE AND VERTICAL</u>

TEST PIT <u>TP-A1 SA</u>			
DATE: <u>1/26/2006</u>		SURFACE ELEVATION: _____	LOCATION: <u>A1 MET TOWER SOUTH ANCHOR</u>
SAMPLE NO.	DEPTH (FT)	STRATUM DESCRIPTION	TEST RESULTS
	0.4'	BROWN ORGANIC DUFF AND ROOTS	
	1.4'	DARK BROWN GRAVELLY SILTY SAND WITH A TRACE OF COBBLES, AND ROOTS	$q_p = 1.5 \text{ Ksf @ } 1.6'$ $q_p = 1.5 \text{ Ksf @ } 2.2'$
	1.9'	BROWN SILTY GRAVELLY SAND WITH A TRACE OF COBBLES	
	2.4'	LIGHT BROWN SILT WITH A TRACE OF SAND, GRAVEL, AND CLAY	
		GNEISS BEDROCK REFUSAL AT 2.4'	
NOTE: GRAVEL AND COBBLES ARE BEDROCK FRAGMENTS			
COMPLETION DEPTH: <u>2.4'</u>		DEPTH TO WATER: <u>NONE OBSERVED</u>	TEST PIT WALL: <u>STABLE AND VERTICAL</u>



TEST PIT LOGS

PROJECT/CLIENT: MET TOWER EXCAVATION OBSERVATION SERVICES / AMEC AMERICAS LIMITED
 LOCATION: KIBBY MOUNTAIN, KIBBY TOWNSHIP, MAINE
 BACKHOE FIRM: MAJETEL OPERATOR: STEVE

PROJECT NO.: 06-0039
 SWC REP.: JWM

TEST PIT <u>TP-A1 WA</u>			
DATE: <u>1/26/2006</u>		SURFACE ELEVATION: _____	LOCATION: <u>A1 MET TOWER WEST ANCHOR</u>
SAMPLE NO.	DEPTH	STRATUM DESCRIPTION	TEST RESULTS
	0.3'	BROWN ORGANIC DUFF AND ROOTS	$q_p = 1.0 \text{ Ksf @ } 1.7'$ $W = 51.2\%$
	0.5'	DARK BROWN GRAVELLY SILTY SAND WITH A TRACE OF COBBLES, AND ROOTS	
S1	0.3'-2.5'	BROWN GRAVELLY SILTY SAND WITH A TRACE OF COBBLES	
		GNEISS BEDROCK REFUSAL AT 2.5'	
NOTE: GRAVEL AND COBBLES ARE BEDROCK FRAGMENTS			
COMPLETION DEPTH: <u>2.5'</u> DEPTH TO WATER: <u>NONE OBSERVED</u> TEST PIT WALL: <u>STABLE AND VERTICAL</u>			

KEY TO THE NOTES & SYMBOLS
Test Boring and Test Pit Explorations

All stratification lines represent the approximate boundary between soil types and the transition may be gradual.

Key to Symbols Used:

w	-	water content, percent (dry weight basis)
k _h	-	horizontal permeability
k _v	-	vertical permeability
q _u	-	unconfined compressive strength, kips/sq. ft. - based on laboratory unconfined compressive test
S _v	-	field vane shear strength, kips/sq. ft.
L _v	-	lab vane shear strength, kips/sq. ft.
q _p	-	unconfined compressive strength, kips/sq. ft. based on pocket penetrometer test
O	-	organic content, percent (dry weight basis)
W _L	-	liquid limit - Atterberg test
W _P	-	plastic limit - Atterberg test
WOH	-	advance by weight of hammer
WOM	-	advance by weight of man
WOR	-	advance by weight of rods
HYD	-	advance by force of hydraulic piston on drill
RQD	-	Rock Quality Designator - an index of the quality of a rock mass. RQD is computed from recovered core samples.
γ _T	-	total soil weight
γ _B	-	buoyant soil weight

Description of Proportions:

0 to 5% TRACE
5 to 12% SOME
12 to 35% "Y"
35+% AND

REFUSAL: Test Boring Explorations - Refusal depth indicates that depth at which, in the drill foreman's opinion, sufficient resistance to the advance of the casing, auger, probe rod or sampler was encountered to render further advance impossible or impracticable by the procedures and equipment being used.

REFUSAL: Test Pit Explorations - Refusal depth indicates that depth at which sufficient resistance to the advance of the backhoe bucket was encountered to render further advance impossible or impracticable by the procedures and equipment being used.

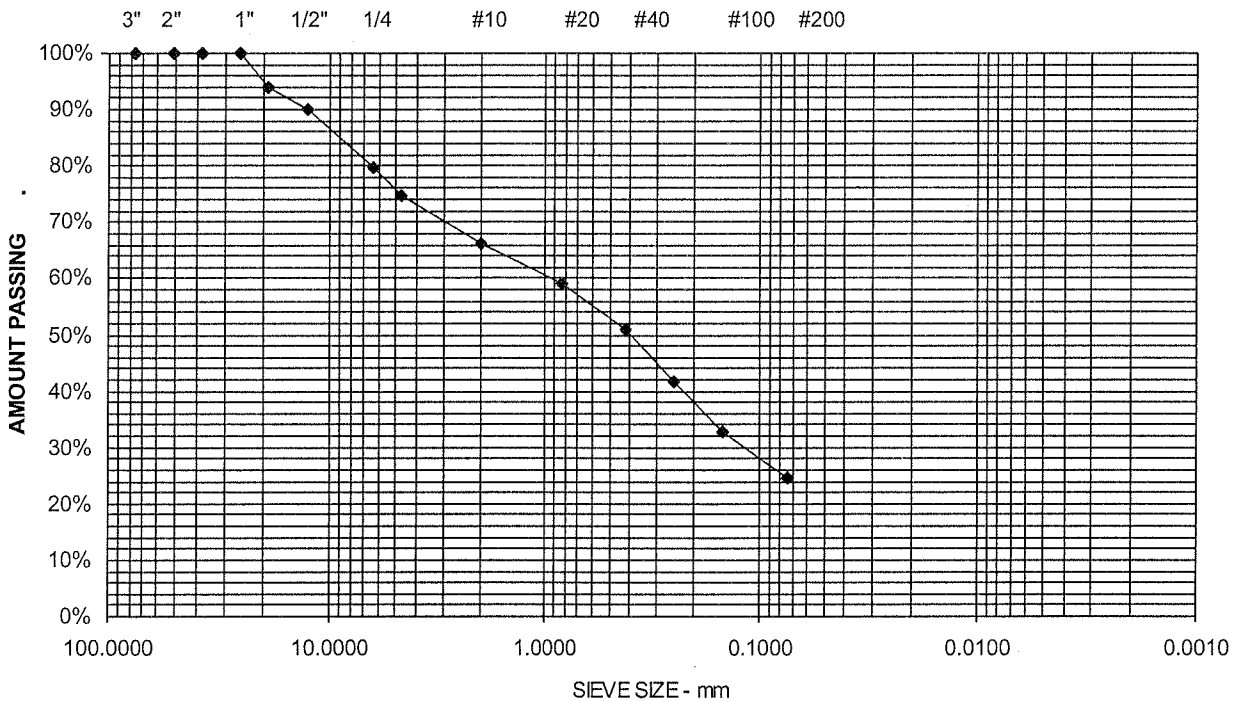
Although refusal may indicate the encountering of the bedrock surface, it may indicate the striking of large cobbles, boulders, very dense or cemented soil, or other buried natural or man-made objects or it may indicate the encountering of a harder zone after penetrating a considerable depth through a weathered or disintegrated zone of the bedrock.

Project Name STRATTON - KIBBY MOUNTAIN WIND FARM - GEOTECHNICAL
ENGINEERING SERVICES
Client AMEC AMERICAS LIMITED
Exploration TP-A1-EA
Material Source S1

Project Number 06-0039
Lab ID 5238B
Date Received 1/30/2006
Date Complete 2/1/2006
Tested By VAUGHAN LITTLEFIELD

<u>STANDARD DESIGNATION (mm/μm)</u>	<u>SIEVE SIZE</u>	<u>AMOUNT PASSING (%)</u>	
150	6"	100	
125	5"	100	
100	4"	100	
75	3"	100	
50	2"	100	
38.1	1-1/2"	100	
25.0	1"	100	
19.0	3/4"	94	
12.5	1/2"	90	
6.3	1/4"	80	
4.75	No. 4	75	25.3% Gravel
2.00	No. 10	66	
850	No. 20	59	
425	No. 40	51	50.1% Sand
250	No. 60	42	
150	No. 100	33	
75	No. 200	24.6	24.6% Fines

GRAVELLY SILTY SAND

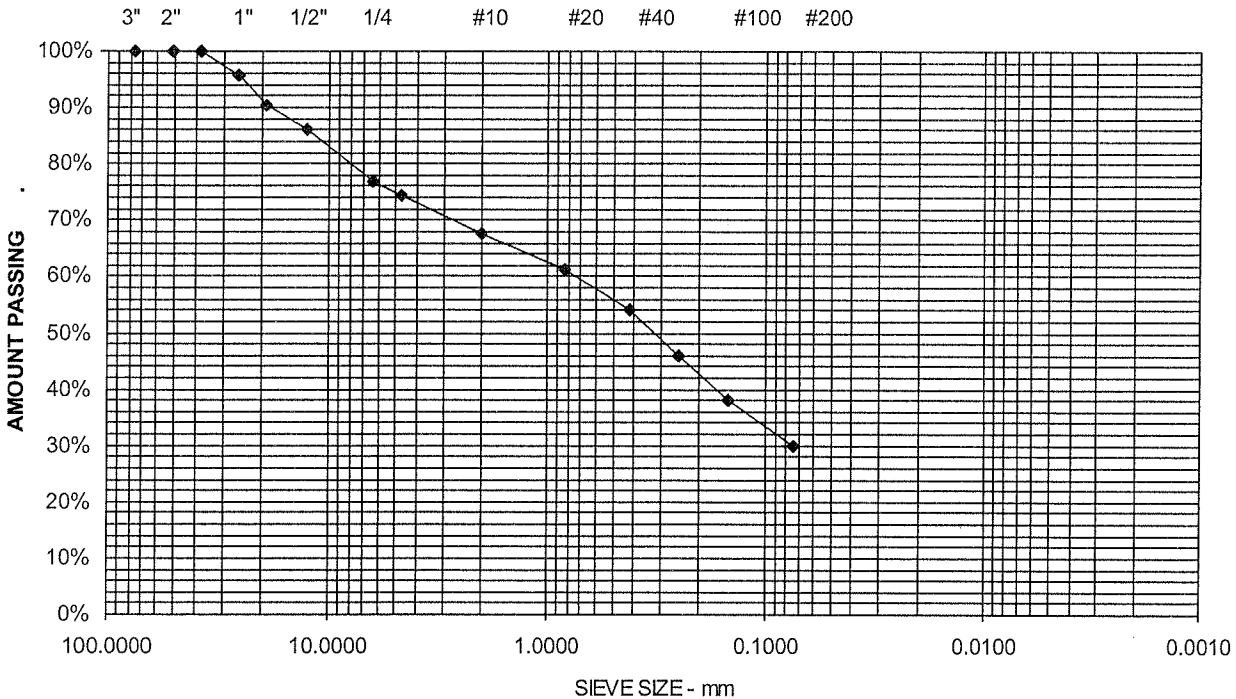


Project Name STRATTON - KIBBY MOUNTAIN WIND FARM - GEOTECHNICAL
ENGINEERING SERVICES
Client AMEC AMERICAS LIMITED
Exploration TP-A1-EA
Material Source S2

Project Number 06-0039
Lab ID 5239B
Date Received 1/30/2006
Date Complete 2/1/2006
Tested By VAUGHAN LITTLEFIELD

<u>STANDARD DESIGNATION (mm/μm)</u>	<u>SIEVE SIZE</u>	<u>AMOUNT PASSING (%)</u>	
150	6"	100	
125	5"	100	
100	4"	100	
75	3"	100	
50	2"	100	
38.1	1-1/2"	100	
25.0	1"	96	
19.0	3/4"	90	
12.5	1/2"	86	
6.3	1/4"	77	
4.75	No. 4	75	25.5% Gravel
2.00	No. 10	68	
850	No. 20	61	
425	No. 40	54	44.6% Sand
250	No. 60	46	
150	No. 100	38	
75	No. 200	30.0	30% Fines

SILTY GRAVELLY SAND

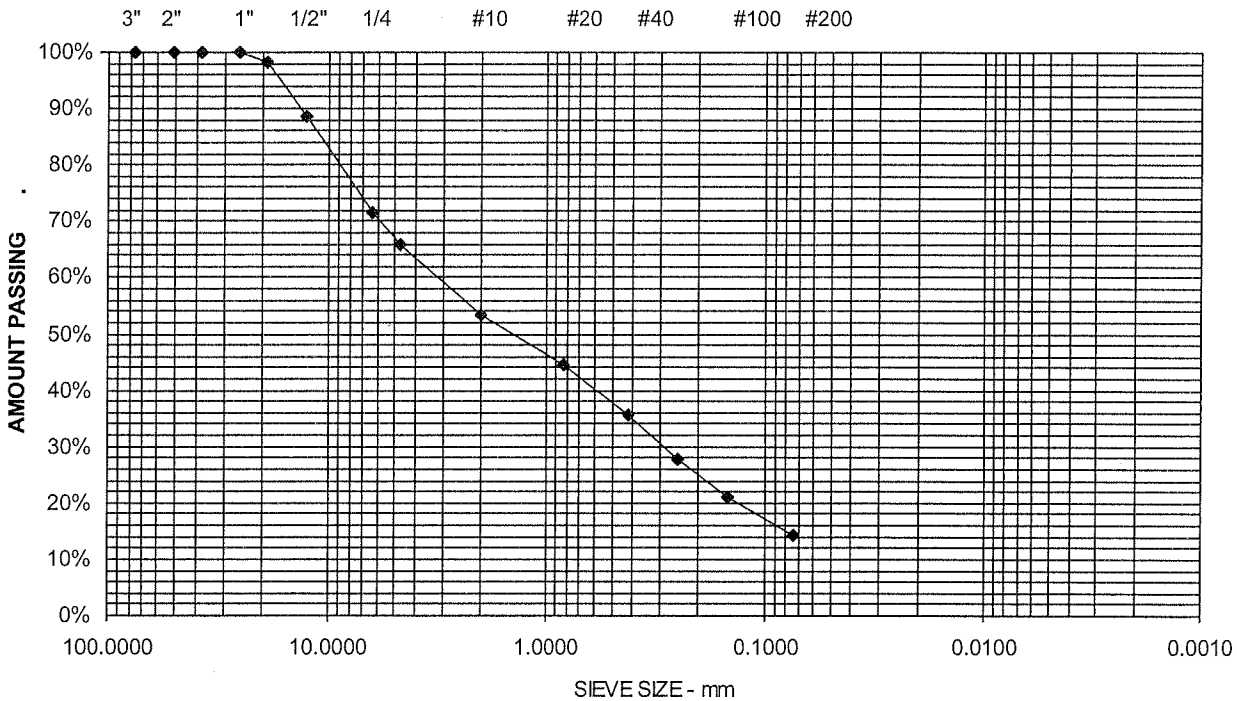


Project Name STRATTON - KIBBY MOUNTAIN WIND FARM - GEOTECHNICAL
ENGINEERING SERVICES
Client AMEC AMERICAS LIMITED
Exploration TP-A1-WA
Material Source S1

Project Number 06-0039
Lab ID 5240B
Date Received 1/30/2006
Date Complete 2/1/2006
Tested By VAUGHAN LITTLEFIELD

<u>STANDARD DESIGNATION (mm/μm)</u>	<u>SIEVE SIZE</u>	<u>AMOUNT PASSING (%)</u>	
150	6"	100	
125	5"	100	
100	4"	100	
75	3"	100	
50	2"	100	
38.1	1-1/2"	100	
25.0	1"	100	
19.0	3/4"	98	
12.5	1/2"	89	
6.3	1/4"	72	
4.75	No. 4	66	34.3% Gravel
2.00	No. 10	53	
850	No. 20	44	
425	No. 40	36	51.3% Sand
250	No. 60	28	
150	No. 100	21	
75	No. 200	14.4	14.4% Fines

GRAVELLY SILTY SAND

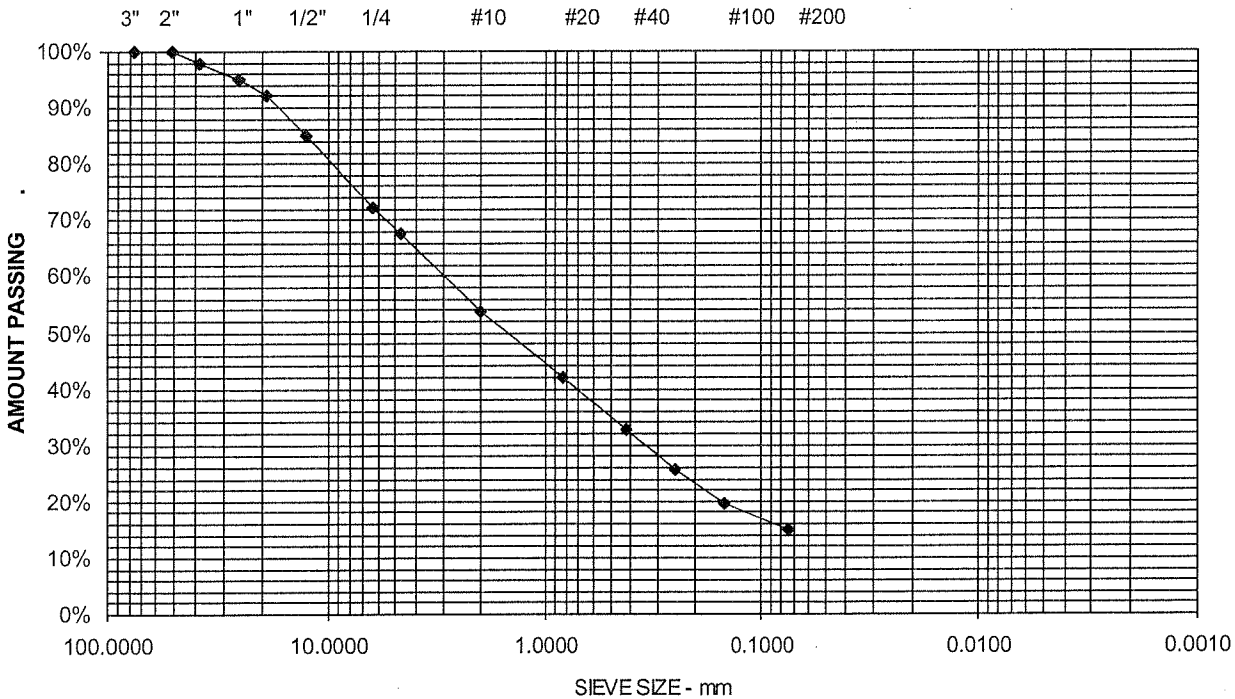


Project Name **STRATTON - KIBBY MOUNTAIN WIND FARM - GEOTECHNICAL ENGINEERING SERVICES**
 Client **AMEC AMERICAS LIMITED**
 Material Source **BORROW PIT, 6 1/2 MILE**

Project Number **06-0039**
 Lab ID **5237B**
 Date Received **1/30/2006**
 Date Complete **2/1/2006**
 Tested By **VAUGHAN LITTLEFIELD**

<u>STANDARD DESIGNATION (mm/um)</u>	<u>SIEVE SIZE</u>	<u>AMOUNT PASSING (%)</u>	
150	6"	100	
125	5"	100	
100	4"	100	
75	3"	100	
50	2"	100	
38.1	1-1/2"	98	
25.0	1"	95	
19.0	3/4"	92	
12.5	1/2"	85	
6.3	1/4"	72	
4.75	No. 4	68	32.2% Gravel
2.00	No. 10	54	
850	No. 20	42	
425	No. 40	33	52.8% Sand
250	No. 60	25	
150	No. 100	20	
75	No. 200	15.0	15% Fines

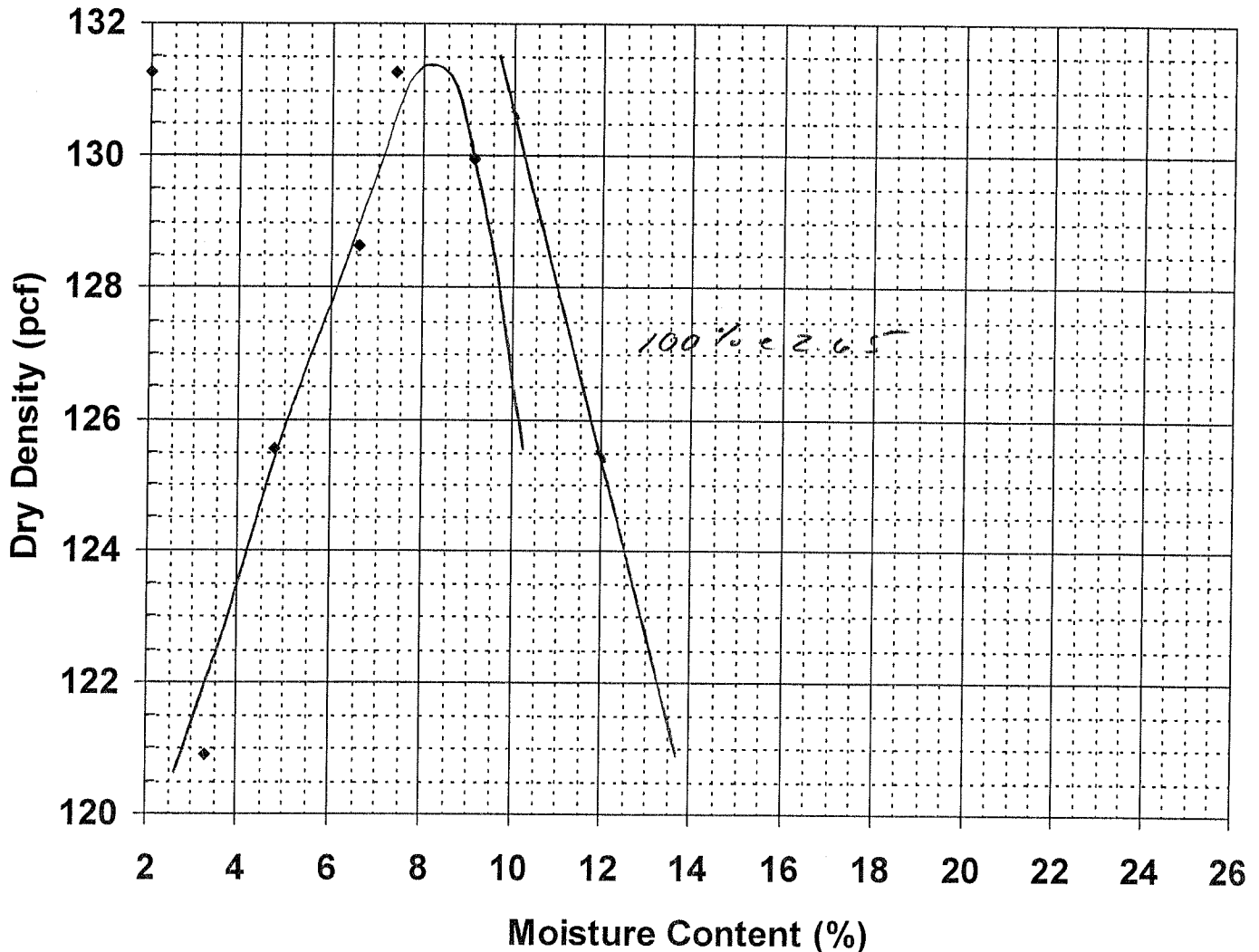
GRAVELLY SILTY SAND



Project Name STRATTON - KIBBY MOUNTAIN WIND FARM -
GEOTECHNICAL ENGINEERING SERVICES
Client AMEC AMERICAS LIMITED
Material Type
Material Source BORROW PIT, 6 1/2 MILE

Project Number 06-0039
Lab ID 5237B
Date Received 1/30/2006
Date Completed 2/2/2006
Tested By DEAN MALLET

Moisture-Density Relationship Curve



Maximum Dry Density (pcf) 131.4
Optimum Moisture Content (%) 8.1
Percent Oversized 7.8%

Corrected Dry Density (pcf) **133.1**
Corrected Moisture Content (%) **7.6**

Comments


Eric J. Gallant



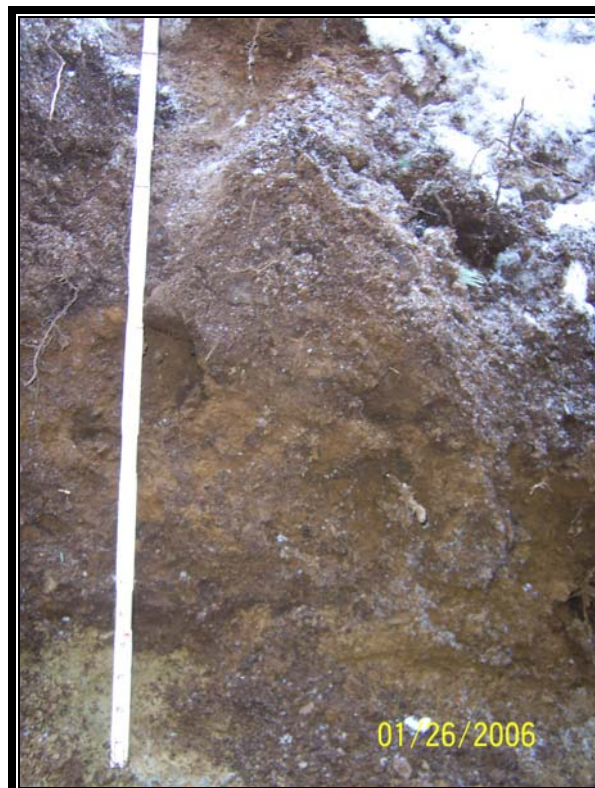
Partially backfilled test pit at A1 NA (north anchor), prior to reexcavation and drilling.



Manually operated jack hammer drilling at A1 NA (north anchor).



Test Pit TP-A1 EA (east anchor) northern side wall.



Test Pit TP-A1 EA (east anchor) close-up of southern side wall.



Test Pit TP-A1 SA (south anchor) western side wall.



Manually operated jack hammer drilling at A1 SA (south anchor). Back hoe is being used to assist operator with down pressure on jack hammer.



Test Pit TP-A1 WA (west anchor) southern side wall.



Test Pit TP-A1 WA (west anchor) close-up of northern side wall.



View southwest of work shelter from A1 tower location.



View southeast of A1 tower location (where workers are standing) from access trail.

**EXCAVATION OBSERVATION SERVICES
PROPOSED B2-1 AND B1 MET TOWER CONSTRUCTION
KIBBY MOUNTAIN SITE
KIBBY TOWNSHIP (T1 R6 WBKP), MAINE**

06-0039 S

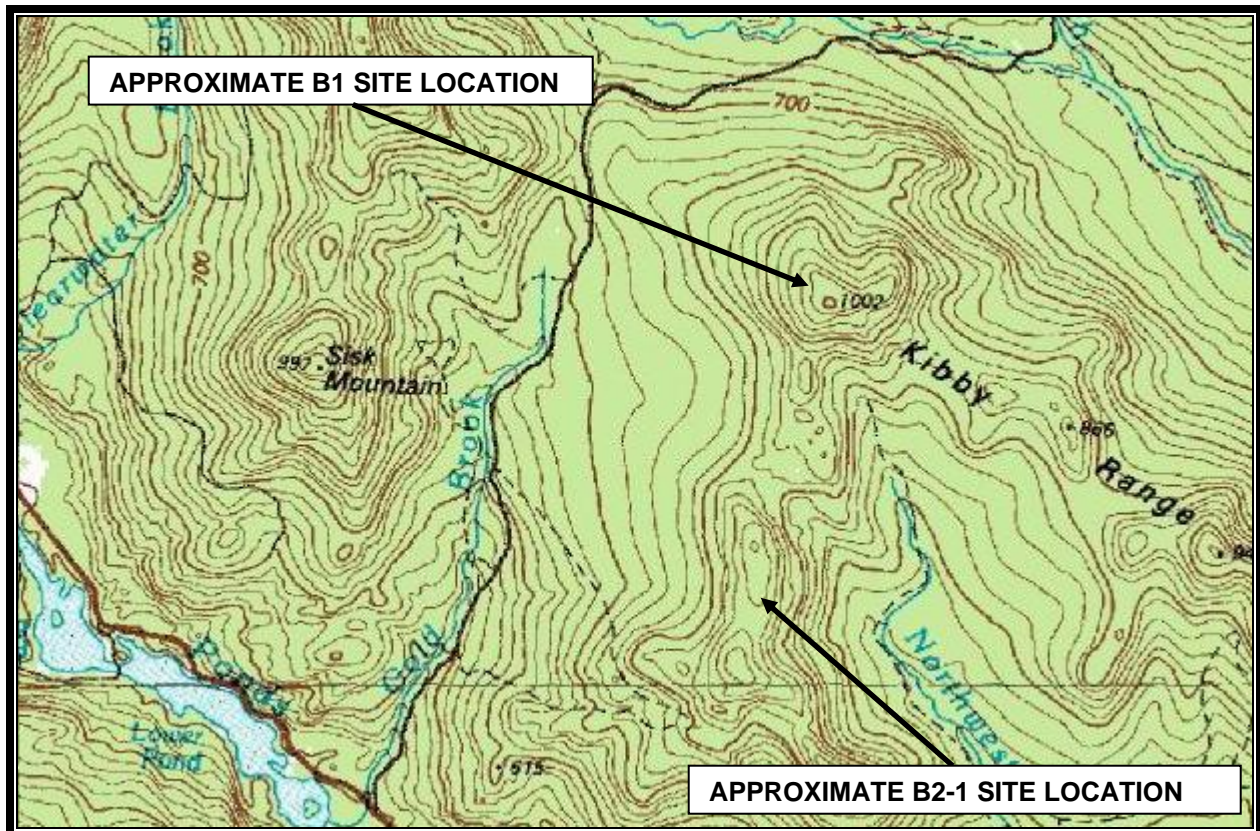
APRIL 06, 2006

PREPARED BY



FOR

AMEC AMERICAS LIMITED



NOTE: Base Map from terraserver.com. Map not to scale.

06-0039 S

April 06, 2006

AMEC Americas Limited
Attention: Mr. Keith Penfold
2020 Winston Park Drive
Suite 700
Oakville, ON, Canada L6H 6X7

Subject: Excavation Observation Services
B2-1 and B1 MET Tower Construction
Kibby Mountain
Kibby Township (T1 R6 WBKP), Maine

Dear Keith:

In accordance with our Agreement dated January 19, 2006, we have provided excavation observation services for the B2-1 and B1 MET Towers Construction located in Kibby Township (T1 R6 WBKP), Maine. The purpose was to provide preliminary soils and bedrock information in anticipation of future wind tower construction. Our work consisted of observations of excavation work during foundation preparation for construction of B2-1 and B1 MET Towers foundation/guy anchorage systems, and collection of selected soil samples for laboratory testing. Per our January 19, 2006 Agreement, our services did not include construction monitoring or testing. The contents of this report are subject to the limitations set forth in Attachment A.

INTRODUCTION

The B2-1 and B1 MET Tower sites are located near remote mountain tops in the southwest corner of Kibby Township (T1 R6 WBKP), Maine. The approximate site locations are shown on a U.S. Geological Survey 7.5 Minute Topographic Map (Kibby Mountain, Maine Quadrangle) presented on the cover page of this report. The U.S.G.S. topographic map shows the Middle Branch of Kibby Stream to be located approximately 10,000 feet east of the B1 site, and approximately 16,000 feet northeast of the B2-1 site. The B1 site is approximately 7,000 feet north of a tributary of the Northwest Inlet Stream and the B2-1 site is approximately 4,000 feet west of the same stream.

Topographic mapping indicates that the elevation at the B1 site is approximately 3,286 feet above mean sea level, and the B2-1 site is approximately 2,900 feet above mean sea level.

Each site consists of one MET Tower location and four foundation/guy anchorage locations approximately 148 feet from the tower locations at north, east, south, and west directions from the tower. We have represented these orientations in our Site Sketches presented as Sheets 1 and 2.

SCOPE OF WORK

S. W. COLE ENGINEERING, INC. provided geological services associated with overburden and bedrock explorations at the B2-1 and B1 MET Tower Construction sites. We observed the excavation and collected samples from one test pit at the B2-1 MET Tower site and one test pit at the B1 MET Tower site. We also made observations in four test pits excavated when we were not present. Selection of excavation locations and test pit excavations were performed by others.

We observed bedrock percussion (jackhammer) drilling of five holes at the B2-1 WA location and four holes at the B1 MET Tower location. We estimated penetration rates and observed bedrock fragments. Bedrock drilling locations were selected by others, with drilling performed by MAJETEL, the on-site subcontractor to Radian, the tower installation contractor.

Color photographs of site features we observed during test pit excavation and drilling are presented on a compact disc that has been mailed separately.

PUBLISHED GEOLOGICAL INFORMATION

We reviewed Maine Geological Survey (MGS) mapping for the site area. The *Surficial Geologic Map of Maine* (Thompson et al., 1985), maps the surficial soils in the area as till with areas of bedrock outcrops (see Sheet 3). The MGS describes till as being a heterogeneous mixture of sand, silt, clay, and stones. The B1 location is mapped as bedrock outcrop, while the B2-1 location is mapped as till. The *Bedrock Geologic Map of Maine* (Osberg et al., 1985), maps the bedrock in the area as gneiss of the Chain

Lakes Massif. The MGS describes the Chain Lakes Massif as being Precambrian age (>650 million years old). A copy of the bedrock mapping with the approximate site locations is presented as Sheet 4.

EXPLORATIONS

S. W. COLE ENGINEERING, INC. observed test pit excavations and collected samples for physical testing at the proposed tower sites. As shown on Sheet 1 and Sheet 2, each proposed tower site consists of five exploration locations (Tower, NA, EA, SA and WA). We understand that the tower installation contractor (Radian) has subcontracted with MAJETEL for on-site services. The test pits were located by MAJETEL. The excavator was operated by MAJETEL. We observed the excavation of Test Pit B2-1 WA (B2-1 Tower West Anchor) on February 03, 2006. We observed the excavation of Test Pit TP-B1 Tower on March 17, 2006. We observed existing test pit excavations TP-B1 NA, TP-B1 WA, TP-B1 EA and TP-B1 SA on March 17, 2006. Test pit logs are presented as Sheets 5 through 8. A key to the notes and symbols shown on the test pit logs is presented as Sheet 9.

Bedrock refusal was encountered at all the test pits conducted at both sites. Penetrometer tests were performed on the test pit sidewalls where practicable (not frozen). Results are presented on the test pit logs. Soil samples were collected from the test pits to characterize the types of material encountered during excavation at the site. Grain size analysis tests were conducted on the samples and the results are presented on Sheets 10 through 12. We also conducted moisture content tests on these samples and the results of those tests are presented on the boring logs.

Test Pit TP-B2-1 WA (Sheet 1) was dug to a bedrock refusal depth of 3.8 feet in an area that slopes downward to the northwest. We observed organic duff and roots at the surface, over silty gravelly sand, over bedrock. Gneiss bedrock refusal was encountered at 3.8 feet. The bedrock did not appear weathered at the surface and was not rippable by the on-site excavator. We did not observe water at the test pit excavated at the site.

We were not present to observe the excavation of the remaining foundation/guy anchorage locations or the tower location for the B2-1 MET Tower site. MAJETEL reported the average change in bedrock elevation between the tower and foundation/guy anchorage locations to be approximately 6 to 7 feet. The reported soil thickness averaged about 2.5 feet. The bedrock and soil types were reported to be about the same as we observed at Test Pit TP-B2-1 WA.

We observed the excavation of Test Pit B1 TOWER (B1 MET Tower base location) on March 17, 2006. Test Pit TP-B1 TOWER was dug to a bedrock refusal depth of 5.0 feet in an area that slopes slightly downward to the north. We observed organic duff and roots at the surface, over silty gravelly sand with roots, over silty gravelly sand, over silty gravel and sand, over silty gravel and sand with a trace of cobbles, over bedrock. Gneiss bedrock refusal was encountered at 5.0 feet. The bedrock did not appear weathered at the surface and was not rippable by the on-site excavator. We observed water seepage in the test pit at a depth 4.5 feet.

We were not present to during the excavation of the remaining foundation/guy anchorage locations for the B1 TOWER. However, we observed these excavations as they had been dug prior to our arrival at the site and were still open.

Test Pit TP-B1 NA (B1 MET Tower North Anchor) was dug to a bedrock refusal depth of 2.5 feet in an area that slopes downward to the north. We observed organic duff and roots at the surface, over silty gravelly sand with roots, over silty gravelly sand, over bedrock. Gneiss bedrock refusal was encountered at 2.5 feet. The bedrock did not appear weathered at the surface and did not appear to be rippable by the on-site excavator. We observed standing water and ice at an approximate depth of 2.4 feet.

Test Pit TP-B1 SA (B1 MET Tower South Anchor) was dug to a bedrock refusal depth of 0.5 feet in an area that slopes downward to the south. We observed organic duff and roots at the surface, over bedrock. Gneiss bedrock refusal was encountered at 0.5 feet. The bedrock did not appear weathered at the surface and did not appear to be rippable by the on-site excavator. We did not observe water seepage or standing water in the test pit.

Test Pit TP-B1 EA (B1 MET Tower East Anchor) was dug to a bedrock refusal depth of 2.0 feet in an area that slopes downward to the northeast. We observed organic duff and roots at the surface, over silty gravelly sand with roots, over bedrock. Gneiss bedrock refusal was encountered at 2.0 feet. The bedrock did not appear weathered at the surface and did not appear to be rippable by the on-site excavator. We observed standing water and ice at an approximate depth of 1.9 feet.

Test Pit TP-B1 WA (B1 MET Tower West Anchor) was dug to a bedrock refusal depth of 1.5 feet in an area that slopes downward to the northwest. We observed organic duff and roots at the surface, over silty gravelly sand with roots, over bedrock. Gneiss bedrock refusal was encountered at 1.5 feet. The bedrock did not appear weathered at the surface and did not appear to be rippable by the on-site excavator. We observed standing water and ice at an approximate depth of 1.4 feet.

DRILLING

We observed some bedrock drilling during foundation preparation work being conducted by MAJETEL.

On March 05 and 06, 2006 we observed drilling being conducted at the B2-1 WA location. Five holes were drilled, two to about 4 feet and three to about 12 feet. Based on the samples of bedrock fragments we observed created by the drilling, the bedrock appeared to be slightly to moderately weathered gneiss. Each hole was drilled at 2-foot vertical intervals, and we timed some of the drilling intervals. The average drilling rate during the drilling of the B2-1 WA location was approximately 0.41 feet per minute.

On March 17, 2006 we observed drilling being conducted at the B1 TOWER location. Three holes were drilled to about 2 feet. Based on the samples of bedrock fragments we observed created by the drilling, the bedrock appeared to be slightly weathered gneiss. The average drilling rate during the drilling of the B1 TOWER location was approximately 0.55 feet per minute.

On March 20, 2006 we returned to the B1 MET Tower location to observe the final foundation/guy anchorage location being drilled at that tower location. We observed the

final hole being drilled at the B1 EA location. The hole was drilled to about 10 feet. Based on the samples of bedrock fragments we observed created by the drilling, the bedrock appeared to be slightly weathered gneiss. The average drilling rate during the drilling of the B1 EA location was approximately 0.42 feet per minute. Field data we collected from the timed intervals is presented on Sheet 13.


It should be noted that the drilling rates are approximate, and not every depth interval was timed. Clearing rock dust and fragments from the hole took longer in some instances than others, and pneumatic jack hammer was manually operated. Different operators employed different drilling techniques and cleared rock debris at different intervals. Drilling rates between different operators varied.

CLOSING


It has been a pleasure to assist you in this matter. This evaluation is based on a site visit, published mapping and laboratory tests of selected samples, and is subject to the findings of a detailed subsurface investigation. If you have any questions, please contact us.

Very truly yours,

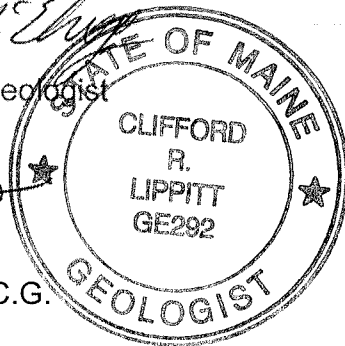
S. W. COLE ENGINEERING, INC.



Jeff W. McElroy, Geologist



Clifford R. Lippitt, C.G.
Senior Geologist



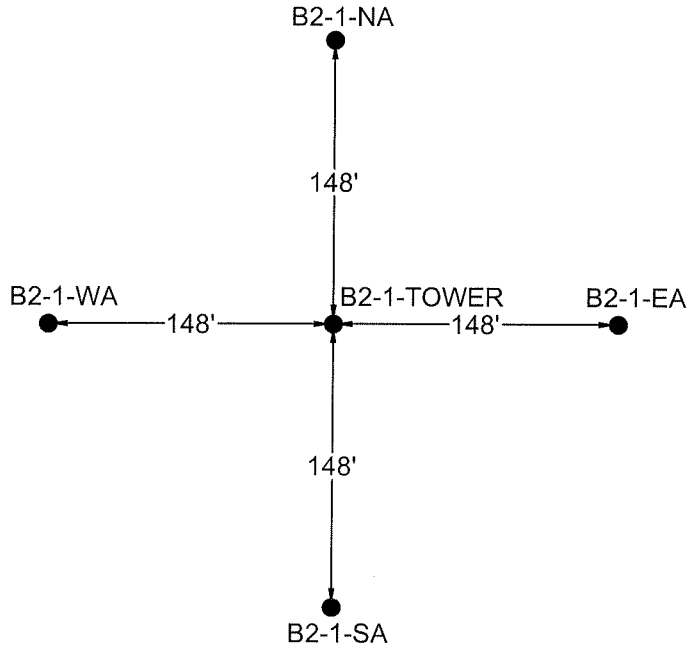
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Osberg, P. H., A. M. Hussey II, and G. M. Boone. 1985. *Bedrock Geologic Map of Maine*. Maine Geological Survey. Department of Conservation. Augusta, Maine.

Thompson, W. B., H. W. Borns. 1985. *Surficial Geologic Map of Maine*. Maine Geological Survey. Department of Conservation. Augusta, Maine.

United States Department of the Interior. Geological Survey, 7.5-Minute Series. *Salsbury Cove, Maine, Topographic Quadrangle Map*.



LEGEND

- B2-1 = PROPOSED B2-1 METEOROLOGICAL TOWER LOCATION
- B2-1-NA = PROPOSED B2-1 NORTH ANCHOR LOCATION
- B2-1-EA = PROPOSED B2-1 EAST ANCHOR LOCATION
- B2-1-SA = PROPOSED B2-1 SOUTH ANCHOR LOCATION
- B2-1-WA = PROPOSED B2-1 WEST ANCHOR LOCATION

APPROXIMATE
NORTH



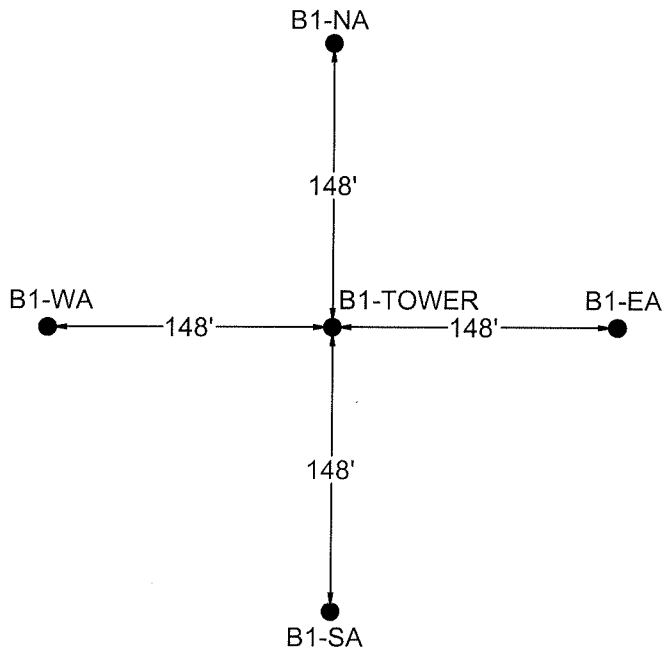
AMEC AMERICAS LIMITED

SITE SKETCH

Proposed B2-1 MET Tower
 Kibby Mountain
 Kibby Twp (T1 R6 WBKP), Maine

Job No. 06-0039 S
 Date : 04/03/06

Scale 1" = 100'
 Sheet 1



LEGEND

- B1 = PROPOSED B1 METEOROLOGICAL TOWER LOCATION
- B1-NA = PROPOSED B1 NORTH ANCHOR LOCATION
- B1-EA = PROPOSED B1 EAST ANCHOR LOCATION
- B1-SA = PROPOSED B1 SOUTH ANCHOR LOCATION
- B1-WA = PROPOSED B1 WEST ANCHOR LOCATION



AMEC AMERICAS LIMITED

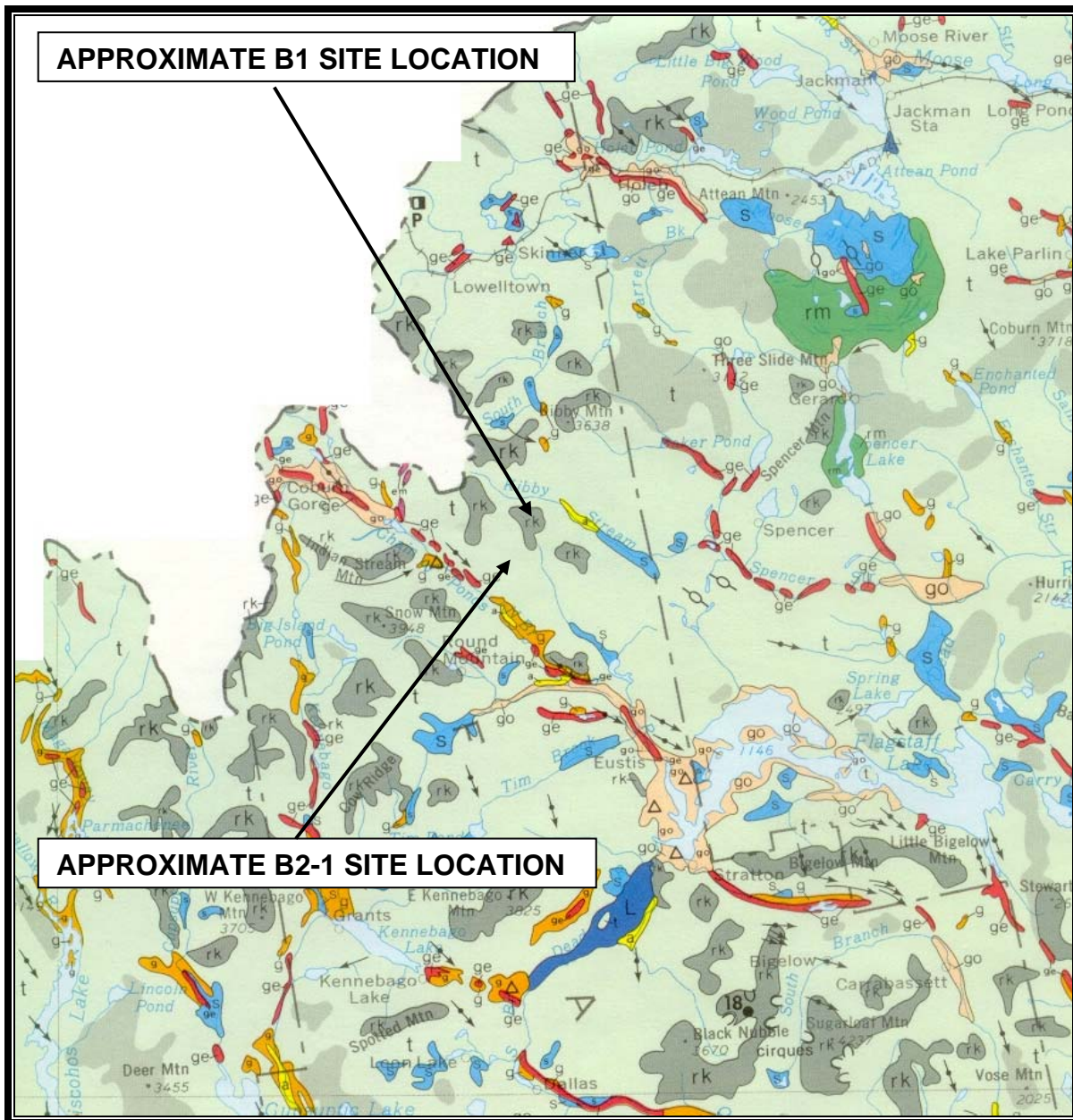
SITE SKETCH

Proposed B1 MET Tower
Kibby Mountain
Kibby Twp (T1 R6 WBKP), Maine

Job No. 06-0039 S
Date : 04/03/06

Scale 1" = 100'
Sheet 2

SURFICIAL GEOLOGY MAP



LEGEND:

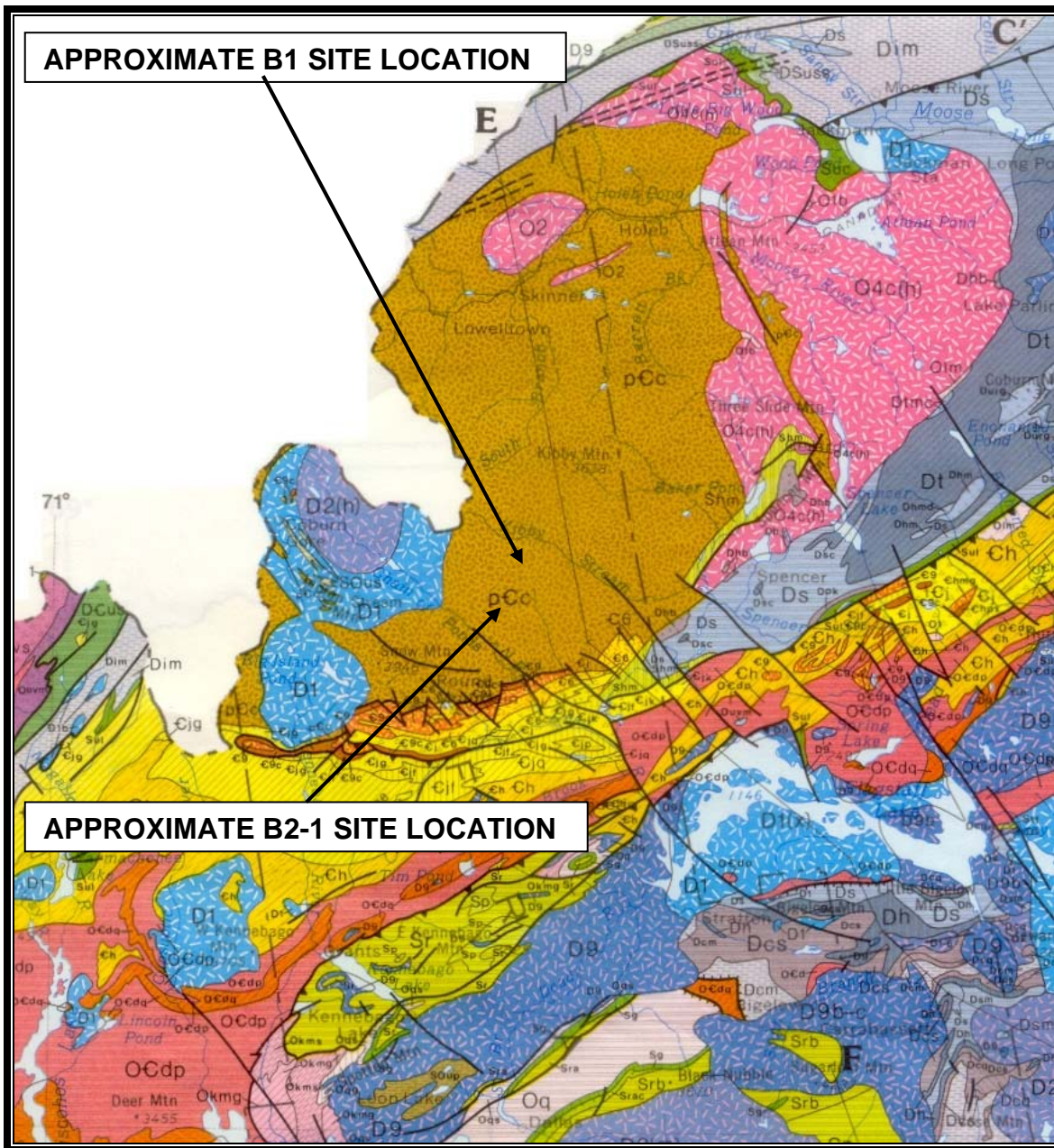
t	Till
g	Ice-contact glaciofluvial deposits (exclusive of eskers)
a	Stream alluvium (includes Holocene flood plain, stream terrace, and alluvial fan deposits)
s	Swamp, marsh, and bog deposits (includes both fresh-water and salt-water marshes)

NOTES:

Map not to scale.

Base map from Thompson and others, 1985.

BEDROCK GEOLOGY MAP



LEGEND:

pCc = Precambrian age Gneiss bedrock of the Chain Lakes Massif

NOTES:

Map not to scale.
Base map from Osberg and others, 1985.



TEST PIT LOGS

PROJECT/CLIENT: MET TOWER EXCAVATION OBSERVATION SERVICES / AMEC AMERICAS LIMITED
 LOCATION: KIBBY MOUNTAIN, KIBBY TOWNSHIP, MAINE
 BACKHOE FIRM: MAJETEL OPERATOR: _____

PROJECT NO.: 06-0039
 SWC REP.: JWM

TEST PIT: <u>TP-B1 TOWER</u>			
DATE: <u>3/17/2006</u>		SURFACE ELEVATION: _____	
		LOCATION: <u>B1 MET TOWER</u>	
SAMPLE NO.	DEPTH (FT)	STRATUM DESCRIPTION	TEST RESULTS
	0.4'	DARK BROWN ORGANIC DUFF AND ROOTS	
S1	1.0'-1.4'	DARK BROWN SILTY GRAVELLY SAND WITH A TRACE OF ROOTS	W = 64.0 %
	1.9'	LIGHT BROWN SILTY GRAVEL AND SAND (TILL)	
	4.5'	BROWN SILTY GRAVEL AND SAND (TILL)	
S2	1.4'-5.0'	BROWN SILTY GRAVEL AND SAND WITH A TRACE OF COBBLES (TILL)	W = 21.0 %
	5.0'	GNEISS BEDROCK REFUSAL AT 5.0'	
		NOTE: GRAVEL AND COBBLES FROM 4.5' TO 5.0' ARE BEDROCK FRAGMENTS	NOTE: NO PENETROMETER READINGS; GROUND FROZE TOO QUICKLY.
COMPLETION DEPTH: <u>5.0'</u>		DEPTH TO WATER: <u>4.5'</u>	TEST PIT WALL: <u>STABLE AND VERTICAL</u>



TEST PIT LOGS

PROJECT/CLIENT: MET TOWER EXCAVATION OBSERVATION SERVICES / AMEC AMERICAS LIMITED
 LOCATION: KIBBY MOUNTAIN, KIBBY TOWNSHIP, MAINE
 BACKHOE FIRM: MAJETEL OPERATOR: _____

PROJECT NO.: 06-0039
 SWC REP.: JWM

TEST PIT: TP-B1-NA			
DATE: <u>3/17/2006</u>		SURFACE ELEVATION: _____	LOCATION: <u>B1 MET TOWER NORTH ANCHOR</u>
SAMPLE NO.	DEPTH	STRATUM DESCRIPTION	TEST RESULTS
	0.8'	BROWN ORGANIC DUFF AND ROOTS	
	1.8'	DARK BROWN SILTY GRAVELLY SAND WITH A TRACE OF ROOTS	
	2.5'	BROWN SILTY GRAVEL AND SAND (TILL)	
		GNEISS BEDROCK REFUSAL AT 2.5'	
			NOTE: NO PENETROMETER READINGS; GROUND FROZEN. TEST PIT DUG PRIOR TO OUR ARRIVAL AT THE SITE.
COMPLETION DEPTH: <u>2.5'</u> DEPTH TO WATER: <u>2.4' STANDING WATER</u> TEST PIT WALL: <u>STABLE AND VERTICAL</u>			

TEST PIT: TP-B1 SA			
DATE: <u>3/17/2006</u>		SURFACE ELEVATION: _____	LOCATION: <u>B1 MET TOWER SOUTH ANCHOR</u>
SAMPLE NO.	DEPTH	STRATUM DESCRIPTION	TEST RESULTS
	0.5'	BROWN ORGANIC DUFF AND ROOTS	
		GNEISS BEDROCK REFUSAL AT 0.5'	
			NOTE: NO PENETROMETER READINGS; GROUND FROZEN. TEST PIT DUG PRIOR TO OUR ARRIVAL AT THE SITE.
COMPLETION DEPTH: <u>0.5'</u> DEPTH TO WATER: <u>NONE OBSERVED</u> TEST PIT WALL: <u>STABLE AND VERTICAL</u>			



TEST PIT LOGS

PROJECT/CLIENT: MET TOWER EXCAVATION OBSERVATION SERVICES / AMEC AMERICAS LIMITED
 LOCATION: KIBBY MOUNTAIN, KIBBY TOWNSHIP, MAINE
 BACKHOE FIRM: MAJETEL OPERATOR: _____

PROJECT NO.: 06-0039
 SWC REP.: JWM

TEST PIT: TP-B1-EA			
DATE: <u>3/17/2006</u>		SURFACE ELEVATION: _____	LOCATION: <u>B1 MET TOWER EAST ANCHOR</u>
SAMPLE NO.	DEPTH	STRATUM DESCRIPTION	TEST RESULTS
	0.7'	BROWN ORGANIC DUFF AND ROOTS	
	2.0'	DARK BROWN SILTY GRAVELLY SAND WITH A TRACE OF ROOTS	
		GNEISS BEDROCK REFUSAL AT 2.0'	
			NOTE: NO PENETROMETER READINGS; GROUND FROZEN. TEST PIT DUG PRIOR TO OUR ARRIVAL AT THE SITE.
COMPLETION DEPTH: <u>2.0'</u> DEPTH TO WATER: <u>1.9' STANDING WATER</u> TEST PIT WALL: <u>STABLE AND VERTICAL</u>			

TEST PIT: TP-B1 WA			
DATE: <u>3/17/2006</u>		SURFACE ELEVATION: _____	LOCATION: <u>B1 MET TOWER WEST ANCHOR</u>
SAMPLE NO.	DEPTH	STRATUM DESCRIPTION	TEST RESULTS
	0.5'	BROWN ORGANIC DUFF AND ROOTS	
	1.5'	LIGHT BROWN SILTY GRAVELLY SAND WITH A TRACE OF ROOTS	
		GNEISS BEDROCK REFUSAL AT 1.5'	
			NOTE: NO PENETROMETER READINGS; GROUND FROZEN. TEST PIT DUG PRIOR TO OUR ARRIVAL AT THE SITE.
COMPLETION DEPTH: <u>1.5'</u> DEPTH TO WATER: <u>1.4' STANDING WATER</u> TEST PIT WALL: <u>STABLE AND VERTICAL</u>			

KEY TO THE NOTES & SYMBOLS
Test Boring and Test Pit Explorations

All stratification lines represent the approximate boundary between soil types and the transition may be gradual.

Key to Symbols Used:

W	-	water content, percent (dry weight basis)
k_h	-	horizontal permeability
k_v	-	vertical permeability
q_u	-	unconfined compressive strength, kips/sq. ft. - based on laboratory unconfined compressive test
S_v	-	field vane shear strength, kips/sq. ft.
L_v	-	lab vane shear strength, kips/sq. ft.
q_p	-	unconfined compressive strength, kips/sq. ft. based on pocket penetrometer test
O	-	organic content, percent (dry weight basis)
W_L	-	liquid limit - Atterberg test
W_P	-	plastic limit - Atterberg test
WOH	-	advance by weight of hammer
WOM	-	advance by weight of man
WOR	-	advance by weight of rods
HYD	-	advance by force of hydraulic piston on drill
RQD	-	Rock Quality Designator - an index of the quality of a rock mass. RQD is computed from recovered core samples.
γ_T	-	total soil weight
γ_B	-	buoyant soil weight

Description of Proportions:

0 to 5% TRACE
5 to 12% SOME
12 to 35% "Y"
35+% AND

REFUSAL: Test Boring Explorations - Refusal depth indicates that depth at which, in the drill foreman's opinion, sufficient resistance to the advance of the casing, auger, probe rod or sampler was encountered to render further advance impossible or impracticable by the procedures and equipment being used.

REFUSAL: Test Pit Explorations - Refusal depth indicates that depth at which sufficient resistance to the advance of the backhoe bucket was encountered to render further advance impossible or impracticable by the procedures and equipment being used.

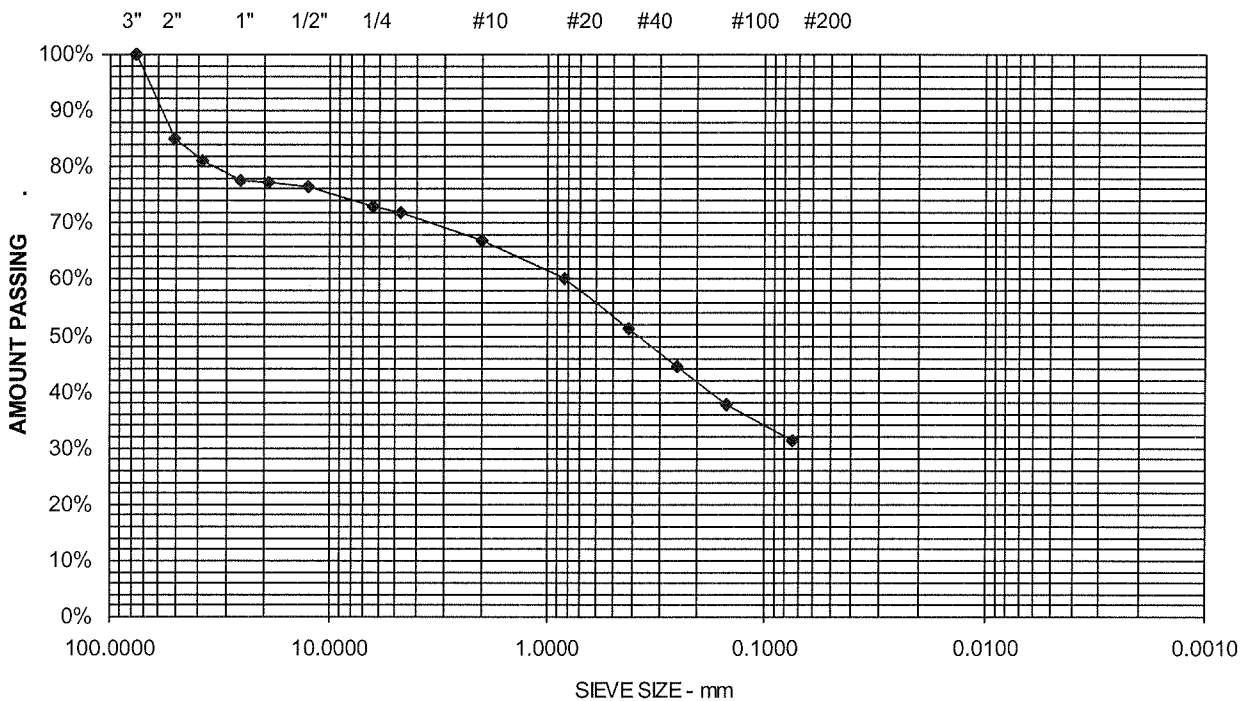
Although refusal may indicate the encountering of the bedrock surface, it may indicate the striking of large cobbles, boulders, very dense or cemented soil, or other buried natural or man-made objects or it may indicate the encountering of a harder zone after penetrating a considerable depth through a weathered or disintegrated zone of the bedrock.

Project Name STRATTON - KIBBY MOUNTAIN WIND FARM - GEOTECHNICAL
ENGINEERING SERVICES
Client AMEC AMERICAS LIMITED
Exploration TP-B2-1 WA
Material Source S-1 (1'-3.8')

Project Number 06-0039
Lab ID 5365B
Date Received 3/9/2006
Date Complete 3/14/2006
Tested By LAMONT DUTRA

STANDARD DESIGNATION (mm/ μ m)	SIEVE SIZE	AMOUNT PASSING (%)	
150	6"	100	
125	5"	100	
100	4"	100	
75	3"	100	
50	2"	85	
38.1	1-1/2"	81	
25.0	1"	78	
19.0	3/4"	77	
12.5	1/2"	77	
6.3	1/4"	73	
4.75	No. 4	72	28.3% Gravel
2.00	No. 10	67	
850	No. 20	60	
425	No. 40	51	40.6% Sand
250	No. 60	44	
150	No. 100	38	
75	No. 200	31.1	31.1% Fines

SILTY GRAVELLY SAND

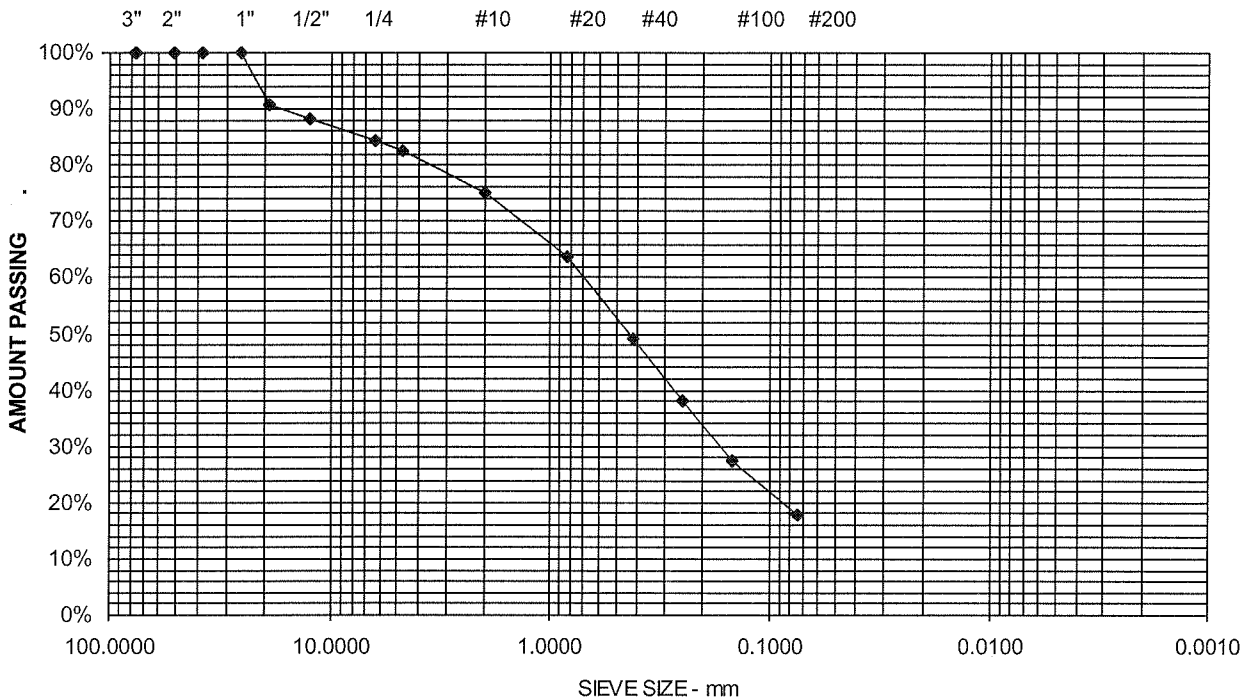


Project Name STRATTON - KIBBY MOUNTAIN WIND FARM - GEOTECHNICAL
ENGINEERING SERVICES
Client AMEC AMERICAS LIMITED
Exploration **B1**
Material Source **S-1, (0-1.4')**

Project Number 06-0039
Lab ID 5387B
Date Received 3/20/2006
Date Complete 3/21/2006
Tested By LAMONT DUTRA

<u>STANDARD DESIGNATION (mm/μm)</u>	<u>SIEVE SIZE</u>	<u>AMOUNT PASSING (%)</u>	
150	6"	100	
125	5"	100	
100	4"	100	
75	3"	100	
50	2"	100	
38.1	1-1/2"	100	
25.0	1"	100	
19.0	3/4"	91	
12.5	1/2"	88	
6.3	1/4"	84	
4.75	No. 4	83	17.4% Gravel
2.00	No. 10	75	
850	No. 20	64	
425	No. 40	49	64.9% Sand
250	No. 60	38	
150	No. 100	28	
75	No. 200	17.7	17.7% Fines

SILTY GRAVELLY SAND

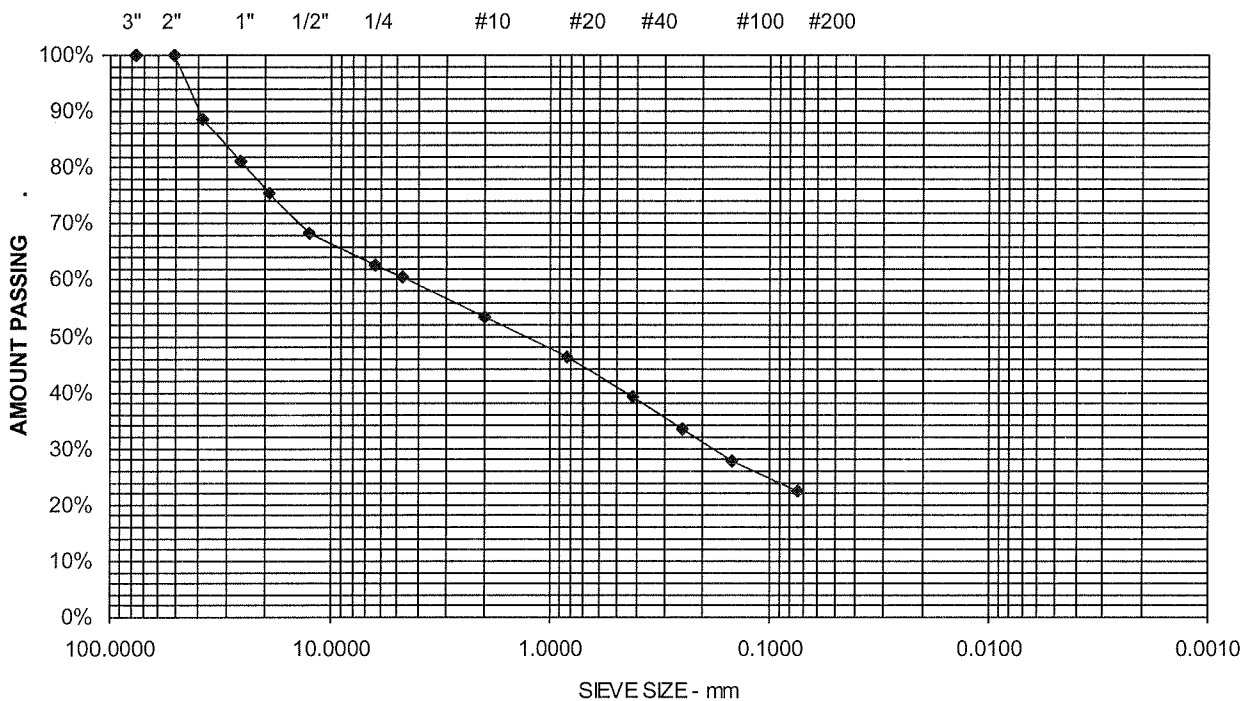


Project Name STRATTON - KIBBY MOUNTAIN WIND FARM - GEOTECHNICAL
ENGINEERING SERVICES
Client AMEC AMERICAS LIMITED
Exploration B-1
Material Source S-2, (1.4-5')

Project Number 06-0039
Lab ID 5388B
Date Received 3/20/2006
Date Complete 3/21/2006
Tested By LAMONT DUTRA

STANDARD DESIGNATION (mm/ μ m)	SIEVE SIZE	AMOUNT PASSING (%)	
150	6"	100	
125	5"	100	
100	4"	100	
75	3"	100	
50	2"	100	
38.1	1-1/2"	89	
25.0	1"	81	
19.0	3/4"	75	
12.5	1/2"	68	
6.3	1/4"	63	
4.75	No. 4	60	39.6% Gravel
2.00	No. 10	53	
850	No. 20	46	
425	No. 40	39	38.1% Sand
250	No. 60	33	
150	No. 100	28	
75	No. 200	22.3	22.3% Fines

SILTY GRAVEL AND SAND



AVERAGE DRILLING RATES

PROJECT/CLIENT: MET TOWER EXCAVATION OBSERVATION SERVICES / AMEC AMERICAS LIMITED

LOCATION: KIBBY MOUNTAIN, KIBBY TOWNSHIP, MAINE

PROJECT NO.: 06-0039 S

SWC REP.: JEFF W. MCELROY

MET Tower B2-1 West Anchor

Depth (ft.)	Elapsed Time (min)	Total Depth (ft)	Feet / Minute
0-2	5.00	2	0.40
0-2	5.25	2	0.38
0-2	3.50	2	0.57
0-2	3.00	2	0.67
0-2	3.50	2	0.57
2-4	6.25	2	0.32
2-4	4.75	2	0.42
2-4	5.00	2	0.40
2-4	5.75	2	0.35
2-4	5.75	2	0.35
4-6	4.75	2	0.42
4-6	4.00	2	0.50
4-6	4.75	2	0.42
6-8	4.50	2	0.44
6-8	4.82	2	0.41
6-8	4.25	2	0.47
8-10	4.00	2	0.50
8-10	6.33	2	0.32
8-10	5.83	2	0.34
10-12	10.25	2	0.20
10-12	8.30	2	0.24
Average drilling rate:			0.41

MET Tower B1 Tower Location

Depth (ft.)	Elapsed Time (min)	Total Depth (ft)	Feet / Minute
0-2	3.50	2	0.57
0-2	3.75	2	0.53
Average drilling rate:			0.55

MET Tower B1 East Anchor

Depth (ft.)	Elapsed Time (min)	Total Depth (ft)	Feet / Minute
2-4	6.00	2	0.33
4-6	4.80	2	0.42
6-8	4.50	2	0.44
8-10	4.00	2	0.50
Average drilling rate:			0.42

Attachment A Limitations

This report has been prepared for the exclusive use of AMEC Americas Limited for specific application to excavation observation services for the B2-1 and B1 MET Tower Construction project at the Kibby Mountain Site in Kibby Township (T1 R6 WBKP), Maine. S. W. COLE ENGINEERING, INC. has endeavored to conduct the work in accordance with generally accepted soil and foundation engineering practices. No other warranty, expressed or implied, is made.

The soil profiles described in the report are intended to convey general trends in subsurface conditions. The boundaries between strata are approximate and are based upon interpretation of exploration data and samples.

Observations have been made during exploration work to assess site groundwater levels. Fluctuations in water levels will occur due to variations in rainfall, temperature, and other factors.