# EBA Engineering Consultants Ltd.

**Civil, Geotechnical and Materials Engineers**

D001540

DOC 280321

# BEAUFORT SEA DATABASE 1989
# SURFICIAL SEDIMENT AND BOREHOLE LOG DATA
## VOLUME III
## SURFICIAL SEDIMENT AND BOREHOLE LOGS FOR THE BEAUFORT SEA

AMOCO CANADA PETROLEUM LTD.
GEOLOGICAL SURVEY OF CANADA
GULF CANADA RESOURCES LTD.

0305-34475

APRIL, 1989

| APPENDIX | YEAR OF STUDY | CONSULTANT | CONSULTANT'S JOB NO. | BOREHOLE NO. RANGE |
|---|---|---|---|---|
| AMOCO CANADA PETROLEUM LTD. | | | | |
| A | 1981 | EBA | 101-3605 | STCS1 to STCS20 |
| | 1982 | EBA | 101-3210 | BICS-1 to BICS-22<br>BIDS-1 to BIDS-3 |
| GEOLOGICAL SURVEY OF CANADA (corehole numbering not always continous) | | | | |
| B | 1982 | - | - | NK82GC02 to NK82GC11<br>NK82PC02 to NK82PC28 |
| | 1983 | - | - | NK83PC01 to NK83PC12 |
| | 1985 | - | - | GCS1<br>NK85PC01 to NK85PC07 |
| | 1986 | - | - | KM86G07 to KM86G80<br>KM86GC67 to KM86GC88<br>MB86GC01 to MB86GC23 |
| GULF CANADA RESOURCES LTD. (coreholes) | | | | |
| C | 1982 | EBA | 101-3662 | HBGC01 to HBGC31 |
| | | | 101-3659 | NUGC056 to NUGC104<br>NUGC187 to NUGC213 |
| | 1988 | EBA | 101-4912E | NW88GC03 to NW88GC49<br>MK88GC01 to MK88GC43 |
| GULF CANADA RESOURCES LTD. (boreholes) | | | | |
| D | 1988 | EBA | 101-4809<br>101-4912B<br>101-4912C<br>101-4912D<br>101-4912E | 4809-01 to 4809-18<br>4912-03 to 4912-17<br>4912-01 to 4912-02<br>4912-18 to 4912-19<br>IS88S1 to IS88S5<br>N188S1 to N188S3<br>RB88S1 |

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|---|---|---|
| SOUTH TARSIUT BORROW AREA | ORIGINAL BOREHOLE NO. C-TAR:1 | BOREHOLE No. STCS1 |
| DOME PETROLEUM LTD. | WATER DEPTH – 10.00m (approximately) | Project No: EBA # 101-3210 |
| DRILL SHIP – CANMAR, SUPPLIER V | DEPTHS ARE REFERENCED TO SEABED | ELEVATION –10.00 (m) |

SAMPLE TYPE: SHELBY TUBE / NO RECOVERY / SPLIT SPOON / DISTURBED / PISTON / CLAMSHELL

| DEPTH (m) | SAMPLE TYPE | SAMPLE NO | SOIL DESCRIPTION | USC | DEPTH (ft) |
|---|---|---|---|---|---|
| 0.0 | | 1 | SILT (CL) – some fine gravel, some clay and sand, 100 mm diameter cobble, low plasticity | CL | 0.0 |
| | | | END OF CLAMSHELL SAMPLE | | |
| | | | | | 1.0 |
| | | | | | 2.0 |
| | | | | | 3.0 |
| 1.0 | | | | | |

Scales: Shear Strength (kpa) 10000 20000 30000 40000; PLASTIC M.C LIQUID 20 40 60 80; CLAY (%) 20 40 60 80; SILT (%) 20 40 60 80; SAND (%) 20 40 60 80; GRAVEL (%) 20 40 60 80

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| SOUTH TARSIUT BORROW AREA | ORIGINAL BOREHOLE NO. C-TAR:2 | BOREHOLE No. STCS2 |
| DOME PETROLEUM LTD. | WATER DEPTH – 10.00m (approximately) | Project No: EBA # 101-3210 |
| DRILL SHIP – CANMAR, SUPPLIER V | DEPTHS ARE REFERENCED TO SEABED | ELEVATION –10.00 (m) |

SAMPLE TYPE: SHELBY TUBE / NO RECOVERY / SPLIT SPOON / DISTURBED / PISTON / CLAMSHELL

| DEPTH (m) | SAMPLE TYPE | SAMPLE NO | SOIL DESCRIPTION | USC | DEPTH (ft) |
|---|---|---|---|---|---|
| 0.0 | | 2 | SILT (CL) – clayey, some sand and gravel up to 30 mm diameter, soft, low to medium plasticity | CL | 0.0 |
| | | | END OF CLAMSHELL SAMPLE | | |
| | | | | | 1.0 |
| | | | | | 2.0 |
| | | | | | 3.0 |
| 1.0 | | | | | |

Scales: Shear Strength (kpa) 10000 20000 30000 40000; PLASTIC M.C LIQUID 20 40 60 80; CLAY (%) 20 40 60 80; SILT (%) 20 40 60 80; SAND (%) 20 40 60 80; GRAVEL (%) 20 40 60 80

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|---|---|---|
| SOUTH TARSIUT BORROW AREA | ORIGINAL BOREHOLE NO. C-TAR-3 | BOREHOLE No. STCS3 |
| DOME PETROLEUM LTD. | WATER DEPTH – 10.00m (approximately) | Project No: EBA # 101-3210 |
| DRILL SHIP – CANMAR, SUPPLIER V | DEPTHS ARE REFERENCED TO SEABED | ELEVATION –10.00 (m) |

SAMPLE TYPE: SHELBY TUBE; NO RECOVERY; SPLIT SPOON; DISTURBED; PISTON; CLAMSHELL

| DEPTH (m) | SAMPLE TYPE | SAMPLE NO | SOIL DESCRIPTION | USC | DEPTH (ft) |
|---|---|---|---|---|---|
| 0.0 | | 3 | SILT (CL) – clayey, some sand, angular gravel and cobbles up to 150 mm diameter, soft, low to medium plasticity | CL | 0.0 |
| | | | END OF CLAMSHELL SAMPLE | | |
| | | | | | 1.0 |
| | | | | | 2.0 |
| | | | | | 3.0 |
| 1.0 | | | | | |

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| SOUTH TARSIUT BORROW AREA | ORIGINAL BOREHOLE NO. C-TAR-4 | BOREHOLE No. STCS4 |
| DOME PETROLEUM LTD. | WATER DEPTH – 10.00m (approximately) | Project No: EBA # 101-3210 |
| DRILL SHIP – CANMAR, SUPPLIER V | DEPTHS ARE REFERENCED TO SEABED | ELEVATION –10.00 (m) |

SAMPLE TYPE: SHELBY TUBE; NO RECOVERY; SPLIT SPOON; DISTURBED; PISTON; CLAMSHELL

| DEPTH (m) | SAMPLE TYPE | SAMPLE NO | SOIL DESCRIPTION | USC | DEPTH (ft) |
|---|---|---|---|---|---|
| 0.0 | | 4 | SILT (CL) – clayey, trace of sand, soft to firm, low to medium plasticity, sand layer 5 mm thick with some gravel at surface | CL | 0.0 |
| | | | END OF CLAMSHELL SAMPLE | | |
| | | | | | 1.0 |
| | | | | | 2.0 |
| | | | | | 3.0 |
| 1.0 | | | | | |

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| SOUTH TARSIUT BORROW AREA | ORIGINAL BOREHOLE NO. C-TAR-5 | BOREHOLE No. STCS5 |
| DOME PETROLEUM LTD. | WATER DEPTH – 10.00m (approximately) | Project No: EBA # 101-3210 |
| DRILL SHIP – CANMAR, SUPPLIER V | DEPTHS ARE REFERENCED TO SEABED | ELEVATION –10.00 (m) |

SAMPLE TYPE: SHELBY TUBE; NO RECOVERY; SPLIT SPOON; DISTURBED; PISTON; CLAMSHELL

| DEPTH (m) | SAMPLE TYPE | SAMPLE NO | SOIL DESCRIPTION | USC | DEPTH (m) |
|---|---|---|---|---|---|
| 0.0 | | 5 | SILT – clayey, some sand, trace of gravel very soft, low to medium plasticity | | 0.0 |
| | | | END OF CLAMSHELL SAMPLE | | 1.0 |
| | | | | | 2.0 |
| | | | | | 3.0 |
| 1.0 | | | | | |

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| SOUTH TARSIUT BORROW AREA | ORIGINAL BOREHOLE NO. C-TAR-6 | BOREHOLE No. STCS6 |
| DOME PETROLEUM LTD. | WATER DEPTH – 10.00m (approximately) | Project No: EBA # 101-3210 |
| DRILL SHIP – CANMAR, SUPPLIER V | DEPTHS ARE REFERENCED TO SEABED | ELEVATION –10.00 (m) |

SAMPLE TYPE: SHELBY TUBE; NO RECOVERY; SPLIT SPOON; DISTURBED; PISTON; CLAMSHELL

| DEPTH (m) | SAMPLE TYPE | SAMPLE NO | SOIL DESCRIPTION | USC | DEPTH (m) |
|---|---|---|---|---|---|
| 0.0 | | 6 | SILT AND CLAY (CL) – trace of sand and gravel, very soft, medium plasticity | CL | 0.0 |
| | | | END OF CLAMSHELL SAMPLE | | 1.0 |
| | | | | | 2.0 |
| | | | | | 3.0 |
| 1.0 | | | | | |

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| SOUTH TARSUIT BORROW AREA | ORIGINAL BOREHOLE NO. C-TAR-7 | BOREHOLE No. STCS7 |
| DOME PETROLEUM LTD. | WATER DEPTH – 10.00m (approximately) | Project No: EBA # 101-3210 |
| DRILL SHIP – CANMAR, SUPPLIER V | DEPTHS ARE REFERENCED TO SEABED | ELEVATION –10.00 (m) |

SAMPLE TYPE: SHELBY TUBE; NO RECOVERY; SPLIT SPOON; DISTURBED; PISTON; CLAMSHELL

| DEPTH (m) | SAMPLE TYPE | SAMPLE NO | SOIL DESCRIPTION | USC | DEPTH (ft) |
|---|---|---|---|---|---|
| 0.0 | | 7 | GRAVEL AND SAND (GP) – trace silt, sub-rounded particles up to 50 mm diameter, with one 120 mm diameter cobble, gap graded | GP | 0.0 |
| | | | END OF CLAMSHELL SAMPLE | | |
| 1.0 | | | | | 1.0 |
| | | | | | 2.0 |
| | | | | | 3.0 |

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| SOUTH TARSUIT BORROW AREA | ORIGINAL BOREHOLE NO. C-TAR-8 | BOREHOLE No. STCS8 |
| DOME PETROLEUM LTD. | WATER DEPTH – 10.00m (approximately) | Project No: EBA # 101-3210 |
| DRILL SHIP – CANMAR, SUPPLIER V | DEPTHS ARE REFERENCED TO SEABED | ELEVATION –10.00 (m) |

SAMPLE TYPE: SHELBY TUBE; NO RECOVERY; SPLIT SPOON; DISTURBED; PISTON; CLAMSHELL

| DEPTH (m) | SAMPLE TYPE | SAMPLE NO | SOIL DESCRIPTION | USC | DEPTH (ft) |
|---|---|---|---|---|---|
| 0.0 | | 8 | SAND (SP) – trace of gravel sizes up to 25mm diameter, fine to medium grained, uniformly to gap graded | SP | 0.0 |
| | | | END OF CLAMSHELL SAMPLE | | |
| 1.0 | | | | | 1.0 |
| | | | | | 2.0 |
| | | | | | 3.0 |

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| SOUTH TARSIUT BORROW AREA | ORIGINAL BOREHOLE NO. C-TAR-9 | BOREHOLE No. STCS9 |
| DOME PETROLEUM LTD. | WATER DEPTH – 10.00m (approximately) | Project No: EBA # 101-3210 |
| DRILL SHIP – CANMAR, SUPPLIER V | DEPTHS ARE REFERENCED TO SEABED | ELEVATION –10.00 (m) |

SAMPLE TYPE: SHELBY TUBE; NO RECOVERY; SPLIT SPOON; DISTURBED; PISTON; CLAMSHELL

| DEPTH (m) | SAMPLE TYPE | SAMPLE NO | SOIL DESCRIPTION | USC | DEPTH (ft) |
|---|---|---|---|---|---|
| 0.0 | | 9 | GRAVEL AND COBBLES (GP) – between 10 mm and 120 mm diameter, uniformly graded | GP | 0.0 |
| | | | END OF CLAMSHELL SAMPLE | | |
| | | | | | 1.0 |
| | | | | | 2.0 |
| | | | | | 3.0 |
| 1.0 | | | | | |

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| SOUTH TARSIUT BORROW AREA | ORIGINAL BOREHOLE NO. C-TAR-10 | BOREHOLE No. STCS10 |
| DOME PETROLEUM LTD. | WATER DEPTH – 10.00m (approximately) | Project No: EBA # 101-3210 |
| DRILL SHIP – CANMAR, SUPPLIER V | DEPTHS ARE REFERENCED TO SEABED | ELEVATION –10.00 (m) |

SAMPLE TYPE: SHELBY TUBE; NO RECOVERY; SPLIT SPOON; DISTURBED; PISTON; CLAMSHELL

| DEPTH (m) | SAMPLE TYPE | SAMPLE NO | SOIL DESCRIPTION | USC | DEPTH (ft) |
|---|---|---|---|---|---|
| 0.0 | | 10 | GRAVEL AND COBBLES (GP) – between 10 mm and 120 mm diameter, uniformly graded | GP | 0.0 |
| | | | END OF CLAMSHELL SAMPLE | | |
| | | | | | 1.0 |
| | | | | | 2.0 |
| | | | | | 3.0 |
| 1.0 | | | | | |

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| SOUTH TARSIUT BORROW AREA | ORIGINAL BOREHOLE NO. C-TAR11 | BOREHOLE No. STCS11 |
| DOME PETROLEUM LTD. | WATER DEPTH – 10.00m (approximately) | Project No: EBA # 101-3210 |
| DRILL SHIP – CANMAR, SUPPLIER V | DEPTHS ARE REFERENCED TO SEABED | ELEVATION –10.00 (m) |

SAMPLE TYPE: SHELBY TUBE | NO RECOVERY | SPLIT SPOON | DISTURBED | PISTON | CLAMSHELL

| DEPTH (m) | SAMPLE TYPE | SAMPLE NO | SOIL DESCRIPTION | USC | DEPTH (ft) |
|---|---|---|---|---|---|
| 0.0 | | 11 | GRAVEL (GP) – sandy, trace silt, particle sizes up to 50 mm diameter, gap graded | GP | 0.0 |
| | | | END OF CLAMSHELL SAMPLE | | 1.0 |
| | | | | | 2.0 |
| | | | | | 3.0 |
| 1.0 | | | | | |

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| SOUTH TARSIUT BORROW AREA | ORIGINAL BOREHOLE NO. C-TAR12 | BOREHOLE No. STCS12 |
| DOME PETROLEUM LTD. | WATER DEPTH – 10.00m (approximately) | Project No: EBA # 101-3210 |
| DRILL SHIP – CANMAR, SUPPLIER V | DEPTHS ARE REFERENCED TO SEABED | ELEVATION –10.00 (m) |

SAMPLE TYPE: SHELBY TUBE | NO RECOVERY | SPLIT SPOON | DISTURBED | PISTON | CLAMSHELL

| DEPTH (m) | SAMPLE TYPE | SAMPLE NO | SOIL DESCRIPTION | USC | DEPTH (ft) |
|---|---|---|---|---|---|
| 0.0 | | 12 | GRAVEL (GP) – trace fine sand, uniformly graded (sizes between 10 mm and 50 mm diameter) | GP | 0.0 |
| | | | END OF CLAMSHELL SAMPLE | | 1.0 |
| | | | | | 2.0 |
| | | | | | 3.0 |
| 1.0 | | | | | |

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| SOUTH TARSIUT BORROW AREA | ORIGINAL BOREHOLE NO. C-TAR:13 | BOREHOLE No. STCS13 |
| DOME PETROLEUM LTD. | WATER DEPTH – 10.00m (approximately) | Project No: EBA # 101-3210 |
| DRILL SHIP – CANMAR, SUPPLIER V | DEPTHS ARE REFERENCED TO SEABED | ELEVATION –10.00 (m) |

SAMPLE TYPE: SHELBY TUBE; NO RECOVERY; SPLIT SPOON; DISTURBED; PISTON; CLAMSHELL

| DEPTH (m) | SAMPLE TYPE | SAMPLE NO | SOIL DESCRIPTION | USC | DEPTH (ft) |
|---|---|---|---|---|---|
| 0.0 | | 13 | SAND (SP) – fine to medium grained, uniformly graded | SP | 0.0 |
| | | | END OF CLAMSHELL SAMPLE | | |
| | | | | | 1.0 |
| | | | | | 2.0 |
| | | | | | 3.0 |
| 1.0 | | | | | |

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|---|---|---|
| SOUTH TARSIUT BORROW AREA | ORIGINAL BOREHOLE NO. C-TAR:14 | BOREHOLE No. STCS14 |
| DOME PETROLEUM LTD. | WATER DEPTH – 10.00m (approximately) | Project No: EBA # 101-3210 |
| DRILL SHIP – CANMAR, SUPPLIER V | DEPTHS ARE REFERENCED TO SEABED | ELEVATION –10.00 (m) |

SAMPLE TYPE: SHELBY TUBE; NO RECOVERY; SPLIT SPOON; DISTURBED; PISTON; CLAMSHELL

| DEPTH (m) | SAMPLE TYPE | SAMPLE NO | SOIL DESCRIPTION | USC | DEPTH (ft) |
|---|---|---|---|---|---|
| 0.0 | | 14 | SAND (SP) – gravelly, trace silt, particle sizes up to 30mm diameter, gap graded | SP | 0.0 |
| | | | END OF CLAMSHELL SAMPLE | | |
| | | | | | 1.0 |
| | | | | | 2.0 |
| | | | | | 3.0 |
| 1.0 | | | | | |

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| SOUTH TARSIUT BORROW AREA | ORIGINAL BOREHOLE NO. C-TAR:15 | BOREHOLE No. STCS15 |
| DOME PETROLEUM LTD. | WATER DEPTH – 10.00m (approximately) | Project No: EBA # 101-3210 |
| DRILL SHIP – CANMAR, SUPPLIER V | DEPTHS ARE REFERENCED TO SEABED | ELEVATION –10.00 (m) |

SAMPLE TYPE: SHELBY TUBE; NO RECOVERY; SPLIT SPOON; DISTURBED; PISTON; CLAMSHELL

| DEPTH (m) | SAMPLE TYPE | SAMPLE NO | SOIL DESCRIPTION | USC | DEPTH (ft) |
|---|---|---|---|---|---|
| 0.0 | | 15 | SILT (CL) – clayey, some sand, trace gravel sizes, one 150mm diameter cobble, strong organic odour, low plasticity, soft (with 10 mm thick layers of sand near surface) | CL | 0.0 |
| | | | END OF CLAMSHELL SAMPLE | | |
| 1.0 | | | | | 1.0 |
| | | | | | 2.0 |
| | | | | | 3.0 |

Δ Q50 (kpa) Δ: 10000 20000 30000 40000

PLASTIC — N.C — LIQUID: 20 40 60 80

▲ CLAY (%) ▲: 20 40 60 80

■ SILT (%) ■: 20 40 60 80

◆ SAND (%) ◆: 20 40 60 80

● GRAVEL (%) ●: 20 40 60 80

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| SOUTH TARSIUT BORROW AREA | ORIGINAL BOREHOLE NO. C-TAR:16 | BOREHOLE No. STCS16 |
| DOME PETROLEUM LTD. | WATER DEPTH – 10.00m (approximately) | Project No: EBA # 101-3210 |
| DRILL SHIP – CANMAR, SUPPLIER V | DEPTHS ARE REFERENCED TO SEABED | ELEVATION –10.00 (m) |

SAMPLE TYPE: SHELBY TUBE; NO RECOVERY; SPLIT SPOON; DISTURBED; PISTON; CLAMSHELL

| DEPTH (m) | SAMPLE TYPE | SAMPLE NO | SOIL DESCRIPTION | USC | DEPTH (ft) |
|---|---|---|---|---|---|
| 0.0 | | 16 | SAND (SP) – some gravel, some organics, trace silt, soft, 5mm thick layers of sand at surface, black | SP | 0.0 |
| | | | END OF CLAMSHELL SAMPLE | | |
| 1.0 | | | | | 1.0 |
| | | | | | 2.0 |
| | | | | | 3.0 |

Δ Q50 (kpa) Δ: 10000 20000 30000 40000

PLASTIC — N.C — LIQUID: 20 40 60 80

▲ CLAY (%) ▲: 20 40 60 80

■ SILT (%) ■: 20 40 60 80

◆ SAND (%) ◆: 20 40 60 80

● GRAVEL (%) ●: 20 40 60 80

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|---|---|---|
| SOUTH TARSIUT BORROW AREA | ORIGINAL BOREHOLE NO. C-TAR17 | BOREHOLE No. STCS17 |
| DOME PETROLEUM LTD. | WATER DEPTH – 10.00m (approximately) | Project No: EBA # 101-3210 |
| DRILL SHIP – CANMAR, SUPPLIER V | DEPTHS ARE REFERENCED TO SEABED | ELEVATION –10.00 (m) |

SAMPLE TYPE: SHELBY TUBE; NO RECOVERY; SPLIT SPOON; DISTURBED; PISTON; CLAMSHELL

| DEPTH (m) | SAMPLE TYPE | SAMPLE NO | SOIL DESCRIPTION | USC | DEPTH (ft) |
|---|---|---|---|---|---|
| 0.0 | | 17 | SILT (CL) – clayey, trace to some sand, low to medium plasticity, 20mm thick layers of fine sand at surface, black | CL | 0.0 |
| | | | END OF CLAMSHELL SAMPLE | | 1.0 |
| | | | | | 2.0 |
| | | | | | 3.0 |
| 1.0 | | | | | |

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| SOUTH TARSIUT BORROW AREA | ORIGINAL BOREHOLE NO. C-TAR18 | BOREHOLE No. STCS18 |
| DOME PETROLEUM LTD. | WATER DEPTH – 10.00m (approximately) | Project No: EBA # 101-3210 |
| DRILL SHIP – CANMAR, SUPPLIER V | DEPTHS ARE REFERENCED TO SEABED | ELEVATION –10.00 (m) |

SAMPLE TYPE: SHELBY TUBE; NO RECOVERY; SPLIT SPOON; DISTURBED; PISTON; CLAMSHELL

| DEPTH (m) | SAMPLE TYPE | SAMPLE NO | SOIL DESCRIPTION | USC | DEPTH (ft) |
|---|---|---|---|---|---|
| 0.0 | | 18 | GRAVEL (GP) – trace silt, up to 100mm diameter, well rounded, poorly graded | GP | 0.0 |
| | | | END OF CLAMSHELL SAMPLE | | 1.0 |
| | | | | | 2.0 |
| | | | | | 3.0 |
| 1.0 | | | | | |

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| SOUTH TARSIUT BORROW AREA | ORIGINAL BOREHOLE NO. C-TAR19 | BOREHOLE No. STCS19 |
| DOME PETROLEUM LTD. | WATER DEPTH – 10.00m (approximately) | Project No: EBA # 101-3210 |
| DRILL SHIP – CANMAR, SUPPLIER V | DEPTHS ARE REFERENCED TO SEABED | ELEVATION –10.00 (m) |

SAMPLE TYPE: SHELBY TUBE | NO RECOVERY | SPLIT SPOON | DISTURBED | PISTON | CLAMSHELL

| DEPTH (m) | SAMPLE TYPE | SAMPLE NO | SOIL DESCRIPTION | USC | DEPTH (ft) |
|---|---|---|---|---|---|
| 0.0 | | 19 | SAND (SP) – gravelly, trace silt, cobbles up to 200mm diameter, gap graded | SP | 0.0 |
| | | | END OF CLAMSHELL SAMPLE | | 1.0 |
| | | | | | 2.0 |
| | | | | | 3.0 |
| 1.0 | | | | | |

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|---|---|---|
| SOUTH TARSIUT BORROW AREA | ORIGINAL BOREHOLE NO. C-TAR2019 | BOREHOLE No. STCS20 |
| DOME PETROLEUM LTD. | WATER DEPTH – 10.00m (approximately) | Project No: EBA # 101-3210 |
| DRILL SHIP – CANMAR, SUPPLIER V | DEPTHS ARE REFERENCED TO SEABED | ELEVATION –10.00 (m) |

SAMPLE TYPE: SHELBY TUBE | NO RECOVERY | SPLIT SPOON | DISTURBED | PISTON | CLAMSHELL

| DEPTH (m) | SAMPLE TYPE | SAMPLE NO | SOIL DESCRIPTION | USC | DEPTH (ft) |
|---|---|---|---|---|---|
| 0.0 | | 20 | GRAVEL AND SAND (GP) – rounded particles up to 50mm diameter, gap graded | GP | 0.0 |
| | | | END OF CLAMSHELL SAMPLE | | 1.0 |
| | | | | | 2.0 |
| | | | | | 3.0 |
| 1.0 | | | | | |

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|---|---|---|
| BAILLIE ISLAND GRAVEL SEARCH | ORIGINAL BOREHOLE NO. GS-1 | BOREHOLE No. BICS-1 |
| CANADIAN MARINE DRILLING LTD. | WATER DEPTH – 38.4m | Project No: EBA # 101-3605 |
| DRILL SHIP – CANMAR, SUPPLIER V | DEPTHS ARE REFERENCED TO SEABED | ELEVATION –38.40 (m) |

SAMPLE TYPE: SHELBY TUBE; NO RECOVERY; SPLIT SPOON; DISTURBED; PISTON CORE; CLAMSHELL

| DEPTH (m) | SAMPLE TYPE | SAMPLE NO | SOIL DESCRIPTION | USC | DEPTH (ft) |
|---|---|---|---|---|---|
| 0.0 | | | CLAY | | 0.0 |
| | | | END OF CLAMSHELL SAMPLE | | |
| | | | | | 1.0 |
| | | | | | 2.0 |
| | | | | | 3.0 |
| 1.0 | | | | | |

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|---|---|---|
| BAILLIE ISLAND GRAVEL SEARCH | ORIGINAL BOREHOLE NO. GS-2 | BOREHOLE No. BICS-2 |
| CANADIAN MARINE DRILLING LTD. | WATER DEPTH – 25.9m | Project No: EBA # 101-3605 |
| DRILL SHIP – CANMAR, SUPPLIER V | DEPTHS ARE REFERENCED TO SEABED. | ELEVATION –25.90 (m) |

SAMPLE TYPE: SHELBY TUBE; NO RECOVERY; SPLIT SPOON; DISTURBED; PISTON; CLAMSHELL

| DEPTH (m) | SAMPLE TYPE | SAMPLE NO | SOIL DESCRIPTION | USC | DEPTH (ft) |
|---|---|---|---|---|---|
| 0.0 | | | SAND – trace of gravel | | 0.0 |
| | | | CLAY – firm to stiff | | |
| | | | END OF CLAMSHELL SAMPLE | | |
| | | | | | 1.0 |
| | | | | | 2.0 |
| | | | | | 3.0 |
| 1.0 | | | | | |

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|---|---|---|
| BAILLIE ISLAND GRAVEL SEARCH | ORIGINAL BOREHOLE NO. GS-3 | BOREHOLE No. BICS-3 |
| CANADIAN MARINE DRILLING LTD. | WATER DEPTH - 24.9m | Project No: EBA # 101-3605 |
| DRILL SHIP - CANMAR, SUPPLIER V | DEPTHS ARE REFERENCED TO SEABED. | ELEVATION -24.90 (m) |

SAMPLE TYPE: SHELBY TUBE; NO RECOVERY; SPLIT SPOON; DISTURBED; PISTON; CLAMSHELL

| DEPTH (m) | SAMPLE TYPE | SAMPLE NO | SOIL DESCRIPTION | USC | DEPTH (ft) |
|---|---|---|---|---|---|
| 0.0 | | | SAND - ice scours noted on video recording | | 0.0 |
| | | | CLAY - firm to stiff | | |
| | | | END OF CLAMSHELL SAMPLE | | 1.0 |
| | | | | | 2.0 |
| | | | | | 3.0 |
| 1.0 | | | | | |

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|---|---|---|
| BAILLIE ISLAND GRAVEL SEARCH | ORIGINAL BOREHOLE NO. GS-4 | BOREHOLE No. BICS-4 |
| CANADIAN MARINE DRILLING LTD. | WATER DEPTH - 19.8m | Project No: EBA # 101-3605 |
| DRILL SHIP - CANMAR, SUPPLIER V | DEPTHS ARE REFERENCED TO SEABED. | ELEVATION -19.80 (m) |

SAMPLE TYPE: SHELBY TUBE; NO RECOVERY; SPLIT SPOON; DISTURBED; PISTON; CLAMSHELL

| DEPTH (m) | SAMPLE TYPE | SAMPLE NO | SOIL DESCRIPTION | USC | DEPTH (ft) |
|---|---|---|---|---|---|
| 0.0 | | | GRAVEL - trace clay, 50mm maximum size | | 0.0 |
| | | | END OF CLAMSHELL SAMPLE | | 1.0 |
| | | | | | 2.0 |
| | | | | | 3.0 |
| 1.0 | | | | | |

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|---|---|---|
| BAILLIE ISLAND GRAVEL SEARCH | ORIGINAL BOREHOLE NO. GS-5 | BOREHOLE No. BICS-5 |
| CANADIAN MARINE DRILLING LTD. | WATER DEPTH – 18.6m | Project No: EBA # 101-3606 |
| DRILL SHIP – CANMAR, SUPPLIER V | DEPTHS ARE REFERENCED TO SEABED. | ELEVATION –18.60 (m) |

SAMPLE TYPE: SHELBY TUBE; NO RECOVERY; SPLIT SPOON; DISTURBED; PISTON; CLAMSHELL

| DEPTH (m) | SAMPLE TYPE | SAMPLE NO | SOIL DESCRIPTION | USC | DEPTH (ft) |
|---|---|---|---|---|---|
| 0.0 | | | SAND – trace of gravel, coarse grained, gravel up to 12mm maximum size | | 0.0 |
| | | | CLAY | | |
| | | | END OF CLAMSHELL SAMPLE | | 1.0 |
| | | | | | 2.0 |
| | | | | | 3.0 |
| 1.0 | | | | | |

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| COMPLETION DEPTH 0.3 m | | COMPLETE 82/07/21 |
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|---|---|---|
| BAILLIE ISLAND GRAVEL SEARCH | ORIGINAL BOREHOLE NO. GS-6 | BOREHOLE No. BICS-6 |
| CANADIAN MARINE DRILLING LTD. | WATER DEPTH – 21.3m | Project No: EBA # 101-3606 |
| DRILL SHIP – CANMAR, SUPPLIER V | DEPTHS ARE REFERENCED TO SEABED. | ELEVATION –21.30 (m) |

SAMPLE TYPE: SHELBY TUBE; NO RECOVERY; SPLIT SPOON; DISTURBED; PISTON; CLAMSHELL

| DEPTH (m) | SAMPLE TYPE | SAMPLE NO | SOIL DESCRIPTION | USC | DEPTH (ft) |
|---|---|---|---|---|---|
| 0.0 | | | SAND – some gravel, coarse grained, gravel up to 55mm maximum size. | | 0.0 |
| | | | END OF CLAMSHELL SAMPLE | | 1.0 |
| | | | | | 2.0 |
| | | | | | 3.0 |
| 1.0 | | | | | |

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| BAILLIE ISLAND GRAVEL SEARCH | ORIGINAL BOREHOLE NO. GS-7 | BOREHOLE No. BICS-7 |
|---|---|---|
| CANADIAN MARINE DRILLING LTD. | WATER DEPTH - 38.1m | Project No: EBA # 101-3605 |
| DRILL SHIP - CANMAR, SUPPLIER V | DEPTHS ARE REFERENCED TO SEABED. | ELEVATION -38.10 (m) |

SAMPLE TYPE: SHELBY TUBE; NO RECOVERY; SPLIT SPOON; DISTURBED; PISTON; CLAMSHELL

| DEPTH (m) | SAMPLE TYPE | SAMPLE NO | SOIL DESCRIPTION | USC | DEPTH (ft) |
|---|---|---|---|---|---|
| 0.0 | | | CLAY | | 0.0 |
| | | | END OF CLAMSHELL SAMPLE | | |
| | | | | | 1.0 |
| | | | | | 2.0 |
| | | | | | 3.0 |
| 1.0 | | | | | |

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| BAILLIE ISLAND GRAVEL SEARCH | ORIGINAL BOREHOLE NO. GS-8 | BOREHOLE No. BICS-8 |
|---|---|---|
| CANADIAN MARINE DRILLING LTD. | WATER DEPTH - 27.4m | Project No: EBA # 101-3605 |
| DRILL SHIP - CANMAR, SUPPLIER V | DEPTHS ARE REFERENCED TO SEABED. | ELEVATION -27.40 (m) |

SAMPLE TYPE: SHELBY TUBE; NO RECOVERY; SPLIT SPOON; DISTURBED; PISTON; CLAMSHELL

| DEPTH (m) | SAMPLE TYPE | SAMPLE NO | SOIL DESCRIPTION | USC | DEPTH (ft) |
|---|---|---|---|---|---|
| 0.0 | | | GRAVEL - trace of clay, most particles less than 20mm size, 50mm maximum size. | | 0.0 |
| | | | END OF CLAMSHELL SAMPLE | | |
| | | | | | 1.0 |
| | | | | | 2.0 |
| | | | | | 3.0 |
| 1.0 | | | | | |

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|---|---|---|
| BAILLIE ISLAND GRAVEL SEARCH | ORIGINAL BOREHOLE NO. GS-9 | BOREHOLE No. BICS-9 |
| CANADIAN MARINE DRILLING LTD. | WATER DEPTH – 34.7m | Project No: EBA # 101-3605 |
| DRILL SHIP – CANMAR, SUPPLIER V | DEPTHS ARE REFERENCED TO SEABED. | ELEVATION -34.70 (m) |

SAMPLE TYPE: SHELBY TUBE / NO RECOVERY / SPLIT SPOON / DISTURBED / PISTON / CLAMSHELL

| DEPTH (m) | SAMPLE TYPE | SAMPLE NO | SOIL DESCRIPTION | USC | DEPTH (ft) |
|---|---|---|---|---|---|
| 0.0 | | | GRAVEL – trace of clay. | | 0.0 |
| | | | END OF CLAMSHELL SAMPLE | | 1.0 |
| | | | | | 2.0 |
| | | | | | 3.0 |
| 1.0 | | | | | |

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|---|---|---|
| BAILLIE ISLAND GRAVEL SEARCH | ORIGINAL BOREHOLE NO. GS-10 | BOREHOLE No. BICS-10 |
| CANADIAN MARINE DRILLING LTD. | WATER DEPTH – 34.7m | Project No: EBA # 101-3605 |
| DRILL SHIP – CANMAR, SUPPLIER V | DEPTHS ARE REFERENCED TO SEABED. | ELEVATION -34.70 (m) |

SAMPLE TYPE: SHELBY TUBE / NO RECOVERY / SPLIT SPOON / DISTURBED / PISTON / CLAMSHELL

| DEPTH (m) | SAMPLE TYPE | SAMPLE NO | SOIL DESCRIPTION | USC | DEPTH (ft) |
|---|---|---|---|---|---|
| 0.0 | | | SAND – trace of gravel, silt, and clay, well graded, maximum gravel size of 50mm | | 0.0 |
| | | | CLAY | | |
| | | | END OF CLAMSHELL SAMPLE | | 1.0 |
| | | | | | 2.0 |
| | | | | | 3.0 |
| 1.0 | | | | | |

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|---|---|---|
| BAILLIE ISLAND GRAVEL SEARCH | ORIGINAL BOREHOLE NO. GS-11 | BOREHOLE No. BICS-11 |
| CANADIAN MARINE DRILLING LTD. | WATER DEPTH – 42.0m | Project No: EBA # 101-3605 |
| DRILL SHIP – CANMAR, SUPPLIER V | DEPTHS ARE REFERENCED TO SEABED. | ELEVATION –42.00 (m) |

SAMPLE TYPE: SHELBY TUBE; NO RECOVERY; SPLIT SPOON; DISTURBED; PISTON; CLAMSHELL

| DEPTH (m) | SAMPLE TYPE | SAMPLE NO | SOIL DESCRIPTION | USC | DEPTH (ft) |
|---|---|---|---|---|---|
| 0.0 | | | SAND – trace of gravel, silt, and clay, well graded, maximum gravel size of 50mm | | 0.0 |
| | | | CLAY | | |
| | | | END OF CLAMSHELL SAMPLE | | |
| | | | | | 1.0 |
| | | | | | 2.0 |
| | | | | | 3.0 |
| 1.0 | | | | | |

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|---|---|---|
| BAILLIE ISLAND GRAVEL SEARCH | ORIGINAL BOREHOLE NO. GS-12 | BOREHOLE No. BICS-12 |
| CANADIAN MARINE DRILLING LTD. | WATER DEPTH – 38.8m | Project No: EBA # 101-3605 |
| DRILL SHIP – CANMAR, SUPPLIER V | DEPTHS ARE REFERENCED TO SEABED. | ELEVATION –36.60 (m) |

SAMPLE TYPE: SHELBY TUBE; NO RECOVERY; SPLIT SPOON; DISTURBED; PISTON; CLAMSHELL

| DEPTH (m) | SAMPLE TYPE | SAMPLE NO | SOIL DESCRIPTION | USC | DEPTH (ft) |
|---|---|---|---|---|---|
| 0.0 | | | SAND – trace of silt and clay, well graded. | | 0.0 |
| | | | CLAY | | |
| | | | END OF CLAMSHELL SAMPLE | | |
| | | | | | 1.0 |
| | | | | | 2.0 |
| | | | | | 3.0 |
| 1.0 | | | | | |

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|---|---|---|
| BAILLIE ISLAND GRAVEL SEARCH | ORIGINAL BOREHOLE NO. GS-13 | BOREHOLE No. BICS-13 |
| CANADIAN MARINE DRILLING LTD. | WATER DEPTH – 34.7m | Project No: EBA # 101-3605 |
| DRILL SHIP – CANMAR, SUPPLIER V | DEPTHS ARE REFERENCED TO SEABED. | ELEVATION –34.70 (m) |

SAMPLE TYPE: SHELBY TUBE; NO RECOVERY; SPLIT SPOON; DISTURBED; PISTON; CLAMSHELL

| DEPTH (m) | SAMPLE TYPE | SAMPLE NO | SOIL DESCRIPTION | USC | DEPTH (ft) |
|---|---|---|---|---|---|
| 0.0 | | | SAND AND GRAVEL – sand is well graded, gravel is fine graded. | | 0.0 |
| | | | CLAY | | |
| | | | END OF CLAMSHELL SAMPLE | | |
| | | | | | 1.0 |
| | | | | | 2.0 |
| | | | | | 3.0 |
| 1.0 | | | | | |

Δ050 (mm) Δ: 10000 20000 30000 40000

PLASTIC — N.C — LIQUID: 20 40 60 80

CLAY (%) Δ: 20 40 60 80

SILT (%) ■: 20 40 60 80

SAND (%) ◆: 20 40 60 80

GRAVEL (%) ●: 20 40 60 80

| | | |
|---|---|---|
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|---|---|---|
| BAILLIE ISLAND GRAVEL SEARCH | ORIGINAL BOREHOLE NO. GS-14 | BOREHOLE No. BICS-14 |
| CANADIAN MARINE DRILLING LTD. | WATER DEPTH – 36.5m | Project No: EBA # 101-3605 |
| DRILL SHIP – CANMAR, SUPPLIER V | DEPTHS ARE REFERENCED TO SEABED. | ELEVATION –36.50 (m) |

SAMPLE TYPE: SHELBY TUBE; NO RECOVERY; SPLIT SPOON; DISTURBED; PISTON; CLAMSHELL

| DEPTH (m) | SAMPLE TYPE | SAMPLE NO | SOIL DESCRIPTION | USC | DEPTH (ft) |
|---|---|---|---|---|---|
| 0.0 | | | SAND – trace of gravel, well graded. | | 0.0 |
| | | | CLAY – firm to stiff. | | |
| | | | END OF CLAMSHELL SAMPLE | | |
| | | | | | 1.0 |
| | | | | | 2.0 |
| | | | | | 3.0 |
| 1.0 | | | | | |

Δ050 (mm) Δ: 10000 20000 30000 40000

PLASTIC — N.C — LIQUID: 20 40 60 80

CLAY (%) Δ: 20 40 60 80

SILT (%) ■: 20 40 60 80

SAND (%) ◆: 20 40 60 80

GRAVEL (%) ●: 20 40 60 80

| | | |
|---|---|---|
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|---|---|---|
| BAILLIE ISLAND GRAVEL SEARCH | ORIGINAL BOREHOLE NO. GS-15 | BOREHOLE No. BICS-15 |
| CANADIAN MARINE DRILLING LTD. | WATER DEPTH – 34.7m | Project No: EBA # 101-3605 |
| DRILL SHIP – CANMAR, SUPPLIER V | DEPTHS ARE REFERENCED TO SEABED. | ELEVATION –34.70 (m) |

SAMPLE TYPE: SHELBY TUBE; NO RECOVERY; SPLIT SPOON; DISTURBED; PISTON; CLAMSHELL

| DEPTH (m) | SAMPLE TYPE | SAMPLE NO | SOIL DESCRIPTION | USC | DEPTH (ft) |
|---|---|---|---|---|---|
| 0.0 | | | SAND – trace of gravel, well graded.<br>CLAY – firm to stiff. | | 0.0 |
| | | | END OF CLAMSHELL SAMPLE | | 1.0 |
| | | | | | 2.0 |
| | | | | | 3.0 |
| 1.0 | | | | | |

Qu (kPa): 10000 20000 30000 40000

PLASTIC — M.C — LIQUID: 20 40 60 80

CLAY (%): 20 40 60 80

SILT (%): 20 40 60 80

SAND (%): 20 40 60 80

GRAVEL (%): 20 40 60 80

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| BAILLIE ISLAND GRAVEL SEARCH | ORIGINAL BOREHOLE NO. GS-16 | BOREHOLE No. BICS-16 |
| CANADIAN MARINE DRILLING LTD. | WATER DEPTH – 18.2m | Project No: EBA # 101-3605 |
| DRILL SHIP – CANMAR, SUPPLIER V | DEPTHS ARE REFERENCED TO SEABED. | ELEVATION –18.20 (m) |

SAMPLE TYPE: SHELBY TUBE; NO RECOVERY; SPLIT SPOON; DISTURBED; PISTON; CLAMSHELL

| DEPTH (m) | SAMPLE TYPE | SAMPLE NO | SOIL DESCRIPTION | USC | DEPTH (ft) |
|---|---|---|---|---|---|
| 0.0 | | | CLAY – trace of gravel. | | 0.0 |
| | | | END OF CLAMSHELL SAMPLE | | 1.0 |
| | | | | | 2.0 |
| | | | | | 3.0 |
| 1.0 | | | | | |

Qu (kPa): 10000 20000 30000 40000

PLASTIC — M.C — LIQUID: 20 40 60 80

CLAY (%): 20 40 60 80

SILT (%): 20 40 60 80

SAND (%): 20 40 60 80

GRAVEL (%): 20 40 60 80

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| BALLIE ISLAND GRAVEL SEARCH | ORIGINAL BOREHOLE NO. GS-17 | BOREHOLE No. BICS-17 |
| CANADIAN MARINE DRILLING LTD. | WATER DEPTH - 20.0m | Project No: EBA # 101-3606 |
| DRILL SHIP - CANMAR, SUPPLIER V | DEPTHS ARE REFERENCED TO SEABED. | ELEVATION -20.00 (m) |

SAMPLE TYPE: SHELBY TUBE; NO RECOVERY; SPLIT SPOON; DISTURBED; PISTON; CLAMSHELL

| DEPTH (m) | SAMPLE TYPE | SAMPLE NO | SOIL DESCRIPTION | USC | DEPTH (ft) |
|---|---|---|---|---|---|
| 0.0 | | | CLAY | | 0.0 |
| | | | END OF CLAMSHELL SAMPLE | | |
| | | | | | 1.0 |
| | | | | | 2.0 |
| | | | | | 3.0 |
| 1.0 | | | | | |

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|---|---|---|
| BALLIE ISLAND GRAVEL SEARCH | ORIGINAL BOREHOLE NO. GS-18 | BOREHOLE No. BICS-18 |
| CANADIAN MARINE DRILLING LTD. | WATER DEPTH - 13.7m | Project No: EBA # 101-3606 |
| DRILL SHIP - CANMAR, SUPPLIER V | DEPTHS ARE REFERENCED TO SEABED. | ELEVATION -13.70 (m) |

SAMPLE TYPE: SHELBY TUBE; NO RECOVERY; SPLIT SPOON; DISTURBED; PISTON; CLAMSHELL

| DEPTH (m) | SAMPLE TYPE | SAMPLE NO | SOIL DESCRIPTION | USC | DEPTH (ft) |
|---|---|---|---|---|---|
| 0.0 | | | SAND - trace gravel, well graded | | 0.0 |
| | | | CLAY - firm to stiff | | |
| | | | END OF CLAMSHELL SAMPLE | | |
| | | | | | 1.0 |
| | | | | | 2.0 |
| | | | | | 3.0 |
| 1.0 | | | | | |

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|---|---|---|
| BAILLIE ISLAND GRAVEL SEARCH | ORIGINAL BOREHOLE NO. GS-19 | BOREHOLE No. BICS-19 |
| CANADIAN MARINE DRILLING LTD. | WATER DEPTH - | Project No: EBA # 101-3605 |
| DRILL SHIP - CANMAR, SUPPLIER V | DEPTHS ARE REFERENCED TO SEABED. | ELEVATION 0.00 (m) |

SAMPLE TYPE: SHELBY TUBE, NO RECOVERY, SPLIT SPOON, DISTURBED, PISTON, CLAMSHELL

| DEPTH (m) | SAMPLE TYPE | SAMPLE NO | SOIL DESCRIPTION | USC | DEPTH (ft) |
|---|---|---|---|---|---|
| 0.0 | | | SMALL BATHYMETRIC FEATURE NOT FOUND | | 0.0 |
| | | | | | 1.0 |
| | | | | | 2.0 |
| | | | | | 3.0 |
| 1.0 | | | | | |

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| BAILLIE ISLAND GRAVEL SEARCH | ORIGINAL BOREHOLE NO. GS-20 | BOREHOLE No. BICS-20 |
| CANADIAN MARINE DRILLING LTD. | WATER DEPTH - 21.9m | Project No: EBA # 101-3605 |
| DRILL SHIP - CANMAR, SUPPLIER V | DEPTHS ARE REFERENCED TO SEABED. | ELEVATION -21.90 (m) |

SAMPLE TYPE: SHELBY TUBE, NO RECOVERY, SPLIT SPOON, DISTURBED, PISTON, CLAMSHELL

| DEPTH (m) | SAMPLE TYPE | SAMPLE NO | SOIL DESCRIPTION | USC | DEPTH (ft) |
|---|---|---|---|---|---|
| 0.0 | | | CLAY | | 0.0 |
| | | | END OF CLAMSHELL SAMPLE | | 1.0 |
| | | | | | 2.0 |
| | | | | | 3.0 |
| 1.0 | | | | | |

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COMPLETION DEPTH •• m | COMPLETE 82/07/21
LOGGED BY MDW | DWG NO. | Page 1 of 1

| | | |
|---|---|---|
| BAILLIE ISLAND GRAVEL SEARCH | ORIGINAL BOREHOLE NO. GS-21 | BOREHOLE No. BICS-21 |
| CANADIAN MARINE DRILLING LTD. | WATER DEPTH – unknown | Project No: EBA # 101-3606 |
| DRILL SHIP – CANMAR, SUPPLIER V | DEPTHS ARE REFERENCED TO SEABED. | ELEVATION 0.00 (m) |

SAMPLE TYPE: SHELBY TUBE; NO RECOVERY; SPLIT SPOON; DISTURBED; PISTON; CLAMSHELL

| DEPTH (m) | SAMPLE TYPE | SAMPLE NO | SOIL DESCRIPTION | USC | DEPTH (ft) |
|---|---|---|---|---|---|
| 0.0 | | | CLAY | | 0.0 |
| | | | END OF CLAMSHELL SAMPLE | | 1.0 |
| | | | | | 2.0 |
| | | | | | 3.0 |
| 1.0 | | | | | |

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|---|---|---|
| EBA Engineering Consultants Ltd. Calgary, Alberta | COMPLETION DEPTH •• m | COMPLETE 82/07/21 |
| | LOGGED BY MDW | DWG NO. |
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|---|---|---|
| BAILLIE ISLAND GRAVEL SEARCH | ORIGINAL BOREHOLE NO. GS-22 | BOREHOLE No. BICS-22 |
| CANADIAN MARINE DRILLING LTD. | WATER DEPTH – 7.3m | Project No: EBA # 101-3606 |
| DRILL SHIP – CANMAR, SUPPLIER V | DEPTHS ARE REFERENCED TO SEABED. | ELEVATION -7.30 (m) |

SAMPLE TYPE: SHELBY TUBE; NO RECOVERY; SPLIT SPOON; DISTURBED; PISTON; CLAMSHELL

| DEPTH (m) | SAMPLE TYPE | SAMPLE NO | SOIL DESCRIPTION | USC | DEPTH (ft) |
|---|---|---|---|---|---|
| 0.0 | | | SAND – trace gravel, well graded, gravel of maximum size 12 mm | | 0.0 |
| | | | END OF CLAMSHELL SAMPLE | | 1.0 |
| | | | | | 2.0 |
| | | | | | 3.0 |
| 1.0 | | | | | |

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| EBA Engineering Consultants Ltd. Calgary, Alberta | COMPLETION DEPTH •• m | COMPLETE 82/07/21 |
| | LOGGED BY MDW | DWG NO. |
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|---|---|---|
| BAILLIE ISLAND GRAVEL SEARCH | ORIGINAL BOREHOLE NO. CANMAR SCOOP 1 | BOREHOLE No. BIDS-1 |
| CANADIAN MARINE DRILLING LTD. | WATER DEPTH – unknown | Project No: EBA # 101-3605 |
| DRILL SHIP – CANMAR, SUPPLIER V | DEPTHS ARE REFERENCED TO SEABED. | ELEVATION 0.00 (m) |

SAMPLE TYPE: SHELBY TUBE | NO RECOVERY | SPLIT SPOON | DISTURBED | DREDGE SAMPLE | GRAVITY CORE

| DEPTH (m) | SAMPLE TYPE | SAMPLE NO | SOIL DESCRIPTION | USC | DEPTH (m) |
|---|---|---|---|---|---|
| 0.0 | | | CLAY | | 0.0 |
| | | | END OF DREDGE SAMPLE | | 1.0 |
| | | | | | 2.0 |
| | | | | | 3.0 |
| 1.0 | | | | | |

Δ D50 (um) Δ 2000 4000 6000 8000

PLASTIC N.C LIQUID 20 40 60 80

FINES (X) 20 40 60 80

SAND (X) 20 40 60 80

GRAVEL (X) 20 40 60 80

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COMPLETION DEPTH •• m | COMPLETE 82/07/21

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|---|---|---|
| BAILLIE ISLAND GRAVEL SEARCH | ORIGINAL BOREHOLE NO. CANMAR SCOOP 2 | BOREHOLE No. BIDS-2 |
| CANADIAN MARINE DRILLING LTD. | WATER DEPTH – unknown | Project No: EBA # 101-3605 |
| DRILL SHIP – CANMAR, SUPPLIER V | DEPTHS ARE REFERENCED TO SEABED. | ELEVATION 0.00 (m) |

SAMPLE TYPE: SHELBY TUBE | NO RECOVERY | SPLIT SPOON | DISTURBED | DREDGE SAMPLE | GRAVITY CORE

| DEPTH (m) | SAMPLE TYPE | SAMPLE NO | SOIL DESCRIPTION | USC | DEPTH (m) |
|---|---|---|---|---|---|
| 0.0 | | | SAND – some gravel up to 20 mm diameter, trace of silt and clay, well graded | | 0.0 |
| | | | END OF DREDGE SAMPLE | | 1.0 |
| | | | | | 2.0 |
| | | | | | 3.0 |
| 1.0 | | | | | |

Δ D50 (um) Δ 2000 4000 6000 8000

PLASTIC N.C LIQUID 20 40 60 80

FINES (X) 20 40 60 80

SAND (X) 20 40 60 80

GRAVEL (X) 20 40 60 80

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COMPLETION DEPTH •• m | COMPLETE 82/07/21

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|---|---|---|
| BAILLIE ISLAND GRAVEL SEARCH | ORIGINAL BOREHOLE NO. CANMAR SCOOP 3 | BOREHOLE No. BIDS-3 |
| CANADIAN MARINE DRILLING LTD. | WATER DEPTH – unknown | Project No: EBA # 101-3605 |
| DRILL SHIP – CANMAR, SUPPLIER V | DEPTHS ARE REFERENCED TO SEABED. | ELEVATION 0.00 (m) |

SAMPLE TYPE: SHELBY TUBE; NO RECOVERY; SPLIT SPOON; DISTURBED; DREDGE SAMPLE; GRAVITY CORE

| DEPTH (m) | SAMPLE TYPE | SAMPLE NO | SOIL DESCRIPTION | USC | DEPTH (ft) |
|---|---|---|---|---|---|
| 0.0 | | | SAND – well graded | | 0.0 |
| | | | CLAY | | |
| | | | END OF DREDGE SAMPLE | | |
| | | | | | 1.0 |
| | | | | | 2.0 |
| | | | | | 3.0 |
| 1.0 | | | | | |

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| COMPLETION DEPTH ** m | | COMPLETE 82/07/21 |
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|---|---|---|
| NAHIDIK 1982 | ORIGINAL BOREHOLE NO. GC-02 | BOREHOLE No. NK82GC02 |
| GEOLOGICAL SURVEY OF CANADA | WATER DEPTH – UNKNOWN | Project No: |
| DRILL SHIP – NAHIDIK | DEPTHS ARE REFERENCED TO SEABED | ELEVATION 0.00 (m) |

SAMPLE TYPE: SHELBY TUBE | NO RECOVERY | SPLIT SPOON | DISTURBED | PISTON | GRAVITY CORE

| DEPTH (m) | SAMPLE TYPE | SAMPLE NO | SOIL DESCRIPTION | USC | DEPTH (ft) |
|---|---|---|---|---|---|
| 0.0 | | | CLAY | | 0.0 |
| | | 001 | | NL | |
| | | | END OF GRAVITY CORE | | |
| | | | | | 1.0 |
| | | | | | 2.0 |
| | | | | | 3.0 |
| 1.0 | | | | | |

Δ.050 (um) Δ: 2000 4000 6000 8000

PLASTIC — N.C — LIQUID: 20 40 60 80

FINES (%): 20 40 60 80

SAND (%): 20 40 60 80

GRAVEL (%): 20 40 60 80

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COMPLETION DEPTH •• m | COMPLETE

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| | | |
|---|---|---|
| NAHIDIK 1982 | ORIGINAL BOREHOLE NO. GC-05 | BOREHOLE No. NK82GC05 |
| GEOLOGICAL SURVEY OF CANADA | WATER DEPTH – UNKNOWN | Project No: |
| DRILL SHIP – NAHIDIK | DEPTHS ARE REFERENCED TO SEABED | ELEVATION 0.00 (m) |

SAMPLE TYPE: SHELBY TUBE | NO RECOVERY | SPLIT SPOON | DISTURBED | PISTON | GRAVITY CORE

| DEPTH (m) | SAMPLE TYPE | SAMPLE NO | SOIL DESCRIPTION | USC | DEPTH (ft) |
|---|---|---|---|---|---|
| 0.0 | | | CLAY | | 0.0 |
| | | AVG | | CH | 1.0 |
| | | | END OF GRAVITY CORE | | 2.0 |
| | | | | | 3.0 |
| 1.0 | | | | | |

Δ.050 (um) Δ: 2000 4000 6000 8000

PLASTIC — N.C — LIQUID: 20 40 60 80

FINES (%): 20 40 60 80

SAND (%): 20 40 60 80

GRAVEL (%): 20 40 60 80

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COMPLETION DEPTH •• m | COMPLETE

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|---|---|---|
| NAHIDIK 1982 | ORIGINAL BOREHOLE NO. GC-06 | BOREHOLE No. NK82GC06 |
| GEOLOGICAL SURVEY OF CANADA | WATER DEPTH – UNKNOWN | Project No: |
| DRILL SHIP – NAHIDIK | DEPTHS ARE REFERENCED TO SEABED | ELEVATION 0.00 (m) |

SAMPLE TYPE: SHELBY TUBE; NO RECOVERY; SPLIT SPOON; DISTURBED; PISTON CORE; GRAVITY CORE

| DEPTH (m) | SAMPLE TYPE | SAMPLE NO | SOIL DESCRIPTION | USC | DEPTH (ft) |
|---|---|---|---|---|---|
| 0.0 | | | CLAY | | 0.0 |
| | | 001 | END OF GRAVITY CORE | CH | |
| | | | | | 1.0 |
| | | | | | 2.0 |
| | | | | | 3.0 |
| 1.0 | | | | | |

Δ DSS (kPa) Δ: 2000 4000 6000 8000

PLASTIC — M.C — LIQUID: 20 40 60 80

FINES (%): 20 40 60 80

SAND (%): 20 40 60 80

GRAVEL (%): 20 40 60 80

| | | | |
|---|---|---|---|
| EBA Engineering Consultants Ltd. Calgary, Alberta | COMPLETION DEPTH •• m | COMPLETE | |
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|---|---|---|
| NAHIDIK 1982 | ORIGINAL BOREHOLE NO. GC-07 | BOREHOLE No. NK82GC07 |
| GEOLOGICAL SURVEY OF CANADA | WATER DEPTH – UNKNOWN | Project No: |
| DRILL SHIP – NAHIDIK | DEPTHS ARE REFERENCED TO SEABED | ELEVATION 0.00 (m) |

SAMPLE TYPE: SHELBY TUBE; NO RECOVERY; SPLIT SPOON; DISTURBED; PISTON CORE; GRAVITY CORE

| DEPTH (m) | SAMPLE TYPE | SAMPLE NO | SOIL DESCRIPTION | USC | DEPTH (ft) |
|---|---|---|---|---|---|
| 0.0 | | | CLAY – assumed principal component | | 0.0 |
| | | | END OF GRAVITY CORE | | |
| | | | | | 1.0 |
| | | | | | 2.0 |
| | | | | | 3.0 |
| 1.0 | | | | | |

Δ DSS (kPa) Δ: 2000 4000 6000 8000

PLASTIC — M.C — LIQUID: 20 40 60 80

FINES (%): 20 40 60 80

SAND (%): 20 40 60 80

GRAVEL (%): 20 40 60 80

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|---|---|---|---|
| EBA Engineering Consultants Ltd. Calgary, Alberta | COMPLETION DEPTH •• m | COMPLETE | |
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|---|---|---|
| NAHIDIK 1982 | ORIGINAL BOREHOLE NO. GC-08 | BOREHOLE No. NK82GC08 |
| GEOLOGICAL SURVEY OF CANADA | WATER DEPTH – UNKNOWN | Project No: |
| DRILL SHIP – NAHIDIK | DEPTHS ARE REFERENCED TO SEABED | ELEVATION 0.00 (m) |

SAMPLE TYPE: SHELBY TUBE; NO RECOVERY; SPLIT SPOON; DISTURBED; PISTON CORE; GRAVITY CORE

| DEPTH (m) | SAMPLE TYPE | SAMPLE NO | SOIL DESCRIPTION | USC | DEPTH (ft) |
|---|---|---|---|---|---|
| 0.0 | | | CLAY | CH | 0.0 |
| | | 001 | | | |
| | | AVG | | | 1.0 |
| | | | END OF GRAVITY CORE | | 2.0 |
| | | | | | 3.0 |
| 1.0 | | | | | |

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|---|---|---|
| COMPLETION DEPTH •• m | COMPLETE | |
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|---|---|---|
| NAHIDIK 1982 | ORIGINAL BOREHOLE NO. GC-09 | BOREHOLE No. NK82GC09 |
| GEOLOGICAL SURVEY OF CANADA | WATER DEPTH – UNKNOWN | Project No: |
| DRILL SHIP – NAHIDIK | DEPTHS ARE REFERENCED TO SEABED | ELEVATION 0.00 (m) |

SAMPLE TYPE: SHELBY TUBE; NO RECOVERY; SPLIT SPOON; DISTURBED; PISTON CORE; GRAVITY CORE

| DEPTH (m) | SAMPLE TYPE | SAMPLE NO | SOIL DESCRIPTION | USC | DEPTH (ft) |
|---|---|---|---|---|---|
| 0.0 | | | CLAY | CH | 0.0 |
| | | AVG | | | 1.0 |
| | | AVG | | CH | 2.0 |
| | | | END OF GRAVITY CORE | | 3.0 |
| 1.0 | | | | | |

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| COMPLETION DEPTH •• m | COMPLETE | |
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| NAHIDIK 1982 | ORIGINAL BOREHOLE NO. GC-10 | BOREHOLE No. NK82GC10 |
|---|---|---|
| GEOLOGICAL SURVEY OF CANADA | WATER DEPTH – UNKNOWN | Project No: |
| DRILL SHIP – NAHIDIK | DEPTHS ARE REFERENCED TO SEABED | ELEVATION 0.00 (m) |

SAMPLE TYPE: SHELBY TUBE | NO RECOVERY | SPLIT SPOON | DISTURBED | PISTON CORE | GRAVITY CORE

| DEPTH (m) | SAMPLE TYPE | SAMPLE NO | SOIL DESCRIPTION | USC | DEPTH (ft) |
|---|---|---|---|---|---|
| 0.0 | | | CLAY | CH | 0.0 |
| 1.0 | | AVG | | | 1.0 |
| 2.0 | | | | | 2.0 |
| | | | | | 3.0 |
| | | | | | 4.0 |
| | | | | | 5.0 |
| | | | | | 6.0 |
| | | | | | 7.0 |
| | | | END OF GRAVITY CORE | | 8.0 |
| | | | | | 9.0 |

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COMPLETION DEPTH ** m | COMPLETE
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| NAHIDIK 1982 | ORIGINAL BOREHOLE NO. GC-11 | BOREHOLE No. NK82GC11 |
|---|---|---|
| GEOLOGICAL SURVEY OF CANADA | WATER DEPTH – UNKNOWN | Project No: |
| DRILL SHIP – NAHIDIK | DEPTHS ARE REFERENCED TO SEABED | ELEVATION 0.00 (m) |

SAMPLE TYPE: SHELBY TUBE | NO RECOVERY | SPLIT SPOON | DISTURBED | PISTON | GRAVITY CORE

| DEPTH (m) | SAMPLE TYPE | SAMPLE NO | SOIL DESCRIPTION | USC | DEPTH (ft) |
|---|---|---|---|---|---|
| 0.0 | | | CLAY | CH | 0.0 |
| | | AVG | | | 1.0 |
| | | | | | 2.0 |
| | | | END OF GRAVITY CORE | | 3.0 |
| 1.0 | | | | | |

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COMPLETION DEPTH ** m | COMPLETE
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|---|---|---|
| NAHIDIK 1982 | ORIGINAL BOREHOLE NO. PC-02 | BOREHOLE No. NK82PC02 |
| GEOLOGICAL SURVEY OF CANADA | WATER DEPTH – UNKNOWN | Project No: |
| DRILL SHIP – NAHIDIK | DEPTHS ARE REFERENCED TO SEABED | ELEVATION 0.00 (m) |

SAMPLE TYPE: SHELBY TUBE | NO RECOVERY | SPLIT SPOON | DISTURBED | PISTON CORE | GRAVITY CORE

| DEPTH (m) | SAMPLE TYPE | SAMPLE NO | SOIL DESCRIPTION | USC | DEPTH (ft) |
|---|---|---|---|---|---|
| 0.0 | | | CLAY | | 0.0 |
| | | | | | 1.0 |
| | | | | | 2.0 |
| 1.0 | | AW6 | | | 3.0 |
| | | | | | 4.0 |
| | | | | | 5.0 |
| | | | | | 6.0 |
| 2.0 | | | END OF GRAVITY CORE | | |
| | | | | | 7.0 |
| | | | | | 8.0 |
| | | | | | 9.0 |

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COMPLETION DEPTH ** m | COMPLETE
LOGGED BY MDR | DWG NO. | Page 1 of 1

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|---|---|---|
| NAHIDIK 1982 | ORIGINAL BOREHOLE NO. PC-03 | BOREHOLE No. NK82PC03 |
| GEOLOGICAL SURVEY OF CANADA | WATER DEPTH – UNKNOWN | Project No: |
| DRILL SHIP – NAHIDIK | DEPTHS ARE REFERENCED TO SEABED | ELEVATION 0.00 (m) |

SAMPLE TYPE: SHELBY TUBE | NO RECOVERY | SPLIT SPOON | DISTURBED | PISTON CORE | GRAVITY CORE

| DEPTH (m) | SAMPLE TYPE | SAMPLE NO | SOIL DESCRIPTION | USC | DEPTH (ft) |
|---|---|---|---|---|---|
| 0.0 | | | CLAY – assumed principal component | | 0.0 |
| | | | END OF PISTON CORE | | 1.0 |
| | | | | | 2.0 |
| | | | | | 3.0 |
| 1.0 | | | | | |

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COMPLETION DEPTH ** m | COMPLETE
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|---|---|---|
| NAHIDIK 1982 | ORIGINAL BOREHOLE NO. PC-04 | BOREHOLE No. NK82PC04 |
| GEOLOGICAL SURVEY OF CANADA | WATER DEPTH – UNKNOWN | Project No: |
| DRILL SHIP – NAHIDIK | DEPTHS ARE REFERENCED TO SEABED | ELEVATION 0.00 (m) |

SAMPLE TYPE: SHELBY TUBE | NO RECOVERY | SPLIT SPOON | DISTURBED | PISTON CORE | GRAVITY CORE

| DEPTH (m) | SAMPLE TYPE | SAMPLE NO | SOIL DESCRIPTION | USC | DEPTH (ft) |
|---|---|---|---|---|---|
| 0.0 | | | CLAY | CH | 0.0 |
| 1.0 | | AVG | | | 1.0 |
| 2.0 | | | | | 2.0 |
| | | | END OF GRAVITY CORE | | 3.0 |
| | | | | | 4.0 |
| | | | | | 5.0 |
| | | | | | 6.0 |
| | | | | | 7.0 |
| | | | | | 8.0 |
| | | | | | 9.0 |

Δ D50 (mm) Δ: 2000 4000 6000 8000

PLASTIC — M.C — LIQUID: 20 40 60 80

FINES (%): 20 40 60 80

SAND (%): 20 40 60 80

GRAVEL (%): 20 40 60 80

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|---|---|---|
| COMPLETION DEPTH • • m | | COMPLETE |
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|---|---|---|
| NAHIDIK 1982 | ORIGINAL BOREHOLE NO. PC-05 | BOREHOLE No. NK82PC05 |
| GEOLOGICAL SURVEY OF CANADA | WATER DEPTH – UNKNOWN | Project No: |
| DRILL SHIP – NAHIDIK | DEPTHS ARE REFERENCED TO SEABED | ELEVATION 0.00 (m) |

SAMPLE TYPE: SHELBY TUBE | NO RECOVERY | SPLIT SPOON | DISTURBED | PISTON CORE | GRAVITY CORE

| DEPTH (m) | SAMPLE TYPE | SAMPLE NO | SOIL DESCRIPTION | USC | DEPTH (ft) |
|---|---|---|---|---|---|
| 0.0 | | | CLAY | CH | 0.0 |
| 1.0 | | AVG | | | 1.0 |
| 2.0 | | | | | 2.0 |
| | | | END OF PISTON CORE | | 3.0 |
| | | | | | 4.0 |
| | | | | | 5.0 |
| | | | | | 6.0 |
| | | | | | 7.0 |
| | | | | | 8.0 |
| | | | | | 9.0 |

Δ D50 (mm) Δ: 2000 4000 6000 8000

PLASTIC — M.C — LIQUID: 20 40 60 80

FINES (%): 20 40 60 80

SAND (%): 20 40 60 80

GRAVEL (%): 20 40 60 80

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| COMPLETION DEPTH • • m | | COMPLETE |
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|---|---|---|
| NAHIDIK 1982 | ORIGINAL BOREHOLE NO. PC-06 | BOREHOLE No. NK82PC06 |
| GEOLOGICAL SURVEY OF CANADA | WATER DEPTH – UNKNOWN | Project No: |
| DRILL SHIP – NAHIDIK | DEPTHS ARE REFERENCED TO SEABED | ELEVATION 0.00 (m) |

SAMPLE TYPE: SHELBY TUBE; NO RECOVERY; SPLIT SPOON; DISTURBED; PISTON CORE; GRAVITY CORE

| DEPTH (m) | SAMPLE TYPE | SAMPLE NO | SOIL DESCRIPTION | USC | DEPTH (ft) |
|---|---|---|---|---|---|
| 0.0 | | | CLAY – assumed principal component | | 0.0 |
| | | AVG | | CH | 1.0, 2.0, 3.0 |
| 1.0 | | | | | 4.0, 5.0 |
| | | AVG | | CH | 6.0 |
| 2.0 | | | | | 7.0, 8.0, 9.0 |
| | | | END OF PISTON CORE | | |

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|---|---|---|
| NAHIDIK 1982 | ORIGINAL BOREHOLE NO. PC-07 | BOREHOLE No. NK82PC07 |
| GEOLOGICAL SURVEY OF CANADA | WATER DEPTH – UNKNOWN | Project No: |
| DRILL SHIP – NAHIDIK | DEPTHS ARE REFERENCED TO SEABED | ELEVATION 0.00 (m) |

SAMPLE TYPE: SHELBY TUBE; NO RECOVERY; SPLIT SPOON; DISTURBED; PISTON CORE; GRAVITY CORE

| DEPTH (m) | SAMPLE TYPE | SAMPLE NO | SOIL DESCRIPTION | USC | DEPTH (ft) |
|---|---|---|---|---|---|
| 0.0 | | | CLAY | | 0.0 |
| | | AVG | | CH | 1.0, 2.0, 3.0 |
| 1.0 | | | | | 4.0, 5.0 |
| | | AVG | | CH | 6.0 |
| 2.0 | | | END OF PISTON CORE | | 7.0, 8.0, 9.0 |

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|---|---|---|
| COMPLETION DEPTH ** m | COMPLETE | |
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|---|---|---|
| NAHIDIK 1982 | ORIGINAL BOREHOLE NO. PC-08 | BOREHOLE No. NK82PC08 |
| GEOLOGICAL SURVEY OF CANADA | WATER DEPTH – UNKNOWN | Project No: |
| DRILL SHIP – NAHIDIK | DEPTHS ARE REFERENCED TO SEABED | ELEVATION 0.00 (m) |

SAMPLE TYPE: SHELBY TUBE | NO RECOVERY | SPLIT SPOON | DISTURBED | PISTON CORE | GRAVITY CORE

| DEPTH (m) | SAMPLE TYPE | SAMPLE NO | SOIL DESCRIPTION | USC | DEPTH (ft) |
|---|---|---|---|---|---|
| 0.0 | | | CLAY | CH | 0.0 |
| 1.0 | | AVG | | | 1.0 |
| 2.0 | | | | | 2.0 |
| | | | | | 3.0 |
| | | | | | 4.0 |
| | | | | | 5.0 |
| | | | | | 6.0 |
| | | | | | 7.0 |
| | | | | | 8.0 |
| | | | END OF PISTON CORE | | 9.0 |

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|---|---|---|
| NAHIDIK 1982 | ORIGINAL BOREHOLE NO. PC-09 | BOREHOLE No. NK82PC09 |
| GEOLOGICAL SURVEY OF CANADA | WATER DEPTH – UNKNOWN | Project No: |
| DRILL SHIP – NAHIDIK | DEPTHS ARE REFERENCED TO SEABED | ELEVATION 0.00 (m) |

SAMPLE TYPE: SHELBY TUBE | NO RECOVERY | SPLIT SPOON | DISTURBED | PISTON CORE | GRAVITY CORE

| DEPTH (m) | SAMPLE TYPE | SAMPLE NO | SOIL DESCRIPTION | USC | DEPTH (ft) |
|---|---|---|---|---|---|
| 0.0 | | 001 | CLAY | ML | 0.0 |
| | | | | | 1.0 |
| | | AVG | | CH | 2.0 |
| 1.0 | | | | | 3.0 |
| | | | | | 4.0 |
| | | | END OF PISTON CORE | | 5.0 |
| | | | | | 6.0 |
| 2.0 | | | | | 7.0 |
| | | | | | 8.0 |
| | | | | | 9.0 |

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| COMPLETION DEPTH •• m | COMPLETE | |
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| NAHOIK 1982 | ORIGINAL BOREHOLE NO. PC-11 | BOREHOLE No. NK82PC11 |
| GEOLOGICAL SURVEY OF CANADA | WATER DEPTH – UNKNOWN | Project No: |
| DRILL SHIP – NAHOIK | DEPTHS ARE REFERENCED TO SEABED | ELEVATION 0.00 (m) |

SAMPLE TYPE: SHELBY TUBE | NO RECOVERY | SPLIT SPOON | DISTURBED | PISTON CORE | GRAVITY CORE

| DEPTH (m) | SAMPLE TYPE | SAMPLE NO | SOIL DESCRIPTION | USC | DEPTH (ft) |
|---|---|---|---|---|---|
| 0.0 | | 001 | CLAY | ML | 0.0 |
| | | | END OF PISTON CORE | | 1.0 |
| | | | | | 2.0 |
| | | | | | 3.0 |
| 1.0 | | | | | |

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| COMPLETION DEPTH •• m | COMPLETE | |
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| NAHOIK 1982 | ORIGINAL BOREHOLE NO. PC-12 | BOREHOLE No. NK82PC12 |
| GEOLOGICAL SURVEY OF CANADA | WATER DEPTH – UNKNOWN | Project No: |
| DRILL SHIP – NAHOIK | DEPTHS ARE REFERENCED TO SEABED | ELEVATION 0.00 (m) |

SAMPLE TYPE: SHELBY TUBE | NO RECOVERY | SPLIT SPOON | DISTURBED | PISTON CORE | GRAVITY CORE

| DEPTH (m) | SAMPLE TYPE | SAMPLE NO | SOIL DESCRIPTION | USC | DEPTH (ft) |
|---|---|---|---|---|---|
| 0.0 | | 001 | CLAY | ML | 0.0 |
| | | AVG | | CH | 1.0 |
| | | | | | 2.0 |
| 1.0 | | | | | 3.0 |
| | | AVG | | CH | 4.0 |
| | | | | | 5.0 |
| | | | END OF PISTON CORE | | 6.0 |
| 2.0 | | | | | 7.0 |
| | | | | | 8.0 |
| | | | | | 9.0 |

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| COMPLETION DEPTH •• m | COMPLETE | |
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| NAHIDIK 1982 | ORIGINAL BOREHOLE NO. PC-13 | BOREHOLE No. NK82PC13 |
| GEOLOGICAL SURVEY OF CANADA | WATER DEPTH – UNKNOWN | Project No: |
| DRILL SHIP – NAHIDIK | DEPTHS ARE REFERENCED TO SEABED | ELEVATION 0.00 (m) |

SAMPLE TYPE: SHELBY TUBE; NO RECOVERY; SPLIT SPOON; DISTURBED; PISTON CORE; GRAVITY CORE

| DEPTH (m) | SAMPLE TYPE | SAMPLE NO | SOIL DESCRIPTION | USC | DEPTH (ft) |
|---|---|---|---|---|---|
| 0.0 | | | CLAY | | 0.0 |
| | | AVG | | CL | 1.0, 2.0, 3.0 |
| 1.0 | | AVG | | CH | 4.0 |
| | | | END OF PISTON CORE | | 5.0, 6.0, 7.0, 8.0, 9.0 |
| 2.0 | | | | | |

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| COMPLETION DEPTH •• m | COMPLETE | |
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| NAHIDIK 1982 | ORIGINAL BOREHOLE NO. PC-14 | BOREHOLE No. NK82PC14 |
| GEOLOGICAL SURVEY OF CANADA | WATER DEPTH – UNKNOWN | Project No: |
| DRILL SHIP – NAHIDIK | DEPTHS ARE REFERENCED TO SEABED | ELEVATION 0.00 (m) |

SAMPLE TYPE: SHELBY TUBE; NO RECOVERY; SPLIT SPOON; DISTURBED; PISTON CORE; GRAVITY CORE

| DEPTH (m) | SAMPLE TYPE | SAMPLE NO | SOIL DESCRIPTION | USC | DEPTH (ft) |
|---|---|---|---|---|---|
| 0.0 | | 001 | CLAY | CL | 0.0 |
| | | | | | 1.0, 2.0, 3.0 |
| 1.0 | | AVG | | CH | 4.0 |
| | | | END OF PISTON CORE | | 5.0, 6.0, 7.0, 8.0, 9.0 |
| 2.0 | | | | | |

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| COMPLETION DEPTH •• m | COMPLETE | |
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| NAHIDIK 1982 | ORIGINAL BOREHOLE NO. PC-15 | BOREHOLE No. NK82PC15 |
| GEOLOGICAL SURVEY OF CANADA | WATER DEPTH – UNKNOWN | Project No: |
| DRILL SHIP – NAHIDIK | DEPTHS ARE REFERENCED TO SEABED | ELEVATION 0.00 (m) |

SAMPLE TYPE: SHELBY TUBE; NO RECOVERY; SPLIT SPOON; DISTURBED; PISTON CORE; GRAVITY CORE

| DEPTH (m) | SAMPLE TYPE | SAMPLE NO | SOIL DESCRIPTION | USC | DEPTH (ft) |
|---|---|---|---|---|---|
| 0.0 | | 001 | CLAY | CL | 0.0 |
| 1.0 | | AVG | | CH | 1.0, 2.0, 3.0, 4.0, 5.0, 6.0, 7.0, 8.0, 9.0 |
| | | | END OF PISTON CORE | | |
| 2.0 | | | | | |

Δ DSO (um) Δ: 3000 4000 6000 8000

PLASTIC M.C LIQUID: 20 40 60 80

FINES (%): 20 40 60 80

SAND (%): 20 40 60 80

GRAVEL (%): 20 40 60 80

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| NAHIDIK 1982 | ORIGINAL BOREHOLE NO. PC-16 | BOREHOLE No. NK82PC16 |
| GEOLOGICAL SURVEY OF CANADA | WATER DEPTH – UNKNOWN | Project No: |
| DRILL SHIP – NAHIDIK | DEPTHS ARE REFERENCED TO SEABED | ELEVATION 0.00 (m) |

SAMPLE TYPE: SHELBY TUBE; NO RECOVERY; SPLIT SPOON; DISTURBED; PISTON CORE; GRAVITY CORE

| DEPTH (m) | SAMPLE TYPE | SAMPLE NO | SOIL DESCRIPTION | USC | DEPTH (ft) |
|---|---|---|---|---|---|
| 0.0 | | | CLAY | | 0.0 |
| 1.0 | | AVG | | CH | 1.0, 2.0, 3.0, 4.0, 5.0, 6.0, 7.0, 8.0, 9.0 |
| | | | END OF PISTON CORE | | |
| 2.0 | | | | | |

Δ DSO (um) Δ: 3000 4000 6000 8000

PLASTIC M.C LIQUID: 20 40 60 80

FINES (%): 20 40 60 80

SAND (%): 20 40 60 80

GRAVEL (%): 20 40 60 80

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| NAHIDIK 1982 | ORIGINAL BOREHOLE NO. PC-17 | BOREHOLE No. NK82PC17 |
| GEOLOGICAL SURVEY OF CANADA | WATER DEPTH – UNKNOWN | Project No: |
| DRILL SHIP – NAHIDIK | DEPTHS ARE REFERENCED TO SEABED | ELEVATION 0.00 (m) |

SAMPLE TYPE: SHELBY TUBE; NO RECOVERY; SPLIT SPOON; DISTURBED; PISTON CORE; GRAVITY CORE

| DEPTH (m) | SAMPLE TYPE | SAMPLE NO | SOIL DESCRIPTION | USC | DEPTH (ft) |
|---|---|---|---|---|---|
| 0.0 | | | CLAY | | 0.0 |
| | | AVG | | CH | 1.0, 2.0, 3.0, 4.0, 5.0 |
| 1.0 | | | | | |
| | | | END OF PISTON CORE | | 6.0 |
| 2.0 | | | | | 7.0, 8.0, 9.0 |

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| NAHIDIK 1982 | ORIGINAL BOREHOLE NO. PC-18 | BOREHOLE No. NK82PC18 |
| GEOLOGICAL SURVEY OF CANADA | WATER DEPTH – UNKNOWN | Project No: |
| DRILL SHIP – NAHIDIK | DEPTHS ARE REFERENCED TO SEABED | ELEVATION 0.00 (m) |

SAMPLE TYPE: SHELBY TUBE; NO RECOVERY; SPLIT SPOON; DISTURBED; PISTON CORE; GRAVITY CORE

| DEPTH (m) | SAMPLE TYPE | SAMPLE NO | SOIL DESCRIPTION | USC | DEPTH (ft) |
|---|---|---|---|---|---|
| 0.0 | | | CLAY | | 0.0 |
| | | AVG | | | 1.0, 2.0, 3.0, 4.0, 5.0 |
| 1.0 | | | | | |
| | | | END OF PISTON CORE | | 6.0 |
| 2.0 | | | | | 7.0, 8.0, 9.0 |

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| NAHIDIK 1982 | ORIGINAL BOREHOLE NO. PC-21 | BOREHOLE No. NK82PC21 |
| GEOLOGICAL SURVEY OF CANADA | WATER DEPTH - UNKNOWN | Project No: |
| DRILL SHIP - NAHIDIK | DEPTHS ARE REFERENCED TO SEABED | ELEVATION 0.00 (m) |

SAMPLE TYPE: SHELBY TUBE; NO RECOVERY; SPLIT SPOON; DISTURBED; PISTON CORE; GRAVITY CORE

| DEPTH (m) | SAMPLE TYPE | SAMPLE NO | SOIL DESCRIPTION | USC | DEPTH (ft) |
|---|---|---|---|---|---|
| 0.0 | | | CLAY | | 0.0 |
| | | AVG | | CH | 1.0 |
| | | AVG | | CL | 2.0 |
| 1.0 | | | | | 3.0 |
| | | | | | 4.0 |
| | | AVG | | CH | 5.0 |
| | | | | | 6.0 |
| 2.0 | | | | | 7.0 |
| | | | END OF PISTON CORE | | 8.0 |
| | | | | | 9.0 |

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| NAHIDIK 1982 | ORIGINAL BOREHOLE NO. PC-22 | BOREHOLE No. NK82PC22 |
| GEOLOGICAL SURVEY OF CANADA | WATER DEPTH - UNKNOWN | Project No: |
| DRILL SHIP - NAHIDIK | DEPTHS ARE REFERENCED TO SEABED | ELEVATION 0.00 (m) |

SAMPLE TYPE: SHELBY TUBE; NO RECOVERY; SPLIT SPOON; DISTURBED; PISTON CORE; GRAVITY CORE

| DEPTH (m) | SAMPLE TYPE | SAMPLE NO | SOIL DESCRIPTION | USC | DEPTH (ft) |
|---|---|---|---|---|---|
| 0.0 | | | CLAY | | 0.0 |
| | | | | | 1.0 |
| | | | | | 2.0 |
| 1.0 | | | | | 3.0 |
| | | | | | 4.0 |
| | | AVG | | CH | 5.0 |
| | | | | | 6.0 |
| 2.0 | | | | | 7.0 |
| | | | END OF PISTON CORE | | 8.0 |
| | | | | | 9.0 |

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| NAHIDIK 1982 | ORIGINAL BOREHOLE NO. PC-23 | BOREHOLE No. NK82PC23 |
| GEOLOGICAL SURVEY OF CANADA | WATER DEPTH – UNKNOWN | Project No: |
| DRILL SHIP – NAHIDIK | DEPTHS ARE REFERENCED TO SEABED | ELEVATION 0.00 (m) |

SAMPLE TYPE: SHELBY TUBE | NO RECOVERY | SPLIT SPOON | DISTURBED | PISTON | GRAVITY CORE

| DEPTH (m) | SAMPLE TYPE | SAMPLE NO | SOIL DESCRIPTION | USC | DEPTH (ft) |
|---|---|---|---|---|---|
| 0.0 | | | CLAY | CH | 0.0 |
| | | 003 | | | |
| | | | END OF PISTON CORE | | 1.0 |
| | | | | | 2.0 |
| | | | | | 3.0 |
| 1.0 | | | | | |

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| NAHIDIK 1982 | ORIGINAL BOREHOLE NO. PC-24 | BOREHOLE No. NK82PC24 |
| GEOLOGICAL SURVEY OF CANADA | WATER DEPTH – UNKNOWN | Project No: |
| DRILL SHIP – NAHIDIK | DEPTHS ARE REFERENCED TO SEABED | ELEVATION 0.00 (m) |

SAMPLE TYPE: SHELBY TUBE | NO RECOVERY | SPLIT SPOON | DISTURBED | PISTON CORE | GRAVITY CORE

| DEPTH (m) | SAMPLE TYPE | SAMPLE NO | SOIL DESCRIPTION | USC | DEPTH (ft) |
|---|---|---|---|---|---|
| 0.0 | | | CLAY | CH | 0.0 |
| | | AVC | | | 1.0 |
| | | | | | 2.0 |
| | | | | | 3.0 |
| 1.0 | | AVB | | CH | 4.0 |
| | | | END OF PISTON CORE | | 5.0 |
| | | | | | 6.0 |
| 2.0 | | | | | 7.0 |
| | | | | | 8.0 |
| | | | | | 9.0 |

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| NAHIDIK 1982 | ORIGINAL BOREHOLE NO. PC-25 | BOREHOLE No. NK82PC25 |
| GEOLOGICAL SURVEY OF CANADA | WATER DEPTH – UNKNOWN | Project No: |
| DRILL SHIP – NAHIDIK | DEPTHS ARE REFERENCED TO SEABED | ELEVATION 0.00 (m) |

SAMPLE TYPE: SHELBY TUBE | NO RECOVERY | SPLIT SPOON | DISTURBED | PISTON | GRAVITY CORE

| DEPTH (m) | SAMPLE TYPE | SAMPLE NO | SOIL DESCRIPTION | USC | DEPTH (ft) |
|---|---|---|---|---|---|
| 0.0 | | | CLAY | | 0.0 |
| | | AVG | | CH | 1.0 |
| | | | END OF PISTON CORE | | 2.0 |
| | | | | | 3.0 |
| 1.0 | | | | | |

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| NAHIDIK 1982 | ORIGINAL BOREHOLE NO. PC-26 | BOREHOLE No. NK82PC26 |
| GEOLOGICAL SURVEY OF CANADA | WATER DEPTH – UNKNOWN | Project No: |
| DRILL SHIP – NAHIDIK | DEPTHS ARE REFERENCED TO SEABED | ELEVATION 0.00 (m) |

SAMPLE TYPE: SHELBY TUBE | NO RECOVERY | SPLIT SPOON | DISTURBED | PISTON | GRAVITY CORE

| DEPTH (m) | SAMPLE TYPE | SAMPLE NO | SOIL DESCRIPTION | USC | DEPTH (ft) |
|---|---|---|---|---|---|
| 0.0 | | | CLAY | | 0.0 |
| | | AVG | | CH | 1.0 |
| | | | END OF GRAVITY CORE | | 2.0 |
| | | | | | 3.0 |
| 1.0 | | | | | |

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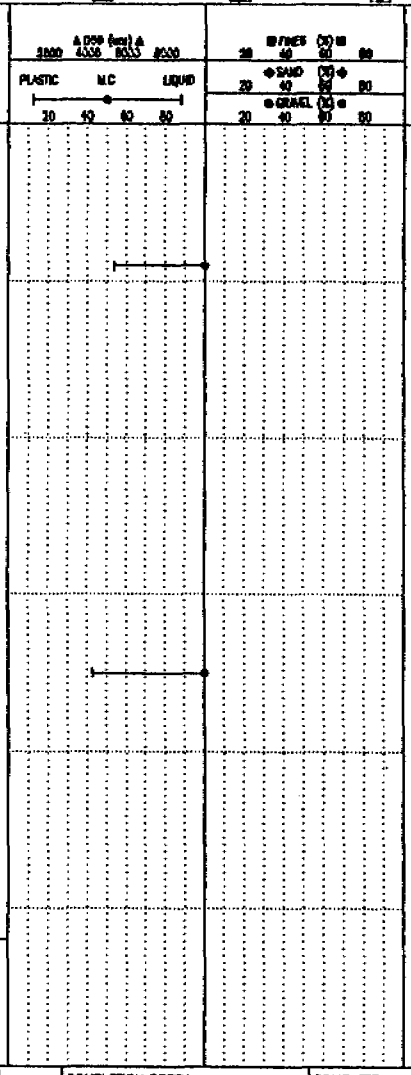
| NAHIDIK 1982 | ORIGINAL BOREHOLE NO. PC-28 | BOREHOLE No. NK82PC28 |
| GEOLOGICAL SURVEY OF CANADA | WATER DEPTH – UNKNOWN | Project No: |
| DRILL SHIP – NAHIDIK | DEPTHS ARE REFERENCED TO SEABED | ELEVATION 0.00 (m) |

SAMPLE TYPE: SHELBY TUBE | NO RECOVERY | SPLIT SPOON | DISTURBED | PISTON CORE | GRAVITY CORE

| DEPTH (m) | SAMPLE TYPE | SAMPLE NO | SOIL DESCRIPTION | USC | DEPTH (ft) |
|---|---|---|---|---|---|
| 0.0 | | | CLAY | | 0.0 |
| | | AVG | | CH | 1.0 |
| 1.0 | | | | | 2.0 |
| | | | | | 3.0 |
| | | | | | 4.0 |
| | | | | | 5.0 |
| | | AVG | | CH | 6.0 |
| 2.0 | | | | | 7.0 |
| | | | | | 8.0 |
| | | | END OF PISTON CORE | | 9.0 |

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| NAHIDIK 1983 | ORIGINAL BOREHOLE NO. PC-01 | BOREHOLE No. NK83PC01 |
| GEOLOGICAL SURVEY OF CANADA | WATER DEPTH – UNKNOWN | Project No: |
| DRILL SHIP – NAHIDIK | DEPTHS ARE REFERENCED TO SEABED | ELEVATION 0.00 (m) |

SAMPLE TYPE: SHELBY TUBE; NO RECOVERY; SPLIT SPOON; DISTURBED; PISTON; GRAVITY CORE

| DEPTH (m) | SAMPLE TYPE | SAMPLE NO | SOIL DESCRIPTION | USC | DEPTH (ft) |
|---|---|---|---|---|---|
| 0.0 | | | CLAY | | 0.0 |
| | | AVG | | CH | 1.0 |
| | | | END OF PISTON CORE | | 2.0 |
| | | | | | 3.0 |
| 1.0 | | | | | |

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| NAHIDIK 1983 | ORIGINAL BOREHOLE NO. PC-02 | BOREHOLE No. NK83PC02 |
| GEOLOGICAL SURVEY OF CANADA | WATER DEPTH – UNKNOWN | Project No: |
| DRILL SHIP – NAHIDIK | DEPTHS ARE REFERENCED TO SEABED | ELEVATION 0.00 (m) |

SAMPLE TYPE: SHELBY TUBE; NO RECOVERY; SPLIT SPOON; DISTURBED; PISTON CORE; GRAVITY CORE

| DEPTH (m) | SAMPLE TYPE | SAMPLE NO | SOIL DESCRIPTION | USC | DEPTH (ft) |
|---|---|---|---|---|---|
| 0.0 | | | CLAY | | 0.0 |
| | | AVG | | CH | 1.0 |
| | | | | | 2.0 |
| | | AVG | | CH | 3.0 |
| 1.0 | | | | | 4.0 |
| | | AVG | | CH | 5.0 |
| | | | END OF PISTON CORE | | 6.0 |
| 2.0 | | | | | 7.0 |
| | | | | | 8.0 |
| | | | | | 9.0 |

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| NAHIDIK 1983 | ORIGINAL BOREHOLE NO. PC-03 | BOREHOLE No. NK83PC03 |
| GEOLOGICAL SURVEY OF CANADA | WATER DEPTH – UNKNOWN | Project No: |
| DRILL SHIP – NAHIDIK | DEPTHS ARE REFERENCED TO SEABED | ELEVATION 0.00 (m) |

SAMPLE TYPE: SHELBY TUBE | NO RECOVERY | SPLIT SPOON | DISTURBED | PISTON CORE | GRAVITY CORE

| DEPTH (m) | SAMPLE TYPE | SAMPLE NO | SOIL DESCRIPTION | USC | DEPTH (ft) |
|---|---|---|---|---|---|
| 0.0 | | | CLAY | | 0.0 |
| | | | | | 1.0 |
| | | | | | 2.0 |
| | | | | | 3.0 |
| 1.0 | | AVG | | CH | 4.0 |
| | | | | | 5.0 |
| | | | | | 6.0 |
| 2.0 | | | | | 7.0 |
| | | | END OF PISTON CORE | | 8.0 |
| | | | | | 9.0 |

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| NAHIDIK 1983 | ORIGINAL BOREHOLE NO. PC-04 | BOREHOLE No. NK83PC04 |
| GEOLOGICAL SURVEY OF CANADA | WATER DEPTH – UNKNOWN | Project No: |
| DRILL SHIP – NAHIDIK | DEPTHS ARE REFERENCED TO SEABED | ELEVATION 0.00 (m) |

SAMPLE TYPE: SHELBY TUBE | NO RECOVERY | SPLIT SPOON | DISTURBED | PISTON | GRAVITY CORE

| DEPTH (m) | SAMPLE TYPE | SAMPLE NO | SOIL DESCRIPTION | USC | DEPTH (ft) |
|---|---|---|---|---|---|
| 0.0 | | | CLAY | | 0.0 |
| | | AVG | | CH | 1.0 |
| | | | END OF PISTON CORE | | 2.0 |
| | | | | | 3.0 |
| 1.0 | | | | | |

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| NAHIDIK 1983 | ORIGINAL BOREHOLE NO. PC-05 | BOREHOLE No. NK83PC05 |
| GEOLOGICAL SURVEY OF CANADA | WATER DEPTH – UNKNOWN | Project No: |
| DRILL SHIP – NAHIDIK | DEPTHS ARE REFERENCED TO SEABED | ELEVATION 0.00 (m) |

SAMPLE TYPE: SHELBY TUBE | NO RECOVERY | SPLIT SPOON | DISTURBED | PISTON | GRAVITY CORE

| DEPTH (m) | SAMPLE TYPE | SAMPLE NO | SOIL DESCRIPTION | USC | DEPTH (ft) |
|---|---|---|---|---|---|
| 0.0 | | | CLAY | CH | 0.0 |
| | | AVG | | | 1.0 |
| | | | END OF PISTON CORE | | |
| | | | | | 2.0 |
| | | | | | 3.0 |
| 1.0 | | | | | |

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| NAHIDIK 1983 | ORIGINAL BOREHOLE NO. PC-06 | BOREHOLE No. NK83PC06 |
| GEOLOGICAL SURVEY OF CANADA | WATER DEPTH – UNKNOWN | Project No: |
| DRILL SHIP – NAHIDIK | DEPTHS ARE REFERENCED TO SEABED | ELEVATION 0.00 (m) |

SAMPLE TYPE: SHELBY TUBE | NO RECOVERY | SPLIT SPOON | DISTURBED | PISTON | GRAVITY CORE

| DEPTH (m) | SAMPLE TYPE | SAMPLE NO | SOIL DESCRIPTION | USC | DEPTH (ft) |
|---|---|---|---|---|---|
| 0.0 | | | CLAY | CH | 0.0 |
| | | AVG | | | 1.0 |
| | | | END OF PISTON CORE | | |
| | | | | | 2.0 |
| | | | | | 3.0 |
| 1.0 | | | | | |

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| NAHIDIK 1983 | ORIGINAL BOREHOLE NO. PC-08 | BOREHOLE No. NK83PC08 |
| GEOLOGICAL SURVEY OF CANADA | WATER DEPTH – UNKNOWN | Project No: |
| DRILL SHIP – NAHIDIK | DEPTHS ARE REFERENCED TO SEABED | ELEVATION 0.00 (m) |

SAMPLE TYPE: SHELBY TUBE; NO RECOVERY; SPLIT SPOON; DISTURBED; PISTON; GRAVITY CORE

| DEPTH (m) | SAMPLE TYPE | SAMPLE NO | SOIL DESCRIPTION | USC | DEPTH (ft) |
|---|---|---|---|---|---|
| 0.0 | | | CLAY | ML | 0.0 |
| | | AVG | | | 1.0 |
| | | | | | 2.0 |
| | | | END OF PISTON CORE | | 3.0 |
| 1.0 | | | | | |

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| COMPLETION DEPTH •• m | COMPLETE | |
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| NAHIDIK 1983 | ORIGINAL BOREHOLE NO. PC-09 | BOREHOLE No. NK83PC09 |
| GEOLOGICAL SURVEY OF CANADA | WATER DEPTH – UNKNOWN | Project No: |
| DRILL SHIP – NAHIDIK | DEPTHS ARE REFERENCED TO SEABED | ELEVATION 0.00 (m) |

SAMPLE TYPE: SHELBY TUBE; NO RECOVERY; SPLIT SPOON; DISTURBED; PISTON CORE; GRAVITY CORE

| DEPTH (m) | SAMPLE TYPE | SAMPLE NO | SOIL DESCRIPTION | USC | DEPTH (ft) |
|---|---|---|---|---|---|
| 0.0 | | | CLAY | CH | 0.0 |
| | | AVG | | | 1.0 |
| 1.0 | | | | | 2.0 |
| | | | | | 3.0 |
| | | | | | 4.0 |
| | | AVG | | CH | 5.0 |
| | | | | | 6.0 |
| 2.0 | | | END OF PISTON CORE | | 7.0 |
| | | | | | 8.0 |
| | | | | | 9.0 |

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| COMPLETION DEPTH •• m | COMPLETE | |
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| NAHIDIK 1983 | ORIGINAL BOREHOLE NO. PC-10 | BOREHOLE No. NK83PC10 |
| GEOLOGICAL SURVEY OF CANADA | WATER DEPTH – UNKNOWN | Project No: |
| DRILL SHIP – NAHIDIK | DEPTHS ARE REFERENCED TO SEABED | ELEVATION 0.00 (m) |

SAMPLE TYPE: SHELBY TUBE; NO RECOVERY; SPLIT SPOON; DISTURBED; PISTON CORE; GRAVITY CORE

| DEPTH (m) | SAMPLE TYPE | SAMPLE NO | SOIL DESCRIPTION | USC |
|---|---|---|---|---|
| 0.0 | | | CLAY | |
| 1.0 | | AVG | | CH |
| | | AVG | | |
| 2.0 | | | END OF PISTON CORE | |

Δ DSD (mm) Δ: 2000 4000 6000 8000

PLASTIC — M.C — LIQUID: 20 40 60 80

FINES (%): 20 40 60 80

SAND (%): 20 40 60 80

GRAVEL (%): 20 40 60 80

DEPTH (m): 0.0, 1.0, 2.0, 3.0, 4.0, 5.0, 6.0, 7.0, 8.0, 9.0

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| COMPLETION DEPTH •• m | COMPLETE | |
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| NAHIDIK 1983 | ORIGINAL BOREHOLE NO. PC-12 | BOREHOLE No. NK83PC12 |
| GEOLOGICAL SURVEY OF CANADA | WATER DEPTH – UNKNOWN | Project No: |
| DRILL SHIP – NAHIDIK | DEPTHS ARE REFERENCED TO SEABED | ELEVATION 0.00 (m) |

SAMPLE TYPE: SHELBY TUBE; NO RECOVERY; SPLIT SPOON; DISTURBED; PISTON CORE; GRAVITY CORE

| DEPTH (m) | SAMPLE TYPE | SAMPLE NO | SOIL DESCRIPTION | USC |
|---|---|---|---|---|
| 0.0 | | | CLAY | |
| 1.0 | | | | |
| 2.0 | | | | |
| 3.0 | | AVG | | CH |
| 4.0 | | | | |
| 5.0 | | | | |
| | | | END OF PISTON CORE | |
| 6.0 | | | | |
| 7.0 | | | | |
| 8.0 | | | | |
| 9.0 | | | | |
| 10.0 | | | | |

Δ DSD (mm) Δ: 2000 4000 6000 8000

PLASTIC — M.C — LIQUID: 20 40 60 80

FINES (%): 20 40 60 80

SAND (%): 20 40 60 80

GRAVEL (%): 20 40 60 80

DEPTH (m): 0.0, 5.0, 10.0, 15.0, 20.0, 25.0, 30.0

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| COMPLETION DEPTH •• m | COMPLETE | |
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| BRODERICK 86-DEMARC NO.1, NATSEK PLAIN | ORIGINAL BOREHOLE NO. GSC1 | BOREHOLE No. GSC1 |
| GEOLOGICAL SURVEY OF CANADA | WATER DEPTH - 44.0m | Project No: |
| DRILL SHIP - M.V. FRANK BRODERICK | DEPTHS ARE REFERENCED TO SEABED | ELEVATION -44.00 (m) |

SAMPLE TYPE: SHELBY TUBE | NO RECOVERY | SPLIT SPOON | DISTURBED | PISTON CORE | GRAVITY CORE

| DEPTH (m) | SAMPLE TYPE | SAMPLE NO | SOIL DESCRIPTION | USC | DEPTH (ft) |
|---|---|---|---|---|---|
| 0.0 | | | | | 0.0 |
| | | 20A | | | |
| | | | | | 1.0 |
| | | | END OF PISTON CORE | | |
| | | | | | 2.0 |
| | | | | | 3.0 |
| 1.0 | | | | | |

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| COMPLETION DEPTH ** m | COMPLETE | |
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| NAHIDIK 1985 | ORIGINAL BOREHOLE NO. PC-01 | BOREHOLE No. NK85PC01 |
| GEOLOGICAL SURVEY OF CANADA | WATER DEPTH – UNKNOWN | Project No: |
| DRILL SHIP – NAHIDIK | DEPTHS ARE REFERENCED TO SEABED | ELEVATION 0.00 (m) |

SAMPLE TYPE: SHELBY TUBE, NO RECOVERY, SPLIT SPOON, DISTURBED, PISTON, GRAVITY CORE

| DEPTH (m) | SAMPLE TYPE | SAMPLE NO | SOIL DESCRIPTION | USC | DEPTH (ft) |
|---|---|---|---|---|---|
| 0.0 | | | CLAY (CI) | | 0.0 |
| | | 001 | | | |
| | | 002 | | CI | 1.0 |
| | | | END OF PISTON CORE | | 2.0 |
| | | | | | 3.0 |
| 1.0 | | | | | |

Δ D50 (um) Δ: 2000 4000 6000 8000

PLASTIC — M.C — LIQUID: 20 40 60 80

■ FINES (%) ■: 20 40 60 80

◆ SAND (%) ◆: 20 40 60 80

● GRAVEL (%) ●: 20 40 60 80

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| COMPLETION DEPTH •• m | COMPLETE | |
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|---|---|---|
| NAHIDIK 1985 | ORIGINAL BOREHOLE NO. PC-02 | BOREHOLE No. NK85PC02 |
| GEOLOGICAL SURVEY OF CANADA | WATER DEPTH – UNKNOWN | Project No: |
| DRILL SHIP – NAHIDIK | DEPTHS ARE REFERENCED TO SEABED | ELEVATION 0.00 (m) |

SAMPLE TYPE: SHELBY TUBE, NO RECOVERY, SPLIT SPOON, DISTURBED, PISTON, GRAVITY CORE

| DEPTH (m) | SAMPLE TYPE | SAMPLE NO | SOIL DESCRIPTION | USC | DEPTH (ft) |
|---|---|---|---|---|---|
| 0.0 | | | CLAY | | 0.0 |
| | | | | | 1.0 |
| | | 002 | | MH | |
| | | 003 | | MH | |
| | | | END OF PISTON CORE | | 2.0 |
| | | | | | 3.0 |
| 1.0 | | | | | |

Δ D50 (um) Δ: 2000 4000 6000 8000

PLASTIC — M.C — LIQUID: 20 40 60 80

■ FINES (%) ■: 20 40 60 80

◆ SAND (%) ◆: 20 40 60 80

● GRAVEL (%) ●: 20 40 60 80

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| COMPLETION DEPTH •• m | COMPLETE | |
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| NAHIDIK 1985 | ORIGINAL BOREHOLE NO. PC-03 | BOREHOLE No. NK85PC03 |
|---|---|---|
| GEOLOGICAL SURVEY OF CANADA | WATER DEPTH - UNKNOWN | Project No: |
| DRILL SHIP - NAHIDIK | DEPTHS ARE REFERENCED TO SEABED | ELEVATION 0.00 (m) |

SAMPLE TYPE: SHELBY TUBE | NO RECOVERY | SPLIT SPOON | DISTURBED | PISTON | GRAVITY CORE

| DEPTH (m) | SAMPLE TYPE | SAMPLE NO | SOIL DESCRIPTION | USC | DEPTH (ft) |
|---|---|---|---|---|---|
| 0.0 | | | CLAY | | 0.0 |
| | | AVG | | CL | 1.0 |
| | | 003 | | CL | 2.0 |
| | | | END OF PISTON CORE | | 3.0 |
| 1.0 | | | | | |

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COMPLETION DEPTH ** m | COMPLETE
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| NAHIDIK 1985 | ORIGINAL BOREHOLE NO. PC-03 REDROP | BOREHOLE No. NK85PC3R |
|---|---|---|
| GEOLOGICAL SURVEY OF CANADA | WATER DEPTH - UNKNOWN | Project No: |
| DRILL SHIP - NAHIDIK | DEPTHS ARE REFERENCED TO SEABED | ELEVATION 0.00 (m) |

SAMPLE TYPE: SHELBY TUBE | NO RECOVERY | SPLIT SPOON | DISTURBED | PISTON | GRAVITY CORE

| DEPTH (m) | SAMPLE TYPE | SAMPLE NO | SOIL DESCRIPTION | USC | DEPTH (ft) |
|---|---|---|---|---|---|
| 0.0 | | | CLAY - assumed principal component | | 0.0 |
| | | | END OF PISTON CORE | | 1.0 |
| | | | | | 2.0 |
| | | | | | 3.0 |
| 1.0 | | | | | |

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| NAHIDIK 1985 | ORIGINAL BOREHOLE NO. PC-04 | BOREHOLE No. NK85PC04 |
| GEOLOGICAL SURVEY OF CANADA | WATER DEPTH – UNKNOWN | Project No: |
| DRILL SHIP – NAHIDIK | DEPTHS ARE REFERENCED TO SEABED | ELEVATION 0.00 (m) |

SAMPLE TYPE: SHELBY TUBE; NO RECOVERY; SPLIT SPOON; DISTURBED; PISTON; GRAVITY CORE

| DEPTH (m) | SAMPLE TYPE | SAMPLE NO | SOIL DESCRIPTION | USC | DEPTH (ft) |
|---|---|---|---|---|---|
| 0.0 | | | CLAY | ML | 0.0 |
| | | 002 | | | |
| | | | END OF PISTON CORE | | 1.0 |
| | | | | | 2.0 |
| | | | | | 3.0 |
| 1.0 | | | | | |

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| NAHIDIK 1985 | ORIGINAL BOREHOLE NO. PC-05 | BOREHOLE No. NK85PC05 |
| GEOLOGICAL SURVEY OF CANADA | WATER DEPTH – UNKNOWN | Project No: |
| DRILL SHIP – NAHIDIK | DEPTHS ARE REFERENCED TO SEABED | ELEVATION 0.00 (m) |

SAMPLE TYPE: SHELBY TUBE; NO RECOVERY; SPLIT SPOON; DISTURBED; PISTON CORE; GRAVITY CORE

| DEPTH (m) | SAMPLE TYPE | SAMPLE NO | SOIL DESCRIPTION | USC | DEPTH (ft) |
|---|---|---|---|---|---|
| 0.0 | | | CLAY | CL | 0.0 |
| | | AVG | | | 1.0 |
| 1.0 | | | | | 2.0 |
| | | | | | 3.0 |
| | | | | | 4.0 |
| | | | END OF PISTON CORE | | 5.0 |
| | | | | | 6.0 |
| 2.0 | | | | | 7.0 |
| | | | | | 8.0 |
| | | | | | 9.0 |

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| NAHIDIK 1985 | ORIGINAL BOREHOLE NO. PC-06 | BOREHOLE No. NK85PC06 |
| GEOLOGICAL SURVEY OF CANADA | WATER DEPTH - UNKNOWN | Project No: |
| DRILL SHIP - NAHIDIK | DEPTHS ARE REFERENCED TO SEABED | ELEVATION 0.00 (m) |

SAMPLE TYPE: SHELBY TUBE | NO RECOVERY | SPLIT SPOON | DISTURBED | PISTON | GRAVITY CORE

| DEPTH (m) | SAMPLE TYPE | SAMPLE NO | SOIL DESCRIPTION | USC | DEPTH (ft) |
|---|---|---|---|---|---|
| 0.0 | | 001 | CLAY | NL | 0.0 |
| | | | END OF PISTON CORE | | 1.0 |
| | | | | | 2.0 |
| | | | | | 3.0 |
| 1.0 | | | | | |

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| NAHIDIK 1985 | ORIGINAL BOREHOLE NO. PC-07 | BOREHOLE No. NK85PC07 |
| GEOLOGICAL SURVEY OF CANADA | WATER DEPTH - UNKNOWN | Project No: |
| DRILL SHIP - NAHIDIK | DEPTHS ARE REFERENCED TO SEABED | ELEVATION 0.00 (m) |

SAMPLE TYPE: SHELBY TUBE | NO RECOVERY | SPLIT SPOON | DISTURBED | PISTON | GRAVITY CORE

| DEPTH (m) | SAMPLE TYPE | SAMPLE NO | SOIL DESCRIPTION | USC | DEPTH (ft) |
|---|---|---|---|---|---|
| 0.0 | | 002 | CLAY | CL | 0.0 |
| | | | END OF PISTON CORE | | 1.0 |
| | | | | | 2.0 |
| | | | | | 3.0 |
| 1.0 | | | | | |

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| COMPLETION DEPTH - - m | COMPLETE | |
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| NAHIDIK 1986 - KUGMALLIT BAY | ORIGINAL BOREHOLE NO. G-67 | BOREHOLE No. KM86G67 |
| GEOLOGICAL SURVEY OF CANADA | WATER DEPTH - UNKNOWN | Project No: |
| DRILL SHIP - NAHIDIK | DEPTHS ARE REFERENCED TO SEABED | ELEVATION 0.00 (m) |

SAMPLE TYPE: SHELBY TUBE; NO RECOVERY; SPLIT SPOON; DISTURBED; PISTON CORE; GRAVITY CORE

| DEPTH (m) | SAMPLE TYPE | SAMPLE NO | SOIL DESCRIPTION | USC | DEPTH (ft) |
|---|---|---|---|---|---|
| 0.0 | | | CLAY - assumed principal component | | 0.0 |
| | | | END OF GRAVITY CORE | | |
| | | | | | 1.0 |
| | | | | | 2.0 |
| | | | | | 3.0 |
| 1.0 | | | | | |

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COMPLETION DEPTH ** m | COMPLETE
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| NAHIDIK 1986 - KUGMALLIT BAY | ORIGINAL BOREHOLE NO. G-68 | BOREHOLE No. KM86G68 |
| GEOLOGICAL SURVEY OF CANADA | WATER DEPTH - 4.4m | Project No: |
| DRILL SHIP - NAHIDIK | DEPTHS ARE REFERENCED TO SEABED | ELEVATION -4.40 (m) |

SAMPLE TYPE: SHELBY TUBE; NO RECOVERY; SPLIT SPOON; DISTURBED; PISTON CORE; GRAVITY CORE

| DEPTH (m) | SAMPLE TYPE | SAMPLE NO | SOIL DESCRIPTION | USC | DEPTH (ft) |
|---|---|---|---|---|---|
| 0.0 | | | CLAY - assumed principal component | | 0.0 |
| | | | END OF GRAVITY CORE | | |
| | | | | | 1.0 |
| | | | | | 2.0 |
| | | | | | 3.0 |
| 1.0 | | | | | |

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| NAHIDIK 1986 - KUGMALLIT BAY | ORIGINAL BOREHOLE NO. G-69 | BOREHOLE No. KM86G69 |
| GEOLOGICAL SURVEY OF CANADA | WATER DEPTH - 5.0m | Project No: |
| DRILL SHIP - NAHIDIK | DEPTHS ARE REFERENCED TO SEABED | ELEVATION -5.00 (m) |

SAMPLE TYPE: SHELBY TUBE | NO RECOVERY | SPLIT SPOON | DISTURBED | PISTON CORE | GRAVITY CORE

| DEPTH (m) | SAMPLE TYPE | SAMPLE NO | SOIL DESCRIPTION | USC | DEPTH (ft) |
|---|---|---|---|---|---|
| 0.0 | | | CLAY - assumed principal component | | 0.0 |
| | | | END OF GRAVITY CORE | | 1.0 |
| | | | | | 2.0 |
| | | | | | 3.0 |
| 1.0 | | | | | |

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| NAHIDIK 1986 - KUGMALLIT BAY | ORIGINAL BOREHOLE NO. G-70 | BOREHOLE No. KM86G70 |
| GEOLOGICAL SURVEY OF CANADA | WATER DEPTH - 5.0m | Project No: |
| DRILL SHIP - NAHIDIK | DEPTHS ARE REFERENCED TO SEABED | ELEVATION -5.00 (m) |

SAMPLE TYPE: SHELBY TUBE | NO RECOVERY | SPLIT SPOON | DISTURBED | PISTON CORE | GRAVITY CORE

| DEPTH (m) | SAMPLE TYPE | SAMPLE NO | SOIL DESCRIPTION | USC | DEPTH (ft) |
|---|---|---|---|---|---|
| 0.0 | | | CLAY - assumed principal component | | 0.0 |
| | | | END OF GRAVITY CORE | | 1.0 |
| | | | | | 2.0 |
| | | | | | 3.0 |
| 1.0 | | | | | |

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| NAHIDIK 1986 - KUGMALLIT BAY | ORIGINAL BOREHOLE NO. G-80 | BOREHOLE No. KM86G80 |
| GEOLOGICAL SURVEY OF CANADA | WATER DEPTH - 5.0m | Project No: |
| DRILL SHIP - NAHIDIK | DEPTHS ARE REFERENCED TO SEABED | ELEVATION -5.00 (m) |

SAMPLE TYPE: SHELBY TUBE | NO RECOVERY | SPLIT SPOON | DISTURBED | PISTON CORE | GRAVITY CORE

| DEPTH (m) | SAMPLE TYPE | SAMPLE NO | SOIL DESCRIPTION | USC | DEPTH (ft) |
|---|---|---|---|---|---|
| 0.0 | | | CLAY - assumed principal component | | 0.0 |
| | | | END OF GRAVITY CORE | | |
| | | | | | 1.0 |
| | | | | | 2.0 |
| | | | | | 3.0 |
| 1.0 | | | | | |

Δ Cu (kPa) Δ: 2000 4000 6000 8000

PLASTIC — NLC — LIQUID: 20 40 60 80

FINES (%): 20 40 60 80

SAND (%): 20 40 60 80

GRAVEL (%): 20 40 60 80

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| EBA Engineering Consultants Ltd. Calgary, Alberta | COMPLETION DEPTH ** m | COMPLETE | |
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| NAHIDIK 1986 - KUGMALLIT BAY | ORIGINAL BOREHOLE NO. GC-67 | BOREHOLE No. KM86GC67 |
| GEOLOGICAL SURVEY OF CANADA | WATER DEPTH - 5.6m | Project No: |
| DRILL SHIP - NAHIDIK | DEPTHS ARE REFERENCED TO SEABED | ELEVATION -5.60 (m) |

SAMPLE TYPE: SHELBY TUBE, NO RECOVERY, SPLIT SPOON, DISTURBED, PISTON, GRAVITY CORE

| DEPTH (m) | SAMPLE TYPE | SAMPLE NO | SOIL DESCRIPTION | USC | DEPTH (ft) |
|---|---|---|---|---|---|
| 0.0 | | | CLAY - soft | | 0.0 |
| | | 67B | | CL | |
| | | | | | 1.0 |
| | | 67C | | CL | 2.0 |
| | | | END OF GRAVITY CORE | | 3.0 |
| 1.0 | | | | | |

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| COMPLETION DEPTH - - m | COMPLETE | |
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| NAHIDIK 1986 - KUGMALLIT BAY | ORIGINAL BOREHOLE NO. GC-71 | BOREHOLE No. KM86GC71 |
| GEOLOGICAL SURVEY OF CANADA | WATER DEPTH - 5.3m | Project No: |
| DRILL SHIP - NAHIDIK | DEPTHS ARE REFERENCED TO SEABED | ELEVATION -5.30 (m) |

SAMPLE TYPE: SHELBY TUBE, NO RECOVERY, SPLIT SPOON, DISTURBED, PISTON, GRAVITY CORE

| DEPTH (m) | SAMPLE TYPE | SAMPLE NO | SOIL DESCRIPTION | USC | DEPTH (ft) |
|---|---|---|---|---|---|
| 0.0 | | | CLAY - very soft to soft | | 0.0 |
| | | 71B | | CL | |
| | | | END OF GRAVITY CORE | | 1.0 |
| | | | | | 2.0 |
| | | | | | 3.0 |
| 1.0 | | | | | |

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| NAHIDIK 1986 - KUGMALLIT BAY | ORIGINAL BOREHOLE NO. GC-72 | BOREHOLE No. KM86GC72 |
| GEOLOGICAL SURVEY OF CANADA | WATER DEPTH - 5.3m | Project No: |
| DRILL SHIP - NAHIDIK | DEPTHS ARE REFERENCED TO SEABED | ELEVATION -5.30 (m) |

SAMPLE TYPE: SHELBY TUBE | NO RECOVERY | SPLIT SPOON | DISTURBED | PISTON CORE | GRAVITY CORE

| DEPTH (m) | SAMPLE TYPE | SAMPLE NO | SOIL DESCRIPTION | USC | DEPTH (ft) |
|---|---|---|---|---|---|
| 0.0 | | | CLAY | CL | 0.0 |
| | | AVG | | | 1.0 |
| | | | | | 2.0 |
| | | | | | 3.0 |
| 1.0 | | | END OF GRAVITY CORE | | 4.0 |
| | | | | | 5.0 |
| 2.0 | | | | | 6.0 |
| | | | | | 7.0 |
| | | | | | 8.0 |
| | | | | | 9.0 |

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| NAHIDIK 1986 - KUGMALLIT BAY | ORIGINAL BOREHOLE NO. GC-73 | BOREHOLE No. KM86GC73 |
| GEOLOGICAL SURVEY OF CANADA | WATER DEPTH - 5.6m | Project No: |
| DRILL SHIP - NAHIDIK | DEPTHS ARE REFERENCED TO SEABED | ELEVATION -5.60 (m) |

SAMPLE TYPE: SHELBY TUBE | NO RECOVERY | SPLIT SPOON | DISTURBED | PISTON | GRAVITY CORE

| DEPTH (m) | SAMPLE TYPE | SAMPLE NO | SOIL DESCRIPTION | USC | DEPTH (ft) |
|---|---|---|---|---|---|
| 0.0 | | | CLAY | CL | 0.0 |
| | | 7.33 | | | 1.0 |
| | | | END OF GRAVITY CORE | | 2.0 |
| 1.0 | | | | | 3.0 |

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| NAHIDIK 1986 - KUGMALLIT BAY | ORIGINAL BOREHOLE NO. GC-74 | BOREHOLE No. KM86GC74 |
| GEOLOGICAL SURVEY OF CANADA | WATER DEPTH - 5.9m | Project No: |
| DRILL SHIP - NAHIDIK | DEPTHS ARE REFERENCED TO SEABED | ELEVATION -5.90 (m) |

SAMPLE TYPE: SHELBY TUBE, NO RECOVERY, SPLIT SPOON, DISTURBED, PISTON CORE, GRAVITY CORE

| DEPTH (m) | SAMPLE TYPE | SAMPLE NO | SOIL DESCRIPTION | USC | DEPTH (ft) |
|---|---|---|---|---|---|
| 0.0 | | | CLAY | CL | 0.0 |
| | | 74B | | | 1.0 |
| | | | | | 2.0 |
| | | | | | 3.0 |
| 1.0 | | 74C | | ML | |
| | | | END OF GRAVITY CORE | | 4.0 |
| | | | | | 5.0 |
| | | | | | 6.0 |
| 2.0 | | | | | 7.0 |
| | | | | | 8.0 |
| | | | | | 9.0 |

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| NAHIDIK 1986 - KUGMALLIT BAY | ORIGINAL BOREHOLE NO. GC-75 | BOREHOLE No. KM86GC75 |
| GEOLOGICAL SURVEY OF CANADA | WATER DEPTH - 5.9m | Project No: |
| DRILL SHIP - NAHIDIK | DEPTHS ARE REFERENCED TO SEABED | ELEVATION -5.90 (m) |

SAMPLE TYPE: SHELBY TUBE, NO RECOVERY, SPLIT SPOON, DISTURBED, PISTON, GRAVITY CORE

| DEPTH (m) | SAMPLE TYPE | SAMPLE NO | SOIL DESCRIPTION | USC | DEPTH (ft) |
|---|---|---|---|---|---|
| 0.0 | | | CLAY | CL | 0.0 |
| | | 75B | | | 1.0 |
| | | | | | 2.0 |
| | | 75C | | ML | 3.0 |
| | | | END OF GRAVITY CORE | | |
| 1.0 | | | | | |

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| NAHIDIK 1986 - KUGMALLIT BAY | ORIGINAL BOREHOLE NO. GC-76 | BOREHOLE No. KM86GC76 |
| GEOLOGICAL SURVEY OF CANADA | WATER DEPTH - 5.9m | Project No: |
| DRILL SHIP - NAHIDIK | DEPTHS ARE REFERENCED TO SEABED | ELEVATION -5.90 (m) |

SAMPLE TYPE: SHELBY TUBE, NO RECOVERY, SPLIT SPOON, DISTURBED, PISTON CORE, GRAVITY CORE

| DEPTH (m) | SAMPLE TYPE | SAMPLE NO | SOIL DESCRIPTION | USC | DEPTH (ft) |
|---|---|---|---|---|---|
| 0.0 | | | CLAY | | 0.0 |
| | | 76B | | CL | 1.0 |
| | | | END OF GRAVITY CORE | | 2.0 |
| | | | | | 3.0 |
| 1.0 | | | | | |

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| NAHIDIK 1988 - KUGMALLIT BAY | ORIGINAL BOREHOLE NO. GC-77 | BOREHOLE No. KM86GC77 |
| GEOLOGICAL SURVEY OF CANADA | WATER DEPTH - 6.2m | Project No: |
| DRILL SHIP - NAHIDIK | DEPTHS ARE REFERENCED TO SEABED | ELEVATION -6.20 (m) |

SAMPLE TYPE: SHELBY TUBE, NO RECOVERY, SPLIT SPOON, DISTURBED, PISTON CORE, GRAVITY CORE

| DEPTH (m) | SAMPLE TYPE | SAMPLE NO | SOIL DESCRIPTION | USC | DEPTH (ft) |
|---|---|---|---|---|---|
| 0.0 | | | CLAY - friable at surface | | 0.0 |
| | | 77B | | CL | 1.0 |
| | | | END OF GRAVITY CORE | | 2.0 |
| | | | | | 3.0 |
| 1.0 | | | | | |

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| NAHIDIK 1986 - KUGMALLIT BAY | ORIGINAL BOREHOLE NO. GC-78 | BOREHOLE No. KM86GC78 |
| GEOLOGICAL SURVEY OF CANADA | WATER DEPTH - 5.6m | Project No: |
| DRILL SHIP - NAHIDIK | DEPTHS ARE REFERENCED TO SEABED | ELEVATION -5.60 (m) |

SAMPLE TYPE: SHELBY TUBE, NO RECOVERY, SPLIT SPOON, DISTURBED, PISTON, GRAVITY CORE

| DEPTH (m) | SAMPLE TYPE | SAMPLE NO | SOIL DESCRIPTION | USC | DEPTH (ft) |
|---|---|---|---|---|---|
| 0.0 | | | CLAY - soft, grey | | 0.0 |
| | | 78B | | CL | 1.0 |
| | | 78C | | CH | 2.0 |
| | | | END OF GRAVITY CORE | | 3.0 |
| 1.0 | | | | | |

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| NAHIDIK 1986 - KUGMALLIT BAY | ORIGINAL BOREHOLE NO. GC-79 | BOREHOLE No. KM86GC79 |
| GEOLOGICAL SURVEY OF CANADA | WATER DEPTH - 5.0m | Project No: |
| DRILL SHIP - NAHIDIK | DEPTHS ARE REFERENCED TO SEABED | ELEVATION -5.00 (m) |

SAMPLE TYPE: SHELBY TUBE, NO RECOVERY, SPLIT SPOON, DISTURBED, PISTON CORE, GRAVITY CORE

| DEPTH (m) | SAMPLE TYPE | SAMPLE NO | SOIL DESCRIPTION | USC | DEPTH (ft) |
|---|---|---|---|---|---|
| 0.0 | | | CLAY - firm to stiff, grey | | 0.0 |
| | | NVD | | CL | 1.0 |
| 1.0 | | | | | 2.0 |
| | | | END OF GRAVITY CORE | | 3.0 |
| | | | | | 4.0 |
| | | | | | 5.0 |
| 2.0 | | | | | 6.0 |
| | | | | | 7.0 |
| | | | | | 8.0 |
| | | | | | 9.0 |

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| NAHIDIK 1986 - KUGMALLIT BAY | ORIGINAL BOREHOLE NO. GC-81 | BOREHOLE No. KM86GC81 |
| GEOLOGICAL SURVEY OF CANADA | WATER DEPTH - 5.0m | Project No: |
| DRILL SHIP - NAHIDIK | DEPTHS ARE REFERENCED TO SEABED | ELEVATION -5.00 (m) |

SAMPLE TYPE: SHELBY TUBE, NO RECOVERY, SPLIT SPOON, DISTURBED, PISTON, GRAVITY CORE

| DEPTH (m) | SAMPLE TYPE | SAMPLE NO | SOIL DESCRIPTION | USC | DEPTH (ft) |
|---|---|---|---|---|---|
| 0.0 | | | CLAY - soft, grey | | 0.0 |
| | | | END OF GRAVITY CORE | | 1.0 |
| | | | | | 2.0 |
| | | | | | 3.0 |
| 1.0 | | | | | |

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| NAHIDIK 1986 - KUGMALLIT BAY | ORIGINAL BOREHOLE NO. GC-82 | BOREHOLE No. KM86GC82 |
| GEOLOGICAL SURVEY OF CANADA | WATER DEPTH - 5.0m | Project No: |
| DRILL SHIP - NAHIDIK | DEPTHS ARE REFERENCED TO SEABED | ELEVATION -5.00 (m) |

SAMPLE TYPE: SHELBY TUBE, NO RECOVERY, SPLIT SPOON, DISTURBED, PISTON, GRAVITY CORE

| DEPTH (m) | SAMPLE TYPE | SAMPLE NO | SOIL DESCRIPTION | USC | DEPTH (ft) |
|---|---|---|---|---|---|
| 0.0 | | 828 | CLAY - soft, grey | CL | 0.0 |
| | | | END OF GRAVITY CORE | | 1.0 |
| | | | | | 2.0 |
| | | | | | 3.0 |
| 1.0 | | | | | |

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| NAHIDIK 1986 – KUGMALLIT BAY | ORIGINAL BOREHOLE NO. GC-83 | BOREHOLE No. KM86GC83 |
| GEOLOGICAL SURVEY OF CANADA | WATER DEPTH – 5.0m | Project No: |
| DRILL SHIP – NAHIDIK | DEPTHS ARE REFERENCED TO SEABED | ELEVATION –5.00 (m) |

SAMPLE TYPE: SHELBY TUBE; NO RECOVERY; SPLIT SPOON; DISTURBED; PISTON; GRAVITY CORE

| DEPTH (m) | SAMPLE TYPE | SAMPLE NO | SOIL DESCRIPTION | USC | DEPTH (ft) |
|---|---|---|---|---|---|
| 0.0 | | | CLAY – trace of sand on sample tube, possible sand layers | | 0.0 |
| | | 838 | | CL | |
| | | | END OF GRAVITY CORE | | |
| | | | | | 1.0 |
| | | | | | 2.0 |
| | | | | | 3.0 |
| 1.0 | | | | | |

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| NAHIDIK 1986 – KUGMALLIT BAY | ORIGINAL BOREHOLE NO. GC-84 | BOREHOLE No. KM86GC84 |
| GEOLOGICAL SURVEY OF CANADA | WATER DEPTH – 5.3m | Project No: |
| DRILL SHIP – NAHIDIK | DEPTHS ARE REFERENCED TO SEABED | ELEVATION –5.30 (m) |

SAMPLE TYPE: SHELBY TUBE; NO RECOVERY; SPLIT SPOON; DISTURBED; PISTON; GRAVITY CORE

| DEPTH (m) | SAMPLE TYPE | SAMPLE NO | SOIL DESCRIPTION | USC | DEPTH (ft) |
|---|---|---|---|---|---|
| 0.0 | | | SILT AND CLAY – grey | | 0.0 |
| | | 848 | | ML | 1.0 |
| | | | END OF GRAVITY CORE | | 2.0 |
| | | | | | 3.0 |
| 1.0 | | | | | |

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| NAHIDIK 1986 – KUGMALLIT BAY | ORIGINAL BOREHOLE NO. GC-85 | BOREHOLE No. KM86GC85 |
| GEOLOGICAL SURVEY OF CANADA | WATER DEPTH – 5.3m | Project No: |
| DRILL SHIP – NAHIDIK | DEPTHS ARE REFERENCED TO SEABED | ELEVATION –5.30 (m) |

SAMPLE TYPE: SHELBY TUBE | NO RECOVERY | SPLIT SPOON | DISTURBED | PISTON | GRAVITY CORE

| DEPTH (m) | SAMPLE TYPE | SAMPLE NO | SOIL DESCRIPTION | USC | DEPTH (ft) |
|---|---|---|---|---|---|
| 0.0 | | | SILT AND CLAY – some sand | ML | 0.0 |
| | | 858 | | | |
| | | | END OF GRAVITY CORE | | 1.0 |
| | | | | | 2.0 |
| | | | | | 3.0 |
| 1.0 | | | | | |

Δ D50 (mm) Δ: 2000 4000 6000 8000

PLASTIC — M.C — LIQUID: 20 40 60 80

FINES (%): 20 40 60 80

SAND (%): 20 40 60 80

GRAVEL (%): 20 40 60 80

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| EBA Engineering Consultants Ltd. Calgary, Alberta | COMPLETION DEPTH •• m | COMPLETE | |
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| NAHIDIK 1986 – KUGMALLIT BAY | ORIGINAL BOREHOLE NO. GC-86 | BOREHOLE No. KM86GC86 |
| GEOLOGICAL SURVEY OF CANADA | WATER DEPTH – 5.9m | Project No: |
| DRILL SHIP – NAHIDIK | DEPTHS ARE REFERENCED TO SEABED | ELEVATION –5.90 (m) |

SAMPLE TYPE: SHELBY TUBE | NO RECOVERY | SPLIT SPOON | DISTURBED | PISTON | GRAVITY CORE

| DEPTH (m) | SAMPLE TYPE | SAMPLE NO | SOIL DESCRIPTION | USC | DEPTH (ft) |
|---|---|---|---|---|---|
| 0.0 | | | CLAY – silty, lense of uniformly graded sand | CL | 0.0 |
| | | 860 | | | 1.0 |
| | | | END OF GRAVITY CORE | | 2.0 |
| | | | | | 3.0 |
| 1.0 | | | | | |

Δ D50 (mm) Δ: 2000 4000 6000 8000

PLASTIC — M.C — LIQUID: 20 40 60 80

FINES (%): 20 40 60 80

SAND (%): 20 40 60 80

GRAVEL (%): 20 40 60 80

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| EBA Engineering Consultants Ltd. Calgary, Alberta | COMPLETION DEPTH •• m | COMPLETE | |
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| NAHIDIK 1986 - KUGMALLIT BAY | ORIGINAL BOREHOLE NO. GC-87 | BOREHOLE No. KM86GC87 |
| GEOLOGICAL SURVEY OF CANADA | WATER DEPTH - 5.6m | Project No: |
| DRILL SHIP - NAHIDIK | DEPTHS ARE REFERENCED TO SEABED | ELEVATION -5.60 (m) |

SAMPLE TYPE: SHELBY TUBE | NO RECOVERY | SPLIT SPOON | DISTURBED | PISTON CORE | GRAVITY CORE

| DEPTH (m) | SAMPLE TYPE | SAMPLE NO | SOIL DESCRIPTION | USC | DEPTH (ft) |
|---|---|---|---|---|---|
| 0.0 | | | CLAY - soft, grey | CL | 0.0 |
| | | AVG | | | 1.0 |
| | | | | | 2.0 |
| | | | | | 3.0 |
| 1.0 | | | END OF GRAVITY CORE | | 4.0 |
| | | | | | 5.0 |
| | | | | | 6.0 |
| 2.0 | | | | | 7.0 |
| | | | | | 8.0 |
| | | | | | 9.0 |

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| NAHIDIK 1986 - KUGMALLIT BAY | ORIGINAL BOREHOLE NO. GC-86 | BOREHOLE No. KM86GC88 |
| GEOLOGICAL SURVEY OF CANADA | WATER DEPTH - 5.0m | Project No: |
| DRILL SHIP - NAHIDIK | DEPTHS ARE REFERENCED TO SEABED | ELEVATION -5.00 (m) |

SAMPLE TYPE: SHELBY TUBE | NO RECOVERY | SPLIT SPOON | DISTURBED | PISTON | GRAVITY CORE

| DEPTH (m) | SAMPLE TYPE | SAMPLE NO | SOIL DESCRIPTION | USC | DEPTH (ft) |
|---|---|---|---|---|---|
| 0.0 | | | CLAY - grey | CL | 0.0 |
| | | 86B | | | 1.0 |
| | | | | | 2.0 |
| | | 86C | | | 3.0 |
| | | | END OF GRAVITY CORE | | |
| 1.0 | | | | | |

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| NAHIDIK 1986 - MACKENZIE BAY | ORIGINAL BOREHOLE NO. GC-01 | BOREHOLE No. MB86GC01 |
| GEOLOGICAL SURVEY OF CANADA | WATER DEPTH - 7.1m | Project No: |
| DRILL SHIP - NAHIDIK | DEPTHS ARE REFERENCED TO SEABED | ELEVATION -7.10 (m) |

SAMPLE TYPE: SHELBY TUBE; NO RECOVERY; SPLIT SPOON; DISTURBED; PISTON; GRAVITY CORE

| DEPTH (m) | SAMPLE TYPE | SAMPLE NO | SOIL DESCRIPTION | USC | DEPTH (ft) |
|---|---|---|---|---|---|
| 0.0 | | | SAND AND CLAY - assumed principal components,sample in catcher only | | 0.0 |
| | | | END OF GRAVITY CORE | | 1.0 |
| | | | | | 2.0 |
| | | | | | 3.0 |
| 1.0 | | | | | |

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| NAHIDIK 1986 - MACKENZIE BAY | ORIGINAL BOREHOLE NO. GC-02 | BOREHOLE No. MB86GC02 |
| GEOLOGICAL SURVEY OF CANADA | WATER DEPTH - 7.1m | Project No: |
| DRILL SHIP - NAHIDIK | DEPTHS ARE REFERENCED TO SEABED | ELEVATION -7.10 (m) |

SAMPLE TYPE: SHELBY TUBE; NO RECOVERY; SPLIT SPOON; DISTURBED; PISTON; GRAVITY CORE

| DEPTH (m) | SAMPLE TYPE | SAMPLE NO | SOIL DESCRIPTION | USC | DEPTH (ft) |
|---|---|---|---|---|---|
| 0.0 | | | SAND AND CLAY - some shell fragments | | 0.0 |
| | | | END OF GRAVITY CORE | | 1.0 |
| | | | | | 2.0 |
| | | | | | 3.0 |
| 1.0 | | | | | |

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| NAHIDIK 1986 - MACKENZIE BAY | ORIGINAL BOREHOLE NO. GC-03 | BOREHOLE No. MB86GC03 |
| GEOLOGICAL SURVEY OF CANADA | WATER DEPTH - 6.9m | Project No: |
| DRILL SHIP - NAHIDIK | DEPTHS ARE REFERENCED TO SEABED | ELEVATION -6.90 (m) |

SAMPLE TYPE: SHELBY TUBE / NO RECOVERY / SPLIT SPOON / DISTURBED / PISTON / GRAVITY CORE

| DEPTH (m) | SAMPLE TYPE | SAMPLE NO | SOIL DESCRIPTION | USC | DEPTH (ft) |
|---|---|---|---|---|---|
| 0.0 | | | SILT - black | | 0.0 |
| | | | END OF GRAVITY CORE | | |
| | | | | | 1.0 |
| | | | | | 2.0 |
| | | | | | 3.0 |
| 1.0 | | | | | |

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| NAHIDIK 1986 - MACKENZIE BAY | ORIGINAL BOREHOLE NO. GC-04 | BOREHOLE No. MB86GC04 |
| GEOLOGICAL SURVEY OF CANADA | WATER DEPTH - 8.7m | Project No: |
| DRILL SHIP - NAHIDIK | DEPTHS ARE REFERENCED TO SEABED | ELEVATION -8.70 (m) |

SAMPLE TYPE: SHELBY TUBE / NO RECOVERY / SPLIT SPOON / DISTURBED / PISTON / GRAVITY CORE

| DEPTH (m) | SAMPLE TYPE | SAMPLE NO | SOIL DESCRIPTION | USC | DEPTH (ft) |
|---|---|---|---|---|---|
| 0.0 | | | CLAY - silty | | 0.0 |
| | | 048 | | CL | 1.0 |
| | | | END OF GRAVITY CORE | | |
| | | | | | 2.0 |
| | | | | | 3.0 |
| 1.0 | | | | | |

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| NAHIDIK 1986 - MACKENZIE BAY | ORIGINAL BOREHOLE NO. GC-11 | BOREHOLE No. MB86GC11 |
| GEOLOGICAL SURVEY OF CANADA | WATER DEPTH - 8.7m | Project No: |
| DRILL SHIP - NAHIDIK | DEPTHS ARE REFERENCED TO SEABED | ELEVATION -8.70 (m) |

SAMPLE TYPE: SHELBY TUBE; NO RECOVERY; SPLIT SPOON; DISTURBED; PISTON; GRAVITY CORE

| DEPTH (m) | SAMPLE TYPE | SAMPLE NO | SOIL DESCRIPTION | USC | DEPTH (ft) |
|---|---|---|---|---|---|
| 0.0 | | | CLAY - stiff, grey | | 0.0 |
| | | 118 | | CL | 1.0 |
| | | | END OF GRAVITY CORE | | 2.0 |
| | | | | | 3.0 |
| 1.0 | | | | | |

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| NAHIDIK 1986 - MACKENZIE BAY | ORIGINAL BOREHOLE NO. GC-12 | BOREHOLE No. MB86GC12 |
| GEOLOGICAL SURVEY OF CANADA | WATER DEPTH - 5.9m | Project No: |
| DRILL SHIP - NAHIDIK | DEPTHS ARE REFERENCED TO SEABED | ELEVATION -5.90 (m) |

SAMPLE TYPE: SHELBY TUBE; NO RECOVERY; SPLIT SPOON; DISTURBED; PISTON; GRAVITY CORE

| DEPTH (m) | SAMPLE TYPE | SAMPLE NO | SOIL DESCRIPTION | USC | DEPTH (ft) |
|---|---|---|---|---|---|
| 0.0 | | | CLAY - firm to stiff | | 0.0 |
| | | | END OF GRAVITY CORE | | 1.0 |
| | | | | | 2.0 |
| | | | | | 3.0 |
| 1.0 | | | | | |

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| NAHIDIK 1986 - MACKENZIE BAY | ORIGINAL BOREHOLE NO. GC-13 | BOREHOLE No. MB86GC13 |
| GEOLOGICAL SURVEY OF CANADA | WATER DEPTH - 5.6m | Project No: |
| DRILL SHIP - NAHIDIK | DEPTHS ARE REFERENCED TO SEABED | ELEVATION -5.60 (m) |

SAMPLE TYPE: SHELBY TUBE; NO RECOVERY; SPLIT SPOON; DISTURBED; PISTON; GRAVITY CORE

| DEPTH (m) | SAMPLE TYPE | SAMPLE NO | SOIL DESCRIPTION | USC | DEPTH (ft) |
|---|---|---|---|---|---|
| 0.0 | | | SILT AND CLAY - grey | | 0.0 |
| | | | END OF GRAVITY CORE | | 1.0 |
| | | | | | 2.0 |
| | | | | | 3.0 |
| 1.0 | | | | | |

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| NAHIDIK 1986 - MACKENZIE BAY | ORIGINAL BOREHOLE NO. GC-14 | BOREHOLE No. MB86GC14 |
| GEOLOGICAL SURVEY OF CANADA | WATER DEPTH - 5.6m | Project No: |
| DRILL SHIP - NAHIDIK | DEPTHS ARE REFERENCED TO SEABED | ELEVATION -5.60 (m) |

SAMPLE TYPE: SHELBY TUBE; NO RECOVERY; SPLIT SPOON; DISTURBED; PISTON; GRAVITY CORE

| DEPTH (m) | SAMPLE TYPE | SAMPLE NO | SOIL DESCRIPTION | USC | DEPTH (ft) |
|---|---|---|---|---|---|
| 0.0 | | | CLAY - soft, olive grey | | 0.0 |
| | | | SILT AND CLAY | | 1.0 |
| | | | END OF GRAVITY CORE | | 2.0 |
| | | | | | 3.0 |
| 1.0 | | | | | |

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| NAHIDIK 1986 - MACKENZIE BAY | ORIGINAL BOREHOLE NO. GC-15 | BOREHOLE No. MB86GC15 |
| GEOLOGICAL SURVEY OF CANADA | WATER DEPTH - 5.6m | Project No: |
| DRILL SHIP - NAHIDIK | DEPTHS ARE REFERENCED TO SEABED | ELEVATION -5.60 (m) |

SAMPLE TYPE: SHELBY TUBE / NO RECOVERY / SPLIT SPOON / DISTURBED / PISTON / GRAVITY CORE

| DEPTH (m) | SAMPLE TYPE | SAMPLE NO | SOIL DESCRIPTION | USC | DEPTH (ft) |
|---|---|---|---|---|---|
| 0.0 | | | SILT AND CLAY | | 0.0 |
| | | | END OF GRAVITY CORE | | |
| | | | | | 1.0 |
| | | | | | 2.0 |
| | | | | | 3.0 |
| 1.0 | | | | | |

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| NAHIDIK 1986 - MACKENZIE BAY | ORIGINAL BOREHOLE NO. GC-16 | BOREHOLE No. MB86GC16 |
| GEOLOGICAL SURVEY OF CANADA | WATER DEPTH - 5.6m | Project No: |
| DRILL SHIP - NAHIDIK | DEPTHS ARE REFERENCED TO SEABED | ELEVATION -5.60 (m) |

SAMPLE TYPE: SHELBY TUBE / NO RECOVERY / SPLIT SPOON / DISTURBED / PISTON / GRAVITY CORE

| DEPTH (m) | SAMPLE TYPE | SAMPLE NO | SOIL DESCRIPTION | USC | DEPTH (ft) |
|---|---|---|---|---|---|
| 0.0 | | | SILT AND CLAY | | 0.0 |
| | | | END OF GRAVITY CORE | | |
| | | | | | 1.0 |
| | | | | | 2.0 |
| | | | | | 3.0 |
| 1.0 | | | | | |

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| NAHIDIK 1986 - MACKENZIE BAY | ORIGINAL BOREHOLE NO. GC-17 | BOREHOLE No. MB86GC17 |
| GEOLOGICAL SURVEY OF CANADA | WATER DEPTH - 5.6m | Project No: |
| DRILL SHIP - NAHIDIK | DEPTHS ARE REFERENCED TO SEABED | ELEVATION -5.60 (m) |

SAMPLE TYPE: SHELBY TUBE; NO RECOVERY; SPLIT SPOON; DISTURBED; PISTON; GRAVITY CORE

| DEPTH (m) | SAMPLE TYPE | SAMPLE NO | SOIL DESCRIPTION | USC | DEPTH (ft) |
|---|---|---|---|---|---|
| 0.0 | | | SILT AND CLAY - assumed principal components | | 0.0 |
| | | | END OF GRAVITY CORE | | |
| 1.0 | | | | | 1.0 |
| | | | | | 2.0 |
| | | | | | 3.0 |

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| NAHIDIK 1986 - MACKENZIE BAY | ORIGINAL BOREHOLE NO. GC-18 | BOREHOLE No. MB86GC18 |
| GEOLOGICAL SURVEY OF CANADA | WATER DEPTH - 8.4m | Project No: |
| DRILL SHIP - NAHIDIK | DEPTHS ARE REFERENCED TO SEABED | ELEVATION -8.40 (m) |

SAMPLE TYPE: SHELBY TUBE; NO RECOVERY; SPLIT SPOON; DISTURBED; PISTON; GRAVITY CORE

| DEPTH (m) | SAMPLE TYPE | SAMPLE NO | SOIL DESCRIPTION | USC | DEPTH (ft) |
|---|---|---|---|---|---|
| 0.0 | | | SILT AND CLAY - assumed principal components | | 0.0 |
| | | | END OF GRAVITY CORE | | |
| 1.0 | | | | | 1.0 |
| | | | | | 2.0 |
| | | | | | 3.0 |

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| NAHIDIK 1986 – MACKENZIE BAY | ORIGINAL BOREHOLE NO. GC-19 | BOREHOLE No. MB86GC19 |
| GEOLOGICAL SURVEY OF CANADA | WATER DEPTH – 9.0m | Project No: |
| DRILL SHIP – NAHIDIK | DEPTHS ARE REFERENCED TO SEABED | ELEVATION –9.00 (m) |

SAMPLE TYPE: SHELBY TUBE | NO RECOVERY | SPLIT SPOON | DISTURBED | PISTON | GRAVITY CORE

| DEPTH (m) | SAMPLE TYPE | SAMPLE NO | SOIL DESCRIPTION | USC | DEPTH (ft) |
|---|---|---|---|---|---|
| 0.0 | | | SILT AND CLAY – assumed principal components, highly disturbed at surface | | 0.0 |
| | | | END OF GRAVITY CORE | | 1.0 |
| | | | | | 2.0 |
| | | | | | 3.0 |
| 1.0 | | | | | |

Δ D50 (mm) Δ: 2000 4000 6000 8000

PLASTIC M.C LIQUID: 20 40 60 80

FINES (%): 20 40 60 80

SAND (%): 20 40 60 80

GRAVEL (%): 20 40 60 80

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| NAHIDIK 1986 – MACKENZIE BAY | ORIGINAL BOREHOLE NO. GC-20 | BOREHOLE No. MB86GC20 |
| GEOLOGICAL SURVEY OF CANADA | WATER DEPTH – 9.0m | Project No: |
| DRILL SHIP – NAHIDIK | DEPTHS ARE REFERENCED TO SEABED | ELEVATION –9.00 (m) |

SAMPLE TYPE: SHELBY TUBE | NO RECOVERY | SPLIT SPOON | DISTURBED | PISTON | GRAVITY CORE

| DEPTH (m) | SAMPLE TYPE | SAMPLE NO | SOIL DESCRIPTION | USC | DEPTH (ft) |
|---|---|---|---|---|---|
| 0.0 | | | SILT AND CLAY – assumed principal components, poor sample recovery | | 0.0 |
| | | | END OF GRAVITY CORE | | 1.0 |
| | | | | | 2.0 |
| | | | | | 3.0 |
| 1.0 | | | | | |

Δ D50 (mm) Δ: 2000 4000 6000 8000

PLASTIC M.C LIQUID: 20 40 60 80

FINES (%): 20 40 60 80

SAND (%): 20 40 60 80

GRAVEL (%): 20 40 60 80

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| NAHIDIK 1986 - MACKENZIE BAY | ORIGINAL BOREHOLE NO. GC-21 | BOREHOLE No. MB86GC21 |
| GEOLOGICAL SURVEY OF CANADA | WATER DEPTH - 8.7m | Project No: |
| DRILL SHIP - NAHIDIK | DEPTHS ARE REFERENCED TO SEABED | ELEVATION -8.70 (m) |

SAMPLE TYPE: SHELBY TUBE / NO RECOVERY / SPLIT SPOON / DISTURBED / PISTON / GRAVITY CORE

| DEPTH (m) | SAMPLE TYPE | SAMPLE NO | SOIL DESCRIPTION | USC | DEPTH (ft) |
|---|---|---|---|---|---|
| 0.0 | | | CLAY - soft | | 0.0 |
| | | | END OF GRAVITY CORE | | |
| | | | | | 1.0 |
| | | | | | 2.0 |
| | | | | | 3.0 |
| 1.0 | | | | | |

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| NAHIDIK 1986 - MACKENZIE BAY | ORIGINAL BOREHOLE NO. GC-22 | BOREHOLE No. MB86GC22 |
| GEOLOGICAL SURVEY OF CANADA | WATER DEPTH - 8.7m | Project No: |
| DRILL SHIP - NAHIDIK | DEPTHS ARE REFERENCED TO SEABED | ELEVATION -8.70 (m) |

SAMPLE TYPE: SHELBY TUBE / NO RECOVERY / SPLIT SPOON / DISTURBED / PISTON / GRAVITY CORE

| DEPTH (m) | SAMPLE TYPE | SAMPLE NO | SOIL DESCRIPTION | USC | DEPTH (ft) |
|---|---|---|---|---|---|
| 0.0 | | | CLAY - assumed principal component | | 0.0 |
| | | | END OF GRAVITY CORE | | |
| | | | | | 1.0 |
| | | | | | 2.0 |
| | | | | | 3.0 |
| 1.0 | | | | | |

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| NAHIDIK 1986 - MACKENZIE BAY | ORIGINAL BOREHOLE NO. GC-23 | BOREHOLE No. MB86GC23 |
| GEOLOGICAL SURVEY OF CANADA | WATER DEPTH - 8.7m | Project No: |
| DRILL SHIP - NAHIDIK | DEPTHS ARE REFERENCED TO SEABED | ELEVATION -8.70 (m) |

SAMPLE TYPE: SHELBY TUBE | NO RECOVERY | SPLIT SPOON | DISTURBED | PISTON | GRAVITY CORE

| DEPTH (m) | SAMPLE TYPE | SAMPLE NO | SOIL DESCRIPTION | USC | DEPTH (ft) |
|---|---|---|---|---|---|
| 0.0 | | | CLAY | | 0.0 |
| | | 23B | | CL | 1.0 |
| | | | END OF GRAVITY CORE | | 2.0 |
| | | | | | 3.0 |
| 1.0 | | | | | |

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| HERSCHEL BORROW SITE | ORIGINAL BOREHOLE NO. G01 | BOREHOLE No. HBGC01 |
| GULF CANADA RESOURCES INC. | WATER DEPTH – 16.20m | Project No: EBA # 101-3662 |
| DRILL SHIP – M.V. FRANK BRODERICK | DEPTHS ARE REFERENCED TO SEABED | ELEVATION –16.20 (m) |

SAMPLE TYPE: SHELBY TUBE / NO RECOVERY / SPLIT SPOON / DISTURBED / PISTON / GRAVITY CORE

| DEPTH (m) | SAMPLE TYPE | SAMPLE NO | SOIL DESCRIPTION | PLASTIC – M.C – LIQUID (20 40 60 80) | | USC | DEPTH (ft) |
|---|---|---|---|---|---|---|---|
| 0.0 | | | CLAY (cl) – silty, trace of organic bonding, very soft, medium grey | | | | 0.0 |
| | | G01 | – trace of fine sand, occasional 10 mm subrounded pebble, occasional shell, no organics, medium to dark grey | | | | |
| | | | END OF GRAVITY CORE | | | | 1.0 |
| | | | | | | | 2.0 |
| | | | | | | | 3.0 |
| 1.0 | | | | | | | |

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| HERSCHEL BORROW SITE | ORIGINAL BOREHOLE NO. G02 | BOREHOLE No. HBGC02 |
| GULF CANADA RESOURCES INC. | WATER DEPTH – 15.80m | Project No: EBA # 101-3662 |
| DRILL SHIP – M.V. FRANK BRODERICK | DEPTHS ARE REFERENCED TO SEABED | ELEVATION –15.80 (m) |

SAMPLE TYPE: SHELBY TUBE / NO RECOVERY / SPLIT SPOON / DISTURBED / PISTON / GRAVITY CORE

| DEPTH (m) | SAMPLE TYPE | SAMPLE NO | SOIL DESCRIPTION | PLASTIC – M.C – LIQUID (20 40 60 80) | | USC | DEPTH (ft) |
|---|---|---|---|---|---|---|---|
| 0.0 | | | CLAY (cl) – silty, trace organics, very soft to firm, dark grey, one insect | | | | 0.0 |
| | | G02 | – one 15 mm subrounded gravel clast | | | | |
| | | | END OF GRAVITY CORE | | | | 1.0 |
| | | | | | | | 2.0 |
| | | | | | | | 3.0 |
| 1.0 | | | | | | | |

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| HERSCHEL BORROW SITE | ORIGINAL BOREHOLE NO. G03 | BOREHOLE No. HBGC03 |
| GULF CANADA RESOURCES INC. | WATER DEPTH – 16.20m | Project No: EBA # 101-3662 |
| DRILL SHIP – M.V. FRANK BRODERICK | DEPTHS ARE REFERENCED TO SEABED | ELEVATION –16.20 (m) |

SAMPLE TYPE: SHELBY TUBE | NO RECOVERY | SPLIT SPOON | DISTURBED | PISTON | GRAVITY CORE

| DEPTH (m) | SAMPLE TYPE | SAMPLE NO | SOIL DESCRIPTION | PLASTIC – M.C – LIQUID (20 40 60 80) | | USC | DEPTH (ft) |
|---|---|---|---|---|---|---|---|
| 0.0 | | G03 | CLAY (cl) – silty, trace organics, streaking, very dark grey<br>– trace fine sand, occasional shell fragment, one 50 mm subangular gravel particle<br>– silt partings, 4 mm thick, clayey, dark grey | | | | 0.0 |
| | | | END OF GRAVITY CORE | | | | 1.0 |
| | | | | | | | 2.0 |
| | | | | | | | 3.0 |
| 1.0 | | | | | | | |

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| HERSCHEL BORROW SITE | ORIGINAL BOREHOLE NO. G04 | BOREHOLE No. HBGC04 |
| GULF CANADA RESOURCES INC. | WATER DEPTH – 16.20m | Project No: EBA # 101-3662 |
| DRILL SHIP – M.V. FRANK BRODERICK | DEPTHS ARE REFERENCED TO SEABED | ELEVATION –16.20 (m) |

SAMPLE TYPE: SHELBY TUBE | NO RECOVERY | SPLIT SPOON | DISTURBED | PISTON | GRAVITY CORE

| DEPTH (m) | SAMPLE TYPE | SAMPLE NO | SOIL DESCRIPTION | PLASTIC – M.C – LIQUID (20 40 60 80) | | USC | DEPTH (ft) |
|---|---|---|---|---|---|---|---|
| 0.0 | | G04 | CLAY (cl) – silty, trace organic bonding, very soft, dark grey | | | | 0.0 |
| | | | END OF GRAVITY CORE | | | | 1.0 |
| | | | | | | | 2.0 |
| | | | | | | | 3.0 |
| 1.0 | | | | | | | |

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| HERSCHEL BORROW SITE | ORIGINAL BOREHOLE NO. G05 | BOREHOLE No. HBGC05 |
| GULF CANADA RESOURCES INC. | WATER DEPTH – 16.50m | Project No: EBA # 101-3662 |
| DRILL SHIP – M.V. FRANK BRODERICK | DEPTHS ARE REFERENCED TO SEABED | ELEVATION –16.50 (m) |

SAMPLE TYPE: SHELBY TUBE / NO RECOVERY / SPLIT SPOON / DISTURBED / PISTON / GRAVITY CORE

| DEPTH (m) | SAMPLE TYPE | SAMPLE NO | SOIL DESCRIPTION | PLASTIC – M.C – LIQUID (20 40 60 80) | USC | DEPTH (ft) |
|---|---|---|---|---|---|---|
| 0.0 | | | CLAY (cl) – silty, some horizontal organic streaking, soft, dark grey | | | 0.0 |
| | | G05 | SILT (ml) – clayey, some organics, firm, black | | | |
| | | | END OF GRAVITY CORE | | | 1.0 |
| | | | | | | 2.0 |
| | | | | | | 3.0 |
| 1.0 | | | | | | |

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| HERSCHEL BORROW SITE | ORIGINAL BOREHOLE NO. G06 | BOREHOLE No. HBGC06 |
| GULF CANADA RESOURCES INC. | WATER DEPTH – 16.20m | Project No: EBA # 101-3662 |
| DRILL SHIP – M.V. FRANK BRODERICK | DEPTHS ARE REFERENCED TO SEABED | ELEVATION –16.20 (m) |

SAMPLE TYPE: SHELBY TUBE / NO RECOVERY / SPLIT SPOON / DISTURBED / PISTON / GRAVITY CORE

| DEPTH (m) | SAMPLE TYPE | SAMPLE NO | SOIL DESCRIPTION | PLASTIC – M.C – LIQUID (20 40 60 80) | USC | DEPTH (ft) |
|---|---|---|---|---|---|---|
| 0.0 | | | CLAY (cl) – silty, very soft, dark grey | | | 0.0 |
| | | G06 | – occasional organic streak, soft to firm | | | |
| | | | – trace fine sand | | | |
| | | | END OF GRAVITY CORE | | | 1.0 |
| | | | | | | 2.0 |
| | | | | | | 3.0 |
| 1.0 | | | | | | |

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| HERSCHEL BORROW SITE | ORIGINAL BOREHOLE NO. G07 | BOREHOLE No. HBGC07 |
| GULF CANADA RESOURCES INC. | WATER DEPTH – 16.50m | Project No: EBA # 101-3662 |
| DRILL SHIP – M.V. FRANK BRODERICK | DEPTHS ARE REFERENCED TO SEABED | ELEVATION –16.50 (m) |

SAMPLE TYPE: SHELBY TUBE / NO RECOVERY / SPLIT SPOON / DISTURBED / PISTON / GRAVITY CORE

| DEPTH (m) | SAMPLE TYPE | SAMPLE NO | SOIL DESCRIPTION | PLASTIC – M.C – LIQUID (20 40 60 80) | USC | DEPTH (ft) |
|---|---|---|---|---|---|---|
| 0.0 | | G07 | CLAY (cl) – silty, trace of organic streaking, trace shells, very soft to soft, dark grey<br>– trace to some fine sand<br>– no sand | | | 0.0 |
| | | | END OF GRAVITY CORE | | | 1.0 |
| | | | | | | 2.0 |
| | | | | | | 3.0 |
| 1.0 | | | | | | |

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| HERSCHEL BORROW SITE | ORIGINAL BOREHOLE NO. G08 | BOREHOLE No. HBGC08 |
| GULF CANADA RESOURCES INC. | WATER DEPTH – 16.80m | Project No: EBA # 101-3662 |
| DRILL SHIP – M.V. FRANK BRODERICK | DEPTHS ARE REFERENCED TO SEABED | ELEVATION –16.80 (m) |

SAMPLE TYPE: SHELBY TUBE / NO RECOVERY / SPLIT SPOON / DISTURBED / PISTON / GRAVITY CORE

| DEPTH (m) | SAMPLE TYPE | SAMPLE NO | SOIL DESCRIPTION | PLASTIC – M.C – LIQUID (20 40 60 80) | USC | DEPTH (ft) |
|---|---|---|---|---|---|---|
| 0.0 | | G08 | CLAY (cl) – silty, very soft, medium grey<br>– occasional 10 mm subrounded pebble, soft to firm, medium to dark grey | | | 0.0 |
| | | | END OF GRAVITY CORE | | | 1.0 |
| | | | | | | 2.0 |
| | | | | | | 3.0 |
| 1.0 | | | | | | |

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| HERSCHEL BORROW SITE | ORIGINAL BOREHOLE NO. G09 | BOREHOLE No. HBGC09 |
| GULF CANADA RESOURCES INC. | WATER DEPTH – 16.80m | Project No: EBA # 101-3662 |
| DRILL SHIP – M.V. FRANK BRODERICK | DEPTHS ARE REFERENCED TO SEABED | ELEVATION –16.80 (m) |

SAMPLE TYPE: SHELBY TUBE | NO RECOVERY | SPLIT SPOON | DISTURBED | PISTON | GRAVITY CORE

| DEPTH (m) | SAMPLE TYPE | SAMPLE NO | SOIL DESCRIPTION | PLASTIC – M.C – LIQUID (20 40 60 80) | USC | DEPTH (ft) |
|---|---|---|---|---|---|---|
| 0.0 | | | CLAY (cl) – silty, very soft, dark grey | | | 0.0 |
| | | G09 | – soft to firm | | | |
| | | | END OF GRAVITY CORE | | | |
| | | | | | | 1.0 |
| | | | | | | 2.0 |
| | | | | | | 3.0 |
| 1.0 | | | | | | |

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| HERSCHEL BORROW SITE | ORIGINAL BOREHOLE NO. G10 | BOREHOLE No. HBGC10 |
| GULF CANADA RESOURCES INC. | WATER DEPTH – 17.40m | Project No: EBA # 101-3662 |
| DRILL SHIP – M.V. FRANK BRODERICK | DEPTHS ARE REFERENCED TO SEABED | ELEVATION –17.40 (m) |

SAMPLE TYPE: SHELBY TUBE | NO RECOVERY | SPLIT SPOON | DISTURBED | PISTON | GRAVITY CORE

| DEPTH (m) | SAMPLE TYPE | SAMPLE NO | SOIL DESCRIPTION | PLASTIC – M.C – LIQUID (20 40 60 80) | USC | DEPTH (ft) |
|---|---|---|---|---|---|---|
| 0.0 | | | CLAY (cl) – silty, occasional shell fragments, very soft, medium grey | | | 0.0 |
| | | G10 | – soft | | | |
| | | | – one 20 mm clast | | | |
| | | | END OF GRAVITY CORE | | | |
| | | | | | | 1.0 |
| | | | | | | 2.0 |
| | | | | | | 3.0 |
| 1.0 | | | | | | |

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| HERSCHEL BORROW SITE | ORIGINAL BOREHOLE NO. G11 | BOREHOLE No. HBGC11 |
| GULF CANADA RESOURCES INC. | WATER DEPTH – 15.50m | Project No: EBA # 101-3662 |
| DRILL SHIP – M.V. FRANK BRODERICK | DEPTHS ARE REFERENCED TO SEABED | ELEVATION –15.50 (m) |

SAMPLE TYPE: SHELBY TUBE / NO RECOVERY / SPLIT SPOON / DISTURBED / PISTON / GRAVITY CORE

| DEPTH (m) | SAMPLE TYPE | SAMPLE NO | SOIL DESCRIPTION | PLASTIC – NAT – LIQUID (20 40 60 80) | USC | DEPTH (ft) |
|---|---|---|---|---|---|---|
| 0.0 | | | SAND – assumed principal component, no sample recovery, trace medium grained sand on tube, sample tube bent | | | 0.0 |
| | | | END OF GRAVITY CORE | | | |
| | | | | | | 1.0 |
| | | | | | | 2.0 |
| | | | | | | 3.0 |
| 1.0 | | | | | | |

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| HERSCHEL BORROW SITE | ORIGINAL BOREHOLE NO. G12 | BOREHOLE No. HBGC12 |
| GULF CANADA RESOURCES INC. | WATER DEPTH – 17.10m | Project No: EBA # 101-3662 |
| DRILL SHIP – M.V. FRANK BRODERICK | DEPTHS ARE REFERENCED TO SEABED | ELEVATION –17.10 (m) |

SAMPLE TYPE: SHELBY TUBE / NO RECOVERY / SPLIT SPOON / DISTURBED / PISTON / GRAVITY CORE

| DEPTH (m) | SAMPLE TYPE | SAMPLE NO | SOIL DESCRIPTION | PLASTIC – NAT – LIQUID (20 40 60 80) | USC | DEPTH (ft) |
|---|---|---|---|---|---|---|
| 0.0 | | | SAND (sm) – silty, olive grey | | | 0.0 |
| | | G12 | CLAY (cl) – silty, occasional pockets of medium grained sand, dark grey | | | |
| | | | END OF GRAVITY CORE | | | |
| | | | | | | 1.0 |
| | | | | | | 2.0 |
| | | | | | | 3.0 |
| 1.0 | | | | | | |

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COMPLETION DEPTH •• m | COMPLETE 82/09/17
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|---|---|---|
| HERSCHEL BORROW SITE | ORIGINAL BOREHOLE NO. G13 | BOREHOLE No. HBGC13 |
| GULF CANADA RESOURCES INC. | WATER DEPTH – 17.40m | Project No: EBA # 101-3662 |
| DRILL SHIP – M.V. FRANK BRODERICK | DEPTHS ARE REFERENCED TO SEABED | ELEVATION –17.40 (m) |

SAMPLE TYPE: SHELBY TUBE / NO RECOVERY / SPLIT SPOON / DISTURBED / PISTON / GRAVITY CORE

| DEPTH (m) | SAMPLE TYPE | SAMPLE NO | SOIL DESCRIPTION | PLASTIC – M.C – LIQUID (20 40 60 80) | USC | DEPTH (ft) |
|---|---|---|---|---|---|---|
| 0.0 | | | SAND – silty, very fine, grey | | | 0.0 |
| | | | SILT – clayey, some sand, firm, grey | | | |
| | | G13 | | | | |
| | | | CLAY (ci) – silty, 2 to 3mm laminations, stiff – 50 mm gravel particle | | | |
| | | | END OF GRAVITY CORE | | | |
| | | | | | | 1.0 |
| | | | | | | 2.0 |
| | | | | | | 3.0 |
| 1.0 | | | | | | |

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| HERSCHEL BORROW SITE | ORIGINAL BOREHOLE NO. G14 | BOREHOLE No. HBGC14 |
| GULF CANADA RESOURCES INC. | WATER DEPTH – 18.30m | Project No: EBA # 101-3662 |
| DRILL SHIP – M.V. FRANK BRODERICK | DEPTHS ARE REFERENCED TO SEABED | ELEVATION –18.30 (m) |

SAMPLE TYPE: SHELBY TUBE / NO RECOVERY / SPLIT SPOON / DISTURBED / PISTON / GRAVITY CORE

| DEPTH (m) | SAMPLE TYPE | SAMPLE NO | SOIL DESCRIPTION | PLASTIC – M.C – LIQUID (20 40 60 80) | USC | DEPTH (ft) |
|---|---|---|---|---|---|---|
| 0.0 | | | SILT (ml) – clayey, some sand, soft to firm, grey | | | 0.0 |
| | | G14 | | | | |
| | | | END OF GRAVITY CORE | | | |
| | | | | | | 1.0 |
| | | | | | | 2.0 |
| | | | | | | 3.0 |
| 1.0 | | | | | | |

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|---|---|---|
| HERSCHEL BORROW SITE | ORIGINAL BOREHOLE NO. G15 | BOREHOLE No. HBGC15 |
| GULF CANADA RESOURCES INC. | WATER DEPTH – 17.4m | Project No: EBA # 101-3662 |
| DRILL SHIP – M.V. FRANK BRODERICK | DEPTHS ARE REFERENCED TO SEABED | ELEVATION –17.40 (m) |

SAMPLE TYPE: SHELBY TUBE / NO RECOVERY / SPLIT SPOON / DISTURBED / PISTON CORE / GRAVITY CORE

| DEPTH (m) | SAMPLE TYPE | SAMPLE NO | SOIL DESCRIPTION | PLASTIC – M.C – LIQUID (20 40 60 80) | USC | DEPTH (ft) |
|---|---|---|---|---|---|---|
| 0.0 | | G15 | SILT (ml) – clayey, some sand, firm, grey | | | 0.0 |
| | | | END OF GRAVITY CORE | | | 1.0 |
| | | | | | | 2.0 |
| | | | | | | 3.0 |
| 1.0 | | | | | | |

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COMPLETION DEPTH 0.2 m | COMPLETE 82/09/17
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| HERSCHEL BORROW SITE | ORIGINAL BOREHOLE NO. G16 | BOREHOLE No. HBGC16 |
| GULF CANADA RESOURCES INC. | WATER DEPTH – 16.8m | Project No: EBA # 101-3662 |
| DRILL SHIP – M.V. FRANK BRODERICK | DEPTHS ARE REFERENCED TO SEABED | ELEVATION –16.80 (m) |

SAMPLE TYPE: SHELBY TUBE / NO RECOVERY / SPLIT SPOON / DISTURBED / PISTON CORE / GRAVITY CORE

| DEPTH (m) | SAMPLE TYPE | SAMPLE NO | SOIL DESCRIPTION | PLASTIC – M.C – LIQUID (20 40 60 80) | USC | DEPTH (ft) |
|---|---|---|---|---|---|---|
| 0.0 | | G16 | SILT (ml–cl) – clayey, sandy, occasional sand lenses, soft to firm, grey | | | 0.0 |
| | | | – 50 mm subrounded gravel particle | | | 1.0 |
| | | | END OF GRAVITY CORE | | | 2.0 |
| | | | | | | 3.0 |
| 1.0 | | | | | | |

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COMPLETION DEPTH 0.2 m | COMPLETE 82/09/17
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|---|---|---|
| HERSCHEL BORROW SITE | ORIGINAL BOREHOLE NO. G17 | BOREHOLE No. HBGC17 |
| GULF CANADA RESOURCES INC. | WATER DEPTH – 16.8m | Project No: EBA # 101-3662 |
| DRILL SHIP – M.V. FRANK BRODERICK | DEPTHS ARE REFERENCED TO SEABED | ELEVATION –16.80 (m) |

SAMPLE TYPE: SHELBY TUBE / NO RECOVERY / SPLIT SPOON / DISTURBED / PISTON CORE / GRAVITY CORE

| DEPTH (m) | SAMPLE TYPE | SAMPLE NO | SOIL DESCRIPTION | PLASTIC — M.C — LIQUID (20 40 60 80) | USC | DEPTH (ft) |
|---|---|---|---|---|---|---|
| 0.0 | | | SILT (ml) – clayey, some fine sand, very soft, grey | | | 0.0 |
| | | G17 | CLAY (cl) – silty, trace fine sand, trace organic streaking, firm, grey | | | |
| | | | END OF GRAVITY CORE | | | 1.0 |
| | | | | | | 2.0 |
| | | | | | | 3.0 |
| 1.0 | | | | | | |

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COMPLETION DEPTH 0.1 m | COMPLETE 82/08/17
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|---|---|---|
| HERSCHEL BORROW SITE | ORIGINAL BOREHOLE NO. G18 | BOREHOLE No. HBGC18 |
| GULF CANADA RESOURCES INC. | WATER DEPTH – 17.1m | Project No: EBA # 101-3662 |
| DRILL SHIP – M.V. FRANK BRODERICK | DEPTHS ARE REFERENCED TO SEABED | ELEVATION –17.10 (m) |

SAMPLE TYPE: SHELBY TUBE / NO RECOVERY / SPLIT SPOON / DISTURBED / PISTON CORE / GRAVITY CORE

| DEPTH (m) | SAMPLE TYPE | SAMPLE NO | SOIL DESCRIPTION | PLASTIC — M.C — LIQUID (20 40 60 80) | USC | DEPTH (ft) |
|---|---|---|---|---|---|---|
| 0.0 | | | CLAY (cl) – silty, soft, dark grey | | | 0.0 |
| | | G18 | SAND (sm) – silty, dense, dark grey | | | |
| | | | END OF GRAVITY CORE | | | 1.0 |
| | | | | | | 2.0 |
| | | | | | | 3.0 |
| 1.0 | | | | | | |

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COMPLETION DEPTH 0.2 m | COMPLETE 82/08/18
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| HERSCHEL BORROW SITE | ORIGINAL BOREHOLE NO. G19 | BOREHOLE No. HBGC19 |
| GULF CANADA RESOURCES INC. | WATER DEPTH – 17.4m | Project No: EBA # 101-3662 |
| DRILL SHIP – M.V. FRANK BRODERICK | DEPTHS ARE REFERENCED TO SEABED | ELEVATION –17.40 (m) |

SAMPLE TYPE: SHELBY TUBE / NO RECOVERY / SPLIT SPOON / DISTURBED / PISTON CORE / GRAVITY CORE

| DEPTH (m) | SAMPLE TYPE | SAMPLE NO | SOIL DESCRIPTION | PLASTIC – M.C – LIQUID (20 40 60 80) | USC | DEPTH (m) |
|---|---|---|---|---|---|---|
| 0.0 | | G19 | CLAY (CI) – silty, soft, medium plasticity, dark grey<br>– trace gravel to 10 mm size<br>SILT (ml) – trace fine sand and clay, soft, slightly cohesive, dark olive grey<br>END OF GRAVITY CORE | | | 0.0 |
| | | | | | | 1.0 |
| | | | | | | 2.0 |
| | | | | | | 3.0 |
| 1.0 | | | | | | |

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| HERSCHEL BORROW SITE | ORIGINAL BOREHOLE NO. G20 | BOREHOLE No. HBGC20 |
| GULF CANADA RESOURCES INC. | WATER DEPTH – 17.8m | Project No: EBA # 101-3662 |
| DRILL SHIP – M.V. FRANK BRODERICK | DEPTHS ARE REFERENCED TO SEABED | ELEVATION –17.80 (m) |

SAMPLE TYPE: SHELBY TUBE / NO RECOVERY / SPLIT SPOON / DISTURBED / PISTON CORE / GRAVITY CORE

| DEPTH (m) | SAMPLE TYPE | SAMPLE NO | SOIL DESCRIPTION | PLASTIC – M.C – LIQUID (20 40 60 80) | USC | DEPTH (m) |
|---|---|---|---|---|---|---|
| 0.0 | | G20 | CLAY (CI) – silty, soft, low plasticity, dark grey<br>– trace gravel, firm<br>END OF GRAVITY CORE | | | 0.0 |
| | | | | | | 1.0 |
| | | | | | | 2.0 |
| | | | | | | 3.0 |
| 1.0 | | | | | | |

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| HERSCHEL BORROW SITE | ORIGINAL BOREHOLE NO. 021 | BOREHOLE No. HBGC21 |
| GULF CANADA RESOURCES INC. | WATER DEPTH – 18.0m | Project No: EBA # 101-3662 |
| DRILL SHIP – M.V. FRANK BRODERICK | DEPTHS ARE REFERENCED TO SEABED | ELEVATION –18.00 (m) |

SAMPLE TYPE: SHELBY TUBE; NO RECOVERY; SPLIT SPOON; DISTURBED; PISTON CORE; GRAVITY CORE

| DEPTH (m) | SAMPLE TYPE | SAMPLE NO | SOIL DESCRIPTION | PLASTIC – N.C – LIQUID (20 40 60 80) | USC | DEPTH (ft) |
|---|---|---|---|---|---|---|
| 0.0 | | 021 | CLAY (cl) – silty, soft to firm, low plasticity, dark olive grey | | | 0.0 |
| | | | END OF GRAVITY CORE | | | 1.0 |
| | | | | | | 2.0 |
| | | | | | | 3.0 |
| 1.0 | | | | | | |

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|---|---|---|
| HERSCHEL BORROW SITE | ORIGINAL BOREHOLE NO. 022 | BOREHOLE No. HBGC22 |
| GULF CANADA RESOURCES INC. | WATER DEPTH – 18.0m | Project No: EBA # 101-3662 |
| DRILL SHIP – M.V. FRANK BRODERICK | DEPTHS ARE REFERENCED TO SEABED | ELEVATION –18.00 (m) |

SAMPLE TYPE: SHELBY TUBE; NO RECOVERY; SPLIT SPOON; DISTURBED; PISTON CORE; GRAVITY CORE

| DEPTH (m) | SAMPLE TYPE | SAMPLE NO | SOIL DESCRIPTION | PLASTIC – N.C – LIQUID (20 40 60 80) | USC | DEPTH (ft) |
|---|---|---|---|---|---|---|
| 0.0 | | | CLAY (cl) – silty, soft, low plasticity, dark olive grey | | | 0.0 |
| | | 022 | SILT (ml) – clayey, some sand, trace organics, dark grey | | | |
| | | | END OF GRAVITY CORE | | | 1.0 |
| | | | | | | 2.0 |
| | | | | | | 3.0 |
| 1.0 | | | | | | |

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| HERSCHEL BORROW SITE | ORIGINAL BOREHOLE NO. 023 | BOREHOLE No. HBGC23 |
| GULF CANADA RESOURCES INC. | WATER DEPTH – 18.0m | Project No: EBA # 101-3662 |
| DRILL SHIP – M.V. FRANK BRODERICK | DEPTHS ARE REFERENCED TO SEABED | ELEVATION –18.00 (m) |

SAMPLE TYPE: SHELBY TUBE / NO RECOVERY / SPLIT SPOON / DISTURBED / PISTON CORE / GRAVITY CORE

| DEPTH (m) | SAMPLE TYPE | SAMPLE NO | SOIL DESCRIPTION | PLASTIC – M.C – LIQUID (20 40 60 80) | USC | DEPTH (ft) |
|---|---|---|---|---|---|---|
| 0.0 | | | CLAY (CI) – silty, soft, low plasticity, dark grey | | | 0.0 |
| | | 023 | – sandy, some silt, firm | | | |
| | | | END OF GRAVITY CORE | | | 1.0 |
| | | | | | | 2.0 |
| | | | | | | 3.0 |
| 1.0 | | | | | | |

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| HERSCHEL BORROW SITE | ORIGINAL BOREHOLE NO. 024 | BOREHOLE No. HBGC24 |
| GULF CANADA RESOURCES INC. | WATER DEPTH – 11.3m | Project No: EBA # 101-3662 |
| DRILL SHIP – M.V. FRANK BRODERICK | DEPTHS ARE REFERENCED TO SEABED | ELEVATION –11.30 (m) |

SAMPLE TYPE: SHELBY TUBE / NO RECOVERY / SPLIT SPOON / DISTURBED / PISTON CORE / GRAVITY CORE

| DEPTH (m) | SAMPLE TYPE | SAMPLE NO | SOIL DESCRIPTION | PLASTIC – M.C – LIQUID (20 40 60 80) | USC | DEPTH (ft) |
|---|---|---|---|---|---|---|
| 0.0 | | | SAND AND CLAY – silty, trace gravel, fine grained, dense, dark olive brown | | | 0.0 |
| | | 024 | | | | |
| | | | END OF GRAVITY CORE | | | 1.0 |
| | | | | | | 2.0 |
| | | | | | | 3.0 |
| 1.0 | | | | | | |

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| HERSCHEL BORROW SITE | ORIGINAL BOREHOLE NO. G25 | BOREHOLE No. HBGC25 |
| GULF CANADA RESOURCES INC. | WATER DEPTH – 11.3m | Project No: EBA # 101-3662 |
| DRILL SHIP – M.V. FRANK BRODERICK | DEPTHS ARE REFERENCED TO SEABED | ELEVATION –11.30 (m) |

SAMPLE TYPE: SHELBY TUBE / NO RECOVERY / SPLIT SPOON / DISTURBED / PISTON CORE / GRAVITY CORE

| DEPTH (m) | SAMPLE TYPE | SAMPLE NO | SOIL DESCRIPTION | PLASTIC – M.C – LIQUID (20 40 60 80) | | USC | DEPTH (ft) |
|---|---|---|---|---|---|---|---|
| 0.0 | | | SAND – assumed principal component, no sample recovery | | | | 0.0 |
| | | | END OF GRAVITY CORE | | | | |
| | | | | | | | 1.0 |
| | | | | | | | 2.0 |
| | | | | | | | 3.0 |
| 1.0 | | | | | | | |

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| HERSCHEL BORROW SITE | ORIGINAL BOREHOLE NO. G26 | BOREHOLE No. HBGC26 |
| GULF CANADA RESOURCES INC. | WATER DEPTH – 11.9m | Project No: EBA # 101-3662 |
| DRILL SHIP – M.V. FRANK BRODERICK | DEPTHS ARE REFERENCED TO SEABED | ELEVATION –11.90 (m) |

SAMPLE TYPE: SHELBY TUBE / NO RECOVERY / SPLIT SPOON / DISTURBED / PISTON CORE / GRAVITY CORE

| DEPTH (m) | SAMPLE TYPE | SAMPLE NO | SOIL DESCRIPTION | PLASTIC – M.C – LIQUID (20 40 60 80) | | USC | DEPTH (ft) |
|---|---|---|---|---|---|---|---|
| 0.0 | | | SAND (sm) – trace gravel and silt, compact, yellow brown | | | | 0.0 |
| | | G26 | CLAY (cl) – sandy, some silt, firm, low plasticity, dark olive grey | | | | |
| | | | END OF GRAVITY CORE | | | | |
| | | | | | | | 1.0 |
| | | | | | | | 2.0 |
| | | | | | | | 3.0 |
| 1.0 | | | | | | | |

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|---|---|---|
| HERSCHEL BORROW SITE | ORIGINAL BOREHOLE NO. 627 | BOREHOLE No. HBGC27 |
| GULF CANADA RESOURCES INC. | WATER DEPTH – 11.3m | Project No: EBA # 101-3662 |
| DRILL SHIP – M.V. FRANK BRODERICK | DEPTHS ARE REFERENCED TO SEABED | ELEVATION –11.30 (m) |

SAMPLE TYPE: SHELBY TUBE | NO RECOVERY | SPLIT SPOON | DISTURBED | PISTON CORE | GRAVITY CORE

| DEPTH (m) | SAMPLE TYPE | SAMPLE NO | SOIL DESCRIPTION | PLASTIC – M.C – LIQUID (20 40 60 80) | USC | DEPTH (ft) |
|---|---|---|---|---|---|---|
| 0.0 | | 627 | CLAY (cl) – silty, soft, low plasticity, olive grey<br>SAND – silty, some clay, fine grained, dense, dark olive grey | | | 0.0 |
| | | | END OF GRAVITY CORE | | | 1.0 |
| | | | | | | 2.0 |
| | | | | | | 3.0 |
| 1.0 | | | | | | |

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| HERSCHEL BORROW SITE | ORIGINAL BOREHOLE NO. 628 | BOREHOLE No. HBGC28 |
| GULF CANADA RESOURCES INC. | WATER DEPTH – 14.9m | Project No: EBA # 101-3662 |
| DRILL SHIP – M.V. FRANK BRODERICK | DEPTHS ARE REFERENCED TO SEABED | ELEVATION –14.90 (m) |

SAMPLE TYPE: SHELBY TUBE | NO RECOVERY | SPLIT SPOON | DISTURBED | PISTON CORE | GRAVITY CORE

| DEPTH (m) | SAMPLE TYPE | SAMPLE NO | SOIL DESCRIPTION | PLASTIC – M.C – LIQUID (20 40 60 80) | USC | DEPTH (ft) |
|---|---|---|---|---|---|---|
| 0.0 | | 628 | CLAY (cl) – silty, sandy, trace of black organics, stiff, low plasticity, dark grey | | | 0.0 |
| | | | END OF GRAVITY CORE | | | 1.0 |
| | | | | | | 2.0 |
| | | | | | | 3.0 |
| 1.0 | | | | | | |

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|---|---|---|
| HERSCHEL BORROW SITE | ORIGINAL BOREHOLE NO. G29 | BOREHOLE No. HBGC29 |
| GULF CANADA RESOURCES INC. | WATER DEPTH – 14.9m | Project No: EBA # 101-3662 |
| DRILL SHIP – M.V. FRANK BRODERICK | DEPTHS ARE REFERENCED TO SEABED | ELEVATION –14.90 (m) |

SAMPLE TYPE: SHELBY TUBE / NO RECOVERY / SPLIT SPOON / DISTURBED / PISTON CORE / GRAVITY CORE

| DEPTH (m) | SAMPLE TYPE | SAMPLE NO | SOIL DESCRIPTION | PLASTIC – M.C – LIQUID (20 40 60 80) | USC | DEPTH (ft) |
|---|---|---|---|---|---|---|
| 0.0 | | G29 | CLAY (cl) – silty, trace sand, firm, low plasticity, dark grey | | | 0.0 |
| | | | END OF GRAVITY CORE | | | |
| | | | | | | 1.0 |
| | | | | | | 2.0 |
| | | | | | | 3.0 |
| 1.0 | | | | | | |

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|---|---|---|
| HERSCHEL BORROW SITE | ORIGINAL BOREHOLE NO. G30 | BOREHOLE No. HBGC30 |
| GULF CANADA RESOURCES INC. | WATER DEPTH – 15.5m | Project No: EBA # 101-3662 |
| DRILL SHIP – M.V. FRANK BRODERICK | DEPTHS ARE REFERENCED TO SEABED | ELEVATION –15.50 (m) |

SAMPLE TYPE: SHELBY TUBE / NO RECOVERY / SPLIT SPOON / DISTURBED / PISTON CORE / GRAVITY CORE

| DEPTH (m) | SAMPLE TYPE | SAMPLE NO | SOIL DESCRIPTION | PLASTIC – M.C – LIQUID (20 40 60 80) | USC | DEPTH (ft) |
|---|---|---|---|---|---|---|
| 0.0 | | G30 | CLAY (cl) – silty, sandy, soft, low plasticity, olive grey<br>SAND (sm) – silty, very fine grained, dense, slightly cohesive, medium olive grey | | | 0.0 |
| | | | END OF GRAVITY CORE | | | |
| | | | | | | 1.0 |
| | | | | | | 2.0 |
| | | | | | | 3.0 |
| 1.0 | | | | | | |

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| HERSCHEL BORROW SITE | ORIGINAL BOREHOLE NO. G31 | BOREHOLE No. HBGC31 |
| GULF CANADA RESOURCES INC. | WATER DEPTH – 15.2m | Project No: EBA # 101-3662 |
| DRILL SHIP – M.V. FRANK BRODERICK | DEPTHS ARE REFERENCED TO SEABED | ELEVATION –15.20 (m) |

SAMPLE TYPE: SHELBY TUBE | NO RECOVERY | SPLIT SPOON | DISTURBED | PISTON CORE | GRAVITY CORE

| DEPTH (m) | SAMPLE TYPE | SAMPLE NO | SOIL DESCRIPTION | PLASTIC – N.C – LIQUID (20 40 60 80) | USC | DEPTH (ft) |
|---|---|---|---|---|---|---|
| 0.0 | | 631 | CLAY (CL) – silty, sandy, soft to firm, low plasticity, dark olive grey | | | 0.0 |
| | | | END OF GRAVITY CORE | | | 1.0 |
| | | | | | | 2.0 |
| | | | | | | 3.0 |
| 1.0 | | | | | | |

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|---|---|---|
| NORTH UKALERK BORROW SITE | ORIGINAL BOREHOLE NO. UB82G56 | BOREHOLE No. NUGC056 |
| GULF CANADA RESOURCES INC. | WATER DEPTH – 25.60m | Project No: EBA # 101-3659 |
| DRILL SHIP – M.V. FRANK BRODERICK | DEPTHS ARE REFERENCED TO SEABED | ELEVATION –25.60 (m) |

SAMPLE TYPE: SHELBY TUBE | NO RECOVERY | SPLIT SPOON | DISTURBED | PISTON | GRAVITY CORE

| DEPTH (m) | SAMPLE TYPE | SAMPLE NO | SOIL DESCRIPTION | USC | DEPTH (ft) |
|---|---|---|---|---|---|
| 0.0 | | | CLAY – sandy, soft, dark olive grey | | 0.0 |
| | | SM3 | SAND (SM) – some silt and clay, fine to medium grained, uniformly graded, dark olive grey | SM | |
| | | | END OF GRAVITY CORE | | 1.0 |
| | | | | | 2.0 |
| | | | | | 3.0 |
| 1.0 | | | | | |

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| COMPLETION DEPTH 0.2 m | COMPLETE 82/08/15 | |
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|---|---|---|
| NORTH UKALERK BORROW SITE | ORIGINAL BOREHOLE NO. UB82G57 | BOREHOLE No. NUGC057 |
| GULF CANADA RESOURCES INC. | WATER DEPTH – 28.70m | Project No: EBA # 101-3659 |
| DRILL SHIP – M.V. FRANK BRODERICK | DEPTHS ARE REFERENCED TO SEABED | ELEVATION –28.70 (m) |

SAMPLE TYPE: SHELBY TUBE | NO RECOVERY | SPLIT SPOON | DISTURBED | PISTON | GRAVITY CORE

| DEPTH (m) | SAMPLE TYPE | SAMPLE NO | SOIL DESCRIPTION | USC | DEPTH (ft) |
|---|---|---|---|---|---|
| 0.0 | | | CLAY – some sand (increasing with depth), soft, dark olive grey | | 0.0 |
| | | G7A | | | |
| | | | SAND – silty, some clay, fine grained, dark olive grey | | 1.0 |
| | | | END OF GRAVITY CORE | | 2.0 |
| | | | | | 3.0 |
| 1.0 | | | | | |

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| COMPLETION DEPTH 0.2 m | COMPLETE 82/08/15 | |
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| NORTH UKALERK BORROW SITE | ORIGINAL BOREHOLE NO. UB82058 | BOREHOLE No. NUGC058 |
| GULF CANADA RESOURCES INC. | WATER DEPTH – 28.70m | Project No: EBA # 101-3659 |
| DRILL SHIP – M.V. FRANK BRODERICK | DEPTHS ARE REFERENCED TO SEABED | ELEVATION –28.70 (m) |

SAMPLE TYPE: SHELBY TUBE | NO RECOVERY | SPLIT SPOON | DISTURBED | PISTON | GRAVITY CORE

| DEPTH (m) | SAMPLE TYPE | SAMPLE NO | SOIL DESCRIPTION | USC | DEPTH (ft) |
|---|---|---|---|---|---|
| 0.0 | | 58A | CLAY – sandy, soft, dark olive grey | | 0.0 |
| | | 58A | SAND (SM) – some silt, fine to medium grained, dark olive grey | SM | |
| | | | END OF GRAVITY CORE | | 1.0 |
| | | | | | 2.0 |
| | | | | | 3.0 |
| 1.0 | | | | | |

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COMPLETION DEPTH 0.1 m | COMPLETE 82/08/15
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| NORTH UKALERK BORROW SITE | ORIGINAL BOREHOLE NO. UB82059 | BOREHOLE No. NUGC059 |
| GULF CANADA RESOURCES INC. | WATER DEPTH – 28.30m | Project No: EBA # 101-3659 |
| DRILL SHIP – M.V. FRANK BRODERICK | DEPTHS ARE REFERENCED TO SEABED | ELEVATION –28.30 (m) |

SAMPLE TYPE: SHELBY TUBE | NO RECOVERY | SPLIT SPOON | DISTURBED | PISTON | GRAVITY CORE

| DEPTH (m) | SAMPLE TYPE | SAMPLE NO | SOIL DESCRIPTION | USC | DEPTH (ft) |
|---|---|---|---|---|---|
| 0.0 | | 59B | CLAY – sandy, soft to firm, dark olive grey | SM | 0.0 |
| | | | SAND (SM) – some silt to silty, fine to medium grained, uniformly graded, dark olive grey | | |
| | | | END OF GRAVITY CORE | | 1.0 |
| | | | | | 2.0 |
| | | | | | 3.0 |
| 1.0 | | | | | |

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| NORTH UKALERK BORROW SITE | ORIGINAL BOREHOLE NO. UB82G60 | BOREHOLE No. NUGC060 |
| GULF CANADA RESOURCES INC. | WATER DEPTH – 29.00m | Project No: EBA # 101-3659 |
| DRILL SHIP – M.V. FRANK BRODERICK | DEPTHS ARE REFERENCED TO SEABED | ELEVATION –29.00 (m) |

SAMPLE TYPE: SHELBY TUBE / NO RECOVERY / SPLIT SPOON / DISTURBED / PISTON / GRAVITY CORE

| DEPTH (m) | SAMPLE TYPE | SAMPLE NO | SOIL DESCRIPTION | USC | DEPTH (ft) |
|---|---|---|---|---|---|
| 0.0 | | 60A | CLAY – sandy, soft, dark olive grey | | 0.0 |
| | | | END OF GRAVITY CORE | | 1.0 |
| | | | | | 2.0 |
| | | | | | 3.0 |
| 1.0 | | | | | |

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COMPLETION DEPTH 0.2 m | COMPLETE 82/10/15
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| NORTH UKALERK BORROW SITE | ORIGINAL BOREHOLE NO. UB82G61 | BOREHOLE No. NUGC061 |
| GULF CANADA RESOURCES INC. | WATER DEPTH – 28.30m | Project No: EBA # 101-3659 |
| DRILL SHIP – M.V. FRANK BRODERICK | DEPTHS ARE REFERENCED TO SEABED | ELEVATION –28.30 (m) |

SAMPLE TYPE: SHELBY TUBE / NO RECOVERY / SPLIT SPOON / DISTURBED / PISTON / GRAVITY CORE

| DEPTH (m) | SAMPLE TYPE | SAMPLE NO | SOIL DESCRIPTION | USC | DEPTH (ft) |
|---|---|---|---|---|---|
| 0.0 | | 61A | SAND (SM) – some silt and clay, trace of shells, compact, fine to medium grained, olive grey to black | SM | 0.0 |
| | | | END OF GRAVITY CORE | | 1.0 |
| | | | | | 2.0 |
| | | | | | 3.0 |
| 1.0 | | | | | |

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COMPLETION DEPTH 0.1 m | COMPLETE 82/10/15
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| NORTH UKALERK BORROW SITE | ORIGINAL BOREHOLE NO. UB82G62 | BOREHOLE No. NUGC062 |
| GULF CANADA RESOURCES INC. | WATER DEPTH – unknown | Project No: EBA # 101-3659 |
| DRILL SHIP – M.V. FRANK BRODERICK | DEPTHS ARE REFERENCED TO SEABED | ELEVATION 0.00 (m) |

SAMPLE TYPE: SHELBY TUBE / NO RECOVERY / SPLIT SPOON / DISTURBED / PISTON / GRAVITY CORE

| DEPTH (m) | SAMPLE TYPE | SAMPLE NO | SOIL DESCRIPTION | USC | DEPTH (ft) |
|---|---|---|---|---|---|
| 0.0 | | | SAND – assumed principal component, no data found | | 0.0 |
| | | | END OF GRAVITY CORE | | 1.0 |
| | | | | | 2.0 |
| | | | | | 3.0 |
| 1.0 | | | | | |

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| COMPLETION DEPTH ** m | COMPLETE 82/10/15 |
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| NORTH UKALERK BORROW SITE | ORIGINAL BOREHOLE NO. UB82G63 | BOREHOLE No. NUGC063 |
| GULF CANADA RESOURCES INC. | WATER DEPTH – 29.60m (approximately) | Project No: EBA # 101-3659 |
| DRILL SHIP – M.V. FRANK BRODERICK | DEPTHS ARE REFERENCED TO SEABED | ELEVATION -29.60 (m) |

SAMPLE TYPE: SHELBY TUBE / NO RECOVERY / SPLIT SPOON / DISTURBED / PISTON / GRAVITY CORE

| DEPTH (m) | SAMPLE TYPE | SAMPLE NO | SOIL DESCRIPTION | USC | DEPTH (ft) |
|---|---|---|---|---|---|
| 0.0 | | | CLAY – very soft, high plasticity, brown | | 0.0 |
| | | | – silty, trace sand, low plasticity, soft to firm, dark olive grey | | |
| | | | END OF GRAVITY CORE | | 1.0 |
| | | | | | 2.0 |
| | | | | | 3.0 |
| 1.0 | | | | | |

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| NORTH UKALERK BORROW SITE | ORIGINAL BOREHOLE NO. UB82G64 | BOREHOLE No. NUGC064 |
| GULF CANADA RESOURCES INC. | WATER DEPTH – 29.60m | Project No: EBA # 101-3659 |
| DRILL SHIP – M.V. FRANK BRODERICK | DEPTHS ARE REFERENCED TO SEABED | ELEVATION –29.60 (m) |

SAMPLE TYPE: SHELBY TUBE; NO RECOVERY; SPLIT SPOON; DISTURBED; PISTON; GRAVITY CORE

| DEPTH (m) | SAMPLE TYPE | SAMPLE NO | SOIL DESCRIPTION | USC | DEPTH (ft) |
|---|---|---|---|---|---|
| 0.0 | | 64A | CLAY – silty, sandy, low plasticity, very soft | | 0.0 |
| | | | END OF GRAVITY CORE | | 1.0 |
| | | | | | 2.0 |
| | | | | | 3.0 |
| 1.0 | | | | | |

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COMPLETION DEPTH 0.2 m | COMPLETE 82/08/18
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| NORTH UKALERK BORROW SITE | ORIGINAL BOREHOLE NO. UB82G65 | BOREHOLE No. NUGC065 |
| GULF CANADA RESOURCES INC. | WATER DEPTH – 29.60m | Project No: EBA # 101-3659 |
| DRILL SHIP – M.V. FRANK BRODERICK | DEPTHS ARE REFERENCED TO SEABED | ELEVATION –29.60 (m) |

SAMPLE TYPE: SHELBY TUBE; NO RECOVERY; SPLIT SPOON; DISTURBED; PISTON; GRAVITY CORE

| DEPTH (m) | SAMPLE TYPE | SAMPLE NO | SOIL DESCRIPTION | USC | DEPTH (ft) |
|---|---|---|---|---|---|
| 0.0 | | 65A | CLAY – silty, sand, dark olive grey<br>SAND – some silt, fine grained, uniformly graded, dark olive grey | | 0.0 |
| | | | END OF GRAVITY CORE | | 1.0 |
| | | | | | 2.0 |
| | | | | | 3.0 |
| 1.0 | | | | | |

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COMPLETION DEPTH 0.3 m | COMPLETE 82/08/18
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| NORTH UKALERK BORROW SITE | ORIGINAL BOREHOLE NO. UB82G66 | BOREHOLE No. NUGC066 |
| GULF CANADA RESOURCES INC. | WATER DEPTH – 26.80m | Project No: EBA # 101-3659 |
| DRILL SHIP – M.V. FRANK BRODERICK | DEPTHS ARE REFERENCED TO SEABED | ELEVATION –26.80 (m) |

SAMPLE TYPE: SHELBY TUBE / NO RECOVERY / SPLIT SPOON / DISTURBED / PISTON / GRAVITY CORE

| DEPTH (m) | SAMPLE TYPE | SAMPLE NO | SOIL DESCRIPTION | USC | DEPTH (ft) |
|---|---|---|---|---|---|
| 0.0 | | 66C | SAND (sm) – some silt, fine to medium grained, uniformly graded, dark olive grey | | 0.0 |
| | | | END OF GRAVITY CORE | | 1.0 |
| | | | | | 2.0 |
| | | | | | 3.0 |
| 1.0 | | | | | |

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| COMPLETION DEPTH 0.2 m | COMPLETE 82/08/16 | |
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| NORTH UKALERK BORROW SITE | ORIGINAL BOREHOLE NO. UB82G67 | BOREHOLE No. NUGC067 |
| GULF CANADA RESOURCES INC. | WATER DEPTH – 26.80m (approximately) | Project No: EBA # 101-3659 |
| DRILL SHIP – M.V. FRANK BRODERICK | DEPTHS ARE REFERENCED TO SEABED | ELEVATION –26.80 (m) |

SAMPLE TYPE: SHELBY TUBE / NO RECOVERY / SPLIT SPOON / DISTURBED / PISTON / GRAVITY CORE

| DEPTH (m) | SAMPLE TYPE | SAMPLE NO | SOIL DESCRIPTION | USC | DEPTH (ft) |
|---|---|---|---|---|---|
| 0.0 | | 67A | CLAY – very soft, medium plasticity | | 0.0 |
| | | | SAND – trace silt, fine grained, uniformly graded, dense, dark olive grey | | |
| | | | END OF GRAVITY CORE | | 1.0 |
| | | | | | 2.0 |
| | | | | | 3.0 |
| 1.0 | | | | | |

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| COMPLETION DEPTH 0.3 m | COMPLETE 82/08/16 | |
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| NORTH UKALERK BORROW SITE | ORIGINAL BOREHOLE NO. UB82G68 | BOREHOLE No. NUGC068 |
| GULF CANADA RESOURCES INC. | WATER DEPTH – 29.50m (approximately) | Project No: EBA # 101-3659 |
| DRILL SHIP – M.V. FRANK BRODERICK | DEPTHS ARE REFERENCED TO SEABED | ELEVATION –29.50 (m) |

SAMPLE TYPE: SHELBY TUBE; NO RECOVERY; SPLIT SPOON; DISTURBED; PISTON; GRAVITY CORE

| DEPTH (m) | SAMPLE TYPE | SAMPLE NO | SOIL DESCRIPTION | USC | DEPTH (ft) |
|---|---|---|---|---|---|
| 0.0 | | | CLAY – silty, some fine sand, very soft, low plasticity | | 0.0 |
| | | 68B | SAND AND SILT (sm) – fine to medium grained, uniformly graded, dark olive grey | SM | |
| | | | END OF GRAVITY CORE | | 1.0 |
| | | | | | 2.0 |
| | | | | | 3.0 |
| 1.0 | | | | | |

Δ DSO (mm) Δ: 2000 4000 6000 8000

PLASTIC — M.C — LIQUID: 20 40 60 80

■ FINES (%) ■: 20 40 60 80

◆ SAND (%) ◆: 20 40 60 80

● GRAVEL (%) ●: 20 40 60 80

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| COMPLETION DEPTH 0.4 m | COMPLETE 82/08/16 |
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| NORTH UKALERK BORROW SITE | ORIGINAL BOREHOLE NO. UB82G69 | BOREHOLE No. NUGC069 |
| GULF CANADA RESOURCES INC. | WATER DEPTH – 29.00m | Project No: EBA # 101-3659 |
| DRILL SHIP – M.V. FRANK BRODERICK | DEPTHS ARE REFERENCED TO SEABED | ELEVATION –29.00 (m) |

SAMPLE TYPE: SHELBY TUBE; NO RECOVERY; SPLIT SPOON; DISTURBED; PISTON; GRAVITY CORE

| DEPTH (m) | SAMPLE TYPE | SAMPLE NO | SOIL DESCRIPTION | USC | DEPTH (ft) |
|---|---|---|---|---|---|
| 0.0 | | | CLAY – sandy (increasing with depth), very soft, low plasticity | | 0.0 |
| | | 69B | SAND (sm) – silty, fine to medium grained, uniformly graded, dark olive grey | | |
| | | | END OF GRAVITY CORE | | 1.0 |
| | | | | | 2.0 |
| | | | | | 3.0 |
| 1.0 | | | | | |

Δ DSO (mm) Δ: 2000 4000 6000 8000

PLASTIC — M.C — LIQUID: 20 40 60 80

■ FINES (%) ■: 20 40 60 80

◆ SAND (%) ◆: 20 40 60 80

● GRAVEL (%) ●: 20 40 60 80

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| COMPLETION DEPTH 0.2 m | COMPLETE 82/08/16 |
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| NORTH UKALERK BORROW SITE | ORIGINAL BOREHOLE NO. UB82G70 | BOREHOLE No. NUGC070 |
| GULF CANADA RESOURCES INC. | WATER DEPTH – 29.00m | Project No: EBA # 101-3659 |
| DRILL SHIP – M.V. FRANK BRODERICK | DEPTHS ARE REFERENCED TO SEABED | ELEVATION -29.00 (m) |

SAMPLE TYPE: SHELBY TUBE | NO RECOVERY | SPLIT SPOON | DISTURBED | PISTON | GRAVITY CORE

| DEPTH (m) | SAMPLE TYPE | SAMPLE NO | SOIL DESCRIPTION | USC | DEPTH (ft) |
|---|---|---|---|---|---|
| 0.0 | | | CLAY – silty, trace sand, very soft, low plasticity, dark olive grey | | 0.0 |
| | | 708 | SAND – trace of silt | | |
| | | | END OF GRAVITY CORE | | 1.0 |
| | | | | | 2.0 |
| | | | | | 3.0 |
| 1.0 | | | | | |

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COMPLETION DEPTH 0.2 m | COMPLETE 82/08/16
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| NORTH UKALERK BORROW SITE | ORIGINAL BOREHOLE NO. UB82G71 | BOREHOLE No. NUGC071 |
| GULF CANADA RESOURCES INC. | WATER DEPTH – 29.00m (approximately) | Project No: EBA # 101-3659 |
| DRILL SHIP – M.V. FRANK BRODERICK | DEPTHS ARE REFERENCED TO SEABED | ELEVATION -29.00 (m) |

SAMPLE TYPE: SHELBY TUBE | NO RECOVERY | SPLIT SPOON | DISTURBED | PISTON | GRAVITY CORE

| DEPTH (m) | SAMPLE TYPE | SAMPLE NO | SOIL DESCRIPTION | USC | DEPTH (ft) |
|---|---|---|---|---|---|
| 0.0 | | | CLAY – silty, some sand, very soft, low plasticity | | 0.0 |
| | | 718 | SAND – trace to some silt | | |
| | | | END OF GRAVITY CORE | | 1.0 |
| | | | | | 2.0 |
| | | | | | 3.0 |
| 1.0 | | | | | |

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| NORTH UKALERK BORROW SITE | ORIGINAL BOREHOLE NO. UB82G72 | BOREHOLE No. NUGC072 |
| GULF CANADA RESOURCES INC. | WATER DEPTH – 29.00m (approximately) | Project No: EBA # 101-3659 |
| DRILL SHIP – M.V. FRANK BRODERICK | DEPTHS ARE REFERENCED TO SEABED | ELEVATION –29.00 (m) |

SAMPLE TYPE: SHELBY TUBE, NO RECOVERY, SPLIT SPOON, DISTURBED, PISTON, GRAVITY CORE

| DEPTH (m) | SAMPLE TYPE | SAMPLE NO | SOIL DESCRIPTION | USC | DEPTH (ft) |
|---|---|---|---|---|---|
| 0.0 | | | CLAY – silty, trace sand, soft, low plasticity, dark olive grey | | 0.0 |
| | | 72B | SAND (sm) – some silt, trace organics, fine grained, uniformly graded, dark grey | SM | |
| | | | END OF GRAVITY CORE | | 1.0 |
| | | | | | 2.0 |
| | | | | | 3.0 |
| 1.0 | | | | | |

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| NORTH UKALERK BORROW SITE | ORIGINAL BOREHOLE NO. UB82G73 | BOREHOLE No. NUGC073 |
| GULF CANADA RESOURCES INC. | WATER DEPTH – 28.00m | Project No: EBA # 101-3659 |
| DRILL SHIP – M.V. FRANK BRODERICK | DEPTHS ARE REFERENCED TO SEABED | ELEVATION –28.00 (m) |

SAMPLE TYPE: SHELBY TUBE, NO RECOVERY, SPLIT SPOON, DISTURBED, PISTON, GRAVITY CORE

| DEPTH (m) | SAMPLE TYPE | SAMPLE NO | SOIL DESCRIPTION | USC | DEPTH (ft) |
|---|---|---|---|---|---|
| 0.0 | | | CLAY – sandy, very soft, dark olive grey | | 0.0 |
| | | 73A | | | |
| | | | END OF GRAVITY CORE | | 1.0 |
| | | | | | 2.0 |
| | | | | | 3.0 |
| 1.0 | | | | | |

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| NORTH UKALERK BORROW SITE | ORIGINAL BOREHOLE NO. UB82G74 | BOREHOLE No. NUGC074 |
| GULF CANADA RESOURCES INC. | WATER DEPTH – 28.00m (approximately) | Project No: EBA # 101-3659 |
| DRILL SHIP – M.V. FRANK BRODERICK | DEPTHS ARE REFERENCED TO SEABED | ELEVATION -28.00 (m) |

SAMPLE TYPE: SHELBY TUBE, NO RECOVERY, SPLIT SPOON, DISTURBED, PISTON, GRAVITY CORE

| DEPTH (m) | SAMPLE TYPE | SAMPLE NO | SOIL DESCRIPTION | USC | DEPTH (ft) |
|---|---|---|---|---|---|
| 0.0 | | 74D | CLAY – silty, trace sand (increasing with depth), soft, low plasticity | | 0.0 |
| | | | SAND – silty, clayey, fine grained, uniformly graded | | |
| | | | END OF GRAVITY CORE | | |
| 1.0 | | | | | 1.0 |
| | | | | | 2.0 |
| | | | | | 3.0 |

Δ DSS (psf) Δ 2000 4000 6000 8000

PLASTIC M.C LIQUID 20 40 60 80

FINES (%) ■ 20 40 60 80

SAND (%) ◆ 20 40 60 80

GRAVEL (%) ● 20 40 60 80

| | | |
|---|---|---|
| EBA Engineering Consultants Ltd. Calgary, Alberta | COMPLETION DEPTH 0.2 m | COMPLETE 82/08/17 |
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| NORTH UKALERK BORROW SITE | ORIGINAL BOREHOLE NO. UB82G75 | BOREHOLE No. NUGC075 |
| GULF CANADA RESOURCES INC. | WATER DEPTH – 28.00m (approximately) | Project No: EBA # 101-3659 |
| DRILL SHIP – M.V. FRANK BRODERICK | DEPTHS ARE REFERENCED TO SEABED | ELEVATION -28.00 (m) |

SAMPLE TYPE: SHELBY TUBE, NO RECOVERY, SPLIT SPOON, DISTURBED, PISTON, GRAVITY CORE

| DEPTH (m) | SAMPLE TYPE | SAMPLE NO | SOIL DESCRIPTION | USC | DEPTH (ft) |
|---|---|---|---|---|---|
| 0.0 | | 75C | CLAY | | 0.0 |
| | | | SAND (sm) – some silt, fine to medium grained, uniformly graded, dark grey | SM | |
| | | | END OF GRAVITY CORE | | |
| 1.0 | | | | | 1.0 |
| | | | | | 2.0 |
| | | | | | 3.0 |

Δ DSS (psf) Δ 2000 4000 6000 8000

PLASTIC M.C LIQUID 20 40 60 80

FINES (%) ■ 20 40 60 80

SAND (%) ◆ 20 40 60 80

GRAVEL (%) ● 20 40 60 80

| | | |
|---|---|---|
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| NORTH UKALERK BORROW SITE | ORIGINAL BOREHOLE NO. UB82G76 | BOREHOLE No. NUGC076 |
| GULF CANADA RESOURCES INC. | WATER DEPTH – 29.30m | Project No: EBA # 101-3659 |
| DRILL SHIP – M.V. FRANK BRODERICK | DEPTHS ARE REFERENCED TO SEABED | ELEVATION –29.30 (m) |

SAMPLE TYPE: SHELBY TUBE / NO RECOVERY / SPLIT SPOON / DISTURBED / PISTON / GRAVITY CORE

| DEPTH (m) | SAMPLE TYPE | SAMPLE NO | SOIL DESCRIPTION | USC | DEPTH (ft) |
|---|---|---|---|---|---|
| 0.0 | | | CLAY – silty, trace sand, very soft, low plasticity, dark olive grey | | 0.0 |
| | | 76D | | | 1.0 |
| | | | SAND – fine grained, uniformly graded | | |
| | | | END OF GRAVITY CORE | | 2.0 |
| | | | | | 3.0 |
| 1.0 | | | | | |

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COMPLETION DEPTH 0.5 m | COMPLETE 82/08/18
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|---|---|---|
| NORTH UKALERK BORROW SITE | ORIGINAL BOREHOLE NO. UB82G77 | BOREHOLE No. NUGC077 |
| GULF CANADA RESOURCES INC. | WATER DEPTH – 29.30m (approximately) | Project No: EBA # 101-3659 |
| DRILL SHIP – M.V. FRANK BRODERICK | DEPTHS ARE REFERENCED TO SEABED | ELEVATION –29.30 (m) |

SAMPLE TYPE: SHELBY TUBE / NO RECOVERY / SPLIT SPOON / DISTURBED / PISTON / GRAVITY CORE

| DEPTH (m) | SAMPLE TYPE | SAMPLE NO | SOIL DESCRIPTION | USC | DEPTH (ft) |
|---|---|---|---|---|---|
| 0.0 | | | CLAY – silty, trace of sand, very soft, low plasticity | | 0.0 |
| | | 77A | SAND – some clay, fine grained, uniformly graded, dark olive grey | | 1.0 |
| | | | END OF GRAVITY CORE | | 2.0 |
| | | | | | 3.0 |
| 1.0 | | | | | |

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COMPLETION DEPTH 0.2 m | COMPLETE 82/08/17
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|---|---|---|
| NORTH UKALERK BORROW SITE | ORIGINAL BOREHOLE NO. U882078 | BOREHOLE No. NUGC078 |
| GULF CANADA RESOURCES INC. | WATER DEPTH – 30.50m | Project No: EBA # 101-3659 |
| DRILL SHIP – M.V. FRANK BRODERICK | DEPTHS ARE REFERENCED TO SEABED | ELEVATION –30.50 (m) |

SAMPLE TYPE: SHELBY TUBE; NO RECOVERY; SPLIT SPOON; DISTURBED; PISTON; GRAVITY CORE

| DEPTH (m) | SAMPLE TYPE | SAMPLE NO | SOIL DESCRIPTION | USC | DEPTH (ft) |
|---|---|---|---|---|---|
| 0.0 | | | CLAY – silty, trace sand, very soft, low plasticity | | 0.0 |
| | | | SAND – trace silt, fine grained, uniformly graded | | |
| | | 78A | END OF GRAVITY CORE | | |
| | | | | | 1.0 |
| | | | | | 2.0 |
| | | | | | 3.0 |
| 1.0 | | | | | |

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| COMPLETION DEPTH 0.1 m | COMPLETE 82/08/17 |
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|---|---|---|
| NORTH UKALERK BORROW SITE | ORIGINAL BOREHOLE NO. U882079 | BOREHOLE No. NUGC079 |
| GULF CANADA RESOURCES INC. | WATER DEPTH – 30.50m (approximately) | Project No: EBA # 101-3659 |
| DRILL SHIP – M.V. FRANK BRODERICK | DEPTHS ARE REFERENCED TO SEABED | ELEVATION –30.50 (m) |

SAMPLE TYPE: SHELBY TUBE; NO RECOVERY; SPLIT SPOON; DISTURBED; PISTON; GRAVITY CORE

| DEPTH (m) | SAMPLE TYPE | SAMPLE NO | SOIL DESCRIPTION | USC | DEPTH (ft) |
|---|---|---|---|---|---|
| 0.0 | | | CLAY – silty, trace sand, very soft, low plasticity | | 0.0 |
| | | | SAND – fine grained, uniformly graded | | |
| | | 79A | END OF GRAVITY CORE | | |
| | | | | | 1.0 |
| | | | | | 2.0 |
| | | | | | 3.0 |
| 1.0 | | | | | |

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| COMPLETION DEPTH 0.2 m | COMPLETE 82/08/17 |
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| NORTH UKALERK BORROW SITE | ORIGINAL BOREHOLE NO. UB82G80 | BOREHOLE No. NUGC080 |
| GULF CANADA RESOURCES INC. | WATER DEPTH – 27.10m | Project No: EBA # 101-3659 |
| DRILL SHIP – M.V. FRANK BRODERICK | DEPTHS ARE REFERENCED TO SEABED | ELEVATION –27.10 (m) |

SAMPLE TYPE: SHELBY TUBE; NO RECOVERY; SPLIT SPOON; DISTURBED; PISTON; GRAVITY CORE

| DEPTH (m) | SAMPLE TYPE | SAMPLE NO | SOIL DESCRIPTION | USC | DEPTH (ft) |
|---|---|---|---|---|---|
| 0.0 | | | CLAY – silty, trace sand (increasing with depth), very soft, medium plasticity, dark olive grey | | 0.0 |
| | | | SAND – fine grained, uniformly graded | | 1.0 |
| | | 208 | | | |
| | | | END OF GRAVITY CORE | | 2.0 |
| | | | | | 3.0 |
| 1.0 | | | | | |

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COMPLETION DEPTH 0.4 m | COMPLETE 82/08/17
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|---|---|---|
| NORTH UKALERK BORROW SITE | ORIGINAL BOREHOLE NO. UB82G81 | BOREHOLE No. NUGC081 |
| GULF CANADA RESOURCES INC. | WATER DEPTH – 27.10m (approximately) | Project No: EBA # 101-3659 |
| DRILL SHIP – M.V. FRANK BRODERICK | DEPTHS ARE REFERENCED TO SEABED | ELEVATION –27.10 (m) |

SAMPLE TYPE: SHELBY TUBE; NO RECOVERY; SPLIT SPOON; DISTURBED; PISTON; GRAVITY CORE

| DEPTH (m) | SAMPLE TYPE | SAMPLE NO | SOIL DESCRIPTION | USC | DEPTH (ft) |
|---|---|---|---|---|---|
| 0.0 | | | CLAY – silty, trace sand, very soft, low plasticity | | 0.0 |
| | | 218 | SAND – trace silt, fine grained, uniformly graded | | 1.0 |
| | | | END OF GRAVITY CORE | | 2.0 |
| | | | | | 3.0 |
| 1.0 | | | | | |

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COMPLETION DEPTH 0.4 m | COMPLETE 82/08/17
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|---|---|---|
| NORTH UKALERIK BORROW SITE | ORIGINAL BOREHOLE NO. UB82G82 | BOREHOLE No. NUGC082 |
| GULF CANADA RESOURCES INC. | WATER DEPTH – 31.10m | Project No: EBA # 101-3659 |
| DRILL SHIP – M.V. FRANK BRODERICK | DEPTHS ARE REFERENCED TO SEABED | ELEVATION -31.10 (m) |

SAMPLE TYPE: SHELBY TUBE / NO RECOVERY / SPLIT SPOON / DISTURBED / PISTON / GRAVITY CORE

| DEPTH (m) | SAMPLE TYPE | SAMPLE NO | SOIL DESCRIPTION | USC | DEPTH (ft) |
|---|---|---|---|---|---|
| 0.0 | | | CLAY | | 0.0 |
| | | | SAND – some silt, fine grained, uniformly graded, dark olive grey | | |
| | | 82G | | | |
| | | | END OF GRAVITY CORE | | 1.0 |
| | | | | | 2.0 |
| | | | | | 3.0 |
| 1.0 | | | | | |

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COMPLETION DEPTH 0.1 m | COMPLETE 82/08/17
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|---|---|---|
| NORTH UKALERIK BORROW SITE | ORIGINAL BOREHOLE NO. UB82G83 | BOREHOLE No. NUGC083 |
| GULF CANADA RESOURCES INC. | WATER DEPTH – 31.10m (approximately) | Project No: EBA # 101-3659 |
| DRILL SHIP – M.V. FRANK BRODERICK | DEPTHS ARE REFERENCED TO SEABED | ELEVATION -31.10 (m) |

SAMPLE TYPE: SHELBY TUBE / NO RECOVERY / SPLIT SPOON / DISTURBED / PISTON / GRAVITY CORE

| DEPTH (m) | SAMPLE TYPE | SAMPLE NO | SOIL DESCRIPTION | USC | DEPTH (ft) |
|---|---|---|---|---|---|
| 0.0 | | | CLAY – silty, trace sand, very soft, low plasticity, dark olive grey | | 0.0 |
| | | 83C | | | |
| | | | SAND – fine grained, uniformly graded | | 1.0 |
| | | | END OF GRAVITY CORE | | 2.0 |
| | | | | | 3.0 |
| 1.0 | | | | | |

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COMPLETION DEPTH 0.4 m | COMPLETE 82/08/17
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|---|---|---|
| NORTH UKALERK BORROW SITE | ORIGINAL BOREHOLE NO. UB82G84 | BOREHOLE No. NUGC084 |
| GULF CANADA RESOURCES INC. | WATER DEPTH – 31.10m (approximately) | Project No: EBA # 101-3659 |
| DRILL SHIP – M.V. FRANK BRODERICK | DEPTHS ARE REFERENCED TO SEABED | ELEVATION –31.10 (m) |

SAMPLE TYPE: SHELBY TUBE; NO RECOVERY; SPLIT SPOON; DISTURBED; PISTON; GRAVITY CORE

| DEPTH (m) | SAMPLE TYPE | SAMPLE NO | SOIL DESCRIPTION | USC | DEPTH (m) |
|---|---|---|---|---|---|
| 0.0 | | | CLAY – silty, trace sand, very soft, low plasticity, dark olive grey | | 0.0 |
| | | 84C | SAND – some clay, fine grained, uniformly graded, dark olive grey | | |
| | | | END OF GRAVITY CORE | | |
| | | | | | 1.0 |
| | | | | | 2.0 |
| | | | | | 3.0 |
| 1.0 | | | | | |

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|---|---|---|
| NORTH UKALERK BORROW SITE | ORIGINAL BOREHOLE NO. UB82G85 | BOREHOLE No. NUGC085 |
| GULF CANADA RESOURCES INC. | WATER DEPTH – 31.10m (approximately) | Project No: EBA # 101-3659 |
| DRILL SHIP – M.V. FRANK BRODERICK | DEPTHS ARE REFERENCED TO SEABED | ELEVATION –31.10 (m) |

SAMPLE TYPE: SHELBY TUBE; NO RECOVERY; SPLIT SPOON; DISTURBED; PISTON; GRAVITY CORE

| DEPTH (m) | SAMPLE TYPE | SAMPLE NO | SOIL DESCRIPTION | USC | DEPTH (m) |
|---|---|---|---|---|---|
| 0.0 | | | CLAY – silty, trace sand, soft, low plasticity | | 0.0 |
| | | 85B | SAND – trace silt, fine to medium grained uniformly graded, dense, dark olive grey | SM | |
| | | | END OF GRAVITY CORE | | |
| | | | | | 1.0 |
| | | | | | 2.0 |
| | | | | | 3.0 |
| 1.0 | | | | | |

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| COMPLETION DEPTH 0.1 m | COMPLETE 82/08/17 | |
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| NORTH UKALERK BORROW SITE | ORIGINAL BOREHOLE NO. UB82G86 | BOREHOLE No. NUGC086 |
| GULF CANADA RESOURCES INC. | WATER DEPTH – 27.40m | Project No: EBA # 101-3659 |
| DRILL SHIP – M.V. FRANK BRODERICK | DEPTHS ARE REFERENCED TO SEABED | ELEVATION –27.40 (m) |

SAMPLE TYPE: SHELBY TUBE / NO RECOVERY / SPLIT SPOON / DISTURBED / PISTON / GRAVITY CORE

| DEPTH (m) | SAMPLE TYPE | SAMPLE NO | SOIL DESCRIPTION | USC | DEPTH (ft) |
|---|---|---|---|---|---|
| 0.0 | | | CLAY – silty, sandy, dark grey | | 0.0 |
| | | | SAND – some silt, fine grained, olive grey to black | | |
| | | | END OF GRAVITY CORE | | 1.0 |
| | | | | | 2.0 |
| | | | | | 3.0 |
| 1.0 | | | | | |

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|---|---|---|
| NORTH UKALERK BORROW SITE | ORIGINAL BOREHOLE NO. UB82G87 | BOREHOLE No. NUGC087 |
| GULF CANADA RESOURCES INC. | WATER DEPTH – 30.80m | Project No: EBA # 101-3659 |
| DRILL SHIP – M.V. FRANK BRODERICK | DEPTHS ARE REFERENCED TO SEABED | ELEVATION –30.80 (m) |

SAMPLE TYPE: SHELBY TUBE / NO RECOVERY / SPLIT SPOON / DISTURBED / PISTON / GRAVITY CORE

| DEPTH (m) | SAMPLE TYPE | SAMPLE NO | SOIL DESCRIPTION | USC | DEPTH (ft) |
|---|---|---|---|---|---|
| 0.0 | | | CLAY – trace sand, very soft | | 0.0 |
| | | | SAND – some silt, fine to medium grained, light olive grey brown to dark grey | | |
| | | | END OF GRAVITY CORE | | 1.0 |
| | | | | | 2.0 |
| | | | | | 3.0 |
| 1.0 | | | | | |

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| COMPLETION DEPTH 0.1 m | COMPLETE 82/08/17 |
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| NORTH UKALERK BORROW SITE | ORIGINAL BOREHOLE NO. UB82088 | BOREHOLE No. NUGC088 |
| GULF CANADA RESOURCES INC. | WATER DEPTH – 30.20m | Project No: EBA # 101-3659 |
| DRILL SHIP – M.V. FRANK BRODERICK | DEPTHS ARE REFERENCED TO SEABED | ELEVATION –30.20 (m) |

SAMPLE TYPE: SHELBY TUBE / NO RECOVERY / SPLIT SPOON / DISTURBED / PISTON / GRAVITY CORE

| DEPTH (m) | SAMPLE TYPE | SAMPLE NO | SOIL DESCRIPTION | USC | DEPTH (ft) |
|---|---|---|---|---|---|
| 0.0 | | | CLAY – sandy (increasing with depth), soft, dark grey | | 0.0 |
| | | | SAND – silty, clayey, dark grey | | |
| | | | END OF GRAVITY CORE | | 1.0 |
| | | | | | 2.0 |
| | | | | | 3.0 |
| 1.0 | | | | | |

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COMPLETION DEPTH 0.3 m | COMPLETE 82/08/17
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|---|---|---|
| NORTH UKALERK BORROW SITE | ORIGINAL BOREHOLE NO. UB82089 | BOREHOLE No. NUGC089 |
| GULF CANADA RESOURCES INC. | WATER DEPTH – 30.20m | Project No: EBA # 101-3659 |
| DRILL SHIP – M.V. FRANK BRODERICK | DEPTHS ARE REFERENCED TO SEABED | ELEVATION –30.20 (m) |

SAMPLE TYPE: SHELBY TUBE / NO RECOVERY / SPLIT SPOON / DISTURBED / PISTON / GRAVITY CORE

| DEPTH (m) | SAMPLE TYPE | SAMPLE NO | SOIL DESCRIPTION | USC | DEPTH (ft) |
|---|---|---|---|---|---|
| 0.0 | | | CLAY – sandy, very soft, dark olive grey | | 0.0 |
| | | | SAND – silty, trace clay, dark olive grey | | |
| | | | END OF GRAVITY CORE | | 1.0 |
| | | | | | 2.0 |
| | | | | | 3.0 |
| 1.0 | | | | | |

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COMPLETION DEPTH 0.2 m | COMPLETE 82/08/17
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|---|---|---|
| NORTH UKALERK BORROW SITE | ORIGINAL BOREHOLE NO. UB82G90 | BOREHOLE No. NUGC090 |
| GULF CANADA RESOURCES INC. | WATER DEPTH – unknown | Project No: EBA # 101-3659 |
| DRILL SHIP – M.V. FRANK BRODERICK | DEPTHS ARE REFERENCED TO SEABED | ELEVATION 0.00 (m) |

SAMPLE TYPE: SHELBY TUBE / NO RECOVERY / SPLIT SPOON / DISTURBED / PISTON / GRAVITY CORE

| DEPTH (m) | SAMPLE TYPE | SAMPLE NO | SOIL DESCRIPTION | USC | DEPTH (ft) |
|---|---|---|---|---|---|
| 0.0 | | | CLAY – silty, trace sand, very soft, low plasticity, dark olive grey | | 0.0 |
| | | | SAND – clayey, fine grained, uniformly graded | | |
| | | | END OF GRAVITY CORE | | 1.0 |
| | | | | | 2.0 |
| | | | | | 3.0 |
| 1.0 | | | | | |

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COMPLETION DEPTH 0.2 m | COMPLETE 82/08/18
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| NORTH UKALERK BORROW SITE | ORIGINAL BOREHOLE NO. UB82G91 | BOREHOLE No. NUGC091 |
| GULF CANADA RESOURCES INC. | WATER DEPTH – 30.20m (approximately) | Project No: EBA # 101-3659 |
| DRILL SHIP – M.V. FRANK BRODERICK | DEPTHS ARE REFERENCED TO SEABED | ELEVATION -30.20 (m) |

SAMPLE TYPE: SHELBY TUBE / NO RECOVERY / SPLIT SPOON / DISTURBED / PISTON / GRAVITY CORE

| DEPTH (m) | SAMPLE TYPE | SAMPLE NO | SOIL DESCRIPTION | USC | DEPTH (ft) |
|---|---|---|---|---|---|
| 0.0 | | | CLAY – silty, trace sand, very soft, low plasticity, dark olive grey | | 0.0 |
| | | | SAND – silty, fine grained, uniformly graded | | |
| | | | END OF GRAVITY CORE | | 1.0 |
| | | | | | 2.0 |
| | | | | | 3.0 |
| 1.0 | | | | | |

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| NORTH UKALERK BORROW SITE | ORIGINAL BOREHOLE NO. UB82092 | BOREHOLE No. NUGC092 |
| GULF CANADA RESOURCES INC. | WATER DEPTH – 30.20m (approximately) | Project No: EBA # 101-3659 |
| DRILL SHIP – M.V. FRANK BRODERICK | DEPTHS ARE REFERENCED TO SEABED | ELEVATION –30.20 (m) |

SAMPLE TYPE: SHELBY TUBE / NO RECOVERY / SPLIT SPOON / DISTURBED / PISTON / GRAVITY CORE

| DEPTH (m) | SAMPLE TYPE | SAMPLE NO | SOIL DESCRIPTION | USC | DEPTH (ft) |
|---|---|---|---|---|---|
| 0.0 | | | CLAY – silty, trace sand, very soft, low plasticity, dark olive grey | | 0.0 |
| | | | SAND – silty, fine grained, uniformly graded, dark olive grey | | |
| | | | END OF GRAVITY CORE | | |
| | | | | | 1.0 |
| | | | | | 2.0 |
| | | | | | 3.0 |
| 1.0 | | | | | |

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| NORTH UKALERK BORROW SITE | ORIGINAL BOREHOLE NO. UB82093 | BOREHOLE No. NUGC093 |
| GULF CANADA RESOURCES INC. | WATER DEPTH – 29.60m | Project No: EBA # 101-3659 |
| DRILL SHIP – M.V. FRANK BRODERICK | DEPTHS ARE REFERENCED TO SEABED | ELEVATION –29.60 (m) |

SAMPLE TYPE: SHELBY TUBE / NO RECOVERY / SPLIT SPOON / DISTURBED / PISTON / GRAVITY CORE

| DEPTH (m) | SAMPLE TYPE | SAMPLE NO | SOIL DESCRIPTION | USC | DEPTH (ft) |
|---|---|---|---|---|---|
| 0.0 | | | CLAY<br>SAND – some silt, fine grained, uniformly graded, dark olive grey | | 0.0 |
| | | | END OF GRAVITY CORE | | |
| | | | | | 1.0 |
| | | | | | 2.0 |
| | | | | | 3.0 |
| 1.0 | | | | | |

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| NORTH UKALERK BORROW SITE | ORIGINAL BOREHOLE NO. UB82094 | BOREHOLE No. NUGC094 |
| GULF CANADA RESOURCES INC. | WATER DEPTH – 29.80m | Project No: EBA # 101-3659 |
| DRILL SHIP – M.V. FRANK BRODERICK | DEPTHS ARE REFERENCED TO SEABED | ELEVATION –29.60 (m) |

SAMPLE TYPE: SHELBY TUBE / NO RECOVERY / SPLIT SPOON / DISTURBED / PISTON / GRAVITY CORE

| DEPTH (m) | SAMPLE TYPE | SAMPLE NO | SOIL DESCRIPTION | USC | DEPTH (ft) |
|---|---|---|---|---|---|
| 0.0 | | | CLAY – silty, trace sand, very soft, low plasticity<br>SAND – trace silt, fine grained, uniformly graded, dense, dark olive grey | | 0.0 |
| | | | END OF GRAVITY CORE | | 1.0 |
| | | | | | 2.0 |
| | | | | | 3.0 |
| 1.0 | | | | | |

Δ D50 (mm) Δ: 2000 4000 6000 8000

PLASTIC — M.C — LIQUID: 20 40 60 80

FINES (%): 20 40 60 80

SAND (%): 20 40 60 80

GRAVEL (%): 20 40 60 80

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| NORTH UKALERK BORROW SITE | ORIGINAL BOREHOLE NO. UB82095 | BOREHOLE No. NUGC095 |
| GULF CANADA RESOURCES INC. | WATER DEPTH – 29.80m (approximately) | Project No: EBA # 101-3659 |
| DRILL SHIP – M.V. FRANK BRODERICK | DEPTHS ARE REFERENCED TO SEABED | ELEVATION –29.60 (m) |

SAMPLE TYPE: SHELBY TUBE / NO RECOVERY / SPLIT SPOON / DISTURBED / PISTON / GRAVITY CORE

| DEPTH (m) | SAMPLE TYPE | SAMPLE NO | SOIL DESCRIPTION | USC | DEPTH (ft) |
|---|---|---|---|---|---|
| 0.0 | | | CLAY – silty, some sand to sandy, soft, low plasticity, remoulded (possible ice scour), dark olive grey | | 0.0 |
| | | | END OF GRAVITY CORE | | 1.0 |
| | | | | | 2.0 |
| | | | | | 3.0 |
| 1.0 | | | | | |

Δ D50 (mm) Δ: 2000 4000 6000 8000

PLASTIC — M.C — LIQUID: 20 40 60 80

FINES (%): 20 40 60 80

SAND (%): 20 40 60 80

GRAVEL (%): 20 40 60 80

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| NORTH UKALERK BORROW SITE | ORIGINAL BOREHOLE NO. UB82096 | BOREHOLE No. NUGC096 |
| GULF CANADA RESOURCES INC. | WATER DEPTH – 29.60m (approximately) | Project No: EBA # 101-3659 |
| DRILL SHIP – M.V. FRANK BRODERICK | DEPTHS ARE REFERENCED TO SEABED | ELEVATION –29.60 (m) |

SAMPLE TYPE: SHELBY TUBE; NO RECOVERY; SPLIT SPOON; DISTURBED; PISTON; GRAVITY CORE

| DEPTH (m) | SAMPLE TYPE | SAMPLE NO | SOIL DESCRIPTION | USC | DEPTH (ft) |
|---|---|---|---|---|---|
| 0.0 | | | CLAY – silty, trace sand, very soft, dark olive grey | | 0.0 |
| | | | SAND – trace silt, fine grained, uniformly graded | | |
| | | | END OF GRAVITY CORE | | |
| | | | | | 1.0 |
| | | | | | 2.0 |
| | | | | | 3.0 |
| 1.0 | | | | | |

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|---|---|---|
| NORTH UKALERK BORROW SITE | ORIGINAL BOREHOLE NO. UB82097 | BOREHOLE No. NUGC097 |
| GULF CANADA RESOURCES INC. | WATER DEPTH – 29.90m | Project No: EBA # 101-3659 |
| DRILL SHIP – M.V. FRANK BRODERICK | DEPTHS ARE REFERENCED TO SEABED | ELEVATION –29.90 (m) |

SAMPLE TYPE: SHELBY TUBE; NO RECOVERY; SPLIT SPOON; DISTURBED; PISTON; GRAVITY CORE

| DEPTH (m) | SAMPLE TYPE | SAMPLE NO | SOIL DESCRIPTION | USC | DEPTH (ft) |
|---|---|---|---|---|---|
| 0.0 | | | CLAY – silty, trace sand, very soft, low plasticity, dark olive grey | | 0.0 |
| | | | SAND – clayey, fine grained, uniformly graded | | |
| | | | END OF GRAVITY CORE | | |
| | | | | | 1.0 |
| | | | | | 2.0 |
| | | | | | 3.0 |
| 1.0 | | | | | |

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| COMPLETION DEPTH 0.2 m | COMPLETE 82/08/18 | |
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| NORTH UKALERK BORROW SITE | ORIGINAL BOREHOLE NO. UB82G98 | BOREHOLE No. NUGC098 |
| GULF CANADA RESOURCES INC. | WATER DEPTH – 29.90m (approximately) | Project No: EBA # 101-3659 |
| DRILL SHIP – M.V. FRANK BRODERICK | DEPTHS ARE REFERENCED TO SEABED | ELEVATION –29.90 (m) |

SAMPLE TYPE: SHELBY TUBE, NO RECOVERY, SPLIT SPOON, DISTURBED, PISTON, GRAVITY CORE

| DEPTH (m) | SAMPLE TYPE | SAMPLE NO | SOIL DESCRIPTION | USC | DEPTH (ft) |
|---|---|---|---|---|---|
| 0.0 | | | CLAY – silty, trace sand, very soft, low to medium plasticity, dark olive grey | | 0.0 |
| | | | END OF GRAVITY CORE | | 1.0 |
| | | | | | 2.0 |
| | | | | | 3.0 |
| 1.0 | | | | | |

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| COMPLETION DEPTH 0.2 m | COMPLETE 82/08/18 | |
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| NORTH UKALERK BORROW SITE | ORIGINAL BOREHOLE NO. UB82G99 | BOREHOLE No. NUGC099 |
| GULF CANADA RESOURCES INC. | WATER DEPTH – 30.20m | Project No: EBA # 101-3659 |
| DRILL SHIP – M.V. FRANK BRODERICK | DEPTHS ARE REFERENCED TO SEABED | ELEVATION –30.20 (m) |

SAMPLE TYPE: SHELBY TUBE, NO RECOVERY, SPLIT SPOON, DISTURBED, PISTON, GRAVITY CORE

| DEPTH (m) | SAMPLE TYPE | SAMPLE NO | SOIL DESCRIPTION | USC | DEPTH (ft) |
|---|---|---|---|---|---|
| 0.0 | | | CLAY – silty, very soft, low to medium plasticity, dark olive grey | | 0.0 |
| | | | – trace sand | | 1.0 |
| | | | END OF GRAVITY CORE | | 2.0 |
| | | | | | 3.0 |
| 1.0 | | | | | |

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| COMPLETION DEPTH 0.2 m | COMPLETE 82/08/18 | |
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| NORTH UKALERK BORROW SITE | ORIGINAL BOREHOLE NO. UB82G100 | BOREHOLE No. NUGC100 |
| GULF CANADA RESOURCES INC. | WATER DEPTH – 28.70m | Project No: EBA # 101-3659 |
| DRILL SHIP – M.V. FRANK BRODERICK | DEPTHS ARE REFERENCED TO SEABED | ELEVATION –28.70 (m) |

SAMPLE TYPE: SHELBY TUBE; NO RECOVERY; SPLIT SPOON; DISTURBED; PISTON; GRAVITY CORE

| DEPTH (m) | SAMPLE TYPE | SAMPLE NO | SOIL DESCRIPTION | USC | DEPTH (ft) |
|---|---|---|---|---|---|
| 0.0 | | | CLAY – silty, some sand, very soft | | 0.0 |
| | | | SAND – trace silt, fine grained, uniformly graded | | |
| | | | END OF GRAVITY CORE | | |
| | | | | | 1.0 |
| | | | | | 2.0 |
| | | | | | 3.0 |
| 1.0 | | | | | |

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| COMPLETION DEPTH 0.1 m | COMPLETE 82/08/18 | |
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| NORTH UKALERK BORROW SITE | ORIGINAL BOREHOLE NO. UB82G101 | BOREHOLE No. NUGC101 |
| GULF CANADA RESOURCES INC. | WATER DEPTH – 30.20m | Project No: EBA # 101-3659 |
| DRILL SHIP – M.V. FRANK BRODERICK | DEPTHS ARE REFERENCED TO SEABED | ELEVATION –30.20 (m) |

SAMPLE TYPE: SHELBY TUBE; NO RECOVERY; SPLIT SPOON; DISTURBED; PISTON; GRAVITY CORE

| DEPTH (m) | SAMPLE TYPE | SAMPLE NO | SOIL DESCRIPTION | USC | DEPTH (ft) |
|---|---|---|---|---|---|
| 0.0 | | | CLAY – sandy, soft, dark olive grey | | 0.0 |
| | | | SAND – silty, trace clay, dark olive grey | | |
| | | | END OF GRAVITY CORE | | |
| | | | | | 1.0 |
| | | | | | 2.0 |
| | | | | | 3.0 |
| 1.0 | | | | | |

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| NORTH UKALERK BORROW SITE | ORIGINAL BOREHOLE NO. UB82G102 | BOREHOLE No. NUGC102 |
| GULF CANADA RESOURCES INC. | WATER DEPTH – 30.20m (approximately) | Project No: EBA # 101-3659 |
| DRILL SHIP – M.V. FRANK BRODERICK | DEPTHS ARE REFERENCED TO SEABED | ELEVATION -30.20 (m) |

SAMPLE TYPE: SHELBY TUBE / NO RECOVERY / SPLIT SPOON / DISTURBED / PISTON / GRAVITY CORE

| DEPTH (m) | SAMPLE TYPE | SAMPLE NO | SOIL DESCRIPTION | USC | DEPTH (ft) |
|---|---|---|---|---|---|
| 0.0 | | | CLAY – sandy, very soft, dark olive grey | | 0.0 |
| | | | SAND – silty, trace clay, dark olive grey | | |
| | | | END OF GRAVITY CORE | | |
| | | | | | 1.0 |
| | | | | | 2.0 |
| | | | | | 3.0 |
| 1.0 | | | | | |

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| COMPLETION DEPTH 0.1 m | COMPLETE 82/08/18 | |
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| NORTH UKALERK BORROW SITE | ORIGINAL BOREHOLE NO. UB82G103 | BOREHOLE No. NUGC103 |
| GULF CANADA RESOURCES INC. | WATER DEPTH – 30.20m | Project No: EBA # 101-3659 |
| DRILL SHIP – M.V. FRANK BRODERICK | DEPTHS ARE REFERENCED TO SEABED | ELEVATION -30.20 (m) |

SAMPLE TYPE: SHELBY TUBE / NO RECOVERY / SPLIT SPOON / DISTURBED / PISTON / GRAVITY CORE

| DEPTH (m) | SAMPLE TYPE | SAMPLE NO | SOIL DESCRIPTION | USC | DEPTH (ft) |
|---|---|---|---|---|---|
| 0.0 | | | CLAY – sandy, soft, dark olive grey | | 0.0 |
| | | | END OF GRAVITY CORE | | 1.0 |
| | | | | | 2.0 |
| | | | | | 3.0 |
| 1.0 | | | | | |

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| COMPLETION DEPTH 0.3 m | COMPLETE 82/08/18 | |
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|---|---|---|
| NORTH UKALERK BORROW SITE | ORIGINAL BOREHOLE NO. UB82G104 | BOREHOLE No. NUGC104 |
| GULF CANADA RESOURCES INC. | WATER DEPTH – 28.30m | Project No: EBA # 101-3659 |
| DRILL SHIP – M.V. FRANK BRODERICK | DEPTHS ARE REFERENCED TO SEABED | ELEVATION –28.30 (m) |

SAMPLE TYPE: SHELBY TUBE; NO RECOVERY; SPLIT SPOON; DISTURBED; PISTON; GRAVITY CORE

| DEPTH (m) | SAMPLE TYPE | SAMPLE NO | SOIL DESCRIPTION | USC | DEPTH (ft) |
|---|---|---|---|---|---|
| 0.0 | | | CLAY – silty, some sand, very soft, low plasticity | | 0.0 |
| | | | CLAY AND SAND – silty, very soft, low plasticity | | |
| | | | END OF GRAVITY CORE | | |
| | | | | | 1.0 |
| | | | | | 2.0 |
| | | | | | 3.0 |
| 1.0 | | | | | |

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COMPLETION DEPTH 0.2 m | COMPLETE 82/08/19
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|---|---|---|
| NORTH UKALERK BORROW SITE | ORIGINAL BOREHOLE NO. UB82G187 | BOREHOLE No. NUGC187 |
| GULF CANADA RESOURCES INC. | WATER DEPTH – 25.90m | Project No: EBA # 101-3659 |
| DRILL SHIP – M.V. FRANK BRODERICK | DEPTHS ARE REFERENCED TO SEABED | ELEVATION –25.90 (m) |

SAMPLE TYPE: SHELBY TUBE; NO RECOVERY; SPLIT SPOON; DISTURBED; PISTON; GRAVITY CORE

| DEPTH (m) | SAMPLE TYPE | SAMPLE NO | SOIL DESCRIPTION | USC | DEPTH (ft) |
|---|---|---|---|---|---|
| 0.0 | | | CLAY (cl) – silty, very soft, grey | | 0.0 |
| | | | SAND (sc) – clayey, fine grained, uniformly graded, trace organic streaks, slightly cohesive | | |
| | | | END OF GRAVITY CORE | | |
| | | | | | 1.0 |
| | | | | | 2.0 |
| | | | | | 3.0 |
| 1.0 | | | | | |

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COMPLETION DEPTH 0.1 m | COMPLETE 82/09/22
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| NORTH UKALERK BORROW SITE | ORIGINAL BOREHOLE NO. UB82G168 | BOREHOLE No. NUGC188 |
| GULF CANADA RESOURCES INC. | WATER DEPTH – 26.20m | Project No: EBA # 101-3659 |
| DRILL SHIP – M.V. FRANK BRODERICK | DEPTHS ARE REFERENCED TO SEABED | ELEVATION –26.20 (m) |

SAMPLE TYPE: SHELBY TUBE / NO RECOVERY / SPLIT SPOON / DISTURBED / PISTON / GRAVITY CORE

| DEPTH (m) | SAMPLE TYPE | SAMPLE NO | SOIL DESCRIPTION | USC | DEPTH (ft) |
|---|---|---|---|---|---|
| 0.0 | | | SAND (sp–sm) – some silt and clay (decreasing with depth), fine grained, slightly cohesive, brownish grey | | 0.0 |
| | | | END OF GRAVITY CORE | | 1.0 |
| | | | | | 2.0 |
| | | | | | 3.0 |
| 1.0 | | | | | |

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| NORTH UKALERK BORROW SITE | ORIGINAL BOREHOLE NO. UB82G169 | BOREHOLE No. NUGC189 |
| GULF CANADA RESOURCES INC. | WATER DEPTH – 26.20m | Project No: EBA # 101-3659 |
| DRILL SHIP – M.V. FRANK BRODERICK | DEPTHS ARE REFERENCED TO SEABED | ELEVATION –26.20 (m) |

SAMPLE TYPE: SHELBY TUBE / NO RECOVERY / SPLIT SPOON / DISTURBED / PISTON / GRAVITY CORE

| DEPTH (m) | SAMPLE TYPE | SAMPLE NO | SOIL DESCRIPTION | USC | DEPTH (ft) |
|---|---|---|---|---|---|
| 0.0 | | | SAND (sp–sm) – trace to some silt and clay (decreasing with depth), slightly cohesive, brownish grey | | 0.0 |
| | | | END OF GRAVITY CORE | | 1.0 |
| | | | | | 2.0 |
| | | | | | 3.0 |
| 1.0 | | | | | |

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| NORTH UKALERK BORROW SITE | ORIGINAL BOREHOLE NO. UB82G190 | BOREHOLE No. NUGC190 |
| GULF CANADA RESOURCES INC. | WATER DEPTH – 26.20m | Project No: EBA # 101-3659 |
| DRILL SHIP – M.V. FRANK BRODERICK | DEPTHS ARE REFERENCED TO SEABED | ELEVATION –26.20 (m) |

SAMPLE TYPE: SHELBY TUBE / NO RECOVERY / SPLIT SPOON / DISTURBED / PISTON / GRAVITY CORE

| DEPTH (m) | SAMPLE TYPE | SAMPLE NO | SOIL DESCRIPTION | USC | DEPTH (ft) |
|---|---|---|---|---|---|
| 0.0 | | | SAND (sm) – silty, trace to some clay (decreasing with depth), fine grained, slightly cohesive, grey | | 0.0 |
| | | | END OF GRAVITY CORE | | |
| | | | | | 1.0 |
| | | | | | 2.0 |
| | | | | | 3.0 |
| 1.0 | | | | | |

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| COMPLETION DEPTH •• m | | COMPLETE 82/09/22 |
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| NORTH UKALERK BORROW SITE | ORIGINAL BOREHOLE NO. UB82G191 | BOREHOLE No. NUGC191 |
| GULF CANADA RESOURCES INC. | WATER DEPTH – 26.20m | Project No: EBA # 101-3659 |
| DRILL SHIP – M.V. FRANK BRODERICK | DEPTHS ARE REFERENCED TO SEABED | ELEVATION –26.20 (m) |

SAMPLE TYPE: SHELBY TUBE / NO RECOVERY / SPLIT SPOON / DISTURBED / PISTON / GRAVITY CORE

| DEPTH (m) | SAMPLE TYPE | SAMPLE NO | SOIL DESCRIPTION | USC | DEPTH (ft) |
|---|---|---|---|---|---|
| 0.0 | | | SAND (sm) – silty, some clayey sand, pockets (grey), slightly cohesive becoming non-cohesive, olive brown | | 0.0 |
| | | | END OF GRAVITY CORE | | |
| | | | | | 1.0 |
| | | | | | 2.0 |
| | | | | | 3.0 |
| 1.0 | | | | | |

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| COMPLETION DEPTH 0.1 m | | COMPLETE 82/09/22 |
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| NORTH UKALERK BORROW SITE | ORIGINAL BOREHOLE NO. UB82G192 | BOREHOLE No. NUGC192 |
| GULF CANADA RESOURCES INC. | WATER DEPTH – 27.40m | Project No: EBA # 101-3659 |
| DRILL SHIP – M.V. FRANK BRODERICK | DEPTHS ARE REFERENCED TO SEABED | ELEVATION –27.40 (m) |

SAMPLE TYPE: SHELBY TUBE / NO RECOVERY / SPLIT SPOON / DISTURBED / PISTON / GRAVITY CORE

| DEPTH (m) | SAMPLE TYPE | SAMPLE NO | SOIL DESCRIPTION | USC | DEPTH (ft) |
|---|---|---|---|---|---|
| 0.0 | | | SAND (sp–sm) – trace to some silt, occasional shell fragments and organic pockets, fine grained, slightly cohesive, olive grey | | 0.0 |
| | | | END OF GRAVITY CORE | | 1.0 |
| | | | | | 2.0 |
| | | | | | 3.0 |
| 1.0 | | | | | |

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| NORTH UKALERK BORROW SITE | ORIGINAL BOREHOLE NO. UB82G193 | BOREHOLE No. NUGC193 |
| GULF CANADA RESOURCES INC. | WATER DEPTH – 26.80m | Project No: EBA # 101-3659 |
| DRILL SHIP – M.V. FRANK BRODERICK | DEPTHS ARE REFERENCED TO SEABED | ELEVATION –26.80 (m) |

SAMPLE TYPE: SHELBY TUBE / NO RECOVERY / SPLIT SPOON / DISTURBED / PISTON / GRAVITY CORE

| DEPTH (m) | SAMPLE TYPE | SAMPLE NO | SOIL DESCRIPTION | USC | DEPTH (ft) |
|---|---|---|---|---|---|
| 0.0 | | | CLAY (cl) – silty, some fine sand, trace organic streaks, soft, grey | | 0.0 |
| | | | END OF GRAVITY CORE | | 1.0 |
| | | | | | 2.0 |
| | | | | | 3.0 |
| 1.0 | | | | | |

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| NORTH UKALERK BORROW SITE | ORIGINAL BOREHOLE NO. U8823194 | BOREHOLE No. NUGC194 |
| GULF CANADA RESOURCES INC. | WATER DEPTH – 26.90m | Project No: EBA # 101-3659 |
| DRILL SHIP – M.V. FRANK BRODERICK | DEPTHS ARE REFERENCED TO SEABED | ELEVATION –25.90 (m) |

SAMPLE TYPE: SHELBY TUBE; NO RECOVERY; SPLIT SPOON; DISTURBED; PISTON; GRAVITY CORE

| DEPTH (m) | SAMPLE TYPE | SAMPLE NO | SOIL DESCRIPTION | USC | DEPTH (m) |
|---|---|---|---|---|---|
| 0.0 | | | CLAY (cl) – silty, some fine sand, soft | | 0.0 |
| | | | SAND (sm) – trace silt and clay, fine grained | | |
| | | | END OF GRAVITY CORE | | 1.0 |
| | | | | | 2.0 |
| | | | | | 3.0 |
| 1.0 | | | | | |

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| NORTH UKALERK BORROW SITE | ORIGINAL BOREHOLE NO. U8823195 | BOREHOLE No. NUGC195 |
| GULF CANADA RESOURCES INC. | WATER DEPTH – 26.90m | Project No: EBA # 101-3659 |
| DRILL SHIP – M.V. FRANK BRODERICK | DEPTHS ARE REFERENCED TO SEABED | ELEVATION –25.90 (m) |

SAMPLE TYPE: SHELBY TUBE; NO RECOVERY; SPLIT SPOON; DISTURBED; PISTON; GRAVITY CORE

| DEPTH (m) | SAMPLE TYPE | SAMPLE NO | SOIL DESCRIPTION | USC | DEPTH (m) |
|---|---|---|---|---|---|
| 0.0 | | | CLAY (cl) – silty, trace fine sand, soft, grey | | 0.0 |
| | | | SAND (sm) – silty, fine grained, compact, dark olive grey | | |
| | | | END OF GRAVITY CORE | | 1.0 |
| | | | | | 2.0 |
| | | | | | 3.0 |
| 1.0 | | | | | |

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| NORTH UKALERK BORROW SITE | ORIGINAL BOREHOLE NO. UB82G196 | BOREHOLE No. NUGC196 |
| GULF CANADA RESOURCES INC. | WATER DEPTH – 25.90m | Project No: EBA # 101-3659 |
| DRILL SHIP – M.V. FRANK BRODERICK | DEPTHS ARE REFERENCED TO SEABED | ELEVATION –25.90 (m) |

SAMPLE TYPE: SHELBY TUBE / NO RECOVERY / SPLIT SPOON / DISTURBED / PISTON / GRAVITY CORE

| DEPTH (m) | SAMPLE TYPE | SAMPLE NO | SOIL DESCRIPTION | USC | DEPTH (ft) |
|---|---|---|---|---|---|
| 0.0 | | | CLAY (cl) – silty, soft, low plasticity, dark olive grey | | 0.0 |
| | | | END OF GRAVITY CORE | | 1.0 |
| | | | | | 2.0 |
| | | | | | 3.0 |
| 1.0 | | | | | |

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| NORTH UKALERK BORROW SITE | ORIGINAL BOREHOLE NO. UB82G197 | BOREHOLE No. NUGC197 |
| GULF CANADA RESOURCES INC. | WATER DEPTH – 29.00m | Project No: EBA # 101-3659 |
| DRILL SHIP – M.V. FRANK BRODERICK | DEPTHS ARE REFERENCED TO SEABED | ELEVATION –29.00 (m) |

SAMPLE TYPE: SHELBY TUBE / NO RECOVERY / SPLIT SPOON / DISTURBED / PISTON / GRAVITY CORE

| DEPTH (m) | SAMPLE TYPE | SAMPLE NO | SOIL DESCRIPTION | USC | DEPTH (ft) |
|---|---|---|---|---|---|
| 0.0 | | | CLAY (cl) – silty, trace fine sand, soft, low plasticity, dark olive grey | | 0.0 |
| | | | END OF GRAVITY CORE | | 1.0 |
| | | | | | 2.0 |
| | | | | | 3.0 |
| 1.0 | | | | | |

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| NORTH UKALERK BORROW SITE | ORIGINAL BOREHOLE NO. UB82G198 | BOREHOLE No. NUGC198 |
| GULF CANADA RESOURCES INC. | WATER DEPTH – 29.00m | Project No: EBA # 101-3659 |
| DRILL SHIP – M.V. FRANK BRODERICK | DEPTHS ARE REFERENCED TO SEABED | ELEVATION –29.00 (m) |

SAMPLE TYPE: SHELBY TUBE; NO RECOVERY; SPLIT SPOON; DISTURBED; PISTON; GRAVITY CORE

| DEPTH (m) | SAMPLE TYPE | SAMPLE NO | SOIL DESCRIPTION | USC | DEPTH (ft) |
|---|---|---|---|---|---|
| 0.0 | | | CLAY (cl) – silty, soft, low plasticity, dark grey | | 0.0 |
| | | | END OF GRAVITY CORE | | 1.0 |
| | | | | | 2.0 |
| | | | | | 3.0 |
| 1.0 | | | | | |

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| NORTH UKALERK BORROW SITE | ORIGINAL BOREHOLE NO. UB82G199 | BOREHOLE No. NUGC199 |
| GULF CANADA RESOURCES INC. | WATER DEPTH – 29.00m | Project No: EBA # 101-3659 |
| DRILL SHIP – M.V. FRANK BRODERICK | DEPTHS ARE REFERENCED TO SEABED | ELEVATION –29.00 (m) |

SAMPLE TYPE: SHELBY TUBE; NO RECOVERY; SPLIT SPOON; DISTURBED; PISTON; GRAVITY CORE

| DEPTH (m) | SAMPLE TYPE | SAMPLE NO | SOIL DESCRIPTION | USC | DEPTH (ft) |
|---|---|---|---|---|---|
| 0.0 | | | CLAY (cl) – silty, trace sand, soft, low plasticity, dark grey | | 0.0 |
| | | | SAND (sm) – some silt, fine grained, dark grey | | 1.0 |
| | | | END OF GRAVITY CORE | | 2.0 |
| | | | | | 3.0 |
| 1.0 | | | | | |

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| NORTH UKALERK BORROW SITE | ORIGINAL BOREHOLE NO. UB82G200 | BOREHOLE No. NUGC200 |
| GULF CANADA RESOURCES INC. | WATER DEPTH – 29.00m | Project No: EBA # 101-3659 |
| DRILL SHIP – M.V. FRANK BRODERICK | DEPTHS ARE REFERENCED TO SEABED | ELEVATION –29.00 (m) |

SAMPLE TYPE: SHELBY TUBE / NO RECOVERY / SPLIT SPOON / DISTURBED / PISTON / GRAVITY CORE

| DEPTH (m) | SAMPLE TYPE | SAMPLE NO | SOIL DESCRIPTION | USC | DEPTH (ft) |
|---|---|---|---|---|---|
| 0.0 | | | SAND (sc) – clayey, some silt, fine grained, slightly cohesive, dark grey | | 0.0 |
| | | | END OF GRAVITY CORE | | |
| | | | | | 1.0 |
| | | | | | 2.0 |
| | | | | | 3.0 |
| 1.0 | | | | | |

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| COMPLETION DEPTH 0.1 m | COMPLETE 82/09/23 |
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| NORTH UKALERK BORROW SITE | ORIGINAL BOREHOLE NO. UB82G201 | BOREHOLE No. NUGC201 |
| GULF CANADA RESOURCES INC. | WATER DEPTH – 29.00m | Project No: EBA # 101-3659 |
| DRILL SHIP – M.V. FRANK BRODERICK | DEPTHS ARE REFERENCED TO SEABED | ELEVATION –29.00 (m) |

SAMPLE TYPE: SHELBY TUBE / NO RECOVERY / SPLIT SPOON / DISTURBED / PISTON / GRAVITY CORE

| DEPTH (m) | SAMPLE TYPE | SAMPLE NO | SOIL DESCRIPTION | USC | DEPTH (ft) |
|---|---|---|---|---|---|
| 0.0 | | | CLAY (cl)– silty, sandy, soft, low plasticity, dark grey | | 0.0 |
| | | | SAND (sm) – trace clay and silt, medium dense, olive grey | | |
| | | | END OF GRAVITY CORE | | |
| | | | | | 1.0 |
| | | | | | 2.0 |
| | | | | | 3.0 |
| 1.0 | | | | | |

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| NORTH UKALERK BORROW SITE | ORIGINAL BOREHOLE NO. UB82G202 | BOREHOLE No. NUGC202 |
| GULF CANADA RESOURCES INC. | WATER DEPTH – 29.00m | Project No: EBA # 101-3659 |
| DRILL SHIP – M.V. FRANK BRODERICK | DEPTHS ARE REFERENCED TO SEABED | ELEVATION –29.00 (m) |

SAMPLE TYPE: SHELBY TUBE / NO RECOVERY / SPLIT SPOON / DISTURBED / PISTON / GRAVITY CORE

| DEPTH (m) | SAMPLE TYPE | SAMPLE NO | SOIL DESCRIPTION | USC | DEPTH (ft) |
|---|---|---|---|---|---|
| 0.0 | | | CLAY (cl) – silty, sandy, soft, low plasticity, dark grey | | 0.0 |
| | | | SAND (sc) – silty, clayey, slightly cohesive, dark grey | | |
| | | | END OF GRAVITY CORE | | |
| | | | | | 1.0 |
| | | | | | 2.0 |
| | | | | | 3.0 |
| 1.0 | | | | | |

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| NORTH UKALERK BORROW SITE | ORIGINAL BOREHOLE NO. UB82G203 | BOREHOLE No. NUGC203 |
| GULF CANADA RESOURCES INC. | WATER DEPTH – 29.00m | Project No: EBA # 101-3659 |
| DRILL SHIP – M.V. FRANK BRODERICK | DEPTHS ARE REFERENCED TO SEABED | ELEVATION –29.00 (m) |

SAMPLE TYPE: SHELBY TUBE / NO RECOVERY / SPLIT SPOON / DISTURBED / PISTON / GRAVITY CORE

| DEPTH (m) | SAMPLE TYPE | SAMPLE NO | SOIL DESCRIPTION | USC | DEPTH (ft) |
|---|---|---|---|---|---|
| 0.0 | | | CLAY (cl) – silty, sandy, soft, low plasticity, dark grey | | 0.0 |
| | | | SAND (sm) – some silt, trace clay, dense, dark grey | | |
| | | | END OF GRAVITY CORE | | |
| | | | | | 1.0 |
| | | | | | 2.0 |
| | | | | | 3.0 |
| 1.0 | | | | | |

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| NORTH UKALERK BORROW SITE | ORIGINAL BOREHOLE NO. UB820204 | BOREHOLE No. NUGC204 |
| GULF CANADA RESOURCES INC. | WATER DEPTH – 29.00m | Project No: EBA # 101-3659 |
| DRILL SHIP – M.V. FRANK BRODERICK | DEPTHS ARE REFERENCED TO SEABED | ELEVATION –29.00 (m) |

SAMPLE TYPE: SHELBY TUBE / NO RECOVERY / SPLIT SPOON / DISTURBED / PISTON / GRAVITY CORE

| DEPTH (m) | SAMPLE TYPE | SAMPLE NO | SOIL DESCRIPTION | USC | DEPTH (ft) |
|---|---|---|---|---|---|
| 0.0 | | | CLAY (cl) – silty, sandy, soft, low plasticity, dark grey | | 0.0 |
| | | | SAND (sm) – some silt, dense, dark grey | | |
| | | | END OF GRAVITY CORE | | |
| | | | | | 1.0 |
| | | | | | 2.0 |
| | | | | | 3.0 |
| 1.0 | | | | | |

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| NORTH UKALERK BORROW SITE | ORIGINAL BOREHOLE NO. UB820205 | BOREHOLE No. NUGC205 |
| GULF CANADA RESOURCES INC. | WATER DEPTH – 29.00m | Project No: EBA # 101-3659 |
| DRILL SHIP – M.V. FRANK BRODERICK | DEPTHS ARE REFERENCED TO SEABED | ELEVATION –29.00 (m) |

SAMPLE TYPE: SHELBY TUBE / NO RECOVERY / SPLIT SPOON / DISTURBED / PISTON / GRAVITY CORE

| DEPTH (m) | SAMPLE TYPE | SAMPLE NO | SOIL DESCRIPTION | USC | DEPTH (ft) |
|---|---|---|---|---|---|
| 0.0 | | | CLAY (cl) – silty, sandy, soft, low plasticity, grey | | 0.0 |
| | | | SAND (sp–sm) – trace silt, fine grained, dense, grey | | |
| | | | END OF GRAVITY CORE | | |
| | | | | | 1.0 |
| | | | | | 2.0 |
| | | | | | 3.0 |
| 1.0 | | | | | |

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| NORTH UKALERK BORROW SITE | ORIGINAL BOREHOLE NO. UB82G206 | BOREHOLE No. NUGC206 |
| GULF CANADA RESOURCES INC. | WATER DEPTH – 29.00m | Project No: EBA # 101-3659 |
| DRILL SHIP – M.V. FRANK BRODERICK | DEPTHS ARE REFERENCED TO SEABED | ELEVATION -29.00 (m) |

SAMPLE TYPE: SHELBY TUBE / NO RECOVERY / SPLIT SPOON / DISTURBED / PISTON / GRAVITY CORE

| DEPTH (m) | SAMPLE TYPE | SAMPLE NO | SOIL DESCRIPTION | USC | DEPTH (m) |
|---|---|---|---|---|---|
| 0.0 | | | CLAY (cl) – silty, some sand, soft, low plasticity, dark grey | | 0.0 |
| | | | SAND (sm) – some silt, trace clay, fine grained, dense, dark grey | | |
| | | | END OF GRAVITY CORE | | 1.0 |
| | | | | | 2.0 |
| | | | | | 3.0 |
| 1.0 | | | | | |

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| NORTH UKALERK BORROW SITE | ORIGINAL BOREHOLE NO. UB82G207 | BOREHOLE No. NUGC207 |
| GULF CANADA RESOURCES INC. | WATER DEPTH – 29.00m | Project No: EBA # 101-3659 |
| DRILL SHIP – M.V. FRANK BRODERICK | DEPTHS ARE REFERENCED TO SEABED | ELEVATION -29.00 (m) |

SAMPLE TYPE: SHELBY TUBE / NO RECOVERY / SPLIT SPOON / DISTURBED / PISTON / GRAVITY CORE

| DEPTH (m) | SAMPLE TYPE | SAMPLE NO | SOIL DESCRIPTION | USC | DEPTH (m) |
|---|---|---|---|---|---|
| 0.0 | | | CLAY (cl) – silty, sandy, soft, low plasticity, dark grey | | 0.0 |
| | | | SAND (sm) – silty, fine grained, dense, grey | | |
| | | | END OF GRAVITY CORE | | 1.0 |
| | | | | | 2.0 |
| | | | | | 3.0 |
| 1.0 | | | | | |

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| NORTH UKALERK BORROW SITE | ORIGINAL BOREHOLE NO. UB82G208 | BOREHOLE No. NUGC208 |
| GULF CANADA RESOURCES INC. | WATER DEPTH – 29.00m | Project No: EBA # 101-3659 |
| DRILL SHIP – M.V. FRANK BRODERICK | DEPTHS ARE REFERENCED TO SEABED | ELEVATION –29.00 (m) |

SAMPLE TYPE: SHELBY TUBE / NO RECOVERY / SPLIT SPOON / DISTURBED / PISTON / GRAVITY CORE

| DEPTH (m) | SAMPLE TYPE | SAMPLE NO | SOIL DESCRIPTION | USC | DEPTH (ft) |
|---|---|---|---|---|---|
| 0.0 | | | CLAY (cl) – silty, sandy, soft, low plasticity, dark grey | | 0.0 |
| | | | SAND (sm) – some silt, fine grained, dense, dark grey | | |
| | | | END OF GRAVITY CORE | | |
| | | | | | 1.0 |
| | | | | | 2.0 |
| | | | | | 3.0 |
| 1.0 | | | | | |

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| NORTH UKALERK BORROW SITE | ORIGINAL BOREHOLE NO. UB82G209 | BOREHOLE No. NUGC209 |
| GULF CANADA RESOURCES INC. | WATER DEPTH – 29.00m | Project No: EBA # 101-3659 |
| DRILL SHIP – M.V. FRANK BRODERICK | DEPTHS ARE REFERENCED TO SEABED | ELEVATION –29.00 (m) |

SAMPLE TYPE: SHELBY TUBE / NO RECOVERY / SPLIT SPOON / DISTURBED / PISTON / GRAVITY CORE

| DEPTH (m) | SAMPLE TYPE | SAMPLE NO | SOIL DESCRIPTION | USC | DEPTH (ft) |
|---|---|---|---|---|---|
| 0.0 | | | CLAY (cl) – silty, sandy, soft to firm, low plasticity, dark grey | | 0.0 |
| | | | END OF GRAVITY CORE | | |
| | | | | | 1.0 |
| | | | | | 2.0 |
| | | | | | 3.0 |
| 1.0 | | | | | |

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| NORTH UKALERK BORROW SITE | ORIGINAL BOREHOLE NO. UB82G210 | BOREHOLE No. NUGC210 |
| GULF CANADA RESOURCES INC. | WATER DEPTH – 26.90m | Project No: EBA # 101-3659 |
| DRILL SHIP – M.V. FRANK BRODERICK | DEPTHS ARE REFERENCED TO SEABED | ELEVATION –25.90 (m) |

SAMPLE TYPE: SHELBY TUBE | NO RECOVERY | SPLIT SPOON | DISTURBED | PISTON | GRAVITY CORE

| DEPTH (m) | SAMPLE TYPE | SAMPLE NO | SOIL DESCRIPTION | USC | DEPTH (ft) |
|---|---|---|---|---|---|
| 0.0 | | | CLAY (cl) – silty, sandy, soft, low plasticity, dark grey | | 0.0 |
| | | | SAND (sm) – trace silt, fine grained, dense, grey | | |
| | | | END OF GRAVITY CORE | | 1.0 |
| | | | | | 2.0 |
| | | | | | 3.0 |
| 1.0 | | | | | |

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| NORTH UKALERK BORROW SITE | ORIGINAL BOREHOLE NO. UB82G211 | BOREHOLE No. NUGC211 |
| GULF CANADA RESOURCES INC. | WATER DEPTH – 26.90m | Project No: EBA # 101-3659 |
| DRILL SHIP – M.V. FRANK BRODERICK | DEPTHS ARE REFERENCED TO SEABED | ELEVATION –25.90 (m) |

SAMPLE TYPE: SHELBY TUBE | NO RECOVERY | SPLIT SPOON | DISTURBED | PISTON | GRAVITY CORE

| DEPTH (m) | SAMPLE TYPE | SAMPLE NO | SOIL DESCRIPTION | USC | DEPTH (ft) |
|---|---|---|---|---|---|
| 0.0 | | | CLAY (cl) – silty, sandy, soft, low plasticity, dark grey | | 0.0 |
| | | | END OF GRAVITY CORE | | 1.0 |
| | | | | | 2.0 |
| | | | | | 3.0 |
| 1.0 | | | | | |

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| NORTH UKALERK BORROW SITE | ORIGINAL BOREHOLE NO. UB82G212 | BOREHOLE No. NUGC212 |
| GULF CANADA RESOURCES INC. | WATER DEPTH – 27.10m | Project No: EBA # 101-3659 |
| DRILL SHIP – M.V. FRANK BRODERICK | DEPTHS ARE REFERENCED TO SEABED | ELEVATION –27.10 (m) |

SAMPLE TYPE: SHELBY TUBE; NO RECOVERY; SPLIT SPOON; DISTURBED; PISTON; GRAVITY CORE

| DEPTH (m) | SAMPLE TYPE | SAMPLE NO | SOIL DESCRIPTION | USC | DEPTH (ft) |
|---|---|---|---|---|---|
| 0.0 | | | CLAY (cl) – silty, sandy, soft, low plasticity, olive grey<br>SAND (sm) – trace silt, fine grained, | | 0.0 |
| | | | dense, dark grey | | 1.0 |
| | | | END OF GRAVITY CORE | | 2.0 |
| | | | | | 3.0 |
| 1.0 | | | | | |

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| COMPLETION DEPTH 0.2 m | COMPLETE 82/09/23 |
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| NORTH UKALERK BORROW SITE | ORIGINAL BOREHOLE NO. UB82G213 | BOREHOLE No. NUGC213 |
| GULF CANADA RESOURCES INC. | WATER DEPTH – 29.00m | Project No: EBA # 101-3659 |
| DRILL SHIP – M.V. FRANK BRODERICK | DEPTHS ARE REFERENCED TO SEABED | ELEVATION –29.00 (m) |

SAMPLE TYPE: SHELBY TUBE; NO RECOVERY; SPLIT SPOON; DISTURBED; PISTON; GRAVITY CORE

| DEPTH (m) | SAMPLE TYPE | SAMPLE NO | SOIL DESCRIPTION | USC | DEPTH (ft) |
|---|---|---|---|---|---|
| 0.0 | | | CLAY (cl) – silty, soft, grey | | 0.0 |
| | | | SAND (sp–sm) – trace silt, fine grained, dense, grey | | 1.0 |
| | | | END OF GRAVITY CORE | | 2.0 |
| | | | | | 3.0 |
| 1.0 | | | | | |

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| NIPTERK WEST BORROW SITE | ORIGINAL BOREHOLE NO. GC3 | BOREHOLE No. NW88GC03 |
| GULF CANADA RESOURCES LTD. | WATER DEPTH : unknown | Project No: 0101-4912E |
| DRILL SHIP : M.V. FRANK BRODERICK | DEPTHS ARE REFERENCED TO SEABED | ELEVATION 0.00 (m) |

SAMPLE TYPE: SHELBY TUBE | NO RECOVERY | SPLIT SPOON | DISTURBED | PISTON CORE | GRAVITY CORE

| DEPTH (m) | SAMPLE TYPE | SAMPLE NO | SOIL DESCRIPTION | USC | DEPTH (ft) |
|---|---|---|---|---|---|
| 0.0 | | | GRAVEL – sandy, clayey, sub-angular to angular, 30mm maximum, olive grey | | 0.0 |
| | | 3A | | | |
| | | 3B | CLAY – silty, black organic specks, soft, medium plastic, uniform, becoming siltier and less plastic with depth, dark olive grey | | 1.0 |
| | | | END OF GRAVITY CORE | | |
| | | | | | 2.0 |
| | | | | | 3.0 |
| 1.0 | | | | | |

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|---|---|---|
| NIPTERK WEST BORROW SITE | ORIGINAL BOREHOLE NO. GC9 | BOREHOLE No. NW88GC09 |
| GULF CANADA RESOURCES LTD. | WATER DEPTH : unknown | Project No: 0101-4912E |
| DRILL SHIP : M.V. FRANK BRODERICK | DEPTHS ARE REFERENCED TO SEABED | ELEVATION 0.00 (m) |

SAMPLE TYPE: SHELBY TUBE | NO RECOVERY | SPLIT SPOON | DISTURBED | PISTON CORE | GRAVITY CORE

| DEPTH (m) | SAMPLE TYPE | SAMPLE NO | SOIL DESCRIPTION | USC | DEPTH (ft) |
|---|---|---|---|---|---|
| 0.0 | | | CLAY – silty, some gravel, 25mm maximum, trace sand, very soft, olive grey | | 0.0 |
| | | | – homogenous, soft, medium to low plastic, dark olive grey | | |
| | | 9A | | | |
| | | 9B | SAND – silty, fine grained, dark olive grey | | 1.0 |
| | | | END OF GRAVITY CORE | | |
| | | | | | 2.0 |
| | | | | | 3.0 |
| 1.0 | | | | | |

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| NIPTERK WEST BORROW SITE | ORIGINAL BOREHOLE NO. GC12 | BOREHOLE No. NW88GC12 |
| GULF CANADA RESOURCES LTD. | WATER DEPTH : unknown | Project No: 0101-4912E |
| DRILL SHIP : M.V. FRANK BRODERICK | DEPTHS ARE REFERENCED TO SEABED | ELEVATION 0.00 (m) |

SAMPLE TYPE: SHELBY TUBE | NO RECOVERY | SPLIT SPOON | DISTURBED | PISTON CORE | GRAVITY CORE

| DEPTH (m) | SAMPLE TYPE | SAMPLE NO | SOIL DESCRIPTION | USC | DEPTH (ft) |
|---|---|---|---|---|---|
| 0.0 | | | CLAY – silty, trace gravel, trace sand, very soft, olive grey | | 0.0 |
| | | 12A | | | |
| | | | GRAVEL – coarse, sand on interface between clay and gravel, 40mm maximum | | |
| | | | END OF GRAVITY CORE | | 1.0 |
| | | | | | 2.0 |
| | | | | | 3.0 |
| 1.0 | | | | | |

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| NIPTERK WEST BORROW SITE | ORIGINAL BOREHOLE NO. GC14 | BOREHOLE No. NW88GC14 |
| GULF CANADA RESOURCES LTD. | WATER DEPTH : unknown | Project No: 0101-4912E |
| DRILL SHIP : M.V. FRANK BRODERICK | DEPTHS ARE REFERENCED TO SEABED | ELEVATION 0.00 (m) |

SAMPLE TYPE: SHELBY TUBE | NO RECOVERY | SPLIT SPOON | DISTURBED | PISTON CORE | GRAVITY CORE

| DEPTH (m) | SAMPLE TYPE | SAMPLE NO | SOIL DESCRIPTION | USC | DEPTH (ft) |
|---|---|---|---|---|---|
| 0.0 | | | CLAY – some silt, structureless, very soft, medium plastic | | 0.0 |
| | | | – some sand, some gravel, 40mm maximum, olive grey | | |
| | | 14 | | | |
| | | | END OF GRAVITY CORE | | 1.0 |
| | | | | | 2.0 |
| | | | | | 3.0 |
| 1.0 | | | | | |

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| NIPTERK WEST BORROW SITE | ORIGINAL BOREHOLE NO. GC15 | BOREHOLE No. NW88GC15 |
| GULF CANADA RESOURCES LTD. | WATER DEPTH : unknown | Project No: 0101-4912E |
| DRILL SHIP : M.V. FRANK BRODERICK | DEPTHS ARE REFERENCED TO SEABED | ELEVATION 0.00 (m) |

SAMPLE TYPE: SHELBY TUBE / NO RECOVERY / SPLIT SPOON / DISTURBED / PISTON CORE / GRAVITY CORE

| DEPTH (m) | SAMPLE TYPE | SAMPLE NO. | SOIL DESCRIPTION | USC | DEPTH (ft) |
|---|---|---|---|---|---|
| 0.0 | | | CLAY – some silt, very soft, medium plastic, olive grey<br>– thinly laminated, thin sand laminae, trace shell fragments | | 0.0 |
| | | 15 | – some sand, trace gravel, dark grey<br>END OF GRAVITY CORE | | |
| | | | | | 1.0 |
| | | | | | 2.0 |
| | | | | | 3.0 |
| 1.0 | | | | | |

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| NIPTERK WEST BORROW SITE | ORIGINAL BOREHOLE NO. GC16 | BOREHOLE No. NW88GC16 |
| GULF CANADA RESOURCES LTD. | WATER DEPTH : unknown | Project No: 0101-4912E |
| DRILL SHIP : M.V. FRANK BRODERICK | DEPTHS ARE REFERENCED TO SEABED | ELEVATION 0.00 (m) |

SAMPLE TYPE: SHELBY TUBE / NO RECOVERY / SPLIT SPOON / DISTURBED / PISTON CORE / GRAVITY CORE

| DEPTH (m) | SAMPLE TYPE | SAMPLE NO. | SOIL DESCRIPTION | USC | DEPTH (ft) |
|---|---|---|---|---|---|
| 0.0 | | | CLAY – some silt, trace gravel, 25mm maximum, very soft, olive grey | | 0.0 |
| | | 16A | SAND – trace gravel, trace silt, fine to medium grained, dark olive grey<br>END OF GRAVITY CORE | | 1.0 |
| | | | | | 2.0 |
| | | | | | 3.0 |
| 1.0 | | | | | |

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| NIPTERK WEST BORROW SITE | ORIGINAL BOREHOLE NO. GC17 | BOREHOLE No. NW88GC17 |
| GULF CANADA RESOURCES LTD. | WATER DEPTH : unknown | Project No: 0101-4912E |
| DRILL SHIP : M.V. FRANK BRODERICK | DEPTHS ARE REFERENCED TO SEABED | ELEVATION 0.00 (m) |

SAMPLE TYPE: SHELBY TUBE | NO RECOVERY | SPLIT SPOON | DISTURBED | PISTON CORE | GRAVITY CORE

| DEPTH (m) | SAMPLE TYPE | SAMPLE NO | SOIL DESCRIPTION | USC | DEPTH (ft) |
|---|---|---|---|---|---|
| 0.0 | | | CLAY – silty, some sand, trace gravel 25mm maximum, very soft | | 0.0 |
| | | | – sandy, olive grey | | |
| | | 17 | | | |
| | | | END OF GRAVITY CORE | | 1.0 |
| | | | | | 2.0 |
| | | | | | 3.0 |
| 1.0 | | | | | |

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|---|---|---|
| NIPTERK WEST BORROW SITE | ORIGINAL BOREHOLE NO. GC18 | BOREHOLE No. NW88GC18 |
| GULF CANADA RESOURCES LTD. | WATER DEPTH : unknown | Project No: 0101-4912E |
| DRILL SHIP : M.V. FRANK BRODERICK | DEPTHS ARE REFERENCED TO SEABED | ELEVATION 0.00 (m) |

SAMPLE TYPE: SHELBY TUBE | NO RECOVERY | SPLIT SPOON | DISTURBED | PISTON CORE | GRAVITY CORE

| DEPTH (m) | SAMPLE TYPE | SAMPLE NO | SOIL DESCRIPTION | USC | DEPTH (ft) |
|---|---|---|---|---|---|
| 0.0 | | | CLAY – silty, trace sand, trace shell fragments, very soft | | 0.0 |
| | | | – trace gravel, trace organics, soft, olive grey | | |
| | | | END OF GRAVITY CORE | | 1.0 |
| | | | | | 2.0 |
| | | | | | 3.0 |
| 1.0 | | | | | |

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|---|---|---|
| NIPTERK WEST BORROW SITE | ORIGINAL BOREHOLE NO. GC19 | BOREHOLE No. NW88GC19 |
| GULF CANADA RESOURCES LTD. | WATER DEPTH : unknown | Project No: 0101-4912E |
| DRILL SHIP : M.V. FRANK BRODERICK | DEPTHS ARE REFERENCED TO SEABED | ELEVATION 0.00 (m) |

SAMPLE TYPE: SHELBY TUBE | NO RECOVERY | SPLIT SPOON | DISTURBED | PISTON CORE | GRAVITY CORE

| DEPTH (m) | SAMPLE TYPE | SAMPLE NO | SOIL DESCRIPTION | USC | DEPTH (ft) |
|---|---|---|---|---|---|
| 0.0 | | | CLAY – silty, trace fine gravel, very soft, olive grey | | 0.0 |
| | | | – dark olive grey | | |
| | | | END OF GRAVITY CORE | | 1.0 |
| | | | | | 2.0 |
| | | | | | 3.0 |
| 1.0 | | | | | |

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|---|---|---|
| NIPTERK WEST BORROW SITE | ORIGINAL BOREHOLE NO. GC21 | BOREHOLE No. NW88GC21 |
| GULF CANADA RESOURCES LTD. | WATER DEPTH : unknown | Project No: 0101-4912E |
| DRILL SHIP : M.V. FRANK BRODERICK | DEPTHS ARE REFERENCED TO SEABED | ELEVATION 0.00 (m) |

SAMPLE TYPE: SHELBY TUBE | NO RECOVERY | SPLIT SPOON | DISTURBED | PISTON CORE | GRAVITY CORE

| DEPTH (m) | SAMPLE TYPE | SAMPLE NO | SOIL DESCRIPTION | USC | DEPTH (ft) |
|---|---|---|---|---|---|
| 0.0 | | | CLAY – silty, some sand, trace gravel, 20mm maximum, trace shell fragments, very soft, olive grey | | 0.0 |
| | | | – dark olive grey | | |
| | | | END OF GRAVITY CORE | | 1.0 |
| | | | | | 2.0 |
| | | | | | 3.0 |
| 1.0 | | | | | |

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|---|---|---|
| NIPTERK WEST BORROW SITE | ORIGINAL BOREHOLE NO. GC22 | BOREHOLE No. NW88GC22 |
| GULF CANADA RESOURCES LTD. | WATER DEPTH : unknown | Project No: 0101-4912E |
| DRILL SHIP : M.V. FRANK BRODERICK | DEPTHS ARE REFERENCED TO SEABED | ELEVATION 0.00 (m) |

SAMPLE TYPE: SHELBY TUBE / NO RECOVERY / SPLIT SPOON / DISTURBED / PISTON CORE / GRAVITY CORE

| DEPTH (m) | SAMPLE TYPE | SAMPLE NO | SOIL DESCRIPTION | USC | DEPTH (ft) |
|---|---|---|---|---|---|
| 0.0 | | | CLAY – silty, trace sand, very soft, olive grey | | 0.0 |
| | | 22A | | | |
| | | | SAND – some gravel, fine grained, 40mm maximum, sub-rounded, dark olive grey | | 1.0 |
| | | | END OF GRAVITY CORE | | |
| | | | | | 2.0 |
| | | | | | 3.0 |
| 1.0 | | | | | |

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|---|---|---|
| NIPTERK WEST BORROW SITE | ORIGINAL BOREHOLE NO. GC24 | BOREHOLE No. NW88GC24 |
| GULF CANADA RESOURCES LTD. | WATER DEPTH : unknown | Project No: 0101-4912E |
| DRILL SHIP : M.V. FRANK BRODERICK | DEPTHS ARE REFERENCED TO SEABED | ELEVATION 0.00 (m) |

SAMPLE TYPE: SHELBY TUBE / NO RECOVERY / SPLIT SPOON / DISTURBED / PISTON CORE / GRAVITY CORE

| DEPTH (m) | SAMPLE TYPE | SAMPLE NO | SOIL DESCRIPTION | USC | DEPTH (ft) |
|---|---|---|---|---|---|
| 0.0 | | | CLAY – silty, trace gravel, 25mm maximum, angular, trace coarse sand, very soft, dark olive grey | | 0.0 |
| | | 24 | | | 1.0 |
| | | | END OF GRAVITY CORE | | |
| | | | | | 2.0 |
| | | | | | 3.0 |
| 1.0 | | | | | |

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|---|---|---|
| NIPTERK WEST BORROW SITE | ORIGINAL BOREHOLE NO. GC25 | BOREHOLE No. NW88GC25 |
| GULF CANADA RESOURCES LTD. | WATER DEPTH : unknown | Project No: 0101-4912E |
| DRILL SHIP : M.V. FRANK BRODERICK | DEPTHS ARE REFERENCED TO SEABED | ELEVATION 0.00 (m) |

SAMPLE TYPE: SHELBY TUBE; NO RECOVERY; SPLIT SPOON; DISTURBED; PISTON CORE; GRAVITY CORE

| DEPTH (m) | SAMPLE TYPE | SAMPLE NO | SOIL DESCRIPTION | USC | DEPTH (ft) |
|---|---|---|---|---|---|
| 0.0 | | | CLAY – silty, trace gravel, 15mm maximum, very soft, olive grey | | 0.0 |
| | | 25A | | | |
| | | | SAND – trace gravel, 15mm maximum, fine to medium grained, dark olive grey | | 1.0 |
| | | | END OF GRAVITY CORE | | |
| | | | | | 2.0 |
| | | | | | 3.0 |
| 1.0 | | | | | |

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|---|---|---|
| NIPTERK WEST BORROW SITE | ORIGINAL BOREHOLE NO. GC26 | BOREHOLE No. NW88GC26 |
| GULF CANADA RESOURCES LTD. | WATER DEPTH : unknown | Project No: 0101-4912E |
| DRILL SHIP : M.V. FRANK BRODERICK | DEPTHS ARE REFERENCED TO SEABED | ELEVATION 0.00 (m) |

SAMPLE TYPE: SHELBY TUBE; NO RECOVERY; SPLIT SPOON; DISTURBED; PISTON CORE; GRAVITY CORE

| DEPTH (m) | SAMPLE TYPE | SAMPLE NO | SOIL DESCRIPTION | USC | DEPTH (ft) |
|---|---|---|---|---|---|
| 0.0 | | | CLAY – some silt, occasional sand lenses, very soft, medium plastic, structureless | | 0.0 |
| | | | – some sand, trace gravel, subrounded to rounded, olive grey | | 1.0 |
| | | | END OF GRAVITY CORE | | |
| | | | | | 2.0 |
| | | | | | 3.0 |
| 1.0 | | | | | |

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|---|---|---|
| NIPTERK WEST BORROW SITE | ORIGINAL BOREHOLE NO. GC27 | BOREHOLE No. NW88GC27 |
| GULF CANADA RESOURCES LTD. | WATER DEPTH : unknown | Project No: 0101-4912E |
| DRILL SHIP : M.V. FRANK BRODERICK | DEPTHS ARE REFERENCED TO SEABED | ELEVATION 0.00 (m) |

SAMPLE TYPE: SHELBY TUBE | NO RECOVERY | SPLIT SPOON | DISTURBED | PISTON CORE | GRAVITY CORE

| DEPTH (m) | SAMPLE TYPE | SAMPLE NO | SOIL DESCRIPTION | USC | DEPTH (m) |
|---|---|---|---|---|---|
| 0.0 | | | CLAY – trace silt, thin sand and gravel lenses with shell fragments at 0.13m | | 0.0 |
| | | | – some silt, thin even parallel laminae, soft, medium plastic, dark olive grey | | |
| | | 27A | | | 1.0 |
| | | | SILT – sandy, trace clay, some highly organic laminae, soft to firm, low to nonplastic, dark olive grey | | |
| | | | END OF GRAVITY CORE | | 2.0 |
| | | | | | 3.0 |
| 1.8 | | | | | |

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|---|---|---|
| NIPTERK WEST BORROW SITE | ORIGINAL BOREHOLE NO. GC28 | BOREHOLE No. NW88GC28 |
| GULF CANADA RESOURCES LTD. | WATER DEPTH : unknown | Project No: 0101-4912E |
| DRILL SHIP : M.V. FRANK BRODERICK | DEPTHS ARE REFERENCED TO SEABED | ELEVATION 0.00 (m) |

SAMPLE TYPE: SHELBY TUBE | NO RECOVERY | SPLIT SPOON | DISTURBED | PISTON CORE | GRAVITY CORE

| DEPTH (m) | SAMPLE TYPE | SAMPLE NO | SOIL DESCRIPTION | USC | DEPTH (m) |
|---|---|---|---|---|---|
| 0.0 | | | CLAY – some silt, occasional sand lensese occasional fine gravel and shell fragments, laminated, very soft, medium plastic, olive grey | | 0.0 |
| | | | – laminations sometimes discontinuous, sometimes highly organic, soft, dark olive grey | | 1.0 |
| | | 28 | END OF GRAVITY CORE | | 2.0 |
| | | | | | 3.0 |
| 1.8 | | | | | |

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| NIPTERK WEST BORROW SITE | ORIGINAL BOREHOLE NO. 0C29 | BOREHOLE No. NW88GC29 |
| GULF CANADA RESOURCES LTD. | WATER DEPTH : unknown | Project No: 0101-4912E |
| DRILL SHIP : M.V. FRANK BRODERICK | DEPTHS ARE REFERENCED TO SEABED | ELEVATION 0.00 (m) |

SAMPLE TYPE: SHELBY TUBE | NO RECOVERY | SPLIT SPOON | DISTURBED | PISTON CORE | GRAVITY CORE

| DEPTH (m) | SAMPLE TYPE | SAMPLE NO | SOIL DESCRIPTION | USC | DEPTH (ft) |
|---|---|---|---|---|---|
| 0.0 | | | CLAY – some silt, laminated, very soft, medium plastic | | 0.0 |
| | | | | | 1.0 |
| | | | – sandy, trace gravel, very dark olive grey to black | | |
| | | 29 | | | |
| | | | END OF GRAVITY CORE | | 2.0 |
| | | | | | 3.0 |
| 1.0 | | | | | |

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| NIPTERK WEST BORROW SITE | ORIGINAL BOREHOLE NO. 0C30 | BOREHOLE No. NW88GC30 |
| GULF CANADA RESOURCES LTD. | WATER DEPTH : unknown | Project No: 0101-4912E |
| DRILL SHIP : M.V. FRANK BRODERICK | DEPTHS ARE REFERENCED TO SEABED | ELEVATION 0.00 (m) |

SAMPLE TYPE: SHELBY TUBE | NO RECOVERY | SPLIT SPOON | DISTURBED | PISTON CORE | GRAVITY CORE

| DEPTH (m) | SAMPLE TYPE | SAMPLE NO | SOIL DESCRIPTION | USC | DEPTH (ft) |
|---|---|---|---|---|---|
| 0.0 | | | CLAY – trace silt, occasional fine gravel and shell fragments, very soft, structureless, medium plastic, olive grey | | 0.0 |
| | | | | | 1.0 |
| | | | – thin sand laminae, occasional silt and organic lenses, dark olive grey | | |
| | | | END OF GRAVITY CORE | | 2.0 |
| | | | | | 3.0 |
| 1.0 | | | | | |

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| NIPTERK WEST BORROW SITE | ORIGINAL BOREHOLE NO. GC31 | BOREHOLE No. NW88GC31 |
| GULF CANADA RESOURCES LTD. | WATER DEPTH : unknown | Project No: 0101-4912E |
| DRILL SHIP : M.V. FRANK BRODERICK | DEPTHS ARE REFERENCED TO SEABED | ELEVATION 0.00 (m) |

SAMPLE TYPE: SHELBY TUBE | NO RECOVERY | SPLIT SPOON | DISTURBED | PISTON CORE | GRAVITY CORE

| DEPTH (m) | SAMPLE TYPE | SAMPLE NO | SOIL DESCRIPTION | USC | DEPTH (ft) |
|---|---|---|---|---|---|
| 0.0 | | | SAND – trace gravel, trace shell fragments, greyish brown | | 0.0 |
| | | | CLAY – some silt, occasional fine gravel, laminated<br>– trace peat, fine sand lense, occasional silt and sand interlaminae, olive grey | | 1.0 |
| | | | END OF GRAVITY CORE | | 2.0 |
| | | | | | 3.0 |
| 1.0 | | | | | |

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| NIPTERK WEST BORROW SITE | ORIGINAL BOREHOLE NO. GC32 | BOREHOLE No. NW88GC32 |
| GULF CANADA RESOURCES LTD. | WATER DEPTH : unknown | Project No: 0101-4912E |
| DRILL SHIP : M.V. FRANK BRODERICK | DEPTHS ARE REFERENCED TO SEABED | ELEVATION 0.00 (m) |

SAMPLE TYPE: SHELBY TUBE | NO RECOVERY | SPLIT SPOON | DISTURBED | PISTON CORE | GRAVITY CORE

| DEPTH (m) | SAMPLE TYPE | SAMPLE NO | SOIL DESCRIPTION | USC | DEPTH (ft) |
|---|---|---|---|---|---|
| 0.0 | | | CLAY – trace silt, very soft, medium plastic, olive grey | | 0.0 |
| | | | – some silt, laminated, discontinuous, occasional pebbles, 5mm maximum, occasional shell fragments, soft, dark olive grey | | 1.0 |
| | | 32 | | | |
| | | | END OF GRAVITY CORE | | 2.0 |
| | | | | | 3.0 |
| 1.0 | | | | | |

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| NIPTERK WEST BORROW SITE | ORIGINAL BOREHOLE NO. GC34 | BOREHOLE No. NW88GC34 |
| GULF CANADA RESOURCES LTD. | WATER DEPTH : unknown | Project No: 0101-4912E |
| DRILL SHIP : M.V. FRANK BRODERICK | DEPTHS ARE REFERENCED TO SEABED | ELEVATION 0.00 (m) |

SAMPLE TYPE: SHELBY TUBE | NO RECOVERY | SPLIT SPOON | DISTURBED | PISTON CORE | GRAVITY CORE

| DEPTH (m) | SAMPLE TYPE | SAMPLE NO | SOIL DESCRIPTION | USC | DEPTH (ft) |
|---|---|---|---|---|---|
| 0.0 | | | CLAY – trace silt, very soft, medium plastic, olive grey<br>– some silt, highly organic discontinuous laminae, occasional sand and silt interlaminae, occasional fine gravel, dark olive grey to black | | 0.0 |
| | | | END OF GRAVITY CORE | | 1.0 |
| | | | | | 2.0 |
| | | | | | 3.0 |
| 1.0 | | | | | |

Δ DSS (km) Δ 2000 4000 6000 8000

PLASTIC W.C LIQUID 20 40 60 80

■ FINES (%) ■ 20 40 60 80

◆ SAND (%) ◆ 20 40 60 80

● GRAVEL (%) ● 20 40 60 80

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| NIPTERK WEST BORROW SITE | ORIGINAL BOREHOLE NO. GC35 | BOREHOLE No. NW88GC35 |
| GULF CANADA RESOURCES LTD. | WATER DEPTH : unknown | Project No: 0101-4912E |
| DRILL SHIP : M.V. FRANK BRODERICK | DEPTHS ARE REFERENCED TO SEABED | ELEVATION 0.00 (m) |

SAMPLE TYPE: SHELBY TUBE | NO RECOVERY | SPLIT SPOON | DISTURBED | PISTON CORE | GRAVITY CORE

| DEPTH (m) | SAMPLE TYPE | SAMPLE NO | SOIL DESCRIPTION | USC | DEPTH (ft) |
|---|---|---|---|---|---|
| 0.0 | | | CLAY – silty, trace gravel, very soft, high plastic, olive grey | | 0.0 |
| | | | SAND – silty, trace gravel, trace medium clay laminae, fine grained, dark olive grey | | 1.0 |
| | | | END OF GRAVITY CORE | | 2.0 |
| | | | | | 3.0 |
| 1.0 | | | | | |

Δ DSS (km) Δ 2000 4000 6000 8000

PLASTIC W.C LIQUID 20 40 60 80

■ FINES (%) ■ 20 40 60 80

◆ SAND (%) ◆ 20 40 60 80

● GRAVEL (%) ● 20 40 60 80

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| NIPTERK WEST BORROW SITE | ORIGINAL BOREHOLE NO. GC37 | BOREHOLE No. NW88GC37 |
| GULF CANADA RESOURCES LTD. | WATER DEPTH : unknown | Project No: 0101-4912E |
| DRILL SHIP : M.V. FRANK BRODERICK | DEPTHS ARE REFERENCED TO SEABED | ELEVATION 0.00 (m) |

SAMPLE TYPE: SHELBY TUBE; NO RECOVERY; SPLIT SPOON; DISTURBED; PISTON CORE; GRAVITY CORE

| DEPTH (m) | SAMPLE TYPE | SAMPLE NO | SOIL DESCRIPTION | USC | DEPTH (ft) |
|---|---|---|---|---|---|
| 0.0 | | | CLAY – silty, trace sand, very soft, high plastic, olive grey | | 0.0 |
| | | | SAND – fine to medium grained, dark olive grey | | 1.0 |
| | | | CLAY – silty, stiff, medium plastic dark olive grey | | |
| | | | END OF GRAVITY CORE | | 2.0 |
| | | | | | 3.0 |
| 1.0 | | | | | |

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| NIPTERK WEST BORROW SITE | ORIGINAL BOREHOLE NO. GC41 | BOREHOLE No. NW88GC41 |
| GULF CANADA RESOURCES LTD. | WATER DEPTH : unknown | Project No: 0101-4912E |
| DRILL SHIP : M.V. FRANK BRODERICK | DEPTHS ARE REFERENCED TO SEABED | ELEVATION 0.00 (m) |

SAMPLE TYPE: SHELBY TUBE; NO RECOVERY; SPLIT SPOON; DISTURBED; PISTON CORE; GRAVITY CORE

| DEPTH (m) | SAMPLE TYPE | SAMPLE NO | SOIL DESCRIPTION | USC | DEPTH (ft) |
|---|---|---|---|---|---|
| 0.0 | | | CLAY – silty, sand laminae, trace organics, very soft, dark olive grey | | 0.0 |
| | | | SAND – trace silt and organics, fine to medium grained, olive grey | | 1.0 |
| | | | CLAY – silty, sand laminae, soft olive grey | | |
| | | | END OF GRAVITY CORE | | 2.0 |
| | | | | | 3.0 |
| 1.0 | | | | | |

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| NIPTERK WEST BORROW SITE | ORIGINAL BOREHOLE NO. GC43 | BOREHOLE No. NW88GC43 |
| GULF CANADA RESOURCES LTD. | WATER DEPTH : unknown | Project No: 0101-4912E |
| DRILL SHIP : M.V. FRANK BRODERICK | DEPTHS ARE REFERENCED TO SEABED | ELEVATION 0.00 (m) |

SAMPLE TYPE: SHELBY TUBE | NO RECOVERY | SPLIT SPOON | DISTURBED | PISTON CORE | GRAVITY CORE

| DEPTH (m) | SAMPLE TYPE | SAMPLE NO | SOIL DESCRIPTION | USC | DEPTH (ft) |
|---|---|---|---|---|---|
| 0.0 | | | CLAY – some silt, trace gravel, 25mm maximum, trace organics, firm, dark olive grey | | 0.0 |
| | | | END OF GRAVITY CORE | | 1.0 |
| | | | | | 2.0 |
| | | | | | 3.0 |
| 1.0 | | | | | |

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| NIPTERK WEST BORROW SITE | ORIGINAL BOREHOLE NO. GC44 | BOREHOLE No. NW88GC44 |
| GULF CANADA RESOURCES LTD. | WATER DEPTH : unknown | Project No: 0101-4912E |
| DRILL SHIP : M.V. FRANK BRODERICK | DEPTHS ARE REFERENCED TO SEABED | ELEVATION 0.00 (m) |

SAMPLE TYPE: SHELBY TUBE | NO RECOVERY | SPLIT SPOON | DISTURBED | PISTON CORE | GRAVITY CORE

| DEPTH (m) | SAMPLE TYPE | SAMPLE NO | SOIL DESCRIPTION | USC | DEPTH (ft) |
|---|---|---|---|---|---|
| 0.0 | | | CLAY – silty, some sand, trace shell fragments, soft to firm, dark olive grey | | 0.0 |
| | | | END OF GRAVITY CORE | | 1.0 |
| | | | | | 2.0 |
| | | | | | 3.0 |
| 1.0 | | | | | |

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| NIPTERK WEST BORROW SITE | ORIGINAL BOREHOLE NO. GC46 | BOREHOLE No. NW88GC46 |
| GULF CANADA RESOURCES LTD. | WATER DEPTH : unknown | Project No: 0101-4912E |
| DRILL SHIP : M.V. FRANK BRODERICK | DEPTHS ARE REFERENCED TO SEABED | ELEVATION 0.00 (m) |

SAMPLE TYPE: SHELBY TUBE | NO RECOVERY | SPLIT SPOON | DISTURBED | PISTON CORE | GRAVITY CORE

| DEPTH (m) | SAMPLE TYPE | SAMPLE NO | SOIL DESCRIPTION | USC | DEPTH (ft) |
|---|---|---|---|---|---|
| 0.0 | | | CLAY – trace sand, trace gravel, very soft, low plastic | | 0.0 |
| | | | – silty, till-like, occasional pebble, firm, olive grey | | 1.0 |
| | | | END OF GRAVITY CORE | | 2.0 |
| | | | | | 3.0 |
| 1.0 | | | | | |

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| NIPTERK WEST BORROW SITE | ORIGINAL BOREHOLE NO. GC47 | BOREHOLE No. NW88GC47 |
| GULF CANADA RESOURCES LTD. | WATER DEPTH : unknown | Project No: 0101-4912E |
| DRILL SHIP : M.V. FRANK BRODERICK | DEPTHS ARE REFERENCED TO SEABED | ELEVATION 0.00 (m) |

SAMPLE TYPE: SHELBY TUBE | NO RECOVERY | SPLIT SPOON | DISTURBED | PISTON CORE | GRAVITY CORE

| DEPTH (m) | SAMPLE TYPE | SAMPLE NO | SOIL DESCRIPTION | USC | DEPTH (ft) |
|---|---|---|---|---|---|
| 0.0 | | | CLAY – some sand, trace gravel, very soft, low plastic | | 0.0 |
| | | | – silty, highly organic, laminated, sand laminae at 0.04m, firm | | |
| | | | – discontinuous laminae, dark olive grey | | 1.0 |
| | | | END OF GRAVITY CORE | | 2.0 |
| | | | | | 3.0 |
| 1.0 | | | | | |

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| NIPTERK WEST BORROW SITE | ORIGINAL BOREHOLE NO. GC49 | BOREHOLE No. NWB8GC49 |
| GULF CANADA RESOURCES LTD. | WATER DEPTH : unknown | Project No: 0101-4912E |
| DRILL SHIP : M.V. FRANK BRODERICK | DEPTHS ARE REFERENCED TO SEABED | ELEVATION 0.00 (m) |

SAMPLE TYPE: SHELBY TUBE | NO RECOVERY | SPLIT SPOON | DISTURBED | PISTON CORE | GRAVITY CORE

| DEPTH (m) | SAMPLE TYPE | SAMPLE NO | SOIL DESCRIPTION | USC | DEPTH (ft) |
|---|---|---|---|---|---|
| 0.0 | | | SAND AND GRAVEL - thin veneer<br>CLAY - silty, trace sand, occasional pebble, black organic specks, structureless, soft to firm, low plastic, dark olive grey | | 0.0 |
| | | | END OF GRAVITY CORE | | 1.0 |
| | | | | | 2.0 |
| | | | | | 3.0 |
| 1.0 | | | | | |

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| NIPTERK WEST BORROW SITE | ORIGINAL BOREHOLE NO. GC1 | BOREHOLE No. MK88GC01 |
| GULF CANADA RESOURCES LTD. | WATER DEPTH : unknown | Project No: 0101-4912E |
| DRILL SHIP : M.V. FRANK BRODERICK | DEPTHS ARE REFERENCED TO SEABED | ELEVATION 0.00 (m) |

SAMPLE TYPE: SHELBY TUBE / NO RECOVERY / SPLIT SPOON / DISTURBED / PISTON CORE / GRAVITY CORE

| DEPTH (m) | SAMPLE TYPE | SAMPLE NO | SOIL DESCRIPTION | USC | DEPTH (ft) |
|---|---|---|---|---|---|
| 0.0 | | | CLAY – trace silt, occasional shell fragments, laminated, soft, medium plastic, olive grey | | 0.0 |
| | | 1 | | | 1.0 |
| | | | END OF GRAVITY CORE | | 2.0 |
| | | | | | 3.0 |
| 1.0 | | | | | |

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| NIPTERK WEST BORROW SITE | ORIGINAL BOREHOLE NO. GC2 | BOREHOLE No. MK88GC02 |
| GULF CANADA RESOURCES LTD. | WATER DEPTH : unknown | Project No: 0101-4912E |
| DRILL SHIP : M.V. FRANK BRODERICK | DEPTHS ARE REFERENCED TO SEABED | ELEVATION 0.00 (m) |

SAMPLE TYPE: SHELBY TUBE / NO RECOVERY / SPLIT SPOON / DISTURBED / PISTON CORE / GRAVITY CORE

| DEPTH (m) | SAMPLE TYPE | SAMPLE NO | SOIL DESCRIPTION | USC | DEPTH (ft) |
|---|---|---|---|---|---|
| 0.0 | | | CLAY – trace silt, very soft, medium plastic | | 0.0 |
| | | | – laminated, soft, olive grey | | 1.0 |
| | | | END OF GRAVITY CORE | | 2.0 |
| | | | | | 3.0 |
| 1.0 | | | | | |

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| NIPTERK WEST BORROW SITE | ORIGINAL BOREHOLE NO. GC4 | BOREHOLE No. MK88GC04 |
| GULF CANADA RESOURCES LTD. | WATER DEPTH : unknown | Project No: 0101-4912E |
| DRILL SHIP : M.V. FRANK BRODERICK | DEPTHS ARE REFERENCED TO SEABED | ELEVATION 0.00 (m) |

SAMPLE TYPE: SHELBY TUBE / NO RECOVERY / SPLIT SPOON / DISTURBED / PISTON CORE / GRAVITY CORE

| DEPTH (m) | SAMPLE TYPE | SAMPLE NO | SOIL DESCRIPTION | USC | DEPTH (m) |
|---|---|---|---|---|---|
| 0.0 | | | CLAY – trace silt, occasional shell fragments, occasional organic pockets, laminated, soft, medium plastic, olive grey | | 0.0 |
| | | | | | 1.0 |
| | | | END OF GRAVITY CORE | | 2.0 |
| | | | | | 3.0 |
| 1.0 | | | | | |

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| NIPTERK WEST BORROW SITE | ORIGINAL BOREHOLE NO. GC5 | BOREHOLE No. MK88GC05 |
| GULF CANADA RESOURCES LTD. | WATER DEPTH : unknown | Project No: 0101-4912E |
| DRILL SHIP : M.V. FRANK BRODERICK | DEPTHS ARE REFERENCED TO SEABED | ELEVATION 0.00 (m) |

SAMPLE TYPE: SHELBY TUBE / NO RECOVERY / SPLIT SPOON / DISTURBED / PISTON CORE / GRAVITY CORE

| DEPTH (m) | SAMPLE TYPE | SAMPLE NO | SOIL DESCRIPTION | USC | DEPTH (m) |
|---|---|---|---|---|---|
| 0.0 | | | CLAY – trace silt, very soft, medium plastic | | 0.0 |
| | | 5A | | | |
| | | | – laminated, occasional organic laminae, soft, olive grey | | 1.0 |
| | | 5B | | | |
| | | | END OF GRAVITY CORE | | 2.0 |
| | | | | | 3.0 |
| 1.0 | | | | | |

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| NIPTERK WEST BORROW SITE | ORIGINAL BOREHOLE NO. GC8 | BOREHOLE No. MK88GC06 |
| GULF CANADA RESOURCES LTD. | WATER DEPTH : unknown | Project No: 0101-4912E |
| DRILL SHIP : M.V. FRANK BRODERICK | DEPTHS ARE REFERENCED TO SEABED | ELEVATION 0.00 (m) |

SAMPLE TYPE: SHELBY TUBE / NO RECOVERY / SPLIT SPOON / DISTURBED / PISTON CORE / GRAVITY CORE

| DEPTH (m) | SAMPLE TYPE | SAMPLE NO | SOIL DESCRIPTION | USC | DEPTH (ft) |
|---|---|---|---|---|---|
| 0.0 | | | CLAY – trace silt, very soft, medium plastic | | 0.0 |
| | | | – laminated, soft, olive grey | | 1.0 |
| | | | END OF GRAVITY CORE | | 2.0 |
| | | | | | 3.0 |
| 1.0 | | | | | |

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| NIPTERK WEST BORROW SITE | ORIGINAL BOREHOLE NO. GC7 | BOREHOLE No. MK88GC07 |
| GULF CANADA RESOURCES LTD. | WATER DEPTH : unknown | Project No: 0101-4912E |
| DRILL SHIP : M.V. FRANK BRODERICK | DEPTHS ARE REFERENCED TO SEABED | ELEVATION 0.00 (m) |

SAMPLE TYPE: SHELBY TUBE / NO RECOVERY / SPLIT SPOON / DISTURBED / PISTON CORE / GRAVITY CORE

| DEPTH (m) | SAMPLE TYPE | SAMPLE NO | SOIL DESCRIPTION | USC | DEPTH (ft) |
|---|---|---|---|---|---|
| 0.0 | | | CLAY – trace silt, very soft, medium plastic | | 0.0 |
| | | | – laminated, occasional organic streak or laminae, soft, olive grey | | 1.0 |
| | | | – dark olive grey | | 2.0 |
| | | | END OF GRAVITY CORE | | 3.0 |
| 1.0 | | | | | |

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| NIPTERK WEST BORROW SITE | ORIGINAL BOREHOLE NO. GC8 | BOREHOLE No. MK88GC08 |
| GULF CANADA RESOURCES LTD. | WATER DEPTH : unknown | Project No: 0101-4912E |
| DRILL SHIP : M.V. FRANK BRODERICK | DEPTHS ARE REFERENCED TO SEABED | ELEVATION 0.00 (m) |

SAMPLE TYPE: SHELBY TUBE; NO RECOVERY; SPLIT SPOON; DISTURBED; PISTON CORE; GRAVITY CORE

| DEPTH (m) | SAMPLE TYPE | SAMPLE NO | SOIL DESCRIPTION | USC | DEPTH (ft) |
|---|---|---|---|---|---|
| 0.0 | | | CLAY – trace silt, trace shell fragments, very soft, medium plastic<br>– laminated, occasional black organic laminae, soft, dark olive grey | | 0.0 |
| | | | | | 1.0 |
| | | | END OF GRAVITY CORE | | |
| | | | | | 2.0 |
| | | | | | 3.0 |
| 1.0 | | | | | |

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| NIPTERK WEST BORROW SITE | ORIGINAL BOREHOLE NO. GC9 | BOREHOLE No. MK88GC09 |
| GULF CANADA RESOURCES LTD. | WATER DEPTH : unknown | Project No: 0101-4912E |
| DRILL SHIP : M.V. FRANK BRODERICK | DEPTHS ARE REFERENCED TO SEABED | ELEVATION 0.00 (m) |

SAMPLE TYPE: SHELBY TUBE; NO RECOVERY; SPLIT SPOON; DISTURBED; PISTON CORE; GRAVITY CORE

| DEPTH (m) | SAMPLE TYPE | SAMPLE NO | SOIL DESCRIPTION | USC | DEPTH (ft) |
|---|---|---|---|---|---|
| 0.0 | | | CLAY – trace silt, very soft, medium plastic, olive grey | | 0.0 |
| | | | – laminated, occasional shell fragments, occasional silt interlaminae | | 1.0 |
| | | | | | 2.0 |
| | | | – occasional black organic laminae, dark olive grey | | 3.0 |
| | | | END OF GRAVITY CORE | | |
| 1.0 | | | | | |

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| NIPTERK WEST BORROW SITE | ORIGINAL BOREHOLE NO. GC11 | BOREHOLE No. MK88GC11 |
| GULF CANADA RESOURCES LTD. | WATER DEPTH : unknown | Project No: 0101-4912E |
| DRILL SHIP : M.V. FRANK BRODERICK | DEPTHS ARE REFERENCED TO SEABED | ELEVATION 0.00 (m) |

SAMPLE TYPE: SHELBY TUBE | NO RECOVERY | SPLIT SPOON | DISTURBED | PISTON CORE | GRAVITY CORE

| DEPTH (m) | SAMPLE TYPE | SAMPLE NO | SOIL DESCRIPTION | USC | DEPTH (ft) |
|---|---|---|---|---|---|
| 0.0 | | | CLAY - trace silt, very soft, medium plastic | | 0.0 |
| | | 11A | | | |
| | | | | | 1.0 |
| | | | - laminated, occasional shell fragments, olive grey | | |
| | | 11B | | | |
| | | | | | 2.0 |
| | | | END OF GRAVITY CORE | | |
| | | | | | 3.0 |
| 1.0 | | | | | |

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| NIPTERK WEST BORROW SITE | ORIGINAL BOREHOLE NO. GC12 | BOREHOLE No. MK88GC12 |
| GULF CANADA RESOURCES LTD. | WATER DEPTH : unknown | Project No: 0101-4912E |
| DRILL SHIP : M.V. FRANK BRODERICK | DEPTHS ARE REFERENCED TO SEABED | ELEVATION 0.00 (m) |

SAMPLE TYPE: SHELBY TUBE | NO RECOVERY | SPLIT SPOON | DISTURBED | PISTON CORE | GRAVITY CORE

| DEPTH (m) | SAMPLE TYPE | SAMPLE NO | SOIL DESCRIPTION | USC | DEPTH (ft) |
|---|---|---|---|---|---|
| 0.0 | | | CLAY - trace silt, occasional shell fragments, soft, medium plastic | | 0.0 |
| | | | - very soft, olive grey | | 1.0 |
| | | | | | 2.0 |
| | | | END OF GRAVITY CORE | | 3.0 |
| 1.0 | | | | | |

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| NIPTERK WEST BORROW SITE | ORIGINAL BOREHOLE NO. GC13 | BOREHOLE No. MK88GC13 |
| GULF CANADA RESOURCES LTD. | WATER DEPTH : unknown | Project No: 0101-4912E |
| DRILL SHIP : M.V. FRANK BRODERICK | DEPTHS ARE REFERENCED TO SEABED | ELEVATION 0.00 (m) |

SAMPLE TYPE: SHELBY TUBE | NO RECOVERY | SPLIT SPOON | DISTURBED | PISTON CORE | GRAVITY CORE

| DEPTH (m) | SAMPLE TYPE | SAMPLE NO | SOIL DESCRIPTION | USC | DEPTH (ft) |
|---|---|---|---|---|---|
| 0.0 | | | CLAY – trace silt, very soft, medium plastic, olive grey<br>– laminated, occasional shell fragments, occasional silt interlamination | | 0.0 |
| | | | | | 1.0 |
| | | | | | 2.0 |
| | | | END OF GRAVITY CORE | | 3.0 |
| 1.0 | | | | | |

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| NIPTERK WEST BORROW SITE | ORIGINAL BOREHOLE NO. GC14 | BOREHOLE No. MK88GC14 |
| GULF CANADA RESOURCES LTD. | WATER DEPTH : unknown | Project No: 0101-4912E |
| DRILL SHIP : M.V. FRANK BRODERICK | DEPTHS ARE REFERENCED TO SEABED | ELEVATION 0.00 (m) |

SAMPLE TYPE: SHELBY TUBE | NO RECOVERY | SPLIT SPOON | DISTURBED | PISTON CORE | GRAVITY CORE

| DEPTH (m) | SAMPLE TYPE | SAMPLE NO | SOIL DESCRIPTION | USC | DEPTH (ft) |
|---|---|---|---|---|---|
| 0.0 | | | CLAY – trace silt, very soft, medium plastic, olive grey | | 0.0 |
| | | | – laminated | | |
| | | | – silty, firm, dark olive grey | | 1.0 |
| | | | END OF GRAVITY CORE | | 2.0 |
| | | | | | 3.0 |
| 1.0 | | | | | |

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| NIPTERK WEST BORROW SITE | ORIGINAL BOREHOLE NO. GC15 | BOREHOLE No. MK88GC15 |
|---|---|---|
| GULF CANADA RESOURCES LTD. | WATER DEPTH : unknown | Project No: 0101-4912E |
| DRILL SHIP : M.V. FRANK BRODERICK | DEPTHS ARE REFERENCED TO SEABED | ELEVATION 0.00 (m) |

SAMPLE TYPE: SHELBY TUBE | NO RECOVERY | SPLIT SPOON | DISTURBED | PISTON CORE | GRAVITY CORE

| DEPTH (m) | SAMPLE TYPE | SAMPLE NO | SOIL DESCRIPTION | USC | DEPTH (ft) |
|---|---|---|---|---|---|
| 0.0 | | | CLAY – trace silt, very soft, medium plastic, olive grey | | 0.0 |
| | | | – laminated | | |
| | | 15 | – silty, firm, dark olive grey | | 1.0 |
| | | | END OF GRAVITY CORE | | 2.0 |
| | | | | | 3.0 |
| 1.0 | | | | | |

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| NIPTERK WEST BORROW SITE | ORIGINAL BOREHOLE NO. GC16 | BOREHOLE No. MK88GC16 |
|---|---|---|
| GULF CANADA RESOURCES LTD. | WATER DEPTH : unknown | Project No: 0101-4912E |
| DRILL SHIP : M.V. FRANK BRODERICK | DEPTHS ARE REFERENCED TO SEABED | ELEVATION 0.00 (m) |

SAMPLE TYPE: SHELBY TUBE | NO RECOVERY | SPLIT SPOON | DISTURBED | PISTON CORE | GRAVITY CORE

| DEPTH (m) | SAMPLE TYPE | SAMPLE NO | SOIL DESCRIPTION | USC | DEPTH (ft) |
|---|---|---|---|---|---|
| 0.0 | | | CLAY – trace silt, occasional black organic pockets, very soft, medium plastic, olive grey | | 0.0 |
| | | | – laminated, occasional shell fragments, some silt interlamination | | 1.0 |
| | | | – firm, dark olive grey | | 2.0 |
| | | | END OF GRAVITY CORE | | 3.0 |
| 1.0 | | | | | |

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| NIPTERK WEST BORROW SITE | ORIGINAL BOREHOLE NO. GC17 | BOREHOLE No. MK88GC17 |
| GULF CANADA RESOURCES LTD. | WATER DEPTH : unknown | Project No: 0101-4912E |
| DRILL SHIP : M.V. FRANK BRODERICK | DEPTHS ARE REFERENCED TO SEABED | ELEVATION 0.00 (m) |

SAMPLE TYPE: SHELBY TUBE / NO RECOVERY / SPLIT SPOON / DISTURBED / PISTON CORE / GRAVITY CORE

| DEPTH (m) | SAMPLE TYPE | SAMPLE NO | SOIL DESCRIPTION | USC | DEPTH (ft) |
|---|---|---|---|---|---|
| 0.0 | | | CLAY – trace silt, very soft, medium plastic | | 0.0 |
| | | | – laminated, soft, olive grey | | 1.0 |
| | | | | | 2.0 |
| | | | END OF GRAVITY CORE | | 3.0 |
| 1.0 | | | | | |

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| NIPTERK WEST BORROW SITE | ORIGINAL BOREHOLE NO. GC18 | BOREHOLE No. MK88GC18 |
| GULF CANADA RESOURCES LTD. | WATER DEPTH : unknown | Project No: 0101-4912E |
| DRILL SHIP : M.V. FRANK BRODERICK | DEPTHS ARE REFERENCED TO SEABED | ELEVATION 0.00 (m) |

SAMPLE TYPE: SHELBY TUBE / NO RECOVERY / SPLIT SPOON / DISTURBED / PISTON CORE / GRAVITY CORE

| DEPTH (m) | SAMPLE TYPE | SAMPLE NO | SOIL DESCRIPTION | USC | DEPTH (ft) |
|---|---|---|---|---|---|
| 0.0 | | | CLAY – trace silt, very soft, medium plastic, olive grey | | 0.0 |
| | | | – laminated, occasional shell fragments, occasional silt interlaminae, soft | | 1.0 |
| | | | – firm | | 2.0 |
| | | | END OF GRAVITY CORE | | 3.0 |
| 1.0 | | | | | |

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| NIPTERK WEST BORROW SITE | ORIGINAL BOREHOLE NO. GC19 | BOREHOLE No. MK88GC19 |
| GULF CANADA RESOURCES LTD. | WATER DEPTH : unknown | Project No: 0101-4912E |
| DRILL SHIP : M.V. FRANK BRODERICK | DEPTHS ARE REFERENCED TO SEABED | ELEVATION 0.00 (m) |

SAMPLE TYPE: SHELBY TUBE; NO RECOVERY; SPLIT SPOON; DISTURBED; PISTON CORE; GRAVITY CORE

| DEPTH (m) | SAMPLE TYPE | SAMPLE NO | SOIL DESCRIPTION | USC | DEPTH (ft) |
|---|---|---|---|---|---|
| 0.0 | | | CLAY – trace silt, occasional black organic pockets, very soft, medium plastic | | 0.0 |
| | | 19A | | | |
| | | | – laminated, occasional shell fragments, olive grey | | 1.0 |
| | | 19B | | | |
| | | | END OF GRAVITY CORE | | 2.0 |
| | | | | | 3.0 |
| 1.0 | | | | | |

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| NIPTERK WEST BORROW SITE | ORIGINAL BOREHOLE NO. GC20 | BOREHOLE No. MK88GC20 |
| GULF CANADA RESOURCES LTD. | WATER DEPTH : unknown | Project No: 0101-4912E |
| DRILL SHIP : M.V. FRANK BRODERICK | DEPTHS ARE REFERENCED TO SEABED | ELEVATION 0.00 (m) |

SAMPLE TYPE: SHELBY TUBE; NO RECOVERY; SPLIT SPOON; DISTURBED; PISTON CORE; GRAVITY CORE

| DEPTH (m) | SAMPLE TYPE | SAMPLE NO | SOIL DESCRIPTION | USC | DEPTH (ft) |
|---|---|---|---|---|---|
| 0.0 | | | CLAY – trace silt, very soft, medium plastic | | 0.0 |
| | | | – laminated, soft, olive grey | | 1.0 |
| | | | END OF GRAVITY CORE | | 2.0 |
| | | | | | 3.0 |
| 1.0 | | | | | |

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| NIPTERK WEST BORROW SITE | ORIGINAL BOREHOLE NO. GC21 | BOREHOLE No. MK88GC21 |
| GULF CANADA RESOURCES LTD. | WATER DEPTH : unknown | Project No: 0101-4912E |
| DRILL SHIP : M.V. FRANK BRODERICK | DEPTHS ARE REFERENCED TO SEABED | ELEVATION 0.00 (m) |

SAMPLE TYPE: SHELBY TUBE / NO RECOVERY / SPLIT SPOON / DISTURBED / PISTON CORE / GRAVITY CORE

| DEPTH (m) | SAMPLE TYPE | SAMPLE NO | SOIL DESCRIPTION | USC | DEPTH (ft) |
|---|---|---|---|---|---|
| 0.0 | | | CLAY – trace silt, very soft, medium plastic | | 0.0 |
| | | | – laminated, occasional silt interlamination, soft, olive grey | | 1.0 |
| | | | | | 2.0 |
| | | | END OF GRAVITY CORE | | 3.0 |
| 1.0 | | | | | |

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| COMPLETION DEPTH • • m | | COMPLETE 88/08/27 |
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| NIPTERK WEST BORROW SITE | ORIGINAL BOREHOLE NO. GC22 | BOREHOLE No. MK88GC22 |
| GULF CANADA RESOURCES LTD. | WATER DEPTH : unknown | Project No: 0101-4912E |
| DRILL SHIP : M.V. FRANK BRODERICK | DEPTHS ARE REFERENCED TO SEABED | ELEVATION 0.00 (m) |

SAMPLE TYPE: SHELBY TUBE / NO RECOVERY / SPLIT SPOON / DISTURBED / PISTON CORE / GRAVITY CORE

| DEPTH (m) | SAMPLE TYPE | SAMPLE NO | SOIL DESCRIPTION | USC | DEPTH (ft) |
|---|---|---|---|---|---|
| 0.0 | | | CLAY – trace silt, very soft, medium plastic | | 0.0 |
| | | | – laminated, occasional silt interlamination, soft, olive grey | | 1.0 |
| | | | | | 2.0 |
| | | | END OF GRAVITY CORE | | 3.0 |
| 1.0 | | | | | |

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| NIPTERK WEST BORROW SITE | ORIGINAL BOREHOLE NO. GC23 | BOREHOLE No. MK88GC23 |
| GULF CANADA RESOURCES LTD. | WATER DEPTH : unknown | Project No: 0101-4912E |
| DRILL SHIP : M.V. FRANK BRODERICK | DEPTHS ARE REFERENCED TO SEABED | ELEVATION 0.00 (m) |

SAMPLE TYPE: SHELBY TUBE | NO RECOVERY | SPLIT SPOON | DISTURBED | PISTON CORE | GRAVITY CORE

| DEPTH (m) | SAMPLE TYPE | SAMPLE NO | SOIL DESCRIPTION | USC | DEPTH (ft) |
|---|---|---|---|---|---|
| 0.0 | | | CLAY – trace silt, very soft, medium plastic | | 0.0 |
| | | 23A | | | 1.0 |
| | | | – laminated, soft | | |
| | | | | | 2.0 |
| | | 23B | – firm, dark olive grey | | |
| | | | END OF GRAVITY CORE | | 3.0 |
| 1.0 | | | | | |

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| NIPTERK WEST BORROW SITE | ORIGINAL BOREHOLE NO. GC25 | BOREHOLE No. MK88GC25 |
| GULF CANADA RESOURCES LTD. | WATER DEPTH : unknown | Project No: 0101-4912E |
| DRILL SHIP : M.V. FRANK BRODERICK | DEPTHS ARE REFERENCED TO SEABED | ELEVATION 0.00 (m) |

SAMPLE TYPE: SHELBY TUBE | NO RECOVERY | SPLIT SPOON | DISTURBED | PISTON CORE | GRAVITY CORE

| DEPTH (m) | SAMPLE TYPE | SAMPLE NO | SOIL DESCRIPTION | USC | DEPTH (ft) |
|---|---|---|---|---|---|
| 0.0 | | | CLAY – trace silt, very soft, medium plastic | | 0.0 |
| | | | | | 1.0 |
| | | | – laminated, occasional silt interlaminae, some laminae highly organic, soft | | |
| | | | – dark olive grey | | |
| | | | | | 2.0 |
| | | | END OF GRAVITY CORE | | |
| | | | | | 3.0 |
| 1.0 | | | | | |

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| COMPLETION DEPTH -- m | COMPLETE 88/08/27 |
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| NIPTERK WEST BORROW SITE | ORIGINAL BOREHOLE NO. GC27 | BOREHOLE No. MK88GC27 |
| GULF CANADA RESOURCES LTD. | WATER DEPTH : unknown | Project No: 0101-4912E |
| DRILL SHIP : M.V. FRANK BRODERICK | DEPTHS ARE REFERENCED TO SEABED | ELEVATION 0.00 (m) |

SAMPLE TYPE: SHELBY TUBE | NO RECOVERY | SPLIT SPOON | DISTURBED | PISTON CORE | GRAVITY CORE

| DEPTH (m) | SAMPLE TYPE | SAMPLE NO | SOIL DESCRIPTION | USC | DEPTH (ft) |
|---|---|---|---|---|---|
| 0.0 | | | CLAY – trace silt, highly organic in upper 50mm bed, very soft, medium plastic | | 0.0 |
| | | | – laminated, occasional highly organic laminae, dark olive grey | | 1.0 |
| | | | END OF GRAVITY CORE | | 2.0 |
| | | | | | 3.0 |
| 1.0 | | | | | |

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|---|---|---|
| NIPTERK WEST BORROW SITE | ORIGINAL BOREHOLE NO. GC28 | BOREHOLE No. MK88GC28 |
| GULF CANADA RESOURCES LTD. | WATER DEPTH : unknown | Project No: 0101-4912E |
| DRILL SHIP : M.V. FRANK BRODERICK | DEPTHS ARE REFERENCED TO SEABED | ELEVATION 0.00 (m) |

SAMPLE TYPE: SHELBY TUBE | NO RECOVERY | SPLIT SPOON | DISTURBED | PISTON CORE | GRAVITY CORE

| DEPTH (m) | SAMPLE TYPE | SAMPLE NO | SOIL DESCRIPTION | USC | DEPTH (ft) |
|---|---|---|---|---|---|
| 0.0 | | | CLAY – trace silt, very soft, medium plastic, olive grey | | 0.0 |
| | | | – thin silt laminae<br>– laminated, shell fragments, dark olive grey | | 1.0 |
| | | | END OF GRAVITY CORE | | 2.0 |
| | | | | | 3.0 |
| 1.0 | | | | | |

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|---|---|---|
| NIPTERK WEST BORROW SITE | ORIGINAL BOREHOLE NO. GC30 | BOREHOLE No. MK88GC30 |
| GULF CANADA RESOURCES LTD. | WATER DEPTH : unknown | Project No: 0101-4912E |
| DRILL SHIP : M.V. FRANK BRODERICK | DEPTHS ARE REFERENCED TO SEABED | ELEVATION 0.00 (m) |

SAMPLE TYPE: SHELBY TUBE, NO RECOVERY, SPLIT SPOON, DISTURBED, PISTON CORE, GRAVITY CORE

| DEPTH (m) | SAMPLE TYPE | SAMPLE NO | SOIL DESCRIPTION | USC | DEPTH (ft) |
|---|---|---|---|---|---|
| 0.0 | | | CLAY – trace silt, very soft, medium plastic | | 0.0 |
| | | | – silt interlamince | | 1.0 |
| | | | – firm, dark olive grey | | 2.0 |
| | | | END OF GRAVITY CORE | | 3.0 |
| 1.0 | | | | | |

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| COMPLETION DEPTH •• m | | COMPLETE 88/08/27 |
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|---|---|---|
| NIPTERK WEST BORROW SITE | ORIGINAL BOREHOLE NO. GC31 | BOREHOLE No. MK88GC31 |
| GULF CANADA RESOURCES LTD. | WATER DEPTH : unknown | Project No: 0101-4912E |
| DRILL SHIP : M.V. FRANK BRODERICK | DEPTHS ARE REFERENCED TO SEABED | ELEVATION 0.00 (m) |

SAMPLE TYPE: SHELBY TUBE, NO RECOVERY, SPLIT SPOON, DISTURBED, PISTON CORE, GRAVITY CORE

| DEPTH (m) | SAMPLE TYPE | SAMPLE NO | SOIL DESCRIPTION | USC | DEPTH (ft) |
|---|---|---|---|---|---|
| 0.0 | | | CLAY – trace silt, very soft, medium plastic<br>– laminated, olive grey | | 0.0 |
| | | 31 | | | 1.0 |
| | | | END OF GRAVITY CORE | | 2.0 |
| | | | | | 3.0 |
| 1.0 | | | | | |

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|---|---|---|
| NIPTERK WEST BORROW SITE | ORIGINAL BOREHOLE NO. GC32 | BOREHOLE No. MK88GC32 |
| GULF CANADA RESOURCES LTD. | WATER DEPTH : unknown | Project No: 0101-4912E |
| DRILL SHIP : M.V. FRANK BRODERICK | DEPTHS ARE REFERENCED TO SEABED | ELEVATION 0.00 (m) |

SAMPLE TYPE: SHELBY TUBE / NO RECOVERY / SPLIT SPOON / DISTURBED / PISTON CORE / GRAVITY CORE

| DEPTH (m) | SAMPLE TYPE | SAMPLE NO | SOIL DESCRIPTION | USC | DEPTH (ft) |
|---|---|---|---|---|---|
| 0.0 | | | CLAY – trace silt, very soft, medium plastic | | 0.0 |
| | | | | | 1.0 |
| | | | – silt lens, trace shell fragments and organics, becoming firmer | | |
| | | | – laminated | | |
| | | | END OF GRAVITY CORE | | 2.0 |
| | | | | | 3.0 |
| 1.0 | | | | | |

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|---|---|---|
| NIPTERK WEST BORROW SITE | ORIGINAL BOREHOLE NO. GC33 | BOREHOLE No. MK88GC33 |
| GULF CANADA RESOURCES LTD. | WATER DEPTH : unknown | Project No: 0101-4912E |
| DRILL SHIP : M.V. FRANK BRODERICK | DEPTHS ARE REFERENCED TO SEABED | ELEVATION 0.00 (m) |

SAMPLE TYPE: SHELBY TUBE / NO RECOVERY / SPLIT SPOON / DISTURBED / PISTON CORE / GRAVITY CORE

| DEPTH (m) | SAMPLE TYPE | SAMPLE NO | SOIL DESCRIPTION | USC | DEPTH (ft) |
|---|---|---|---|---|---|
| 0.0 | | | CLAY – trace silt, very soft, medium plastic, olive grey | | 0.0 |
| | | | | | 1.0 |
| | | | END OF GRAVITY CORE | | 2.0 |
| | | | | | 3.0 |
| 1.0 | | | | | |

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| NIPTERK WEST BORROW SITE | ORIGINAL BOREHOLE NO. GC34 | BOREHOLE No. MK88GC34 |
| GULF CANADA RESOURCES LTD. | WATER DEPTH : unknown | Project No: 0101-4912E |
| DRILL SHIP : M.V. FRANK BRODERICK | DEPTHS ARE REFERENCED TO SEABED | ELEVATION 0.00 (m) |

SAMPLE TYPE: SHELBY TUBE / NO RECOVERY / SPLIT SPOON / DISTURBED / PISTON CORE / GRAVITY CORE

| DEPTH (m) | SAMPLE TYPE | SAMPLE NO | SOIL DESCRIPTION | USC | DEPTH (ft) |
|---|---|---|---|---|---|
| 0.0 | | | CLAY – trace silt, very soft, medium plastic | | 0.0 |
| | | | – thinly laminated silt bed, 55mm thick, olive grey | | 1.0 |
| | | | | | 2.0 |
| | | | END OF GRAVITY CORE | | 3.0 |
| 1.0 | | | | | |

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| NIPTERK WEST BORROW SITE | ORIGINAL BOREHOLE NO. GC35 | BOREHOLE No. MK88GC35 |
| GULF CANADA RESOURCES LTD. | WATER DEPTH : unknown | Project No: 0101-4912E |
| DRILL SHIP : M.V. FRANK BRODERICK | DEPTHS ARE REFERENCED TO SEABED | ELEVATION 0.00 (m) |

SAMPLE TYPE: SHELBY TUBE / NO RECOVERY / SPLIT SPOON / DISTURBED / PISTON CORE / GRAVITY CORE

| DEPTH (m) | SAMPLE TYPE | SAMPLE NO | SOIL DESCRIPTION | USC | DEPTH (ft) |
|---|---|---|---|---|---|
| 0.0 | | | CLAY – occasional silt interlamsage, very soft, medium plastic, olive grey | | 0.0 |
| | | | | | 1.0 |
| | | | | | 2.0 |
| | | | – dark olive grey | | |
| | | | END OF GRAVITY CORE | | 3.0 |
| 1.0 | | | | | |

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|---|---|---|
| NIPTERK WEST BORROW SITE | ORIGINAL BOREHOLE NO. GC37 | BOREHOLE No. MK88GC37 |
| GULF CANADA RESOURCES LTD. | WATER DEPTH : unknown | Project No: 0101-4912E |
| DRILL SHIP : M.V. FRANK BRODERICK | DEPTHS ARE REFERENCED TO SEABED | ELEVATION 0.00 (m) |

SAMPLE TYPE: SHELBY TUBE | NO RECOVERY | SPLIT SPOON | DISTURBED | PISTON CORE | GRAVITY CORE

| DEPTH (m) | SAMPLE TYPE | SAMPLE NO | SOIL DESCRIPTION | USC | DEPTH (ft) |
|---|---|---|---|---|---|
| 0.0 | | | CLAY – trace silt, laminated, soft, medium plastic, occasional shell fragments, olive grey | | 0.0 |
| | | | – firm, occasional silt interlaminae, dark olive grey | | 1.0 |
| | | 37 | | | |
| | | | END OF GRAVITY CORE | | 2.0 |
| | | | | | 3.0 |
| 1.0 | | | | | |

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|---|---|---|
| NIPTERK WEST BORROW SITE | ORIGINAL BOREHOLE NO. GC38 | BOREHOLE No. MK88GC38 |
| GULF CANADA RESOURCES LTD. | WATER DEPTH : unknown | Project No: 0101-4912E |
| DRILL SHIP : M.V. FRANK BRODERICK | DEPTHS ARE REFERENCED TO SEABED | ELEVATION 0.00 (m) |

SAMPLE TYPE: SHELBY TUBE | NO RECOVERY | SPLIT SPOON | DISTURBED | PISTON CORE | GRAVITY CORE

| DEPTH (m) | SAMPLE TYPE | SAMPLE NO | SOIL DESCRIPTION | USC | DEPTH (ft) |
|---|---|---|---|---|---|
| 0.0 | | | CLAY – trace silt, occasional shell fragments, laminated | | 0.0 |
| | | | | | 1.0 |
| | | | – occasional silt interlaminae, olive grey | | 2.0 |
| | | | END OF GRAVITY CORE | | 3.0 |
| 1.0 | | | | | |

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| NIPTERK WEST BORROW SITE | ORIGINAL BOREHOLE NO. GC40 | BOREHOLE No. MK88GC40 |
| GULF CANADA RESOURCES LTD. | WATER DEPTH : unknown | Project No: 0101-4912E |
| DRILL SHIP : M.V. FRANK BRODERICK | DEPTHS ARE REFERENCED TO SEABED | ELEVATION 0.00 (m) |

SAMPLE TYPE: SHELBY TUBE | NO RECOVERY | SPLIT SPOON | DISTURBED | PISTON CORE | GRAVITY CORE

| DEPTH (m) | SAMPLE TYPE | SAMPLE NO | SOIL DESCRIPTION | USC | DEPTH (ft) |
|---|---|---|---|---|---|
| 0.0 | | | CLAY – trace silt, laminated, soft, medium plastic | | 0.0 |
| | | | – very soft, olive grey | | 1.0 |
| | | | END OF GRAVITY CORE | | 2.0 |
| | | | | | 3.0 |
| 1.0 | | | | | |

Δ D50 (mm) Δ: 2000 4000 6000 8000

PLASTIC — N.C — LIQUID: 20 40 60 80

■ FINES (%) ■: 20 40 60 80

◆ SAND (%) ◆: 20 40 60 80

● GRAVEL (%) ●: 20 40 60 80

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| COMPLETION DEPTH • • m | COMPLETE 88/08/27 |
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|---|---|---|
| NIPTERK WEST BORROW SITE | ORIGINAL BOREHOLE NO. GC41 | BOREHOLE No. MK88GC41 |
| GULF CANADA RESOURCES LTD. | WATER DEPTH : unknown | Project No: 0101-4912E |
| DRILL SHIP : M.V. FRANK BRODERICK | DEPTHS ARE REFERENCED TO SEABED | ELEVATION 0.00 (m) |

SAMPLE TYPE: SHELBY TUBE | NO RECOVERY | SPLIT SPOON | DISTURBED | PISTON CORE | GRAVITY CORE

| DEPTH (m) | SAMPLE TYPE | SAMPLE NO | SOIL DESCRIPTION | USC | DEPTH (ft) |
|---|---|---|---|---|---|
| 0.0 | | | CLAY – trace silt, laminated, soft, medium plastic, olive grey | | 0.0 |
| | | | – highly organic laminae | | 1.0 |
| | | | – firm, dark olive grey | | 2.0 |
| | | | END OF GRAVITY CORE | | 3.0 |
| 1.0 | | | | | |

Δ D50 (mm) Δ: 2000 4000 6000 8000

PLASTIC — N.C — LIQUID: 20 40 60 80

■ FINES (%) ■: 20 40 60 80

◆ SAND (%) ◆: 20 40 60 80

● GRAVEL (%) ●: 20 40 60 80

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| COMPLETION DEPTH • • m | COMPLETE 88/08/27 |
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| NIPTERK WEST BORROW SITE | ORIGINAL BOREHOLE NO. GC43 | BOREHOLE No. MK88GC43 |
| GULF CANADA RESOURCES LTD. | WATER DEPTH : unknown | Project No: 0101-4912E |
| DRILL SHIP : M.V. FRANK BRODERICK | DEPTHS ARE REFERENCED TO SEABED | ELEVATION 0.00 (m) |

SAMPLE TYPE: SHELBY TUBE / NO RECOVERY / SPLIT SPOON / DISTURBED / PISTON CORE / GRAVITY CORE

| DEPTH (m) | SAMPLE TYPE | SAMPLE NO | SOIL DESCRIPTION | USC | DEPTH (ft) |
|---|---|---|---|---|---|
| 0.0 | | | CLAY – laminated, occasional silt laminae, soft, medium plastic | | 0.0 |
| | | 43A | | | |
| | | | – very soft, olive grey | | 1.0 |
| | | 43B | | | |
| | | | | | 2.0 |
| | | | END OF GRAVITY CORE | | |
| | | | | | 3.0 |
| 1.0 | | | | | |

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|---|---|---|
| NORTH POINT PIPELINE – STATION 3+641 | ORIGINAL BOREHOLE NO. PS88S01 | BOREHOLE No. 4809-01 |
| GULF CANADA RESOURCES LTD. | WATER DEPTH: 3.2m | Project No: 0101-4809 |
| DRILL RIG: CDS-HT 700 | | ELEVATION -3.20 (m) |

SAMPLE TYPE: SHELBY TUBE | NO RECOVERY | SPLIT SPOON | DISTURBED | A-CASING | CORE

| DEPTH (m) | SAMPLE TYPE | SAMPLE NO | SOIL DESCRIPTION | USC | DEPTH (ft) |
|---|---|---|---|---|---|
| 0.0 | | 1A 1B | SAND (SM) – and silt, trace of clay, interbedded layers of sand and silt, black organic laminations, fine- to medium-grained, dark grey | | 0.0 |
| | | 2 | | SM | 5.0 |
| | | 3 | CLAY (CL) – and silt, sandy, thinly laminated, horizontal, discontinuous, occasional sand partings, low plastic, dark grey | CL | 10.0 |
| 5.0 | | 4 | SILT (ML) – clayey, trace of fine-grained sand, thinly laminated, horizontal, uneven, discountinuous, some black organic streaks, low to medium plasticity, soft to firm, dark grey | ML | 15.0 |
| | | 5 | | | 20.0 |
| | | 6 | | | 25.0 |
| | | 7 | | | 30.0 |
| 10.0 | | 8A 8B | SAND (SP/SM) – trace to some silt, fine-grained, trace of shells and organics, piece of wood from tree branch, dark grey | | 35.0 |
| | | 9A 9C | | SM | |
| | | 10 | – occasional thin clay lamination, yellowish brown sand, blow out possibly gas | SP-SM | 40.0 |
| | | | – becoming cleaner, homogeneous, olive grey | | 45.0 |
| | | 11 | – becoming greyish brown | | 50.0 |
| 15.0 | | | | | 55.0 |
| | | 12 | END OF BOREHOLE at 17.7m | | 60.0 |
| 20.0 | | | | | 65.0 |
| | | | | | 70.0 |

Graphs: TEMPERATURE (Celcius) -3 -1 1 3; PLASTIC – MC – LIQUID 20 40 60 80; D50 (micrometers) 2000 4000 6000 8000; FINES (%) 20 40 60 80; SAND (%) 20 40 60 80; GRAVEL (%) 20 40 60 80

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|---|---|---|
| EBA Engineering Consultants Ltd. Calgary, Alberta | COMPLETION DEPTH 17.7 m | COMPLETE 88-04-09 |
| | LOGGED BY TRM MAV JWC | DWG NO. |
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|---|---|---|
| NORTH POINT PIPELINE – STATION 5+255 | ORIGINAL BOREHOLE NO. PS88S02 | BOREHOLE No. 4809–02 |
| GULF CANADA RESOURCES LTD. | WATER DEPTH: 2.44m | Project No: 0101–4809 |
| DRILL RIG: CDS–HT 700 | | ELEVATION –2.44 (m) |

SAMPLE TYPE: SHELBY TUBE | NO RECOVERY | SPLIT SPOON | DISTURBED | A–CASING | CORE

| DEPTH (m) | SAMPLE TYPE | SAMPLE NO | SOIL DESCRIPTION | USC | DEPTH (ft) |
|---|---|---|---|---|---|
| 0.0 | | | SAND (SM) – and silt, alternating beds of sand and silt, beds 20mm to 50mm thick, sand is; fine– to medium–grained, dense (est), silt is; trace of clay and black organics with shells, low plastic, dark olive grey | | 0.0 |
| | | 1A 1B | | | 5.0 |
| | | 2 | SILT (ML) – clayey, with trace of fine–grained sand, occasional shell fragments 12mm in length, very thinly laminated, parallel to wavey, horizontal, firm, low plastic, olive grey | ML | 10.0 |
| 5.0 | | 3 | – isolated very thin sand partings | | 15.0 |
| | | 4 | | | 20.0 |
| | | 5B 5A | CLAY AND SILT (CL–ML) – some sand, trace of mica flakes and shell fragments, occasional black organic zones, very thin parallel laminae, soft, low plastic, grey | CL–ML | 25.0 |
| | | 6B 6A | | | 30.0 |
| 10.0 | | | SAND (SP/SM) – trace to some silt, trace of shell fragments, occasional zones of black organics, fine–grained, dense (est.), dark grey | | 35.0 |
| | | 7 | | SP | 40.0 |
| | | | | | 45.0 |
| 15.0 | | 8A 8B | – occasional yellowish brown sand; inclined bedding, beds 5mm to 25mm thick, with thin silt and clay laminations | SM | 50.0 |
| | | | | | 55.0 |
| | | 9 | – becoming light greyish brown | | 60.0 |
| | | | END OF BOREHOLE at 18.6m | | 65.0 |
| 20.0 | | | | | 70.0 |

TEMPERATURE (Celcius): –3 –1 1 3

PLASTIC M.C LIQUID: 20 40 60 80

D50 (micrometers): 2000 4000 6000 8000

FINES (%): 20 40 60 80

SAND (%): 20 40 60 80

GRAVEL (%): 20 40 60 80

| | | | |
|---|---|---|---|
| EBA Engineering Consultants Ltd. Calgary, Alberta | COMPLETION DEPTH 18.6 m | COMPLETE 88–04–10 | |
| | LOGGED BY TRM MAV JWC | DWG NO. | Page 1 of 1 |

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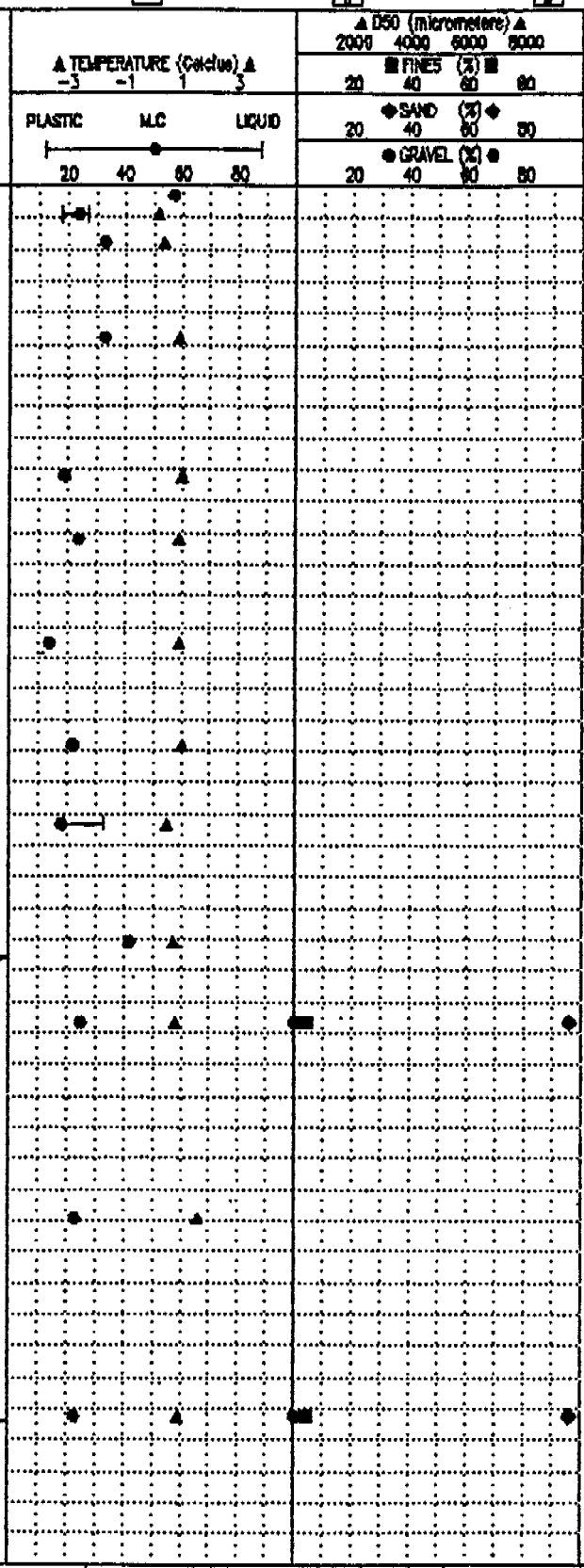
|---|---|---|
| NORTH POINT PIPELINE – STATION 7+264 | ORIGINAL BOREHOLE NO. PS88503 | BOREHOLE No. 4809-03 |
| GULF CANADA RESOURCES LTD. | WATER DEPTH: 2.89m | Project No: 0101-4809 |
| DRILL RIG: CDS-HT 700 | | ELEVATION -2.89 (m) |

SAMPLE TYPE: SHELBY TUBE | NO RECOVERY | SPLIT SPOON | DISTURBED | A-CASING | CORE

| DEPTH (m) | SAMPLE TYPE | SAMPLE NO | SOIL DESCRIPTION | USC | DEPTH (ft) |
|---|---|---|---|---|---|
| 0.0 | | 1A 1B | CLAY (CL)– silty, trace to some sand, trace of black organics, very thin laminae, discontinuous,non-parallel, uneven, hiorizontal, very thin fine-grained sand partings, soft to firm, low plastic, dark olive grey | CL | 0.0 |
| | | 2 | | | |
| | | 3 | – at 0.6m, trace of shell fragments | | 5.0 |
| | | | | | 10.0 |
| | | 4 | | | 15.0 |
| 5.0 | | 5 | | | 20.0 |
| | | 6 | | | 25.0 |
| | | | – parallel laminations not visible | | |
| | | 7 | – trace of shell fragments approximately 12mm long | | 30.0 |
| 10.0 | | 8 | | CL | 35.0 |
| | | 9 | – becoming more plastic, isolated shell fragments | | 40.0 |
| | | 10 | SAND (SP) – trace of silt, fine-grained, homogeneous, dense (est.), brownish grey | SP | 45.0 |
| 15.0 | | | Driller's Note At 14.6m, harder drilling, possibly gravel | | 50.0 |
| | | 11 | – trace of clay, slight cohesion, brown | | 55.0 |
| | | | | | 60.0 |
| 20.0 | | 12 | END OF BOREHOLE at 19.7m | SP | 65.0 |
| | | | | | 70.0 |




| | | |
|---|---|---|
| EBA Engineering Consultants Ltd. Calgary, Alberta | COMPLETION DEPTH 19.7 m | COMPLETE 88-04-10 |
| | LOGGED BY TRM MAV JWC | DWG NO. | Page 1 of 1 |

| | | |
|---|---|---|
| NORTH POINT PIPELINE – STATION 9+446 | ORIGINAL BOREHOLE NO. PS88S04 | BOREHOLE No. 4809-04 |
| GULF CANADA RESOURCES LTD. | WATER DEPTH: 2.90m | Project No: 0101-4809 |
| DRILL RIG: CDS-HT 700 | | ELEVATION -2.90 (m) |

SAMPLE TYPE: SHELBY TUBE | NO RECOVERY | SPLIT SPOON | DISTURBED | A-CASING | CORE

| DEPTH (m) | SAMPLE TYPE | SAMPLE NO | SOIL DESCRIPTION | USC | DEPTH (ft) |
|---|---|---|---|---|---|
| 0.0 | | 1A 1B | INTERBEDDED SILT AND SAND – trace of shell fragments, fine-grained sand, low plastic, olive grey | | 0.0 |
| | | 2 | CLAY (CL) – and silt, trace of fine-grained sand, very thin laminae, discontinuous, even, non-parallel, occasional sand partings, soft to firm, low to non-plastic, dark olive grey | | 5.0 |
| | | 3 | | CL | 10.0 |
| 5.0 | | 4 | – at 2.7m, trace of black organics<br>– at 3.0m, low plastic<br>– thin organic layer, 15mm thick | | 15.0 |
| | | 5 | – trace of shell fragments | | 20.0 |
| | | 6 | – trace of shell fragments | | 25.0 |
| | | 7 | – trace of shell fragments | | |
| | | 8 | SAND (SP) – trace of silt, fine-grained, homogeneous, trace of mica, shell fragments and organics, compact (est.), olive grey | SP | 30.0 |
| 10.0 | | 9 | | | 35.0 |
| | | 10 | SAND (SM) – silty, mottled structure with silt inclusions, sand is fine-grained, silt is low plastic, with trace of black organics and shell fragments, olive grey | SM | 40.0 |
| | | 11 | SAND (SP) – trace of silt, fine-grained, trace of organics (rootlets), loose to compact (est.), homogeneous, brownish grey | | 45.0 |
| 15.0 | | 12 | – trace of black organics, rootlets and shell fragments to 12mm in length | SP | 50.0 |
| | | 13 | CLAY TILL (CL) – silty, trace to some sand, trace of fine gravel, subrounded to subangular, polished, 10mm maximum diameter, trace of organics, very stiff, low plastic, dark grey | | 60.0 |
| 20.0 | | 14 | END OF BOREHOLE at 19.5m | CL | 65.0 |
| | | | | | 70.0 |

TEMPERATURE (Celsius): -3 -1 1 3
PLASTIC — M.C — LIQUID: 20 40 60 80
D50 (micrometers): 2000 4000 6000 8000
FINES (%): 20 40 60 80
SAND (%): 20 40 60 80
GRAVEL (%): 20 40 60 80

| | | |
|---|---|---|
| EBA Engineering Consultants Ltd.<br>Calgary, Alberta | COMPLETION DEPTH 19.5 m | COMPLETE 88-04-11 |
| | LOGGED BY TRM MAV JWC | DWG NO. |
| | | Page 1 of 1 |

| | | |
|---|---|---|
| NORTH POINT PIPELINE – STATION 11+255 | ORIGINAL BOREHOLE NO. PS88S05 | BOREHOLE No. 4809-05 |
| GULF CANADA RESOURCES LTD. | WATER DEPTH: 3.96m | Project No: 0101-4809 |
| DRILL RIG: CDS-HT 700 | | ELEVATION -3.96 (m) |

SAMPLE TYPE: SHELBY TUBE | NO RECOVERY | SPLIT SPOON | DISTURBED | A-CASING | CORE

| DEPTH (m) | SAMPLE TYPE | SAMPLE NO | SOIL DESCRIPTION | USC | DEPTH (ft) |
|---|---|---|---|---|---|
| 0.0 | | 1 | | | 0.0 |
| | | 2 | CLAY (CL) – silty, trace of fine-grained sand, fine-grained sand partings and very thin sand beds to 20mm, black organics, very thin laminae, parallel, dark olive grey | CL | 5.0 |
| | | 3 | | | 10.0 |
| 5.0 | | 4 | – becoming firm | | 15.0 |
| | | 5 | | | 20.0 |
| | | 6B 6A | – occasional sand bed (SM); 15mm thick, fine- to medium-grained, trace of shell fragments 10mm in length | | 25.0 |
| | | 7 | – isolated pockets of black organics | CL | 30.0 |
| 10.0 | | | SAND (SP/SM) – traces of silt and clay, fine- to medium-grained, homogeneous, dense (est.), greyish brown | | 35.0 |
| | | 8 | – black organic bed 12mm thick with fibrous organics (roots, twigs and grasses), fibrous organics disseminated throughout sample | SP-SM | 40.0 |
| | | | | | 45.0 |
| 15.0 | | 9 | | | 50.0 |
| | | | Driller's Note At 16.1m, difficult drilling, possibly gravel layer | | 55.0 |
| | | 10 | | SP-SM | 60.0 |
| 20.0 | | | | | 65.0 |
| | | 11A | INTERBEDDED SILT (ML) AND SAND (SM) – beds 150mm thick silt, clayey, low | | 70.0 |

| | | |
|---|---|---|
| EBA Engineering Consultants Ltd. Calgary, Alberta | COMPLETION DEPTH 31.2 m | COMPLETE 88-04-12 |
| | LOGGED BY TRM MAV JWC | DWG NO. / Page 1 of 2 |

| NORTH POINT PIPELINE – STATION 11+255 | ORIGINAL BOREHOLE NO. PS88505 | BOREHOLE No. 4809–05 |
|---|---|---|
| GULF CANADA RESOURCES LTD. | WATER DEPTH: 3.96m | Project No: 0101–4809 |
| DRILL RIG: CDS–HT 700 | | ELEVATION –3.96 (m) |

SAMPLE TYPE: SHELBY TUBE | NO RECOVERY | SPLIT SPOON | DISTURBED | A–CASING | CORE

| DEPTH (m) | SAMPLE TYPE | SAMPLE NO | SOIL DESCRIPTION | USC | DEPTH (ft) |
|---|---|---|---|---|---|
| 22.0 | | | sand; some silt, fine– to medium–grained, homogeneous, dense (est.), brownish grey | | 75.0 |
| | | 12a | – sand beds becoming medium– to coarse–grained, brown | | 80.0 |
| | | | | | 85.0 |
| 27.0 | | | SAND (SP) – trace of silt, fine–grained, trace of mica, homogeneous, dense (est.), greyish brown | | 90.0 |
| | | | | | 95.0 |
| | | 13 | | | 100.0 |
| | | 14 | – very dense, drill string was lifted during sampling | | |
| 32.0 | | | END OF BOREHOLE AT 31.2m | | 105.0 |
| | | | | | 110.0 |
| | | | | | 115.0 |
| 37.0 | | | | | 120.0 |
| | | | | | 125.0 |
| | | | | | 130.0 |
| | | | | | 135.0 |
| 42.0 | | | | | 140.0 |

▲ TEMPERATURE (Celsius) ▲ –3 –1 1 3

PLASTIC M.C LIQUID 20 40 60 80

▲ D50 (micrometers) ▲ 2000 4000 6000 8000

■ FINES (%) ■ 20 40 60 80

◆ SAND (%) ◆ 20 40 60 80

● GRAVEL (%) ● 20 40 60 80

| EBA Engineering Consultants Ltd. Calgary, Alberta | COMPLETION DEPTH 31.2 m | COMPLETE 88–04–12 |
|---|---|---|
| | LOGGED BY TRM MAY JWC / DWC NO. | Page 2 of 2 |

| NORTH POINT PIPELINE – STATION 13+506 | ORIGINAL BOREHOLE NO. P588S06 | BOREHOLE No. 4809–06 |
|---|---|---|
| GULF CANADA RESOURCES LTD. | WATER DEPTH: 6.10m | Project No: 0101–4809 |
| DRILL RIG: CDS–HT 700 | | ELEVATION –6.10 (m) |

SAMPLE TYPE: SHELBY TUBE | NO RECOVERY | SPLIT SPOON | DISTURBED | A–CASING | CORE

| DEPTH (m) | SAMPLE TYPE | SAMPLE NO | SOIL DESCRIPTION | USC | DEPTH (ft) |
|---|---|---|---|---|---|
| 0.0 | | 1A, 1B | SILT (ML) – some sand; discontinuous, even, non–parallel, very thin laminae; interbedded fine–grained sand particles, 50mm thick bed of fine–grained sand and shell fragments at base, very soft, low plastic, olive grey | | 0.0 |
| | | 2 | | | 5.0 |
| | | | SILT (ML) – clayey, trace of fine–grained sand, trace of black organic streaks, very thin laminae, discontinuous, even, non–parallel, low plastic, stiff, moist, olive grey | | 10.0 |
| | | 3 | | ML | 15.0 |
| 5.0 | | 4A, 4B, 4C | – 3mm lamination of black organics and shell fragments | | |
| | | | – alternating beds of SILT (ML) and fine–grained SAND (SP/SM), silt is low to non–plastic, sand has trace to some silt, homogeneous, trace of shell fragments, olive grey | | 20.0 |
| | | 5 | – very thin fine–grained sand partings | | 25.0 |
| | | 6A, 6B | | | 30.0 |
| 10.0 | | 7 | CLAY (CL) – and silt, sandy, fine–grained, very thin laminae, discontinuous, even, non–parallel, low plastic, firm to stiff, dark olive grey | CL | 35.0 |
| | | | SAND (SP/SM) – trace of silt, fine–grained, homogeneous, some cohesion, wet, light greyish brown | | 40.0 |
| | | 8A, 8B | – trace of gravel, 35mm maximum diameter, subrounded, polished | | 45.0 |
| 15.0 | | | – 35mm thick laminations of black organic sand, trace of fibrous organics | | 50.0 |
| | | | – becoming olive grey | | |
| | | 9 | – trace of gravel, flat, angular, polished, becoming dark olive grey | | 55.0 |
| | | | | | 60.0 |
| | | 10A, 10B | – fine– to medium–grained sand (SP) Driller's Note: very hard to push sample | | 65.0 |
| 20.0 | | 11A | – gravel layer, 75mm maximum diameter, subangular to subrounded, smooth, brownish grey | | 70.0 |

▲ TEMPERATURE (Celcius) ▲ −3 −1 1 3

PLASTIC M.C LIQUID 20 40 60 80

▲ D50 (micrometers) ▲ 2000 4000 6000 8000

■ FINES (%) ■ 20 40 60 80

◆ SAND (%) ◆ 20 40 60 80

● GRAVEL (%) ● 20 40 60 80

| EBA Engineering Consultants Ltd. Calgary, Alberta | COMPLETION DEPTH 34.9 m | COMPLETE 88–04–12 |
|---|---|---|
| | LOGGED BY TRM MAV JWC | DWG NO. | Page 1 of 2 |

| | | |
|---|---|---|
| NORTH POINT PIPELINE – STATION 13+506 | ORIGINAL BOREHOLE NO. PS88506 | BOREHOLE No. 4809-06 |
| GULF CANADA RESOURCES LTD. | WATER DEPTH: 6.10m | Project No: 0101-4809 |
| DRILL RIG: CDS-HT 700 | | ELEVATION -6.10 (m) |

SAMPLE TYPE: SHELBY TUBE | NO RECOVERY | SPLIT SPOON | DISTURBED | A-CASING | CORE

| DEPTH (m) | SAMPLE TYPE | SAMPLE NO | SOIL DESCRIPTION | USC | DEPTH (ft) |
|---|---|---|---|---|---|
| 22.0 | | | | | 75.0 |
| | | 12 | | | 80.0 |
| | | | – becoming: SAND (SP) – trace of silt, fine-grained, very thinly bedded, grey | | 85.0 |
| 27.0 | | 13 | | | 90.0 |
| | | 14 | SAND – (continued) | | 95.0 |
| | | | | | 100.0 |
| 32.0 | | | CLAY (CL) – silty, trace of fine-grained sand partings, trace of mica flakes, very thin parallel laminae, occasional black organic zones, low plastic, stiff, dark grey | | 105.0 |
| | | | | | 110.0 |
| | | 15B 15A | END OF BOREHOLE at 34.9m | CL | 115.0 |
| 37.0 | | | | | 120.0 |
| | | | | | 125.0 |
| | | | | | 130.0 |
| | | | | | 135.0 |
| 42.0 | | | | | 140.0 |

▲ TEMPERATURE (Celsius) ▲ -3 -1 1 3

PLASTIC — M.C — LIQUID 20 40 60 80

▲ D50 (micrometers) ▲ 2000 4000 6000 8000

■ FINES (%) ■ 20 40 60 80

◆ SAND (%) ◆ 20 40 60 80

● GRAVEL (%) ● 20 40 60 80

| | | |
|---|---|---|
| EBA Engineering Consultants Ltd. Calgary, Alberta | COMPLETION DEPTH 34.9 m | COMPLETE 88-04-12 |
| | LOGGED BY TRM MAV JWC | DWG NO. / Page 2 of 2 |

| | | |
|---|---|---|
| NORTH POINT PIPELINE – STATION 15+207 | ORIGINAL BOREHOLE NO. PSS8507 | BOREHOLE No. 4809-07 |
| GULF CANADA RESOURCES LTD. | WATER DEPTH: 6.70m | Project No: 0101-4809 |
| DRILL RIG: CDS-HT 700 | | ELEVATION -6.70 (m) |

SAMPLE TYPE: SHELBY TUBE | NO RECOVERY | SPLIT SPOON | DISTURBED | A-CASING | CORE

| DEPTH (m) | SAMPLE TYPE | SAMPLE NO | SOIL DESCRIPTION | USC |
|---|---|---|---|---|
| 0.0 | | 1A 1B | SILT (ML) AND SAND (SP) – fine-grained, very thin laminae, even, parallel, very thin black organic laminae, trace of shell fragments, low to non-plastic, very soft, saturated, olive grey | |
| | | 2 2B | CLAY (CL) – silty, trace of black organics, very thin laminae, even, parallel, discontinuous, low plastic, very stiff, dark olive grey | |
| | | 3 | – trace of shell fragments | |
| 5.0 | | 4B | – trace of shell fragments | |
| | | 5A 5B | – increase in silt content, 100mm thick bed of fine-grained sand | |
| | | | – trace of shell fragments | |
| | | | SAND (SP) – trace of silt, fine-grained, homogeneous, uniform, compact to dense (est.), light brownish grey | SP |
| 10.0 | | 7A | – at 9.1m, 100mm black organic fine-grained sand | SP |
| | | | – at 9.7m, increase in silt content | |
| | | | Driller's Note: thin gravel lense at 9.7m | |
| | | 8A | – trace of fine-grained gravel, medium- to fine-grained sand, olive brown | |
| 15.0 | | 9A | | |
| | | 10A | – light greyish brown | |
| 20.0 | | 11 | SAND (SP) – trace of silt, fine- to medium-grained, uniform, homogeneous, dense (est.), wet, greyish brown | SP |

Depth (ft): 0.0, 5.0, 10.0, 15.0, 20.0, 25.0, 30.0, 35.0, 40.0, 45.0, 50.0, 55.0, 60.0, 65.0, 70.0

EBA Engineering Consultants Ltd.
Calgary, Alberta

| | | |
|---|---|---|
| COMPLETION DEPTH 35.5 m | | COMPLETE 22-04-13 |
| LOGGED BY TRM MAY JWC | DWG NO. | Page 1 of 2 |

| | | |
|---|---|---|
| NORTH POINT PIPELINE - STATION 15+207 | ORIGINAL BOREHOLE NO. PS88S07 | BOREHOLE No. 4809-07 |
| GULF CANADA RESOURCES LTD. | WATER DEPTH: 6.70m | Project No: 0101-4809 |
| DRILL RIG: CDS-HT 700 | | ELEVATION -6.70 (m) |

SAMPLE TYPE: SHELBY TUBE | NO RECOVERY | SPLIT SPOON | DISTURBED | A-CASING | CORE

| DEPTH (m) | SAMPLE TYPE | SAMPLE NO | SOIL DESCRIPTION | USC | DEPTH (ft) |
|---|---|---|---|---|---|
| 22.0 | | | | | 75.0 |
| | | | | | 80.0 |
| | | | | | 85.0 |
| | | 12A | | | |
| 27.0 | | | | | 90.0 |
| | | | | | 95.0 |
| | | | | | 100.0 |
| 32.0 | | | | | 105.0 |
| | | 13 | – trace of mica flakes | | |
| | | | | | 110.0 |
| | | | | | 115.0 |
| | | 14 | END OF BOREHOLE at 35.5m | SP | |
| 37.0 | | | | | 120.0 |
| | | | | | 125.0 |
| | | | | | 130.0 |
| | | | | | 135.0 |
| 42.0 | | | | | 140.0 |

▲ TEMPERATURE (Celcius) ▲ -3 -1 1 3

PLASTIC M.C LIQUID 20 40 60 80

▲ D50 (micrometers) ▲ 2000 4000 6000 8000

■ FINES (%) ■ 20 40 60 80

◆ SAND (%) ◆ 20 40 60 80

● GRAVEL (%) ● 20 40 60 80

| | | |
|---|---|---|
| EBA Engineering Consultants Ltd. Calgary, Alberta | COMPLETION DEPTH 35.5 m | COMPLETE 88-04-13 |
| | LOGGED BY TRM MAV JWC | DWG NO. |
| | | Page 2 of 2 |

| | | |
|---|---|---|
| NORTH POINT PIPELINE – STATION 4+275 | ORIGINAL BOREHOLE NO. PS88S08 | BOREHOLE No. 4809–08 |
| GULF CANADA RESOURCES LTD. | WATER DEPTH: 2.90m | Project No: 0101–4809 |
| DRILL RIG: CDS–HT 700 | | ELEVATION –2.90 (m) |

SAMPLE TYPE: SHELBY TUBE | NO RECOVERY | SPLIT SPOON | DISTURBED | A–CASING | CORE

| DEPTH (m) | SAMPLE TYPE | SAMPLE NO | SOIL DESCRIPTION | USC | DEPTH (ft) |
|---|---|---|---|---|---|
| 0.0 | | 1 | SAND (SM) – some silt to silty, fine-grained, interbedded with silt beds (ML) to 20mm thick, very thin parallel laminae, black organic beds 12mm thick with fibrous organics at 0.25m depth, moist to wet, olive grey | | 0.0 |
| | | 2 | | | 5.0 |
| | | 3A | | | |
| | | 3B | | | 10.0 |
| | | 3C | SILT (ML) – some clay and fine-grained sand, very thin parallel laminae, interbedded with fine-grained sand beds to 8mm thick, occasional black organic zones, firm, low to non-plastic, olive grey | | |
| | | 4 | | | 15.0 |
| 5.0 | | | | | |
| | | 5 | – at 2.4m, becoming: some clay, trace of sand with occasional sand partings, very thin black organic streaks, firm to stiff | | 20.0 |
| | | 6 | – becoming: clayey, trace of sand<br>– trace of shell fragments | | 25.0 |
| | | 7 | | | 30.0 |
| 10.0 | | 8 | – soft, medium plastic | | 35.0 |
| | | | SAND (SM) – some silt, trace of clay, fine-grained, black organic zones, occasional silt (ML) bed 25mm thick, low plastic, contains shell fragments, trace of gravel, 35mm maximum diameter, brownish grey | | 40.0 |
| | | 9A | | SM | |
| | | 9B | | | 45.0 |
| 15.0 | | | – homogeneous (SP) | | 50.0 |
| | | 10 | END OF BOREHOLE at 15.8m | SP | |
| | | | | | 55.0 |
| | | | | | 60.0 |
| 20.0 | | | | | 65.0 |
| | | | | | 70.0 |

Legend: ▲ TEMPERATURE (Celcius) ▲ –3 –1 1 3; PLASTIC M.C LIQUID 20 40 60 80; ▲ D50 (micrometers) ▲ 2000 4000 6000 8000; ■ FINES (%) ■ 20 40 60 80; ◆ SAND (%) ◆ 20 40 60 80; ● GRAVEL (%) ● 20 40 60 80

| | | |
|---|---|---|
| EBA Engineering Consultants Ltd.<br>Calgary, Alberta | COMPLETION DEPTH 15.8 m | COMPLETE 88–04–14 |
| | LOGGED BY TRM MAV JWC | DWG NO. / Page 1 of 1 |

| NORTH POINT PIPELINE – STATION 0+032 | ORIGINAL BOREHOLE NO. PS88509 | BOREHOLE No. 4809–09 |
|---|---|---|
| | WATER DEPTH: 0.15m | Project No: 0101–4809 |
| GULF CANADA RESOURCES LTD. | DRILL RIG: CDS–HT 700 | ELEVATION –0.15 (m) |

SAMPLE TYPE: SHELBY TUBE | NO RECOVERY | SPLIT SPOON | HAMMER | THICK WALL TUBE | CORE

| DEPTH (m) | SAMPLE TYPE | SAMPLE NO. | SOIL DESCRIPTION | USC | DEPTH (ft) |
|---|---|---|---|---|---|
| 0.0 | | | SAND (SP/SM) – trace of silt and fine gravel, uniform, massive, non-plastic, olive grey | | 0.0 |
| 1.0 | | | | | |
| | | 1A | | SP | 5.0 |
| | | 1B | | | |
| 2.0 | | 1C | | | |
| 3.0 | | | | | 10.0 |
| | | 2A | | | |
| | | 2B | | | |
| 4.0 | | 2C | | | |
| | | 3A | | SP | 15.0 |
| 5.0 | | 3B TUBE | | | |
| | | 3C | | | |
| | | 3D | – becoming dark olive grey | | |
| 6.0 | | 4A | | | 20.0 |
| | | 4B | | | |
| | | 4C | | | |
| 7.0 | | | | | |
| | | 5A | | SP | |
| | | | | | 25.0 |
| 8.0 | | 5B | | | |
| | | 5C | – appears to be thinly laminated | | |
| | | 6A | | | |
| 9.0 | | | | | 30.0 |
| | | 6B | | | |
| 10.0 | | 6C | | | |

TEMPERATURE (Celsius): –2, 1, 4, 7

PLASTIC — M.C — LIQUID: 20, 40, 60, 80

D50 (micrometers): 2000, 4000, 6000, 8000

FINES (%): 20, 40, 60, 80

SAND (%): 20, 40, 60, 80

GRAVEL (%): 20, 40, 60, 80

| EBA Engineering Consultants Ltd. Calgary, Alberta | COMPLETION DEPTH 14.3 m | COMPLETE 88–04–17 |
|---|---|---|
| | LOGGED BY TRM MAY JWC | DWG NO. | Page 1 of 2 |

| | | |
|---|---|---|
| NORTH POINT PIPELINE – STATION 0+032 | ORIGINAL BOREHOLE NO. P988509 | BOREHOLE No. 4809–09 |
| | WATER DEPTH: 0.15m | Project No: 0101–4809 |
| GULF CANADA RESOURCES LTD. | DRILL RIG: CDS–HT 700 | ELEVATION –0.15 (m) |

SAMPLE TYPE: SHELBY TUBE | NO RECOVERY | SPLIT SPOON | HAMMER | THICK WALL TUBE | CORE

| DEPTH (m) | SAMPLE TYPE | SAMPLE NO | SOIL DESCRIPTION | USC | DEPTH (ft) |
|---|---|---|---|---|---|
| 10.0 | | 6C | | | |
| | | 7A | | | |
| | | 7B | | | 35.0 |
| 11.0 | | 8A | | | |
| | | 8B | | | |
| | | 8C | | | |
| 12.0 | | 10C | | | |
| | | 9A | | SP–SM | 40.0 |
| | | 9B | | | |
| | | 9C | | | |
| 13.0 | | 10A | | | |
| | | 10B | | | 45.0 |
| 14.0 | | | END OF BOREHOLE at 14.3m | | |
| 15.0 | | | | | 50.0 |
| 16.0 | | | | | |
| 17.0 | | | | | 55.0 |
| 18.0 | | | | | 60.0 |
| 19.0 | | | | | |
| 20.0 | | | | | 65.0 |

▲ TEMPERATURE (Celsius) ▲ −2 1 4 7

PLASTIC — M.C — LIQUID 20 40 60 80

▲ D50 (micrometers) ▲ 2000 4000 6000 8000

■ FINES (%) ■ 20 40 60 80

◆ SAND (%) ◆ 20 40 60 80

● GRAVEL (%) ● 20 40 60 80

| | | |
|---|---|---|
| EBA Engineering Consultants Ltd. Calgary, Alberta | COMPLETION DEPTH 14.3 m | COMPLETE 88–04–17 |
| | LOGGED BY TRM MAY JWC | DWG NO. / Page 2 of 2 |

| | | |
|---|---|---|
| NORTH POINT PIPELINE - STATION 0+801 | ORIGINAL BOREHOLE NO. PS88510 | BOREHOLE No. 4809-10 |
| GULF CANADA RESOURCES LTD. | WATER DEPTH: 0.60m | Project No: 0101-4809 |
| DRILL RIG: CDS-HT 700 | | ELEVATION -0.60 (m) |

SAMPLE TYPE: SHELBY TUBE | NO RECOVERY | SPLIT SPOON | DISTURBED | A-CASING | CORE

| DEPTH (m) | SAMPLE TYPE | SAMPLE NO | SOIL DESCRIPTION | USC | DEPTH (ft) |
|---|---|---|---|---|---|
| 0.0 | | | NOTE: No recovery in intial core run due to the warm temperature of the drilling mud. | | 0.0 |
| | | | | | 5.0 |
| | | | SAND (SP/SM) - trace to some silt, fine-grained, uniform, olive grey | | |
| | | 2 | | SM | |
| | | 1 | | | 10.0 |
| | | 3B | | | |
| | | 3A | | | 15.0 |
| 5.0 | | | | | |
| | | 4 | - (SP) | SP | 20.0 |
| | | 5B | | | |
| | | 5A | | | 25.0 |
| | | 6B | | | |
| | | 6A | | SM | 30.0 |
| 10.0 | | | - appears to be thinly laminated | | |
| | | 7 | | | 35.0 |
| | | | - trace of mica flakes | | |
| | | 8 | | | 40.0 |
| | | 9B | - very thinly bedded | | |
| | | 9A | | SM | 45.0 |
| | | | END OF BOREHOLE at 14.02m | | |
| 15.0 | | | | | 50.0 |
| | | | | | 55.0 |
| | | | | | 60.0 |
| 20.0 | | | | | 65.0 |
| | | | | | 70.0 |

TEMPERATURE (Celcius): -3 -1 1 3

PLASTIC — N.C — LIQUID: 20 40 60 80

050 (micrometers): 2000 4000 6000 8000

FINES (%): 20 40 60 80

SAND (%): 20 40 60 80

GRAVEL (%): 20 40 60 80

| | | |
|---|---|---|
| EBA Engineering Consultants Ltd. Calgary, Alberta | COMPLETION DEPTH 14.0 m | COMPLETE 88-04-16 |
| | LOGGED BY TRM MAV JWC | DWG NO. / Page 1 of 1 |

| | | |
|---|---|---|
| NORTH POINT PIPELINE – STATION 2+506W | ORIGINAL BOREHOLE NO. NP88S01 | BOREHOLE No. 4809–11 |
| GULF CANADA RESOURCES LTD. | WATER DEPTH: 3.20m | Project No: 0101–4809 |
| DRILL RIG: CDS–HT 700 | | ELEVATION –3.20 (m) |

SAMPLE TYPE: SHELBY TUBE | NO RECOVERY | SPLIT SPOON | DISTURBED | A–CASING | CORE

| DEPTH (m) | SAMPLE TYPE | SAMPLE NO | SOIL DESCRIPTION | USC | DEPTH (ft) |
|---|---|---|---|---|---|
| 0.0 | | 1 | CLAY (CL) – and silt, trace of fine–grained sand, uneven, parallel, discontinuous, very thin laminae, occasional black organics, low plastic, olive grey | | 0.0 |
| | | 2B | – occasional fine–grained sand parting | CL | 5.0, 10.0 |
| | | | ALTERNATING BEDS OF SAND(SP) AND SILT(ML): | | |
| | | 3A, 3B, 4A, 4B | SILT (ML) – clayey, trace of fine–grained sand, very thinly laminated, 1mm to 30mm thick beds, low plastic, soft at firm, olive grey | SP ML | 15.0 |
| 5.0 | | 5 | SAND (SP) – trace of silt, fine–grained, trace of gravel, 1mm to 7mm thick beds, trace of shell fragments, uniform, olive grey | | 20.0 |
| | | 6A | | | |
| | | 6B | SAND (SP/SM) – trace of silt, fine–grained, massive, homogeneous, dense (est.), moist, greyish brown | SP–SM | 25.0 |
| | | 7 | | | 30.0 |
| 10.0 | | 8 | | SP–SM | 35.0 |
| | | | | | 40.0 |
| | | 9 | | | 45.0 |
| 15.0 | | | | | 50.0 |
| | | 10 | – (SP/SM) | SP–SM | 55.0 |
| | | | END OF BOREHOLE at 16.7m | | 60.0 |
| 20.0 | | | | | 65.0, 70.0 |

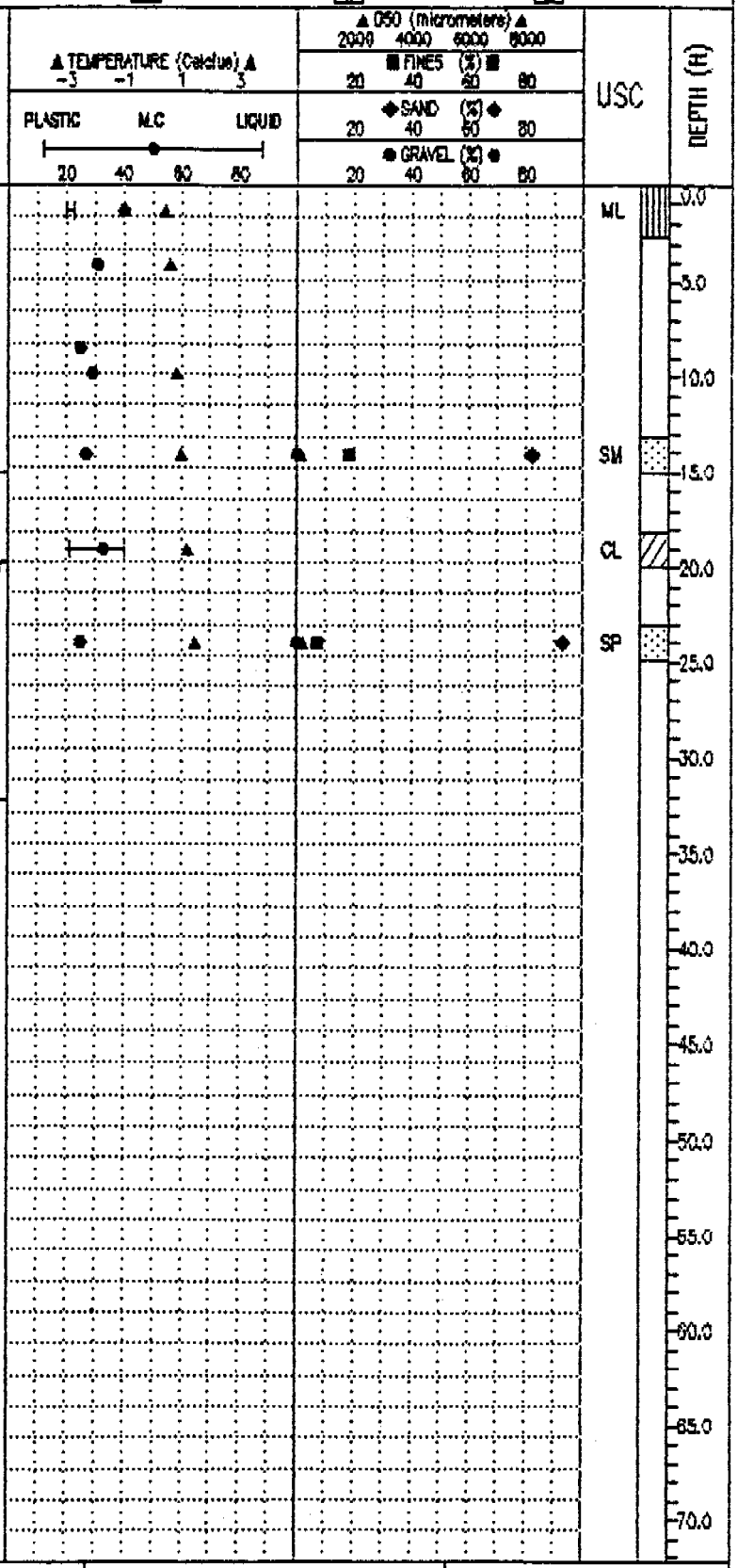
Legend: ▲ TEMPERATURE (Celcius) ▲ –3 –1 1 3; PLASTIC — N.C — LIQUID 20 40 60 80; ▲ D50 (micrometers) ▲ 2000 4000 6000 8000; ■ FINES (%) ■ 20 40 60 80; ◆ SAND (%) ◆ 20 40 60 80; ● GRAVEL (%) ● 20 40 60 80

| | | |
|---|---|---|
| EBA Engineering Consultants Ltd. Calgary, Alberta | COMPLETION DEPTH 16.7 m | COMPLETE 88–04–14 |
| | LOGGED BY TRM MAV JWC | DWG NO. / Page 1 of 1 |

| | | |
|---|---|---|
| NORTH POINT PIPELINE - STATION 0+994W | ORIGINAL BOREHOLE NO. NP98S02 | BOREHOLE No. 4809-12 |
| GULF CANADA RESOURCES LTD. | WATER DEPTH: 2.90m | Project No: 0101-4809 |
| DRILL RIG: CDS-HT 700 | | ELEVATION -2.90 (m) |

SAMPLE TYPE: SHELBY TUBE | NO RECOVERY | SPLIT SPOON | DISTURBED | A-CASING | CORE

| DEPTH (m) | SAMPLE TYPE | SAMPLE NO | SOIL DESCRIPTION | USC | DEPTH (ft) |
|---|---|---|---|---|---|
| 0.0 | | 1 | SILT (ML) - clayey, trace of fine-grained sand, very thin discontinuous even parallel laminae, 40mm thick sand lense, trace of black organics, low plastic, soft to firm, olive grey | ML | 0.0 |
| | | 2 | - trace to some fine-grained sand, occasional fine-grained sand beds 30mm thick, low to non-plastic | | 5.0 |
| | | 3A 3B | from 2.4m to 4.6m: Alternating beds of SILT (ML) and SAND (SP) | | 10.0 |
| | | 4C | - SAND (SM) - some silt | SM | 15.0 |
| 5.0 | | 5 | CLAY (CL) - silty, parallel, uneven, discontinuous, very thin laminae, trace of shell fragments, low to medium plastic, firm, dark olive grey | CL | 20.0 |
| | | 6 | SAND (SP) - trace of silt, homogeneous, uniform, fine-grained, wet, olive grey | SP | 25.0 |
| | | 7 | - (SP/SM) NOTE: Thin-walled tube left down hole at end of borehole | | 30.0 |
| 10.0 | | | END OF BOREHOLE at 9.8m | | 35.0 |
| | | | | | 40.0 |
| | | | | | 45.0 |
| 15.0 | | | | | 50.0 |
| | | | | | 55.0 |
| | | | | | 60.0 |
| 20.0 | | | | | 65.0 |
| | | | | | 70.0 |

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|---|---|---|
| EBA Engineering Consultants Ltd. Calgary, Alberta | COMPLETION DEPTH 9.8 m | COMPLETE 88-04-14 |
| | LOGGED BY TRM MAY JWC / DWG NO. | Page 1 of 1 |

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|---|---|---|
| NORTH POINT PIPELINE – STATION 1+002E | ORIGINAL BOREHOLE NO. NP88S03 | BOREHOLE No. 4809-13 |
| GULF CANADA RESOURCES LTD. | WATER DEPTH: 2.44m | Project No: 0101-4809 |
| DRILL RIG: CDS-HT 700 | | ELEVATION -2.44 (m) |

SAMPLE TYPE: SHELBY TUBE | NO RECOVERY | SPLIT SPOON | DISTURBED | A-CASING | CORE

| DEPTH (m) | SAMPLE TYPE | SAMPLE NO | SOIL DESCRIPTION | USC | DEPTH (ft) |
|---|---|---|---|---|---|
| 0.0 | | 1 | SAND (SP) – trace of silt, massive, uniform, fine-grained, dense (est.), moist, greyish brown | | 0.0 |
| | | 2 | | SP | 5.0 |
| | | | INTERBEDDED SILT (ML) AND SAND (SP): | | 10.0 |
| | | 3A | SILT (ML) – clayey, trace of sand and fibrous organics, very thin laminae, beds are 5mm to 25mm thick, low plastic, firm, olive grey | | 15.0 |
| 5.0 | | 3B | | | |
| | | 4 | SAND (SP) – trace of silt, fine-grained, massive, beds are 50mm maximum, dense (est.), greyish brown | SP | 20.0 |
| | | 5 | SAND (SP) – trace of silt, fine-grained, massive, uniform, dense (est.), greyish brown | | 25.0 |
| | | 6 | | | 30.0 |
| 10.0 | | | SAND (SP) – (continued) | | 35.0 |
| | | 7 | – increaseing silt content (SP/SM) | SP-SM | 40.0 |
| | | | – some silt (SP/SM) | | 45.0 |
| | | 8 | END OF BOREHOLE at 14.6m | SP-SM | 50.0 |
| 15.0 | | | | | 55.0 |
| | | | | | 60.0 |
| 20.0 | | | | | 65.0 |
| | | | | | 70.0 |

▲ TEMPERATURE (Celcius) ▲ -3 -1 1 3

PLASTIC — N.C — LIQUID 20 40 60 80

▲ D50 (micrometers) ▲ 2000 4000 6000 8000

■ FINES (%) ■ 20 40 60 80

◆ SAND (%) ◆ 20 40 60 80

● GRAVEL (%) ● 20 40 60 80

| | | |
|---|---|---|
| EBA Engineering Consultants Ltd. Calgary, Alberta | COMPLETION DEPTH 14.6 m | COMPLETE 88-04-15 |
| | LOGGED BY TRM MAY JWC | DWG NO. / Page 1 of 1 |

| | | |
|---|---|---|
| NORTH POINT PIPELINE – STATION 2+503E | ORIGINAL BOREHOLE NO. NP88S04 | BOREHOLE No. 4809–14 |
| GULF CANADA RESOURCES LTD. | WATER DEPTH: 1.98m | Project No: 0101–4809 |
| DRILL RIG: CDS–HT 700 | | ELEVATION –1.98 (m) |

SAMPLE TYPE: SHELBY TUBE | NO RECOVERY | SPLIT SPOON | DISTURBED | A–CASING | CORE

| DEPTH (m) | SAMPLE TYPE | SAMPLE NO. | SOIL DESCRIPTION | USC | DEPTH (ft) |
|---|---|---|---|---|---|
| 0.0 | | 1 | SAND (SP) – trace of silt, uniform, massive, trace of shell fragments, occasional silt beds 15mm maximum, sand is compact to dense (est.), wet, olive grey | SP | 0.0 |
| | | 2 | – occasional 5mm beds of sand (SM) | SP | 5.0 |
| | | 3A 3B | – SILT (ML) – clayey, trace of sand, low plastic, dark grey | | 10.0 |
| 5.0 | | 4A 4B | – SAND (SP) – trace of silt, fine–grained, uniform, massive, trace of black organics, dense (est.), olive grey | SP | 15.0 |
| | | 5 | – very thin black organic laminae | | 20.0 |
| | | 6 | – SAND (SP/SM) – occasional black organic pockets, very fine rootlets, olive grey | | 25.0 |
| 10.0 | | 7 | – SILT (ML) – clayey, trace of fine–grained sand, trace of gravel, 20mm maximum diameter, low plastic<br>– SILT (ML) – (continued), occasional light grey sand parting, trace of black organics, stiff, dark grey | | 30.0 |
| | | 8 | – SAND (SP) – trace of silt, uniform, massive, fine–grained, dense (est.), olive grey | | 35.0 |
| | | | | | 40.0 |
| 15.0 | | 9 | – 100mm thick bed of black organic sand (SM) | SM | 45.0 |
| | | | END OF BOREHOLE at 15.8m | | 50.0 |
| | | | | | 55.0 |
| | | | | | 60.0 |
| 20.0 | | | | | 65.0 |
| | | | | | 70.0 |

▲ TEMPERATURE (Celsius) ▲ –3 –1 1 3

PLASTIC M.C LIQUID 20 40 60 80

▲ D50 (micrometers) ▲ 2000 4000 6000 8000

■ FINES (%) ■ 20 40 60 80

◆ SAND (%) ◆ 20 40 60 80

● GRAVEL (%) ● 20 40 60 80

EBA Engineering Consultants Ltd.
Calgary, Alberta

| | | |
|---|---|---|
| COMPLETION DEPTH 15.8 m | | COMPLETE 88–04–15 |
| LOGGED BY TRM MAY JWC | DWG NO. | Page 1 of 1 |

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|---|---|---|
| NORTH POINT PIPELINE – STATION 1+495E | ORIGINAL BOREHOLE NO. NPC88501 | BOREHOLE No. 4809–15 |
| GULF CANADA RESOURCES LTD. | WATER DEPTH: 2.13m | Project No: 0101–4809 |
| DRILL RIG: CDS–HT 700 | | ELEVATION –2.13 (m) |

SAMPLE TYPE: SHELBY TUBE | NO RECOVERY | SPLIT SPOON | DISTURBED | A–CASING | CORE

| DEPTH (m) | SAMPLE TYPE | SAMPLE NO | SOIL DESCRIPTION | USC |
|---|---|---|---|---|
| 0.0 | | 14 | ALTERNATING BEDS OF SAND(SP) AND SILT(ML): SAND (SP) – trace of silt, fine–grained, uniform, massive, beds 5mm to 700mm thick, greyish brown, becoming olive grey with depth | |
| | | 2B | | CL–ML |
| | | 3 3B | SILT (ML) – trace of fine–grained sand and black organics, 10mm to 150mm thick beds, discontinuous, even, non–parallel, very thin laminae, trace of shell fragments, low to non–plastic, olive grey | |
| | | 4 4B | | |
| | | 5 5B | | |
| 5.0 | | 6 6B | CLAY (CL–ML) – and silt, trace of fine–grained sand, very thin laminae, even, non–parallel, discontinuous, low plastic, firm, moist, olive grey | |
| | | 7 | – occasional fine–grained sand laminations | |
| | | | – (CL), low to medium plastic, firm, dark olive grey | |
| | | 8 | – occasional black organic laminae | |
| | | 9 9B | | |
| 10.0 | | | – (CL), medium plastic | CL |
| | | 10A 10B | – fine–grained sand bed 300mm thick, trace of gravel, 20mm maximum diameter, subangular, polished (SP/SM) | SP–SM |
| | | 11B | – (CL), trace of fibrous organics | CL |
| | | 12 | CLAY TILL (CL) – and silt, some sand, trace of clay and fine gravel, 25mm maximum diameter, subangular, polished, trace of fibrous organics, dense, dark olive grey | CL–ML |
| 15.0 | | 13 | SAND (SP) – trace of silt, massive, uniform, fine–grained, dense (est.), olive grey | SP |
| 20.0 | | | END OF BOREHOLE at 16.0m | |

Graphs: TEMPERATURE (Celsius) –3 –1 1 3; PLASTIC M.C LIQUID 20 40 60 80; ▲ 050 (micrometers) ▲ 2000 4000 6000 8000; ■ FINES (%) ■ 20 40 60 80; ◆ SAND (%) ◆ 20 40 60 80; ● GRAVEL (%) ● 20 40 60 80

DEPTH (ft): 0.0, 5.0, 10.0, 15.0, 20.0, 25.0, 30.0, 35.0, 40.0, 45.0, 50.0, 55.0, 60.0, 65.0, 70.0

| | | |
|---|---|---|
| EBA Engineering Consultants Ltd. Calgary, Alberta | COMPLETION DEPTH 16.0 m | COMPLETE 88–04–16 |
| | LOGGED BY TRM MAV JWC / DWG NO. | Page 1 of 1 |

| | | |
|---|---|---|
| NORTH POINT PIPELINE – STATION 2+997E | ORIGINAL BOREHOLE NO. NPC88502 | BOREHOLE No. 4809–16 |
| GULF CANADA RESOURCES LTD. | WATER DEPTH: 2.59m | Project No: 0101–4809 |
| DRILL RIG: CDS–HT 700 | | ELEVATION –2.59 (m) |

SAMPLE TYPE: SHELBY TUBE | NO RECOVERY | SPLIT SPOON | DISTURBED | A–CASING | CORE

| DEPTH (m) | SAMPLE TYPE | SAMPLE NO. | SOIL DESCRIPTION | USC | DEPTH (ft) |
|---|---|---|---|---|---|
| 0.0 | | 1 | CLAY (CL–ML) – and silt, trace of fine–grained sand, very thin parallel laminations, mottled with darker grey (organic) zones, low plastic, olive grey | | 0.0 |
| | | 2 | – soft at surface becoming firm | CL–ML | 5.0 |
| | | 3 | – occasional very thin sand partings, trace of shell fragments | | 10.0 |
| | | 4 | | | 15.0 |
| 5.0 | | | | | |
| | | 5 | – (CL), occasional black organic layers to 12mm thick | CL | 20.0 |
| | | 6 | | | 25.0 |
| | | 7 | | | 30.0 |
| 10.0 | | | INTERBEDDED SAND(SM) AND CLAY(CL): CLAY (CL) – and silt, trace of fine–grained sand, beds from 5mm to 50mm, low plastic, firm, dark olive grey | | |
| | | 8A 8B | SAND (SM) – some silt, fine–grained, dense (est.), greyish brown | CL SM | 35.0 |
| | | | SAND (SM) – silty, fine–grained, compact to dense (est.), massive, greyish brown | | 40.0 |
| | | 9 | | | 45.0 |
| 15.0 | | | | | 50.0 |
| | | 10 | END OF BOREHOLE at 16.8m | | 55.0 |
| | | | | | 60.0 |
| 20.0 | | | | | 65.0 |
| | | | | | 70.0 |

▲ TEMPERATURE (Celsius) ▲ –3 –1 1 3

PLASTIC M.C LIQUID 20 40 60 80

▲ D50 (micrometers) ▲ 2000 4000 6000 8000

■ FINES (%) ■ 20 40 60 80

◆ SAND (%) ◆ 20 40 60 80

● GRAVEL (%) ● 20 40 60 80

| | | |
|---|---|---|
| EBA Engineering Consultants Ltd. Calgary, Alberta | COMPLETION DEPTH 16.8 m | COMPLETE 88–04–16 |
| | LOGGED BY TRM MAV JWC | DWG NO. / Page 1 of 1 |

| NORTH POINT PIPELINE – STATION 0+005N | ORIGINAL BOREHOLE NO. PSA88S01 | BOREHOLE No. 4809–17 |
|---|---|---|
| | WATER DEPTH: 0.61m | Project No: 0101–4809 |
| GULF CANADA RESOURCES LTD. | DRILL RIG: CDS–HT 700 | ELEVATION –0.61 (m) |

SAMPLE TYPE: SHELBY TUBE | NO RECOVERY | SPLIT SPOON | HAMMER | THICK WALL TUBE | CORE

| DEPTH (m) | SAMPLE TYPE | SAMPLE NO | SOIL DESCRIPTION | USC | DEPTH (ft) |
|---|---|---|---|---|---|
| 0.0 | | | SAND (SM) – silty, fine–grained, occasional very thin black organic beds, olive grey | | 0.0 |
| | | 1 | | | |
| 1.0 | | 2E, 2C, 2D | | | |
| | | | PEAT (PT) – coarse and fine fibrous material | | 5.0 |
| 2.0 | | 2B, 2A | ICE – isolated vertical soil inclusions about 5mm thick | | |
| 3.0 | | 3C, 3B, 3A | – coarse ice crystals | | 10.0 |
| 4.0 | | 4B | SILT (ML) – trace of fine–grained sand, low plastic, olive grey | ML | 15.0 |
| 5.0 | | 4A | SAND (SM) – silty, fine–grained, olive grey | | |
| | | 5A | SILT (ML) – trace of fine–grained sand, olive grey, with occasional rust stains | | 20.0 |
| 6.0 | | 5B | SAND (SP/SM) – some silt, trace of gravel, 30mm maximum diameter, greyish brown | | |
| 7.0 | | 6B, 6A | GRAVEL (GW) – silty, sandy, 30mm maximum diameter, becomes finer with depth, greyish brown | | 25.0 |
| 8.0 | | | SAND (SM) – trace of silt, fine–grained, greyish brown | | |
| 9.0 | | 7A | – very thinly bedded | | 30.0 |
| 10.0 | | | | | |

Graphs: TEMPERATURE (Celcius) –2 1 4 7; PLASTIC M.C LIQUID 20 40 60 80; D50 (micrometers) 2000 4000 6000 8000; FINES (%) 20 40 60 80; SAND (%) 20 40 60 80; GRAVEL (%) 20 40 60 80

| EBA Engineering Consultants Ltd. Calgary, Alberta | COMPLETION DEPTH 13.0 m | COMPLETE 88–04–17 |
|---|---|---|
| | LOGGED BY TRM MAV JWC | DWG NO. | Page 1 of 2 |

| | | |
|---|---|---|
| NORTH POINT PIPELINE - STATION 0+005N | ORIGINAL BOREHOLE NO. PSA88501 | BOREHOLE No. 4809-17 |
| | WATER DEPTH: 0.61m | Project No: 0101-4809 |
| GULF CANADA RESOURCES LTD. | DRILL RIG: CDS-HT 700 | ELEVATION -0.61 (m) |

SAMPLE TYPE: SHELBY TUBE | NO RECOVERY | SPLIT SPOON | HAMMER | THICK WALL TUBE | CORE

| DEPTH (m) | SAMPLE TYPE | SAMPLE NO | SOIL DESCRIPTION | USC | DEPTH (ft) |
|---|---|---|---|---|---|
| 10.0 | | 8B | | | |
| | | | - interbedded SAND (SP) and SILT (ML) | | 35.0 |
| | | 8A | | | |
| 11.0 | | 2A | | | |
| 12.0 | | | | | 40.0 |
| | | | - greyish brown | | |
| 13.0 | | | END OF BOREHOLE at 12.95m | | |
| 14.0 | | | | | 45.0 |
| 15.0 | | | | | 50.0 |
| 16.0 | | | | | |
| 17.0 | | | | | 55.0 |
| 18.0 | | | | | 60.0 |
| 19.0 | | | | | |
| 20.0 | | | | | 65.0 |

TEMPERATURE (Celsius): -2 1 4 7

PLASTIC — M.C — LIQUID: 20 40 60 80

D50 (micrometers): 2000 4000 6000 8000

FINES (%): 20 40 60 80

SAND (%): 20 40 60 80

GRAVEL (%): 20 40 60 80

| | | |
|---|---|---|
| EBA Engineering Consultants Ltd. Calgary, Alberta | COMPLETION DEPTH 13.0 m | COMPLETE 88-04-17 |
| | LOGGED BY TRM MAY JWC | DWG NO. |
| | | Page 2 of 2 |

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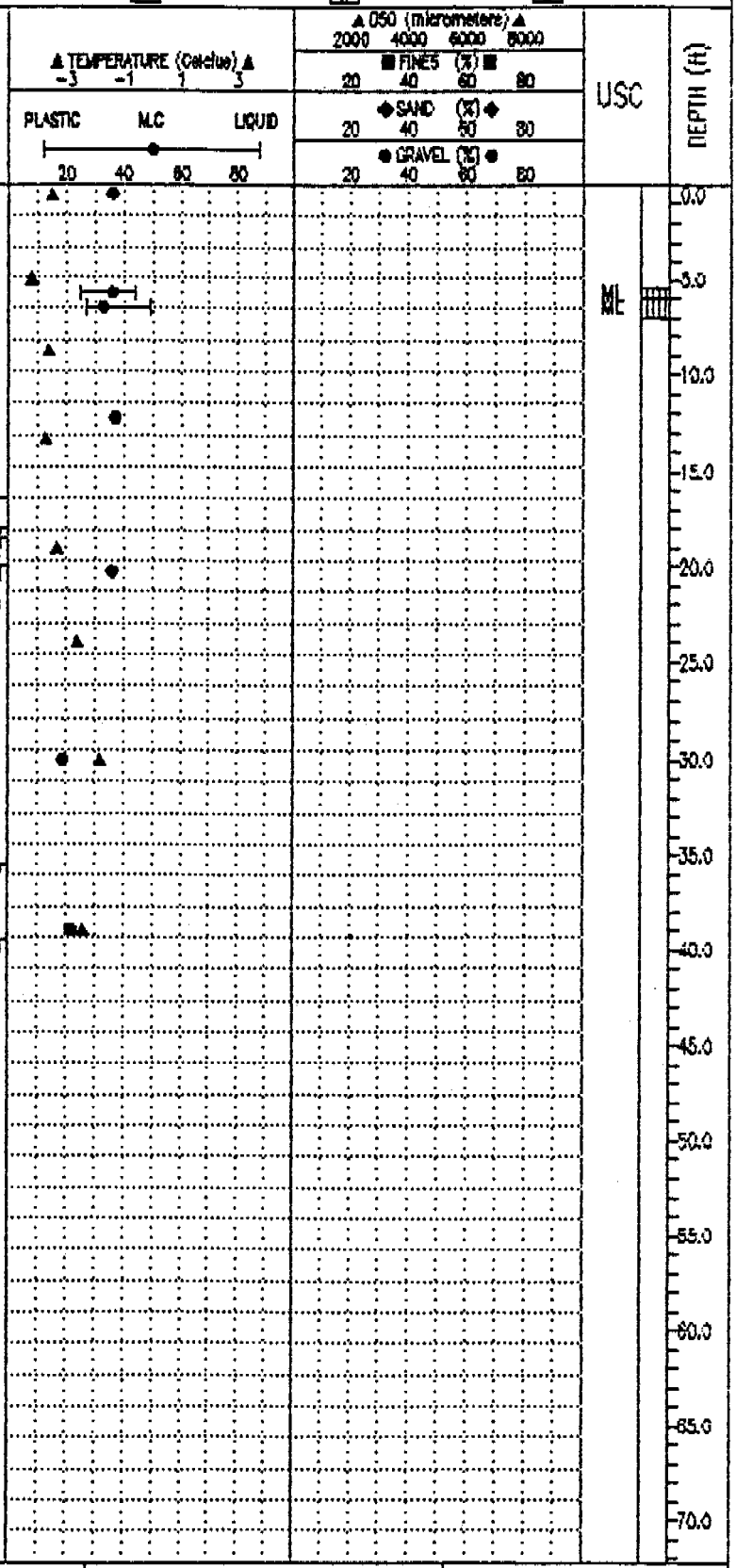
|---|---|---|
| NORTH POINT PIPELINE – STATION 2+205N | ORIGINAL BOREHOLE NO. PSA88S02 | BOREHOLE No. 4809–18 |
| GULF CANADA RESOURCES LTD. | WATER DEPTH: 0.85m | Project No: 0101–4809 |
| DRILL RIG: CDS–HT 700 | | ELEVATION –0.85 (m) |

SAMPLE TYPE: SHELBY TUBE | NO RECOVERY | SPLIT SPOON | DISTURBED | A–CASING | CORE

| DEPTH (m) | SAMPLE TYPE | SAMPLE NO | SOIL DESCRIPTION | USC | DEPTH (ft) |
|---|---|---|---|---|---|
| 0.0 | | 1A | CLAY (CL) – silty, wavy non–parallel thin laminae, low to medium plastic, dark olive grey | ML | 0.0 |
| | | 2A | – occasional pockets of black organics | | |
| | | 2B | | | 5.0 |
| | | 2C | | | |
| | | 3A | | | |
| | | 3B | | | 10.0 |
| | | 3C | | | |
| | | 4A | | | |
| | | 4B | | | |
| | | 4C | | | 15.0 |
| 5.0 | | | ORGANIC SILT (OL) AND PEAT (PT) – trace of fine–grained sand, fibrous organics throughout, very dark grey to black | | |
| | | 5A | | | 20.0 |
| | | 5B | | | |
| | | 5C | SAND (SM) – some silt, trace of gravel, fine–grained, uniform, dark olive grey | | |
| | | 6A | | | 25.0 |
| | | 6B | | | |
| | | 6C | ORGANIC SILT (OL) – some fine–grained sand, trace of coarse–grained sand, very dark grey | | |
| | | 7 | SILT (ML) – trace to some fine–grained gravel, traces of sand, clay and fibrous organics, wavy non–parallel thin laminae, low to non–plastic, very dark grey, pockets of black organics | | 30.0 |
| 10.0 | | 8 | | | 35.0 |
| | | 9 | – gravel content decreases with depth, sand content increases to some sand with depth | | 40.0 |
| | | | – trace of gravel, 20mm maximum diameter, subangular to rounded | | |
| | | | SAND (SM) – silty, fine–grained, uniform, dark olive grey | | 45.0 |
| | | | END OF BOREHOLE at 12.04m | | |
| 15.0 | | | | | 50.0 |
| | | | | | 55.0 |
| | | | | | 60.0 |
| 20.0 | | | | | 65.0 |
| | | | | | 70.0 |

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|---|---|---|
| EBA Engineering Consultants Ltd. Calgary, Alberta | COMPLETION DEPTH 12.0 m | COMPLETE 88–04–18 |
| | LOGGED BY TRM MAY JWC / DWG NO. | Page 1 of 1 |

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|---|---|---|
| 1988 OFFSHORE GEOTECHNICAL INVESTIGATION | ORIGINAL BOREHOLE NO. PS88519 | BOREHOLE No. 4912-03 |
| PIPELINE ROUTE, SITE 5 | WATER DEPTH: 10.6m | Project No: 0101-4912B |
| GULF CANADA RESOURCES LTD. | DRILL SHIP : M.V. FRANK BRODERICK | ELEVATION -10.60 (m) |

SAMPLE TYPE: SHELBY TUBE; NO RECOVERY; SPLIT SPOON; HAMMER; A-CASING; CORE

| DEPTH (m) | SAMPLE TYPE | SAMPLE NO | SOIL DESCRIPTION | USC | DEPTH (ft) |
|---|---|---|---|---|---|
| 0.0 | | | CLAY – silty, trace of organics and shells, very thin sand laminae, very thinly laminated, very soft, low plastic | | 0.0 |
| | | 2A | SAND – silty, trace of gravel, very fine grained, maximum aggregate size= 60mm, dark olive grey | | 5.0 |
| | | 3A | – becoming thinly bedded | | 10.0 |
| 5.0 | | 4A 4B | – thinly interbedded with silty clay from 4.9 to 5.2 metres, organic laminae | | 15.0 |
| | | 5A | – thin to medium beds | | 20.0 |
| | | 6A | – thinly interlaminated with clay | | 25.0 |
| | | 7 10A | | | 30.0 |
| 10.0 | | | | | 35.0 |
| | | 8B | – occasional mica platelets | | 40.0 |
| | | | | | 45.0 |
| 15.0 | | 9 | – becoming fine to medium, clean, light brown | | 50.0 |
| | | | | | 55.0 |
| | | | | | 60.0 |
| | | | – clean, uniform, dense | | |
| | | | END OF BOREHOLE (18.9 metres) | | 65.0 |
| 20.0 | | | | | 70.0 |

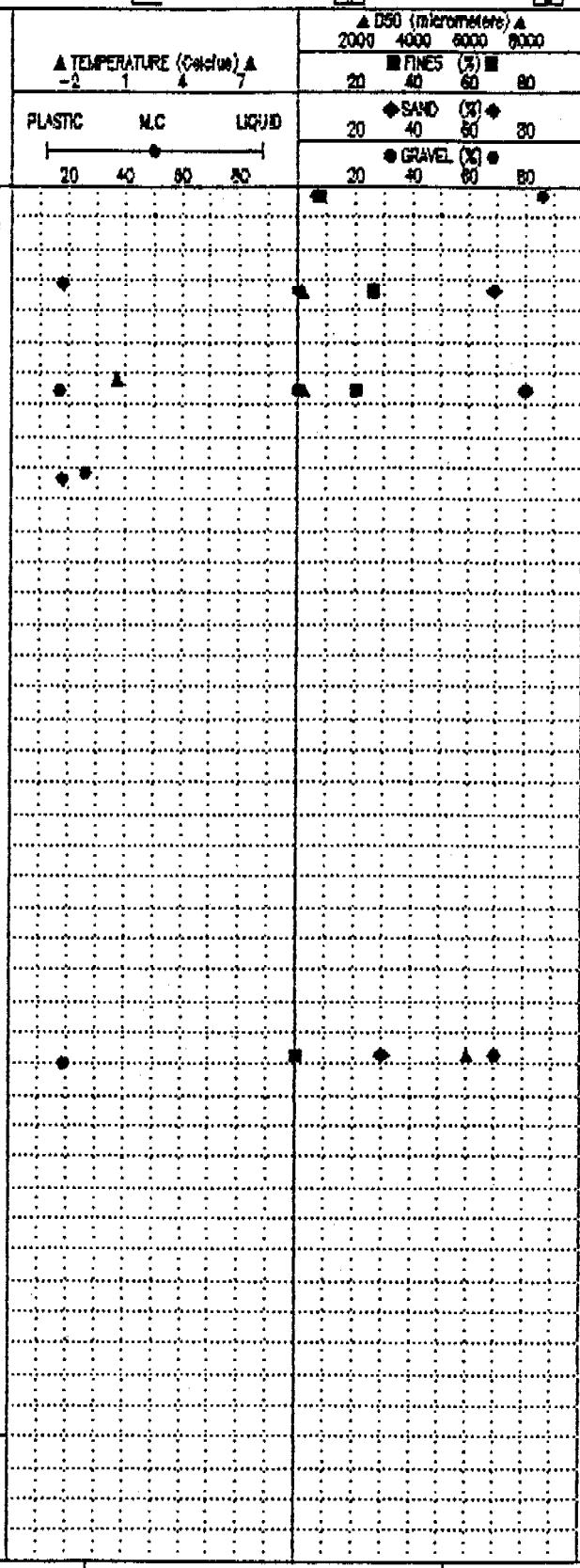
Plots: TEMPERATURE (Celcius) -2 1 4 7; PLASTIC – M.C – LIQUID 20 40 60 80; D50 (micrometers) 2000 4000 6000 8000; FINES (%) 20 40 60 80; SAND (%) 20 40 60 80; GRAVEL (%) 20 40 60 80

| | | |
|---|---|---|
| EBA Engineering Consultants Ltd. Calgary, Alberta | COMPLETION DEPTH 18.9 m | COMPLETE 88-08-09 |
| | LOGGED BY RVW WVG KWJ / DWG NO. | Page 1 of 1 |

| | | |
|---|---|---|
| 1988 OFFSHORE GEOTECHNICAL INVESTIGATION | ORIGINAL BOREHOLE NO. PS88520 | BOREHOLE No. 4912-04 |
| PIPELINE ROUTE, SITE 4 | WATER DEPTH: 9.86m | Project No: 0101-49128 |
| GULF CANADA RESOURCES LTD. | DRILL SHIP : M.V. FRANK BRODERICK | ELEVATION -9.86 (m) |

SAMPLE TYPE: SHELBY TUBE | NO RECOVERY | SPLIT SPOON | HAMMER | A-CASING | CORE

| DEPTH (m) | SAMPLE TYPE | SAMPLE NO | SOIL DESCRIPTION | USC | DEPTH (ft) |
|---|---|---|---|---|---|
| 0.0 | | 1 | GRAVEL AND SAND – some silt and clay, maximum aggregate size=40mm, coarse grained, subrounded to subangular | | 0.0 |
| | | 2A 2B | – medium dense, olive grey | | 5.0 |
| | | 3A 3B | – becoming sandier | | 10.0 |
| 5.0 | | 4A 4B | – thin clay layer at 4.58 metres, soft, dark grey, (20mm thick) | | 15.0 |
| | | 5 | | | 20.0 |
| | | 6D | – mostly fine gravel and coarse sand | | 25.0 |
| | | 7A | – maximum aggregate size=75mm | | 30.0 |
| 10.0 | | 8 | – Driller notes gravel | | 35.0 |
| | | 9A 9B | – becoming mostly sand | | 45.0 |
| 15.0 | | | | | 50.0 |
| | | 10A | | | 55.0 |
| | | | | | 60.0 |
| 20.0 | | 11A | – trace of silt, visible ice in sample | | 65.0 |
| | | | END OF BOREHOLE (20.0 metres) | | 70.0 |

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|---|---|---|---|
| EBA Engineering Consultants Ltd. Calgary, Alberta | COMPLETION DEPTH 20.0 m | | COMPLETE 88-08-09 |
| | LOGGED BY RVW KWJ | DWG NO. | Page 1 of 1 |

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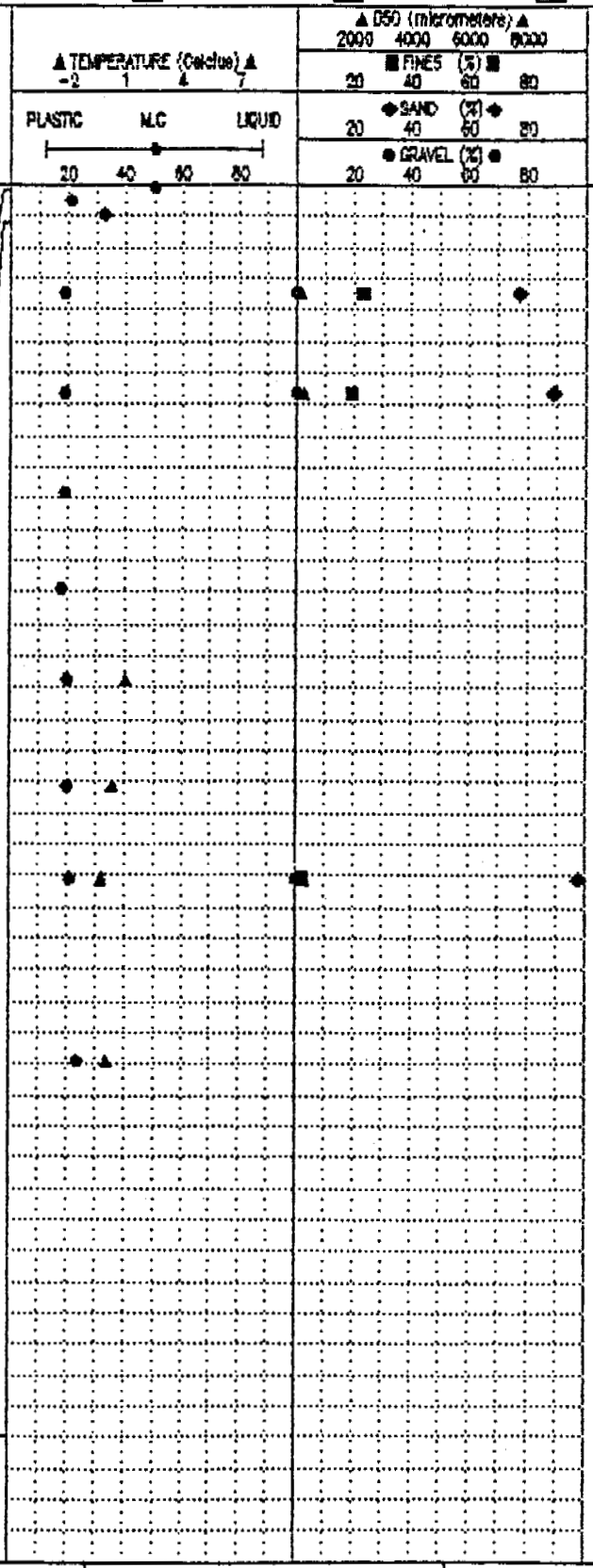
|---|---|---|
| 1988 OFFSHORE GEOTECHNICAL INVESTIGATION | ORIGINAL BOREHOLE NO. PSS8514 | BOREHOLE No. 4912-05 |
| PIPELINE ROUTE, SITE 4 | WATER DEPTH: 10.2m | Project No: 0101-4912B |
| GULF CANADA RESOURCES LTD. | DRILL SHIP : M.V. FRANK BRODERICK | ELEVATION -10.20 (m) |

SAMPLE TYPE: SHELBY TUBE | NO RECOVERY | SPLIT SPOON | HAMMER | A-CASING | CORE

| DEPTH (m) | SAMPLE TYPE | SAMPLE NO | SOIL DESCRIPTION | USC | DEPTH (ft) |
|---|---|---|---|---|---|
| 0.0 | | 1B | SILT – clayey, very soft, low plastic, olive grey | | 0.0 |
| | | 2B | SAND – some clay and gravel to 10mm, trace of shells, interbedded with clay, fine to medium grained | | 5.0 |
| | | 3 | SAND – gravelly, cobbles noted during drilling, maximum aggregate size= 70mm, interbedded with thin fine and medium grained layers, olive grey | | 10.0 |
| | | | – uniform, clean, medium dense | | 15.0 |
| 5.0 | | 4 | – alternating fine and medium grained beds | | 20.0 |
| | | 5 | – silt lense, (6mm thick),at 6.2 metres | | 25.0 |
| | | 6 | – sand and silt interbeds | | 30.0 |
| | | 7 | – thin organic layer at 9.2 metres, very sharp bedding contacts | | 35.0 |
| 10.0 | | 8 | – light brown | | 40.0 |
| | | 9 | – dense | | 45.0 |
| 15.0 | | | | | 50.0 |
| | | 10 | – trace of gravel and coarse sand | | 55.0 |
| | | | | | 60.0 |
| 20.0 | | 11 | END OF BOREHOLE (20.0 metres) | | 65.0 |
| | | | | | 70.0 |

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|---|---|---|
| EBA Engineering Consultants Ltd. Calgary, Alberta | COMPLETION DEPTH 20.0 m | COMPLETE 28-08-09 |
| | LOGGED BY WVC KWJ | DWG NO. |
| | | Page 1 of 1 |

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|---|---|---|
| 1988 OFFSHORE GEOTECHNICAL INVESTIGATION | ORIGINAL BOREHOLE NO. PS88515 | BOREHOLE No. 4912-06 |
| PIPELINE ROUTE, SITE 5 | WATER DEPTH: 10.6m | Project No: 0101-4912B |
| GULF CANADA RESOURCES LTD. | DRILL SHIP : M.V. FRANK BRODERICK | ELEVATION -10.60 (m) |

SAMPLE TYPE: SHELBY TUBE | NO RECOVERY | SPLIT SPOON | HAMMER | A-CASING | CORE

| DEPTH (m) | SAMPLE TYPE | SAMPLE NO | SOIL DESCRIPTION | USC | DEPTH (ft) |
|---|---|---|---|---|---|
| 0.0 | | 1A | SAND - silty, with clay inclusions, trace of organics, fine grained, loose, greyish brown | | 0.0 |
| | | 2 | CLAY - some silt, organic inclusions, thin even parallel laminations, medium plastic, dark olive grey | | 5.0 |
| | | 3A | - highly organic, gravel at 1.57 metres, maximum size=12mm, subangular, trace of shell fragments | | 10.0 |
| | | 4A | - (TILL-LIKE), gravelly, trace of sand, occasional sand and organic lenses, maximum aggregate size=25mm | | 15.0 |
| 5.0 | | | - becoming trace of gravel | | |
| | | 5A | SAND - silty, thin to medium bedding with thin clay laminae separating beds, dark olive grey | | 20.0 |
| | | 6A | - trace of black organics disseminated, through sample, becoming thinly bedded, clay interbeds are thinly laminated | | 25.0 |
| | | 7A | - no clay interbeds | | 30.0 |
| 10.0 | | | SILT - some clay, trace of sand, thickly laminated, soft to firm, very dark olive grey | | |
| | | 8A 8B | | | 35.0 |
| | | | SAND - silty, medium grained, olive brown | | |
| | | 9A | | | 40.0 |
| | | | | | 45.0 |
| 15.0 | | 10A | - becoming with trace of silt, thinly bedded, gradational bedding | | 50.0 |
| | | | | | 55.0 |
| | | 11A | - light brown | | 60.0 |
| 20.0 | | | | | 65.0 |
| | | 12A | | | 70.0 |

Plots: TEMPERATURE (Celcius) -2 1 4 7; PLASTIC / M.C / LIQUID 20 40 60 80; D50 (micrometers) 2000 4000 6000 8000; FINES (%) 20 40 60 80; SAND (%) 20 40 60 80; GRAVEL (%) 20 40 60 80

| | | | |
|---|---|---|---|
| EBA Engineering Consultants Ltd. Calgary, Alberta | COMPLETION DEPTH 39.8 m | COMPLETE 88-08-09 | |
| | LOGGED BY RVW KWJ | DWG NO. | Page 1 of 2 |

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|---|---|---|
| 1988 OFFSHORE GEOTECHNICAL INVESTIGATION | ORIGINAL BOREHOLE NO. F588515 | BOREHOLE No. 4912-06 |
| PIPELINE ROUTE, SITE 5 | WATER DEPTH: 10.6m | Project No: 0101-4912B |
| GULF CANADA RESOURCES LTD. | DRILL SHIP : M.V. FRANK BRODERICK | ELEVATION -10.60 (m) |

SAMPLE TYPE: SHELBY TUBE | NO RECOVERY | SPLIT SPOON | HAMMER | A-CASING | CORE

| DEPTH (m) | SAMPLE TYPE | SAMPLE NO | SOIL DESCRIPTION | USC | DEPTH (ft) |
|---|---|---|---|---|---|
| 22.0 | | | | | |
| | | 13A | | | 75.0 |
| | | | | | 80.0 |
| | | | | | 85.0 |
| 27.0 | | | | | |
| | | 14A | – trace of gravel to 25mm maximum | | 90.0 |
| | | | | | 95.0 |
| | | 15 | | | 100.0 |
| 32.0 | | | | | 105.0 |
| | | | | | 110.0 |
| | | | | | 115.0 |
| 37.0 | | 16A | – becoming medium grained, black organics and wood fragments at 36.8 metres, greyish brown | | 120.0 |
| | | | | | 125.0 |
| | | 17B | – highly organic, oassy odour | | 130.0 |
| | | | END OF BOREHOLE (39.8 metres) | | 135.0 |
| 42.0 | | | | | 140.0 |

Chart columns: ▲ TEMPERATURE (Celcius) ▲ −2 1 4 7; PLASTIC M.C LIQUID 20 40 60 80; ▲ D50 (micrometers) ▲ 2000 4000 6000 8000; ■ FINES (%) ■ 20 40 60 80; ◆ SAND (%) ◆ 20 40 60 80; ● GRAVEL (%) ● 20 40 60 80

| | | |
|---|---|---|
| EBA Engineering Consultants Ltd. Calgary, Alberta | COMPLETION DEPTH 39.8 m | COMPLETE 88-08-09 |
| | LOGGED BY RVW KWJ | DWG NO. |
| | | Page 2 of 2 |

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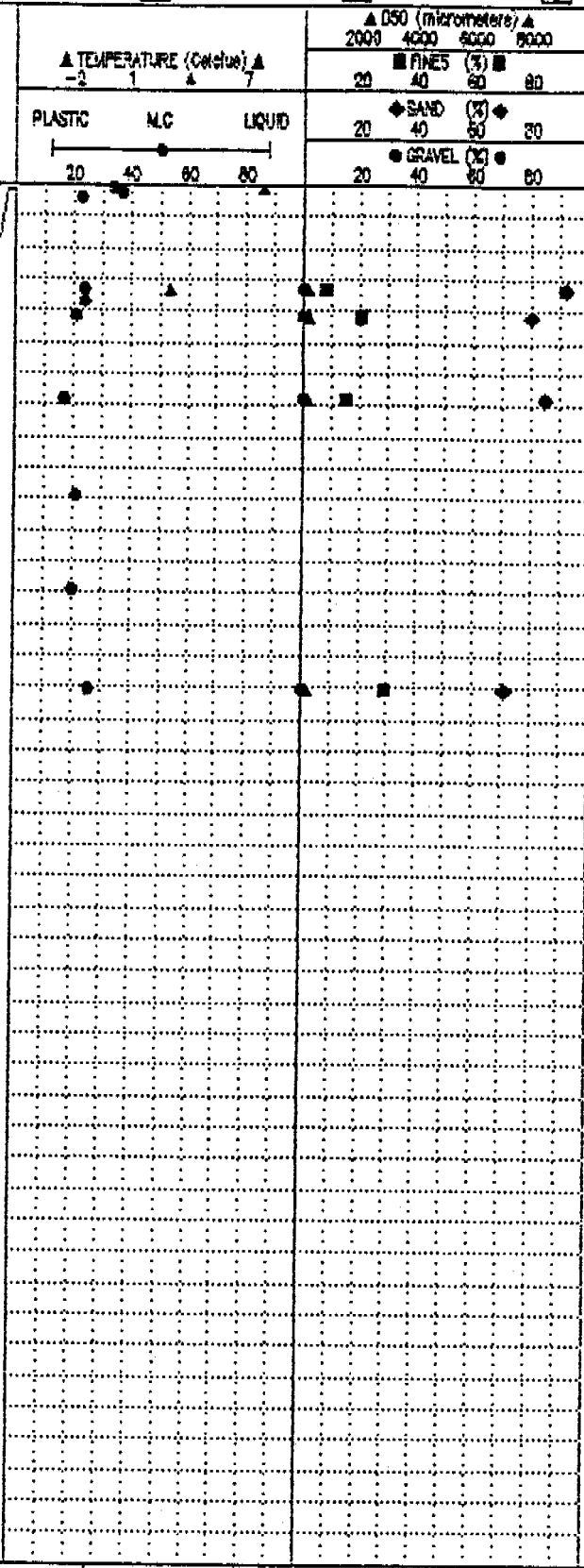
|---|---|---|
| 1988 OFFSHORE GEOTECHNICAL INVESTIGATION | ORIGINAL BOREHOLE NO. PS88S12 | BOREHOLE No. 4912-07 |
| PIPELINE ROUTE, SITE 2 | WATER DEPTH: 8.7m | Project No: 0101-4912B |
| GULF CANADA RESOURCES LTD. | DRILL SHIP : M.V. FRANK BRODERICK | ELEVATION -8.70 (m) |

SAMPLE TYPE: SHELBY TUBE | NO RECOVERY | SPLIT SPOON | HAMMER | A-CASING | CORE

| DEPTH (m) | SAMPLE TYPE | SAMPLE NO | SOIL DESCRIPTION | USC | DEPTH (ft) |
|---|---|---|---|---|---|
| 0.0 | | 1B | SILT – clayey, trace to some sand, soft, low plastic, olive brown | | 0.0 |
| | | | SAND – trace of silt, shell fragments and organic pockets, fine to medium grained, uniform, grey brown | | |
| | | 2A | | | 5.0 |
| | | 2B | – trace of gravel to 5mm, occassional silty clay lens, becoming coarser, dark grey brown | | |
| | | 3A | – becoming more dense | | 10.0 |
| 5.0 | | 4A | | | 15.0 |
| | | 5A | – thinly bedded below 6.4 metres. | | 20.0 |
| | | 6A | – darker | | 25.0 |
| | | 7 | | | 30.0 |
| 10.0 | | | | | 35.0 |
| | | 8 | – trace of mica platelets | | 40.0 |
| | | | | | 45.0 |
| 15.0 | | 9 | – thinly laminated, becoming clean<br>– becoming light brown | | 50.0 |
| | | | – Driller notes easier drilling | | 55.0 |
| | | 10 | – trace of gravel to 20mm maximum diameter | | 60.0 |
| 20.0 | | | | | 65.0 |
| | | 11 | – clay seams interspersed throughout. | | 70.0 |

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|---|---|---|---|
| EBA Engineering Consultants Ltd. Calgary, Alberta | COMPLETION DEPTH 40.0 m | | COMPLETE 88-08-07 |
| | LOGGED BY WVG RVW KWJ | DWG NO. | Page 1 of 2 |

| 1988 OFFSHORE GEOTECHNICAL INVESTIGATION | ORIGINAL BOREHOLE NO. PSS9512 | BOREHOLE No. 4912-07 |
|---|---|---|
| PIPELINE ROUTE, SITE 2 | WATER DEPTH: 8.7m | Project No: 0101-4912B |
| GULF CANADA RESOURCES LTD. | DRILL SHIP : M.V. FRANK BRODERICK | ELEVATION -8.70 (m) |

SAMPLE TYPE: SHELBY TUBE | NO RECOVERY | SPLIT SPOON | HAMMER | A-CASING | CORE

| DEPTH (m) | SAMPLE TYPE | SAMPLE NO | SOIL DESCRIPTION | USC | DEPTH (ft) |
|---|---|---|---|---|---|
| 22.0 | | | | | 75.0 |
| | | 12 | – trace to some silt, becoming very fine grained, grey brown | | 80.0 |
| | | | | | 85.0 |
| 27.0 | | | | | |
| | | 13 | – uniform, light brown | | 90.0 |
| | | | | | 95.0 |
| | | 14A | | | 100.0 |
| 32.0 | | | | | 105.0 |
| | | 15A | – some gravel to 10mm maximum diameter | | 110.0 |
| | | | | | 115.0 |
| | | 16 | | | 120.0 |
| 37.0 | | | | | 125.0 |
| | | 17B | CLAY – silty, organics disseminated throughout sample, organic odour, organic layer at 39.9 metres, very thinly laminated, soft, low plastic, dark olive grey | | 130.0 |
| | | | END OF BOREHOLE (40.0 metres) | | 135.0 |
| 42.0 | | | | | 140.0 |

TEMPERATURE (Celsius): -2 1 4 7

PLASTIC — M.C — LIQUID: 20 40 60 80

D50 (micrometers): 2000 4000 6000 8000

FINES (%): 20 40 60 80

SAND (%): 20 40 60 80

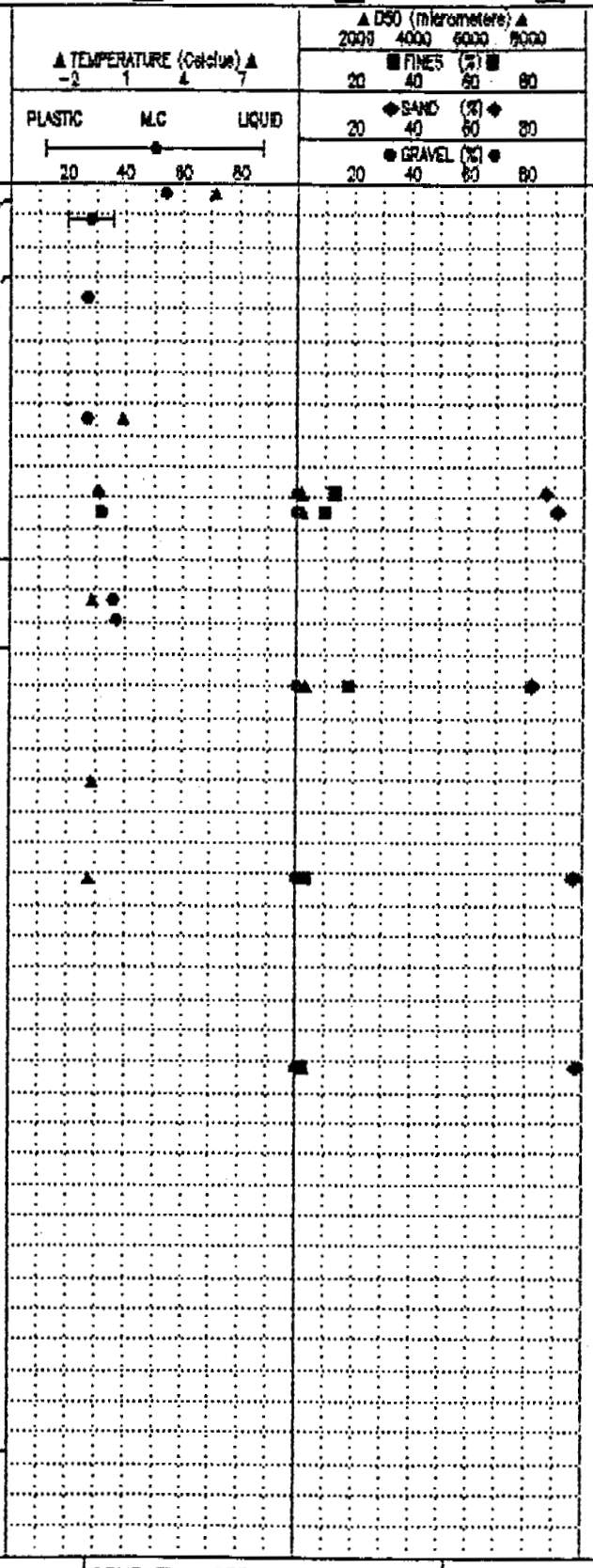
GRAVEL (%): 20 40 60 80

| EBA Engineering Consultants Ltd. Calgary, Alberta | COMPLETION DEPTH 40.0 m | COMPLETE 88-08-07 |
|---|---|---|
| | LOGGED BY WVG RVW KWJ | DWG NO. | Page 2 of 2 |

| | | |
|---|---|---|
| 1988 OFFSHORE GEOTECHNICAL INVESTIGATION | ORIGINAL BOREHOLE NO. PS88513 | BOREHOLE No. 4912-08 |
| PIPELINE ROUTE, SITE 3 | WATER DEPTH: ? | Project No: 0101-4912B |
| GULF CANADA RESOURCES LTD. | DRILL SHIP : M.V. FRANK BRODERICK | ELEVATION 0.00 (m) |

SAMPLE TYPE: SHELBY TUBE | NO RECOVERY | SPLIT SPOON | HAMMER | A-CASING | CORE

| DEPTH (m) | SAMPLE TYPE | SAMPLE NO | SOIL DESCRIPTION | USC | DEPTH (ft) |
|---|---|---|---|---|---|
| 0.0 | | 1A | SILT – clayey, very soft, low plastic | | 0.0 |
| | | 1B | SILT AND CLAY – trace of sand, shells and organics, interbedded, occasional sand lense, becoming stiff, low to medium plastic, dark olive brown | | |
| | | 2 | SAND – fine grained, uniform, clean, olive grey | | 5.0 |
| | | 3 | – becoming with trace of silt and organics, cross bedded | | 10.0 |
| 5.0 | | 4A 4B | – becoming clean, massive | | 15.0 |
| | | 5A 5B | SILT – clayey, thin to thick parallel horizontal laminations, soft, low plastic | | 20.0 |
| | | 6 | SAND – trace of silt, fine grained, uniform, olive grey | | 25.0 |
| 10.0 | | 7 | – becoming fine to medium grained, brown | | 30.0 |
| | | 8 | – excess ice | | 35.0 |
| | | | | | 40.0 |
| | | 9 | | | 45.0 |
| 15.0 | | | | | 50.0 |
| | | 10 | | | 55.0 |
| | | | | | 60.0 |
| 20.0 | | 11 | END OF BOREHOLE (20.3 metres) | | 65.0 |
| | | | | | 70.0 |

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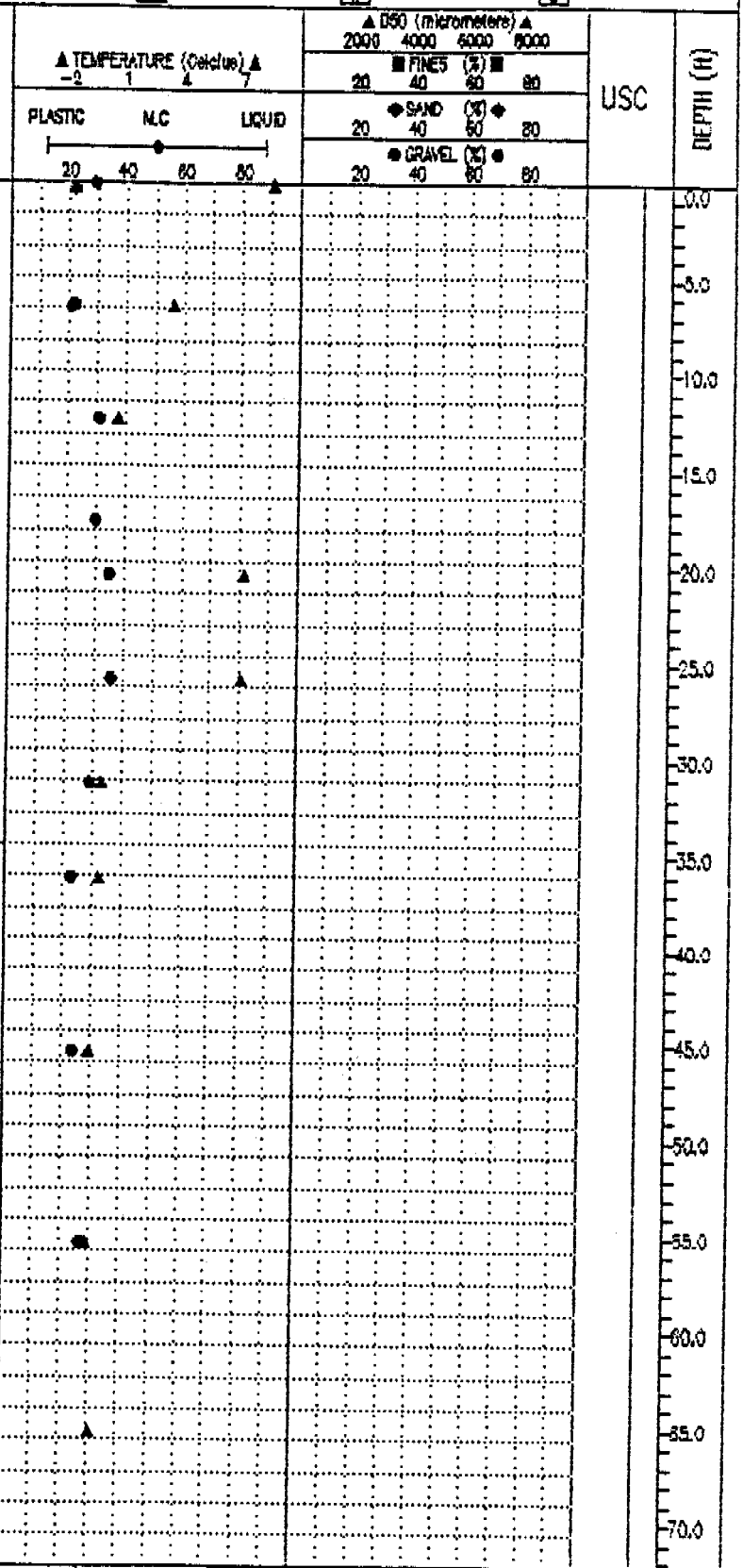
|---|---|---|
| EBA Engineering Consultants Ltd. Calgary, Alberta | COMPLETION DEPTH 20.0 m | COMPLETE 88-08-08 |
| | LOGGED BY WVG KWJ / DWG NO. | Page 1 of 1 |

| 1988 OFFSHORE GEOTECHNICAL INVESTIGATION | ORIGINAL BOREHOLE NO. PSS8511 | BOREHOLE No. 4912-09 |
|---|---|---|
| PIPELINE ROUTE, SITE 1 | WATER DEPTH: 7.7m | Project No: 0101-4912B |
| GULF CANADA RESOURCES LTD. | DRILL SHIP : M.V. FRANK BRODERICK | ELEVATION -7.70 (m) |

SAMPLE TYPE: SHELBY TUBE | NO RECOVERY | SPLIT SPOON | HAMMER | A-CASING | CORE

| DEPTH (m) | SAMPLE TYPE | SAMPLE NO | SOIL DESCRIPTION | USC |
|---|---|---|---|---|
| 0.0 | | 1A | SILT – clayey, trace of fine grained sand, sand lenses, very soft, low plastic, dark olive grey | |
| | | 2B | – occasional shell fragments, becoming thinly interbedded with very fine grained sand lenses, firm | |
| | | 3B | | |
| | | 3A | – with some clay, firm | |
| 5.0 | | 4B | | |
| | | 4A | – very dark olive grey | |
| | | 5A | – becoming very thinly laminated, very soft | |
| | | 6A | | |
| | | 7A | – with trace of organics disseminated throughout, occasional shell fragments | |
| 10.0 | | 8A | SAND – silty, very thinly bedded, fine to medium grained – thin black organic laminae, occasional pebbles to 10mm maximum, medium dense, olive grey | |
| | | 9A | – with trace of clay, medium dense | |
| 15.0 | | 10A | – uniform, homogenous | |
| 20.0 | | 11B | – some gravel to 20mm maximum diameter | |
| | | | END OF BOREHOLE (20.0 metres) | |

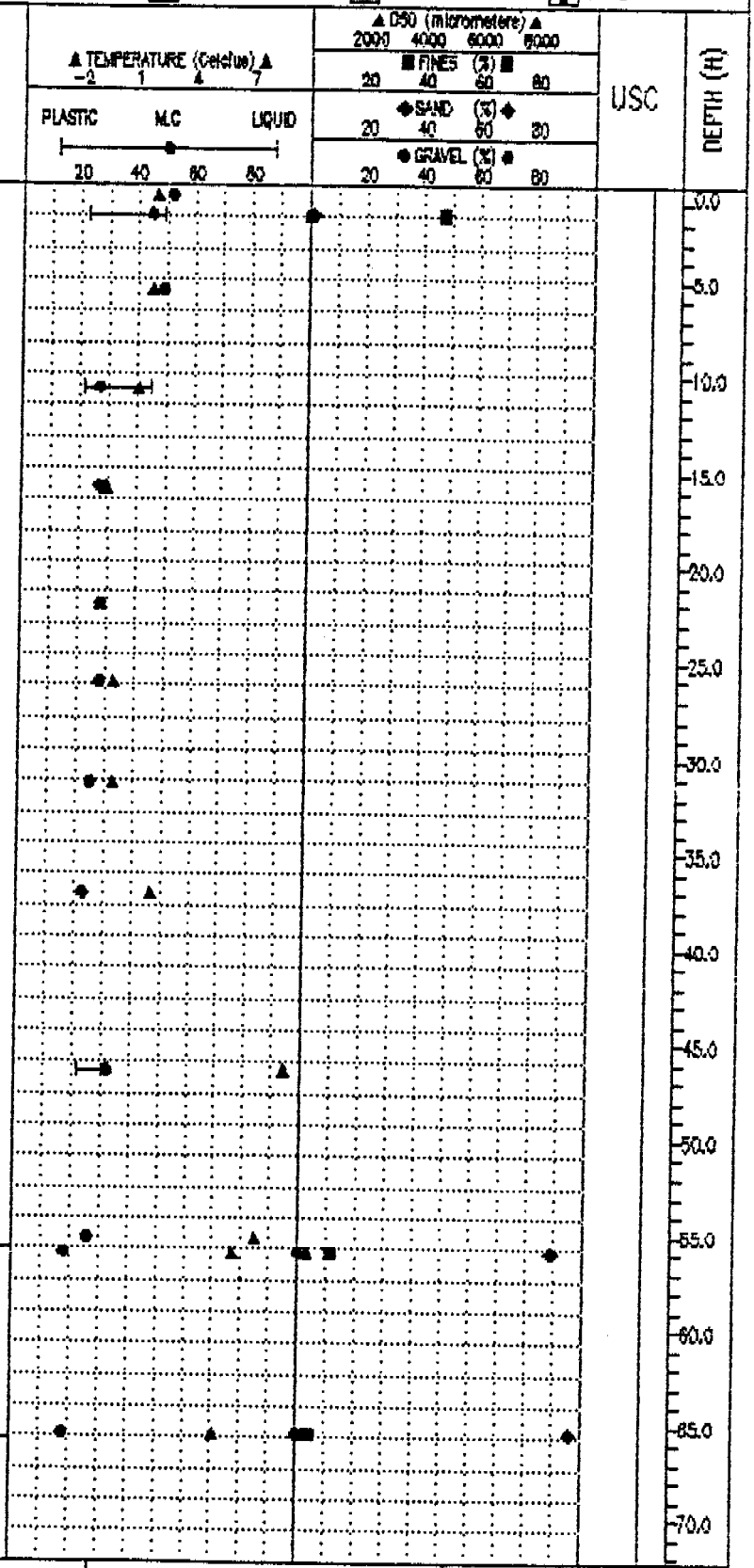



| EBA Engineering Consultants Ltd. Calgary, Alberta | COMPLETION DEPTH 20.0 m | COMPLETE 88-08-07 |
|---|---|---|
| | LOGGED BY WVC KWJ | DWG NO. | Page 1 of 1 |

| | | |
|---|---|---|
| 1988 OFFSHORE GEOTECHNICAL INVESTIGATION | ORIGINAL BOREHOLE NO. PS88517 | BOREHOLE No. 4912-10 |
| PIPELINE ROUTE, SITE 7 | WATER DEPTH: 17.3m | Project No: 0101-4912B |
| GULF CANADA RESOURCES LTD. | DRILL SHIP : M.V. FRANK BRODERICK | ELEVATION -17.30 (m) |

SAMPLE TYPE: SHELBY TUBE | NO RECOVERY | SPLIT SPOON | HAMMER | A-CASING | CORE

| DEPTH (m) | SAMPLE TYPE | SAMPLE NO | SOIL DESCRIPTION | USC |
|---|---|---|---|---|
| 0.0 | | 1A, 1B | CLAY – some silt, very soft, low plastic, olive grey | |
| | | | – trace of organics and shell fragments, becoming very thinly laminated | |
| | | 2A | – with black organic streaks | |
| | | 3A | – becoming firm, with occasional sand partings | |
| 5.0 | | 4A | | |
| | | 5B | | |
| | | 6A | – with occasional silt laminations | |
| | | 7A | | |
| 10.0 | | 8B | – becoming stiff | |
| | | 9A | – becoming very soft | |
| 15.0 | | 10A, 10B | SAND – trace to some silt, fine to medium grained, saturated, dense, dark brownish grey | |
| | | | – medium to light brown | |
| 20.0 | | 11A | END OF BOREHOLE (20.04 metres) | |

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|---|---|---|
| EBA Engineering Consultants Ltd. Calgary, Alberta | COMPLETION DEPTH 20.0 m | COMPLETE 88-08-05 |
| | LOGGED BY RVW KWJ | DWG NO. / Page 1 of 1 |

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|---|---|---|
| 1988 OFFSHORE GEOTECHNICAL INVESTIGATION | ORIGINAL BOREHOLE NO. PS88525 | BOREHOLE No. 4912-11 |
| PIPELINE ROUTE SITE 11 | WATER DEPTH: 10.3m | Project No: 0101-4912B |
| GULF CANADA RESOURCES LTD. | DRILL SHIP : M.V. FRANK BRODERICK | ELEVATION -10.30 (m) |

SAMPLE TYPE: SHELBY TUBE | NO RECOVERY | SPLIT SPOON | HAMMER | A-CASING | CORE

| DEPTH (m) | SAMPLE TYPE | SAMPLE NO | SOIL DESCRIPTION | USC | DEPTH (ft) |
|---|---|---|---|---|---|
| 0.0 | | 1A 1B | CLAY - silty, trace of shell fragments and sand, very soft, low plastic, olive grey | | 0.0 |
| | | 2A 2B | SILT - clayey, disseminated organics, stiff, low plastic | | 5.0 |
| | | 3 | - peat from 1.72 to 2.12 metres, some shells, fibrous, thinly laminated, dark grey | | 10.0 |
| | | 4 | SAND - some silt, thin organic laminae at 45 degrees, very fine grained, medium dense, olive grey | | 15.0 |
| 5.0 | | 5 | - becoming lighter | | 20.0 |
| | | 6 | - uniform | | 25.0 |
| | | 7 | - thin interbeds of medium grained sand, light brown | | 30.0 |
| 10.0 | | 8 | - 3mm thick organic layer (wood) | | 35.0 |
| | | 9 | - massive, dark olive grey | | 40.0 |
| | | 10 | - interbeds of fine and medium grained sand | | 45.0 |
| 15.0 | | 11 | | | 50.0 |
| | | 12 | - with silt and clay interbeds, thin to very thin | | 55.0 |
| | | 13 | | | 60.0 |
| | | | - trace of wood fragments | | 65.0 |
| 20.0 | | | END OF BOREHOLE (19.8 metres) | | 70.0 |

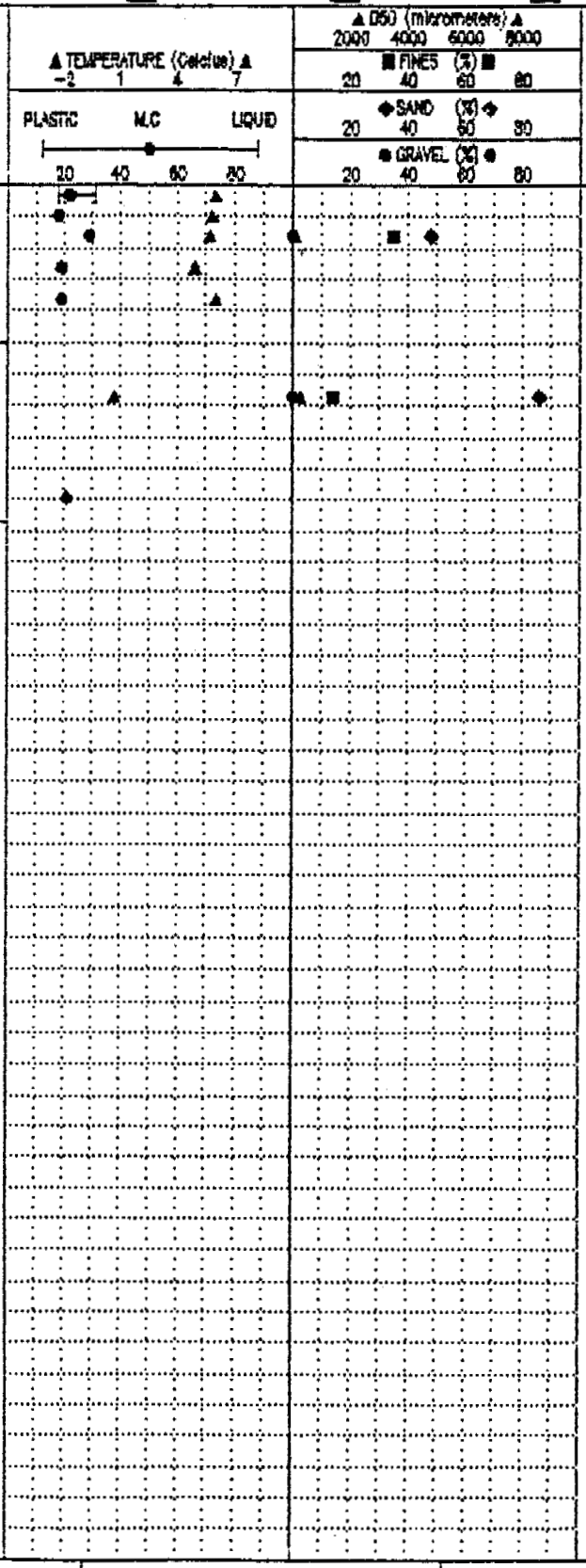
Legend: ▲ TEMPERATURE (Celcius) ▲ -2 1 4 7; PLASTIC — M.C — LIQUID 20 40 60 80; ▲ D50 (micrometers) ▲ 2000 4000 6000 8000; ■ FINES (%) ■ 20 40 60 80; ◆ SAND (%) ◆ 20 40 60 80; ● GRAVEL (%) ● 20 40 60 80

| | | | |
|---|---|---|---|
| EBA Engineering Consultants Ltd. Calgary, Alberta | COMPLETION DEPTH 19.8 m | COMPLETE 88-09-01 | |
| | LOGGED BY RVW KWJ | DWG NO. | Page 1 of 1 |

| | | |
|---|---|---|
| 1988 OFFSHORE GEOTECHNICAL INVESTIGATION | ORIGINAL BOREHOLE NO. PS88S24 | BOREHOLE No. 4912-12 |
| PIPELINE ROUTE, SITE 10 | WATER DEPTH: 9.9m | Project No: 0101-4912B |
| GULF CANADA RESOURCES LTD. | DRILL SHIP : M.V. FRANK BRODERICK | ELEVATION -9.90 (m) |

SAMPLE TYPE: SHELBY TUBE | NO RECOVERY | SPLIT SPOON | HAMMER | A-CASING | CORE

| DEPTH (m) | SAMPLE TYPE | SAMPLE NO | SOIL DESCRIPTION | USC | DEPTH (ft) |
|---|---|---|---|---|---|
| 0.0 | | 1A, 2A, 3A, 4A, 5A | CLAY – some silt, trace of shell fragments, with interbeds of fine sand, soft, medium plastic, dark olive grey<br>– trace of peat and wood fibres at 0.4m<br>– thin sand interbeds which are very thinly interbedded | | 0.0 |
| | | 6A | SAND – silty, fine grained, even parallel thin laminations, loose to medium dense, brown | | 5.0, 10.0, 15.0 |
| 5.0 | | 7A | | | |
| | | | END OF BOREHOLE (5.37 metres) | | 20.0, 25.0, 30.0, 35.0, 40.0, 45.0, 50.0, 55.0, 60.0, 65.0, 70.0 |
| 10.0 | | | | | |
| 15.0 | | | | | |
| 20.0 | | | | | |

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|---|---|---|
| EBA Engineering Consultants Ltd.<br>Calgary, Alberta | COMPLETION DEPTH 5.4 m | COMPLETE 88-08-21 |
| | LOGGED BY RVW | DWG NO. | Page 1 of 1 |

| | | |
|---|---|---|
| 1989 OFFSHORE GEOTECHNICAL INVESTIGATION | ORIGINAL BOREHOLE NO. PS89523 | BOREHOLE No. 4912-13 |
| PIPELINE ROUTE, SITE 10 | WATER DEPTH: 10.0m | Project No: 0101-4912B |
| GULF CANADA RESOURCES LTD. | DRILL SHIP : M.V. FRANK BRODERICK | ELEVATION -10.00 (m) |

SAMPLE TYPE: SHELBY TUBE | NO RECOVERY | SPLIT SPOON | HAMMER | A-CASING | CORE

| DEPTH (m) | SAMPLE TYPE | SAMPLE NO | SOIL DESCRIPTION | USC | DEPTH (ft) |
|---|---|---|---|---|---|
| 0.0 | | 1A | CLAY - silty to some silt, some sand beds with abundance of shell fragments, very thinly laminated with thin interbeds of fine grained sand, soft, low plastic, dark olive grey | | 0.0 |
| | | 2A, 3A, 4 | | | 5.0 |
| | | | SAND - silty, highly organics, fine grained, uniform, loose, becoming olive grey below 1.0 metres<br>- clay bed at 1.1 to 1.3 metres<br>- clay bed at 1.7 to 1.9 metres | | 10.0 |
| 5.0 | | 5A | - even parallel thin laminations, medium dense, greyish brown | | 15.0 |
| | | 6A | | | 20.0 |
| | | | END OF BOREHOLE (6.43 metres) | | 25.0 |
| | | | | | 30.0 |
| 10.0 | | | | | 35.0 |
| | | | | | 40.0 |
| | | | | | 45.0 |
| 15.0 | | | | | 50.0 |
| | | | | | 55.0 |
| | | | | | 60.0 |
| 20.0 | | | | | 65.0 |
| | | | | | 70.0 |

TEMPERATURE (Celcius): -2, 1, 4, 7

PLASTIC — M.C — LIQUID: 20, 40, 60, 80

D50 (micrometers): 2000, 4000, 6000, 8000

FINES (%): 20, 40, 60, 80

SAND (%): 20, 40, 60, 80

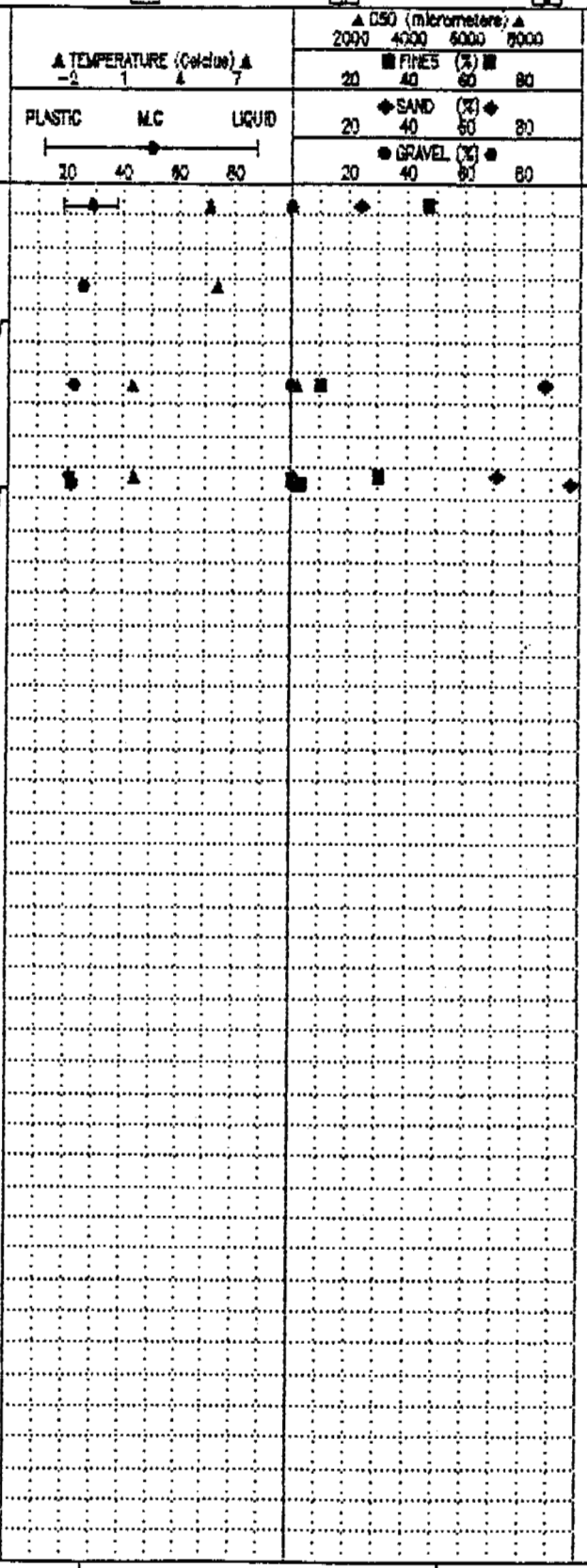
GRAVEL (%): 20, 40, 60, 80

| | | |
|---|---|---|
| EBA Engineering Consultants Ltd.<br>Calgary, Alberta | COMPLETION DEPTH 6.4 m | COMPLETE 88-08-21 |
| | LOGGED BY RVW | DWG NO. | Page 1 of 1 |

| | | |
|---|---|---|
| 1988 OFFSHORE GEOTECHNICAL INVESTIGATION | ORIGINAL BOREHOLE NO. PS88522 | BOREHOLE No. 4912-14 |
| PIPELINE ROUTE, SITE 10 | WATER DEPTH: 9.7m | Project No: 0101-4912B |
| GULF CANADA RESOURCES LTD. | DRILL SHIP : M.V. FRANK BRODERICK | ELEVATION -9.70 (m) |

SAMPLE TYPE: SHELBY TUBE | NO RECOVERY | SPLIT SPOON | HAMMER | A-CASING | CORE

| DEPTH (m) | SAMPLE TYPE | SAMPLE NO | SOIL DESCRIPTION | USC | DEPTH (ft) |
|---|---|---|---|---|---|
| 0.0 | | 1A | CLAY - silty to some silt, trace of shell fragments and thin black organic laminae, very thinly laminated with interbeds of fine grained sand, soft, low plastic, dark olive grey | | 0.0 |
| | | 2A | - trace of gravel at 1.7 metres, maximum aggregate size=20mm | | 5.0 |
| | | 3A | SAND - silty, fine grained, very thin even parallel bedding, uniform, olive grey | | 10.0 |
| 5.0 | | 4B | - clay seam at 4.6 metres, dark olive grey<br>- becoming medium grained | | 15.0 |
| | | | END OF BOREHOLE (4.82 metres) | | 20.0 |
| 10.0 | | | | | 25.0 |
| | | | | | 30.0 |
| | | | | | 35.0 |
| | | | | | 40.0 |
| | | | | | 45.0 |
| 15.0 | | | | | 50.0 |
| | | | | | 55.0 |
| | | | | | 60.0 |
| 20.0 | | | | | 65.0 |
| | | | | | 70.0 |

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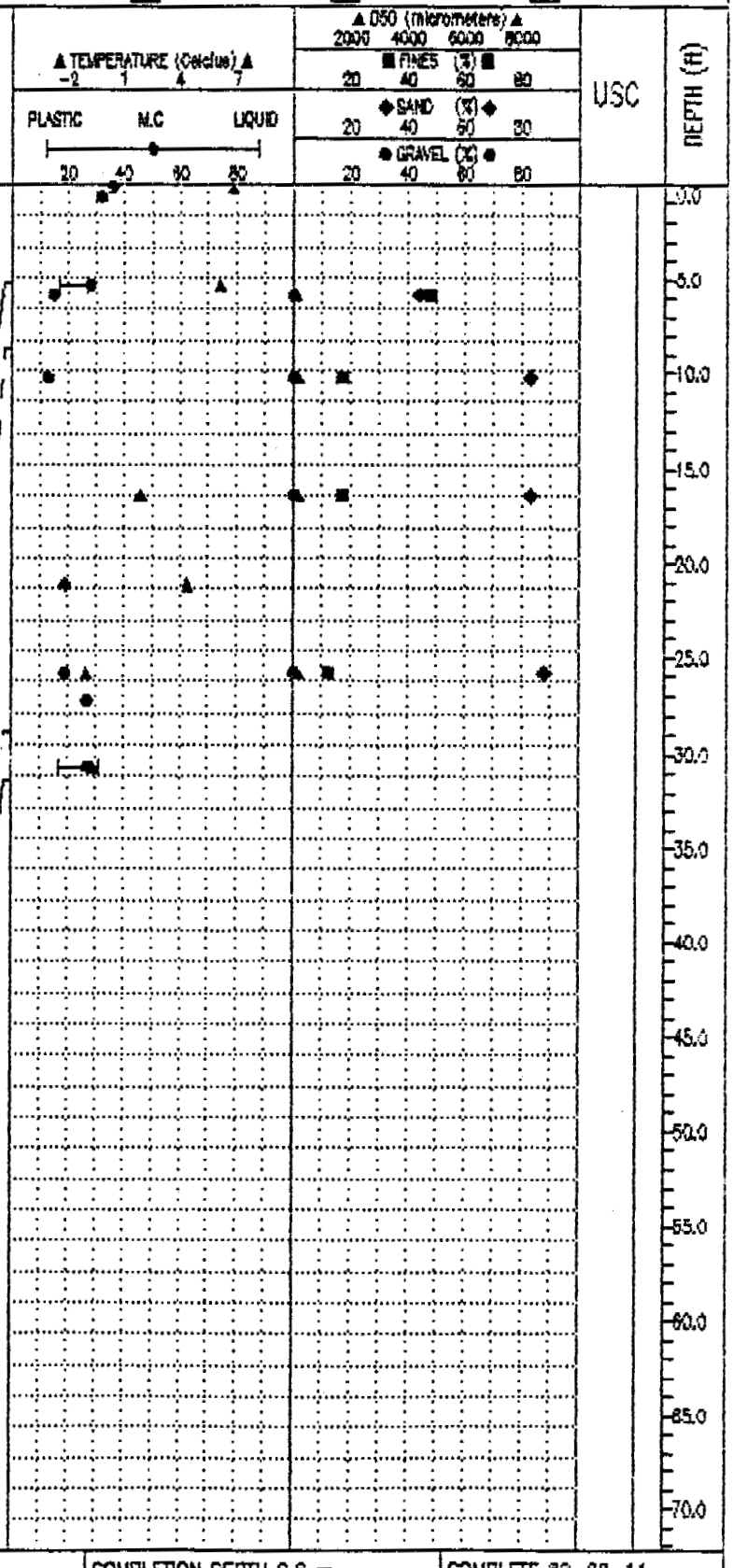
|---|---|---|---|
| EBA Engineering Consultants Ltd.<br>Calgary, Alberta | COMPLETION DEPTH 4.8 m | | COMPLETE 88-08-21 |
| | LOGGED BY RVW | DWG NO. | Page 1 of 1 |

| | | |
|---|---|---|
| 1988 OFFSHORE GEOTECHNICAL INVESTIGATION | ORIGINAL BOREHOLE NO. PS88521 | BOREHOLE No. 4912-15 |
| PIPELINE ROUTE, SITE 9 | WATER DEPTH: 8.7m | Project No: 0101-49128 |
| GULF CANADA RESOURCES LTD. | DRILL SHIP : M.V. FRANK BRODERICK | ELEVATION -8.70 (m) |

SAMPLE TYPE: SHELBY TUBE | NO RECOVERY | SPLIT SPOON | HAMMER | A-CASING | CORE

| DEPTH (m) | SAMPLE TYPE | SAMPLE NO | SOIL DESCRIPTION | USC | DEPTH (ft) |
|---|---|---|---|---|---|
| 0.0 | | 1A | CLAY – some silt, trace of sand and shell fragments, occasional streaks of black organics, becomes thinly laminated below 0.04 metres, very soft, becomes soft at 0.2 metres, low plastic, dark olive grey | | 0.0 |
| | | 1B | | | |
| | | 2A | | | 5.0 |
| | | 2B | | | |
| | | 3A | SILT – some clay, occasional laminae of very fine grained sand and shell fragments, very thinly laminated, firm to stiff, low plastic, dark olive grey | | 10.0 |
| | | 4A | SAND – silty, occasional shell fragments, very fine grained, thinly bedded, medium dense, greyish brown | | 15.0 |
| 5.0 | | 5A | – silt lens at 5.2 metres | | 20.0 |
| | | 6A | | | 25.0 |
| | | 6B | – black organic seam at 8.1 metres, peat and wood chips, clay lens (70mm thick at 8.2 metres), thinly bedded | | 30.0 |
| | | 7A | CLAY – some silt, organics disseminated throughout sample, sand lenses, low plastic, dark olive grey | | |
| 10.0 | | | END OF BOREHOLE (9.55 metres) | | 35.0 |
| | | | | | 40.0 |
| | | | | | 45.0 |
| 15.0 | | | | | 50.0 |
| | | | | | 55.0 |
| | | | | | 60.0 |
| 20.0 | | | | | 65.0 |
| | | | | | 70.0 |

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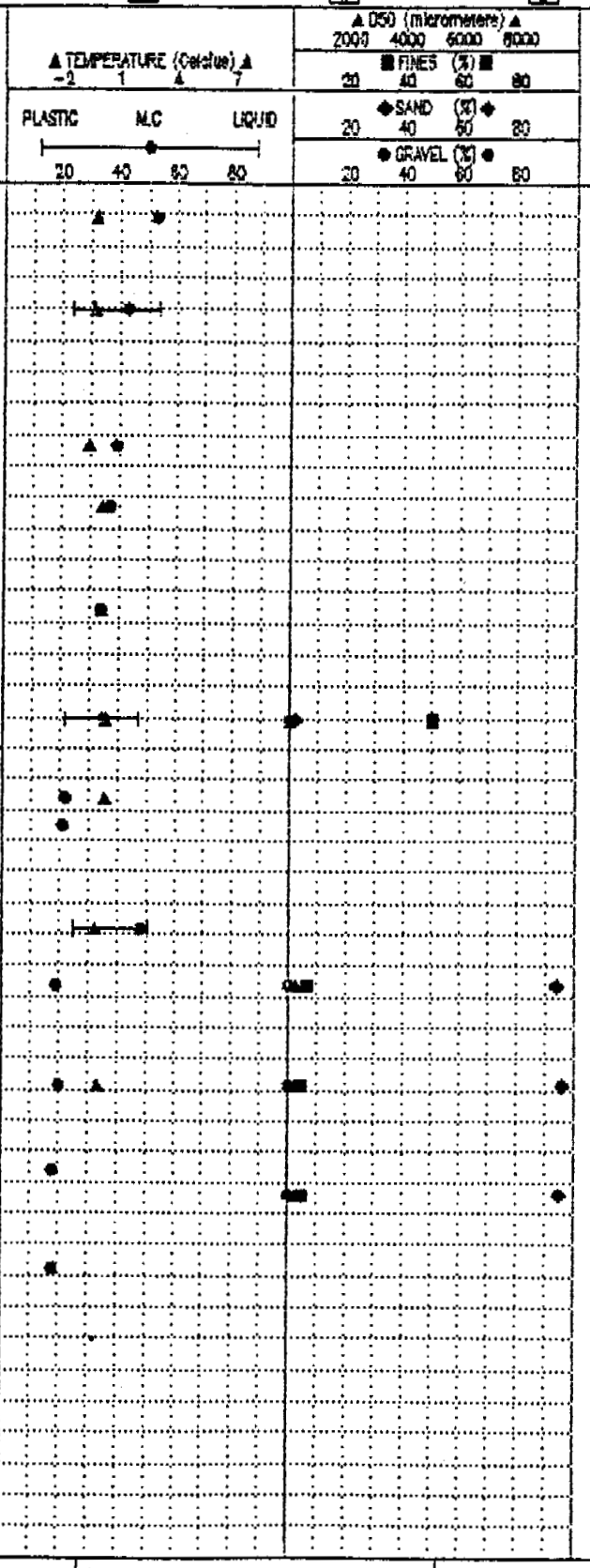
|---|---|---|
| EBA Engineering Consultants Ltd. Calgary, Alberta | COMPLETION DEPTH 9.6 m | COMPLETE 88-08-11 |
| | LOGGED BY RVW KWJ | DWG NO. |
| | | Page 1 of 1 |

| | | |
|---|---|---|
| 1988 OFFSHORE GEOTECHNICAL INVESTIGATION | ORIGINAL BOREHOLE NO. PS88518 | BOREHOLE No. 4912-16 |
| PIPELINE ROUTE, SITE 8 | WATER DEPTH: 26.2m | Project No: 0101-4912B |
| GULF CANADA RESOURCES LTD. | DRILL SHIP : M.V. FRANK BRODERICK | ELEVATION -26.20 (m) |

SAMPLE TYPE: SHELBY TUBE | NO RECOVERY | SPLIT SPOON | HAMMER | A-CASING | CORE

| DEPTH (m) | SAMPLE TYPE | SAMPLE NO | SOIL DESCRIPTION | USC | DEPTH (ft) |
|---|---|---|---|---|---|
| 0.0 | | 1 | CLAY - silty, trace of organics, thinly laminated, soft, low plastic, olive grey | | 0.0 |
| | | 2 | - becoming with trace of silt and shell fragments | | 5.0 |
| | | 3 | | | 10.0 |
| 5.0 | | 4 | - becoming firm, dark olive grey | | 15.0 |
| | | 5 | | | 20.0 |
| | | 6 | - with thin silt laminae, sand lenses | | 25.0 |
| | | | SILT - clayey, trace of organics and shells, medium to thick laminations, low plastic, olive grey | | 30.0 |
| 10.0 | | 7, 13 | | | 35.0 |
| | | 8 | - with organic specks | | 40.0 |
| | | 9 | SAND - fine to medium grained, thinly bedded, clean, uniform, medium dense, olive grey | | 45.0 |
| | | 10 | - becoming silty, olive brown to brown | | 50.0 |
| 15.0 | | 11A, 11B | - thinly to very thinly interbedded in upper half of sample, no structure below, becoming dense | | 55.0 |
| | | 12 | - becoming brown | | 60.0 |
| 20.0 | | | | | 65.0 |
| | | | END OF BOREHOLE (20.8 metres) | | 70.0 |

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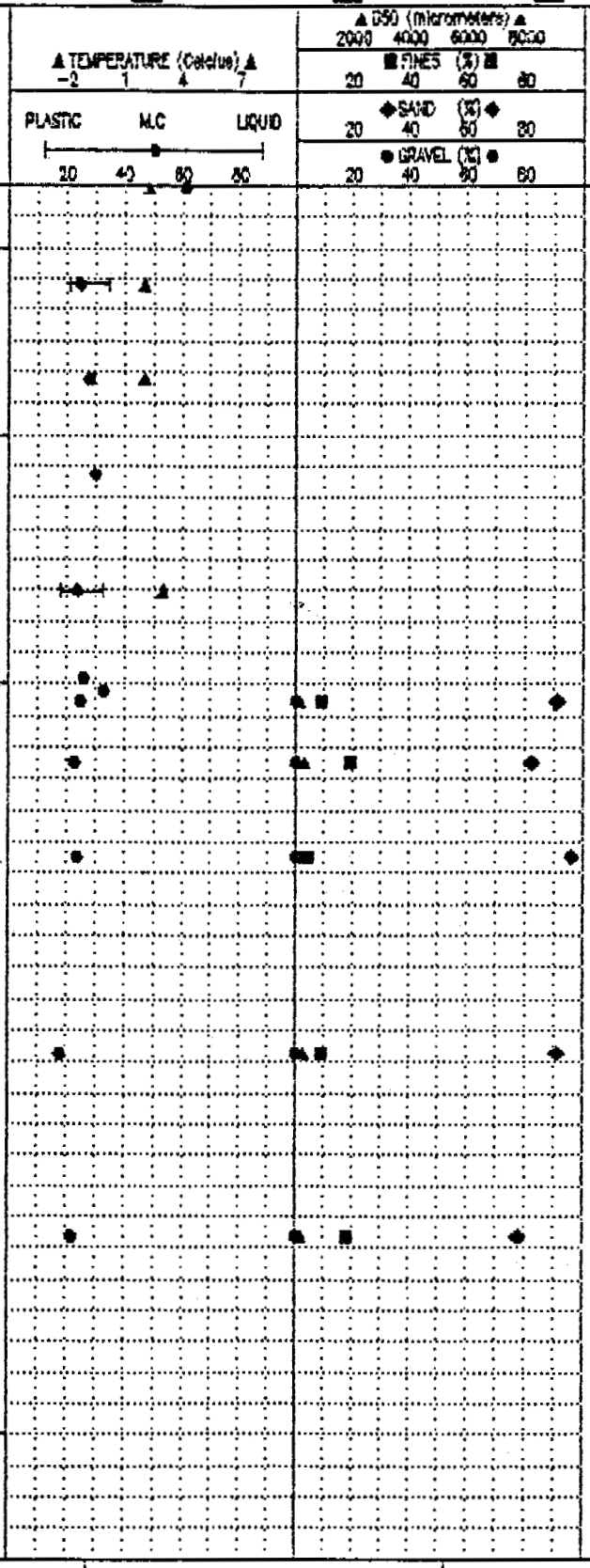
|---|---|---|
| EBA Engineering Consultants Ltd. Calgary, Alberta | COMPLETION DEPTH 20.8 m | COMPLETE 88-08-11 |
| | LOGGED BY WVG KWJ | DWG NO. |
| | | Page 1 of 1 |

| | | |
|---|---|---|
| 1988 OFFSHORE GEOTECHNICAL INVESTIGATION | ORIGINAL BOREHOLE NO. PSS8S16 | BOREHOLE No. 4912-17 |
| PIPELINE ROUTE, SITE 5 | WATER DEPTH: 10.2m | Project No: 0101-4912B |
| GULF CANADA RESOURCES LTD. | DRILL SHIP : M.V. FRANK BRODERICK | ELEVATION -10.20 (m) |

SAMPLE TYPE: SHELBY TUBE | NO RECOVERY | SPLIT SPOON | HAMMER | A-CASING | CORE

| DEPTH (m) | SAMPLE TYPE | SAMPLE NO | SOIL DESCRIPTION | USC | DEPTH (ft) |
|---|---|---|---|---|---|
| 0.0 | | 1 | SILT – clayey, trace of organics, very soft, low plastic, olive grey | | 0.0 |
| | | | CLAY – trace of silt, thinly laminated, firm, low plastic | | |
| | | 2 | – sand lens at 1.58 metres, olive grey | | 5.0 |
| | | 3 | – trace of shell fragments, medium to thick laminations | | 10.0 |
| | | | SILT – clayey, trace of organics and shells, sand lens at 4.57 to 4.70 metres, thinly laminated, firm to stiff, olive grey | | |
| 5.0 | | 4 | | | 15.0 |
| | | 5 | – becoming stiff, sand lens at 6.40 to 6.52 metres | | 20.0 |
| | | 6 | – trace of sand | | 25.0 |
| | | | SAND – trace of silt, organics and shell fragments, medium dense, olive grey | | |
| | | 7 | – trace of gravel to 15mm maximum diameter | | 30.0 |
| 10.0 | | 8 | – fine to medium grained | | 35.0 |
| | | | | | 40.0 |
| | | 9 | – thinly bedded, light brown | | 45.0 |
| 15.0 | | | | | 50.0 |
| | | 10 | – no structure below 17.0 metres, olive grey | | 55.0 |
| | | | | | 60.0 |
| | | | – becoming clean and uniform, light brown | | |
| 20.0 | | 11 | END OF BOREHOLE (20.0 metres) | | 65.0 |
| | | | | | 70.0 |




| | | |
|---|---|---|
| EBA Engineering Consultants Ltd. Calgary, Alberta | COMPLETION DEPTH 20.0 m | COMPLETE 88-08-10 |
| | LOGGED BY WVG KWJ | DWG NO. / Page 1 of 1 |

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|---|---|---|
| 1988 OFFSHORE GEOTECHNICAL INVESTIGATION | ORIGINAL BOREHOLE NO. NEB6788S8 | BOREHOLE No. 4912-01 |
| NERLERK BERM B-67 | WATER DEPTH: 19.7m | Project No: 0101-4912C |
| GULF CANADA RESOURCES LTD. | DRILL SHIP : M.V. FRANK BRODERICK | ELEVATION -19.70 (m) |

SAMPLE TYPE: SHELBY TUBE | NO RECOVERY | SPLIT SPOON | HAMMER | A-CASING | CORE

| DEPTH (m) | SAMPLE TYPE | SAMPLE NO | SOIL DESCRIPTION | USC | DEPTH (ft) |
|---|---|---|---|---|---|
| 0.0 | | 1A | SAND - trace of silt, fine to medium grained, uniform, light greyish brown, (HYDRAULIC FILL) | | 0.0 |
| | | 2A | | | 5.0 |
| | | 3A | - 40mm thick dark grey silt layer at 3.25 metres<br>- thin bedding evident as colour changes | | 10.0 |
| 5.0 | | 4A | - some clay lumps, trace of shell fragments | | 15.0 |
| | | 5A | | | 20.0 |
| | | 6A | - 10mm silt layer at 7.62 metres | | 25.0 |
| | | 7A | - trace of gravel to 6mm maximum diameter | | 30.0 |
| 10.0 | | | | | 35.0 |
| | | 8A | | | 40.0 |
| | | | | | 45.0 |
| 15.0 | | 9A | | | 50.0 |
| | | | | | 55.0 |
| | | 10A | - 40mm thick gravel layer at 18.3 metres, maximum aggregate size=30mm | | 60.0 |
| 20.0 | | | | | 65.0 |
| | | 11A | | | 70.0 |

▲ TEMPERATURE (Celsius) ▲ -2 1 4 7

PLASTIC M.C LIQUID 20 40 60 80

▲ D50 (micrometers) ▲ 2000 4000 6000 8000

■ FINES (%) ■ 20 40 60 80

◆ SAND (%) ◆ 20 40 60 80

● GRAVEL (%) ● 20 40 60 80

| | | | |
|---|---|---|---|
| EBA Engineering Consultants Ltd.<br>Calgary, Alberta | COMPLETION DEPTH 27.8 m | COMPLETE 88-08-24 | |
| | LOGGED BY RVW KWJ | DWG NO. | Page 1 of 2 |

| | | |
|---|---|---|
| 1988 OFFSHORE GEOTECHNICAL INVESTIGATION | ORIGINAL BOREHOLE NO. NE8978898 | BOREHOLE No. 4912-01 |
| NERLERK BERM B-67 | WATER DEPTH: 19.7m | Project No: 0101-4912C |
| GULF CANADA RESOURCES LTD. | DRILL SHIP : M.V. FRANK BRODERICK | ELEVATION -19.70 (m) |

SAMPLE TYPE: SHELBY TUBE | NO RECOVERY | SPLIT SPOON | HAMMER | A-CASING | CORE

| DEPTH (m) | SAMPLE TYPE | SAMPLE NO | SOIL DESCRIPTION | USC | DEPTH (ft) |
|---|---|---|---|---|---|
| 22.0 | | | | | |
| | | 12A | | | 75.0 |
| | | 13B 13A 14B 14A | CLAY - trace to some silt, firm, medium plastic, dark grey | | 80.0 |
| | | | SAND - trace of silt, medium grained, uniform, dense, greyish brown | | |
| | | 15A | - trace of gravel, thinly bedded | | 85.0 |
| 27.0 | | | | | |
| | | 16A | - grey | | 90.0 |
| | | | END OF BOREHOLE (27.8 metres) | | |
| | | | | | 95.0 |
| | | | | | 100.0 |
| 32.0 | | | | | 105.0 |
| | | | | | 110.0 |
| | | | | | 115.0 |
| 37.0 | | | | | 120.0 |
| | | | | | 125.0 |
| | | | | | 130.0 |
| | | | | | 135.0 |
| 42.0 | | | | | 140.0 |

Plots: ▲ TEMPERATURE (Celsius) ▲ -2 1 4 7; PLASTIC M.C LIQUID 20 40 60 80; ▲ D50 (micrometers) ▲ 2000 4000 6000 8000; ■ FINES (%) ■ 20 40 60 80; ◆ SAND (%) ◆ 20 40 60 80; ● GRAVEL (%) ● 20 40 60 80

| | | |
|---|---|---|
| EBA Engineering Consultants Ltd. Calgary, Alberta | COMPLETION DEPTH 27.8 m | COMPLETE 88-08-24 |
| | LOGGED BY RYW KWJ | DWG NO. |
| | | Page 2 of 2 |

| | | |
|---|---|---|
| 1988 OFFSHORE GEOTECHNICAL INVESTIGATION | ORIGINAL BOREHOLE NO. NEBS78BS5 | BOREHOLE No. 4912-02 |
| NERLERK BERM B-67 | WATER DEPTH: 19.9m | Project No: 0101-49120 |
| GULF CANADA RESOURCES LTD. | DRILL SHIP : M.V. FRANK BRODERICK | ELEVATION -19.90 (m) |

SAMPLE TYPE: SHELBY TUBE | NO RECOVERY | SPLIT SPOON | HAMMER | A-CASING | CORE

| DEPTH (m) | SAMPLE TYPE | SAMPLE NO | SOIL DESCRIPTION | USC | DEPTH (ft) |
|---|---|---|---|---|---|
| 0.0 | | 1 | SAND – trace of silt, fine to medium grained, uniform, light greyish brown, (HYDRAULIC FILL) | | 0.0 |
| | | 2 | – trace of gravel, compact | | 5.0 |
| | | 3 | – light brown<br>– thin to medium silty organic laminae, dark grey | | 10.0 |
| | | 4 | | | 15.0 |
| 5.0 | | 5 | – occassional clay lumps to 10mm maximum size | | 20.0 |
| | | 6 | – clay laminae or lumps to 30mm maximum size | | 25.0 |
| | | 7 | – shell fragments | | 30.0 |
| 10.0 | | | | | 35.0 |
| | | 8 | – clean | | 40.0 |
| | | | | | 45.0 |
| 15.0 | | 9 | – thin bed of coarse sand | | 50.0 |
| | | | | | 55.0 |
| | | 10 | – clay lumps | | 60.0 |
| 20.0 | | | | | 65.0 |
| | | 11 | | | 70.0 |

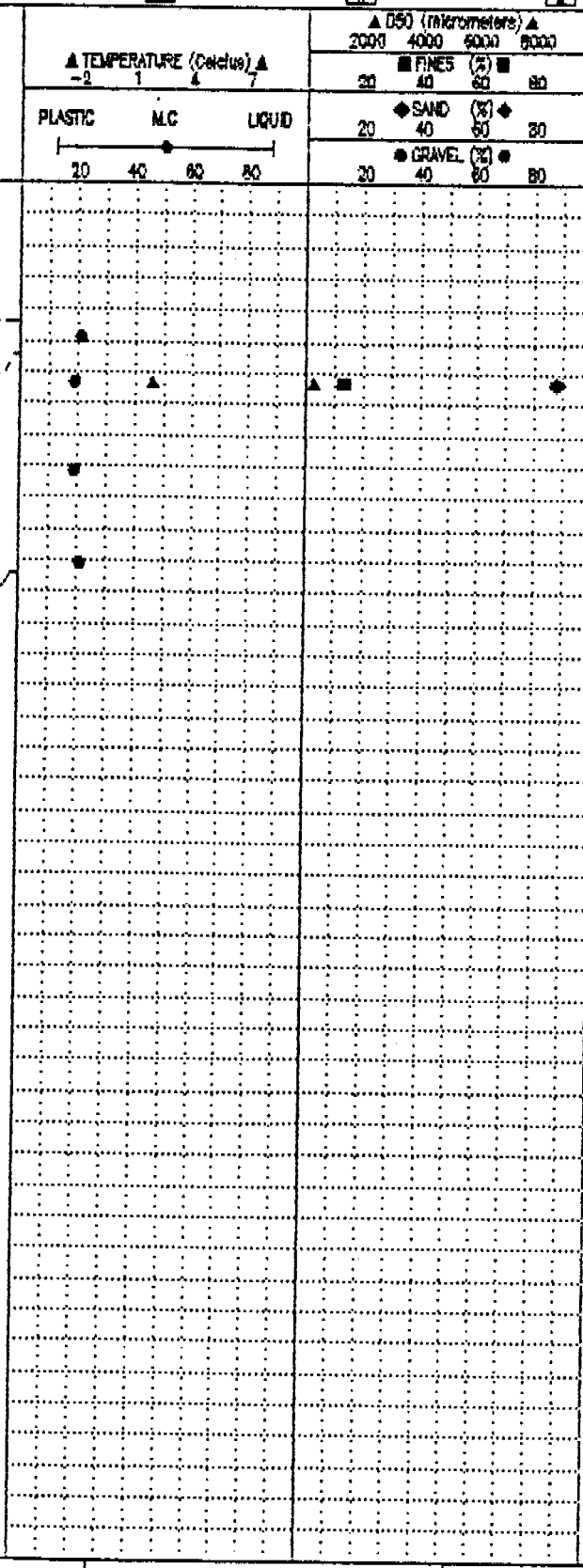
TEMPERATURE (Celsius): -2 1 4 7
PLASTIC M.C LIQUID: 20 40 60 80
D50 (micrometers): 2000 4000 6000 8000
FINES (%): 20 40 60 80
SAND (%): 20 40 60 80
GRAVEL (%): 20 40 60 80

| | | |
|---|---|---|
| EBA Engineering Consultants Ltd.<br>Calgary, Alberta | COMPLETION DEPTH 28.2 m | COMPLETE 88-08-24 |
| | LOGGED BY WVG KWJ | DWG NO. |
| | | Page 1 of 2 |

| | | |
|---|---|---|
| 1988 OFFSHORE GEOTECHNICAL INVESTIGATION | ORIGINAL BOREHOLE NO. NEB673895 | BOREHOLE No. 4912-02 |
| NERLERK BERM B-67 | WATER DEPTH: 19.9m | Project No: 0101-49120 |
| GULF CANADA RESOURCES LTD. | DRILL SHIP : M.V. FRANK BRODERICK | ELEVATION -19.90 (m) |

SAMPLE TYPE: SHELBY TUBE | NO RECOVERY | SPLIT SPOON | HAMMER | A-CASING | CORE

| DEPTH (m) | SAMPLE TYPE | SAMPLE NO | SOIL DESCRIPTION | USC | DEPTH (ft) |
|---|---|---|---|---|---|
| 22.0 | | | | | 75.0 |
| | | 12 | CLAY - some silt, firm, medium plastic, dark grey | | 80.0 |
| | | 13 | SAND - silty, abundance of organics, trace of shell fragments, fine to medium grained, becoming cleaner with depth, dark grey | | 85.0 |
| | | 14 | - clean, uniform, very dense, light brown | | |
| 27.0 | | | | | 90.0 |
| | | 15 | - trace of silt | | |
| | | | END OF BOREHOLE (28.2 metres) | | 95.0 |
| | | | | | 100.0 |
| 32.0 | | | | | 105.0 |
| | | | | | 110.0 |
| | | | | | 115.0 |
| 37.0 | | | | | 120.0 |
| | | | | | 125.0 |
| | | | | | 130.0 |
| | | | | | 135.0 |
| 42.0 | | | | | 140.0 |

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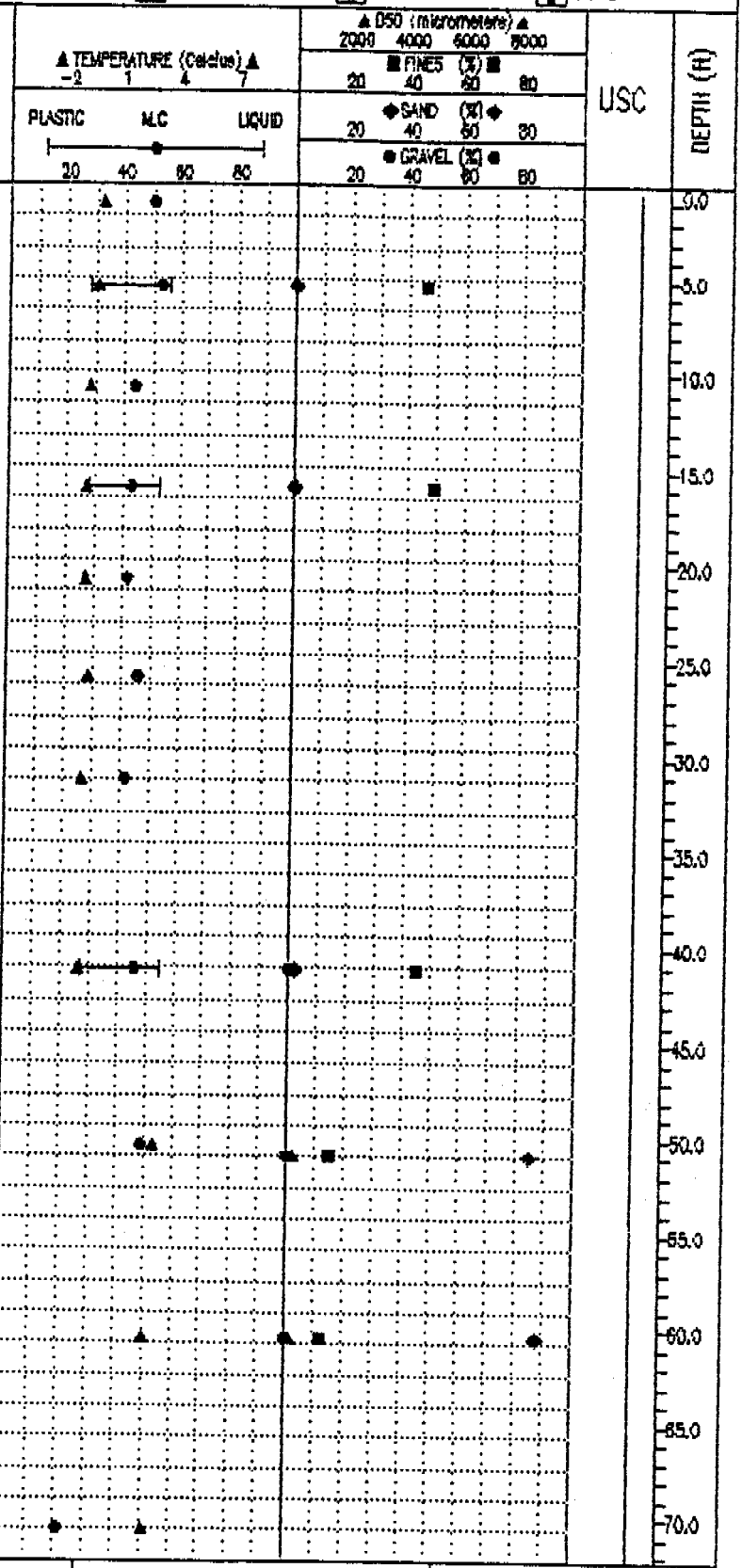
|---|---|---|---|
| EBA Engineering Consultants Ltd. Calgary, Alberta | COMPLETION DEPTH 28.2 m | | COMPLETE 88-08-24 |
| | LOGGED BY WVG KWJ | DWG NO. | Page 2 of 2 |

| 1988 OFFSHORE GEOTECHNICAL INVESTIGATION | ORIGINAL BOREHOLE NO. KUD3288S1 | BOREHOLE No. 4912-18 |
|---|---|---|
| AMAULIGAK D32 | WATER DEPTH: 27.4m | Project No: 0101-4912D |
| GULF CANADA RESOURCES LTD. | DRILL SHIP : M.V. FRANK BRODERICK | ELEVATION -27.40 (m) |

SAMPLE TYPE: SHELBY TUBE | NO RECOVERY | SPLIT SPOON | HAMMER | A-CASING | CORE

| DEPTH (m) | SAMPLE TYPE | SAMPLE NO | SOIL DESCRIPTION | USC |
|---|---|---|---|---|
| 0.0 | | 1A | CLAY – trace of silt and shell fragments, organic laminae, very soft, medium plastic, dark olive grey | |
| | | 2A | | |
| | | 3A | | |
| 5.0 | | 4A | – becoming with some silt, firmer | |
| | | 5A | | |
| | | 6A | – black organic pockets | |
| | | 7A | | |
| 10.0 | | | | |
| | | 8A | – sand lense at 12.8 metres – 3mm thick | |
| 15.0 | | 9A 9B | SAND – silty, trace of shell fragments and organics, fine grained, dense, very dark grey | |
| | | 10A | – becoming medium grained, uniform | |
| 20.0 | | 11A | – even parallel laminations, | |




| EBA Engineering Consultants Ltd. Calgary, Alberta | COMPLETION DEPTH 46.4 m | COMPLETE 88-08-16 |
|---|---|---|
| | LOGGED BY RVW KWJ | DWG NO. | Page 1 of 3 |

| | | |
|---|---|---|
| 1988 OFFSHORE GEOTECHNICAL INVESTIGATION | ORIGINAL BOREHOLE NO. KUD328881 | BOREHOLE No. 4912-18 |
| AMAULIGAK D32 | WATER DEPTH: 27.4m | Project No: 0101-4912D |
| GULF CANADA RESOURCES LTD. | DRILL SHIP : M.V. FRANK BRODERICK | ELEVATION -27.40 (m) |

SAMPLE TYPE: SHELBY TUBE | NO RECOVERY | SPLIT SPOON | HAMMER | A-CASING | CORE

| DEPTH (m) | SAMPLE TYPE | SAMPLE NO | SOIL DESCRIPTION | USC | DEPTH (ft) |
|---|---|---|---|---|---|
| 22.0 | | | | | |
| | | 12A, 12B | – some clay lumps | | 75.0, 80.0 |
| 27.0 | | | | | 85.0 |
| | | 13A, 13B | – occasional black organic streaks | | 90.0, 95.0 |
| | | 14A, 14B | – trace of pebbles | | 100.0 |
| 32.0 | | | | | 105.0 |
| | | 15A, 15B | – light greyish brown | | 110.0, 115.0 |
| 37.0 | | 16A | – coarse sand and gravel at 36.8 metres<br>– medium grained | | 120.0, 125.0 |
| | | 17 | | | 130.0, 135.0 |
| 42.0 | | 18A | CLAY – silty, thin curved discontinuous laminations, medium plastic, very dark olive grey | | 140.0 |

Temperature (Celcius): -2, 1, 4, 7
Plastic – M.C – Liquid: 20, 40, 60, 80
D50 (micrometers): 2000, 4000, 6000, 8000
Fines (%): 20, 40, 60, 80
Sand (%): 20, 40, 60, 80
Gravel (%): 20, 40, 60, 80

| | | |
|---|---|---|
| EBA Engineering Consultants Ltd.<br>Calgary, Alberta | COMPLETION DEPTH 46.4 m | COMPLETE 88-08-16 |
| | LOGGED BY RVW KWJ | DWG NO. |
| | | Page 2 of 3 |

| | | |
|---|---|---|
| 1988 OFFSHORE GEOTECHNICAL INVESTIGATION | ORIGINAL BOREHOLE NO. KUD328831 | BOREHOLE No. 4912-18 |
| AMAULIGAK D32 | WATER DEPTH: 27.4m | Project No: 0101-4912D |
| GULF CANADA RESOURCES LTD. | DRILL SHIP : M.V. FRANK BRODERICK | ELEVATION -27.40 (m) |

SAMPLE TYPE: SHELBY TUBE | NO RECOVERY | SPLIT SPOON | HAMMER | A-CASING | CORE

| DEPTH (m) | SAMPLE TYPE | SAMPLE NO | SOIL DESCRIPTION | USC | DEPTH (ft) |
|---|---|---|---|---|---|
| 44.0 | | | SILT - clayey, thin curved non-parallel laminations, blocky structure, hard, low plastic, dark grey | | 145.0 |
| | | 18A | | | 150.0 |
| | | | END OF BOREHOLE (46.4 metres) | | 155.0 |
| 49.0 | | | | | 160.0 |
| | | | | | 165.0 |
| | | | | | 170.0 |
| 54.0 | | | | | 175.0 |
| | | | | | 180.0 |
| | | | | | 185.0 |
| | | | | | 190.0 |
| 59.0 | | | | | 195.0 |
| | | | | | 200.0 |
| | | | | | 205.0 |
| 64.0 | | | | | 210.0 |
| | | | | | 215.0 |

Chart legend: ▲ TEMPERATURE (Celcius) ▲ -2 1 4 7; PLASTIC M.C LIQUID 20 40 60 80; ▲ D50 (micrometers) ▲ 2000 4000 6000 8000; ■ FINES (%) ■ 20 40 60 80; ◆ SAND (%) ◆ 20 40 60 80; ● GRAVEL (%) ● 20 40 60 80

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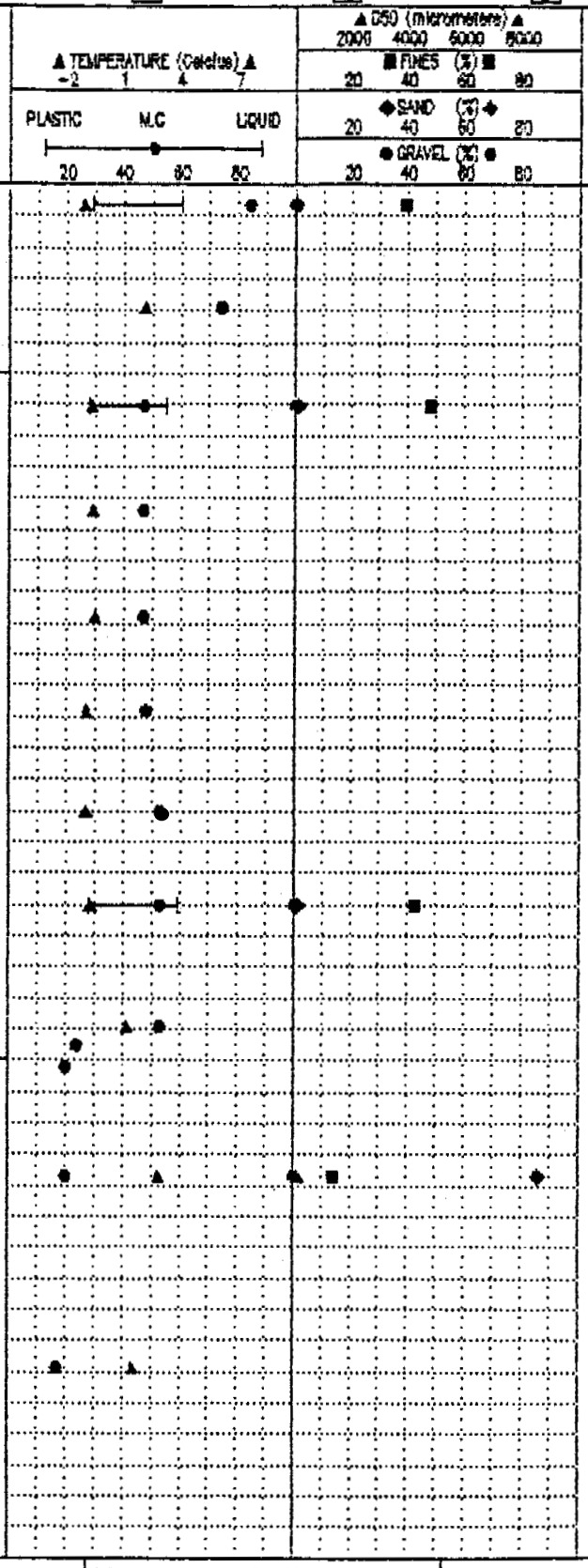
Calgary, Alberta

| | | |
|---|---|---|
| COMPLETION DEPTH 46.4 m | | COMPLETE 88-08-16 |
| LOGGED BY RVW KWJ | DWG NO. | Page 3 of 3 |

| | | |
|---|---|---|
| 1988 OFFSHORE GEOTECHNICAL INVESTIGATION | ORIGINAL BOREHOLE NO. KUB468SS1 | BOREHOLE No. 4912-19 |
| AMAULIGAK B-46 | WATER DEPTH: 34m | Project No: 0101-49120 |
| GULF CANADA RESOURCES LTD. | DRILL SHIP : M.V. FRANK BRODERICK | ELEVATION -34.00 (m) |

SAMPLE TYPE: SHELBY TUBE | NO RECOVERY | SPLIT SPOON | HAMMER | A-CASING | CORE

| DEPTH (m) | SAMPLE TYPE | SAMPLE NO | SOIL DESCRIPTION | USC | DEPTH (ft) |
|---|---|---|---|---|---|
| 0.0 | | 1 | CLAY – silty, trace of organics, very soft, medium plastic, dark olive grey | | 0.0 |
| | | 2B | – thin parallel laminations | | 5.0 |
| | | 3B | SILT AND CLAY – trace of organics, occasional clay beds, firm, medium plastic, dark olive grey | | 10.0 |
| 5.0 | | 4 | – thinly laminated | | 15.0 |
| | | 5B | | | 20.0 |
| | | 6B | | | 25.0 |
| 10.0 | | 7B | – trace of shell fragments | | 30.0 |
| | | 8B | | | 35.0 |
| | | 9 | | | 40.0 |
| | | 9B | SAND – abundance of rootlets, black fibrous organic peat at 13.9 to 14.1 metres, fine to medium grained, clean, uniform | | 45.0 |
| 15.0 | | 10 | – becoming silt, thinly interbedded, compact, light brown | | 50.0 |
| | | 11 | | | 55.0 |
| 20.0 | | 12 | | | 60.0 |
| | | | | | 65.0 |
| | | | | | 70.0 |

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|---|---|---|
| EBA Engineering Consultants Ltd. Calgary, Alberta | COMPLETION DEPTH 60.2 m | COMPLETE 88-08-15 |
| | LOGGED BY WVG KWJ | DWG NO. |
| | | Page 1 of 3 |

| | | |
|---|---|---|
| 1988 OFFSHORE GEOTECHNICAL INVESTIGATION | ORIGINAL BOREHOLE NO. KUB4688S1 | BOREHOLE No. 4912-19 |
| AMAULIGAK B-46 | WATER DEPTH: 34m | Project No: 0101-4912D |
| GULF CANADA RESOURCES LTD. | DRILL SHIP : M.V. FRANK BRODERICK | ELEVATION -34.00 (m) |

SAMPLE TYPE: SHELBY TUBE | NO RECOVERY | SPLIT SPOON | HAMMER | A-CASING | CORE

| DEPTH (m) | SAMPLE TYPE | SAMPLE NO | SOIL DESCRIPTION | USC | DEPTH (ft) |
|---|---|---|---|---|---|
| 22.0 | | 12 | | | 75.0 |
| | | 13 | – no apparent structure | | 80.0 |
| 27.0 | | | | | 85.0 |
| | | 14 | | | 90.0 |
| | | 15 | – cross stratified in upper 150mm, olive grey | | 95.0 |
| 32.0 | | | | | 100.0 |
| | | 16 | | | 105.0 |
| | | 17 | – thin horizontal beds | | 110.0 |
| 37.0 | | | | | 115.0 |
| | | 18B | SILT – clayey, occasional clay seams, organics disseminated throughout, stiff, low plastic, dark olive grey | | 120.0 |
| | | 19 | | | 125.0 |
| 42.0 | | | | | 130.0 |
| | | | | | 135.0 |
| | | | | | 140.0 |

Plot columns: TEMPERATURE (Celcius) -2 1 4 7; PLASTIC – M.C – LIQUID 20 40 60 80; D50 (micrometers) 2000 4000 6000 8000; FINES (%) 20 40 60 80; SAND (%) 20 40 60 80; GRAVEL (%) 20 40 60 80

| | | | |
|---|---|---|---|
| EBA Engineering Consultants Ltd. Calgary, Alberta | COMPLETION DEPTH 60.2 m | COMPLETE 88-08-15 | |
| | LOGGED BY WVG KWJ | DWG NO. | Page 2 of 3 |

| | | |
|---|---|---|
| 1988 OFFSHORE GEOTECHNICAL INVESTIGATION | ORIGINAL BOREHOLE NO. KUB4688S1 | BOREHOLE No. 4912-19 |
| AMAULIGAK B-46 | WATER DEPTH: 34m | Project No: 0101-49120 |
| GULF CANADA RESOURCES LTD. | DRILL SHIP : M.V. FRANK BRODERICK | ELEVATION -34.00 (m) |

SAMPLE TYPE: SHELBY TUBE | NO RECOVERY | SPLIT SPOON | HAMMER | A-CASING | CORE

| DEPTH (m) | SAMPLE TYPE | SAMPLE NO. | SOIL DESCRIPTION | TEMPERATURE (Celsius) -2 1 4 7 / PLASTIC M.C LIQUID 20 40 60 80 | D50 (micrometers) 2000 4000 6000 8000 / FINES (%) 20 40 60 80 / SAND (%) 20 40 60 80 / GRAVEL (%) 20 40 60 80 | USC | DEPTH (ft) |
|---|---|---|---|---|---|---|---|
| 44.0 | | | | | | | 145.0 |
| | | 20B | – trace shell fragments, hard | | | | 150.0 |
| | | 21B / 21S | – strong odour | | | | 155.0 |
| 49.0 | | | | | | | 160.0 |
| | | 22B | | | | | 165.0 |
| | | | | | | | 170.0 |
| | | | | | | | 175.0 |
| 54.0 | | 23B | | | | | 180.0 |
| | | 24 | – blocky, friable structure, greyish brown | | | | 185.0 |
| 59.0 | | | | | | | 190.0 |
| | | 25 | – abundance of mica flakes, thinly laminated | | | | 195.0 |
| | | | END OF BOREHOLE (60.15 metres) | | | | 200.0 |
| | | | | | | | 205.0 |
| 64.0 | | | | | | | 210.0 |
| | | | | | | | 215.0 |

| | | |
|---|---|---|
| EBA Engineering Consultants Ltd. Calgary, Alberta | COMPLETION DEPTH 60.2 m | COMPLETE 88-08-15 |
| | LOGGED BY WVG KWJ / DWG NO. | Page 3 of 3 |

| | | |
|---|---|---|
| 1988 OFFSHORE GEOTECHNICAL INVESTIGATION | | BOREHOLE No. IS88S1 |
| ISSIGAK BORROW IS88S1 | WATER DEPTH: 8.29m | Project No: 0101-4912E |
| GULF CANADA RESOURCES LTD. | DRILL SHIP : M.V. FRANK BRODERICK | ELEVATION -8.29 (m) |

SAMPLE TYPE: SHELBY TUBE | NO RECOVERY | SPLIT SPOON | HAMMER | THICK WALL TUBE | CORE

| DEPTH (m) | SAMPLE TYPE | SAMPLE NO | SOIL DESCRIPTION | USC | DEPTH (ft) |
|---|---|---|---|---|---|
| 0.0 | | 1 | GRAVEL(GP) AND SAND – trace silt,gravel; fine grained, sub-rounded to rounded, 50 mm max., sand; medium to coarse grained, brownish | | 0.0 |
| 1.0 | | 2 | – becoming sandy GRAVEL | | 5.0 |
| 2.0 | | 3 | – 30 mm max. | | |
| | | | CLAY(CL) – silty, low plastic, stiff, shell fragments, thin to medium laminated, parallel, horizontal, few thin sand lenses, dark olive grey | | 10.0 |
| 3.0 | | 4 | | | |
| 4.0 | | 5 | | | 15.0 |
| | | | END OF BOREHOLE 4.06 m | | |
| 5.0 | | | | | 20.0 |
| 6.0 | | | | | |
| 7.0 | | | | | 25.0 |
| 8.0 | | | | | |
| 9.0 | | | | | 30.0 |
| 10.0 | | | | | |

Chart columns: ▲ TEMPERATURE (Celcius) ▲ −2 1 4 7; PLASTIC M.C LIQUID 20 40 60 80; ▲ D50 (micrometers) ▲ 2000 4000 6000 8000; ■ FINES (%) ■ 20 40 60 80; ◆ SAND (%) ◆ 20 40 60 80; ● GRAVEL (%) ● 20 40 60 80

| | | | |
|---|---|---|---|
| EBA Engineering Consultants Ltd. Calgary, Alberta | COMPLETION DEPTH 4.1 m | | COMPLETE 88/09/26 |
| | LOGGED BY KWJ WVG | DWG NO. | Page 1 of 1 |

| | | |
|---|---|---|
| 1988 OFFSHORE GEOTECHNICAL INVESTIGATION | | BOREHOLE No. IS88S2 |
| ISSIGAK BORROW IS88S2 | WATER DEPTH: 8.60m | Project No: 0101-4912E |
| GULF CANADA RESOURCES LTD. | DRILL SHIP : M.V. FRANK BRODERICK | ELEVATION -8.60 (m) |

SAMPLE TYPE: SHELBY TUBE | NO RECOVERY | SPLIT SPOON | HAMMER | THICK WALL TUBE | CORE

| DEPTH (m) | SAMPLE TYPE | SAMPLE NO | SOIL DESCRIPTION | USC | DEPTH (ft) |
|---|---|---|---|---|---|
| 0.0 | | 1 | SAND(SP) - medium grained, gravelly, gravel; fine grained, sub-angular to sub-rounded, brownish | | 0.0 |
| | | 2 | | | |
| 1.0 | | | | | |
| | | 3 | - becoming coarse grained, brown | | 5.0 |
| 2.0 | | | CLAY(CL) - silty, parallel, thin to medium laminae, stiff, low plastic, dark olive grey | | |
| | | 4 | | | |
| 3.0 | | | | | 10.0 |
| | | 5 | - a zone of parallel laminations inclined 30 degrees from 3.5 to 3.6 m | | |
| 4.0 | | | END OF BOREHOLE 3.70 m | | |
| | | | | | 15.0 |
| 5.0 | | | | | |
| 6.0 | | | | | 20.0 |
| 7.0 | | | | | |
| | | | | | 25.0 |
| 8.0 | | | | | |
| 9.0 | | | | | 30.0 |
| 10.0 | | | | | |

Plots: TEMPERATURE (Celcius) -2 1 4 7; PLASTIC / M.C / LIQUID 20 40 60 80; D50 (micrometers) 2000 4000 6000 8000; FINES (%) 20 40 60 80; SAND (%) 20 40 60 80; GRAVEL (%) 20 40 60 80

| | | |
|---|---|---|
| EBA Engineering Consultants Ltd. Calgary, Alberta | COMPLETION DEPTH 3.7 m | COMPLETE 88/09/26 |
| | LOGGED BY KWJ WVG | DWG NO. |
| | | Page 1 of 1 |

| | | |
|---|---|---|
| 1988 OFFSHORE GEOTECHNICAL INVESTIGATION | | BOREHOLE No. IS88S3 |
| ISSIGAK BORROW IS88S3 | WATER DEPTH: 8.44m | Project No: 0101-4912E |
| GULF CANADA RESOURCES LTD. | DRILL SHIP : M.V. FRANK BRODERICK | ELEVATION -8.44 (m) |

SAMPLE TYPE: SHELBY TUBE | NO RECOVERY | SPLIT SPOON | HAMMER | THICK WALL TUBE | CORE

| DEPTH (m) | SAMPLE TYPE | SAMPLE NO | SOIL DESCRIPTION | USC | DEPTH (ft) |
|---|---|---|---|---|---|
| 0.0 | | 1 | GRAVEL(GP) - sandy;coarse grained, 50 mm max., brown | | 0.0 |
| 1.0 | | 2 | SAND(SP) - gravelly, sand bed from 0.91 m to 1.01 m, sand; medium grained, uniform, gravel 10 mm max., brown - sub-rounded, gravel 30 mm max. | | 5.0 |
| 2.0 | | 3 | - no recovery due to cobbles or boulders | | |
| 3.0 | | 4 | CLAY(CL) - silty, some sand and gravel, stiff, low plastic, pockets of sand and gravel within a matrix of silty clay (unmixed), gravel 10 mm max., dark olive grey | | 10.0 |
| | | 5A | CLAY(TILL LIKE) - sandy, silty, some gravel, 20 mm max., dark olive grey | | |
| | | 5B | CLAY(CL) - silty, trace shell fragments, thin to medium laminated, low plastic, medium stiff, dark olive grey | | |
| 4.0 | | | END OF BOREHOLE 3.84 m | | 15.0 |
| 5.0 | | | | | |
| 6.0 | | | | | 20.0 |
| 7.0 | | | | | |
| 8.0 | | | | | 25.0 |
| 9.0 | | | | | 30.0 |
| 10.0 | | | | | |

▲ TEMPERATURE (Celsius) ▲ -2 1 4 7

PLASTIC M.C LIQUID 20 40 60 80

▲ D50 (micrometers) ▲ 2000 4000 6000 8000

■ FINES (%) ■ 20 40 60 80

◆ SAND (%) ◆ 20 40 60 80

● GRAVEL (%) ● 20 40 60 80

| | | | |
|---|---|---|---|
| EBA Engineering Consultants Ltd. Calgary, Alberta | COMPLETION DEPTH 3.8 m | | COMPLETE 88/09/26 |
| | LOGGED BY KWJ WVG | DWG NO. | Page 1 of 1 |

| | | |
|---|---|---|
| 1988 OFFSHORE GEOTECHNICAL INVESTIGATION | | BOREHOLE No. IS88S4 |
| ISSIGAK BORROW IS88S4 | WATER DEPTH: 8.29m | Project No: 0101-4912E |
| GULF CANADA RESOURCES LTD. | DRILL SHIP : M.V. FRANK BRODERICK | ELEVATION -8.29 (m) |

SAMPLE TYPE: SHELBY TUBE | NO RECOVERY | SPLIT SPOON | HAMMER | THICK WALL TUBE | CORE

| DEPTH (m) | SAMPLE TYPE | SAMPLE NO | SOIL DESCRIPTION | USC | DEPTH (ft) |
|---|---|---|---|---|---|
| 0.0 | | 1 | GRAVEL(GP) AND SAND - trace silt, sand; medium to coarse grained, gravel; fine grained, sub-rounded to sub-angular, 20 mm max., brown | | 0.0 |
| 1.0 | | 2 | - sandy;coarse grained,gravel; sub-rounded to sub-angular, 50 mm max., brown | | 5.0 |
| 2.0 | | 3 | - only retained a piece 50 mm gravel during sampling | | |
| | | 4 | SAND(SP/SM) - fine to medium grained, trace silt, trace gravel, clay ball inclusions up to 10 mm max., gravel, 10 mm max., dark olive brown | | 10.0 |
| 3.0 | | 5 | | | |
| 4.0 | | 6 | CLAY(CL) - silty, trace gravel, 50 mm max., trace sand, dark olive grey - thin to medium laminae, horizontal, parallel, stiff, trace organics | | 15.0 |
| | | | END OF BOREHOLE 4.30 m | | |
| 5.0 | | | | | |
| 6.0 | | | | | 20.0 |
| 7.0 | | | | | |
| 8.0 | | | | | 25.0 |
| 9.0 | | | | | 30.0 |
| 10.0 | | | | | |

TEMPERATURE (Celsius): -2 1 4 7

PLASTIC — M.C — LIQUID: 20 40 60 80

D50 (micrometers): 2000 4000 6000 8000

FINES (%): 20 40 60 80

SAND (%): 20 40 60 80

GRAVEL (%): 20 40 60 80

| | | |
|---|---|---|
| EBA Engineering Consultants Ltd. Calgary, Alberta | COMPLETION DEPTH 4.3 m | COMPLETE 88/09/26 |
| | LOGGED BY KWJ WVG | DWG NO. / Page 1 of 1 |

| | | |
|---|---|---|
| 1988 OFFSHORE GEOTECHNICAL INVESTIGATION | | BOREHOLE No. IS88S5 |
| ISSIGAK BORROW IS88S5 | WATER DEPTH: 8.75m | Project No: 0101-4912E |
| GULF CANADA RESOURCES LTD. | DRILL SHIP : M.V. FRANK BRODERICK | ELEVATION -8.75 (m) |

SAMPLE TYPE: SHELBY TUBE | NO RECOVERY | SPLIT SPOON | HAMMER | THICK WALL TUBE | CORE

| DEPTH (m) | SAMPLE TYPE | SAMPLE NO | SOIL DESCRIPTION | USC | DEPTH (ft) |
|---|---|---|---|---|---|
| 0.0 | | 1 | GRAVEL(GP) - sandy, trace silt, medium grained, rounded to sub-rounded, 50 mm max., sand; medium to coarse grained, brown | | 0.0 |
| 1.0 | | 2 | - becomes some sand, medium grained, occasional cobble | | 5.0 |
| 2.0 | | 3 | SAND(SP) AND GRAVEL - coarse grained, gravel; sub-rounded to sub-angular, brown | | |
| 3.0 | | 4 | CLAY(CL) - silty, trace sand, trace shell fragments, trace organics, thin to medium laminated, horizontal, parallel, stiff | | 10.0 |
| | | 5 | | | |
| 4.0 | | | END OF BOREHOLE 3.96 m | | 15.0 |
| 5.0 | | | | | |
| 6.0 | | | | | 20.0 |
| 7.0 | | | | | 25.0 |
| 8.0 | | | | | |
| 9.0 | | | | | 30.0 |
| 10.0 | | | | | |

TEMPERATURE (Celcius): -2 1 4 7

PLASTIC — M.C — LIQUID: 20 40 60 80

D50 (micrometers): 2000 4000 6000 8000

FINES (%): 20 40 60 80

SAND (%): 20 40 60 80

GRAVEL (%): 20 40 60 80

| | | | |
|---|---|---|---|
| EBA Engineering Consultants Ltd. Calgary, Alberta | COMPLETION DEPTH 4.0 m | | COMPLETE 88/09/26 |
| | LOGGED BY KWJ WWG | DWG NO. | Page 1 of 1 |

| | | |
|---|---|---|
| 1988 OFFSHORE GEOTECHNICAL INVESTIGATION | | BOREHOLE No. NI88S1 |
| NIPTERK BORROW NI88S1 | WATER DEPTH: 13.00m | Project No: 0101-4912E |
| GULF CANADA RESOURCES LTD. | DRILL SHIP : M.V. FRANK BRODERICK | ELEVATION -13.00 (m) |

SAMPLE TYPE: SHELBY TUBE | NO RECOVERY | SPLIT SPOON | HAMMER | THICK WALL TUBE | CORE

| DEPTH (m) | SAMPLE TYPE | SAMPLE NO | SOIL DESCRIPTION | USC | DEPTH (ft) |
|---|---|---|---|---|---|
| 0.0 | | 1 | SAND(SM) – silty, fine grained, medium clay interlaminae, trace gravel, 40 mm max., dark olive grey<br>– becoming medium dense | | 0.0 |
| 1.0 | | 2 | SILT(ML) – trace to some sand, very thin to thin clay and silt laminae, occasional fine grained sand lenses, firm to stiff, dark olive grey | | 5.0 |
| 2.0 | | 3A | | | |
| | | 3B | – sand pocket<br>– abundance of organics | | |
| | | | END OF BOREHOLE 2.42 m | | |
| 3.0 | | | | | 10.0 |
| 4.0 | | | | | 15.0 |
| 5.0 | | | | | |
| 6.0 | | | | | 20.0 |
| 7.0 | | | | | |
| 8.0 | | | | | 25.0 |
| 9.0 | | | | | 30.0 |
| 10.0 | | | | | |

Chart columns: ▲TEMPERATURE (Celcius)▲ −2 1 4 7; PLASTIC N.C LIQUID 20 40 60 80; ▲D50 (micrometers)▲ 2000 4000 6000 8000; ■FINES (%)■ 20 40 60 80; ◆SAND (%)◆ 20 40 60 80; ●GRAVEL (%)● 20 40 60 80

| | | |
|---|---|---|
| EBA Engineering Consultants Ltd.<br>Calgary, Alberta | COMPLETION DEPTH 2.4 m | COMPLETE 88/09/27 |
| | LOGGED BY KWJ WVG | DWG NO. |
| | | Page 1 of 1 |

| 1988 OFFSHORE GEOTECHNICAL INVESTIGATION | | BOREHOLE No. NI88S2 |
|---|---|---|
| NIPTERK BORROW NI88S2 | WATER DEPTH: 13.00m | Project No: 0101-4912E |
| GULF CANADA RESOURCES LTD. | DRILL SHIP : M.V. FRANK BRODERICK | ELEVATION -13.00 (m) |

SAMPLE TYPE: SHELBY TUBE | NO RECOVERY | SPLIT SPOON | HAMMER | THICK WALL TUBE | CORE

| DEPTH (m) | SAMPLE TYPE | SAMPLE NO | SOIL DESCRIPTION | USC | DEPTH (ft) |
|---|---|---|---|---|---|
| 0.0 | | 1B | CLAY(CL) - silty, low plastic, very soft, olive grey | | 0.0 |
| | | 1C | SAND(SM) - silty, fine grained, dense dark olive grey | | |
| 1.0 | | 2 | CLAY(CL) - silty, trace organics, thin to medium laminae, horizontal, parallel, dark olive grey - some organic fibers | | 5.0 |
| 2.0 | | 3 | CLAY(TILL-LIKE) - silty, sandy, gravelly, low plastic, stiff to hard, dark olive grey - becoming silter | | |
| 3.0 | | 4 | - small piece of wood (5 mm diameter) | | 10.0 |
| 4.0 | | 5 | | | |
| | | 6 | | | 15.0 |
| 5.0 | | | END OF BOREHOLE 4.84 m | | |
| 6.0 | | | | | 20.0 |
| 7.0 | | | | | |
| 8.0 | | | | | 25.0 |
| 9.0 | | | | | 30.0 |
| 10.0 | | | | | |

TEMPERATURE (Celsius): -2 1 4 7

PLASTIC — M.C — LIQUID: 20 40 60 80

D50 (micrometers): 2000 4000 6000 8000

FINES (%): 20 40 60 80

SAND (%): 20 40 60 80

GRAVEL (%): 20 40 60 80

| EBA Engineering Consultants Ltd. Calgary, Alberta | COMPLETION DEPTH 4.8 m | COMPLETE 88/09/27 |
|---|---|---|
| | LOGGED BY KWJ WVG | DWG NO. | Page 1 of 1 |

| | | |
|---|---|---|
| 1988 OFFSHORE GEOTECHNICAL INVESTIGATION | | BOREHOLE No. NI88S3 |
| NIPTERK BORROW NI88S3 | WATER DEPTH: 13.00m | Project No: 0101-4912E |
| GULF CANADA RESOURCES LTD. | DRILL SHIP : M.V. FRANK BRODERICK | ELEVATION -13.00 (m) |

SAMPLE TYPE: SHELBY TUBE | NO RECOVERY | SPLIT SPOON | HAMMER | THICK WALL TUBE | CORE

| DEPTH (m) | SAMPLE TYPE | SAMPLE NO | SOIL DESCRIPTION | USC |
|---|---|---|---|---|
| 0.0 | | 1A, 1B | CLAY(CL) - silty, trace shell fragments, thinly laminated, horizontal, parallel, low plastic, soft, olive grey | |
| 1.0 | | 2 | SILT(ML) - clayey, peat layers 10 m thick, low plastic, firm to stiff, dark olive grey | |
| | | | CLAY(TILL-LIKE) - silty, some sand and gravel, some peat pockets, brown and black, hard, dark olive grey | |
| 2.0 | | 3 | - becoming silter, trace shell fragments, medium plastic | |
| 3.0 | | 4 | - trace pebbles, very stiff | |
| 4.0 | | 5 | | |
| | | 6 | | |
| 5.0 | | | END OF BOREHOLE 4.73 m | |
| 6.0 | | | | |
| 7.0 | | | | |
| 8.0 | | | | |
| 9.0 | | | | |
| 10.0 | | | | |

TEMPERATURE (Celcius): -2, 1, 4, 7

PLASTIC — M.C — LIQUID: 20, 40, 60, 80

D50 (micrometers): 2000, 4000, 6000, 8000

FINES (%): 20, 40, 60, 80

SAND (%): 20, 40, 60, 80

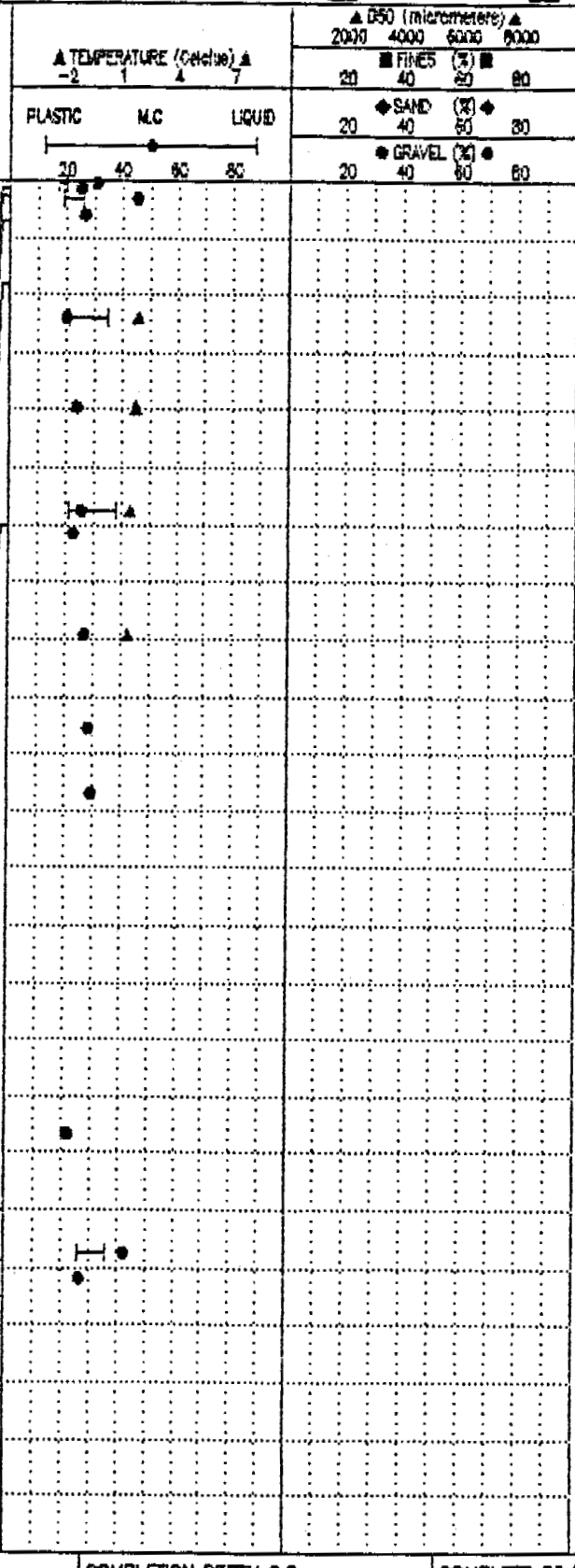
GRAVEL (%): 20, 40, 60, 80

| | | | |
|---|---|---|---|
| EBA Engineering Consultants Ltd. Calgary, Alberta | COMPLETION DEPTH 4.7 m | | COMPLETE 88/09/27 |
| | LOGGED BY KWJ WVG | DWG NO. | Page 1 of 1 |

| 1988 OFFSHORE GEOTECHNICAL INVESTIGATION | | BOREHOLE No. RB88S1 |
|---|---|---|
| ROLAND BAY RB88S1 | WATER DEPTH: 10.4m | Project No: 0101-4912 |
| GULF CANADA RESOURCES LTD. | DRILL SHIP : M.V. FRANK BRODERICK | ELEVATION -10.40 (m) |

SAMPLE TYPE: SHELBY TUBE | NO RECOVERY | SPLIT SPOON | HAMMER | THICK WALL TUBE | CORE

| DEPTH (m) | SAMPLE TYPE | SAMPLE NO | SOIL DESCRIPTION | USC | DEPTH (ft) |
|---|---|---|---|---|---|
| 0.0 | | 1A 1B | CLAY(CL) - silty, some sand, soft, low plastic, dark olive grey | | 0.0 |
| | | | SAND(SM) - silty, fine, medium dense, organic, dark grey | | |
| 1.0 | | 2 | CLAY(CL) - silty, shell fragment, organic, soft to firm, dark grey | | |
| | | | SAND(SM) - silty, fine grained, dense, dark grey | | 5.0 |
| 2.0 | | 3 | - 50 mm layer of silty clay, firm | | |
| | | | - dark grey to black | | |
| | | | CLAY(CL)(TILL LIKE) - silty, trace to some gravel, low plastic, hard, dark olive grey to dark grey | | |
| 3.0 | | 4A 4B | - some gravel 50 mm max, sub-angular to angular at 1.0 m | | 10.0 |
| | | | - trace shell fragments | | |
| 4.0 | | 5 | SAND(SW-SP) - well graded, dark olive grey | | |
| | | | - fine to medium grained with some gravel to 20 mm max. | | 15.0 |
| | | 6 | | | |
| 5.0 | | | - becoming cleaner | | |
| | | 7 | - gravel is sub-angular to angular | | |
| 6.0 | | | | | 20.0 |
| | | 8 | | | |
| 7.0 | | | - 30 mm silt lense at 6.90 m | | |
| | | | | | 25.0 |
| 8.0 | | 9 | - medium to coarse grained, loose to medium dense | | |
| 9.0 | | | CLAY(CL) - trace of silt, firm, massive | | 30.0 |
| | | 10A 10B | dark olive grey | | |
| | | | SAND(SP) - silty, fine grained, uniform, | | |
| 10.0 | | | END OF BOREHOLE 9.75 m | | |
| | | | | | 35.0 |
| 11.0 | | | | | |




| EBA Engineering Consultants Ltd. Calgary, Alberta | COMPLETION DEPTH 9.6 m | COMPLETE 88/09/29 |
|---|---|---|
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