



Photo A: Boulder garden and inundated vegetation at south end of lake.



Photo B: Inundated vegetation at south end of lake.

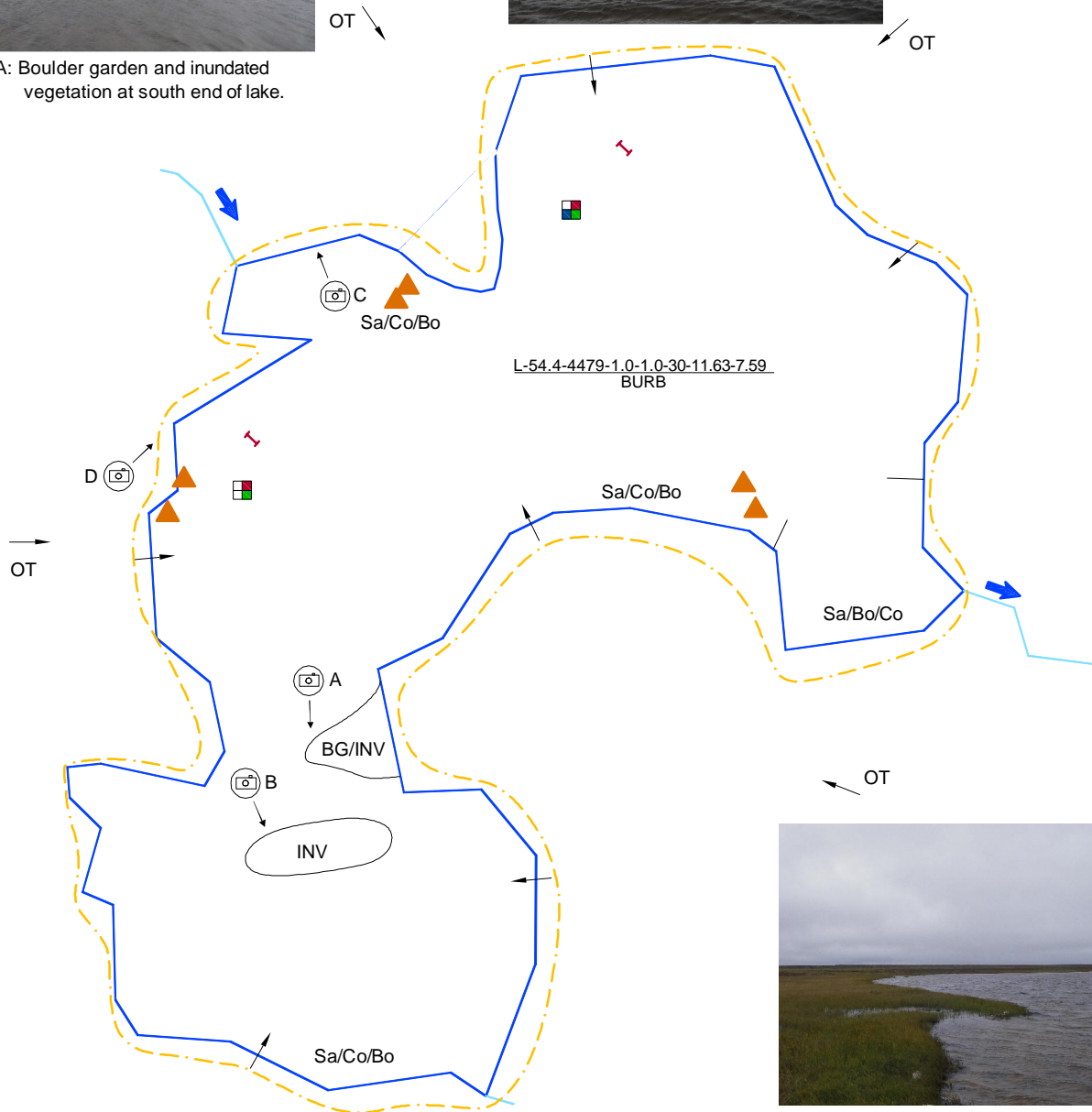
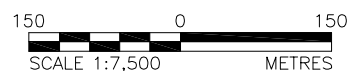


Photo D: Northeast shoreline.





Photo C: Substrate on northwest shoreline.



REFERENCE:  
Department of Energy, Mines and Resources,  
The Surveys and Mapping Branch,  
Map Sheet 66A










Note:  
See reverse for legend.









NAD83 Zone 14

PROJECT		 KIGGAVIK PROJECT	
TITLE		<b>HABITAT MAP ANDREW LAKE 2007</b>	
PROJECT	08-1362-0479	FILE No.	
DESIGN		SCALE	AS SHOWN
CADD	GNS/JDS	02/04/08	REV. 0
CHECK	EL	11/06/08	
REVIEW	JDH	11/06/08	
 <b>Golder Associates</b> Saskatoon, Saskatchewan		<b>FIGURE: V-1</b>	




## Legend - Lakes, Wetlands, Ponds





Substrate Types	
Cl	Clay
Si	Silt
Sa	Sand
Gr	Gravel
Co	Cobble
Bo	Boulder
Bd	Bedrock
Or	Organic

Habitat Features		
XXXX	BD	Beaver Dam
	BL	Beaver Lodge
		Bridge
		Culvert
	DP	Debris Pile
	EM	Emergent Vegetation
		Flow Direction
	ISC	Instream Cover
	IV	Instream Vegetation
	INV	Inundated Vegetation
	LWD	Large Woody Debris
	LE	Ledge
	LJ	Log Jam
	MIL	Multiple Island
	OHV	Overhanging Vegetation
	OHC	Overhead Cover
	RW	Root Wad
		Sand Bar
	SIL	Singular Island
	SWD	Small Woody Debris
	SM	Submergent Vegetation
	UCB	Undercut Bank
	USB	Unstable Bank










Sample Type Symbols		
		Water
		Sediment
		Benthic
		Fish


Fish Species	
AAGR	Arctic Grayling
BURB	Burbot
NNST	Ninespine stickleback

Bank/Upland Vegetation Types		
	BA	Bare Ground
	OT	Open Tundra
	MU	Muskeg/Bog
	DF	Deciduous Forest
	CF	Coniferous Forest
	MW	Mixedwood Forest
	GF	Grass/Forbs/Sedges
	GF/SH	Grass/Forbs/Shrubs
	SH	Shrubs
	MO	Moss
	OR	Organic

Bank Slope	
	Shallow Slope
	Moderate Slope
	Moderately Steep Slope
	Steep Slope

Bank Instability Ratings	
A	Aggrating
E	Eroding
S	Slumping
G	Gullyng

Capture Methods	
	Electrofishing - Backpack
	Electrofishing - Boat
	Gill Net
	Beach Seine
	Boat Seine
	Minnow Trap
	Hoop Net
	Angling
	Trap Net

General	
	Photo Location
/	Substrate/habitat Change

### Site Summary Symbol

Lake (L), Wetland (W) or Pond (P)  
 Surface Area (ha)  
 Main Shoreline Perimeter (m)  
 Max Depth (m)  
 Secchi Depth (m)  
 Dissolved Oxygen (mg/L)  
 Conductivity (µS/cm)  
 pH  
 Fish Species

#### Notes:

ha = hectares

m = metres

mg/L = milligrams per litre

µS/cm = microseimens per centimetre

Max depth was the depth recorded at sampling locations.



Photo A: South shoreline facing east.



Photo B: Substrate on north shoreline.

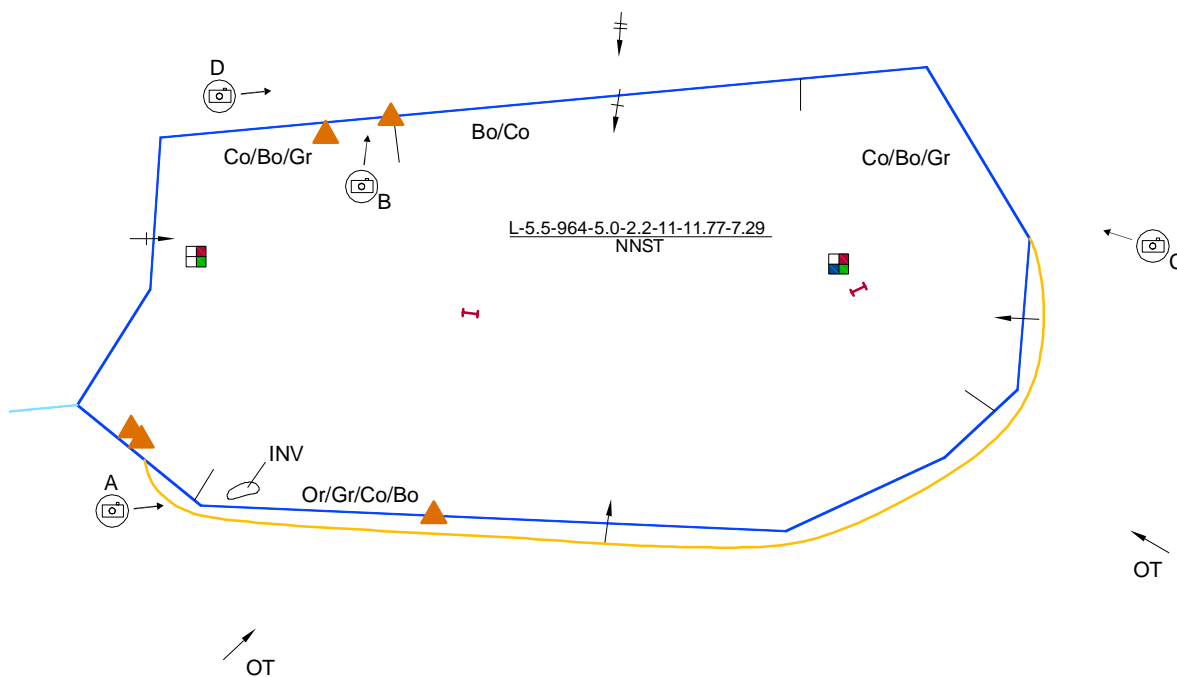


Photo C: North shoreline facing west.



Photo D: North shoreline facing east.

50 0 50  
SCALE 1:3,000 METRES

**Note:**  
See reverse for legend.










**REFERENCE:**  
Department of Energy, Mines and Resources,  
The Surveys and Mapping Branch,  
Map Sheet 66A









NAD83 Zone 14

PROJECT		KIGGAVIK PROJECT	
TITLE		HABITAT MAP CIRQUE LAKE 2007	
PROJECT		08-1362-0479	FILE No.
DESIGN	GNS/JDS	02/04/08	SCALE AS SHOWN
CADD	EL	11/06/08	REV. 0
CHECK	JDH	11/06/08	FIGURE: V-2
REVIEW			




## Legend - Lakes, Wetlands, Ponds





Substrate Types	
Cl	Clay
Si	Silt
Sa	Sand
Gr	Gravel
Co	Cobble
Bo	Boulder
Bd	Bedrock
Or	Organic

Habitat Features		
XXXX	BD	Beaver Dam
	BL	Beaver Lodge
		Bridge
		Culvert
	DP	Debris Pile
	EM	Emergent Vegetation
		Flow Direction
	ISC	Instream Cover
	IV	Instream Vegetation
	INV	Inundated Vegetation
	LWD	Large Woody Debris
	LE	Ledge
	LJ	Log Jam
	MIL	Multiple Island
	OHV	Overhanging Vegetation
	OHC	Overhead Cover
	RW	Root Wad
		Sand Bar
	SIL	Singular Island
	SWD	Small Woody Debris
	SM	Submergent Vegetation
	UCB	Undercut Bank
	USB	Unstable Bank










Sample Type Symbols		
		Water
		Sediment
		Benthic
		Fish


Fish Species	
AAGR	Arctic Grayling
BURB	Burbot
NNST	Ninespine stickleback

Bank/Upland Vegetation Types		
	BA	Bare Ground
	OT	Open Tundra
	MU	Muskeg/Bog
	DF	Deciduous Forest
	CF	Coniferous Forest
	MW	Mixedwood Forest
	GF	Grass/Forbs/Sedges
	GF/SH	Grass/Forbs/Shrubs
	SH	Shrubs
	MO	Moss
	OR	Organic

Bank Slope	
	Shallow Slope
	Moderate Slope
	Moderately Steep Slope
	Steep Slope

Bank Instability Ratings	
A	Aggrating
E	Eroding
S	Slumping
G	Gullyng

Capture Methods	
	Electrofishing - Backpack
	Electrofishing - Boat
	Gill Net
	Beach Seine
	Boat Seine
	Minnow Trap
	Hoop Net
	Angling
	Trap Net

General	
	Photo Location
/	Substrate/habitat Change

### Site Summary Symbol

Lake (L), Wetland (W) or Pond (P)  
 Surface Area (ha)  
 Main Shoreline Perimeter (m)  
 Max Depth (m)  
 Secchi Depth (m)  
 Dissolved Oxygen (mg/L)  
 Conductivity (µS/cm)  
 pH  
 Fish Species

#### Notes:

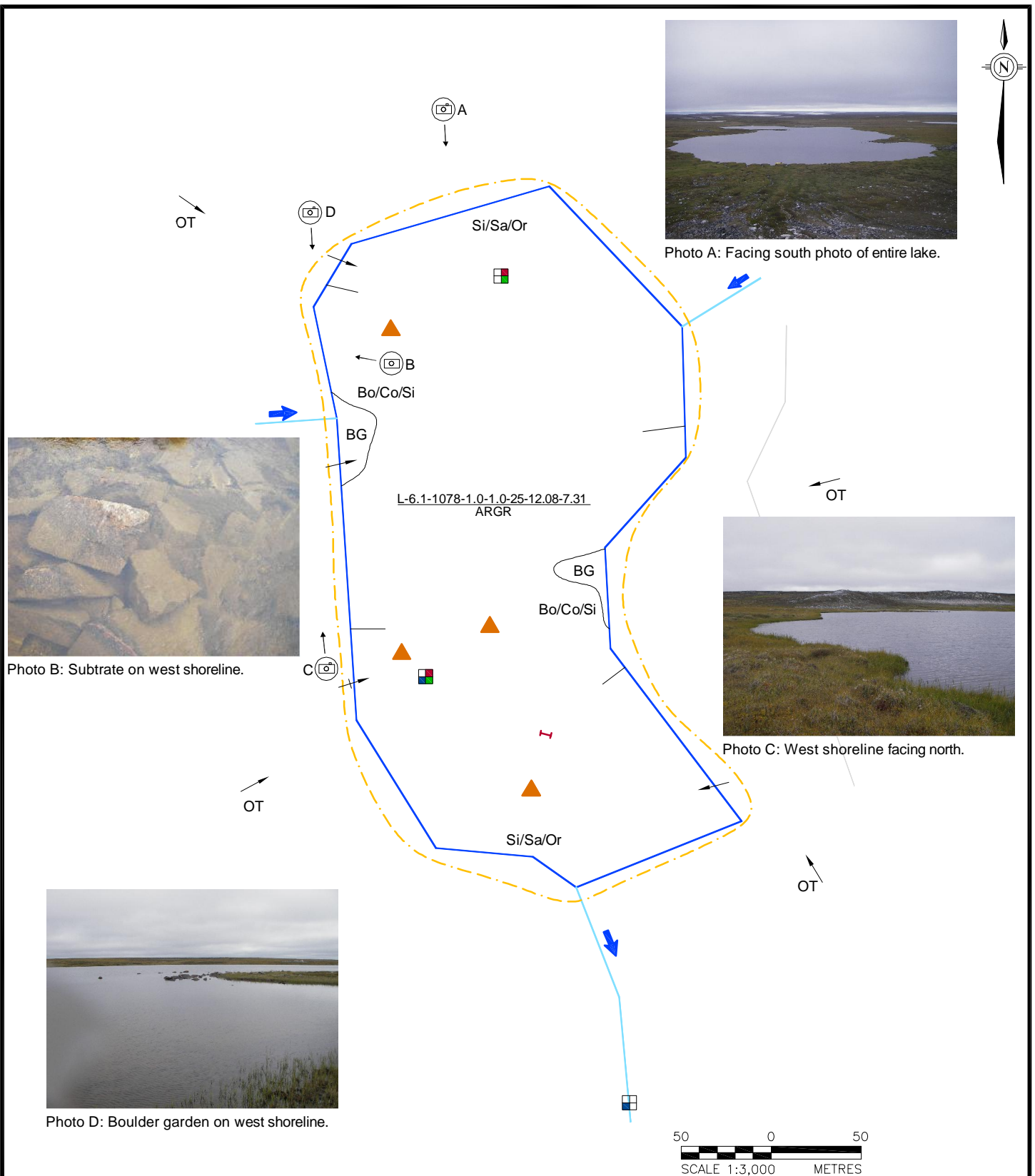
ha = hectares

m = metres

mg/L = milligrams per litre

µS/cm = microseimens per centimetre

Max depth was the depth recorded at sampling locations.



**Note:**  
See reverse for legend.

**REFERENCE:**  
Department of Energy, Mines and Resources,  
The Surveys and Mapping Branch,  
Map Sheet 66A










NAD83 Zone 14









PROJECT		KIGGAVIK PROJECT	
TITLE		HABITAT MAP CRASH LAKE 2007	
PROJECT		08-1362-0479	FILE No.
DESIGN	GNS/JDS	02/04/08	SCALE AS SHOWN REV. 0
CADD	EL	11/06/08	FIGURE: V-3
CHECK	JDH	11/06/08	
REVIEW	JDH	11/06/08	






## Legend - Lakes, Wetlands, Ponds





Substrate Types	
Cl	Clay
Si	Silt
Sa	Sand
Gr	Gravel
Co	Cobble
Bo	Boulder
Bd	Bedrock
Or	Organic

Habitat Features		
XXXX	BD	Beaver Dam
	BL	Beaver Lodge
		Bridge
		Culvert
	DP	Debris Pile
	EM	Emergent Vegetation
		Flow Direction
	ISC	Instream Cover
	IV	Instream Vegetation
	INV	Inundated Vegetation
	LWD	Large Woody Debris
	LE	Ledge
	LJ	Log Jam
	MIL	Multiple Island
	OHV	Overhanging Vegetation
	OHC	Overhead Cover
	RW	Root Wad
		Sand Bar
	SIL	Singular Island
	SWD	Small Woody Debris
	SM	Submergent Vegetation
	UCB	Undercut Bank
	USB	Unstable Bank










Sample Type Symbols		
		Water
		Sediment
		Benthic
		Fish


Fish Species	
AAGR	Arctic Grayling
BURB	Burbot
NNST	Ninespine stickleback

Bank/Upland Vegetation Types		
	BA	Bare Ground
	OT	Open Tundra
	MU	Muskeg/Bog
	DF	Deciduous Forest
	CF	Coniferous Forest
	MW	Mixedwood Forest
	GF	Grass/Forbs/Sedges
	GF/SH	Grass/Forbs/Shrubs
	SH	Shrubs
	MO	Moss
	OR	Organic

Bank Slope	
	Shallow Slope
	Moderate Slope
	Moderately Steep Slope
	Steep Slope

Bank Instability Ratings	
A	Aggrating
E	Eroding
S	Slumping
G	Gullying

Capture Methods	
	Electrofishing - Backpack
	Electrofishing - Boat
	Gill Net
	Beach Seine
	Boat Seine
	Minnow Trap
	Hoop Net
	Angling
	Trap Net

General	
	Photo Location
/	Substrate/habitat Change

### Site Summary Symbol

Lake (L), Wetland (W) or Pond (P)  
 Surface Area (ha)  
 Main Shoreline Perimeter (m)  
 Max Depth (m)  
 Secchi Depth (m)  
 Dissolved Oxygen (mg/L)  
 Conductivity (µS/cm)  
 pH  
 Fish Species

#### Notes:

ha = hectares

m = metres

mg/L = milligrams per litre

µS/cm = microseimens per centimetre

Max depth was the depth recorded at sampling locations.





Photo A: North shoreline facing west.

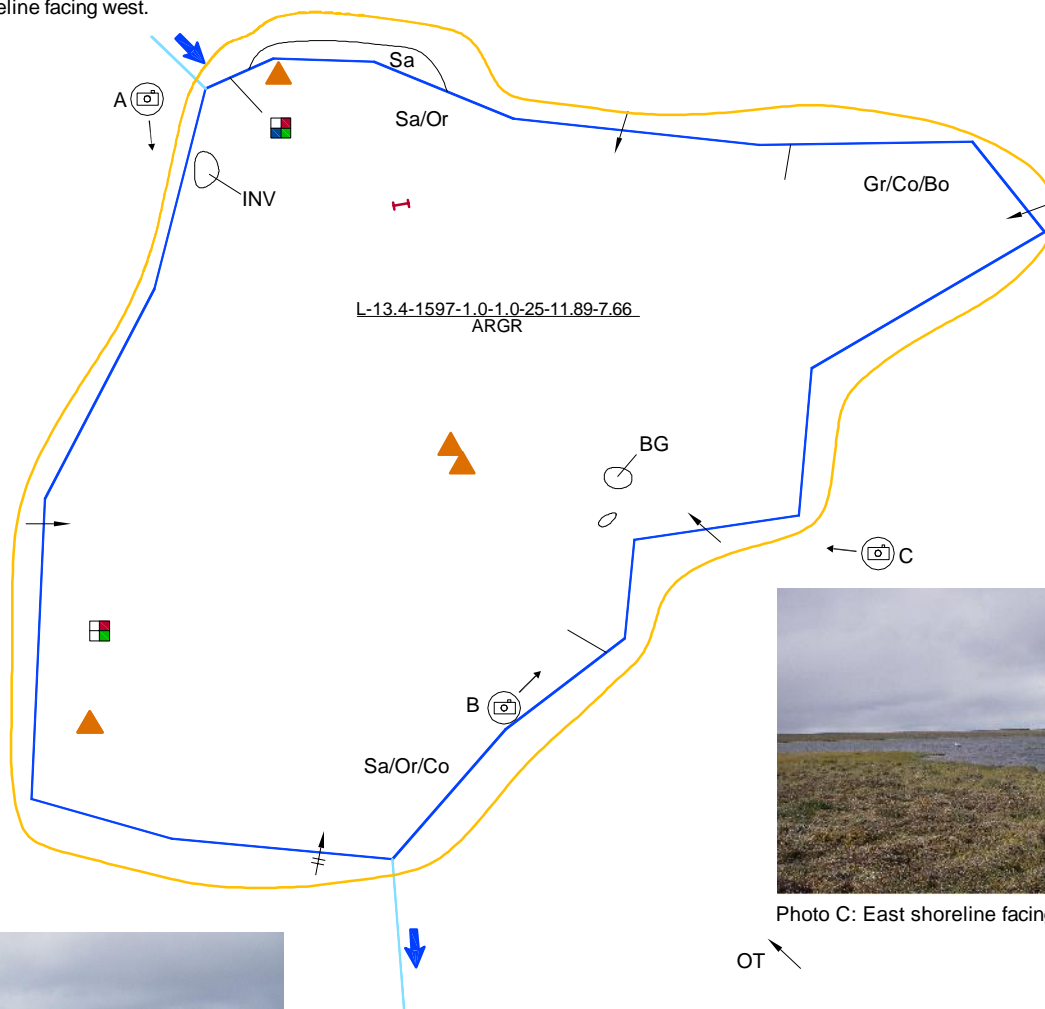
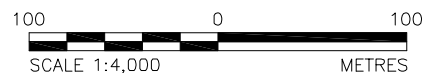


Photo C: East shoreline facing north.





Photo B: East shoreline.



**Note:**  
See reverse for legend.










**REFERENCE:**  
Department of Energy, Mines and Resources,  
The Surveys and Mapping Branch,  
Map Sheet 66A









NAD83 Zone 14

PROJECT				KIGGAVIK PROJECT		
TITLE		<b>HABITAT MAP END GRID LAKE 2007</b>				
 <b>Golder Associates</b> Saskatoon, Saskatchewan		PROJECT		08-1362-0479	FILE No.	
		DESIGN			SCALE AS SHOWN	REV. 0
		CADD	GNS/JDS	02/04/08		
		CHECK	EL	11/06/08		
		REVIEW	JDH	11/06/08		
		<b>FIGURE: V-4</b>				




## Legend - Lakes, Wetlands, Ponds





Substrate Types	
Cl	Clay
Si	Silt
Sa	Sand
Gr	Gravel
Co	Cobble
Bo	Boulder
Bd	Bedrock
Or	Organic

Habitat Features		
XXXX	BD	Beaver Dam
	BL	Beaver Lodge
		Bridge
		Culvert
	DP	Debris Pile
	EM	Emergent Vegetation
		Flow Direction
	ISC	Instream Cover
	IV	Instream Vegetation
	INV	Inundated Vegetation
	LWD	Large Woody Debris
	LE	Ledge
	LJ	Log Jam
	MIL	Multiple Island
	OHV	Overhanging Vegetation
	OHC	Overhead Cover
	RW	Root Wad
		Sand Bar
	SIL	Singular Island
	SWD	Small Woody Debris
	SM	Submergent Vegetation
	UCB	Undercut Bank
	USB	Unstable Bank










Sample Type Symbols		
		Water
		Sediment
		Benthic
		Fish


Fish Species	
AAGR	Arctic Grayling
BURB	Burbot
NNST	Ninespine stickleback

Bank/Upland Vegetation Types		
	BA	Bare Ground
	OT	Open Tundra
	MU	Muskeg/Bog
	DF	Deciduous Forest
	CF	Coniferous Forest
	MW	Mixedwood Forest
	GF	Grass/Forbs/Sedges
	GF/SH	Grass/Forbs/Shrubs
	SH	Shrubs
	MO	Moss
	OR	Organic

Bank Slope	
	Shallow Slope
	Moderate Slope
	Moderately Steep Slope
	Steep Slope

Bank Instability Ratings	
A	Aggrating
E	Eroding
S	Slumping
G	Gullying

Capture Methods	
	Electrofishing - Backpack
	Electrofishing - Boat
	Gill Net
	Beach Seine
	Boat Seine
	Minnow Trap
	Hoop Net
	Angling
	Trap Net

General	
	Photo Location
/	Substrate/habitat Change

### Site Summary Symbol

Lake (L), Wetland (W) or Pond (P)  
 Surface Area (ha)  
 Main Shoreline Perimeter (m)  
 Max Depth (m)  
 Secchi Depth (m)  
 Dissolved Oxygen (mg/L)  
 Conductivity (µS/cm)  
 pH  
 Fish Species

#### Notes:

ha = hectares

m = metres

mg/L = milligrams per litre

µS/cm = microseimens per centimetre

Max depth was the depth recorded at sampling locations.





Photo A: Substrate on north shoreline.



Photo B: North shoreline facing east.



Photo C: Substrate on west shoreline.





Photo D: West shoreline facing south at boulder garden.

200 0 200  
SCALE 1:10,000 METRES

REFERENCE:  
Department of Energy, Mines and Resources,  
The Surveys and Mapping Branch,  
Map Sheet 66A

Note:  
See reverse for legend.










NAD83 Zone 14









PROJECT				KIGGAVIK PROJECT	
TITLE		HABITAT MAP FOX LAKE 2007			
 <b>Golder Associates</b> Saskatoon, Saskatchewan		PROJECT		08-1362-0479	
		DESIGN		FILE No.	
		CADD		SCALE AS SHOWN	
		CHECK		REV. 0	
		REVIEW		FIGURE: V-5	






## Legend - Lakes, Wetlands, Ponds





Substrate Types	
Cl	Clay
Si	Silt
Sa	Sand
Gr	Gravel
Co	Cobble
Bo	Boulder
Bd	Bedrock
Or	Organic

Habitat Features		
XXXX	BD	Beaver Dam
	BL	Beaver Lodge
		Bridge
		Culvert
	DP	Debris Pile
	EM	Emergent Vegetation
		Flow Direction
	ISC	Instream Cover
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	INV	Inundated Vegetation
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	UCB	Undercut Bank
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Sample Type Symbols		
		Water
		Sediment
		Benthic
		Fish


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BURB	Burbot
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Bank/Upland Vegetation Types		
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Bank Slope	
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	Moderate Slope
	Moderately Steep Slope
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Bank Instability Ratings	
A	Aggrating
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Capture Methods	
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	Gill Net
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General	
	Photo Location
/	Substrate/habitat Change

### Site Summary Symbol

Lake (L), Wetland (W) or Pond (P)  
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 pH  
 Fish Species

#### Notes:

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m = metres

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Max depth was the depth recorded at sampling locations.



Photo A: Facing upstream at connecting channel between two areas of lake.



Photo B: Facing north at west shoreline.



Photo C: Facing downstream at top of connecting channel.



Photo D: Substrate in south end of lake.



200 0 200  
SCALE 1:10,000 METRES

**Note:**  
See reverse for legend.










**REFERENCE:**  
Department of Energy, Mines and Resources,  
The Surveys and Mapping Branch,  
Map Sheet 66A









NAD83 Zone 14

PROJECT		KIGGAVIK PROJECT	
TITLE		HABITAT MAP LOWER LAKE 2007	
PROJECT		08-1362-0479	FILE No.
DESIGN	GNS/JDS	02/04/08	SCALE AS SHOWN REV. 0
CADD	EL	11/06/08	FIGURE: V-6
CHECK	JDH	11/06/08	
REVIEW			




## Legend - Lakes, Wetlands, Ponds





Substrate Types	
Cl	Clay
Si	Silt
Sa	Sand
Gr	Gravel
Co	Cobble
Bo	Boulder
Bd	Bedrock
Or	Organic

Habitat Features		
XXXX	BD	Beaver Dam
	BL	Beaver Lodge
		Bridge
		Culvert
	DP	Debris Pile
	EM	Emergent Vegetation
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	IV	Instream Vegetation
	INV	Inundated Vegetation
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	LE	Ledge
	LJ	Log Jam
	MIL	Multiple Island
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	OHC	Overhead Cover
	RW	Root Wad
		Sand Bar
	SIL	Singular Island
	SWD	Small Woody Debris
	SM	Submergent Vegetation
	UCB	Undercut Bank
	USB	Unstable Bank










Sample Type Symbols		
		Water
		Sediment
		Benthic
		Fish


Fish Species	
AAGR	Arctic Grayling
BURB	Burbot
NNST	Ninespine stickleback

Bank/Upland Vegetation Types		
	BA	Bare Ground
	OT	Open Tundra
	MU	Muskeg/Bog
	DF	Deciduous Forest
	CF	Coniferous Forest
	MW	Mixedwood Forest
	GF	Grass/Forbs/Sedges
	GF/SH	Grass/Forbs/Shrubs
	SH	Shrubs
	MO	Moss
	OR	Organic

Bank Slope	
	Shallow Slope
	Moderate Slope
	Moderately Steep Slope
	Steep Slope

Bank Instability Ratings	
A	Aggrating
E	Eroding
S	Slumping
G	Gullying

Capture Methods	
	Electrofishing - Backpack
	Electrofishing - Boat
	Gill Net
	Beach Seine
	Boat Seine
	Minnow Trap
	Hoop Net
	Angling
	Trap Net

General	
	Photo Location
/	Substrate/habitat Change
R	Run
RF	Riffle

### Site Summary Symbol

Lake (L), Wetland (W) or Pond (P)  
 Surface Area (ha)  
 Main Shoreline Perimeter (m)  
 Max Depth (m)  
 Secchi Depth (m)  
 Dissolved Oxygen (mg/L)  
 Conductivity (µS/cm)  
 pH  
 Fish Species

#### Notes:

ha = hectares

m = metres

mg/L = milligrams per litre

µS/cm = microseimens per centimetre

Max depth was the depth recorded at sampling locations.

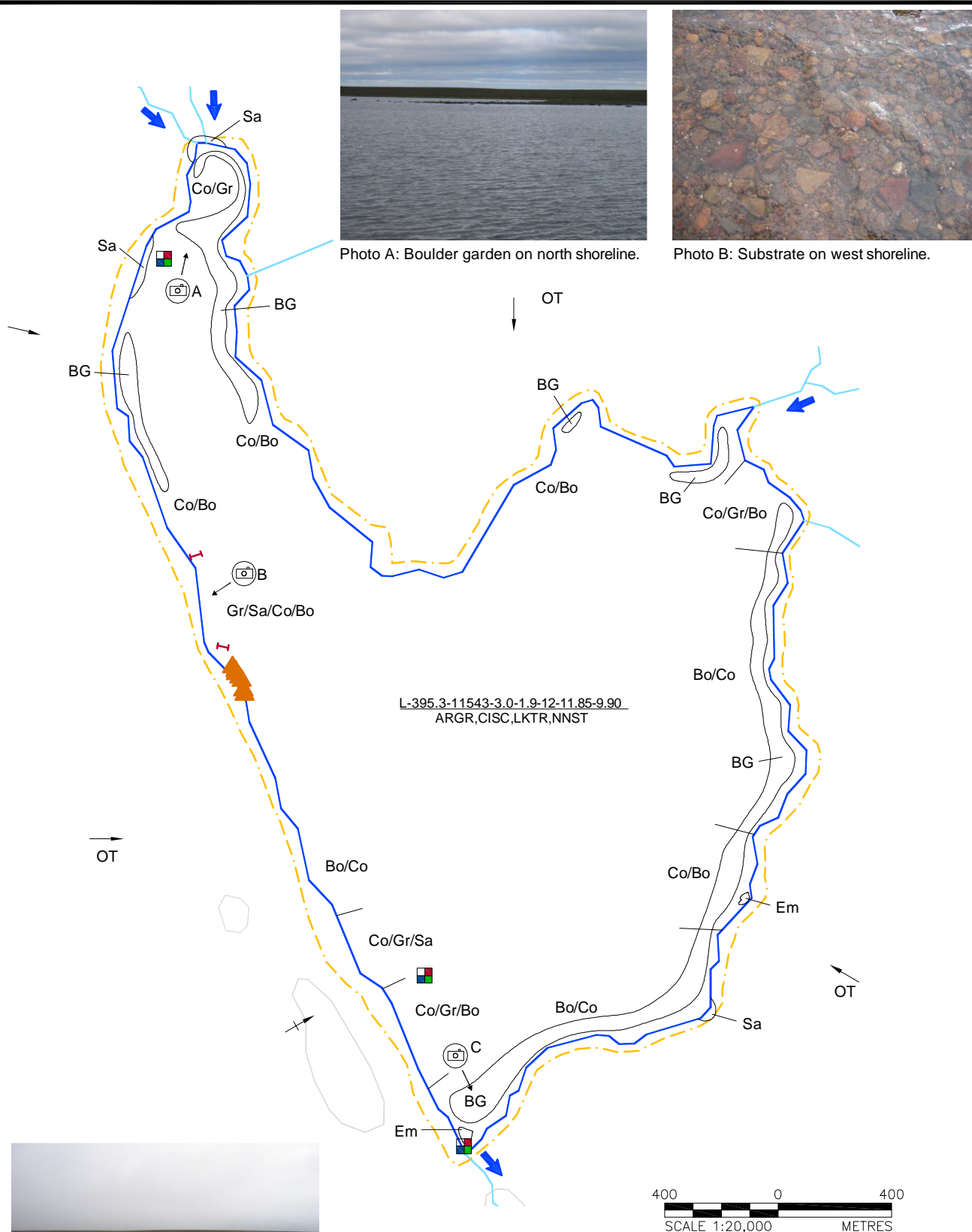




Photo C: Exposed rock (boulder garden) on east shoreline.

REFERENCE:  
Department of Energy, Mines and Resources,  
The Surveys and Mapping Branch,  
Map Sheet 66A

Note:  
See reverse for legend.

NAD83 Zone 14










PROJECT				KIGGAVIK PROJECT	
TITLE		HABITAT MAP POINTER LAKE 2007			
 <b>Golder Associates</b> Saskatoon, Saskatchewan		PROJECT		08-1362-0479	
		DESIGN		FILE No.	
		CADD		SCALE AS SHOWN REV. 0	
		CHECK		<b>FIGURE: V-7</b>	
		REVIEW			
		GNS/JDS		02/04/08	
		EL		11/06/08	
		JDH		11/06/08	









**Golden Associates**  
Saskatoon, Saskatchewan






## Legend - Lakes, Wetlands, Ponds




Substrate Types	
Cl	Clay
Si	Silt
Sa	Sand
Gr	Gravel
Co	Cobble
Bo	Boulder
Bd	Bedrock
Or	Organic

Habitat Features		
XXXX	BD	Beaver Dam
	BL	Beaver Lodge
		Bridge
		Culvert
	DP	Debris Pile
	EM	Emergent Vegetation
		Flow Direction
	ISC	Instream Cover
	IV	Instream Vegetation
	INV	Inundated Vegetation
	LWD	Large Woody Debris
	LE	Ledge
	LJ	Log Jam
	MIL	Multiple Island
	OHV	Overhanging Vegetation
	OHC	Overhead Cover
	RW	Root Wad
		Sand Bar
	SIL	Singular Island
	SWD	Small Woody Debris
	SM	Submergent Vegetation
	UCB	Undercut Bank
	USB	Unstable Bank










Sample Type Symbols		
		Water
		Sediment
		Benthic
		Fish



Fish Species	
AAGR	Arctic Grayling
BURB	Burbot
NNST	Ninespine stickleback

Bank/Upland Vegetation Types		
	BA	Bare Ground
	OT	Open Tundra
	MU	Muskeg/Bog
	DF	Deciduous Forest
	CF	Coniferous Forest
	MW	Mixedwood Forest
	GF	Grass/Forbs/Sedges
	GF/SH	Grass/Forbs/Shrubs
	SH	Shrubs
	MO	Moss
	OR	Organic

Bank Slope	
	Shallow Slope
	Moderate Slope
	Moderately Steep Slope
	Steep Slope

Bank Instability Ratings	
A	Aggrating
E	Eroding
S	Slumping
G	Gullyng

Capture Methods	
	Electrofishing - Backpack
	Electrofishing - Boat
	Gill Net
	Beach Seine
	Boat Seine
	Minnow Trap
	Hoop Net
	Angling
	Trap Net

General	
	Photo Location
	Substrate/habitat Change

### Site Summary Symbol

Lake (L), Wetland (W) or Pond (P)  
 Surface Area (ha)  
 Main Shoreline Perimeter (m)  
 Max Depth (m)  
 Secchi Depth (m)  
 Dissolved Oxygen (mg/L)  
 Conductivity (µS/cm)  
 pH  
 Fish Species

#### Notes:

ha = hectares

m = metres

mg/L = milligrams per litre

µS/cm = microseimens per centimetre

Max depth was the depth recorded at sampling locations.





Photo A: North shoreline facing east.

OT ↓

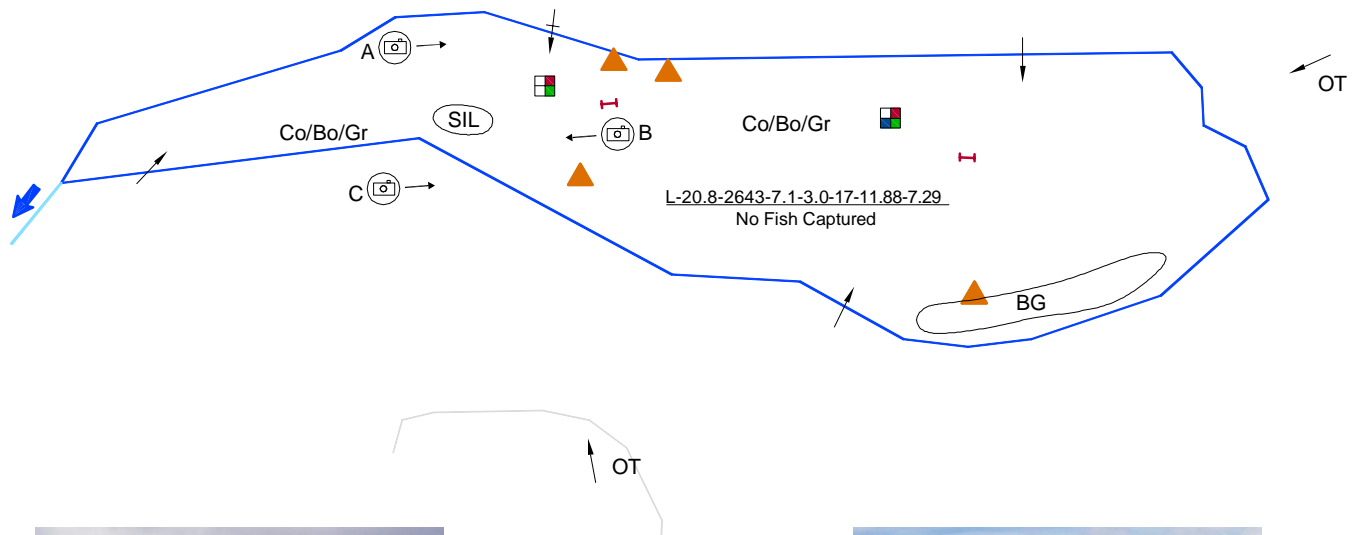
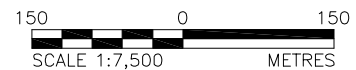


Photo B: Rock island on southwest shoreline.





Photo C: South shoreline.



**Note:**  
See reverse for legend.

**REFERENCE:**  
Department of Energy, Mines and Resources,  
The Surveys and Mapping Branch,  
Map Sheet 66A










NAD83 Zone 14









PROJECT		 KIGGAVIK PROJECT	
TITLE		<b>HABITAT MAP RIDGE LAKE 2007</b>	
 <b>Golder Associates</b> Saskatoon, Saskatchewan		PROJECT	08-1362-0479
		DESIGN	
		CADD	GNS/JDS 02/04/08
		CHECK	EL 11/06/08
		REVIEW	JDH 11/06/08
		FILE No.	
		SCALE	AS SHOWN
		REV.	0

**FIGURE: V-8**




## Legend - Lakes, Wetlands, Ponds





Substrate Types	
Cl	Clay
Si	Silt
Sa	Sand
Gr	Gravel
Co	Cobble
Bo	Boulder
Bd	Bedrock
Or	Organic

Habitat Features		
XXXX	BD	Beaver Dam
	BL	Beaver Lodge
		Bridge
		Culvert
	DP	Debris Pile
	EM	Emergent Vegetation
		Flow Direction
	ISC	Instream Cover
	IV	Instream Vegetation
	INV	Inundated Vegetation
	LWD	Large Woody Debris
	LE	Ledge
	LJ	Log Jam
	MIL	Multiple Island
	OHV	Overhanging Vegetation
	OHC	Overhead Cover
	RW	Root Wad
		Sand Bar
	SIL	Singular Island
	SWD	Small Woody Debris
	SM	Submergent Vegetation
	UCB	Undercut Bank
	USB	Unstable Bank










Sample Type Symbols		
		Water
		Sediment
		Benthic
		Fish


Fish Species	
AAGR	Arctic Grayling
BURB	Burbot
NNST	Ninespine stickleback

Bank/Upland Vegetation Types		
	BA	Bare Ground
	OT	Open Tundra
	MU	Muskeg/Bog
	DF	Deciduous Forest
	CF	Coniferous Forest
	MW	Mixedwood Forest
	GF	Grass/Forbs/Sedges
	GF/SH	Grass/Forbs/Shrubs
	SH	Shrubs
	MO	Moss
	OR	Organic

Bank Slope	
	Shallow Slope
	Moderate Slope
	Moderately Steep Slope
	Steep Slope

Bank Instability Ratings	
A	Aggrating
E	Eroding
S	Slumping
G	Gullying

Capture Methods	
	Electrofishing - Backpack
	Electrofishing - Boat
	Gill Net
	Beach Seine
	Boat Seine
	Minnow Trap
	Hoop Net
	Angling
	Trap Net

General	
	Photo Location
/	Substrate/habitat Change

### Site Summary Symbol

Lake (L), Wetland (W) or Pond (P)  
 Surface Area (ha)  
 Main Shoreline Perimeter (m)  
 Max Depth (m)  
 Secchi Depth (m)  
 Dissolved Oxygen (mg/L)  
 Conductivity ( $\mu$ S/cm)  
 pH  
 Fish Species

#### Notes:

ha = hectares

m = metres

mg/L = milligrams per litre

$\mu$ S/cm = microseimens per centimetre

Max depth was the depth recorded at sampling locations.

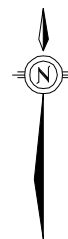


Photo A: Substrate on northwest shoreline.

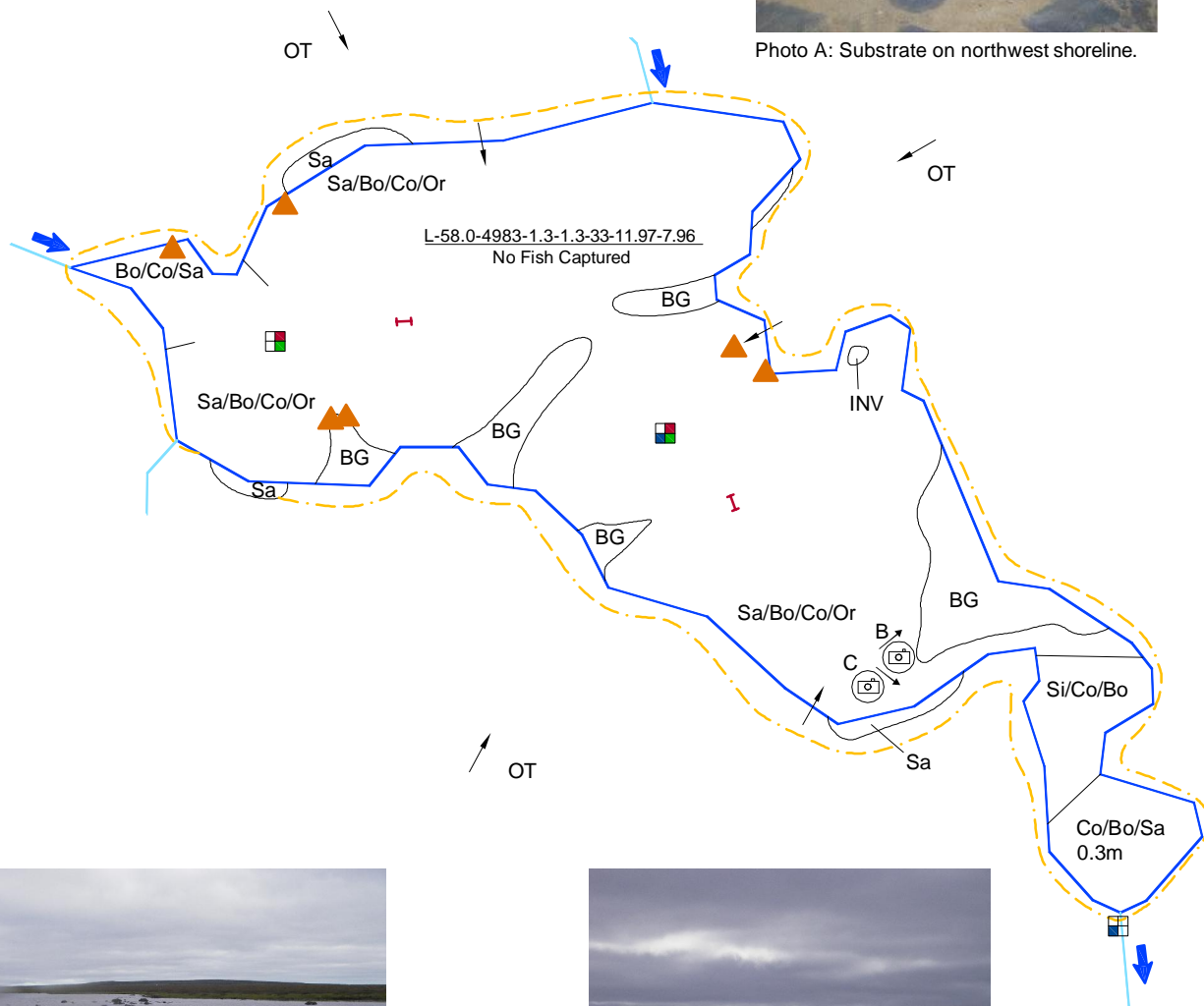


Photo B: Boulder garden at the east end of the lake.





Photo C: Sandy beach on southeast shoreline.

200 0 200  
SCALE 1:10,000 METRES

**Note:**  
See reverse for legend.










**REFERENCE:**  
Department of Energy, Mines and Resources,  
The Surveys and Mapping Branch,  
Map Sheet 66A









NAD83 Zone 14

PROJECT				KIGGAVIK PROJECT	
TITLE		HABITAT MAP SHACK LAKE 2007			
 <b>Golder Associates</b> Saskatoon, Saskatchewan		PROJECT	08-1362-0479		FILE No.
		DESIGN			SCALE AS SHOWN REV. 0
		CADD	GNS/JDS	02/04/08	
		CHECK	EL	11/06/08	
		REVIEW	JDH	11/06/08	
FIGURE: V-9					




## Legend - Lakes, Wetlands, Ponds





Substrate Types	
Cl	Clay
Si	Silt
Sa	Sand
Gr	Gravel
Co	Cobble
Bo	Boulder
Bd	Bedrock
Or	Organic

Habitat Features		
XXXX	BD	Beaver Dam
	BL	Beaver Lodge
		Bridge
		Culvert
	DP	Debris Pile
	EM	Emergent Vegetation
		Flow Direction
	ISC	Instream Cover
	IV	Instream Vegetation
	INV	Inundated Vegetation
	LWD	Large Woody Debris
	LE	Ledge
	LJ	Log Jam
	MIL	Multiple Island
	OHV	Overhanging Vegetation
	OHC	Overhead Cover
	RW	Root Wad
		Sand Bar
	SIL	Singular Island
	SWD	Small Woody Debris
	SM	Submergent Vegetation
	UCB	Undercut Bank
	USB	Unstable Bank










Sample Type Symbols		
		Water
		Sediment
		Benthic
		Fish


Fish Species	
AAGR	Arctic Grayling
BURB	Burbot
NNST	Ninespine stickleback

Bank/Upland Vegetation Types		
	BA	Bare Ground
	OT	Open Tundra
	MU	Muskeg/Bog
	DF	Deciduous Forest
	CF	Coniferous Forest
	MW	Mixedwood Forest
	GF	Grass/Forbs/Sedges
	GF/SH	Grass/Forbs/Shrubs
	SH	Shrubs
	MO	Moss
	OR	Organic

Bank Slope	
	Shallow Slope
	Moderate Slope
	Moderately Steep Slope
	Steep Slope

Bank Instability Ratings	
A	Aggrating
E	Eroding
S	Slumping
G	Gullyng

Capture Methods	
	Electrofishing - Backpack
	Electrofishing - Boat
	Gill Net
	Beach Seine
	Boat Seine
	Minnow Trap
	Hoop Net
	Angling
	Trap Net

General	
	Photo Location
/	Substrate/habitat Change

### Site Summary Symbol

Lake (L), Wetland (W) or Pond (P)  
 Surface Area (ha)  
 Main Shoreline Perimeter (m)  
 Max Depth (m)  
 Secchi Depth (m)  
 Dissolved Oxygen (mg/L)  
 Conductivity (µS/cm)  
 pH  
 Fish Species

#### Notes:

ha = hectares

m = metres

mg/L = milligrams per litre

µS/cm = microseimens per centimetre

Max depth was the depth recorded at sampling locations.



Photo A: Southeast end of lake facing boulder garden.



Photo B: Northwest shoreline.



Photo C: Substrate on northwest shoreline.

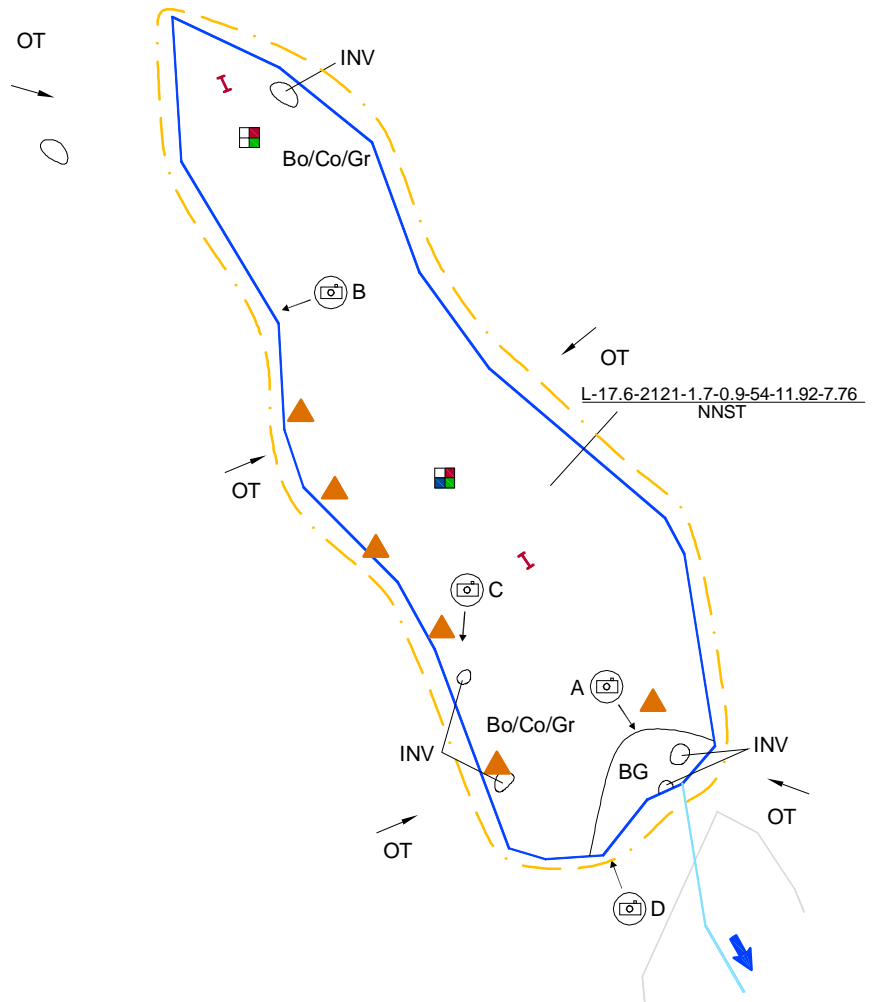


Photo D: On south shoreline facing north shoreline.

**Note:**

See reverse for legend.

**REFERENCE:**  
Department of Energy, Mines and Resources,  
The Surveys and Mapping Branch,  
Map Sheet 66A



150 0 150  
SCALE 1:7,500 METRES










PROJECT		KIGGAVIK PROJECT	
TITLE		HABITAT MAP SIK SIK LAKE 2007	
PROJECT		08-1362-0479	FILE No.
DESIGN	GNS/JDS	02/04/08	SCALE AS SHOWN REV. 0
CADD	EL	11/06/08	FIGURE: V-10
CHECK	JDH	11/06/08	
REVIEW	JDH	11/06/08	











NAD83 Zone 14




## Legend - Lakes, Wetlands, Ponds





Substrate Types	
Cl	Clay
Si	Silt
Sa	Sand
Gr	Gravel
Co	Cobble
Bo	Boulder
Bd	Bedrock
Or	Organic

Habitat Features		
XXXX	BD	Beaver Dam
	BL	Beaver Lodge
		Bridge
		Culvert
	DP	Debris Pile
	EM	Emergent Vegetation
		Flow Direction
	ISC	Instream Cover
	IV	Instream Vegetation
	INV	Inundated Vegetation
	LWD	Large Woody Debris
	LE	Ledge
	LJ	Log Jam
	MIL	Multiple Island
	OHV	Overhanging Vegetation
	OHC	Overhead Cover
	RW	Root Wad
		Sand Bar
	SIL	Singular Island
	SWD	Small Woody Debris
	SM	Submergent Vegetation
	UCB	Undercut Bank
	USB	Unstable Bank










Sample Type Symbols		
		Water
		Sediment
		Benthic
		Fish


Fish Species	
AAGR	Arctic Grayling
BURB	Burbot
NNST	Ninespine stickleback

Bank/Upland Vegetation Types		
	BA	Bare Ground
	OT	Open Tundra
	MU	Muskeg/Bog
	DF	Deciduous Forest
	CF	Coniferous Forest
	MW	Mixedwood Forest
	GF	Grass/Forbs/Sedges
	GF/SH	Grass/Forbs/Shrubs
	SH	Shrubs
	MO	Moss
	OR	Organic

Bank Slope	
	Shallow Slope
	Moderate Slope
	Moderately Steep Slope
	Steep Slope

Bank Instability Ratings	
A	Aggrating
E	Eroding
S	Slumping
G	Gullyng

Capture Methods	
	Electrofishing - Backpack
	Electrofishing - Boat
	Gill Net
	Beach Seine
	Boat Seine
	Minnow Trap
	Hoop Net
	Angling
	Trap Net

General	
	Photo Location
/	Substrate/habitat Change

### Site Summary Symbol

Lake (L), Wetland (W) or Pond (P)  
 Surface Area (ha)  
 Main Shoreline Perimeter (m)  
 Max Depth (m)  
 Secchi Depth (m)  
 Dissolved Oxygen (mg/L)  
 Conductivity (µS/cm)  
 pH  
 Fish Species

#### Notes:

ha = hectares

m = metres

mg/L = milligrams per litre

µS/cm = microseimens per centimetre

Max depth was the depth recorded at sampling locations.



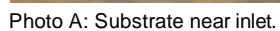


Photo B: Shoreline at northeast end of lake.



Photo C: Shoreline at south end of lake.

**REFERENCE :**  
Department of Energy, Mines and Resources,  
The Surveys and Mapping Branch,  
Map Sheet 66A

Note:  
See reverse for legend.

NAD83 Zone 14




















PROJECT 08-1362-0479			FILE No.	
DESIGN			SCALE AS SHOWN	REV. 0
CADD	GNS/JDS	02/04/08	<b>FIGURE: V-11</b>	
CHECK	EL	11/06/08		
REVIEW	JDH	11/06/08		

**FIGURE: V-11**




## Legend - Lakes, Wetlands, Ponds





Substrate Types	
Cl	Clay
Si	Silt
Sa	Sand
Gr	Gravel
Co	Cobble
Bo	Boulder
Bd	Bedrock
Or	Organic

Habitat Features		
XXXX	BD	Beaver Dam
	BL	Beaver Lodge
		Bridge
		Culvert
	DP	Debris Pile
	EM	Emergent Vegetation
		Flow Direction
	ISC	Instream Cover
	IV	Instream Vegetation
	INV	Inundated Vegetation
	LWD	Large Woody Debris
	LE	Ledge
	LJ	Log Jam
	MIL	Multiple Island
	OHV	Overhanging Vegetation
	OHC	Overhead Cover
	RW	Root Wad
		Sand Bar
	SIL	Singular Island
	SWD	Small Woody Debris
	SM	Submergent Vegetation
	UCB	Undercut Bank
	USB	Unstable Bank










Sample Type Symbols		
		Water
		Sediment
		Benthic
		Fish


Fish Species	
AAGR	Arctic Grayling
BURB	Burbot
NNST	Ninespine stickleback

Bank/Upland Vegetation Types		
	BA	Bare Ground
	OT	Open Tundra
	MU	Muskeg/Bog
	DF	Deciduous Forest
	CF	Coniferous Forest
	MW	Mixedwood Forest
	GF	Grass/Forbs/Sedges
	GF/SH	Grass/Forbs/Shrubs
	SH	Shrubs
	MO	Moss
	OR	Organic

Bank Slope	
	Shallow Slope
	Moderate Slope
	Moderately Steep Slope
	Steep Slope

Bank Instability Ratings	
A	Aggrating
E	Eroding
S	Slumping
G	Gullying

Capture Methods	
	Electrofishing - Backpack
	Electrofishing - Boat
	Gill Net
	Beach Seine
	Boat Seine
	Minnow Trap
	Hoop Net
	Angling
	Trap Net

General	
	Photo Location
/	Substrate/habitat Change

### Site Summary Symbol

Lake (L), Wetland (W) or Pond (P)  
 Surface Area (ha)  
 Main Shoreline Perimeter (m)  
 Max Depth (m)  
 Secchi Depth (m)  
 Dissolved Oxygen (mg/L)  
 Conductivity (µS/cm)  
 pH  
 Fish Species

#### Notes:

ha = hectares

m = metres

mg/L = milligrams per litre

µS/cm = microseimens per centimetre

Max depth was the depth recorded at sampling locations.