Appendix 1. NSE Industrial Approval for Current Operations

NOV-01-2011 12:01 From: To:902 532 1700 P.1/1

NOVA SCOTIA
Environment

APPROVAL

Province of Nova Scotia
***Environment Act*, S.N.S. 1994-95, c.1**

APPROVAL HOLDER:	**Ivan Trimper**
SITE PID:	**05112719 & 05180195**
APPROVAL NO:	**2000-018068-R01**
EXPIRY DATE:	**January 7, 2021**

Pursuant to Part V of the *Environment Act*, S.N.S. 1994-95, c.1 as amended from time to time, approval is granted to the Approval Holder subject to the Terms and Conditions attached to and forming part of this Approval, for the following activity:

Construction and operation of a Aggregate Pit, and associated works, at or near Torbrook West, Annapolis County in the Province of Nova Scotia.

Administrator

Effective Date Jan 10/11

Appendix 2. Public Involvement Correspondence

March 4th, 2011

[Name of Adjacent Landowner]
[Address of Adjacent Landowner]

RE: Ivan Trimper Pit Expansion – Environmental Assessment Registration

I am writing to inform you of plans to undertake an Environmental Assessment Registration for the expansion of a sand and gravel pit, located in the community of Torbrook, Annapolis County. Please see the attached sheet for a diagram showing the location of the pit. The approximate UTM coordinates of the pit are: 20T 342140 4976550. I am writing to you as I believe you have land holdings in the vicinity of this property.

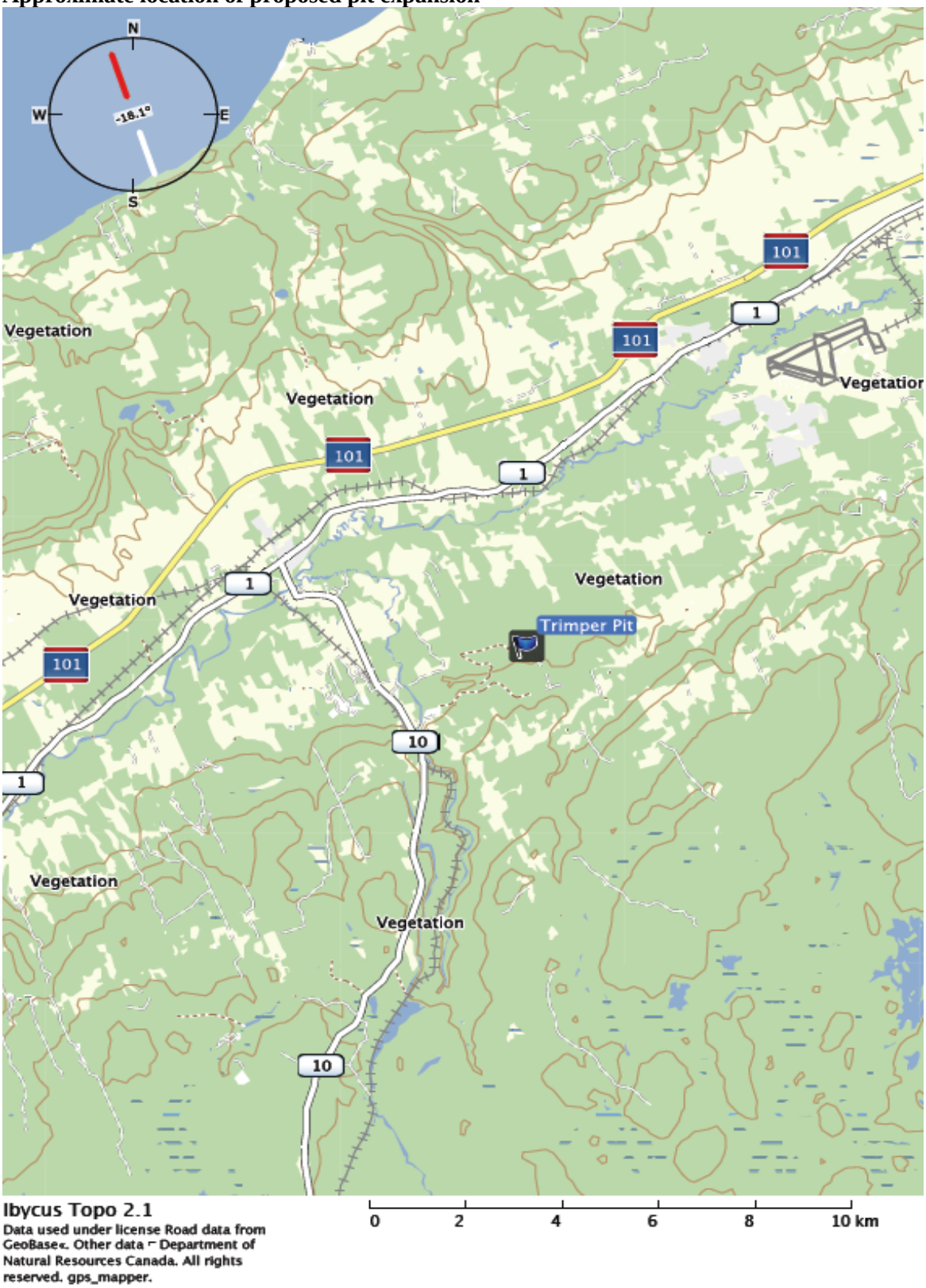
The property owner, Ivan Trimper, currently holds an Industrial Approval for the site and has operated a sand and gravel extraction operation at this location for approximately 22 years. Over the years, it has slowly grown in size, and is currently about 4.0 ha, thus triggering the requirement for an Environmental Assessment, pursuant to the Nova Scotia Environment Act.

During the course of 2011, East Coast Aquatics Inc. will be gathering the necessary information to allow for the preparation of the Environmental Assessment registration document for the pit expansion. Issues to be addressed will include: local species at risk, surface and groundwater resources, archeological and heritage resources, wetlands, and air quality. The potential effects of the pit activities will be addressed in the registration document. We welcome you to provide any information or concerns you may have regarding the area and the proposed operations directly to East Coast Aquatics Inc. at the address listed below.

Yours sincerely,

Andy Sharpe
Projects Manager

Approximate location of proposed pit expansion



March 4th, 2011

Chief and Council
Annapolis Valley First Nation
P.O. Box 89
Cambridge Station, Kings County, NS
B0P 1G0

RE: Ivan Trimper Pit Expansion – Environmental Assessment Registration

I am writing to inform you of plans to undertake an Environmental Assessment Registration for the expansion of a sand and gravel pit, located in the community of Torbrook, Annapolis County. Please see the attached sheet for a diagram showing the location of the pit. The approximate UTM coordinates of the pit are: 20T 342140 4976550.

The property owner, Ivan Trimper, currently holds an Industrial Approval for the site and has operated a sand and gravel extraction operation at this location for approximately 22 years. Over the years, it has slowly grown in size, and is currently about 4.0 ha, thus triggering the requirement for an Environmental Assessment, pursuant to the Nova Scotia Environment Act. During the many years of operation, no heritage, archeological or First Nations items have been identified.

During the course of 2011, East Coast Aquatics Inc. will be gathering the necessary information to allow for the preparation of the Environmental Assessment registration document for the pit expansion. Issues to be addressed will include: local species at risk, surface and groundwater resources, archeological and heritage resources, wetlands, and air quality. The potential effects of the pit activities will be addressed in the registration document. We welcome you to provide any information or concerns you may have regarding the area and the proposed operations directly to East Coast Aquatics Inc. at the address listed below.

Yours sincerely,

Andy Sharpe
Projects Manager

March 4th, 2011

Chief and Council
Bear River First Nation
P.O. Box 210
Bear River, NS
B0S 1B0

RE: Ivan Trimper Pit Expansion – Environmental Assessment Registration

I am writing to inform you of plans to undertake an Environmental Assessment Registration for the expansion of a sand and gravel pit, located in the community of Torbrook, Annapolis County. Please see the attached sheet for a diagram showing the location of the pit. The approximate UTM coordinates of the pit are: 20T 342140 4976550.

The property owner, Ivan Trimper, currently holds an Industrial Approval for the site and has operated a sand and gravel extraction operation at this location for approximately 22 years. Over the years, it has slowly grown in size, and is currently about 4.0 ha, thus triggering the requirement for an Environmental Assessment, pursuant to the Nova Scotia Environment Act. During the many years of operation, no heritage, archeological or First Nations items have been identified.

During the course of 2011, East Coast Aquatics Inc. will be gathering the necessary information to allow for the preparation of the Environmental Assessment registration document for the pit expansion. Issues to be addressed will include: local species at risk, surface and groundwater resources, archeological and heritage resources, wetlands, and air quality. The potential effects of the pit activities will be addressed in the registration document. We welcome you to provide any information or concerns you may have regarding the area and the proposed operations directly to East Coast Aquatics Inc. at the address listed below.

Yours sincerely,

Andy Sharpe
Projects Manager

March 4th, 2011

Mr. Donald Julien
Executive Director
Confederacy of Mainland Mi'kmaq
57 Martin Crescent
P.O. Box 1590
Truro, NS
B2N 5V3

Dear Mr. Julien,

RE: Ivan Trimper Pit Expansion – Environmental Assessment Registration

I am writing to inform you of plans to undertake an Environmental Assessment Registration for the expansion of a sand and gravel pit, located in the community of Torbrook, Annapolis County. Please see the attached sheet for a diagram showing the location of the pit. The approximate UTM coordinates of the pit are: 20T 342140 4976550.

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Yours sincerely,

Andy Sharpe
Projects Manager

March 4th, 2011

Kwilmu'kw Maw-klusuaqn Negotiation Office
851 Willow St.
Truro, NS
B2N 6N8

RE: Ivan Trimper Pit Expansion – Environmental Assessment Registration

I am writing to inform you of plans to undertake an Environmental Assessment Registration for the expansion of a sand and gravel pit, located in the community of Torbrook, Annapolis County. Please see the attached sheet for a diagram showing the location of the pit. The approximate UTM coordinates of the pit are: 20T 342140 4976550.

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Yours sincerely,

Andy Sharpe
Projects Manager

March 4th, 2011

Chief Grace Conrad
Native Council of Nova Scotia
P.O. Box 1320
Truro, NS
B2N 5N2

Dear Chief Conrad,

RE: Ivan Trimper Pit Expansion – Environmental Assessment Registration

I am writing to inform you of plans to undertake an Environmental Assessment Registration for the expansion of a sand and gravel pit, located in the community of Torbrook, Annapolis County. Please see the attached sheet for a diagram showing the location of the pit. The approximate UTM coordinates of the pit are: 20T 342140 4976550.

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Yours sincerely,

Andy Sharpe
Projects Manager

[Flyer mailed to Annapolis Valley & Bear River First Nations]

Open House

Environmental Assessment of Trimper Pit Expansion

Three Rivers Community Hall, October 20, 2011
6.30 to 8.00 pm

An Open House will be held at the Three Rivers Community Hall, October 20, 2011, 6.30 pm to 8.00 pm. This is part of the provincial Environmental Assessment for the proposed expansion of the Ivan Trimper Sand and Gravel Pit. Representatives from East Coast Aquatics Inc. will be on hand to discuss the environmental assessment, its findings and to answer questions. All are welcome.

You have received this notice as you may have interests in the vicinity of the project site.

For more information, contact:

Andy Sharpe 902 532 1700
Mike Parker 902 665 4682
East Coast Aquatics
andy@eastcoastaquatics.ca

[Flyer mailed to adjacent landowners]

Open House

Environmental Assessment of Trimper Pit Expansion

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You have received this notice as our records indicate that you may have property in the vicinity of the project site.

For more information, contact:

Andy Sharpe 902 532 1700
Mike Parker 902 665 4682
East Coast Aquatics
andy@eastcoastaquatics.ca

Appendix 3. Species of Conservation Concern in the Vicinity of the Project Site

Taxa Group	Common Name	Scientific Name	COSEWIC Status	SARA Status	NSESA Status	NS General Status	Prov. Rarity	Dist. (km)
Birds	Northern goshawk	Accipiter gentilis				Yellow	S3S4	9+/-5
Birds	Razorbill	Alca torda				Yellow	S1B, S4N	95+/-5
Birds	Owl, Short-eared	Asio flammeus	Special Concern	Special Concern			S3B	54+/-5
Birds	Short-eared owl	Asio flammeus				Yellow	S3B	54+/-5
Birds	Brant	Branta bernicla				Yellow		
Birds	Goldeneye, Barrow's (Eastern)	Bucephala islandica	Special Concern	Special Concern		Yellow	S1N	54+/-0.1
Birds	Knot rufa subspecies, Red	Calidris canutus rufa	Endangered		Endangered	Yellow	S3M	54+/-0.1
Birds	Purple sandpiper	Calidris maritima				Yellow	S3M, S3N	8+/-10
Birds	Whip-poor-will	Caprimulgus vociferus	Threatened				S2B	45+/-5
Birds	Thrush, Bicknell's	Catharus bicknelli	Threatened	Special Concern	Vulnerable	Yellow	S2S3B	50+/-5
Birds	Swift, Chimney	Chaetura pelagica	Threatened	Threatened	Endangered	Yellow		
Birds	Plover melodus subspecies, Piping	Charadrius melodus melodus	Endangered	Endangered	Endangered	Red		
Birds	Nighthawk, Common	Chordeiles minor	Threatened	Threatened	Threatened	Yellow		
Birds	Flycatcher, Olive-sided	Contopus cooperi	Threatened	Threatened		Yellow		
Birds	Rail, Yellow	Coturnicops noveboracensis	Special Concern					
Birds	Bobolink	Dolichonyx oryzivorus	Threatened			Yellow	S3S4B	3+/-5
Birds	Blackbird, Rusty	Euphagus carolinus	Special Concern	Special Concern		Yellow	S3B	7+/-5
Birds	Falcon anatum, Perigrine	Falco peregrinus anatum		Threatened	Vulnerable	Red	S1B	19+/-50
Birds	Falcon anatum/tundrius, Peregrine	Falco peregrinus anatum/tundrius	Special Concern					
Birds	Common Loon	Gavia immer				Yellow		
Birds	Barn swallow	Hirundo rustica				Yellow		
Birds	Duck, Harlequin (Eastern)	Histrionicus histrionicus	Special Concern	Special Concern	Endangered	Yellow	S2N	84+/-10
Birds	Bittern, Least	Ixobrychus exilis	Threatened	Threatened			S1S2B	87+/-0.1
Birds	Curlew, Eskimo	Numenius borealis	Endangered	Endangered			SXM	59+/-0.5
Birds	Black-crowned Night Heron	Nycticorax nycticorax				Yellow	S1S2B	87+/-1
Birds	Boreal chickadee	Parus hudsonicus				Yellow		
Birds	Ipswich sparrow	Passerculus sandwichenis princeps				Yellow		
Birds	Sparrow princeps subspecies, Savannah	Passerculus sandwichenis princeps	Special Concern	Special Concern		Yellow		
Birds	Gray Jay	Perisoreus canadensis				Yellow		
Birds	Vesper sparrow	Pooecetes gramineus				Yellow	S2B	9+/-5
Birds	Eastern bluebird	Saialia sialis				Yellow	S3B	9+/-5
Birds	Common Tern	Sterna paradisaea				Yellow	S3B	50+/-5

Taxa Group	Common Name	Scientific Name	COSEWIC Status	SARA Status	NSESA Status	NS General Status	Prov. Rarity	Dist. (km)
Arthropods	Ringlet, Maritime	Coenonympha nipisiquit	Endangered					
Arthropods	Monarch	Danaus plexippus	Special Concern	Special Concern			S3B	36+/-1
Arthropods	Early Hairstreak	Erora laetus				Red	S1	68+/-1
Arthropods	Bog Elfin	Incisalia lanoraieensis				Red	S1S2	64+/-1
Arthropods	Jutta Arctic	Oeneis jutta				Red	S1	85+/-10
Arthropods	Snaketail, Pygmy	Ophiogomphus howei	Special Concern					
Birds	Northern goshawk	Accipiter gentilis				Yellow	S3S4	9+/-5
Fishes	Gaspereau (Alewife)	Alosa pseudoharengus				Yellow		
Fishes	Whitefish, Atlantic	Coregonus huntsmani	Endangered		Endangered		S1	56+/-0
Fishes	Bass, Striped	Morone saxatilis	Threatened				S2	21+/-10
Fishes	Eel, American	Anguilla rostrata	Special Concern					
Fishes	Brook stickleback	Culaea inconstans				Yellow		
Fishes	Pearl Dace	Margariscus margarita				Yellow		
Fishes	Salmon, Atlantic (Inner Bay of Fundy)	Salmo salar	Endangered				S2	34+/-10
Fishes	Brook Trout (Char)	Salvelinus fontinalis				Yellow		
Fishes	Lake Trout (Char)	Salvelinus namaycush				Yellow		
Lichens	Blue Felt	Degelia plumbea	Special Concern					
Lichens	Vole Ears	Erioderma mollissimum	Endangered					
Lichens	Lichen, Boreal Felt	Erioderma pedicellatum	Endangered	Endangered	Endangered		S1S2	47+/-0
Lichens	Ghost Antler	Pseudevernia cladonia	Special Concern				S3	48+/-0
Lichens	Glass-whiskers, Frosted (NS populatio)	Sclerophora peronella	Special Concern	Special Concern				
Mammals	Marten, American	Martes americana			Endangered		S1	21+/-10
Mammals	Moose (Mainland)	Alces alces americana			Endangered	Red	S1	42+/-10
Mammals	Southern Flying Squirrel	Glaucomys volans		Special Concern		Yellow	S2S3	44+/-10
Mammals	Canada Lynx	Lynx canadensis			Endangered	Red	S1	69+/-5
Mammals	Fisher	Martes pennanti				Yellow	S2	12+/-10
Mammals	Little Brown Bat	Myotis lucifugus				Yellow	S2	73+/-10
Mammals	Northern Long-eared Bat	Myotis septentrionalis				Yellow	S2	73+/-10
Mammals	Eastern Pipistrelle	Pipistrellus subflavus				Yellow	S2?	68+/-0
Mammals	Long-tailed Shrew	Sorex dispar				Yellow	S1	98+/-0.1
Molluscs	Lampmussel, Yellow	Lampsilis cariosa	Special Concern	Special Concern	Threatened	Red		
Molluscs	Squawfoot	Strophitus undulatus				Red		
Reptiles	Turtle, Snapping	Chelydra serpentina	Special Concern					
Reptiles	Turtle, Blanding's	Emydoidea blandingii	Endangered	Endangered	Endangered	Red	S1	36+/-0
Reptiles	Turtle, Wood	Glyptemys insculpta	Threatened	Threatened	Vulnerable	Yellow	S3	7+/-10
Reptiles	Ribbonsnake, Eastern (Atlantic)	Thamnophis sauritus	Threatened	Threatened	Threatened		S2S3	21+/-0
Reptiles	Ribbonsnake, Northern	Thamnophis sauritus septentrionalis				Yellow		

Taxa Group	Common Name	Scientific Name	COSEWIC Status	SARA Status	NSESA Status	NS General Status	Prov. Rarity	Dist. (km)
Vasc. Plants	Pepperbush, Sweet	Clethra alnifolia	Special Concern	Special Concern	Vulnerable		S1	51+/-1
Vasc. Plants	Coreopsis, Pink	Coreopsis rosea	Endangered	Endangered	Endangered	Red		
Vasc. Plants	Ram's-Head Lady Slipper	Cypripedium arietinum			Endangered	Red	S1	72+/-0.1
Vasc. Plants	Sundew, Threadleaved	Drosera filiformis	Endangered	Endangered	Endangered	Red		
Vasc. Plants	Spike-rush, Tubercled	Eleocharis tuberculosa	Special Concern	Threatened	Threatened	Red	S2	87+/-0
Vasc. Plants	Avens, Eastern Mountain	Geum peckii	Endangered	Endangered	Endangered	Red		
Vasc. Plants	Rockrose (Canada Frostweed)	Helianthumum candense			Endangered			
Vasc. Plants	Water-pennywort	Hydrocotyle umbellata	Threatened	Threatened	Endangered		S1	64+/-10
Vasc. Plants	Quillwort, Prototype	Isoetes prototypus	Special Concern	Special Concern	Vulnerable	Red	S2	17+/-0.1
Vasc. Plants	Rush, New Jersey	Juncus caesariensis	Special Concern	Special Concern	Vulnerable	Red		
Vasc. Plants	Redroot	Lachnanthes caroliniana	Special Concern	Threatened	Threatened	Red	S2	61+/-0
Vasc. Plants	Pinweed, Beach	Lechea maritima	Special Concern					
Vasc. Plants	Lilaeopsis, Eastern	Lilaeopsis chinensis	Special Concern	Special Concern	Vulnerable		S2	70+/-10
Vasc. Plants	Golden Crest	Lophiola aurea	Threatened	Threatened	Threatened	Red	S2	53+/-10
Vasc. Plants	Lousewort, Furbish's	Pedicularis furbishiae	Endangered					
Vasc. Plants	Gentian, Plymouth	Sabatia kennedyana	Threatened	Threatened	Endangered	Red	S1	90+/-0.5
Vasc. Plants	Bulrush, Long's	Scirpus longii	Special Concern	Special Concern	Vulnerable	Red	S2S3	57+/-0
Vasc. Plants	Aster, Anticosti	Symphyotrichum anticostense	Threatened					
Vasc. Plants	Eastern white cedar	Thuja occidentalis			Vulnerable		S1S2	4+/-5
Vasc. Plants	Frostweed, Long-branched	Helianthemum canadense			Endangered		S1	7+/-0

Appendix 4. Photographs

Photo 4.1: Central pit area with weigh bridge, crusher and aggregate stockpiles.

Photo 4.2: Central pit crusher.

Photo 4.3: South pit, looking north.

Photo 4.4: Central pit, looking north.

Photo 4.5: Terrestrial flora of the mixed wood upland.

Photo 4.6: Flora at the ericaceous shrub bog.

Photo 4.7: Terrestrial Flora of the wet black spruce forest.

Photo 4.8: Terrestrial flora of the brookside deciduous woods/alder thicket, downstream.

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Photo 4.9: Terrestrial flora of the hemlock ravine.

Photo 4.10: Terrestrial flora of the upland red pine forest.

Photo 4.11: Bald Hill Brook upstream water quality sampling location.

Photo 4.12: Bald Hill Brook downstream water quality sampling location.

Photo 4.13: Bald Hill Brook at the hemlock ravine and site of quantitative stream habitat assessment reach.

Photo 4.14: Pond on Bald Hill Brook near weigh bridge from which trout were angled.

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Photo 4.15: Brook Trout (*Salvelinus fontinalis*) caught in pond near weigh bridge (see Photo 4.14).

Photo 4.16: All Terrain Vehicle (ATV) impacts along Bald Hill Brook.

Photo 4.17: Deciduous woods/alder thicket along Bald Hill Brook, upstream.

Photo 4.18: Deciduous woods/alder thicket along Bald Hill Brook, upstream.

Photo 4.19: Ericaceous basin bog.

Photo 4.20: Ditch leading from ericaceous bog.

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Appendix 5. Avian Fauna Survey Results

Table 1:Point Count Locations and Habitat

Number	GPS Coordinates (map 20)	Habitat
1	342063E, 4976147N	Mature red and white pine and mixed woods with some understory.
2	341889E, 4976091N	Mature red pine stand.
3	342006E, 4976972N	Mature hardwood stand: yellow birch, sugar and red maple.
4	341924E, 4976855N	Edge of younger Sphagnum-heath bog; mixed woods on slope on other side.
5	342220E, 4976884N	Edge of treed swamp along stream; steep hill with tall mixed woods on other side.
6	341871E, 4976622N	Mature riparian mixed woods; protected strip along stream in midst of pit operations.
7	341753E, 4976339N	Disturbed hemlock forest or ridge south of, but near, active pit; deciduous forest in valley to NW.
8	342359E, 4976503N	Selectively cut mixed woods; mainly young aspen and red maple.
9	341706E, 4976889N	Young mixed woods adjacent to active sand pit
10	341459E, 4977650N	Young mixed woods near road; selective cut regenerating – poplar, birch, maple, spruce.
11	342225E, 4976230N	Mature mesic mixed woods near trail.
12	341353E, 4977989N	Mature, open, mixed woods by road.
13	341664E, 4977229N	Spruce-Larch-Heath-Sphagnum bog adjacent to road.

In the following tables habitats are coded as follows: 1 – Mixed Upland Forest; 2 – Upland Red Pine Stand; 3 – Mature Deciduous Stand; 4 – Sphagnum-Heath Bog (open); 5 – Deciduous Woods/Alder Thicket; 6- Mature Riparian Mixed Woods; 7 – Disturbed/Regenerating Mixed Woods; 8 – Ericaceous Bog; 9 – Recently disturbed areas (quarries, bare ground or weeds); 10 – Pond with marshy edges (on property but outside study area) –a result of earlier pit work, this is referred to hereafter as 'Trimper Pond'.

Breeding status codes follow those of the Maritimes Breeding Bird Atlas (Maritime Breeding Bird Atlas, 2011):
H: Species observed in its breeding seasons in suitable nesting habitat
S: Singing male(s) present, or breeding calls heard, in suitable nesting habitat in breeding season
T: Permanent territory presumed through registration of territorial song, or the occurrence of an adult bird, at the same place, in breeding habitat, on at least two days a week or more apart, during its breeding season. Use discretion when using this code.
V: Visiting probable nesting site
A: Agitated behaviour or anxiety calls of adult
P: Pair observed in suitable nesting habitat in nesting season
DD: Distraction display or injury feigning
FY: Recently fledged young (nidicolous species) or downy young (nidifugous species), including incapable of sustained flight.
AE: Adult leaving or entering nest sites in circumstances indicating occupied nest
M: Used for species likely present only as migrants

Observations
A) Spring Migration – Observations were made over eight hours on May 25 and 26, 2011 (with the majority of the observations on May 26, and numbers refer to that date unless otherwise noted). On May 26, observations were made from 0800-1300, and 1930-2100, sky was overcast, wind calm, and temperature 20°C.

Table 2: Spring bird observations (47 species)

Species	Number observed	Habitat	Highest breeding evidence	Comments
Canada Goose	15	10	FY	At pond; also nested here in 2010
Ruffed Grouse	1	1	S	Drumming heard
Bald Eagle	1	7	H	Subadult circling over area.
Broad-winged Hawk	1	7	H	Low over woods - migrant?
Killdeer	2	9	DD	At two locations in active use
Mourning Dove	4	9, 6, 1	P, FY	Juvenile seen by A. Sharpe May 21
Common Nighthawk	1	9	S	Over pit area at dusk
Belted Kingfisher	1	9	V	Both a.m. and evening at sand pit
Yellow-bellied Sapsucker	1	7	H	
Northern Flicker	2	1, 9	H	
Pileated Woodpecker	2	6	S	Male seen, another drumming
Alder Flycatcher	1	7	M	Singing, but not in breeding habitat
Least Flycatcher	3	1, 6, 7	S	
Blue-headed Vireo	2	1, 8	A	
Red-eyed Vireo	4	1, 6	S	
Canada (Grey) Jay	1	8	H	Calling in black spruce – larch area
Blue Jay	2	6	H	
American Crow	2	1	H	
Tree Swallow	6	10	H	Feeding over pond
Bank Swallow	35	9	AE	Also 20 on May 25
Black-capped Chickadee	3	1, 8	S	
White-breasted Nuthatch	2	1	A	
Veery	1	7	S	
Swainson's Thrush	2	1, 7	S	
Hermit Thrush	4	7, 8	S	
American Robin	10	1, 6, 7, 8	S	Also 3 on May 25
Grey Catbird	1	5	H	Near Trimper Pond
Ovenbird	19	1, 6, 8	S	Also 2+ on May 25
Northern Waterthrush	2	6	S	Along stream near bridge
Black-and-White Warbler	2	5, 8	S	
Nashville Warbler	1	8	S	
Common Yellowthroat	1	8	S	
American Redstart	1	6	S	
Northern Parula	5	1, 6, 7	S	Also 2+ on May 25
Magnolia Warbler	2	7	A	
Yellow Warbler	1	5	S	
Chestnut-sided Warbler	1	6	S	At narrow strip along brook
Yellow-rumped Warbler	1	8	A	
Song Sparrow	2	5, 8	S	
White-throated Sparrow	5	1, 8, 9	S	Along cut trail in woods
Dark-eyed Junco	3	9	H	
Rose-breasted Grosbeak	1	7	S	
Red-winged Blackbird	4	10	S	At Trimper Pond marsh
Common Grackle	3	10	H	At Trimper Pond marsh
Purple Finch	1	8	S	
American Goldfinch	2	5, 8	S	
Evening Grosbeak	1	1	H	

Table 3A: Point Count Results locations 1-7, Breeding Season

Species / Point (Habitat)	1 (1)	2 (2)	3 (3)	3 (3)	4 (4/7)	4 (4/7)	5 (5/7)	5 (5/7)	6 (6)	6 (6)	7 (7)
Date	**Jn 12**	**Jn 12**	**Jn 12**	**Jn 29**	**Jn 12**	**Jn 29**	**Jl 1**	**Jl 5**	**Jn 11**	**Jl 19**	**Jl 4**
Ruffed Grouse			1								
Mourning Dove				1	1	1			1	1	
Ruby-throated Hummingbird						1					
Yellow-bellied Sapsucker										1	
Hairy Woodpecker		1									
Northern Flicker						1				1	
Pileated Woodpecker											
Olive-sided Flycatcher											
Eastern Wood Pewee		1				1					
Least Flycatcher			1				1				
Blue-headed Vireo	1				1	1					
Red-eyed Vireo	2		1	1		1			1	1	2
Canada (Grey) Jay											
Blue Jay											
American Crow	1										
Common Raven	1	2									
Bank Swallow											
Black-capped Chickadee	1										
White-breasted Nuthatch											
Veery							2				
Swainson's Thrush		2									
Hermit Thrush				2							1
American Robin	1				2	1			1	1	1
Cedar Waxwing						1					
Ovenbird	5	3	5	2	2	1	2	1	1		1
Northern Waterthrush									1	1	
Black-and-White Warbler		1	1								
Nashville Warbler											
Common Yellowthroat						1	1	1		1	
American Redstart									2		
Northern Parula	1			1	1					1	
Magnolia Warbler						1					
Yellow Warbler					1						
Chestnut-sided Warbler											
Black-throated Green Warbler							1	1			1
Song Sparrow									1		
White-throated Sparrow					1						
Dark-eyed Junco											1
Purple Finch						1					
American Goldfinch											
Evening Grosbeak											

Table 3B: Point Count Results 8-13, breeding season.

Species / Point (Habitat)	8 (7)	9 (9/7)	10 (7)	11 (1)	11 (1)	12 (1)	12 (1)	12 (1)	13 (8)	13 (8)	13 (8)	13 (8)
Date	**Jl 1**	**Jn 29**	**Jn 11**	**M 26**	**Jn 11**	**M 26**	**Jn 11**	**Jl 5**	**M 26**	**Jn 11**	**Jl 5**	**Jl 19**
Ruffed Grouse			1			1	1			1		
Mourning Dove		2	1	1	1							2
Ruby-throated Hummingbird												
Yellow-bellied Sapsucker	1											
Hairy Woodpecker												
Northern Flicker	1			1			1				1	1
Pileated Woodpecker		1										
Olive-sided Flycatcher											1	
Eastern Wood Pewee							1					
Least Flycatcher						1						
Blue-headed Vireo						1					1	
Red-eyed Vireo	1	2	2	2	2	1	1					
Canada (Grey) Jay									1			
Blue Jay	1											
American Crow				2	1		1					
Common Raven		1			1							
Bank Swallow		5										
Black-capped Chickadee						2		2			1	
White-breasted Nuthatch				1		1						
Veery	1											
Swainson's Thrush					1							
Hermit Thrush		1							2			
American Robin	1	1	1	1	2	1	2		1	2		2
Cedar Waxwing												
Ovenbird	2	1	2	2	3		3		2	3	1	
Northern Waterthrush												
Black-and-White Warbler					1				1		1	
Nashville Warbler			1						1			1
Common Yellowthroat	1							2		1		2
American Redstart	1	1					1			1		
Northern Parula	1	2				1	1	1				
Magnolia Warbler					1	1						
Yellow Warbler												
Chestnut-sided Warbler		1			1					1		
Black-throated Green Warbler												
Song Sparrow									1			
White-throated Sparrow		1	2				2	1	1			
Dark-eyed Junco		1										
Purple Finch		1										
American Goldfinch								2	1	3		
Evening Grosbeak				1						1		

Table 4: Breeding Season Summary (includes general area searches in June-July as well as point counts (16 hours spread over the six June and July days noted in Table 3) plus three on 26 May.

Species	Number observed	Habitat	Highest breeding evidence	Comments
Canada Goose			FY	Family at pond in May
Ruffed Grouse	5	1, 7, 8	T	Drumming in wooded areas
Bald Eagle				Visitor in May
Broad-winged Hawk			H	Present late May
Great Blue Heron	1	10		At pond July 1; likely a non-breeder
Killdeer	1	9	DD (May)	More seen in late May
Mourning Dove	12	1, 3, 4, 6, 7. 8. 9	T, FY	In most open woods and clearings
Common Nighthawk				May 26 one was likely a migrant
Ruby-throated Hummingbird	1	4	H	
Belted Kingfisher			V	Seen twice May 26 near hole but not later
Yellow-bellied Sapsucker	3	6, 7	H	
Hairy Woodpecker	2	2, 7	H	
Northern Flicker	9	1, 4, 6, 7, 8	H	
Pileated Woodpecker	1	7, 9	H	
Olive-sided Flycatcher	1	8	S	Singing on July 5
Eastern Wood=Pewee	4	1, 2,	S	
Alder Flycatcher				Late May migrant; could nest
Least Flycatcher	5	1, 3, 6, 7	S	
Blue-headed Vireo	7	1, 4, 6, 7, 8	A	In most mixed woods with openings
Red-eyed Vireo	20	1, 3, 6, 7	T	In all woods with deciduous trees
Canada (Grey) Jay	1	8	H	
Blue Jay	2	6, 7	H	
American Crow	5	1	T	
Common Raven	5	1, 2	FY	Noisy young in red pine area
Tree Swallow	4	10	H	Nesting in box near office
Bank Swallow	35	9	AE	About 50 nest-holes by 11 June
Black-capped Chickadee	6	1, 8	T	
Red-breasted Nuthatch	1	7	H	
White-breasted Nuthatch	2	1	A	Quiet after early June
Veery	3	5, 7	S	
Swainson's Thrush	4	1, 2, 7	A	
Hermit Thrush	7	3, 7, 8	S	
American Robin	21	1, 4, 6, 7, 8	T	
Grey Catbird		5		May bird may have been a migrant
Cedar Waxwing	2	4, 7	H	
Ovenbird	42	1, 2, 3, 6, 7, 8	T	In all wooded habitats
Northern Waterthrush	1	6	A	Probably young hiding in dense ground cover
Black-and-White Warbler	5	1, 2, 3, 8	T	
Nashville Warbler	3	7, 8	T	
Common Yellowthroat	11	1, 4, 5, 6, 7, 8	DD	
American Redstart	4	1, 6, 7	S	
Northern Parula	13	1, 3, 4, 6, 7, 8	T	
Magnolia Warbler	3	1, 7	S	

Species	Number observed	Habitat	Highest breeding evidence	Comments
Yellow Warbler	1	4	S	
Chestnut-sided Warbler	4	1, 7, 8	S	
Yellow-rumped Warbler	1	7	A	Best nesting evidence before June
Black-throated Green Warbler	3	7	T	
Scarlet Tanager	1	3	S	
Song Sparrow	2	6, 8	S	
Swamp Sparrow	1	5	H	
White-throated Sparrow	8	1, 4, 7, 8	T	
Dark-eyed Junco	2	7	S	
Rose-breasted Grosbeak		3, 6	S	Song 26 May may have been a migrant
Red-winged Blackbird	4	10	T	At Trimper Pond
Common Grackle	2	10	T	At Trimper Pond
Purple Finch	2	4, 7	S	
American Goldfinch	6	1, 7, 8	P	
Evening Grosbeak	2	1, 8	H	

Total to end of July 58 species.

C. Autumn Migration - Because the birds are rarely singing at this time of year, those found in a one-day survey are an even smaller sample of the total migrants than the spring one. As in spring, species and numbers change dramatically from day to day throughout the season, depending mainly on date and weather conditions.

Table 5: Autumn Migration Observations. These are the results of four hours' observation on 14 September and four on 20 September.

Species	Number observed (Sept. 14 + 20)	Habitat	Comments
American Bittern	1+0=1	10	At Trimper Pond
Sharp-shinned Hawk	0+1=1	9	
Herring Gull	1+0=1	10	Flying over site
Mourning Dove	1+1=2	9	
Yellow-bellied Sapsucker	0+1=1	4	
Northern Flicker	1+0=1	8	
Eastern Wood-Pewee	1+0=1	1	Dusky sides (possible Western?)
Least Flycatcher	1+0=1	7	Late for species.
Blue-headed Vireo	3+1=4	1	
Red-eyed Vireo	1+0=1	1	
Blue Jay	6+1=7	7	
Common Raven	0+1=1	7, 9	
Black-capped Chickadee	17+13=30	1, 7, 8	
Red-breasted Nuthatch	0+4=4	1	
Golden-crowned Kinglet	3+0=3	1	
American Robin	2+1=3	7	
Cedar Waxwing	45+0=45	8, 9	
Common Yellowthroat	1+4=5	9	
Northern Parula	1+0=1	1	
Magnolia Warbler	3+0=3	1	
Blackpoll Warbler	1+0=1	1	Migrant only.
Palm Warbler	3+1=4	9	Migrant only.
Yellow-rumped Warbler	1+0=1	7	
Song Sparrow	3+12=15	5, 9	
Swamp Sparrow	0+1=1	9	
White-throated Sparrow	0+1=1	9	
Dark-eyed Junco	1+1=2	9	
American Goldfinch	2+4=6	8, 9	

28 species

Appendix 6. Archaeology and Heritage Resources Study

NOVA SCOTIA
Communities, Culture & Heritage
Heritage Division
1747 Summer Street
Halifax, Nova Scotia
B3H 3A6
Tel: (902) 424-6475
Fax: (902) 424-0560

December 5, 2011

Ms. Shannon McDonnell
In Situ Cultural Heritage Research Group
406-76 Prestwick Close
Halifax, NS B3S 1S2

Dear Ms. McDonnell:

RE: Heritage Research Permit Report
A2011NS50 –Trimper Pit Expansion

We have received and reviewed your report on work conducted under the terms of Heritage Research Permit A2011NS50 of an archaeological resource impact assessment of the proposed Trimper Pit expansion, Annapolis County.

The report details the archaeological resource impact assessment of the proposed Trimper Pit expansion in Torbrook, Annapolis County by In Situ Cultural Heritage Management Group. The assessment included background and historical research as well as field reconnaissance of the proposed five expansion areas. No heritage resources, historic or First Nation, were identified or recorded during the desktop or field components of the assessment project.

Due to the above results, it is recommended that the expansion of the Trimper Pit be undertaken without archaeological monitoring. The expansion of the Trimper Pit will not impact known archaeological sites outside the study area. The proposed expansion can be done without further investigation or archaeological mitigation.

Staff agree with your recommendations, and find the report acceptable as submitted. If you have any questions or concerns as you proceed, please do not hesitate to contact me.

Sincerely,

Laura Bennett
Coordinator, Special Places

TRIMPER PIT EXPANSION:
ARCHAEOLOGICAL RESOURCE IMPACT ASSESSMENT

Heritage Research Permit
A2011NS50

JUNE 2011

Submitted by:
Shannon McDonnell
In Situ - Cultural Heritage Research Group
406-76 Prestwick Close.
Halifax, Nova Scotia
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Submitted to:
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P.O. Box 129
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Bridgetown, Nova Scotia
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TRIMPER PIT EXPANSION:
ARCHAEOLOGICAL RESOURCE IMPACT ASSESSMENT

Heritage Research Permit
A2011NS50

Principal Investigators: Shannon McDonnell
Laird Niven

Report Compiled by: Shannon McDonnell
Laird Niven

Cover: General Photo of Trimper Pit Facing West

TABLE OF CONTENTS PAGE

TABLE OF FIGURES PAGE

TABLE OF PLATES

APPENDIX A:

MARI Forms BfDg-5, BfDg-6

APPENDIX B:

Heritage Research Permit

1.0 Introduction

In May 2011, In Situ - Cultural Heritage Management Group (In Situ) was contacted by East Coast Aquatics on behalf of Ivan Trimper to undertake a phase I (desktop study) archaeological impact assessment of the proposed Trimper Pit expansion in Torbrook, Annapolis County, Nova Scotia. Representing In Situ, Shannon McDonnell (Heritage Research Permit holder) performed this assessment in conjunction with the overall environmental testing for the proposed pit expansion. The fieldwork was conducted during the third week in June 2011 by the permit holder and was supervised by Laird Niven, owner of In Situ.

The archaeological impact assessment was conducted according to the terms of Heritage Research Permit A2011NS50 (Category 'C'), issued by the Heritage Division - Nova Scotia Museum (HD-NSM). The goal of the assessment was to evaluate archaeological potential within the proposed expansion area by conducting archival research and performing an on-site walkover assessment. This report describes the process, presents its results and offers resource management recommendations.

2.0 Development Area

The property owner, Ivan Trimper, currently holds an Industrial Approval for the site and has operated a sand and gravel extraction operation at this location for approximately 22 years. Over the years it has slowly grown in size thus triggering the requirement for an archaeological assessment. It is anticipated that the pit will continue to grow to an eventual size of +/- 10 Hectares.

The Trimper Pit Expansion area is situated in Nova Scotia Theme Region 400, district 420 which is dominated by Halifax slate, which occurs in folds within the Goldenville greywacke. In most of this District the slate is overlain by Silurian White Rock volcanics and Early Devonian sandstones[1]. A characteristic feature of the formation is the presence of quartz-rich and oolitic ironstone beds that are locally fossiliferous[2]. This region has significant amounts of glacial till and as a consequence supports good forest growth and some marginal farming activity[3]. As a result, the area in the proposed Trimper Pit Expansion is covered in a mature, mixed forest which includes tall pines and various hardwoods (Plate 1). The soil present in the study area is characterized by reddish brown fine silty sand or reddish brown fine to medium sand. The wetland areas include many species of grass, bulrushes, and shrubs.

The Trimper Pit Expansion area covers +/-10 hectares of land on which there is one small watercourse situated in a relatively low area. In one area the watercourse flows under a main road used to access the sand and gravel pits (Plate 2). During development a culvert was used to continue the flow of

[1] Museum of Natural History Theme Regions
[2] White, C.E. 2009
[3] Museum of Natural History Theme Regions

water under the road and the watercourse was not affected. Historically this area has not undergone development. The Public Archives of Nova Scotia was accessed in June 2011 for information regarding the development area and it was concluded that the land owner, Ivan Trimper, is the first to develop the area.

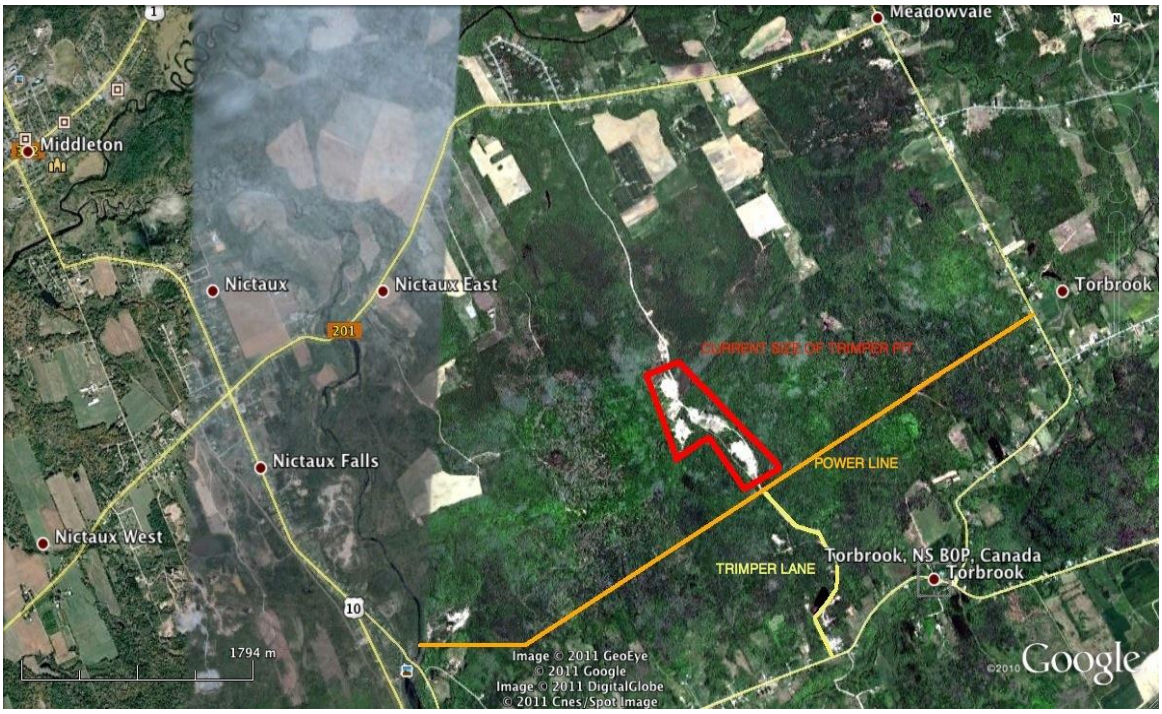

Figure 2.0-1: Current size of Trimper Pit outlined in red

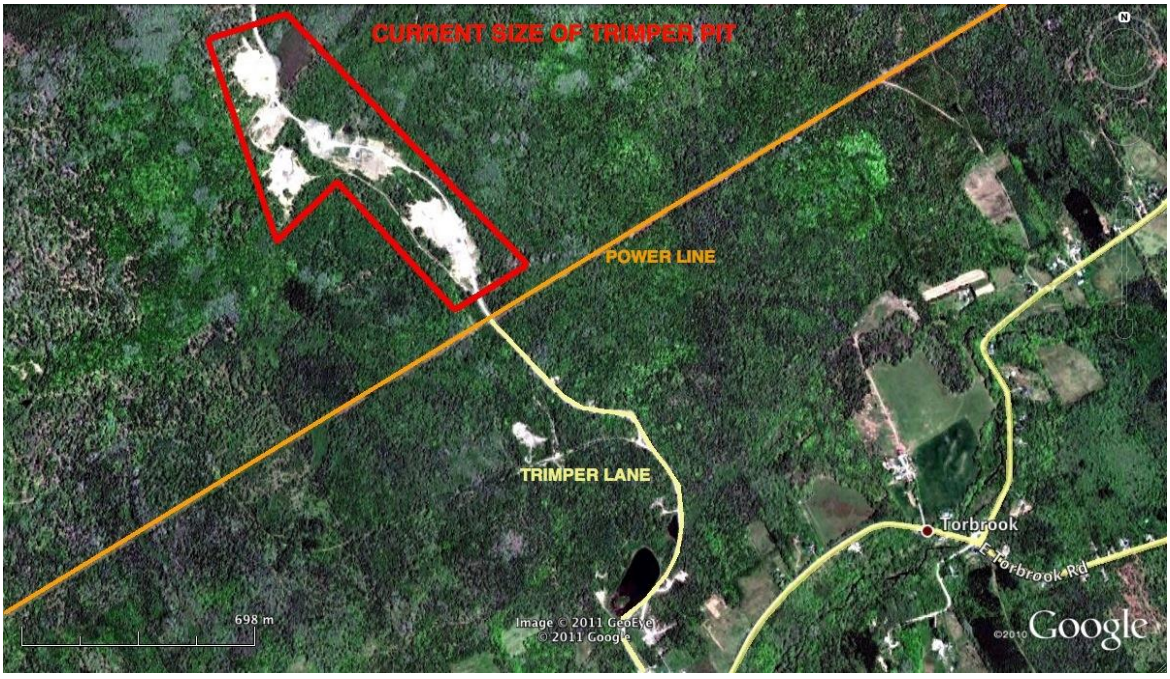

Figure 2.0-2: Closer view of current size of Trimper Pit outlined in red

The following map shows the potential Trimper Pit expansion areas in relation to the current size of the pit(s), the watercourse within the study area (in blue), modern roads (in red) and the power line (in orange).

Figure 2.0-3: Proposed expansion areas 1-5

2.1 Historical Background

The land encompassing the study area was originally granted to Boulter Johnston, a retired major from the 70th Regiment, as part of a 5000 acre grant.[4] It is uncertain whether Boulter Johnston actually settled on the land and, if he did, exactly where he may have been. Boulter Johnston was also part of a 1783 land petition in Hants County but, again, it is unclear whether that memorial was

4 Crown Land Grant Index Sheet #35, Book 12 P.214.

actually granted.[5] While settlement in the area began in the early nineteenth century, there is very little cartographic material that includes the study area until the 1876 A.F. Church map but, again, there are no settlement features shown within it. Torbrook was given its name in 1856 but it really came to prominence with the discovery of iron deposits at Nictaux Falls in 1825.[6] The iron mines proved to be short-lived but interest in them piqued again in 1890, when the Londonderry Iron Company restarted the operation.[7] Despite being a much more organized venture, the mines only lasted into the first quarter of the twentieth century. The 1905 Geological Survey of Canada map does show the study area but there are no settlement features indicated within it.[8] This is also true of a sketch of the Torbrook area around 1925, where the settlement is clearly around the main roads in the area.[9] A 1945 aerial photo of the study area shows it to be heavily wooded with cultivated areas to the south, west, and northwest. No roads or settlement feature are visible within the study area. [10]

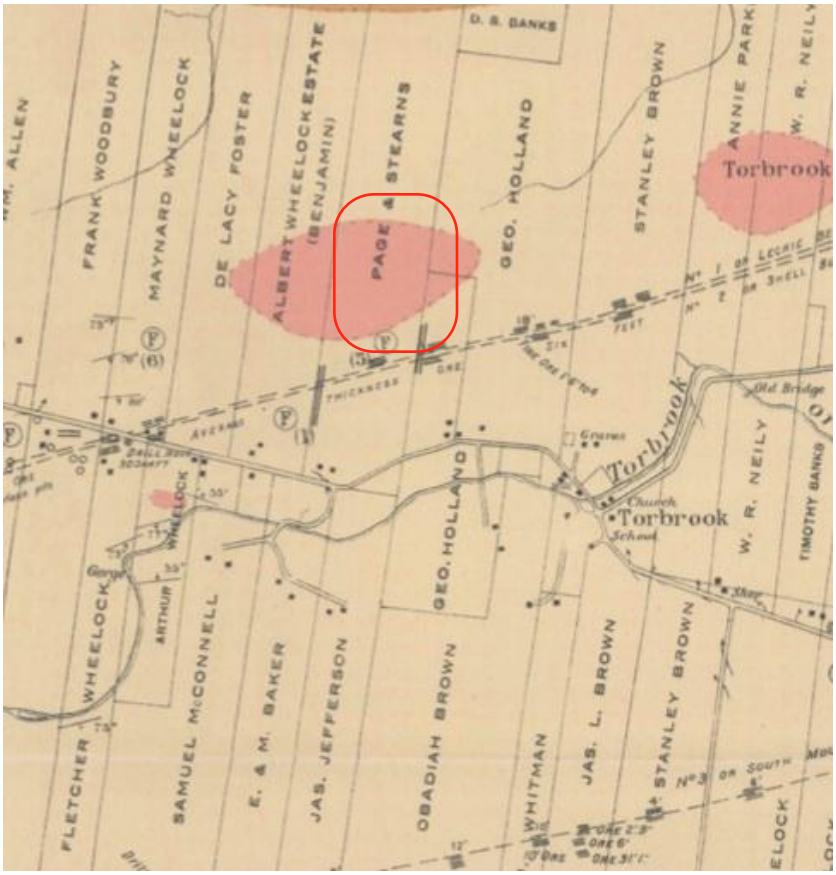

Figure 2.1-1: Detail from the 1905 GSC map. The approximate study area is in red.

5 NS Land Petitions, 1769-1799 (www.giv.ns.ca/nsarm/virtual/land).

6 Men in the Mines: a history of mining activity in Nova Scotia, 1720-1992.

7 Calnek, 1897: 242.

8 Fletcher, 1905.

9 http://freepages.genealogy/rootsweb.ancestry.com?~uhlman/TORB.GIF

10 A8729-102 (1945)

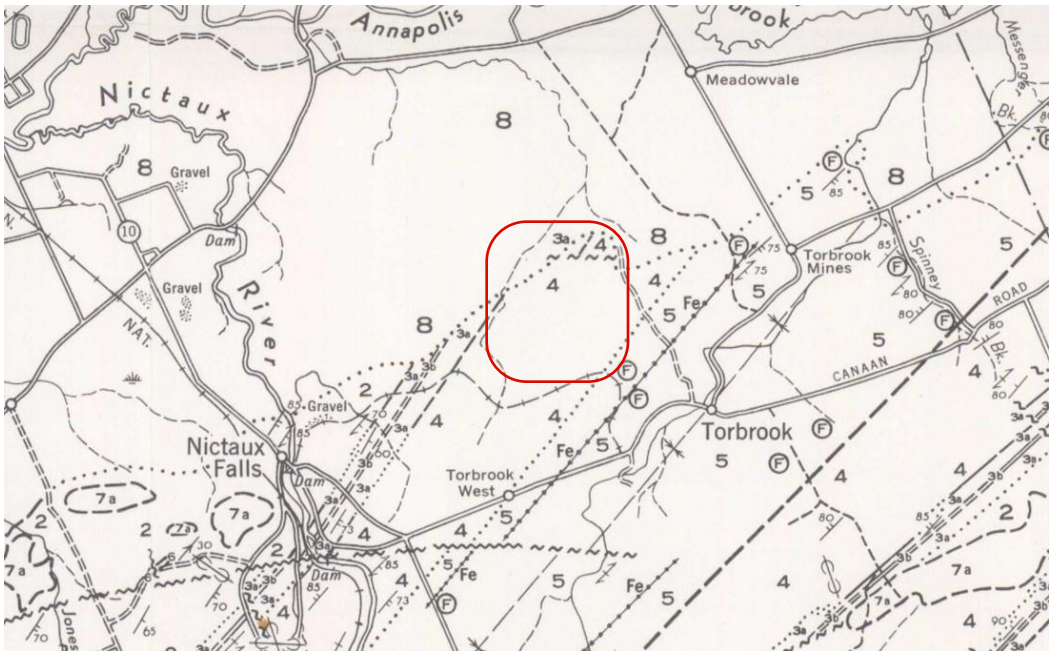

Figure 2.1-2: Detail from the 1960 GSC map. The approximate study area is in red.

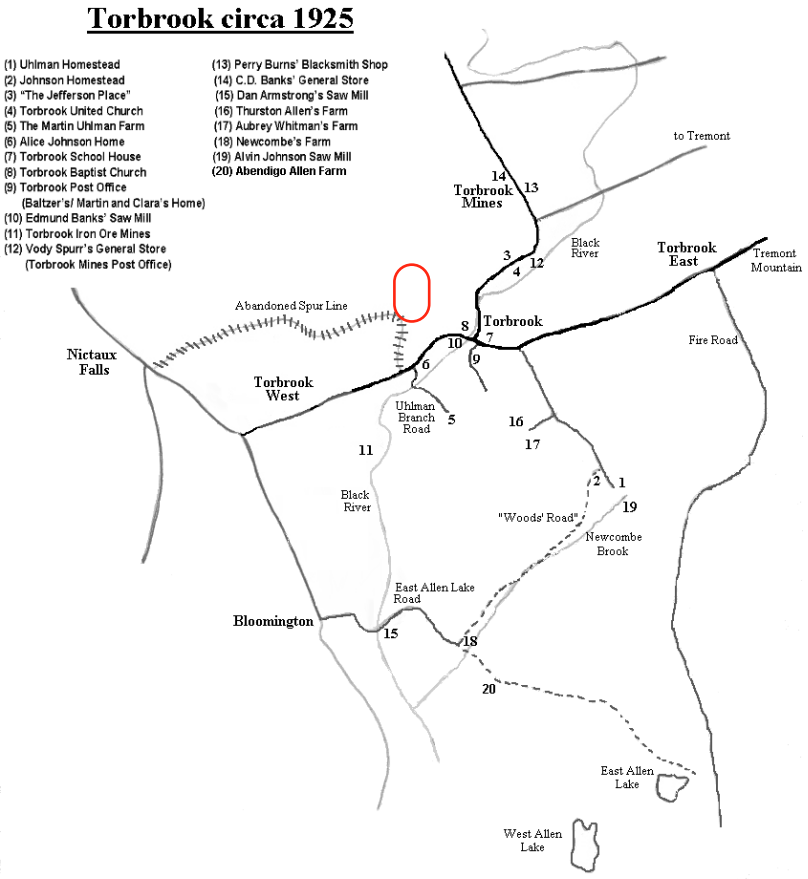

Figure 3: Torbrook circa 1925. Approximate study area is in red.

3.0 Methodology

The field-walking portion of this assessment was undertaken to visually assess the potential for heritage resources being present and impacted by the Trimper Pit Expansion. As this area has no recorded evidence of historical land development or utilization an emphasis was placed on examining the watercourse and exploring the possibility of pre-historic land use. Where possible a visual inspection of subsurface soils was conducted to search for pre-contact period heritage resources; Tree throws, eroding banks and areas disturbed by large machinery were all included in the inspection.

A map with five (5) proposed expansion areas was used to conduct the field-walking portion of the survey (Figure 2.0-3). Each of the five areas were surveyed and photographed. A GPS unit was on hand to record the location of significant observations such as wetlands, watercourses and artifacts .

The proposed pit expansion areas are heavily forested and occupy land that is undulating and relatively dry. The expansion area is divided into five (5) sections and will be discussed as such.

No heritage resources or artifacts, either historic or First Nations, were discovered or collected during field-walking. An emphasis was placed on identifying evidence of First Nations occupation as historical records indicate the study area has never been developed. Two known First Nations sites have been identified outside of the study area. Both sites (BfDg-5, BfDg-6) were identified in Wilmot, approximately 4.5km north of the proposed Trimper Pit Expansion (Appendix A). Both sites were discovered and recorded by Stephen Davis in 1981 based on surface finds of lithic tool debitage. Due to the significant amount of distance between BfDg-5 and BfDg-6 to the study area neither site will be disturbed by the Trimper Pit expansion. At present no other sites are located in or around the study area.

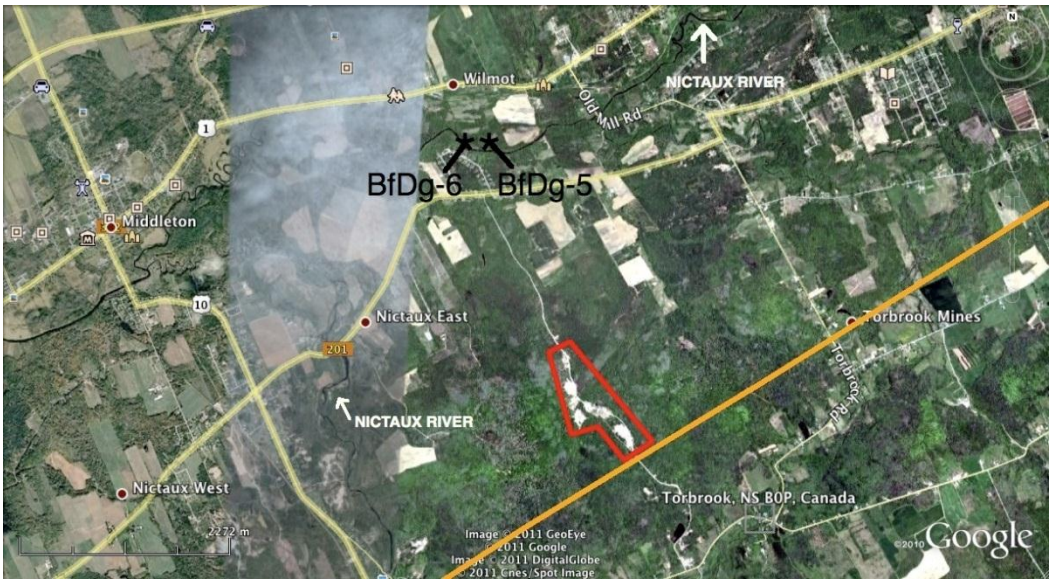

Figure 3.0-1: Approximate location of BfDg-5 and BfDg-6 in Wilmot, NS

A small watercourse is located within the study area (Plates 3, 4). The following map shows the location of the watercourse in relation to the current pit and proposed expansion areas. The watercourse is highlighted in blue and the size is exaggerated for ease of viewing. The approximate location of the culvert (20T 341876 4976665) is marked on the following map in red. Expansion areas 4 and 5 will parallel the watercourse and neither area will disturb it. The land surrounding the watercourse is undulating and covered in a mature, thick forest which does not encourage historic or First Nations settlement.

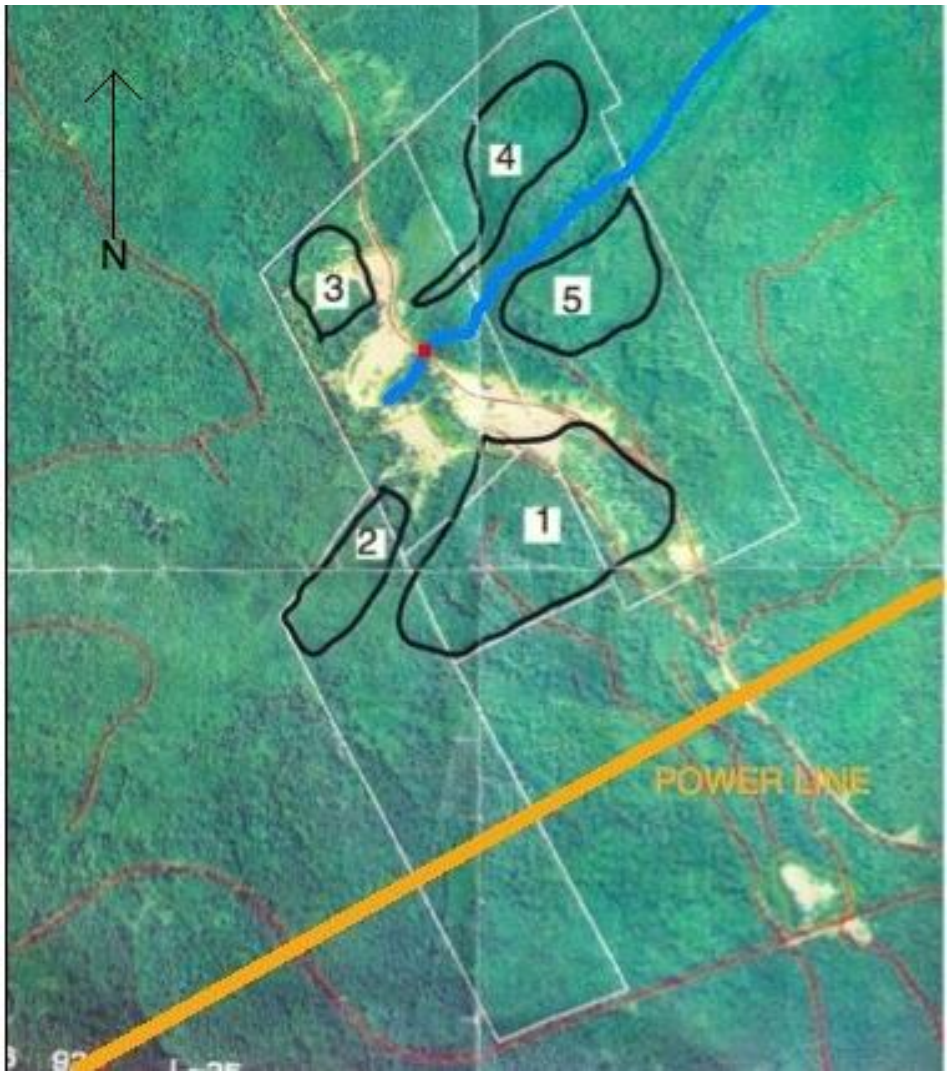

Figure 3.0-2: Location of the watercourse. Approximate location of Culvert in red

3.1 Expansion Areas

Area 1 (plates 5, 6) is the largest of the proposed expansion and is closest to the current entrance of the Trimper Pit. The area is covered by a mature, thick, mixed forest with towering pines and lower lying shrubs and bulrushes. The land is undulating and the area is quite elevated in relation to the main entrance of the Trimper Pit and the various dirt roads within the current development. When surveyed from the highest point, views of the lower lying land surrounding Area 1 are hindered by a

thick, mature forest. No watercourses are located within or in close proximity to Area 1, however a small section located in the middle of the study area is wet. This may have been caused by heavy amounts of rain the area was exposed to in the months of May and June. A number of tree-falls were present in this area and were visually inspected for sub-surface evidence of historical or pre-historical artifacts.

Area 2 (Plate 7) is one of the smaller areas included in the Trimper Pit expansion and closest to Area 1. The topography is very similar to Area 1 as well as the vegetation. No wet areas or watercourses were identified within or close to Area 2.

Area 3 (Plates 8, 9, 10) is the smallest of the five areas included in the expansion. It has a similar elevation to Area 1 and 2 and is also covered by a mature, thick, mixed forest with towering pines and lower lying shrubs and bulrushes. No wet areas or watercourses were identified within or close to Area 3.

Area 4 (Plates 10,11) is one of two proposed expansion areas that parallel a small watercourse. The land elevation is lower than Area 1, 2 or 3 and slightly more undulating. A thick, mature forest covers the entire study area including land close to the watercourse. A visual inspection of the land close to the watercourse did not reveal any flat plains typical of First Nations settlement patterns.

Area 5 (Plate 12) is the second area of the proposed expansion that parallel's a watercourse. The topography and vegetation is very similar to Area 4, lacking flat areas close to the watercourse typical of First Nations settlement patterns. A number of tree-falls were present in this area and were visually inspected for sub-surface evidence of historical or First Nations artifacts.

4.0 Results and Discussions

No heritage resources were identified during the archaeological investigation of the proposed Trimper Pit expansion area. While there is a small watercourse located within the study area, no evidence of First Nations settlement was found. A visual inspection confirmed that there are no areas in or around the vicinity of the watercourse that are typical of First Nations settlement patterns. This generally includes land that is relatively flat which contains a thin, younger forest. The Nictaux River is a larger watercourse located approximately 2.5km to the West (Northwest and Southwest) of the Trimper Pit (see Figure 3.0-1) . As a navigable watercourse, the Nictaux River would have been a more probable First Nations or historic settlement area. There is also a lack of usable lithic material such chert, quartz and quartzite in or around the study area which is often an essential part of identifying a First Nations settlement site. For the reasons presented in this Phase I study report there is very low potential for this development
area to contain any cultural heritage resources.

5.0 Conclusions and Recommendations

Due to this archaeological resource impact assessment the following recommendations have been applied to the expansion of the Trimper Pit: The continued expansion of the pit can be undertaken without archaeological monitoring due to the lack of evidence suggesting First Nations settlement or historical development. No cultural heritage resources were identified within the study

area. The expansion of the Trimper Pit will not impact known archaeological sites outside of the study area. The proposed expansion can be done without further investigation or archaeological mitigation.

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Maps

F. Church, Topographical Township Map of the County of Annapolis (1876). A.F. Church & Co., Bedford.

Crown Land Grant Index Sheet #35

Geological Survey of Canada: Ottawa, 1960.

Fletcher, Hugh. Preliminary Geological Map of Nictaux and Torbrook Iron District, Annapolis County, Nova Scotia. Map #897. Geological Survey of Canada: Ottawa, 1905.

Smith, W.G. Nictaux-Torbrook, Annapolis & Kings County, Nova Scotia. Preliminary Map #14.

PLATES

Plate 1: Example of the mature, thick mixed forest surrounding the Expansion Areas. Taken from Area 3 facing North.

Plate 2: Entrance into Trimper Pit facing North, culvert located under road and on either side of 'booth' in between the two roads

Plate 3: Watercourse on West side of culvert facing North

Plate 4: Watercourse on East side of culvert facing East

Plate 5: Road leading up to Expansion Area 1, facing South West

Plate 6: Wet area within Expansion Area 1 facing West

Plate 7: Expansion area 2 facing West

Plate 8: Expansion Area 3 facing West

Plate 9: Expansion Area 3 facing South

Plate 10: View from elevated point in Expansion Area 3 with Expansion Area 4 in the distance. Facing East.

Plate 11: Expansion Area 4 facing East

Plate 12: Expansion Area 5 facing East

APPENDIX A
MARI Forms: BfDg-5 and BfDg 6

MARITIME ARCHAEOLOGICAL RESOURCE INVENTORY
INVENTAIRE DES RESSOURCES ARCHÉOLOGIQUES DES MARITIMES

SITE SURVEY FORM
FORMULE DE RELEVÉ DE SITE

1. Site No. T
Site N° T _____

2. Suggested Site Name
Nom du site (suggeré) _____

3. Site Type (ZTY)
Type de site(a) General activity
(ZTYC) (b) Prehistoric

(ZCY) – Annapolis
(ZMR) – 21A/14
(ZUTM) – 408793

4. Relative Age
Âge relatif

☑ unknown inconnu ☐ 10,000 + ☐ 3,000 + ☐ 500 + ☐ 500 –

5. Method of Age Determination
Méthode de calcul de l'âge _____

Wilmot,

6. Descriptive Location (ZLOC)
Description de l'emplacement ~~walk~~ behind the Fertilizer Plant ~~in Wilmot~~ towards the river, the site is approximately 1000 m east of this position on a narrow stretch of ploughed land between two cleared fields.

CHN

7. Access Location
Lieu d'accès au site _____

8. General Site Description (ZDE)
Description globale du site A core and flakes were found on a newly cleared track connecting two large fields.

9. Site Geology
Géologie du site _____

10. Site Vegetation
Végétation du site _____

11. Shoreline Type
Type de littoral _____

12. Man-made Shoreline Structures
Ouvrages du littoral faits de main d'homme _____

13. Site Dimensions
Dimensions du site
(a) observed: observées: L. Long. _____ w. Larg. _____
(b) estimated: estimatives: L. Long. _____ w. Larg. _____
(c) total hectares: observed nombre d'hestares: observé _____ estimated estimatif

Site No. Site No. (ZBN) BfDg-5

42-1156(2/87)

14. (a) Orientation of long axis
Orientation de l'axe d'allongement

(b) Relationship to water
Son rapport avec l'eau

(c) Relationship to erosional face
Son rapport avec la face d'erosion

15. Destructive Agents (a) cultural
Agents destructeurs culturels

(b) natural
naturels

16. Site Condition (a) present
Etat du site état actuel

(b) future
état futur

17. Potential Damage Rating High Medium Low
Estimation des dommages possibles Grands Modérés Légers

18. Means of Assessment
Moyens utilisés pour l'évaluation

19. (a) Collected
Objets collectionnés

(b) Methodology
Méthode

(c) Collection Location (ZCOLR)
Lieu de la collection NSM 82-52

(d) Additional Field Records
Relevés supplémentaires sur le terrain

20. Photo Records
Relevés photographiques

21. (a) Informants(s) Name
Nom de l'informateur(s)

(b) Address(es)
Adresse(s)

(c) Telephone
Téléphone

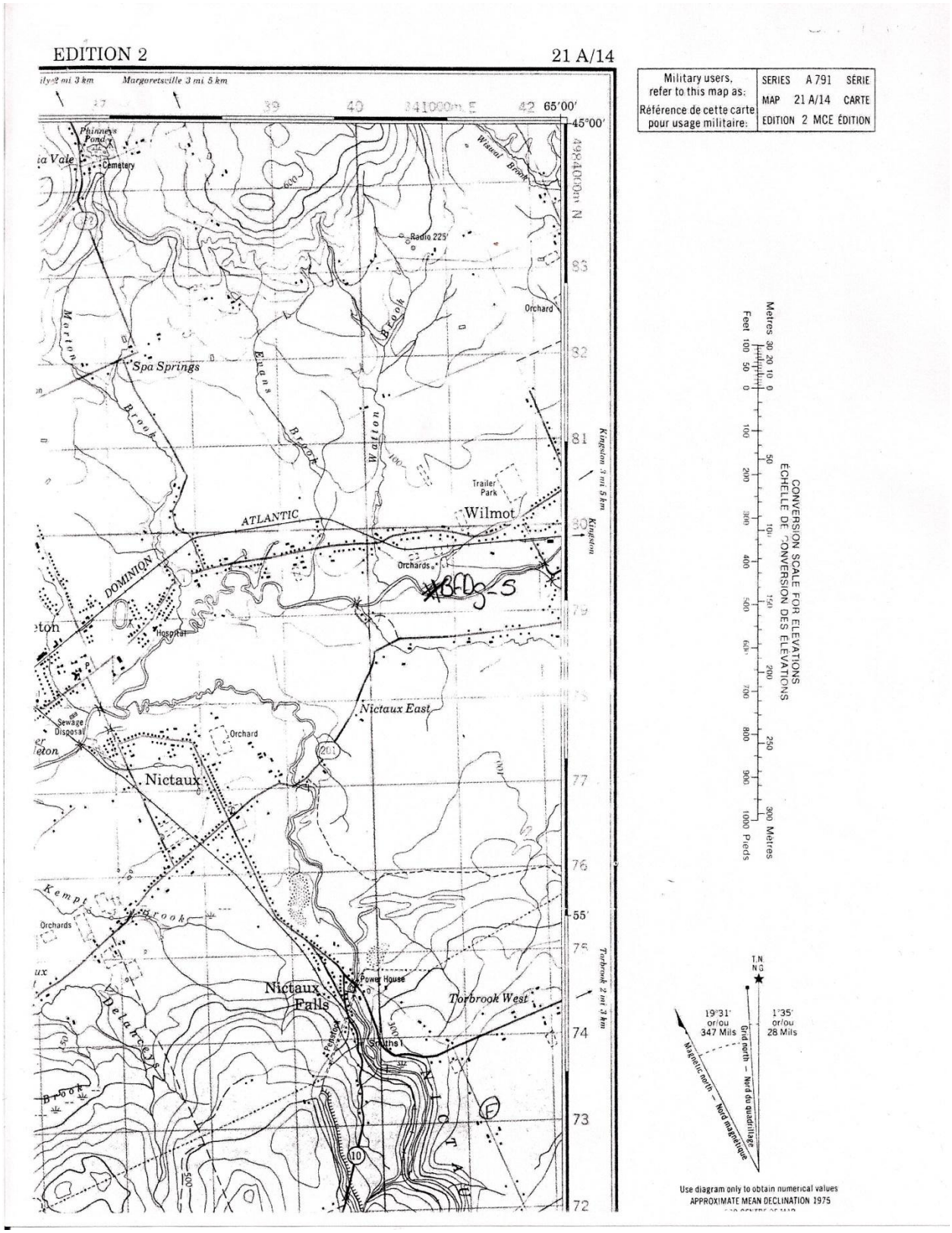
22. Remarks
Remarques

23. Recorded by (ZRES)
Relevé fait par Davis, S. ~~(1981)~~

Permit (Licence No.) (ZPN)
N° de permis (licence) A1981NS1

Institution (ZRESI) 1981

Date 19


EDITION 2
21 A/14
Margaretsville 3 mi 5 km
65°00'
45°00'
Military users, refer to this map as:
Référence de cette carte pour usage militaire:
SERIES A 791 SÉRIE
MAP 21 A/14 CARTE
EDITION 2 MCE ÉDITION
Phinneys Pond
Cemetery
Wassail Brook
Radio 225'
Orchard
Horton Brook
Spa Springs
Evans Brook
Walton Brook
Trailer Park
Wilmot
ATLANTIC
DOMINION
Orchards
Hospital
Sewage Disposal
Nictaux East
Orchard
Nictaux
Kempt Brook
Orchards
Power House
Nictaux Falls
Torbrook West
Delaneys Brook
Smiths
Kingston 3 mi 5 km
Torbrook 2 mi 3 km
CONVERSION SCALE FOR ELEVATIONS
ÉCHELLE DE CONVERSION DES ÉLÉVATIONS
Metres
Feet
Pieds
Mètres
T.N.
N.G.
19°31' or/ou 347 Mils
17°35' or/ou 28 Mils
Magnetic north — Nord magnétique
Grid north — Nord du quadrillage
Use diagram only to obtain numerical values
APPROXIMATE MEAN DECLINATION 1975

SITE SURVEY FORM
FORMULE DE RELEVÉ DE SITE

1. Site No. T / Site N° T _____

(ZCY) – Annapolis
(ZMR) – 21A/14
(ZUTM) – 406794

2. Suggested Site Name / Nom du site (suggeré) _____

3. Site Type / Type de site (a) (ZTY) General activity

(b) (ZTYC) Prehistoric

4. Relative Age / Âge relatif

☑ unknown / inconnu ☐ 10,000 + ☐ 3,000 + ☐ 500 + ☐ 500 –

5. Method of Age Determination / Méthode de calcul de l'âge _____

6. Descriptive Location / Description de l'emplacement (ZLOC) Wilmot, directly south of the Fertilizer Plant. ~~in Wilmot.~~ The flake concentration is 10m on the west side of a small drainage brook which flows into the Annapolis River.

CHN

7. Access Location / Lieu d'accès au site _____

8. General Site Description / Description globale du site (ZDE) A thin scatter of detritus was found in a sand blow-out on the north bank of the river.

9. Site Geology / Géologie du site _____

10. Site Vegetation / Végétation du site _____

11. Shoreline Type / Type de littoral _____

12. Man-made Shoreline Structures / Ouvrages du littoral faits de main d'homme _____

Site No. / Site N° (ZBN) BfDg-6

13. Site Dimensions / Dimensions du site
(a) observed: / observées: L. Long. _____ w. Larg. _____
(b) estimated: / estimatives: L. Long. _____ w. Larg. _____
(c) total hectares: observed / nombre d'hestares: observé _____ estimated / estimatif

42-1156(2/87)

(a) Orientation of long axis
Orientation de l'axe d'allongement

(b) Relationship to water
Son rapport avec l'eau

(c) Relationship to erosional face
Son rapport avec la face d'erosion

15. Destructive Agents
Agents destructeurs
(a) cultural
culturels

(b) natural
naturels

16. Site Condition
Etat du site
(a) present
état actuel

(b) future
état futur

17. Potential Damage Rating
Estimation des dommages possibles
High
Grands
Medium
Modérés
Low
Légers

18. Means of Assessment
Moyens utilisés pour l'évaluation

19. (a) Collected
Objets collectionnés

(b) Methodology
Méthode

(c) Collection Location (ZCOLR)
Lieu de la collection NSM 82.52

(d) Additional Field Records
Relevés supplémentaires sur le terrain

20. Photo Records
Relevés photographiques

21. (a) Informants(s) Name
Nom de l'informateur(s)

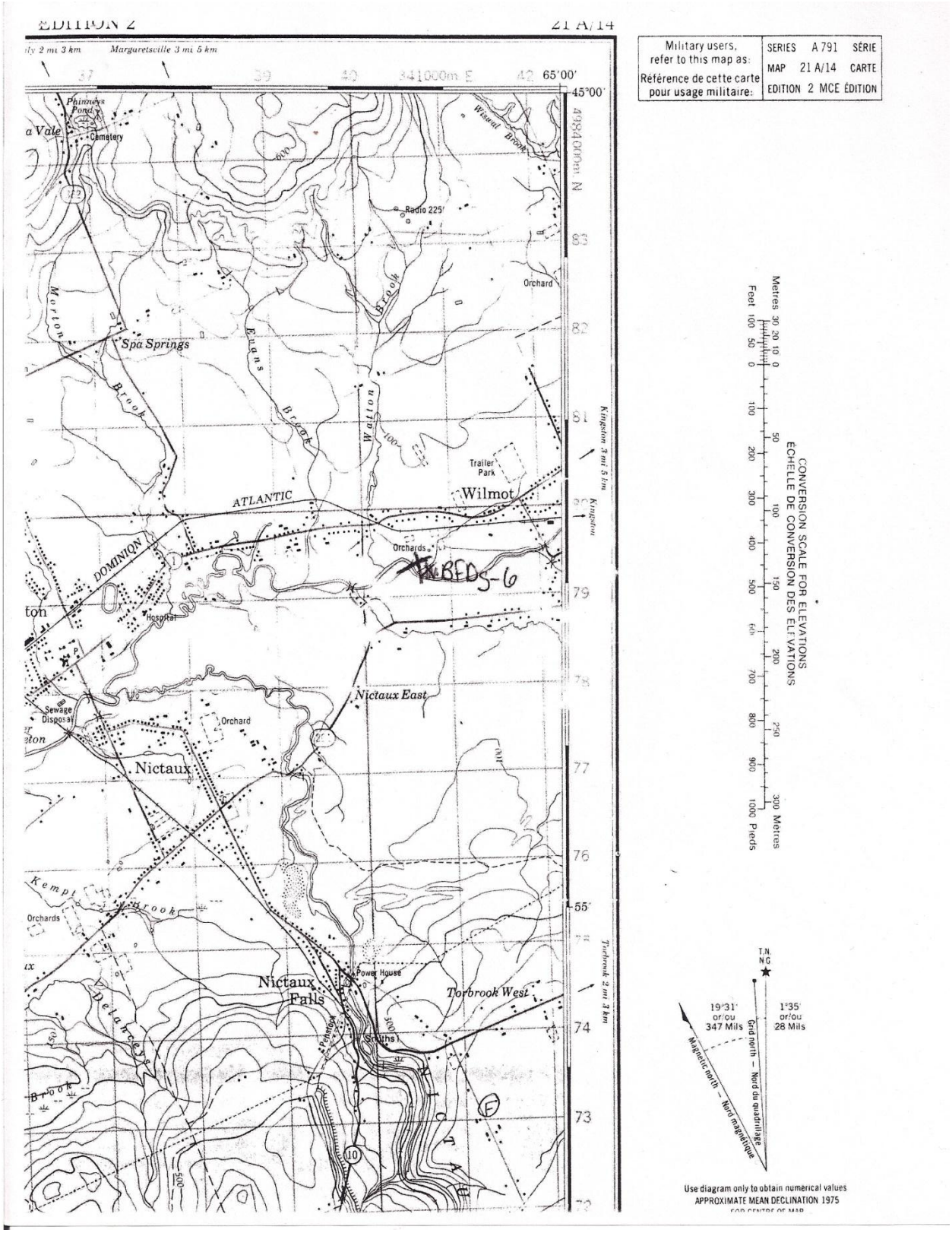
(b) Address(es)
Adresse(s)

(c) Telephone
Téléphone

22. Remarks
Remarques

23. Recorded by (ZRES)
Relevé fait par Davis, S. ~~(1981)~~
Institution (ZRESD) 1981

Permit (Licence No.) (ZPN)
N° de permis (licence) A/81/NS/
Date 19


EDITION 2
21 A/14
Military users, refer to this map as:
Référence de cette carte pour usage militaire:
SERIES A 791 SÉRIE
MAP 21 A/14 CARTE
EDITION 2 MCE ÉDITION
Margaretsville 3 mi 5 km
341000m E
65°00'
45°00'
4984000m N
Phinneys Pond
Cemetery
Wixual Brook
Radio 225'
Orchard
Morton Brook
Spa Springs
Evans Brook
Walton Brook
Trailer Park
Wilmot
ATLANTIC
DOMINION
Orchards
Hospital
Nictaux East
Sewage Disposal
Orchard
Nictaux
Kempt Brook
Orchards
Power House
Nictaux Falls
Torbrook West
Delaneys Brook
Pension
Smiths
Kingston 3 mi 5 km
Torbrook 2 mi 3 km
CONVERSION SCALE FOR ELEVATIONS
ÉCHELLE DE CONVERSION DES ÉLÉVATIONS
Feet
Metres
Pieds
T.N.
N.G.
19°31' or/ou 347 Mils
1°35' or/ou 28 Mils
Grid north – Nord du quadrillage
Magnetic north – Nord magnétique
Use diagram only to obtain numerical values
APPROXIMATE MEAN DECLINATION 1975

APPENDIX B
Heritage Research Permit

NOVA SCOTIA
Tourism, Culture and Heritage

Heritage Division

Special Places Protection Act, R.S.N.S. 1989

Heritage Research Permit (Archaeology)

(Original becomes Permit when approved by the Executive Director of the Heritage Division)

Office Use Only
Permit Number: A2011NS50

Greyed out fields will be made publically available. Please choose your project name accordingly

Surname McDonnell	First Name Shannon
Project Name Trimper Pit Expansion	
Name of Organization	
Representing (if applicable) In Situ Cultural Heritage Research group	
Permit Start Date June 7th 2011	Permit End Date June 30th 2011

General Location:
Torbrook Annapolis Valley, Nova Scotia

Specific Location: *(cite Borden numbers and UTM designations where appropriate and as described separately in accordance with the attached Project Description. Please refer to the appropriate Archaeological Heritage Research Permit Guidelines for the appropriate Project Description format)*

The approximate UTM coordinates of the pit are: 20T 342140 4976550.Two Pre-Contact archaeological sites have been identified in Wilmot, approximately 8km north of the proposed Trimper Pit Expansion. BfDg-5 and BfDg-6

Permit Category:
Please choose one:

☐ Category A - Archaeological Reconnaissance
☐ Category B - Archaeological Research
☒ Category C - Archaeological Resource Impact Assessment

☐ I certify that I am familiar with the provisions of the *Special Places Protection Act* of Nova Scotia and that I have read, understand and will abide by the terms and conditions listed in the Heritage Research Permit Guidelines for the above noted category.

☒ I currently hold a treasure trove license or pending application for a licence related to this Heritage Research Permit.

Signature of applicant Shannon McDonnell	Date June 7th 2011
Approved by Executive Director Bill Theriault	Date June 7/11

Appendix 7. Inventory of Plant Species

Scientific Name	Common Name	Prov. Rank	Scientific Name	Common Name	Prov. Rank
Abies balsamea	Balsam Fir	S5	*Lemna minor*	Lesser Duckweed	S5
Acer pensylvanicum	Striped Maple	S5	*Linnaea borealis*	Twinflower	S5
Acer rubrum	Red Maple	S5	*Listera australis*	Southern Twayblade	S2
Acer saccharum	Sugar Maple	S5	*Lonicera canadensis*	American Fly-Honeysuckle	S5
Actaea pachypoda	White Baneberry	S4	*Luzula acuminata*	Hairy Woodrush	S5
Agrimonia striata	Woodland Agrimony	S5	*Luzula multiflora*	Common Woodrush	S5
Alnus incana	Speckled Alder	S5	*Lycopodium complanatum*	Trailing Clubmoss	S3?
Amelanchier sp	not a sp at risk	n/a	*Lycopodium obscurum*	Tree Clubmoss	S5
Anaphalis margaritacea	Pearly Everlasting	S5	*Lycopus americanus*	American Bugleweed	S5
Anthoxanthum odoratum	Sweet Vernal Grass	SE	*Lycopus uniflorus*	Northern Bugleweed	S5
Aralia nudicaulis	Wild Sarsaparilla	S5	*Maianthemum canadense*	Wild Lily-of-The-Valley	S5
Arisaema triphyllum	Swamp Jack-In-The-Pulpit	S4S5	*Maianthemum trifolium*	Three-Leaf Solomon's-Plume	S4S5
Aster acuminatus	Wood Aster	S5	*Medeola virginiana*	Indian Cucumber-Root	S5
Athyrium filix-femina	Lady-Fern	S5	*Melampyrum lineare*	American Cow-Wheat	S5
Betula alleghaniensis	Yellow Birch	S5	*Mitchella repens*	Partridge-Berry	S5
Betula papyrifera	Paper Birch	S5	*Moneses uniflora*	One-Flower Wintergreen	S5
Betula populifolia	Gray Birch	S5	*Monotropa hypopithys*	American Pinesap	S4
Brachyelytrum septentrionale	Bearded Short-Husk	S4S5	*Monotropa hypopithys*	American Pinesap	S4
Calamagrostis canadensis	Blue-Joint Reedgrass	S5	*Monotropa uniflora*	Indian-Pipe	S5
Callitriche heterophylla	Large Water-Starwort	S4	*Nemopanthus mucronatus*	Mountain Holly	S5
Carex arctata	Black Sedge	S5	*Oclemena acuminata*	Whorled Aster	S5
Carex disperma	Softleaf Sedge	S5	*Onoclea sensibilis*	Sensitive Fern	S5
Carex echinata	Little Prickly Sedge	S5	*Orthilia secunda*	One-Side Wintergreen	S5
Carex intumescens	Bladder Sedge	S5	Oryzopsis asperifolia	White-Grained Mountain-Ricegrass	S5
Carex lacustris	Lake-Bank Sedge	S4	*Osmunda cinnamomea*	Cinnamon Fern	S5
Carex leptonervia	Finely-Nerved Sedge	S5	*Oxalis montana*	White Wood-Sorrel	S5
Carex magellanica	A Sedge	S5	*Phegopteris connectilis*	Northern Beech Fern	S5
Carex pallescens	Pale Sedge	S5	*Photinia melanocarpa*	Black Chokeberry	S5
Carex stipata	Stalk-Grain Sedge	S5	*Picea mariana*	Black Spruce	S5
Carex stricta	Tussock Sedge	S5	*Picea rubens*	Red Spruce	S5
Carex trisperma	Three-Seed Sedge	S5	*Pinus resinosa*	Red Pine	S4S5
Chamaedaphne calyculata	Leatherleaf	S5	*Pinus strobus*	Eastern White Pine	S5
Chelone glabra	White Turtlehead	S5	*Platanthera grandiflora*	Large Purple-Fringe Orchis	S3
Chimaphila umbellata	Common Wintergreen	S4	*Platanthera orbiculata*	Large Roundleaf Orchid	S3
Chrysosplenium americanum	American Golden-Saxifrage	S5	*Polystichum acrostichoides*	Christmas Fern	S5
Circaea alpina	Small Enchanter's Nightshade	S5	*Populus grandidentata*	Large-Tooth Aspen	S5
Clematis virginiana	Virginia Virgin-Bower	S5	*Populus tremuloides*	Quaking Aspen	S5
Clintonia borealis	Clinton Lily	S5	*Potentilla simplex*	Old-Field Cinquefoil	S5

Scientific Name	Common Name	Prov. Rank	Scientific Name	Common Name	Prov. Rank
Comptonia peregrina	Sweet Fern	S5	*Prenanthes trifoliolata*	Three-Leaved Rattlesnake-root	S5
Coptis trifolia	Goldthread	S5	*Prunella vulgaris*	Self-Heal	S5
Corallorhiza trifida	Early Coralroot	S3	*Pteridium aquilinum*	Bracken Fern	S5
Cornus alternifolia	Alternate-Leaf Dogwood	S5	*Pyrola chlorantha*	Greenish-Flowered Wintergreen	S4
Cornus canadensis	Dwarf Dogwood	S5	*Pyrola elliptica*	Shinleaf	S5
Corylus cornuta	Beaked Hazelnut	S5	*Quercus rubra*	Northern Red Oak	S5
Cypripedium acaule	Pink Lady's-Slipper	S5	*Ranunculus abortivus*	Kidney-Leaved Buttercup	S4S5
Dalibarda repens	Robin Runaway	S5	*Ranunculus gmelinii*	Small Yellow Water-Crowfoot	S3?
Diervilla lonicera	Northern Bush-Honeysuckle	S5	*Rhododendron canadense*	Rhodora	S5
Dryopteris carthusiana	Spinulose Shield Fern	S5	*Ribes lacustre*	Bristly Black Currant	S5
Dryopteris cristata	Crested Shield-Fern	S5	*Rubus allegheniensis*	Allegheny Blackberry	S5
Dryopteris intermedia	Evergreen Woodfern	S5	*Rubus hispidus*	Bristly Dewberry	S5
Epipactis helleborine	Eastern Helleborine	SE	*Sambucus racemosa*	Red Elderberry	S5
Equisetum sylvaticum	Woodland Horsetail	S5	*Scutellaria galericulata*	Hooded Skullcap	S5
Eriophorum virginicum	Tawny Cotton-Grass	S5	*Scutellaria lateriflora*	Mad Dog Skullcap	S5
Eupatorium maculatum	Spotted Joe-Pye Weed	S5	*Sium suave*	Hemlock Water-Parsnip	S5
Fagus grandifolia	American Beech	S5	*Spiraea alba*	Narrow-Leaved Meadow-Sweet	S5
Fragaria virginiana	Virginia Strawberry	S5	*Symphyotrichum lanceolatum*	White Panicled American-Aster	S4S5
Fraxinus americana	White Ash	S5	*Symphyotrichum puniceum*	Swamp Aster	S5
Galium palustre	Marsh Bedstraw	S5	*Thelypteris noveboracensis*	New York Fern	S5
Galium triflorum	Sweet-Scent Bedstraw	S5	*Thelypteris palustris*	Marsh Fern	S5
Gaultheria procumbens	Teaberry	S5	*Toxicodendron radicans*	Eastern Poison Ivy	S4
Geum aleppicum	Yellow Avens	S5	*Triadenum fraseri*	Marsh St. John's-Wort	S5
Glyceria canadensis	Canada Manna-Grass	S5	*Trientalis borealis*	Northern Starflower	S5
Glyceria striata	Fowl Manna-Grass	S5	*Trillium cernuum*	Nodding Trillium	S4
Goodyera tesselata	Checkered Rattlesnake-Plantain	S3	*Trillium erectum*	Ill-Scent Trillium	S3
Gymnocarpium dryopteris	Northern Oak Fern	S5	*Trillium undulatum*	Painted Trillium	S5
Ilex verticillata	Black Holly	S5	*Tsuga canadensis*	Eastern Hemlock	S4S5
Impatiens capensis	Spotted Jewel-Weed	S5	*Vaccinium angustifolium*	Late Lowbush Blueberry	S5
Iris versicolor	Blueflag	S5	*Vaccinium myrtilloides*	Velvetleaf Blueberry	S5
Kalmia angustifolia	Sheep-Laurel	S5	*Veronica officinalis*	Gypsy-Weed	S5SE
Lactuca biennis	Tall Blue Lettuce	S5	*Viburnum nudum*	Possum-Haw Viburnum	S5
Larix laricina	American Larch	S5	*Viola cucullata*	Marsh Blue Violet	S5
Ledum groenlandicum	Common Labrador Tea	S5	*Viola renifolia*	Kidney-Leaf White Violet	S4
			Viola septentrionalis	Northern Blue Violet	S5?
			Viola sp	not a sp at risk	n/a