



Stantec

CONCEPT STUDY ON COAL WASTE DISPOSAL OPTIONS – DONKIN MINE

APPENDIX II

Donkin Region Surface Deposition Site Details

Group 1 Historic Coal Mine Sites



Cut Sheet No 1 – Former Schooner Pond And Acadia Mine	
Site Location and Existing Transportation	
Township	<ul style="list-style-type: none"> • Donkin
Most Direct Existing Transportation Option	<ul style="list-style-type: none"> • Public Road: Located approximately 1 km west of current Donkin Mine Access Road along Donkin Highway. • Old Donkin Mine Access Road could reduce travel on public roads by about 1 km.
Other Available Transportation Options	<ul style="list-style-type: none"> • None Identified.
Site General Setting (See Figure 1)	
General Land Use at Mine Site	Generally vacant/undeveloped lands, with some residential development within 1 km from the main mine site.
General Surrounding Land Usage	North <ul style="list-style-type: none"> • Primarily Undeveloped Land • Donkin Highway Immediately Adjacent to north of main mine site. • Atlantic Ocean (within 0.5 km away from mine site)
	East <ul style="list-style-type: none"> • Primary Undeveloped Land • Donkin Highway further to east. • sparse residential development to east-southeast along Donkin Highway.
	West <ul style="list-style-type: none"> • Primary Undeveloped Land • Primary Residential Development are for Donkin township further west along Donkin Highway.
	South <ul style="list-style-type: none"> • Primarily Undeveloped Land • Municipal Reservoir (Donkin Reservoir) and pumphouse within 1 km to south.
Possible Sensitive Areas/Development or Constraints	<ul style="list-style-type: none"> • Municipal Donkin Reservoir to south. • Atlantic Ocean to North. • Small stream flowing northward from Donkin Reservoir to Atlantic Ocean that runs near mine site.
Historic Mining Activities (See Figure 2)	
Coal Seam Mined	<ul style="list-style-type: none"> • Emery Seam
Years Mine Operated	<ul style="list-style-type: none"> • Acadia Mine: 1863-1869 • Schooner Pond Mine: 1872-1874
Mining Methods	<ul style="list-style-type: none"> • Unknown. Likely room and pillar considering operating period of mine.
Coal Seam Thickness	<ul style="list-style-type: none"> • Estimated 1.2 m
Coal Production	<ul style="list-style-type: none"> • Acadia Mine: Approx. 2000 tons • Schooner Pond Mine: 18,541 tons • Total Combined Production Approx. 20,000 tons
Land Based/Submarine Workings	<ul style="list-style-type: none"> • Workings expected to be primarily below land suspected considering small reported production.
Roof and Floor Strata	<ul style="list-style-type: none"> • Unknown
Mine Flooding Status	<ul style="list-style-type: none"> • Unknown. Likely flooded to equilibrium considering operating period of mine.
Mine Gases	<ul style="list-style-type: none"> • Unknown

Cut Sheet No 1 (cont) – Former Schooner Pond And Acadia Mine

Historic Mining Activities (See Figure 2) - cont

Connections to Other Mine Workings	<ul style="list-style-type: none"> Unknown. Unlikely considering mine location in proximity to other mines and the small reported production. 	
Points of Entry to Workings (NSDNR GIS)	Acadia Coal Company Slope	<ul style="list-style-type: none"> Original depth of 85 m. Slope entrance no longer identifiable. No records on sealing available.
	Acadia Water Level	<ul style="list-style-type: none"> Connects Acadia and Schooner Pond Mines Original depth of 310 m. Collapsed at Entrance. Water flowing from outfall to Atlantic Ocean at rate of approx 100 lpm.
	Schooner Pond Mining Company Ltd. Slope	<ul style="list-style-type: none"> Approximate Length of 220 m. Original height of 3.3 m. Approximately 40 m assumed to be collapsed. No records of sealing available.
	Schooner Pond Air Shaft	<ul style="list-style-type: none"> Approximately 6.5 m deep.
	Schooner Pond Air Shaft	<ul style="list-style-type: none"> Approximately 23.5 m deep. Located near edge of cliff to Atlantic Ocean, and expected to be eventually claimed by erosion.



Figure 1 – General Location and Setting (Source: Google Earth)

SCHOONER POND-ACADIA MINES

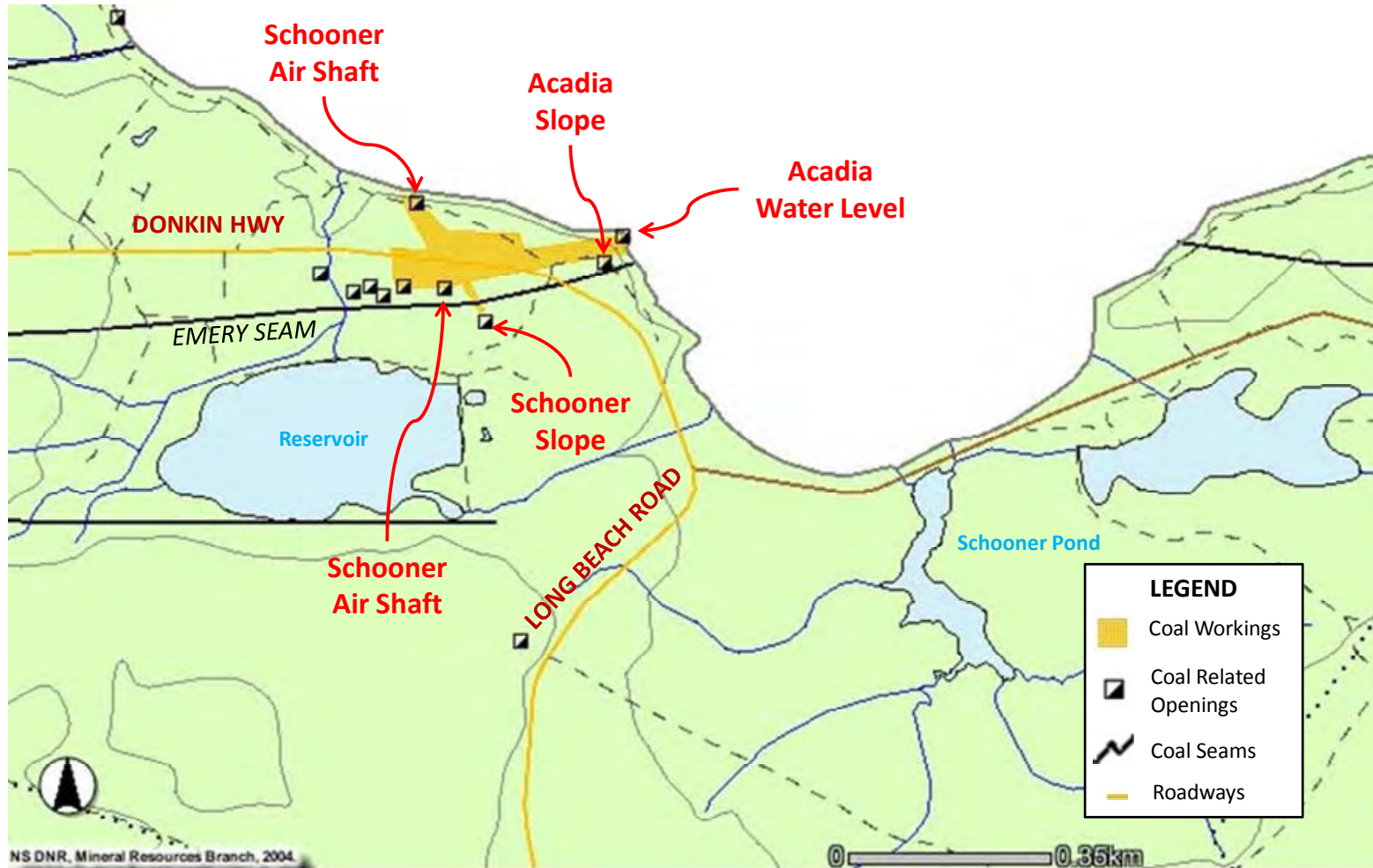


Figure 2 – Historic Mine Openings and Workings (Source: NSDNR GIS)

Cut Sheet No 2 – Former Dominion 6 Mine

Site Location and Existing Transportation		
Township	<ul style="list-style-type: none"> • Donkin 	
Most Direct Existing Transportation Option	<ul style="list-style-type: none"> • Public Road: Located approximately 3 km west of current Donkin Mine Access Road along Donkin Highway. • Old Donkin Mine Access Road could reduce travel on public roads by about 1 km. 	
Other Available Transportation Options	<ul style="list-style-type: none"> • None Identified 	
Site General Setting (See Figure 1)		
General Land Use at Mine Site	Generally developed lands with residential/recreational development. Considerable residential development and a school within 1 km from the main mine sites. The points of entry to the mine expected to be located roughly within 100 m from public roads.	
General Surrounding Land Usage	North	<ul style="list-style-type: none"> • Primarily Residential Development
	East	<ul style="list-style-type: none"> • Primarily Residential and a School.
	West	<ul style="list-style-type: none"> • Primarily Residential Development
	South	<ul style="list-style-type: none"> • Primarily Recreational Development and Donkin Highway
Possible Sensitive Areas/Development or Constraints	<ul style="list-style-type: none"> • Considerable residential development and an existing school in close proximity to the expected points to entry to the mine. • Atlantic Ocean roughly within 1 km of former mine site. 	
Historic Mining Activities and Mine Condition (See Figure 2)		
Coal Seam Mined	<ul style="list-style-type: none"> • Phalen 	
Years Mine Operated	<ul style="list-style-type: none"> • 1910-1930 	
Mining Methods	<ul style="list-style-type: none"> • Room and Pillar 	
Coal Seam Thickness	<ul style="list-style-type: none"> • Estimated Average Thickness 1.2 – 2.1 m 	
Coal Production	<ul style="list-style-type: none"> • 3,321,575 tons 	
Land Based/Submarine Workings	<ul style="list-style-type: none"> • Main Slopes below land and working north towards Atlantic Ocean, with most underground workings submarine. 	
Roof and Floor Strata	<ul style="list-style-type: none"> • Louis Frost Notes: “The physical conditions of the Phalen Seam in this area were quite good, although immediately over the seam there is a weak till one foot thick, which disintegrates when exposed to air. Above this the roof is formed of hard shale bands. The floor of the Phalen Seam in this area is made up of a hard shale, although in a westerly direction and seaward the pavement softens.” 	
Mine Flooding Status	<ul style="list-style-type: none"> • Unknown – Likely flooded to equilibrium considering years of operation. 	
Mine Gases	<ul style="list-style-type: none"> • Louis Frost Notes: Reported as “gassy” during operation, and ventilated by a Walker fan delivering 64,000 cubic feet of air against a water gauge of 1.3 inches 	
Possible Connections to Other Mine Workings	<ul style="list-style-type: none"> • Yes. Clyde Mine (See Clyde Mine Cut-Sheet). • Possibly Dominion 4 Mine. 	
Entry to Workings	<ul style="list-style-type: none"> • Louis Frost Notes: Entry was made by means of two pair of slopes, one driven in a north easterly direction that was later abandoned because of the high sulphur content of the coal. 	

Cut Sheet No 2 (cont) – Former Dominion 6 Mine

Historic Mining Activities and Mine Condition (See Figure 2) - cont

Points of Entry to Workings (NSDNR GIS)	West Back and Main Deep	<ul style="list-style-type: none"> • Original height and width of 3.7 and 2 m. • West Back Deep: Original depth of 2275 m. • West Main Deep: Original depth of 2275 m.
	East Back and Main Deep	<ul style="list-style-type: none"> • Original height and width of 3.7 and 2 m. • East Back Deep: Original depth of 470 m. • East Main Deep: Original depth of 520 m.
	East Fan Shaft	<ul style="list-style-type: none"> • Located under school parking lot. • Original height and width of 3.6 m. • Original depth of 4.6 m.
	West Upcast Shaft	<ul style="list-style-type: none"> • Original height and width of 3.6 m. • Original depth of 10.4 m.
	West Fan Shaft	<ul style="list-style-type: none"> • Original height and width of 3.6 m. • Original depth of 8.8 m.

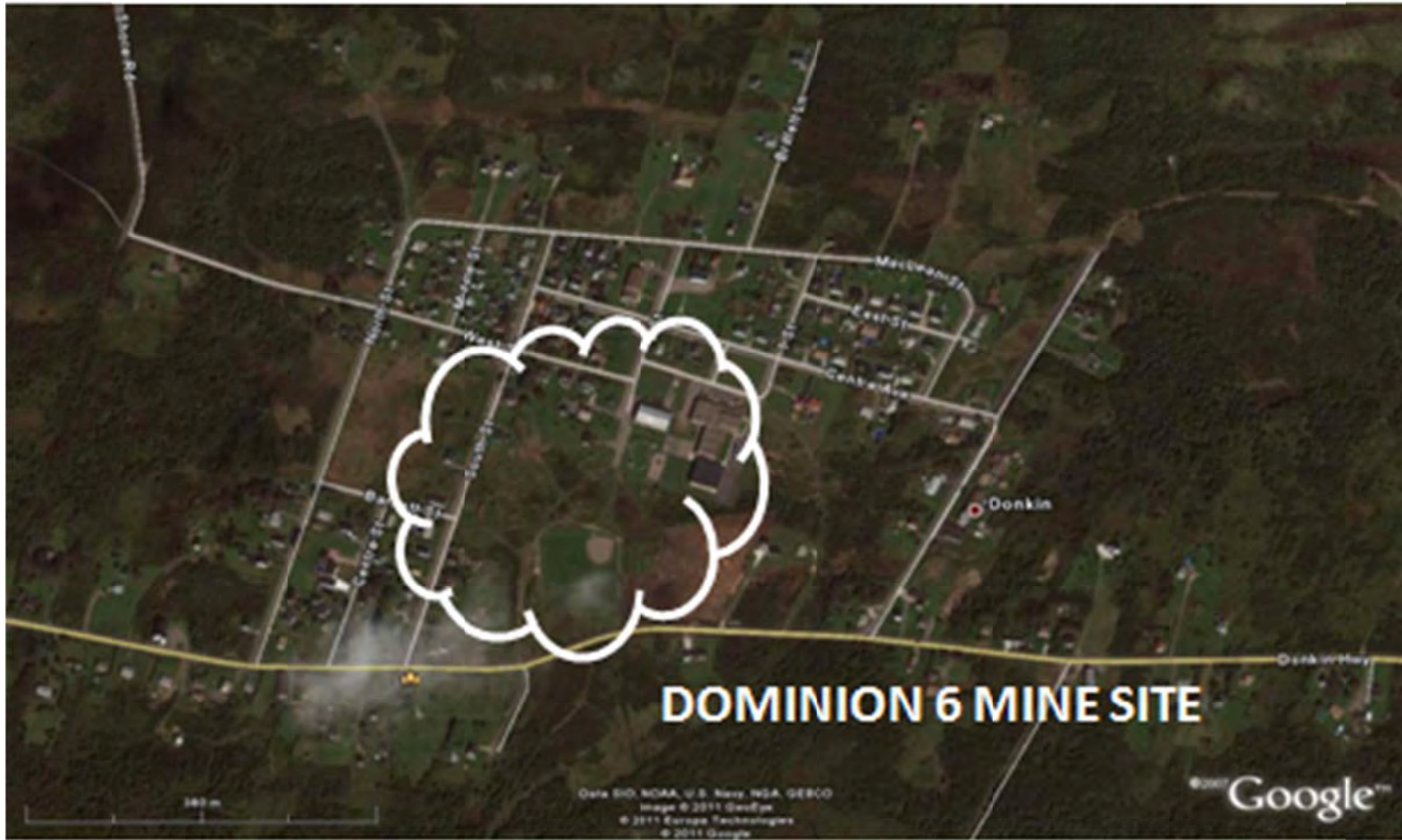


Figure 1 – General Location and Setting (Source: Google Earth)

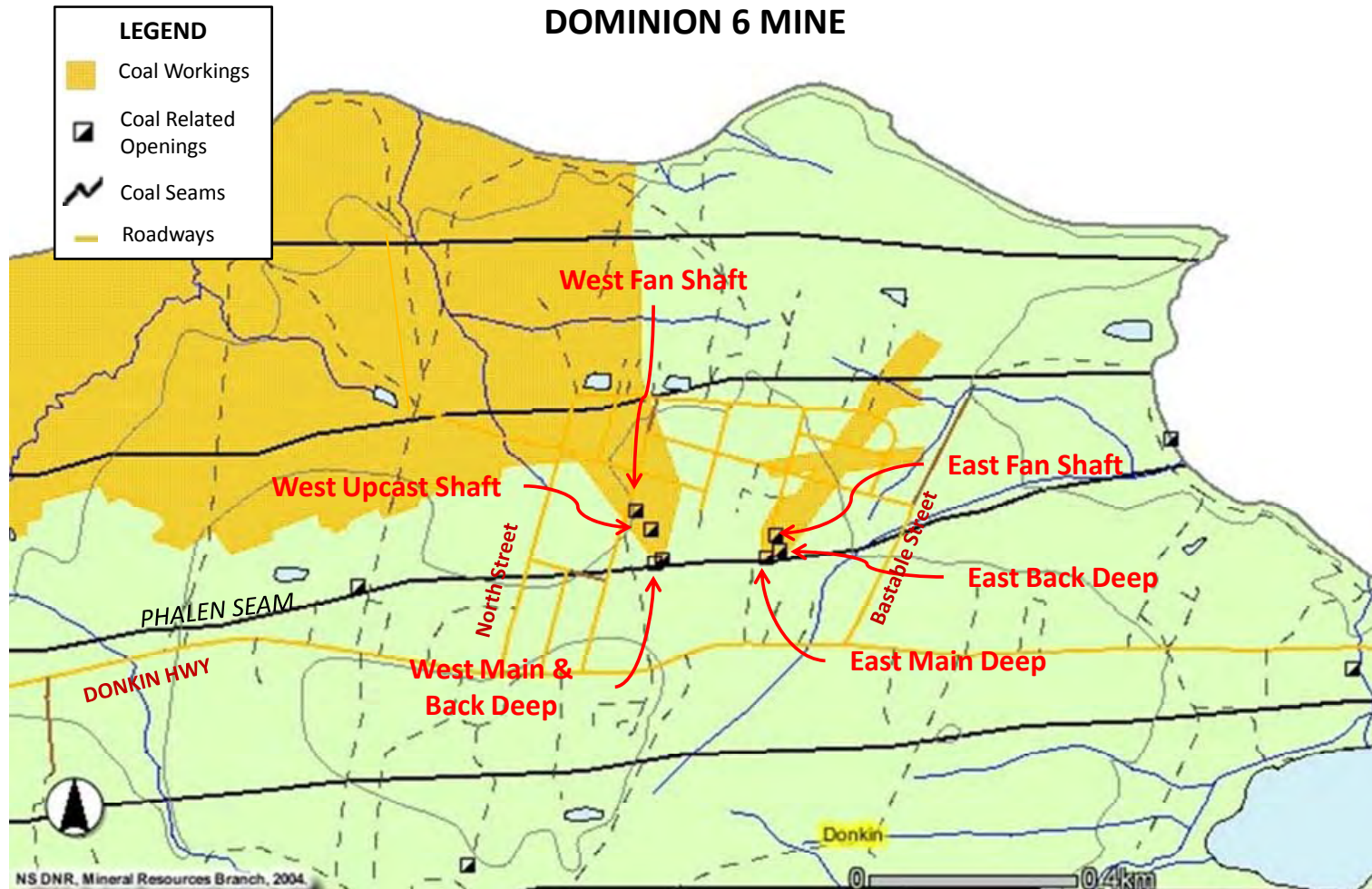


Figure 2 – Historic Mine Openings and Workings (Source: NSDNR GIS)

Cut Sheet No 3 – Former Clyde Mine

Site Location and Existing Transportation		
Township	<ul style="list-style-type: none"> Port Caledonia 	
Most Direct Existing Transportation Option	<ul style="list-style-type: none"> Public Road: Located approximately 4 km west of Donkin Mine Access Road via Donkin Highway. Old Donkin Mine Access Road could reduce travel on public roads by about 1 km. 	
Other Available Transportation Options	<ul style="list-style-type: none"> None Identified. 	
Site General Setting (See Figure 1)		
Current Land Use at Mine Site	Largely undeveloped lands, with nearby residential development within 1 km from the main mine sites. Main slope being located about 30 m North of Donkin Highway.	
Surrounding Land Usage	North	<ul style="list-style-type: none"> Atlantic Ocean
	East	<ul style="list-style-type: none"> Undeveloped Land / Sparse Residential
	West	<ul style="list-style-type: none"> Atlantic Ocean
	South	<ul style="list-style-type: none"> Primarily Residential Land Donkin Highway
Primary Receptors/Sensitive Areas	<ul style="list-style-type: none"> Considerable Residential Development within 1 km. Atlantic Ocean 	
Historic Mining Activities (See Figure 2)		
Coal Seam Mined	<ul style="list-style-type: none"> Phalen 	
Years Mine Operated	<ul style="list-style-type: none"> 1863-1892 	
Mining Methods	<ul style="list-style-type: none"> Room and Pillar 	
Coal Seam Thickness	<ul style="list-style-type: none"> Estimated Average Thickness 1.2 – 2.1 m 	
Coal Production	<ul style="list-style-type: none"> 238,310 tons 	
Land Based/Submarine Workings	<ul style="list-style-type: none"> Louis Frost Notes: "Prior to the opening of Dominion No. 6 Colliery, a mine known as the "Clyde Mine" worked a small section of the outcrop of the Phalen Seam adjacent to and west of the area later worked by No. 6 Colliery." Workings appear to extend beyond Atlantic shoreline, but expect minimal submarine workings given small production volume. 	
Roof and Floor Strata	<ul style="list-style-type: none"> Report of Progress GSC : "The only seam which has been opened is the Phalen, about eight feet thick, of which however, eighteen inches of the top coal is left in to support the soft shaly roof." 	
Mine Flooding Status	<ul style="list-style-type: none"> Unknown – Likely flooded to equilibrium. 	
Mine Gases	<ul style="list-style-type: none"> Report of Progress GSC : "The workings being on such a limited scale, and so near the surface, no special appliances for ventilation have hiterto been required, and the slope and water level become in turn the intake for air according to the direction of the external currents." 	
Possible Connections to Other Mine Workings	<ul style="list-style-type: none"> Yes. Louis Frost Notes: "After the development of No. 6 Colliery, the workings were connected to those of the Clyde Mine and the areas formerly tributary to the Clyde were worked through No. 6 Colliery." 	

Cut Sheet No 3 (cont) – Former Clyde Mine

Historic Mining Activities (See Figure 2) - cont

Points of Entry to Workings (NSDNR GIS)	Main Slope No. 3	<ul style="list-style-type: none"> Original height and depth of 4.3 and 285 m.
	Slope (Old Main) No. 2	<ul style="list-style-type: none"> Original height and depth of 4.3 and 145 m.
	Slope No. 1	<ul style="list-style-type: none"> Original height and depth of 4.3 and 135 m.
	Water Level	<ul style="list-style-type: none"> Original depth of 7 m.
	Upcast Shaft	<ul style="list-style-type: none"> Original depth of 5 m.
	Upcast Shaft	<ul style="list-style-type: none"> Original depth of 3.5 m.
	Boutillier Shaft	<ul style="list-style-type: none"> Original depth of 4.5 m.
Entry to Workings (Report of Progress GSC)	<ul style="list-style-type: none"> “The seam is opened by a slope from the crop about 100 yards from the shore of Little Glace Bay and three quarters of a mile from Port Caledonia. The dip of the seam is N 21° E, at angles varying from 10° at the surface to 5° at lower levels. 	

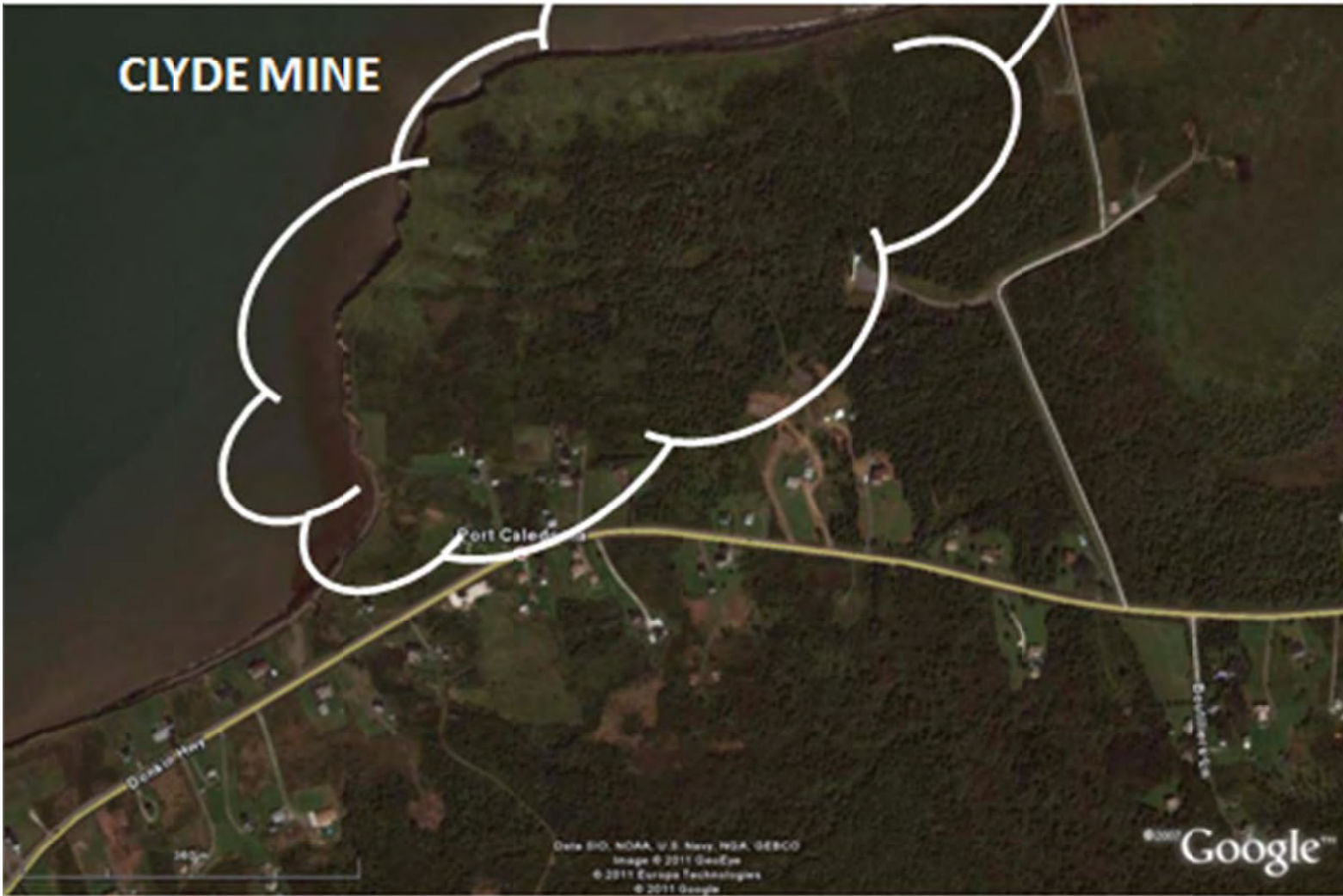


Figure 1 – General Location and Setting (Source: Google Earth)

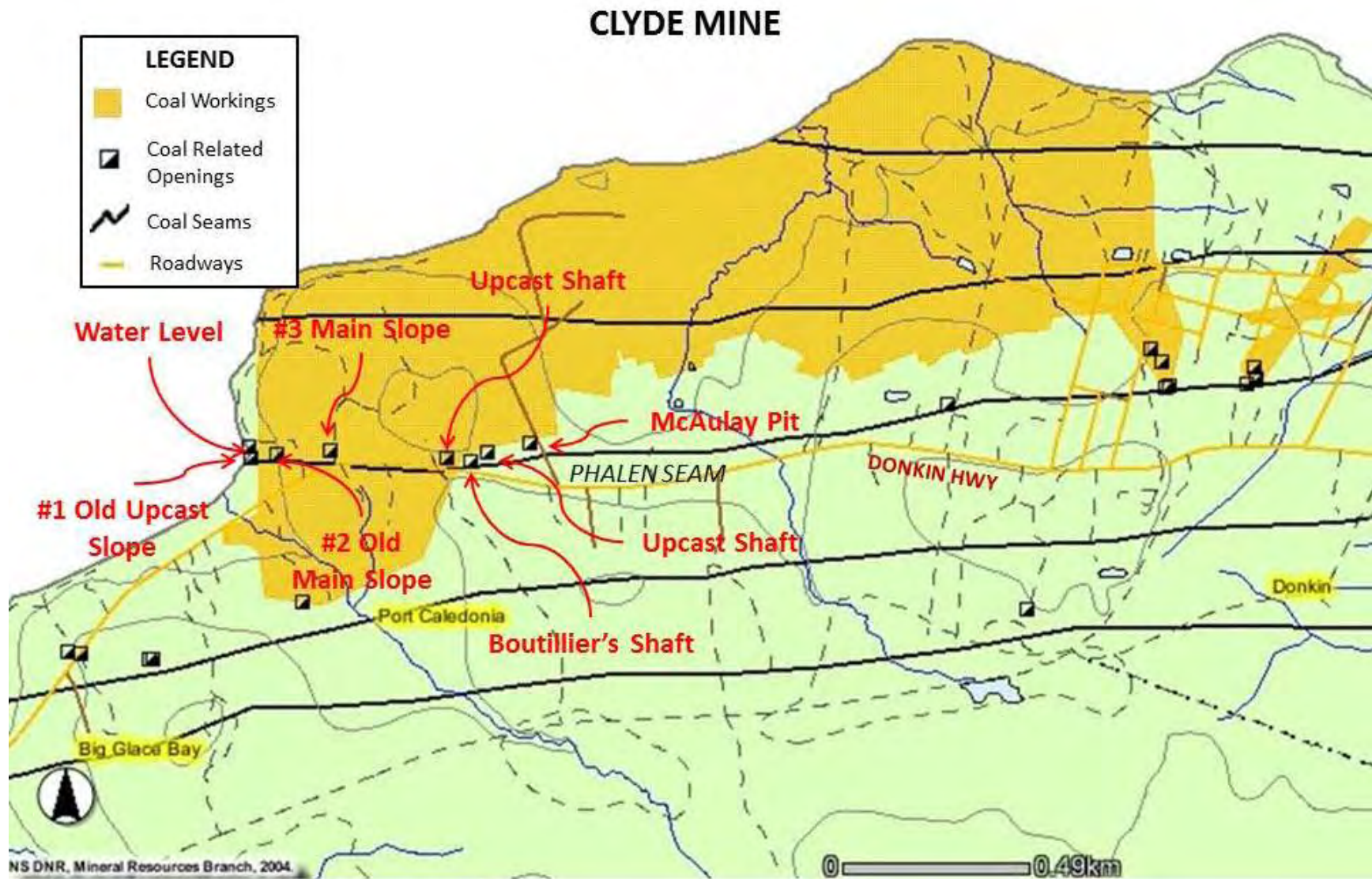


Figure 2 – Historic Mine Openings and Workings (Source: NSDNR GIS)

Group 2 Historic Coal Mine Sites



Cut Sheet No 4 – Former Blockhouse Mine

Site Location and Existing Transportation	
Township	<ul style="list-style-type: none"> • Port Morien
Most Direct Existing Transportation Option	<ul style="list-style-type: none"> • Public Roads: Approximately 2 km south of Donkin Mine Main Access Road along Long Beach Road.
Other Available Transportation Options	<ul style="list-style-type: none"> • None identified
Site General Setting (See Figure 1)	
Current Land Use at Mine Site	Generally vacant/undeveloped lands at former mine site, with residential and recreational development within 1. The Atlantic Ocean is situated directly east of the former main slopes.
Surrounding Land Usage	North <ul style="list-style-type: none"> • Primarily Undeveloped Land. • Long Beach Road and some sparse residential development within 1 km.
	East <ul style="list-style-type: none"> • Undeveloped Land. • Atlantic Ocean. • Main Slopes located along the shoreline.
	West <ul style="list-style-type: none"> • Primarily Recreational Land. • Some Residential Development west along Long Beach Road.
	South <ul style="list-style-type: none"> • Some residential development. • Atlantic Ocean.
Primary Receptors/Sensitive Areas	<ul style="list-style-type: none"> • Atlantic Ocean roughly within 0.5 km to the east of former mine site.
Historic Mining Activities (See Figure 2)	
Coal Seam Mined	<ul style="list-style-type: none"> • Blockhouse
Years Mine Operated	<ul style="list-style-type: none"> • 1868-1888
Mining Methods	<ul style="list-style-type: none"> • Room and Pillar
Coal Seam Thickness	<ul style="list-style-type: none"> • Average Thickness 3.4 m.
Coal Production	<ul style="list-style-type: none"> • 1,168,986
Land Based/Submarine Workings	<ul style="list-style-type: none"> • Report of Progress GSC: "Entirely below land over an area of 50 acres."
Roof and Floor Strata	<ul style="list-style-type: none"> • Unknown
Mine Flooding Status	<ul style="list-style-type: none"> • Unknown – Likely flooded to equilibrium.
Mine Gases	<ul style="list-style-type: none"> • Report of Progress GSC: "Little or no gas is developed in this mine."
Possible Connections to Other Mine Workings	<ul style="list-style-type: none"> • Unknown. Unlikely considering the location in proximity to other mines and small production.

Cut Sheet No 4 (cont) – Former Blockhouse Mine

Historic Mining Activities (See Figure 2) - cont

Points of Entry to Workings (NSDNR GIS)	North Atlantic Collieries Blockhouse Shaft	<ul style="list-style-type: none"> • Measured height and width of 6 m. • Measured depth 1 m.
	Blockhouse Coal Mining Company Ltd. Belloni & Ingraham Slopes	<ul style="list-style-type: none"> • Original depth of 1350 m. • Ingraham slope extended from an outlet at a wharf at the seam outcrop and connects to Dawson Pit. • Belloni slope was driven at the same point.
	Dawson Pit	<ul style="list-style-type: none"> • Original depth of 24 m.
	Dawson Furnace Shaft	<ul style="list-style-type: none"> • Original height and width of 1.8 m. • Original depth of 18 m.
	Auxiliary Slope	<ul style="list-style-type: none"> • Original depth of 60 m.
	Old French Drainage Level	<ul style="list-style-type: none"> • Original depth of 40 m.
	McAulay (Belloni) Shaft	<ul style="list-style-type: none"> • Measured height and width of 3 m. • Measured depth 1 m.

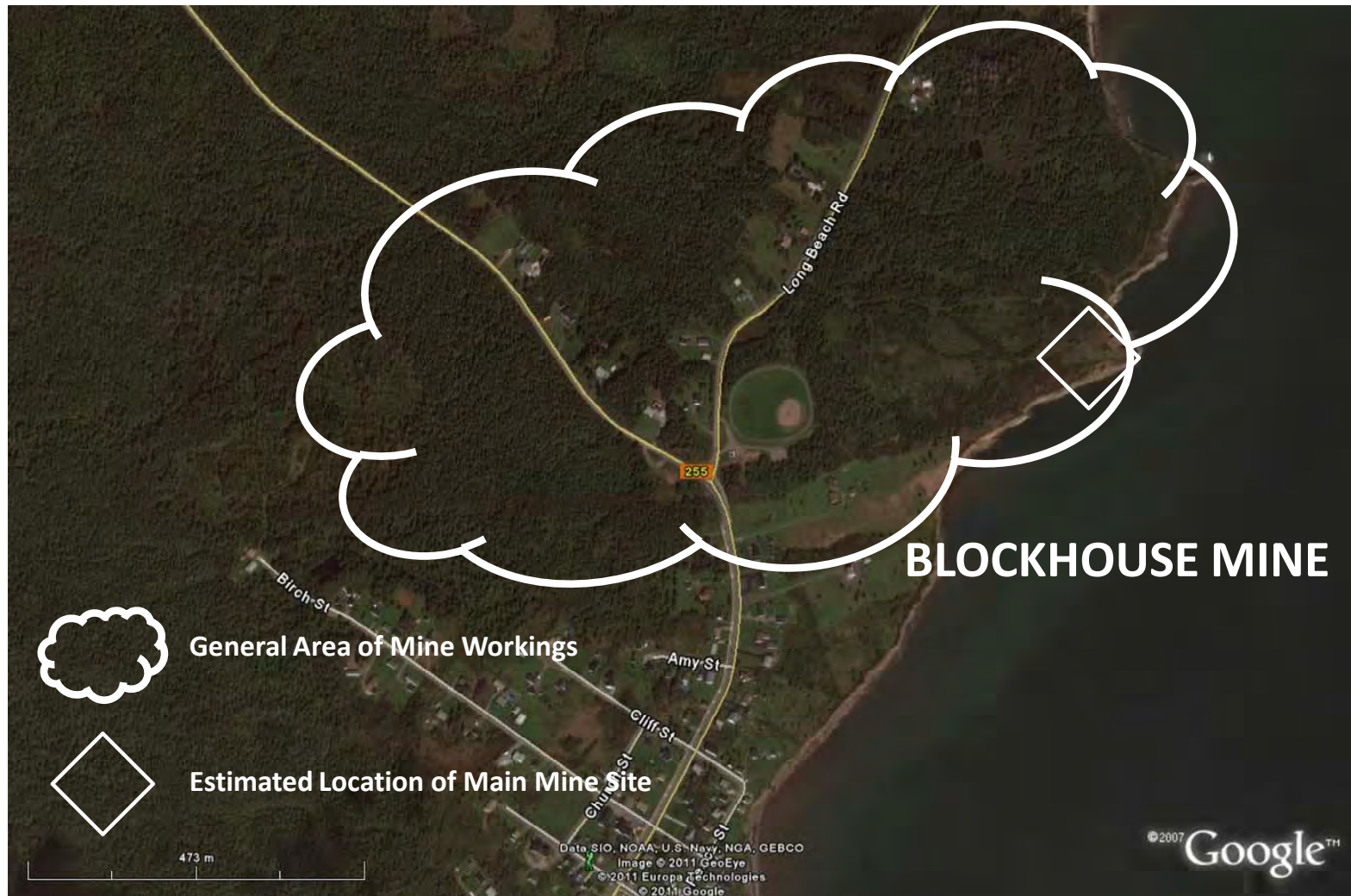


Figure 1 – General Location and Setting (Source: Google Earth)

BLOCKHOUSE MINE

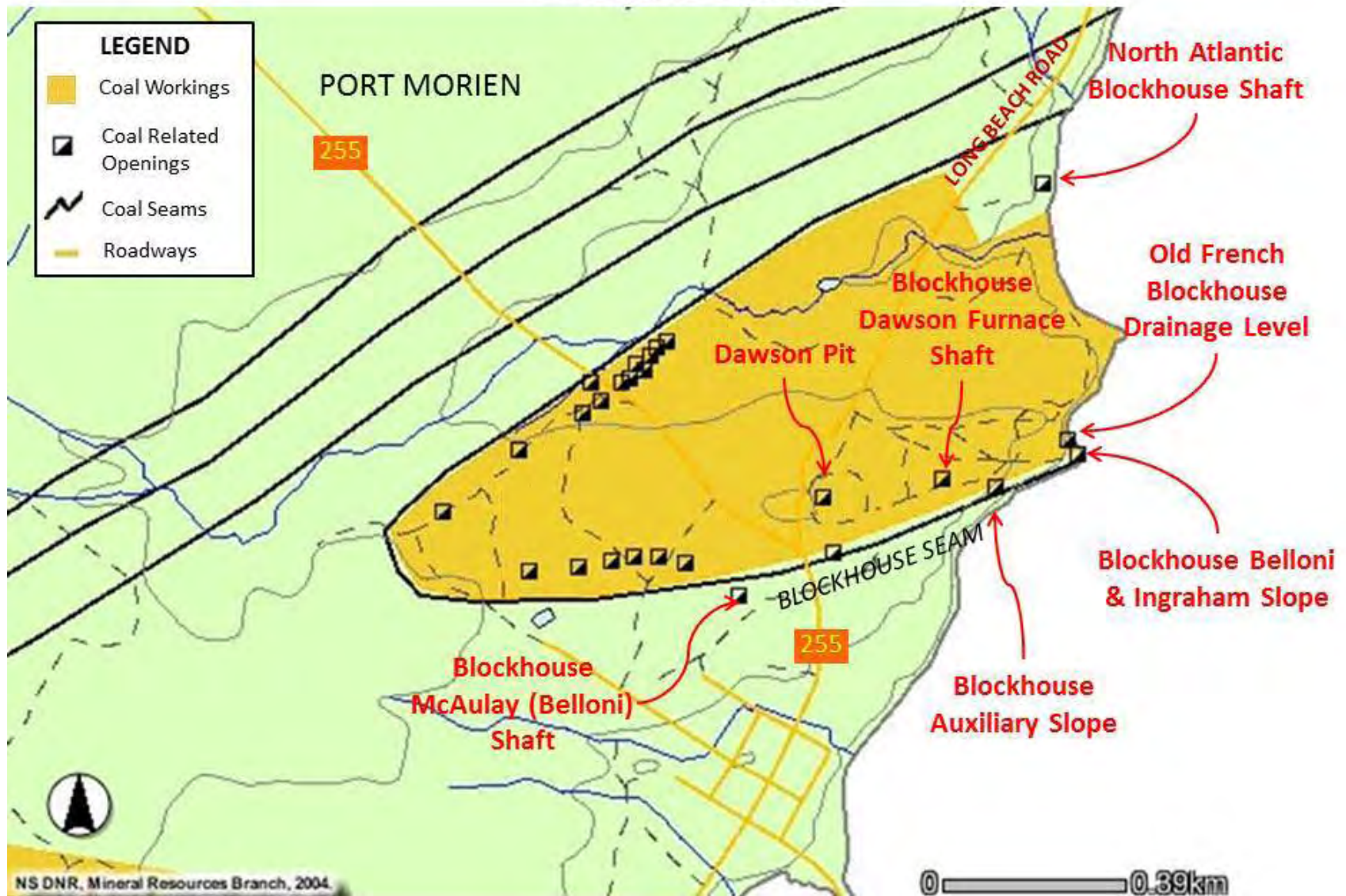


Figure 2 – Historic Mine Openings and Workings (Source: NSDNR GIS)

Cut Sheet No 5 – Former Gowrie Mine

Site Location and Existing Transportation		
Township	<ul style="list-style-type: none"> • Morien 	
Most Direct Existing Transportation Option	<ul style="list-style-type: none"> • Public Roads: Approximately 4 km south of Donkin Mine Access Road along Long Beach Road. 	
Other Available Transportation Options	<ul style="list-style-type: none"> • None identified 	
Site General Setting (See Figure 1)		
Current Land Use at Mine Site	<ul style="list-style-type: none"> • Generally undeveloped land. Residential development within 1 km from the main mine sites. • NSDNR: The travelling and upcast slope is located about 350 m from a public road in a wooded area to the West of Long Beach Road and South of Birch Grove Road. 	
Surrounding Land Usage	North	<ul style="list-style-type: none"> • Undeveloped land with some residential development immediately north. • Considerable Residential Development to the northeast along Long Beach Road within 1 km.
	East	<ul style="list-style-type: none"> • Morien Bay
	West	<ul style="list-style-type: none"> • Primarily Undeveloped Land • Some Sparse Residential Development within 1 km along Birch Grove Road.
	South	<ul style="list-style-type: none"> • Primarily Undeveloped Land. • Some sparse Residential Development within 1 km along Long Beach Road.
Primary Receptors/Sensitive Areas	<ul style="list-style-type: none"> • Residential Development • Morien Bay to the east • Reservoir to the south of Birch Grove Road and Odiorne #3 Shaft 	
Historic Mining Activities (See Figure 2)		
Coal Seam Mined	<ul style="list-style-type: none"> • Gowrie/McAulay (underlies Blockhouse seam by 137 m) • Seam dips on the south side N 18° E < 8° and the northern outcrop S < 40°. 	
Years Mine Operated	<ul style="list-style-type: none"> • 1863-1892 	
Mining Methods	<ul style="list-style-type: none"> • Room and Pillar 	
Coal Seam Thickness	<ul style="list-style-type: none"> • Estimated 1.4 – 1.6 m. 	
Coal Production	<ul style="list-style-type: none"> • 1,930,837 tons 	
Land Based/Submarine Workings	<ul style="list-style-type: none"> • Primarily below land workings suspected. • Report of Progress GSC: Estimated 80 acres worked over. 	
Roof and Floor Strata	<ul style="list-style-type: none"> • Roof coal and floor hard sandstone. 	
Mine Flooding Status	<ul style="list-style-type: none"> • Unknown – Likely flooded to equilibrium. 	
Mine Gases	<ul style="list-style-type: none"> • Report of Progress GSC : “No explosive gas being generated in the mine no safety lamps are required, and the ventilation hitherto has been attended with no difficulty and requires no special appliances.” 	
Possible Connections to Other Mine Workings	<ul style="list-style-type: none"> • Unknown. Unlikely considering the location in proximity to other mines and small production. 	

Cut Sheet No 5 (cont) – Former Gowrie Mine

Historic Mining Activities (See Figure 2) - cont

Points of Entry to Workings (NSDNR GIS)	Gowrie #1 Slope	<ul style="list-style-type: none"> • Original depth of 50 m.
	Travelling & Upcast Slope	<ul style="list-style-type: none"> • Measured height and width of 5 m. • Measured depth of 1.5 m. • Original depth of 430 m.
	Gowrie #2 Shaft	<ul style="list-style-type: none"> • Original depth of 24 m. • About 275 m south of #3 Shaft
	Odiorne #3 Shaft	<ul style="list-style-type: none"> • Original height and width of 4.6 and 1.7 m. • Original depth of 62.5 m. • Approx. 820 m from the shore of Morien Bay.
	Gowrie #4 Shaft	<ul style="list-style-type: none"> • Original height and width of 3.7m. • Original depth of 76 m.
	North Atlantic Collieries Ltd. Main Shaft	<ul style="list-style-type: none"> • Original height and width of 3.7 m. • Original depth of 60 m.



Figure 1 – General Location and Setting (Source: Google Earth)

GOWRIE MINE

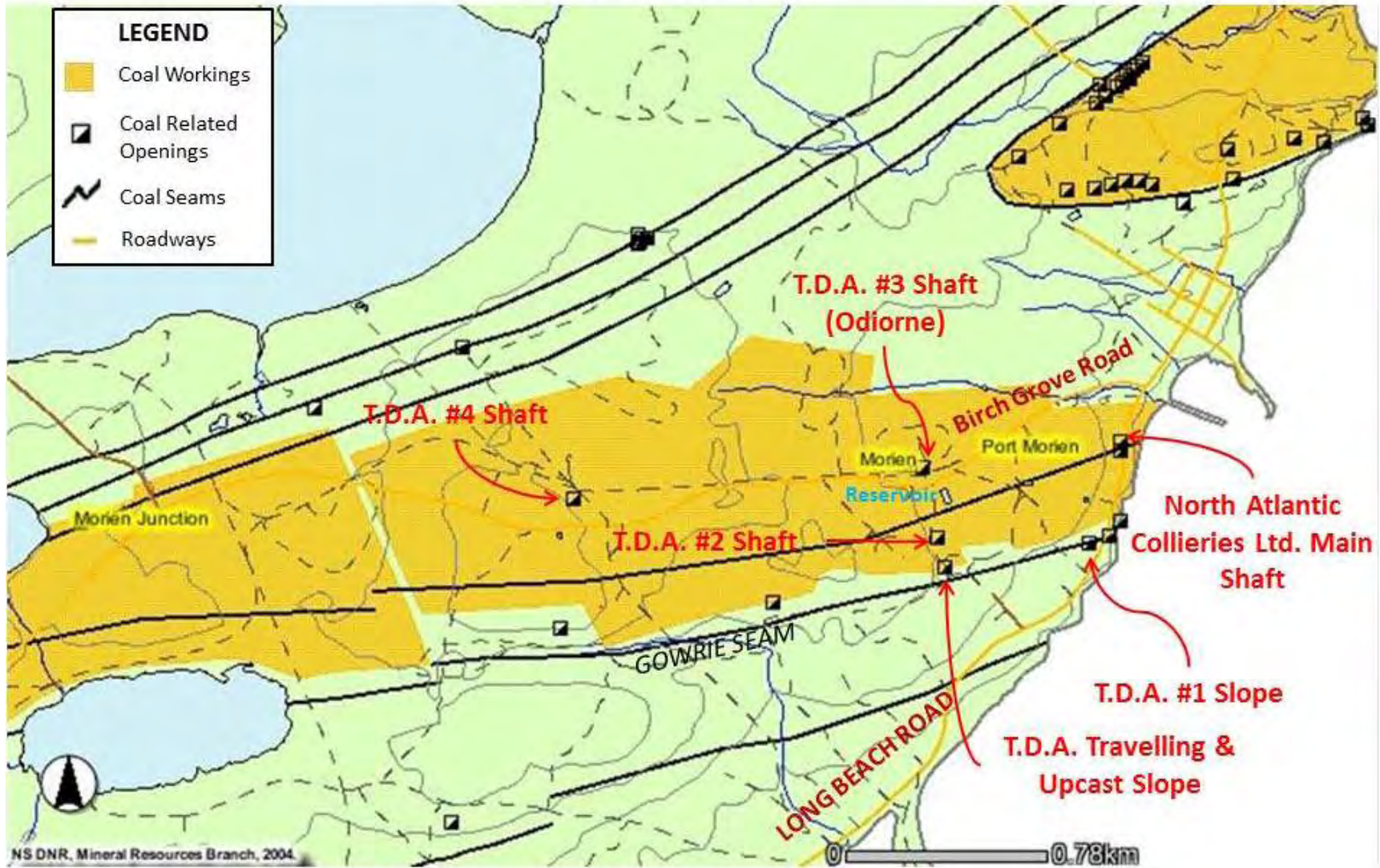


Figure 2 – Historic Mine Openings and Workings (Source: NSDNR GIS)

Cut Sheet No 6 – Former Dominion 21/22 Mines

Site Location and Existing Transportation	
Township	<ul style="list-style-type: none"> • Birch Grove
Most Direct Existing Transportation Option	<ul style="list-style-type: none"> • Public Roads: Approximately 9 km from Donkin Mine Main Access Road, accessed via south along Long Beach Road (4km) and then west along Birch Grove Road (5 km).
Other Available Transportation Options	<ul style="list-style-type: none"> • None identified.
Site General Setting (See Figure 1)	
Current Land Use at Mine Site	The former Dominion 21/22 Mine sites can be best described as vacant/undeveloped/recreational lands, with considerable residential development within 1 km from the main mine sites.
Surrounding Land Usage	North <ul style="list-style-type: none"> • Undeveloped Land with considerable Residential and Possible Commercial Development along Birch Grove Road.
	East <ul style="list-style-type: none"> • Undeveloped Land with some sparse Residential Development along Birch Grove Road. • Old rail beds, likely used for recreational purposes.
	West <ul style="list-style-type: none"> • Vacant/Undeveloped Land. • Old rail beds, likely used for recreational purposes.
	South <ul style="list-style-type: none"> • Primarily Vacant/Undeveloped Land • Some localized and sparse residential development.
Primary Receptors/Sensitive Areas	<ul style="list-style-type: none"> • Morrison Lake to the east and tributaries to the south. • Reservoir at John Allen Lake to the south west. • Little Lake to the North.
Historic Mining Activities (See Figure 2)	
Coal Seam Mined	<ul style="list-style-type: none"> • Gowrie/McAulay (underlies Blockhouse seam by 137 m)
Years Mine Operated	<ul style="list-style-type: none"> • Dominion 21: 1911-1925 • Dominion 22: 1912-1930
Mining Methods	<ul style="list-style-type: none"> • Room and Pillar with Pillar Extraction
Coal Seam Thickness	<ul style="list-style-type: none"> • Estimated 1.7 m.
Coal Production	<ul style="list-style-type: none"> • Dominion 21: 1,285,900 tons • Dominion 22: 2,341,056 tons
Land Based/Submarine Workings	<ul style="list-style-type: none"> • No submarine workings suspected.
Roof and Floor Strata	<ul style="list-style-type: none"> • Louis Frost Notes: Weak shale roof. Fire clay floor.
Mine Flooding Status	<ul style="list-style-type: none"> • Unknown – Likely flooded to equilibrium considering years of operation.
Mine Gases	<ul style="list-style-type: none"> • Louis Frost Notes: “The mine was not gassy. The mine was ventilated by a Sirocco Fan 5 ft. 0 inches x 3 ft. 7 1/2 inches, delivering 46,000 cubic feet per minute at a water gauge of 0.35 inches.”
Possible Connections to Other Mine Workings	<ul style="list-style-type: none"> • Dominion 21 and 22 connections only suspected. Unlikely connected to other mines. • Louis Frost Notes for Dominion 22, “All the coal tributary to this mine was extracted to the limit of a fault separating the old workings in the Old Gowrie Mine from No. 22 Colliery area.”

Cut Sheet No 6 (cont) – Former Dominion 21/22 Mines

Historic Mining Activities (See Figure 2) - cont

Points of Entry to Workings (NSDNR GIS)	DOM 21	Main and Back Deep Slope	<ul style="list-style-type: none"> • Original height and width of 3.7 and 1.8 m. • Original depth of 575 m.
		North Side Main and Back Deep Slope	<ul style="list-style-type: none"> • Original height and width of 3.7 and 1.8 m. • Original depth of 575 m.
		Air Shaft	<ul style="list-style-type: none"> • Measured height and width of 3 m. • Measured depth of 1.8 m. • Original depth of 9.5 m.
	DOM 22	Main Deep Slope	<ul style="list-style-type: none"> • Original height and width of 3.7 and 1.8 m. • Original depth of 540 m.
		Back Deep Slope	<ul style="list-style-type: none"> • Original height and width of 3.7 and 1.8 m. • Original depth of 665 m.
		Air Shaft	<ul style="list-style-type: none"> • Original height and width of 4.0 and 4.7 m. • Original depth of 7.3 m.
		North Side Upcast Shaft	<ul style="list-style-type: none"> • Original depth of 6 m.



Figure 1 – General Location and Setting (Source: Google Earth)

DOMINION 21/22 MINES

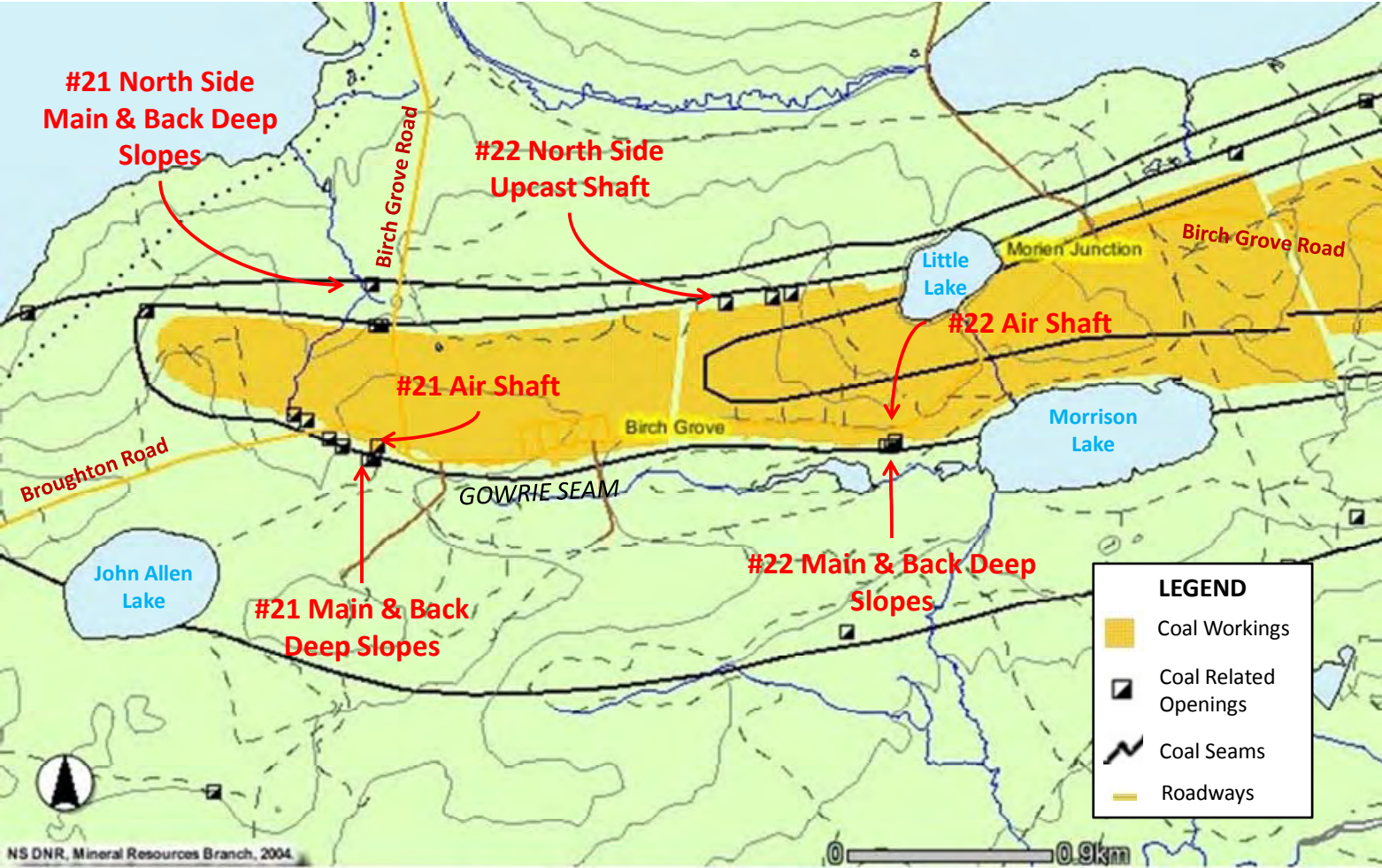


Figure 2 – Historic Mine Openings and Workings (Source: NSDNR GIS)

Cut Sheet No 7 – Former Broughton/4 Star Mines

Site Location and Existing Transportation		
Township	<ul style="list-style-type: none"> Broughton 	
Most Direct Existing Transportation Option	<ul style="list-style-type: none"> Public Roads: approximately 18 km from Donkin Main Access Road, via south along Long Beach Road (4 km), west along Birch Grove Road (9 km) and south along Broughton Road (5 km). 	
Other Available Transportation Options	<ul style="list-style-type: none"> None Identified. 	
Site General Setting (See Figure 1)		
Current Land Use at Mine Site	Generally vacant/undeveloped lands, with minor residential development within 1 km from the main mine sites.	
Surrounding Land Usage	North	<ul style="list-style-type: none"> Primarily Undeveloped Land Broughton Road (Sparse residential development along Broughton Road)
	East	<ul style="list-style-type: none"> Primarily Undeveloped Land
	West	<ul style="list-style-type: none"> Primarily Undeveloped Land
	South	<ul style="list-style-type: none"> Primarily Undeveloped Land
Primary Receptors/Sensitive Areas	<ul style="list-style-type: none"> Loon Lake and tributaries to the South. Cochrane Lake and tributaries to the north. 	
Historic Mining Activities (See Figure 2)		
Coal Seam Mined	<ul style="list-style-type: none"> Tracy 	
Years Mine Operated	<ul style="list-style-type: none"> Broughton: 1914-1915 Four Star: 1950-1969 	
Mining Methods	<ul style="list-style-type: none"> Four Star: Mechanized Long wall Four Star: Hydraulically Powered Long wall installed in 1966 	
Coal Seam Thickness	<ul style="list-style-type: none"> Estimated 1.2 – 1.5 m. 	
Coal Production	<ul style="list-style-type: none"> Broughton: 55,847 tons. Four Star: 1,544,143 tons. 	
Land Based/Submarine Workings	<ul style="list-style-type: none"> No sub-marine workings expected. 	
Roof and Floor Strata	<ul style="list-style-type: none"> Unknown 	
Mine Flooding Status	<ul style="list-style-type: none"> Unknown. Likely flooded to equilibrium 	
Mine Gases	<ul style="list-style-type: none"> Unknown 	
Connections to Other Mine Workings	<ul style="list-style-type: none"> Connections to Broughton and Four Star Mines only suspected. Connections to other mines unlikely considering the location in proximity to other mines. 	

Cut Sheet No 7 (cont) – Former Broughton/4 Star Mines

Historic Mining Activities (See Figure 2) - cont

Points of Entry to Workings (NSDNR GIS)	Four Star East Slope	• Original depth of 725 m.
	Four Star Main Slope	• Original depth of 1190 m.
	Four Star West Slope	• Original depth of 700 m.
	Four Star Auxiliary Slope	• Original depth of 745 m.

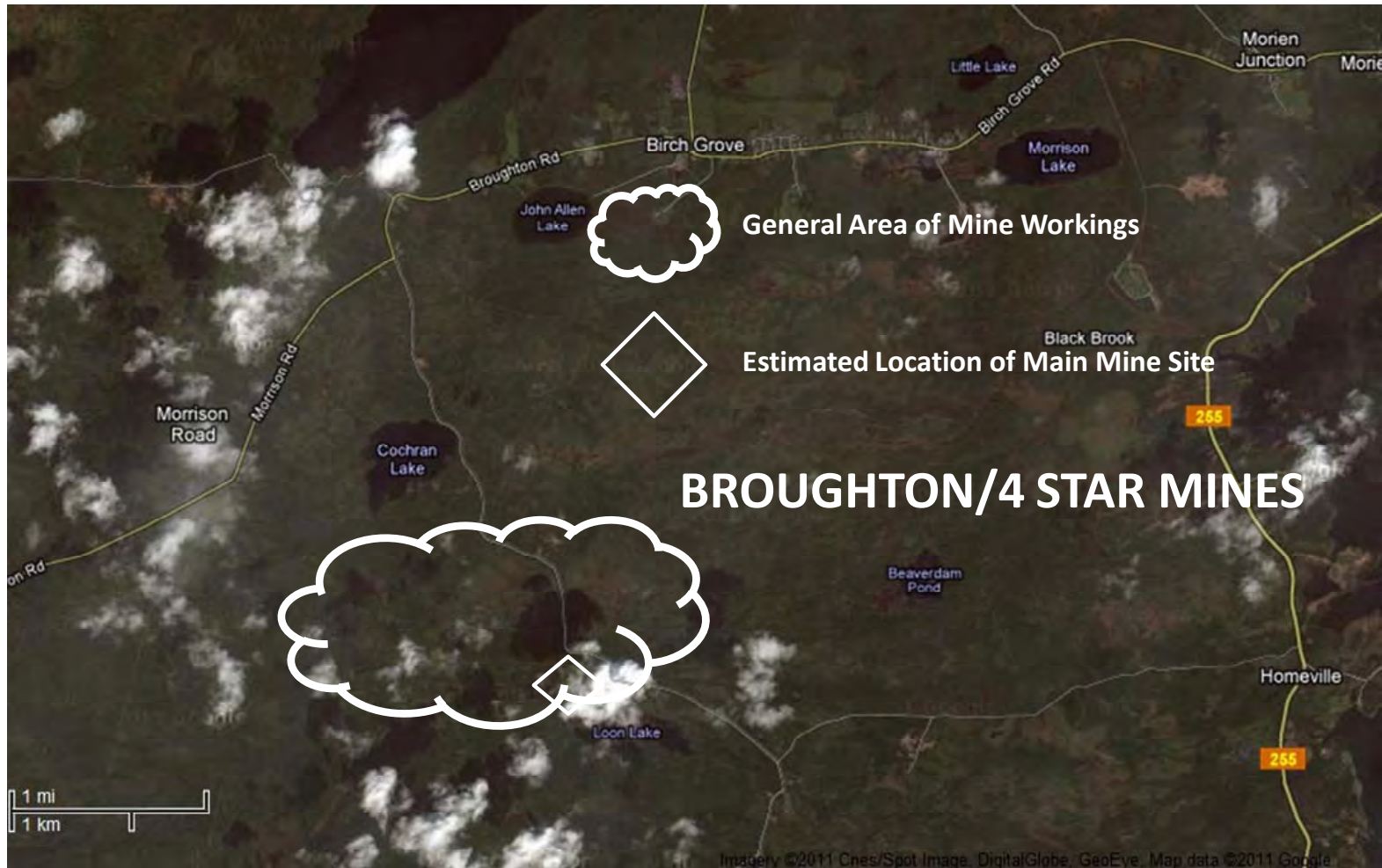


Figure 1 – General Location and Setting (Source: Google Earth)

BROUGHTON-FOUR STAR MINE

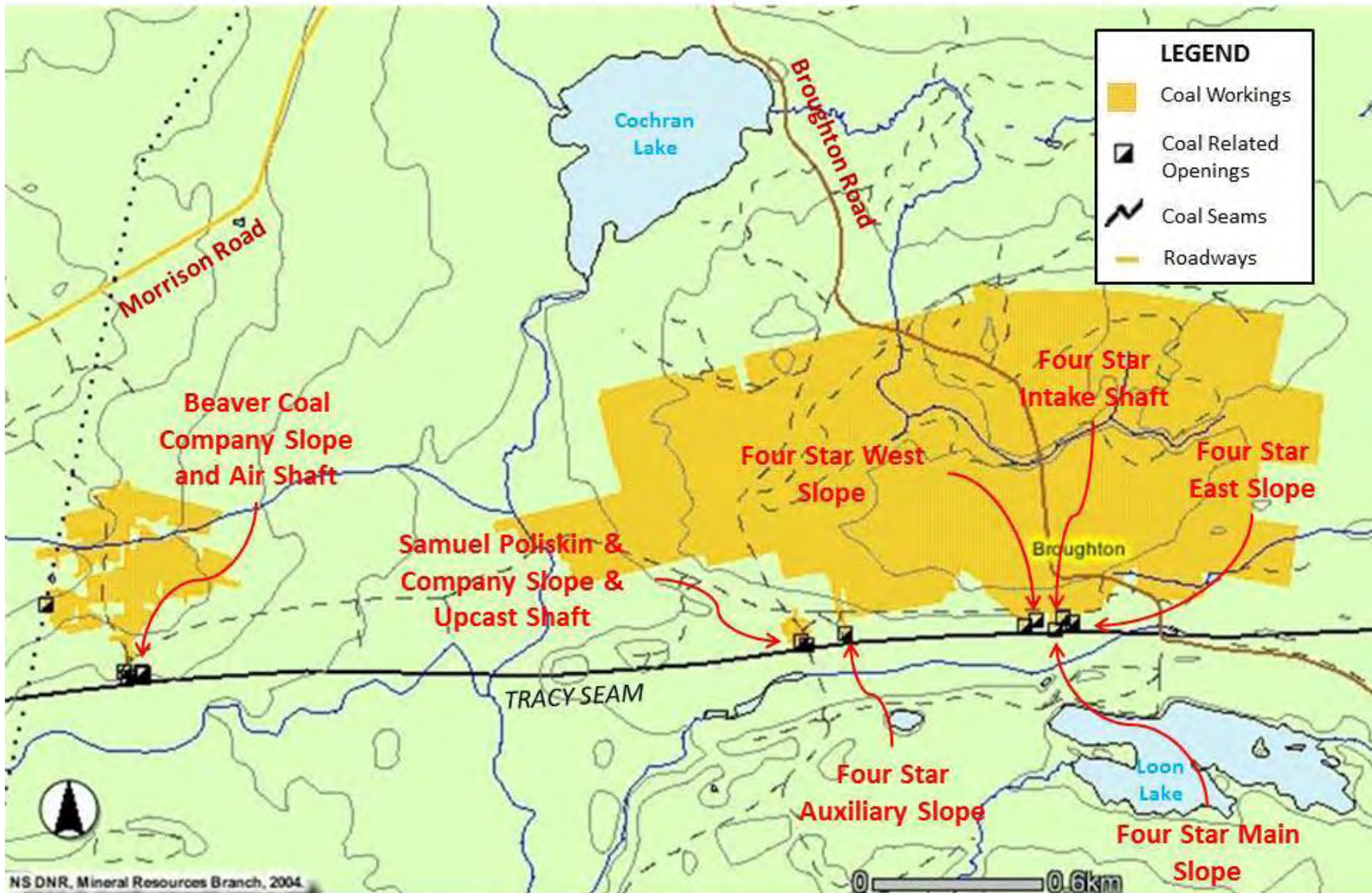
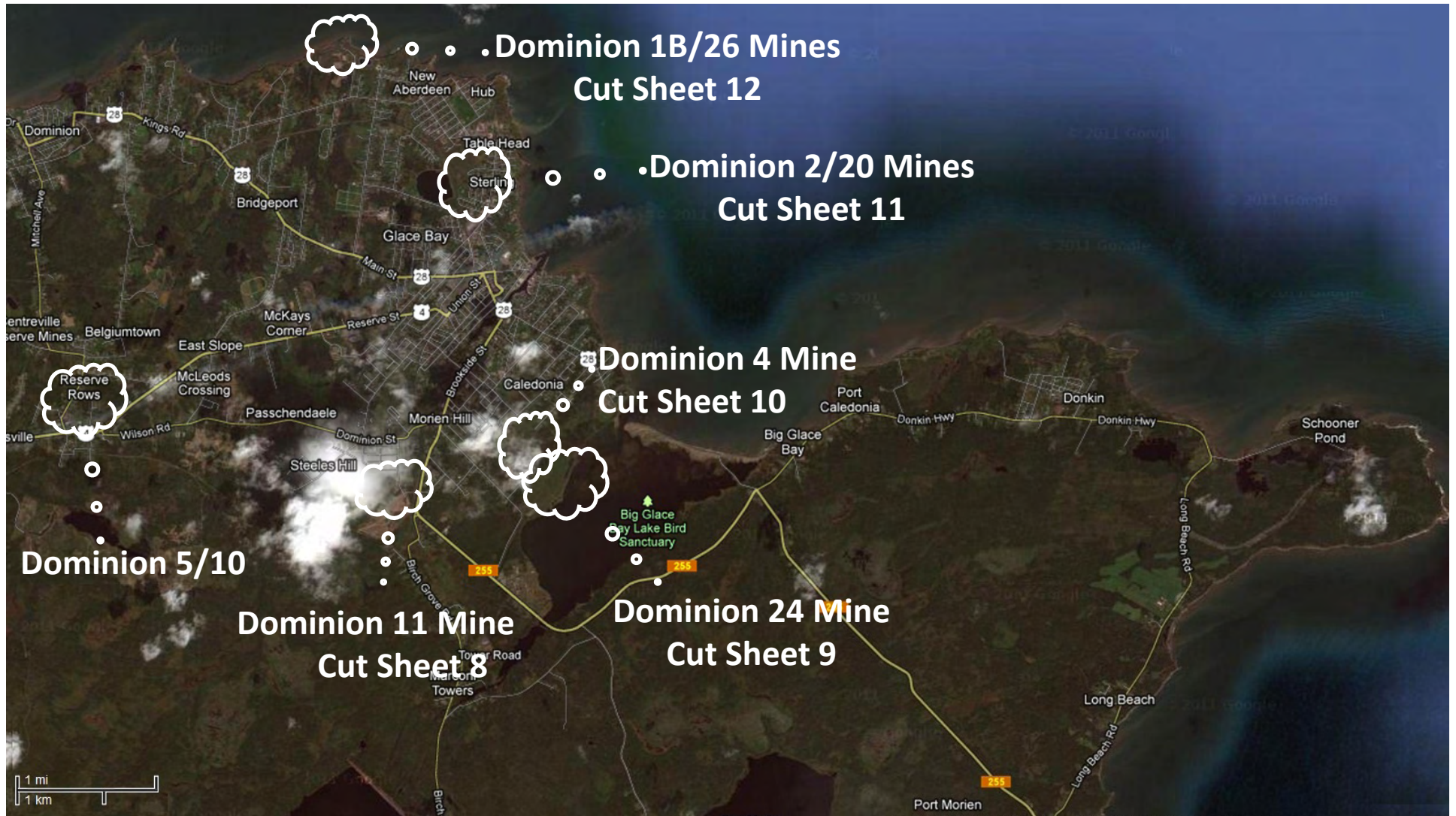


Figure 2 – Historic Mine Openings and Workings (Source: NSDNR GIS)

Group 3 Historic Coal Mine Sites



Cut Sheet No 8 – Former Dominion 11 Mine

Site Location and Existing Transportation		
Township	<ul style="list-style-type: none"> Steeles Hill 	
Most Direct Existing Transportation Option	<ul style="list-style-type: none"> Public Roads: Approximately 11 km from Donkin Mine Access Road via west along Donkin Highway (10 km) and north along Brookside Street (1 km). 	
Other Available Transportation Options	<ul style="list-style-type: none"> None Identified. 	
Site General Setting (See Figure 1)		
Current Land Use at Mine Site	Generally Undeveloped/Recreational Lands, with considerable residential development within 1 km from the main mine sites.	
Surrounding Land Usage	North	<ul style="list-style-type: none"> Primarily Residential Development
	East	<ul style="list-style-type: none"> Primarily Residential Development across Brookside Street.
	West	<ul style="list-style-type: none"> Primarily Undeveloped Land
	South	<ul style="list-style-type: none"> Municipal landfill/Undeveloped Land.
Primary Receptors/Sensitive Areas	<ul style="list-style-type: none"> Residential Development Renwick Brook to south. 	
Historic Mining Activities (See Figure 2)		
Coal Seam Mined	<ul style="list-style-type: none"> Emery 	
Years Mine Operated	<ul style="list-style-type: none"> 1913-1949 	
Mining Methods	<ul style="list-style-type: none"> Room and Pillar Section of long wall on the west side 	
Coal Seam Thickness	<ul style="list-style-type: none"> Estimated Average Thickness 1.2 m. Lower sections of 0.8-0.9 m. 	
Coal Production	<ul style="list-style-type: none"> 7,241,587 tons 	
Land Based/Submarine Workings	<ul style="list-style-type: none"> Entirely under land with 65 % extraction over 3104 acres. 	
Roof and Floor Strata	<ul style="list-style-type: none"> Louis Frost Notes: “The roof and pavement of the seam consisted of weak shales.” 	
Mine Flooding Status	<ul style="list-style-type: none"> Unknown. Likely flooded to equilibrium considering operating period of mine. 	
Mine Gases	<ul style="list-style-type: none"> Louis Frost Notes: “The mine was comparatively free from gas and was ventilated by a fan of the Sirocco type, delivering 57,000 cubic feet of air per minute against a water gauge of 2.2 inches.” 	
Connections to Other Mine Workings	<ul style="list-style-type: none"> Likely, considering production volume and that considerable portions of Glace Bay Township are undermined). Dominion 24 most likely to be connected. 	

Cut Sheet No 8 (cont) – Former Dominion 11 Mine

Historic Mining Activities (See Figure 2) - cont

Points of Entry to Workings (NSDNR GIS)	Main and Back Deep Slope	<ul style="list-style-type: none">• Original depth of 4350 m.
	West Upcast Shaft	<ul style="list-style-type: none">• Original height and width of 2.8 and 2.5 m.• Original depth of 7.4 m.
	Fan Shaft	<ul style="list-style-type: none">• Original height and width of 3.3 and 3.2 m.• Original depth of 7.9 m.
	East Upcast Shaft	<ul style="list-style-type: none">• Original height and width of 2.4 m.• Original depth of 6.2 m.

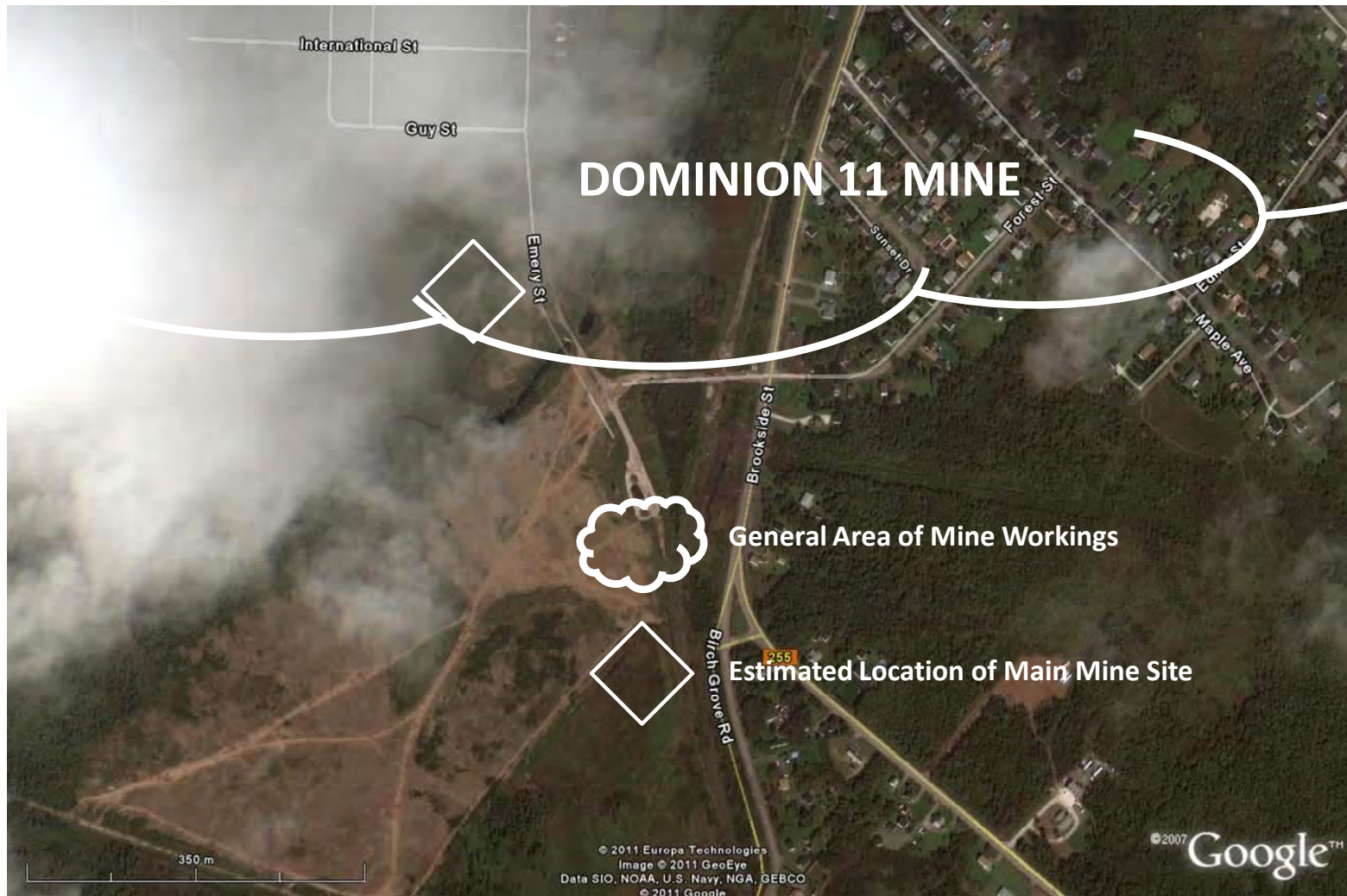


Figure 1 – General Location and Setting (Source: Google Earth)

DOMINION 11 MINE

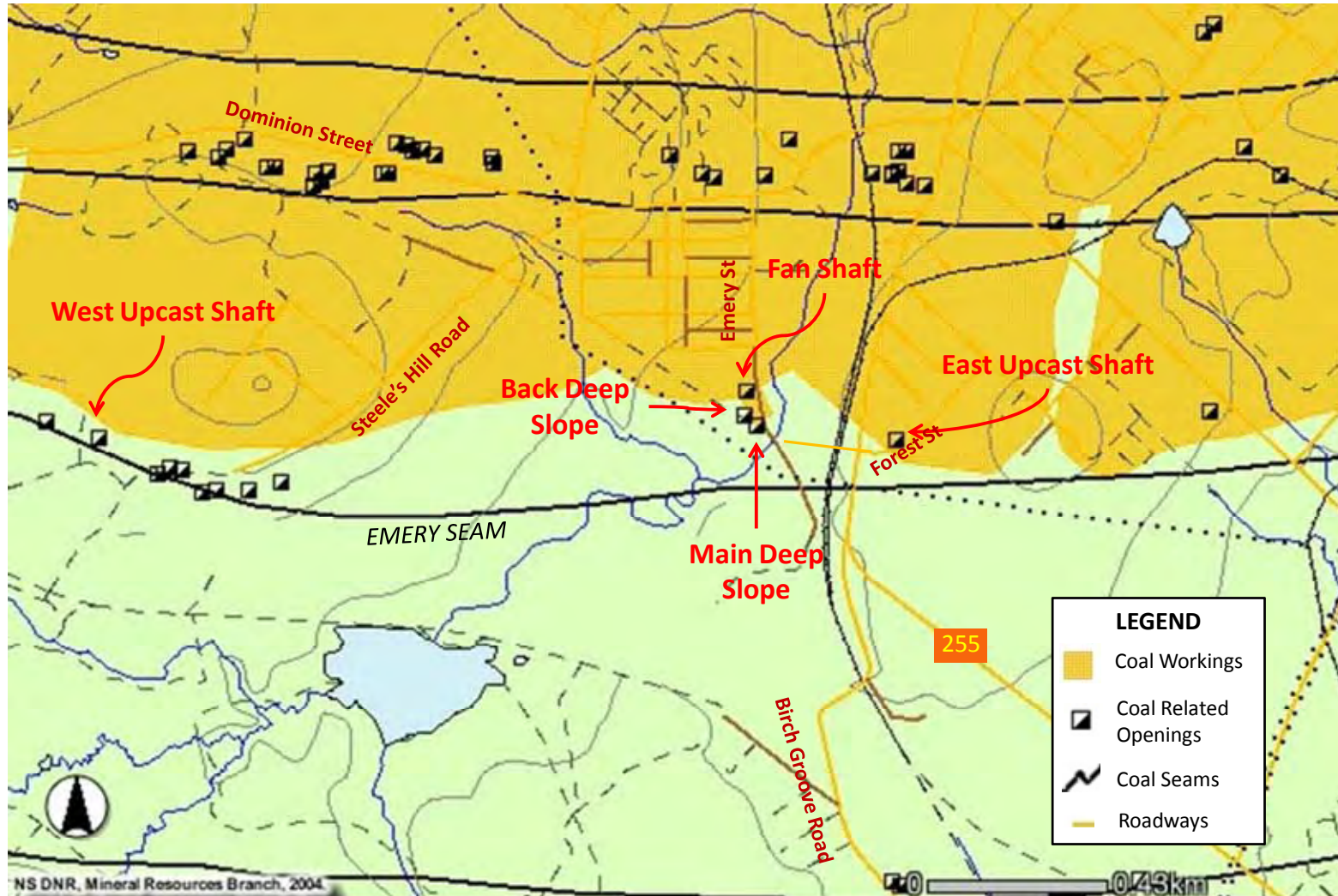


Figure 2 – Historic Mine Openings and Workings (Source: NSDNR GIS)

Cut Sheet No 9 – Former Dominion 24 Mine

Site Location and Existing Transportation	
Township	<ul style="list-style-type: none"> • Caledonia
Most Direct Existing Transportation Option	<ul style="list-style-type: none"> • Public Roads: Approximately 15 km from Donkin Mine Main Access Road, and accessed west along Donkin Highway (11 km), north along Brookside Street (2 km) and east along Lake Road (2 km).
Other Available Transportation Options	<ul style="list-style-type: none"> • None Identified.
Site General Setting (See Figure 1)	
Current Land Use at Mine Site	Generally Vacant/Recreational Land, with sparse residential development within 1 km.
Surrounding Land Usage	North <ul style="list-style-type: none"> • Primarily Undeveloped Land with some sparse residential development along Drew Street.
	East <ul style="list-style-type: none"> • Big Glace Bay Lake
	West <ul style="list-style-type: none"> • Primarily Undeveloped Land with some Recreational/Residential Development along Lake Road.
	South <ul style="list-style-type: none"> • Undeveloped/Recreational Land • Big Glace Bay Lake • Seaboard Generating Station (Decommissioned in 1997)
Primary Receptors/Sensitive Areas	<ul style="list-style-type: none"> • Big Glace Bay Lake Bird Sanctuary (Protected Area) • Big Glace Bay Lake
Historic Mining Activities (See Figure 2)	
Coal Seam Mined	<ul style="list-style-type: none"> • Emery
Years Mine Operated	<ul style="list-style-type: none"> • 1920-1953
Mining Methods	<ul style="list-style-type: none"> • Room and Pillar
Coal Seam Thickness	<ul style="list-style-type: none"> • Estimated 1.2 m
Coal Production	<ul style="list-style-type: none"> • 5,790,101 tons • Louis Frost Notes: “Worked over an area of 3,616 acres, with an average daily output of 800 tons.”
Land Based/Submarine Workings	<ul style="list-style-type: none"> • Primarily submarine workings. • Louis Frost Notes: “Greater proportions of the active workings were submarine.” “The main portions of the workings were on the east side of the mine.”
Roof and Floor Strata	<ul style="list-style-type: none"> • Roof comprised of shale and floor of fireclay
Mine Flooding Status	<ul style="list-style-type: none"> • Unknown - Likely flooded to equilibrium considering years of operation.
Mine Gases	<ul style="list-style-type: none"> • Unknown
Possible Connections to Other Mine Workings	<ul style="list-style-type: none"> • Likely, considering production volume and that considerable portions of Glace Bay Township are undermined). Dominion 11 Mine most likely to be connected.

Cut Sheet No 9 (cont) – Former Dominion 24 Mine

Historic Mining Activities (See Figure 2) - cont

Points of Entry to Workings (NSDNR GIS)	East Upcast Shaft	<ul style="list-style-type: none"> • Measured height and width of 1.5 and 2.2 m. • Measured depth of 4.0 m. • Original depth of 7.5 m.
	Upcast Shaft	<ul style="list-style-type: none"> • Original height and width of 2.1 and 2.4 m. • Original depth of 4.3 m.
	Air Shaft	<ul style="list-style-type: none"> • Original height and width of 3.6 and 3.0 m. • Original depth of 8.4 m.
	West Side Upcast Shaft	<ul style="list-style-type: none"> • Original height and width of 2.1 and 2.4 m. • Original depth of 4.3 m.
	Back Deep Slope	<ul style="list-style-type: none"> • Original height and width of 3.6 and 1.9 m. • Original depth of 3075 m.
	Main Deep Slope	<ul style="list-style-type: none"> • Original height and width of 3.6 and 1.9 m. • Original depth of 3050 m.



Figure 1 – General Location and Setting (Source: Google Earth)

DOMINION 24 MINE

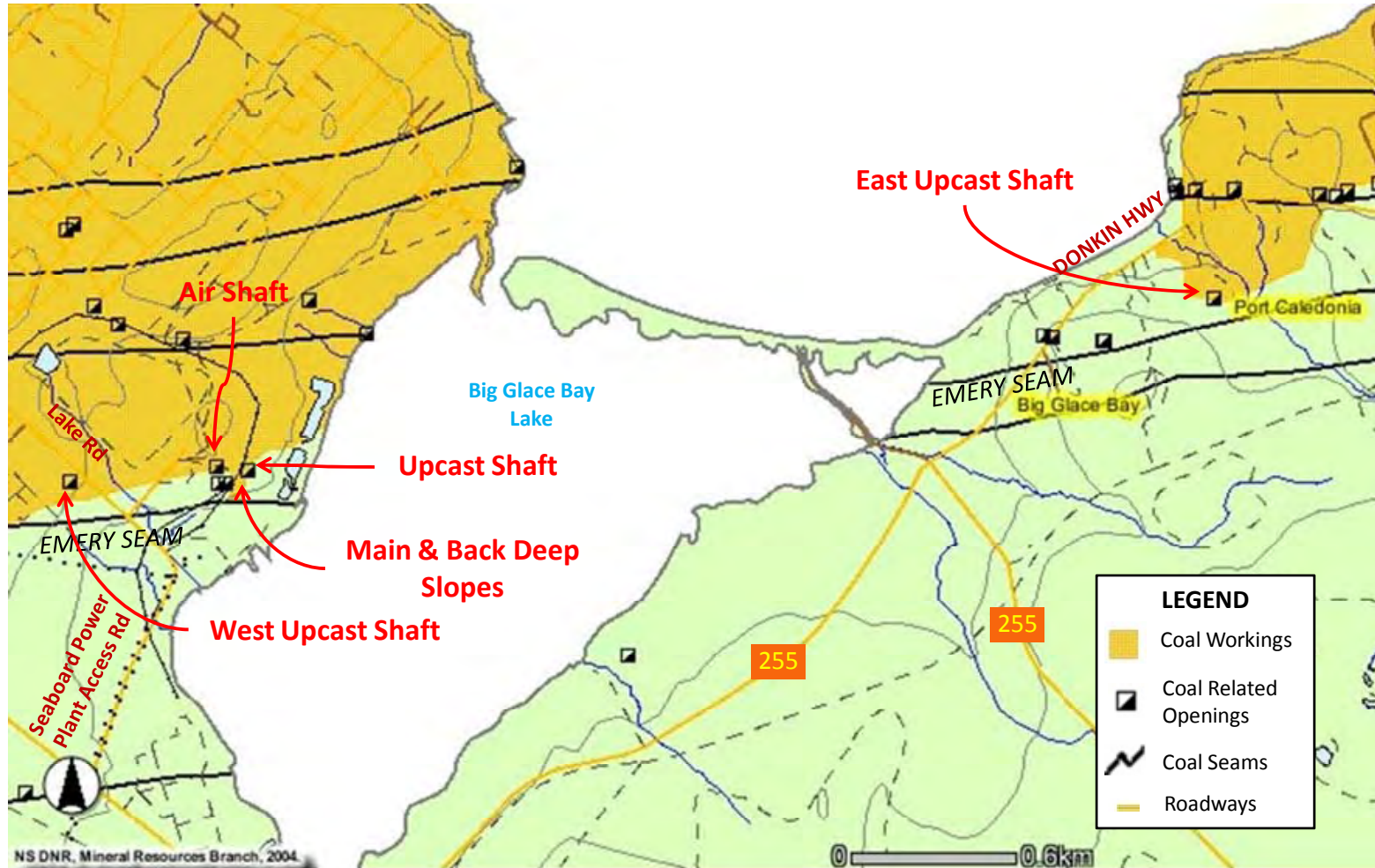


Figure 2 – Historic Mine Openings and Workings (Source: NSDNR GIS)

Cut Sheet No 10 – Former Dominion 4 Mine

Site Location and Existing Transportation		
Township	<ul style="list-style-type: none"> • Caledonia 	
Most Direct Existing Transportation Option	<ul style="list-style-type: none"> • Public Roads: Located approximately 18 km from Donkin Mine Access Road, via west along Donkin Highway (11 km), north along Brookside Street (3 km), east along South Street (2 km) and south along Douglas Avenue (2 km). 	
Other Available Transportation Options	<ul style="list-style-type: none"> • None Identified 	
Site General Setting (See Figure 1)		
Current Land Use at Mine Site	Generally vacant/recreational land with considerable residential development within 1 km from the main mine site.	
Surrounding Land Usage	North	<ul style="list-style-type: none"> • Primarily Residential Development
	East	<ul style="list-style-type: none"> • Undeveloped Lands • Big Glace Bay Lake
	West	<ul style="list-style-type: none"> • Primarily Residential and Recreational Development
	South	<ul style="list-style-type: none"> • Undeveloped Lands
Primary Receptors/Sensitive Areas	<ul style="list-style-type: none"> • Big Glace Bay Lake and Glace Bay Beach • Big Glace Bay Lake Bird Sanctuary (Protected Area) 	
Historic Mining Activities (See Figure 2)		
Coal Seam Mined	<ul style="list-style-type: none"> • Phalen 	
Years Mine Operated	<ul style="list-style-type: none"> • 1910-1961 	
Mining Methods	<ul style="list-style-type: none"> • Originally Room & Pillar with Pillar Extraction. • Longwall advancing in 1950. 	
Coal Seam Thickness	<ul style="list-style-type: none"> • Average 2.0 m 	
Coal Production	<ul style="list-style-type: none"> • 19,918,811 tons 	
Land Based/Submarine Workings	<ul style="list-style-type: none"> • Unknown • Louis Frost Notes: Workings reached a distance of about 6.8 km from the mine shaft over an area of 6189 acres. 	
Roof and Floor Strata	<ul style="list-style-type: none"> • Unknown 	
Mine Flooding Status	<ul style="list-style-type: none"> • Unknown – Likely flooded to equilibrium considering years of operation. 	
Mine Gases	<ul style="list-style-type: none"> • Louis Frost Notes: “The mine was ventilated by propeller type 8 ft. diameter Axivane fan with a rated capacity of 300,000 cfm against a 12.6 inch water gauge. Prior to the closure of the mine, the fan was delivering an average of 120,000 cfm against a water gauge of 13.2 inches.” 	
Possible Connections to Other Mine Workings	<ul style="list-style-type: none"> • Likely, considering production volume and that considerable portions of Glace Bay Township are undermined). Dominion 6 most likely to be connected. 	

Cut Sheet No 10 (cont) – Former Dominion 4 Mine

Historic Mining Activities (See Figure 2) - cont

Points of Entry to Workings (NSDNR GIS)	Coal Shaft	<ul style="list-style-type: none"> • Original height and width of 5.7 and 3.3 m. • Original depth of 53.5 m.
	Quarry Point Air (Pumping) Shaft	<ul style="list-style-type: none"> • Original height and width of 5.5 m. • Original depth of 166 m. • Sunk in 1947 about 2 km north of colliery.
	Furnace Shaft	<ul style="list-style-type: none"> • Original height and width of 3 m. • Original depth of 27 m.
	Travelling Slope	<ul style="list-style-type: none"> • Original depth of 100 m.
	East Deep Upcast (Man Shaft)	<ul style="list-style-type: none"> • Original depth of 45.5 m.
	Fan Shaft	<ul style="list-style-type: none"> • Original height and width of 3 m. • Original depth of 54 m. • Abandoned in 1947.
	Water Level	<ul style="list-style-type: none"> • Original depth of 750 m.
	Pumping Shaft	<ul style="list-style-type: none"> • Original height and width of 3.7 and 2.1 m. • Original depth of 79 m.
Entry to Workings (Louis Frost Notes)	<ul style="list-style-type: none"> • The seam was reached by a two-compartment shaft 5.8 m x 3.35 m x 53 m deep. 	

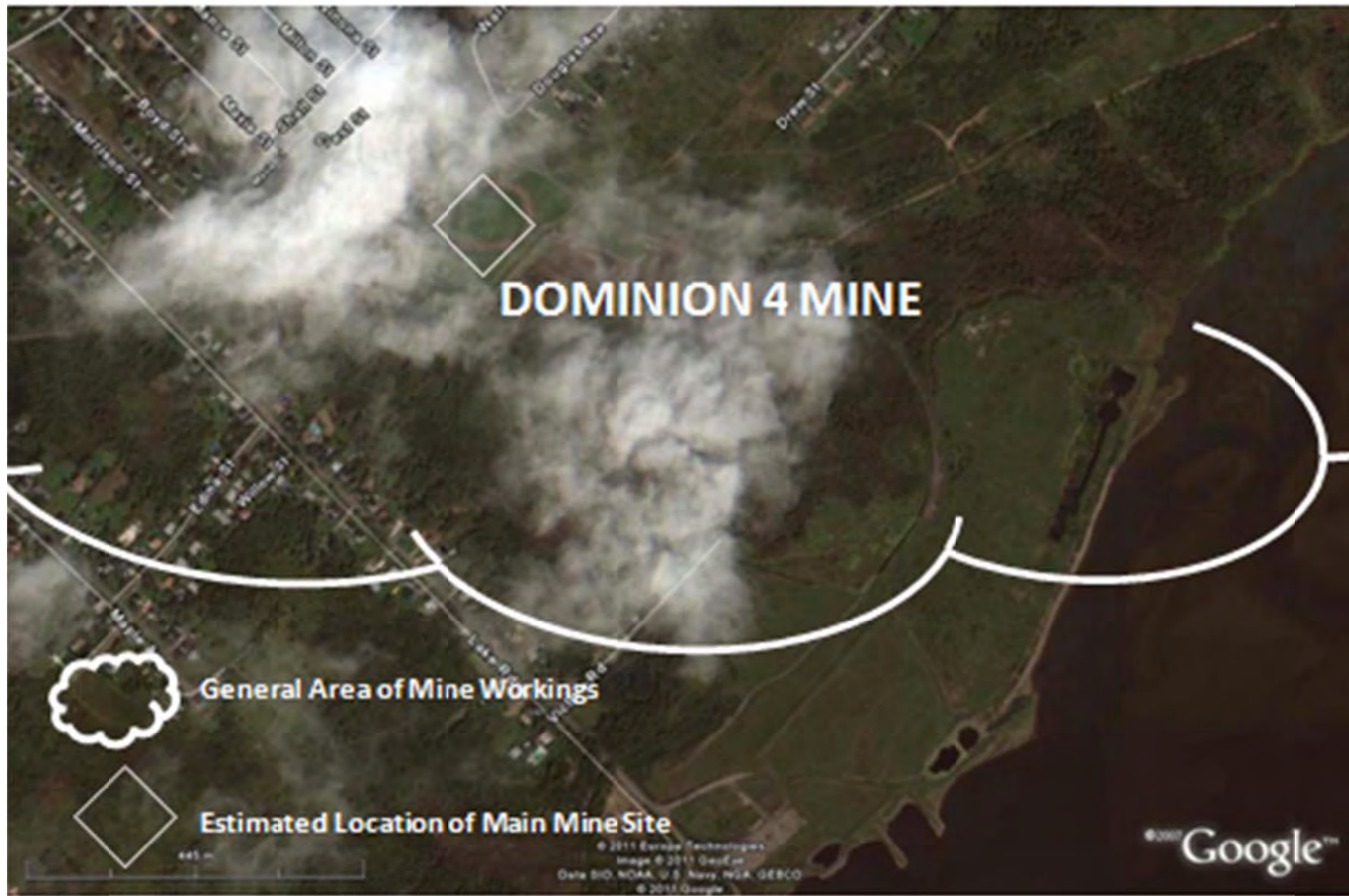


Figure 1 – General Location and Setting (Source: Google Earth)

DOMINION 4 MINE

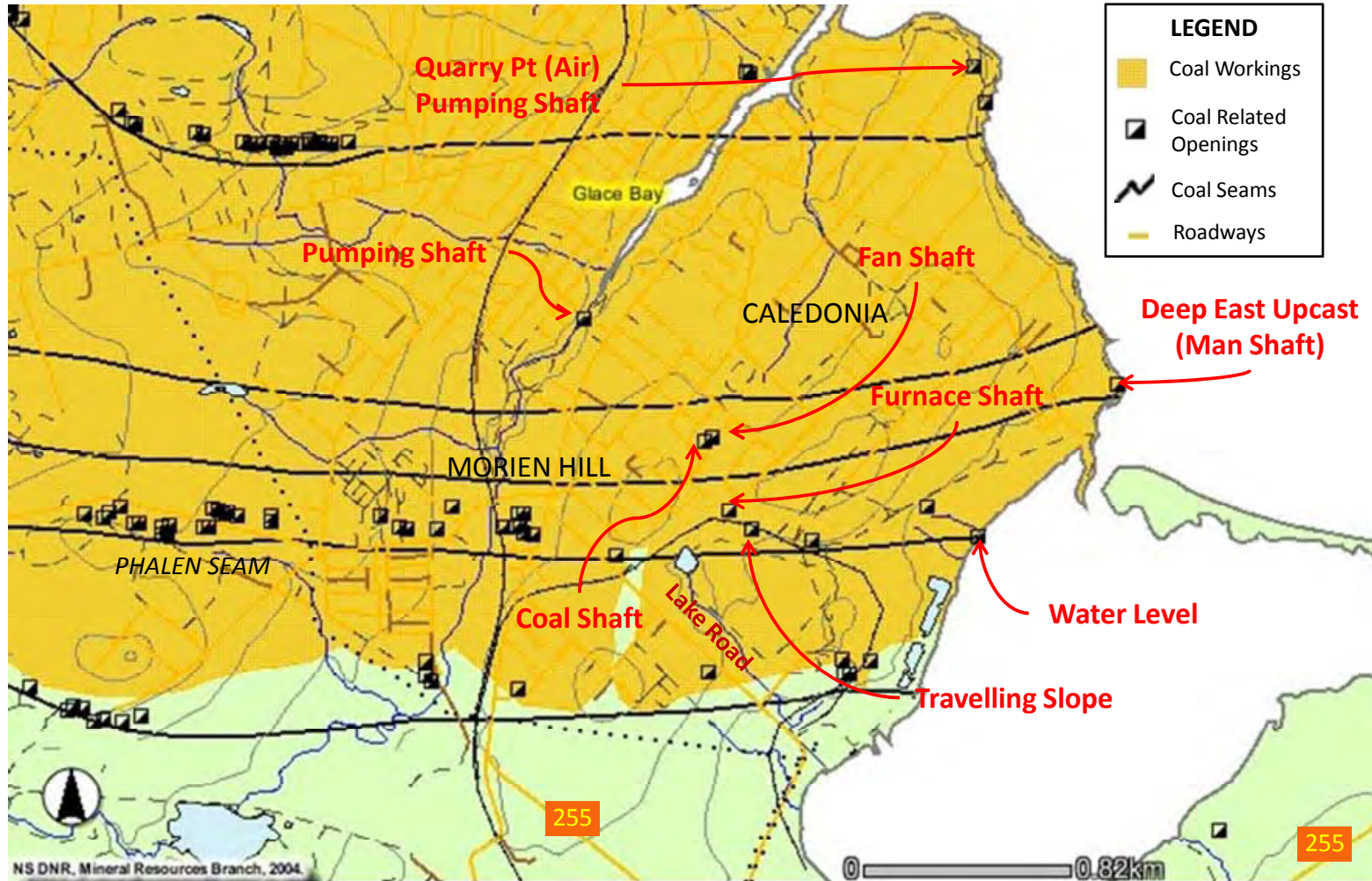


Figure 2 – Historic Mine Openings and Workings (Source: NSDNR GIS)

Cut Sheet No 11 – Former Dominion 2/20 Mines

Site Location and Existing Transportation		
Township	<ul style="list-style-type: none"> • Sterling 	
Most Direct Existing Transportation Option	<ul style="list-style-type: none"> • Public Roads: Located approximately 18 km from Donkin Mine Access Road, via west along Donkin Highway (11 km), north along Brookside Street (4 km), and north along Sterling Road (2 km). 	
Other Available Transportation Options	<ul style="list-style-type: none"> • None Identified 	
Site General Setting (See Figure 1)		
Current Land Use at Mine Site	Generally vacant/recreational land with considerable residential/commercial development within 1 km from the main mine site. Locations of mine openings range from about 90 – 150 m from public roads.	
Surrounding Land Usage	North	<ul style="list-style-type: none"> • Vacant/Recreational Land / Residential Development
	East	<ul style="list-style-type: none"> • Residential Development
	West	<ul style="list-style-type: none"> • Pond/Residential Development
	South	<ul style="list-style-type: none"> • Vacant/Recreational Land / Residential Development
Primary Receptors/Sensitive Areas	<ul style="list-style-type: none"> • Considerable Residential Development around former mine site. • Reservoir to the south 	
Historic Mining Activities (See Figure 2)		
Coal Seam Mined	<ul style="list-style-type: none"> • Phalen 	
Years Mine Operated	<ul style="list-style-type: none"> • DOM 2: 1911-1949 • DOM 20: 1939-1971 	
Mining Methods	<ul style="list-style-type: none"> • DOM 2: Room & Pillar with Pillar Extract • DOM 20: Room & Pillar and Long wall 	
Coal Seam Thickness	<ul style="list-style-type: none"> • DOM 2: 2.2 m • DOM 20: 1.6 m 	
Coal Production	<ul style="list-style-type: none"> • DOM 2: 20,210,467 tons • DOM 20: 17,527,855 tons 	
Land Based/Submarine Workings	<ul style="list-style-type: none"> • Primarily submarine workings. • DOM 2: Under land and submarine over an estimated area of 5180 acres with workings elevation range of -160 to -613 m. • DOM 20: Entirely submarine from an estimated area of 3915 acres with workings elevation range of -89 to -426 m. 	
Roof and Floor Strata	<ul style="list-style-type: none"> • DOM 2: Roof consisted of massive bands of sandstone. • DOM 20: Shale roof and floor. 	
Mine Flooding Status	<ul style="list-style-type: none"> • Unknown – Likely flooded to equilibrium considering years of operation. During its operation, the mine was very dry. 	
Mine Gases	<ul style="list-style-type: none"> • DOM 2 – Louis Frost Notes: : “The mine is gassy and was originally ventilated by a Walker centrifugal fan delivering 172,000 cfm. This fan was replaced in 1945 by a Bufflow type centrifugal fan manufactured by Canadian Blower and Forge Company having a rated capacity of 240,000 cfm against a water gauge of 12 ins. At present this fan delivers 200,000 cfm at a pressure of 10.5 inches of water gauge.” 	

Cut Sheet No 11 (cont) – Former Dominion 2/20 Mines

Historic Mining Activities (See Figure 2) - cont

Mine Gases	<ul style="list-style-type: none"> Louis Frost Notes: “The mine is gassy and is ventilated by a Canadian Blower and Forge fan with a rated capacity of 260,000 cubic feet per minute against a water gauge of 11 inches. This fan is located at No. 5 North in No. 2 Colliery and acts as a booster fan to the No. 2 Colliery ventilation system. The intake and return airways for this colliery are roadways in the Phalen Seam leading to No. 2 Colliery intake and return shafts.” 	
Possible Connections to Other Mine Workings	<ul style="list-style-type: none"> Part of 1B Hydraulic System, direct or indirect connections with Lingan and Phalen, as well as, Dominion 1A, 1B/26, and 5/10. DOM 20: “Developed by driving cross-measure tunnels in No. 2 Colliery to work Harbour seam in the area overlying DOM 2/4.” 	
Points of Entry to Workings (NSDNR GIS)	DOM 2/9/20 Coal Shaft	<ul style="list-style-type: none"> Original height and width of 3 and 5.6 m. Original depth of 257 m.
	DOM 2/9 Air & Material Shaft	<ul style="list-style-type: none"> Original height and width of 3 and 5.2 m. Original depth of 260 m.
	DOM 2/9/20 Air & Material Shaft	<ul style="list-style-type: none"> Original height and width of 3.7 and 6.1 m. Original depth of 263 m.
	DOM 20 Tunnel	<ul style="list-style-type: none"> Original depth of 1900 m.
Entry to Workings (Louis Frost Notes)	<ul style="list-style-type: none"> “The shafts were originally sunk to work the Phalen Seam, but are now used solely to hoist Harbour Seam coal from what is known as Dominion No. 20 Colliery.” 	



Figure 1 – General Location and Setting (Source: Google Earth)

DOMINION 2/20 MINES

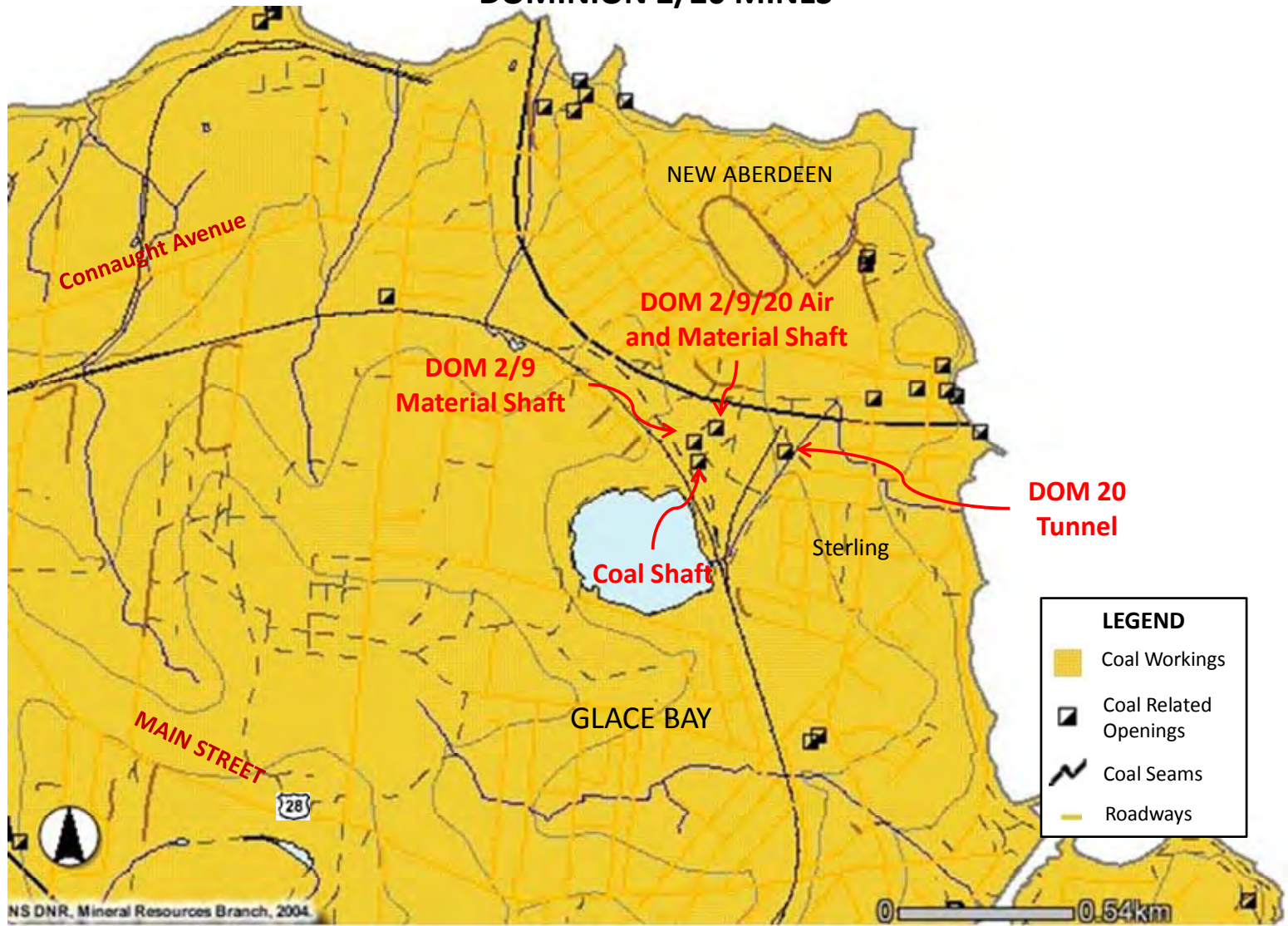


Figure 2 – Historic Mine Openings and Workings (Source: NSDNR GIS)

Cut Sheet No 12 – Former Dominion 1B/26 Mines

Site Location and Existing Transportation		
Township	<ul style="list-style-type: none"> New Aberdeen 	
Most Direct Existing Transportation Option	<ul style="list-style-type: none"> Public Roads: Located approximately 19 km from Donkin Mine Access Road, via west along Donkin Highway (11 km), north along Brookside Street (4 km), and north along Sterling Road (1 km), west along Beacon Street (1 km), north along Wallace Street (1 km), west along Connaught Ave (0.5 km) and north along One B Road (0.5 km). 	
Other Available Transportation Options	<ul style="list-style-type: none"> None Identified 	
Site General Setting (See Figure 1)		
Current Land Use at Mine Site	Generally vacant land with some unidentified structures on/near site (one appears to be a lighthouse). Some residential development within 1 km from the main mine sites and the Atlantic Ocean is situated directly north.	
Surrounding Land Usage	North	<ul style="list-style-type: none"> Atlantic Ocean
	East	<ul style="list-style-type: none"> Undeveloped Land/Atlantic Ocean
	West	<ul style="list-style-type: none"> Undeveloped Land/Atlantic Ocean
	South	<ul style="list-style-type: none"> Primarily Undeveloped Land with evidence of former large structures and possible quarry. Some minor residential development along One B Road.
Primary Receptors/Sensitive Areas	<ul style="list-style-type: none"> Wallace's Cove to the east. Atlantic Ocean to the north. 	
Historic Mining Activities (See Figure 2)		
Coal Seam Mined	<ul style="list-style-type: none"> Phalen/Harbour 	
Years Mine Operated	<ul style="list-style-type: none"> DOM 1B: 1924-1955 DOM 26: 1944-1976 	
Mining Methods	<ul style="list-style-type: none"> Room & Pillar and Longwall 	
Coal Seam Thickness	<ul style="list-style-type: none"> DOM 1B: 2.1 m DOM 26: 1.8 m 	
Coal Production	<ul style="list-style-type: none"> DOM 1B: 17,468,424 tons. DOM 26: 19,390,357 tons. 	
Land Based/Submarine Workings	<ul style="list-style-type: none"> Primarily sub-marine workings. DOM 1B: Workings Elevation Range: -187 to -716 m. DOM 26: Workings Elevation Range: -103 to -822 m. 	
Roof and Floor Strata	<ul style="list-style-type: none"> DOM 1B: Roof of shale and required close timbering. Floor of moderately hard shale. DOM 26: Shale roof and floor. 	
Mine Flooding Status	<ul style="list-style-type: none"> Unknown – Likely flooded to equilibrium considering years of operation. 	
Mine Gases	<ul style="list-style-type: none"> Classified as gassy. 	
Possible Connections to Other Mine Workings	<ul style="list-style-type: none"> Part of 1B Hydraulic System, direct or indirect connections with Lingan and Phalen, as well as Dominion 2/20 and 5/10. 	

Cut Sheet No 12 (cont) – Former Dominion 1B/26 Mines

Historic Mining Activities (See Figure 2) - cont

Points of Entry to Workings (NSDNR GIS)	Coal Shaft	<ul style="list-style-type: none">• Original height and width of 9.5 and 4.1 m.• Original depth of 204 m.
	Air & Man Hoisting Shaft	<ul style="list-style-type: none">• Original height and width 3.7 m.• Original depth of 204 m.
	Auxiliary Air Shaft	<ul style="list-style-type: none">• Original height and width of 4.9 m.• Original depth of 70.5 m.
	Water Level	<ul style="list-style-type: none">• Original depth of 60 m.
	Auxiliary Fan Shaft	<ul style="list-style-type: none">• Original height and width of 4.0 and 3.5 m.• Original depth of 12.2 m.



Figure 1 – General Location and Setting (Source: Google Earth)

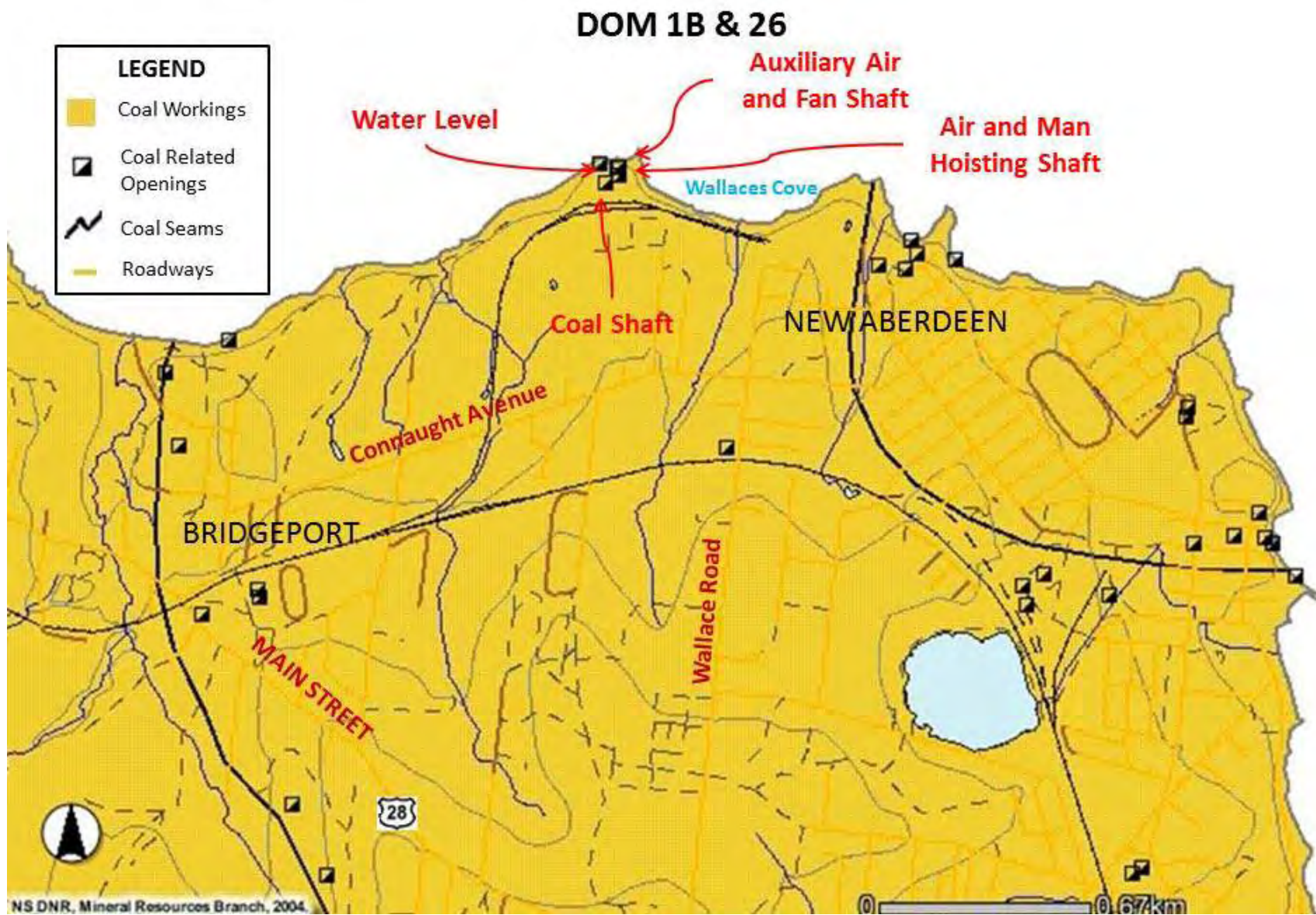


Figure 2 – Historic Mine Openings and Workings (Source: NSDNR GIS)

Cut Sheet No 13 – Former Dominion 5/10 Mines

Site Location and Existing Transportation		
Township	<ul style="list-style-type: none"> Reserve Mines, Nova Scotia 	
Most Direct Existing Transportation Option	<ul style="list-style-type: none"> Public Roads: Located approximately 17 km from Donkin Mine Access Road, via west along Donkin Highway (11 km), north along Brookside Street (1 km), west along Reserve Street (4 km) and north along Main Street (1 km). 	
Other Available Transportation Options	<ul style="list-style-type: none"> None Identified 	
Site General Setting (See Figure 1)		
Current Land Use at Mine Site	Generally Undeveloped Land in close proximity to residential/commercial development.	
Surrounding Land Usage	North	<ul style="list-style-type: none"> Primarily Residential Development
	East	<ul style="list-style-type: none"> Primarily Residential Development
	West	<ul style="list-style-type: none"> Undeveloped Land/ Residential Development within 1 km.
	South	<ul style="list-style-type: none"> Undeveloped Land with Commercial and Residential Development within 1 km.
Primary Receptors/Sensitive Areas	<ul style="list-style-type: none"> Residential Development 	
Historic Mining Activities (See Figure 2)		
Coal Seam Mined	<ul style="list-style-type: none"> DOM 5: Phalen DOM 10: Emery 	
Years Mine Operated	<ul style="list-style-type: none"> DOM 5: 1910-1939 DOM 10: 1905-1942 	
Mining Methods	<ul style="list-style-type: none"> DOM 5: Room & Pillar and Room & Pillar with Pillar Extract. DOM 10: Room & Pillar and Longwall. 	
Coal Seam Thickness	<ul style="list-style-type: none"> DOM 5: 2.3 m DOM 10: 1.1 m 	
Coal Production	<ul style="list-style-type: none"> DOM 5: 2,504,473 tons DOM 10: 5,882,467 tons 	
Land Based/Submarine Workings	<ul style="list-style-type: none"> Primarily under land (no submarine workings expected). DOM 5: Worked over 1,312 acres with Workings Elevation Range of +35 to -168 m. DOM 10: Worked over 2,432 acres with Workings Elevation Range of +38 to -140 m. 	
Roof and Floor Strata	<ul style="list-style-type: none"> DOM 5: Hard Shale DOM 10: Roof of generally shale with an overlying sandstone band. Floor of fire clay. 	
Mine Flooding Status	<ul style="list-style-type: none"> Unknown – Likely flooded to equilibrium considering years of operation. 	
Mine Gases	<ul style="list-style-type: none"> DOM 10: Slightly gaseous. 	
Possible Connections to Other mine Workings	<ul style="list-style-type: none"> Part of 1B Hydraulic System, direct or indirect connections with Lingan and Phalen, as well as, Dominion 1A, 1B/26, and 2/20. 	

Cut Sheet No 13 (cont) – Former Dominion 5/10 Mines

Historic Mining Activities (See Figure 2) - cont

Points of Entry to Workings (NSDNR GIS)	DOM 10 Coal Shaft	<ul style="list-style-type: none">• Original height and width of 6.5 and 5.0 m.• Original depth of 45 m.
	DOM 10 Fan Shaft	<ul style="list-style-type: none">• Original height and width of 3.0 m.• Original depth of 6 m.
	DOM 5 French Slope	<ul style="list-style-type: none">• Original depth of 3350 m.
	DOM 5 French Slope Fan Shaft	<ul style="list-style-type: none">• Original depth of 9 m.
	DOM 5 Main Slope	<ul style="list-style-type: none">• Original depth of 2060 m.
	DOM 5 Water Level	<ul style="list-style-type: none">• Original depth of 385 m.

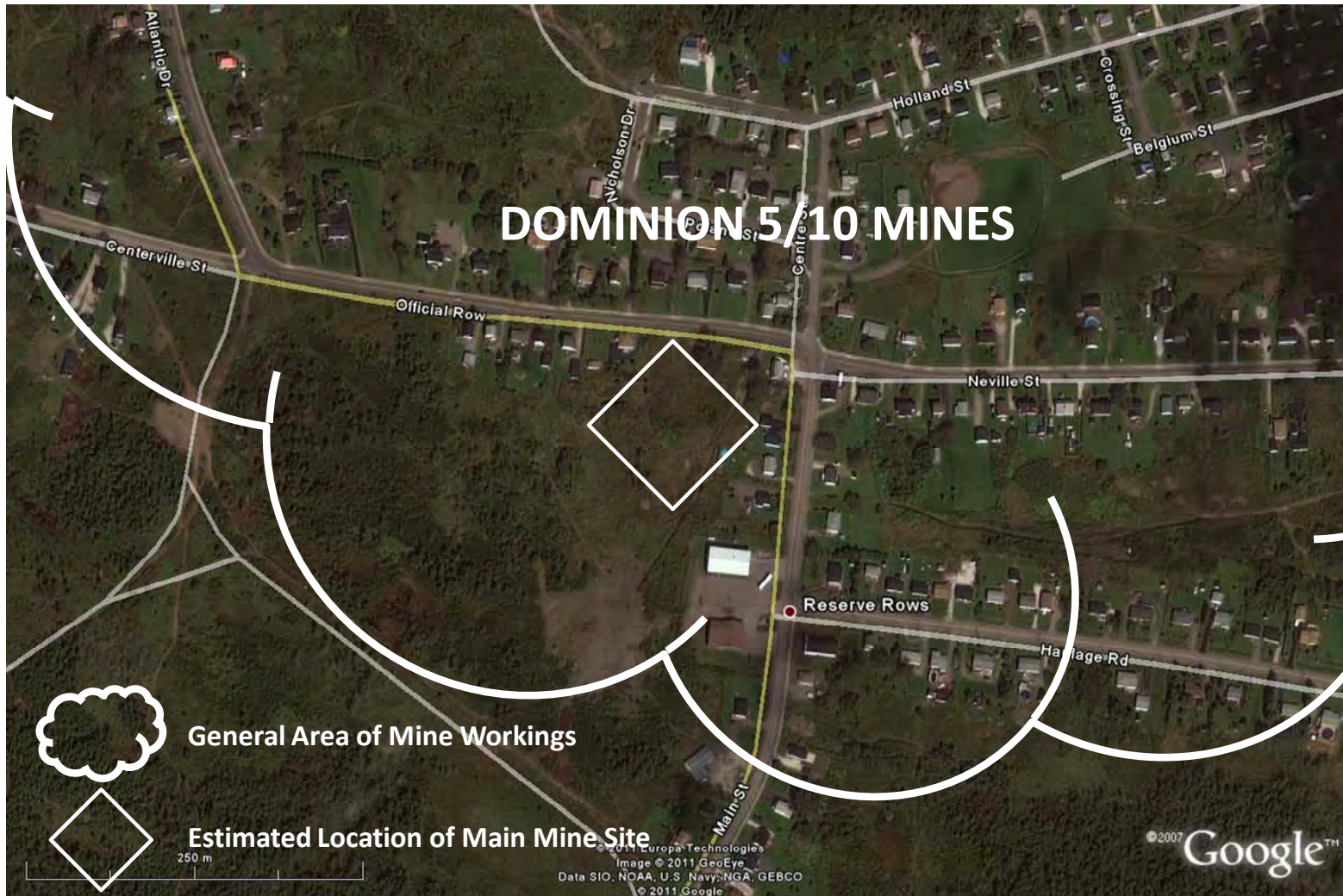


Figure 1 – General Location and Setting (Source: Google Earth)

DOMINION 5 & 10 MINES

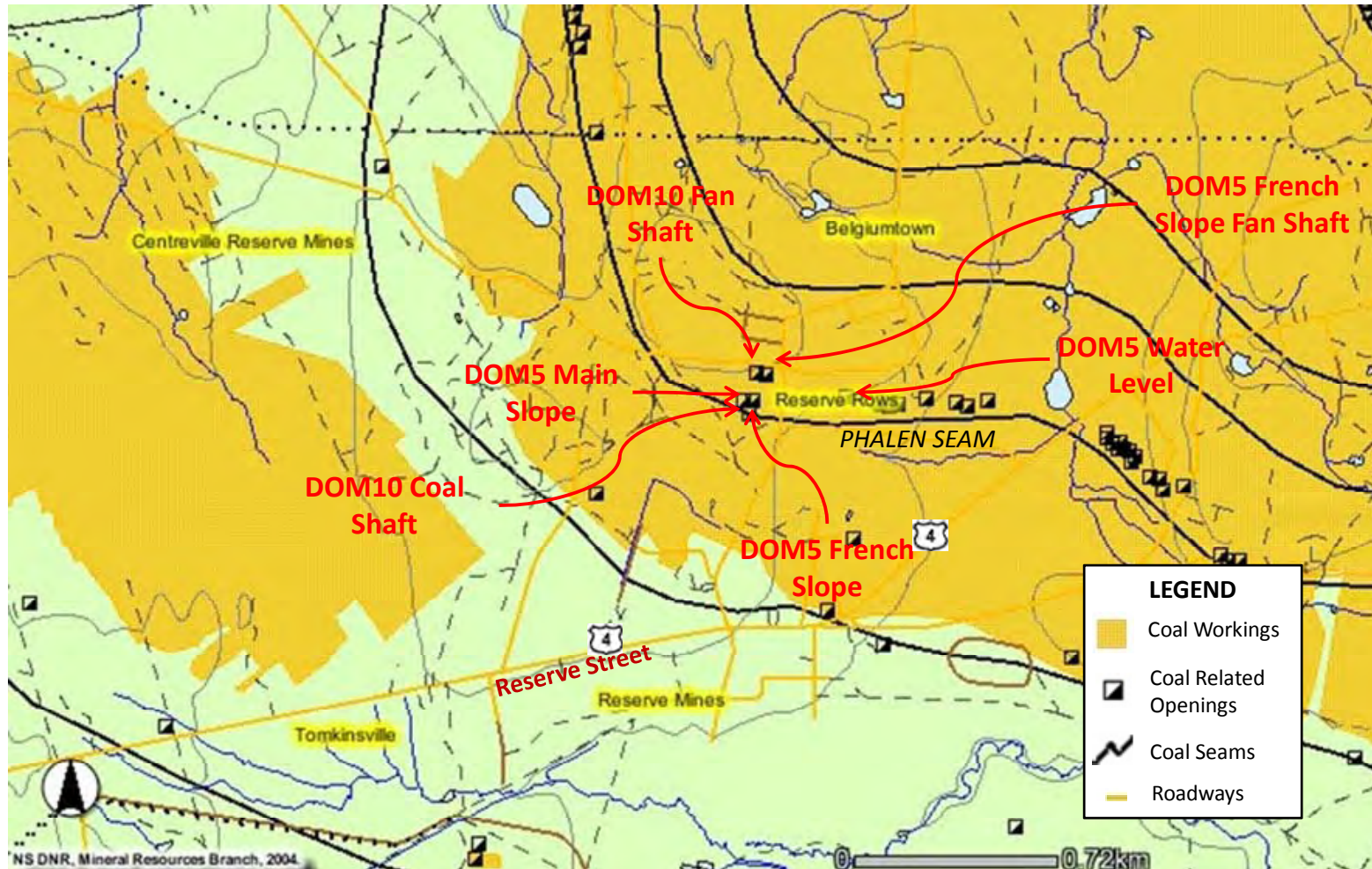


Figure 2 – Historic Mine Openings and Workings (Source: NSDNR GIS)

CONCEPT STUDY ON COAL WASTE DISPOSAL OPTIONS – DONKIN MINE**Bibliography (for historical workings)**

Ellerbok, G. W. (2000, May 28). The Louis Frost Notes 1685-1962. Retrieved December 2011, from Mining History Nova Scotia: <http://www.mininghistory.ns.ca/lfrost/lfintro.htm>

Geological Survey of Canada. (1873). Report of Progress for 1872-73. Montreal: Dawson Brothers.

Nova Scotia Department of Mines. (1978). A History of Coal in Nova Scotia - Information Series No. 2

Nova Scotia Department of Natural Resources. (2011). Geology Maps and Databases. Retrieved December 2011, from ArcIMS Viewer:
<http://gis4.natr.gov.ns.ca/website/nsgeomap/viewer.htm>

Shea, J. (2008, April 22). Innovative Mine Water Management Techniques for Submarine Coal Mines of the Sydney Coalfield, Nova Scotia. Morgantown, West Virginia.