

NORTHEAST REGION

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SUMMARY AND TRENDS

The year 2008 saw a significant resurgence of exploration activity and mine development in the Northeast Region.

Peace River Coal Inc (PRC), the operating entity for the Peace River Coal Limited Partnership (73.8% Anglo Coal Canada Ltd, 14.2% Hillsborough Resources Ltd, 12.0% Northern Energy and Mining Inc) continued mining its **Trend** property south of Tumbler Ridge, with the intent of adding to production from the nearby **Roman Mountain** deposit beginning early in 2012. PRC continued exploration on its **Horizon** project to the north of Roman Mountain.

Western Canadian Coal Corp (WCC) continued operation of the **Perry Creek** mine within the **Wolverine Project** west of Tumbler Ridge, and of the **Brule** mine south of Chetwynd. WCC purchased the **Willow Creek** property and infrastructure west of Chetwynd in June 2007, and in September 2008 began mining operations there with a view to beginning coal sales in mid-2009. In late November, however, mining operations were suspended temporarily at Willow Creek due to market uncertainties.

Other projects, which the proponents intend to advance for mine development are **EB** and **Hermann** (WCC), **Wapiti** (Hillsborough Resources Ltd), **Goodrich Central South** (First Coal Corp), and **Gething** (Canadian Dehua International Mines Group Inc). In late November 2008, the Hermann project was granted an Environmental Assessment (EA) certificate.

First Coal was particularly active in exploring its **Goodrich Central South** project east of Chetwynd, working towards taking a 100 000 tonne bulk sample in 2009. The Belcourt-Saxon Coal Limited Partnership, a 50/50 joint venture of Peace River Coal with Western Canadian Coal, undertook a drilling project on the **Belcourt West** project southeast of Tumbler Ridge. A new player in the area, Colonial Coal Corp, carried out exploration drilling on its **Huguenot** project nearby.

Estimated exploration expenditures for 2008 stood at \$22 million, double the \$10.5 million in 2007. Similarly, 2008 drilling activity, at about 54 600 m, was up considerably from 37 400 m in 2007 (Figures 2.1, 2.2). Locations of mines, developments and exploration projects are shown in Figure 2.3.

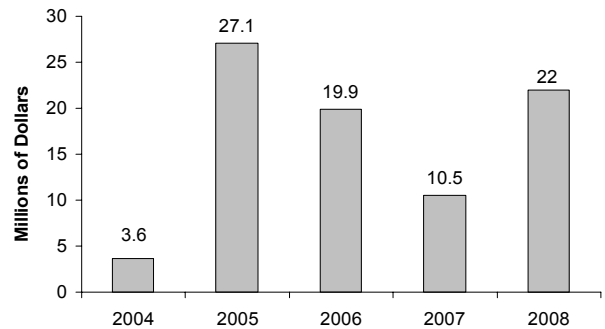


Figure 2.1. Annual Exploration Expenditures, Northeast Region. (Note: Prior to 2004, expenditures were included with the North-Central Region).

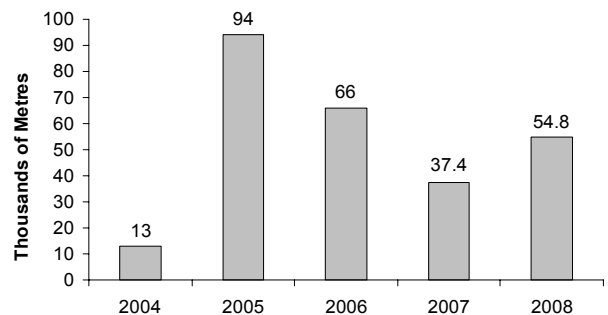


Figure 2.2. Annual Exploration Drilling, Northeast Region (Note: Prior to 2004, drilling statistics were included with the North-Central Region).

COAL MINES

Three coal mines were operating in the Northeast Region in 2008, namely PRC's **Trend** mine, and WCC's **Perry Creek (Wolverine Project)** and **Brule** mines. A fourth project, WCC's **Willow Creek**, began mining operations in September but was not expected to ship coal before mid-2009. In late November, the project was suspended pending more certainty of suitable prices in coal markets. Mining activity is summarized in Table 2.1.

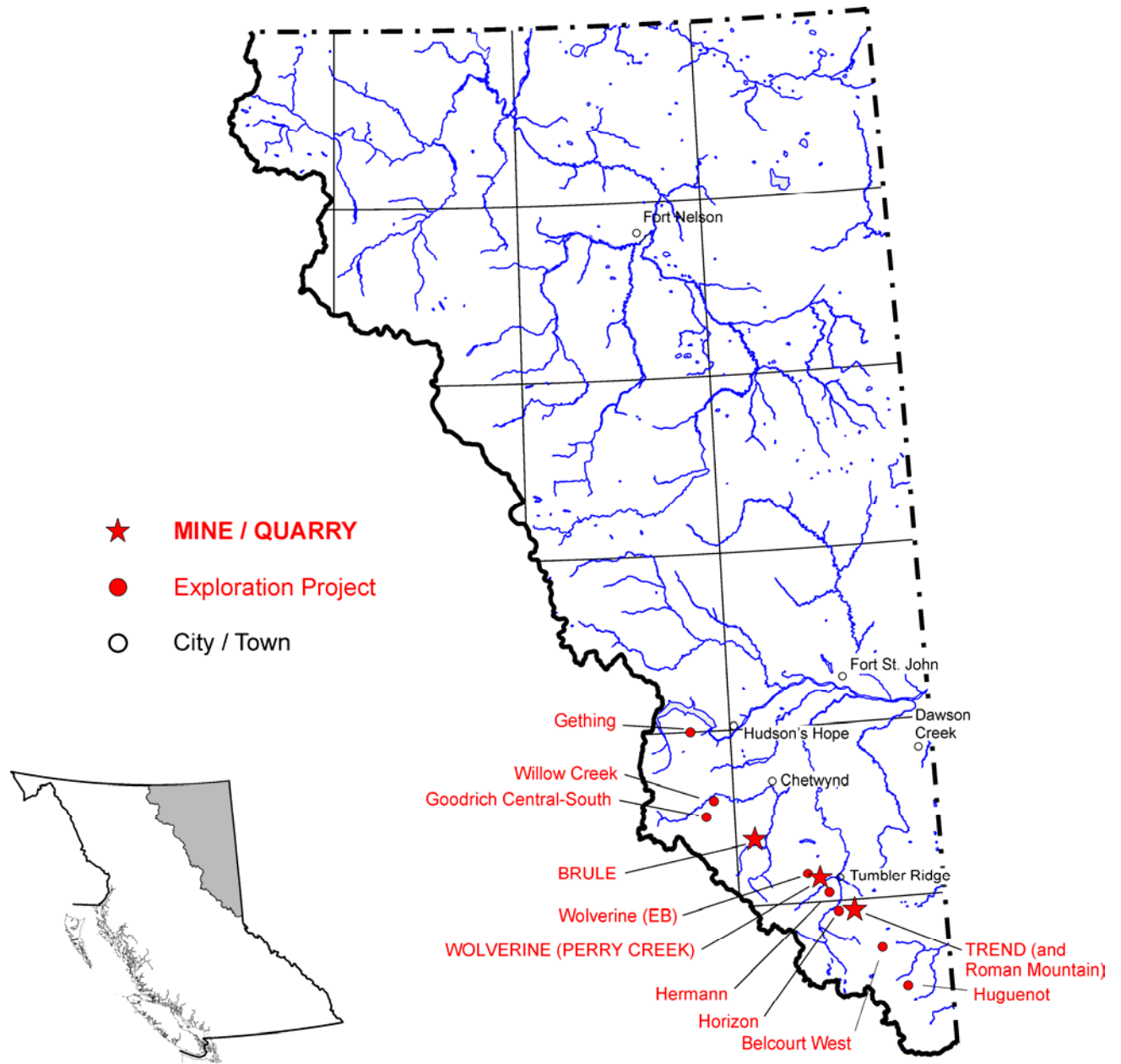


Figure 2.3. Operating Mines, development projects, and major exploration projects, Northeast Region, 2008.

TABLE 2.1. FORECAST MINE PRODUCTION, NORTHEAST REGION, 2008

Mine	Operator	Deposit Type/ Commodity	Work Force	Forecast Production (2008), tonnes	Measured and Indicated Resources (effective date)
Trend	Peace River Coal Inc	Metallurgical Coal	~80	1 400 000 t	21.6 million tonnes ROM (June 2007)
Wolverine (Perry Creek)	Western Canadian Coal Corp	Metallurgical Coal	~400 including contractors	2 200 000 t	32.5 million tonnes ROM (February 2008)
Brule	Western Canadian Coal Corp	PCI Coal	~60	1 300 000 t	38.6 million tonnes ROM (December 2007)

Peace River Coal's **Trend** mine, commissioned in January 2006, is located about 25 km south of Tumbler Ridge. Medium-volatile bituminous coal is being mined from the Lower Cretaceous Gates (D, E, F, G/I and J seams) and Gething formations with a cumulative coal thickness of 15 metres, in a narrow pit that exploits a tight upright fold (Figure 2.4). Production in 2008 was targeted at 1.4 million tonnes of mostly metallurgical coal with a small amount of thermal coal. Production is expected to increase to a total of 3 million tonnes/year by 2012 as the nearby **Roman Mountain** deposit is added to production.

A pre-feasibility study on the **Roman Mountain** project was expected to be completed by the New Year 2009, to be followed closely by EA and Mine Permit applications. Like Trend, Roman Mountain would exploit both the Gates and Gething formations. The main pit would release coal from the Gates Formation within an upright syncline; and Gething Formation coal would be mined from two small pits, one on each side of the main pit. To the north of Roman Mountain, PRC proposes to develop the **Horizon** block as a combined open pit/underground operation.

The estimated production life of the **Trend** mine is about ten years, based on ROM reserves of 21.6 million tonnes. This will be supplemented by production from **Roman Mountain**, with a proposed 15-year life expectancy at an annual production of 2 to 4 million clean tonnes. The **Horizon** mine, once brought into production, could have a life expectancy of about 17 years with an annual production of up to 2 million tonnes.

PRC had changed from contractor mining to owner-operated mining by the end of 2008 and, in that regard, purchased essential mining equipment including heavy trucks and blast hole drills (Figure 2.5). The work force is expected to increase gradually from 80 to about 300. PRC's loadout facility, a few kilometres north of the Trend mine, was completed in 2007. From here the

company ships, through the Ridley Terminals Inc at Prince Rupert, to markets in Japan, Korea and Europe.

Western Canadian Coal's **Wolverine** Project, about 25 km to the northwest of Tumbler Ridge, saw continued production from the **Perry Creek** mine, which began operations in July 2006 (Figure 2.6). Current production of about 2.2 million tonnes/year of clean metallurgical coal is from the Gates Formation (E, F, G and J seams) with a cumulative coal thickness of 15 m. Mining operations within "Phase 1" of its mining plan were completed in March 2008, and the company has moved on primarily to Phase 3. Subject to regulatory approvals, output is projected to increase to 3 million tonnes/year, which would equal the capacity of the preparation plant. The projected pit life is ten years. Shipping is through Ridley Terminals Inc to markets in Asia, Europe and South America. Current total reserves stand at 32.5 million tonnes measured and indicated for Perry Creek, to which could be added a total of 42.4 million tonnes if the nearby **EB** and **Hermann** deposits are included.

WCC's **Brule** mine is located about 45 km south-southwest of Chetwynd adjacent to the former Dillon mine, which closed in September 2006 after reserves were exhausted. As in the case of the other producing mines in the region, the rock units are deformed into tight upright folds, making for long and narrow trough-shaped pits. Brule began shipping "ultra-low volatile" PCI (bituminous) coal in March 2007, releasing coal from seams designated Upper, Lower and Seam 60, in the Gething Formation with a cumulative thickness of 12.2 m (Figure 2.7). Forecast production in 2008 was 1.3 million tonnes run-of-mine coal, and the company's intent is to increase this to 2.0 million tonnes/year in 2009. *In situ* reserves as of December 2007 stood at 38.6 million tonnes, of which 36.3 million tonnes were assigned to the Brule deposit, with the balance to the **Blind** deposit. The Brule Mine employs about 60 WCC workers on-site, and the operation is in the transition process from contractor



Figure 2.4. Releasing coal at the Trend Mine.

mining to owner-operated mining. At present, coal is trucked to the Bullmoose loadout facility. Plans had been to build a road northward to the **Willow Creek** mine (the Falling Creek haul route) to make use of that facility's wash plant and shipping infrastructure (Figure 2.8), but those plans were put on hold with the suspension of operations at Willow Creek.

WCC's two mines offer the combined potential of 6 million tonnes/year of coal production for at least 15 years. An Environmental Assessment (EA) certificate is in place for the **EB** deposit, with about 8 million tonnes of coal resource, located near the Perry Creek operation. A fourth deposit, the **Hermann** project, is located 16 km southwest of Tumbler Ridge, and would add an additional 10.7 million tonnes of coal resource. An EA certificate for the Hermann coal mine project was granted in late November 2008.

COAL EXPLORATION PROJECTS

Significant exploration projects in the Northeast Region are listed in Table 2.2. This compilation was

assembled prior to the end of the calendar year and contains some estimates of the work completed.

Figure 2.9 offers an estimated breakdown of 2008 expenditures by category (early stage exploration, advanced-stage exploration/deposit appraisal, mine evaluation, and mine property exploration). For this discussion, early-stage exploration is considered as focussed activity based on a deposit model. It may include geophysics, geochemistry, trenching and drilling. Advanced-stage exploration is concerned with resource definition emphasizing drilling, but included may be baseline environmental studies, economic pre-feasibility work, and exploration of secondary targets. Mine evaluation begins with the firm commitment to develop a resource; and concentrates on the environmental, social, engineering and financial assessments of a project. Mine property exploration is on-lease in respect of a producing mine, and is work other than that done within or immediately adjacent to the deposit.



Figure 2.5. New “Pit Viper” blast hole drills at the Trend Mine.



Figure 2.8. Grizzly, crusher and wash building at the Willow Creek mine site.



Figure 2.6. Hauling waste at the Perry Creek Mine.



Figure 2.7. Loading at the South Blind Pit, Brule Mine.

SOUTH OF TUMBLER RIDGE

During 2008, Peace River Coal Inc continued evaluation of its **Roman Mountain** project, located adjacent to the Trend mine, completing an additional 14 600 m of drilling. About 27 million in-place tonnes of coal had been identified in the Roman Mountain deposit as of June 2007. The coal measures at Roman Mountain occur in a tight upright syncline at the top of the mountain and extend for up to 7 km along strike (Figure 2.10). The environmental assessment process for the project began in November 2007, and the intent is that it be completed in 2008 with production in 2009 subject, to approvals being in place. A pre-feasibility study on the project was undertaken in 2008 as well. In 2008, the Partnership also completed some 900 m of on-lease drilling at the adjacent **Trend** mine to extend reserves.

An additional 8010 m of drilling were completed at PRC’s **Horizon** project (Figure 2.11), with an Environmental Assessment application expected to be submitted late in 2008. About 42 million tonnes of metallurgical and PCI coal resource have been identified. Production could begin in 2010 at 1.2 million tonnes/year from the gently-folded coal measures in the Gates and Gething formations.

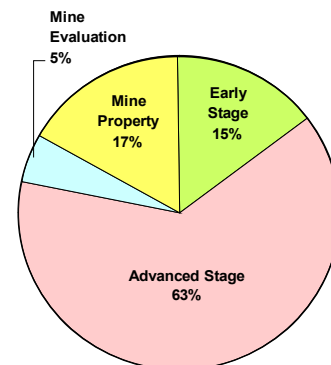


Figure 2.9. 2008 Exploration expenditures by category, Northeast Region.

TABLE 2.2. SIGNIFICANT EXPLORATION PROJECTS, NORTHEAST REGION, 2008

Property	Operator	MINFILE (NTS ref.)	Commodity	Deposit Type	Work Program
Belcourt West	Belcourt-Saxon Coal Limited Partnership	093I 014, 16	Metallurgical Coal	Sedimentary	A, PD (2100 m) DD (1800 m)
Brule (Blind Pit)	Western Canadian Coal Corp	093P 007	ULV PCI Coal	Sedimentary	PD (1050 m)
Goodrich Central South	First Coal Corp	093O 034	Metallurgical Coal	Sedimentary	A,TR,GD (1520), DD (11 180 m)
Horizon (Five Cabin)	Peace River Coal Inc	(093I 086)	Metallurgical Coal/PCI Coal	Sedimentary	A, PD (7010 m), DD (1000 m)
Huguenot	Colonial Coal Corp	(093I 049, 50)	Coal	Sedimentary	A, TR, PD (1623 m), DD (13 m)
EB (Wolverine)	Western Canadian Coal Corp	093P 015	Coal	Sedimentary	A, PD (1115 m)
Perry Creek (Wolverine)	Western Canadian Coal Corp	093P 025	Metallurgical Coal	Sedimentary	A, PD (2500 m) DD (426)
Roman Mountain	Peace River Coal Inc	093I 030	Metallurgical Coal	Sedimentary	A, EN, PF, PD (12 600 m) DD (2000 m)
Trend Mine Extension	Peace River Coal Inc	093I 030	Metallurgical Coal	Sedimentary	PD (400 m), DD (500 m)
Willow Creek	Western Canadian Coal Corp	093O 008	Metallurgical Coal/PCI Coal	Sedimentary	PD (7330 m) DD (475 m)

Exploration Category: E = Early-Stage, A = Advanced-Stage, ME = Mine Evaluation, MP = Mine Property

Work Program Abbreviations:

A = access (trail, road construction on claims); AB-EM = airborne electromagnetics; AB-MG = airborne magnetics; AB-RD = airborne radiometrics; BU (X tonnes) = bulk sample (weight in tonnes if known); CD = condemnation drilling; CQ = coal quality testing; CT = carbonization test (coal); DD (Xm)= diamond drilling totalling X metres; EN = environmental baseline studies/monitoring, remediation work; FS = feasibility studies; G = geology, mapping etc.; GC = geochemical sampling (rock, soil, silt etc.); GD = geotech drilling; GP = geophysics (general); IP = Induced Polarization; 3D-IP; MG = magnetics; MK = marketing (primarily for industrial mineral products); MS = metallurgical studies; OB = overburden drilling; OP-BU = open-pit bulk sample; P = prospecting; PD = percussion drilling; PF = pre-feasibility studies; R = reclamation; RC = reverse circulation drilling; TR = trenching; UG (Xm) = X metres of underground development; UG-BU= underground bulk sample; UT = UTEM; VLF; WT = washability test (coal)



Figure 2.10. Drilling on Roman Mountain (courtesy Peace River Coal).

The Belcourt-Saxon Coal Limited Partnership, a 50/50 joint venture of Peace River Coal with Western Canadian Coal, undertook a 3900 m drilling project on the **Belcourt West** project, located about 90 km southeast of Tumbler Ridge. The partnership is exploring a set of Gates Formation coal seams, and WCC is of the view that the Belcourt-Saxon project area has the potential to produce up to 5 million tonnes/year.

Colonial Coal Corp completed trenching and a 1650 m drilling program on its **Huguenot** project near the Belcourt West project. The company was following the southeast extension of the Belcourt South coal deposit, and successfully defined coal seams in both the Gates and Gething formations in the northwestern portion of the property. The plan for 2009 is to extend the investigation to the remainder of the property, south of Holtslander Creek.



Figure 2.11. Percussion drill at the Horizon Project.

WOLVERINE VALLEY AREA

Western Canadian Coal continued its on-lease drilling program around the **Perry Creek** mine in its Wolverine Project area, planning to define and extend reserves to about ten years at the projected production rate. Fourteen rotary and three diamond drill boreholes were completed, totalling about 2900 m. The Perry Creek pit is planned to be enlarged, and pit life extended to about 10 years at the projected production rate.

Included in the Wolverine Project is the nearby **EB** deposit. Whereas the Gates Formation beds at the Perry Creek operation are characterized by tight upright folds, at EB the unit is nearly flat-lying. About 7.4 million tonnes of ROM metallurgical coal are available at EB, and were delineated further by some 1100 m of drilling in 2008.

WCC's **Hermann** project is located south of the Perry Creek mine and about 16 km southwest of Tumbler ridge. Exploration drilling on the property is complete, and in late November the Province granted the Company an EA certificate for the proposed mine. That process had been suspended as WCC focused on permitting the EB deposit, but was re-started in August 2008. Mining is proposed from four pits to access five seams (E, E4, F, G and J) the Gates Formation, having an aggregate thickness

of 14.8 m. From a coal resource of about 9.0 million tonnes, production would be at the rate of 0.8 to 1.1 million tonnes/year.

CHETWYND - PINE RIVER AREA

Western Canadian Coal's **Willow Creek** mine area is more complex structurally than those to the south, and is characterized by tight anticlines and synclines overturned to the west. Pulverized Coal Injection (PCI) and metallurgical coal had been extracted previously from two pits in the "Central Zone," from the Gething Formation in which Seams 1 through 8 are accessible in tight upright folds. Initial production from the re-opened mine would be from this zone at about 900 000 tonnes/year, increasing over the following two years to as much as 2.2 million tonnes, subject to approvals, as the "North Zone" is developed (Figure 2.12). In 2008, WCC continued an on-lease drilling program to define better the coal resource, completing sixty-six boreholes totalling about 7800 m. Total *in situ* measured and indicated resources, as of November 2007, stood at 33.0 million tonnes. Mine life could be as long as 15 years depending, of course, upon the rate of production.

Western Canadian also conducted an on-lease exploration program at its **Brule** mine, completing some 1050 m of percussion drilling to extend reserves.

First Coal Corp pursued an extensive drilling program on its **Goodrich Central South** property southwest of the former Willow Creek mine. About 41 million tonnes of measured and indicated and 32 million tonnes of inferred metallurgical coal resource have been identified, principally in the Bickford Formation but with some in the overlying Gething Formation. In 2009, First Coal plans to extract a 100 000 tonne bulk sample by remote means using an adaptation of a conventional AddCar unit to the steeply-dipping seams at the proposed



Figure 2.12. Site Preparation at Willow Creek North Zone.

mine site. Contingent upon a successful outcome, the property may advance to EA and major mine permitting in 2009. In 2008, some 11 200 m of diamond drilling and 1500 m of geotechnical/hydrogeological drilling were completed (Figure 2.13).



Figure 2.13. First Coal's VP Operations David McSkimmings with a new drill.

HUDSON'S HOPE AREA

Canadian Dehua International Mines Group Inc intends to develop its **Gething** property, located about 25 km west of Hudson's Hope, as an underground operation. Production would be from the upper 150 m of the Lower Cretaceous Gething Formation, in which previous exploration had identified 8 significant coal seams with an inferred resource of 98 million tonnes of coal. By late 2007, the project was in the EA pre-application stage. No additional exploration was undertaken during 2008.

OUTLOOK FOR 2009

Coal prices remained high in 2008, and that tended to insulate the coal sector in otherwise uncertain economic times. Continued growth in 2009 will be contingent upon market support for the resource sector generally, and of course with respect to coal in particular. Companies, government and First Nations are working towards building relationships and agreements that provide a more certain context for exploration and mining activity.

ACKNOWLEDGMENTS

The writer acknowledges with thanks the support of staff in the Prince George Regional Office, and in particular Mines Inspectors Victor Koyanagi and Marnie Marchuk for critically reading an early draft of this report. In the Geological Survey Branch, Tania Demchuk provided valuable suggestions and feedback.