



**2015 Northwest Territories  
Mineral Exploration Overview:  
Updated February 2016**



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Yellowknife, NT

**NORTHWEST TERRITORIES  
GEOLOGICAL SURVEY**

Government of  
**Northwest Territories**

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*Cover photo: Kennady Diamonds Inc. summer 2015 Kelvin Camp. Photo courtesy of Karen Gochnauer.*

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# 2015 NORTHWEST TERRITORIES MINERAL EXPLORATION OVERVIEW

## Executive Summary

The Northwest Territories (NWT), which has led Canada in diamond and tungsten production, changed to a single commodity producer in late 2015. The Cantung Mine was abandoned by North American Tungsten Corporation Ltd. following an orderly *Companies' Creditors Arrangement Act* process without a satisfactory bid for the mine. The bidding went quite well; there were a couple offers. Cantung has been placed on care and maintenance status, and is the responsibility of the federal government under the contaminated sites program. While diamonds did not suffer as great a depression in the commodity prices as tungsten and base metals, lower rough diamond sale prices did slow the diamond staking resurgence that occurred in the NWT during 2014. This contributed to the shutdown of the Snap Lake mine, in November 2015. Snap Lake is now in a state of care and maintenance.

Production from the Ekati and Diavik diamond mines during 2015 was consistent with the mine plans with Ekati producing 3.7 million carats and Diavik producing 6.4 million carats. Highlights included a spectacular 187.7 carat-gem quality diamond named the Diavik Foxfire (Noi?eh Kwe), recovered at the Diavik Mine, reported in December 2015. Positive results from Ekati also included the prefeasibility work on the Sable kimberlite and the proposed time frame for development of the Jay pipe with the potential for construction in the latter half of 2016. NWT diamond production figures for 2015 were augmented by 1.24 million carats produced from the Snap Lake Diamond Mine, owned by De Beers Canada Inc.

Despite a challenging economic climate, positive notes were generated by construction updates from De Beers and Mountain Province Diamonds Inc. on the advancement of their Gahcho Kué project towards production status, and by the results of bulk sampling from Mountain Province's adjacent Kennady Lake property. In metals exploration, Canadian Zinc Corp.'s continuing advancement of the Prairie Creek zinc-lead project to the development stage with the initiation of underground rehabilitation work is noteworthy. Despite a poor financial market for gold, both the Colomac Gold Project and Yellowknife City Gold Project (Nighthawk Gold Corp. and TerraX Minerals Inc., respectively) saw continued drilling.

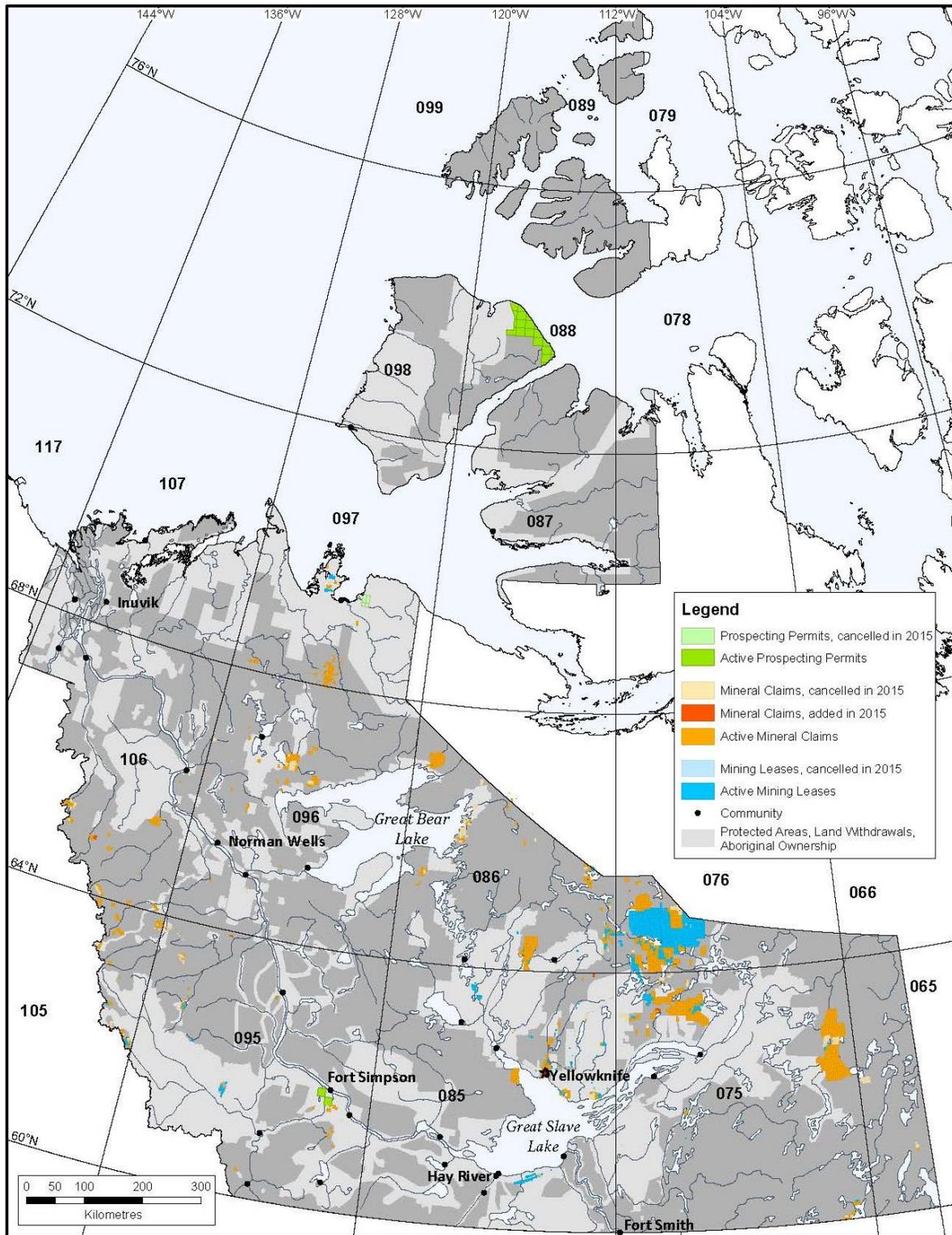
Less fortunate are the NICO and Nechalacho development projects which have been put on hold, lacking funds for construction and challenges over processing plants; while Fortune Minerals and Avalon Rare Metals focus on southern projects. Advanced projects such as the Ormsby and Courageous Lake gold projects, operated by Tyhee Gold Corp. and Seabridge Gold Inc. respectively have also been put on hold.

Natural Resources Canada's estimate of \$93 million in intended NWT expenditures on exploration and deposit appraisals is down \$8.7 million or nine percent from 2014 actual expenditures of \$101.7 million. Fifty-six percent of 2015 spending was projected to be for

grassroots exploration with the remainder spent on deposit appraisals. The estimate of intended spending places the NWT in seventh place out of 12 Canadian jurisdictions surveyed.

Twenty-nine new claims totaling 20,329 hectares had been recorded in the NWT for 2015 (Figure 1). This marks a notably low level of staking compared to 2014 levels (412 recorded claims totaling 343,012 hectares). In contrast to newly recorded claims, the number of claims cancelled or surrendered had risen to 211 encompassing 153,252.78 hectares, and eight mineral leases have been cancelled, relinquished and surrendered releasing an additional 1,644.23 hectares. Since 2005, the amount of land covered by mineral tenure has fallen from 19.8% to the current level of 2%. Daily updates can be viewed on-line through the Government of Northwest Territories (GNWT) Mineral Tenure Map Viewer ([www.geomatics.gov.nt.ca](http://www.geomatics.gov.nt.ca)).

The GNWT's Mining Incentive Program continued in 2015 with awards totaling \$400,000 granted to six companies and six prospectors exploring for gold, base metals, polymetallic deposits, and diamonds. The results are posted at: <http://news.exec.gov.nt.ca/mining-incentive-program/>. For more information about the Mining Incentive Program, please visit <http://www.nwtgeoscience.ca/minerals/mip.html>.



**Figure 1:** Location and areal coverage of claims, leases, and permits for 2015 in the NWT. Coverage for 2015 includes 29 new recorded claims (20,329 hectares) and no new leases or Prospecting Permits issued. Data compiled by the Mining Recorder's Office, Department of Industry, Tourism and Investment, GNWT, February 2016.

## Northwest Territories Mining Highlights for 2015

The locations of the mines are shown in Figure 2 (page 11).

The **Snap Lake Diamond Mine**, owned by **De Beers Canada Inc. (Anglo American plc)** and located 220 kilometres northeast of Yellowknife, ceased production in December 2015 and was put on care and maintenance as a result of high operational costs and a downturn in diamond prices. A total of 1.243 million carats were recovered in 2015; slightly greater than the 1.15 million carats recovered in 2014. The reported grade during the first half of 2015 was 1.16 carats per tonne with an average price of US\$178 per carat. In 2014, Snap Lake produced 1.0 million tonnes of ore at a grade of 1.15 carats per tonne.

The fully underground Snap Lake mine commenced production in 2008. The deposit consists of a 2.5 metre thick kimberlite dyke that dips northeastward at 12-15° and as of December 31, 2013, Probable Reserves were 5.6 million tonnes grading 1.19 carats per tonne.

An amended Water Licence (WL) for the Snap Lake mine was approved in September 2015 with new water quality parameters including increased total dissolved solids and chlorine limits. Prior to that, production was complicated by having to temporarily store water underground as a mitigative measure.

The **Diavik Diamond Mine**, located about 300 kilometres northeast of Yellowknife, owned by **Rio Tinto plc** (60%) and **Dominion Diamond Corporation (DDC)** (40%), has been in production since 2003 commencing as an open-pit operation; with underground operations commencing in 2010 and completely underground by 2012. By December 31, 2014, the mine had produced about 91 million carats of diamonds from 24 million tonnes of kimberlite. By year-end 2015, 6.41 million of carats were processed from 1.98 million tonnes of ore for an average grade of 3.14 carats per tonne (grade excludes coarse ore rejects). Diamond recovery was nine percent lower than the planned 7.0 million carats as a result of three weeks maintenance shut down in the processing plant in the 4<sup>th</sup> quarter and lower mining rates from A-154N and lower grades from A-418 early in the year. A spectacular find was a 187.7 carat-gem quality diamond named the Diavik Foxfire, also bestowed with the indigenous name Noi?eh Kwe, to honour a nearby caribou crossing that is culturally important to the Tłıchǫ.

Underground mining in 2015 resulted in the processing of approximately 0.6 million tonnes sourced from kimberlite pipe A-154 North, 0.5 million tonnes from A-154 South, and 0.8 million tonnes from A-418 (Table 1).

The approval for development of the A-21 pipe was announced late in November, 2014 and in 2015, development commenced with preparation for open pit mining. The A-21 resource is estimated to be 3.6 million tonnes of measured resources at a grade of 2.8 carats per tonne, and 0.4 million tonnes of indicated resources at a grade of 2.6 carats per tonne. By March 2015, 3.7 million tonnes containing 10 million carats was promoted to proven reserve material. Open pit mining of A-21 pipe is expected in 2018.

**Table 1:** Diavik production, twelve months ending December 31st, 2015.

<b>Production ending December 31st, 2015 Deposit</b>	<b>Ore Processed (000s tonnes)</b>	<b>Carats (000s)</b>
A-154 South	525	1900
A-154 North	630	1352.5
A418	820	2965
Coarse Ore Rejects	7.5	187.5
<b>Total</b>	<b>1982.5</b>	<b>6405</b>

A National Instrument (NI) 43-101 compliant technical report was released in March 2015. As of December 31, 2014, the estimated mineral reserves for the Diavik Diamond Mine were reported to be:

**Table 2:** Estimated Mineral Reserves as of December 31, 2014 for the Diavik Diamond Mine.

<b>Pipe</b>	<b>Proven Mineral Reserve</b>			<b>Probable Mineral Reserve</b>			<b>Proven and Probable Mineral Reserve</b>		
	<b>Mt</b>	<b>cpt</b>	<b>Mct</b>	<b>Mt</b>	<b>cpt</b>	<b>Mct</b>	<b>Mt</b>	<b>cpt</b>	<b>Mct</b>
A154N Blast hole stoping	5.0	2.3	11.5	2.1	2.2	4.5	7.0	2.3	16.1
A154S Sub-level retreat	0.9	4.0	3.7	0.9	3.4	3.1	1.8	3.7	6.7
A418 Sub-level retreat	3.5	4.1	14.3	2.1	2.9	6.1	5.5	3.7	20.4
A21 Open pit	3.7	2.7	10.0	---	---	---	3.7	2.7	10.0
Stockpile	0.02	3.1	0.1	---	---	---	0.02	3.1	0.1
<b>Total</b>	<b>13.1</b>	<b>3.0</b>	<b>39.6</b>	<b>5.0</b>	<b>2.7</b>	<b>13.7</b>	<b>18.1</b>	<b>2.9</b>	<b>53.3</b>

Mt = million tonnes; cpt = carats per tonne; Mct = million carats

The estimated Mineral Resources for the Diavik Diamond Mine as of December 31, 2014 are reported in Table 3.

**Table 3:** Estimated Mineral Resources as of December 31, 2014 for the Diavik Diamond Mine.

<b>Pipe</b>	<b>Measured Mineral Resource</b>			<b>Indicated Mineral Resource</b>			<b>Inferred Mineral Resource</b>		
	<b>Mt</b>	<b>cpt</b>	<b>Mct</b>	<b>Mt</b>	<b>cpt</b>	<b>Mct</b>	<b>Mt</b>	<b>cpt</b>	<b>Mct</b>
A154N	---	---	---	---	---	---	2.0	2.5	5.0
A154S	---	---	---	---	---	---	0.1	3.8	0.3
A418	---	---	---	---	---	---	0.3	2.4	0.7
A21	---	---	---	0.4	2.6	1.0	0.8	3.0	2.3
<b>Total</b>	<b>---</b>	<b>---</b>	<b>---</b>	<b>0.4</b>	<b>2.6</b>	<b>1.0</b>	<b>3.1</b>	<b>2.6</b>	<b>8.3</b>

Notes (from DDC Diavik, March 2015): Mineral resources are reported exclusive of mineral reserves, and represent material remaining after mineral reserves have been removed.

The current mining plan for Diavik, published in February 2014, has mining operations continuing until 2023.

The **Ekati Diamond Mine**, owned by **Dominion Diamond Corporation (DDC)** (88.9% Core/65.3% Buffer), and **Stewart Blusson** (11.1% Core/34.7% Buffer) produced 3.7 million carats from the processing of 3.6 million tonnes of ore during 2015. The Ekati property, located 310 kilometres northeast of Yellowknife, is divided into the Core Zone, containing the current operating mine and other permitted kimberlite pipes, and the Buffer Zone, which is an adjacent area hosting kimberlite pipes including the Jay and Lynx pipes. Ekati reports production as of their year end on January 31.

Mining activities were dominated by the Koala underground operation and pre-stripping operations at the Misery pushback open pit and Pigeon open pit. This work followed the previously announced mine plan which predicted an overall shift from higher value production from the Koala, Koala North, and Fox ore bodies to lower value material from Misery Satellite and Coarse Ore Rejects. In addition, pre-stripping was conducted in the higher value Misery Main open pit. The amount of ore mined from Koala Underground and Koala North exceeded the predictions, but mining at Koala North has now been completed.

**Table 4.** Ekati Production, twelve months ending January 31<sup>st</sup>, 2016.

<b>Production ending January 31st, 2016</b>	<b>Ore Processed</b>	<b>Carats</b>
<b>Deposit</b>	<b>(000s tonnes)</b>	<b>(000s)</b>
Koala	1034	883
Koala North	97	53
Fox Open Pit	85	24
Pigeon	39	24
Coarse Ore Rejects	1216	807
Misery South and Southwest	1146	1941
<b>Total</b>	<b>3618</b>	<b>3732</b>

A number of planned process plant shutdowns reduced the process plant availability. The shutdowns were to allow the completion of improvements to the plant in order to boost diamond recoveries. Availability lowered the average plant throughput from 12,000 TPD to 10,500TPD (equating to approximately 4.3 million to 3.8 million tonnes per year). A new high-pressure grinding roll was installed in May, shutting the process plant for eight days. In July, the focus shifted to optimizing the cone crushers and the dense media separation units. A refined re-crush circuit is now utilized on a continuous basis in order to maximize process plant throughput. This circuit has improved recoveries, adding mostly smaller diamonds not currently included in reserves.

In March 2015, DDC published a revised NI 43-101 technical report. This report included a mineral resource estimate for the Ekati property current to January 31, 2015 (Table 5). Mineral Resources have been estimated for eight kimberlite pipes/complexes: Koala, Koala North, Fox, Misery, Pigeon, Sable, Lynx, and Jay. Mineral Reserves were estimated for the Koala, Misery, Pigeon, Jay, and Lynx pipes, and active stockpile materials.

**Table 5:** Estimated Mineral Resources for the Ekati property current to January 31, 2015.

Classification	Joint Venture Agreement Area	Kimberlite Pipe	Tonnes (millions)	Grade (cpt)	Carats (millions)
Indicated	Core Zone	Koala Underground	6.6	0.8	5
		Fox Underground	35.2	0.3	9.8
		Misery Main	3.7	4.5	16.8
		Pigeon	12	0.5	5.9
		Sable	15.4	0.9	14
		Stockpiles	0.1	0.4	0.02
Subtotal Indicated (Core Zone only)			72.9	0.7	51.4
Indicated	Buffer Zone	Jay	48.2	1.9	90.6
		Lynx	1.3	0.8	1
Subtotal Indicated (Buffer Zone only)			49.4	1.9	91.6
<b>Total Indicated</b>			<b>122.3</b>	<b>1.2</b>	<b>143</b>
Inferred	Core Zone	Koala Underground	0.1	0.9	0.1
		Koala North Underground	0.1	0.5	0.1
		Fox Underground	2	0.3	0.7
		Misery Main	0.8	2.9	2.3
		Misery South	0.7	1.1	0.7
		Misery Southwest Extension	2.2	2.2	4.9
		Misery Northeast	0.1	0.9	0.1
		Pigeon	1.7	0.4	0.8
		Sable	0.3	0.9	0.3
		Stockpiles	6.8	0.2	1.3
		Subtotal Inferred (Core Zone)			14.8
Inferred	Buffer Zone	Jay	4.2	2.1	8.6
		Lynx	0.3	0.8	0.2
Subtotal Inferred (Buffer Zone)			4.4	2	8.8
<b>Total Inferred</b>			<b>19.3</b>	<b>1</b>	<b>20</b>

Table 5 Notes (from DDC Ekati, NI 43-101 report, March 2015):

1. Mineral Resources are reported inclusive of Mineral Reserves. Mineral Resources that are not Mineral Reserves do not have demonstrated economic viability.
2. Mineral Resources are reported at +1.0 mm (diamonds retained on a 1.0 mm slot screen).
3. Mineral Resources have been classified using a rating system that considers drill hole spacing, volume and moisture models, grade, internal geology and diamond valuation, mineral tenure, processing characteristics and geotechnical and hydrogeological factors, and, depending on the pipe, may also include kriging variance.
4. Mineral Resources amenable to open pit mining methods include Misery, Pigeon, Sable, Jay and Lynx. Conceptual pit designs for open cut Mineral Resources (Misery, Pigeon, Sable, Jay and Lynx) were completed using Whittle shell analysis. Parameters used in pit shell analysis varied by kimberlite and ranges included: overall pit slope angles were selected to meet the particular design requirements for each pipe and range from 35–62°, mining costs of C\$5–8/wmt, processing costs of C\$16–26/dmt, general and administrative costs of C\$17-29/dmt and diamond valuations that ranged from US\$64–\$241 per carat.

Mineral Reserve estimates have been converted from material classed as Indicated Mineral Resources based on the 2014 Canadian Institute of Mining and Metallurgy Definition Standards with the assumptions included in the released report. No Proven Mineral Reserves were included.

**Table 6:** Mineral Resources for the Ekati Property current to January 31, 2015.

Classification	Joint Venture Agreement Area	Kimberlite Pipe	Tonnes (millions)	Grade (cpt)	Carats (millions)
Probable	Core Zone	Koala (underground)	4	0.6	2.3
		Misery (open pit)	3	4.7	14.2
		Pigeon (open pit)	7.4	0.5	3.6
		Stockpiles (surface)	0.1	0.4	0.02
Subtotal Probable (Core Zone only)			14.5	1.4	20.2
Probable	Buffer Zone	Jay (open pit)	45.6	1.9	84.6
		Lynx (open pit)	1.1	0.9	1
Subtotal Probable (Buffer Zone only)			46.7	1.9	85.6
<b>Total Probable</b>			<b>61.2</b>	<b>1.8</b>	<b>105.8</b>

Table 6 Notes (from DDC Ekati, NI 43-101 report, March 2015):

1. Mineral Reserves that will be, or are mined using open pit methods include Misery, Pigeon, Lynx, and Jay.
2. Mineral Reserves are estimated using the following assumptions: Misery open pit design assumed dilution of 4% waste and mining recovery of 98% diluted material; Pigeon open pit design assumed dilution of 6% waste and mining recovery of 98% diluted material, Lynx open pit design assumed dilution of <2% waste and mining recovery of 98% diluted material. Jay open pit design assumed dilution of 2% waste and mining recovery of 98% diluted material.

Using the Mineral Reserve estimates and the assumptions detailed for the Mineral Reserves Base Case Mine Plan outlined in the March 2015 report, the Ekati property is projected to be economically viable until 2031.

Mineral Resources that are not incorporated in the reported mine plan include Sable, a portion of Koala underground, and Fox Deep. Of these, Sable represents the most significant opportunity due to its high estimated diamond price, potential for development via a large open pit, and advanced permitting, that could provide operating synergies with the Jay Project. Sable would provide an additional high value ore to be blended with kimberlite from the Jay pipe. The combined production could supply the process plant at its full capacity until 2033 (with Sable mining ending in 2027).

The Sable pipe is located beneath Sable Lake, 17 kilometres north-northwest of the Ekati Mine. The project would require construction of an access road, site infrastructure and dewatering of Sable Lake ahead of mining operations.

The evaluation of the Sable pipe used the results of a reverse-circulation drilling campaign conducted during 2014. A total of eight holes with diameters of approximately 24 inches were drilled and a total of 1,535 tonnes sampled. The kimberlite was analyzed at the Ekati Bulk Sample Plant and a total of 1,210 carats were recovered at a 1.0 millimetre bottom cut-off.

**Table 7:** Sable Mineral Resources as of September 10, 2015.

Kimberlite pipes		Measured Resources			Indicated Resources			Inferred Resources		
Zone Location	Type	Mt	cpt	Mct	Mt	cpt	Mct	Mt	cpt	Mct
Sable Core	OP	-	-	-	15.4	0.8	11.7	0.3	0.8	0.3

The current plan for the Sable pipe would see the start of construction in the first half of 2016. Construction of the rock dams and site infrastructure would follow in 2017, with dewatering and pre-stripping in 2018. The initiation of mining and processing would occur by 2019.

Operations were curtailed at **North American Tungsten Corporation Ltd.'s Cantung Mine** in August 2015 and as of November, 2015 the Cantung Mine site was abandoned by North American Tungsten Corp. However, during 2015, production was 1,931,420 kilograms of WO<sub>3</sub> at 0.81% WO<sub>3</sub>, as compared with 2,955,440 kilograms of WO<sub>3</sub> in 2014 having an average ore grade of 0.91% WO<sub>3</sub> (E. Salmabadi Pers. Com, 2016). Shut down of the operations proceeded through an orderly process under the *Companies' Creditors Arrangement Act* (CCAA) proceedings and responsibility for the site has reverted to Aboriginal and Northern Affairs Canada.

On June 12, 2015, the GNWT amended the reclamation security deposit required by the water license to \$30.9 million from \$11.7 million. This amended amount included approximately \$3.4 million related to the proposed dry stack tailings storage facilities. North American Tungsten posted \$6.3 million in cash and \$5.5 million in the form of secured promissory notes.

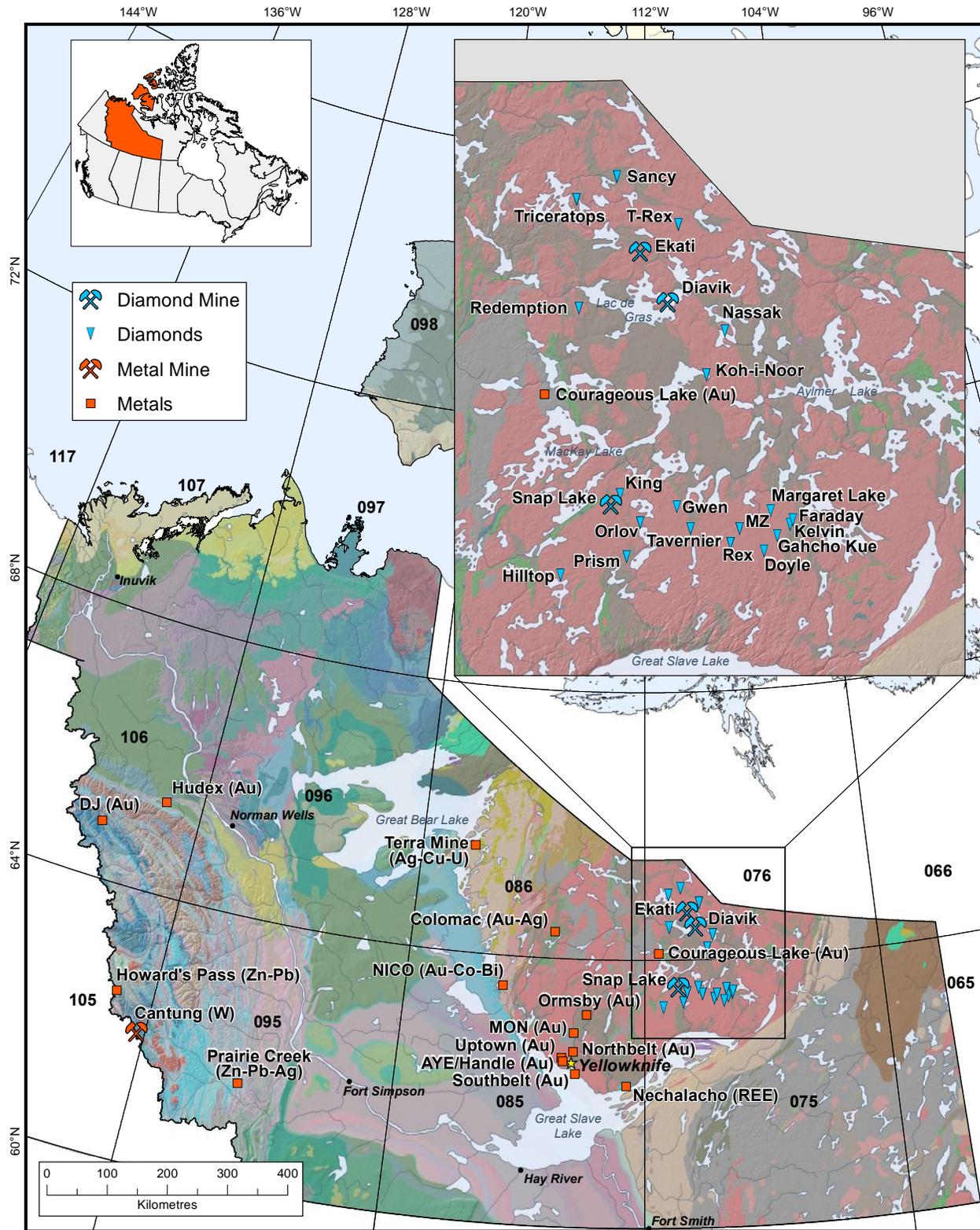
The progressive decline of the ore grade combined with depressed tungsten prices, high debt service payments, a generator failure, and the requirement of an increased reclamation bond forced the company to temporarily lay off staff. This was followed by an announcement that the company had moved to restructuring proceedings pursuant to an Initial Order granted by the Supreme Court of British Columbia under the CCAA. Alvarez & Marsal Canada Inc. was appointed as monitor in the proceeding.

In July 2015, North American Tungsten had stabilized the business, secured interim financing, and under the supervision of the court appointed monitor, had commenced a Sale and Investor Solicitation Process (SISP). During that time, the court extended the stay and other relief to October 31, 2015. This was subsequently extended to November 30 to allow the continuation of the operating plan while inviting offers of purchase of the company's assets, property and business, or for an investment in the company. Bids received under the SISP were unacceptable and in November, Cantung was officially abandoned.

Open pit mining was completed in August 2015. Underground mining was scaled back and then shut down as the mine moved toward care and maintenance status for the winter. Mill production from a blend of open pit and underground ore that was stockpiled during the summer continued until the end of October. While overall production levels remained relatively consistent, the quarterly production results have demonstrated the impact of a variable ore grade. The mill recovery for 2015 was 78.0% for 304,042 tonnes, in comparison to 2014 results of 76.5% from 403,182 tonnes milled. Cantung also produced 241,012 kilograms of copper during 2014 compared to 161,018 kilograms of copper produced in 2015 (E. Salmabadi, Pers. Com., 2016).

The most recent resource estimates for the deposit are contained in a NI 43-101 report published in November, 2014. An Indicated Mineral Resource of 3,482,682 tonnes at 0.97% WO<sub>3</sub> and an

Inferred Mineral Resource of 1,242,843 tonnes at 0.8% WO<sub>3</sub> were defined using a minimum mining width of five metres and a cutoff grade of 0.50% WO<sub>3</sub>.



**Figure 2:** Locations of mines and exploration projects active in the NWT during 2015.

## Northwest Territories Mineral Exploration Highlights for 2015

### *Diamond Exploration*

The locations of diamond exploration programs are shown in Figure 2 (preceding page).

In January 2015, **Arctic Star Exploration Corp.** announced their acquisition of the Triceratops Property, staked in August 2014 and covering six historical kimberlite discoveries. The Triceratops property consists of 62 contiguous claims (46,840 hectares) located 31 kilometres northwest of the Ekati Diamond Mine. The six kimberlites (Vega, S-141, Torrie, Sputnik, Sue, and Eddie) were discovered during the initial Lac de Gras diamond rush. The claims also cover three unexplained kimberlite indicator mineral (KIM) dispersal trains that contain pyrope, chrome diopside, ilmenite, and olivine. The Triceratops property complements Arctic Star's T-Rex property of 62 contiguous claims (54,000 hectares) located in the northeastern part of the Lac de Gras kimberlite field, 22 kilometres northeast of the Diavik Diamond Mine. The T-Rex property covers 13 known kimberlites that are documented in mineral exploration assessment reports and government databases.

**Canterra Minerals Corp.** maintained its property consisting of 43 claims (43,000 hectares). The five properties are located between the De Beers' Snap Lake Diamond Mine and the Gahcho Kué Project (De Beers/Mountain Province Diamonds). The Hilltop property, located 30 kilometres southwest of Snap Lake Diamond Mine, is suspected to host the source of a seven kilometre-long KIM train with numerous kimberlite fragments. Early in 2015, an OhmMapper survey was conducted over a portion of the Hilltop Project and along with till sample results, identified several target areas. Groundwork was conducted later in 2015 to prepare for an extended OhmMapper survey during the winter.

A till sampling program initiated in September resulted in 204 samples across all of Canterra's properties, designed to identify and further define potential drill targets. Canterra also received a Type 'A' Land Use Permit from the Mackenzie Valley Land and Water Board. This permit is effective for five years (until August 2020) and allows for the planning of drill programs to evaluate targets identified by geochemical sampling, geomorphological studies, and geophysical surveys. Ground work in 2015 was conducted to prepare for a 70-line kilometre OhmMapper survey for early 2016.

**De Beers Canada Inc.** (51%) and **Mountain Province Diamonds Inc.** (49%) are joint venture partners in the Gahcho Kué diamond project located in the southeastern Slave Province, approximately 150 kilometres south-southeast of the Ekati and Diavik mines.

The construction process at Gahcho Kué achieved 80% completion by the beginning of December 2015. At the end of the June 2015, the dewatering of Kennady Lake had been completed along with construction of berms and dykes, pouring of concrete for the process plant and maintenance facility foundations, commencement of steel assembly in the process plant and assembly of the major mining equipment. The process plant and truck maintenance buildings were reported to be on track and enclosed by the end of October. With the closure of Snap Lake Mine, 41 De Beers employees were transferred to the Gahcho Kué project, with another 60 to be brought on when the project is closer to production.

A revised 2014 feasibility study prepared by JDS Energy and Mining Inc. and Hatch Ltd. was released in April 2014. It reported total Probable Mineral Reserves of 35.4 million tonnes containing 55.5 million carats for three kimberlite bodies (5034 - grading 1.74 carats/tonne; Hearne - grading 2.07 carats/ tonne; and Tuzo - grading 1.57 carats/ tonne). The feasibility study was based on three open pits with a full production of 250,000 tonnes per month. Excavation of the pits will be staggered with production of 3 million tonnes of kimberlite per year, allowing for a 12-year mine life. The annual production target is 4.45 million carats with anticipated revenue of US\$149.66/carats. The capital cost for the project is \$1,019 million including \$75.6 million of contingency. Total life of mine capital costs are estimated at \$1,290.8 million consisting of \$259.5 million sunk costs, \$858.5 million initial capital, \$80.1 million working capital, and \$92.7 million sustaining and closure costs.

**Table 8:** Gahcho Kué Mineral Reserve estimate (JDS, March 2014 feasibility study).

Pipe	Tonnes (million tonnes)	Grade (carats per tonne)	Carats (million carats)
5034	13.4	1.74	23.2
Hearne	5.6	2.07	11.7
Tuzo	16.4	1.25	20.6
<b>Total</b>	<b>35.4</b>	<b>1.57</b>	<b>55.5</b>

The mine is anticipated to produce \$7,720.8 million in realized value revenues over its 12-year mine life resulting in a 32.6% Internal Rate of Return (IRR) and a \$1,004.8 million Net Present Value (NPV) at 10% excluding sunk costs of \$259.5 million incurred prior to Dec 31, 2013. Including sunk costs of the project yields a 21.9% IRR and \$747.3 million NPV.

**Kennady Diamonds Inc.** (Mountain Province 100%) continued to explore the Kennady North project, consisting of 16 leases and 58 claims (61,000 hectares) located north of the Gahcho Kué project. This property includes the diamondiferous MZ, Doyle, Kelvin, and Faraday kimberlites. Activities during 2015, including definition drilling, the collection of a Kelvin bulk sample and samples processed by caustic fusion for diamond recovery results, were focused along the Kelvin-Faraday kimberlite corridor. Approximately 443 tonnes of kimberlite were recovered by August for the bulk sample using large diameter reverse circulation drilling. The Kelvin bulk sample program was to recover a sufficiently large diamond parcel to allow a preliminary diamond valuation of the southeastern lobe of Kelvin. The sample was processed at the Geoanalytical Laboratories Diamond Services of the Saskatchewan Research Council. SRK Consultants, Vancouver, B.C., defined three phases of kimberlite described as zones A, B, and C.

Zone B has been further subdivided into zones B and Bx. Each of the phases was processed separately. However, for valuation purposes, the diamonds from zones B and Bx were combined.

The diamond recovery results were:

**Table 9:** Kelvin Southeast Lobe 2015 bulk sample diamond recovery results, August 26, 2015.

Batch	Sample Weight (tonnes)	Number of Diamonds According to Sieve Size Fraction (mm)							Total Diamonds	Carats	Sample Grade (c/t) +0.85mm
		+0.850 -1.180	+1.180 -1.700	+1.700 -2.360	+2.360 -3.350	+3.350 -4.750	+4.750 -6.700	+6.700 -9.500			
Zone A	143.35	2,307	3,563	1,350	373	78	8	-	7,679	409.21	2.85
Zone B	119.13	1,357	2,496	925	254	50	10	1	5,093	292.83	2.46
Zone Bx	143.04	623	1,095	315	106	27	1	-	2,167	117.39	0.82
Zone C	37.02	362	639	234	60	10	3	-	1,308	73.43	1.98
<b>Total</b>	<b>442.54</b>	<b>4,649</b>	<b>7,793</b>	<b>2,824</b>	<b>793</b>	<b>165</b>	<b>22</b>	<b>1</b>	<b>16,247</b>	<b>892.86</b>	<b>2.02</b>

An additional 14.76 carats were recovered from overburden samples and 1.65 carats from granulometry samples. The largest diamonds recovered from the Kelvin bulk sample were: 4.22 carat white/colorless, transparent macle with no inclusions; 3.95 carat brown, transparent aggregate with inclusions; 2.79 carat light brown, transparent aggregate with minor inclusions; 2.63 carat white/colorless, transparent octahedral with inclusions; and 2.59 carat white/colorless, transparent dodecahedron with no inclusions.

A diamond parcel weighing 989 carats was referred to WWW International Diamond Consultants (WWW) for valuation and modeling. The valuation took place in Antwerp, Belgium on September 9 and 10, 2015. Four separate diamond parcels were presented: Zone A (442.82 carats) US\$56 per carat; Zone B (447.05 carats) US\$70 per carat; Zone C (80.44 carats); and a small mixed parcel (16.79 carats). The Zone C parcel was too small for WWW to create modeled values, so an average price of US\$123 per carat was reported. It is not yet possible to report an average modeled value for the composite Kelvin kimberlite due to the small size of the Zone C parcel.

While the large bulk sample was from the south lobe of the Kelvin pipe, a 19 tonne mini-bulk sample was also collected from the north lobe of Kelvin during 2014 that returned a sample grade of 2.59 carats per tonne.

In addition to the bulk sampling program, an extensive drilling campaign was undertaken for a planned 20,000 metres of core. This involved the mobilization of a fourth large drill rig to assist with delineation of the north lobe of the Kelvin kimberlite and Faraday.

By the end of 2015, more than 33,400 metres had been drilled (December 1, 2015) with approximately 12,600 metres of core drilling completed at the Kelvin pipe, 1,400 metres at the Kelvin sheet, 10,700 metres at Faraday 2 and 2,370 metres at Faraday 1.

A highlight from the fall definition drill program was the continuation of the Kelvin North kimberlite trending from north to northwest, extending 120 metres beyond the previous drilling to a total of over 720 metres. Another significant advance was the identification of the pipe-like bodies of Faraday 1 and Faraday 2 and extending the strike length of the latter to 390 metres. Both Kelvin and Faraday remain open along strike.

Drilling outside the Kelvin-Faraday corridor included 1300 metres of core targeting the MZ kimberlite and 940 metres from the Doyle kimberlite. The Doyle kimberlite is located approximately 20 kilometres southwest of Kelvin camp. The Doyle kimberlite has now been confirmed to be continuous to the northeast, beyond the previously defined two kilometre strike length, with an average thickness of two metres down dip for over one kilometre. Exploration drilling of the MZ kimberlite, approximately 25 kilometres west of the Kelvin camp, defined a strike length of approximately two kilometres and indicated a three-metre wide sheet dipping at approximately 15 degrees to the northeast (September 21, 2015).

As of December 17, 2015, a total of 14.7 tonnes of sample had been processed by caustic fusion from the Kelvin North Lobe which returned an average sample grade of 2.83 carats per tonne. This is comparable with the December 2014 North Lobe mini-bulk sample grade of 2.59 carats per tonne, processed by heavy media separation at SRC. Drilling contributes to diamond breakage and after the bulk sample, studies were conducted to factor breakage into the diamond price modelling.

Approximately 2.7 tonnes of kimberlite from the Kelvin North Lobe winter delineation drilling returned a sample grade of 2.74 carats per tonne for diamonds of commercial size (Table 10) , reported in June 2015.

**Table 10:** Kelvin North Lobe Winter 2015 caustic fusion diamond recovery results, June 22, 2015.

Sample Weight (dry tonnes)	Number and Weight of Diamonds According to Sieve Size Fraction (mm)													Total Diamonds	Carats (+0.85mm sieve size)
	+0.106	+0.150	+0.212	+0.300	+0.425	+0.600	+0.850	+1.180	+1.700	+2.360	+3.350	+4.750			
2.6874	3,312	2,098	1,208	751	435	245	133	53	21	9	1	0	8,266	7.37	

\*Sample grade of diamonds greater than 0.85mm: 2.74 carats per tonne

The three largest diamonds recovered from the Kelvin North Lobe Winter sample are described as: 0.47 carat off-white, transparent fragment with inclusions; 0.39 carat off-white, transparent, broken tetra-hexahedron with inclusions; and 0.25 carat white/colorless, transparent, broken macle with minor inclusions.

A total of 662 individual diamonds from the above sample were described by SRC. Ninety-five percent are described as either white/colorless (36%) or as off white (59%). Of the remaining five percent, fourteen diamonds are described as yellow, twelve as brown, and only four as gray.

Highlights from the spring diamond recovery results are presented in Tables 11, 12 and 13. Sample grades from the commercial fraction ranged from 2.53 carats per tonne from a 0.97 tonne sample to a 3.40 carats per tonne grade from a 2.67 tonne sample. The best two diamonds

reported in the October and November batches were 0.23 and 0.21 carats, respectively; both off-white, transparent fragments with inclusions. A 0.17 carat octahedral diamond, off-white with no inclusions, was recovered from the October batch. Diamonds recovered from the December sample included a 0.74 carat off-white, transparent broken aggregate with inclusions, a 0.63 carat brown, transparent octahedral with no inclusions and a 0.45 carat off-white, transparent broken dodecahedral with minor inclusions.

**Table 11:** Kelvin North Lobe Spring 2015 caustic fusion diamond recovery results, October 5, 2015.

Sample Weight (dry tonnes)	Number of Diamonds According to Sieve Size Fraction (mm)												Total diamonds	Carats (+0.85mm sieve size)
	+0.106 -0.150	+0.150 -0.212	+0.212 -0.300	+0.300 -0.425	+0.425 -0.600	+0.600 -0.850	+0.850 -1.180	+1.180 -1.700	+1.700 -2.360	+2.360 -3.350	+3.350 -4.750	+4.750 0		
<b>2.416</b>	<b>2,348</b>	<b>1,632</b>	<b>1,034</b>	<b>639</b>	<b>397</b>	<b>209</b>	<b>113</b>	<b>53</b>	<b>24</b>	<b>6</b>	<b>0</b>	<b>6,455</b>	<b>6.29</b>	

\*Sample grade of diamonds greater than 0.85mm: 2.60 carats per tonne

**Table 12:** Kelvin North Lobe Spring 2015 caustic fusion diamond recovery results, November 19, 2015.

Sample Weight (dry tonnes)	Number of Diamonds According to Sieve Size Fraction (mm)												Total Diamonds	Carats (+0.85mm sieve size)
	+0.106 -0.150	+0.150 -0.212	+0.212 -0.300	+0.300 -0.425	+0.425 -0.600	+0.600 -0.850	+0.850 -1.180	+1.180 -1.700	+1.700 -2.360	+2.360 -3.350	+3.350 -4.750	+4.750 0		
<b>0.97</b>	<b>1,223</b>	<b>801</b>	<b>463</b>	<b>266</b>	<b>147</b>	<b>78</b>	<b>44</b>	<b>22</b>	<b>8</b>	<b>2</b>	<b>0</b>	<b>0</b>	<b>3,054</b>	<b>3.29</b>

\*Sample grade of diamonds greater than 0.85mm: 2.53 carats per tonne

**Table 13:** Kelvin North Lobe Spring 2015 caustic fusion diamond recovery results, December 7, 2015.

Sample Weight (dry tonnes)	Number of Diamonds According to Sieve Size Fraction (mm)												Total Diamonds	Carats (+0.85mm sieve size)
	+0.106 -0.150	+0.150 -0.212	+0.212 -0.300	+0.300 -0.425	+0.425 -0.600	+0.600 -0.850	+0.850 -1.180	+1.180 -1.700	+1.700 -2.360	+2.360 -3.350	+3.350 -4.750	+4.750 0		
<b>2.674</b>	<b>2,608</b>	<b>1,811</b>	<b>1,09</b>	<b>719</b>	<b>421</b>	<b>259</b>	<b>125</b>	<b>53</b>	<b>21</b>	<b>8</b>	<b>3</b>	<b>0</b>	<b>7,124</b>	<b>9.1039</b>

\*Sample grade of diamonds greater than 0.85mm: 3.40 carats per tonne

Descriptions of the three largest diamonds from the Kelvin North Lobe Summer sample (Table 14) are: a 0.67 carat off-white, transparent octahedron with minor inclusions; a 0.23 carat off-white, transparent broken octahedron with inclusions; and a 0.15 carat white/colourless, transparent fragment with minor inclusions.

**Table 14:** Kelvin North Lobe Summer 2015 caustic fusion diamond recovery results, December 17, 2015.

Sample Weight (dry tonnes)	Number of Diamonds According to Sieve Size Fraction (mm)												Total Diamonds	Carats (+0.85mm sieve size)
	+0.106 -0.150	+0.150 -0.212	+0.212 -0.300	+0.300 -0.425	+0.425 -0.600	+0.600 -0.850	+0.850 -1.180	+1.180 -1.700	+1.700 -2.360	+2.360 -3.350	+3.350 -4.750	+4.750 0		
<b>0.9263</b>	<b>1,375</b>	<b>927</b>	<b>568</b>	<b>363</b>	<b>181</b>	<b>110</b>	<b>56</b>	<b>29</b>	<b>9</b>	<b>1</b>	<b>1</b>	<b>0</b>	<b>3,620</b>	<b>3.29</b>

\*Sample grade of diamonds greater than 0.85mm: 3.55 carats per tonne

Isolated anomalies drilled at Faraday Lake with kimberlite intersections were interpreted as two discrete pipes, Faraday 1 and Faraday 2. The model used to follow the trace of the Faraday 1 kimberlite from southwest to northeast was initially thought to be a sheet-like body. However, results from spring drilling indicated that the geometry was of a pipe-like body with a strike length of 120 metres. Ground geophysics conducted at Faraday has identified anomalies suggesting it is comparable in size to the main Kelvin kimberlite. Drilling at the Faraday 2 kimberlite focused on delineating the lower portions of the pipe. Delineation drilling of Faraday 2 has shown a strike length of 240 metres over a trend from where it outcrops at surface in the southeast to the northwest where it is intersected at depths below 100 metres and then trends to the west for a delineated total strike length of approximately 390 metres (February 16, 2016).

A macro diamond was found while logging core from Faraday 2 on July 15, 2015. About a week later another macro diamond, with dimensions of approximately 2mm by 3mm, was found in Kelvin drill core Hole 047. The first macro diamond was found in August 2014 in Kelvin drill core. It was a 0.94 carat diamond described as a white/colourless octahedral twin with etched trigons.

Diamond recovery by caustic fusion from a 0.225 tonne Faraday 1 sample (Table 15) returned a grade of 3.07 carats per tonne of commercial sized diamonds (January 2016). The three largest diamonds recovered from Faraday 1 include a 0.17 carat off-white, transparent octahedron with no inclusions; a 0.12 carat off-white, transparent tetra hexahedron with no inclusions; and a 0.11 carat off-white, transparent broken octahedron with no inclusions.

**Table 15:** Faraday 1- 2015 Diamond recovery results, January 25, 2016.

Sample Weight (dry tonnes)	Number and Weight of Diamonds According to Sieve Size Fraction (mm)												Total diamonds	Carats (+0.85mm sieve size)
	+0.106 -0.150	+0.150 -0.212	+0.212 -0.300	+0.300 -0.425	+0.425 -0.600	+0.600 -0.850	+0.850 -1.180	+1.180 -1.700	+1.700 -2.360	+2.360 -3.350	+3.350 -4.750	+4.750		
<b>0.225</b>	<b>368</b>	<b>239</b>	<b>119</b>	<b>67</b>	<b>41</b>	<b>21</b>	<b>12</b>	<b>8</b>	<b>2</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>877</b>	<b>0.6921</b>

\*Sample grade of diamonds greater than 0.85mm: 3.07 carats per tonne

The following tables give diamond recovery results for Faraday 2.

**Table 16:** Faraday 2 Southeast Lobe Spring 2015 caustic fusion diamond recovery results, July 15, 2015.

Sample Weight (dry tonnes)	Number and Weight of Diamonds According to Sieve Size Fraction (mm)												Total diamonds	Carats (+0.85mm sieve size)
	+0.106 -0.150	+0.150 -0.212	+0.212 -0.300	+0.300 -0.425	+0.425 -0.600	+0.600 -0.850	+0.850 -1.180	+1.180 -1.700	+1.700 -2.360	+2.360 -3.350	+3.350 -4.750	+4.750		
<b>0.933</b>	<b>1,275</b>	<b>872</b>	<b>488</b>	<b>283</b>	<b>179</b>	<b>99</b>	<b>48</b>	<b>16</b>	<b>3</b>	<b>3</b>	<b>0</b>	<b>0</b>	<b>3,266</b>	<b>1.81</b>

\*Sample grade of diamonds greater than 0.85mm: 1.93 carats per tonne

The 0.93 tonne sample returned a grade of 1.93 carats per tonne. A total of 247 individual diamonds were described with 93% as transparent, of which 37% were white/colorless and 56% were off-white. The remaining seven percent includes ten diamonds described as yellow, six as brown, and two as gray.

**Table 17:** Faraday 2 diamond recovery results, January 25, 2016.

Sample Weight (dry tonnes)	Number and Weight of Diamonds According to Sieve Size Fraction (mm)												Total diamonds	Carats (+0.85mm sieve size)
	+0.106 -0.150	+0.150 -0.212	+0.212 -0.300	+0.300 -0.425	+0.425 -0.600	+0.600 -0.850	+0.850 -1.180	+1.180 -1.700	+1.700 -2.360	+2.360 -3.350	+3.350 -4.750	+4.750		
<b>1.53</b>	<b>2,064</b>	<b>1,353</b>	<b>794</b>	<b>492</b>	<b>241</b>	<b>159</b>	<b>72</b>	<b>33</b>	<b>9</b>	<b>9</b>	<b>2</b>	<b>0</b>	<b>5,228</b>	<b>6.8513</b>

\*Sample grade of diamonds greater than 0.85mm: 4.48 carats per tonne

A 1.53 tonne 2015 drill core sample recovered from Faraday 2 and processed by caustic fusion returned a grade of 4.48 carats per tonne of commercial size diamonds. It is the highest “commercial-sized” sample grade to date from the Kennady North project.

The three largest diamonds recovered from the Faraday 2 sample are described as: 1.43 carat off-white, transparent tetra hexahedron with no inclusions; 1.02 carat off-white, transparent broken aggregate with inclusions; and 0.28 carat off-white, transparent dodecahedron with inclusions.

**Table 18:** Faraday 2 diamond recovery results, February 16, 2016

Sample Weight (dry tonnes)	Number and Weight of Diamonds According to Sieve Size Fraction (mm)												Total diamonds	Carats (+0.85mm sieve size)
	+0.106 -0.150	+0.150 -0.212	+0.212 -0.300	+0.300 -0.425	+0.425 -0.600	+0.600 -0.850	+0.850 -1.180	+1.180 -1.700	+1.700 -2.360	+2.360 -3.350	+3.350 -4.750	+4.750		
<b>6.4277</b>	<b>5,689</b>	<b>3,670</b>	<b>2,192</b>	<b>1,320</b>	<b>831</b>	<b>679</b>	<b>290</b>	<b>125</b>	<b>40</b>	<b>23</b>	<b>4</b>	<b>0</b>	<b>14,863</b>	<b>19.5293</b>

\* Sample grade of diamonds greater than 0.85mm:3.04 carats per tonne

The three largest diamonds recovered from the last batch are described as off-white, transparent diamonds including a 1.43 carat tetrahedron with no inclusions; a 1.02 carat broken aggregate with inclusions; and a 0.46 fragment with inclusions.

Additional samples consisting of 4.15 tonnes of kimberlite from Faraday 2; 0.55 tonnes from Faraday 1 and 0.12 tonnes from MZ have been delivered to SRC for diamond recovery results (January 25, 2016). Preparations for a 500 tonne bulk sample from the Kelvin North Lobe and the first National Instrument 43-101 resource estimate were underway by the end of 2015. The NI 43-101 resource estimate is expected in the first quarter of 2016.

During 2014, **Margaret Lake Diamonds Inc.** (formerly **JDV Capital Corp.**) announced an option agreement with **Harsbo Minerals Ltd.** to acquire up to a 70% interest in the 19 mineral claims (19,716 hectares) of the Margaret Lake property. In 2015, having reached a 60% interest, Margaret Lake Diamonds opted to acquire the remaining 40% of the Margaret Lake property such that there were no ongoing work obligations and no royalties payable. The claims, located 300 kilometres east-northeast of Yellowknife, are contiguous with the Kennady North Project held by Kennady Diamonds. An airborne gravity gradiometer survey with the Falcon System incorporating gravity and magnetics was completed in 2014. A bathymetric analysis was also undertaken to compliment the airborne gravity data for lakes. The modeling results announced in 2015 defined twelve drill targets, eleven of which are gravity-derived and within lakes. One target is based on magnetics alone. A till sampling program of 160 samples was conducted but

probe results have not been released. A Type 'A' Land Use Permit was also received from the Mackenzie Valley Land and Water Board.

**North Arrow Minerals Inc.** entered into an option agreement to earn a 55% interest in the Redemption Property during 2014. **Arctic Star Exploration Corp.** initially staked 12 claims in 2012 to form the Redemption Property and acquired four mineral leases in February 2013 from **GGL Resources Corp.** for a total of 11,500 contiguous hectares located south of Lac de Gras, 32 kilometres southwest of the Ekati Mine. Ground magnetic surveys were completed in May on 14 separate grids totalling 69 line kilometres. These grids were designed to test 25 targets. A detailed evaluation of the surficial geology and interpretation the South Coppermine KIM train was initiated with a desktop evaluation of available air photo and satellite imagery followed by a seven-day field program to check the interpretations.

**Proxima Diamonds Corp.**, a wholly-owned subsidiary of **Adent Capital Corp.**, holds 17 prospects consisting of 67 claims (90,000 hectares). Proxima conducted a work program during 2014 consisting of 79 till samples, geological mapping and prospecting, and relocation of historic diamond drill holes and geophysical survey grids. The till samples were analyzed by the Geoanalytical Laboratories Diamond Services, Saskatchewan Research Council. The results were reported in 2015 and include:

- At the Nassak Property south of the Diavik Mine leases, sampling has defined a cutoff of a KIM train in the historic data consisting of olivine, chromite, chrome- diopside, and eclogitic garnet grains.
- At the Koh-i-Noor Property east of MacKay Lake, the sampling demonstrated the up-ice limit of a KIM train originally identified in historic data and defined by olivine, ilmenite, and eclogitic garnet grains.
- At the Tavernier Property centred on an isolated historic KIM train north of the main Gahcho Kué / Kennady Lake KIM train, the sampling confirmed results reported by Winspear in 1997 at one locality but additional sampling will be required to determine if the mineral chemistry is favourable for diamondiferous kimberlite.
- At the Orlov Property east of the Snap Lake Mine, all samples from an area north of the CL-25 KIM train returned pyrope garnets.

At the Sancy Property north of the Ekati Mine leases, total magnetic field, gravity, and capacitively-coupled resistivity OhmMapper surveys were conducted in March to map the limits of the T-10 kimberlite pipe. An 800 by 800 metre grid demonstrated that the response over the T-10 pipe consists of a strong magnetic field low with a coincident moderate Bouguer gravity low and a slightly offset electrical resistivity low. There is a second larger and more intense Bouguer anomaly low located 350 metres northwest of the T-10 Pipe with a weak coincident electrical resistivity low and no coincident magnetic field signature (anomaly T10 NW). T10 NW is comparable to A418 at Diavik in that it has no distinct magnetic signature but is detectible with other geophysical methods.

A four-week summer field program conducted by Aurora Geosciences focussed on kimberlite indicator mineral (KIM) sampling on seven of the properties. A total of 111 till and esker samples were collected and subsequently submitted to Saskatchewan Research Council's Geoanalytical Laboratory for processing and analysis (December 14, 2015). Forty-five KIM samples were collected at four properties of the South Slave District to provide better detail on indicator mineral trains including: distinct mineral trains at Tavernier and Hortensia with no apparent source; a KIM train on the Eureka property embedded in a train from CL-25 kimberlite; and garnets at Orlov from an esker that originates between Munn Lake and CL-25 kimberlites. Another 66 KIM samples were collected by Proxima from three properties of the Central Slave District: Nassak, Ashburg and Sancy. Sampling at Nassak concentrated on delineating the source areas of three distinct KIM trains. At Ashburg, sampling was focussed on resolving two KIM trains near the historic PL-01 kimberlite that suggest a nearby kimberlite. Sampling on Sancy was focussed on resolving the olivine-rich KIM train that terminates approximately three kilometres northeast of T-10 kimberlite. Field investigations at Sancy confirmed the presence of glacial till cover over the T-10 NW geophysical anomaly.

Proxima is planning to conduct geophysical surveys on its Cullinan and Nassak properties in early 2016.

Table 19 provides an overall summary of diamond exploration work in the NWT in 2015.

**Table 19:** Summary of NWT diamond exploration during 2015.

Operator/Partners	Property	Drilling	Airborne and Ground Geophysics	Sampling and Other Work	Studies and Permitting Updates
Arctic Star Expl. Corp	T-Rex, Triceratops			Staking	
De Beers Canada Inc. (51%) / Mountain Province Diamonds Inc. (49%)	Gahcho Kué			Mine Construction 70% Complete	
Canterra Minerals	King, Hilltop, Prism, Gwen, Rex		Hilltop: OhmMapper Grid	204 Till samples	MIP Funding
Kennady Diamonds Inc.	Kelvin, Faraday, MZ, Doyle	33,400 m of drilling: 12,700 m at Kelvin; 1,400 m Kelvin sheet; 10,700 m at Faraday 2; 2,379 m at Faraday 1; 1,399 m at MZ; 940 m at Doyle	Ground geophysics	443 tonne Bulk sample completed on Kelvin SE, 7 other smaller bulk samples submitted. 14.7 tonnes processed by caustic fusion on Kelvin North	
Margaret Lake Diamonds Inc.	Margaret Lake			Till Sampling :160 samples	Type A Land use permit
North Arrow Minerals (55%) /Arctic Star Expl. Corp.	Redemption		14 Grid Mag survey grids; 69 line- km		
Proxima Diamonds Corp	Northern Gem 17 properties (2015 work on 7)		Sancy Ground geophysics: Mag, Grav, OhmMapper	111 till and esker samples	MIP funding,

grav – gravity, ddh – diamond drill hole, Mag – magnetic, EM – electromagnetic, grd – ground

## ***Metal Exploration***

The locations of metal exploration programs are shown in Figure 2 (page 11).

**Avalon Rare Metals Inc.**'s Nechalacho Rare Earth Elements project is located on the north shore of Great Slave Lake approximately 100 kilometres southeast of Yellowknife. During 2013, a positive feasibility study was released and a Report of Environmental Assessment was approved. A preliminary site preparation water license and land use permit has been issued which provides approval for initial site preparation work at Nechalacho.

During 2015, activities at the Nechalacho site were curtailed following the substantial completion of the metallurgical testing programs during the summer of 2014 and other technical studies in October 2014. An integrated pilot plant campaign is planned to fully evaluate process performance, particularly with the incorporation of the acid recovery circuit(s) and associated recycle streams. This pilot plant will include all unit operations from crushing of ore to generation of a mixed rare earth precipitate. The total bulk sample of ore now on hand to feed this pilot plant, approximately eight tonnes, is being stored both in Yellowknife and Lakefield, Ontario. Currently, bench-scale 'pre-pilot' definition work is being carried out to better define certain key operating parameters around the impurity removal and zircon recovery circuits.

Avalon released a revised estimate of Measured Mineral Resources (August 15, 2013) with a base case of 12.56 million tonnes averaging 1.71% total rare earth oxides (TREO), 0.38% heavy rare earth oxides (HREO), and 22.5% heavy rare earth oxides/total rare earth oxides (HREO/TREO). The revision used an increased cut-off grade expressed as a net metallurgical return of US\$345 per tonne.

**Canadian Zinc Corp.** continued efforts to develop the Prairie Creek zinc-lead-silver project. The project is located 180 kilometres west of Fort Simpson, NWT, in Nahanni National Park Reserve.

In March 2015, a revised Mineral Resource estimate for the Prairie Creek project was released. It demonstrated an overall increase in the tonnage of measured and indicated resources. The new resource estimate was based on a newly constructed, revised, and more detailed geological wireframe block model of the mineralized system for inclusion in the new mine plan. The revision also included drilling and underground sampling not included in previous estimates.

The Total Measured and Indicated Resource tonnages increased to 6.5 million tonnes at combined grade of approximately 20% Pb and Zn with approximately 150 g/t Ag. Total Inferred Resource tonnages increased to 7.1 million tonnes grading 9.6% Pb, 11.7% Zn, and 177 g/t Ag.

Commencing in the fall of 2014 and continuing to July 2015, an underground exploration diamond drilling program was undertaken at the Prairie Creek Mine. Procon Mining and Tunnelling and DMAC Drilling Ltd. completed 5,484 metres of diamond drill coring in 21 drill holes set up from three underground drill stations located 50 metres apart on the decline from the end of the 870 metre level.

A previously unknown quartz vein fault structure was discovered in the footwall of the Main Quartz Vein (MQV). This second vein system was intersected in five holes and appears to define a structural transition zone offsetting the strike trend of the upper part of the MQV.

Hole PCU-15-65 initially intersected 1.2 metres of MQV grading 4.9% Pb, 22.7% Zn, and 164 g/t Ag. It then encountered multiple intercepts of Stockwork (STK) mineralization, one of which graded 24.7% Pb, 32.7% Zn, and 311 g/t Ag across 2.4 metres. The hole finally intersected the newly-recognized quartz vein system grading 4.6% Pb, 13.8% Zn, and 92 g/t Ag which has a 2.9 metre true width.

Hole PCU-15-72, the most northern hole, encountered 7.5 metres of MQV mineralization including 17.8% Pb, 33.7% Zn, and 247 g/t Ag and an intersection grading 6.9% Pb, 12.0% Zn, and 116 g/t Ag over 24.5 metres of true width of STK mineralization. The intersection of the second quartz vein system graded 5.6% Pb, 3.8% Zn, and 88 g/t Ag over 4.5 metres.

Numerous holes intersected extensions to the previously known STK zone, which occurs mostly outside but adjacent to the calculated Indicated Resource. The mineralization remains open to the north. Additional work included detailed chip sampling of the Northwest Drift in the 870 metre workings. This sampling returned composite grades of 5.6% Pb, 14.2% Zn, and 119 g/t Ag across a true width of 4.4 metres over a strike length of 71.8 metres.

The new drill results prompted a recalculation of the Mineral Resource estimate which was released in September. Table 20 shows revision of the resource by category and mineralization style.

The September 2015 Total Measured and Indicated Mineral Resource tonnages for the Prairie Creek Mine increased to 8.7 million tonnes from 6.6 million tonnes. Elements that were improved include: an increase in the Main Quartz Vein Indicated Mineral Resource tonnage to 4.2 Mt grading 11.6% Pb, 9.2% Zn, and 168 g/t Ag; an increase in Stockwork Indicated Mineral Resource to 2.0 Mt grading 3.5% Pb, 6.6% Zn, and 61 g/t Ag; and a new Measured Mineral Resource of 169,000 tonnes of Stockwork mineralization has now been defined grading 5.3% Pb, 12.6% Zn, and 116 g/t Ag.

Total Inferred Resource tonnage remains unchanged with an increase in Stockwork replacing upgraded Main Quartz Vein resources. Stockwork Inferred Mineral Resource tonnage increased to 1.6 Mt grading 4.6% Pb, 6.2% Zn, 70 g/t Ag; and Inferred Main Quartz Vein tonnes decreased to 5.3 Mt grading 8.7% Pb, 12.9% Zn, 199 g/t Ag as the confidence increased.

In 2013, Canadian Zinc Corp. was granted all the necessary permits and licences to allow for construction, development, and operation of both the Prairie Creek Mine and the entire 184 kilometre-long access road that connects the mine to the Liard Highway. During 2014, applications were submitted to the Mackenzie Valley Land and Water Board and to Parks Canada for Land Use Permits to upgrade the winter access road to an all-season road. In April 2015, Canadian Zinc submitted its Developer's Assessment Report (DAR) to the Mackenzie Valley Review Board. This regulatory board has completed a preliminary review of the DAR and Canadian Zinc is currently working on providing requested supplementary information.

**Table 20:** Mineral Resource estimate for the Prairie Creek Mine by style and classification, as of September 2015.

MINERAL RESOURCE ESTIMATE BY STYLE AND CLASSIFICATION								
	TONNES	MARCH 2015			TONNES	SEPTEMBER 2015		
		Pb (%)	Zn (%)	Ag (g/t)		Pb (%)	Zn (%)	Ag (g/t)
<b>MQV</b>								
Measured	1,279,000	11.6	13.2	211	1,313,000	11.5	13.2	211
Indicated	2,850,000	12.8	10.2	193	4,227,000	11.6	9.2	168
Inferred	6,132,000	10.4	12.6	194	5,269,000	8.7	12.9	199
<b>STK</b>								
Measured	0	0.0	0.0	0	169,000	5.3	12.6	116
Indicated	1,400,000	4.0	7.1	63	1,953,000	3.5	6.6	61
Inferred	790,000	4.0	4.7	61	1,610,000	4.6	6.2	70
<b>SMS</b>								
Measured	0	0.0	0.0	0	0	0.0	0.0	0
Indicated	1,060,000	5.4	10.8	55	1,042,000	5.2	10.8	54
Inferred	156,000	6.6	11.0	63	170,000	6.3	11.2	60
MINERAL RESOURCE ESTIMATE BY CLASSIFICATION								
<b>MQV + STK + SMS</b>								
Measured (M)	1,279,000	13.2	11.6	211	1,482,000	10.8	13.2	200
Indicated (I)	5,309,000	9.5	9.0	131	7,222,000	8.5	8.7	123
M+I	6,588,000	10.2	9.5	147	8,704,000	8.9	9.5	136
Inferred	7,078,000	11.7	9.6	177	7,049,000	7.7	11.3	166

Table 20 Notes: Estimated at a cut-off grade of 8% Zn-Eq based on prices of US\$1.00/lb for both zinc and lead and US\$20/oz for silver, with average processing recovery factors of 78% for Zn, 89% for Pb and 93% for Ag, and average payables of 85% for Zn, 95% for Pb, and 81% for Ag, at an exchange rate \$1CD = \$1USD.

In June 2015, the Mackenzie Valley Land and Water Board approved an application to hold in abeyance the Type “A” Water Licence until more certainty develops around the actual commencement of the construction and the mine development schedule.

**Denendeh Exploration and Mining Company (DEMCo)**, a subsidiary of **Denendeh Investments Inc.**, acquired four properties in the Camsell River area from Fortune Minerals Inc., North Continental Energy Ltd., United Coal, and Michael Magrum.

The Camsell River area is a former silver mining district located south of Great Bear Lake that also hosts iron oxide-copper-gold (IOCG) type deposits. Silver mining was conducted in this region until 1985 and included the past-producing Silver Bear (Terra), Norex, and Northrim mines. DEMCo’s most recent land acquisition is a federal lease positioned between the Norex and Northrim mines that is located along strike from high-grade silver veins. The current property consists of 12 mineral claims totaling 8,114 hectares, part of which is located on federally-maintained lands.

DEMCo has not carried out any drilling but has recovered thousands of metres of core drilled by Terra Mining between 1980 and 1983. Disseminated sulphide mineralization was not sampled

during original logging, with interesting mineralized intersections remaining in the core, especially from the Smallwood Mine area. This is likely due to the fact that these drill holes targeted silver-bearing veins. However the sulphide intersections suggest evidence of a broader mineralized halo that could be conducive to bulk mining methods. Recovery of historic drill core is still ongoing with plans to continue this program.

During 2015, DEMCo carried out channel sampling on two mineralized zones near the Smallwood Mine. These had been previously stripped of overburden and were amenable to this type of sampling. The following table gives the highlights of this sampling. Copper, gold, silver, lead, and zinc contents have been converted to a “copper equivalent grade” using September 2015 metal prices.

**Table 21:** Channel Sampling Results, Camsell River

Stripped Area Channel	Length (m)	Au (g/t)	Cu (%)	Ag (g/t)	Pb (%)	Zn (%)	Cu Eq. (%)
<b>Strip SW1</b>							
Channels SW1-1 to SW1-3	23.73	0.15	0.51	3.4	0.03	0.06	0.68% Cu eq
including	2.06	0.19	1.61	22.4	0.33	0.55	2.23% Cu eq
and	4.12	0.22	1	1	nil	0.01	1.17% Cu eq
Channels SW1-6 to SW1-8	6.12	0.047	0.26	6.2	0.08	0.37	0.49% Cu eq
<b>Strip SW2</b>							
Channel SW2-1	19.32	0.139	0.41	1.4	0.01	0.03	0.54% Cu eq
including	12.68	0.192	0.54	1.6	0	0.01	0.69% Cu eq
Channel SW2-2	15.1	0.029	0.18	2.3	0.05	0.12	0.28% Cu eq

DEMCo also conducted a prospecting program over large parts of the property. Among their discoveries was the Arden Zone of altered magnetite-rich rocks containing variable amounts of fine-grained sulphide mineralization, traced for roughly 430 metres along a string of outcrops. Assay data for 30 grab samples from this zone provide mean analyses of 0.68g/t Au, 1.88 g/t Ag, 0.53% Cu, 0.016% Pb, and 0.051% Zn (copper equivalent of 0.98% Cu). Two high gold values were returned from the west end of the Arden Zone - 4.13g/t from a sample collected in 2014 and 6.6 g/t from a sample collected in 2015.

**Fortune Minerals Ltd.** continued efforts to bring the NICO deposit to production. NICO is an IOCG deposit located in the southern Bear Province approximately 160 kilometres northwest of Yellowknife. Ore is hosted in three stratabound lenses of brecciated ironstone up to 1.3 kilometres in length and 550 metres in width, with individual lenses up to 70 metres thick that dip 40 to 50 degrees.

In support of permitting and financing initiatives for NICO, Fortune continued to hold meetings and discussions with representatives from the Tłı̨ch̨o communities and Tłı̨ch̨o Government to achieve an Access Agreement and Impact and Benefit Agreement. Discussions were also held with the GNWT in relation to a socio-economic agreement and funding for the all-weather access road, which is critical in determining the construction schedule for the project.

P & E Mining Consultants Inc. (2012) completed a resource calculation of Proven and Probable Mineral Reserves, which was updated by Fortune Minerals in May 2014 for a feasibility study.

The calculation identified Proven and Probable Reserves of 33.0 million tonnes averaging 1.03g/t Au, 0.11% Co, 0.14% Bi, and 0.04% Cu. The feasibility study completed by Micon International Ltd. is based on an open pit mine producing 4,650 tonnes of ore per day, for 20 years. A small underground mine is planned to operate during the first two years of mine life to augment the production with 1,544 tonnes of high-grade ore per day. The processing plant will have a throughput capacity of 1.7 million tonnes of ore per year, utilizing conventional crushing, grinding, and flotation processes to produce approximately 54,500 tonnes per year of a bulk sulphide concentrate. Fortune plans to mine and process 33.1 million tonnes of ore, and to produce 25,300 kilograms of gold, 31 million kilograms of cobalt, 34 million kilograms of bismuth, and 5 million kilograms of copper.

**New Discovery Mines Ltd.** received a land use permit in June 2014 for advanced exploration and to open the northern adit and access the underground ramp at the former Mon Gold Mine. The Mon Mine, located 50 kilometres north of Yellowknife, last produced from 1989 to 1997 and was successfully reclaimed. Additional applications for a revised land use permit for a >100 tonne per day mill and a water licence were submitted during 2015 and approved in October of that year.

Historically, approximately 79 kilograms of gold was produced from 4,106 tonnes of ore, milled on site. Gold is hosted in quartz veins lying near the contact between a mixed sedimentary/volcanic sequence and thick gabbroic sills. The vein system has been traced approximately 210 metres along strike and to depths generally less than 50 metres. Gold grades are erratic but appear to be proportional to the sparse sulphide content of the veins.

**Dave Nickerson** conducted channel sampling and a series of short diamond drill holes on his AYE 1 and Handle 1 claims adjacent to the former Giant Gold Mine in Yellowknife. Blasting and brush clearing in connection with the construction of the new Giant by-pass road in 2013-2014 greatly increased access, and the exposure of the AYE quartz vein can now be easily traced for 300 metres, with an average width of about 0.5 metres. Based on the 2014 sampling work, an ore shoot with a length of 20 metres and an average width of 0.5 metres can be defined. The quartz vein grades 22.4 g/t Au over this interval. Sample collected during the summer were shipped to ALS for geochemical analyses. Results are pending.

The Number 9 vein on the Handle 1 claim near Handle Lake was explored by 28 longitudinal trenches, each one metre in length, and six short diamond drill holes. A small bulk sample was collected during 2015. The composite value for the surface ore shoot (10 metres long and averaging 0.3 metres wide) has been upgraded and revised estimates are that it contains 50.7 g/t Au.

**Nighthawk Gold Corp.** continued exploration of their Indin Lake property, located 210 kilometres north of Yellowknife. The large land package (92,993 hectares) covers a number of gold deposits including the historic Colomac Mine, which produced 527,908 ounces (16,419 kilograms) of gold during the 1990s. The Colomac portion of the larger Indin Lake property

hosts five known gold deposits – Colomac Main, Grizzly Bear, Goldcrest, Dyke Lake, and 24/27 – of which only the Colomac Main deposit was mined.

Nighthawk drilled 2,080 metres this past summer to expand the resources of Colomac Main Zone 1.5 from the Colomac pit area. This work followed up on their 2014 results from the mineralized Colomac Sill to the north, as well as tested Zone 1.0 for high grade mineralization to the north of Zone 1.5. In 2014, Nighthawk intersected 52.5 metres averaging 7.78 g/t Au from hole C14-06. In 2015, the best intersection was 32.95 metres averaging 4.19 g/t gold including 12.33 metres of 7.77 g/t gold, from hole C15-04B, at Zone 1.5 (October 26, 2015).

Colomac Main Zone 1.5 was tested with 5 drill holes, including drill hole C15-04B mentioned above, and expanded the high grade gold zone to 60 metres and to a vertical depth of 175 metres. Other highlights include:

- Hole C15-05B intersected 10.35 metres of 2.63 g/t gold and 21.5 metres of 2.3 g/t gold including 5.25 metres of 6.91 g/t gold, and
- Hole C15-06 intersected 341.20 metres of 3.89 g/t gold, including 22.50 metres of 5.03 g/t gold.

Results from three shallow test drill holes of the Colomac Main Zone 1.0, two kilometres north of Zone 1.5 along the trend of the intrusion, intersected significant gold mineralization over a strike of 60 metres and to depths less than 150 metres.

- C15-03 intersected 43.1 metres of 1.13 g/t gold, including 8.45m of 2.23g/t gold and 4.55 metres of 3.67 g/t gold.

The Colomac Sill, host to the Colomac deposits, occurs near the east side of an intrusive complex in contact with, or near to, andesitic volcanic rocks. The intrusion consists mainly of a medium-grained quartz diorite/quartz gabbro (dioritic to trondhjemitic). Where drill-tested along a strike length of about six kilometres, the Colomac Sill ranges from 40 to 200 metres in width, with an average width of 100 metres. The quartz diorite portion of the Colomac Sill ranges from 9-60 metres in width (average 30 metres). The sill is oriented 010/80° in the north and 023/80° in the south and shows evidence of brittle deformation to produce fracture stockworks and auriferous quartz-vein zones that are highly altered and carbonatized. It does not have a strong tectonic fabric.

ACA Howe International Ltd. updated a resource estimate for Colomac in June, 2013. The estimate is 39.8 million tonnes with an average grade of 1.67 g/t Au for 65,000 kilograms (2.1 million ounces) of gold using a cut-off grade of 0.6 g/t. The resources included Colomac Dyke North, Colomac Dyke Central, Colomac Dyke South, Dyke Lake (Goldcrest North), Goldcrest, Grizzly Bear, and 24/27.

On December 29, 2015, Nighthawk Gold Corp. allowed its option for the Kim and Cass properties, including four contiguous mining leases, to expire in accordance with terms of the option agreement.

**Panarc Resources Ltd.** conducted geophysical surveys, geological mapping, sampling, and diamond drilling on their Up Town Gold project adjoining the Giant Mine property. Geophysical surveys, mapping, and prospecting were conducted on the Fox South Showing. Prospecting returned grab sample assays of up to 30.3 g/t Au. At the Rod Showing, three diamond drill holes were completed, extending the strike of mineralization north of the historic workings. In addition, the open pit was dewatered and the north end of the production pit was channel sampled. A 300 kg bulk sample was also collected for metallurgical tests.

**Seabridge Gold Inc.** maintained their Courageous Lake gold property located approximately 240 kilometres northeast of Yellowknife. The Courageous Lake property consists of 27,263 hectares covering a 53 kilometre length of the Courageous Lake greenstone belt. This belt hosts several past-producing gold deposits in a rhyolitic to dacitic dome complex including the FAT deposit which has been reported in July 2012 to have a Proven and Probable Reserve of 91.1 million tonnes at a diluted grade of 2.2 g/t Au.

Seabridge Gold focused its exploration efforts on the KSM property in northern British Columbia during 2015.

**Selwyn Chihong Mining Ltd.** continued its exploration of the Selwyn project. The project includes 15 zinc-lead deposits over a strike length of 37.5 kilometres. The bulk of the Selwyn project is located in eastern Yukon, but it extends southeastward into the NWT. The global Indicated Resource for 2012 was 185.57 million tonnes grading 5.2% Zn and 1.79% Pb for a metal content of 9.64 billion kilograms (21.26 billion pounds) of zinc and 3.31 billion kilograms (7.30 billion pounds) of lead. The Inferred Resource was 237.86 million tonnes grading 4.47% Zn and 1.38% Pb for a metal content of 10.63 billion kilograms (23.45 billion pounds) of zinc and 3.27 billion kilograms (7.22 billion pounds) of lead. Selwyn Chihong is continuing efforts to open a larger scale open-pit mine with a 35,000 tonne-per-day mill option. Six of the eight mineralized zones are being considered for open pit development.

Progress was delayed this summer while negotiations continued with local communities. In late September, negotiators appointed by Ross River Dena Council and Liard First Nation and representatives from Selwyn Chihong finished drafting the terms of a Socio-Economic Participation Agreement between the Kaska Nation and Selwyn Chihong.

Work continued on upgrading the Howard's Pass Road, a 90-kilometre long access road that links the Selwyn project to the Yukon road system. Work included grading and improving the ramps leading to a bridge at Steel Creek and bridges at other creek crossings.

**Songful Resources Ltd.** staked two gold properties in the Mackenzie Mountains during the spring of 2012. The DJ property, consisting of six claims (5,016 hectares), is situated 218 kilometres southwest of Norman Wells. The Hudex property, initially comprising 16 claims (13,377 hectares), is located 116 kilometres northwest of Norman Wells. The DJ property covers part of the Misty Creek Embayment along the eastern margin of the Selwyn Basin, a late Precambrian to Devonian depositional basin characterized by off-shelf deep water shale bounded by platform carbonates to the northeast. The Hudex property is underlain by Cretaceous sediments that have truncated the older Paleozoic sequence.

In 2015, a mapping and sampling program was undertaken over the DJ property. Results have not yet been published.

**TerraX Minerals Inc.** continued exploration on their expanded Yellowknife City Gold project. The 11,600 hectares property now consists of five claim groups (Northbelt, Goodwin, Walsh Lake, Ryan Lake, and U-Breccia) located immediately north of Yellowknife. TerraX has assembled a land package that covers the northern extensions and parts of the southern extension of the shear system that produced 15 million ounces of gold from the Con and Giant mines. An extensive prospecting and structural mapping program has identified multiple shear systems that host numerous gold showings but have seen limited historic drilling. In May, TerraX staked an additional claim and optioned another claim from local prospector Walt Humphries. The latter claim was added to the Walsh Lake property presently under option from Mr. Humphries.

In June, TerraX began fieldwork with the assistance of technical staff from **Osisko Gold Royalties Ltd.** The fieldwork focused on mapping structurally-controlled gold targets previously identified by geophysical and geological programs. Fieldwork also included an orientation geochemical exploration program and field checking of radiometric anomalies identified by TerraX's 2013 airborne geophysical program. A total of 501 grab samples and 60 channel and chip samples were collected from sampling and prospecting. Seven areas were channel or chip sampled. Highlights from summer surface work (reported January 05, 2016) include:

- A new gold occurrence (Pinto South) located in a vein approximately 200 metres southeast of the known Pinto Structure. Of significance, were three grab samples with greater than 30 g/t Au, including one sample with 108 g/t Au,
- Samples from the JED area where numerous quartz veins, west of the Barney Shear, returned assays up to 133.5 g/t Au,
- Samples of the Ryan Lake pluton returned polymetallic analyses of up to 12.35 g/t Au, 45 g/t Ag, 3.23% Pb, 1.31% Zn, and 0.53% Mo, and
- Shear 17/18 intersection revealed polymetallic veins similar to the Ryan Lake East area with values of up to 4.94g/t Au, 51.9 g/t Ag, 1.24 % Cu, and > 1.0 % Mo (over detection limits). This sampling expands the north and south extents of polymetallic mineralization associated with the Ryan Lake pluton.

In August 2015, TerraX announced results from a channel sampling program across a newly-identified zone of mineralization. The Hebert-Brent showing is located one kilometre south of

and along strike from the Barney Zone. Both are located within a newly-mapped deformation zone called the Barney Deformation Corridor.

Examination of the area adjacent to the Brent showing (44 g/t Au in a grab sample) identified outcrops of altered and sheared mafic volcanic rocks and felsic intrusions. Channel sampling across the strike of the zone returned assays averaging 7.55 g/t Au over 11.0 metres. A strike extension located approximately 75 metres south of the original channel samples, referred to as the Hebert-Brent South zone, returned 6.0 metres averaging 10.26 g/t Au. The Hebert-Brent East trench is 45 metres east and across strike from the original Hebert-Brent zone and returned 15.3 metres averaging 2.23 g/t Au, including 6.00 metres averaging 4.05 g/t Au.

Another six areas were channel or chip sampled. One area, 300 metres north of the Hebert-Brent, returned up to 9.67 g/t Au across one metre from a 5-20 centimetre wide north-south trending vein; and another area with two polymetallic quartz veins north of Shear 18 returned up to 0.56 g/t Au, 5 g/t Ag, and 0.44% Cu over 2 metres of chip sampling.

Additional mapping and sampling identified three new areas with similar structure, alteration and stratigraphy to the Hebert-Brent area. The Hebert-Brent southern fault offset was identified through structural interpretation and suggests that the southern extension of the stratigraphy is offset by approximately 500 metres northeast along the Daigle Lake Fault, a prominent feature extending through the Barney Deformation Corridor. Sampled mineralized structures contain anomalous antimony (up to 188 ppm) and arsenic and up to 19.7 g/t Au from grab samples. The 300 by 500 metre Sericite Zone, a target one kilometer southwest of Hebert-Brent, was also examined. Spatially extensive low level gold (up to 1.24g/t Au) with anomalous silver (up to 54 g/t Ag) and anomalous antimony (up to 708 ppm) define the zone. Mapping of the felsic strata of the Townsite Formation identified a promising zone of alteration. Grab samples of carbonate-sericite alteration returned up to 6.57 g/t Au, up to 1 % Cu, and up to 25 g/t Ag.

During 2015, diamond drilling was focused on defining the Crestaurum deposit for a mineral resource and more recently to test the Hebert-Brent zone. A total of 90 diamond drill holes (13,528 m) were completed, including 73 at Crestaurum, 11 at the Barney Zone and 6 into the Hebert-Brent zone.

A winter drill program completed by Foraco Canada Ltd. was successful at intersecting the higher grade portions of the Crestaurum (TCR) South Shoot and Barney (TBY) shear areas, extending mineralization along strike and down dip for both the Barney and Crestaurum structures. Highlights included:

- TCR15-003, 7.00 metres @ 10.23 g/t Au, inclusive of 2.97 metres @ 23.69 g/t Au.,
- TCR15-005, 8.00 metres @ 6.83 g/t Au, inclusive of 2.04 metres @ 23.89 g/t Au,
- TCR15-006, 15.50 metres @ 2.89 g/t Au, inclusive of 2.94 metres @ 13.28 g/t Au,
- TCR15-019, 5.00 metres @ 5.29 g/t Au, inclusive of 3.00 metres @ 7.98 g/t Au and
- TBY15-003, 15.00 metres @ 1.59 g/t Au, including 2.00 metres @ 4.85 g/t Au and 3.00 metres @ 3.56 g/t Au.

To prepare for the summer drill program, TerraX completed a road repair program on the 7-kilometre main access road that extends from the southern property boundary to the Crestaurum deposit. The work repaired rutting and culvert washouts that have accumulated over the 70-year life of this road.

The summer drilling program commenced in July 2015 to test the depth extension of the Hebert-Brent zone. Highlights reported November 18, 2015 from six holes drilled include:

- TNB15-024, 10.36 metres @ 3.61 g/t Au, including 2.95 metres @ 5.01 g/t Au and 2.58 metres @ 6.45 g/t Au, and
- TNB15-025, 6.70 metres @ 2.70 g/t Au, including 2.00 metres @ 8.77 g/t Au.

A total of 41 drill holes were completed at the Crestaurum Shear in the summer of 2015 to prepare for a resource calculation by definition and extension drilling. Highlights are summarized below from two sets of news releases (December 4 and December 8, 2015):

Central shoot -13 diamond drill holes include:

- TCR15-037, a new vein was intersected with 1.39 metres @ 40.52 g/t Au, and
- TRC15-040, discovery of a higher grade zone in the hanging wall zone of 1 metre @ 13.6 g/t Au.

North Shoot- 6 holes drilled downdip include:

- TCR15-048 extended the high grade portion of the shoot with an intersection of 2.87 metres @ 6.01 g/t Au, and
- TCR15-045 intersected new hanging wall mineralization of 2.45 metres @ 4.72 g/t Au.

Using LiDAR topography, the hangingwall mineralization was interpreted to be on the same shear structure and 240 metres northeast along strike from the hangingwall zone in the Central shoot.

Eighteen drill holes were planned to expand the dimensions of the Southern high grade ore shoot in the Crestaurum shear. Intersections included:

- TCR15-068 with a 4.21 m intersection @ 12.29 g/t gold including 2.50 m @ 19.43 g/t gold, and
- TCR15-052 with 10.80 metres @ 3.49 g/t Au, including 2.38 metres @ 8.13 g/t Au.

TerraX Minerals staked five claims totalling 1,670 hectares immediately south of the historic Con Mine. The Southbelt property forms part of TerraX's Yellowknife City Gold project. During a two-day reconnaissance program on the northeastern third of the Southbelt property, twelve structures were noted and 44 grab samples were collected. Six of these structures returned gold values of greater than 0.5 g/t, with a high value of 94.9 g/t Au. Several of the structures contain anomalous copper and zinc, with highest values of 0.78% Cu and 0.36% Zn.

TerraX announced December 18, 2015 that it has entered into a purchase agreement for an additional mining claim (51 ha) as part of their Yellowknife City Gold project.

Eighty kilometres north of Yellowknife, **Tyhee Gold Corp.** maintained its Yellowknife Gold project at Ormsby and Nicholas Lake. Tyhee has identified six separate gold deposits that are termed Ormsby, Bruce Lake, Clan Lake, Nicholas Lake, and Goodwin Lake. These areas have a combined Measured and Indicated Resource of 48,619 kilograms (1,715,000 ounces) of gold contained within 27 million tonnes of ore. Proven and Probable reserves (August 2012) for the project are estimated at 20.43 million tonnes at an average grade of 2.03 g/t Au, containing 41,400 kilograms (1.33 million ounces) of gold. No work was conducted on site and Tyhee remains focused on acquiring an interest through RMB Australia Holdings Ltd. in Sutter Gold Mining Inc. Sutter's primary asset is the Lincoln Project located near Sutter Creek, California.

Table 22 provides an overall summary of exploration work in the NWT in 2015 for commodities other than diamonds.

**Table 22:** Summary of NWT active exploration projects for precious, base, and energy metals during 2015.

Operator / Partners	Property	Commodity	Drilling	Airborne and Ground Geophysics	Sampling and Other Work	Studies and Permitting
Avalon Rare Metals Inc.	Nechalacho	REE				Mill optimization desktop studies
Canadian Zinc Corp.	Prairie Creek		UG drilling: 21 Holes (5484 metres)		UG Chip Sampling	Defined mineral reserves and resources
DEMCo	Terra Mine	Au, Ag, REE		Review past geophysics	Prospecting, Channel Sampling, Sampling historic core	MIP funding
Fortune Minerals Ltd.	NICO	Au-Co-Bi			Pre-construction preparation	
New Discovery Mines	MON	Au				Land Use A and Water Licence type "B" for UG development
Nickerson	AYE/Handle	Au			Bulk samples, Chip sampling	MIP Funding
Nighthawk Gold Corp.	Indin Lake, Colomac, Kim, Cass	Au	Drilling at Colomac (2080 metres)			Kim and Cass option declined
Panarc	Up Town Gold	Gold	3 drill holes	Geophysics	Prospecting and mapping	MIP Funding
Selwyn Chihong Mining Ltd.	Howards Pass	Pb-Zn-Ag				Road construction
Songful Resources	DJ	Zn-Pb			Soil samples, prospecting	
TerraX Minerals Inc.	Yellowknife City Gold (Northbelt, Walsh Lake, U-Breccia, and Ryan Lake)	Au	90 ddh (13,528 m) Crestaurum/Barney Drilling, Hebert-Brent		Mapping and prospecting and surveying; 501 grab samples; 60 channel and chip samples	MIP Funding
TerraX Minerals Inc.	Southbelt	Au			Mapping and Prospecting	

Mag – magnetic, EM - electromagnetic, IP – induced polarization, VLF-EM – Very Low Frequency electromagnetic survey, HLEM – Horizontal loop electromagnetic survey, TEM - time-domain electromagnetic survey, PGE platinum group elements, ddh-Diamond Drill Hole, Grav – Gravity, VTEM – Vertical TEM, REE – Rare Earth Element, UG - Underground

## Further Information

Further information on mining and mineral exploration in the NWT can be obtained from:

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