

# KOOTENAY REGION

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## SUMMARY

Exploration expenditures in the Kootenay region during 2001 are estimated at approximately \$7.8 million, an increase of 20% over the \$6.5 million spent in 2000 (Figure 1). The 2001 total comprises \$4.83 million (62%) spent on drilling for coal at, or in the vicinity of, the five producing coal mines in the Elk Valley, a 2.5 times increase over 2000 levels; \$1.78 million (23%) spent on metal exploration; and \$1.18 million (15%) spent on industrial mineral exploration (Figure 2). The continued strong increase in drilling expenditures by the coal companies reflects the relatively robust market for the high quality metallurgical coal produced in southeastern British Columbia, and increased levels of production at some of the mines over the past several years.

An estimated 88,378 metres of drilling was carried out in the region in 2001, in all categories, up by 26% over 2000 levels (Figure 1). Coal companies carried out 86% of the total metres of drilling using reverse circulation drilling techniques (Figure 3a). The continued sharp decline in metal exploration spending is highlighted by the amount of exploration drilling for metals. Only about 7200 metres in 40 holes were completed in 2001 on metal projects. Overall in 2001, metals drilling accounted for just 8% of the total metres drilled. An estimated 5422 metres of drilling was carried out on industrial minerals projects, making up the remaining 6%. Figure 3b shows the total metres of drilling broken down into three categories. The “mine development” and “deposit appraisal” categories represent drilling

carried out in the vicinity of the five coal mines, whereas the “exploration” category is dominated by drilling on metal and industrial mineral projects.

A total of 53 NOTICES OF WORK were submitted to the Kootenay Region Mines Branch office in 2001 for work on mineral projects, 10 NOTICES OF WORK were received for coal exploration programs, and 38 Placer Notices of Work were received. The number of projects worked on last peaked in 1997 and has declined since then to about 97 in 2000 and only 50 in 2001 (Figure 4).

The main focus of interest for metals in the region in 2001 was in the Nelson area where Sultan Minerals Inc. carried out a large exploration program on their Kena intrusion-related gold project. Drilling on the Gold Mountain Zone, located in the northern portion of the Kena property, has identified both low grade and high grade gold mineralization, suggesting the potential for both bulk tonnage and smaller bonanza-grade deposits. Also in the Nelson area, a late season drill program carried out on the Silver Lynx VMS project by Cassidy Gold Corp. intersected altered volcanic and sedimentary rocks with widely distributed sulphide mineralization. Exploration for Sullivan type deposits in the Purcell Anticlinorium declined further from 2000 levels; only two small drill programs by Klondike Gold Corp. targeted sedex mineralization.

Several interesting industrial minerals projects were advanced in 2001. A drilling and trenching program was carried out by Crystal Graphite Corporation on their Black Crystal graphite project in the Slokan Valley. A resource estimate was released, and their on-site pilot plant was com-

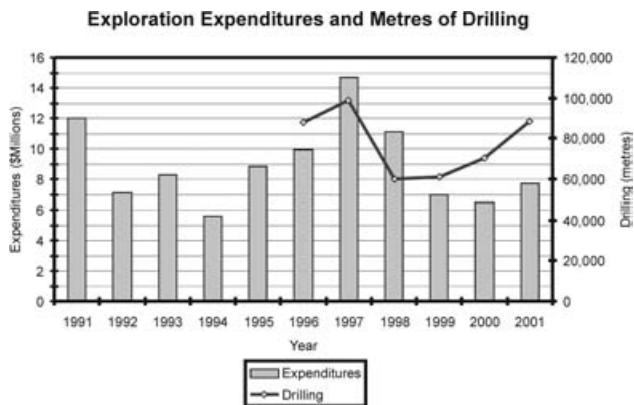


Figure 1. Exploration expenditures and metres of drilling.

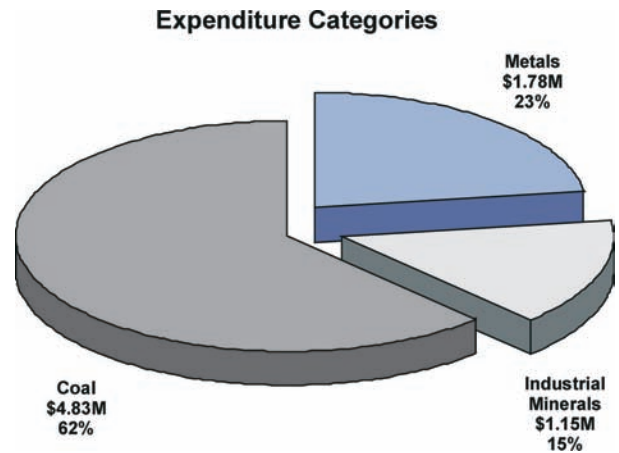


Figure 2. Exploration expenditures by commodity type.

### Drilling by Deposit Type

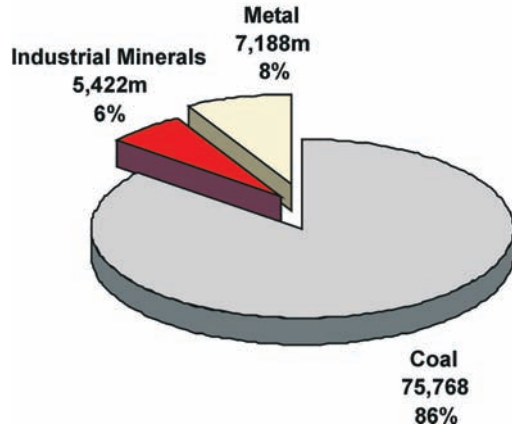


Figure 3a. Drilling metres by commodity type.

### Drilling Category

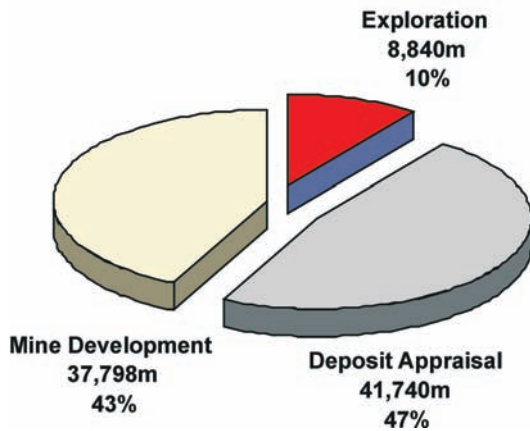


Figure 3b. Drilling metres by category.

missioned. New gypsum resources were identified on the Elkhorn West property, immediately west of Westroc's Elkhorn gypsum mine, and more drilling was carried out on their Kootenay East and West gypsum projects, east of Canal Flats. Tiger Ridge Resources continued underground development, bulk sampling, and exploration drilling on their Jubilee Mountain barite project west of Spillimacheen. As well, a short drill program was carried out on the Ice kimberlite project north of Elkford by Skeena Resources Limited. The company intersected 105 metres of kimberlite but analytical results are not yet available.

One of the most significant events in the region in 2001 was closure of the Sullivan mine in Kimberley on December 21, 2001, after more than a century of continuous production. Teck Cominco Limited celebrated the legacy of the world-class mine with a two-day symposium that included technical talks on the Sullivan Mine and exploration in the Sullivan Camp, underground mine-tours, and poster displays. All the major industrial mineral mines and quarries that were in operation at the beginning of the year maintained steady production levels throughout the year and no

### Exploration Expenditures and Number of Projects

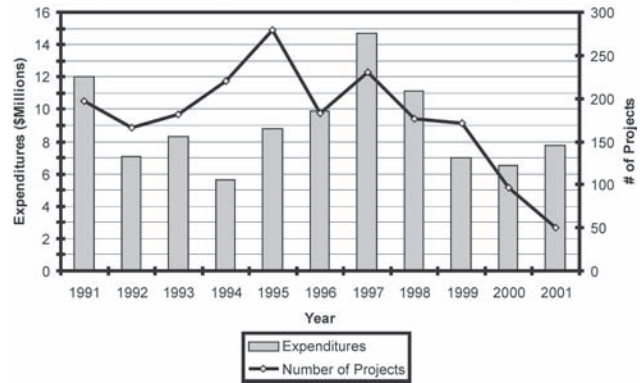


Figure 4. Exploration expenditures and number of projects.

significant change is forecast for 2002. Except for Sullivan, there were no other mine closures in the region during the year, and no new mines opened.

### EXPLORATION HIGHLIGHTS

The major metals, industrial minerals, and coal exploration projects carried out in the Kootenay Region during 2001 are listed in Table 1. These major projects involved significant levels of expenditures (*i.e.* >\$100,000) on exploration drilling, bulk sampling, or underground exploration work. Locations of these projects, and certain other ones that are believed to be regionally significant but had relatively small programs during 2001, are shown on Fig-

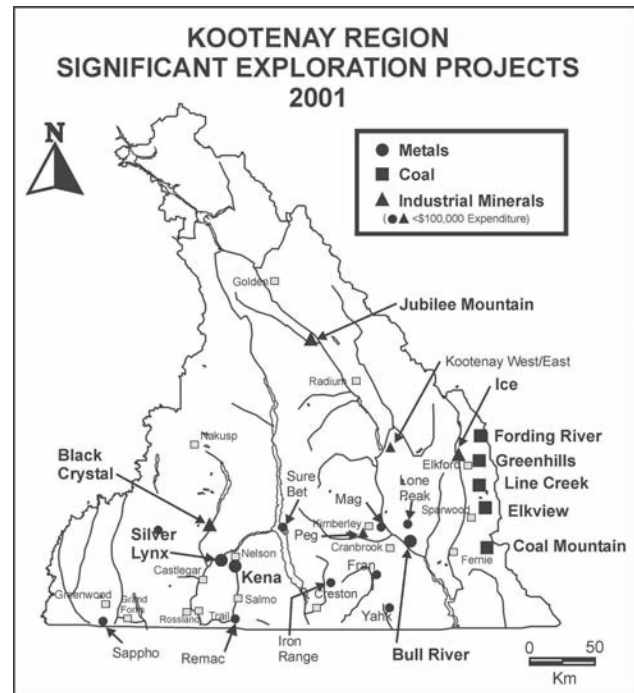


Figure 5. Significant exploration Projects in the Kootenay region, 2001.

**TABLE 1**  
**MAJOR EXPLORATION PROJECTS, KOOTENAY REGION, 2001**

<b>Property</b>	<b>Operator</b>	<b>MINFILE</b>	<b>NTS</b>	<b>Commodities</b>	<b>Deposit Type</b>	<b>Work Done</b>
Black Crystal	Crystal Graphite Corp.	082FNW 260	82F/13W	Graphite	Metamorphic	2128m diamond drilling in 39 holes; 148 trenches
Coal Mountain Mine	Fording Coal Ltd.	082GSE 052	82G/7E, 10E	Coal	Sedimentary	5848m RC drilling in 21 holes
Elkview Mine	Elkview Coal Corp.	082GNE 015	82G/10W, 15W	Coal	Sedimentary	5900m RC drilling in 57 holes
Fording River Mine	Fording Coal Ltd.	082JSE 009, 10, 12	82J/2W	Coal	Sedimentary	15 552m RC drilling in 73 holes
Greenhills Mine	Fording Coal Ltd.	082JSE 001, 5, 7	82J/2W	Coal	Sedimentary	6650m RC drilling in 59 holes
Ice	Skeena Resources	082JSE 019	82J/2W	Diamonds	Kimberlite	~400m in 5 holes, 4 tonne bulk sample
Jubilee Mountain	Tiger Ridge Resources	082KNE 079	82K/16W	Barite	Veins, Breccias	1203m diamond drilling in 13 holes; 5556 tonne bulk sample
Kena Gold	Sultan Minerals Inc.	082FSW 237, 331, 332	82F/6W	Au, Ag, Cu	Porphyry	~5200m diamond drilling in 28 holes; trenching; geol; geochem; geophys
Line Creek Mine	Luscar Ltd.	082GNE 020, 21, 22	82G/15W, E	Coal	Sedimentary	35 300m RC drilling in ~136 holes
Silver Lynx	Cassidy Gold Corp.	082FSW 378	82F/6W	Au, Ag, Cu, Pb, Zn	VMS	642.5m in 4 diamond drill holes; geol, geochem, geophys

ure 5. There were a total of 11 projects with reported expenditures of more than \$100,000 in the Kootenay Region this year. The actual expenditures at Bull River are unknown but have been conservatively placed at \$500,000 for statistical purposes.

### **METALS**

Gold City Industries Ltd. carried out geological mapping, and rock and soil sampling on their **Sappho** Cu-platinum group element (PGE)-Au property located south of Greenwood. This structurally complex property is underlain primarily by greenstone, diorite, ultramafic intrusive, and feldspar porphyry. The Cu-Au mineralization is mainly associated with the ultramafic rock, which has been interpreted by past workers to be part of the Tertiary Coryell suite. Outcrop on the property is limited but three areas of historical workings occur over a strike length of 600 metres. Rock samples were collected from all three areas, although most work focused on the southernmost or Main Zone (Photo 1). To test the Main Zone 48 chip samples of 0.5 to 1m in length were collected in 3 fences over a stripped-off area. Assays of up to 6% Cu, 4.6 g/t Pd, and 0.1 g/t Pt were attained. Soil sampling away from the three areas of known mineralization identified a Cu anomaly along the southern property boundary in an area with no outcrop; it is similar to that found around the Main Zone. The property was also studied by Graham Nixon as part of a Geological Survey Branch field program on PGE environments in southern British Columbia. This work identified the ultramafic intrusive host to the mineralization as Jurassic in age.

Cassidy Gold Corp. carried out a program of geological mapping, geophysical surveys, and soil sampling on its **Silver Lynx** VMS property, located 20 kilometres west of Nelson. The property is underlain by argillites and siltstones of the middle Jurassic Ymir Group that overlie a package of phyllitic felsic tuffs. The entire sequence appears to have been folded to form a south-plunging antiform. Two showings, 170m apart, were discovered by prospector Bruce Doyle as part of his Prospectors Assistance Program grant work in late 2000 (Photo 2). The mineralization, which has been interpreted to be VMS-type, appears to be stratabound and occurs within 20 metres of the

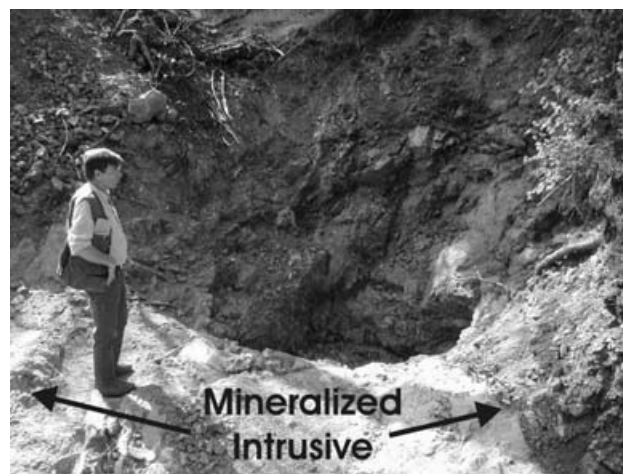


Photo 1. Sappho Main Zone.



volcanic-sediment contact. Selected grab samples assayed up to 24.59% Zn, 22.35% Pb, 0.21% Cu, and 556.4 g/t Ag. Soil sampling on the property identified numerous polymetallic anomalies that coincide with the projected strike of the mineralized volcanic-sediment contact. A late season, 4-hole, 643-metre diamond drill program was carried out to test the main showing area over a strike length of approximately 265 metres. Two distinct mineralized zones with disseminated to semi-massive sphalerite, galena, chalcocopyrite, and arsenopyrite, as well as widely distributed sphalerite stringers, were cut in three of the holes; the fourth hole encountered a thick mafic intrusive. Assays graded up to 6.87% Zn, 1.13% Pb, and 42.5 g/t Ag over 0.6 metres. The company is planning a follow-up program for 2002.

Sultan Minerals Inc. carried out a large exploration program comprising diamond drilling, IP surveying, geological mapping, and soil sampling on their Kena intrusion-hosted/related gold project, located north of Ymir. A total of 4800 metres of diamond drilling in 30 holes focused on following up numerous coincident geochemical and IP anomalies within a target area measuring 1400 metres by 500 metres. Holes were drilled to depths of approximately 200 metres (Photo 3). The program identified a number of high-grade gold-bearing structures within a broad envelope of low-grade gold mineralization. Typical assays of the low-grade mineralization, all of which are from samples at or near the surface, include 100 metres grading 1.21 g/t Au in hole 01GM-01, 116.05 metres grading 1.87 g/t gold in hole 01GM-03, 130 metres grading 1.14 g/t Au in hole 01GM-05, 160 metres grading 1.15 g/t Au in hole 01GM-08, and 140.38 metres grading 1.10 g/t Au in hole 01GM-28. This wide zone of low-grade gold mineralization occurs along the eastern margin of the Early to Middle Jurassic aged Silver King Porphyry where it is in contact with mafic volcanic and tuffaceous rocks of the Early Jurassic Elise Formation. Several bonanza-grade gold zones internal to the lower-grade areas (*e.g.* 172.1 g/t Au over 2 metres in hole 01-GM-08 and 240.1 g/t Au over 1.23 metres in hole 01-GM-03) are spatially related to the porphyry-volcanic contact. Gold mineralization is associated



Photo 2. Prospector Bruce Doyle examining mineralized talus, Silver Lynx Project.



Photo 3. Diamond drilling on the Gold Mountain Zone, Kena Project.

with 2-5% disseminated and fracture-filling pyrite in areas of the Silver King monzonite to diorite plagioclase porphyry which have undergone silicification and strong potassic alteration. Fine-grained visible gold has been observed locally in drill core. Regional work covering the extensive 17 kilometre length of the Kena property, which covers the trend of the Silver King Porphyry intrusives, identified a number of new gold showings and gold soil anomalies. Sultan Minerals added to their land position in the area by optioning several properties adjoining the Kena property from local prospectors in the fall. These included the **Great Western, Tough Nut, Cariboo, Princess, and Cleopatra** properties.

No exploration work was carried out this year on the **Remac** Zn Oxide project south of Salmo by project operators Redhawk Resources Inc. and joint venture partners ZincOx Resources PLC. A significant drill program aimed at delineating a resource is currently planned for the spring of 2002.

Eagle Plains Resources Ltd. carried out a program of prospecting and soil sampling on its **Iron Range** property northeast of Creston. They are pursuing Olympic Dam and sedex-type targets. The Iron Range Fault, which bisects the property, extends for more than 40 kilometres in a north-south direction and is bordered by strongly albite-altered middle Aldridge clastic sediments intruded by gabbro sills. The fault zone itself is commonly occupied by foliated gabbro rimmed by albitic alteration. The survey covered a 16-kilometre strike extent of the Iron Range fault that includes 14 hematite-magnetite showings (Photo 4). One survey area covered a hematite-magnetite breccia zone with a strike length of 3 kilometres and widths of 60 to 150 metres. Approximately 2000 soil samples were collected along lines 500 metres apart crossing the structure; a number of anomalous areas with Olympic Dam-type geochemical signatures were identified. Eagle Plains is currently seeking a joint venture partner for the property.

Klondike Gold Corp. completed 303 metres of drilling in 4 holes on its **Sure Bet** property near Crawford Bay on

the east side of Kootenay Lake. Two holes testing geophysical targets intersected semi-massive pyrrhotite and graphite, containing minor Cu-Zn mineralization, hosted by metamorphosed shale. Some sulphide mineralization was also observed in carbonate units and biotite-garnet-quartz schists. No assays were reported for this drilling. Klondike Gold also completed two 150-metre drill holes on its **Yahk** sedex property east of Yahk. The holes were designed to test an area with bedded tourmalinite, fragmental and fracture-filling Pb-Zn mineralization, and a coincident multielement soil anomaly. No economic sulphides were intersected. A deeper hole to test the Lower Middle Aldridge Contact (Sullivan time) at a depth of approximately 700 metres was recommended as a follow-up to the drilling. Klondike Gold initiated a drill hole on their **Fran** sedex property northeast of Moyie Lake, also targeting the Lower Middle Aldridge contact. The hole penetrated a significant thickness of overburden without reaching bedrock. The company intends to deepen the hole in 2002.

Early in 2001 Pathfinder Resources Ltd. drilled a single 660-metre hole on its **Mag** property near the Cranbrook Airport. The hole was designed to test a deep-seated magnetic anomaly for Olympic Dam-style Cu-Au-U mineralization. The hole encountered unaltered monzonite to syenite with 1-15% disseminated magnetite, which they believed explained the magnetic anomaly. No anomalous geochemistry was received from core samples and the property was returned to the vendor.



Photo 4. Magnetite lens, Iron Range Project.

Golconda Resources Ltd optioned the **Lone Peak** property, located east of Fort Steele, from a local claim owner. The property is underlain by rocks of the Creston and Kitchener formations of the Purcell Supergroup. The Spar Lake quartzite unit in the Creston Formation is equivalent to the rocks which host the Spar Lake Cu-Ag deposit, 85 kilometres to the south in Montana. This quartzite is 100 metres thick on the property and can be traced for approximately 3 kilometres along strike. Detailed mapping and prospecting carried out on the property as part of Golconda's due diligence, identified a 300 metre wide anticlinal fold in the Spar Lake unit that contains sheeted quartz veins and stockworks. Assays from grab samples collected within this zone contain up to 1% Cu, 27 g/t Ag, and 32 g/t Au. Visible gold occurs in sheeted quartz veins up to 10 centimetres in width. Golconda also optioned the **Bri-Lin** and **Sully** claims to the north of Lone Peak. The company intends to start drilling early in 2002.

## INDUSTRIAL MINERALS

Insulation and mineral wool manufacturer Roxul (West) Inc. continued exploration for new raw materials to optimize their mineral wool operation in Grand Forks. A 10,000 tonne bulk sample of diorite was collected and processed from the **Winner** property near the past-producing Phoenix mine west of Greenwood to provide plant feed. Near the end of the year the company applied for a Mine Lease for the Winner Quarry. Plans call for approximately 50,000 tonnes to be produced every second year from the Winner Quarry as feed for the mineral wool plant.

In the Hoder Creek area of the Slocan Valley, Crystal Graphite Corporation continued exploration work on its **Black Crystal** project, and made progress toward commissioning its Koch Creek graphite pilot plant, 25 kilometres to the south. The Black Crystal property is underlain by the Paleozoic rocks of the Valhalla Gneiss complex. Calc-silicate gneiss intruded by pegmatitic dykes host crystalline and flake graphite on the property. The zone of graphite mineralization dips to the southwest and extends more than 400 metres in an east-west direction and 300 metres in a north-south direction at the Hoder Creek quarry site (Photo 5). During 2001 the company completed 1900 metres in 42 diamond drill holes on the Black Crystal project site at Hoder Creek. A further 233 metres in 5 holes and 216 metres in two percussion drill holes were drilled on the "Beauzone" adjacent to the pilot plant at Koch Creek. A total of 1855 metres of linear trenching tested the weathered "Regolith" horizon. A 10,000 tonne bulk sample was collected in the fall from trenches traversing across the graphite zone. Based on the work to date, Mine Design Systems Ltd. of New Zealand calculated a resource for the Black Crystal project of 12,974,900 tonnes grading 1.34% graphite. Of this, 1,922,100 tonnes are classified as measured, 10,196,500 tonnes are indicated, and 856,300 tonnes are inferred. Based on the resource figure, the total in situ graphite resource on the property is 174,400 tonnes. Included within this resource is the higher grade "Regolith Zone" which comprises 1.01 million tonnes of measured and indicated resources at surface averaging 1.7% graphite. The





Photo 5. Hoder Creek quarry site, Black Crystal Project.

bulk sample material collected this year together with that collected in 2000 resulted in a stockpile of 20,400 tonnes of material at the pilot plant site. Some 2000 tonnes of this stockpile was successfully processed, producing a final product grading 94% to 97.5% graphite. The plant will now progress through three commissioning phases.

Chapleau Resources Ltd. carried out a small drill program to explore the Hellroaring Creek pegmatite stock, southwest of Kimberley, for beryllium, rubidium, tantalum and rare earth elements. Late in the 2000, the company drilled eight short holes to test the Pakk property. In 2001, four short holes totaling 99 metres were drilled on the **Peg** property by Chapleau under a joint venture agreement with Naneco Minerals Ltd.. Highlights from this drilling included up to 6 metres grading 1133 g/t BeO, including 1 metre with 2908 g/t BeO, and up to 4 metres grading 66 g/t Ta<sub>2</sub>O<sub>5</sub>. The property was subsequently returned to the vendor, Supergroup Holdings.

Tiger Ridge Resources Ltd. continued underground development and surface exploration drilling on its **Jubilee Mountain** barite project west of Spillimacheen. The property is underlain by Middle-Upper Cambrian Jubilee Formation massive dolomite and limestone. Barite and sulphide mineralization are hosted in solution breccias and related veins in the Jubilee Formation. More than 200 metres of drifting and 70 metres of raising were carried out in the Heli and Grizz adits and a 5500 tonne bulk sample was collected. This was processed with an on-site jig concentrator to produce 4000 tonnes of barite. A total of 1203 metres of diamond drilling in 13 holes were carried out to the northeast of the adits in the "Nose" area. Preliminary investigations were made into the potential for extracting barite from underground workings and recovering it from tailings from the adjacent, past producing Silver Giant mine, which is held as part of the Jubilee Mountain property by Tiger Ridge. A total of 840,000 tonnes of barite-sulphide ore was mined from the deposit in the 1940s and 1950s, and 180,000 tonnes of barite were produced from the tailings in the 1960s and 1970s by Baroid of Canada. Tiger Ridge is

planning further underground development, bulk sampling, and exploration drilling for 2002.

Westroc Inc. carried out 842 metres of drilling in 18 holes on its **Elkhorn West** gypsum project, 10 kilometres east of Invermere and immediately west of their Elkhorn gypsum quarry operation, outlining a 2.5 million tonne resource. Gypsum deposits in the area are hosted by the Burnais Formation, a sequence of Devonian carbonates and evaporites. Westroc also drilled 126 metres in 3 holes on their **Kootenay West** project and 674 metres in 15 holes on their **Kootenay East** project; both are located northeast of Canal Flats. Over the last three years Westroc has drilled 4400 metres in 98 holes on the Kootenay West project, delineating a resource of 16.7 million tonnes of gypsum.

Stralak Resources Inc. and their joint venture partner Magna Precious & Industrial Metals Inc. took control from Cominco of the **Marysville Magnesite** sparry magnesite deposit, near Marysville. In 1961 Cominco estimated that the deposit contains a resource of 14 million tonnes grading 88% MgCO<sub>3</sub>. No significant exploration work was carried out on the property this year.

In the fall, Skeena Resources Limited carried out a short drilling and bulk sampling program on their **Ice** diamond project north of Elkford (Photo 6). The property is underlain by Lower Carboniferous to Triassic carbonates and clastic rocks of the Rocky Mountain Fold and Thrust Belt. A cluster of four known kimberlite pipes occurs on the property. At surface the kimberlite is commonly clay altered and heavily contaminated with underlying and bordering lithologies. Unweathered kimberlite is commonly cut by numerous irregular calcite veinlets and contains many xenoliths of carbonate, shale, and ultramafic material, as well as xenocrysts of minerals like spinel and garnet. A total of 3 diamond drill holes were completed on the RAM 6 kimberlite this year. Holes 1 and 2 intersected 3.9 metre and 14.4 metre wide kimberlite breccia intervals, respectively, and hole 3 intersected a 20.8 metre interval (0 to 20.8 metres) and a 105.2 metre interval (41.8 to 147.1 metres). The lower and thicker interval in hole 3 has been interpreted to be hypabyssal facies kimberlite. The nar-



Photo 6. Drilling on the Ice diamond project.

rower kimberlite breccia intercepts in all three holes have been interpreted to be parts of a sill that is peripheral to the main hypabyssal intrusive center. Two short drill holes on the RAM 5 kimberlite, 1 km to the south, failed to locate any significant kimberlitic material, even though the drill was collared in a weathered kimberlite outcrop. However, steep topography did not allow optimal collar location and Skeena considers that the target has untested potential. In 1996, a 20-ton bulk sample, comprising 90 to 95% non-kimberlite material, was collected from the Ram 6 kimberlite. It yielded 3 poor quality macro-diamonds, the two largest stones weighing a combined 0.23 carats. A 1996 bulk sample from the Ram 5 kimberlite yielded 3 good quality macro-diamonds weighing a combined 0.255 carats from 35 tons of surface material of which 95% was reportedly non-kimberlitic. A 4 tonne bulk sample was collected this year from fresh material at the Bonus kimberlite pipe, 3 kilometres west of RAM 6, because there was not enough water in the area for drilling due to unusually dry conditions. Samples of kimberlite from this year's program will be analyzed for microdiamonds by caustic dissolution. No results were available at the time of writing.

## COAL

The large majority of the coal drilling activity in the region took place within or adjacent to existing open pit mining operations. The coal companies carried out a total of 75,768 metres of reverse circulation drilling in 447 holes. Of this, 37,970 metres in 100 holes were classified as "deposit appraisal", and 37,798 metres in 347 holes were classified as "mine development" (Figure 3b). Most of the drilling that was carried out away from existing pits was conducted by the Line Creek and Fording River operations.

At the **Fording River** mine, 1800 metres of development drilling were carried out in 27 holes. In the "deposit appraisal" category, 7020 metres in 47 holes were drilled within existing open pits. Exploration licenses on the east side of Fording River acquired by Fording Coal were the focus of some of the "development" drilling. At Fording's **Greenhills** mine there was no "development" drilling but 7500 metres of in-pit drilling was carried out in 47 holes. At the **Coal Mountain** mine, another Fording operation, the company drilled 5848 metres in 21 holes; all were in-pit holes. At Teck Comnico's **Elkview** mine, 5430 metres in 64 holes were drilled in producing pits. Approximately 8 holes totaling 3370 metres were drilled outside of operating pits to delineate long-term reserves. A major exploration and development program that was undertaken at the **Line Creek** mine, owned by Luscar Ltd., is aimed at increasing its resource base. A total of 16,600 metres in 65 exploration holes were drilled, mainly in the Saddle area north of the MSA North pit (Photo 7). In-pit drilling accounted for 150 holes with a cumulative length of 12,000 metres.

## PRODUCING MINES AND QUARRIES

The locations of producing mines and quarries in the Kootenay Region for 2001 are shown on Figure 6 and listed on Table 2. Production data is included where it is available.



Photo 7. Looking north from MSA North pit to Saddle area, Line Creek mine.

## METALS

The only producing metal mine in the Region, the giant **Sullivan** Pb-Zn-Ag mine, closed in December 2001 after more than a century of continuous production. The mine was discovered in 1892 and acquired by Consolidated Mining and Smelting Company of Canada (Precursor to Cominco Limited) in 1909. Cominco developed the "differential flotation process" to produce separate lead and zinc concentrates. Since this process was implemented in 1916, the mine produced more than 17 million tonnes of Zn and Pb metal and more than 285 million ounces of Ag. During 2001 approximately 1.5 million tonnes were mined, yielding 75,768,069 kilograms Zn, 32,849,159 kilograms Pb, and 17,743 kilograms Ag. Over the next year the mine will be decommissioned and reclamation work begun.

## INDUSTRIAL MINERALS

All of the major industrial mineral producers in the region maintained production levels at roughly the same levels as in 2000. Westroc Inc. produces approximately 500,000 tonnes of gypsum annually from its Elkhorn quarries near Windermere. Discovery of the Elkhorn West gypsum resource west of the **Elkhorn** quarry may extend the life of that operation beyond the projected 2005 exhaustion of current reserves. Georgia Pacific Canada Inc. ships approximately 100,000 tonnes of gypsum per year to Edmonton from its **Four J** quarry on the Lussier River, near Canal Flats. Both Westroc and Georgia Pacific operate wallboard plants in the Vancouver area.

Baymag Mines Company Ltd. produces high quality magnesite from the **Mount Brussilof** pit at a rate of about 200,000 tonnes annually. The magnesite is transported by truck to Exshaw, Alberta where the company has two plant sites that produce sintered, calcined, and fused magnesia. The Silica Division of Highwood Resources Ltd. produces approximately 120,000 tonnes of silica annually at **Moberly**, near Golden; they ship product to Springfield,

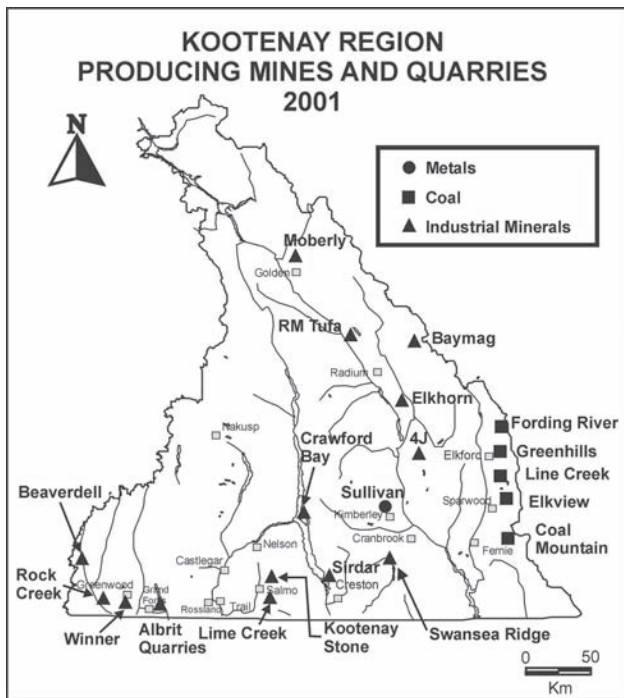


Figure 6. Producing Mines and Quarries, 2001.

Oregon, to Lavington, British Columbia and to other destinations.

IMASCO Minerals Inc. processes a variety of specialized industrial mineral products at its plant at Sirdar, north of Creston. Raw materials include dolomite from the under-

ground **Crawford Bay** mine on Kootenay Lake, and calcium carbonate from the **Lime Creek** quarry on Lost Creek, which is south of Salmo. Dolomite is used for soil conditioning, as a white ornamental aggregate, for stucco and roofing, as a fine aggregate, and for synthetic marble products. White calcium carbonate is used as filler in paper, paint and plastics. The company also produces crushed granite and quartzite products from material mined at **Sidar** and near Crawford Bay.

Dolomite is also quarried and processed by Mighty White Dolomite Ltd. at **Rock Creek**. Quadra Stone Ltd. produced approximately 1000 tonnes of Cascade Coral blocks from a new quarry near **Beaverdell**. Flagstone has been quarried by **Kootenay Stone Centre** and other small operators in the West Kootenays. Canadian Pacific Railway mined, crushed and shipped railroad ballast from its **Swansa Ridge** gabbro quarry south of Cranbrook.

### COAL

Aside from routine seasonal shutdowns all five coal mines in the Elk Valley maintained steady production through 2001. The **Fording River** mine expects to produce 9.45 million tonnes in 2001 and 2002. Production has increased at the Greenhills mine over the last few years and is now stable at 4.7 million tonnes for 2001 and 2002. The plant is being expanded to a capacity of 5 million tonnes per year. Production at the **Coal Mountain** mine in 2001 is estimated to be 2.4 million tonnes and the same for 2002. The **Elkview** mine has doubled production since 1999 to 5.6 million tonnes in 2001 and is planning to increase production further to 6 million tonnes in 2002. The present mine plan contains over 260 million tonnes of coal, which repre-

TABLE 2  
PRODUCING MINES AND QUARRIES, KOOTENAY REGION, 2001

Mine	Operator	Deposit Type	2001 Production
Fording River	Fording Coal Limited	Metallurgical coal	9.4 million tonnes
Elkview	Teck Corporation	Metallurgical coal	5.6 million tonnes
Greenhills	Fording Coal Limited	Metallurgical coal	4.7 million tonnes
Line Creek	Luscar Ltd.	Metallurgical coal	2.8 million tonnes
Coal Mountain	Fording Coal Limited	Metallurgical coal	2.4 million tonnes
Sullivan	Teck Cominco	Sedex	1.5 million tonnes
Elkhorn	Westroc Inc.	Gypsum	~500,000 tonnes
Mount Brussilof	Baymag Mines Co. Ltd.	Magnesite	~200,000 tonnes
Four J	Georgia Pacific	Gypsum	~100,000 tonnes
Rocky Mountain Tufa	Alan Wolfenden	Tufa	~1000 tonnes
Moberly	Highwood Resources Ltd.	Silica sandstone	
Crawford Bay	IMASCO Minerals Inc.	Dolomite	
Sirdar	IMASCO Minerals Inc.	Crushed granite	
Kootenay Stone	Kootenay Stone Centre	Flagstone	
Lime Creek	IMASCO Minerals Inc.	Limestone	
Rock Creek	Mighty White Dolomite Ltd.	Dolomite	
Swansa Ridge	CPR	Railroad Ballast	



sents a mine life of more than 40 years. Production at the **Line Creek** mine in 2001 is estimated to have been 2.8 million tonnes and production of 3.5 million tonnes is planned for 2002.

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