# **Assessment Report**

on the

# **RADS PROPERTY**

# **BOUNDARY DISTRICT**

# NTS 82E/1

Lat: 49° 09' 08" N Long: 118° 28' 53" W (at approximate centre of property)

Greenwood Mining Division British Columbia, Canada

Prepared for:

Kettle River Resources Ltd. 298 Greenwood St., Box 130 Greenwood, B.C. V0H 1J0

By: Linda Caron, M.Sc., P. Eng. 717 75<sup>th</sup> Ave, Box 2493 Grand Forks, B.C. V0H 1H0

November 30, 2005

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## 1.0 SUMMARY

The Rads property is one of eight mineral properties owned by Kettle River Resources in the Greenwood area of southern B.C. The property is located 13 kilometres northwest of Grand Forks, B.C., on NTS 82E/1, and covers an area of approximately 420 hectares. This report describes the results of a prospecting and rock sampling program completed on the claims during 2005.

The property is underlain in large part by the Triassic Brooklyn Formation, a favourable host rock for both copper-gold skarn mineralization and gold-bearing volcanogenic massive sulfide/oxide (Lamefoot-type) mineralization. No modern trenching and no drilling has been done on the property. Areas of anomalous copper, gold and zinc in rocks and in soils (from the 2005 and previous work programs) remain to be followed up, as do several chargeability anomalies.

Skarn type mineralization has been the focus of essentially all the previous exploration on the property, and this remains a viable target. At the Shickshock occurrence, the skarn mineralization is cut at a shallow depth by a large syenite sill. The Princess area, in the eastern part of the property, is another zone that requires further testing. A rock sample from this area collected during the 2005 program returned 5.95 g/t Au with 6003 ppm Zn, from a massive sulfide vein/pod.

Large areas of anomalous zinc in soils on the property may be indicative of a VMS/O system. Airborne time domain EM would be a good tool to test for massive sulfide zones associated with either volcanogenic or skarn mineralization. This is recommended for the Rads property (in conjunction with surveys on other Kettle River Greenwood area properties). This will be a particularly useful tool in the eastern part of the property (the Princess area) where the very steep topography hampers ground exploration methods. Any anomalies detected by the airborne survey should then be followed-up on the ground, by prospecting and then by trenching or drilling, depending on access and on the findings of the preliminary work.

In addition to the skarn and volcanogenic massive sulfide/oxide mineralization potential of the property, Eocene-aged epithermal gold mineralization is a viable exploration target. Detailed prospecting in the vicinity of the Ike zone, has identified a significant epithermal system hosted within limestone. A sample of this style of mineralization (from a previous program), returned 15.4 g/t Au. Work during 2005 was unsuccessful in locating the exact sample site, but did uncover widespread epithermal style veining and silicification within limestone (with elevated values to 95 ppb Au, 5.3 ppm Ag, 635 ppm As). A detailed soil survey is recommended for this area to define the gold-rich part of the system for follow-up work. Any anomalies discovered could be tested by excavator trenching.

## 2.0 INTRODUCTION

## 2.1 **Property Location and Description**

The Greenwood area is located in southern British Columbia, in the Boundary Mining District, as shown on Figure 1. Kettle River Resources owns eight mineral properties within the Greenwood area, namely the Phoenix, Phoenix tailings, Bluebell, Niagara, Rads, Tam O'Shanter, Haas Creek and Arcadia properties. Kettle River's holdings cover several past-producing mines, as well as many of the key mineral occurrences in the Greenwood Camp. This report describes the 2005 work program on the Rads property.

The Rads property is located approximately 13 kilometres northwest of Grand Forks, B.C. on NTS map sheet 082E/1, as shown in Figure 1. It is centred at latitude 49° 09' 08"N and longitude 118° 28' 53" W, and covers Minfile 082ESE077 (Sailor Boy).

The property is comprised of 1 MTO cell claim that covers 20 map cells and is located on Mineral Tenure map sheet 082E.018. The claim is shown on Figure 2 and summarized below in Table 1.

Tenure #	AREA (Ha)	EXPIRY DATE*
516679	422.53	2010/Mar/15

\* after filing this report

## Table 1 - Claim Information

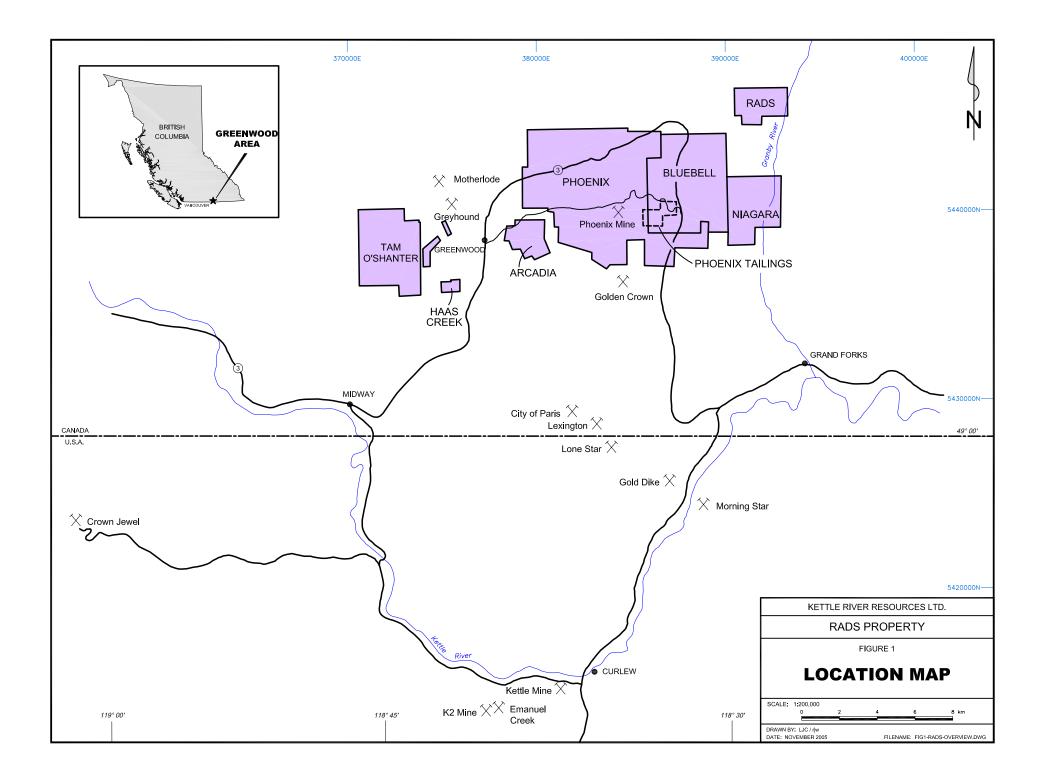
The cell claim was acquired in 2005, by conversion of legacy claims (the Rads 1-8 2-post mineral claims and the Sailor Boy and Shickshock reverted crown grants). The property covers and includes numerous former crown grants, as shown on Figure 3. It also covers, but does not include, L. 1248, the Jennie May crown grant, in good standing and held by D. Shannon of Knutsford, B.C.

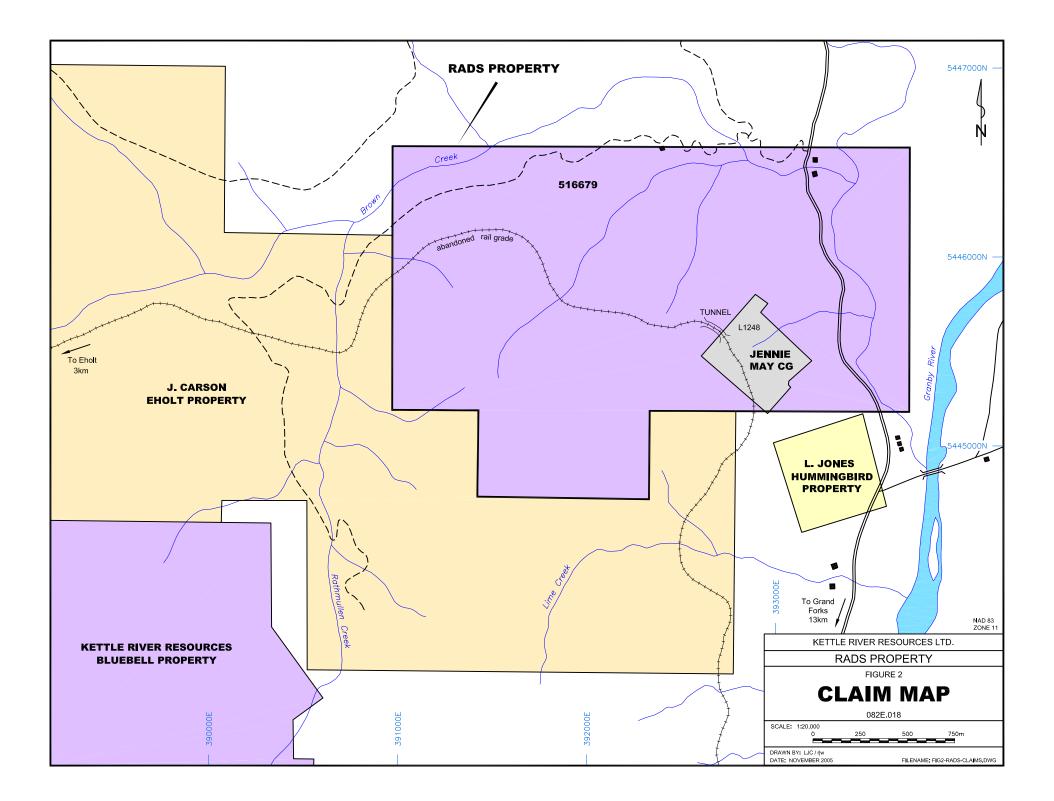
The Rads property is 100% owned by Kettle River and not subject to any underlying agreements. The northeast and eastern portions of the property, covering the Granby and lower Brown Creek valleys, are covered by ground with privately held surface title, as shown on Figure 3. These areas are rural residential areas, with numerous houses and acreages.

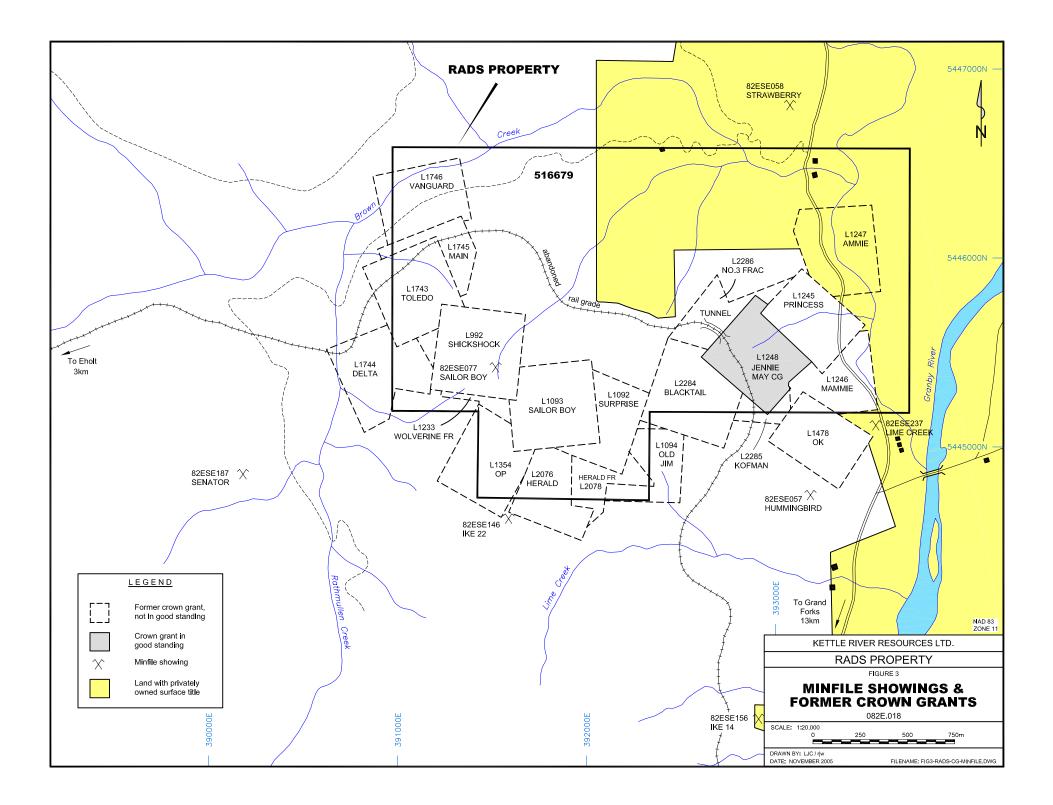
Limited services, including room, board and fuel, are available in the Greenwood (population < 1000). Grand Forks, with a population of about 8,000 in the city and immediate surrounding area, is a more major supply centre. Most services needed for exploration are available in Grand Forks, located about 13 kilometres southeast of the Rads property. The closest full-service airports are located in Kelowna, Penticton or Castlegar.

## 2.2 Access, Climate, Local Resources, Infrastructure and Physiography

The Rads property covers an area of 423 hectares on the north-facing slope of Thimble Mountain, north of Lime Creek and south of Brown Creek, and on the steep east facing slope west of the Granby River. There is good road access to portions of the property, although none of the main showings are accessible by vehicle. The paved Granby road follows the Granby River valley north from Grand Forks, and passes through the eastern part of the claim block. The Brown Creek road follows Brown Creek in the northern part of the property, and the former CPR rail grade (and now part of the Trans Canada Trail and a popular bicycling route) cuts through the central portion of the property. The CPR grade is accessible by vehicle from Eholt to the junction with the Brown Creek road, about 700 metres west of the western property boundary. From that point, it is accessible only by foot, bicycle, or by 4-wheeler or motorcycle. The Rathmullen and Thimble Mountain logging roads (from the CPR rail grade at the Brown Creek road junction) are also useful for accessing the western part of the property.







Elevations range from about 550 metres in the Granby River valley in the eastern part of the property, to just over 1000 metres at the height of land on the former Shickshock crown grant. The east facing slope of the Granby River valley, below the abandoned rail grade, is very steep with good rock exposure. To the west, the topography is somewhat gentler, with more moderate slopes but with less outcrop. The Brown Creek and Granby River valleys have thick alluvial cover with no bedrock exposed. Water is available for drilling from Brown Creek or from Rathmullen Creek. Depending on the area being drilled, this will require hauling water, or pumping a considerable distance (several kilometres). Water may also be available seasonally from one of the smaller drainages on the property.

Vegetation consists of moderate to open second growth mixed fir, pine and larch forest, with little undergrowth. Wetter areas on north slopes and in creek draws commonly have thick cedar forest. Portions of the region have been logged in recent years, and are thickly regrown.

The climate is moderately dry, with hot summers and little rainfall. Snowfall is typically in the order of 1-2 metres. South slopes and areas at lower elevations are generally snow-free from early April to mid November, while the higher elevations are generally not free of snow until early May.

## 3.0 HISTORY

## 3.1 Regional Exploration History

In the Greenwood Camp, exploration dates back to the early 1880's. This first phase of exploration and development focused on high grade gold and silver veins, such as the Skylark, Providence, City of Paris and Jewel (Dentonia) Mines. The first ore shipped from the Boundary area was from the Skylark vein. The vein was discovered in 1892; ore from the vein was packed on horses and then hauled some 150 kilometres in wagons to Marcus, Washington, where it was shipped by rail to Everett. Exploration and development of the various veins in the camp continued intermittently through the early 1900's. Significant producers were the Jewel, with about 124,000 tonnes averaging 9.9 g/t Au produced, the Athelstan (33,000 tonnes @ 5.4 g/t Au), the Winnipeg (56,000 tonnes @ 7.2 g/t Au), and the Providence (10,500 tonnes @ 17.5 g/t Au, 4060 g/t Ag) (Church, 1986).

In 1890, copper skarn mineralization was discovered at Phoenix, about 5 kilometres east of Greenwood. The Granby Company was formed to work in the Phoenix area in 1896, and in 1900 the Granby Smelter in Grand Forks was completed to process ore from the Phoenix mine. Mining continued until 1919, when the Granby mine and smelter closed due to low copper prices, lower ore grades and a shortage of coking coal for the smelter furnaces. The discovery and development of copper skarn mineralization in the Deadwood Camp (Motherlode mine) just west of Greenwood was happening concurrently to the work at Phoenix, with ore processed in the British Columbia Copper Company smelter at Anaconda.

In 1894, mineralization was discovered at the Emma, in the Summit Camp north of Phoenix, during railroad construction. Over the next few years, crown grants had been issued over most of the main showings in the Summit Camp and considerable development work was done. The period from 1900 - 1920 marked the height of mining activity in the Summit Camp, with the B.C. Copper Company's B.C., Emma and Oro Denoro mines all in full operation. A total of about 450,000 tonnes was produced from these three mines during this period, with ore shipped by rail to the company's smelter at Anaconda (Greenwood) for processing. As with the Granby smelter in Grand Forks, the Greenwood smelter ceased operation in 1919 and the company's mines were shut down.

In 1909, the Greenwood-Phoenix Tramway Bore was started, an ambitious but ill-fated project to drive a cross-cut tunnel from Greenwood to a point underneath the Phoenix mine, a distance of about 3 kilometres. The objective of the project was to intersect a number of small veins that had been exposed on surface, including the Last Chance and Crescent veins on the Arcadia property, and to test for mineralization at depth below the Phoenix deposit. The project was abandoned in 1913, after driving about 915 metres of tunnel without much success.

Small-scale production continued from a number of properties in the district following the closure of the Grand Forks and Greenwood smelters, and the coinciding shut-down of the mines in the Phoenix, Summit and Deadwood camp, and then, in 1956 the Granby Company re-evaluated the Phoenix property with the intent of open-pit mining. Open pit production at Phoenix began in 1959 at a rate of 900 tons per day, was increased to 2000 tons per day in 1961 and further increased to 3000 tons per day in 1972. Granby terminated mining operations at Phoenix in 1976, and later dismantled and moved the Phoenix mill. Total production at Phoenix during the period 1900 - 1976 is reported at 27 million tonnes at a grade of 0.9% Cu and 1.12 g/t Au, from a number of different ore bodies (Church, 1986). This amounts to over 1 million ounces of gold production from the Phoenix deposit.

Similarly, in 1956, Woodgreen Copper Mines renewed mining at the Motherlode mine near Deadwood. A 1000 ton per day mill was constructed to process ore mined via open pit methods, although production had dropped to 500 tons per day by 1959. Mining continued until 1962, at which point the mill was dismantled

and removed. The total production from the Motherlode mine to 1962, including the early direct smelting ore, is 4.2 million tonnes at a grade of 0.8% Cu and 1.3 g/t Au (Church, 1986).

Exploration in the camp was rekindled in the early 1980's with the discovery of the Sylvester K gold bearing massive sulfide zone north of the Phoenix (on Kettle River's Phoenix property). The Sylvester K is contained within a very characteristic, repeatable sequence of Brooklyn sediments and volcanics (the upper portion of the regionally mapped sharpstone unit), sitting just below massive Brooklyn limestone. Complex faulting offsets mineralization and has hampered exploration.

Skylark Resources was active in the area during the mid-late 1980's, on their wholly owned Skylark property (now Kettle River Resources' Arcadia property) and on the adjoining OB property, which they held in joint venture with Viscount Resources. Skylark discovered and explored the H and Serp Zones, straddling the boundary between the Skylark and OB properties. A 458 metre decline was completed on the H Zone, with drifting onto the Serp Zone. Production from the H Zone started in December 1987, at a rate of 90 tonnes per day. Ore was processed in the Robert's Mill at Boundary Falls and in the Dankoe Mill near Keremeos. Mining continued through to early 1989, with total production of 33,300 tonnes grading 353 g/t Ag and 2.7 g/t Au. Significant exploration work was also done on the Golden Crown and Lexington properties during the mid-late 1980's.

In the late 1980's and early 1990's, the camp was busy, with options by major companies on a number of properties in the Greenwood area (including Battle Mountain (Canada) Inc. on the Phoenix property, Canamax Resources on the Bluebell property, Minnova Inc. on the Tam O'Shanter property, and Teck and Orvana on the Eholt/Thimble Mountain property). Major exploration programs were completed on all of these properties, including several airborne surveys and considerable exploratory drilling.

Crown Resources and Echo Bay Mines discovered several gold-bearing volcanogenic massive sulfide/oxide deposit in the Belcher District, just south of the Canada-USA border, during the late 1980's and early 1990's. Recognizing the geological similarities between the Belcher District and the Greenwood area, Echo Bay Minerals Co. entered into a joint venture agreement with Kettle River Resources Ltd. in 1997, to explore certain claims in the Greenwood camp for this style of mineralization. A total of 2,500 metres of diamond drilling was done to test targets at the Emma, Sylvester K, R. Bell and Bluebell showings, with little success.

In 2002, Gold City Industries Ltd. acquired the Golden Crown, Lexington and JD properties, three of the more advanced properties in the Greenwood area (together "The Greenwood Gold Project"). During 2003, 47 diamond drill holes were drilled on the Golden Crown property, 4 holes were drilled on the Lexington property and a trenching program was carried out on the JD property. In 2004, an agreement was reached with Merit Mining (formerly Jantri Resources) to acquire the Greenwood Gold project from Gold City. An additional 40 diamond drill holes were drilled on the Lexington project during 2004, and an updated 43-101 compliant Inferred Resource of 106,100 tonnes grading 6.6 g/t Au and 1.0% copper or 8.9 g/t Au equivalent, at a cut-off of 6 g/t Au equivalent was announced (MEM.V news release April 19, 2005). In addition, the company announced that conditional permitting was in place for a 200 tonne per day flotation mill near the Golden Crown property (MEM.V news release Jan 17, 2005). If construction of this mill proceeds, this will provide a custom-milling option for properties in the Greenwood area.

# 3.2 History of Exploration - Rads Property

Figure 3 shows the outline of former crown granted mineral claims that are situated wholly or in part within the Rads property. Apart from the dates of crown granting (1899 to 1903) there are few references to the claims in the Minister of Mines Annual Reports. Regulations governing the issuing of crown grants required that development work be completed on each of these claims. Previous work that has been documented on the property is summarized below. Exploration targets resulting from this work are shown in Figure 4.

Mention is made of a total of "70 *feet of sinking and 50 feet of tunnelling*" on the Herald and Richelieu (location unknown), in the 1901 Minister of Mines Annual Report.

In 1928-29, work was done on the Black Tail claim by the Clara Charlotte Mining Co., Ltd. of Washington, USA. Numerous open cuts are reported, a 12 metre long upper tunnel, and a 40 metre long lower tunnel. The workings reportedly tested the mineralized contact between a porphyry dyke and greenstone.

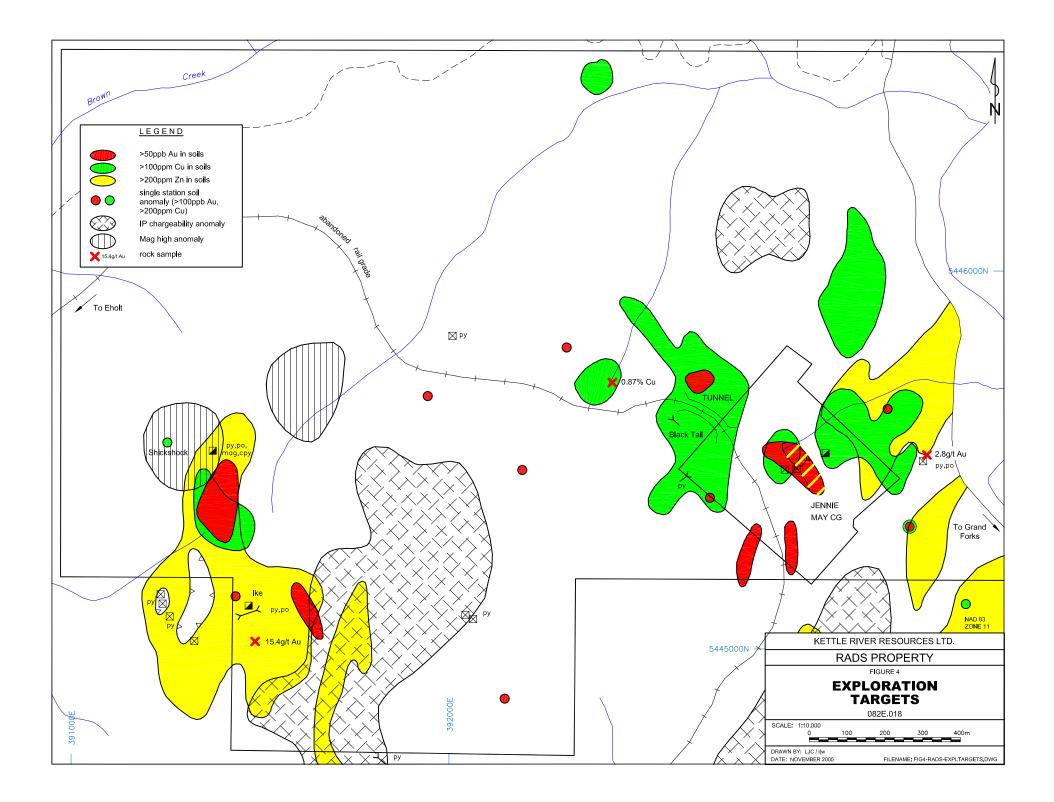
There is no further record of work on the property until 1972, when Granby optioned the Ike claims (although the area was covered by regional geological studies by Carswell (1957) and Reinsbakken (1970). Granby completed a small ground mag and VLF-EM survey on their Ike claims (an area now partly covered by Kettle River's claims). The following year, Granby acquired the Sailor Boy and Shickshock claims. Granby carried out a trenching program in 1974, as well as limited geological mapping, rock sampling and a ground mag survey (Lucke, 1974). Six trenches, totalling 396 metres, were dug at the Shickshock showing.

Following the shut down of the Phoenix mine, Granby's interests in the Greenwood area were acquired by Noranda and, in 1984, Noranda completed a very small soil sampling program over the Sailor Boy reverted crown grant. Two open-ended east-west trending zinc anomalies were delineated, with values to 520 ppm Zn. Further work was recommended (Keating, 1984).

In 1989, Kettle River Resources staked the Rads 1-8 claims and acquired the Sailor Boy and Shickshock claims from Noranda. Kettle River completed a small prospecting and rock sampling program, for assessment purposes, in 1990 (Graham, 1990).

In 1991, Pan Orvana Resources Inc. (later Orvana Minerals Corp.) optioned the Rads property from Kettle River, as part of their much larger Thimble Mountain project. At the time, Kettle River's property did not include the ground formerly covered by the Ammie, Mammie, Black Tail, OK, No. 3 Fraction claims (although these were part of Orvana's Thimble Mountain property, having been optioned from owners R. Mellet, D. Geronazzo and R. Purdie). These claims subsequently lapsed and the ground was acquired by Kettle River and included in the Rads property. During 1991 and 1992, Orvana completed geological mapping, rock, soil and stream sediment sampling, ground mag and limited IP surveys on their property (Laird and Thomson, 1992; Thomson and Fredericks, 1993; Ettlinger, 1991).

Soil samples were collected at 40 metre intervals on 100 and 200 metre spaced east-west trending lines on a grid which covered the entire current Rads property west of the Granby road. Figure 4 shows areas of anomalous Au, Cu and Zn in soils, from Orvana's work. A large zinc soil anomaly occurs in the vicinity of the Shickshock and Ike showings (with a smaller area of coincident copper and gold at the Shickshock) and an area of anomalous copper (plus spotty gold) occurs at the Black Tail and Jenny May showings. A large zinc anomaly also occurs to the east and southeast of this. East of the rail grade, in the vicinity of the Black Tail and Jenny May showings, the topography is very steep, with east facing slopes above the Granby River valley. Some of the soil anomalies in this area may be the result of downslope dispersion on this hillside.



Rock sampling by Orvana returned moderately anomalous copper values (several 1000 ppm Cu) from the Shickshock and Black Tail showings, but with low values of precious metals. One rock sample from the Ike showing returned 15,395 ppb Au, with no associated copper mineralization. Prior to the 2005 program, there was no follow-up to this sample.

Orvana's IP survey showed a large, generally north-trending, chargeability anomaly to the east of the Ike and Shickshock showings, in an area of pyritic (probable) Knob Hill chert. A second chargeability high was defined about 500 metres northeast of the Black Tail showing, in an area of skarn altered Brooklyn conglomerate. This anomaly is part of a larger, discontinuous north trending chargeability high that extends both north and south of the Rads property, for a total length of some 2000 metres (Thomson and Fredericks, 1993). Two very strong mag-high anomalies were defined, one centered just northwest of the Shickshock showing and one about 800 metres to the northeast.

Orvana concluded that "*a large mineralizing system*" was present on the property and that further, more extensive, exploration was warranted. Trenching and drilling was recommended to follow-up the Shickshock and Black Tail showings (and other targets on their larger Thimble Mountain property). Orvana did not complete any of the recommended follow-up on the Rads property. Until the current program, no exploration had been carried out on the property since Orvana's work in the early 1990's.

In 2005, Kettle River Resources converted the legacy Rads 1-8 and the Shickshock and Sailor Boy reverted crown grants to the current MTO cell claim that comprises the Rads property. A NI 43-101 compliant Technical Report was prepared by the author for all of Kettle River's Greenwood area properties, including the Rads (Caron, 2005). The general background information contained in the current report is taken in large part from that source.

## 3.3 Summary of 2005 Work Program

A program of detailed prospecting and rock sampling was completed on the Rads property during the fall of 2005. Work was done from October 14 to November 1, 2005, by John Boutwell and Alfi Elden of Greenwood, B.C. The program was supervised by Linda Caron of Grand Forks, B.C.

A total of 47 rock samples were collected and submitted to Eco Tech Labs in Kamloops for preparation and analysis for gold plus a 32 element ICP suite. Rock sample locations and results for select elements are shown on Figure 6. Sample descriptions are contained in Appendix 1 and complete analytical results are included in Appendix 2.

## 4.0 GEOLOGY & MINERALIZATION

## 4.1 Regional Geology and Deposit Types

The Rads property is situated within the Boundary District, a highly mineralized area straddling the Canada-USA border, which includes the Republic, Belcher, Rossland and Greenwood Mining Camps. Total gold production from the Boundary District exceeds 7.5 million ounces (Schroeter et al, 1989; Höy and Dunne, 2001; Lasmanis, 1996). The majority of this production has been from the Republic and Rossland areas. At Republic, about 2.5 million ounces of gold, at an average grade of more than 17 g/t Au, has been produced from epithermal veins (Lasmanis, 1996). In the Rossland Camp, 2.8 million ounces of gold at an average grade of 16 g/t Au was mined from massive pyrrhotite-pyrite-chalcopyrite veins (Höy and Dunne, 2001). Recent exploration in the Boundary District resulted in the discovery of a number of new deposits, from which more than 1 million ounces of gold has been produced to date. At present, Kinross' Emanuel Creek (North) deposit is the only active metal mine in the district. Several other gold deposits, including the Buckhorn Mountain (Crown Jewel) deposit at Chesaw and the Golden Eagle deposit at Republic, remain undeveloped.

Numerous people have mapped portions of the Boundary District on a regional basis, including Höy and Dunne (1997), Fyles (1984, 1990), Little (1957, 1961, 1983), Church (1986), Parker and Calkins (1964), Muessig (1967), Monger (1967) and Cheney and Rasmussen (1996). While different formational names have been used within different parts of the district, the geological setting is similar.

The Boundary District is situated within Quesnellia, a terrane that accreted to North America during the mid-Jurassic. Proterozoic to Paleozoic North American basement rocks are exposed in the Kettle and Okanogan metamorphic core complexes. These core complexes were uplifted during the Eocene, and are separated from the younger overlying rocks by low-angle normal (detachment) faults. The distribution of these younger rocks is largely controlled by a series of faults, including both Jurassic thrust faults (related to the accretionary event), and Tertiary extensional and detachment faults.

The oldest of the accreted rocks in the district are late Paleozoic volcanics and sediments. In the southern and central parts of the district, these rocks are separated into the Knob Hill and overlying Attwood Groups. Rocks of the Knob Hill Group are of dominantly volcanic affinity, and consist mainly of chert, greenstone and related intrusives, and serpentinite. The serpentinite bodies of the Knob Hill Group represent parts of a disrupted ophiolite suite which have since been structurally emplaced along Jurassic thrust faults. Commonly, these serpentinite bodies have undergone Fe-carbonate alteration to listwanite, as a result of the thrusting event. Serpentinite is also commonly remobilised along later structures. Unconformably overlying the Knob Hill rocks are sediments and volcanics (largely argillite, siltstone, limestone and andesite) of the late Paleozoic Attwood Group.

The Paleozoic rocks are unconformably overlain by the Triassic Brooklyn Formation, represented largely by limestone, clastic sediments and pyroclastics. In the western part of the district, the Permo-Triassic rocks are undifferentiated and grouped together as the Anarchist Group.

Both the skarn deposits and the more recently recognized stratabound gold-bearing volcanogenic magnetitesulfide deposits in the district are hosted within the Triassic rocks. The Brooklyn Formation contains a distinctive angular chert pebble conglomerate, known locally as "sharpstone conglomerate". Stratiform VMS/O mineralization occurs, in a general sense, at the top of the sharpstone unit, and stratigraphically below massive Brooklyn limestone. The origin of the sharpstone has long been debated. Rayner (1995) states that submarine explosive activity, or alternately, faulting with rapid and substantial vertical movement to provide steep fault scarps, would be required to generate the angular chert clasts in the sharpstone. Volcanic rocks overlie the limestone and clastic sediments of the Brooklyn Formation and may be part of the Brooklyn Formation, or may belong to the younger Jurassic Rossland Group.

At least four separate intrusive events are known regionally to cut the older rocks, including the Jurassic aged alkalic intrusives (i.e. Lexington porphyry, Rossland monzonite, Sappho alkalic complex), Triassic microdiorite related to the Brooklyn greenstones, Cretaceous-Jurassic Nelson intrusives, and Eocene Coryell (and Scatter Creek) dykes and stocks.

In the Greenwood area, Fyles (1990) has shown that the pre-Tertiary rocks form a series of thrust slices, which lie above a basement high-grade metamorphic complex. A total of at least five thrust slices are recognized, all dipping gently to the north, and marked in many places by bodies of serpentine. There is a strong spatial association between Jurassic thrust faults and gold mineralization in the area.

Eocene sediments and volcanics unconformably overlie the older rocks. The oldest of the Tertiary rocks are conglomerate and arkosic and tuffaceous sediments of the Eocene Kettle River Formation. These sediments are overlain by andesitic to trachytic lavas of the Eocene Marron Formation, and locally by rhyolite flows and tuffs (such as in the Franklin Camp). The Marron volcanics are in turn unconformably overlain by lake bed sediments, lahars and volcanics of the Eocene Klondike Mountain Formation. The Klondike Mountain Formation is largely missing in the Greenwood area.

Three Tertiary fault sets are recognized, an early gently east dipping set, a second set of low-angle west dipping, listric normal (detachment-type) faults, and a late, steep dipping, north to northeast trending set of right or left lateral or west side down normal faults (Fyles, 1990). Epithermal gold mineralization, related to Eocene structural activity, has been an important source of gold in the Boundary District.

The Tertiary rocks are preserved in the upper plates of low-angle listric normal (detachment-type) faults related to the uplifted metamorphic core complexes, in a series of local, fault-bounded grabens (i.e. Republic graben, Toroda graben) (Cheney and Rasmussen, 1996; Fyles, 1990). In the Greenwood area, a series of these low-angle faults occur (from east to west, the main low-angle faults are the Granby River, Thimble Mountain, Snowshoe, Bodie Mountain, Deadwood Ridge, Windfall Creek, and Copper Camp faults). These faults have taken a section of the Brooklyn stratigraphy and sliced it into a series of discrete blocks, each separated by a low-angle fault. For example, the Phoenix section is rooted by the Snowshoe fault. Overlying these rocks were rocks now exposed about 6 kilometres to the west in the Deadwood Camp. The Deadwood segment was in turn overlain by rocks now situated to the west above the Copper Camp fault. The low angle Tertiary faults have displaced pre-Tertiary mineralization (i.e. the Deadwood camp represents the top of the Phoenix deposit), however current thinking attributes at least some of the gold in the deposits to the low angle Tertiary faults that underlie them. Many smaller low angle detachment-type faults are recognized on a property scale, and are often marked by Eocene sills which mask rocks the underlying fault plate.

Because the skarn and VMS/O deposits have a strong stratigraphic control, an understanding of both stratigraphy and structure is critical to exploration success. As summarized by Rayner (1995):

"Dr. Fyles' recent work on the extension tectonics of the district has fundamentally changed geological thinking in the Boundary Camp. Any attempt to look at the camp in a unified way with respect to concepts of zoning or a concentric distribution of deposits must deal with the fact that we are now looking at the laterally dismembered and subsequently eroded remnants of the original system."

Most of the historical production and previous exploration in the Boundary District has been directed at gold or copper-gold/silver mineralization and, as such, the following discussion is restricted to these styles

of mineralization. Occurrences of chrome, nickel, PGE's and lead-zinc mineralization are known within the district that are not discussed below. The important gold deposits within the Boundary District can be broadly classified into six deposit types, as summarized below (Peatfield, 1978; Church, 1986, 1997; Tschauder, 1989; Rasmussen, 1993, 2000).

## 1. Skarn Deposits

Both gold and copper-gold skarn deposits occur within the Boundary District. These deposits are related to Cretaceous-Jurassic intrusive activity into limestone and limey sediments generally belonging to the Triassic Brooklyn Formation. Important examples of this type of deposit include the undeveloped Buckhorn Mountain (Crown Jewel) deposit at Chesaw, Washington, the historic Phoenix deposit near Greenwood (part of Kettle River's Phoenix property), and the Motherlode deposit just west of Greenwood. Historic production from Phoenix is 27 million tonnes at 0.9% Cu and 1.12 g/t Au and from Motherlode is 4.2 million tonnes at 0.8% Cu and 1.3 g/t Au (Church, 1986).

Recent exploration in the district suggests that at least some of the metal in the "skarn" deposits (Phoenix, Motherlode) pre-date the skarn event. An iron (+/- copper, gold) rich volcanogenic massive sulfide/oxide horizon (the Lamefoot horizon, discussed below) occurs within the Brooklyn Formation. All of the major "skarn" deposits in the district occur at the same stratigraphic position within the Brooklyn Formation as the Lamefoot VMS/O horizon. The skarn alteration may simply be a redistribution of earlier syngenetic mineralization on this horizon, with perhaps some additional metals (particularly gold) introduced along structures cutting the horizon.

Exploration in the district has traditionally targeted copper (and more recently gold) skarn mineralization in Brooklyn limestone and sharpstone, and less commonly calcareous units in the Knob Hill and Attwood Groups. There has been little exploration for mafic volcanic hosted copper (plus gold) skarns (i.e. QR, Ingerbelle type).

## 2. Gold-bearing Volcanogenic Magnetite-Sulfide Deposits (Lamefoot-type)

Crown Resources and Echo Bay Minerals discovered a new style of mineralization within the Boundary District in the late 1980's, described as gold-bearing, magnetite-pyrrhotite-pyrite syngenetic volcanogenic mineralization (Rasmussen 1993, 2000). Mineralization is hosted within the Triassic Brooklyn Formation, but at least part of the gold is attributed to a late stage epigenetic (Jurassic or Tertiary) event. The gold bearing massive magnetite and sulfides at the Overlook, Lamefoot and Key deposits in Ferry County, Washington all occur at the same stratigraphic horizon, with a (stratigraphic) footwall of felsic volcaniclastics and a massive limestone hangingwall, and with auriferous quartz-sulfide and sulfide veinlets in the footwall of the deposits. Mineralization occurs near the top of the regional "sharpstone" conglomerate unit. The sharpstone is believed to have been derived by submarine explosive activity or by faulting with rapid vertical displacement. Rayner (1995) states that:

"either of these events ... are exactly what might be required to provide the channelways for exhalative fluids to reach the sea floor and create VMS deposits."

In the Greenwood Camp, many of the known showings that were previously termed "skarn" deposits are now felt to be volcanogenic in origin. They occur at the same stratigraphic position in the Brooklyn Formation as the Lamefoot, Overlook and Key deposits and have characteristics consistent with this style of deposit. The Sylvester K, Emma, Rathmullen and Cyclops (all on Kettle River's properties) are some examples. As discussed above, much of the metal in Phoenix and Motherlode "skarn" deposits is also now believed to pre-date the skarn event. Early exploration and development in the camp largely focussed on massive sulfide/oxide zones since this ore could be shipped directly to the smelters. Footwall stringer zones (known to occur at Lamefoot and at Sylvester K) were overlooked in the early years and are a good exploration target. In the Greenwood area, complex Tertiary faulting has dismembered and displaced the favourable VMS/O horizon. Low-angle faulting is common, with Eocene sills along many of these structures. Exploration is hampered by these sills, which mask the rocks in the underlying panel. An understanding of stratigraphy and structure is critical to exploration success.

## 3. Mesothermal Quartz Veins with Gold (+Silver, Lead, Zinc)

Gold-silver mineralization occurs in mesothermal quartz veins related to Cretaceous-Jurassic Nelson intrusives. Polymetallic silver-lead-zinc veins with lesser gold are also included in this type. Veins may be hosted within the intrusives, or within adjacent country rock. Examples are the Jewel (Dentonia) and Providence veins, and the veins at Camp McKinney. At Camp McKinney, gold bearing quartz veins are hosted primarily by Permo-Triassic Anarchist Group greenstones, quartzite, chert and limestone. Past production at Camp McKinney was 124,452 tonnes at an average grade of 20.39 g/t Au (with minor lead, zinc and silver). This production was primarily from one east-west striking, near vertical quartz vein, averaging about 1 metre in width and mined over a strike length of about 750 metres (Caron, 2002b; Minfile 082ESE020).

## 4. Epithermal Quartz Veins (and Gold along Eocene Structures)

The Republic district has produced over 2.5 million ounces of gold, at an average grade of better than 17 g/t Au from Eocene-aged low sulfidation epithermal veins (Lasmanis, 1996). The veins formed in a hot spring environment after deposition of the Sanpoil (Marron) volcanics, but before the deposition of the Oligocene Klondike Mountain Formation (Tschauder, 1986, 1989; Muessig, 1967). In the Republic area, the Klondike Mountain Formation has been eroded away in many places, exposing or removing the paleosurface, however a number of the Republic deposits are blind deposits beneath post mineral sediments of the Klondike Mountain Formation. Vein orientation is between about 330° and 030°; dips are typically moderate to steep. The Republic veins commonly extend to depths of 200 - 250 metres, although some have reached depths of up to 500 metres. Ore is not continuous along the veins, but occurs in high grade shoots, ranging from 30 to 180 metres in strike length. Near the contact of the Sanpoil volcanics and the overlying Klondike Mountain Formation, the veins grade into stockwork zones. These stockworks are locally capped by silicified breccias with low grade gold and with locally disseminated pyrite which make potential bulk tonnage gold targets. Gold-sulfide mineralization is also associated with both high and low angle Tertiary faults. A number of new epithermal deposits have been discovered in recent years in the Republic and Curlew areas (i.e. Golden Eagle, Kettle, K2, Emanuel Creek, Emanuel North (Fifarek et al, 1996; Gelber, 2000, Kinross website)). The Emanuel Creek vein near Curlew is an impressive recent 'blind' vein discovery, under an average 350 metres of post-mineral cover, with grades up to 44.5 g/t Au over widths in excess of 30 metres (Kinross webcast, April 3, 2003). Kinross has recently completed mining the Emanuel Creek deposit and is currently mining the northern extension of the vein system (Emanuel North deposit).

The Bengal zone (and possibly the Wild Rose vein) on Kettle River's Tam O'Shanter property is an example of Eocene-aged epithermal veining associated with the eastern margin of the Toroda graben. The "Emma epithermal" quartz-breccia vein and (probably) silicified limestone with high grade gold values, at the Summit showing near the R. Bell mine, are other examples of epithermal systems. Low-sulfidation epithermal veining with good gold values is also known near Phoenix. Auriferous massive to semi-massive sulfide mineralization is also known along Eocene structures in the Greenwood area.

## 5. Jurassic Alkalic Intrusives with Copper, Gold, Silver and/or PGE Mineralization

Jurassic aged alkalic intrusives host copper-gold and copper-silver-gold-PGE mineralization in several areas within the Boundary District. There is a strong spatial association between Jurassic structures (thrust faults) and Jurassic alkalic intrusives. A low-grade copper-gold porphyry system occurs at the Lone

Star - Lexington property, in a Jurassic quartz-feldspar porphyry intrusion (Seraphim et al, 1995). Massive to semi-massive chalcopyrite-magnetite-pyrite + PGE mineralization, with associated gold, occurs in Jurassic syenite and pyroxenite on the Sappho property near Midway (Caron, 2002a; Nixon, 2002; Nixon and Archibald, 2002), and at the Gold Dyke and Comstock mines near Danville (Tschauder, 1989).

At Rossland, parallel, en echelon, gold-bearing massive pyrrhotite-pyrite-chalcopyrite and quartz veins are related to the intrusion of the Rossland monzonite, a multi-phase Jurassic alkalic intrusive. At Rossland more than 20 veins are recognized in an area of about 1200 by 600 metres, from which over 5.5 million tonnes of ore grading 16 g/t Au was produced (Höy and Dunne, 2001). Gold bearing massive sulfide veins on the Golden Crown property near Phoenix and at the Wild Rose zone on the Wild Rose property, have similarities to Rossland style veins (Caron, 1998, 1999).

## 6. Gold Mineralization Associated with Serpentinite

A number of gold deposits within the Boundary District are associated with massive sulfide and/or quartz/calcite veins within structurally emplaced serpentinite bodies along regional thrust faults. In the Greenwood area, mineralization is also known to occur along Eocene aged detachment faults, both within structurally emplaced serpentinite bodies and within more brittle rocks. Ore bodies associated with serpentinite have traditionally been small, but often very high grade. On the Lexington - Lonestar property, Merit Mining Corp. has recently announced a 43-101 compliant Inferred Resource of 106,100 tonnes grading 6.6 g/t Au and 1.0% Cu or 8.9 g/t Au equivalent, at a cut-off of 6 g/t Au equivalent, from a zone of massive sulfide mineralization at the contact of serpentinite and altered volcanics (MEM.V news release April 19, 2005). Mineralization on the Athelstan-Jackpot and Golden Crown properties southeast of Phoenix, the Serp Zone on the Snowshoe and Arcadia properties, the California mine near Republic, and the Morning Star mine near Danville are similarly associated with serpentinite (Caron, 1999, 2004; Tschauder, 1989).

## **Industrial Mineral Deposits**

Relatively little exploration has been done for industrial minerals in the Greenwood area. At present, there are 4 operating industrial mineral operations in the general area. Mighty White Dolomite operates a dolomite quarry near Rock Creek, and processes the dolomite for agricultural, landscaping and decorative purposes. Roxul (West) Inc. mines up to 50,000 tonnes of diorite annually from the Winner quarry, approximately 3 kilometres southeast of the Phoenix pit. The diorite is crushed and then trucked to Grand Forks where it is blended with other rock products and used in the manufacture of rock wool insulation at the company's Grand Forks plant. Roxul also produces syenite from the Cannon Creek quarry, 38 kilometres north of Grand Forks on the Granby road, for the same purpose. At Grand Forks, Pacific Abrasives & Supply Inc. is mining slag from the former Granby smelter. The slag is processed for a variety of applications, including sandblasting and roofing granules. Recent testing was done at a barite occurrence near Rock Creek, although this has not yet been placed into production.

## 4.2 **Property Geology and Mineralization**

The general geology of the Rads property is shown on Figure 5. Figure 5 has been modified from property scale mapping by Thomson and Fredericks (1993), Laird and Thomson (1992), Ettlinger (1991) and regional mapping by Fyles (1990). Regional geology maps by Carswell (1957) and by Reinsbakken (1970) also cover the Rads property. There is some discrepancy between previous workers as to rock types and their distribution, particularly in the western half of the property and Figure 5 should be relied upon only to give a broad sense of the geology of the property. Additional detailed mapping is required to establish an accurate geological picture of the property.

The north and eastern parts of the property, in the Brown Creek and Granby River valleys, have thick alluvial cover with no bedrock exposed. Elsewhere on the property, rock exposure is fair to moderate, and locally very good. The steeper east facing slopes in the eastern part of the property have better rock exposure than the more moderately sloping areas to the west.

A north trending, steeply dipping Eocene-aged fault is present in the western part of the property, extending northwards from the summit of Thimble Mountain. On the property and immediately east of the fault, a large area of locally pyritic (probable) Knob Hill chert is exposed. The chert is overlain to the east by an upright, moderate to steeply east-dipping sequence of Triassic Brooklyn Formation with a basal unit of sharpstone conglomerate, overlain by siltstone, then by massive Brooklyn limestone, and finally (southeast of the property) by Brooklyn volcanics. West of the fault, a second area of Brooklyn limestone is exposed in the vicinity of the Shickshock and Ike showings. An area of pyritic Brooklyn greenstone also occurs west of the fault.

The older rocks are intruded on the west and north by several large stocks of Cretaceous - Jurassic Nelson granodiorite (and diorite) and Eocene Coryell syenite. Numerous smaller syenite, andesite, latite and diorite stocks, sills and dykes also cut the older rocks, but for the most part have been omitted from Figure 5.

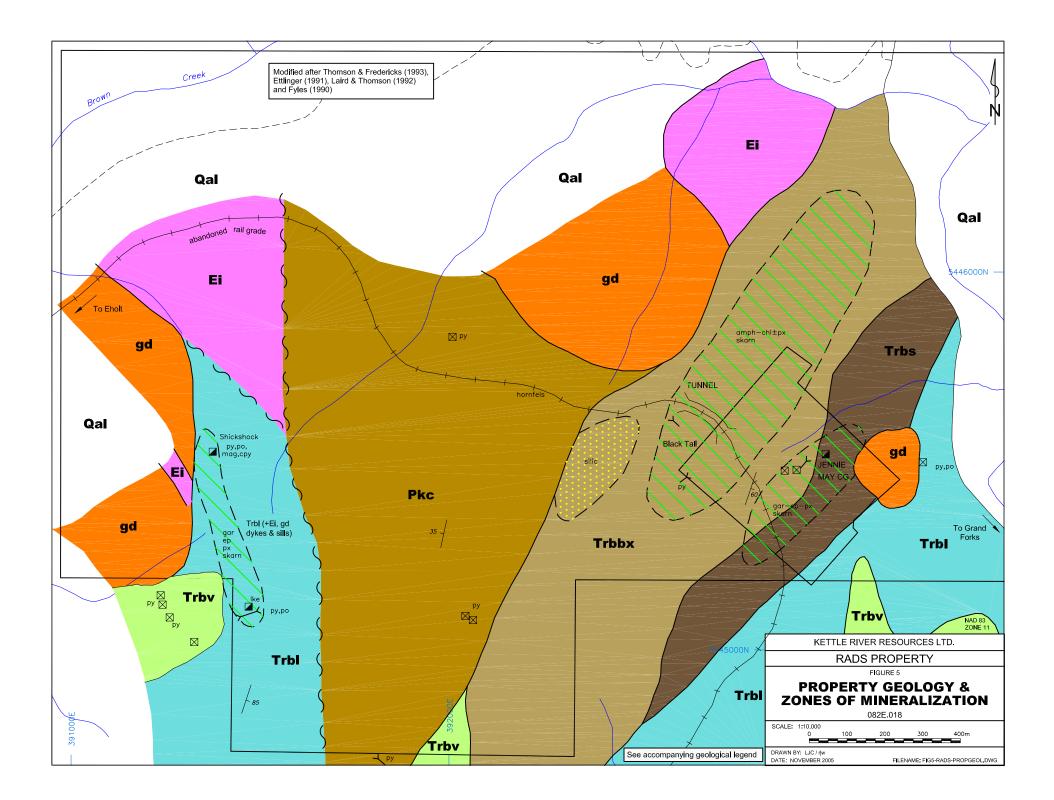
Skarn alteration is developed near the contact of these intrusives with the older limey rocks. Three main zones of mineralization are known on the property, the Shickshock, Ike and Black Tail, as shown on Figure 5 and described below.

## Shickshock

A series of lenses of massive pyrite-pyrrhotite-magnetite-chalcopyrite (+ local sphalerite) are exposed in a shallow shaft and in several old pits and more recent trenches (1970's) at the Shickshock showing. The mineralization occurs on a prominent knoll, within a larger zone of garnet-epidote-pyroxene skarn that is developed near the contact of Brooklyn limestone and Nelson granodiorite. The Shickshock showing is underlain by a thick Eocene syenite sill. The extent of the mineralization beneath the sill is untested. A coincident copper-gold-zinc soil anomaly occurs at the Shickshock showing, within a larger area of anomalous zinc in soils. A very strong mag high anomaly is centred just northwest of the Shickshock shaft. A second mag high anomaly occurs about 800 metres to the northeast, as shown on Figure 4. These mag highs likely represent strongly magnetic Eocene sills or dykes, but should be followed to test for the possibility of magnetite-rich mineralization.

The following table summarizes the better rock sample results from the showing (Laird and Thomson, 1992; Ettlinger, 1991). Gold and silver values are generally low, but there does appears to be a correlation between the precious metal values and copper in the material sampled. Zinc does not appear to correlate with either copper or silver.

	Au (ppb)	Ag (ppm)	Cu (ppm)	Zn (ppm)	Co (ppm)
18746	112	4.4	2216	46	52
18747	194	6.0	1011	50	71
18748	468	3.7	820	28	2230
18750	42	0.5	434	10809	53
19715	361	6.6	3276	95	7



# GEOLOGICAL LEGEND



Drill hole

۲ - Open stope

## Ike

The Ike showing is located approximately 400 metres southeast of the Shickshock showing, on the former OP crown grant (or perhaps on the Sailor Boy?). An old shaft and a trench test a garnet skarn zone, within a large area of Brooklyn limestone. The showing occurs within a broad zone of anomalous zinc in soils, with a single station gold soil anomaly near the old workings. Carswell (1957) describes a showing, which he calls the Sailor Boy but which likely corresponds to what later workers call the Ike showing, as follows:

"The deposit is in metasomatized Brooklyn limestone. The workings consist of a water-filled shaft and a dump indicating that about 350 tons of rock were mined. There is no sign that any ore was shipped, but some strongly pyritized skarn was stockpiled.

There is no outcrop at the shaft, but fine-grained foliated light-brown garnet skarn is exposed 100 feet to the west. "Ore" consists of large euhedral crystals of pyrite in a gangue of skarn. Fragments of diorite found on the dump indicate that an intrusive body was encountered in mining.

The Shickshock showing occurs on the summit of the hill north of the Sailor Boy Mine."

Anomalous rock samples (pre-2005) from the Ike showing are tabulated below. Samples 19552 and 19561 were collected from the old workings and show elevated copper, but low gold and silver values, similar to samples from the Shickshock area. Sample 19551 was collected approximately 50 metres south of the workings, and returned 15,395 ppb Au and 95.8 ppm Ag (with only negligible Cu, As or Zn). This sample has a distinct geochemical signature from the skarn-type mineralization at the Ike and Shickshock showings, and may in fact represent Eocene-aged gold mineralization. It was described as "vuggy quartz veinlets in unaltered limestone".

	Au (ppb)	Ag (ppm)	Cu (ppm)	Zn (ppm)	Co (ppm)
19551	15395	95.8	91	94	2
19552	124	8.5	1716	365	52
19561	53	1.6	2462	76	482

Detailed prospecting and rock sampling was completed in this area, during the 2005 program. The exact sample site for sample 19551 has not been not identified, however several areas of epithermal style quartz veining and silicification in limestone were identified in outcrop and subcrop in the vicinity of the Ike shaft (see Figure 6). Analytical results were disappointing, to a maximum of 95 ppb Au (with 5.3 ppm Ag and 635 ppm As). Further work is required in this area.

## Black Tail

The Black Tail showing is comprised of numerous open cuts and a short adit (the upper workings) and a lower adit (near the tunnel on the rail grade) that test an area of amphibole-chlorite-epidote +/- pyroxene skarn within Brooklyn sharpstone conglomerate. Mineralization consists of pyrite, pyrrhotite and sphalerite in a quartz gangue and in siliceous "country rock". The upper tunnel is reported to be 12 metres long, while the lower tunnel was 40 metres long at the time of reporting in 1928. The lower tunnel is situated about 90 metres lower in elevation than the upper workings and 30 metres from the old CPR rail grade.

A select sample of massive ore from the upper tunnel was reported to assay 2% zinc, but with negligible values of copper, gold or silver (Minister of Mines Annual Report 1928). Anomalous results from more recent sampling are tabulated below:

		Au (ppb)	Ag (ppm)	Cu (ppm)	Zn (ppm)	Co (ppm)
19567	upper adit	176	6.0	1423	29	549
19564	below rwy	269	2.2	658	40	10
19711	below rwy	613	24.8	8690	95	7

Sample 19711 was collected from intense quartz-pyrite altered diorite (?), about 100 metres west of the lower workings and immediately below the rail grade, in an area of anomalous copper in soils. No workings are reported in this area. Additional prospecting and rock sampling was done in this area during the 2005 program, with no significant results.

## Other zones of mineralization

Several old pits and an adit test an area of garnet-epidote-pyroxene skarn near the contact between Brooklyn sharpstone and siltstone on the Jennie May crown grant. Samples from this area have returned values to 4100 ppm Cu, with only weakly elevated gold (to 144 ppm Au). These workings are not part of the Rads property.

About 300 metres east and downhill from the Jenny May workings, an old pit is reported on the former Princess crown grant, which tests a zone of massive to semi-massive pyrrhotite-pyrite mineralization in skarn near the contact of granodiorite and Brooklyn limestone. A sample from this area returned 2826 ppb Au, 2.7 ppm Ag and 360 ppm Cu (Thomson and Fredericks, 1993).

Additional prospecting and rock sampling was done east of the Jenny May crown grant, during 2005, on the steep east facing slope above the Brown Creek road. A 1 metre wide massive sulfide (pyrite-chalcopyrite-pyrrhotite-sphalerite) vein (or pod) was discovered at the base of a large cliff. A sample from this zone returned 5.95 g/t Au with 6003 ppm Zn (RD-46). Approximately 100 meters uphill to the west-northwest, garnet skarn is exposed in outcrop over greater than 10 meters and contains elevated gold (515 ppb Au, RD-40). This area requires further work.

## 5.0 ROCK SAMPLING

Detailed prospecting was completed over the Rads property by John Boutwell and Alfi Elden during October, 2005. A total of 47 rock samples were collected during the course of prospecting. Descriptions for all rock samples are contained in Appendix 1 and sample locations are shown on Figure 6.

All samples were shipped to Eco Tech Labs in Kamloops for preparation and analysis for Au plus a multielement ICP suite. Details of the analytical procedure are contained in Appendix 3 of this report. Complete analytical results are included in Appendix 2 and results for select elements are included on Figure 6, and below in Table 2.

Prospecting and rock sampling was done in three main areas (the Ike, Black Tail and Princess areas). The Ike showing is located in the southwestern part of the Rads property, within about 50 meters of the property boundary. A shaft and several trenches test a garnet skarn zone, with elevated copper values, within a large area of Brooklyn limestone. Orvana had reported a rock sample, described as "vuggy quartz veinlets in unaltered limestone", that was collected approximately 50 metres south of the Ike workings, and returned 15,395 ppb Au and 95.8 ppm Ag (with only negligible Cu, As or Zn). This sample has a distinct geochemical signature from the skarn-type mineralization at the Ike and Shickshock showings, and appears to represent Eocene-aged epithermal gold mineralization. Detailed prospecting and rock sampling was completed in this area, during the 2005 program. The exact sample site for the Orvana sample was not identified, however several areas of epithermal style quartz veining and silicification in limestone were identified in outcrop and subcrop in the vicinity of the Ike shaft (see Figure 6). Analytical results were disappointing, to a maximum of 95 ppb Au (with 5.3 ppm Ag and 635 ppm As). Further work is required in this area, to locate the "Orvana" gold zone, particularly given the regional significance to this style of gold mineralization. Outcrop in this area is relatively scarce, and detailed soil sampling would be useful to identify areas of interest for follow-up trenching.

The area east of the Jenny May crown grant, on the steep east-facing slope above the Brown Creek road, was also prospected during the 2005 program. Previous work in this area had located an old pit (on the former Princess crown grant) that exposed massive to semi-massive pyrrhotite-pyrite mineralization in skarn near the contact of granodiorite and Brooklyn limestone. A sample from this area had returned 2826 ppb Au. During the 2005 program, a 1-metre wide massive sulfide (pyrite-chalcopyrite-pyrrhotite-sphalerite) vein (or pod) was discovered at the base of a large cliff. A sample from this zone returned 5.95 g/t Au with 6003 ppm Zn (RD-46). Approximately 100 meters uphill to the west-northwest, garnet skarn is exposed in outcrop over greater than 10 meters and contains elevated gold (515 ppb Au, RD-40). The steep topography in this area hampers exploration and further prospecting and rock sampling is required to better define the targets for follow-up testing.

Prospecting and rock sampling was also done in the vicinity of the Blacktail showing. A large area of silicification and epidote-amphibole-pyroxene skarn zone is developed in siliceous Brooklyn conglomerate. Local disseminated and poddy sulfides (pyrite, pyrrhotite, chalcopyrite) occur within the altered rocks. Nine samples were collected from this area, as shown on Figure 6. Other than some weakly elevated copper values, there were no significant results from this area. It is a low priority for further work.

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	Au (ppb)	Ag (ppm)	As (ppm)	Cu (ppm)	Pb (ppm)	Zn (ppm)
RD-01	5	0.4	<5	6	12	65
RD-02	<5	0.2	<5	2	<2	10
RD-03	10	0.4	10	17	22	255
RD-04	5	0.2	<5	7	4	18
RD-05	95	5.3	635	26	60	740
RD-06	5	0.4	15	6	134	422
RD-07	5	1.1	10	48	10	159
RD-08	5	0.5	150	6	16	81
RD-09	5	0.4	15	31	8	39
RD-10	5	0.2	20	5	4	7
RD-11	10	0.2	5	29	6	28
RD-12	10	0.3	20	5	<2	9
RD-13	10	0.2	<5	8	14	30
RD-14	5	<0.2	10	8	4	10
RD-15	10	0.2	<5	58	4	78
RD-16	5	0.7	20	13	4	16
RD-17	5	<0.2	<5	3	8	55
RD-18	15	0.3	30	30	8	32
RD-19	5	0.2	25	5	4	78
RD-20	10	<0.2	25	11	6	13
RD-21	15	1.6	190	102	14	96
RD-21 RD-22	5	<0.2	15	5	<2	51
RD-23	15	<0.2	30	2	6	19
RD-24	60	4.3	45	1463	12	330
RD-25	10	<0.2	10	3	<2	70
RD-26	10	0.8	130	292	2	83
RD-27	10	0.7	30	21	8	20
RD-28	5	0.3	15	5	4	217
RD-28A	5	<0.2	10	4	<2	152
RD-29	5	<0.2	<5	5	<2	10
RD-30	5	0.2	5	13	6	10
RD-31	80	0.7	<5	608	8	132
RD-32	5	2.9	10	146	16	47
RD-33	50	0.6	<5	440	8	96
RD-34	15	0.2	<5	123	4	28
RD-34 RD-35	10	1.9	5	125	10	16
RD-36	10	0.2	<5	13	4	10
RD-30	20	0.2	10	201	12	64
RD-37 RD-38	170	1.9	<5	1406	6	312
RD-30	20	0.3	15	1400	12	56
RD-40	515	0.5	110	57	12	22
RD-40 RD-41	100	0.9	35	173	12	57
RD-41 RD-42	100	1.1	20	289	6	64
RD-42 RD-43	520	3.8	125	768	20	168
RD-43 RD-44	25	<u> </u>	125	124	20	45
RD-44 RD-45	355	2.0	<5	2087	28	452
RD-45	5.95 g/t	7.6	65	537	28	6003
ND-40	5.95 g/t	1.0	00	337	24	0005

 Table 2 - 2005 Rock Sample Results

## 6.0 CONCLUSIONS & RECOMMENDATIONS

The Rads property is underlain in large part by the Triassic Brooklyn Formation, a favourable host rock for both copper-gold skarn mineralization and gold-bearing volcanogenic massive sulfide/oxide (Lamefoot-type) mineralization. No modern trenching and no drilling has been done on the property. Areas of anomalous copper, gold and zinc in rocks and in soils (from the 2005 and previous work programs) remain to be followed up, as do several chargeability anomalies.

Skarn type mineralization has been the focus of essentially all the previous exploration on the property, and this remains a viable target. At the Shickshock occurrence, the skarn mineralization is cut at a shallow depth by a large syenite sill. The Princess area, in the eastern part of the property, is another zone that requires further testing. A rock sample from this area collected during the 2005 program returned 5.95 g/t Au with 6003 ppm Zn, from a massive sulfide vein/pod.

Large areas of anomalous zinc in soils on the property may be indicative of a VMS/O system. Airborne time domain EM would be a good tool to test for massive sulfide zones associated with either volcanogenic or skarn mineralization. This is recommended for the Rads property (in conjunction with surveys on other Kettle River Greenwood area properties). This will be a particularly useful tool in the eastern part of the property (the Princess area) where the very steep topography hampers ground exploration methods. Any anomalies detected by the airborne survey should then be followed-up on the ground, by prospecting and then by trenching or drilling, depending on access and on the findings of the preliminary work.

In addition to the skarn and volcanogenic massive sulfide/oxide mineralization potential of the property, Eocene-aged epithermal gold mineralization is a viable exploration target. Detailed prospecting in the vicinity of the Ike zone, has identified a significant epithermal system hosted within limestone. A sample of this style of mineralization (from a previous program), returned 15.4 g/t Au. Work during 2005 was unsuccessful in locating the exact sample site, but did uncover widespread epithermal style veining and silicification within limestone (with elevated values to 95 ppb Au, 5.3 ppm Ag, 635 ppm As). A detailed soil survey is recommended for this area to define the gold-rich part of the system for follow-up work. Any anomalies discovered could be tested by excavator trenching.

## 7.0 STATEMENT OF QUALIFICATIONS

I, Linda J. Caron, certify that:

- 1. I am an independent consulting geologist residing at 717 75<sup>th</sup> Ave (Box 2493), Grand Forks, B.C., V0H 1H0
- 2. I obtained a B.A.Sc. in Geological Engineering (Honours) in the Mineral Exploration Option, from the University of British Columbia (1985) and graduated with a M.Sc. in Geology and Geophysics from the University of Calgary (1988).
- 3. I have practised my profession since 1987 and have worked in the mineral exploration industry since 1980. Since 1989, I have done extensive geological work in Southern B.C. and particularly in the Greenwood Grand Forks area, both as an employee of various exploration companies and as an independent consultant.
- 4. I am a member in good standing with the Association of Professional Engineers and Geoscientists of B.C. with professional engineer status.
- 5. I have no direct or indirect interest in the Rads property, or in the securities of Kettle River Resources Ltd., nor do I expect to receive any.
- 6. I am a Qualified Person and independent of Kettle River Resources Ltd., as defined by National Instrument 43-101. I have read National Instrument 43-101 and Form 43-101F1, and have prepared this report in compliance with these documents. As of the date of signing, I am not aware of any material facts related to this property, which are not reflected in this report.
- 7. I supervised the work program described in this report.

Linda Caron, M.Sc., P. Eng.

Date of signing

# 8.0 COST STATEMENT

## Labour

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Linda Caron, Geologist field ex 3 days @ \$481.5	amination, supervision, report preparation	1,444.50
John Boutwell, Prospector prospec	•	1,444.30
	•	1,500.00
5 days @ \$300/d		1,300.00
Afreda Elden, Prospector prospec	•	1 000 00
5 days @ \$200/d	•	1,000.00
	\$	3,944.50
Analytical Costs	1	1 005 50
Eco Tech Labs, Kamloops 47 rock	•	1,005.52
Analysis for Au + 32 element ICI	+ select assays	
E		
Expenses	\$	50.20
Fuel	\$	59.39
4 wheeler rental 1 days @ \$50/da		50.00
Vehicle rental 6 days @ \$75/da		450.00
Misc. field supplies & shipping cos		60.62
Wildrock Resources - drafting & m		85.00
Report copying & binding	<u>\$</u>	36.00
	\$	741.01
	Tatala	5 (01 02

Total: \$ 5,691.03

## 9.0 REFERENCES

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# **APPENDIX 1**

Rock Sample Descriptions

		2	005 Rock Sample Descriptions
	ocations are N	Nad 83.	
Sample #	Loca		Description
	Easting	Northing	
RD-01	391505	5445040	A very silicified float rock, still reacts weakly to acid so prob a limestone. No visible sulfides, about 30 m SSE of Ike shaft. Sampled by AE, 14/10/05.
RD-02	391488	5445048	Limestone outcrop with vein/bleb of silica. 30 m S of Ike shaft, whiteish-grey- brown silica, minor oxidation. Sampled by JB, 14/10/05.
RD-03	391508	5445059	
RD-04	391493	5445043	6 m SE of RD-02. Limestone float. Sampled by JB, 14/10/05.
RD-05	391545	5444943	Epithermal veining - drusy calcite + qtz, in former dark grey limestone. Subcrop. Limonite stains on fractures. Sampled by AE, 14/10/05.
RD-06	391483	5445028	Float. Minute 1 mm clear quartz stringers in limestone. Sampled by JB, 14/10/05.
RD-07	391543	5445005	
RD-08	391543	5444949	Epithermal vein/blowout in limestone. Very siliceous, dark coloured, completely permeated with drusy qtz veins and vugs. Approx 1.5 x 1.5 m. Sampled by JB, 14/10/05.
RD-09	391528	5444882	Outcrop with some silicification visible. Unidentified sulfide. Adjacent to old digging (sample RD-10). Sampled by AE, 15/10/05.
RD-10	391532	5444903	Old prospect pit on epithermal vein, vuggy qtz across 1 m width (but may be wider than this). Probably same vein sampled as RD-08. Sampled by JB, 15/10/05.
RD-11	391750	5444917	Float adjacent to outcrop of argillaceous black rock. Quartzite or silicified limestone? Old digging about 70 m NNE of this (RD-16). Some hematite + limonite staining. Sampled by AE, 15/10/05.
RD-12	391521	5444856	Float train of silic limestone on opposite side of gully from RD-10. Vuggy epithermal looking veining. Sampled by JB, 15/10/05.
RD-13	391629	5445060	Old excavation in limestone, trends N-S, 2 m wide x 5 m long. Sample is bulk sample of rock from end wall of trench. Manganese dendrites + oxidized py cubes in calcareous matrix. No apparent silica. Sampled by AE, $15/10/05$ .
RD-14	~391520	~5444750	Approx 100 m S of RD-10, 12 (no GPS reading due to forest cover). Float or subcrop of blackish, partially silicified limestone. Hematite + quartz. Sampled by JB, 15/10/05.
RD-15	391629	5445060	Same location as RD-13 (RD-15 from smaller trench that lies E of main trench). > manganese dendrites on fracture surfaces of white limey rock, no sulfides or silica. Sample from trench wall. Sampled by AE, 15/10/05.
RD-16	391739	5444908	Old vertical water filled shaft, prob 3-4 m deep. Rocks on dump look like qtzite with fine drusy qtz, or silicified limestone. Lots py. Sampled by JB, 15/10/05.
RD-17	391629	5445060	Same location as RD-13,15. Silicified rock from trench floor. Very fine oxidized pyrite. Some manganese. White rock. Sampled by AE, 15/10/05.
RD-18	391618	5445175	Small skarn outcrop, pyrrhotite + limonite. Sampled by JB, 15/10/05.
RD-19	391589		30 m SW of RD-18, adjacent to skarn outcrop. Predominantly calcite with pockets of hematite and limonite infilling. Some manganese. Busted up quartz intermixed with calcite. Sampled by AE, 15/10/05.
RD-20	391548	5445137	Skarn outcrop near Ike Shaft (Ike shaft at 391480, 5445090). Sampled by JB, 15/10/05.
RD-21	391548	5445137	Hematite-limonite float rock at skarn outcrop - adjacent to RD-20. Silca/calcite crystalline flooding. Sampled by AE, 15/10/05.
RD-22	391440	5445084	Approx 35 m west of Ike Shaft. Epithermal quartz vein (10cm wide?) in outcrop. Caramel coloured, drusy + vuggy. Sampled by JB, 15/10/05.
RD-23	391557	5445183	Silica flooding, calcitic matrix, very fine dendrites. Float. Sampled by AE,

# 2005 Pock Sample Description

			16/10/05.
RD-24	391464	5445129	Old trench with semi-massive pyrrhotite + silica veining in skarny limestone. 50% sulfides in skarny limestone. Sampled by JB, 16/10/05.
RD-25	391513	5445061	
RD-26	391464	5445129	Same location as RD-24. 30% calcite, 30% quartz flooding/veinlets in limestone. Limonitic. Sampled by JB, 16/10/05.
RD-27	391532	5444963	Float. Short black streads/blisters of some sufide? Minor pyrite. Silica veining thru large portion of rock. Reacts to acid. Sampled by AE, 16/10/05.
RD-28	391544	5445072	
RD-28A	391536		Silicified limestone float (or chert?). Sampled by JB, 16/10/05.
RD-29	391581	5444935	Buff coated limestone with buff (limonite) veining. No apparent bedding. Very fine pyrite cubes - oxidized and black. Outcrop. Sampled by AE, 16/10/05.
RD-30	391672	5445155	Float, fairly massive silicified limestone. Sampled by JB, 16/10/05.
RD-31	392439	5445691	Float. Disseminated pyrrhotite + pyrite, brecciated matrix, some chert fragments (sharpstone conglom?) or are frags chalcedonic qtz in tuff? Sampled by AE, 18/10/05.
RD-32	392599	5445646	Dump of large adit. Quartz float, limonitic. Sampled by JB, 18/10/05.
RD-33	392602	5445620	Epidote rich rock from dump at adit SW of tunnel on railgrade. Pockets and disseminations of pyrite (to 15%) in siliceous matrix. Minor fizz with acid on some fracture surfaces. Epidote skarn. Same location as RD-32, 34. Sampled by AE, 18/10/05.
RD-34	392599	5445646	Same location as RD-32, 33. Siliceous epidote rich conglomerate from dump of adit. Very minor pyrite. Sampled by JB, 18/10/05.
RD-35	392699	5445720	Silica and calcite veining in outcrop. Brecciated, light coloured limonite on fracture surfaces, minor pyrite. Sampled by AE, 18/10/05.
RD-36	392578	5445711	Sheeted veins in silicified conglomerate outcrop, minor py + poss cpy. Sampled by JB, 18/10/05.
RD-37	392405	5445548	Very hard siliceous rock, possible subcrop (or outcrop?), with fine pyrrhotite + pyrite, mottled appearance. Sampled by AE, 18/10/05.
RD-38	392578	5445711	Same location as RD-36. Malachite stained siliceous conglomerate, in outcrop. Sampled by JB, 18/10/05.
RD-39	393098	5445582	Outcrop - hematite, epidote on fracts + in very fine veinlets, diss py, siliceous matrix. Skarn. Sampled by AE, 20/10/05.
RD-40	393114	5445583	Garnet skarn outcrop, > 10 m across. Minor blebs + bands (to 2 cm) of pyrite & pyrrhotite. Sampled by JB, 20/10/05.
RD-41	393098	5445582	Same location as RD-39. Siliceous garnet skarn with pyrrhotite, pyrite in blebs. Sampled by AE, 20/10/05.
RD-42	393091	5445778	Rusty pyritic shear in sharpstone conglom. Py, to 4%. Minor cpy. Sampled by JB, 20/10/05.
RD-43	593423	5445395	Massive sulfide (pyrrhotite, pyrite), very magnetic. Float in talus slope below limey cliffs, ~ 100 m SE of sulfide vein and about 30 m upslope of Brown Creek road. Sampled by AE, 20/10/05.
RD-44	393094	5445790	
RD-45	392650	5445680	Sharpstone in vicinity (downslope) of tunnel. Weak malachite stain, minor cpy, epidote, silica. Sampled by JB, 20/10/05.
RD-46	~393400	~5445435	

# **APPENDIX 2**

Analytical Results

21-Nov-05

ECO TECH LABORATORY LTD. 10041 Dallas Drive KAMLOOPS, B.C. V2C 6T4

Phone: 250-573-5700 Fax : 250-573-4557

#### ICP CERTIFICATE OF ANALYSIS AK 2005-1475

KETTLE RIVER RESOURCES LTD. Box 130 Greenwood, BC V0H 1J0

No. of samples received: 98 Sample Type: Rock Project: Niagara/Rads Submitted by: Linda Caron

#### Values in ppm unless otherwise reported

Et #.	Tag #	Au(ppb)	Ag	AI %	As	Ва	Bi	Ca %	Cd	Co	Cr	Cu	Fe %	La	Mg %	Mn	Мо	Na %	Ni	Р	Pb	Sb	Sn	Sr	Ti %	U	v	w	Y	Zn
1	RD-01	5	0.4	0.12	<5	10	5	4.15	1	2	57	6	0.23	<10	0.10	180	<1	0.01	5	470	12	<5	<20	170	0.03	<10	23	<10	3	65
2	RD-02	<5	0.2	0.03	<5	5	<5	1.82	<1	<1	108	2	0.30	<10	0.10	104	<1	<0.01	2	20	<2	<5	<20	70	<0.01	<10	1	<10	<1	10
3	RD-03	10	0.4	0.77	10	40	10	9.63	4	3	42	17	0.78	10	0.91	784	4	<0.01	11	570	22	5	<20	720	0.04	<10	69	<10	12	255
4	RD-04	5	0.2	0.10	<5	10	<5	6.02	<1	<1	93	7	0.39	<10	0.10	225	1	<0.01	3	140	4	<5	<20	355	<0.01	<10	9	<10	2	18
5	RD-05	95	5.3	0.07	635	10	10	0.88	25	1	103	26	0.82	<10	0.06	162	2	<0.01	7	220	60	10	<20	28	<0.01	<10	7	<10	4	740
6	RD-06	5	0.4	0.52	15	65	10	7.47	6	2	55	6		<10	0.37	458		<0.01		1000	134	<5	<20	542		<10	41	<10	14	422
7	RD-07	5	1.1	0.35	10	<5	<5	9.77	3	3	22	48	0.22	20	0.03	186	<1	<0.01	21	1720	10	<5	<20	919	0.04	<10	26	<10	13	159
8	RD-08	5	0.5	0.07	150	15	5	0.88	4	2	140	6	0.69	<10	0.02	147	5	<0.01	8	340	16	5	<20	23	<0.01	<10	6	<10	3	81
9	RD-09	5	0.4	0.79	15	200	10	4.15	1	7	40	31	0.76	<10	0.50	382	1	0.13	17	1520	8	<5	<20	319		<10	25	<10	6	39
10	RD-10	5	0.2	0.08	20	15	10	4.14	<1	2	93	5	1.76	<10	0.11	587	2	<0.01	5	520	4	<5	<20	90	<0.01	<10	12	<10	6	7
					_		_			_							_		_		_	_		_						
11	RD-11	10	0.2	0.07	5	15	5	0.17	<1	3	83	29	0.52	<10	0.01	326		<0.01	9	750	6	<5	<20		<0.01	<10	16	<10	6	28
12	RD-12	10	0.3	0.11	20	15	5	0.31	<1	2	97	5		<10	0.02	65		< 0.01	11	1030	<2	<5	<20	24		<10	13	<10	7	9
13	RD-13	10	0.2	0.31	<5	40	10	>10	<1	2	15	8		<10	0.50	165	1		6	460	14	<5	<20	1153	0.04	<10	27	<10	5	30
14	RD-14	5	<0.2	0.16	10	15	5	0.07	<1	2	109	8		<10	0.04	345		<0.01	8	50	4	<5	<20		<0.01	<10	4	<10	2	10
15	RD-15	10	0.2	0.27	<5	5	10	9.90	<1	1	10	58	0.54	<10	0.16	289	<1	<0.01	6	490	4	<5	<20	1125	0.02	<10	7	<10	4	78
16	RD-16	5	0.7	0.18	20	165	10	0.10	<1	2	101	13	1.51	<10	0.04	31	3	0.01	4	340	4	<5	<20	8	<0.01	<10	19	<10	3	16
17	RD-17	5	<0.2	0.09	<5	55	5	10.00	<1	<1	6	3	0.12	<10	0.15	190	1	<0.01	2	330	8	<5	<20	1234	0.01	<10	5	<10	5	55
18	RD-18	15	0.3	1.06	30	160	20	6.52	<1	12	83	30	4.02	<10	0.61	1435	<1	<0.01	<1	910	8	<5	<20	183	0.06	<10	32	<10	11	32
19	RD-19	5	0.2	0.07	25	15	5	8.46	2	1	55	5	0.44	<10	0.04	848		<0.01	5	620	4	<5	<20	271	< 0.01	<10	11	<10	11	78
20	RD-20	10	<0.2	0.62	25	10	40	9.57	<1	3	72	11	5.39	<10	0.32	1377	<1	<0.01	1	1160	6	<5	<20	176	0.03	<10	54	<10	12	13
21	RD-21	15	1.6	0.37	190	50	25	4.45	5	18	129	102	7.05	<10	0.11	1358	28	<0.01	20	330	14	5	<20	96	<0.01	<10	47	<10	5	96
22	RD-22	5	<0.2	0.03	15	10	5	2.75	<1	<1	91	5	0.63	<10	0.02	270	1	<0.01	3	290	<2	<5	<20	77	<0.01	<10	7	<10	3	51
23	RD-23	15	<0.2	0.17	30	20	5	9.08	<1	<1	37	2	0.16	<10	0.03	709	2	0.01	3	1230	6	<5	<20	262	0.03	<10	18	<10	9	19
24	RD-24	60	4.3	0.39	45	10	60	3.85	2	318	175	1463	>10	<10	0.19	866	<1	<0.01	305	70	12	<5	<20	53	0.02	<10	27	20	4	330
25	RD-25	10	<0.2	0.08	10	60	<5	>10	2	1	6	3	0.10	<10	0.05	326	<1	<0.01	3	290	<2	<5	<20	980	<0.01	<10	10	<10	2	70
26	RD-26	10	0.8	0.10	130	<5	5	8.54	3	10	71	292	1.42	<10	0.08	1640			33	20	2	<5	<20	237		<10	7	<10	9	83
27	RD-27	10	0.7	0.29	30	60	10	8.88	<1	6	24	21	0.74	<10	0.05	380	<1	0.01	29	1020	8	<5	<20	346		<10	36	<10	12	20
28	RD-28	5	0.3	0.06	15	5	5	5.64	3	<1	60	5	0.22	<10	0.05	213		<0.01	3	520	4	<5	<20	241	<0.01	<10	6	<10	4	217
29	RD-28A	5	<0.2	0.12	10	10	5	5.28	1	1	74	4		<10	0.03	444		<0.01	5	710	<2	<5	<20	96	0.03	<10	32	<10	6	152
30	RD-29	5	<0.2	0.11	<5	15	10	>10	<1	<1	5	5	0.21	<10	0.15	61	<1	<0.01	3	330	<2	<5	<20	2057	<0.01	<10	9	<10	5	10

ECO TECH LABORATORY LTD.				ICP CERTIFICATE OF ANALYSIS AK 2005-1475									KETTLE RIVER RESOURCES LTD.																	
Et #.	Tag #	Au(ppb)	Ag	AI %	As	Ba	Bi	Ca %	Cd	Co	Cr	Cu	Fe %	La	Mg %	Mn	Мо	Na %	Ni	Р	Pb	Sb	Sn	Sr	Ti %	U	v	w	Y	Zn
31 32	RD-30 RD-31	5 80	0.2 0.7	0.12 0.76	5 <5	<5 35	10 15	1.71 0.80	<1 <1	1 21	147 102	13 608	0.98 3.75	<10 <10	0.15 0.18	590 65	3 3	<0.01 0.09	3 78	<10 690	6 8	<5 <5	<20 <20	41 30	<0.01 0.13	<10 <10	3 20	<10 <10	2 7	11 132
33	RD-32	5	2.9	0.31	10	50	10	0.09	<1	5	157	146	1.06	<10	0.24	421		<0.00	30	210	16	25	<20		<0.01	<10	10	<10	5	47
34	RD-33	50	0.6	0.74	<5	30	15	2.11	<1	42	124	440	2.72	<10	0.75	259	18	0.03	88	490	8	<5	<20	58	0.10	<10	27	<10	5	96
35	RD-34	15	0.2	0.34	<5	60	10	1.04	<1	13	99	123	1.12	<10	0.25	140	1	0.11	50	770	4	<5	<20	33	0.18	<10	24	<10	11	28
36	RD-35	10	1.9	0.61	5	185	10	4.85	<1	9	97	15	2.01	<10	1.55	750	<1	0.02	52	490	10	<5	<20	193	0.01	<10	28	<10	13	16
37	RD-36	10	0.2	0.41	<5	55	10	2.25	<1	3	114	12	1.18	<10	0.56	372	<1	0.03	14	260	4	<5	<20	77	0.07	<10	33	<10	5	17
38	RD-37	20	0.9	0.84	10	10	5	1.00	1	19	75	201	1.29	<10	0.07	96	2		55	440	12	5	<20	49	0.11	<10	17	<10	6	64
39	RD-38	170	1.9	0.75	<5	30	15	1.18	<1	22	124	1406	4.30	<10	0.59	249	8		158	520	6	<5	<20	41	0.11	<10	57	<10	6	312
40	RD-39	20	0.3	1.26	15	150	15	7.37	<1	17	85	15	3.90	<10	0.84	2297	3	<0.01	15	1040	12	<5	<20	83	0.09	<10	51	<10	8	56
41	RD-40	515	0.5	0.79	110	10	40	8.04	2	70	139	57	>10	<10	0.16	1962	3	<0.01	58	1150	12	<5	<20	15	0.05	<10	22	10	4	22
42	RD-41	100	0.9	1.28	35	60	25	7.19	<1	21	109	173	6.55	<10	0.51	2335		<0.01	34	680	12	<5	<20	55	0.08	<10	41	<10	7	57
43	RD-42	120	1.1	0.22	20	40	30	0.32	<1	22	140	289	7.49	<10	0.14	84	8	0.03	40	430	6	<5	<20	22	0.09	<10	35	<10	2	64
44	RD-43	520	3.8	0.12	125	<5	90	0.52	3	553	248	768	>10	<10	0.09	375		<0.01	148	180	20	<5	<20	19		<10	3	30	<1	168
45	RD-44	25	1.4	1.08	15	45	10	4.03	<1	17	68	124	2.86	<10	1.44	612	3	0.02	34	550	8	<5	<20	133	<0.01	<10	55	<10	12	45
46	RD-45	355	2.0	1.21	<5	15	<5	2.30	1	24	106	2087	1.70	<10	0.57	296	2		205	640	28	5	<20	39	0.12	<10	28	<10	9	452
47	RD-46	>1000	7.6	0.52	65	<5	50	3.35	71	746	174	537	>10	<10	0.40	913	<1	<0.01	69	130	24	5	<20	86	0.01	<10	14	10	2	6003
QC DATA:																														
Repeat:																														
1	RD-01	5	0.3	0.13	<5	15	5	4.28	1	2	61	6	0.24	<10	0.10	186	<1	0.01	5	490	12	<5	<20	177	0.03	<10	24	<10	3	68
5	RD-05	90																												
10	RD-10	5	0.2	0.08	20	15	10	4.07	<1	2	94	5		<10	0.12	592		<0.01	5	490	2	<5	<20	91	<0.01	<10	12	<10	7	8
19	RD-19	5	0.2	0.08	25	15	5	8.73	2	1	57	5	0.45	<10	0.04	870	2	<0.01	5	620	4	<5	<20	279	<0.01	<10	12	<10	11	81
30	RD-29	5																												
32	RD-31	75																												
36	RD-35	10	1.9	0.61	10	170	10	4.90	<1	10	99	16	2.05	<10	1.55	757	<1	0.02	52	460	8	<5	<20	194	0.01	<10	28	<10	13	16
39	RD-38	175																												
41	RD-40	485																												
42 43	RD-41 RD-42	105 120																												
45	RD-42	25	1.4	1.10	15	45	15	4.32	<1	18	70	127	3.00	~10	1.50	654	3	0.02	36	580	10	<5	<20	1/1	<0.01	<10	58	<10	12	48
45 46	RD-44 RD-45	310	1.4	1.10	13	40	13	4.52		10	10	121	5.00	<10	1.50	004	5	0.02	50	500	10	~5	~20	141	LO.01	<10	00	<10	14	40
40	RD-46	>1000																												
Resplit:	110-40	21000																												
1	RD-01	10	0.2	0.13	<5	15	5	4.19	1	2	71	5	0.23	<10	0.10	206	2	0.01	5	470	6	<5	<20	188	0.04	<10	25	<10	4	57
36	RD-35	10	2.0	0.59	10	160	15	5.39	<1	11	92		2.19	<10	1.66	743	<1	0.02	57	470	10	<5	<20	208	< 0.01	<10	27	<10	13	18
Standard:																				-						-			-	-
GEO'05			1.5	1.52	50	125	50	1.49	1	19	60	86	3.34	<10	0.87	606	<1	0.03	28	630	20	<5	<20	53	0.10	<10	68	<10	10	73
GEO'05			1.5	1.49	55	130	55	1.56	1	19	62	86	3.55	<10	0.90	657	<1	0.02	29	710	24	<5	<20	54	0.09	<10	69	<10	10	74
GEO'05			1.5	1.41	50	125	50	1.56	1	19	58	84	3.49	<10	0.87	676	<1	0.02	28	670	22	<5	<20	54	0.09	<10	67	<10	10	72
OXF41		1805																												

JJ/kk df/n1475

XLS/05

B.C. Certified Assayer

# CERTIFICATE OF ASSAY AK 2005-1475

**KETTLE RIVER RESOURCES LTD.** 

18-Nov-05

Box 130

# Greenwood, BC

V0H 1J0

No. of samples received: 98 Sample Type: Rock Project: Niagara/Rads Submitted by: Linda Caron

		Au	Au	
ET #.	Tag #	(g/t)	(oz/t)	
47	RD-46	5.95	0.174	

#### QC DATA:

Repeat:			
47	RD-46	6.25	0.182

Standard:	
otaniaana.	

OX140

1.84

0.054

**ECO TECH LABORATORY LTD.** Jutta Jealouse B.C. Certified Assayer

JJ/kk XLS/05

# **APPENDIX 3**

Analytical Procedures

#### Eco-Tech Labs Analytical Procedure

#### SAMPLE PREPARATION

Samples are catalogued and dried. Soils are prepared by sieving through an 80 mesh screen to obtain a minus 80 mesh fraction. Samples unable to produce adequate minus 80 mesh material are screened at a coarser fraction. These samples are flagged with the relevant mesh. Rock samples are 2 stage crushed to minus 10 mesh and a 250 gram subsample is pulverized on a ring mill pulverizer to -140 mesh. The subsample is rolled, homogenized and bagged in a prenumbered bag.

#### **GEOCHEMICAL GOLD ANALYSIS**

The sample is weighed to 30 grams and fused along with proper fluxing materials. The bead is digested in aqua regia and analyzed on an atomic absorption instrument. Over-range values for rocks are re-analyzed using gold assay methods.

Appropriate reference materials accompany the samples through the process allowing for quality control assessment. Results are entered and printed along with quality control data (repeats and standards). The data is faxed and/or mailed to the client.

#### **Quality Control Standards and Certified Standards**

Approximately 50 CanMet Certified reference material, WCM Minerals reference ores and Inhouse Standards are currently in use in our laboratory. Each batch of samples analysed will contain one standard of similar composition to monitor the analysis. If the result of the reference material falls within the accepted limits the results of the samples will be accepted. In case the results of the reference material falls outside the accepted limits the results of the samples are suspect and the analysis will be repeated.

#### GOLD ASSAY

A 30 g sample size is fire assayed using appropriate fluxes. The resultant dore bead is parted and then digested with aqua regia and then analyzed on a Perkin Elmer AA instrument.

Appropriate standards and repeat sample (Quality Control Components) accompany the samples on the data sheet.

#### BASE METAL ASSAYS (Ag,Cu,Pb,Zn)

Samples are catalogued and dried. Rock samples are 2 stage crushed followed by pulverizing a 250 gram subsample. The subsample is rolled and homogenized and bagged in a pre-numbered bag.

A suitable sample weight is digested with aqua regia. The sample is allowed to cool, bulked up to a suitable volume and analysed by an atomic absorption instrument, to .01 % detection limit.

Appropriate certified reference materials accompany the samples through the process providing accurate quality control. Result data is entered along with standards and repeat values and are faxed and/or mailed to the client.

## MULTI ELEMENT ICP ANALYSIS

A 0.5 gram sample is digested with 3ml of a 3:1:2 (HCl:HN03:H20) which contains beryllium which acts as an internal standard for 90 minutes in a water bath at 95°C. The sample is then diluted to 10ml with water. The sample is analyzed on a Jarrell Ash ICP unit.

Results are collated by computer and are printed along with accompanying quality control data (repeats and standards). Results are printed on a laser printer and are faxed and/or mailed to the client.

	Detection Limi	t	Detection Limit					
	Low	Upper	Low	Upper				
Ag	0.2ppm	30.0ppm	Fe	0.01%	10.00%			
Al	0.01%	10.0%	La	10ppm	10,000ppm			
As	5ppm	10,000ppm	Mg	0.01%	10.00%			
Ba	5ppm	10,000ppm	Mn	1ppm	10,000ppm			
Bi	5ppm	10,000ppm	Mo	1ppm	10,000ppm			
Ca	0.01%	10,00%	Na	0.01%	10.00%			
Cd	1ppm	10,000ppm	Ni	1ppm	10,000ppm			
Co	1ppm	10,000ppm	Р	10ppm	10,000ppm			
Cr	1ppm	10,000ppm	Pb	2ppm	10,000ppm			
Cu	1ppm	10,000ppm	Sb	5ppm	10,000ppm			
Sn	20ppm	10,000ppm						
Sr	1ppm	10,000ppm						
Ti	0.01%	10.00%						
U	10ppm	10,000ppm						
V	1ppm	10,000ppm						
Y	1ppm	10,000ppm						
Zn	1ppm	10,000ppm						

