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 - 4) **Do not deposit in a street letter box.**
- Review Terms and Conditions on Customer Receipt.

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 - 3) Déposez à un bureau de poste ou à une installation désignée de Postes Canada.
 - 4) **Ne pas déposer dans une boîte aux lettres publique.**
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NATIONAL – For use between two regions of Canada
REGIONAL – For use within a region of Canada
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Region: Postal Codes **Nunavut Region:** Postal Code **Nunavut**
Yukon Region: Yukon **Northwest Territories Region:** Postal Codes

NATIONAL – Livraison d'une région à une autre au Canada
RÉGIONAL – Livraison d'un point à l'autre d'une même région au Canada
Région de l'Atlantique – Provinces de l'Atlantique **Région du Centre –** Québec et Ontario **Région de l'Ouest –** Provinces de l'Ouest et codes postaux
– Code postal Région Nunavut – Codes postaux **Région Territoires du Nord-Ouest –** Codes postaux
Région Yukon – Yukon

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 - Buy now, ship anytime, one flat rate.
 - Need Signature, Collect On Delivery (COD) or additional liability coverage? Ask at your post office.

- * Caractéristiques des prépayés**
- Jours ouvrables, entre les grands centres urbains. Certaines exceptions s'appliquent.
 - Garantie de livraison à temps - Sous réserve des normes de livraison publiées.
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 - Achetez maintenant, expédiez plus tard, à un seul tarif forfaitaire.
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Customer Receipt Reçu du client Date

Item number: N° de l'article: 20200825

From Expéditeur Telephone No. N° de téléphone

Name Nom

FRAN GILMAR

<personal information removed>

To Destinataire Telephone No. N° de téléphone

Customer No.

Panel Secretariat

Grassy Mountain Coal Project

Impact Assessment Agency of Canada

22nd Floor, 160 Elgin St. Ottawa ON K1A 0H3

Telephone (Toll-free): 1-866-582-1884



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A
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SALE

**CAVEAT
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DILIGENCE

grassy See page 2



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[DAILY NEWS](#) Jan 3, 2013 3:12 PM - 0
 comments

Consol Energy sells coal assets in Canada

2013-01-03

Consol Energy (CNX-N) sold two non-producing coal assets in Western Canada last month for US\$127 million, bringing its total asset sales in 2012 to more than US\$350 million, the company reported today.

The Pittsburgh-based fuel producer with 12 bituminous coal mining complexes in the United States and gas reserves of 3.5 trillion cubic feet, said none of the assets it sold generated revenue last year and that it expects to sell more non-core assets in 2013 as part of a strategy of "pulling value forward" and focusing on its "near-term opportunity set," according to J. Brett Harvey, Consol's chairman and chief executive.

In July Consol sold its non-producing Northern Powder River Basin assets for US\$170 million in cash to **Cloud Peak Energy** (CLD-N). It structured that transaction so it would retain an 8% production royalty interest on about 200 million tons of permitted fee coal.

Like many other companies grappling with the ongoing global economic slowdown, Consol has had to scale back production to meet a weaker market and divest non-core assets. In the third quarter ended Sept. 30 it posted a net loss of US\$11 million or US\$0.05 per diluted share compared to net income of US\$167 million or US\$0.73 per share in the year-earlier quarter.

The lower level of production impaired costs per ton. In the coal division across all of its tons, Consol reported fully-loaded costs of US\$55.84 per ton in the third quarter, an increase of US\$1.46 per ton from the year-earlier quarter. The company said it expects costs per ton to decrease as its mines return to more normal schedules. It also said it doesn't expect to invest in new expansion projects until coal markets improve.

The sales of its assets in Western Canada in the closing days of 2012 were completed in two separate transactions. In the first, Consol sold its Ram River and Scurry Ram metallurgical coal properties in Alberta for US\$105 million to Ram River Coal, a private company created by private merchant bank Forbes & Manhattan to acquire the assets. The Ram River property has an in-situ coal resource of about 380 million tons and estimated washed coal product of about 75 million tons. Under the terms of the deal with Forbes & Manhattan, Consol has retained the right to receive up to US\$20 million of the second or third payments in the common shares of Ram River Coal.

In the second transaction, Consol agreed to sell its stake in the Grassy Mountain mine and a number of other Alberta coal properties to Riverdale Resources of Australia for US\$24 million. Consol's share of the recoverable reserves at Grassy Mountain are estimated to be in the 30 million ton range.

News of the Canadian asset sales sent Consol shares up US\$1.18 or 3.8% to US\$32.18 per share in mid-afternoon trading. Over the last year Consol shares have traded in a range of US\$26.41 to US\$39.34.

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Lille-Grassy Mountain Coal



**Land of
Sulphur, Salt
Shale, Silt**

Frank

The first post office in Frank was established on the south side of the railway and opened on August 1, 1901. The building was on Dominion Avenue.

The Frank office served as a hub post office to which all the mail was brought and distributed to the surrounding communities. After the disastrous Frank Slide the post office, as well as many homes, was moved to the north side of the railway track.

In the 1912-13 period a Mr. Wilson was postmaster. His position was taken over in the 1920's by Juanita Garrison and the post office was moved to a building next to the "canon". Elmer Garrison followed and was postmaster for almost twenty-five years.

Frank Svoboda was the next postmaster. People would chuckle at a sign that could appear on the Post Office door informing them that the "master" had gone fishing and mail would not be distributed until the next day.

In 1958 Mrs. Gladys Wyatt was appointed postmistress and the office was in her residence. In 1968 the Post Office closed down, and Frank residents pick up their mail in Blairmore.

The M. L. A.'s of the Crowsnest Pass

taken from material submitted by C. Drain

It can be said that over the long years from 1905, until 1977, they, the people of the Crowsnest Pass, have been well served by the M. L. A.'s they sent to Edmonton.

The first M. L. A., John Marcellus, representing the constituency as a Liberal, was elected to the Alberta Legislature in 1905, the year Alberta became a Province. The population at the time was 80,000 and in the 1905 election there were 1384 names on the voter's list, of whom 548 voted. There were 29 M. L. A.'s for all Alberta.

In 1909 the constituency boundaries were re-drawn, separating the Crowsnest Pass from Pincher Creek, becoming part of the new constituency of Rocky Mountain, a vast area, stretching from the boundaries of Waterton Park, north along the mountains to Canmore and beyond.

The re-distribution resulted in a pool of predominantly labor votes, which in the General Election of 1909 elected Charles MacNamara O'Brian, Alberta's first Socialist M. L. A.

The election of April 17, 1913, which defeated Charles O'Brian, elected Robert Campbell with a 99 vote lead, developing more interest than any previous election in the constituency, 80.4% of the voters turned out. Captain Robert Campbell ran as an Independent. He switched to the Conservative Party, was re-elected in the 1917 General Election and represented the Rocky Mountain constituency until 1921.

Phillip Martin Christophers, running under the banner of the Labor Party, was elected July 18, 1921

and represented Rocky Mountain from that date until 1930.

George Cruickshank, running as an Independent, was the next M. L. A. He was elected in the General Election held on June 19, 1930. Defeated by the Social Credit tide that engulfed Alberta in 1935, he was succeeded by E. O. Duke, Social Credit.

The constituency boundaries were re-drawn in the re-distribution of 1940, eliminating the northern section, reuniting with Pincher Creek to form the constituency of Pincher Creek — Crowsnest. Mr. Duke was re-elected, retiring from politics in 1948.

William Kovach who was to be the longest sitting member, thus far, in the constituency of Pincher Creek — Crowsnest, was the first Albertan to hold this office. Born in Passburg, January 31, 1909, a miner and trucker by occupation, first elected August 17, 1948, he was re-elected in 1952, 1955, 1959, and 1963, consistently with substantial majorities.

William Kovach was M. L. A. until his untimely death, August 5, 1966. This necessitated a by-election, held October 6, 1966, won in a narrow victory by Garth Turcott, New Democratic Party. Another first for the constituency of Pincher Creek — Crowsnest was electing the first N. D. P. to the Alberta Legislature. Garth Turcott was defeated in the General Election of May 23, 1967 by Charles Drain, Social Credit.

Charlie Drain, by nationality a Canadian, was born in San Francisco, California, January 24, 1913, brought up and educated in Blairmore, by occupation a General Contractor, was re-elected again, August 30, 1971. He was defeated in the General Election of April 1975 by Fred Bradley running for the Progressive Conservative Party.

Fred Bradley, a merchant by occupation, was born in Blairmore, September 17, 1949. Educated in Blairmore, he attended the University of Alberta where he obtained a degree in Political Science. In the election of 1975 there were 7488 names on the voters list, of which 5365 voted, 71%, a turnout that was only exceeded in the election of 1913. It was an indication of the population growth that had now mushroomed to an excess of 1,800,000.

The M. L. A.'s, Liberal, Socialist, Conservative, Independent, Social Credit, N. D. P., Social Credit, and Conservative, that represented the constituency, over the years, although, differing on how things should be done all had the same objective, to improve the lot of the people they represented. Clearly, in politics, as in religion, there are many pathways designed to lead to the same place.

Coal Mining in the Crowsnest Pass

G. W. Eriksson

The coal deposits of the Crowsnest Pass, extending from Morrissey in the southwest to Burmis in the east, are bituminous to semi-anthracite, with lignite occurring further east.

Prospecting for coal and other minerals started when the Great Northern Railroad and the Canadian Pacific Railroad laid the rail through the Pass. In those days prospectors used pick, shovel, handauger and powder (dynamite or blackpowder). Packhorses were used to bring in food and materials and to take out the samples on the return trip. Prospecting is still taking place, to prove the amount and quality of coal. The only difference today is that the prospector is using bulldozers, diamond drills and four-wheel drives.

Some coal deposits have as low ash content as four percent while others have as high as twenty three percent. The railroads, the largest customer, used coal having fifteen percent ash (to safeguard the grates).

Coal mining started in the Pass near the end of the last century at Coal Creek, Michel, Coleman and Frank in 1903, at Lille and Bellevue in 1902, Hillcrest 1902 - 03, Blairmore 1907, Greenhill 1911 (shipments not before 1914), Byron Creek subsidiary of Hillcrest 1927 and Adanac subsidiary of West Canadian Collieries during the Second World War. Many small mine properties were consolidated into large holdings, one with rights to 200,000 acres and with proven coal deposits of over 1,000,000,000 tons (1936).

Most of the mines were capitalized with money from foreign countries. Two of them are still in operation.

The mines were vulnerable to the ups and downs of the Canadian economy and had a hard time, due to the freight rates, attracting new customers. Ontario, the largest user of coal, bought theirs from the U.S.A. In fact, the Canadian steel industry is the owner of coal mines in the U.S.A.

Consider the impact economically if during the "depression" Ottawa had subsidized the shipping of coal from the west. Every mine would have been working full time. Today, a small percentage of western coal finds its way to Ontario, but thanks to Japan, more than three times further away, the coal industry in the west has experienced a renaissance.

During the first forty years most of the mining was conducted underground. Workers were paid from portal to portal. They had their lunch on company time and in the winter worked in more moderate temperatures than outside. In the summer this was reversed. Gradually strip mining has taken the upper hand with the introduction of trucks able to handle up to 150 tons and loaders or draglines able to take 15 tons or more in one bite, a far cry from the trucks with solid tires and chaindrives, and a man at the end of a shovel.

Present day machinery has taken the hard work out of mining. Convert manual labour into foot-pounds and one marvels at how some of those people fifty years ago had the energy and endurance to be some of the finest hockey players.

Good roads and present day transportation now make it possible to have the town located far from the mine. One that started a few years ago is located eighteen miles from the townsite.

Coal Creek, Corbin and Lille were located some miles from the main railroads. Coal Creek, a distance of five miles from Fernie, was serviced by the Morrissey, Fernie and Michel Railroad. The coaches used are now at Heritage Park in Calgary. Corbin was serviced by the Eastern British Columbia Railroad from McGillivray, a distance of twelve miles, and Lille was serviced by the Frank Grassy Mountain Railroad, a distance of miles with more bridges than miles. Today regular bus transportation for all mine employees exists throughout the Pass.

In conclusion I would like to make a few observations in regard to our old towns and the people. A number of things should be considered.

Lack of roads and any kind of transportation made it desirable to build as close to the mines as possible including hotels, rooming houses, company houses, and houses built by the miners themselves, the latter often with the help of neighbors. Some of these buildings are still in use.

Renting a four room company house in 1907 at Frank cost \$12.50 per month. Included was a 1/16 candlepower light and an outside watertap. The same year a four room house at Lille rented for \$9.50 per month, \$1.50 for inside water and .50¢ extra for a chicken pen.

The people flocking to the mines were mostly immigrants with their families still in the "old country". They were all optimistic of their futures, not knowing of the pitfalls they were to encounter; explosions, strikes, sickness, and depressions.

The wage structure in 1907 was from \$1.25 per ten hour day for slatepickers (boys) to \$3.15 - \$3.75½ per ten hour day for machinists. In 1915 slatepicker boys got \$1.37 for ten hours while men on the same job got \$2.47 and a machinist \$3.40 - \$3.85. The contract miner in contrast got 52½ - 57¾¢ per gross ton. In those days the Canadian Pacific Railroad paid \$1.75 per ton for coal.

These people all helped to lay the foundation which enables the present generation to enjoy one of the highest standards of living in the world. May they always be remembered.

NOTE: Those people concerned about the environmental and ecological impact of a strip mine should take into consideration that seldom is more than ¼-½ of a section of land disturbed at one time. (Alberta's area is 248,000 square miles and British Columbia's 359,279 square miles.)

Present day Coleman Collieries, (Mohawk, Hillcrest, McGillivray and the International) do not operate any of the original mines.



Photo by Brad Quarin

Chris Matthews, executive director of the Crowsnest Museum, shows photos from the Lille ghost town exhibit.



Crowsnest Pass Museum photo

Lille homes were moved and given new life in other Crowsnest Pass communities after the mine closed. This is the style of a typical home.



Photo by Shannon Robin

The interesting ruins at Lille are worth the hike to explore.

Recycling the ghost town of Lille

By Brad Quarin

Quick, what are things you can recycle? Did you say bottles? Pop cans? Paper? How about a town?

Lille, a community that existed from 1901 to 1913, is the ghost town of Crowsnest Pass. But part of Lille lives on, and the Crowsnest Museum is busy finding those bits and pieces throughout the Pass for its new exhibit, *Lille Recycled*.

"The premise is to tell the history of the town of Lille," says Chris Matthews, executive director of the museum. The project aims to highlight and also discover houses and buildings that used to be in Lille and are now elsewhere.

Some buildings were moved in one piece and others were taken apart and reassembled in Bellevue, Hillcrest, Blairmore, Coleman, Frank and even the Cowley-Lundbreck area, Chris says. "Some we know, and some we've researched."

The exhibit opened on Canada Day and continues for a few months, but Chris says the quest to find new buildings may never end. He hopes new information will be obtained from

"people who come and visit and think their house or building is a Lille house, or know of somebody."

Museum board members and staff came up with the exhibit idea, and summer staff have been crucial in putting it together. The high school and university students who "did a lot of the leg work" are Natasha Costello, Alicen Montalbetti and Elise Pundyk.

"It's challenging, very much so," Chris says. "There's a lot of talk about Lille, and we're trying to put it all together in a concise format."

While the history of Lille is fairly well documented, finding the buildings is hard. A building can be proven to be from Lille in different ways. There may be newspaper stories about the move, word-of-mouth accounts or, rarely, government papers.

Sometimes, you can tell a building is from Lille just by looking at it. "The architecture, the physical building, can tell the story," Chris says. "You can see that it's pretty close to a Lille building."

Alicen says it was plenty of hard work, but very interesting. "We had to go through various newspaper archives and history books," she

says. "With the recycling bit, we had to contact individuals whose homes had been once part of Lille."

By mid-July, they had found five definite Lille buildings, Chris says. These include the Gushul Studio in Blairmore, used for photography, and a row of houses on the east side of Bellevue.

The backstory of the people of Lille is told in part by artifacts, such as glass bottles lent to the museum by Bernie Jensen, who helped research the buildings. The Royal Alberta Museum in Edmonton dug up things like shoes, dolls and sardine cans in a dump site, and is lending them to the Crowsnest Museum. Trash yesterday can be treasure today.

Chris hopes people will be inspired to visit the actual ghost town, and that *Lille Recycled* will lead to more Crowsnest Museum projects about Lille.

A major celebration for the exhibit will be held in the late fall, after which many of the artifacts will go back to the owners, other museums, or Crowsnest Museum's storage. Until then, you should have plenty of chances to see Lille's relics for yourself.

CLARESHOLM FAIR DAYS 2013

Parade - Saturday, August 11 at 11 a.m.

Bench Show, Show and Shine, Movie in the Park

Lots more going on all weekend!



For details visit
www.townofclaresholm.com

Please join us
for a bridal shower for

Amanda Plaza

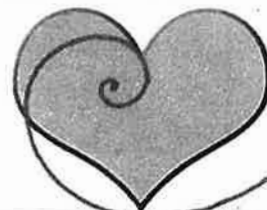
Daughter of Dennis and Diana (Everts) Plaza

future Mrs. Scott Kinnear

Son of William and Sandra (Lant) Kinnear

Saturday, August 10
2:00 p.m.

The Rum Runner
Basement room
via lower-level entrance
Coleman, Alberta



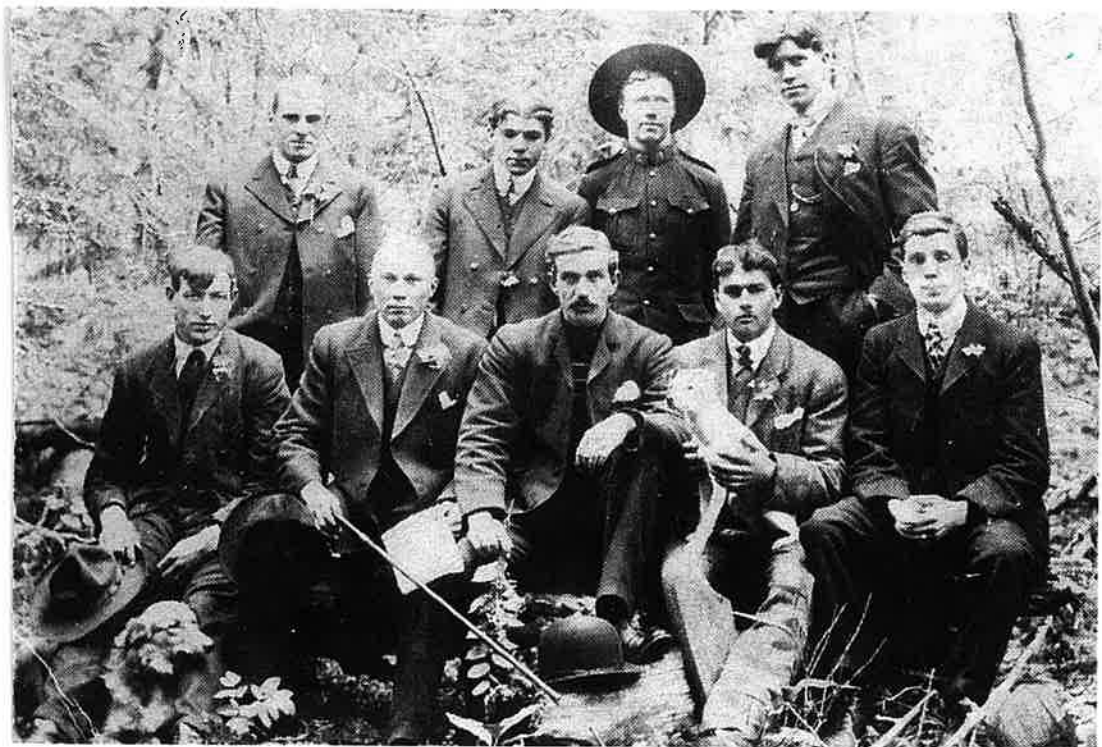
See more photos and stories this week at www.shootinthebreeze.ca



GRASSY MOUNTAIN BY MARQUERITE GILMART 1927

Lille 1904.





TAKE a LOOK at the Ash from the
Halotrichite - Pickeringite

halotrichite, a sulfate mineral containing aluminum and iron [$\text{FeAl}_2(\text{SO}_4)_2 \cdot 22\text{H}_2\text{O}$]. Magnesium replaces iron in the molecule; when more than 50 percent of the iron has been replaced, the mineral is called pickeringite. These minerals are usually weathering products of sedimentary rocks that contain aluminum and metallic sulfides, and usually occur as efflorescences. They also occur in volcanic fumarole deposits, in the gossan (weathered capping) of sulfide ore veins, and, recently deposited, in lignite and coal seams. They are sometimes grouped in older literature with other salts having a hairlike habit as *haarsalz* ("hair salts"). For detailed physical properties, *see* sulfate minerals.

pickable

1710

pickup

pick·er·ing \ 'pik(ə)riŋ\ *n* -s [alter. (prob. influenced by *herring*) of *pickereel*] **1** : PICKEREL **2** : SAUGER

pick·er·ing governor \ 'pik(ə)riŋ-\ *n*, *usu cap P* [after Thomas R. *Pickering* Am. engineer] : a governor in which the revolving balls act against curved flat springs

pick·er·ing·ite \ 'pik(ə)riŋ,īt\ *n* -s [John *Pickering* †1846 Am. scientist + E -ite] : a mineral $\text{MgAl}_2(\text{SO}_4)_4 \cdot 22\text{H}_2\text{O}$ composed of a hydrous magnesium aluminum sulfate occurring in white to faintly colored fibrous masses

pickering's tree frog *n*, *usu cap P* [after Charles *Pickering* †1878 Am. naturalist] : SPRING PEEPER

picker stick *n* [²*picker*] : a lever that transmits the crank ac-

tall. The bluish-green leaves, sausage-shaped and bearing a hairlike spine at the tip, are very high in water content. The true flowers are inconspicuous, but the very abundant seeds bear five winglike, whitish bracts (leaves borne below flowers); after midsummer the plant is a mass of these showy flowerlike seeds.

The high content of oxalate (the dried plants have 5–25 percent of the salt) makes halogeton poisonous to sheep and cattle. The lethal dose for a sheep is two-thirds of a pound of plants containing 10 percent oxalates consumed at one time. Fortunately, animals do not eat the plant in quantity when other forage is available.

Ranges with large amounts of halogeton ordinarily can be safely grazed by avoiding concentrations of livestock on pure stands of the plant. Elimination of the weed by spraying is feasible only in small areas.

- cattle consumption results 2:1049c
- seed somatic polymorphism 16:484a

Halon, trademark for tetrafluoroethylene polymer used as fire extinguisher.

- formation and fire extinguisher use 7:321c

Halon 104: see carbon tetrachloride.

haloperidol, drug used as a central nervous system depressant, sedative and tranquilizer in psychiatric treatment.

- psychiatric treatment use 15:143e

halophyte, plant that grows naturally in soils having a high salt content.

- distribution and transpiration 17:841d

Haloragales (plant order): see Hippuridales.

halosilane (chemistry): see silane.

halothane, or 2-BROMO-2-CHLORO-1,1,1-TRIFLUOROETHANE, nonflammable, volatile, liquid drug introduced into medicine in the 1950s and used as a general anesthetic. Halothane rapidly achieved acceptance and became the most frequently used of the potent anesthetics, despite its substantially higher cost than ether and chloroform and its tendency to depress respiration and circulation. Its vapours are not nauseating or irritating to mucous membranes. Halothane incorporates most of the attributes of an ideal anesthetic. The chemical formula is $C_2HBrClF_3$.

- anesthetic uses and properties 1:868c
- manufacture from trichloroethylene 14:194d

halotrichite, a sulfate mineral containing aluminum and iron [$FeAl_2(SO_4)_2 \cdot 22H_2O$]. Magnesium replaces iron in the molecule; when more than 50 percent of the iron has been replaced, the mineral is called pickeringite. These minerals are usually weathering products of sedimentary rocks that contain aluminum and metallic sulfides, and usually occur as efflorescences. They also occur in volcanic fumarole deposits, in the gossan (weathered capping) of sulfide ore veins, and, recently deposited, in lignite and coal seams. They are sometimes grouped in older literature with other salts having a hairlike habit as *haarsalz* ("hair salts"). For detailed physical properties, see sulfate minerals.

Halprin, Ann (1920–), U.S. dancer and choreographer.

- task-oriented dance 12:294d

halqabandi system, Indian village school system.

- organization and financing 6:369h

halqah, in English, CIRCLE SCHOOLS, early Muslim schools.

- organization and pedagogy 6:332d

Halq al-Wādi (Tunisia): see La Goulette.

Hals, Frans 8:576 (b. 1581–85, Antwerp—d. Sept. 1, 1666, Haarlem), painter of the Dutch bourgeoisie of Haarlem, where he spent practically all his life, is considered one of the greatest 17th-century portraitists.

Abstract of text biography. After initially painting sombre portraits, from 1620 Hals

represented cheerful subjects. In middle age he again produced more sombre portraits and attained popularity. Old age brought material difficulties but evoked his greatest work. Lack of followers led to his neglect until the 19th century.

REFERENCES in other text articles:

- Baroque portrait painting 19:427b
- Descartes oil painting illus. 5:598
- "Gypsy Girl," oil painting, illus., 19:Visual Arts, Western, Plate XV
- Indian sand painting influence 13:880f
- Van Gogh's objection to academicism 8:232e

Halsbury, Hardinge Stanley Gifford, 1st earl of (1823–1921), English lord chancellor (1885–95), distinguished for his grasp of legal principles and for his mastery in applying them.

Halsey, William Frederick, Jr. (b. Oct. 30, 1882, Elizabeth, N.J.—d. Aug. 16, 1959, Fishers Island, N.Y.), U.S. naval commander in the Pacific area, known as "Bull," who led vigorous campaigns in World War II.

A graduate of the U.S. Naval Academy at Annapolis, Md., in 1904, Halsey served as a destroyer commander in World War I. He became a naval aviator in 1935 and won successive promotions until reaching the rank of admiral in 1942. In the early months of that year, after the Japanese attack on Pearl Harbor (December 1941), Halsey directed surprise forays on enemy-held islands in the Marshalls and Gilberts as well as on Wake Island. His fleet consisted of the ships he knew best: destroyers, cruisers, and aircraft carriers. In April his group manoeuvred close enough to Tokyo for planes to carry out the first bombing of the Japanese capital. Consistent military successes led to his appointment (October) as commander of the Pacific force and the South Pacific area. During the next two months, he played a key role in the Battle of Santa Cruz Islands and the naval Battle of Guadalcanal.



Halsey

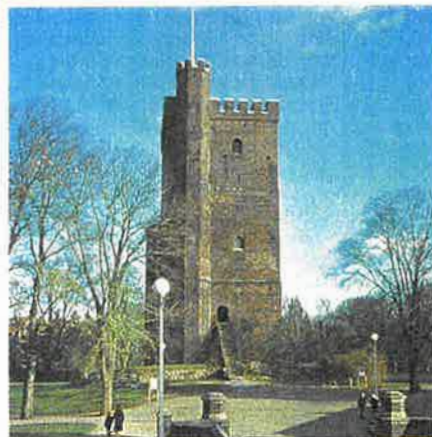
By courtesy of the U.S. Navy

In June 1944 Halsey became commander of the 3rd Fleet and led his carrier task force in brilliant air strikes. Responsible for covering and supporting U.S. land operations as well as finding and destroying the Japanese fleet, in the Battle of Leyte Gulf (October), Halsey's ships sank four enemy carriers and one battleship. He led U.S. forces in the final naval operations around Okinawa in the Ryukyu Islands from May 28, 1945, to September 2, when the Japanese surrendered. It was the largest amphibious engagement in the Pacific theatre.

Halsey was promoted to the rank of fleet admiral in December, and he retired in 1947. He was president of International Telecommunications Laboratories (1951–57).

- Japanese naval losses in Leyte Gulf 19:1009b

Hälsingborg, city and seaport in Malmöhus län (county), southern Sweden, at the narrowest (about 3 mi [5 km]) part of Öresund (The Sound), opposite the Danish town of Helsingør (Elsinore), and the most convenient place



The 12th-century Kärnan (Keep), sole remnant of the ancient fortifications of Hälsingborg, Sweden.

Picturepoint Ltd.—Publiv

for motor traffic to cross to and from the Continent. Because of its situation, it is known as "the Pearl of The Sound." It was first mentioned as a town in 1085. With its strong fortress, it was of great military and political importance during the Middle Ages. In 1658 it was ceded to Sweden by Denmark but was later reoccupied and laid waste several times by the Danes, passing finally to Sweden in 1710. The abolition in 1857 of the toll for crossing The Sound marked the beginning of the town's commercial prosperity.

Of the ancient fortifications, only Kärnan (the Keep) has survived; it affords an impressive view across the sound to Elsinore and Hamlet's castle. Other notable buildings are the town hall (1897), in North German Gothic style; the concert hall (1931); the 13th-century Gothic Maria Kyrkan (St. Mary's Church); and an indoor sports centre that is one of the biggest stadiums of Sweden. Museums include Vikingsberg Art Gallery and an open-air museum. Two monuments are of special interest: a Carl Milles statue to shipping, and a black and gold globe of the universe in honour of the astronomer Tycho Brahe, the ruins of whose observatory is on the island of Ven in The Sound. Sofiero Castle, the royal summer residence, is nearby.

Hälsingborg is a leading shipping centre and a major manufacturing town; shipbuilding is also important. Railways run to Stockholm, Göteborg, and Malmö. Pop. (1970) 100,305.

- map, Sweden 17:848

Hälsinge runes, greatly abbreviated runic alphabet, dating from the 10th to the 12th century, found mainly in inscriptions in the Hälsingland region of Sweden. Probably developed near Lake Mälaren, the runes seem to be a simplification of the Swedish-Norwegian Rök runes and lack vertical strokes.

Hälsingland, *landskap* (province), east central Sweden, bounded on the east by the Gulf of Bothnia, on the south by the *landskap* of Gästrikland, on the west by those of Dalarna and Härjedalen, and on the north by that of Medelpad. Its land area of 5,498 sq mi (14,239 sq km) is included in the *län* (county) of Gävleborg. One of the southern provinces of the region of Norrland, it shares the characteristics of that region, with forests cut by fertile river valleys, such as that of Ljusnan, its principal river. Extensive forests have made sawmilling and the manufacture of wood pulp and cellulose the leading industries; there is some agriculture. The principal towns are Söderhamn, the southernmost; Hudiksvall, the largest and oldest (chartered 1582); and Bollnäs. Pop. (1971 est.) 144,876.

Halske, Johann Georg (1814–90), German electrical engineer.

- Siemens' professional association 16:732b

Pickeringite**MgAl₂(SO₄)₄·22H₂O**

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Crystal Data: Monoclinic. *Point Group:* 2. Acicular to hairlike crystals, with many forms measured although terminated crystals are very rare; in radial or matted aggregates; typically as incrustations and efflorescences.

Physical Properties: *Cleavage:* Poor on {010}. *Fracture:* Conchoidal. *Tenacity:* Brittle. Hardness = 1.5 D(meas.) = 1.73–1.79 D(calc.) = 1.84 Soluble in H₂O, astringent taste.

Optical Properties: Semitransparent. *Color:* Colorless, white; may be pale shades of yellow, green, or red from metallic impurities; colorless in transmitted light. *Luster:* Vitreous. *Optical Class:* Biaxial (-). *Orientation:* Y = b; Z ∧ a = 36°. α = 1.475 β = 1.480 γ = 1.483 2V(meas.) = 60°

Cell Data: *Space Group:* P2₁/c. a = 6.1844(2) b = 24.2715(9) c = 21.2265(7) β = 100.326(4)° Z = 4

X-ray Powder Pattern: Tucumcari, New Mexico, USA. (ICDD 12-299).

4.82 (100), 3.510 (90), 4.32 (35), 4.122 (30), 3.791 (30), 6.08 (20), 4.97 (20)

Chemistry:

	(1)	(2)
SO ₃	37.84	37.29
Al ₂ O ₃	12.30	11.87
MgO	4.35	4.69
CaO	0.09	
H ₂ O	44.66	46.15
insol.	0.50	
Total	99.74	100.00

(1) Quetena, Chile. (2) MgAl₂(SO₄)₄·22H₂O.

Polymorphism & Series: Forms a series with halotrichite.

Mineral Group: Halotrichite group.

Occurrence: A common secondary mineral formed by alteration of pyrite in aluminous rocks or in coal seams; in the oxidized zone of pyritic hydrothermal mineral deposits, typically in arid regions, typically post-mining; a fumarolic product; formed in caves.

Association: Kalinite, alunogen, epsomite, melanterite, copiapite, gypsum.

Distribution: Widespread, so only a few localities are listed. In Chile, abundant from Cerros Pintados, 80 km southeast of Iquique, Tarapacá; at Quetena, west of Calama, and Chuquicamata, Antofagasta. In the USA, in New Mexico, from near Tucumcari, Quay Co.; at The Geysers, Sonoma Co., California; from Alum Point, Salt Lake Co., Utah. In Canada, at Newport, Nova Scotia, and from the junction of the two main branches of the Smoky River, Alberta. In Germany, at Wetzelstein, near Saalfeld, and from near Lehesten, Thuringia. On Valachov Hill, near Skřivava, Czech Republic. At Cervenica (Opáľbánya), Slovakia. In Italy, from Baia di Levante, Vulcano, Lipari Islands; on Mt. Etna, Sicily; and on Elba. At volcanoes on the Kamchatka Peninsula, Russia.

Name: To honor John Pickering (1777–1846), American lawyer and philologist of Boston, Massachusetts, USA.

References: (1) Palache, C., H. Berman, and C. Frondel (1951) Dana's system of mineralogy, (7th edition), v. II, 523–526. (2) Quartieri, S., M. Triscari, and A. Viani (2000) Crystal structure of the hydrated sulphate pickeringite MgAl₂(SO₄)₄·22H₂O: X-ray powder diffraction study. Eur. J. Mineral., 12, 1131–1138.

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pickerelweed family *n* : PONTEDERIACEAE

pick·er·ing \ 'pik(ə)riŋ\ *n* -s [alter. (prob. influenced by herring) of pickerel] **1** : PICKEREL **2** : SAUGER

pick·er·ing governor \ 'pik(ə)riŋ-\ *n*, *usu cap P* [after Thomas R. Pickering Am. engineer] : a governor in which the revolving balls act against curved flat springs

pick·er·ing·ite \ 'pik(ə)riŋ,īt\ *n* -s [John Pickering †1846 Am. scientist + E -ite] : a mineral $MgAl_2(SO_4)_4 \cdot 22H_2O$ composed of a hydrous magnesium aluminum sulfate occurring in white to faintly colored fibrous masses

pickering's tree frog *n*, *usu cap P* [after Charles Pickering †1878 Am. naturalist] : SPRING PEEPER

Dicker stick *n* [²*picker*] : a lever that transmits the crank ac-

~~Mineral~~

arbitrary \ " \ *n* -ES **1** : something that is arbitrary (the . . . conception of cosmic rule, into which an element of the ~ had found its way —S.F.Mason) **2 a** : a fixed sum allowed a carrier in making or dividing a through rate **b** : an amount added to or deducted from a basic transportation rate, fare, or charge (as an increment for abnormal services or features); *also* : a payment to employees for work other than regular duties

ar·bi·trary \ 'arbə, trerē, 'ab-, -ri\ *adj* [ME, fr. MF or L; MF *arbitraire*, fr. L *arbitrarius*, fr. *arbitr-*, *arbiter* judge + *-arius* -ary — more at ARBITER] **1** : depending on choice or discretion; *specif* : determinable by decision of a judge or tribunal rather than defined by statute (an ~ decision) (<~ punishment)
2 a (1) : arising from unrestrained exercise of the will, caprice, or personal preference : given to expressing opinions that arise thus (2) : selected at random or as a typical example (such ~ items as clothing, room furnishings, travel — *Official Register of Harvard Univ.*) **b** : based on random or convenient selection or choice rather than on reason or nature (an ~ symbol) (<~ division of historical studies into watertight compartments — A.J. Toynbee) **c** *Brit*, of a printing character : not usu. found in the ordinary type font **3 a** : given to willful irrational choices and demands : IMPERIOUS (a man of iron will and ~ decision) **b** : characterized by absolute power or authority : DESPOTIC, TYRANNICAL (<~ rule) (<an ~ governor)
syn see ABSOLUTE

arbitrary \ " \ *n* -ES **1** : something that is arbitrary (the ... conception of cosmic rule, into which an element of the ~ had found its way — S.F. Mason) **2 a** : a fixed sum allowed a carrier in making or dividing a through rate **b** : an amount added to or deducted from a basic transportation rate, fare, or charge (as an increment for abnormal services or features); *also* : a payment to employees for work other than regular duties

arbitrary constant *n, math* : a symbol to which various values may be assigned but which remains unaffected by the changes in the values of the variables of the equation

arbitrary function *n* : a symbol that may be considered to represent any one function of a set of functions

arbitrary \ " \ *n* -ES **1** : something that is ^{mineral} ~~arbitrary~~ (the ... conception of cosmic rule, into which an element of the ~ had found its way — S.F. Mason) **2 a** : a fixed sum allowed a carrier in making or dividing a through rate **b** : an amount added to or deducted from a basic transportation rate, fare, or charge (as an increment for abnormal services or features); *also* : a payment to employees for work other than regular duties

Lille 1908 The Ash is everywhere Plus Clumps of Alloth-Like Substance





Energy Resources Conservation Board
Last Updated: Jan 21, 2010

Serial Publication: ST45
Coal Mine Atlas Operating and Abandoned Coal Mines in Alberta

Disclaimer: The abandoned coal mine information is for informative purposes and represents the best data available to the ERCB at this time but its accuracy cannot be guaranteed. The ERCB is not responsible for damages caused by the use of this information. In cases where there is a discrepancy between the coal mine data listing and the coal mine map, consider the coal mine data listing to be the most accurate.

Location S. -Tp. -R. M.	Location Tp. M. R. S.	Mine No.	Mine Name	Mine Company	T	Lifespan From To	Prod. (k tonnes)	Rank ASTM	Depth (m)	Thick (m)	Comments
36-056-26W4	05642636	1696	MEARNS	ADELARD HOULE	S	1949 1958	42	SC	-	-	1949-58 MEARNS; MORINVILLE
36-056-26W4	05642636	1582	Egg Lake	Egg Lake Coal Co. Ltd.	S	1941 2004	1077.9	SC	6	2	ERCB Permit No. C76-60. ERCB Abandonment Approval No. 35.
22-057-21W4	05742122	0890	SMALLEYS	MELVIN SMALLEY	U	1921 1921	0	S	-	-	1921
25-057-25W4	05742525	0351	LEGAL	Frank Chiarello	U	1912 1945	15.5	SC	-	-	1912-45 ABANDONED 1913 TO 27
26-057-25W4	05742526	1636	LEGAL	J. B. ST. MARTIN	S	1945 1950	4.7	SC	-	-	1945-50 CHIARELLO/ST. MARTIN
33-057-25W4	05742533	1643	HI-WAY	CHIARELLO BROTHERS	S	1946 1946	0	SC	-	-	1946
06-058-16W4	05841606	1406	Garred's	Laverne W. Garred	S	1932 1942	1.5	L	5.3	0.4	Rough sketch of workings.
12-058-17W4	05841712	0000VCTR	Victoria	Hudson's Bay Company	U	1887 1891	<0.1	L	-	-	Coal and clay mined by settlers.
17-058-18W4	05841817	1547	WOYTOWICHS	EMIL WOYTOWICH	U	1938 1939	<0.1	L	-	-	1938-39
15-058-22W4	05842215	1501	KUZIK-PODALL	H. KUZIK & H. PODALL	U	1936 1936	<0.1	S	-	-	1936
15-058-22W4	05842215	1467	LIBICZS	LIBICZ & PARTNERS	U	1934 1936	0.3	S	-	-	1934-36
35-058-27W4	05842735	1523	STASHKOS	M. STASHKO	U	1937 1937	0.2	SC	-	-	1937
35-058-27W4	05842735	1523/A	PLISHKAS	S. PLISHKA & PARTNERS	U	1938 1939	1.6	SC	-	-	1938-39
35-058-27W4	05842735	1523/B	PICARDVILLE	PICARDVILLE COAL CO.	S	1939 1987	122.1	SC	-	-	1939/PR TWO OTHER OWNERS
36-058-27W4	05842736	1444	SUTHERLAND	W. SUTHERLAND & SONS	U	1933 1941	15.4	SC	-	-	1933-41 G. SUTHERLAND
24-059-21W4	05942124	1428	WONG WING	A. KERR	S	1933 1937	0.1	L	-	-	1933-37 WONG WING COAL CO
24-059-21W4	05942124	1664	RADWAY	EVERETT BERGLUND	S	1947 1947	0	L	-	-	1947
05-059-26W4	05942605	1397	PICKARDVILLE	MCLEAN & NESBITT	U	1932 1934	1.3	SC	-	-	1932-34 PICKARDVILLE COAL CO
09-059-26W4	05942609	1481	FALVOS	D. FALVO	U	1935 1936	0.3	SC	-	-	1935-36 D. FALVO & PARTNERS
11-060-21W4	06042111	1562	NORTH POINT	NORTH POINT COAL CO.	S	1939 1993	455.7	L	-	-	1939-PR STOPPED MINING 1992
11-060-21W4	06042111	1562/1	WOYTOWICHS	EMIL WOYTOWICH	U	1939 1942	1.1	L	-	-	1939-42
12-060-21W4	06042112	1517	THORHILD	THORHILD COAL CO.	U	1937 1944	9.2	L	-	-	1937-44 M. LIBICZ
12-060-21W4	06042112	1517/1	THORHILD	JOHN MELESKO	S	1944 1962	23.3	L	-	-	1944-62 TWO OTHER OWNERS
25-061-19W4	06141925	1557	NEW BROOK	NEWBROOK COAL CO.	U	1939 1940	0.2	L	-	-	1939-40 HUTCHINSON & HIRNY
13-062-24W4	06242413	1554	BROWNS	BROWN, WEEKS & WATERHOUSE	U	1938 1941	0	L	-	-	1938-41 NO PRODN RECORDS
24-062-24W4	06242424	1548	HI-WAY	VOLLRATH & BRENNIS	U	1938 1939	0.2	L	-	-	1938-39
24-062-24W4	06242424	1043	MCDONALD-BURDICK	MACDONALD, BURDICK, SPENC	U	1922 1923	0	L	-	-	1922-23
30-063-21W4	06342130	1344	PINE VALLEY	PINE VALLEY COAL CO.	U	1930 1931	0.3	L	-	-	1930-31 AKA: R. R. MCKILLOP
11-066-24W4	06642411	1686	BAPTISTE	MARWOOD S. ALEXANDER	S	1948 1951	0.9	L	-	-	1948-51
10-005-01W5	00550110	0042	NAISMITHS	ALBERTA RAILWAY/IRRIGATION	U	1905 1905	0	HA	-	-	1905
10-005-01W5	00550110	0295	CHRISTIE	BISHOP A. WILSON	U	1911 1943	82.8	HA	-	-	1911-43 TWO OTHER OWNERS
10-005-01W5	00550110	0184	CHRISTIA	ROLLA B. GOOD	U	1909 1910	1	HA	-	-	1909-10
11-005-01W5	00550111	1623	MERIDIAN	T. O. NEUMANN	U	1944 1947	0.3	HA	-	-	1944-47 IDLE 1944 TO 45
12-005-01W5	00550112	0058/B	Herron's	P. Herron	U	1901 1906	0.6	HV	-	-	
16-005-01W5	00550116	0715	VICTORY	RICHARD MURTLAND	U	1917 1928	6.9	HA	-	-	1917-28 MULTIPLE OWNERS
17-005-01W5	00550117	0452	BEAUVAIS	THOMAS J. SPARROW	U	1914 1916	2	HA	-	-	1914-16 DAVIS; BORTHWICK
18-005-01W5	00550118	1262	WILSONS	B. A. WILSON	U	1927 1927	0	HA	-	-	1927
20-005-01W5	00550120	0144	CRESCENT	SCOTT & MACLANE	U	1907 1907	0.2	HA	-	-	1907
25-005-02W5	00550225	0330	LINK	LINK COAL CO.	U	1911 1924	8.7	HA	-	-	1911-24 MULTIPLE OWNERS
36-005-02W5	00550236	0253	MCKINNONS	A. D. MCKINNON	U	1910 1915	0.6	HA	-	-	1910-15
31-005-03W5	00550331	0393	NORTH KOOTENAY	NORTH KOOTENAY PASS CO.	U	1913 1913	0	B	-	-	1913 NEVER OPENED
17-005-04W5	00550417	0210/1	MOUNT MCCARTY NO.2	PREMIER COAL & COKE COMPA	U	1909 1914	0	B	-	-	1909-14 PROSPECT
20-005-04W5	00550420	0210/4	MOUNT MCCARTY NO.1	PREMIER COAL & COKE COMPA	U	1909 1913	0	B	-	-	1909-14 PROSPECT
23-005-05W5	00550523	0210/2	NORTH KOOTNEY PASS	PREMIER COAL & COKE COMPA	U	1909 1914	0	B	-	-	1909-14 PROSPECT
27-006-01W5	00650127	0754	GLENBURNE	W. L. HAMILTON	U	1918 1920	0.5	HV	-	-	1918-20
03-006-02W5	00650203	0199	BEAVER	BEAVER MINES COAL CO.	U	1909 1964	104.2	HA	-	-	1909-64 ABANDONED 1911 TO 23
03-006-02W5	00650203	1721	LINK	COALFIELD COAL CO.	U	1950 1950	0	HA	-	-	1950 AKA: A. & W. LINK
04-006-02W5	00650204	1763	BEAVER	BEAVER COAL MINES	U	1965 1965	0	HA	-	-	1965



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Location S. -Tp. -R. M.	Location Tp. M. R. S.	Mine No.	Mine Name	Mine Company	T	Lifespan		Prod. (k tonnes)	Rank ASTM	Depth (m)	Thick (m)	Comments
						From	To					
09-006-02W5	00650209	1731	DAWN	DAWN COAL MINING CO.	U	1953	1966	30.9	HA	-	-	1953-66 CASTLE COAL CO
10-006-02W5	00650210	0199/1	BEAVER NO.2	WESTERN COAL & COKE	U	1911	1923	128.6	HA	-	-	1911-23 ABANDONED 1917 TO 19
27-006-02W5	00650227	0222	BEDFORD	William McFarlane	U	1910	1913	0.4	HV	-	-	1910-13
05-006-03W5	00650305	0207/2	CARBONDALE HILL	CARBON HILL COAL & COKE CC	U	1909	1915	0	HV	-	-	1909-15 PROSPECT
05-006-03W5	00650305	0207/3	OHAGEN CREEK	CARBON HILL COAL & COKE CC	U	1909	1915	0	HV	-	-	1909-15 PROSPECT
05-006-03W5	00650305	1813/E	Carbondale	A.J. & Associates	S	2004	2004	0	HV	11.6	2.9	ERCB Permit No. C 2004-8. Permit for test pit expired on November 30,2005. No work reported to that date.
07-006-03W5	00650307	0293/1	CARBONDALE RIVER NC	COAL SECURTIES LIMITED	U	1911	1913	0	HV	-	-	1911-13 PROSPECT
08-006-03W5	00650308	0207/1	CARBONDALE RIVER NC	CARBON HILL COAL & COKE CC	U	1909	1915	0	HV	-	-	1909-15 PROSPECT
17-006-03W5	00650317	0071	LILLE	BLAIRMORE COAL & COKE	U	1902	1903	0	HV	-	-	1902-03 WEST CDN COLLS LTD
25-006-03W5	00650325	0293/2	CASTLE RIVER	COAL SECURTIES LIMITED	U	1911	1913	0	HV	-	-	1911-13 PROSPECT
30-006-03W5	00650330	1584	ADANAC	WEST CANADIAN COLLIERIES L	U	1942	1962	692	HV	-	-	1942-62 ABANDONED 1957 TO 60
10-006-04W5	00650410	0209/1	LYNX CREEK	HEAD SYNDICATE LIMITED	U	1909	1913	0	B	-	-	1909-13 PROSPECT
24-006-04W5	00650424	0087/1	ADANAC NO.1	WEST CANADIAN COLLIERIES L	S	1948	1951	0	HV	-	-	1948-51
24-006-04W5	00650424	000070A/01	Adanac Hill No.1	Scurry-Rainbow Oil Ltd.	U	1970	1970	<0.1	HV	-	-	Bulk sample adit.
24-006-04W5	00650424	000070A/02	Adanac Hill No..2	Scurry-Rainbow Oil Ltd.	U	1970	1970	<0.1	HV	-	-	Bulk sample adit
25-006-04W5	00650425	000070A/03	Adanac Hill No.3	Scurry-Rainbow Oil Ltd.	U	1970	1970	<0.1	HV	-	-	Bulk sample adit.
25-006-04W5	00650425	000070A/04	Adanac Hill No.4	Scurry-Rainbow Oil Ltd.	U	1970	1970	<0.1	HV	-	-	Bulk sample adit.
25-006-04W5	00650425	0087/2	ADANAC NO.2	WEST CANADIAN COLLIERIES L	S	1948	1951	0	HV	-	-	1948-51
25-006-04W5	00650425	0087/3	ADANAC NO.3	WEST CANADIAN COLLIERIES L	S	1948	1951	0	HV	-	-	1948-51
34-006-04W5	00650434	000070A/13	Lynx Creek No.1	Scurry-Rainbow Oil Ltd.	U	1970	1970	0	B	-	-	Exploration adit.
34-006-04W5	00650434	000070A/14	Lynx Creek No.2	Scurry-Rainbow Oil Ltd.	U	1970	1970	<0.1	B	-	-	Bulk sample adit.
13-006-05W5	00650513	0210/3	LOST CREEK	PREMIER COAL & COKE COMPA	U	1909	1914	0	B	-	-	1909-14 PROSPECT
23-007-02W5	00750223	0076	LUBRECK	CHARLES PATTON	U	1903	1936	19.5	HV	-	-	1903-36 3 SEPARATE WORKINGS
23-007-02W5	00750223	1579	RHODES	WILLIAM B. RHODES	U	1941	1942	0.2	HV	-	-	1941-42
23-007-02W5	00750223	1175	TONGE	THOMAS TONGE	U	1924	1933	3.5	HV	-	-	1924-33 2 SEPARATE MINES
23-007-02W5	00750223	1175/A	RHODES	RHODES BROTHERS	U	1937	1940	1.5	HV	-	-	1937-40 RHODES & PARTNERS
24-007-02W5	00750224	1251	BLAZER	BLAZER COAL CO.	U	1926	1934	5.8	HV	-	-	1926-34
25-007-02W5	00750225	1162	MITCHELL-WOOD	C. MITCHELL & M. WOOD	U	1924	1924	0	HV	-	-	1924 LOCATION UNCERTAIN
25-007-02W5	00750225	1083	MARLOW-GARDINER	MARLOW & GARDINER	U	1923	1924	0.1	HV	-	-	1923-24
26-007-02W5	00750226	1096	PATTONS	JOHN L. PATTON	U	1923	1928	3.3	HV	-	-	1923-28
26-007-02W5	00750226	1327	CERVOS	CERVO, CASTELLANO & STEVAI	U	1930	1930	0	HV	-	-	1930 LOCATION UNCERTAIN
26-007-02W5	00750226	1440	RHODES	RHODES MINING CO.	U	1933	1954	3.1	HV	-	-	1933-54
26-007-02W5	00750226	0077	LUBRECK	BRECKENRIDGE-LUND COAL CC	U	1903	1925	101.6	HV	-	-	1903-25 LOCATION UNCERTAIN
26-007-02W5	00750226	0078	LUBRECK NO.2	BRECKENRIDGE-LUND COAL CC	U	1903	1904	4.5	HV	-	-	1903-04 LOCATION UNCERTAIN
26-007-02W5	00750226	0059	GALBRAITHS	GALBRAITH COAL COMPANY LT	U	1902	1947	72.6	HV	-	-	1902-47
26-007-02W5	00750226	0606	BLACK DIAMOND	John Morris	U	1915	1917	0.5	HV	-	-	1915-17
35-007-02W5	00750235	1620	ROCK CREEK	ROCK CREEK COAL CO.	U	1944	1945	0	HV	-	-	1944-45 LOCATION UNCERTAIN
36-007-02W5	00750236	0000HLWY	Spring Creek	Martin Holway and John Nelson	U	1889	1905	0.9	HV	-	-	
06-007-03W5	00750306	0133/1	MOHAWK NO.5	HILLCREST MOHAWK COLLIERI	U	1950	1952	929.9	HV	-	-	1950-52
09-007-03W5	00750309	0126	PASSBURG	LEITCH COLLIERIES LTD.	U	1906	1907	0	HV	-	-	1906-07
09-007-03W5	00750309	0126/1	SOUTH PASSBURG	LEITCH COLLIERIES LTD.	U	1907	1915	393	HV	-	-	1907-15
09-007-03W5	00750309	1275	BYRON CREEK	HILLCREST COLLIERIES LTD.	U	1927	1934	55	HV	-	-	1927-34 TWO OTHER OWNERS
12-007-03W5	00750312	1153	BURMIS	HAROLD RHODES	U	1924	1962	3.9	HV	-	-	1924-62 ABANDONED 1926 TO 60
13-007-03W5	00750313	1199	RHODES	RHODES MINING CO.	U	1925	1925	0	HV	-	-	1925
14-007-03W5	00750314	0153	DAVENPORT	DAVENPORT COAL CO.	U	1907	1943	159.4	HV	-	-	1907-43 MULTIPLE OWNERS
15-007-03W5	00750315	0126/2	NORTH PASSBURG	LEITCH COLLIERIES LTD.	U	1909	1915	430.6	HV	-	-	1909-15
18-007-03W5	00750318	0040	BYRON CREEK	HILLCREST COLLIERIES LTD.	U	1905	1939	5874.9	HV	-	-	1905-39 HILLCREST COAL CO



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Location S. -Tp. -R. M.	Location Tp. M. R. S.	Mine No.	Mine Name	Mine Company	T	Lifespan From To	Prod. (k tonnes)	Rank ASTM	Depth (m)	Thick (m)	Comments
20-007-03W5	00750320	0087/A	BELLEVUE	ECOMUSEUM TRUST	U	1990 2009	0	UN	-	-	1990-PR
20-007-03W5	00750320	0087	BELLEVUE	WEST CANADIAN COLLIERIES L	U	1903 1961	13597.1	HV	-	-	1903-61
21-007-03W5	00750321	0133	MAPLE LEAF	MOHAWK BITUMINOUS MINES	U	1907 1952	3754.8	HV	-	-	1907-52 MULTIPLE OWNERS
28-007-03W5	00750328	1183	LITTLES	JOSEPH W. LITTLE	U	1924 1925	<0.1	HV	-	-	1924-25
30-007-03W5	00750330	0048	FRANK	FRANCO CANADIAN COLLIERIE	U	1900 1918	1465.9	HV	-	-	1900-18 FRANK SLIDE - 1903
04-007-04W5	00750404	0209/2	WILLOUGHBY RIDGE	HEAD SYNDICATE LIMITED	U	1909 1913	0	B	-	-	1909-13 PROSPECT
09-007-04W5	00750409	000040A/01	Lyons Creek	Norcen Energy Resources Ltd.	U	1982 1985	<0.1	B	-	-	Bulk sample adit.
16-007-04W5	00750416	1805/E/01	CHINOOK SOUTH A	CHINOOK COALS LTD.	U	1989 1989	0	B	-	-	1989 ADIT NOT DRIVEN
28-007-04W5	00750428	1805/E/02	CHINOOK NORTH B	CHINOOK COALS LTD.	U	1989 1989	0	B	-	-	1989 ADIT NOT DRIVEN
28-007-04W5	00750428	1805/E/03	CHINOOK NORTH C	CHINOOK COALS LTD.	U	1989 1989	0	B	-	-	1989 ADIT NOT DRIVEN
28-007-04W5	00750428	0088/1	INTERNATIONAL	COLEMAN COLLIERIES LTD.	U	1947 1950	4.5	B	-	-	1947-50
28-007-04W5	00750428	0088/3	INTERNATIONAL	COLEMAN COLLIERIES LTD.	S	1949 1951	23.7	B	-	-	1949-51
28-007-04W5	00750428	0088/4	INTERNATIONAL	COLEMAN COLLIERIES LTD.	S	1949 1950	4.5	B	-	-	1949-50
28-007-04W5	00750428	0088/5	INTERNATIONAL	COLEMAN COLLIERIES LTD.	S	1950 1951	8.8	B	-	-	1950-51
28-007-04W5	00750428	0088/6	INTERNATIONAL	COLEMAN COLLIERIES LTD.	S	1950 1952	12	B	-	-	1950-52
28-007-04W5	00750428	0088/E/01A	COLEMAN NO.1A	CHINOOK COALS LTD.	S	1988 1988	<0.1	B	-	-	1988 BULK SAMPLE TEST PIT
28-007-04W5	00750428	0088/E/01B	COLEMAN NO.1B	CHINOOK COALS LTD.	S	1988 1988	<0.1	B	-	-	1988 BULK SAMPLE TEST PIT
29-007-04W5	00750429	0261	PAULSONS	P. A. PAULSON	U	1910 1913	0.4	B	-	-	1910-13
33-007-04W5	00750433	0088/2	INTERNATIONAL	COLEMAN COLLIERIES LTD.	S	1948 1952	62.6	B	-	-	1948-52
34-007-04W5	00750434	0802	SUNBURST	BLAIRMORE COAL CO.	U	1919 1930	18.8	B	-	-	1919-30 MULTIPLE OWNERS
35-007-04W5	00750435	0193	BLAIRMORE	WEST CANADIAN COLLIERIES L	U	1909 1919	423.1	B	-	-	1909-19 PRODN UNKNOWN 15-19
35-007-04W5	00750435	1455	PITTS	A. J. PITT	U	1934 1936	<0.1	B	-	-	1934-36 PRODN UNKNOWN 35-36
34-007-05W5	00750534	0820	CAMCO	CANADIAN-AMERICAN COAL CC	U	1919 1941	2.5	B	-	-	1919-41
34-007-05W5	00750534	0850	MOTHER CROW	H. E. PERLIN	U	1920 1923	0.2	B	-	-	1920-23 PRODN UNKNOWN 22-23
11-007-06W5	00750611	1695	TENT MOUNTAIN	Prairie Mines and Royalty Ltd.	S	1949 1975	4756	B	-	-	1949-79 HILLCREST-MOHAWK
11-007-06W5	00750611	1695/3	TENT MOUNTAIN	COLEMAN COLLIERIES LTD.	S	1976 1978	545.9	B	-	-	9
11-007-06W5	00750611	1695/4	TENT MOUNTAIN	COLEMAN COLLIERIES LTD.	S	1976 1976	765.5	B	-	-	9
11-007-06W5	00750611	1695/4N/5	TENT MOUNTAIN	COLEMAN COLLIERIES LTD.	S	1977 1979	2163.5	B	-	-	9
23-007-06W5	00750623	1065/1	TENT PASS	SPOKANE & ALBERTA COAL CO. U	U	1926 1928	0.3	B	-	-	1926-28
26-007-06W5	00750626	1065	TENT PASS	SPOKANE & ALBERTA COAL CO. U	U	1922 1925	0.4	B	-	-	1922-25
01-008-02W5	00850201	1132	MARLOWS	MARLOW & GARDINER	U	1924 1927	1.8	HV	-	-	1924-27 MARLOW & GARDNER
01-008-02W5	00850201	1132/A	QUICK FLAME	RHODES BROTHERS	U	1934 1937	0.6	HV	-	-	1934-37 ONE PARTNER
34-008-02W5	00850234	0000CWCK	Cow Creek	Unknown	U	1900 1900	0	UN	-	-	Date unknown.
36-008-02W5	00850236	0190	WILSON RANCH	THOMASON & SONS	U	1909 1932	0.2	HV	-	-	1909-32 IDLE FROM 1910-30
36-008-02W5	00850236	0190/A	WILSONS	ED V. WILSON	U	1902 1905	0.2	HV	-	-	1902-05
08-008-03W5	00850308	0064	BEAR VALLEY	WEST CANADIAN COLLIERIES L	U	1902 1913	900.8	HV	-	-	1902-13 UNITED GOLDFIELDS
08-008-03W5	00850308	0064/1	BEAR VALLEY	WEST CANADIAN COLLIERIES L	U	1904 1904	0	HV	-	-	1904
02-008-04W5	00850402	0396	GREENHILL	WEST CANADIAN COLLIERIES L	U	1913 1968	14071.8	B	-	-	1913-68 LAST PRODN 1960
02-008-04W5	00850402	0396/1	GREENHILL	WEST CANADIAN COLLIERIES L	S	1950 1950	0	B	-	-	9
08-008-04W5	00850408	0088	INTERNATIONAL	INTERNATIONAL COAL & COKE U	U	1903 1957	13847	B	-	-	1903-57 COLEMAN COLLS LTD
17-008-04W5	00850417	0204	CARBONDALE	MCGILLVARY CREEK COAL	U	1909 1960	10777.6	B	-	-	1909-60 COLEMAN COLLS LTD
24-008-04W5	00850424	0396/2	GREENHILL	WEST CANADIAN COLLIERIES L	S	1950 1950	0	B	-	-	9
24-008-04W5	00850424	0396/4	GREENHILL	WEST CANADIAN COLLIERIES L	S	1950 1950	0	B	-	-	9
24-008-04W5	00850424	0396/5	GREENHILL	WEST CANADIAN COLLIERIES L	S	1950 1950	0	B	-	-	9
24-008-04W5	00850424	1776/E	GRASSY MOUNTAIN	CONSOL OF CANADA INC.	S	1974 1988	49	B	-	-	1974-75
25-008-04W5	00850425	0396/6	GREENHILL	WEST CANADIAN COLLIERIES L	S	1950 1950	0	B	-	-	9
25-008-04W5	00850425	0396/3	GREENHILL	WEST CANADIAN COLLIERIES L	S	1950 1950	0	B	-	-	9
25-008-04W5	00850425	000070A/09	Grassy Mountain No.2	Scurry-Rainbow Oil Ltd.	U	1971 1971	<0.1	B	-	-	Bul sample adit.
25-008-04W5	00850425	000070A/10	Grassy Mountain No.3	Scurry-Rainbow Oil Ltd.	U	1971 1971	<0.1	B	-	-	Bulk sample adit.



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Location S. -Tp. -R. M.	Location Tp. M. R. S.	Mine No.	Mine Name	Mine Company	T	Lifespan		Prod. (k tonnes)	Rank ASTM	Depth (m)	Thick (m)	Comments
						From	To					
29-008-04W5	00850429	0204/E/01	COLEMAN	CHINOOK COAL LTD.	S	1988	1988	<0.1	B	-	-	1988
29-008-04W5	00850429	1805/E/04	CHINOOK NORTH D	CHINOOK COALS LTD.	U	1989	1989	0	B	-	-	1989 ADIT NOT DRIVEN
36-008-04W5	00850436	000070A/11	Grassy Mountain No.4	Scurry-Rainbow Oil Ltd.	U	1971	1971	0	B	-	-	Bulk sample adit
36-008-04W5	00850436	000070A/12	Grassy Mountain No.6	Scurry-Rainbow Oil Ltd.	U	1971	1971	0	B	-	-	Bulk sample adit.
04-008-05W5	00850504	0408	MCGUIRES	A. J. MCGUIRE	U	1913	1913	0	B	-	-	1913 PROSPECT
04-008-05W5	00850504	0820/1	SENTINEL	CANADIAN-AMERICAN COAL CC	U	1919	1929	0	B	-	-	1919-29 PROSPECT TUNNEL
05-009-02W5	00950205	1738	QUICK FLAME	RHODES MINING CO.	U	1954	1955	0.2	HV	-	-	1954-55 AKA: W. B. RHODES
06-009-03W5	00950306	1745	GRASSY MOUNTAIN	WEST CANADIAN COLLIERIES L	S	1956	1960	383.4	B	-	-	1956-60 9 PITS
06-009-03W5	00950306	000070A/08	Grassy Mountain No.1	Scurry-Rainbow Oil Ltd.	U	1971	1971	0	B	-	-	Bulk sample adit.
19-009-04W5	00950419	1747	VICARY CREEK	COLEMAN COLLIERIES LTD.	U	1957	1979	7481.1	B	-	-	1957-79
19-009-04W5	00950419	1747/S	VICARY CREEK	COLEMAN COLLIERIES LTD.	S	1972	1974	152.6	B	-	-	1972-74
20-009-04W5	00950420	1760	VICARY NO.2	COLEMAN COLLIERIES LTD.	U	1960	1964	1.5	B	-	-	1960-64 PRODN ONLY FOR 1964
11-010-02W5	01050211	0440	BIG COULEE	HERSCHEL KAYE	U	1914	1916	<0.1	HV	-	-	1914-16
31-010-02W5	01050231	0463	WALDRIN RANCH	WALDRIN RANCHING CO.	U	1914	1916	<0.1	HV	-	-	1914-16 D. WILSON - OPERATOR
31-010-02W5	01050231	1108	BOB CREEK	FRED L. MOUYSET	U	1923	1931	0.5	HV	-	-	1923-31 THOMAS BALL
32-010-02W5	01050232	0462	WALDRIN RANCH	WALDRIN RANCHING CO.	U	1914	1915	<0.1	HV	-	-	1914-15 J. JEFFREY -OPERATOR
09-010-03W5	01050309	1733	WILLOW VALLEY	WILLOW VALLEY COAL CO.	S	1953	1954	0	HV	-	-	1953-54 NEVER OPENED
23-010-03W5	01050323	0000ERCK	Ernst Creek	Unknown	U	1900	1900	0	UN	-	-	Date unknown
27-010-03W5	01050327	0716	ROWES	R. N. ROWE	U	1917	1919	0.2	HV	-	-	1917-19 W. R. BARE
05-010-04W5	01050405	1764	RACEHORSE	COLEMAN COLLIERIES LTD.	S	1966	1971	64.2	B	-	-	1966-71 SPORADICALLY WORKED
23-010-04W5	01050423	1710	RACEHORSE	C. & L. SHULTZE	S	1949	1951	0.1	B	-	-	1949-51
10-012-04W5	01250410	000070A/05	Oldman River No.1	Scurry-Rainbow Oil Ltd.	U	1970	1970	<0.1	B	-	-	Bulk sample adit.
10-012-04W5	01250410	000070A/06	Oldman River No.2	Scurry-Rainbow Oil Ltd.	U	1970	1970	<0.1	B	-	-	Bulk sample adit.
11-012-04W5	01250411	000070A/07	Oldman River No.3	Scurry-Rainbow Oil Ltd.	U	1970	1970	<0.1	B	-	-	Bulk sample adit.
28-012-04W5	01250428	000058A/04	Grandridge No.74-4	Granby Mining Co. Ltd.	U	1974	1974	<0.1	B	-	-	Bulk sample adit
28-012-04W5	01250428	000010A/06	Isolation Ridge No.6	Canpac Minerals Ltd.	U	1969	1973	0	B	-	-	Exploration adit.
32-012-04W5	01250432	000058A/02	Grandridge No.74-2	Granby Mining Co. Ltd.	U	1974	1974	<0.1	B	-	-	Bulk sample adit.
33-012-04W5	01250433	000010A/03	Isolation Ridge No.3	Canpac Minerals Ltd.	U	1969	1973	0	B	-	-	Exploration adit.
33-012-04W5	01250433	000010A/04	Isolation Ridge No.4	Canpac Minerals Ltd.	U	1969	1973	0	B	-	-	Exploration adit.
21-013-02W5	01350221	0000SWCK	South Willow Creek	Unknown	U	1900	1900	0	UN	-	-	Date unknown
07-013-04W5	01350407	000058A/03	Grandridge No.74-3	Granby Mining Co. Ltd.	U	1974	1974	<0.1	B	-	-	Bulk sample adit.
07-013-04W5	01350407	000058A/05	Grandridge No.74-5	Granby Mining Co. Ltd.	U	1974	1974	0	B	-	-	Bulk sample adit
18-013-04W5	01350418	000010A/05	Isolation Ridge No.5	Canpac Minerals Ltd.	U	1969	1973	0	B	-	-	Exploration adit.
18-013-04W5	01350418	000010A/02	Isolation Ridge No.2	Canpac Minerals Ltd.	U	1969	1973	0	B	-	-	Exploration adit.
30-013-04W5	01350430	000010A/01	Isolation Ridge No.1	Canpac Minerals Ltd.	U	1969	1973	0	B	-	-	Exploration adit.
12-013-05W5	01350512	000058A/01	Grandridge No.74-1	Granby Mining Co. Ltd.	U	1974	1974	<0.1	B	-	-	Bulk sample adit.
26-013-05W5	01350526	000046A/05	Savanna Creek No.72C	Bralorne Resources Ltd.	U	1972	1972	<0.1	B	-	-	Bulk sample adit.
27-013-05W5	01350527	000046A/04	Savanna Creek No.72A	Bralorne Resources Ltd.	U	1972	1972	<0.1	B	-	-	Bulk sample adit.
27-013-05W5	01350527	000046A/02	Savanna Creek No.71A	Bralorne Resources Ltd.	U	1971	1971	<0.1	B	-	-	Bulk sample adit.
34-013-05W5	01350534	000046A/03	Savanna Creek No.71C	Bralorne Resources Ltd.	U	1971	1971	<0.1	B	-	-	Bulk sample adit.
34-013-05W5	01350534	000046A/01	Savanna Creek No.70A	Bralorne Resources Ltd.	U	1970	1970	<0.1	B	-	-	Bulk sample adit
35-013-06W5	01350635	0000MTGS	Mount Gass	Crowsnest Pass Coal Co.	U	1900	1900	0	B	-	-	Prospecting.
35-014-04W5	01450435	1061	SKEEN	ERNEST SKEEN	U	1922	1926	1	B	-	-	1922-26 2 PORTAL ENTRIES
04-015-03W5	01550304	0735	DU ROCHERVILLE	DU ROCHERVILLE MINING CO.	U	1918	1923	1.2	HV	-	-	1918-23 F. DU ROCHERVILLE
33-016-05W5	01650533	1625/A	HIGHWOOD	HIGHWOOD COAL MINES	S	1945	1952	<0.1	B	-	-	1945-52 11 PROSPECT CUTS
16-017-02W5	01750216	0000STMN	Stimson's	North West Cattle Co. Ltd.	U	1887	1901	0.5	HV	-	-	
34-017-05W5	01750534	1566	FLAT CREEK	FLAT CREEK COALS LTD.	U	1939	1942	1.2	B	-	-	1939-42 BLUE BLAZE SYNDICATE
34-017-05W5	01750534	1326	ALDERDICES	W. J. ALDERDICE	U	1930	1931	0	B	-	-	1930-31 PROSPECT SLOPE
12-017-06W5	01750612	0000FRD/3	Ford's	H.A. Ford	U	1920	1920	0	B	-	-	Prospect tunnel. Date unknown.



VILLAGE OF LILLE

Near Crowsnest Pass, Alberta, T0L, Canada

Formally Recognized: 1978/01/18



View of historic Lille



View of former townsite



View of coke ovens

OTHER NAME(S)

VILLAGE OF LILLE

French Camp

Lille Townsite

Lille Industrial Complex Village

LINKS AND DOCUMENTS

n/a

CONSTRUCTION DATE(S)

1903/01/01

LISTED ON THE CANADIAN REGISTER: 2009/02/26

STATEMENT OF SIGNIFICANCE

DESCRIPTION OF HISTORIC PLACE

The Village of Lille is situated in a meadow on an alluvial terrace near the confluence of Gold and Morin Creeks, six kilometres northeast of Blairmore, Alberta. Located on approximately 130 hectares of land, the site includes the processing facilities and associated townsite related to three of the many coal mines operating in the Crowsnest Pass during the early 20th century. Of the original site features, all built between 1903 and 1912, only the remnants of the Bernard coke ovens, coal waste (slack) piles,

fire hydrants and the foundations of the hotel remain visible. Other landscape elements that record the former presence of the village include numerous cellar depressions, settling pond embankments and debris scatters of cultural material.

HERITAGE VALUE

The heritage value of the Village of Lille lies in its representation of an early twentieth-century coal mining town established during the early industrial development of the Crowsnest Pass. Additional value is reflected in its unique, isolated, high elevation location, well above the main valley of the Pass.

In 1901, Charles Remy and Jules Justin Fleutot of the French company United Gold Fields of British Columbia claimed a coal prospect on Gold Creek and established the mining community of "French Camp". By 1903, the prospect had been developed to include three mines operated by the newly incorporated West Canadian Collieries. With the establishment of a spur line of the Frank and Grassy Mountain Railway to provide transportation, French Camp became the location of the coal processing facilities for the mines. It was re-christened "Lille" in honour of the French town that was Western Canadian Collieries' headquarters.

By 1907-1910, Lille had become a major base of mining operations, housing nearly 400 residents in a community supplied with both waterworks and electricity. Within the village, up to 80 structures existed, including residences (miner's cottages, a boarding house, residences of company personnel, the mine superintendent and the doctor), commercial buildings (general store, bakery, butcher's shop, hotel, liquor store), a post office, a North West Mounted Police detachment, a four-room schoolhouse, a hospital, a mine stable and corral, a coal washery and 50 Bernard-type coke ovens. The coke ovens, built in 1904, had been assembled in Belgium, tested, dismantled and reassembled in Lille. The coke produced from these ovens was transported via the spur line of the Frank and Grassy Mountain Railway to Frank for delivery to their markets.

Closure of the Lille mines occurred in 1912. Between labour unrest, increasing production costs and the decreasing quality of the Lille coal, West Canadian Collieries elected to move their operations to more profitable mines in the south, including those at Bellevue and Blairmore. By 1914, Lille was abandoned and its buildings were either demolished or were dismantled and moved to other mining towns in the Crowsnest Pass. Archaeological excavations at Lille in 1979 and 1981 have resulted in the collection of more than 4500 pieces of cultural material, including metal, glass, ceramics and fractured animal bones, which provide evidence of the domestic and industrial activities conducted during the village's florescence.

Source: Alberta Culture and Community Spirit, Historic Resources Management Branch (File: Des. 610). Porter, Meaghan. 2006. Historical Archaeology at an Industrial Town Site: Lille, Alberta (Master of Arts thesis, University of Saskatchewan).

CHARACTER-DEFINING ELEMENTS

The character-defining elements of the Village of Lille include such features as:

- the location of the site, which is physically circumscribed in the Gold Creek valley, between Bluff Mountain and the Livingstone Range, and is the only well-drained terrace in the narrow valley, permitting control of the mined bedrock outcrops located upstream;
- remnants of domestic and commercial structures, which provide the most intact example of urban development associated with early 20th century coal mining in the eastern slopes of the Rocky Mountains in Alberta;
- remnants of industrial facilities that represent one of the earliest industrial sites in the Crowsnest Pass;
- remnants of the wooden coal washery, which assisted in decreasing the ash content of coal prior to coking and was the first of its type used in Alberta;
- remnants of the coke ovens, constructed of Belgian brick, which are unique in western Canada and were the only known Bernard-type coke ovens in Canada outside Nova Scotia;
- the historic records for this site, which identify it as an anomaly in regional historic settlement patterns, as it was the only major mining community located outside the Crowsnest River valley;
- the archival documents related to the site, which provide information about many facets of domestic and industrial (coal processing) activities;
- archaeological remains, which provide the opportunity for detailed, problem-oriented research that may yield information about a remarkable early coal mining community in the Crowsnest Pass that was not re-settled and modernized after abandonment, and therefore possesses high levels of integrity.

RECOGNITION

JURISDICTION

Alberta

RECOGNITION AUTHORITY

Province of Alberta

RECOGNITION STATUTE

Historical Resources Act

RECOGNITION TYPE

Provincial Historic Resource

RECOGNITION DATE

1978/01/18

HISTORICAL INFORMATION

SIGNIFICANT DATE(S)

n/a

THEME - CATEGORY AND TYPE

Developing Economies

Extraction and Production

Peopling the Land

Settlement

FUNCTION - CATEGORY AND TYPE

**CURRENT
HISTORIC**

Community

Settlement

Industry

Petroleum and Coal Products Facility

ARCHITECT / DESIGNER

n/a

BUILDER

n/a

ADDITIONAL INFORMATION**LOCATION OF SUPPORTING DOCUMENTATION**

Alberta Culture and Community Spirit, Historic Resources Management Branch, Old St. Stephen's College, 8820 - 112 Street, Edmonton, AB T6G 2P8 (File: Des. 610)

CROSS-REFERENCE TO COLLECTION**FED/PROV/TERR IDENTIFIER**

4665-0158

STATUS

Published

RELATED PLACES

n/a

NEARBY PLACES



OLD HILLCREST CEMETERY

near Crowsnest Pass - Hillcrest, Alberta

The Old Hillcrest Cemetery is situated on 1.45 hectares of land on the eastern slope of Turtle...



FRANK SLIDE

Near Crowsnest Pass - Frank, Alberta

The Frank Slide is a cultural landscape encompassing roughly 508

Grassy Mountain Prospect

ATWICE (2) FAILED COAL MINE

① ONCE (1) 1903-1908 - LILLE

Grassy Mountain Prospect

② AGAIN 1945-46-1958-60 - JAPAN

REJECTS GRASSY MOUNTAIN COAL

2011-2012 - SOLD AS A BONA-FIDE COAL MINE.

WHEN IN FACT GRASSY MOUNTAIN
PROSPECT IS NOT A BONA-FIDE COAL MINE.

FACT - THE INTRUSION OF MINERAL

MATTER VIA WEAK COAL METALS

CRETACEOUS-TERTIARY (CLASSIFIED RECENT

TIME PERIOD) COALIFICATION - ALUMINOGEN,

Halotrichite $[\text{Fe-iron} \text{Al}_2(\text{SO}_4)_2 \cdot 22\text{H}_2\text{O}]$

PICKERINGITE $[\text{Mg-Magn} \text{Al}_2(\text{SO}_4)_4 \cdot 22\text{H}_2\text{O}]$

CHIEF (PRINCIPLE) CAUSE OF MINE FAILURE.

25

Grassy Mountain Prospect Coal

Surrounding Area Daisy Creek

The Mineral-Halotrichite-Pickeringite

Microscopic Hairs sealed in the Coal VIA

Weak Macerals, when HEAT is again

applied to the Mineral intruded Coal

the Mineral hairs are again released

Pyrolysis-Electro-Magnetic. (Cling to each

other.) The Mineral Hair just continues

on exiting the intruded Coal. There is

No End to the Mineral Hairs + Ash, ash, ash-

The Intrusion of the Mineral Hairs

into the Coal is Complete and

Severe. No Mining Permitted - Closed. The

Government of Alberta to Remove Certain Areas

as Prohibited for Mining - Twice Failed Coal Mine...

The Internationale Export-Grassy Mountain Coal

Seller: Devon Corporation - Consolidated Coal USA.
 333 West Sheridan Ave. Pittsburgh Pennsylvania
 Oklahoma City, Oklahoma St. Now owned by Germans??
 731-025-015

Sold to

Gina Rinehart
 Perth, W. Australia.

Export. In this case Coal export.
 offshore.

Even though the Coal Export is shipped
 from Canada.

Quality (Merit. With Merit, or

Without Merit; For Export by a Foreign

Country, Based in Canada is NOT a good idea.

This is a Twice Failed Coal;

Trans Pacific Partnership Agreement -

The Canadian-Chinese Canada Crisis -

The Pork Trade problem Canadian-Chinese

Now The Canadian-Chinese Coal Crisis??



Canola Crop Nanton Alberta



Gilmars at Lille 1927. Houses are being moved.