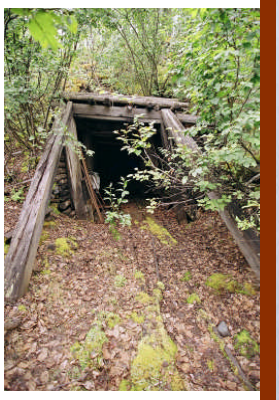
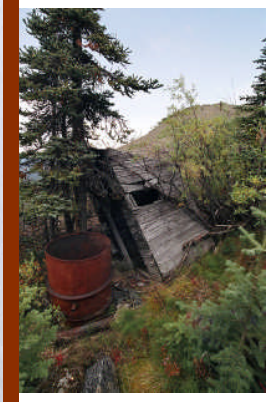
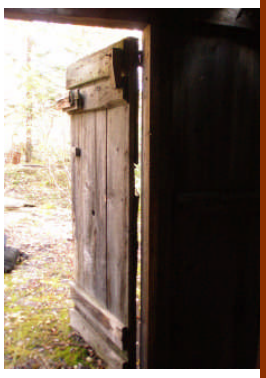


Historical Review

Of
Former
United Keno Hill Mines
Limited
Quartz Claims

Silver King, Elsa Mines,
No Cash, Bermingham and
Dixie
Volume 3


Prepared for
Assessment and Abandoned
Mines Branch
Energy Mines and Resources
Government of Yukon

By
McQuesten Lake Enterprises

March 2009



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Executive Summary

This report is the third volume documenting historical resources on the former United Keno Hill Mines Limited (UKHM) quartz claims. The report is produced for the Assessment and Abandoned Mines Branch, Department of Energy Mines and Resources, Government of Yukon and has been accomplished in conjunction with the Historical Sites Unit, Cultural Services Branch, Department of Tourism and Culture, Government of Yukon.

The focus of the project is to document historic sites, determine safety issues, and to create a historical record of buildings, features and artifacts located on the former UKHM mining properties before they are lost by development or the elements.

Background

This project stems from a local initiative which began in 2003 with the Silver Trail Tourism Association, Department of Indian and Northern Affairs Canada, Waste Management Program and McQuesten Lake Enterprises. Since mining has played a significant roll in the regions history, the Silver Trail Tourism Association along with local individuals wanted to be involved in the assessment process for preservation of historical landmarks and potential tourism opportunities prior to the sites being remediated.

From the positive response to the initiative project, it was evident there was a need to document the heritage sites in the area using Heritage Sites Unit methods. This in-depth recording and focused research would assist in creating a record of historical data of the area.

The second year project was a tri-venture with the involvement of the First Nation of Na Cho Nyak Dunn (NND) Lands Department, Historical Sites Unit, Yukon Government and the Dept. of Indian and Northern Affairs Waste Management Program. An NND elder and student worked with McQuesten Lake Enterprises during the field work and conducted interviews with elders in Mayo. The data and recommendations for the sites included the involvement of the local First Nation people along with the Heritage and Lands Dept NND.

United Keno Hill Mines Limited Quartz Claims

The United Keno Hill Mines Limited properties fell under receivership with the Federal and Territorial Governments responsible for the care and maintenance of the sites. In 2006 Alexco Resource Corporation was chosen from eleven bids to purchase the assets.

The need to remediate many safety issues throughout the properties led to the requirement for further investigation and documentation of historical resources.

McQuesten Lake Enterprises was awarded a contract to continue research on the former United Keno Hill Mines quartz claims.

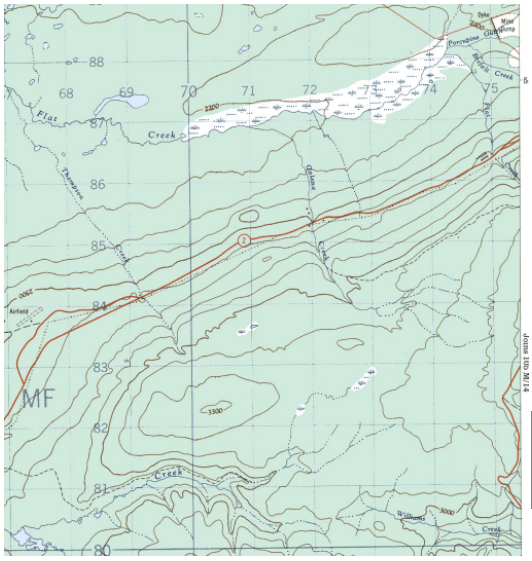
Volume one, 2007 covers mainly the Keno Hill group of claims consisting of; Top of the Hill Camp, Shamrock Site, Wernecke Camp and Sadie Ladue, Lucky Queen, Black Cap/Shepherd and Lucky Queen 500 and the Keno 700 Camp.

Volume two, 2008 covers the Onek Site on Keno Hill, the Bellekeno Site on Sourdough Hill and the Ruby Skip and Ruby 400 Site on Galena Hill.

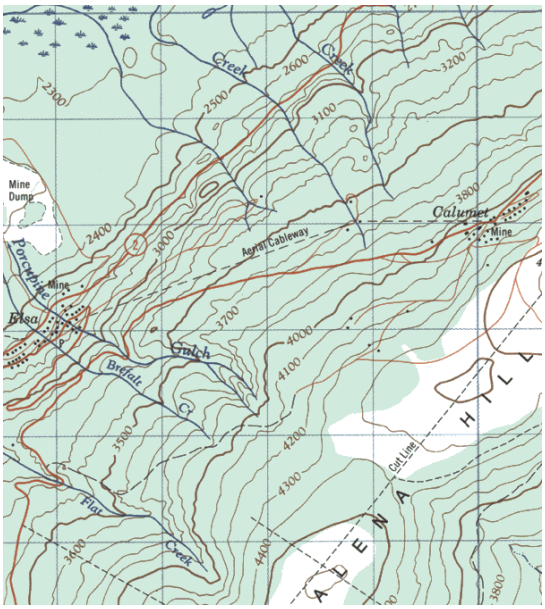
This volume covers the Silver King Site, Elsa Mines, No Cash Site, Bermingham Site and the Dixie Site all located on Galena Hill.

Study areas

The study areas are located in the central Yukon encompassing the west slope of Galena Hill, Map 105 M 13 and Map 105 M 14.



Keno Hill, Yukon Territory. Map 105 M/13.
Energy, Mines and Resources Edition 2



Keno Hill, Yukon Territory. Map 105 M/13.
Energy, Mines and Resources Edition 2

Field Work

The field season is short and weather can be problematic. Sites that are below tree line require more time to investigate. Additional buildings/features were discovered during our field work that was not included in The Keno Valley/Dublin Gulch Environmental Baseline Assessment, March 2000. This report focused on the environmental and safety conditions of the mine sites. The Historical Review focused mainly on the heritage resources and updating site and safety conditions.

While investigating the Silver King Site we discovered 18 buildings; most in poor condition though should be reviewed by the community, industry and departments for their preservation or stabilization. The Silver King was the most difficult site to document due to the large scale of the area. Many buildings were overgrown with willows that needed to be brushed out in able to photograph the buildings.

Project Team

Sonia Stange and Keith Hepner make up the project team of McQuesten Lake Ent. Both are long term Yukon residents with extensive experience working in an isolated environment. Both have successfully completed the University of Victoria Cultural Resource Management course "Inventory and Evaluation of Historic Resources" in 2004. Both have also undergone field training on the identification, mapping and documentation of heritage sites, with Barbara Hogan, Historic Sites Registrar, of the Heritage Sites Unit, Yukon Government. Keith and Sonia are familiar with Yukon and national standards when recording and documenting historical sites.

Methodology

The Keno Valley/Dublin Gulch Environmental Baseline Assessment, March 2000 report was used during the field season to correlate the data and to update any new information found.

Archival research was done at the Yukon Archives and via the internet during the fall and winter. The local mining recorder's office served as an excellent source for past ownership of claims in conjunction with publications as noted in the reference. Alexco Resource Corporation supplied copies of underground workings.

Each site was recorded with documentation of all historic features and buildings. The site elements were described along with conditions, photographs and safety issues. Sites were established with a Garmin, Global Positioning System (GPS); buildings and features were measured and site maps were drawn to scale showing orientation and size of the buildings and features.

Records of buildings and features were created with each file containing site maps, labeled photographs and slides, copies of mining records and historical underground

workings field notes and site maps. This information was then entered into the Yukon Historic Sites Inventory database along with thematic and functional information. A paper copy of the database information is included in each file.

The public will have access to the gathered information through the Yukon Historic Sites inventory which is held and maintained at Heritage Resources Unit, Yukon Government and through a written report of selected mine sites which is produced for the Waste Management Program, Indian and Northern Affairs Canada and the Assessment and Abandoned Mines Branch, Energy, Mines and Resources, Yukon Government

Conclusions

Since 2003 approximately 204 buildings and features have been documented on Keno Hill, Sourdough Hill and Galena Hill.

The records of these sites provide important historical and cultural information to the people in the Yukon. This information assists in illustrating the larger picture of the individuals who first pioneered the area and thus provides the current owners and others the information needed for land use planning, possible tourism ventures and most importantly, assists in teaching and preserving Yukon history.

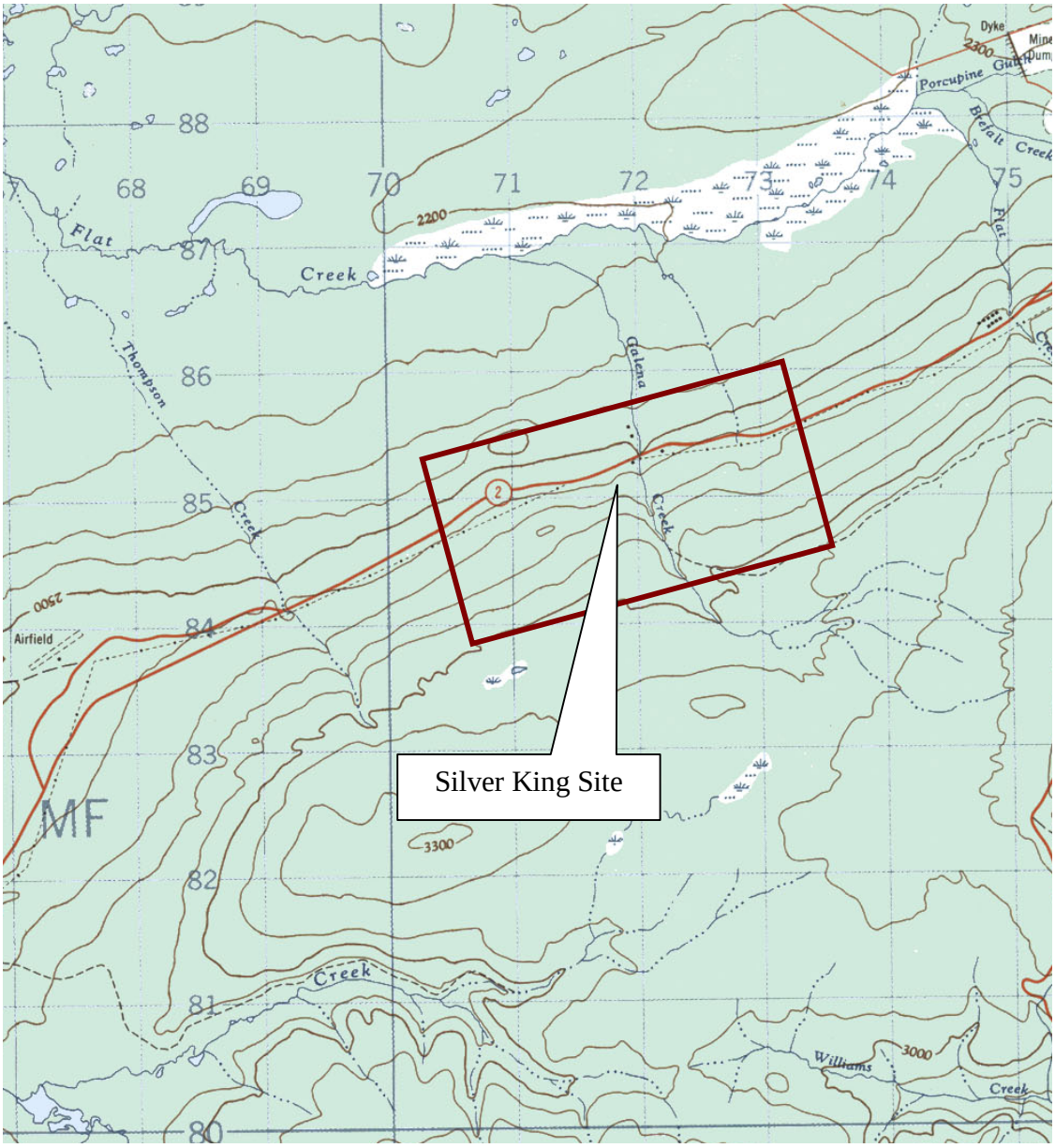
There remain sites in the area which have yet to be documented and it is essential that the history be recorded before the elements or development removes this opportunity.

We would like to thank all the people who were involved in this project.

Silver King Site

Location and Access

The Silver King site is located south of Elsa surrounding Galena Creek on the Silver Trail. The site consists of 18 historic buildings and 10 features that include remains of the bridge at Galena Creek, adits and shafts.



Keno Hill, Yukon Territory. Map 105 M/13. Energy, Mines and Resources Edition 2

Historical Background

Jacob "Jake" Alexander Davidson was one of the first four men to stake on Duncan Creek in 1901. He was also the first man to find galena and stake a silver claim in the Duncan Creek Mining District. On July 20, 1903 he staked the Hell's Gate claim and recorded it on August 3, 1903 at the Mining Recorder's Office on Duncan Creek. His find was located in the canyon of what was later known as Galena Creek. Davidson was an expert bushman and a hard-working prospector. Wherever he travelled, he left his sign – a carving of a busy beaver – on some large spruce tree.

In 1905, Davidson heard about the silver discovery in Cobalt, Ontario and decided to go there. Before he left, he gave the galena samples from Hell's Gate to Harry McWhorter. Henry William McWhorter had come to the Mayo district during the Duncan Creek Stampede in September of 1901. Davidson told McWhorter about his claim and asked him to have the samples assayed and let him know if they were any good. McWhorter was leaving for the Alaska gold fields, but did get the samples assayed. The assay results showed 300 ounces of silver to the ton. Davidson wrote to McWhorter asking about the assay results, but received no reply and let the claim lapse. McWhorter did not consider the find worthwhile because the vein was small and not gold-bearing.

McWhorter eventually returned from Alaska broke, having had little success in the gold-fields. He and Jack Alverson headed toward the McQuesten Valley where Davidson had found the galena. At the McQuesten River, they met Grant Huffman and Mark Evans who decided to accompany them to the find.

The four men arrived at Davidson's Hell's Gate claim and on February 23, 1913, McWhorter re-staked it as the Silver King claim. Jack Alverson (Jack came to the Yukon in 1899 after living in Oregon) staked the Webfoot claim to the northeast along the strike, naming it for the label bestowed on coastal Oregonians. Grant Huffman staked the adjoining Mabel claim to the southeast along the strike, naming it after his young daughter (she would later become the postmistress in Mayo), and Mark Evans staked the Adam claim beyond the Mabel.

Grant Huffman and his brother, Virgil "Jim", came to the Mayo district in 1900 and located on Duncan Creek. In 1903 Grant owned a roadhouse midway up Duncan Creek. In the 1920s he became a market hunter for the Treadwell Yukon Company, supplying them with moose meat and vegetables from his own garden. Grant Huffman was Mable McIntyre's father.

Mark Evans was a mining engineer from the United States. He assisted Alverson and Huffman with their initial development on their Silver King option. In the 1920s he was a mining engineer for Treadwell Yukon and lived with his wife in Keno.

Alverson and McWhorter worked the Silver King that winter. By spring McWhorter had tired of the project and granted Alverson and Huffman a 100 percent lease on the claim for one year, in exchange for the construction of a cabin and development work on the

vein. By fall, Alverson and Huffman had built a log cabin on the other bank of the creek which they named Galena Creek and they called the hill Galena Hill. They then assembled a small crew to pack in supplies, and cut a trail, with one more man as cook. A deal was struck with Alex Nicol to haul sacked ore to Mayo for $50 per ton. This done, Alverson and Huffman began to high-grade the property.

June of 1914 saw 59 tons of ore stacked at the Mayo dock waiting for shipment. In June 1914, Sid Barrington, Captain of the *Vidette*, accepted the ore and the first shipment of high-grade silver-lead ore in the district began its long journey to market. The ore went 168 miles downriver in the *Vidette* to Stewart Crossing, up 367 miles to the Yukon River on the larger White Pass sternwheeler to Whitehorse, over 110 miles of narrow gauge White Pass Railway to Skagway, and down the 1,500 miles of inland passage and coastline by steamer to the Selby Smelter in San Francisco. Although Alex Nicol was paid $50 per ton to haul the ore 30 miles to Mayo, the ore was shipped from Mayo to the smelter almost gratis as a trial. In the following year or two, freight charges from Mayo to San Francisco were only $22.50 per ton. (Hills of Silver)

In September the smelter returns netted Alverson and Huffman $269 per ton for a total of $15,871 or $5,000 each after expenses. This news caused an immediate stampede of stakers to the Silver King area. Approximately 40 men began prospecting in the vicinity and 95 claims were staked.

One result of Alverson and Huffman's success was that McWhorter immediately cancelled their lease. He contacted Thomas P. Aitken of Fairbanks, a successful Alaskan gold miner, who agreed to finance the lease with an option to buy the claim if it proved profitable. McWhorter hired a crew and contracted James E. Greenfield and A.E. "Jack" Pickering to haul ore from the Silver King to Mayo for $19 per ton. In the spring of 1915, 1,180 tons of ore was sacked and waiting for shipment at the Mayo dock. McWhorter continued to mine the Silver King profitably for another year. The galena from the Silver King mine was speckled with ruby silver which turned deep red when scratched.

In September of 1916, Aitken exercised his option and bought the Silver King from Henry McWhorter for $75,000. The sale was formalized on September 13, 1916. No thought was given to the original discoverer, Jake Davidson, although it is said that Aitken sent him $1,000 at some point. With a large crew, Aitken mined a further 1,386 tons of high-grade ore during the winter of 1916-1917. Aitken optioned the property in the summer of 1917 to his Alaskan gold dredging partners J.E. Ives, and F.G. Manley and their partner J.L. McGinn. Aitken earned close to half a million dollars from the Silver King. He had removed all the visible high-grade ore, leaving Ives, Manley, and McGinn to mine only 80 tons. They spent a year searching for more ore, but abandoned the project when the money ran out. James A. Scougale was a successful Dawson City businessman. He leased the Silver King and, with government assistance, had the property explored by diamond drill. No ore was found. Others tried their luck on the Silver King with the same result.

In March of 1928, Christopher Anderson "Sandy" McPherson optioned the old Silver King mine from Ton Aitken. Aitken offered terms of $1,000 in a year, $5,000 a year later, and $19,000 in the third year for a total of $25,000. McPherson accepted, and asked Jack McLean and Horace Glendenning to be his partners. Glendenning declined and McPherson and McLean asked Jack McHugh to come in with them. The three were known as the "Rolled Oats Syndicate." (Gold & Galena) McPherson, McLean, and McHugh argued about the best place to concentrate their work. Finally the partners found the situation unworkable and split the Silver King down the Middle – McHugh and McLean took one half, and McPherson took the other. In the end, working with his former partner, Horace Glendenning, McPherson found a solid vein of galena at a depth of 27 feet. The very next day, Wernecke proposed a deal to purchase the discovery on behalf of Treadwell Yukon for $125,000 with $12,500 down. Thomas Aitken was to be paid off and McHugh and McLean would each receive $25,000 for their half of the claim.

During the fall and winter of 1913-1914, after McWhorter cancelled their lease on the Silver King, Grant Huffman built a log cabin on his Mabel claim and hired Sawdust Jack to help him sink three prospect shafts to bedrock. No mention is made of galena being found. Jack Alverson also sank many prospect holes on his Webfoot claim, but the ore eluded him. Mark Evans built a log cabin on his Adam claim and thawed down several holes. Evans took out 400 pounds of galena which Aitken bought at $43.50 for its silver content. This was the first recognized occurrence of "grey copper" in the district, said to assay 4.035 ounces of silver per ton.

Jack Alverson prospected the hills in the summer and worked at the Silver King and his Webfoot claim in the winter. His claim neighbor, "Cap" Thornton moved Alverson's Webfoot No. 1 posts two or three times until Jack wrote on the post, "Put wheels on it so it's easier to move next time." (Hills of Silver) Alverson worked his Webfoot claim sinking holes and ground sluicing but could find no sign of the vein. "Ironically he had missed the big ore body by less than 10 feet with his first hole and his ground sluice had run over the top of it without exposing it. On the scale of a single claim, let alone miles of wilderness, it takes very little to hide a rich ore body." (Hills of Silver)

Ruth Fergusson arrived in Mayo on June 15, 1924 with just $650.00, and settled in Keno in a 14-foot by 16-foot cabin. She met Jack Alverson a few years later and bought a half-interest in the Webfoot claim on the basis of $1,000 down and $3,000 if the ground was sold. Jack Hawthorne also obtained an interest equal to hers. Ruth agreed to grubstake Alverson and Hawthorne's operation on the Webfoot claim. During one of the coldest winters on record, Ruth lived with Alverson and Hawthorne on the claim in their 8-foot by 10-foot, one room cabin with all their food, a water tank, a cast iron stove, and all their equipment. In the winter of 1927-1928, they struck a four-foot wide vein with ruby silver. Hawthorn borrowed money from the company, hired a crew, and started sinking a shaft. Ruth cooked for them and loaded ore sacks. The ore only went down 60 feet, and they only shipped 42 tons to the smelter in Boise, Idaho. When Ruth went outside to visit a sick brother, her partners borrowed money against the shipment for a big drunk. In the end, the men received $250 each and she got $75 for three years of work and grubstaking.

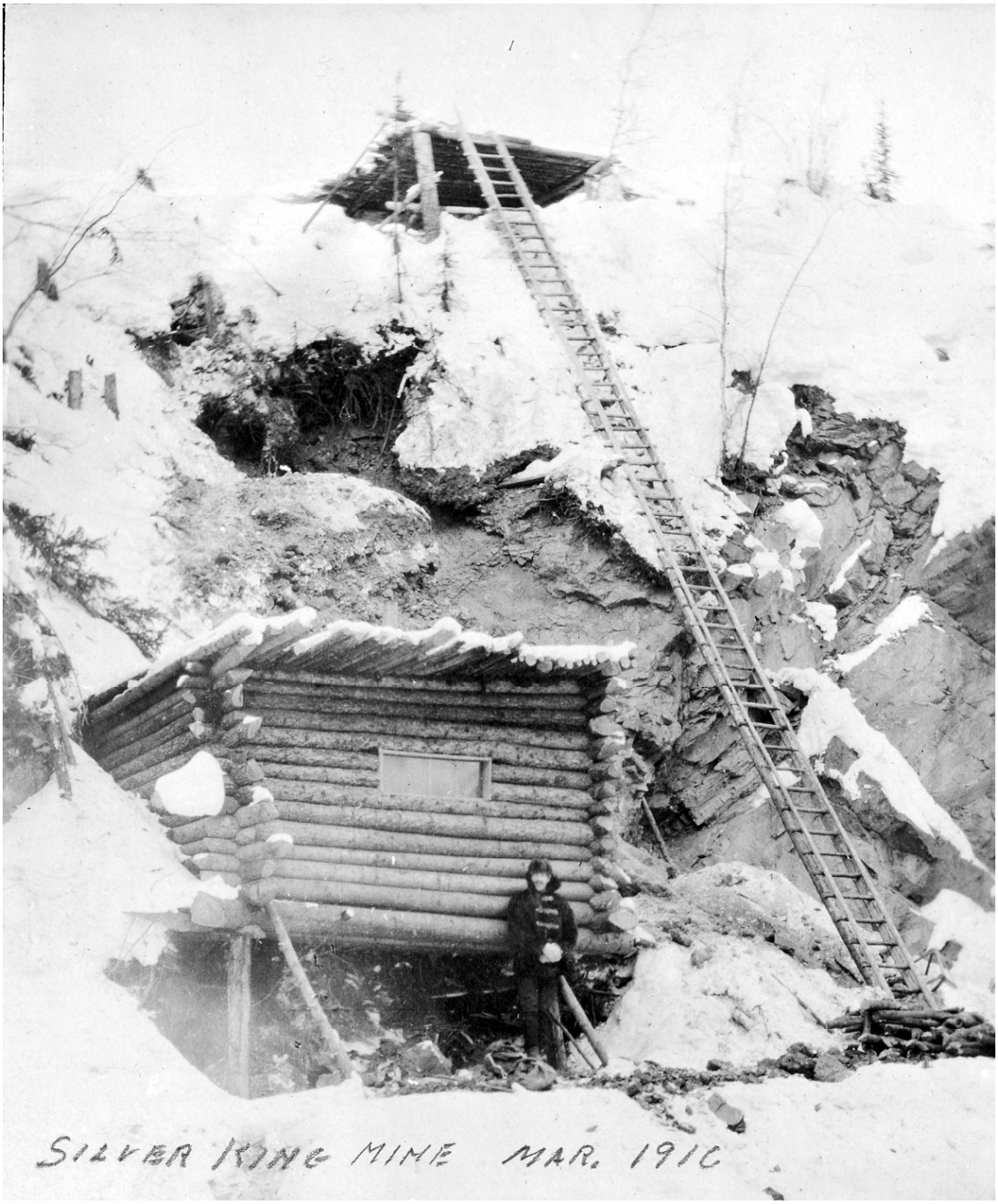
Ruth had bought all the supplies, paid the hired help, and bought Hawthorne's clothes for a total investment of $7,000! (Hills of Silver)

After the ore on the ruby vein was mined out, Jack Hawthorne and Ruth Fergusson started mining again. Ruby's friends advised her to leave Hawthorne because he was a drunken parasite living off her. Ruth decided she had spent so much money already and had had such a hard time of it, she didn't really care. (Hills of Silver) Hawthorne struck the ore shoot at 28 feet – just 12 days after Sandy McPherson's discovery on the Silver King. The Webfoot had the main ore shoot, almost three times as wide as that in McPherson's shaft. Thus, when Wernecke came in a week later, Hawthorne and Fergusson asked three times as much as McPherson had on the argument that there was going to be much more ore in the ground. Almost unbelievably, the deal was made - $300,000 with $33,000 down. Hawthorne made more than Fergusson out of the deal, but he promised to buy her a house. Instead he bought his brother a house for $3,900 and spent the rest on sprees. Fergusson put her money into payments toward a 17-suite apartment building in the elite South Granville district of Vancouver. Over the years, Jack Alverson had dealt away all of his interest in the Webfoot claim and so received only $6,000. (Hills of Silver)

By the end of 1929, Treadwell had shipped 186.6 tons of 315 ounce ore from both the Webfoot and Silver King claims. By 1939 the Silver King ore had bottomed in zinc, and the mine was closed having produced 125,156 tons averaging 62 ounces of silver per ton and 7.6 percent lead.

Horace Glendenning died in 1936 and willed everything to Sandy McPherson. Thus when the 10-year lease on the Silver King was terminated in 1940 and the claim reverted to McPherson as agreed, Treadwell Yukon sent him a cheque for $20,000 and another cheque for $23,000 two months later. Treadwell still owed $30,000 on the agreement, but with silver prices slipping, Wernecke wrote to say the company would like to pay only $5,000 but would like to keep the ground for its surface value. McPherson had heard the usual stories about good ore still remaining in the Silver King and wondered why the company would want it if there was nothing underneath. As a result, he refused the offer. In 1942, McPherson returned to mine the Silver King with Ellef Bjonnes and "Big Ellis" Johnson. Unfortunately, the ground had thawed to a depth of 200 feet from the warmth of the previous workings and water was continually oozing up from the 400 foot level. The three men were unable to mine in these conditions.

During the 1948 boom, McPherson dealt off the Silver King to Yukeno Mines.



80_60_543 Emil Forrest fonds
Silver King Mine March 1916. A man (unknown) standing in front of log building built into an excavated hillside, long ladder to platform above, snow
Courtesy Yukon Archives

79_27_138 Richard Harrington fonds Adit at Silver King
Courtesy Yukon Archives

Richard Harrington fonds 79/27 139 Bridge at Silver King
Courtesy Yukon Archives

83_5_10 Eugene and Gertrude Fournier fonds
Cabin at Silver King
Courtesy Yukon Archives

83_5_2 Eugene and Gertrude Fournier fonds
Road House at Silver King
Courtesy Yukon Archives

Yukon Archives, Eugene and Gertrude Fournier fonds, 83/5 # 21
Roadhouse at Silver King

Yukon Archives, Eugene and Gertrude Fournier fonds, 83/5 # 23
Mr. Witti at Silver King

99_48_53 Cooper-Carr collection. (Miners unknown) *Courtesy Yukon Archives*

94 39 #31 Aaro Aho Collection
The above cabin is Building #1 located in the Silver King section of this report
Photos Courtesy of Yukon Archives

6983 - 1940's Grant Huffman (who shipped the first ore from the Silver King Mine) with child, Ross Rich, and Mrs. Cora Rich, Grant's sister

Jack Alverson's cabin A.K.Schellinger
Courtesy Yukon Archives

5899 – Spring 1939 Silver King Mine. A view of a few buildings, headframe and ore dump of the Silver King Mine, and barely visible to the left is the headframe of the Webfoot claim. In May 1939 the ore reserves were exhausted and the mine closed down

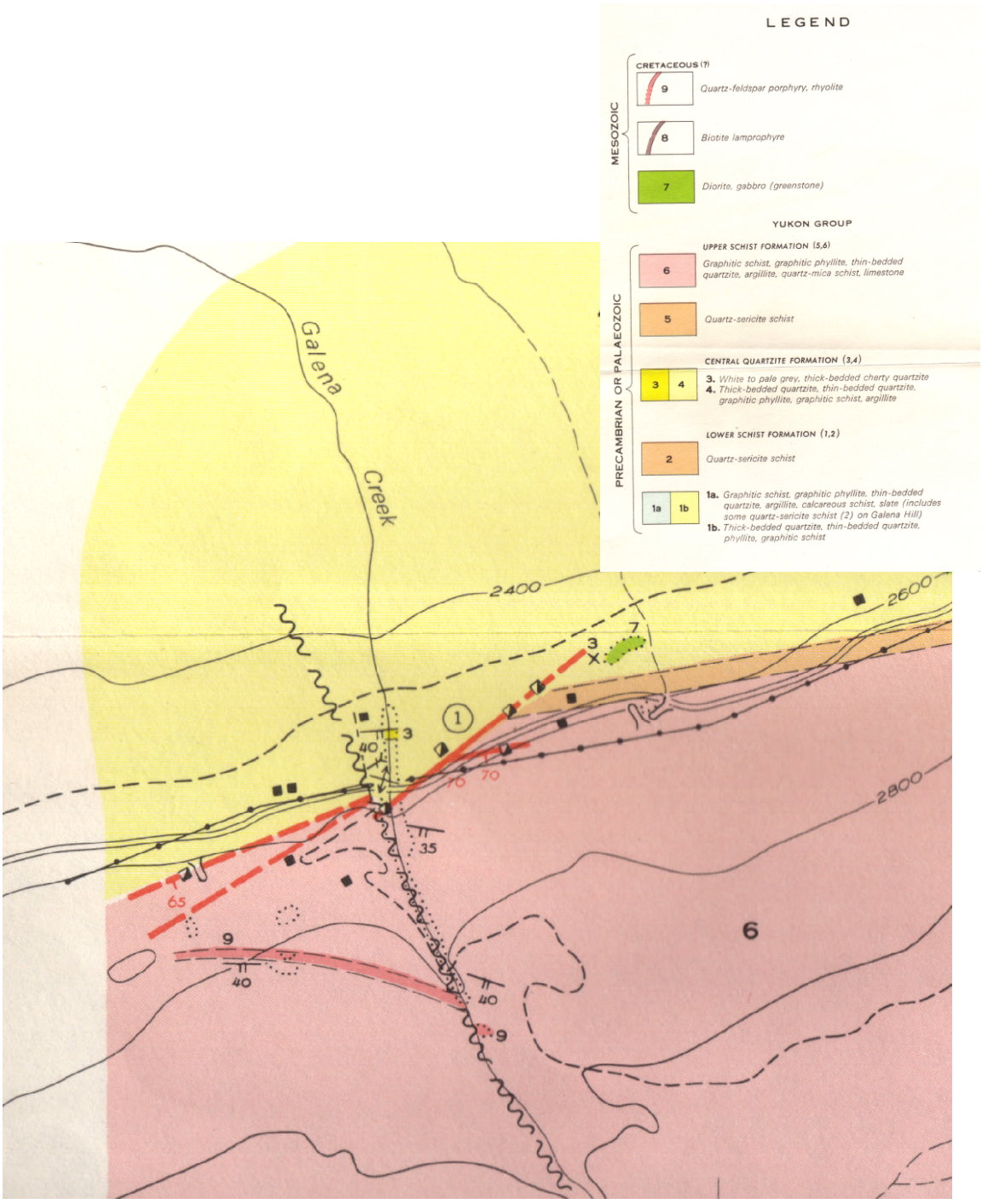
Silver King A.K. Schellinger Fonds Courtesy Yukon Archives

6696 - 23 October 1923 Silver King Mine – a view of the earliest workings of the old Silver King Mine taken from the opposite side of Galena Creek

Bill Hare Fonds Photos Courtesy of Yukon Archives

6695 - 22 October 1923 Silver King Mine. A view of the shaft and ore dump of the earliest workings on the Silver King mine site, a few miles west of Elsa on Galena Creek

Map below shows workings at the #1 Silver King Site

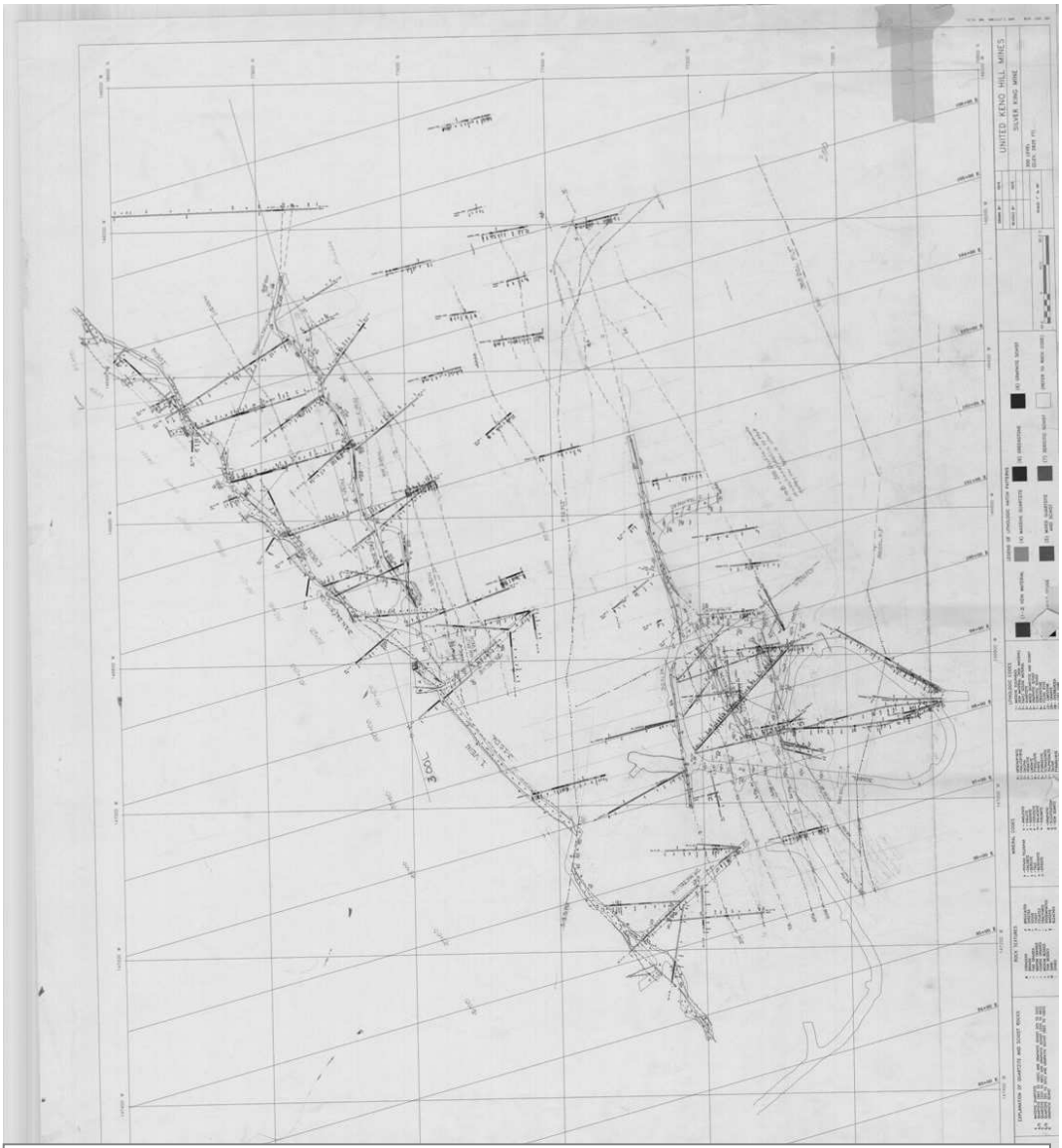


Geological Survey of Canada Paper 55-30 By R. W. Boyle Ottawa 1956 Part of figure 2

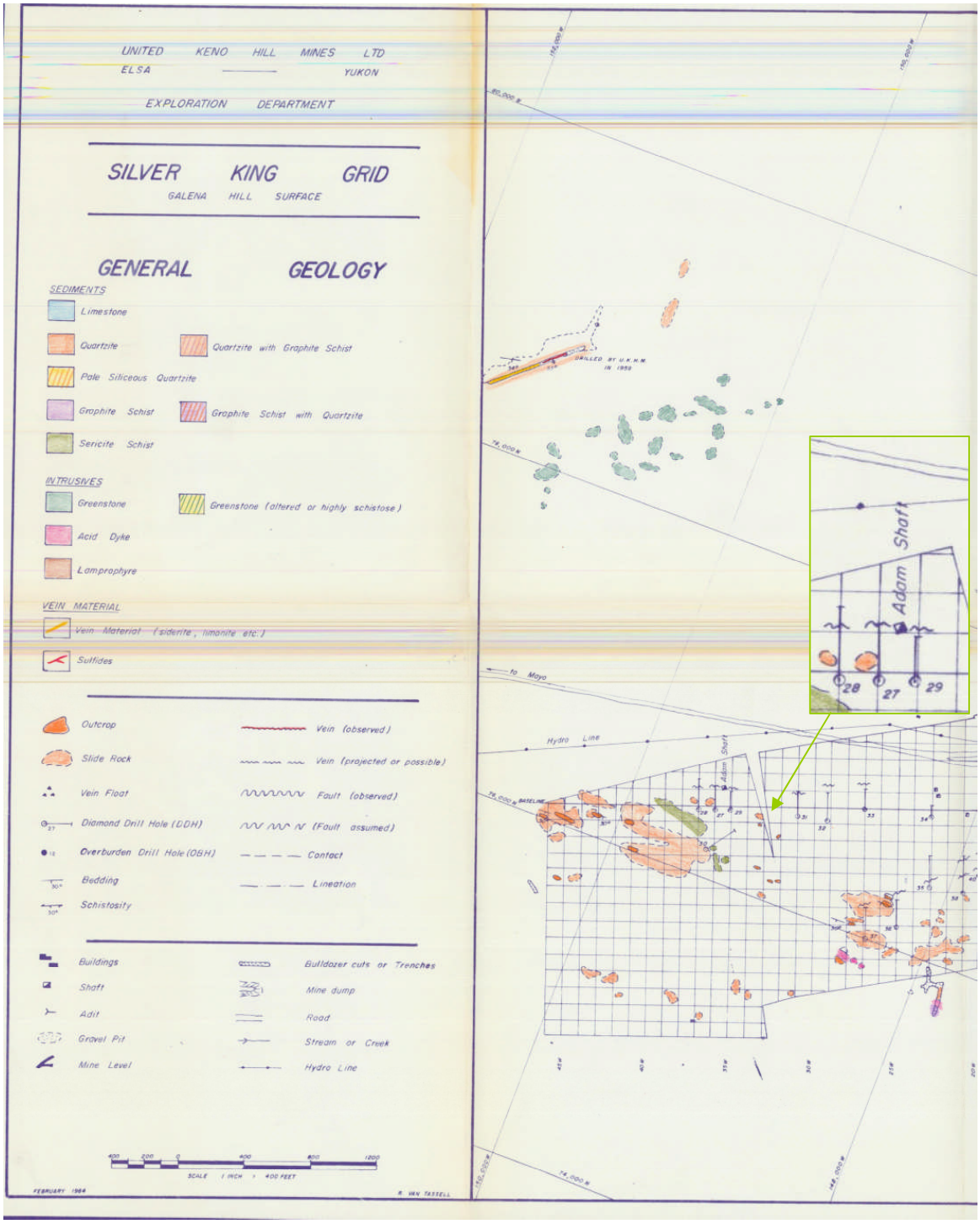
Underground workings

The Silver King was the first silver mine in the Keno Hill area. The mine is really two separate mines consisting of two separate groups of adits, raises, levels, and stopes. The first mine was mined underground between 1912 and 1939. The open pit was mined on these veins in 1983. The second mine was accessed by the 100 level adit and was mined between 1984 and 1997. The two mines are not connected by underground workings, although the two sets of workings come within about 10m of each other in one location.

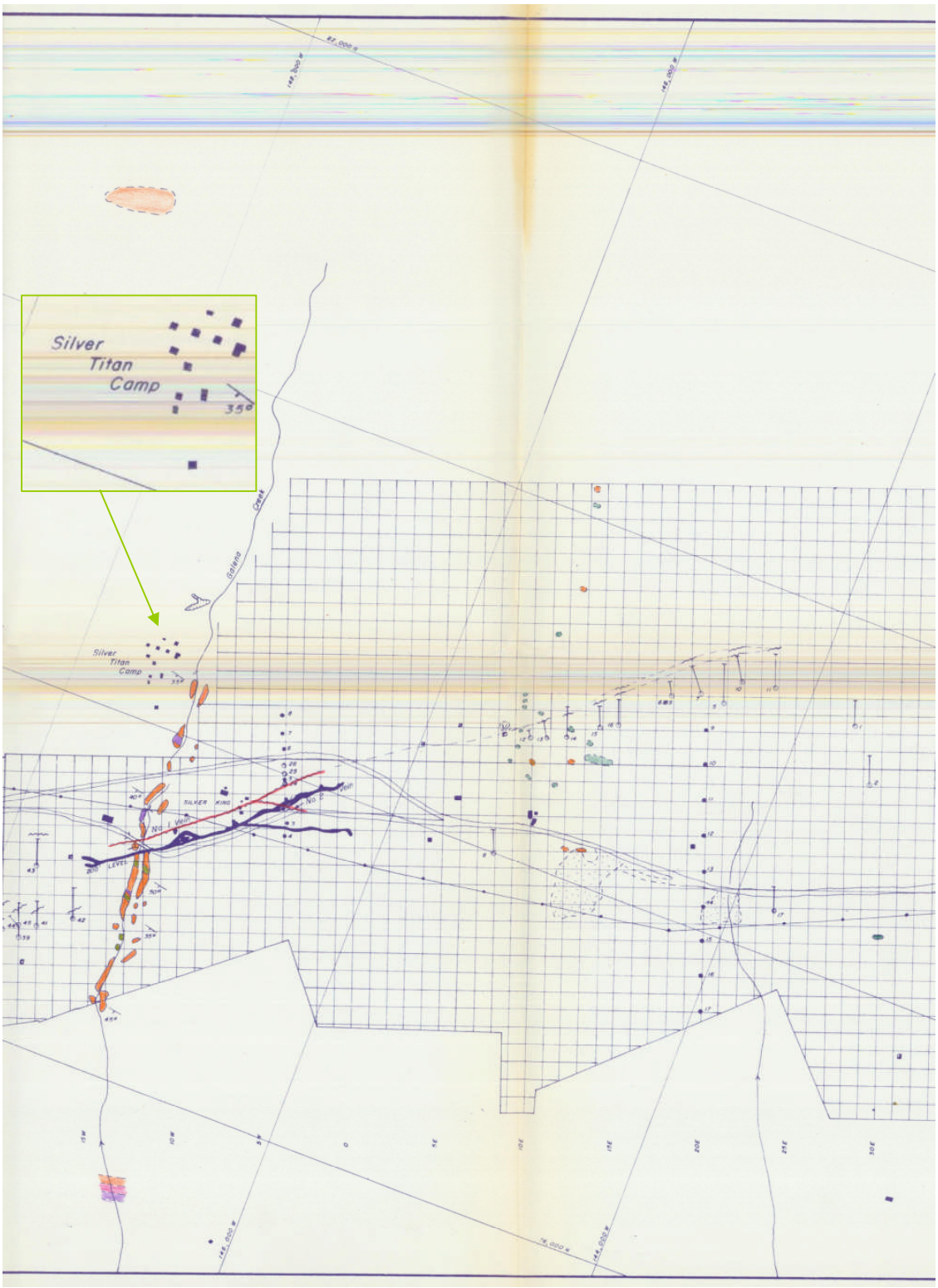
The mine was initially developed from 1912 to 1918 with a shaft and two adits on the No. 1 and 2 veins. The ore was hand-sorted for direct shipment.



01830-SK Plan Level 300 Geo(a) 1in=40 Comp Courtesy Alexco Recourse Corp



17154-Expl Rpt 1963 - Silver King Grid - General Geol and DDH OVB Courtesy Alexco Recourse Corp


Silver
Titan
Camp
350
Galena
Creek
Silver
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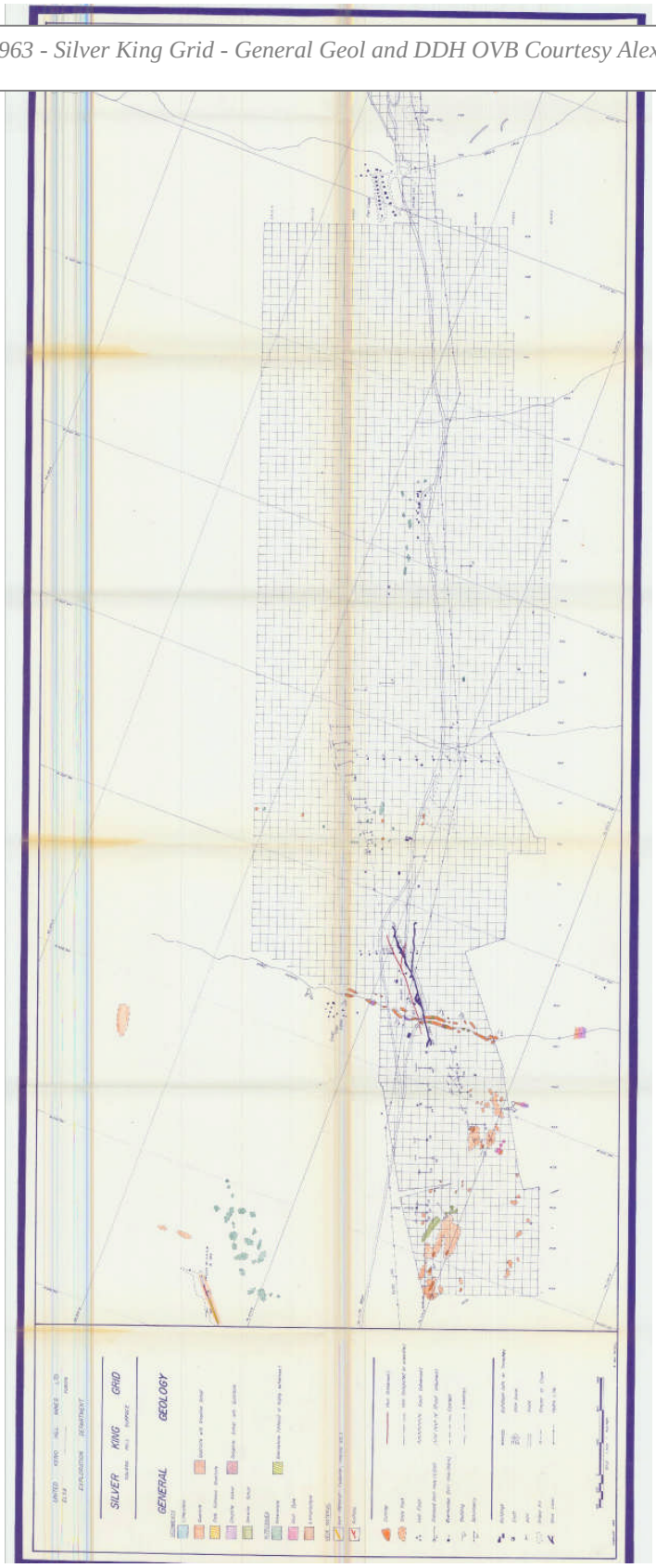
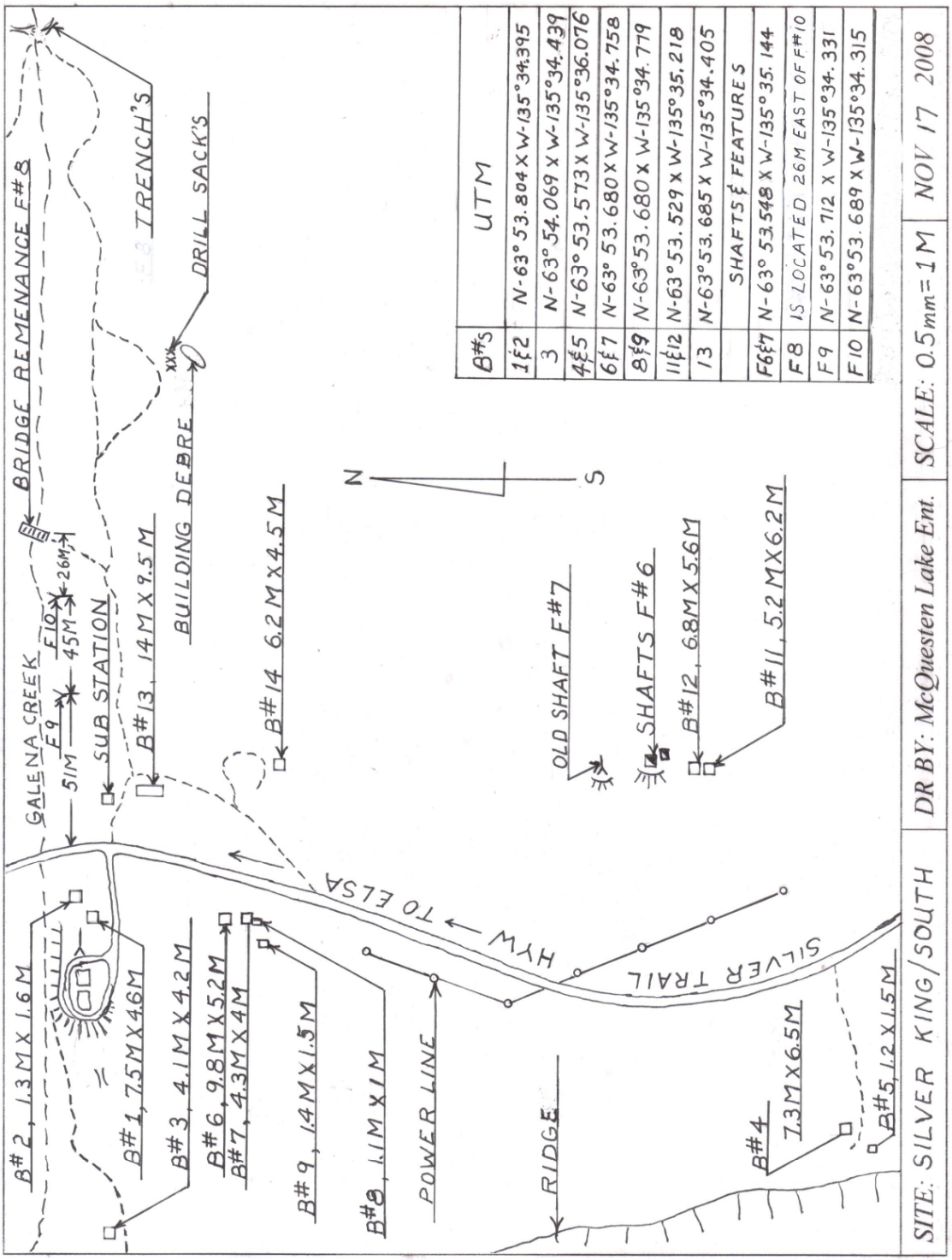
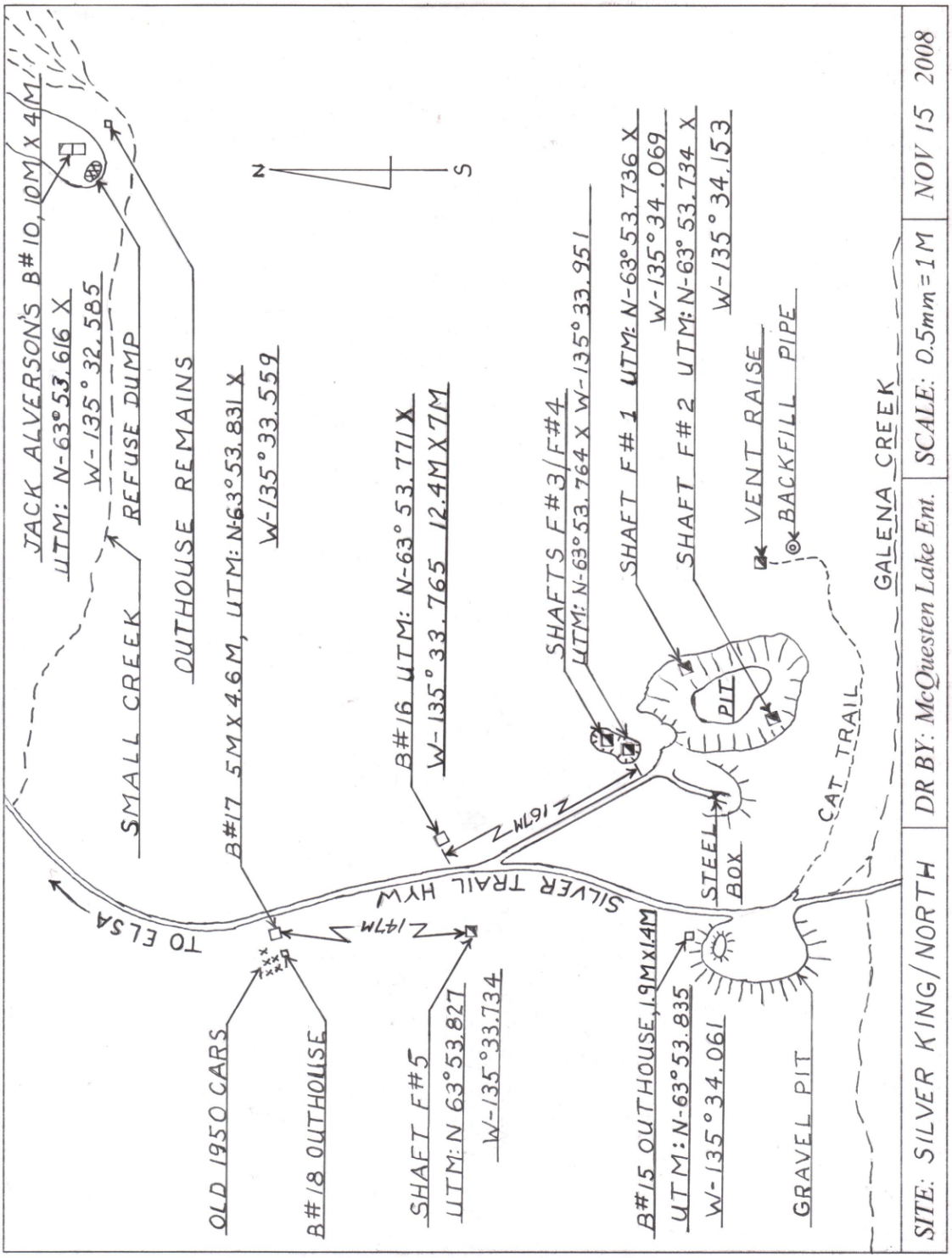
17154-Expl Rpt 1963 - Silver King Grid - General Geol and DDH OVB Courtesy Alexco Recourse Corp



Silver King South Site Layout



Silver King North Site Layout



Review of existing studies, confirmation and/of update of current site conditions

Review of existing studies, confirmation and or update of current site conditions

Previous studies focused mainly on the 100 level and the 75 level in Galena creek canyon. The open pit, backfill pipe, 4 shafts, and 3 buildings were noted. One of these buildings is pre-1950. In reviewing the areas we did not find any major changes with this section of the site and it remains relatively in the same condition as when previously inspected.

Due to the Historical nature of our review a larger area was encompassed, thus more buildings and shafts were discovered. In this review we were able to identify a total of 8 shafts, 3 adits and 18 buildings.

SILVER KING Safety and environmental issues

Shafts Feature number are F # 3, and F # 4, located on the Silver King / North Site map. These shafts have sunken to the point that there is one large sink hole.

Building number 13, which was used as a warehouse, is subsiding to the west. Due to improper salvaging there are pieces of the heavy roof trusses suspended in the air, with very little reinforcement material to hold them in place. Boards have been thrown from the edge of the building floor to the nearest bank. The boards are in very poor condition and unstable. A section of the west wall have been pushed off the second floor, it has landed is such a way as to case people to walk under it if they need to get into the basement of the structure.

At the time of inspection the wire screening over the original 75 foot level adit was pried off to allow public entrance. Use of sturdier screening and lag bolts would more than likely remedy this situation.

Past and current site tenure/owners

Alexander Davidson first staked the Silver King as the Hell's Gate claim on August 3, 1903, then let the claim lapse. The claim was restaked as the Silver King by Henry William McWhorter on February 23, 1913. The Silver King claim is now titled property, as is the Adam claim. Many of the past site tenure/owners are listed in the historical background. Yukeno Mines is the last owner of the Silver King claim before the property was titled under UKHM. AMT Canada Inc held the claim for a short period. Elsa

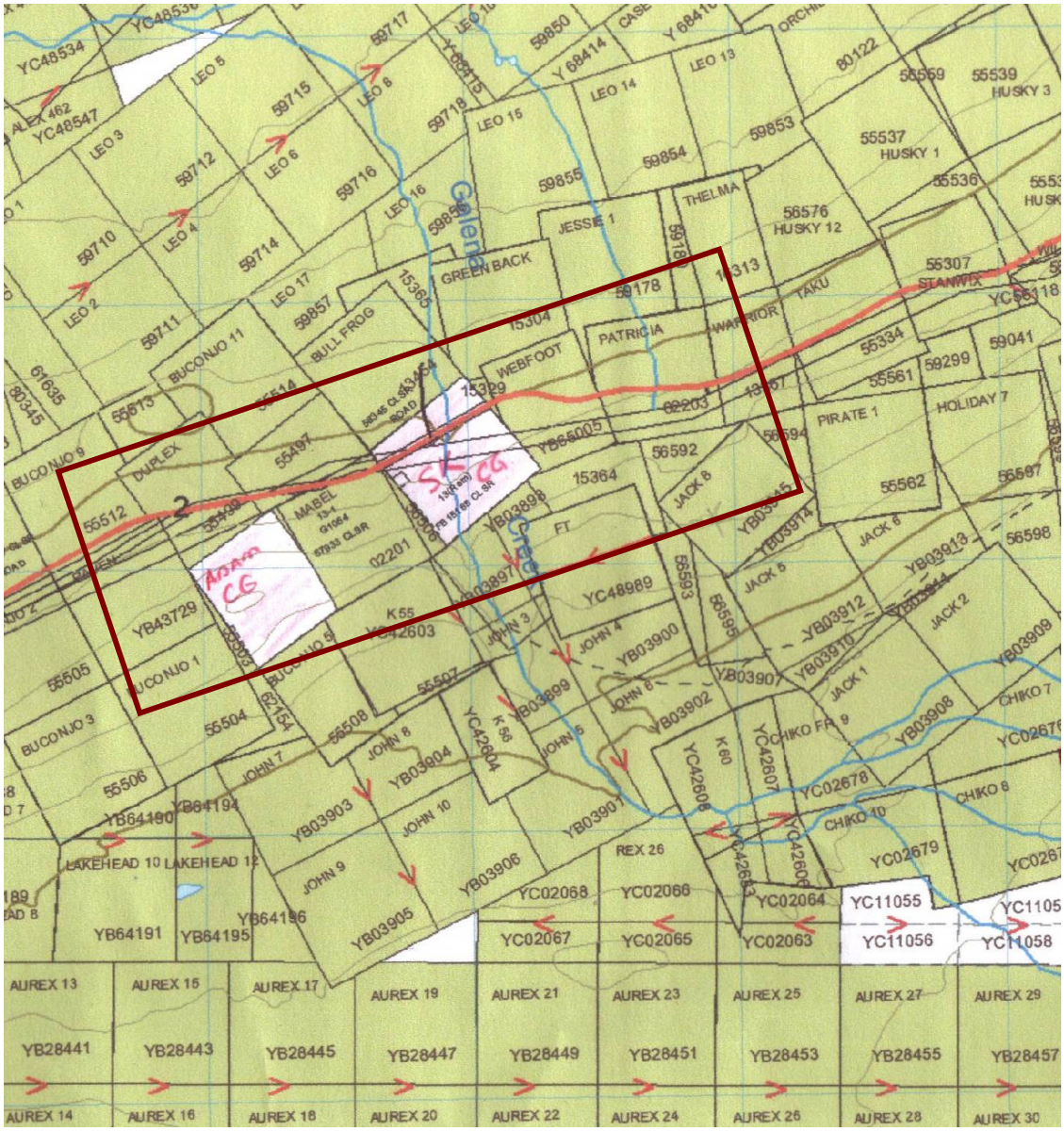
The Adam Claim was staked by Mark Evans on February 23, 1913. There is very little information found on this claim. The Mayo mining recorders office does not have the Abstract of Records for the claim since it is titled property

Grant Huffman staked the Mabel on February 23, 1913. Other owners and or interest holders of the claim were; William J. Tormey, Livingston Wernecke, Treadwell Yukon Co. Ltd, Keno Hill Mining Co. Ltd, United Keno Hill Mines Limited and AMT Canada.

The Webfoot was staked by Archie Martin in 1925. Other owners and or interest holders of the claim were; John E. Ferrell, John Alverson, Henrietta C. Ferguson, John Hawthorne, Livingston Wernecke, Treadwell Yukon Corporation Ltd, Keno Hill Mining Co. Ltd, United Keno Hill Mines Ltd and AMT Canada.

The Elsa Reclamation Corp now holds the above claims with a security agreement with Silver Wheaton Corp.

Claim map



Keno Hill claims. Part of Mayo district mining claim map No.105-M13 2003

Silver King South Residence building #1

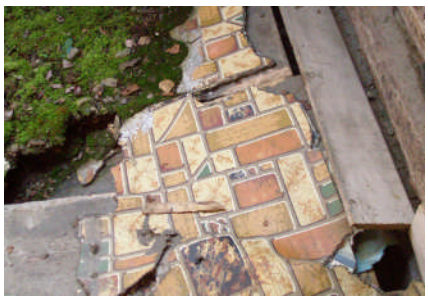
Building #1 is located east of the Silver King Portal in dense willow and alder. The building is in poor condition; the northeast section of the roof has collapsed and the foundation and floor are mainly rotten.

The foundation of the log building has been placed directly on the ground. An extension on the south end of the log structure is made of frame material.

The walls of the log building are 8 to 10 inch logs which have been saddle notched at the corners using an axe. The extension at the south end has a foundation built with 2 X 6s, and the walls are made with rough cut 2x4 studs.

A small root cellar located in the middle of the floor of the cabin and is sheeted with various sizes of metal roofing.

The floor in the building is log with 2x4 floor joists. The floor is sheeted with 1x10 boards and then was sheeted at a later date with half inch plywood and linoleum.



Paper ore bags and card board boxes were used to insulate sections of the interior walls.

The log walls were chinked with moss, mud and strips of long johns and burlap.

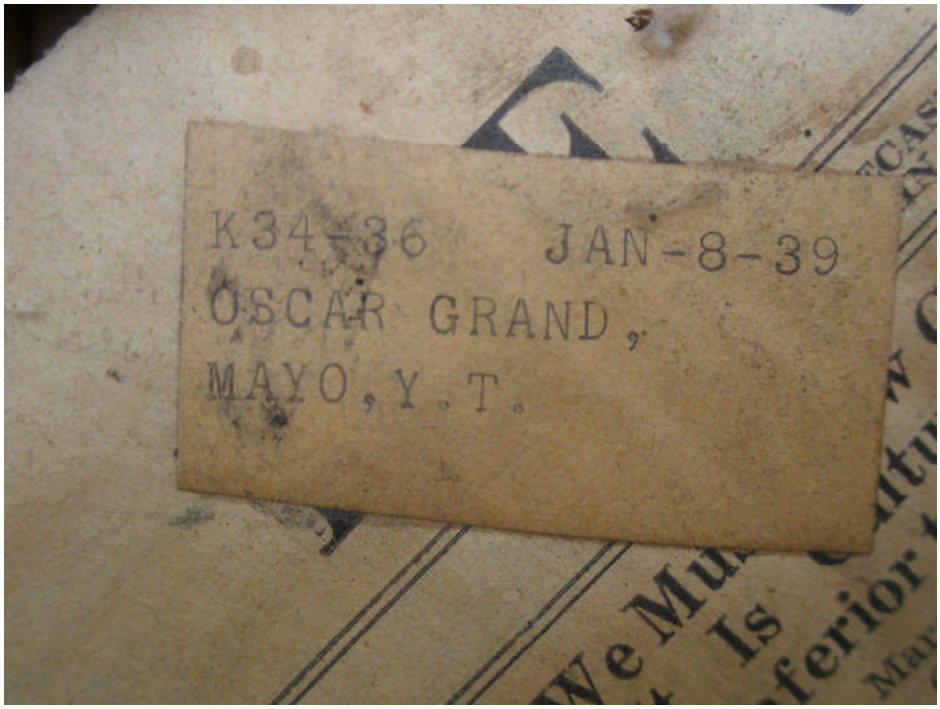
Core boxes are used as shelves. The serial numbers could be referenced.

The roof of the frame section of the cabin is built with poles that are chinked with newspaper

45 gallon drums were split and flattened and used for roofing along with corrugated metal.

The ceiling is 1x6- 1x10 boards

The roof is spanned with three log purloins covering both the log structure and the frame extension. Split logs and 1x10 boards were used to sheet in the roof and sod was applied for insulation. Logs are spaced in the sod and clad with corrugated metal.


K34-36 JAN-8-39
OSCAR GRAND,
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Silver King South Outhouse Building #2

The outhouse is located northeast of the cabin.

Foundation is 8x8 placed directly on the ground and the floor and outhouse seat are built using 1x10 boards.

Walls are established by placing rough cut 2x4s in each corner of the building with a 2x4 sill plate. The exterior was clad with 1x10 boards.

Shed roof has three 2x4 rafters sheeted with1x10 boards and corrugated metal roofing.

Chunks of fire hose are used as door hinges.

Empty oil cans, rolled black tar paper and scrap metal are scattered around the perimeter of the building along with a rusted out wash tubs and wooden boxes.

To the west of the outhouse is a refuse dump with many tin cans, glass bottles and bones.

Silver King South Residence Building #3

The log cabin is located west of the Silver King Portal along Galena Creek. The sod roof has collapsed and foundation is rotten.

Foundation logs are placed directly on the ground. Walls are built with unpeeled logs that are saddle notched at the corners. Moss, mud, newspaper and burlap are used for chinking.

Roof was supported by log purloins and was enclosed with small poles to form the ceiling. A layer of split oil cans are nailed to the poles around where the stove pipe ran through and thick layer of sod was put on top of the roof.

A chimney safety was made by hand using an oil pail that was chiseled out at both ends so the stove pipe would fit through.

What remains inside the cabin is a part of an old fuse box, an empty tobacco can, an old safety and some scrap wood and metal.

To the east of the cabin is a wooden box with empty liquor bottles.
No outhouse was found around the cabin.

Silver King South Residence Building #4

The cabin is located south of Galena Creek and west of the Silver Trail.

Foundation is large logs placed directly on the ground. Floor joists consist of 2x8 rough timber sheeted with 1 x 10 planks. In the center of the building is a .8m x .8m root cellar.

The inside of the log walls have been hewn flat using an axe and the corners are "V" notched. The exterior of the cabin is chinked using moss and mud, paper bags and card board were then used to insulate the interior of the walls.

The roof is constructed with a large ridge pole and two purloins that were supported in the middle. Small peeled poles were used as ceiling. Sod was then placed on the roof and was covered with corrugated metal.

To the west is a dog house constructed with 2x4s, various sized boards and tin on the roof.

Silver King South Outhouse Building #5

The outhouse is located west of the cabin and is in poor condition; roof boards and foundation are rotting.

The outhouse is constructed of small logs and rough milled boards.

The foundation is constructed with 3 logs placed directly on the ground. The floor is made of small peeled logs.

The frame is constructed with poles and sheeted with boards on the north and a south wall, the front has a pole in the center and a piece of canvas nailed to the sill log.

Black asphalt roofing is nailed to the frame as a back wall.

The shed style roof is sheeted over with 1x10 boards and corrugated metal.

Silver King South Residence Building #6

The cabin is located south of the access road to the Silver King portal. Most of the building material has been salvaged.

The foundation of the building are logs places directly on the ground. In the center is a 2.4 x 3.8 root cellar. This cellar is cribbed with 2x6 and sheeted with 2x12 boards. Stairs are built in the southwest corner and 2x6 shelves run along the north and east walls.

Remains of 2x8 floor joists are still attached to the foundation log along with pieces of 1x4 tong and groove flooring, shelving and strips of linoleum.

Silver King South Residence Building #7

The building is located approximately 10m south of building #6. The log cabin is built directly on the ground. The floor is 1x4 tong and groove fir. The subfloor could not be determined. A small frame porch extends from the north wall and a planter runs along the west wall.

The log walls are chinked with various materials such as burlap, old socks, strips of canvas, long johns and moss. Larger gaps between the logs were covered with small strips of boards to hold the chinking materials in place.

The gable roof is constructed with a ridge pole made from laminated 2x8 boards and log purloins sheeted with various sizes of boards. The roof is then clad with burlap, black tar paper and sheeted again with various sized boards, more tar paper and lastly with corrugated metal.

The interior walls and ceiling is covered in various layers with card board boxes, paper ore sacks and canvas

What remains in the cabin is a small table and shelves along with a hand made log bunk bed that is doweled together; holes are drilled in the bed frame and rope is woven through for a mattress. There are also scraps of old newspaper scattered on the floor.

Silver King South Outhouse Building #8

The outhouse is less than a meter from the south wall of the cabin. The foundation and the walls were constructed by sinking vertical small poles 1 Meter into the ground.

The vertical log walls are then sheeted on the interior with various sized boards along with boards salvaged from dynamite boxes. The shed style roof is clad with 1x6 boards and split metal cans.

Silver King South Outhouse Building #9

The outhouse is located 3m to the southwest of outhouse building 8.

The foundation is 8x10 beams lay directly on the ground.

Walls are constructed with 2x4 studs sheeted with 1x10 boards. The shed style roof is made from 1x8 boards sheeted with corrugated metal.

The door hinges are held together with a nail

Portions of the walls in both outhouses are scorched indicating that a fire had occurred.

Silver King North Residence Building #10

The cabin is built directly on the ground. Floor joists could not be determined. There are two sections to this log building; the addition was joined to the north wall. We believe this cabin was built by Jack Alverson (see historical photo page 14)

The floor is made of 1x8 planks that run through out the building. The addition was probably built shortly after the original building since the deterioration is fairly similar.

The log addition was built by nailing a 2x6 to the main buildings corner and butting the new logs up and spiking them into place.

The roof is constructed with a ridge pole and purloins that overlap where the two buildings join. The ceilings are built with small peeled logs and covered with sod; poles are sunk in the sod approximately 1m apart and caped at the ends and clad with flat metal sheets and corrugated metal.

Off the south wall of the building a shed was built using small vertical unpeeled logs. The southwest corner of the shed is enclosed and used as storage for tools and fittings; the southeast corner was used for stacking fire wood.

In the south section of the cabin there are several shelves and a table along with some books, cups, glass jars and blankets.


LB. BLOCKS
CYANIDE
NaCN
DRY

In the south section of the cabin there is a bed, heater and table along with an old clock, old hat, glasses and various metal tins.


TEA

In front of the cabin is a rusted out stove and kettle along with tin cans empty 45 gallon drums, a bed frame, stove pipe and metal containers.

To the southeast of the cabin are the remains of an outhouse, along with more tin cans and various scraps of metal.

Silver King South Residence Building #11

The cabin is located on the Adam claim and is referred to in the Hills of Silver. Dr Aaro Aho mentioned that Mark Evans built his cabin on this claim.

The log cabin is built directly on the ground; the corners are saddle notched with doweling being evident on some of the bottom rounds.

The cabin is collapsed and most of the material is rotten and overgrown with willows.

Pieces of dynamite boxes are used at the west wall below the window. Doors are vertical 1x6 boards cross braced.

Silver King South Residence Building #12

Directly to the south of building 11 are the remains of another cabin. The cabin is collapsed and mainly rotten though there are peices of canvas and burlap strips between the logs that were used as chinking.

The cabin was built using large logs positioned on the ground. Logs were peeled and then hand hewn flat on the interior; dowel pegs held the logs together and the corners were saddle notched with axe.

The gable style roof had a ridge pole, purloins and pole ceiling covered with sod.

Silver King South Warehouse Building #13

The warehouse is located directly above Galena Creek to the south. The building had a main floor and two storage areas below for storing fiber ore sacks, machinery parts and most likely other miscellaneous items.

The foundation is log uprights supporting 8x8 beams that run the full length of the building. The support logs stand directly on the ground and follow the contours of the land from approximately 1m in height at the south end of the building to approximately 2.5m at the north end.

There is an entrance in the lower north wall to a storage room constructed with 2x4 walls and a wooden floor; a partition wall separates the two halves of the building.

In the storage room old machinery parts remain under the collapsed upper floor

The floor joists for the second level are 2x8s set on top of the 8x8s and sheeted with 1x12 planks.

Walls are constructed with 2x4 studs sheeted diagonally on the exterior with 1x6 shiplap boards.

The building had a heavy frame gable roof. Trusses were built by laminating 2x8 planks and using bolts to reinforce the joints. The roof was clad with 1x12 boards and black rolled roofing.

The majority of the building material has been salvaged.

The building is deteriorated and sections of the floor have been removed and are unstable; the building should be considered unsafe.

Silver King Residence Building #14

The cabin is located to the southeast of the warehouse and is well hidden among the thick willows. A fair bit of time was spent brushing out around the cabin so photographs could be taken.

Don Curry who worked for United Keno Hill Mines had mentioned visiting Jack Alverson at this cabin.

The roof has collapsed into the center of the building and the log walls are mainly rotten.

The foundation of the cabin is comprised of log timbers positioned on the ground; walls are held together with wooden dowels and the corners are v notched

The roof is constructed with a ridge pole and purloins that are sheeted with smaller logs for the ceiling. An additional frame was constructed using 1x4 boards and clad with flattened metal pails.

Burlap is primarily used for chinking though moss and mud was also found where the walls and ceiling are joined.

There is not much remaining in or around the cabin only a few tin pails and a broken window frame.

Silver King South Outhouse Building #15

The outhouse is located below the gravel pit north of Galena Creek and west of the highway.

Building material was found sticking out of the bottom of the gravel pit near the outhouse suggesting there may have been another building there but was buried when the gravel pit was constructed.

The outhouse foundation is 4x6 beams positioned directly on the ground.

Walls are constructed with rough cut 2x4s and sheeted on the exterior with 1x10 boards.

The roof was constructed with 1x10 boards nailed to the top of the walls with no center support. No exterior cladding was found.

Chunks of fire hose are used for the door hinges and a door latch was carved out of wood.

Silver King North Residence Building #16

It was a bit tricky figuring out the layout of this building because most of it has been salvaged and the rest is in a severe state of decay.

What little remains are left of the building is heavily overgrown with willows; time was spent brushing around the north side to expose the log wall so a photograph could be taken.

Because the area has been disturbed it is nearly impossible to determine if it is one building or possibly two.

There are two main areas where construction is evident. At the northeast section there are portions of walls remaining and a small shed off the east wall

Sections of foundation are large hand hewn logs positioned on the ground; the northeast corner of the main cabin has Yukon corner construction.

A log storage shed is built off the east wall of the building with flat notched corners and an entrance in the north wall. The shed has rough cut 2x4 rafters sheeted with various sized boards. There are remnants of heavy tar paper on portions of the roof.

The west section is constructed with upright logs supporting a platform of rough 2x8 sheeted with 1x6 boards.

What remains at the building is boards from a personalized box; a door buried under the collapsed shed roof along with a hand made barrel chimney safety, bed frame and various metal containers.

Silver King North Residence Foundation #17

The building material has been salvaged or burned. There is evidence of charred lumber around the building.

The foundation is logs positioned directly on the ground. There are no walls and roof; there is a lot of scrap wood and metal scattered around the building site.

Silver King North Outhouse Building #18

The outhouse foundation is constructed with logs positioned directly on the ground. Walls are 2x4s sheeted with 1x8 and 1x10 boards and the floor is built with 1x10 planks

The shed style roof has collapsed inward and was constructed with 1x10 and 1x8 boards. There is no evidence of roofing material.

Silver King South Old Cars

While traversing the site we found old car bodies at two locations. The first is directly below and to the west of outhouse 18 along a small ravine.

The second area is east of the outhouse across the highway in dense willows.

There are about 4-5 different models.

Shaft Feature #1

Shaft #1 is located at the northwest corned of the Silver King pit and stands approximately 2m above the surface.

The shaft has been mostly backfilled with rock. The ground surrounding the shaft is sloughing and the cribbing is collapsing.

Shaft Feature #2

The remains of the shaft are located in the west wall of the pit that was dug out for highgrading during 1986.

Shaft Features #3 and #4

Shafts #3 and #4 are located north of the Silver King pit. Access to the shafts is along the old Elsa road that branches off to the east just before Galena Creek.

The ground between the shafts has collapsed to an approximate depth of 3-4m. The depths of the shafts were not determined because of stability issues; shafts remain open and are considered safety concerns.

Shaft Feature #5

The dimensions of this feature (2.0 x 2.3m) are larger than a normal shaft. The area surrounding has been leveled and there is no signs waste rock.

Adam Shaft Feature #6

The Adam shaft is located to the north of the cabins. The cribbing is rotting and remains open. Immediately southeast of the Adam shaft is a shaft or test pit though no reference was made to a second shaft at this site.

Silver King South old workings Feature #7

To the north of the adit is a long trench that is apart of the old workings shown on page 16.

An old shovel, sheets of metal, drill steal and pipe were found around the area.

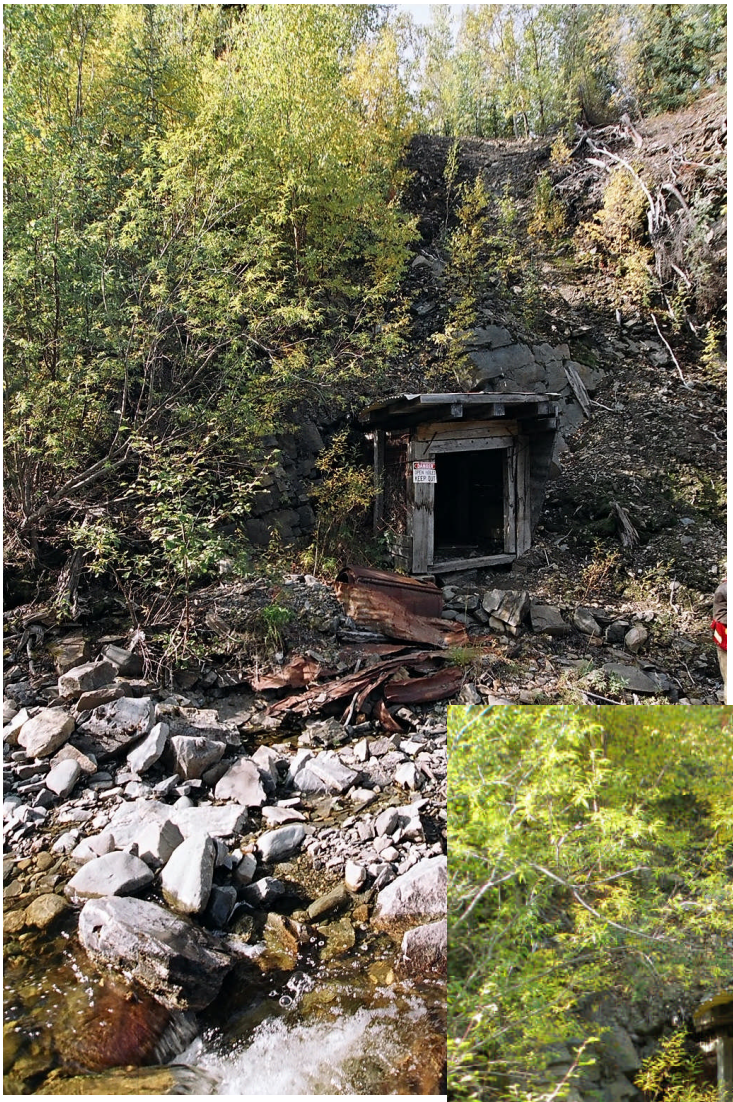
Several lengths of stove pipe joined together run over the bank; most likely for moving water.

Silver King South Bridge Remnants Galena Creek Feature #8

In the bottom of the canyon at Galena Creek are remains of the old bridge that was used prior to the highway.

Historic photograph on page 9 in the historical section of the Silver King Site

Silver King South Adit Feature #9



The 75ft level adit is located on the south wall of the Galena Creek canyon 51m upstream from the Silver Trail highway.

The entrance of the adit structure remains in relatively fair condition though we did not enter the adit due to safety issues.

Photographs of the inside of the adit were taken through the screen mesh.

There is a fair amount of metal and wood scattered along the creek along with pipe and some wire.

At the entrance of the adit heavy screen mesh and fencing nails is used to secure the entrance.

At the time of inspection the screen had been pried away from the support beams allowing access to the adit.

Alexco Resources Corp was notified during our field investigation.

The construction of the adit is a combination of timber uprights with steel header and roof beams.

Silver King South Adit

Feature #10

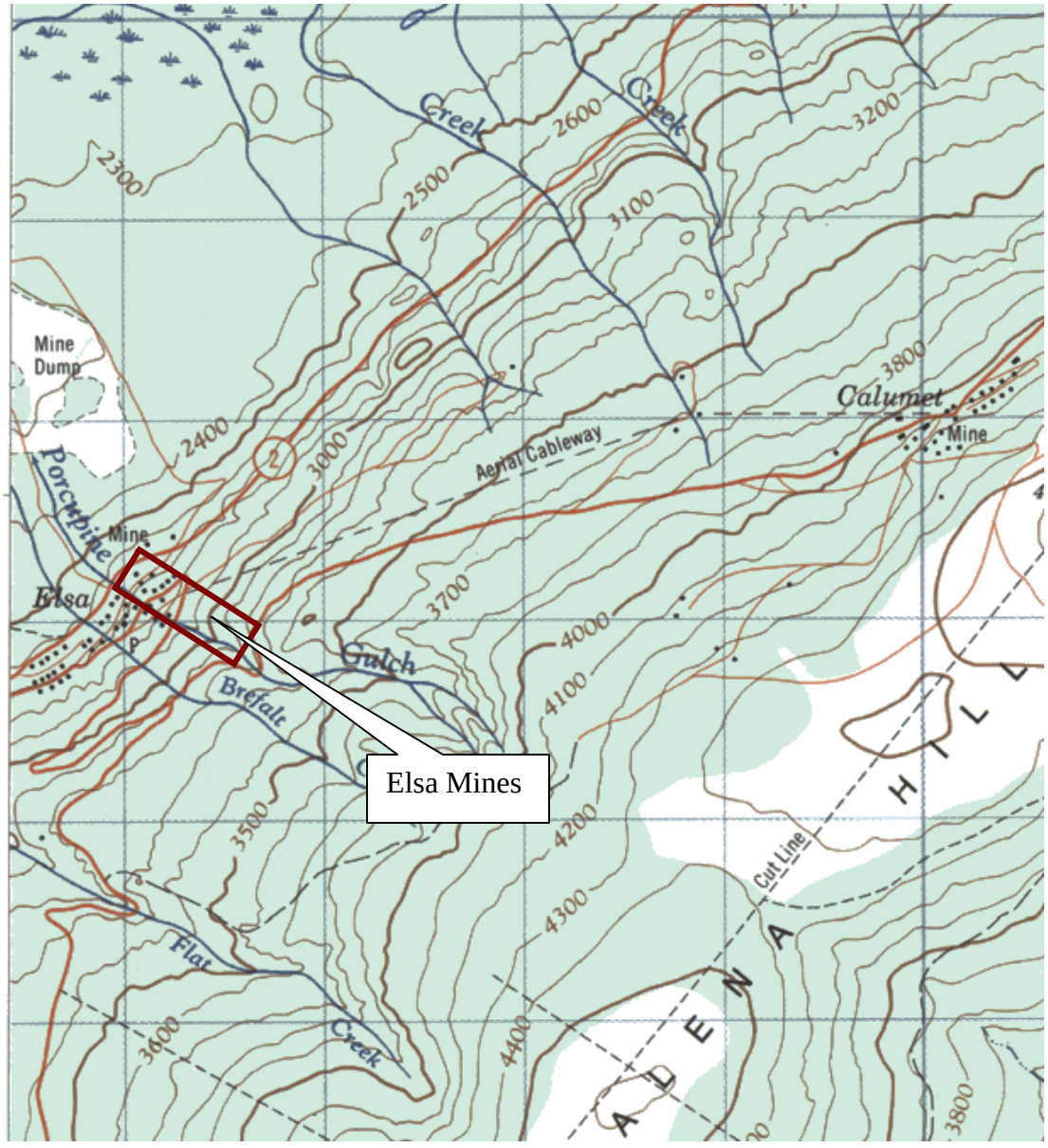
The location of this feature is 45m east of the “75 level adit”. The circumference of the adit has broken away, causing a larger than normal amount of waste rock below the adit.

A piece of drill steel remains in the center of the adit face.

Elsa Mine Site

Location and Access

The Elsa mine consists of 5 levels. The main 400 level is located in the center of the Elsa townsite by the mill and crusher building. The 200 level can be accessed by the left turnoff past the first switchback on the Galkeno 300 road; the 200 level is to the right and the lower No Cash site is to the left. The + 50, 100, and Gravel adits are only accessible by foot.



Keno Hill, Yukon Territory. Map 105 M/14. Energy, Mines and Resources Edition 2

Historical Background

Charles Brefalt staked the Elsa claim on September 13, 1924, naming it after his sister. A dance hall girl named Elsie, who once ran a Dawson house, would later claim that the property was named after her but had been misspelled.

Charles "Charlie" Brefalt, or the "Lucky Swede," was born in Amotfors, Sweden on September 21, 1886. He left Sweden for the United States in 1909 at the age of 23. He learned hard-rock mining in Colorado and prospected in Colorado, Arizona, Nevada, Wyoming, and Idaho. He worked for the C.N.R. railroad and the mill in Hedley, B.C. before coming to the Yukon in 1916. He worked at the Pueblo Copper Mine in Whitehorse, but was convinced that the mine was unsafe. "Brefalt came up for his time one day to announce, 'I'm quitting. That place is going to cave in and we'll all be killed.'" (Hills of Silver) Brefalt did quit, and moved to Dawson City. Unfortunately his concerns about the Pueblo mine proved to be true. A few months after Brefalt left, the Pueblo did cave and 16 men were buried. Rescuers worked around the clock, drove 70 feet of tunnel in two days, and saved three men who had jumped into a crosscut. The rest were buried. Nine bodies were recovered. The remaining four bodies were not recovered, and the ore body has not been mined since.

Charlie Brefalt had staked the Elsa claim on the strength of a single surface showing of vein material which assayed only 1.5 ounces of silver per ton. In order to obtain financing to continue exploration on the property, Dan Tolmie, another prospector, agreed to share 50 percent of the work and expenses. In July 1925, Brefalt turned over 50 percent of the Elsa ownership to Tolmie and the partners began to prospect in earnest.

Dan Tolmie was born in Ontario and owned a saloon in Dawson City before moving to the Mayo District. He was a frugal man. He saved his money and lived in his old log cabin in Keno. This was opposite to Charlie Brefalt's nature. Brefalt lived lavishly when he had money (he married a "sophisticated" woman and set her up in a sumptuously furnished cabin in Keno where he wore a silk bathrobe and miner's socks), and worked hard when he was broke (his wife left him twice and finally divorced him, apparently only interested in his money). "Brefalt accomplished as much as any other single individual in the camp in sheer foot-by-foot and ton-by-ton mining. This remarkable, hard-working, happy-go-lucky Swede with his almost intuitive nose for ore made and spent several fortunes and found more ore than any other individual in camp. His repeated success can be attributed mainly to his "try, try, try again" persistence and his hard work, backed by ingenuity and common sense. Where others would have stopped, he drove through the rock again and again, even with no ore in site." (Hills of Silver)

While hunting for grouse near the Elsa claim, Brefalt stumbled onto vein material which assayed an incredible 3,000 ounces of silver per ton. This became his Lucky Strike claim, which adjoins the Elsa. His next, and most impressive discovery, was located about 500 feet from the Lucky Strike discovery, back on the Elsa claim and under only three feet of overburden. "Shortly after I started to prospect the left limit of Brefalt Creek and this is

no baloney, I saw a rock sticking two feet out of the moss and on top of it a chunk of galena bigger than a man's fist, coated with white lead, and it assayed nearly 500 ounces of silver to the ton. It did not take us long to get to the vein as there was only three feet of overburden. We were picking ore like potatoes." (Hills of Silver) By the time the vein was exposed, they had picked and sacked nine tons of loose float which averaged 465 ounces per ton. The vein was 16-feet wide with rich ore on both walls. In October 1925, Brefalt and Tolmie hired a crew of twelve men and sacked and shipped 50 tons of ore from the Elsa claim. By the end of the winter, they had shipped 192 tons of ore. The partners put a price of $250,000 on the property and went to see Livingston Wernecke. Unfortunately, Wernecke had just committed Treadwell Yukon to heavy development on the Sadie and Ladue veins and could not make a deal on the Elsa claim at that time. Instead, hoping to buy the Elsa claim at a later date, Wernecke used his influence with the Government to open a winter road and build a bridge over Galena Creek so Brefalt and Tolmie could haul their ore to Mayo. Despite their success on the Elsa, expenses were high and the partners needed further financing to continue mining the claim. Brefalt asked Wernecke for an advance of $5,000 and received it. By 1928, it appeared that the partners had mined all the high-grade ore. Treadwell Yukon optioned the property that year for $150,000. Brefalt and Tolmie had mined 500-600 tons of ore between 1925 and 1928, netting nearly $70,000. The Elsa became Treadwell Yukon's richest mine after the Lucky Queen, and later proved to be even richer. In 1928 Treadwell established a 30-man camp at the Elsa claim, complete with a mess house and a bunkhouse.

By 1931, after the stock market crash, silver had dropped to 26 cents an ounce. During the years 1931 and 1932, Treadwell Yukon did no development work. When the price of silver rose to 64 cents per ounce in the spring of 1935, Treadwell began the process of reopening the Silver King and Elsa mines. The mill was moved from Wernecke Camp to Elsa, and a 14,200 foot aerial tramline was built to carry ore from Calumet to the Elsa mill. The tramline, supported by approximately 42 towers, was designed and constructed by A.K. Schellinger and John Scott. On March 5, 1936, the 150 ton per day Elsa mill began operation.

With the outbreak of World War II and the U.S. Government's announcement in 1940 that it would no longer buy foreign silver, Treadwell decided to close their Mayo district operations. In February 1941, Wernecke was instructed by the Company's Board of Directors to sell all assets in the district if a buyer could be found. Brefalt and his partner, Elmer Gustaveson, leased the Elsa claim from Treadwell Yukon in March 1941. They worked the property for four years until United Keno Hill Mines took over.

On October 21, 1941, Livingston Wernecke died in a plane crash off the coast of British Columbia. Treadwell Yukon ended its 20year operation in the Mayo district, and the company was dissolved on May 4, 1942.

Keno Hill Mining Company acquired Treadwell Yukon's properties in 1945. "Shareholders received $75,000 in cash and 750,000 shares of non-par-value, non-assessable capital stock." (Hills of Silver) Due to the tremendous outflow of money during the start up phase of the project, the company was reorganized in 1947 under the

name United Keno Hill Mines Limited (UKHM) to increase cash flow. The Elsa mine was reopened in 1948. UKHM explored and reopened some of their other properties, and acquired other claims in the district.

On June 11, 1949, fire destroyed the mill and assay office. United Keno Hill Mines hired Craigie Hood of Kilborn Engineering in Toronto to design and build a new, 250 ton per day mill with the assistance of the UKHM staff. The new mill in Elsa was operating by October 24, 1949. The capacity of this mill was doubled to 500 tons per day in 1951.

When United Keno Hill Mine Limited's success was revealed at its annual meeting in 1951, another boom occurred in the Mayo district. UKHM announced cash and concentrates on-hand worth over two million dollars, increasing production, and a rich ore vein discovery on the Hector-Calumet site. These announcements, together with the development of hydroelectric power and the completion of the highway from Elsa to Whitehorse, attracted companies and speculators to the district. At the peak of the 1950's boom, approximately 30 companies acquired interests in the Mayo district. Most of these companies were gone by the mid-1950s. United Keno Hill Mines Limited continued to operate and gradually acquired additional claims in the area. By 1958, UKHM was the only significant mining operation remaining in the district.

From its beginnings as the Keno Hill Mining Company, United Keno Hill Mines Limited grew to be a world producer of silver. UKHM eventually became Canada's second largest producer and the fourth largest in the world. Since 1947, it produced revenue shipments of over 148 million ounces of silver, 448 million pounds of lead, 331 million pounds of zinc, and 4 million pounds of cadmium. The total mine-head silver and lead production by all operators in the area since 1913 is over 213 million ounces of silver, over 710 million tons of lead, and over 436 million pounds of zinc. (Gold & Galena)

The village of Elsa originated in association with the 1929 opening of the Elsa mine (the vein was discovered in 1924). The village expanded in 1935 with the relocation of the Wernecke Mill to Elsa. The town was initially referred to as Elsa Camp. In addition to the mill, Elsa had a machine shop, bunkhouses, a framing shed, staff residences, and some other structures. Dick Major ran a store and pool room. The Elsa school opened on September 16, 1938 and the first teacher was Arthur Lanyon. The Elsa post office opened on May 26, 1949 with Henry Brodie Hicks as postmaster. The population of Elsa has fluctuated in response to a variety of events, including the mine closure from 1942 to 1947 (due to World War II and the death of the mine director, Livingston Wernecke), the 1949 mill fire, and the current mill closure in 1989 due to world market conditions. Over 400 people lived in Elsa just before the village's 1989 shutdown.

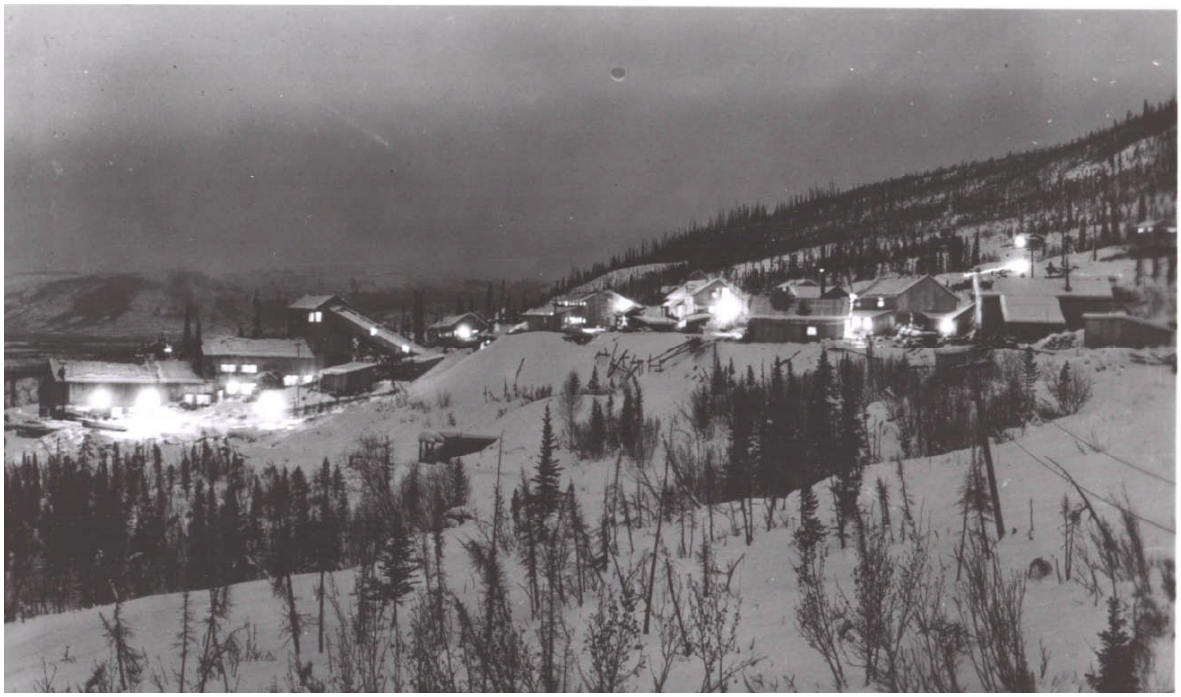
6998 - late 1930's Bill Boyle operating a dragline winch at the Elsa Mine

Photos Courtesy of Yukon Archives

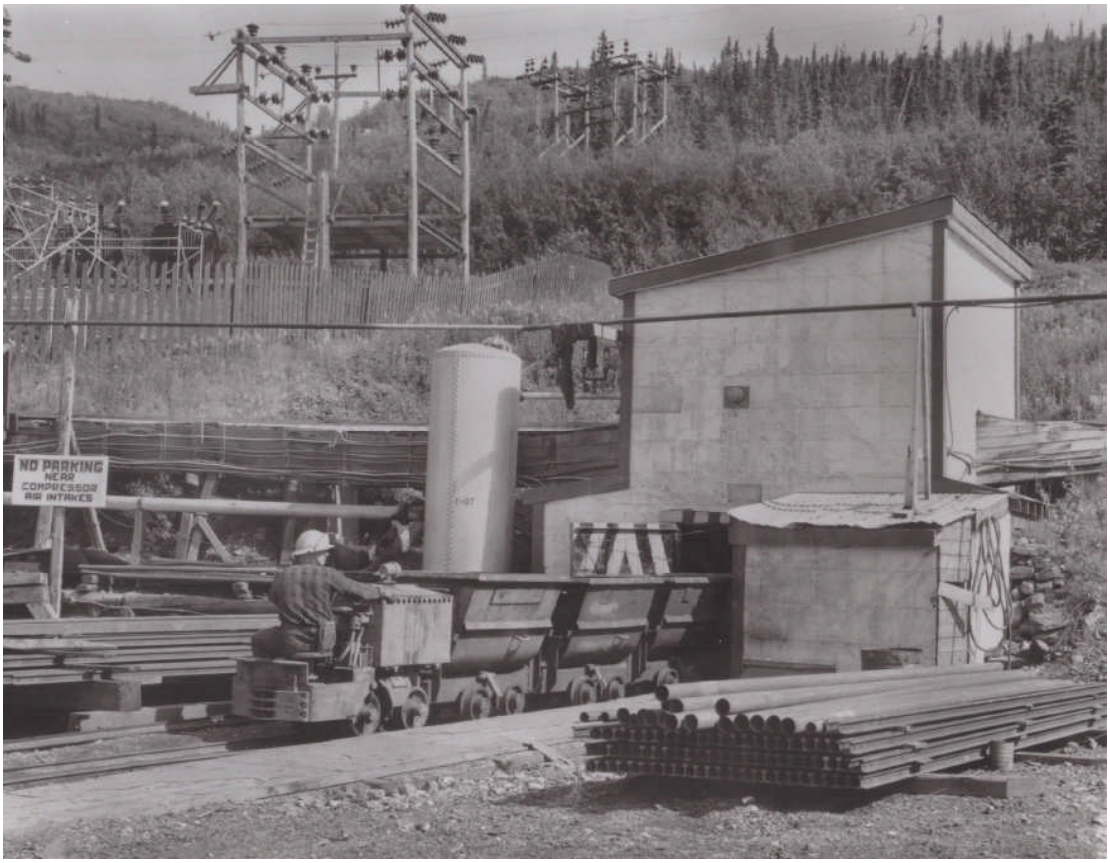
5903 - 1941 Elsa Mill. A view of the buildings and some materials that made up Elsa's mill. The mill was completed in 1935 and when it began production in 1936, its capacity was 150 tons per day

5890 – March 1937 Elsa. A view of various buildings, timber, barrels, under snow at Elsa camp

Photos Courtesy of Yukon Archives



Elsa at night A.K Schellinger Fonds



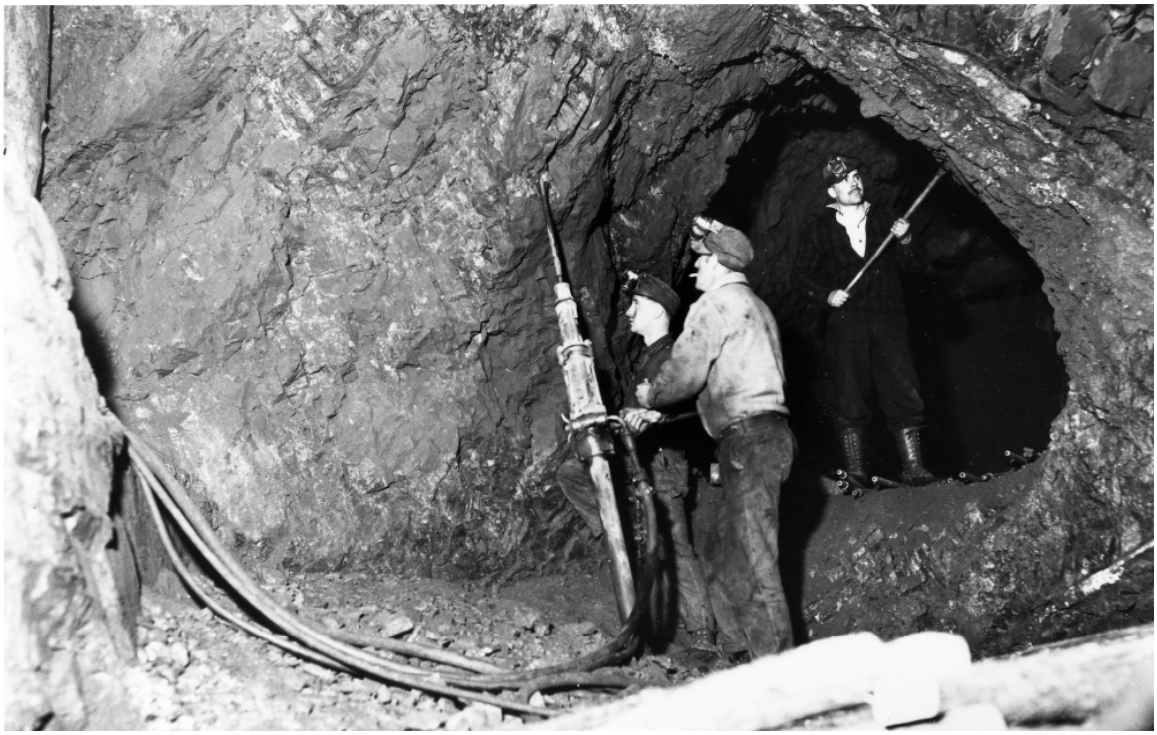
Yukon Archives, Richard Harrington Fonds 85 25 239 Elsa mine,

Yukon Archives, Elsa- General Mill and Garages, unknown photographer

Yukon Archives, Richard Harrington Fonds 79 27 694 Elsa tramline and mill

Yukon Archives, A.K. Schellinger fonds, #5896

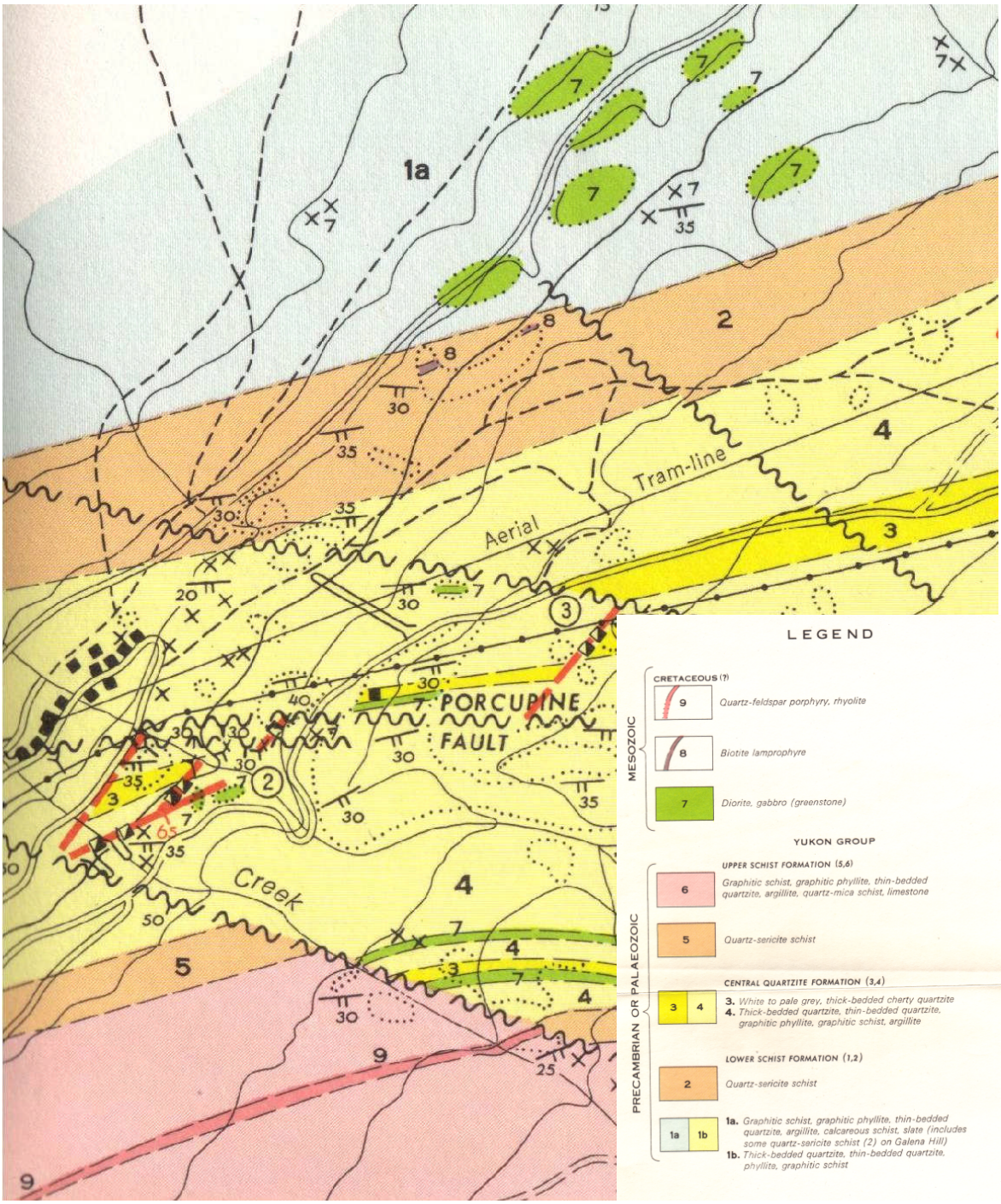
Elsa mining Activity a view of 4 men, one using a pick to dig a trench to try to expose any float or outcrop that might contain silver. The Townsite of Elsa and the road to Mayo are in the background, 1938



Yukon Archives, Bill Hare fonds, #6956
A photograph taken by flashlight of three underground miners in the Elsa mine. From the left the miners are: jack MacDairmid (ran a roadhouse at Stewart Crossing) Roy Thomas, Pete Petitot
(1926-1930s)

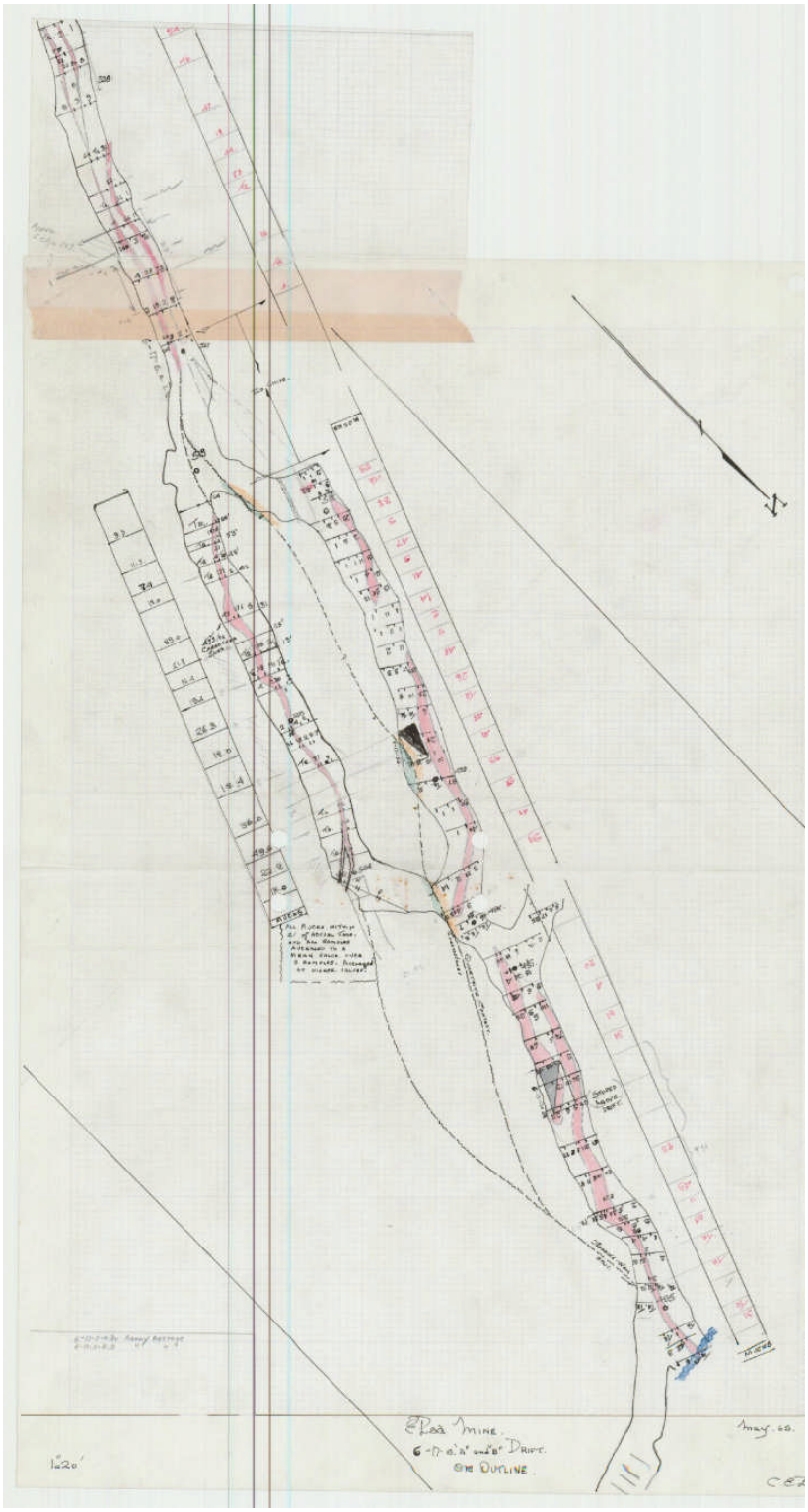
Yukon Archives, Bill Hare fonds, #6974
Elsa Mine A view of hard rock miner using an air drill to bore holes into rock for blasting out the ore. The photograph was taken underground using flashlights. [1930s]

Map below shows workings on #2 Elsa Mine

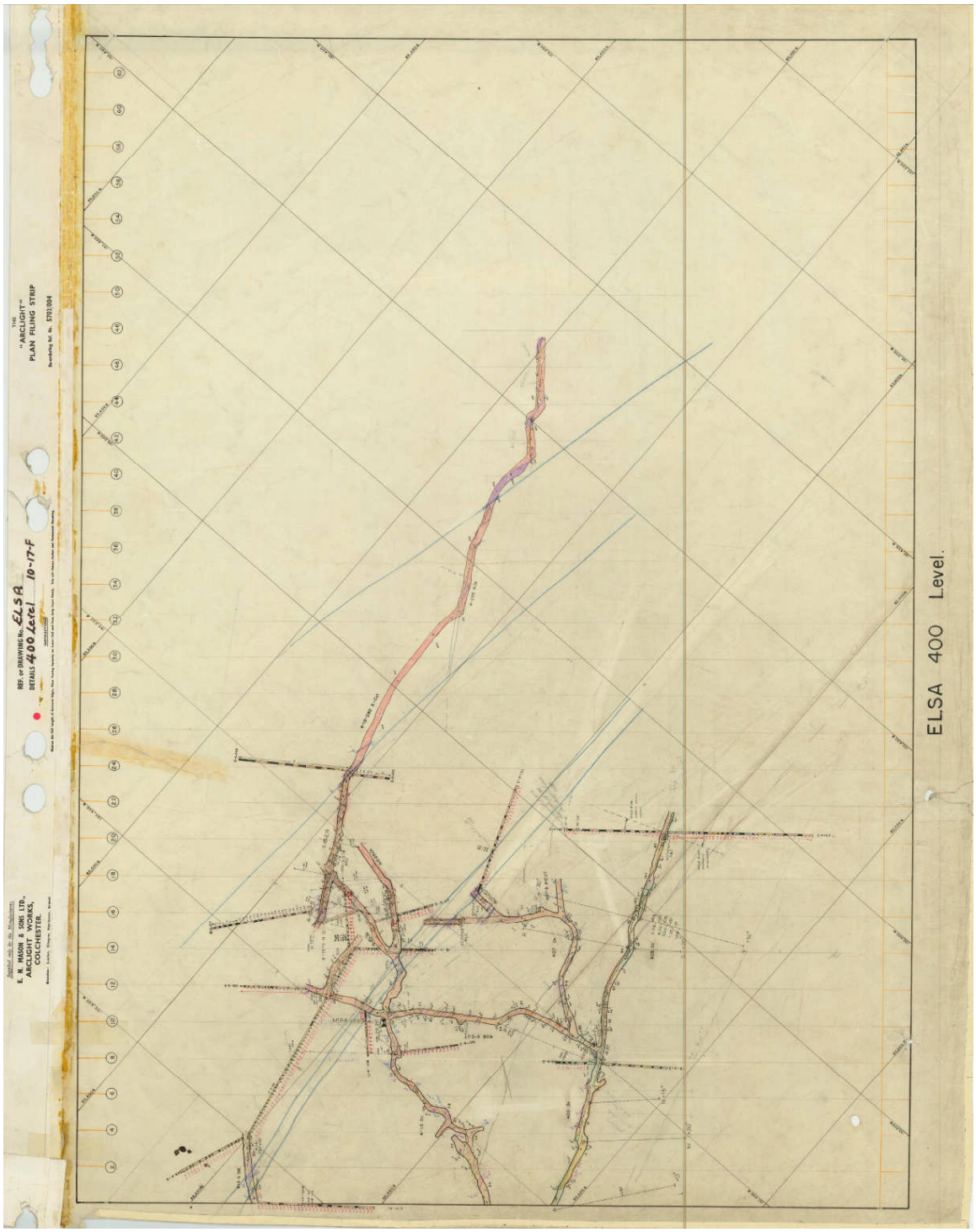


Geological Survey of Canada Paper 55-30 By R. W. Boyle Ottawa 1956 Part of figure 2

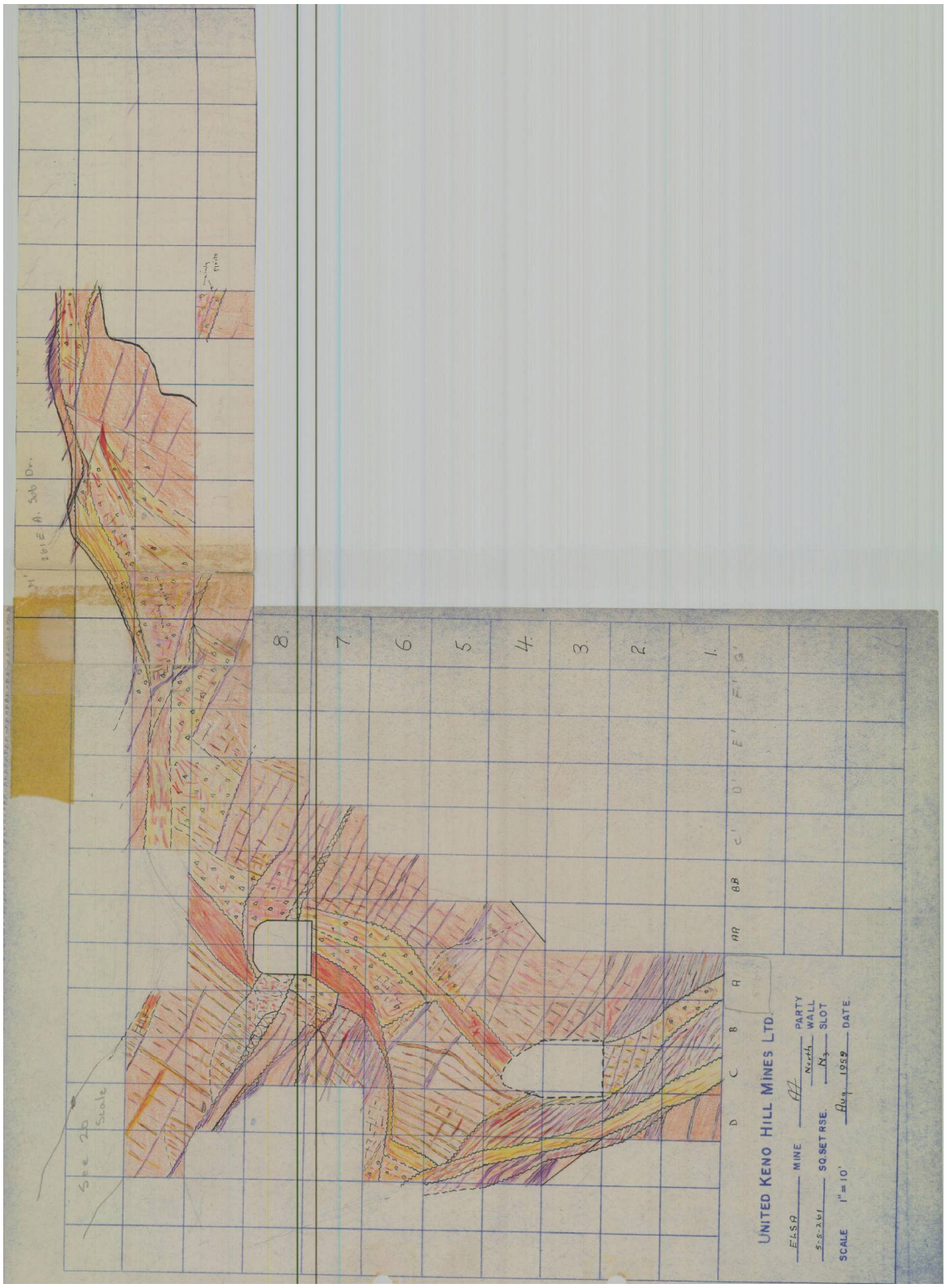
Mine Workings



17299-Elsa Mine 6-17-S A & B Drift Ore Outline
Courtesy of Alexco Resource Corp

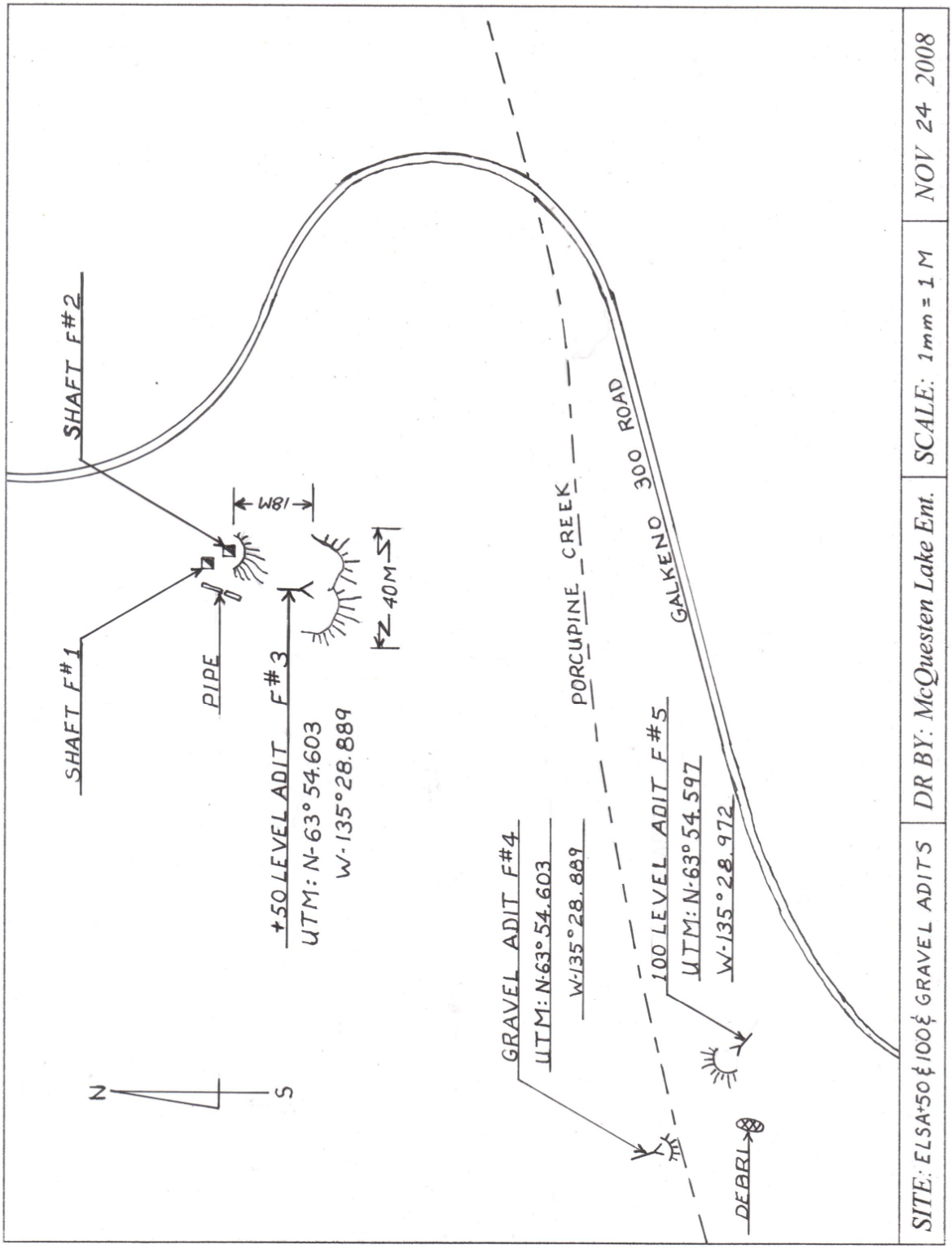


05250-10-17-F Plan +400L Geo Comp 1in=40
Courtesy of Alexco Resource Corp

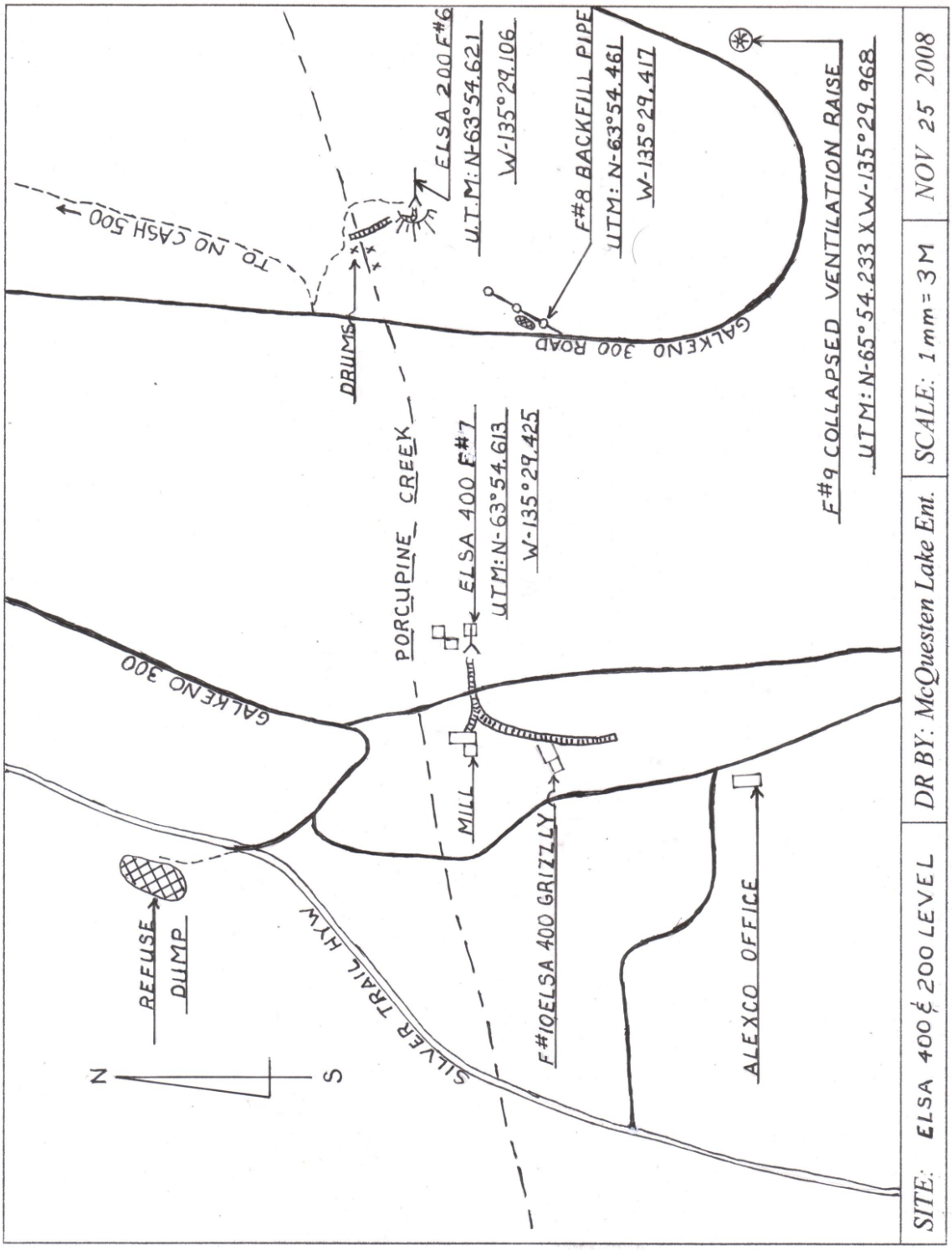


17279-Elsa AA 5-5-261 N 3 Courtesy of Alexco Resource Corp

Elsa 50 -100 Mines Site Layout



Elsa 200-400 Mine Site Layout



Review of existing studies, confirmation and/or update of current site conditions

Elsa 400/200/+50 safety and environmental issues

- Portal is clad with whit asbestos shingle siding
- Pipe box and the cribbing that holds the pipe box in place is deteriorated to the point of collapse.
- At the back of the portal there is a sink hole that goes through to the drift.
- Elsa 400 portal froze up, in the winter of 2003. To the best of knowledge the adit has not been de-iced to the electrical sub-station. These sub-stations would have P.C.B. associated with the oil.
- Elsa grizzly structure is deteriorating and unstable. The pipe boxes that extend on either side of the grizzly are also very unstable.

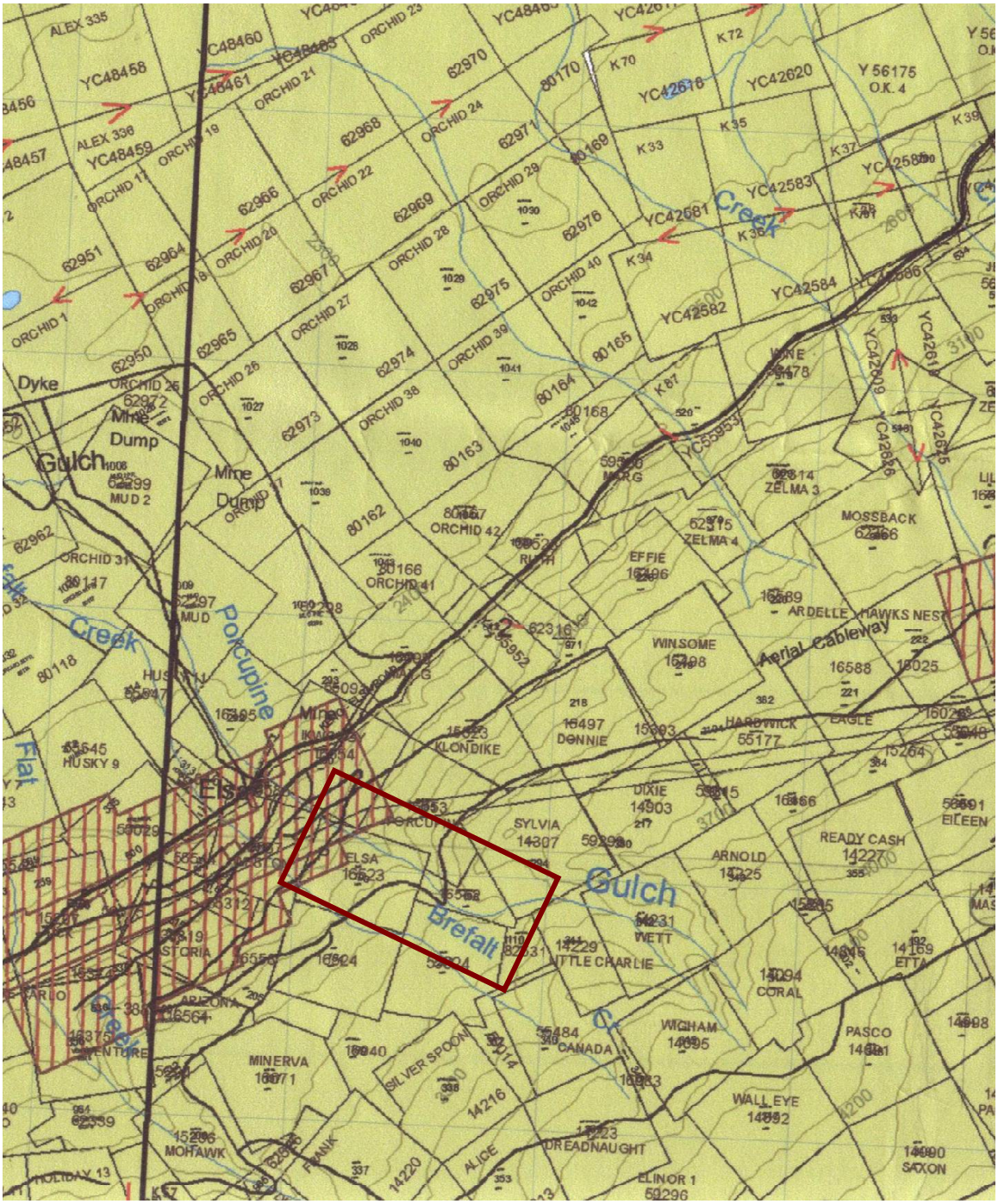
Elsa 200

- The ore dump structure is extremely unstable; the ground is sloughing and the rail and ore cars pose safety hazard.
- At the powder shack corner the Vent raise has subsided substantially from the previous years.
- Telegraph wire descends the hillside from the west side of the +50 adit, down the hillside towards Elsa 200.

Past and Current Site Tenure/ Owners

Charles Brefalt staked the Elsa Claim on September 13, 1924. Other site tenure/owners were; Daniel Tolmie, Elmer Gustaveson, Livingston Wernecke, Edith Ethel Brefalt (Oakley), Robert H. Palmer, Treadwell Yukon Co. Ltd., Treadwell Yukon Corporation Ltd., Jas. H. Cameron, et al, Keno Hill Mining Co. Ltd., United Keno Hill Mines Limited, The Montreal Trust Co., CROWN, Drago Kokanov, UKH Minerals Limited, NDU Resources Ltd., AMT Canada Inc., and Elsa Reclamation & Development Co. Ltd.

Claim Map



Keno Hill claims. Part of Mayo district mining claim map No.105-M13 2003

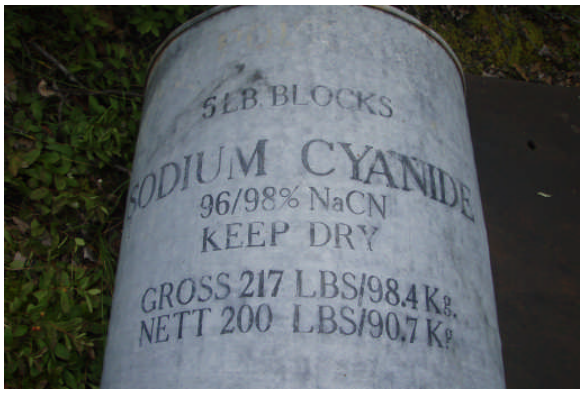
Elsa Shaft Features #1, #2, +50 level adit Feature # 3 and Gravel Adit Feature #4

Shaft #1 is located in dense willow between the road and the =50 adit. The cribbing has rotted through and the shaft has collapsed approximately.2m from the surface.

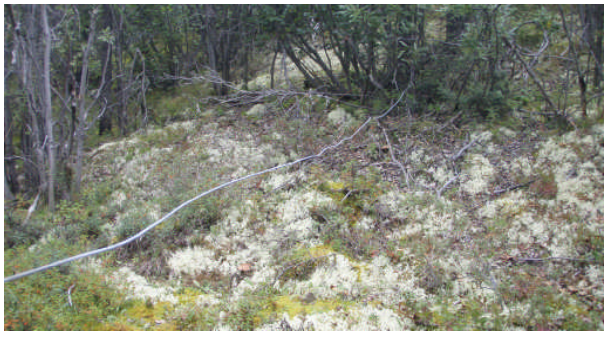
Shaft # 2 has collapsed and the bank to the north has sloughed down around the opening. To the west of the shafts are lengths of pipe most likely for diverting water.

Down hill from Adits #1 and #2 is the +50 Adit. The waste dump can be seen from the Galkeno road just before the switchback at Porcupine Creek.

The timbers of the adit have rotted away and the adit is collapsed.



Remaining at the site is rotten stacks of lagging and blocking, pipe and scrap metal and wire.



The Gravel Adit has collapsed with only rotten timbers, rail and metal remaining.

The Elsa 100 Adit is located on the south side of Porcupine Creek. The above photograph was taken from the Gravel Adit. There is very little left of the 100 adit; the adit has collapsed and is overgrown with willow

Metal and scraps of wood remain around the adit

Elsa 200 Level Adit Feature #6

The adit structure is in poor condition; most of the timber is rotten.

The adit is post and beam construction with lagging piled between the walls and the bank; two 8x8 beams support the entrance.

The adit has collapsed directly above the entrance.

Rail from the adit run west and turns north along the waste dump.

The waste rock is sloughing and the loadout structure is collapsing and is extremely dangerous.

To the north of the adit is Porcupine Creek. There is a significant amount of wood and metal debris is along the banks and in the creek.

The debris consist of empty fuel drums, rail, tires, pipe and wire.

Elsa 400 Level Portal Feature #7 and Grizzly F #10

The foundation of the portal building is comprised of 8x8 timbers placed directly on the ground.

The 2x6 walls are sheeted diagonally with 1x6 shiplap boards and fiberglass insulation is used in the walls and ceiling.

Above the portal is a room comprised of valves and pipes for steam and ventilation underground. The construction is 2x6 walls and rafters insulated with fiberglass.

The exterior portal walls are clad with white asbestos shingles.

The underground timbers are rotten and collapsing; the adit is filled with ice.

There is an underground substation remaining farther in the adit.

Beside the Elsa portal is a time key that the night watchman would insert in a record box to indicate the time he inspected the location.

To the west of the portal underground tracks crossed the road to dump the ore at the ball mill to the north or the grizzly to the south. The tracks run behind the fire hall and end just before the market.

Approximately half way along the tracks to the south is a grizzly constructed with heavy timbers and a metal grate and extends to the lower road by the transport garage.

The structure is mainly rotten along with cribbing that supports the bank; the cribbing is slowly collapsing and the ground is eroding from under the structures above.

Backfill Pipe Feature #8

The backfill pipe is located along the Galkeno 300 Road between the Elsa 200 level turnoff and the powder house corner.

Powder House Building #1

The second switchback on the Galkeno 300 Road was known as the Powder House corner.

The small building is located in dense willows to the south of the road.

The building is collapsed and sections have been salvaged.

The powder house is constructed with 2x4 walls and board and batten siding. The roof has 2x6 rafters and clad with 1x8 boards and asphalt roofing.

Foundation and floor are constructed like a large shipping pallet.

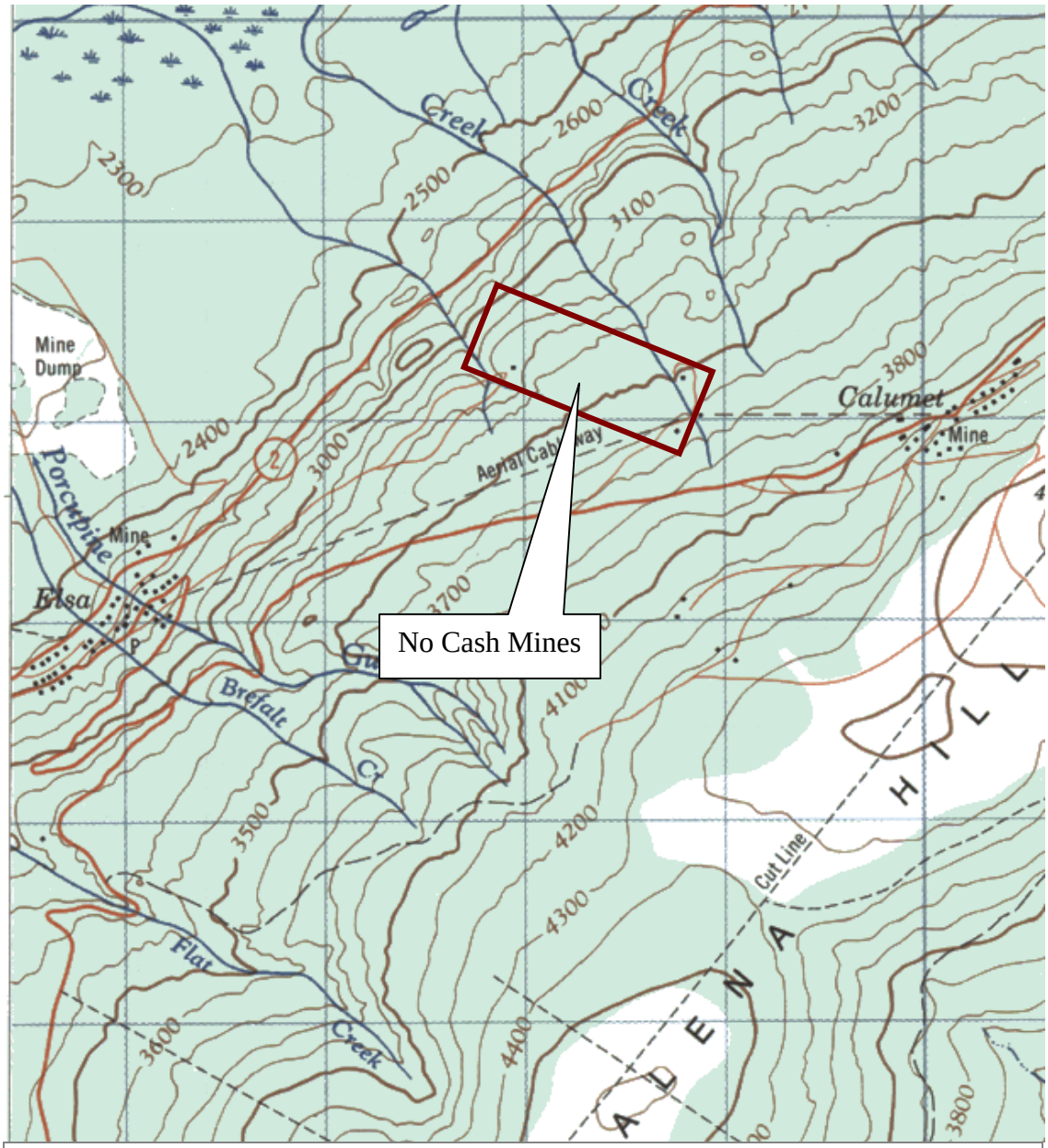
Ventilation Raise Feature #9

The banks of the collapsed ventilation raise is continuing to cave and seem to be much deeper when first documented in 1999


No Cash Mine Site

Location and Access

The No Cash site was mined on two levels with separate access roads. No Cash 100 is located on the left side of the Galkeno road between the Dixie Mine and the Ruby 400 Mine. The 100 level has 4 historic buildings, 4 post 1950s buildings, 1 adit and 5 shafts. The No Cash 500 level road branches off to the left at the beginning of the Galkeno road near Elsa. The 500 level has 1 adit, two post 1950s buildings, portal and loadout.



Keno Hill, Yukon Territory. Map 105 M/14. Energy, Mines and Resources Edition 2

Historical Background

The No Cash claim was staked on August 9, 1924 by Charles Brefalt.

Charles “Charlie” Brefalt, also called the “Lucky Swede”, came to the Mayo district in 1920. While prospecting near his Elsa claim, he discovered some siderite float in the next creek to the east. Here Brefalt staked the No Cash claim, so named because he had to borrow $10.00 to pay the recording fee. Brefalt was too busy with his rich Elsa claim to really work the No Cash, so in 1930, after Alex Gordon found a small high-grade showing on it, Brefalt gave Ellef “Nels” Bjonnes a three year lease on the No Cash. The first year was free with a 10 percent payment to Brefalt in the next two years. As the price for silver increased slightly after its Depression low, Bjonnes made enough money from the No Cash and other claims which allowed him to live out his final years in Vancouver in the 1950s.

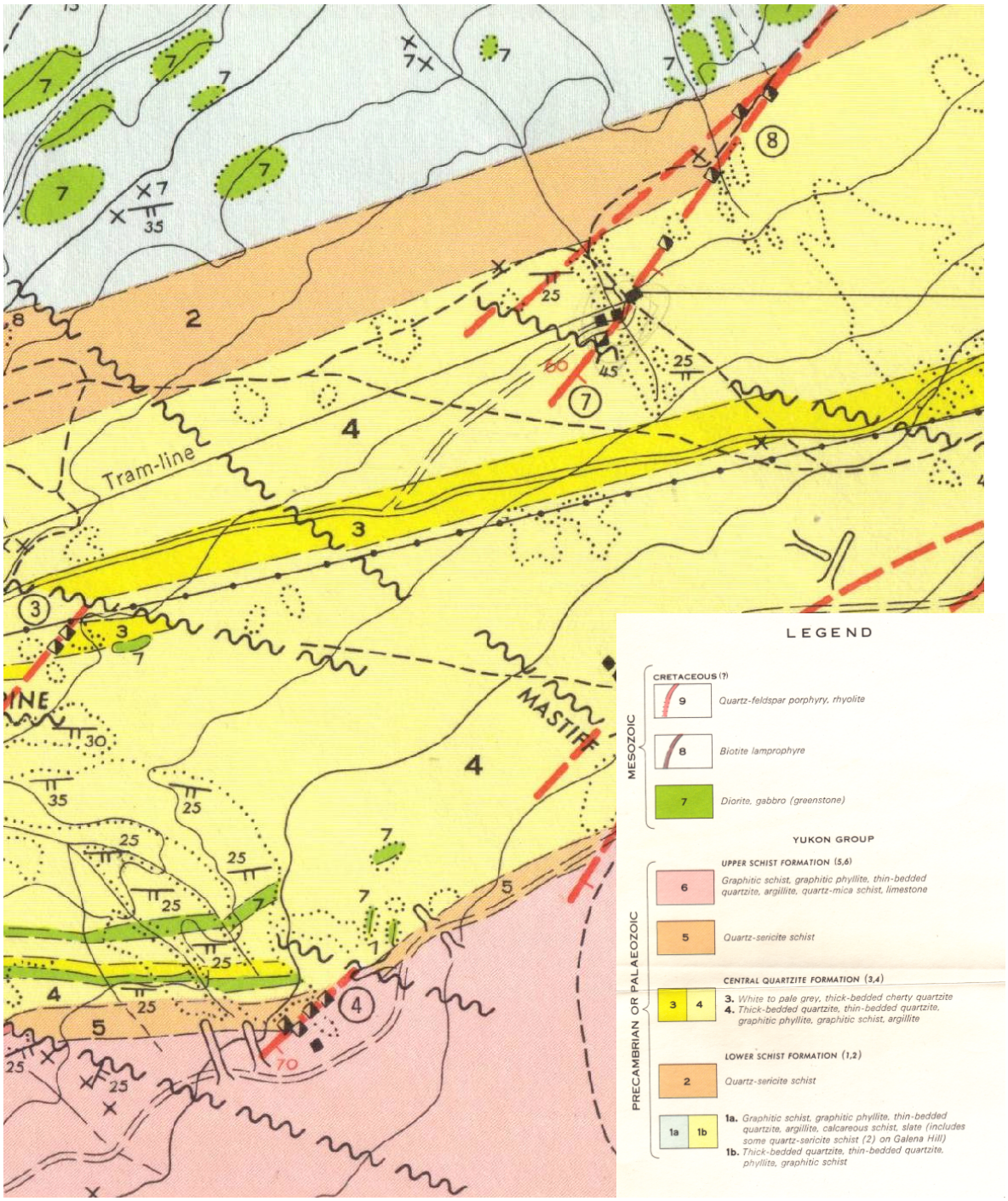
In the winter of 1933-1934, Brefalt returned to the No Cash with the objective of developing another producing claim. He is quoted as saying, “May as well work on my own ground as someone else’s” (Hills of Silver). Bjonnes had left no ore in sight, but Brefalt blasted a hole into one of the walls of the vein and again discovered high-grade. He knew he could not handle mining this vein alone with just a windlass, and that he must set up a proper camp in order to proceed. He decided there was enough ore to justify the expense, asked Dan Tolmie to put up the first cash ($2,500 - $3,000), and set to work building a bunkhouse, cookhouse, shaft house - everything necessary for a working camp and equipment. By the time Tolmie came up from Vancouver, everything was ready and they began mining. They shipped about 75 tons of ore, some of it running up to 600 ounces per ton, but the price for silver was only 35cents per ounce and 4cents per pound for lead. All bills and wages were paid from the proceeds, but over the three years that they worked the No Cash, Brefalt and Tolmie made little or no money. Building the camp had cost $9,000, but if Brefalt hadn’t done the work himself, it would have cost twice as much and they would have been in debt.

Brefalt owned a little crushing plant which was set up on the No Cash claim. This is where John Scott, a young mining graduate from the University of Washington, crushed and quartered samples from the Calumet, Hector, and No Cash claims before sending them by air express to Wernecke in San Francisco for assay. Livingston Wernecke, on behalf of the Treadwell Yukon Co. Ltd., bought the No Cash claim on April 8, 1935.

Between periods of working on his own claims and working for others, Charlie Brefalt spent time prospecting, mining, and cutting firewood. His sometimes partner while prospecting was an old Frenchman named Joe Michaud. Together they prospected the Keno area – Brefalt, until the 1950s. Between 1920 and 1921, Wernecke asked Brefalt four times to work for the company, but Brefalt refused, preferring his independence. Brefalt was known as a high-grader, and as an honest, honorable man. One old-timer called Charlie Brefalt, “Another of the old prospectors who spent a lifetime on the creeks searching for gold and silver.” Brefalt Creek is named after Charles Brefalt.

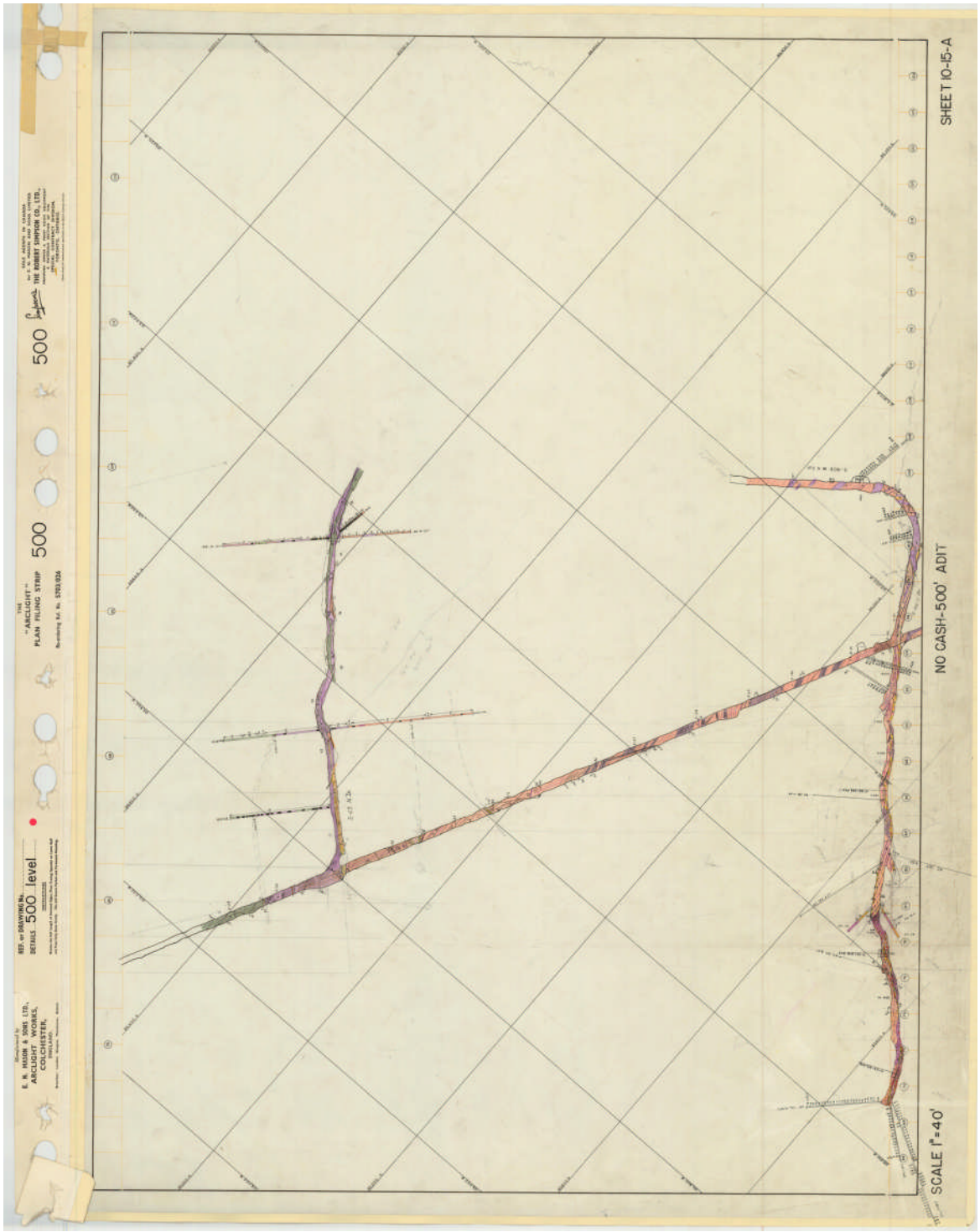
The No Cash site has been in operation since the 1920s. From 1928 to 1931, 19 tons of ore were produced at 25metres drifting on the 50-level. From 1948 to 1975, mining was conducted from the 500-level adit measuring 1115metres in length, and producing a 5900 ton dump at the portal. Deep trenches can be found on the surface near the shaft.

Map below shows workings on #7 No Cash Mine

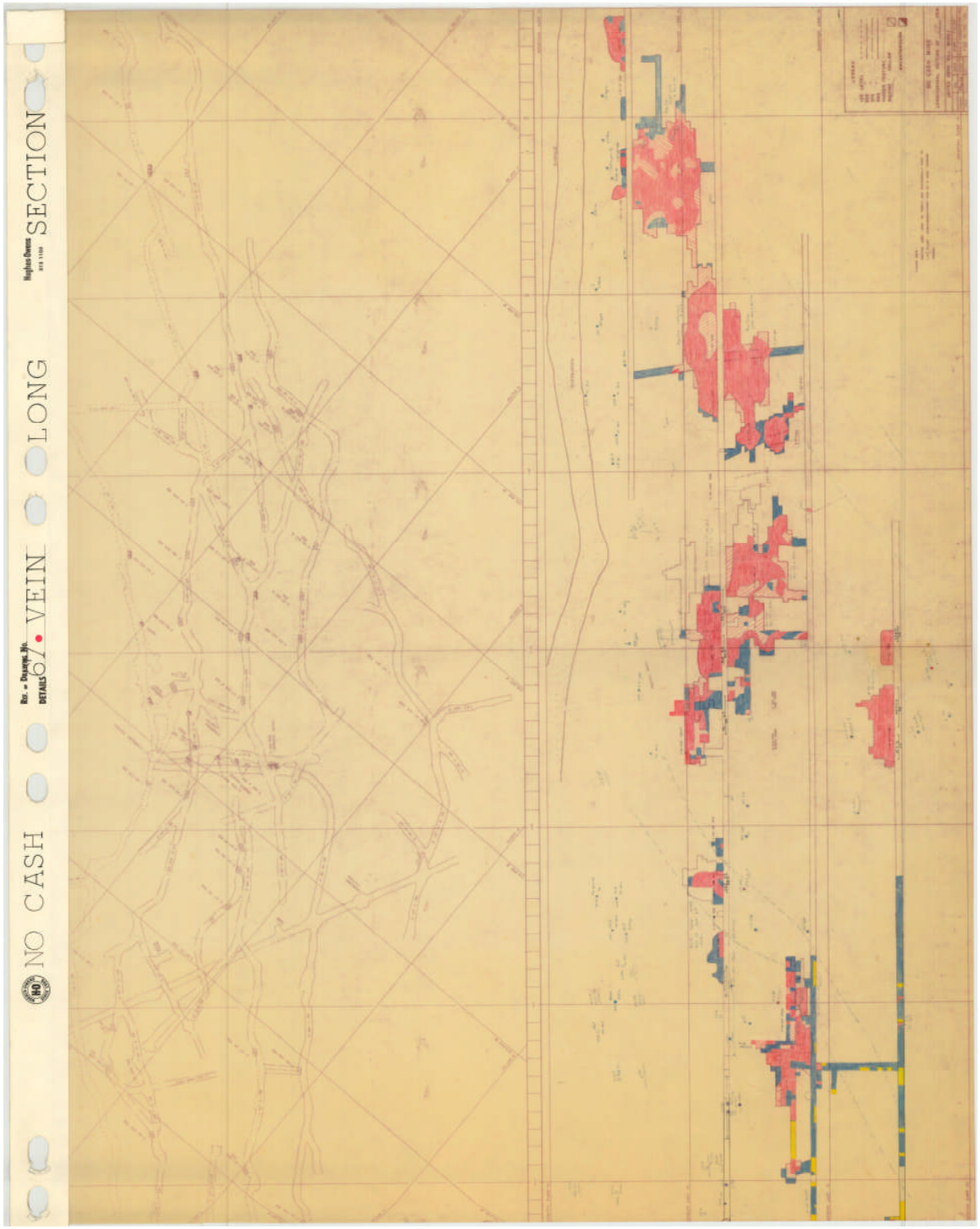


Geological Survey of Canada Paper 55-30 By R. W. Boyle Ottawa 1956 Part of figure 2

Underground Workings

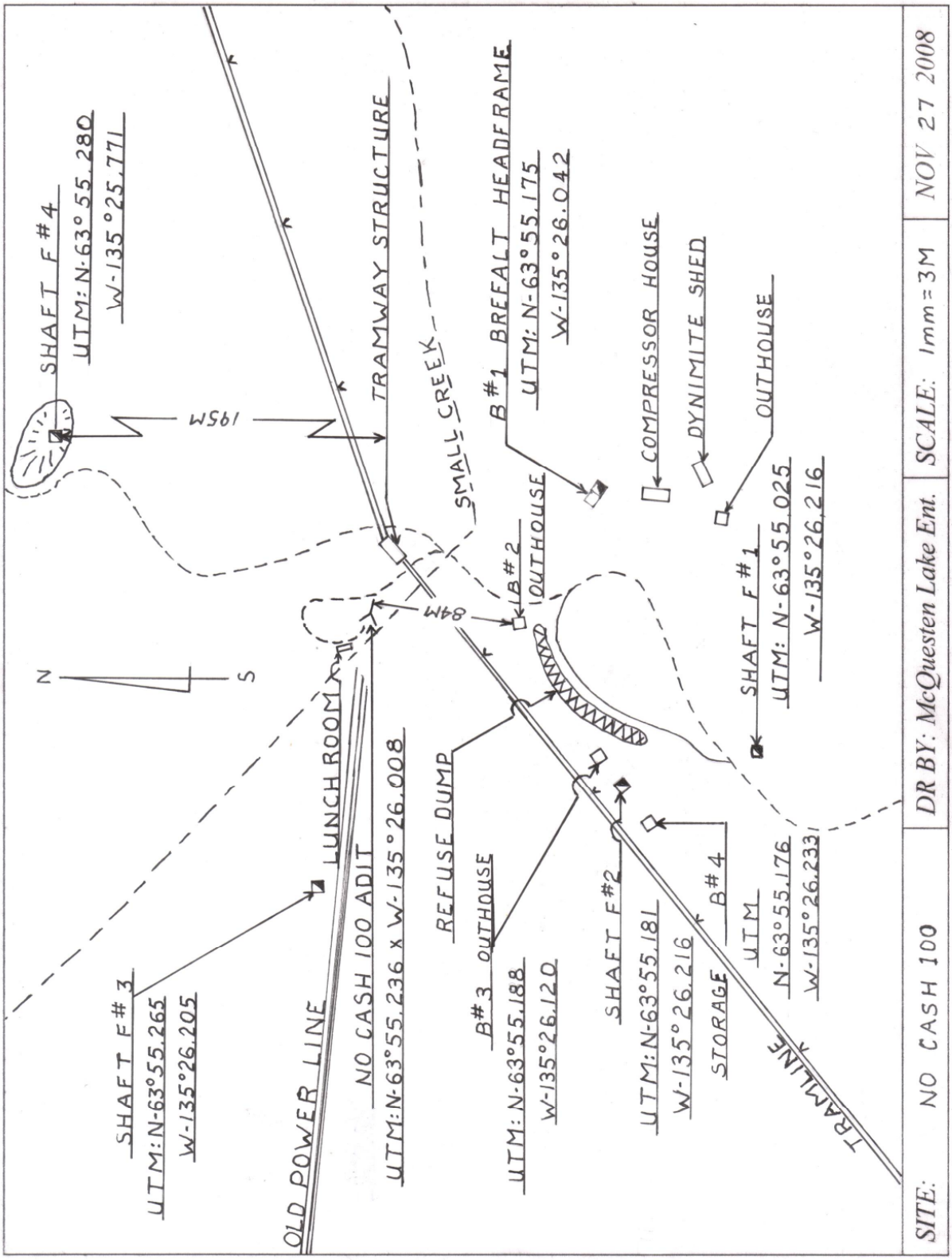


05198-NC Sheet 10-15-A 500 Level Geo Comp 1in=40ft
Courtesy of Alexco Resource Corp



05204-NC Composite Plan & VLS, 67 Vein 1in=40ft
Courtesy of Alexco Resource Corp

No Cash 100 Mine Site Layout



Review of existing studies, confirmation and/or update of current site conditions

No Cash 100 review of existing studies, confirmation and or update of current site conditions.

- In review of No Cash 100 we found it has not changed significantly since the last inspection in 1999. We did find 2 more buildings than the previous study; this brings the total to seven. Five raises/shafts were visited during inspection and shafts were stable with no evidence of subsidence.

No Cash 100 and 500 safety and environmental issues

- The cat rail that leads by the Tramway Transfer Station heads directly to the steep edge of the northern pit and shaft #4. This edge should have at least a berm of dirt.

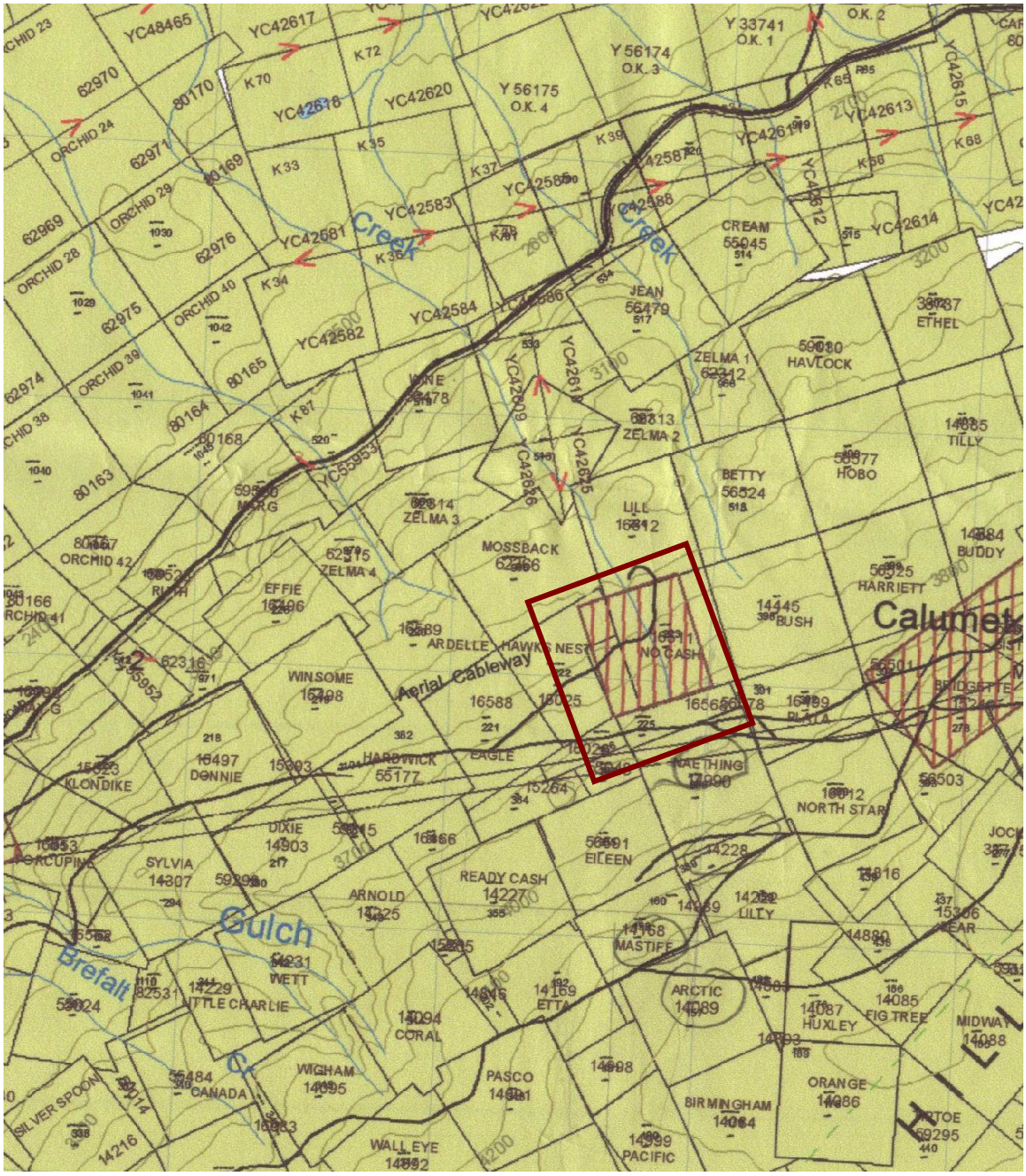
- The 100 level has a lunch room located 25 meters from the portal. The lunch room is sheeted on the interior with 2 cm thick asbestos sheets.

- Hanging wire is remaining at the 100 and 500 levels. We were under the impression that the wire project for the property was complete. We would recommend that an inspection be done.

Past and Current Site Tenure/ Owners

Charles Brefalt staked the No Cash claim on August 9, 1924. Other site tenure/owners were; Daniel Tolmie, Edith Ethel Brefalt (Oakley), Ellef Bjonnes, Livingston Wernecke, Jas. H. Cameron et al, Keno Hill Mining Co. Ltd., United Keno Hill Mines Limited, The Montreal Trust Co., Crest Exploration Limited, Drago Kokanov, UKH Minerals Limited, NDU Resources Ltd., AMT Canada Inc., and Elsa Reclamation & Development Co. Ltd.

Claim Map



Keno Hill claims. Part of Mayo district mining claim map No.105-M13 2003

No Cash 100 Brefalt Shaft House Building # 1

The shaft house is log and frame construction. The foundation 8x8 timbers lay directly on the ground and small round poles and rough cut 2x4s are used for wall studs.

The exterior is clad with various sized boards. Roof rafters are constructed with 2x6 and sheeted with layers of 1x6, 1x8 boards, plywood and tar paper; the north section over the entrance has some sheets of corrugated metal. The exterior walls around the Headframe is clad with various size boards and tarpaper

The entrance and windows are closed using wire mess and fencing nails that could be pried out fairly easily with a piece of metal.

The Headframe is constructed with large logs and timbers bolted for support. Heavy timbers are used for the skip rail.

The shaft and manway seem to be closed though we did not enter the building.

No Cash 100 Outhouse Building # 2

The outhouse is frame construction. The foundation is built using rough timber stacked to a height of 1.5 meters and back filled using fine waste rock.

Walls are comprised of 2x6 studs and 1x8 shiplap boards for siding.

Shanty style roof is comprised of 2x6 rafters sheeted with 1x6 shiplap boards.

Electrical wire ran to a wooden mast that is nailed to the southwest corner of the outhouse to power light bulbs located on the interior ceiling and exterior south wall above the door.

The two seater outhouse bench is made of a 4x4 main cross members and sheeted with 1x6 and 1x8 planks.

The floor joists are 2x6 sheeted with 1x6 boards. There is a pipe running out of the north wall; possibly for venting

The floor of the outhouse and walkway in front is rotted through.

No Cash 100 Outhouse B# 3

The outhouse is comprised of frame material. The foundation is made up of various sized wooden blocks placed in a haphazard way to level the building on the uneven slope.

The floor joists are made up of two 4x4 beams which lay along the west and east side of the building.

This allowed a .15M opening running down the middle of the foundation.

Two upright 4x6s are placed on the north end to support the roof beams that slant to the south. The building is clad with a hodgepodge of various sized boards.

A small box covered with what looks to be a strip of a plastic tablecloth held the toilet paper. The interior was lined with cardboard boxes.

Wire was used as door hinges

No Cash 100 Building #4

The building is located south of outhouse 3 and to the east of one of the tramline towers. It's uncertain what this building was used for.

Foundation of the building is comprised of 4x6 beams laid on the ground. The sub floor is 1x6 shiplap boards that are cross sheeted with 1x4 tong and groove fur.

Walls are 2x4s placed on 16 inch centers and insulated with fiberglass. The exterior wall is sheeted with black tar paper and 1x6 shiplap boards.

The interior is sheeted with half inch pressboard and corrugated metal around the bottom half.

The flat roof is sheeted with 1x6 shiplap and black rolled roofing.

There are two small windows, one is in the top half of the door that is at the northern end of the building, and the second window is in the middle of the south wall.

No Cash 100 Shaft Feature #1

The shaft is located along east side of the access road heading to the No Cash 100 level. Water is running down the hillside, through the shaft and continues downhill. There is a large kill zone present along the waters route.

There is not much left of the old shaft; cribbing is rotten and collapsed. Dried branches have piled up around the shaft most likely during runoff.

At the shaft there are remains of a windless and ladder along with an empty heavy gauge fuel drum most likely used to thaw the ground

No Cash 100 Shaft feature #2

Shaft #2 is located between buildings 3 and 4 in dense willow; the depth was undetermined. Machinery parts were found around the perimeter of the shaft.

No Cash 100 Shaft feature #3

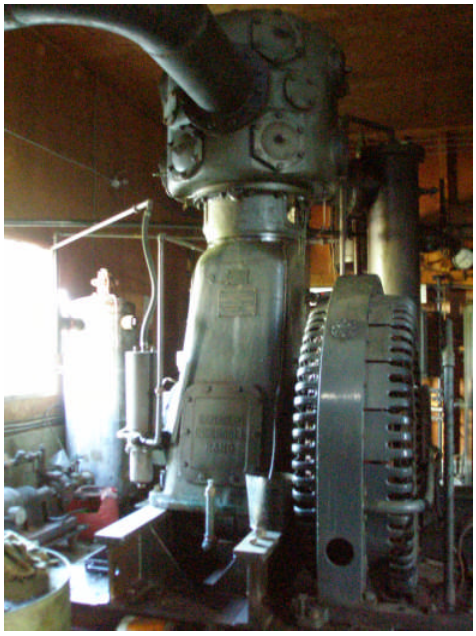
Shaft #3 is located west (below) of the 100 level adit and waste dump and close to the old power line that runs through the site.

Remaining at the shaft is a rusted 45 gallon drum and empty metal oil cans

No Cash 100 Mine Building

To the south of the Brefalt Shaft is a multi purpose building built during the 1970s that served as a tool shed, maintenance garage, shifters office along with generators and compressors that supplied air and electricity for underground.

Large areas around the generators are covered with oil. Three batteries remain at the northwest corner along with partially full jugs inside.



No Cash 100 Dynamite Shed

Off the southeast corner of the compressor building is a dynamite shed lined throughout with asbestos sheets.

The building is on skids and constructed with milled lumber and plywood.

No Cash 100 Outhouse

Southeast of the compressor building is an outhouse, scrap machinery, wood and metal debris.

Two large deep pits or sink holes were found behind the Brefalt Shaft and south of the compressor building.

No Cash 100 Mine Adit

The adit is located northwest of the Brefalt Shaft House and below the tramline transfer station.

The ground behind the adit has been excavated in 2008.

Around the adit and below the waste dump is a fair bit of wood lagging along with scrap metal and sections of rail that is partially buried under the waste rock pile.

No Cash 100 Lunch Room

Northwest of the adit is the mine lunch room. The plywood skid shack is lined on the floor and lower sections of the walls with thick asbestos sheets.

Photos below were taken along the gulch that nuns through the site; rail, wood, pipe, plastic and wire are scattered along the banks.

The wooden bridge is rotting and creating sink holes in numerous areas over the ditch.

No Cash 500 Level Adit

The No Cash 500 level consists of a mine portal and a multi purpose building used as lunch room and tool storage, a dynamite building, mine rail and loadout structure.

The mine discharge water flows through a pipe located over the bank along with a percentage seeping from the adit entrance and across the waste rock pile. A significant amount of wood and metal debris are scattered below the adit.

A pile of rail is stacked northwest from the portal. Chunks of steal remain scattered around the entrance.

The waste rock bank under the loadout structure is eroding; cribbing is rotting and the structure is collapsing.

No Cash 500 Lunch Room and Maintenance Building

The building has been previously used as a lunch room, tool storage and equipment storage.

The building contains asbestos sheets and exterior asbestos shingles

No 500 Cash Dynamite Shed

To the northwest of the portal is a dynamite shed. The shed is wood construction and clad with corrugated metal and a heavy gauge steel door. The area is overgrown with willow and alder.

Directly to the south of the dynamite shed is a large pile of rail, pipes and various size boards and timbers.

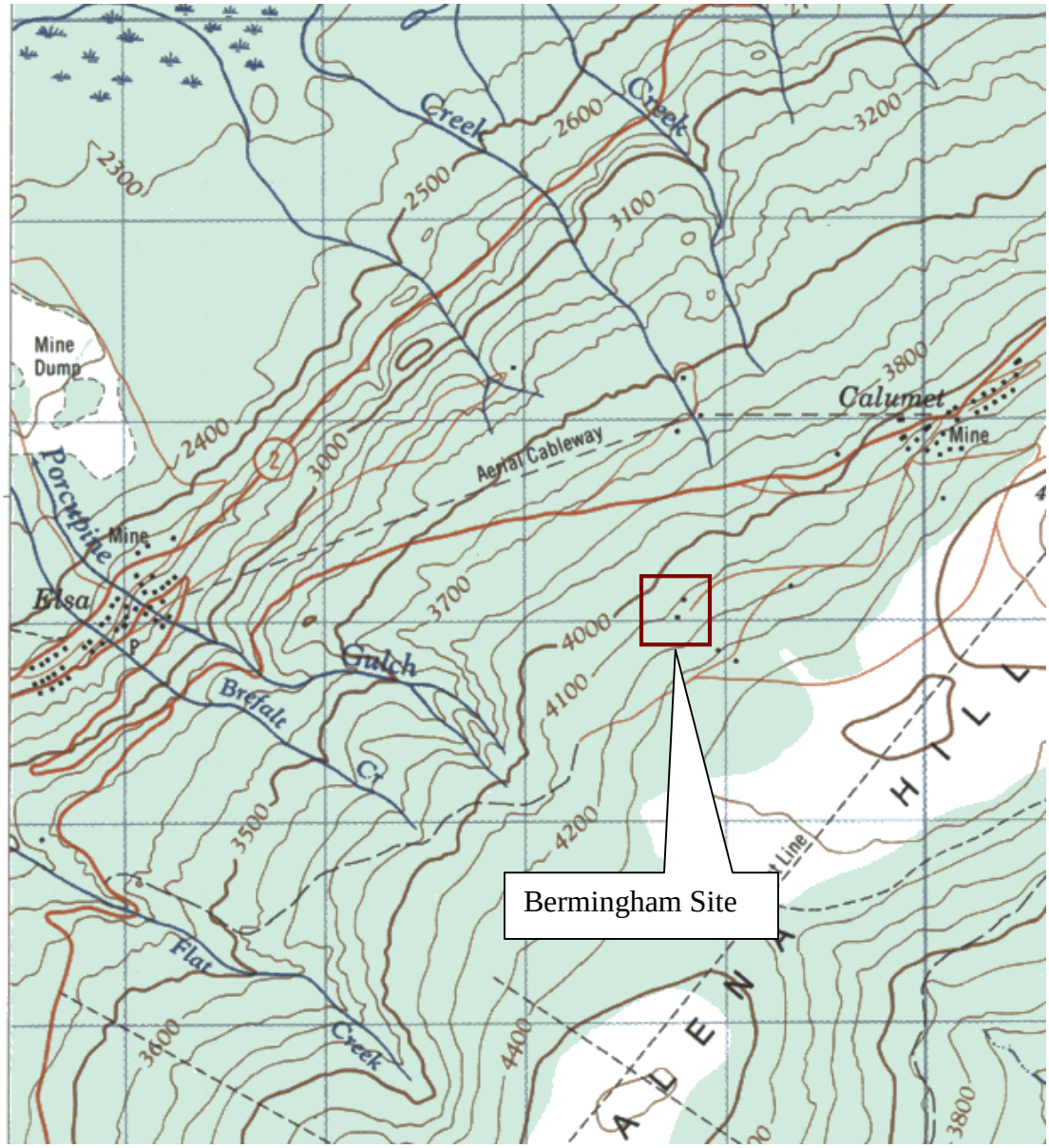
At both the 100 and 500 levels there is still a fair bit of wire remaining.

Bermingham Site

Location and Access

Access to the Bermingham site is along the Galkeno 300 road and south on a switchback that takes off from the Hector Mine site. At the first corner a road branches off to the south. The road again divides; upper road goes to the Ruby Skip and the lower road goes to the Bermingham site.

The site consists of 5 historic buildings, two post 1950s buildings and 3 features.



Keno Hill, Yukon Territory. Map 105 M/14. Energy, Mines and Resources Edition 2

Historical Background

The Bermingham Site consists of two claims which were each staked in 1921 and grouped into one site in 1924. Many references to the Arctic and Mastiff claims, and the Bermingham Site have Settlemier and Bermingham staking the Arctic and Mastiff claims in 1921. This might be because Bermingham and Settlemier acquired the claims only 2 years after they were staked, or because Bermingham and Settlemier were the first to find the best galena veins on the claims. The Abstract of Record from the Mayo Mining Recorder's Office, however, lists Fisher and Jones as the first to stake these claims.

The first of these two claims to be staked was the Arctic. Robert "Bobby" Fisher staked his Arctic claim on May 3, 1921.

Bobby Fisher came to the Mayo district in 1906 and remained until he died on August 9, 1939 at the age of 73. "Although he was a hardworking prospector and found many fine leads for others, Bobby never struck it rich himself." (Gold & Galena) On July 31, 1923, Fisher sold 100% of the Arctic claim to E.K. Jones.

The second claim of the Bermingham Site was the Mastiff, staked by Edward K. Jones on July 10, 1921.

"…in July 1921, Jessie Stewart the telephone operator, received an urgent call for Angus McLeod to say that a hush-hush stampede would be starting that night on Galena Hill. Bobby Fisher, the illiterate Newfoundlander, had reportedly made a new strike while cutting timber. McLeod left for the Hill immediately with Gordon Lee and staked the Argentum claim just as a larger group of men appeared. They included Charles R. Settlemier and Claude A. Bermingham who staked the Arctic and Mastiff claims. Edgar Elwell and three yapping Spitz dogs came puffing up behind them.
[Robert Fisher made the strike and staked the Arctic, and Edward K. Jones must have been in the 'larger group of men' and staked the Mastiff].Within two weeks enthusiasm died because assays showed the discovery to be mainly antimony with only 8 ounces of silver per ton" (Hills of Silver).

On August 3, 1923, E.K. Jones sold ¾ interests in both the Arctic and Mastiff claims to a group of five men including Charles Settlemier and Claude Bermingham. Settlemier went back to the claims and found better float than that which had been found in 1921 in an open cut. He talked Henry Dubois and Samuel Moreau into sinking a 50-foot shaft on an overburden-covered section of the vein. They hit schist, found nothing and quit. Settlemier had been the Sub-editor of the *Dawson News* but was currently unemployed. "One day when [A.K.] Schellinger was passing by, he heard hammering coming from inside [the 50-foot shaft] and found Settlemier pounding hand steel into the schist where it was easiest. In spite of the newspaperman's dread of explosives, he finally got the hole loaded, lit the fuse, and ran madly" (Hills of Silver). Long after the blast, he climbed back down into the shaft to find a massive galena face. Reportedly he was so excited he ran all the way to the town of Keno. The vein was three feet wide and assayed 160 ounces.

Dubois, who helped sink the original shaft, is quoted as saying, "I'll never leave another prospect without putting in one more round." (Hills of Silver)

Settlemier and Bermingham built a camp and mined 375 tons of ore at a substantial profit. Settlemier sacked the shiniest, heaviest galena ore until he discovered that it carried less than 100 ounces of silver per ton. Bermingham found it difficult to discard the glittering ore for that of poorer appearance but which carried much more silver. Both of their workings were small, with loose rock, often un-timbered and dangerous, but during the mid- to late 1920s, the shoot produced a total of approximately 1,800 tons of ore.

Several prospectors, including Alex Berry, Charles Brefalt, Bobby Greaves, and Ellef Bjonnes, leased these claims to try mining different parts of the vein with varying degrees of success and failure. The vein was difficult to follow since it was chopped into several segments and offset by faulting. Financed by Livingston Wernecke, Alex Berry went into debt trying to mine, crush the ore, and concentrate it on a small scale with a jig. Charles Brefalt made money on the vein, and others broke even. At that time, the Bermingham site was the only productive property on Galena Hill.

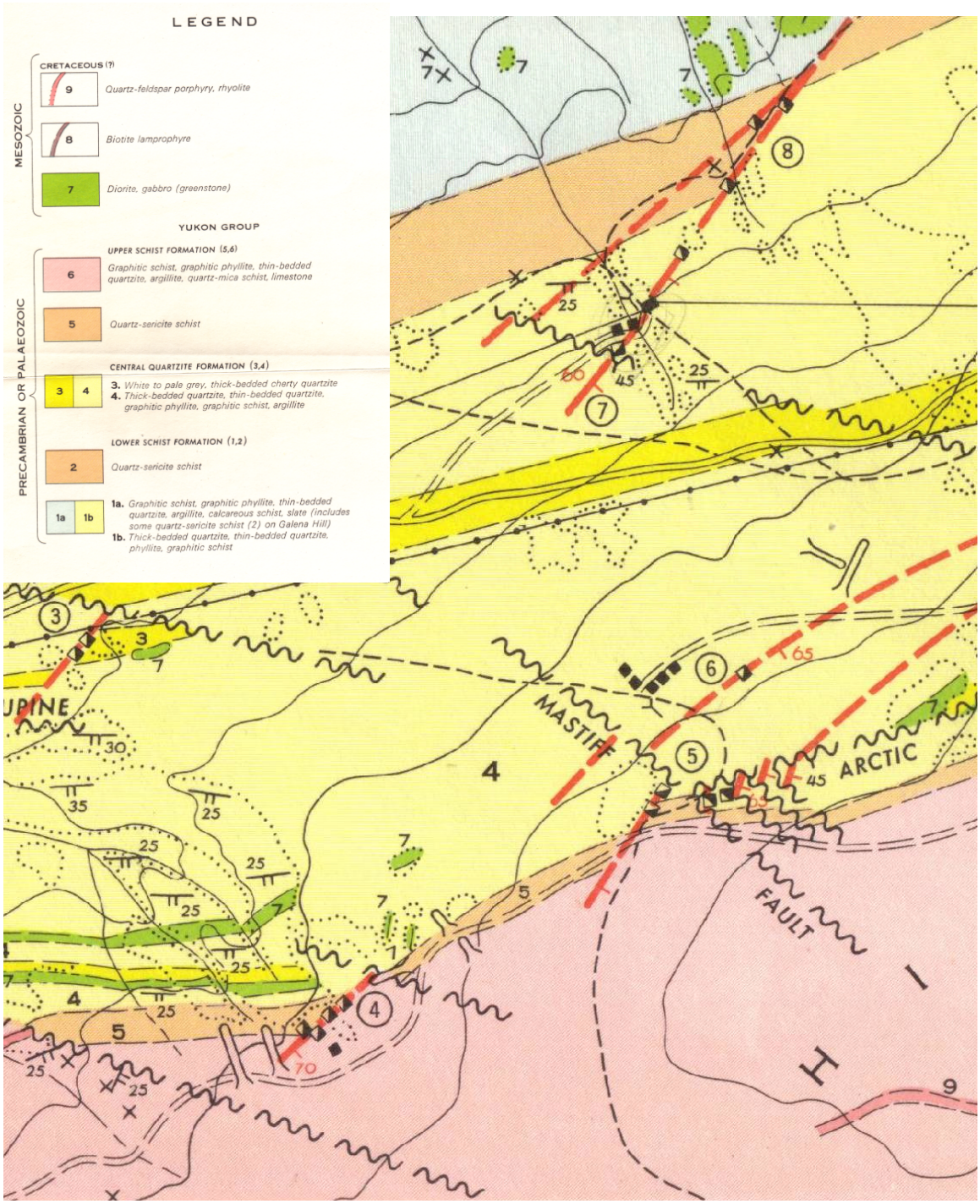
In 1934, Wernecke optioned the Bermingham site, spent $96,000 on it, recovered only 3 sacks of ore, and concluded that he had made a mistake. With no ore showing, no one would touch the site. In 1936, while working on the No Cash claim, Charlie Brefalt partnered with Elmer Gustaveson to lease the Bermingham site. "Brefalt, however, reasoned that Wernecke had opened it up and proved 'where the ore wasn't, not where it was.' At 8p.m. on November 1, after some conversation with Gustaveson, Brefalt said, 'Let's go out and see where you want the shaft started.' Wading around in the dark in two feet of snow, Brefalt selected a spot close to the cookhouse door and left. A day and a half later, his crew phoned down to say they were finding bigger chunks of ore than they could handle." (Hills of Silver) Brefalt had a one-year lease on the property, and his five-man crew shipped around 200 tons of ore. Settlemier and Bermingham offered Brefalt an additional two years, but he declined – handling the water on the site had become too costly.

In 1921 float was found which lead to the discovery of these mines. In June of 1924, the Arctic and Mastiff claims were combined to form the Bermingham Site. In 1924, 26 tons of ore was shipped and in September 1925, about 350 tons of ore was sacked for shipping the following winter. The sacked ore averaged about $200 per ton, and carried approximately 62 percent lead and 150 ounces or more of silver to the ton. During the summer of 1925, these claims were the only ones being mined on Galena Hill.

From 1925 to 1941, approximately 2,270 tons of ore was mined from several shafts, drifts, and crosscuts. Between 1948 and 1951, the Bermingham 200 level crosscut adit was constructed, measuring approximately 300metres in length and with a portal dump of 6,350 tons. From 1977 to 1979, the Bermingham and the Bermingham Southwest pits were mined and produced a 1,360,000 ton waste dump.

Bermingham Geological Survey of Canada collection 90 36 70 August Masseur Bermingham and Schellinger at Arctic Group Galena Hill 1937. Yukon Archives

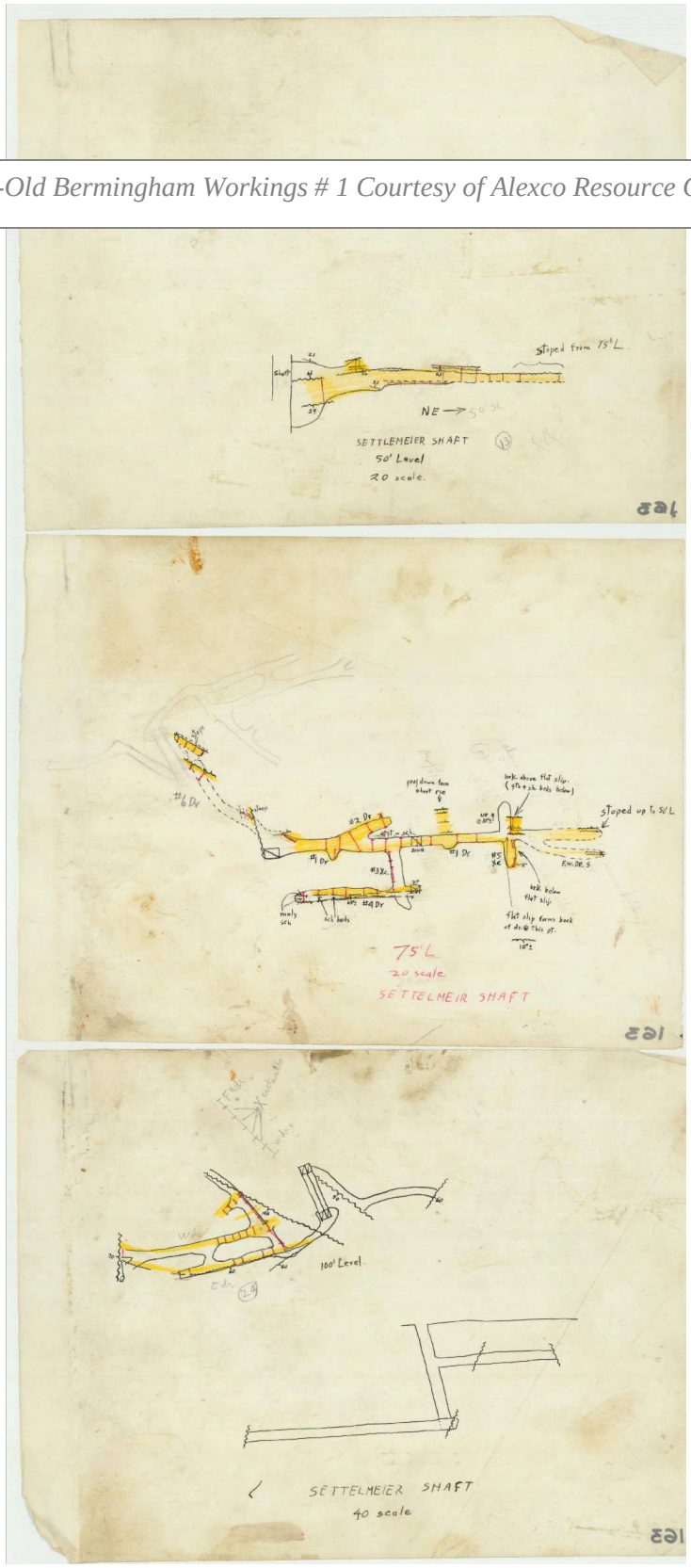
Map below shows workings on #6 Bermingham Site



Geological Survey of Canada Paper 55-30 By R. W. Boyle Ottawa 1956 Part of figure 2

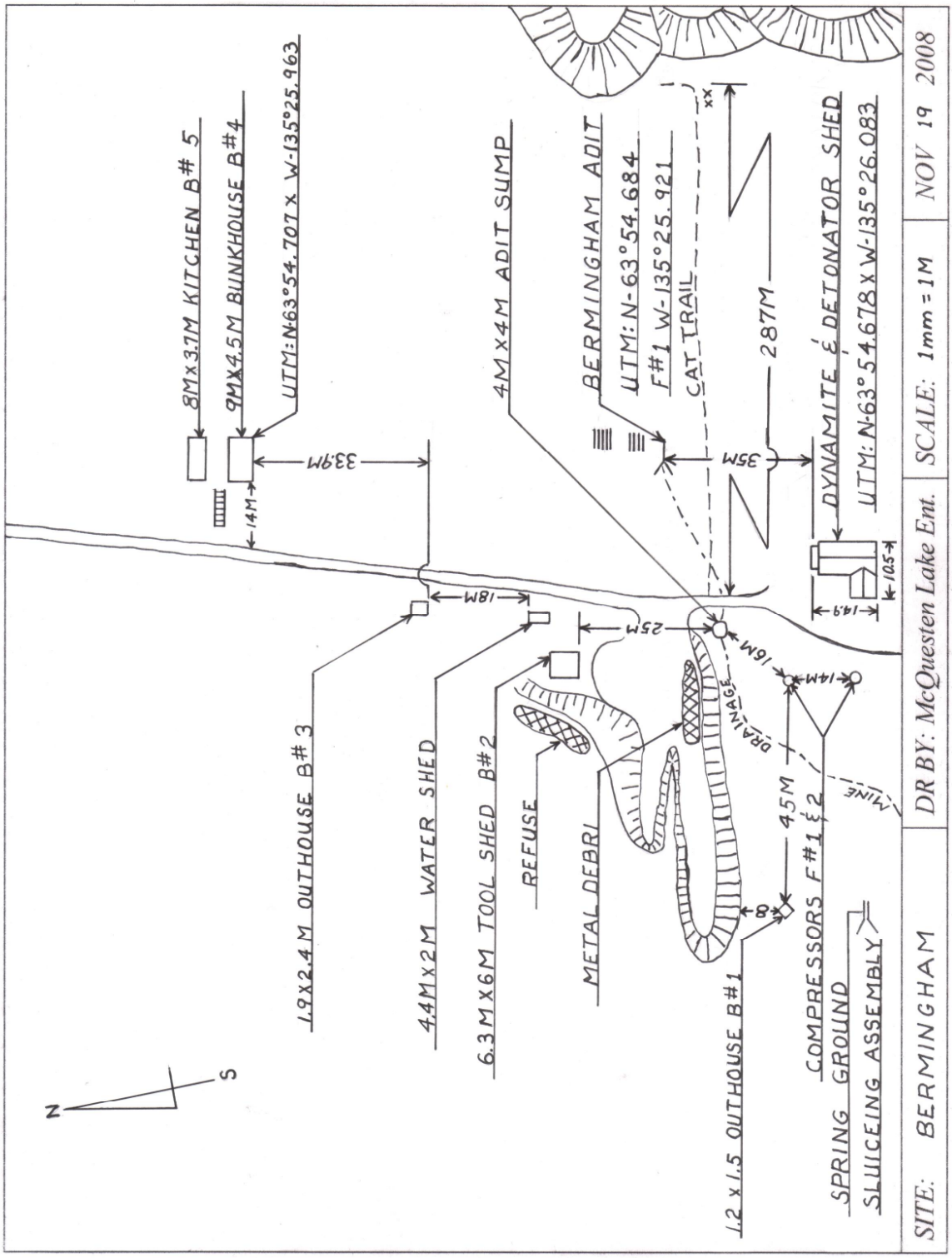
Underground workings

05531-Old Bermingham Workings # 1 Courtesy of Alexco Resource Corp



09210-Bermingham Pit Geology Courtesy of Alexco Resource Corp

Bermingham Site Layout



Review of existing studies, confirmation and/or update of current site conditions

Birmingham review of existing studies, confirmation and or update of current site conditions.

The Birmingham site is approximate in the same condition as the 1999 inspection. Buildings numbered 4 and 5 have their walls partly collapsed and the floors have rotted through.

Birmingham safety and environment issues

There were no glaring safety issues, the Bermingham pit has sheer sides but seem stable. Portal is partly collapsed and excavated behind the entrance; did not find any other area of subsidence.

Past and Current Site Tenure/ Owners

The Bermingham Site is a grouping of two claims, the Arctic and the Mastiff. The two claims were grouped on June 11, 1924 and from then on follow the same site tenures and owners.

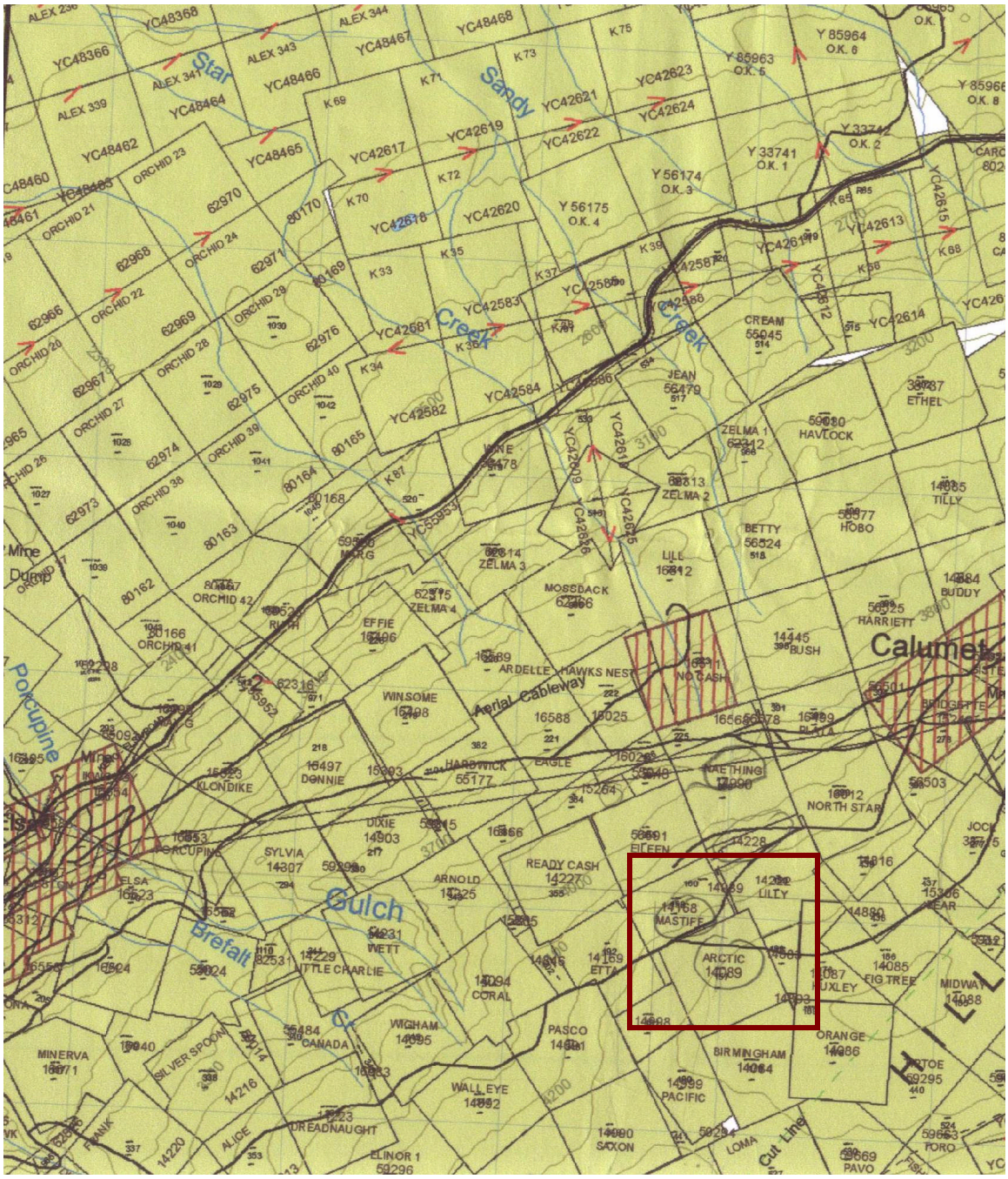
The Arctic claim was staked by Robert Fisher on May 3, 1921. Other site tenure/owners before June 11, 1924 were: E.K. Jones, Alfred Ransley, the Estate of Andrew Hart, Charles R. Settlemier, Claude Hubert Bermingham, Stillman M. Dorr, Annie Stoner, and Samuel Moreau.

The Mastiff claim was staked on July 10, 1921 by Edward K. Jones. Other site tenure/owners before June 11, 1924 were: Alfred Ransley, the Estate of Andrew Hart, Charles R. Settlemier, Claude Hubert Bermingham, Stillman M. Dorr, Annie Stoner, and Samuel Moreau.

From June 11, 1924, site tenures/owners not already mentioned were;

Edward Ervine, John H. Carpenter, Alex F. Berry, Ellef Bjonnes, John P. Smith, United Keno Hill Mines Limited, Royal Trust Co. Admin. Estates of C.R. Settlemier & C.H. Bermingham, UKH Minerals Limited, NDU Resources Ltd., AMT Canada Inc., and Elsa Reclamation & Development Co. Ltd.

Claim Map



Keno Hill claims. Part of Mayo district mining claim map No.105-M13 2003

Bermingham Outhouse B#1

The foundation is rough cut 2x4s placed directly on the ground.

Walls are constructed with 2x4 studs sheeted on the exterior with 1x6 shiplap boards.

The shed style roof are 1x10 boards nailed to the north and south walls, there was no evidence of exterior weather cladding.

Bermingham Tool shed B#2

The east section of the foundation is positioned on the ground with additional 4x6 beams running the length of the building; various size blocking is used to level the building. The 2x8 floor joists are sheeted with 1x4 tongue and groove fir cross sheeted with 1x6 shiplap.

Walls are 2x4 studs sheeted on the exterior with press board and 1x6 shiplap boards. Fiberglass insulation was used between studs and the interior walls sheeted with 1x6 shiplap boards.

The gable roof is constructed with 2x4s and clad with 1x6 shiplap boards and green asphalt roofing. There is evidence that press board sheeting was used for ceiling material.

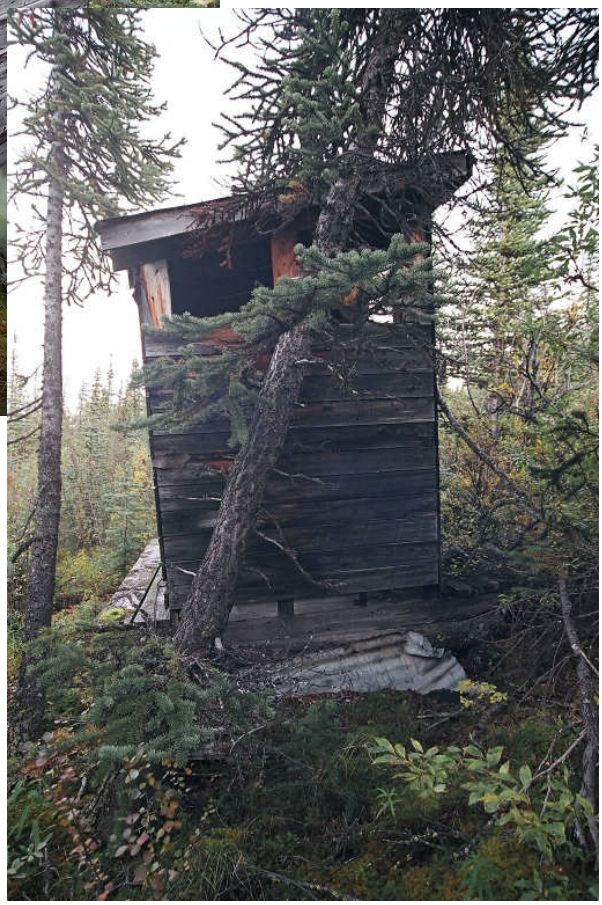
On the outside floor joist on the west side, letters and numbers are stenciled on the board that reads BLDG 505.

Old machinery parts and pipe remain on the buildings floor.

Bermingham Outhouse B#3

The outhouse foundation is two rounds of logs positioned on the ground.

The top log is hand hewn flat on top to accept 4x6 beams as a sill plate.



Then 2x6 planks were stood flat for the walls and sheeted horizontally on the exterior with 1x6 boards and tarpaper.

The outhouse has 2x6 rafters clad with 1x6 boards and corrugated metal.

Bermingham Bunkhouse B#4

The buildings foundation is 6x8 sill beams supported by 6x8 upright posts placed directly on the ground that extend 1m to the east for a porch. Floor joist are 2x8 placed every two feet with 2x6 boards nailed diagonally and cross sheeted with 1x8 boards.

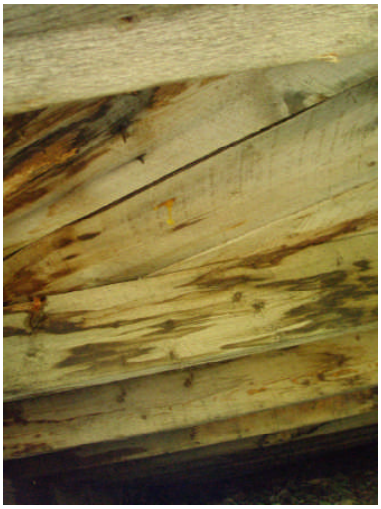
The exterior 2x4 walls are sheeted with 1x8 boards and cove siding then clad with tarpaper and 1x2 strapping.

In the interior of the building there are short pieces of 2x8s nailed in between the studs with 4x8 sheets of press board nailed over the surface.

The roof has 2x4 trusses which are clad on the exterior with 1x10 boards and then green asphalt rolled roofing; press board was used on the ceiling.

Bermingham Kitchen B#5

The buildings foundation is 6x8 sill beams supported by 6x8 upright posts standing directly on the ground. Floor joist are 2x8 placed every two feet.



The floor is 2x6 boards nailed diagonally and cross sheeted with 1x8 boards.

Walls are framed with 2x4 studs. Interior walls are sheeted with press board, while the exterior is clad with layers of 1x8 boards and cove siding.

In the center of the floor is an overturned 8 foot table.

Bermingham compressors Features # 1&2

To the southwest of the adit are several industrial machine parts and remains of two large compressors.


ENGLAND

Ground Sluicing Assembly F#3

To the south of outhouse building #1 is a ground sluicing box or possibly a frame for a water turbine constructed in a narrow trench. The frame is constructed with 2x4 and 2x6 and sheeted inside with 1x10 boards.

Uphill to the east boards were placed to funnel the water through the narrow opening.

There is evidence of canvas and thick rubber; old machine parts are found nearby

Bermingham Adit F#4

The adit is constructed with log and frame material. The adit is collapsed and the ground behind has been excavated.

Drainage from the adit flows on both sides of the waste dump.

To the south of the waste dump an adit sump has been built to collect the water.

Discharge water flows through a wooden pipe and into a ditch along the north side of the waste dump.

There is a significant amount of metal found to the west and southwest of the adit.

Empty fuel drums, pipe; along with wood and metal have been scattered along the west slope of the site

Bermingham Mine Buildings

Along with the historical buildings there are two post 1950 buildings at the site. A small building northwest of the adit contains an empty fuel drum, pipes and what looks like a small heater. The exterior is clad with asbestos shingles.

The second building is located south of the adit and remains in fairly good condition.

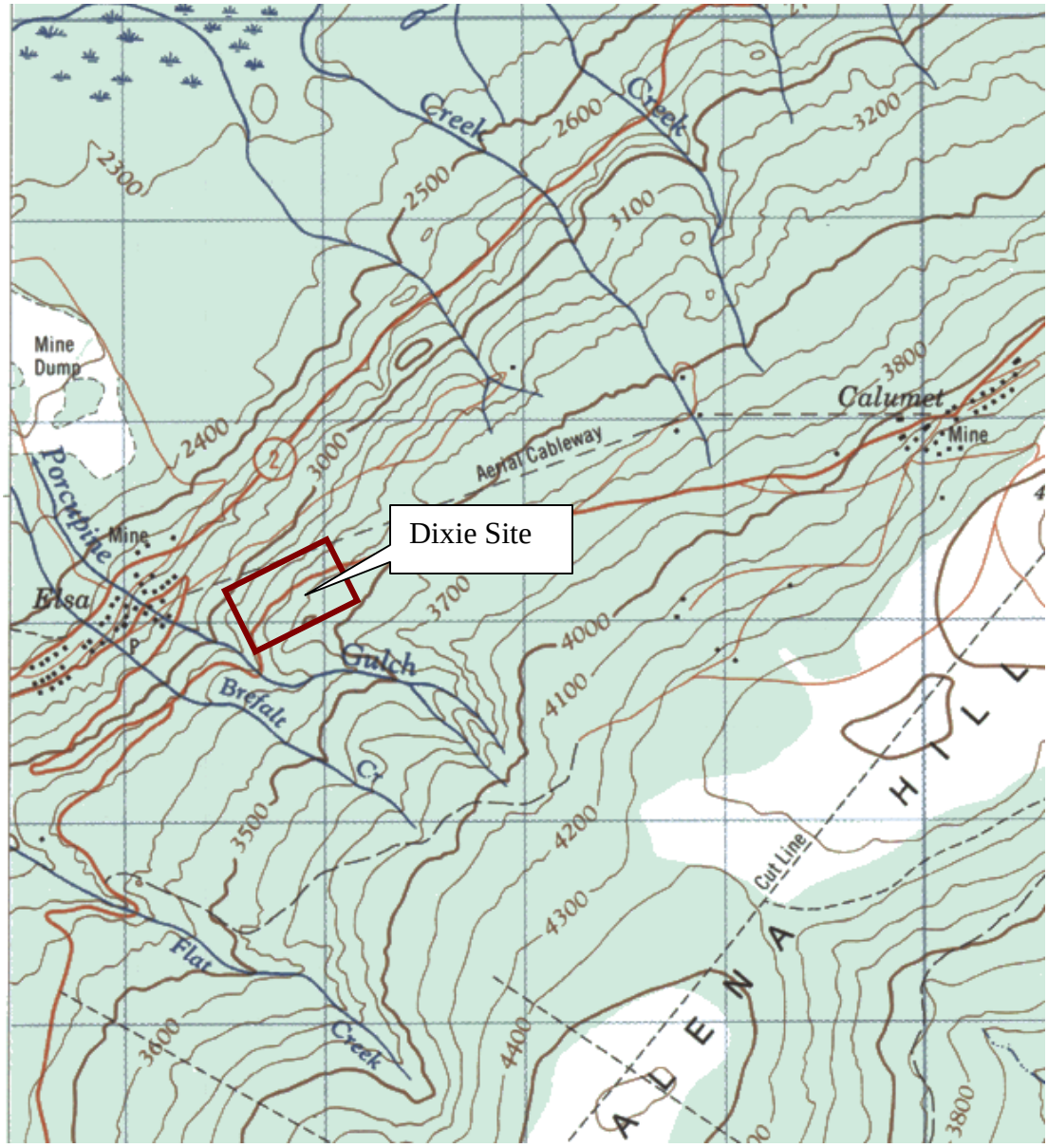
The building was an explosives and detonator house. The building is divided into two sections with two separate entrances.

The wall between the rooms had been filled with sand that now covers the floor after the wall boards were removed. The building is clad with asbestos shingles.


Dixie Site

Location and Access

The Dixie site is located along the Galkeno 300 road past Porcupine Gulch. The road divides the site with the adit and mine building to the east and the loadout and waste dump to the west. The Dixie Shaft house access road is located north from the 200 level along the first old switchback road to the east.



Keno Hill, Yukon Territory. Map 105 M/14. Energy, Mines and Resources Edition 2

Historical Background

John Vine Sullivan staked the Dixie claim on October 31, 1923. John Sullivan was among the first men to reach the Mayo District during the rush to the silver-lead finds on Carpenter Creek in the early 1920s, and prospected in the Keno Hill area in the 1920s. Sullivan prospected in the Mayo district from 1920 to 1950. John and his wife Margaret ran a roadhouse at Half Way Lakes (or Sullivan Lake as it was known then) during the late 1930s. They had four children who went to school in Keno City. Margaret Sullivan was a musician who played the piano for many concerts, theatre productions, and dances in the Mayo district.

Sullivan held the Dixie claim until November 2, 1926 when he and John A. Abraham signed an Agreement to let Abraham work the claim until January 27, 1930. On March 12, 1928, Abraham abandoned the Dixie claim and it returned to John Sullivan. In 1928, eleven tons of ore averaging 172 ounces of silver and 52 percent lead was extracted from the Dixie claim. The workings consisted of several prospect shafts and pits, and a shaft approximately 75 feet deep from which short underground drifts were run on the 40-foot level.

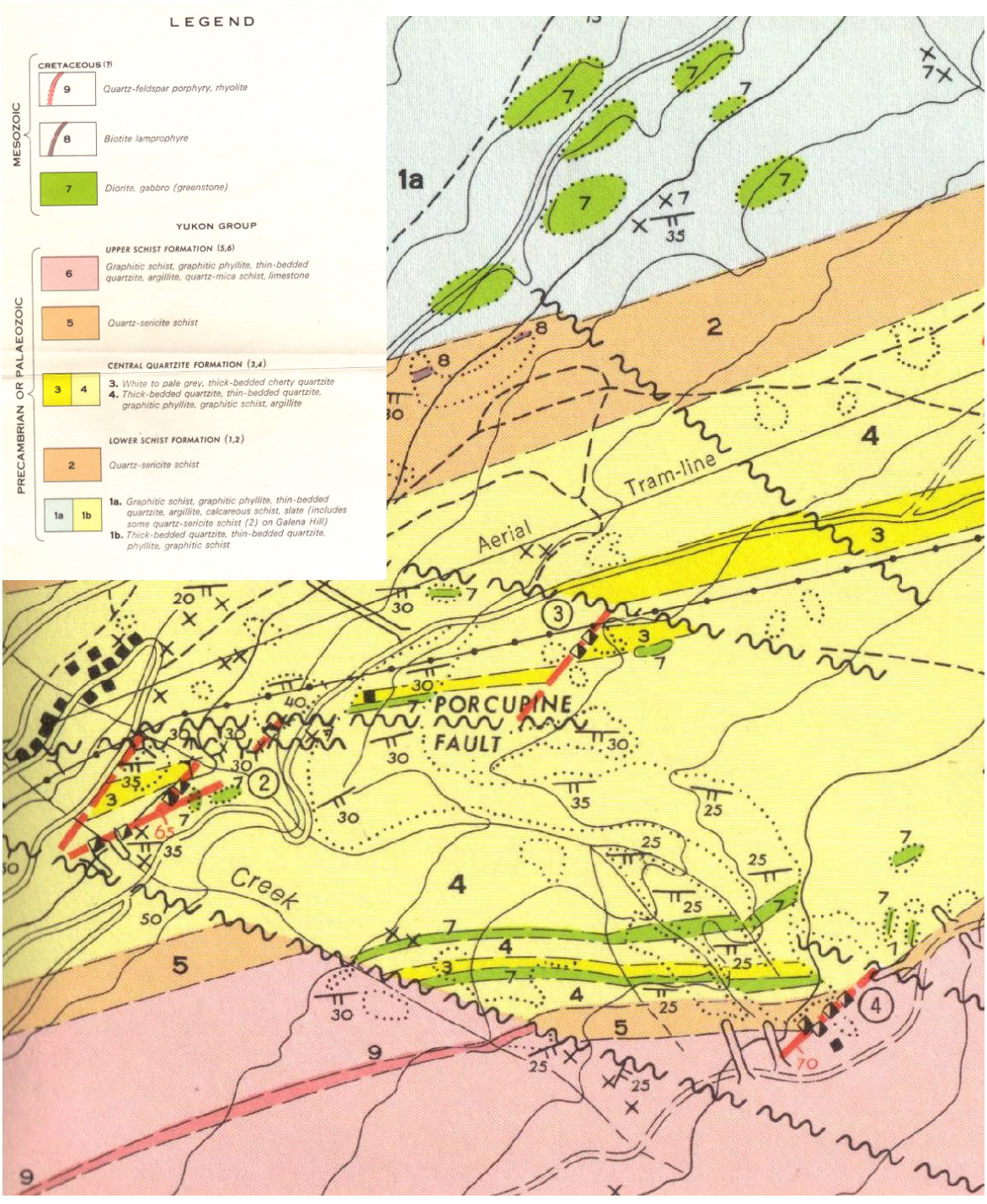
Sullivan worked the Dixie claim for another 10 years. On May 23, 1938 John Sullivan transferred the Dixie claim to James H. Mervyn. James Mervyn transferred 100 percent interest to Frank Taylor on September 20, 1946. On August 1, 1947 Taylor entered into a sale agreement with Keno Hill Mining Co. Ltd. A bill of sale was worked out between April 15, 1948 and February 8, 1950 with Frank Taylor selling 100 percent interest in the Dixie claim to United Keno Hill Mines Limited.

The early workings from 1925 through 1930 consisted of several surface pits and prospect shafts, and a shaft approximately 23-metres deep from which short underground drifts were run on about the 12-metre level.

In 1928, 11 tons of ore averaging 172 ounces of silver and 52 percent lead was extracted from this vein. During the whole of 1925 through 1930, 26 tons of ore were produced. During the 1970s, the 200 Level adit and development produced 21,630 tons of ore and 18,000 tons of waste.

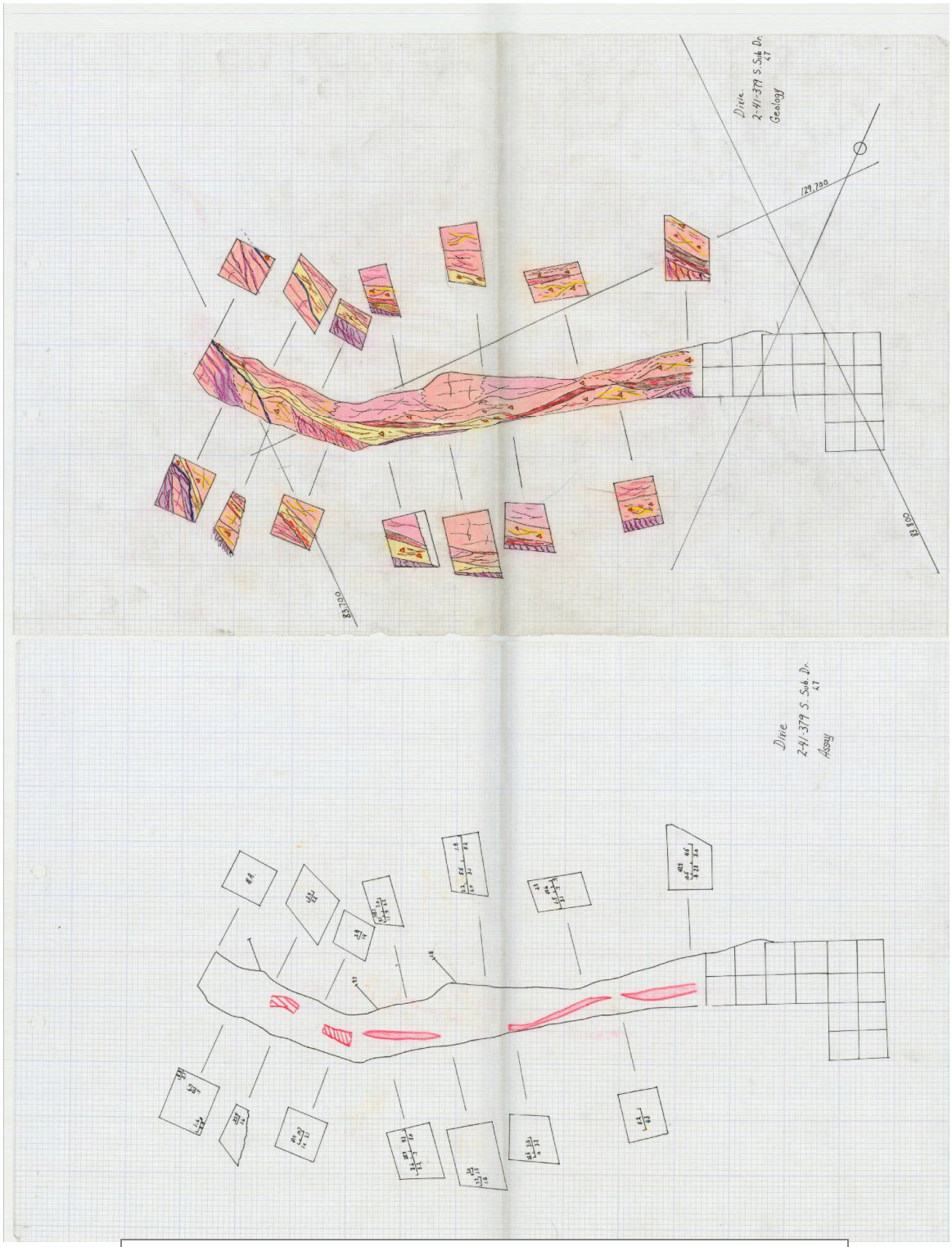
The Geological Survey of Canada, Department of Mines and Technical Surveys (1965) states, “An analysis of the pattern of the various individual vein faults on Galena Hill suggests that, prior to cross-vaulting, all faults formed parts of three major systems” with the Dixie claim being part of the “Western System.” “The Dixie vein probably represents the northeast extension of the Brefalt vein, and may extend north-eastward by a series of faulted segments to link up with the No Cash veins.”

Map below shows workings on #3 Dixie Site

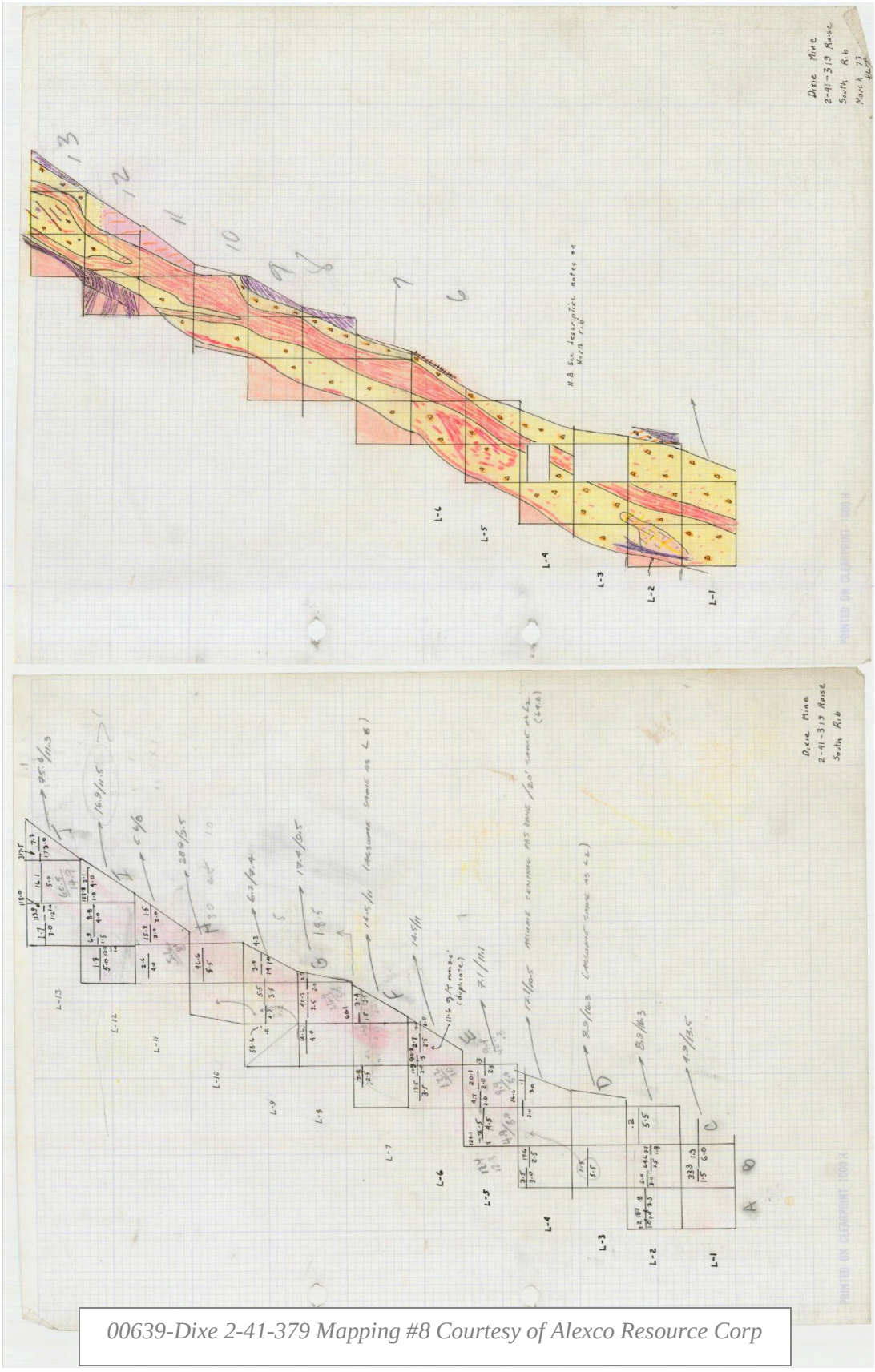


Geological Survey of Canada Paper 55-30 By R. W. Boyle Ottawa 1956 Part of figure 2

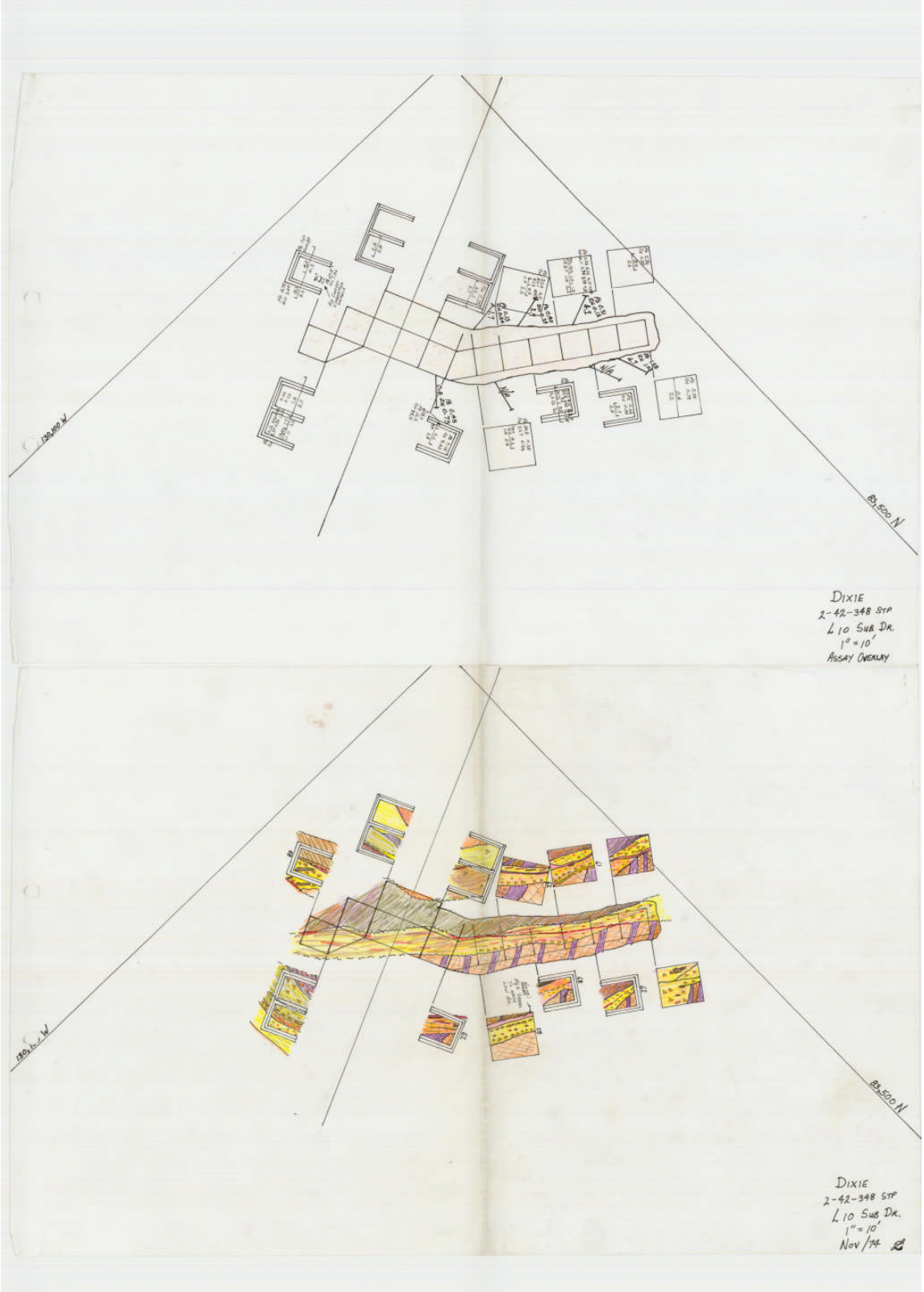
Underground workings



00633-Dixe 2-41-379 Mapping #2 Courtesy of Alexco Resource Corp

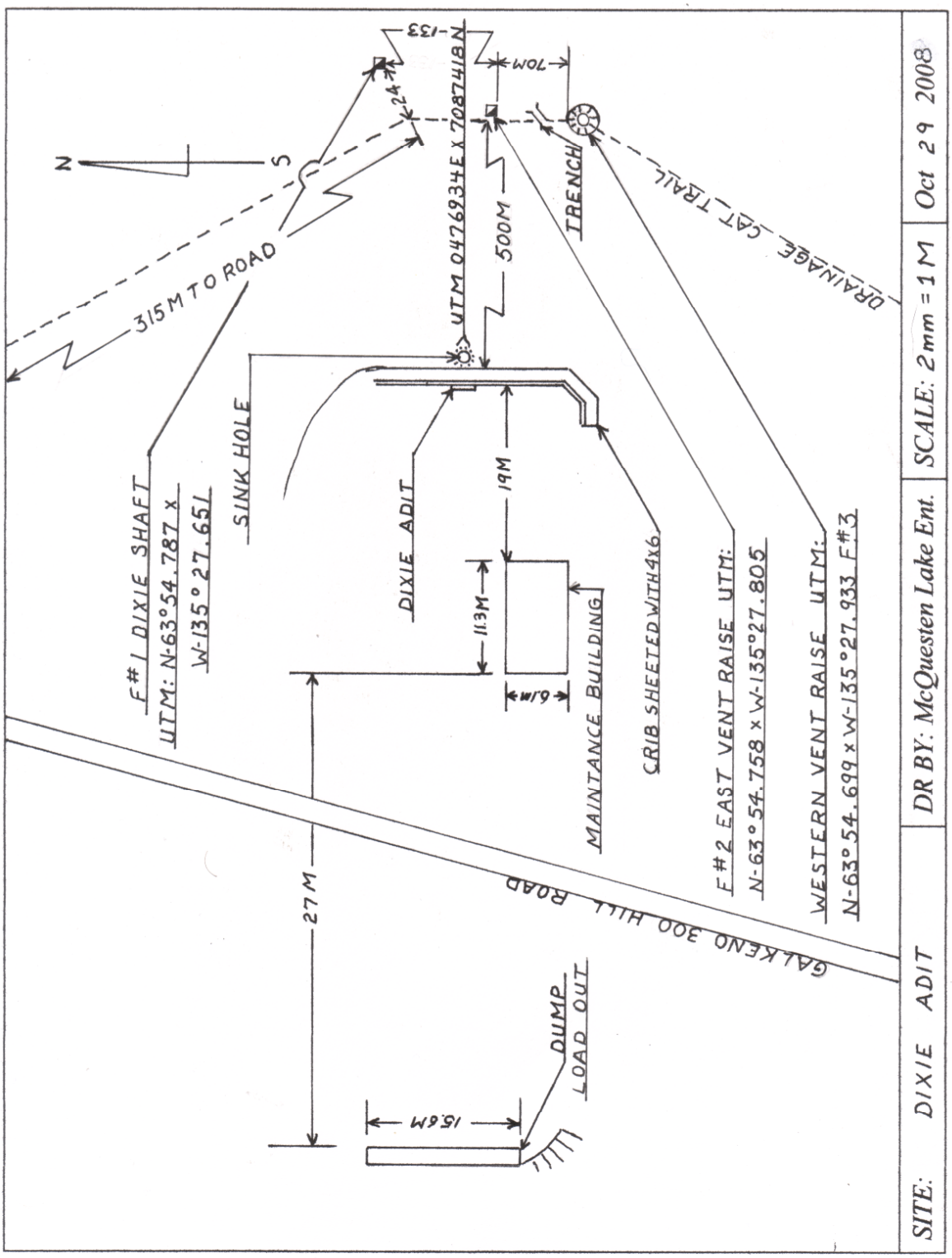


00639-Dixe 2-41-379 Mapping #8 Courtesy of Alexco Resource Corp



00645-Dixe 2-42-348 STP Geo Map #1 Courtesy of Alexco Resource Corp

Dixie Site Layout



Review of existing studies, confirmation and/or update of current site conditions

2008/2009 Safety issues

Dixie

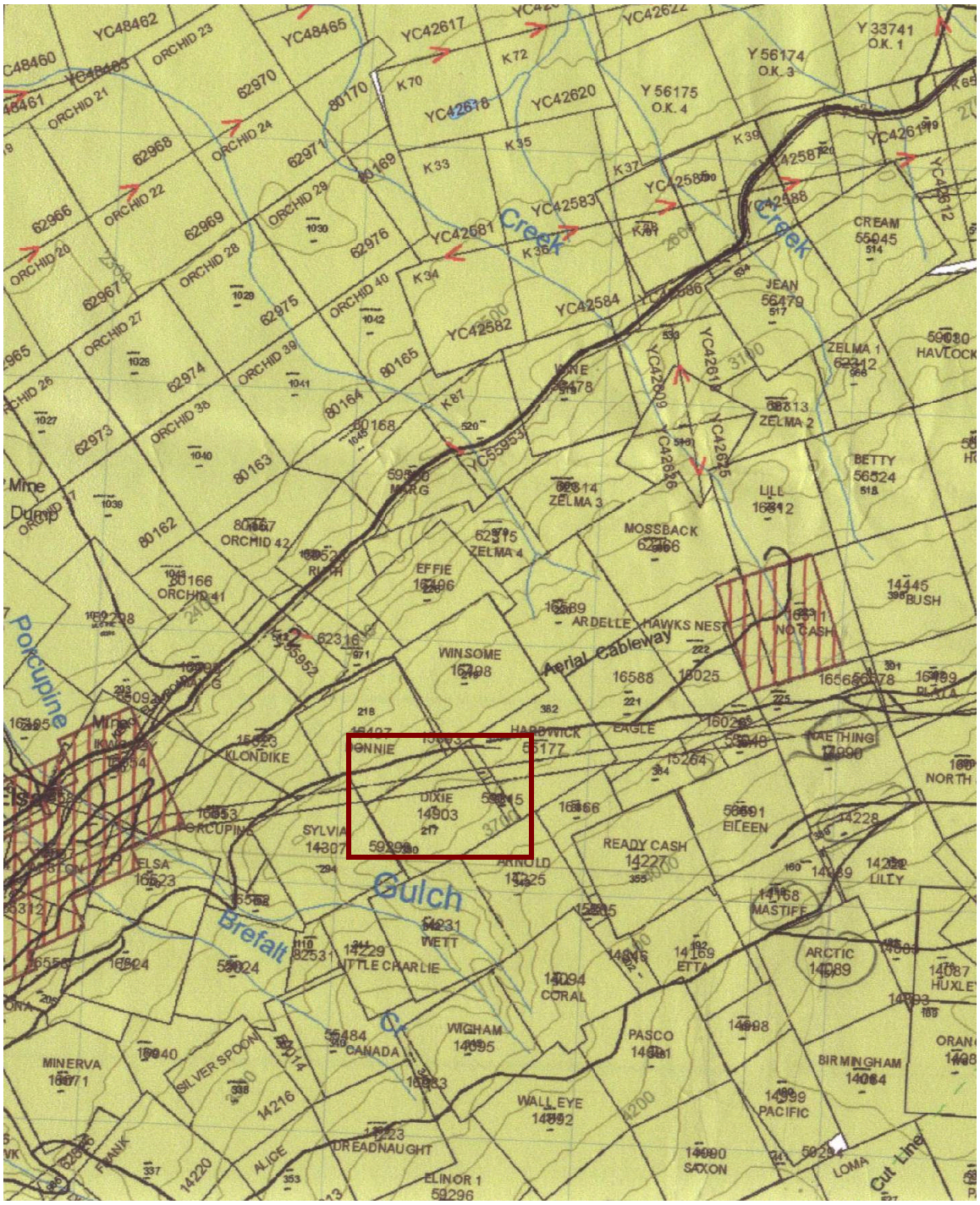
- There is a sink hole directly up slope of the Dixie Portal entrance
- Two vent raises are associated with Dixie. They are named the “eastern vent raise” and the “western vent raise”. These vent raises are approximately 500 meters upslope of the portal entrance. There is a cat trail that leads to both vents. The western vent raise has sloughed inwards to a depth of 6 to 8 meters and has a width of approximately 8 meters across.
- The eastern vent raise has opened to 4m in diameter and 3m in depth.
- Asbestos sheeting in the steel maintenance building.
- Dixie shaft is still open, and still appears to be filled with water.

Past and Current Site Tenure/ Owners

John Vine Sullivan staked the Dixie claim on October 31, 1923. Further site tenure/owners were:

John A Abraham, James H. Mervyn, Frank Taylor, Keno Hill Mining Co. Ltd., United Keno Hill Mines Limited, The Montreal Trust Co., UKH Minerals Limited, NDU Resources Ltd., AMT Canada Inc., and Elsa Reclamation & Development Co. Ltd.

Claim Map



Keno Hill claims. Part of Mayo district mining claim map No.105-M13 2003

Dixie Shaft House

The shaft was most likely constructed first and the waste rock from the shaft was spread out to level the area for the building. The shaft is constructed with upright lagging to an unknown depth and braced with 4x4s and sheeted with 1x6 and 1x8 boards.

A platform is constructed over the shaft with 4x4 beams supported at the corners with uprights. The hoist crane is 4x6 beams cross braced with rough 2x4s.

The walls are positioned on the ground using lagging that was flattened on the top to support the rough 2x4 walls; the exterior north and south walls are sheeted with 1x6 shiplap boards and the west and east walls are sheeted with 1x10s.

The cribbing of the shaft is rotten and collapsing with only a small opening remaining.

Under the collapsed building there is a rusted-out heater with the initials W.R and R.P welded on the side; and a piece of an old windless.

Dixie Mine Building 200 Level

The building is in relatively stable condition. The building has three sections; the west section has a dirt and gravel floor and was most likely used for a compressor or maintenance. There is a significant hydrocarbon stain next to the base of the west wall.

The foundation is 4x6 stringers supported with 4x6 uprights on the ground; and 2x6 floor joists. Walls are mainly a steal frame with 2x6 between.

The middle section of the building was used as a shifters office and an electrical room as heavy power cable remains along the south wall and asbestos sheets are present.

The lunch room is located in the east section of the building.

Asbestos sheets line the east and south walls.

Two tables remain in the room; the doors and windows have been removed.

The adit is located northwest of the building. Adit entrance and retaining wall are in fair condition. The large retaining wall around the adit is constructed with steal and heavy timbers.

The entrance is closed with log cribbing and metal mesh.

To the west of the adit and mine building is the mine loadout and a large area with scrap metal, wood, pipes, empty fuel drums and wire.

Directly above the adit is a large sink hole where the adit has collapsed; it remains a safety concern.

There are a few small sink holes in other areas though they don't pose a safety concern.

The rail from the adit runs across the road to the loadout; most of the rail is covered by the road though a section is sticking out of the ground

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