

BURNT RIDGE
1996 DRILLING PROGRAM
AND GEOLOGICAL REVIEW

Kooteny land district
N.T.S. sheets 82 J/2 & 82 G/15

FORDING COAL GREENHILLS

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SUMMARY

In the summer of 1996 a drilling program was completed in Burnt Ridge. Seventeen holes (4510 meters) were completed to complement the existing geological information which includes 5 drill holes, 6 adits and extensive geological mapping. This drilling raises the drill hole density for Burnt Ridge to 2 holes per square kilometer. Using this new information combined with the existing information, a computerized geological model was built for Burnt Ridge. Drill spacing precludes building a detailed geological model but is sufficient to get an estimate of the inferred geological resource for the area. The geological resource for Burnt Ridge is estimated at 389 million BCM of coal.

Preliminary estimates of mineable coal in Burnt Ridge were made by using Lerch-Grossmann pit optimization software. Five separate pits were run with results ranging from 15,017 KBCM of coal at a strip ratio of 5.66:1 up to 44,661 KBCM of coal at 9.38:1.

Further drilling is required to improve the confidence in the geology of Burnt Ridge. A staged program of drilling should be implemented based on the initial limits of the Lerch-Grossmann results. This program will start at the north end of the ridge and work its way in stages to the south end of Burnt Ridge. The first stage would be a 10 to 12 rotary drill hole program in the north end of Burnt Ridge, which appears to be one of the more favorable areas for open cast mining.

A summary of this program, along with the estimated cost for winter execution, is included with the recommendations.

INTRODUCTION

Location and Access

Burnt Ridge is located in the Fording River valley in southeastern British Columbia. It is approximately 46 kilometers by road north of Sparwood, B. C. and 9 kilometers northeast of Elkford, B. C..

An all weather paved road connects Elkford to the Fording River Coal surface mine. Easy access to the Burnt Ridge is facilitated by using this road to access the Crestbrook Forest Ind. logging road just east of the Fording River bridge which leads to the four wheel drive access at the north end of Burnt Ridge.

Topography and Vegetation

The topography of Burnt Ridge is generally rugged and trends north-south. The west facing slope is steep with occasional ephemeral streams. The majority of the west slope is new growth lodgepole pine which established itself after the 1967 fire that swept through the area devastating the old growth conifer and larch forest of Grace Creek valley and the west slope of Burnt Ridge. The east facing slopes of Burnt Ridge are somewhat less severe and are cut by several deeply incised streams which flow to the northwest into Dry Creek. The vegetation on the east side of the ridge is primarily conifer and larch with areas of dense underbrush. The south end of Burnt Ridge rises to an elevation of 2350 meters, some 850 meters above the Fording River near the north end of the ridge.

Burnt Ridge is flanked by Dry Creek to the east, which flows north and Grace Creek on the west which flows to the northwest. Both these streams drain into the Fording River. All the streams in the area have extreme seasonal fluctuations and little water flows during the late summer, fall and winter.

Prominent topographic features of the area include Mount Banner on the east side of Dry Creek and Lyne Mountain to the southeast of Burnt Ridge. Lyne Mountain marks the north end of the very prominent and rugged Wisukitsak Range.

Infrastructure

The town of Elkford is located about 9 kilometers to the west and is linked to the Burnt Ridge area by a hard surface all weather road. The nearest source of electrical power is the Greenhills mine site which is about 6 kilometers to the northwest. B.C. telephone maintains an exchange to service Elkford and the mines in the area. A Canadian Pacific railway spur runs past the north end of Burnt Ridge and connects the main line at Sparwood with the Fording River and the Fording Greenhills mines. A natural gas pipeline which services the two mines also traverses the area just north of Burnt Ridge.

Land Description and Ownership

During February of 1968, Kaiser Coal Limited, then a subsidiary of the Kaiser Steel Corporation, acquired the coal rights to 44,000 hectares of coal-bearing lands owned by Crowsnest Industries. Burnt Ridge is comprised of approximately 1200 hectares of the coal bearing area.

In 1971, Kaiser Coal was renamed to Kaiser Resources and in October of 1980, Kaiser Resources was acquired by the British Columbia Investment Corporation (BCRIC) and in February of 1981 it became B. C. Coal Ltd.. The name was again changed to Westar Mining Ltd. in 1983. In 1992, Westar Mining Ltd. declared bankruptcy and all their holdings in the Upper Elk Valley were sold to Fording Coal Limited.

EXPLORATION

Previous Work

Exploration work has been carried out on Burnt Ridge at various times over the past 25 years. A summary of the work is given below and the results of previous work is incorporated into this report.

Prior to 1969 no exploration work for coal had been performed on Burnt Ridge. In 1969, 13.7 kilometers of access road was constructed on Burnt Ridge. Three test pits were excavated, 24 kilometers of trenches and cuts were made to expose coal seams, and a number of adit sites were built. Geological mapping was carried out during the summers of 1969 and 1970.

From June to December of 1973, six adits were driven into five different seams in Burnt Ridge. Bulk samples were taken from each of the adits for washability analysis. Washed coal samples were then shipped to E.M.R. laboratories in Ottawa, for further analysis and coking tests. A summary of the basic coal quality from the adits is included in the quality summary tables of the coal quality section of Economic Geology.

In 1979 access to Burnt Ridge from the north end was constructed and the remaining access on the ridge was upgraded. Four drill sites were built and one diamond drill hole, EV100 was completed during September. Results of the analysis of the coal seams in EV100 are included in the quality summary tables .

Further geological mapping was carried out on Burnt Ridge from May to September of 1979 and 1980. Survey control was set on the south end of Burnt Ridge.

During 1981 hand trenching and mapping of coal seams on the two furthest south ridges was completed. A comprehensive geological report was written which covered all the work done in Burnt Ridge up to the end of 1981 (Huryn, Burnt Ridge Exploration Progress Report).

Based on the 1981 geological report by Huryn, two reports evaluating the strippable potential of Burnt Ridge, were produce by Jeri Pinc. The first report, dated June 1981, assessed the potential strippable reserve down to 3 seam to be 19.5 million metric tons at 6.4 ratio (tonnes

Based on the 1981 geological report by Huryn, two reports evaluating the strippable potential of Burnt Ridge, were produced by Jeri Pinc. The first report, dated June 1981, assessed the potential strippable reserve down to 3 seam to be 19.5 million metric tons at 6.4 ratio (tonnes to BCM). The second report, dated Sept. 1982, evaluated only the potential for 7 seam. This pit provided 7.6 million metric tonnes raw recoverable met coal at a ratio of 5.26.

In 1991 Cominco Engineering Services Ltd. built a MedSystem model for Burnt Ridge using the cross sections from the 1981 Geological Report. The total resource generated by this model was around 100 million metric tonnes. Estimates made on the strippable potential were inconclusive because of the low reliability of the subsurface seam information and further exploration work was recommended.

In the summer of 1992, four rotary reverse circulation holes were drilled on Burnt Ridge using the Greenhills mine schramm CSR drill. Quality analysis of the coal encountered in these holes was done at the time but no further work was done on geologic interpretation.

Current Work

During the 1996 exploration season 17 holes were drilled in the Burnt Ridge Project area for a total of 4510 meters. These holes varied in depth from 162 to 360 meters with an average depth of 265 meters. In order to accommodate this drilling the main road accessing system had to be cleaned up, 13.9 kilometers of dormant logging roads and skid trails had to be rebuilt and 3.7 kilometers of new road had to be built. 18 drill sites were built for a total disturbed area of 0.81 ha. The existing access, new roads, rebuilt roads and all the drill holes were surveyed using GPS (Global Positioning System) technology. Geological mapping was completed along all new roads and tied in using GPS.

A new geological model was built using MedSystem Minesite software, incorporating the new drill hole and mapping information. This model was then used to for the resource calculations.

GEOLOGY

A 1:50000 scale geological map, "GEOLOGY OF THE ELK VALLEY COALFIELD" from Bulletin 82 of the Geological Survey Branch, E.M.R., has been included to illustrate the regional geology of the area. A map showing the current and previous outcrop mapping is included.

STRATIGRAPHY

The general stratigraphic sequence of the Burnt Ridge area, beginning with the oldest sediments is: Rundle Group, Rocky Mountain Group, Spray River Formation, Fernie Formation, the Kootenay Group and the Blairmore Group.

Paleozoic

Mississippian - Rundle Group

The Rundle group can be observed on the Wisukitsak range to the southwest of Burnt Ridge, and is generally dominated by sheets of crinoidal debris with interbeds of dark gray, argillaceous limestone, cherty limestone and minor sandstone and shale. (Wheeler, 1968)

Pennsylvanian and Permian - Rocky Mountain Group

The Rocky Mountain Group disconformably overlies the Rundle group and consists of thick bedded medium-to-fine grained, cross-bedded quartzose sandstone. Outcrops of the Rocky Mountain Group occur in the Grace Creek drainage and on Mt. Lyne.

Mesozoic

Triassic - Spray River Formation

Price (1965) described two distinguishable units within the Spray River Formation in the Flathead Map area. The lower part consists of rust-brown and dark gray, color-laminated, platy siltstone, calcareous siltstone and silty shale. A sequence of

meters thick marks the base of the formation. The upper part consists of light gray, dolomitic or sideritic, argillaceous siltstone and fine -grained sandstone. Near the top the unit becomes thickly bedded and relatively massive often producing a prominent topographic feature below the Fernie Formation. Outcrop of Spray River Formation can be seen along the road cut in Grace Creek.

Jurassic - Fernie Formation

The Fernie Formation is separated from the Spray River Formation by a regional disconformity (Newmarch 1953). The lower part of the Fernie is composed of dark gray silty shale and contains thin layers of ankeritic siltstone (Price 1966). The upper part is composed of rhythmically interbedded, fine-grained sandstone, siltstone and shale. Sandstone in the upper part of the Fernie are ankeritic or calcareous and are commonly laminated. Outcrops of the Fernie Formation can be seen on the west side of Brunt Ridge along the Grace Creek access road.

Jura-Cretaceous - Kootenay Group

The Kootenay Group was proposed by Gibson (1979) and is divided into three formations; Morrissey, Mist Mountain and Elk. The relationship between this and previous nomenclature is shown in Figure 1.

Morrissey Formation

The Morrissey Formation is divided into the lower Weary Ridge Member and the upper, Moose Mountain Member. The Moose Mountain Member is a prominent cliff forming sandstone which outcrops along the west face of Burnt Ridge. The Moose consists of thin to thick bedded, fine to coarse grained, occasionally conglomeratic quartz-chert sandstone with rare occurrences of carbonaceous mudstone and coaly material (Gibson, 1979).

| | NEWMARCH 1953 | JANSA, 1972 | GIBSON, 1979 |
|---|---------------------|-----------------------|--|
| CRETACEOUS | ELK FORMATION | ELK MEMBER | ELK FORMATION |
| | KOOTENAY FORMATION | COAL BEARING MEMBER | MIST MOUNTAIN FORMATION |
| | BASAL KOOTENAY SAND | MOOSE MOUNTAIN MEMBER | MORRISSEY FORMATION MOOSE MOUNTAIN MEMBER |
| JURASSIC | FERNIE FORMATION | FERNIE FORMATION | WEARY RIDGE MEMBER FERNIE FORMATION |
| NOMENCLATURE COMPARISON OF THE KOOTENAY GROUP WITH PREVIOUS TERMINOLOGY (AFTER GIBSON, 1979) | | | FIG. 1 |

Mist Mountain Formation

The Mist Mountain Formation is approximately 550 to 600 meters thick in Burnt Ridge and appears to be consistent throughout the full length of the project area. It consists of interbedded conglomerate, coarse to fine grained sandstone, siltstone, mudstone and coal.

Conglomerate bands occur as localized zones within the sandstone units. The sandstones range from 1 to 30 meters in thickness, are coarse to fine grained, usually cross-bedded and contain siltstone or mudstone interbeds. The siltstone units are massive to laminated and show occasional cross-bedding. The mudstones range from gray to black in color, with the darker shades having plant detritus preserved along the bedding planes. Coal seams of commercial quality and thickness occur throughout the Mist Mountain Formation.

Elk Formation

The contact between the Mist Mountain Formation and the Elk Formation is defined as the base of the first major sandstone above the last major coal seam in the Mist Mountain (Gibson 1979). In the south end of Burnt Ridge this sandstone unit is underlain by a thin, hard, dull seam of needle coal (Huryn, 1981).

The Elk formation consists of interbedded conglomerate and medium to coarse grained sandstone, with interbeds of siltstone or shale. Coal seams rich in alginite occur within the Elk Formation and are usually thin and limited in lateral extent. The Elk occurs on the east side of Burnt Ridge and outcrops are common along the lower portions of the ridge.

Cretaceous

Blairmore Group

The Cadomin Formation conglomerates at the base of the Blairmore group outcrop along the lower flanks of Banner Mountain on the east side of Dry Creek.

STRUCTURE

Regional

The regional geological structure of the area is shown on the included geological map published by the geological branch of the Ministry of Energy, Mines, and Petroleum Resources (Bulletin 82).

The structural geology of the area is typical of the Front Ranges of the Rocky Mountains. Numerous thrust faults and associated folds of large scale. Large to small scale normal faults also occur as the result of the formation of this orogenic belt.

Burnt Ridge

Burnt Ridge lies on the west limb of the Alexander Creek Syncline. The strike of the bedding is roughly north-northwest with the dips on the west side of the ridge ranging between 30 and 50 degrees to the east. The dips steepen as we move to the east so that on the east side of the ridge the dips range from 45 to vertical. It appears that initially the beds steepen with depth before flattening to the east into the axis of the Alexander Creek Syncline.

While the major structure of the area is the Alexander Creek syncline, mapping in the area indicates that a myriad of secondary structures have been superimposed on the west limb of the syncline. Folded and faulted areas have been mapped along the east side of Burnt Ridge. These areas are characterized by drag folds in anticline/syncline pairs, minor faulting, crushed and sheared zones, and overturned bedding.

ECONOMIC GEOLOGY

Seven major coal seams occur in the Mist Mountain Formation in Burnt Ridge. In addition there are other transient seams and several minor seams above 7 seam which occur in some of the drill holes. These upper seams and discontinuous seams will add to the reserve but cannot be correlated from one hole to the next with any degree of certainty.

Recovery of samples from the rotary reverse circulation drill were quite low, especially in holes that were making water. Because of the low sample recovery the sample analyses results may not be totally indicative of the actual coal quality.

Seam Descriptions

One Seam (010, 012, 011)

One seam occurs just above the top of the Morrissey Formation. The base of one seam is only a few meters above the top of the Moose Mountain Member. There are four drill hole intercepts and one adit in 1 seam. There are no other observation on 1 seam that would be useful in determining volumes. One seam is usually accompanied by a lower section (012) which is approximately 1 meter thick and is separated from the main section (010) by a 1 to 3 meter sandstone bed. In adit #7 one seam is 7.16 meters true thickness and in core hole EV100 the true thickness is calculated to be 7.71 meters. In the 1996 program RC hole numbers 2485, 2486, and 2491 intersected 1 seam. The drill intercept thickness in these three holes is 15.9, 7.4, and 14.5, respectively.

The sample from EV100 indicates 1 seam is a medium volatile bituminous coal with a daf VM of 25.1%. The FSI for the sample was 8 and the maximum mean reflectance (Ro) is 1.30. A summary of the sample analyses results are shown in the quality summary tables. Rheological analysis results may not be indicative of the actual quality because of low sample recovery. Reflectance (Ro) from the petrographic analysis may be the best indicator of coal rank.

Adit 7 was cross cut at 42 meters with about 16 meters of vertical cover, the sample was still oxidized.

Two Seam (020, 022, 021)

Two seam occurs roughly 120 meters up section from the top of the Morrissey formation. In adit #5, 020 seam is 8.87 meters thick. It was bulk sampled at 48 meters,

where it had approximately 19 meters of cover, coal samples were still oxidized. Two seam was identified in 4 drill holes, EV100, RC2456, RC2457 and RC2486. In all drill holes the seam occurs as two sections (020 and 022) with a mudstone parting and in RC2486 there is a thin upper section (021). Drilled thickness of 020 seam varies from 14.6 meters in RC2486 to 3.3 meters in RC2457. In EV100 the calculated true thickness of 020 seam is 5.95 meters. It has a daf VM of 23.8%, an FSI of 2.5 and a Ro of 1.30. Seam 022 is 1.23 meters thick and has a daf VM of 22.3%. Basic coal quality analysis for these drill holes is listed in the quality summary tables.

In the early 70's the hanging wall of 2 seam was traced and surveyed on the north end of Burnt Ridge, later it was projected between mapped outcrops, to the south, until it was replaced by a large sandstone unit.

Three Seam (030, 031, 032, 034, 036)

The three seam zone occurs about 180 to 220 meters up-section from the Moose Mountain Member. The three seam zone contains 2 to 4 sections of coal each of which can vary in thickness from less than 1 meter up to 9 meters. The accumulated thickness of all minable sections of coal in the zone is generally around 12 to 16 meters. Three seam has been identified in 8 drill holes but no adit was driven in 3 seam and there are few good surface exposures. Based on drill hole EV100 sample results all section of 3 seam are mvb coals with a daf VM in the range of 23.9-25.7%. The FSI is in the range of 6-8 and the reflectance of 030 seam is 1.21.

The hanging wall of 3 seam was traced and surveyed in the south at various locations but no full cuts were made on the seam. Mapping on the two furthest south ridges, flanking the headwaters of Dry Creek, indicate rock interburden in the 3 seam zone increases in thickness while the total coal in the zone is decreasing.

Four Seam (040, 041)

In the diamond drill hole EV100 the interval between 4 seam and 3 seam is about 130 meters. Four seam occurs in EV100 as two thin sections 1.20 meters (041) and 1.78 meters (040) thick. Four seam only occurred in two other drill holes (BR251 and RC2457) as a single thin section of coal, 1.6 meters and 3.3 meters respectively. The thickest occurrence of 4 seam is a cut along the Grace creek access road where the true thickness is 6.55 meters. Four seam from EV100 is a mvb with a daf VM of around 26.5%, an FSI of 7.5 and a mean Ro of 1.18.

Adit #4 is thought to be in 4 seam. This adit was cross cut at 32.0 meters with 13.5 meters of vertical cover. The 040 seam appears to be quite a bit thicker than in EV100 while the 041 seam appears to maintain about the same thickness. The coal from this adit is partially oxidized with an FSI of 3.5 for 040 seam and 1 for 041 seam. Four seam seems to be discontinuous and along the west side of Burnt Ridge there are areas where 4 seam has been replaced by rock.

Five Seam (050, 051)

Five seam occurs at about 360 meters up section in the Mist Mountain Formation. Seam 050 occurs in 8 drill holes with seam 051 occurring in 4 of these same holes. The drilled thickness of 050 varies from 0.4 meters in drill hole RC2455 to 10.9 meters in drill hole RC2493. The true thickness in most cases is considerably less than the drilled thickness due to the steep dips. In addition to the drill hole information several thickness measurements were taken from cuts on 5 seam during the initial exploration phases of Burnt Ridge. The measured aggregate true thickness of the coal in these cuts varies from a low 3.9 meters to a high of 5.8 meters.

Based on analysis from EV100, 5 seam is a mvb coal with a daf VM of approximately 26.5%, an FSI of 7.5 and a mean Ro of 1.11.

Six Seam (060, 061 062)

Six seam is about 60 meters up-section from 5 seam. It occurs in 5 drill holes and has been recorded and measured in outcrop at several locations along the length of Burnt Ridge. In EV100 it occurs as three distinct seams but in other locations it occurs as a single seam (060). Six seam was traced and surveyed with seam measurements taken at various locations along the trace. Measured true thickness of the seam is between 4.8 and 9.5 meters. The drilled thickness in the new drill holes varies from 1.8 meters in drill hole RC2483 to 22.9 meters in BR250.

The thickness of 6 seam in adit #2 is 4.85 meters. Adit #2 was cross-cut and sampled at 49 meters with 19 meters of vertical cover. A fresh sample of unoxidized coal could not be obtained from adit #2. Analysis results from EV100 indicate 6 seam to be mvb coal with a daf VM of 27.5% a FSI of 7.5 and a mean Ro of 1.11.

Seven Seam (070, 072, 074)

In EV100, 070 seam is roughly 490 meters up-section from the top of the Morrissey Formation. There are two adits and several surface measurements along the surveyed hanging wall seam trace. There are seven drill-hole intercepts in seven seam with drilled thickness of 7 to 22 meters, except in drill hole RC2483, on the far south end of Burnt Ridge, where the seam is only 3.7 meters thick. Seven seam has a calculated true thickness of 10.68 meters in EV100 and is 8.14 and 11.98 meters thick in adits 3 and 6 respectively. A good cut on the seven seam, approximately 600 meters north of adit #6, measures 12.71 meters. South of adit 6, seven seam deteriorates into a thin non-minable zone with less than 1.5 meters coal in two sections. Seam 070 is a medium to high volatile bituminous coal with a daf VM range of 28.9% to 32.5% and a FSI of 7+. The mean Ro for the two unoxidized samples (adit #3 and drill hole EV100) is 1.04 and 1.07 respectively.

Other Seams

Other minor seams occur in the stratigraphic sequence between 1 and 7 seams. These seams range from 0.2 to 5 meters in drilled thickness, and they generally occur in only a

single hole. these seams have not been modeled and are not included in the present reserve calculations.

Four separate seams have been identified stratigraphically higher than 7 seam. All of these seams have been tentatively identified in two or more holes and have been included in the model for reserve calculations. The drilled thickness of these seams is between 1.2 and 4.8 meters. Analysis on the seams above 7 seam indicate a rank of high volatile bituminous with a daf VM in excess of 31%.

Coal Quality

The coal in Burnt Ridge ranges from a medium volatile to a low volatile bituminous in rank with a Ro range of 1.37 to 1.02. Average sulfur ranges from 0.4% to 0.7%. P₂O₅ in the ash is quite low in the lower seams but tends to increase up-section and is highest in 7 seam.

The surface oxidized zone in Burnt Ridge is in excess of 20 meters as evidenced by the difficulty in reaching fresh coal in the adits. The following Table I (page 1-6) summarize the drill hole quality available at the time of writing. Table IA is a summary of the basic quality from the adits which were driven in 1972.

| DH Name | From | To | Vert. Thick | Sample Recov. | Raw Ash | Yield @1.5 | Clean Ash | Clean Sulphur | Clean Volatile | P2O5 in Ash | Dilatatr | Fluidity | Melt. Range | Ro | Inerts | Stability Index |
|----------------------|-------|-------|-------------|---------------|---------|------------|-----------|---------------|----------------|-------------|----------|----------|-------------|------|--------|-----------------|
| EV100 | 561.2 | 562 | 0.8 | 83.9 | 14.6 | 83 | 9.4 | 0.52 | 22.8 | | | | | 1.28 | 23 | 64.4 |
| RC2485 | 188.6 | 190.2 | 1.6 | 43 | 13.7 | | | | | | | | | | | |
| RC2486 | 257.7 | 259 | 1.3 | 56 | 22.6 | | | | | | | | | | | |
| 001 seam ave. | | | 1.2 | 61.0 | 17.0 | 83.0 | 9.4 | 0.5 | 22.8 | | | | | 1.28 | 23.0 | 64.4 |
| | | | | | | | | | | | | | | | | |
| | | | | | | | | | | | | | | | | |
| ADIT7 | 0.1 | 19.2 | 19.1 | 100 | 19.2 | 74 | 9.2 | 0.38 | 21 | 0.6 | -22 | 1.5 | 19 | 1.25 | 35.5 | 48.5 |
| EV100 | 546 | 556 | 10 | 80.9 | 30.4 | 54 | 8.4 | 0.46 | 23 | | | 1.3 | 13 | 1.3 | 28.2 | 61.9 |
| RC2485 | 163 | 178.9 | 15.9 | 42 | 23.7 | 70 | 10.7 | 0.38 | 22.3 | 0.3 | 15 | 64.3 | 57 | 1.3 | 34.2 | 56 |
| RC2486 | 238 | 245.4 | 7.4 | 41 | 22.2 | 71 | 8.4 | 0.36 | 22.5 | 1.04 | 11 | 162.7 | 65 | 1.37 | 32.5 | 59 |
| BROC027 | 0.1 | 11.2 | 11.1 | 100 | | | | | | | | | | | | |
| 010 seam ave. | | | 12.7 | 72.8 | 23.9 | 67.3 | 9.2 | 0.4 | 22.2 | 0.6 | 1.3 | 57.5 | 38.5 | 1.31 | 32.6 | 56.4 |
| | | | | | | | | | | | | | | | | |
| | | | | | | | | | | | | | | | | |
| EV100 | 557.9 | 559 | 1.1 | 87.8 | 17.3 | 76 | 9.1 | 0.53 | 21.6 | | | | | 1.26 | 30.8 | 60.1 |
| RC2485 | 181.1 | 183.3 | 2.2 | 70 | 22.5 | 71 | 10.4 | 0.53 | 22.6 | 0.12 | 55 | 527.1 | 71 | 1.37 | 34.6 | 58 |
| RC2486 | 247.8 | 248.7 | 0.9 | 59 | 27 | | | | | | | | | | | |
| BROC027 | 14 | 16.5 | 2.5 | 100 | | | | | | | | | | | | |
| 012 seam ave. | | | 1.7 | 79.2 | 22.3 | 73.5 | 9.8 | 0.5 | 22.1 | 0.1 | 55.0 | 527.1 | 71.0 | 1.32 | 32.7 | 59.1 |
| | | | | | | | | | | | | | | | | |

| DH Name | From | To | Vert. Thick | Sample Recov. | Raw Ash | Yield @1.5 | Clean Ash | Clean Sulphur | Clean Volatile | P2O5 in Ash | Dilatn | Fluidity | Melt. Range | Ro | Inerts | Stability Index |
|----------------------|-------|-------|-------------|---------------|---------|------------|-----------|---------------|----------------|-------------|--------|----------|-------------|------|--------|-----------------|
| ADIT5 | 0.1 | 17.7 | 17.6 | 100 | 15.7 | 80 | 10 | 0.46 | 20.1 | | | 1 | | | | |
| EV100 | 419.1 | 427.7 | 8.6 | 77.2 | 17.7 | 76 | 8.4 | 0.33 | 21.8 | | | | | | | |
| RC2456 | 39.2 | 51.4 | 12.2 | 67 | 18.1 | 74 | 11.1 | 0.42 | 20.1 | 1.71 | -26 | 1 | 3 | | | |
| RC2457 | 197 | 200.3 | 3.3 | 31 | 30 | | | | | | | | | | | |
| RC2486 | 51 | 65.6 | 14.6 | 86 | 22.2 | 72 | 10 | 0.4 | 20.4 | 1.33 | -15 | 1 | 0 | 1.34 | 44.5 | 47 |
| BROC026 | 0.1 | 8.72 | 8.62 | 100 | | | | | | | | | | | | |
| BROC037 | 0.1 | 8.86 | 8.76 | 100 | | | | | | | | | | | | |
| 020 seam ave. | | | 10.5 | 80.2 | 20.7 | 75.5 | 9.9 | 0.4 | 20.6 | 1.5 | -20.5 | 1.0 | 1.5 | 1.34 | 44.5 | 47.0 |
| | | | | | | | | | | | | | | | | |
| | | | | | | | | | | | | | | | | |
| | | | | | | | | | | | | | | | | |
| EV100 | 429.7 | 431.7 | 2 | 72.9 | 17.9 | 74 | 6 | 0.6 | 21.1 | | | | | 1.3 | 33.2 | 57.6 |
| RC2456 | 66.7 | 67.7 | 1 | 0 | | | | | | | | | | | | |
| RC2457 | 203.3 | 205.6 | 2.3 | 51 | 40.9 | | | | | | | | | | | |
| RC2486 | 71 | 72.1 | 1.1 | 81 | 17.3 | | | | | | | | | | | |
| 022 seam ave. | | | 1.6 | 51.2 | 25.4 | 74.0 | 6.0 | 0.6 | 21.1 | | | | | 1.30 | 33.2 | 57.6 |
| | | | | | | | | | | | | | | | | |

| DH Name | From | To | Vert. Thick | Sample Recov. | Raw Ash | Yield @1.5 | Clean Ash | Clean Sulphur | Clean Volatile | P2O5 in Ash | Dilatatr | Fluidity | Melt. Range | Ro | Inerts | Stability Index |
|----------------------|-------|-------|-------------|---------------|---------|------------|-----------|---------------|----------------|-------------|----------|----------|-------------|------|--------|-----------------|
| BR251 | 136 | 141 | 5 | 30 | 18.2 | 29.9 | 8.4 | | 22.4 | | | | | | | |
| BR253 | 169.4 | 186.6 | 17.2 | 10 | 17.8 | 80 | 6.5 | | 22.4 | | | | | | | |
| EV100 | 278 | 287 | 9 | 90.9 | 13.7 | 84 | 5.7 | 0.45 | 22.7 | | | 0.9 | | 1.21 | 29.1 | 60.7 |
| RC2453 | 35.5 | 49.6 | 14.1 | 57 | 19.4 | 74 | 7.7 | 0.42 | 22.1 | 1.92 | -30 | 3.8 | 36.7 | 1.22 | 44.2 | 43 |
| RC2455 | 219.9 | 227.2 | 7.3 | 43 | 21.4 | | | | | | | | | | | |
| RC2457 | 48.5 | 55.6 | 7.1 | 48 | 21.2 | | | | | | | | | | | |
| RC2484 | 95.4 | 101.9 | 6.5 | 64 | 25.8 | 66 | 7.5 | 0.44 | 24.1 | 0.69 | 8 | 113.6 | 63 | 1.22 | 32.5 | 57 |
| RC2484 | 138.7 | 144.4 | 5.7 | 63 | 22.6 | 75 | 8 | 0.32 | 22 | 1.31 | -24 | 1.1 | 12 | 1.26 | 40.2 | 49 |
| BROC001 | 0.1 | 11.2 | 11.1 | 100 | | | | | | | | | | | | |
| BROC025 | 0.1 | 6.47 | 6.37 | 100 | | | | | | | | | | | | |
| BROC028 | 0.1 | 11.31 | 11.21 | 100 | | | | | | | | | | | | |
| BROC030 | 0.1 | 9.15 | 9.05 | 100 | | | | | | | | | | | | |
| BROC041 | 0.1 | 6.47 | 6.37 | 100 | | | | | | | | | | | | |
| 030 seam ave. | | | 8.9 | 69.7 | 20.0 | 68.2 | 7.3 | 0.4 | 22.6 | 1.3 | -15.3 | 29.9 | 37.2 | 1.23 | 36.5 | 52.4 |
| BR253 | 193.5 | 197.5 | 4 | 12 | 35.5 | 50.7 | 8 | | 23.7 | | | | | | | |
| EV100 | 291.1 | 294 | 2.9 | 49.9 | 34.6 | 55.4 | 6.4 | 0.76 | 24.1 | | 59 | 123.2 | 58 | | | |
| RC2453 | 56.6 | 59.5 | 2.9 | 53 | 39.7 | | | | | | | | | | | |
| RC2455 | 239.4 | 240.3 | 0.9 | 40 | 21 | | | | | | | | | | | |
| RC2457 | 60 | 67.1 | 7.1 | 47 | 27.4 | | | | | | | | | | | |
| RC2484 | 109.7 | 112.7 | 3 | 89 | 22.9 | 74 | 11.3 | 0.44 | 23.1 | 1.14 | 2 | 112.9 | 59 | 1.22 | 32.1 | 57 |
| RC2484 | 147.4 | 150.2 | 2.8 | 60 | 31.9 | 57 | 9.8 | 0.4 | 20.8 | 0.96 | -25 | 4.5 | 36 | 1.29 | 37.4 | 53 |
| BROC029 | 0.1 | 4.84 | 4.74 | 100 | | | | | | | | | | | | |
| 032 seam ave. | | | 3.5 | 56.4 | 30.4 | 59.3 | 8.9 | 0.5 | 22.9 | 1.1 | 12.0 | 80.2 | 51.0 | 1.26 | 34.8 | 55.0 |
| BR251 | 155.1 | 163.6 | 8.5 | 41 | 24.1 | 53.8 | 7.9 | | 22.4 | | | | | | | |
| BR253 | 203.2 | 204 | 0.8 | 7 | 33.8 | 55.2 | 7.4 | | 24.8 | | | | | | | |
| EV100 | 298.5 | 307.7 | 9.2 | 52.4 | 23.6 | 63 | 8.3 | 0.57 | 21.9 | | -2 | 28.8 | 47 | | | |
| RC2453 | 69 | 70.1 | 1.1 | 0 | | | | | | | | | | | | |
| RC2455 | 262.7 | 266.3 | 3.6 | 38 | 22.7 | | | | | | | | | | | |
| 034 seam ave. | | | 4.6 | 27.7 | 26.1 | 57.3 | 7.9 | 0.6 | 23.0 | | -2.0 | 28.8 | 47.0 | | | |

| DH Name | From | To | Vert. Thick | Sample Recov. | Raw Ash | Yield @1.5 | Clean Ash | Clean Sulphur | Clean Volatile | P2O5 in Ash | Dilatn | Fluidity | Melt. Range | Ro | Inerts | Stability Index |
|----------------------|-------|-------|-------------|---------------|---------|------------|-----------|---------------|----------------|-------------|--------|----------|-------------|------|--------|-----------------|
| ADIT4 | 5.7 | 17.1 | 11.4 | 100 | 13.7 | 87.1 | 6.8 | 0.43 | 23.2 | 2 | -25 | 1.6 | 18 | 1.17 | 46.5 | 32 |
| BR251 | 76.8 | 78.4 | 1.6 | 83 | 34.4 | 18.3 | 8 | | 24.8 | | | | | | | |
| EV100 | 233.5 | 236 | 2.5 | 83.3 | 20.5 | 73.4 | 6.8 | 0.86 | 24 | | 73 | 301.4 | 74 | 1.18 | 19 | 60.8 |
| RC2457 | 2.8 | 6.1 | 3.3 | 77 | 20.8 | 54 | 5.8 | 0.56 | 26.7 | 1.02 | -1 | 0 | | 1.07 | 27.1 | 57 |
| BROC002 | 0.1 | 6.87 | 6.77 | 100 | | | | | | | | | | | | |
| BROC031 | 0.1 | 12.29 | 12.19 | 100 | | | | | | | | | | | | |
| 040 seam ave. | | | 6.3 | 90.6 | 22.4 | 58.2 | 6.9 | 0.6 | 24.7 | 1.5 | 15.7 | 101.0 | 46.0 | 1.14 | 30.9 | 49.9 |
| EV100 | 196.6 | 200.6 | 4 | 69.9 | 34 | 49.4 | 8.2 | 0.7 | 24.1 | | 65 | 342.8 | 60 | | | |
| RC2455 | 155.3 | 155.7 | 0.4 | 80 | 38.1 | | | | | | | | | | | |
| RC2484 | 8.6 | 9.5 | 0.9 | 99 | 1 | | | | | | | | | | | |
| BROC003 | 0.1 | 6.47 | 6.37 | 100 | | | | | | | | | | | | |
| BROC016 | 0.1 | 4.95 | 4.85 | 100 | | | | | | | | | | | | |
| BROC032 | 0.1 | 7 | 6.9 | 100 | | | | | | | | | | | | |
| BROC040 | 0.1 | 7.66 | 7.56 | 100 | | | | | | | | | | | | |
| 050 seam ave. | | | 4.4 | 92.7 | 24.4 | 49.4 | 8.2 | 0.7 | 24.1 | | 65.0 | 342.8 | 60.0 | | | |
| ADIT2 | 0.1 | 6.5 | 6.4 | 100 | 9.3 | 83 | 4.9 | 0.6 | 25.4 | | | 0 | | | | |
| BR250 | 182.8 | 205.7 | 22.9 | 47 | 14 | 83.1 | 5.7 | | 23.8 | | | | | | | |
| BR250 | 234.7 | 247.8 | 13.1 | 35 | 16.4 | 82.3 | 6.9 | | 23.8 | | | | | | | |
| EV100 | 142.5 | 143.6 | 1.1 | 77.8 | 5.6 | 97.3 | 4.7 | 0.74 | 26.9 | | | | | | | |
| RC2455 | 94.8 | 99.9 | 5.1 | 52 | | | | | | | | | | | | |
| RC2483 | 149.2 | 151 | 1.8 | 64 | 28.9 | 62 | 8.1 | 0.51 | 23.8 | 7.15 | -33 | 2.5 | 30 | 1.17 | 26.7 | 61 |
| BROC004 | 0.1 | 7 | 6.9 | 100 | | | | | | | | | | | | |
| BROC014 | 0.1 | 5.35 | 5.25 | 100 | | | | | | | | | | | | |
| BROC015 | 0.1 | 5.35 | 5.25 | 100 | | | | | | | | | | | | |
| BROC023 | 0.1 | 13.47 | 13.37 | 100 | | | | | | | | | | | | |
| BROC033 | 0.1 | 7 | 6.9 | 100 | | | | | | | | | | | | |
| BROC034 | 0.1 | 7 | 6.9 | 100 | | | | | | | | | | | | |
| BROC039 | 0.1 | 6.07 | 5.97 | 100 | | | | | | | | | | | | |
| 060 seam ave. | | | 7.8 | 82.8 | 14.8 | 81.5 | 6.1 | 0.6 | 24.7 | 7.2 | -33.0 | 1.3 | 30.0 | 1.17 | 26.7 | 61.0 |

| DH Name | From | To | Vert. Thick | Sample Recov. | Raw Ash | Yield @1.5 | Clean Ash | Clean Sulphur | Clean Volatile | P2O5 in Ash | Dilatn | Fluidity | Melt. Range | Ro | Inerts | Stability Index |
|----------------------|-------|-------|-------------|---------------|---------|------------|-----------|---------------|----------------|-------------|--------|----------|-------------|------|--------|-----------------|
| ADIT3 | 0.1 | 19.2 | 19.1 | 100 | 33.1 | | 8 | 0.72 | 27.5 | 1.6 | 99 | 445 | 76 | 1.04 | 18.4 | 49.4 |
| ADIT6 | 0.1 | 32 | 31.9 | 100 | 9.4 | 89 | 5 | 0.46 | 27.2 | 0.8 | -4 | 0 | | 1.08 | 23.4 | 57.3 |
| BR250 | 82.3 | 94.5 | 12.2 | 11 | 12.3 | 85 | 5 | | 27.5 | | | | | | | |
| BR252 | 78.7 | 100.5 | 21.8 | 34 | 13.3 | 85.6 | 5.5 | | 24.1 | | | | | | | |
| EV100 | 70.5 | 87.3 | 16.8 | 69.7 | 16.9 | 80 | 5 | 0.52 | 30.8 | | 103 | 195.7 | 61 | 1.07 | 9.5 | 34.7 |
| RC2455 | 43.4 | 51.1 | 7.7 | 63 | 13.3 | 81 | 5.8 | 0.53 | 28.7 | 1.71 | 89 | 196.7 | 62 | | | |
| RC2458 | 209.7 | 227.4 | 17.7 | 50 | 20.8 | | | | | | | | | | | |
| RC2483 | 51.3 | 55 | 3.7 | 61 | 17.3 | 79 | 7.4 | 0.91 | 27.1 | 1.18 | -39 | 1.8 | 24 | 1.09 | 17.3 | 53 |
| BROC006 | 0.1 | 37.86 | 37.76 | 100 | | | | | | | | | | | | |
| BROC010 | 0.1 | 21.99 | 21.89 | 100 | | | | | | | | | | | | |
| BROC011 | 0.1 | 18.8 | 18.7 | 100 | | | | | | | | | | | | |
| BROC012 | 0.1 | 16.81 | 16.71 | 100 | | | | | | | | | | | | |
| BROC017 | 0.1 | 19.55 | 19.45 | 100 | | | | | | | | | | | | |
| BROC018 | 0.1 | 15.62 | 15.52 | 100 | | | | | | | | | | | | |
| BROC019 | 0.1 | 16.32 | 16.22 | 100 | | | | | | | | | | | | |
| BROC020 | 0.1 | 14.03 | 13.93 | 100 | | | | | | | | | | | | |
| BROC021 | 0.1 | 12.04 | 11.94 | 100 | | | | | | | | | | | | |
| BROC022 | 0.1 | 14.03 | 13.93 | 100 | | | | | | | | | | | | |
| BROC035 | 0.1 | 14.82 | 14.72 | 100 | | | | | | | | | | | | |
| BROC036 | 0.1 | 13.23 | 13.13 | 100 | | | | | | | | | | | | |
| BROC038 | 0.1 | 14.03 | 13.93 | 100 | | | | | | | | | | | | |
| 070 seam ave. | | | 17.1 | 85.2 | 17.1 | 83.3 | 6.0 | 0.6 | 27.6 | 1.3 | 49.6 | 167.8 | 55.8 | 1.07 | 17.2 | 48.6 |
| | | | | | | | | | | | | | | | | |
| EV100 | 9.1 | 12.1 | 3 | 58.4 | 22.1 | 65 | 6 | 0.72 | 37.5 | | | | | 1.02 | 14 | 39.2 |
| RC2454 | 253.8 | 258 | 4.2 | 15 | 15.7 | | | | | | | | | | | |
| 080 seam ave. | | | 3.6 | 36.7 | 18.9 | 65.0 | 6.0 | 0.7 | 37.5 | | | | | 1.02 | 14.0 | 39.2 |

| DH Name | From | To | Vert. Thick | Sample Recov. | Raw Ash | Yield @1.5 | Clean Ash | Clean Sulphur | Clean Volatile | P2O5 in Ash | Dilatn | Fluidity | Melt. Range | Ro | Inerts | Stability Index |
|----------------------|-------|-------|-------------|---------------|---------|------------|-----------|---------------|----------------|-------------|--------|----------|-------------|------|--------|-----------------|
| RC2454 | 218.3 | 220.7 | 2.4 | 25 | 9 | | | | | | | | | | | |
| RC2458 | 124.7 | 127.7 | 3 | 62 | 43.1 | 43 | 10.2 | 0.82 | 28.3 | 3.35 | 92 | 139.9 | 62 | 1.06 | 13.9 | 44 |
| 090 seam ave. | | | 2.7 | 43.5 | 26.1 | 43.0 | 10.2 | 0.8 | 28.3 | 3.4 | 92.0 | 139.9 | 62.0 | 1.06 | 13.9 | 44.0 |
| | | | | | | | | | | | | | | | | |
| | | | | | | | | | | | | | | | | |
| | | | | | | | | | | | | | | | | |
| | | | | | | | | | | | | | | | | |
| RC2458 | 115.8 | 117 | 1.2 | 95 | 25.3 | | | | | | | | | | | |
| 091 seam | | | | | | | | | | | | | | | | |
| | | | | | | | | | | | | | | | | |
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| | | | | | | | | | | | | | | | | |
| RC2458 | 22.7 | 27.5 | 4.8 | 90 | 19 | 72 | 7.8 | 0.63 | 26.4 | 1.43 | -3 | 0 | | 1.06 | 18.7 | 50 |
| 120 seam | | | | | | | | | | | | | | | | |

TABLE IA
QUALITY SUMMARY TABLE
BURNT RIDGE ADITS

| ADIT # | SEAM # | THICK. | <u>RAW COAL</u> | | <u>CLEAN COAL</u> | | | | | | |
|--------|--------|--------|-----------------|-----|-------------------|------|--------|-----|------|------|-------|
| | | | Ash | FSI | Ash | VM | VM daf | FSI | Sul | ddpm | Ro |
| EV-2 | 060 | 4.88 | 9.3 | NC | 4.9 | 25.4 | 26.7 | NC | 0.6 | --- | |
| EV-3 | 070 | 8.17 | 33.1 | 6.5 | 8.0 | 27.5 | 27.2 | 7 | 0.72 | 455 | 1.04* |
| EV-4 | 041 | 1.43 | 19.3 | 1 | 6.3 | 23.3 | 24.9 | 1.5 | 0.53 | --- | |
| | 040 | 5.71 | 13.7 | 3.5 | 6.8 | 23.2 | 24.9 | 3.5 | 0.43 | 1.6 | 1.17* |
| EV-5 | 020 | 8.87 | 15.7 | 2.5 | 10.0 | 20.1 | 22.3 | 2.5 | 0.46 | 1 | |
| EV-6 | 070 | 11.98 | 9.4 | NC | 5.0 | 27.2 | 28.6 | NC | 0.46 | --- | 1.08* |
| EV-7 | 010 | 7.20 | 19.2 | 1.5 | 9.2 | 21.0 | 23.1 | 2 | 0.38 | 1.5 | 1.25* |

* Data from samples sent to E.M.R. laboratorys in Ottawa.

RESERVES

Total Resource Estimate

For the purpose of reporting the GSC paper 88-21 "*A Standardized Coal Resource/Reserve Reporting for Canada*" reserve/resource definitions will be followed. A summary of the estimated resources is shown in Table II.

Classification of Reserves/ Resources

Reserve

A reserve is that portion of the resource which is anticipated to be minable under prevailing technological and economic conditions, based on a completed feasibility study, and with no legal impediments to mining.

Resource

Measured - Resources that are computed from information revealed in outcrop, trenches, mine workings and boreholes. The spacing of points of observation necessary to justify confidence in the character and continuity of coal seams in the area under study would be a maximum 150 meters due to the complexity of the geology.

Indicated - Resources that are computed partially from specific measurements and partly from reasonable geological projections. The required spacing of points of observation in the area under study would be a maximum 300 meters.

Inferred - Resources for which quantity estimates are based largely on a broad knowledge of the geologic character of the bed of region and for which few measurements of seam thickness are available. The estimates are based primarily on an

assumed continuity of coal seams in area remote from points of observation used to calculate measured or indicated resources.

Speculative - Resources for which quantity estimates are based on information from a few scattered occurrences. Resources of this description are mainly in frontier areas where coal mining or exploration have not taken place.

Geological Resource

The geological resource is estimated using a computerized geological model which was built using Mintec MedSystem Minesite software. Initial cross sections were drawn every 1000 meters. The spacing of the cross sections was dictated by the geological information available for the structural interpretation. Subsurface geological information, i.e. drill holes, are spaced at roughly 1000 meter centers along the strike of the deposit with one to four drill holes per cross section. Several sections in the south end had no drilling at all. The footwalls of the coal seams were then digitized from the cross sections and imported into MedSystem. Using the MedSystem Minesite software (interactive solids modeling) the footwalls of the various seams were connected to form a continuous surface. This surface was then sliced at 500 meter intervals and the geology was then checked for continuity and re-interpretation was done where necessary. These 500 meter sections were then reloaded into Minesite and again connected to form a continuous footwall surface. These seam footwall surfaces were then resliced at 25 meter intervals to form a new VBM. Thickness data was then imported from GeoRes (the in-house geology database) and applied to the footwalls to form closed features for each seam. During the application of the GeoRes data to determine the coal thickness a 3 dimensional search radius of 1000 meters and a minimum true thickness of 0.8 meters was used.

The total geological resource calculated for the Burnt Ridge area based on the 25 meter sectional VBM is 583 million tonnes. This total resource includes all coal south of latitude 44,262.5N, north of 36,762.5N, west of the east property boundary and within the search radius and thickness restrictions used in the model. Based on the spacing of the available data

points the resource can be is placed in the inferred category. A summary of the resource by seam is shown in Table II.

TABLE II RESOURCE BY SEAM

| SEAM INCLUDED IN CALCULATION | BCM's | TONNES |
|-------------------------------------|--------------|---------------|
| UPPER SEAMS (120, 091, 090, 080) | 16,040,600 | 24,060,800 |
| 7 SEAM (070) | 88,747,300 | 133,120,900 |
| 6 SEAM (060) | 40,275,300 | 60,413,100 |
| 5 SEAM (050, 051) | 26,156,700 | 39,235,000 |
| 4 SEAM (040) | 3,010,268 | 4,515,400 |
| 3 SEAM (030, 032, 034) | 99,005,300 | 148,508,000 |
| 2 SEAM (020, 022) | 43,280,600 | 64,921,100 |
| 1 SEAM (010, 012) | 68,702,500 | 103,053,700 |
| MOOSE SEAM (001) | 3,845,300 | 5,768,000 |
| TOTAL RESOURCE | 389,064,000 | 593,596,000 |

Estimate of Movable Coal

Estimated mineable coal was determined by running the Lerch-Grossmann pit optimization program, which is available in MedSystem, against the Burnt Ridge (25 meter) block model. The parameters used were 0.3 meters of coal loss for each seam, 0.15 meters of dilution, and a minimum true thickness of 0.8 meters after losses and dilution. The optimization was run at five different levels to arrive at a range of strip ratios and raw coal volumes. Table III is a summary of the five runs. A map (Lerch-Grossman L34 Pit Outline) showing the outline of the L34 pit and a set of selected east-west cross sections have been included. The cross sections show the 4 Lerch-Grossmann pits L28, L30, L32 and L34. Each pit is displayed in a different color. L34 is the largest pit with a strip ratio of 9.4 BCM's of waste rock to one BCM of raw coal.

TABLE III LERCH-GROSSMANN PIT RESERVES

| PIT I.D. | MET. COAL KBCM | OXID. COAL KBCM | TOT. COAL KBCM | TOT. WASTE KBCM | STRIP RATIO BCM/M |
|-------------|-------------------|--------------------|-------------------|--------------------|----------------------|
| L26 | 10,479.6 | 4,537.5 | 15,017.1 | 85,001.8 | 5.66 : 1 |
| L28 | 15,195.2 | 4,863.2 | 20,058.4 | 132,566.0 | 6.61 : 1 |
| L30 | 19,958.0 | 5,091.9 | 25,049.9 | 184,368.6 | 7.36 : 1 |
| L32 | 28,023.8 | 5,328.2 | 33,352.0 | 278,887.1 | 8.36 : 1 |
| L34 | 39176.4 | 5484.8 | 44661.2 | 419158.5 | 9.38 : 1 |

CONCLUSIONS

Burnt ridge represents a significant resource for Fording Coal, with an estimated 583 million tonnes of in place coal in seams greater than 0.8 meters thick.

Subsurface data for evaluating this deposit is sparse. Prior to 1996 only 5 drill holes existed and in 1996 an additional 17 drill were completed in Burnt Ridge. The deposit is approximately 7.5 kilometers long and encompasses about 12 square kilometers of area underlain by coal bearing strata. This equates to a drilling density of 2 holes per square kilometer. This drilling density is marginally acceptable for determining the inferred resource of the area.

Any estimate of mineable reserve based on this drilling is highly speculative. However, an estimate was made based on the geological model built from this information and result are shown in Table III. 80% to 85% of the estimated mineable reserve occurs in seams 3 through 7. A considerable amount of drilling will be required to upgrade this resource to the indicated category, which requires a drill spacing of less than 300 meters.

RECOMMENDATIONS

A drilling program should be implemented that will raise the level of confidence in the resource estimate to the indicated level.

A drilling program to properly evaluate the complete deposit would include 6 to 8 deep HQ core holes drilling as much of the Mist Mountain Formation as possible and finishing in the Moose Mountain. These holes would be drilled at an angle of between 45° and 60° from the horizontal and would be spaced out along the east side of the ridge at intervals of 800 to 1000 meters. These holes would form the backbone of the project and would be used to correlate results from the fill in drilling. This would require between 4000 and 5000 meters of core drilling. Fill in reverse circulation rotary drilling would tighten up the spacing to under 300

under 300 meters in areas where there is potential strip coal. Fill in rotary drilling would require an additional 70 to 100 holes for 20,000 to 30,000 meters of drilling.

This program could be done in stages over two or three years. This drilling program should start at the north end of Burnt Ridge which presently appears to have the best potential for economic strip coal. There is also a deep core hole on the north end which should help tie any further drilling together. An outline for a short winter program is given at the end of the recommendations. The program would then work its way in stages to the south end of Burnt Ridge with each successive stage being designed based on the evaluation of the proceeding stages.

Proposed Winter Program for 1996/97

Ten drill holes on existing roads and in the north end of Burnt Ridge between latitudes 42,250N and 43,750N. The total meters would be approximately 3000 and the duration of the drilling would be 4 to 5 weeks. A dozer would be required to be on standby during the drilling for cleaning snow, building sites and helping with drill rig moves. The dozer would also be

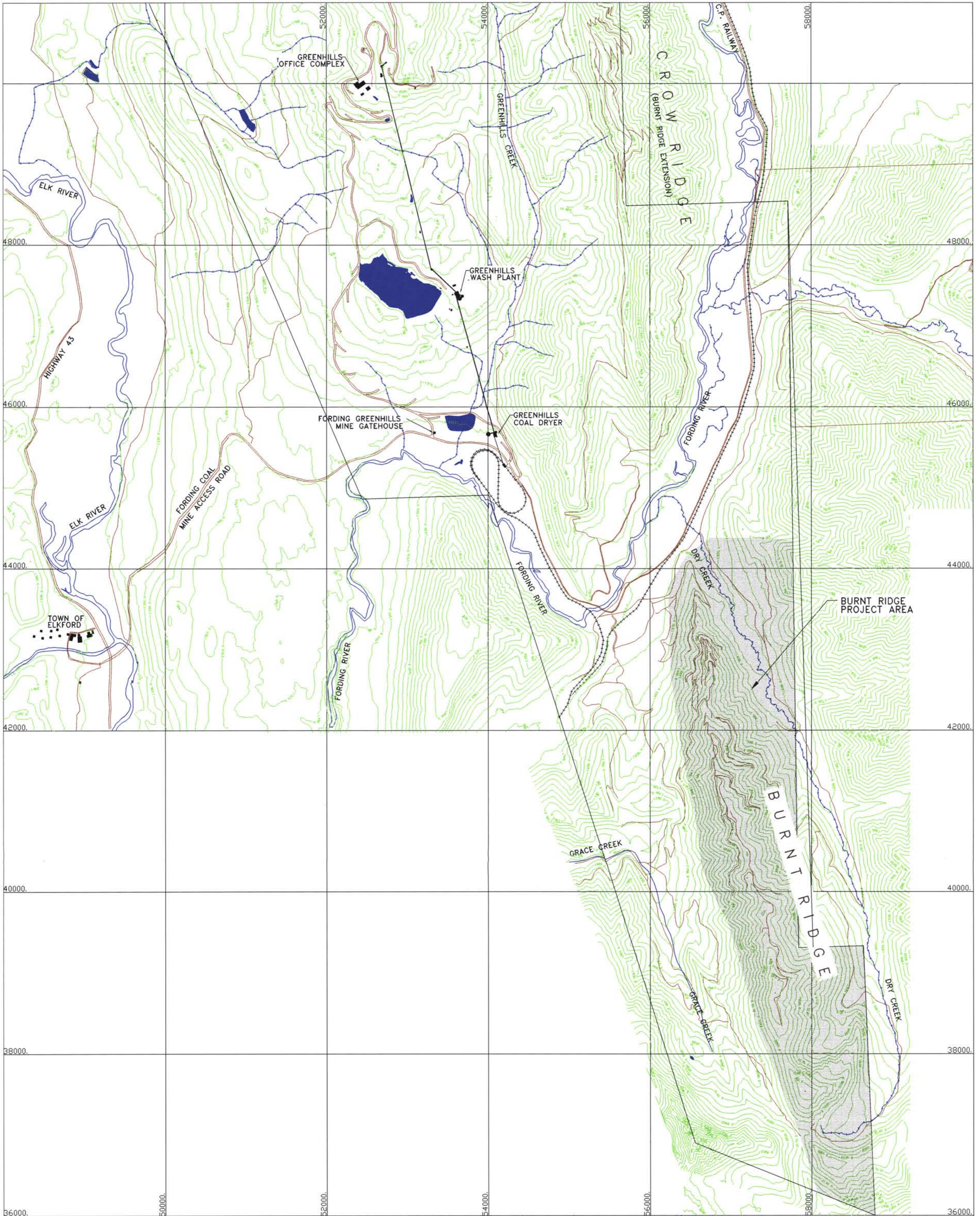
Estimated cost for winter program:

| | |
|---------------------------------------|-------------------|
| Rotary drilling @ \$45 /meter | \$ 135,000 |
| Dozer 40 days @ \$1500 /day | \$ 60,000 |
| Testing and analysis | \$ 5,000 |
| Geophysical logging | \$ 20,000 |
| Supervision & truck rental (2 months) | \$ 23,000 |
| Total cost | \$ 243,000 |

A map titled "*WORK PROPOSED WINTER PROGRAM*" is included which shows the locations of the proposed drill holes. Because of the winter conditions the drill holes are all located on existing roads.


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| No | DATE | MADE BY | DESCRIPTION |
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MAP SCALE

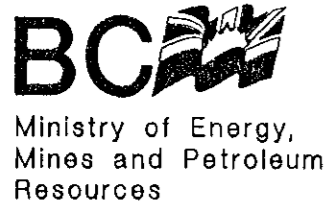


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| NOV 7, 96 | BDP | L.B.S. | |

**LOCATION MAP
BURNT RIDGE**

| MAP INDEX NUMBER | SCALE | DRAWING NUMBER |
|----------------------------------|---------|----------------|
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Geological Survey Branch
BULLETIN 82

Figure 6, South Half
**GEOLOGY OF THE
ELK VALLEY COALFIELD**
NTS 82G/10, 16; 82J/2, 6, 7, 10, 11
Geology by D. Grieve
Scale 1:50 000



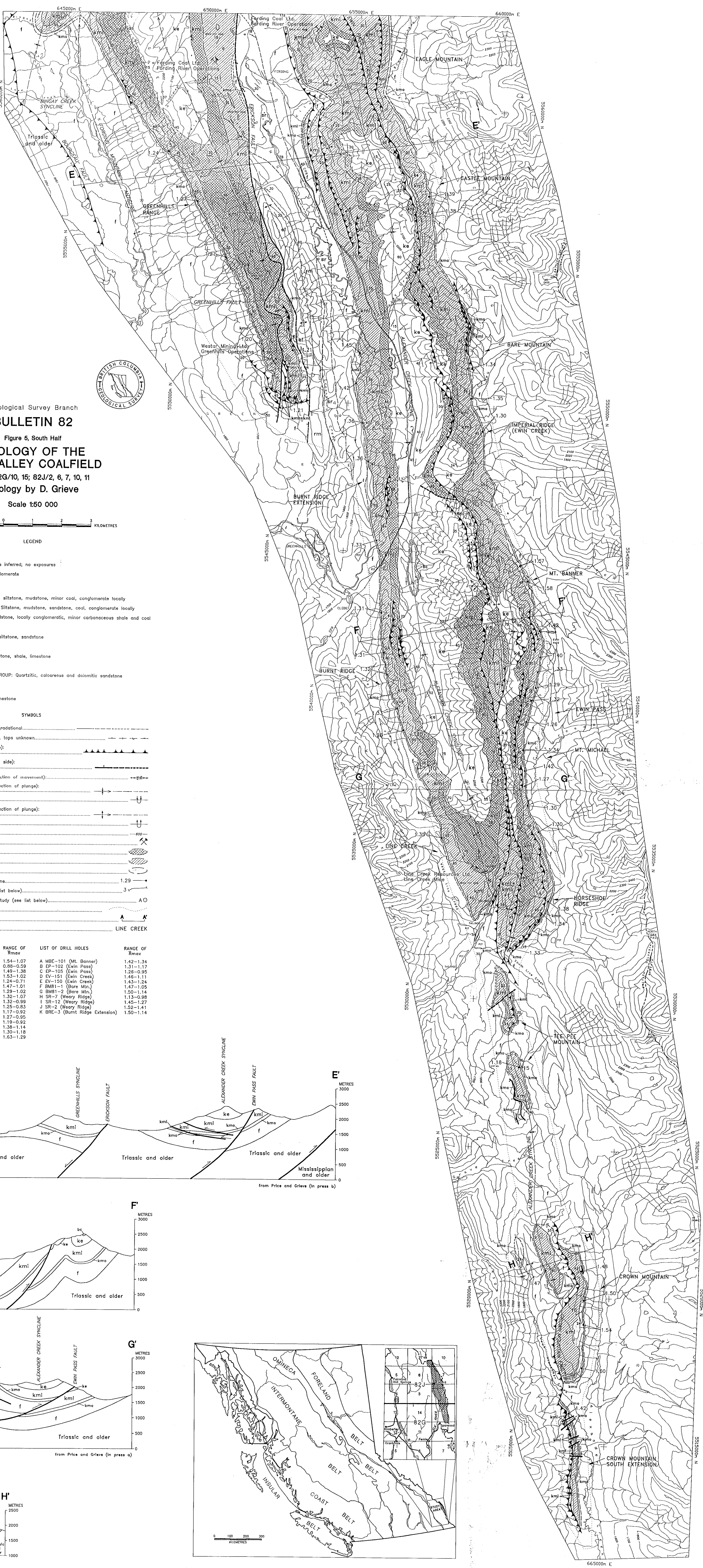
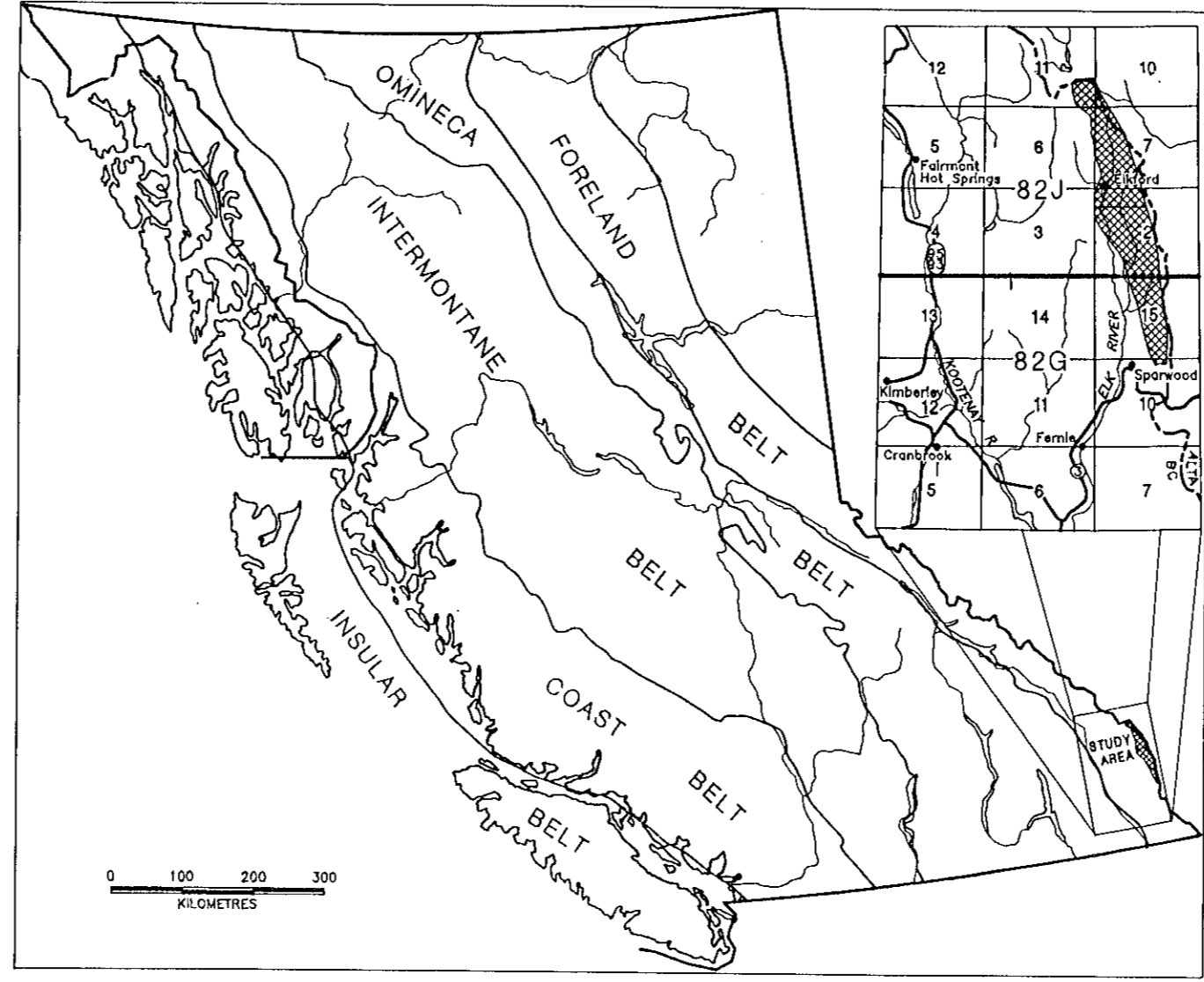
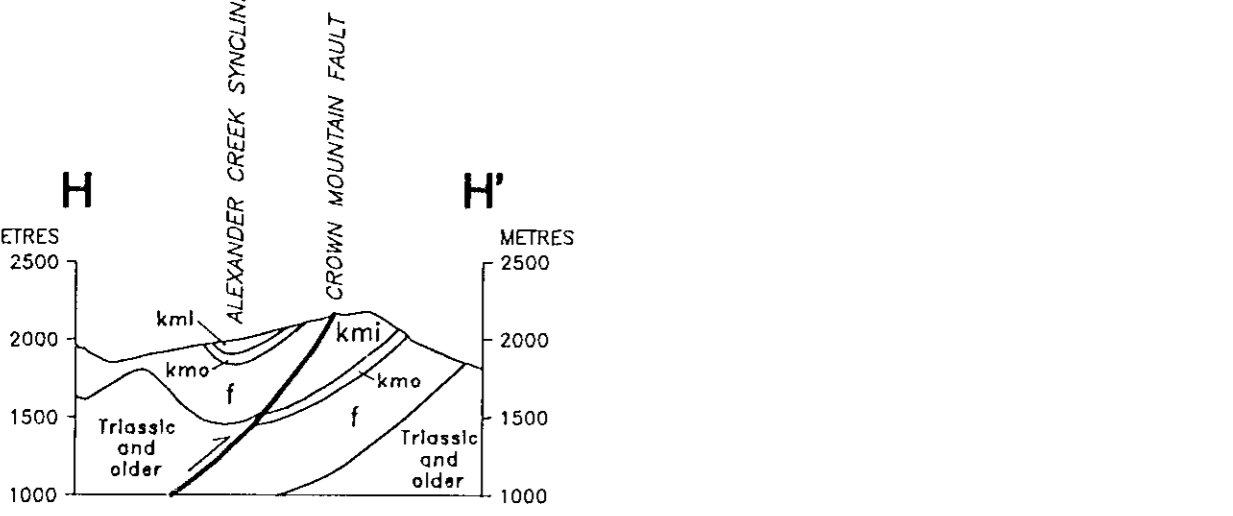
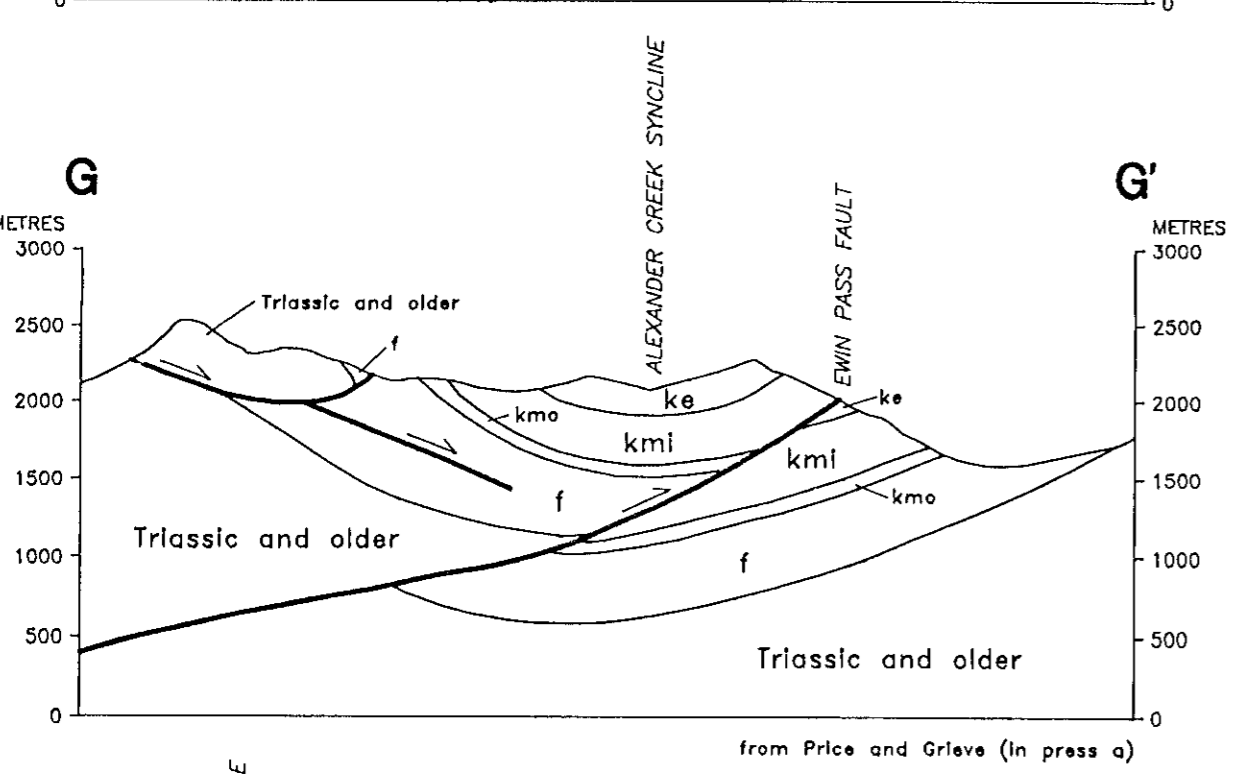
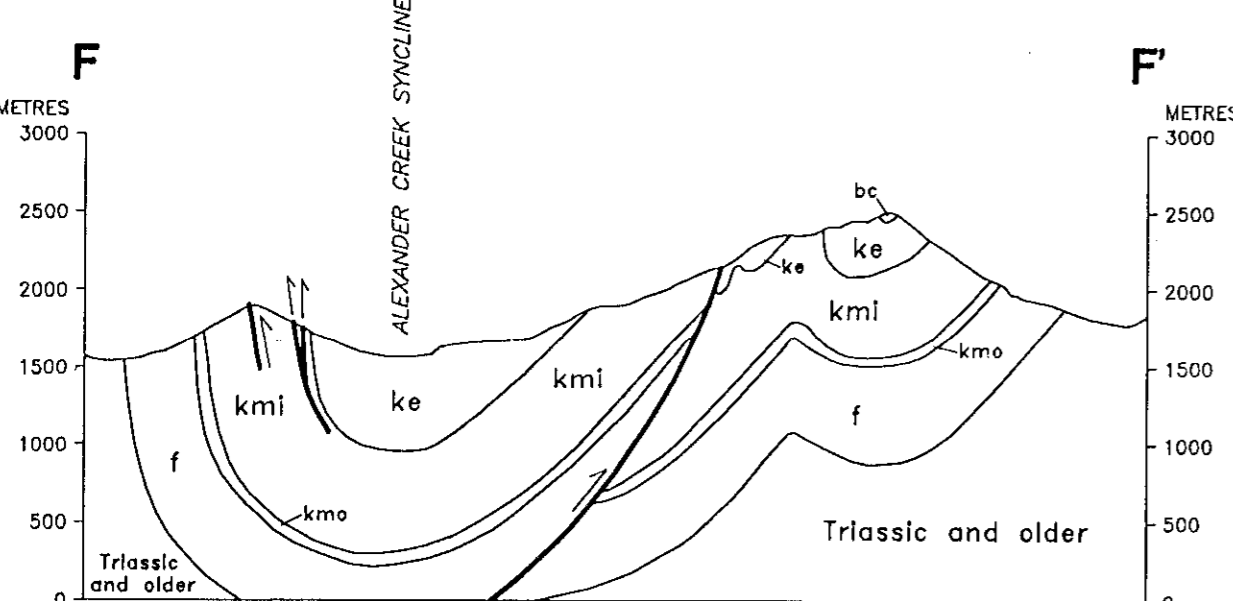
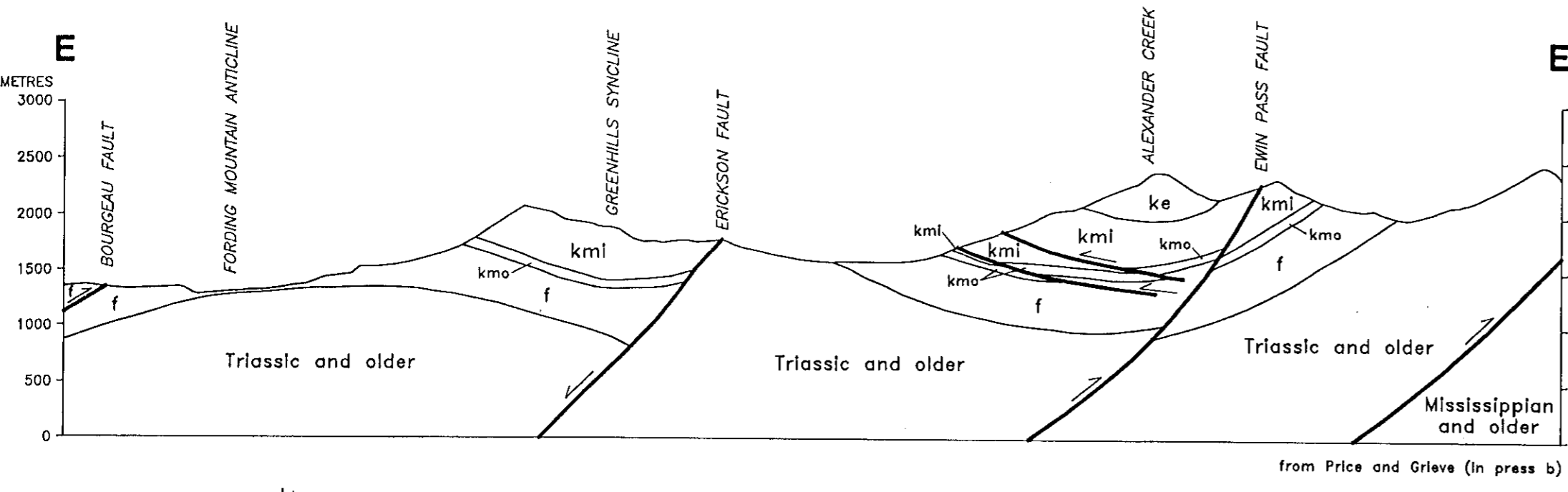
LEGEND

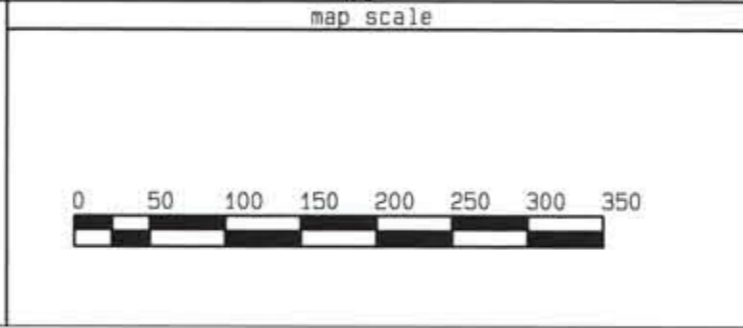
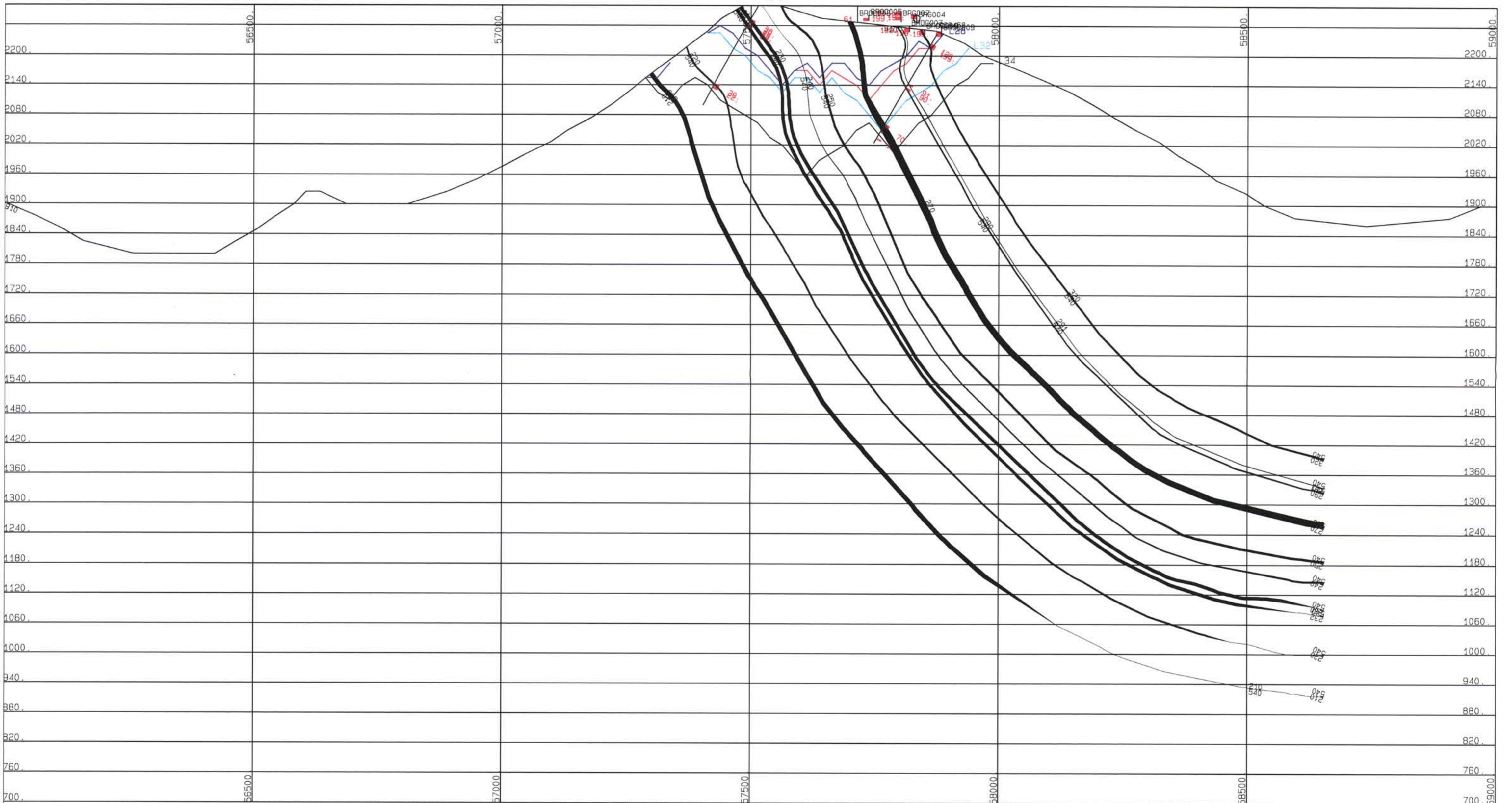
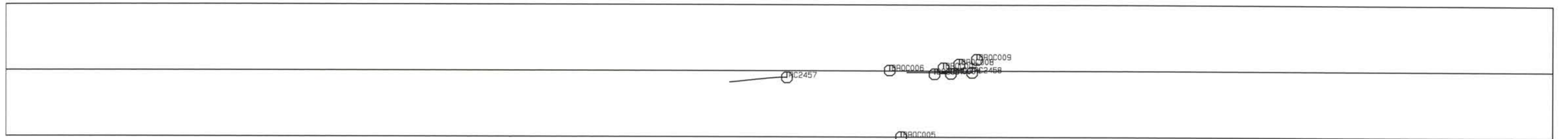
- CRETACEOUS**
BLAIRMORE GROUP
bl Lower Blairmore: Presence inferred; no exposures
bc Cadomin Formation: Conglomerate
- JURASSIC AND CRETACEOUS**
KOOTENAY GROUP
ke Elk Formation: Sandstone, siltstone, mudstone, minor coal, conglomerate locally
kml Mt. Michael Formation: Siltstone, mudstone, sandstone, coal, conglomerate locally
kmo Morrisey Formation: Sandstone, locally conglomeratic, minor carbonaceous shale and coal
- JURASSIC**
f Fernie Formation: Shale, siltstone, sandstone
- TRIASSIC**
sr SPRAY RIVER GROUP: Siltstone, shale, limestone
- PENNSYLVANIAN AND PERMIAN**
rm ROCKY MOUNTAIN SUPERGROUP: Quartzitic, calcareous and dolomitic sandstone
- MISSISSIPPIAN**
RUNDLE GROUP
ef Etherington Formation: Limestone

SYMBOLS

- Geological boundary:
defined, approximate, assumed, gradational.....
- Bedding: inclined, vertical, overturned, tops unknown.....
- Thrust fault (teeth in direction of dip):
defined, approximate, assumed.....
- Normal fault (teeth indicates downthrow side):
defined, approximate, assumed.....
- Transverse fault (arrows indicate direction of movement):.....
- Syncline (upright, arrow indicates direction of plunge):
defined, approximate, assumed.....
- Syncline (overturned):.....
- Anticline (upright, arrow indicates direction of plunge):
defined, approximate, assumed.....
- Anticline (overturned):.....
- Contours (100 metre interval):.....
- Coal mines.....
- High volatile bituminous.....
- Medium volatile bituminous.....
- Low volatile bituminous.....
- Rmax on sample from basal coal zone..... 1.29
- Location of measured sections (see list below)..... 3
- Location of drill cores used in this study (see list below)..... A O
- Limit of interpretation.....
- Cross sections.....
- Coal property and/or area names..... LINE CREEK

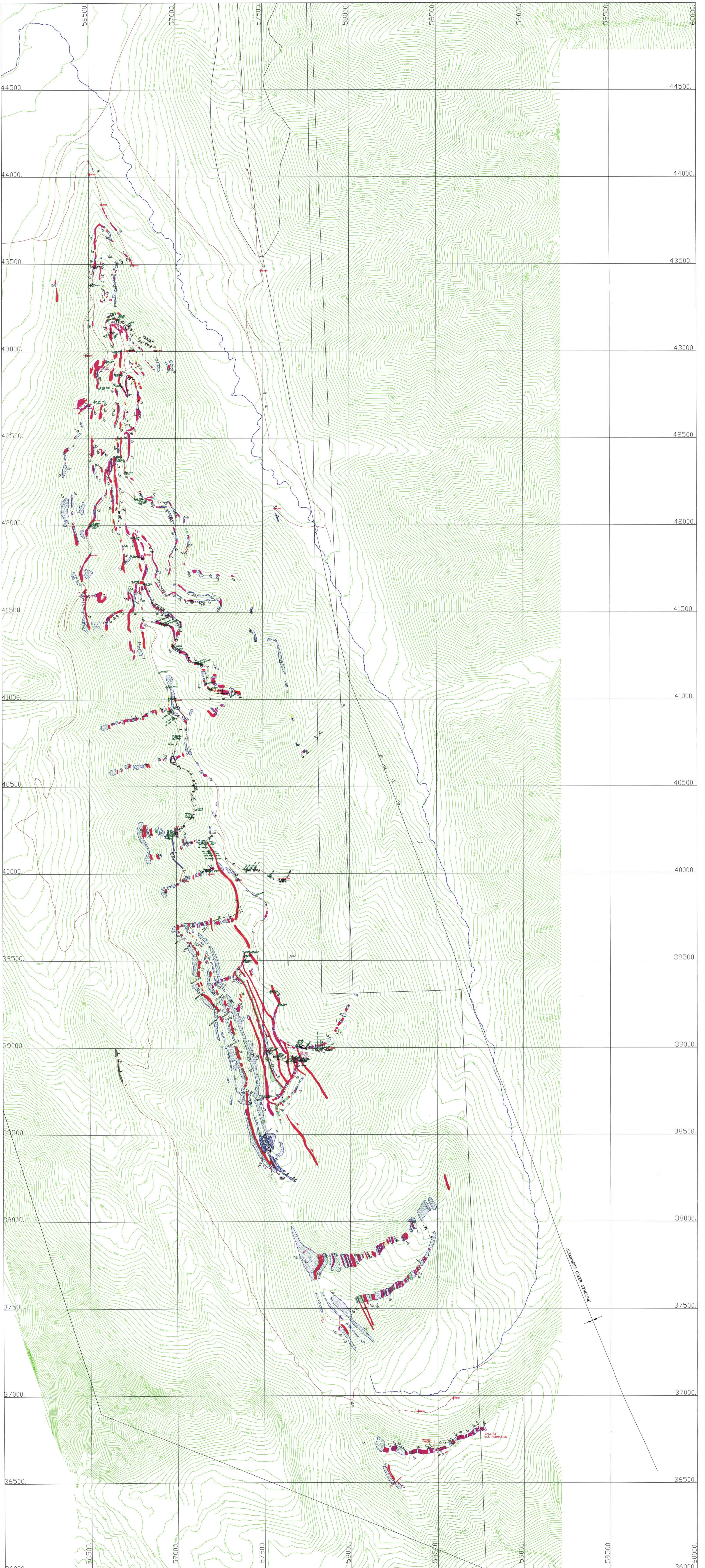
| LIST OF MEASURED SECTIONS | RANGE OF True | LIST OF DRILL HOLES | RANGE OF Rmax |
|----------------------------|---------------|---------------------------------|---------------|
| 1 Weary Ridge | 1.54-1.07 | A MBE-101 (Mt. Banner) | 1.42-1.34 |
| 2 Coal Creek | 0.89-0.59 | B EP-102 (Ewin Pass) | 1.31-1.17 |
| 3 Mt. Velts | 1.49-1.38 | C EP-105 (Ewin Pass) | 1.28-0.95 |
| 4 Mt. Tuxford | 1.53-1.02 | D EV-151 (Ewin Creek) | 1.48-1.11 |
| 5 Greenhills Range | 1.24-0.71 | E EV-150 (Ewin Creek) | 1.43-1.24 |
| 6 Burnt Ridge Extension | 1.47-1.01 | F BM81-1 (Bare Mt.) | 1.47-1.05 |
| 7 Imperial Ridge | 1.29-1.02 | G BM81-2 (Bare Mt.) | 1.50-1.14 |
| 8 Ewin Pass | 1.32-1.07 | H SR-7 (Weary Ridge) | 1.13-0.98 |
| 9 Burnt Ridge | 1.32-0.99 | I SR-12 (Weary Ridge) | 1.45-1.27 |
| 10 Burnt Ridge South | 1.25-0.83 | J SR-2 (Weary Ridge) | 1.42-1.41 |
| 11 Mt. Michael upper sheet | 1.17-0.92 | K BRE-3 (Burnt Ridge Extension) | 1.50-1.14 |
| 12 Mt. Michael lower sheet | 1.27-0.95 | | |
| 13 Noname Ridge | 1.19-0.92 | | |
| 14 Horseshoe Ridge | 1.38-1.14 | | |
| 15 Tee Pee Mountain | 1.30-1.18 | | |
| 16 Crown Mountain | 1.63-1.29 | | |





| REVISONS | No | DATE | MADE BY | DESCRIPTION |
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| 12-12-96 | | | | |

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| section 39000N | | | 852 |
| MAP INDEX NUMBER | SCALE | DRAWING NUMBER | |
| | 1: 5000 .M | | |



MAP SCALE



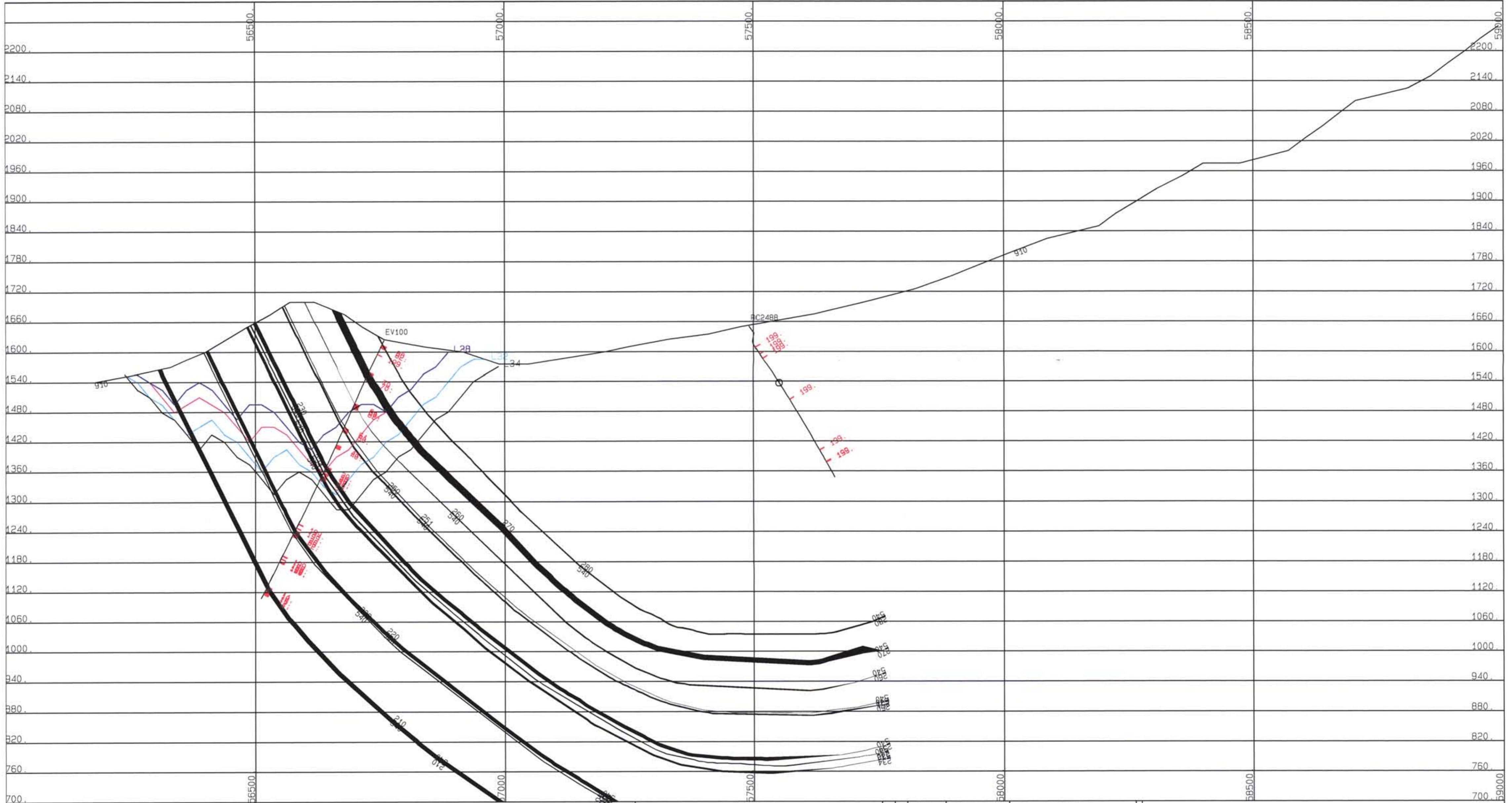
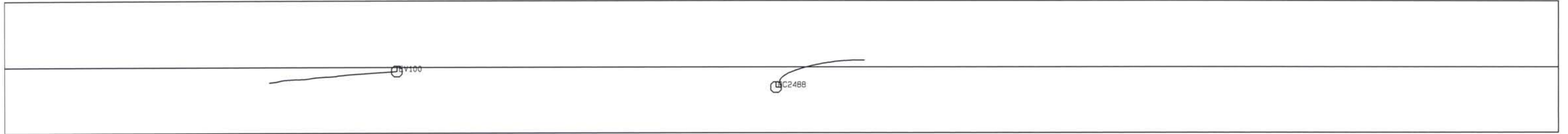
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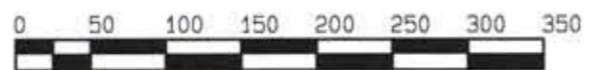
FORDING BURNT RIDGE AREA
GEOLOGY OUTCROP MAP

| MAP INDEX NUMBER | SCALE | DRAWING NUMBER |
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| s:\GEOLOGY\EXPLOR*\BRFINAL.DWG | 1:5000 | |

852



map scale



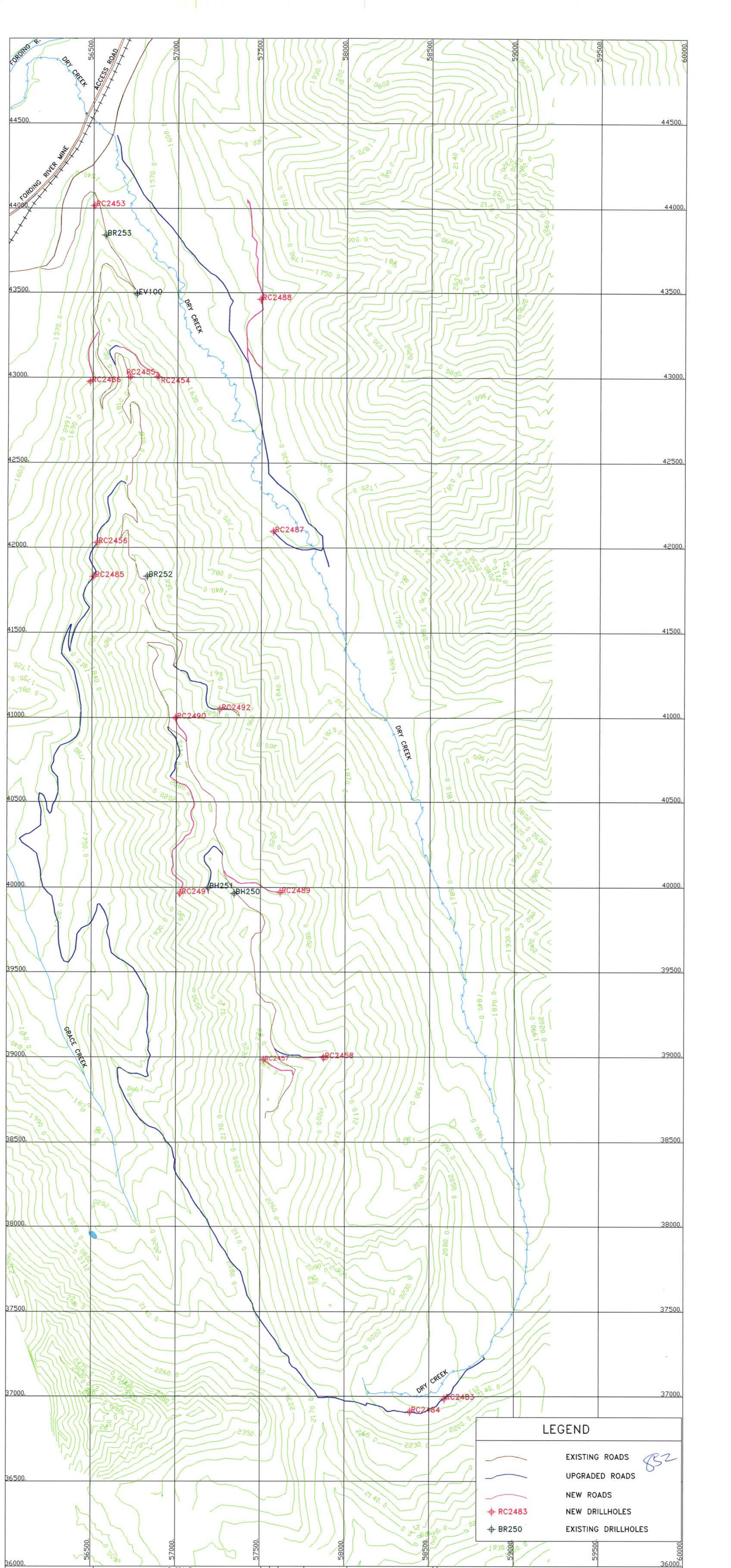
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| 12-12-96 | | | |

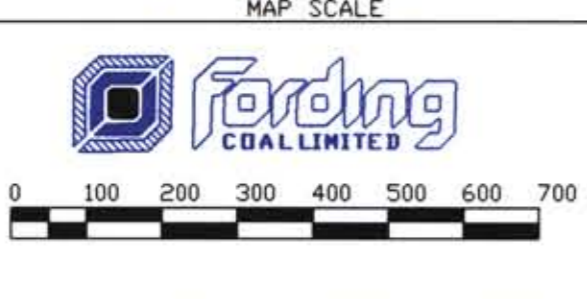
section 43500N

852

| MAP INDEX NUMBER | SCALE | DRAWING NUMBER |
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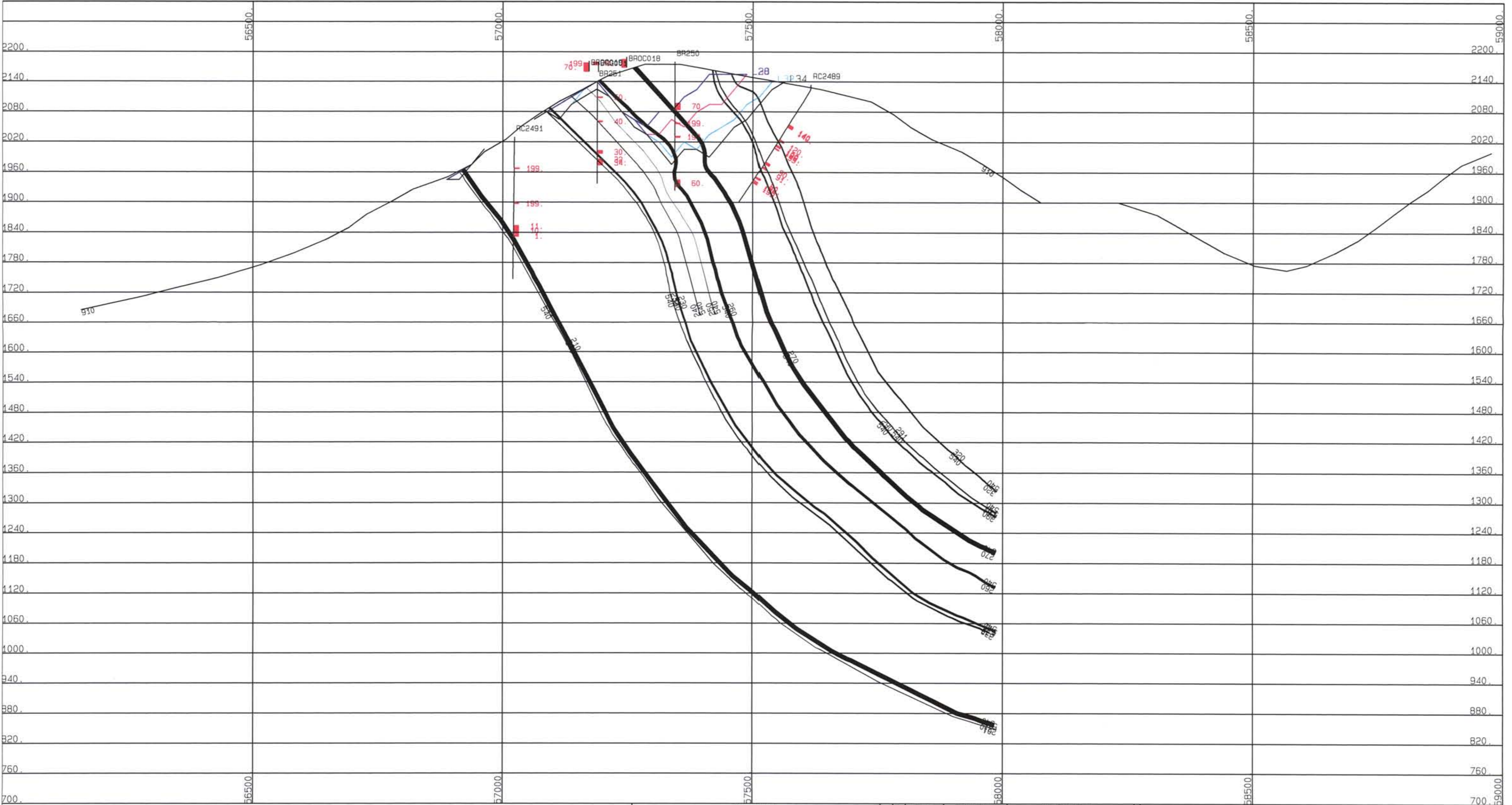
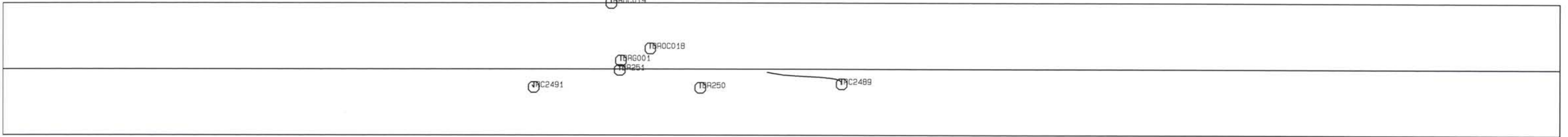
| LEGEND | |
|--------|---------------------|
| | EXISTING ROADS |
| | UPGRADED ROADS |
| | NEW ROADS |
| | NEW DRILLHOLES |
| | EXISTING DRILLHOLES |



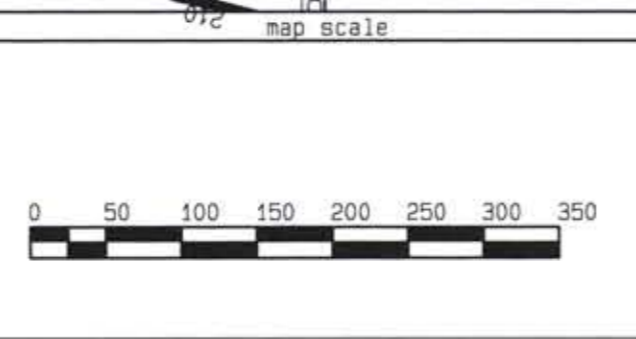
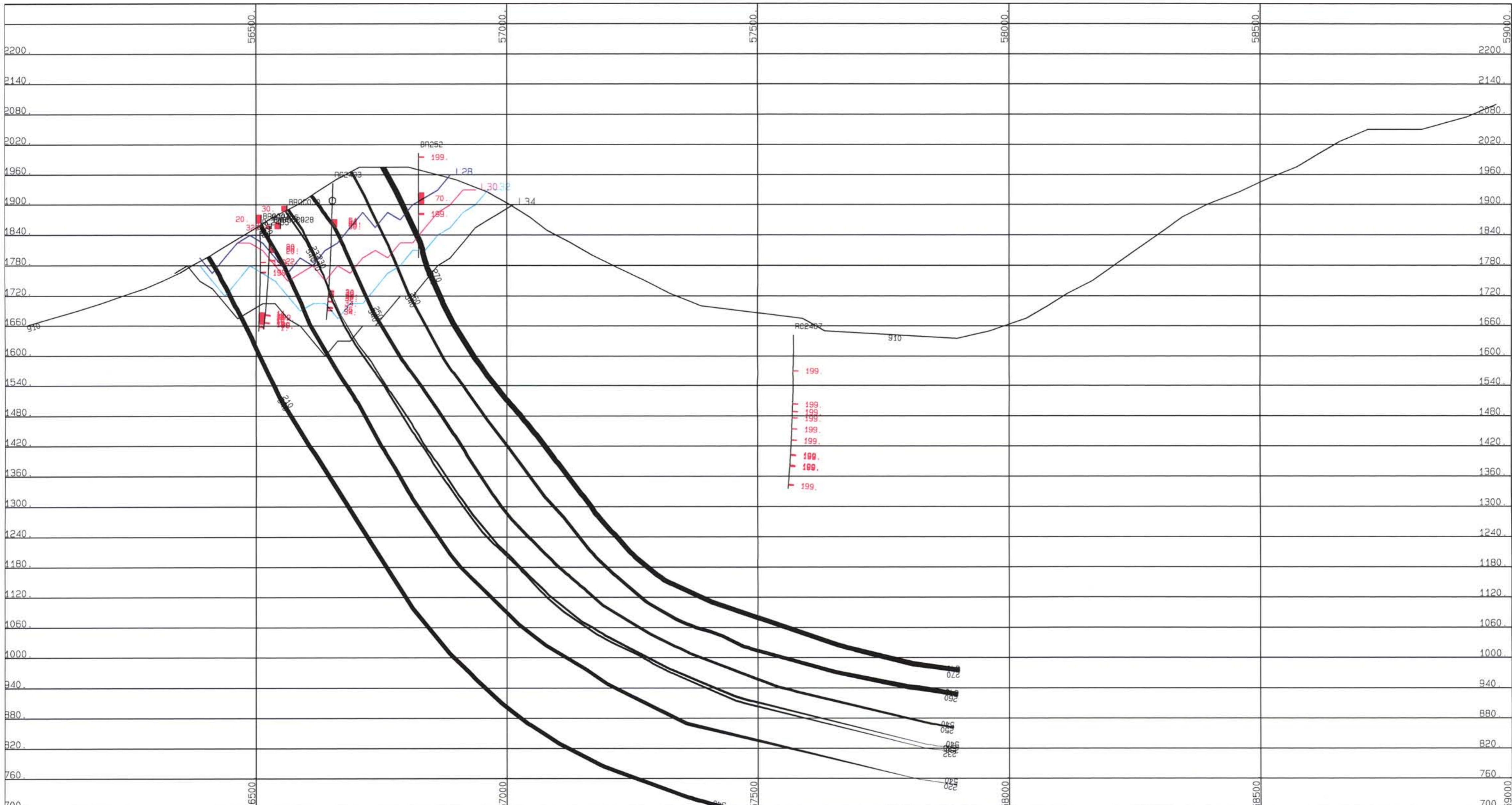
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| DATE | DRAWN BY | CHECKED | APPROVED |
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| 11-16-96 | LBS | | LBS |

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| FORDING BURNT RIDGE AREA WORK COMPLETED 1996 | | |
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| 766c | 1:10000 | s:\geo\exp\br\brwork |



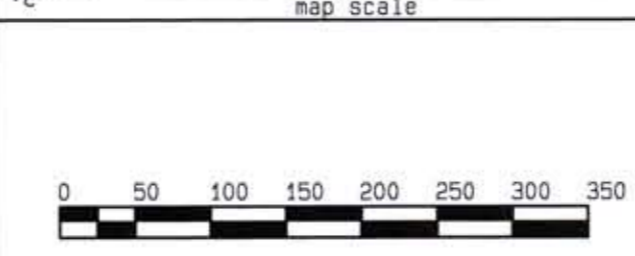
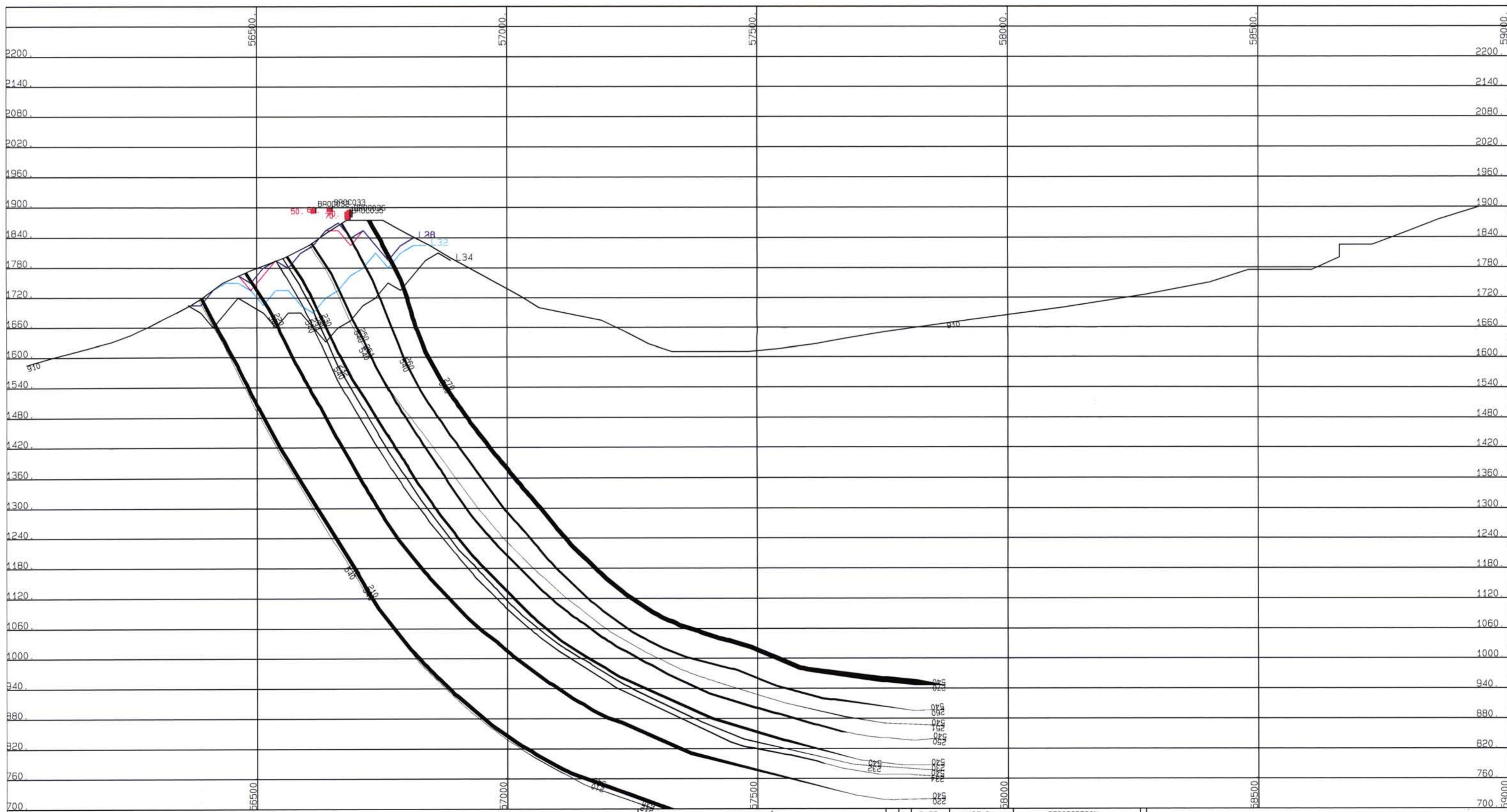
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| 12-12-96 | | | | | | | | MAP INDEX NUMBER | | |
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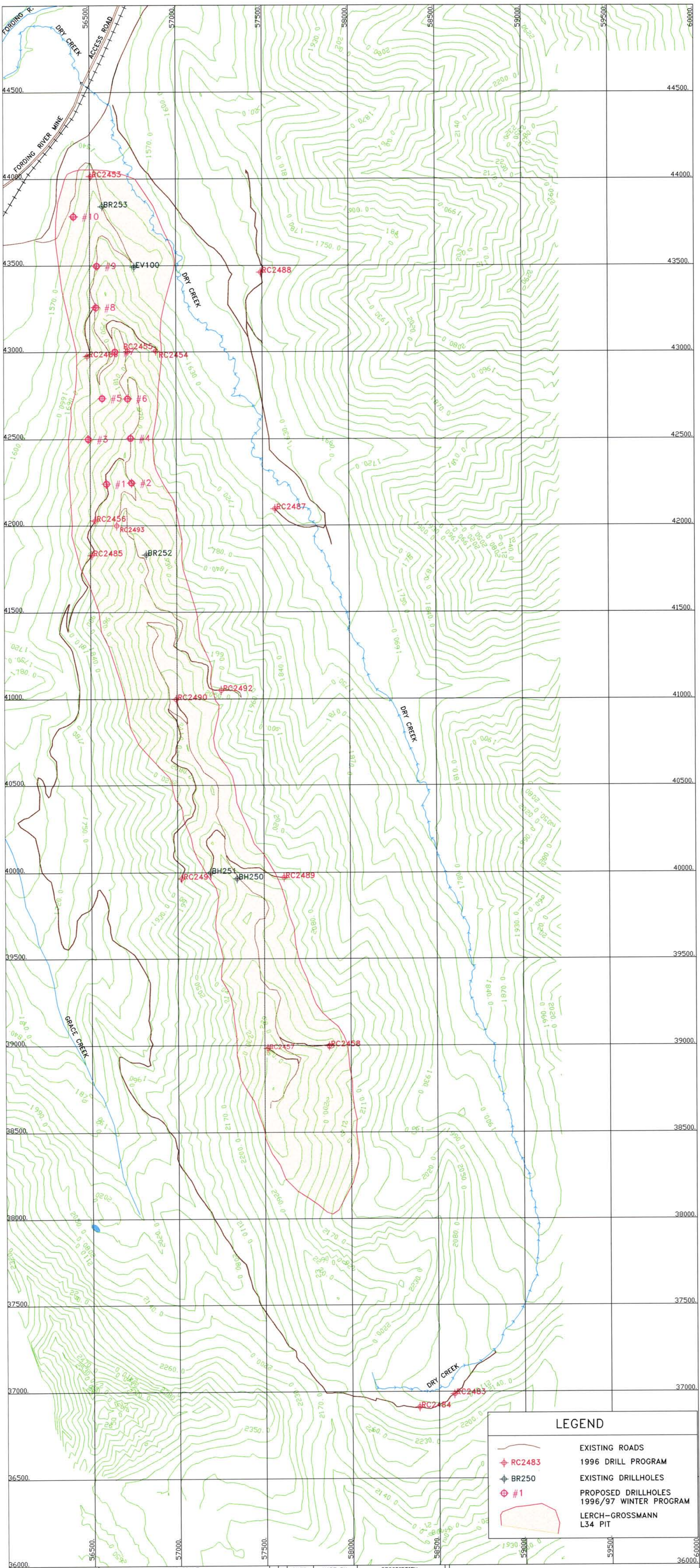
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| 12-12-96 | | | |

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| MAP INDEX NUMBER | SCALE | DRAWING NUMBER |
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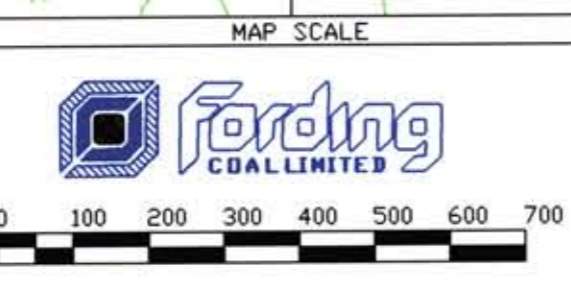
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| section 42500N | | |
| MAP INDEX NUMBER | SCALE | DRAWING NUMBER |
| | 1: 5000 . M | |



LEGEND

- EXISTING ROADS
- RC2483 1996 DRILL PROGRAM
- BR250 EXISTING DRILLHOLES
- #1 PROPOSED DRILLHOLES 1996/97 WINTER PROGRAM
- LERCH-GROSSMANN L34 PIT

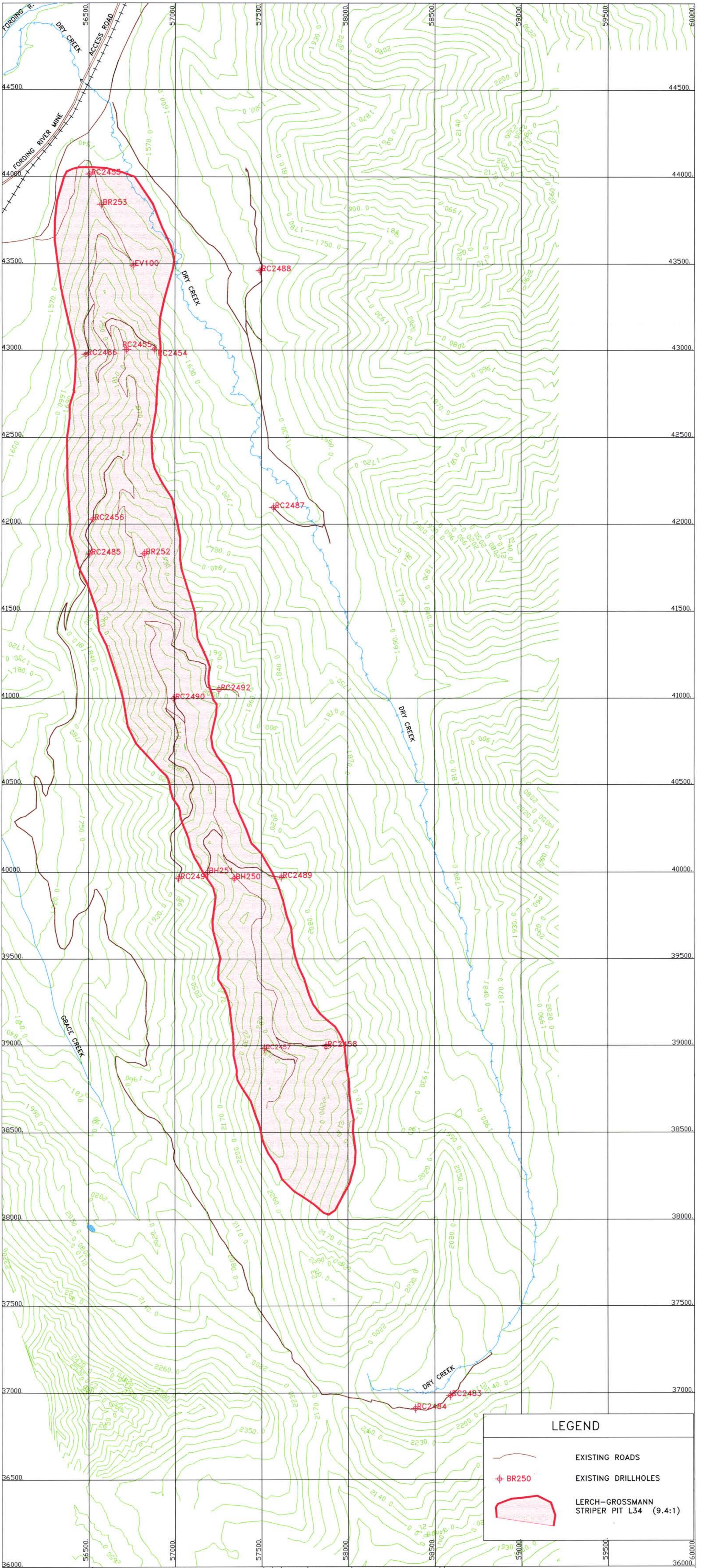


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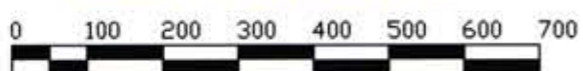
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| 11-16-96 | LBS | | LBS |

**FORDING BURNT RIDGE AREA
WORK PROPOSED WINTER PROGRAM**

| | | |
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| MAP INDEX NUMBER | SCALE | DRAWING NUMBER |
| S:\GEOLOGY\EXPLORE\BRPROG.DWG | 1:10000 | |



| LEGEND | |
|--------|---|
| | EXISTING ROADS |
| | EXISTING DRILLHOLES |
| | LERCH-GROSSMANN STRIPER PIT L34 (9.4:1) |



| REVISONS | No | DATE | MADE BY | DESCRIPTION |
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**FORDING BURNT RIDGE AREA
LERCH-GROSSMANN L34 PIT OUTLINE**

| MAP INDEX NUMBER | SCALE | DRAWING NUMBER |
|------------------------|---------|----------------|
| BRL34.14 BR2486.DWG | 1:10000 | |

| DATE | DRAWN BY | CHECKED | APPROVED |
|----------|----------|---------|----------|
| 11-16-96 | LBS | | LBS |