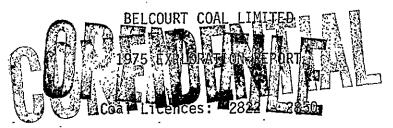
PR- BELCOURT 75(1)A.



N.T.S. Reference: 93-I-9 - 93-I-8

Operator: Denison Mines (BC) Limited

Georgia Hoffman January, 1976

GEOLOGICAL BRANCH ASSESSMENT BEFORT

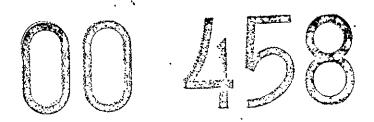


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COALACT

(Section 19 & B.C. Reg. #436/75)
Exploration & Development Work Report Cover Sheet

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Operator: Deni	son Mines (B.C.) Lim	ited		
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STATEMENT OF QUALIFICATIONS

I, Georgia Lynne Hoffman, having completed a Bachelor of Arts degree majoring in geology at the University of Pennsylvania in the United States in 1970, have been involved with numerous exploration programs and mapping projects in Canada and the United States. I have also engaged in further study and research work toward a Master of Science degree at the University of Alberta.

I have been employed as a geologist by the Coal Division of Denison Mines Limited since May, 1975, and have been involved in coal exploration activities, particularly on the Belcourt property, since that date.

The 1975 exploration program was closely supervised at all stages by the project geologist, Mr. Geoff Jordan.

Georgia Hoffman

Geologist, Coal Division

I, Gordon Gormley have known Georgia Hoffman since May of 1975 in her position of coal geologist with Denison Mines (B.C.) Limited. I have found her performance both in the field and in data compilation to be of a highly professional standard.

G. P. Gormley, P.Geol.
Denison Mines (B.C.) Limited

Within this report System International (S.I.) weights and measures have been used throughout. British standards together with S.I. units have been stated in some instances for comparative purposes. Similarly, all maps and diagrams are prepared according to S.I. standards.

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SUMMARY

Denison Nines (B.C.) Limited's Belcourt property is located in the Province of British Columbia approximately 105 kilometres south of Dawson Creek, B.C. The property consists of coal licenses 2822 to 2850, an area of 13,002 acres (5,261 hectares), situated along the Rocky Mountain foothills coal belt just west of the border between the provinces of British Columbia and Alberta.

The Belcourt property contains Lower to Middle Cretaceous strata, with sediments of the Minnes Group forming the base of the geologic section and a portion of the Shaftesbury Formation lying at the top of the sequence. The intervening sediments are a continuous and complete sequence from Cadomin Formation through Commotion Formation, with an overall thickness of some 900 metres. Each formation is shown on Table 1 and is fully described in text of this report. The Gates Member of the Commotion Formation is the major coal bearing unit in the property.

It has been determined that the Gates Member has an average thickness of 580 metres on the Belcourt property and contains a cumulative thickness of about 46 metres of coal. The four largest seams, which have been named the Ptarmigan, Holtslander, Belcourt, and Red Deer seams, contain an average of 24.5 metres of this coal. These seams are 10 metres, 6 metres, 4.5 metres, and 4 metres thick respectively. The remainder of the coal is contained in seven smaller seams ranging from 3 to 3.5 metres in thickness.

The Belcourt property has been divided into four blocks on the basis of differences in geologic structure. All four blocks contain large areas of coal bearing Gates Member sediments. The central two blocks, which lie between Red Deer and Belcourt creeks, contain large areas of northeast dipping Gates strata, including the eleven coal seams described above. These strata are relatively undeformed near Red Deer Creek, and are complicated by folding and faulting near Belcourt Creek. The other two blocks have been explored in less detail. The northernmost block is characterized by large folds exposing Gates Member strata. Two coal seams, one 8 metres thick and one 3.5 metres thick, have been measured in this block. The southernmost block contains southwest dipping Gates Member strata which have been complicated by folding and faulting. Six coal seams have been located there, one having a measured thickness of 12 metres.

Although coal from the Belcourt property has not yet been tested for quality and coking properties, drilling on nearby properties, such as Denison Mines (BC) Limited's Saxon property, has shown that Gates Member seams in this area contain excellent quality coking coal. It is expected that the coal available on the Belcourt property is metallurgical coal of the same excellent quality.

One of the attractive features of the Belcourt property is its proximity to railroads leading to eastern Canadian markets. Only 100 km. of rail construction would be required to link the Belcourt property with the Canadian National Railway near Grande Prairie, Alberta.

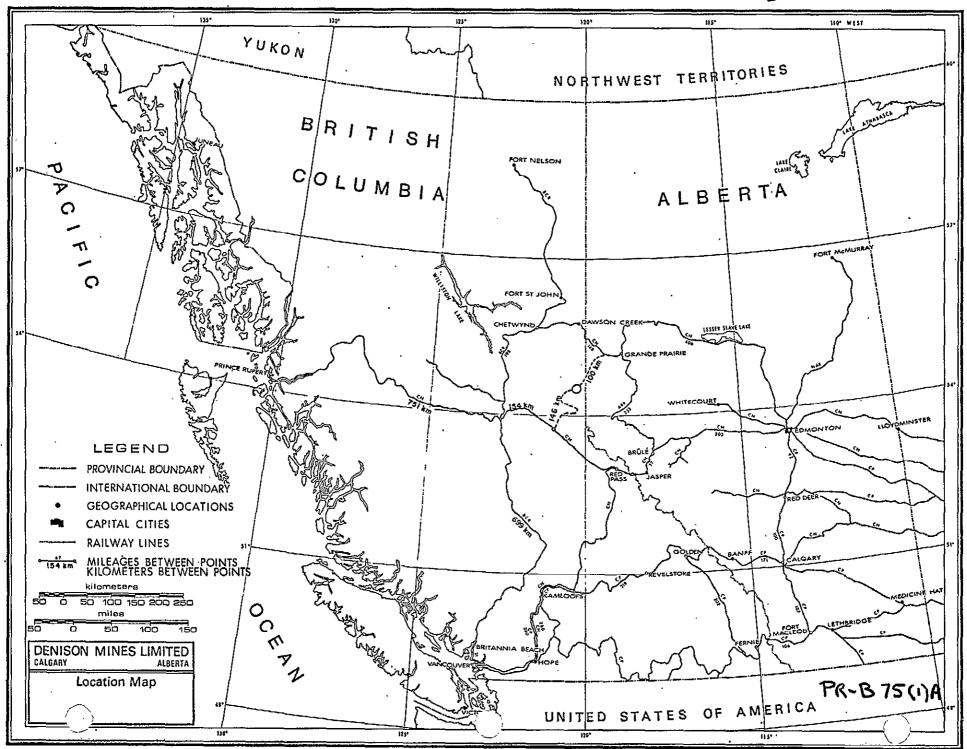
INTRODUCTION

This report summarizes exploration work undertaken on the Belcourt property during the 1975 exploration program. A comprehensive discussion of the stratigraphy and structure of the property is included in the text.

The primary objectives of the 1975 program were threefold:

- (i) to prepare a more comprehensive geologic map of the whole of the Belcourt property;
- (ii) to determine in as much detail as possible the stratigraphy of the formations involved, with particular attention to determination of coal seam thicknesses and roof and floor conditions; and
- (iii) to consider problems of infrastructure, such as the definition of possible routes suitable for movement of coal to national and international markets.

To achieve these objectives, aerial photographs and topographic base maps were prepared and studied, following which a program of seven weeks of geological mapping was carried out by two geological teams. No drilling, trenching, or adit sampling has been done on the Belcourt property by Denison Mines (BC) Limited to date.



PROPERTY, LOCATION AND ACCESS

The current Belcourt property coal licenses, covering an area of (approximately) 13,002 acres (5,261 hectares), are shown in figure No. 75-0607-R01, and described in the attached schedule included as Appendix II. These licenses lie about 105 km. south of Dawson Creek, B.C. and were located to cover known exposures of the Lower Cretaceous Commotion and Gething Formations, which are the main coal bearing horizons in that part of the Rocky Mountain foothills coal belt.

Access to the rugged ridges of the Belcourt property is usually achieved by helicopter at this time. The only other access to the area is by road along Little Prairie Creek which passes close to the northernmost end of the Belcourt property, and a number of poor quality exploration roads which exist in the valley of Red Deer Creek and in the flat land east of the property.

The broad valley of Belcourt Creek forms the best potential transportation corridor for future routes going east and west from the property. To the west, this route climbs gradually past Belcourt Lake and then turns south to the valley of the Narraway River. The headwaters of the Narraway River meet those of Jarvis Creek at Gray Pass, and the potential route continues from there through the valleys of Jarvis Creek, the McGregor River, and Walker Creek, to the Canadian National Railway at Bend, B.C. With the exception of Gray Pass, this route is moderately good for rail construction. Gray Pass itself forms a significant obstacle that would require some 24 km. of extra rail construction compared to a pipeline route through the same corridor. The use of this Gray Pass corridor has also been proposed for Denison Mines (BC) Limited's Saxon property which lies on the Narraway River to the southwest of the Belcourt property. Other possible rail and pipeline routes, both to the east and southeast, have been considered, but these result in much longer total transportation distances than the Gray Pass route to the west.

The pipeline distance from the property to the rail head at Bend, B.C., via Gray Pass, is 122 km. From there, there are three alternative routes to the Pacific coast: by Canadian National Railway to Vancouver B.C. (970 km.); by Canadian National Railway to Prince Rupert, B.C. (905 km.); by Canadian National Railway to Prince George, B.C., and then by British Columbia Railway to Britannia Beach, B.C. (853 km.). These routes are shown on the map on the preceding page.

One of the attractive features of the Belcourt property is its close proximity to railroads leading to eastern Canadian markets. A potential rail route to the east via Grande Prairie, Alberta, follows the Belcourt Creek valley to the Wapiti River. The route then crosses the Wapiti and continues to the northeast, crossing the Redwillow River near Elmworth, Alberta, and reaching the Canadian National Railway between the towns of Beaverlodge and Huallen, about 40 km. west of Grande Prairie. The distance by rail from the Belcourt property to the Grande Prairie area is approximately 100 km. This route is shown on the location map.

DESCRIPTION OF EXPLORATION METHODS

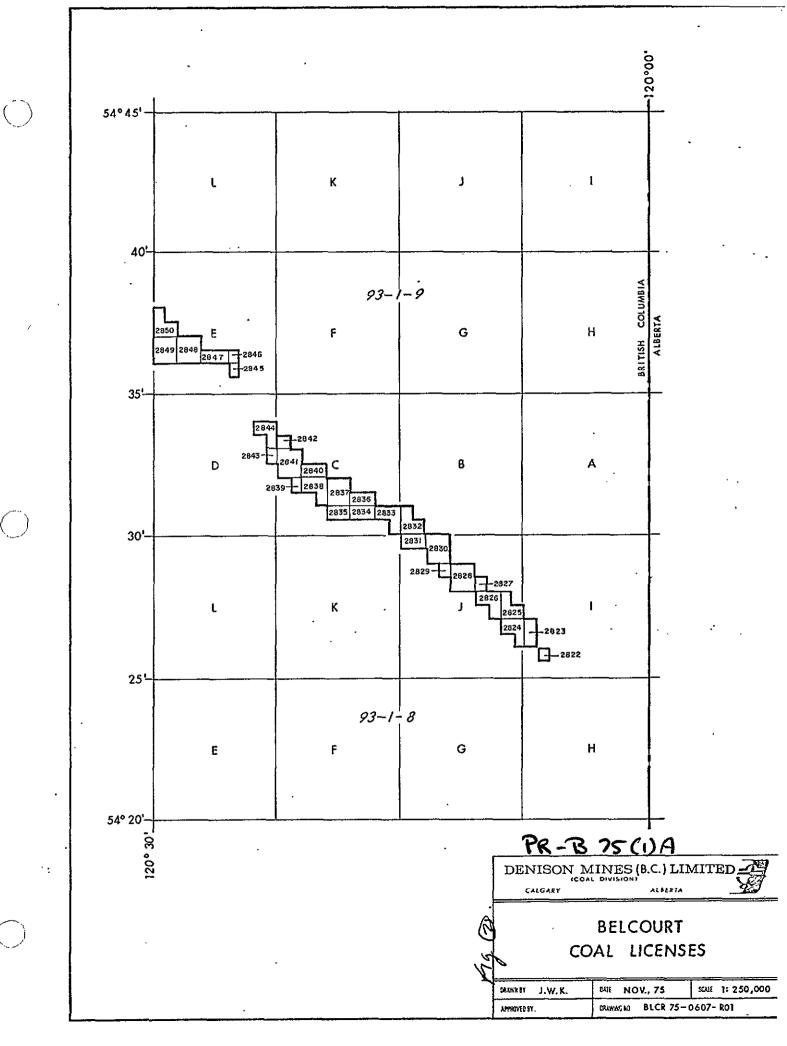
The exploration work carried out between January 1st, 1975 and October 14th, 1975 on the Belcourt property centred around a program of detailed geological mapping. Methods employed to complete this program are described in detail as follows:

(a) Base Maps

A series of base maps at a scale of 1:5,000 with a contour interval of 5 metres were prepared to allow detailed geological mapping to be undertaken and to achieve a metric standard as soon as possible on this property.

These metric maps were prepared from an aerial photographic survey flown in 1972. As no ground survey had been done on the Belcourt property these maps were controlled only by using the few Government survey stations in the area and existing Government maps. This aspect of the exploration program was carried out by Burnett Resource Surveys of Calgary under the supervision of Mr. J. Kende. A report by him explaining the map preparation methods used on the Belcourt property is included as Appendix No. I.

While this work satisfactorily fulfilled the immediate need for base maps to allow the geological mapping program to proceed, the maps are poorly controlled and, in places, subject to errors in excess of 30 vertical feet. Such errors are not acceptable for detailed mine and preparation plant design as well as for the final preparation of detailed geological maps and cross sections. Hence an aerial photographic survey of the area, as well as topographic survey to establish control points, was undertaken so that a series of controlled 1:5,000 scale base maps could be prepared. This work was also undertaken by Burnett Resource Surveys and is described in detail in the accompanying Appendix No. I. The control points from the topographic survey are shown on the included 1:5,000 geology maps.



(b) Geological Mapping Procedures and Personnel

The field mapping program was carried out by two mapping teams, each consisting of a geologist and field assistant.

Data collection was undertaken at a scale of 1:2,500 in the field and this information was later transferred to the 1:5,000 scale base maps.

Control of the traverse lines was achieved using chain and compass, with corrections for slope variation being incorporated. Points such as creek confluences, or survey control points shown on the base maps, were used to locate the beginning and end of each traverse.

The personnel listed below carried out the field mapping program. Traverses completed by these teams are shown on the accompanying traverse map, Drawing No. 76-0628-R01.

Team No. 1 A. Bak - Geologist A. Raosavljevic - Assistant

Team No. 2 G. Hoffman - Geologist
G. Perry - Assistant

During the year, Mr. Alan A. Johnson, Chief Geologist, Coal, Denison Mines Limited, provided general supervision, advice, and assistance related to various technical and administrative problems. The project geologist, Mr. G. Jordan, supervised the 1975 exploration program on the Belcourt property.

Compilation of the geology maps, preparation of cross sections and the interpretation of results was undertaken by G. Jordan and G. Hoffman.

Drafting of the various accompanying maps was carried out by Mr. E. Toth and Mr. J. Kinnear plus an outside drafting service.

(c) Field Camp

During the planning period for the 1975 program, it was considered unnecessary to establish a large base camp on the Belcourt property involving the construction of exploration roads. The use of an existing camp, combined with helicopter support for the geological traverses, was considered preferable.

An established logging camp is located a short distance southeast of the Belcourt property, at Sherman Meadows, Alberta, and arrangements were made with the operators, Canfor Ltd., to share some of the existing facilities. Additional facilities, such as metal frame tents and trailer space which provided suitable office and drafting areas, as well as additional accommodation, were shared with the Denison Mines (BC) Limited 1975 Saxon program. The establishment of these field camp facilities was organized by Mr. L. Scorgie in the latter part of July, 1975.

Field operations commenced at the beginning of August and continued until the middle of September.

Transport from the field camp to each traverse and return was achieved by helicopter, since the area is located in rugged, isolated terrain through which few roads have been constructed.

The helicopter facilities were contracted from Terr-Air Ltd., with Mr. E. Maas and Mr. L. Self providing pilot services through the program.

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STRATIGRAPHY

Within the Belcourt property, sediments of the Minnes Group (Nikanassin Formation) form the base of the geologic section, and a portion of the Shaftesbury Formation lies at the top of the sequence.

The intervening sediments are a continuous and complete sequence from Cadomin Formation at the bottom to Commotion Formation at the top, with an overall thickness of some 900 metres, as is illustrated on Table 1 and on the Belcourt stratigraphic section (Drawing No. 71-0194-R03). A detailed description of each formation and member follows below:

Minnes Group (Nikanassin Formation)

The Minnes Group consists of a thick sequence of thin bedded, medium grained, lithic and micaceous brown sandstones, interlayered with dark grey to brown coloured shales, siltstones, and mudstones. The rather monotonous nature of this sequence of sediment tends to mask the presence of marker beds which would assist in defining geologic structures and stratigraphy.

Numerous coal seams, usually less than one metre thick, appear to be present throughout the Minnes Group. Some of these seams may be seen in old trenches on the anticline on the northern-most Belcourt licenses. Many of these seams are also well exposed on Ptarmigan Mountain, south of the Belcourt property, where the Minnes Group is more arenaceous and contains several thick, massive sandstone units. Since these seams are presently considered to be too thin to be of economic significance, little of the Minnes Group has been included within the boundaries of the Belcourt property.

Cadomin Formation

The Cadomin Formation, a series of quartzite pebble conglomerates and quartzose sandstones, unconformably overlies the Minnes Group. The thickness of this formation is extremely variable in the foothills region surrounding and including the Belcourt property.

Most exposures of Cadomin Formation on the Belcourt property do not exceed 30 metres in thickness, except in the area around and to the north of Red Deer Creek, where thicknesses of 100 metres have been noted and are shown on the accompanying maps.

STRATIGRAPHY

TABLE OF FORMATIONS

Series	Group		Formation	Lithology	Unit Thickness (metres)
	Fort		Shaftsbury	Dark grey marine shale with sideritic concretions, some sandstone grading to silty dark grey marine shale with sideritic concretions; some siltstone and sandstone in lower part.	450 [†]
Lower	St. John		Boulder Creek Member	Well sorted sandstone, con- glomerate, minor mudstone and carbonaceous shale, few thin coal seams.	60
Cretaceous	i .	Commotion	Hulcross Member	Dark grey marine shale with sideritic concretions, some siltstone.	40
		Coi	Gates Member	Fine to coarse grained lithic sandstones, conglomerate, coal, shale, and mudstone	580
			Moosebar	Dark grey marine shale with sideritic concretions, grading into interlayered silstone and sandstone at top.	70
	Bullhead	Gething		Fine to coarse brown calcareous sandstone, with coal, carbona-ceous shale, and conglomerate.	60
			Cadomin	Massive conglomerate containing chert and quartize pebbles, some quartzose sandstones.	30
	Minnes		Nikanassin	Thin bedded grey and brown shales and brown sandstones, containing numerous thin coal seams.	

Gething Formation

The sediments of the Gething Formation conformably overlie those of the Cadomin Formation. The essentially non-marine Gething Formation consists of brown coloured calcareous lithic sandstones ranging from fine to coarse in grain size, interbedded with conglomerate, carbonaceous shale, and coal seams. A very coarse conglomerate containing quartzite cobbles up to 15 cm. in diameter exists within the Gething Formation in the central portion of the property.

While the average thickness of the Gething Formation in the Belcourt property is 60 metres, it thickens in a northerly direction. Stott, in G.S.C. Bulletin No. 152 (1968), has reported a thickness of 102 metres for the Gething Formation at the Wapiti River just northwest of the Belcourt property.

The coal seams of the Gething Formation have attracted the attention of commercial interests in the foothills north of the Belcourt property. Three coal seams have been identified in the Gething Formation on the property, and since one of those seams has a measured thickness of 9.5 metres locally just south of Holtslander Creek, it appears that the Gething Formation may prove to have some economic potential in the Belcourt property.

The Gething coal seams and lithologies are shown on the Belcourt stratigraphic section (Drawing No. 71-0194-RO3).

Moosebar Formation

In the Belcourt property, the Moosebar Formation consists of a monotonous sequence of dark grey marine shale. In some areas along the main ridge north of Belcourt Creek a brown sandstone unit about two meters thick has been observed within the shales of the Moosebar Formation. However, since the Moosebar Formation is complicated by both folding and faulting in that region, the position of that sandstone unit within the formation has not yet been determined.

The Moosebar Formation conformably overlies the Gething Formation and is gradational into the non-marine sandstones of the overlying Gates Member of the Commotion Formation. On the Belcourt property, the contact between the Moosebar Formation and the Gates Member is considered to lie at the base of the first sandstone unit one metre or more in thickness within the silty transition zone.

The average thickness of the Moosebar Formation on the Belcourt property is 70 metres, and the formation is tectonically thickened along the main ridge north of Belcourt Creek.

Gates Member

The section of the stratigraphy in the Belcourt property with the greatest economic potential is the Gates Member of the Commotion Formation.

This mainly non-marine unit, consisting of lithic sandstones, conglomerates, coal, shale, and mudstones, has an average thickness of 580 metres within the Belcourt property.

The major stratigraphic problem in the Belcourt property is the identification of marker horizons within the Gates Member which will allow precise coal seam correlation.

Surface mapping indicates that the average cumulative coal thickness in the Gates Member is at least 46 metres. The four largest seams, which have been named the Ptarmigan, Holtslander, Belcourt, and Red Deer seams contain 24 metres of this coal. These seams are discussed individually below.

The Ptarmigan seam, unlike the other seams in the Belcourt property, is fairly well exposed. This seam is presently considered to have an average thickness of 10 metres in the property. The seam occurs at an average of 40 metres above the contact between the Gates Member and the Moosebar Formation, overlying a resistant unit of coarse grained or conglomeratic sandstone. The Ptarmigan seam has a measured thickness of 8 metres, both on the licenses north of Red Deer Creek and in the canyon of the tributary to Red Deer Creek. At an exposure on the northeast flank of the main ridge north of Belcourt Creek this seam is 10 metres thick, and in the valley of a nearby creek the seam attains a thickness of 16 metres. A thickness of 5.5 metres was measured on the eastern edge of the main ridge just north of Belcourt Creek, and an impressive exposure of the Ptarmigan seam can be seen on top of the main ridge in the same area.

The Holtslander seam outcrops on the ridge southeast of Holtslander Creek. At this location, the seam is 8.5 metres thick. The seam has been correlated with a seam 3 metres thick on the northeast flank of the main ridge north of Belcourt Creek. The Holtslander seam occurs at a height of about 220 metres above the contact between the Gates Member and the Moosebar Formation and is presently considered to have an average thickness of 6 metres in the Belcourt property.

The Belcourt and Red Deer seams also outcrop on the ridge southeast of Holtslander Creek. The Belcourt seam is 4.5 metres thick and about 220 metres below the base of the Hulcross Member at this location. The Red Deer seam is 4 metres thick and about 200 metres below the base of the Hulcross Member. These two seams

are separated by a resistant, coarse grained and sometimes conglomeratic sandstone of variable thickness. This sandstone forms the easternmost edge of the main ridge north of Belcourt Creek, providing a marker horizon which facilitates the correlation of these seams through that region.

In addition to the four largest seams, field traverses have located seven other seams ranging from 3 to 3.5 metres in thickness. All seams and lithologies are shown on the Belcourt stratigraphic section (Drawing No. 71-0194-RO3).

Hulcross Member

On the Belcourt property, the Hulcross Member of the Commotion Formation is exposed only in the valley of a small, steep creek immediately south of Holtslander Creek. There it can be seen that the sandstones of the Gates Member are graditional into the marine siltstones and shales of the Hulcross Member. This exposure indicates that the Hulcross Member is only about 40 metres thick.

Elsewhere on the property, the position of the Hulcross Member is imprecisely known. In these areas the Hulcross Member has been mapped principally on the basis of its tendency to form a narrow valley between the resistant sandstones of the upper portion of the Gates Member and lower portion of the Boulder Creek Member.

A precise definition of the contact between the Gates and Hulcross Members will be determined for the Belcourt property when the stratigraphy of the Hulcross Member has been established.

Boulder Creek Member

On the Belcourt property, the Boulder Creek Member of the Commotion Formation consists of lithic sandstone, with conglomerate and a few thin coal seams. This can be seen in scattered exposures lying at the foot of the ridge immediately south of Holtslander Creek. There, the unit is about 60 metres thick. Elsewhere on the property, the position of the Boulder Creek member is less precisely known. In these areas, the Boulder Creek member has been mapped on the basis of topography and a few outcrops of sandstone.

Shaftesbury Formation

The youngest sediments in the Belcourt property are the marine shales of the lower Shaftesbury Formation. Although these shales are not exposed anywhere, they are presumed to conformably overlie the Boulder Creek Member of the Commotion Formation.

STRUCTURE

The structure of the Belcourt property can be considered in terms of four main blocks. These blocks have each been subjected to different degrees of tectonic deformation. As a result, each block is characterized by a different overall structural style, which controls the coal reserves and mining districts.

The four blocks, called Red Deer North, Red Deer South, Holtslander South, and Belcourt South are discussed individually below, in terms of their structure and economic potential.

Red Deer North

The Red Deer North block lies to the north of Red Deer Creek. This block is characterized by a number of large folds which expose Minnes Group sediments in the southwest through Hulcross Member sediments in the northeast. A large area of coal bearing Gates Member sediments is exposed by these folds.

To the southeast, the folds are faulted against an area of Minnes Group sediments. The area of Minnes Group sediments is complicated by further faulting and contains only small remnants of younger Middle Cretaceous strata.

The details of the stratigraphy and structure in the Red Deer North block remain to be determined. However, the presence of a large area of coal bearing Gates Member strata has been confirmed in the folded portion of the block. The Gates Member contains an average thickness of at least 46 metres of coal in the areas to the south of the Red Deer North block. It is expected that further exploration work will prove the Red Deer North block to contain significant coal reserves suitable for surface or underground mining.

Red Deer South

The Red Deer South block, lying between Red Deer and Holtslander Creeks, consists of a sequence of mildly deformed, northeasterly dipping strata. Included is a sequence from Minnes Group to Shaftesbury Formation. The strata of the Cadomin Formation through Gates Member form a ridge parallel to strike, with the Gates Member forming prominent dip slopes along the northeastern edge of that ridge. The dip of this sequence is about 25° near Red Deer Creek, but the angle of dip increases rapidly southward. The average dip in the rest of the block is approximately 55°.

Although a few folds and a reverse fault have been located, the South Red Deer block is for the most part only mildly deformed. A zone of structural disturbance in the vicinity of the northeastern property boundary forms the northeastern limit of the Red Deer South block.

The Gates Member contains an average thickness of at least 46 metres of coal in the Red Deer South block. The relatively undeformed dip slopes of coal bearing Gates Member sediments in the Red Deer South block offer an attractive situation for either surface or hydraulic mining.

Holtslander South

The Holtslander South block, which lies between Holtslander and Belcourt Creeks, is structurally continuous with the Red Deer South block but has been more strongly deformed.

The overall structure of the Holtslander South block is that of a broad anticline modified by smaller scale folding and faulting. The anticline has been breached by erosion along the southwestern edge of the property, exposing folded Moosebar Formation through Minnes Group sediments. In the remainder of the Holtslander South block, a large area of folded coal bearing Gates Member sediments are exposed along the anticline.

In the central area of the Holtslander South block, the lower portion of the Gates Member sediments has been repeated by a thrust fault prior to folding. The thrust fault lies at a low angle to bedding and dies out in the lower portion of the Gates Member to the south and in the shales of the Moosebar Formation to the north.

The period of deformation culminated in the development of a major reverse fault along the southwestern property boundary. The development of this structure is related to the bending of the strata in this area around an axis lying near the first major creek south of Holtslander Creek. At this point the regional strike changes from 110° in the Red Deer South block to 125° in the Holtslander South block. The reverse fault similarly changes strike. The area near this axis will undoubtedly be subject to residual tectonic stresses which will have to be taken into consideration in the planning of any underground operations in that area.

Belcourt South

The fourth structural block lies to the south of Belcourt Creek. The Belcourt South block is characterized by a southwest dipping sequence of Gething Formation to Gates Member strata. The strata have been somewhat complicated by folding and thrust faulting. In the southwest, a fault thrusts the southern extension of the Holtslander South block over strata of the Belcourt South block. The Belcourt South block is similarly faulted upon dark grey shales, thought to be Shaftesbury Formation. Six coal seams, including one with a measured thickness of 12 metres, have been located within the Gates Member in this block.

CONCLUSION

A program of detailed geologic mapping has expanded the knowledge of the stratigraphy and structure of the Belcourt property. Large areas of the coal bearing Gates Member have been mapped and at least twelve coal seams have been located and measured.

Although no drilling or coal quality testing has been done on the Belcourt property, drilling on other properties has shown that seams in the Gates Member in this area contain excellent coal of metallurgical quality.

On the basis of the 1975 program of surface mapping it is expected that further exploration work will prove significant reserves of excellent quality coking coal at the Belcourt property.

APPENDIX I

BURNETT RESOURCE SURVEYS LTD.

METHODS AND PROCEDURES OF AERIAL PHOTO SURVEY,

CONTROL SURVEY AND MAPPING CARRIED OUT DURING

1975 ON BEHALF OF

DENISON MINES (BC) LIMITED

METHODS AND PROCEDURES OF AERIAL PHOTO SURVEY, CONTROL SURVEY AND MAPPING CARRIED OUT DURING 1975 ON BEHALF OF DENISON MINES (BC) LIMITED

J. Kende

Burnett Resource Surveys Ltd.

At the request of Denison Mines (BC) Limited, Burnett Resource Surveys Ltd. undertook a program of aerial photography aimed at assisting exploration on the Quintette, Saxon and Belcourt coal properties.

This program was designed to achieve the following results:

- 1) A semi-controlled mosaic which included the three coal properties could be prepared;
- Utilization of this photography to carry out photogrammetric mapping at various scales and contour intervals;
- 3) The aerial photography survey could be used to assist intensive environmental surveys;
- Photo geological studies could be carried out;
- Transportation routes such as rail or pipeline could be detailed and refined;
- 6) Assistance could be given to solving various problems concerning plant site, pit design and infrastructure.

Keeping all the above in mind we designed the following program:

- 1) High level photography to cover approximately 250 sq. miles of area at the approximate scale of 1:32,000.
- 2) High level photography to cover approximately 800 sq. miles at 1:25,000.
- 3) Medium level photography to cover approximately 455 sq. miles at 1:15,000 approximate scale.
- 4) Low level photography to cover approximately 50 sq. miles at the approximate scale of 1:10,000.
 - Note: All above photography was black/white photography on panchromatic film.
- 5) Colour photography at the approximate scale of 1:12,000 covering approximately 100 sq. miles.

Colour photography utilized an aero-colour film 2445 and 2448.

The various photo scales were selected in such a manner as to be suitable for various purposes, especially compilation of metric photogrammetric maps.

The photography was carried out in the months of August and September of 1975, at a time when much of the ground work was completed. Thus diamond drill holes, road locations and targets could be documented.

Several sets of prints were dispatched, immediately after photography, to Denison Mines (BC) Limited, so that these could be utilized in the field by the geologist as well as the survey crews for the remainder of the season.

Control Survey

During the summer, ground crews undertook survey control work on the coal properties. In early spring, targets of different sizes for various photo scales were laid on the ground. This work required a helicopter to provide transport to points of difficult access. In all, approximately 200 targets were set to control the topographic mapping. The ground parties surveyed the location of targets, drill holes and base lines, adits, etc.

The surveyors employed the most modern electronic survey equipment, in addition to conventional equipment.

All surveys are now based on U.T.M. coordinates (geodetic datum).

All coordinates are tabulated in the metric system.

Photogrammetric Mapping

In the first quarter of 1975, Burnett Resource Surveys Ltd. undertook photogrammetric mapping of the coal properties, based on existing data. The scale chosen was 1:5,000, with 5 metre contour interval. Belcourt map sheets were designed in such a manner that each sheet consisted of four coal licenses. All maps were produced to the highest standards with regard to photogrammetry and cartography as could be gained from the existing data (Belcourt: existing NTS maps; Saxon and Quintette: existing 1" = 400', 20' contour topograph). The maps were then utilized by the field geologist during the summer program. These maps covered the Belcourt and Saxon properties and the localized Little Windy, Bid Windy and Roman Mountain areas. Additional mapping was carried out at the scale of 1" = 400' with 20 ft. contour interval to cover the fringe areas of Wolverine, Babcock and Five Cabin areas (utilizing existing Denison control).

During 1975, Burnett Resource Surveys produced 6 - 1:25,000 preliminary maps with 20 metre interpolated contours, described above, to cover Babcock, Five Cabin and Wolverine areas. The map sheets are based on coal license areas, and the sheet layout is designed to suit future projects of detailed metric mapping. Cartography of these maps is designed in such a way that it can accommodate the geological data and still assure clarity.

A similar program of 1:25,000 scale preliminary map preparation was carried out to cover Saxon property (1 map sheet) and Belcourt property (3 map sheets); the only difference being that the contour interval is 25 metres. The difference in contour interval is due to the fact that some survey data and existing photogrammetric mapping was available to cover part of the 6 map sheets for the Wolverine, Babcock and Five Cabin areas, but no ground control survey or mapping was available for the Belcourt or Saxon properties.

To facilitate environmental studies, colour as well as the black/white photography was provided.

As indicated, all photography and survey control carried out in 1975 was designed to fully "metrify" the Denison properties. Further survey control will be required to replace the preliminary maps with regional and detailed metric maps.

APPENDIX II

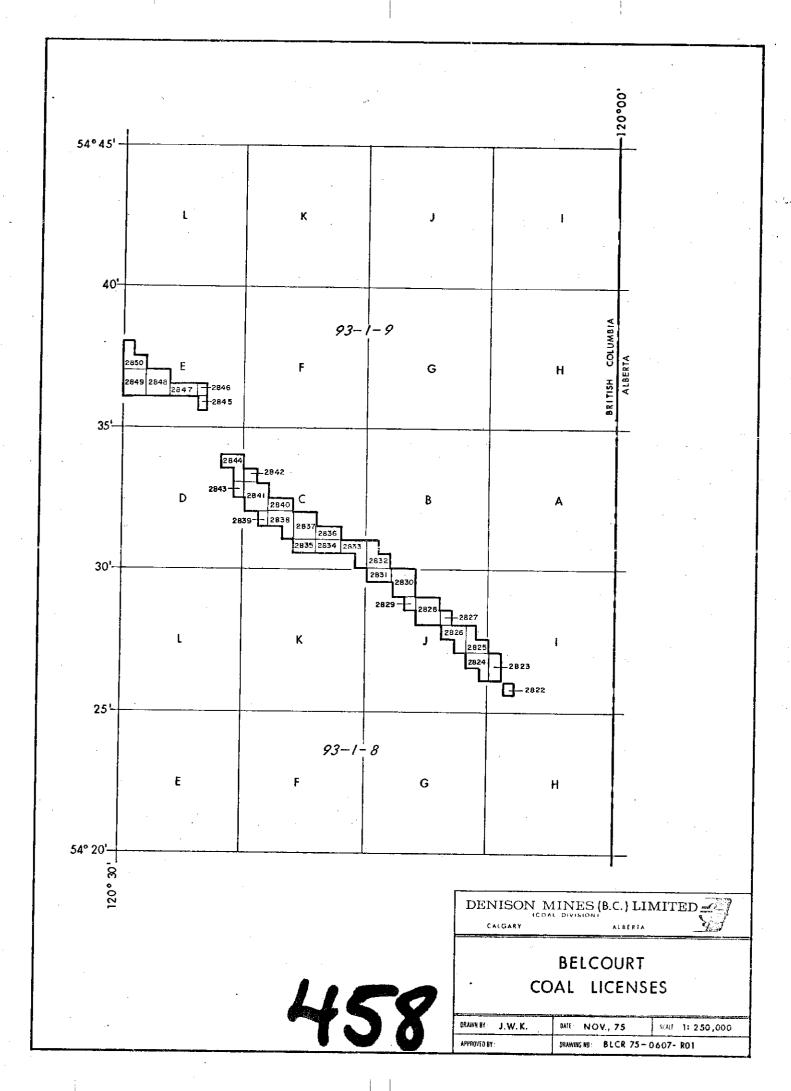
CURRENT SCHEDULE OF LICENCES BELCOURT PROPERTY

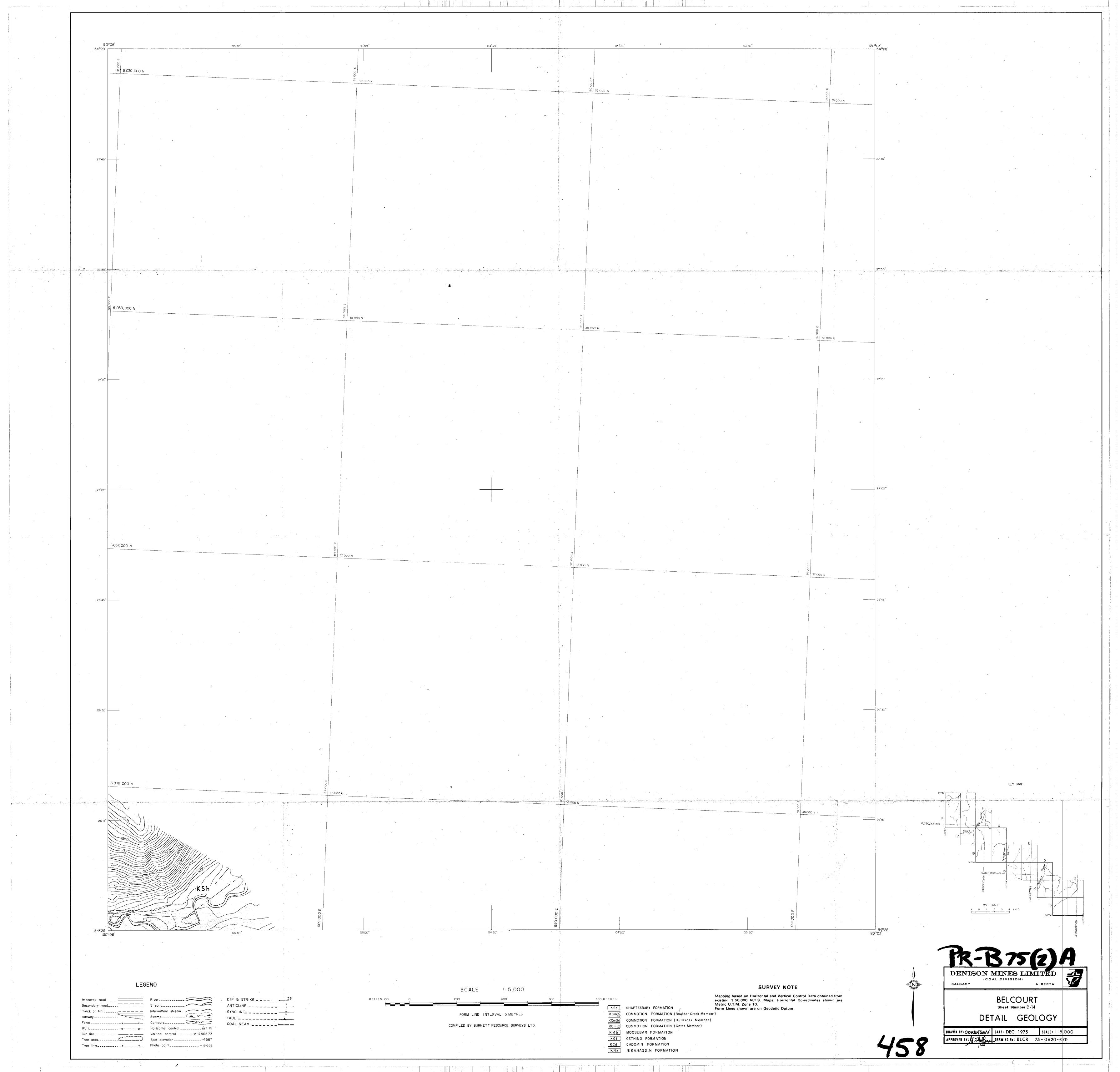
BELCOURT

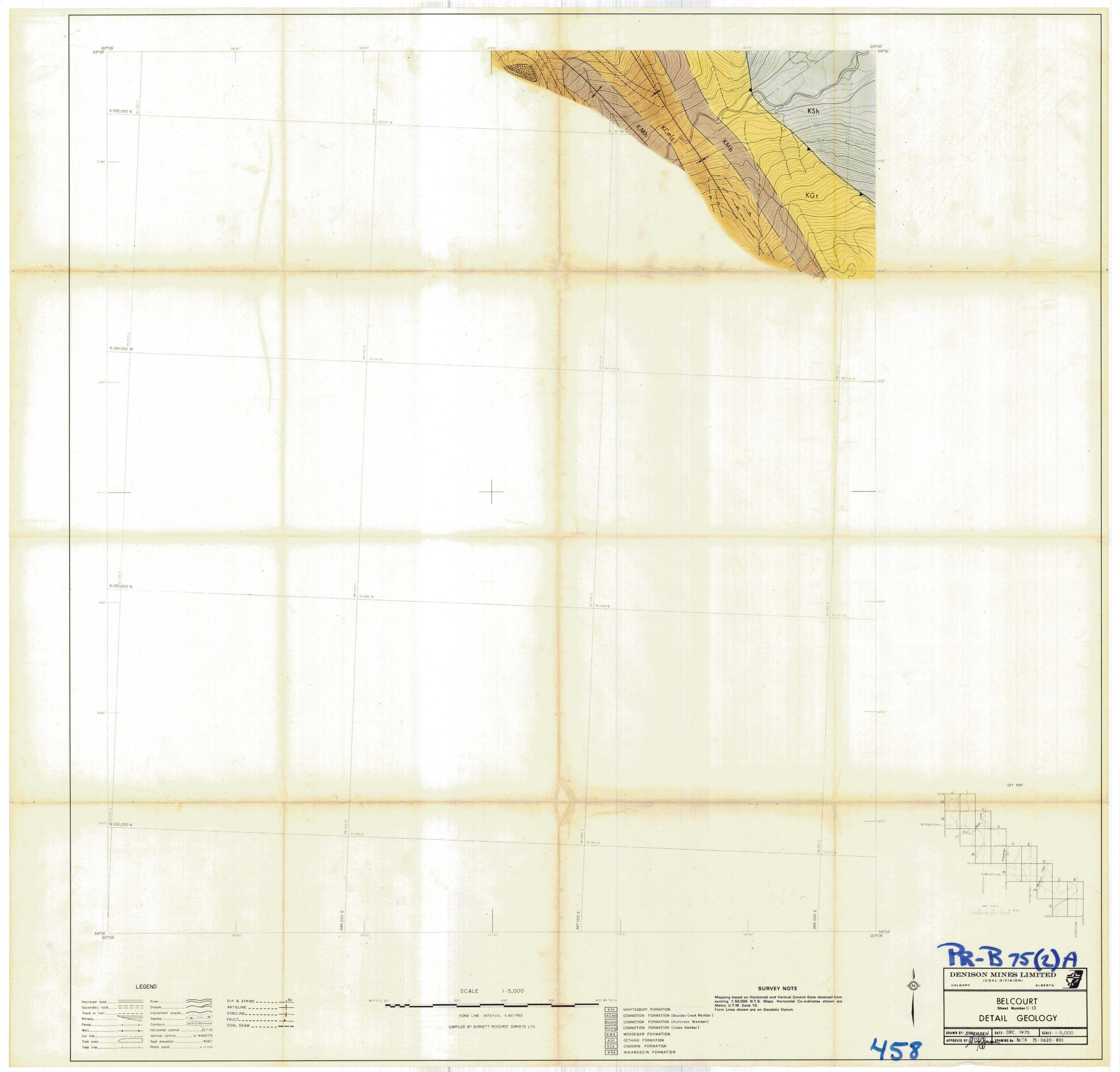
Licence No.	Date Issued	Acreage	Land I Series	Description Block	<u>Units</u>
2822	Oct 16/74	186	93-1-8	I	19
2823	21	· 372	93-I-8	Ι .	30, 40
2824	11	558	93-1-8	J	21, 31, 32
2825	11	558	93-1-8	J	41, 42, 52
2826	tt	558	93-1-8	J	43, 53, 54
2827	ti	186	93-1-8	J	64
2828	11	744	93-1-8	J	65, 66, 75, 76
2829	It	186	93-1-8	J '	77
2830		743	93-1-8	J	87, 88, 97, 98
2831 -	II .	372	93-1-8	J	99, 100
2832	u	557	93 - I-9	В	9, 10, 20
2833	ti	557	93-1-9	c	1, 11, 12
2834	11	372	93-1-9	С	1 3, 14
2835	II	372	93-1-9	С	15, 16
2836	II	372	93-1-9	C .	23, 24
2837	11	743	93-I-9	С	25, 26, 35, 36
2838	11	557	93-1-9	С	27, 37, 38
2839	11	186	93-1-9	С	39
2840	tt	371	93-1-9	С	47, 48
2841	u	742	93-1-9	C .	49, 50, 59, 60
2842	tl .	186	93-1-9	С	70
2843	u	186	93-1-9	D	51
2844	11	557	93-1-9	D	61, 71, 72
2845	u .	186	93-1-9	E	14
2846	tt	186	93-1-9	E	24
2847	u	371	93-1-9	E	25, 26

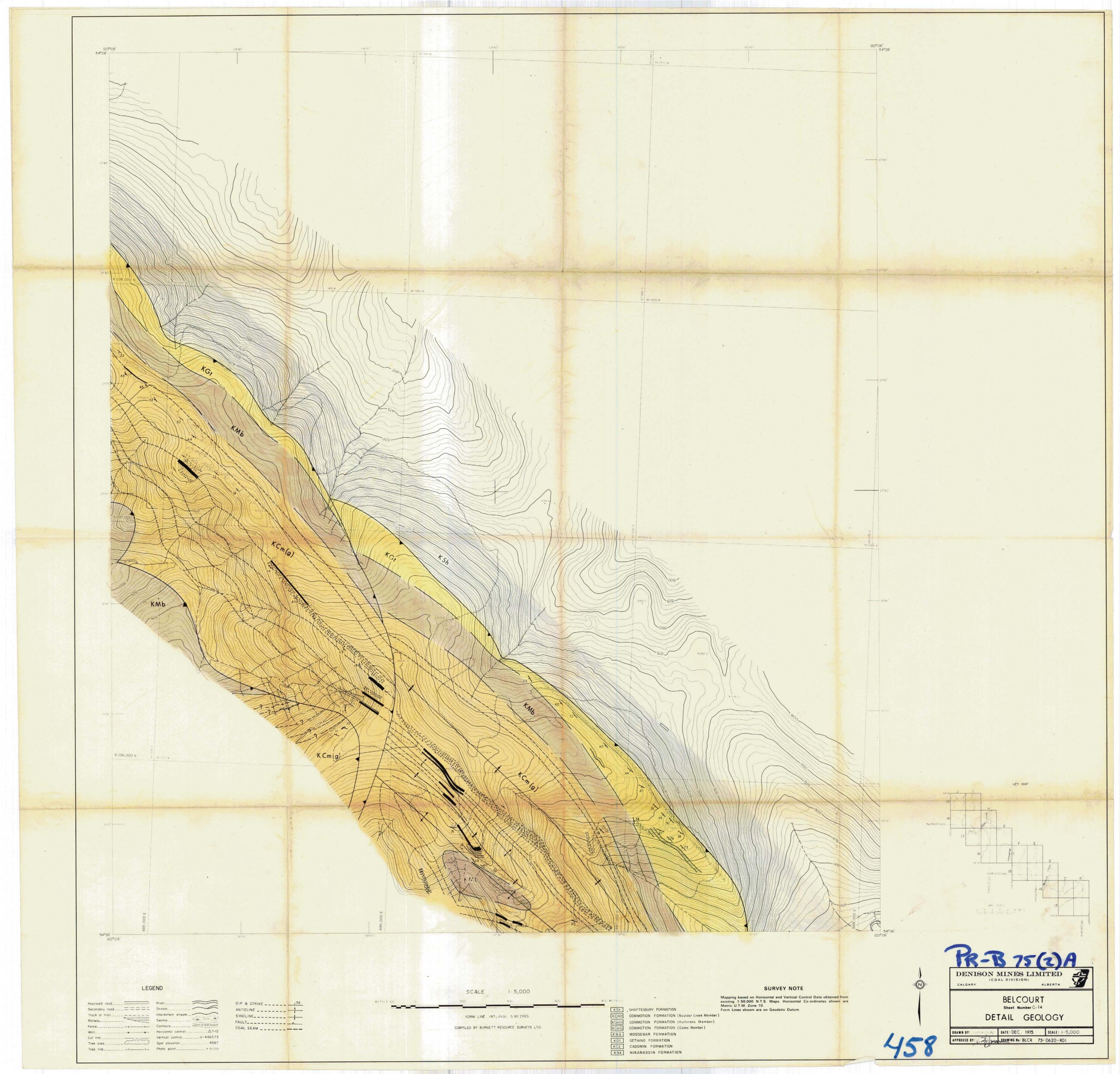
Licence No.	Date Issued	Acreage	<u>Lan</u> Series	d Descript Block	ion <u>Units</u>
2848	Oct. 16/74	741	93-1-9	E	27, 28, 37, 38
2849	. 11	741	93-1-9	E	29, 30, 39, 40
2850	II	556	93-I - 9	E	49, 50, 60

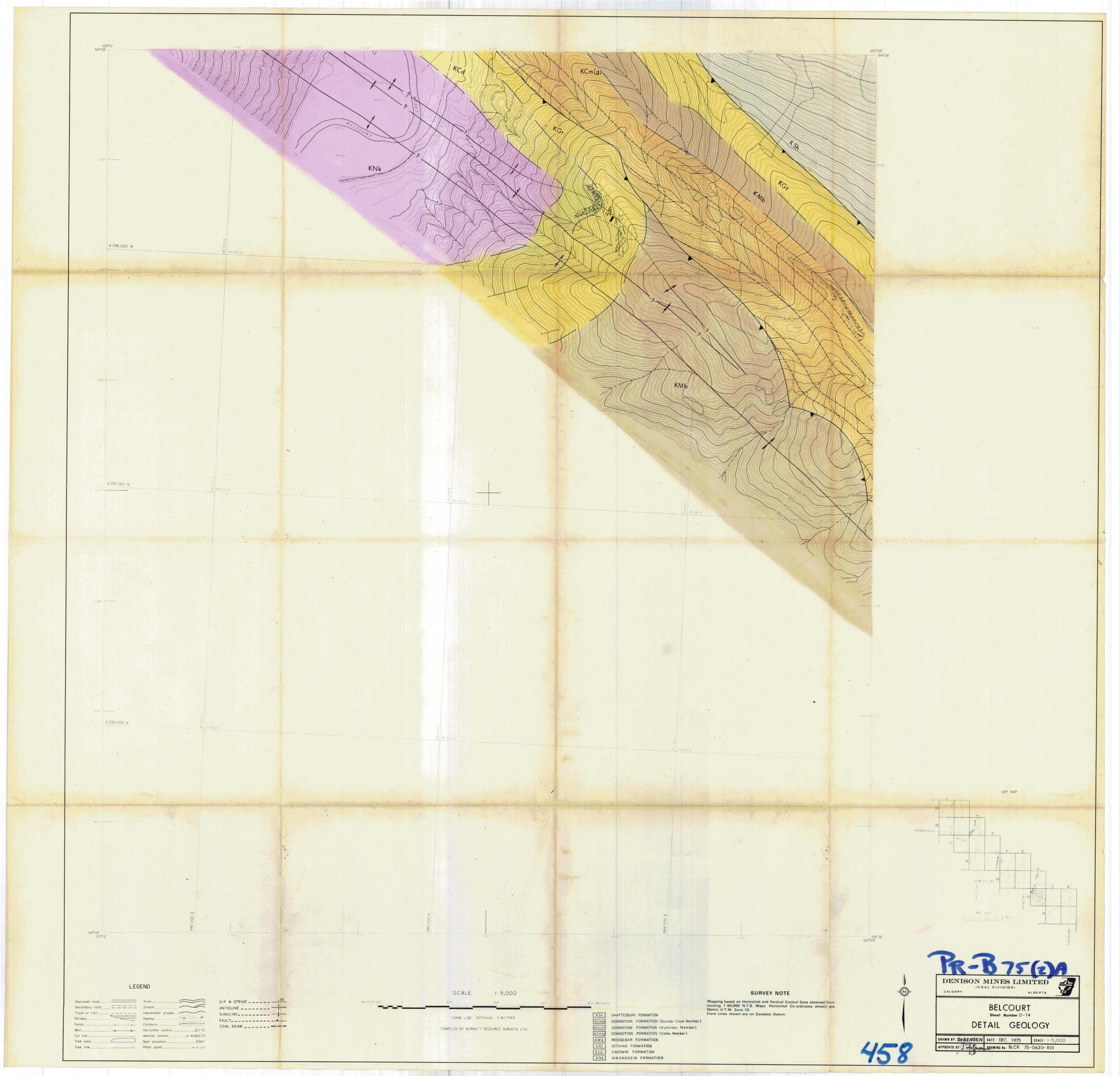
13,002 -

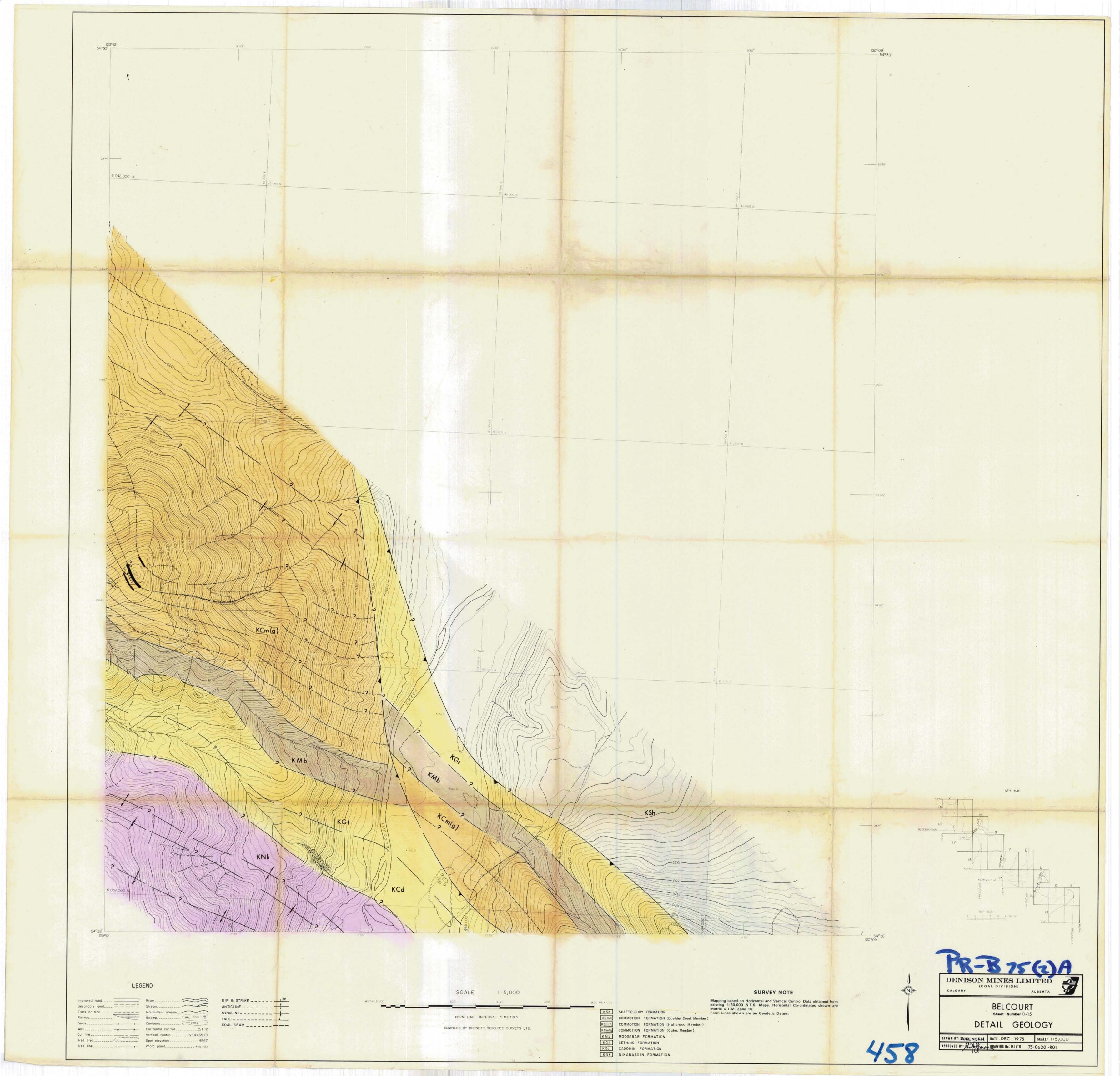


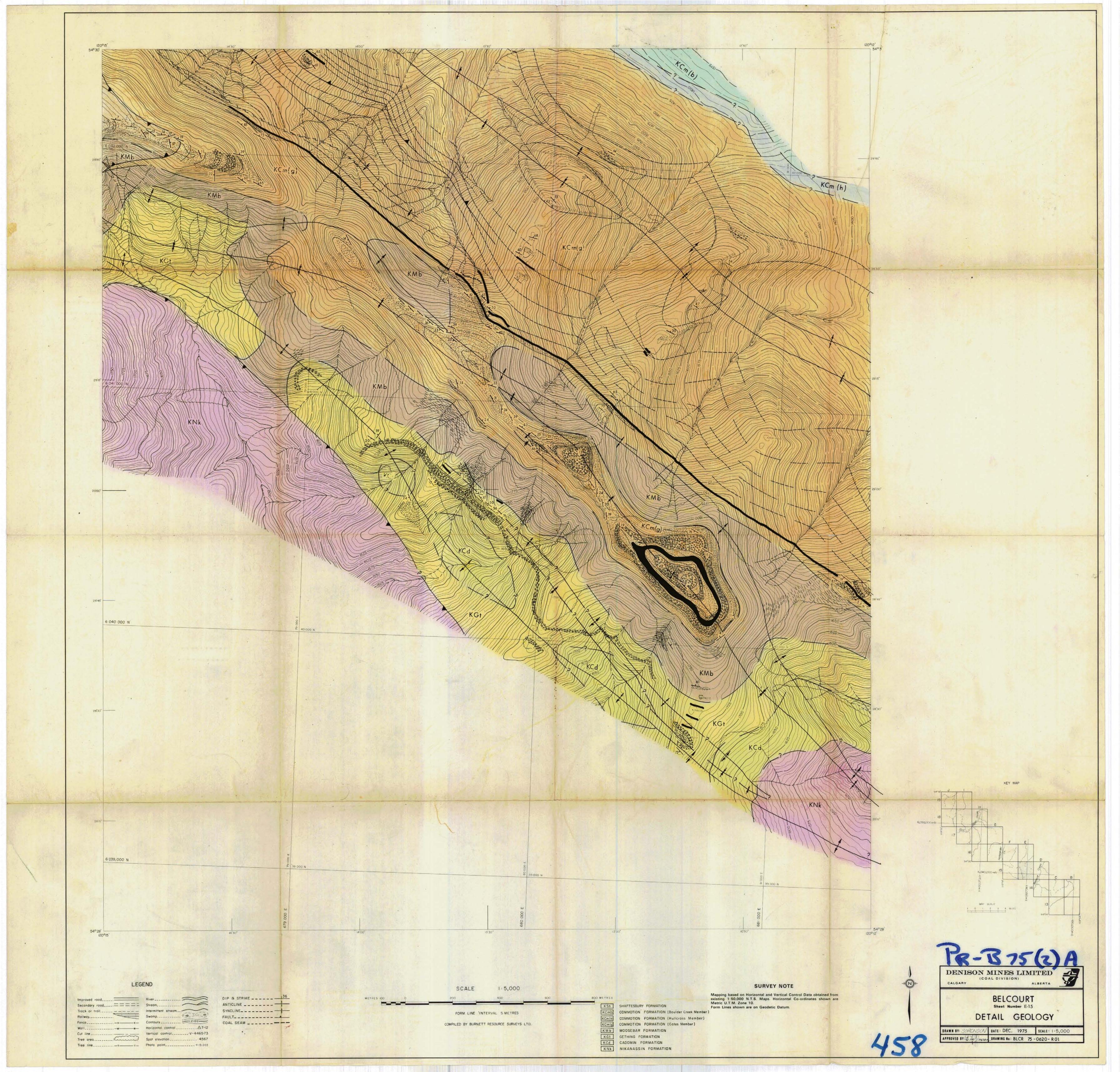


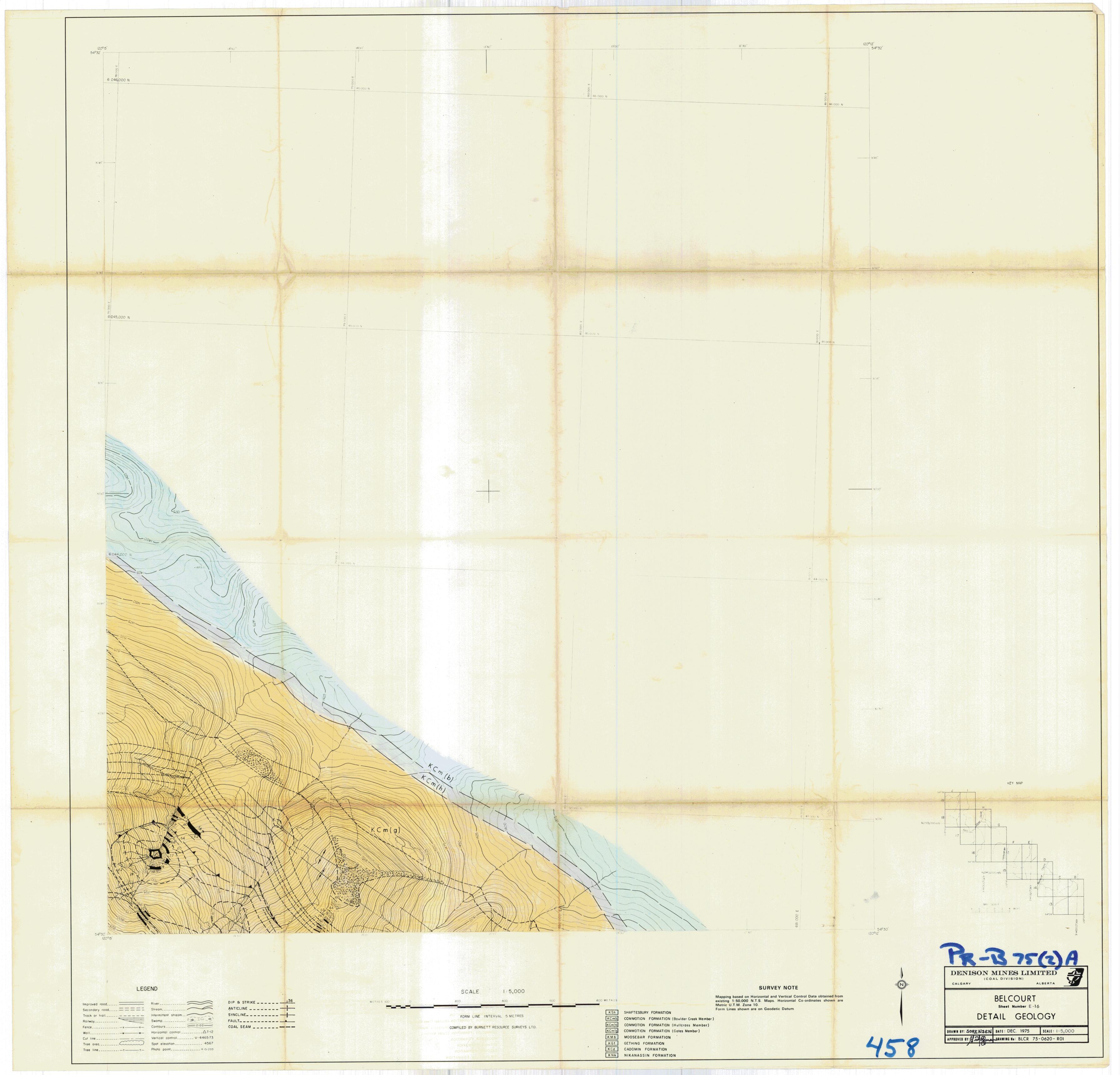


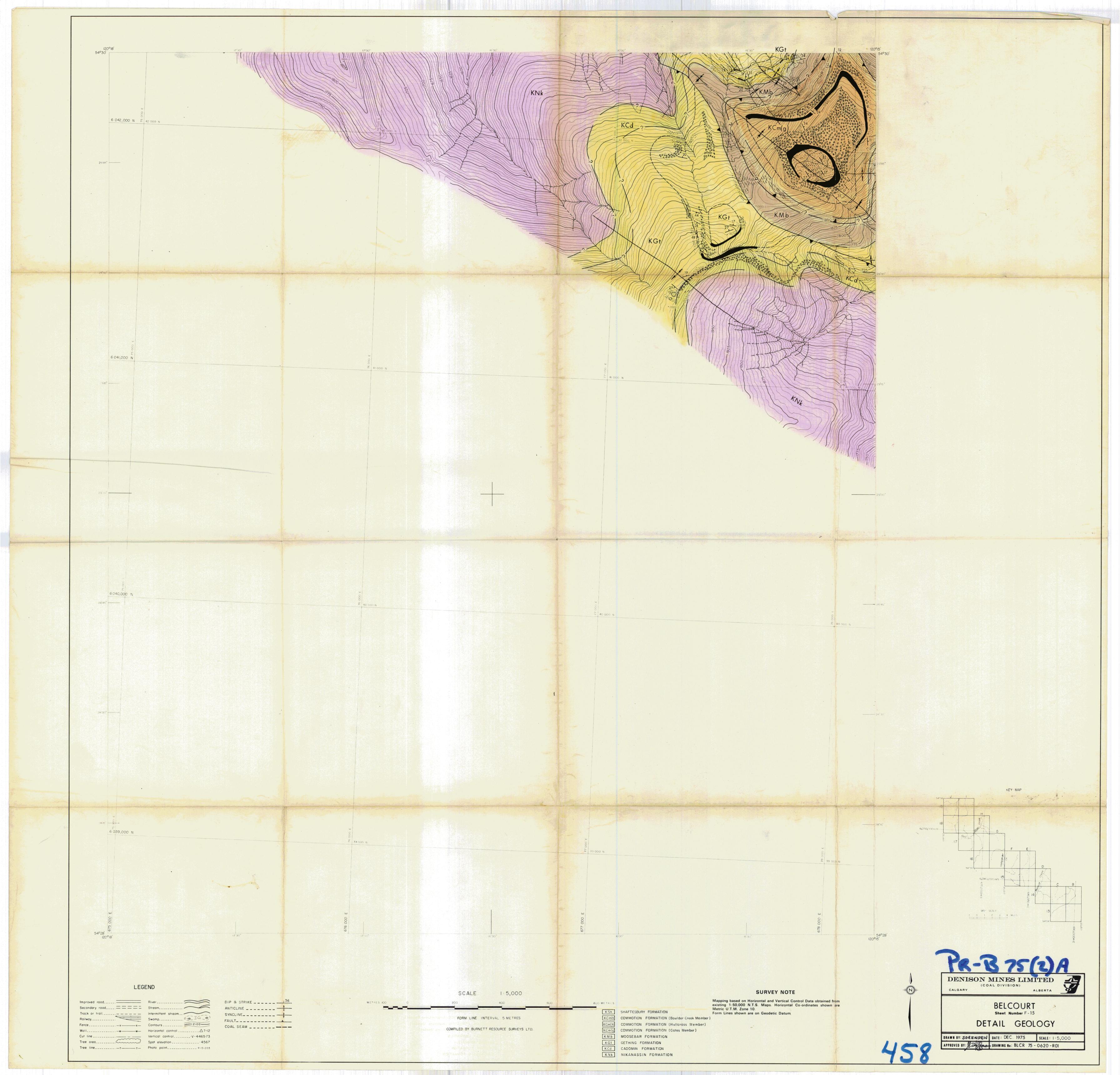


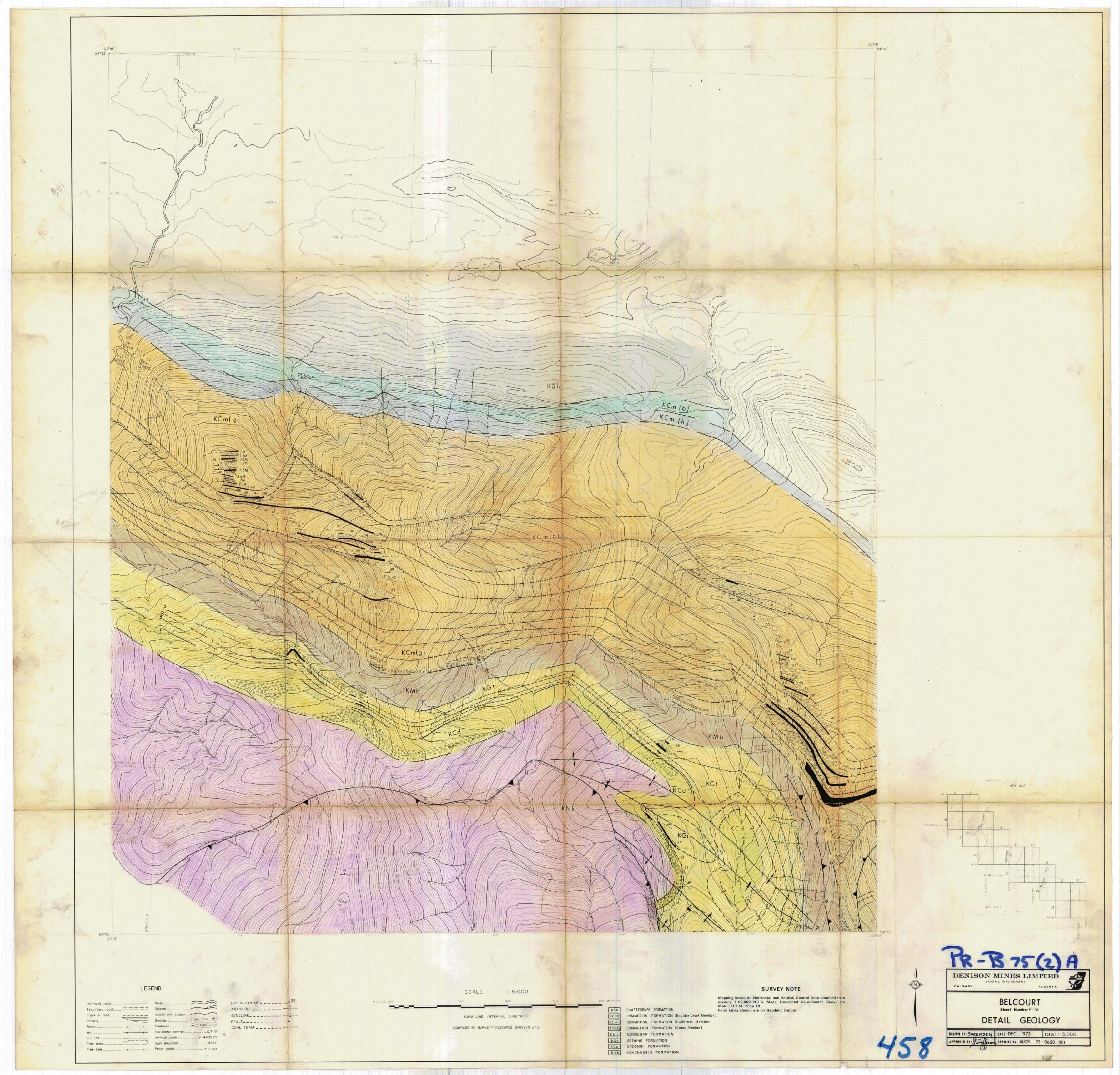


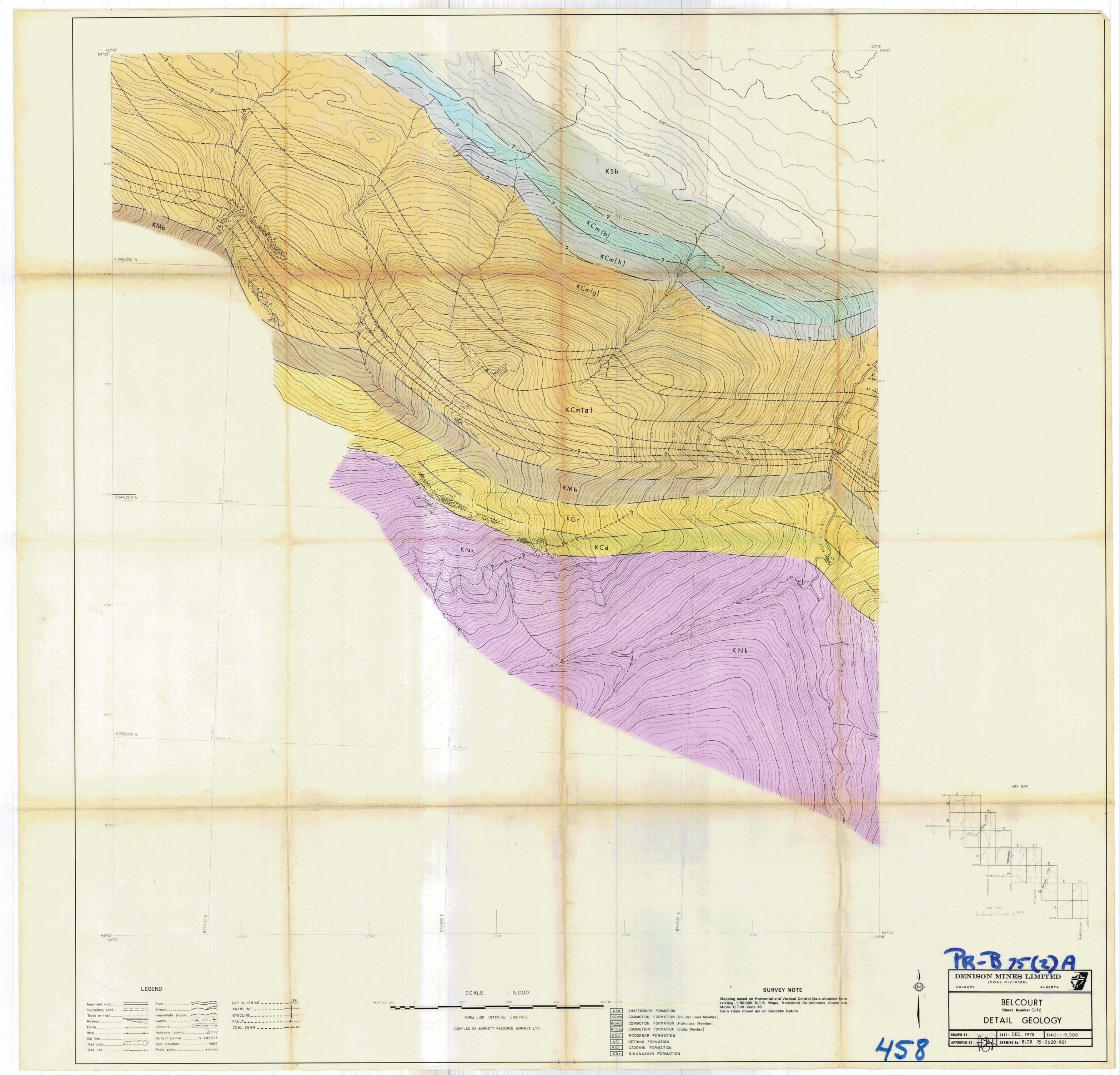


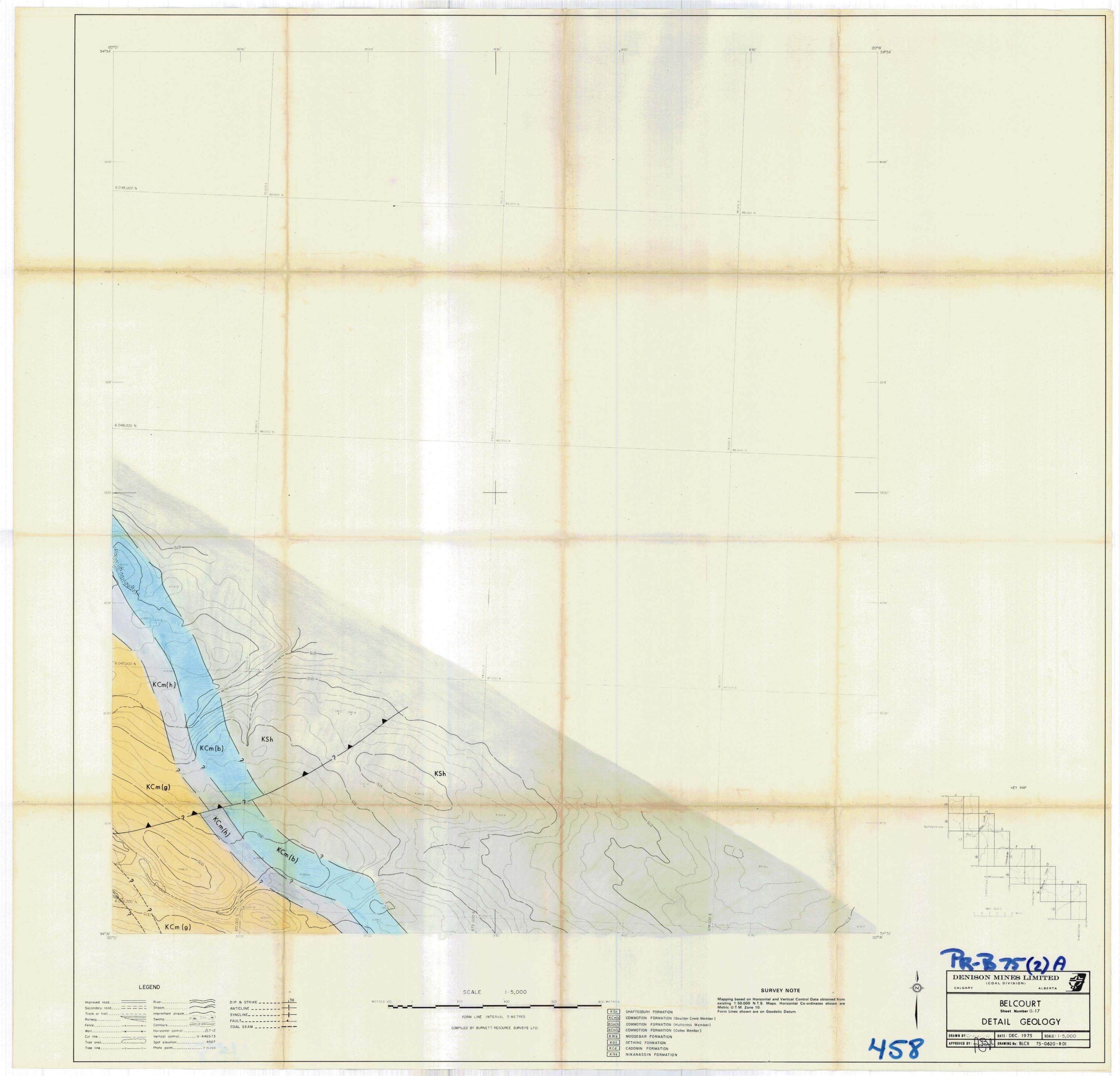


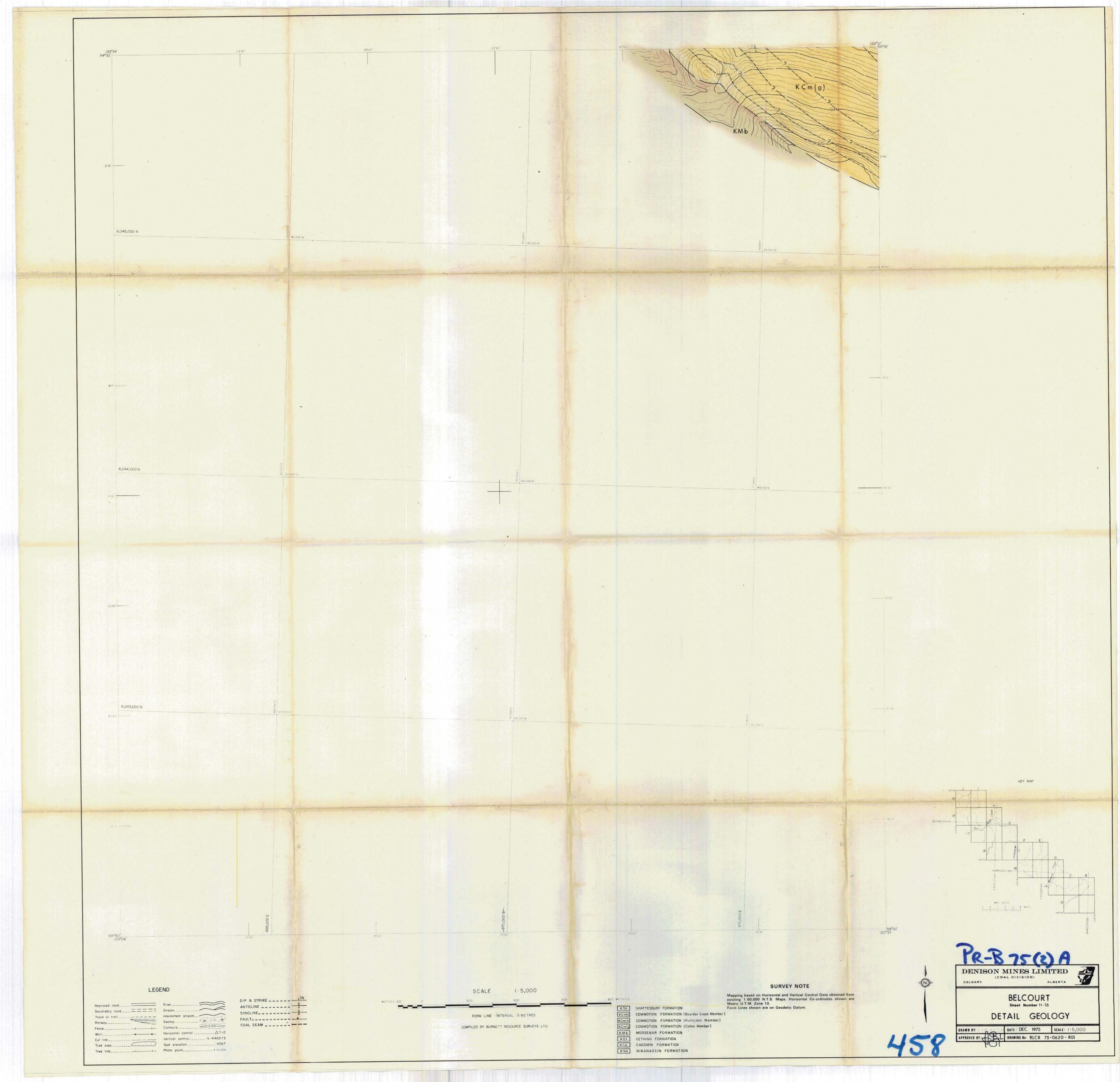


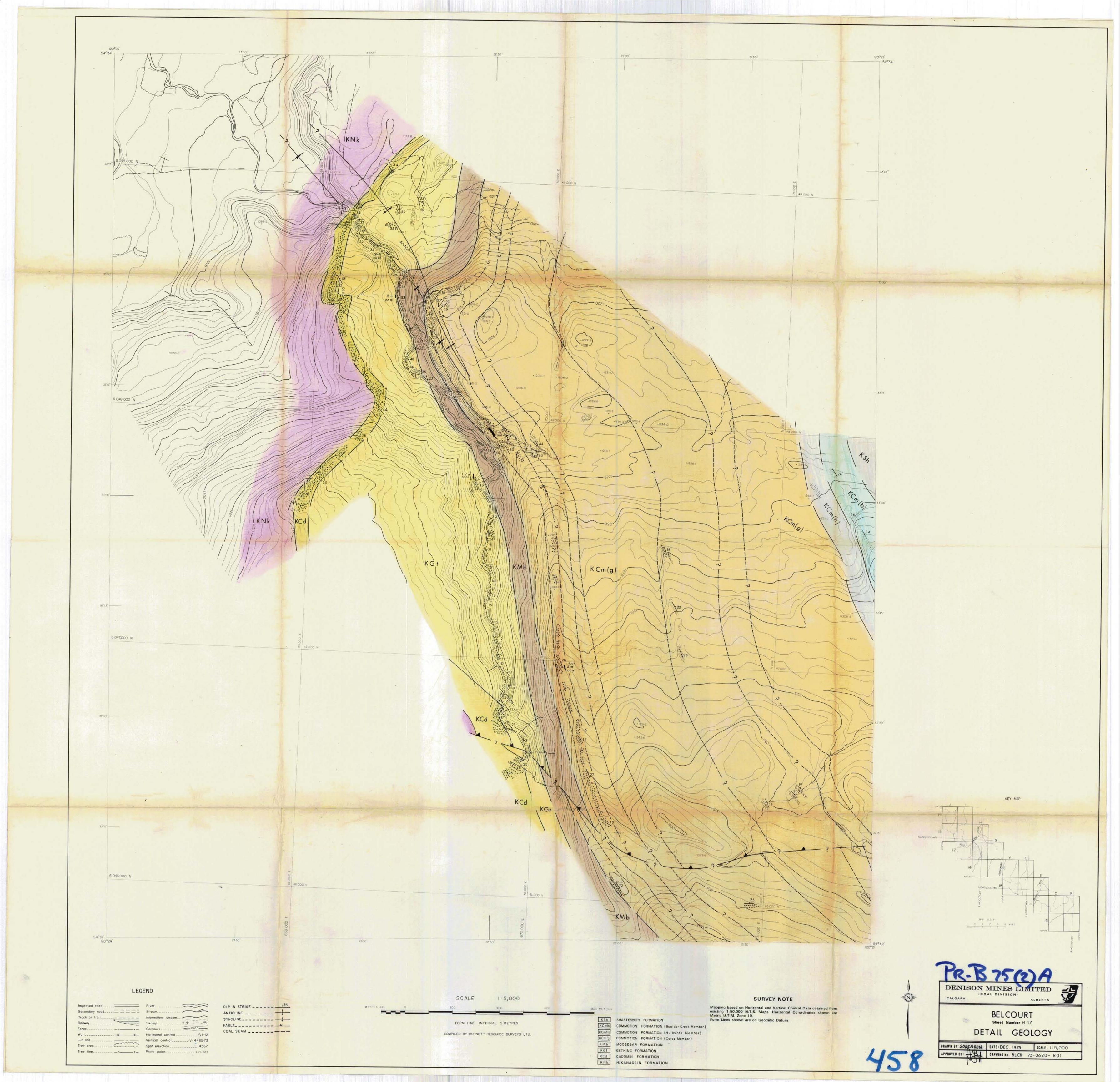


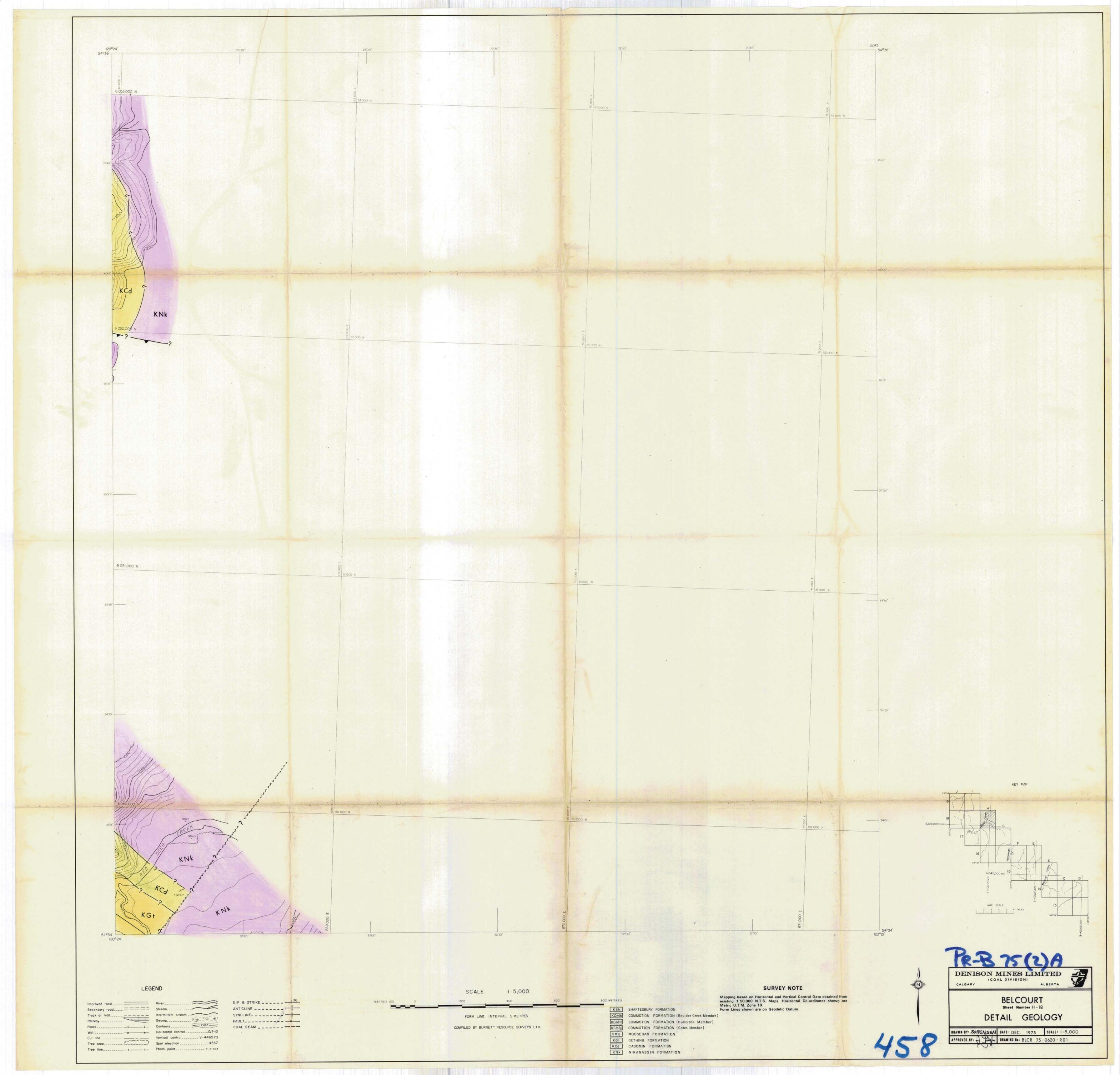


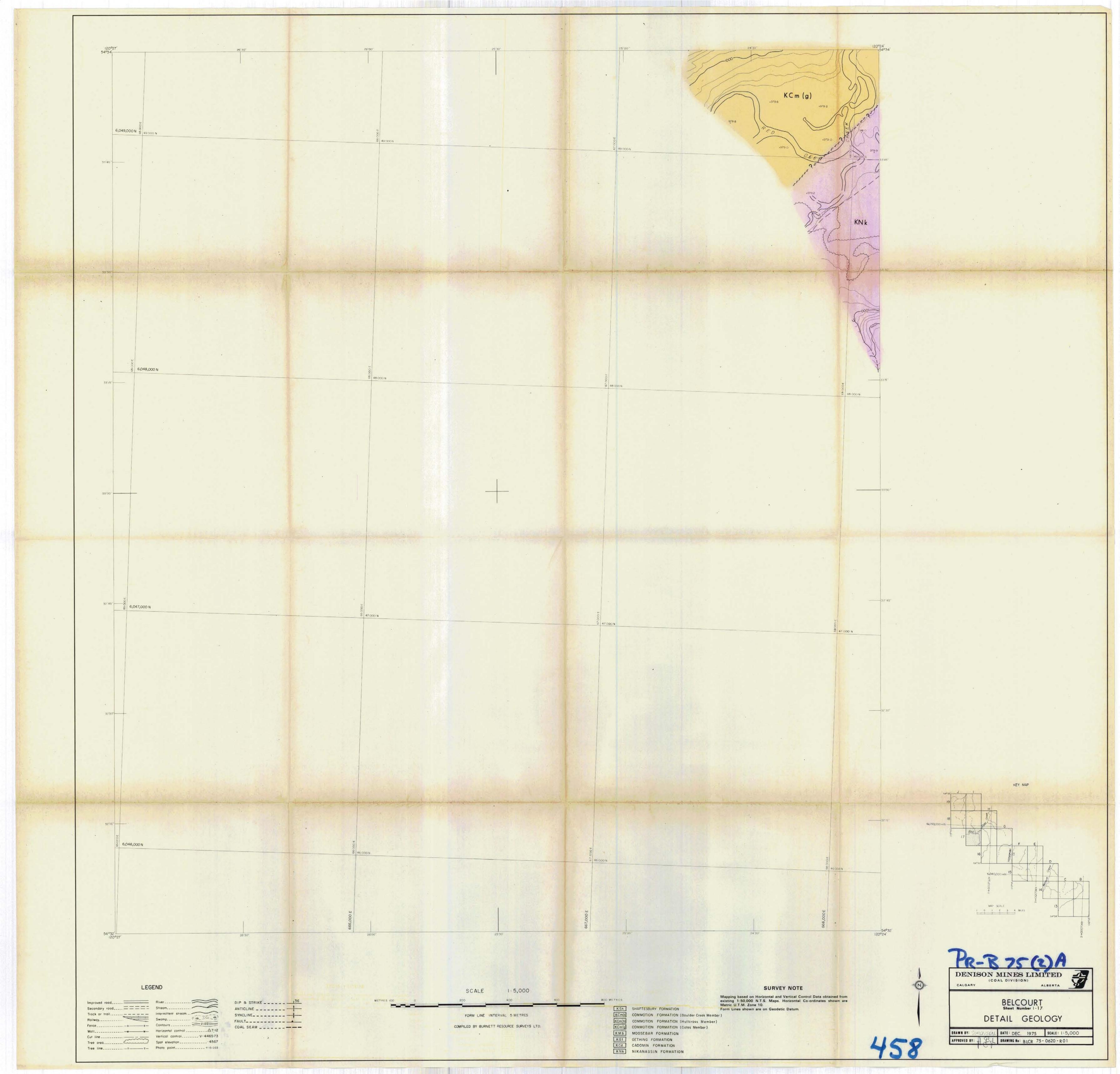


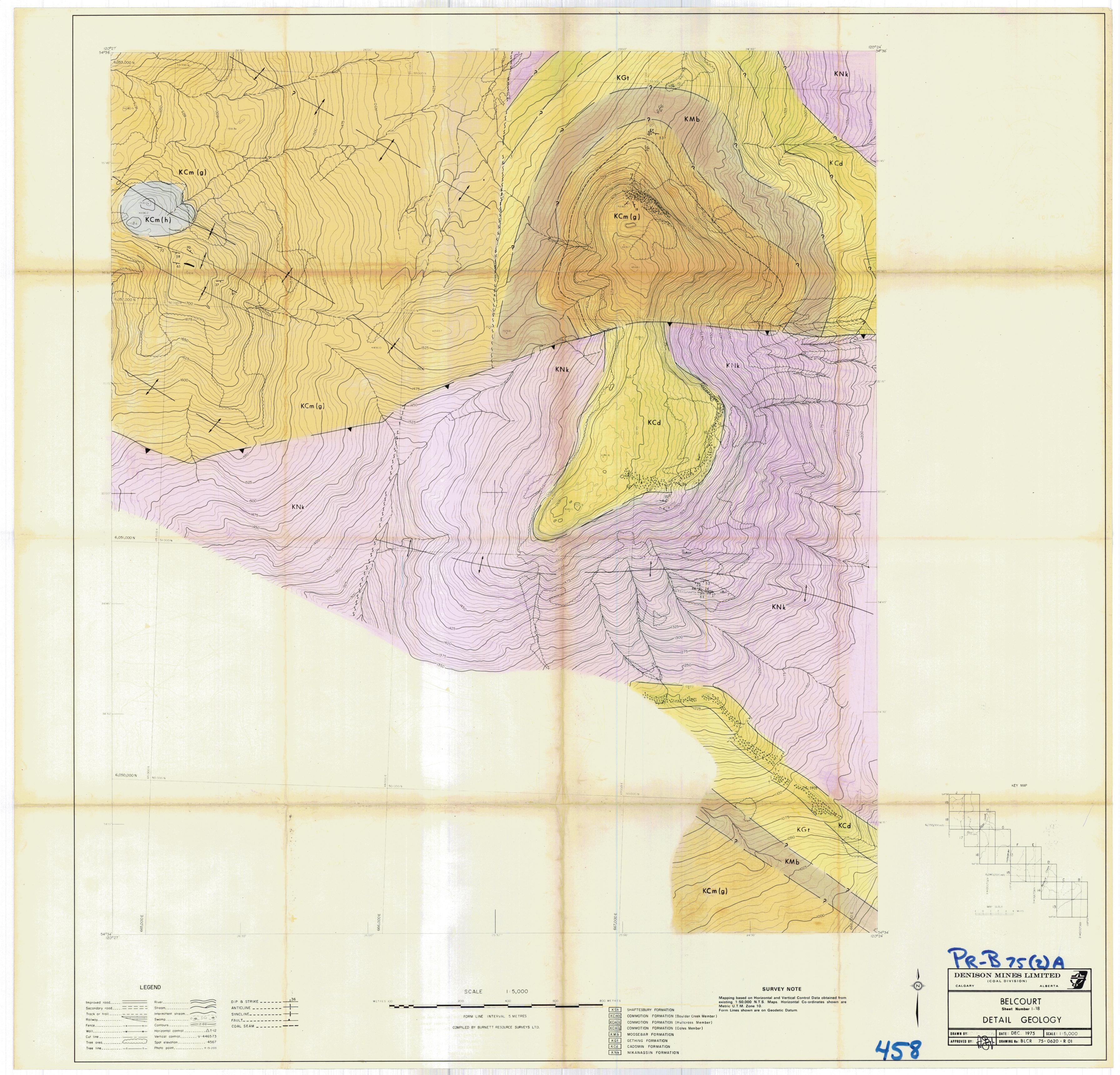


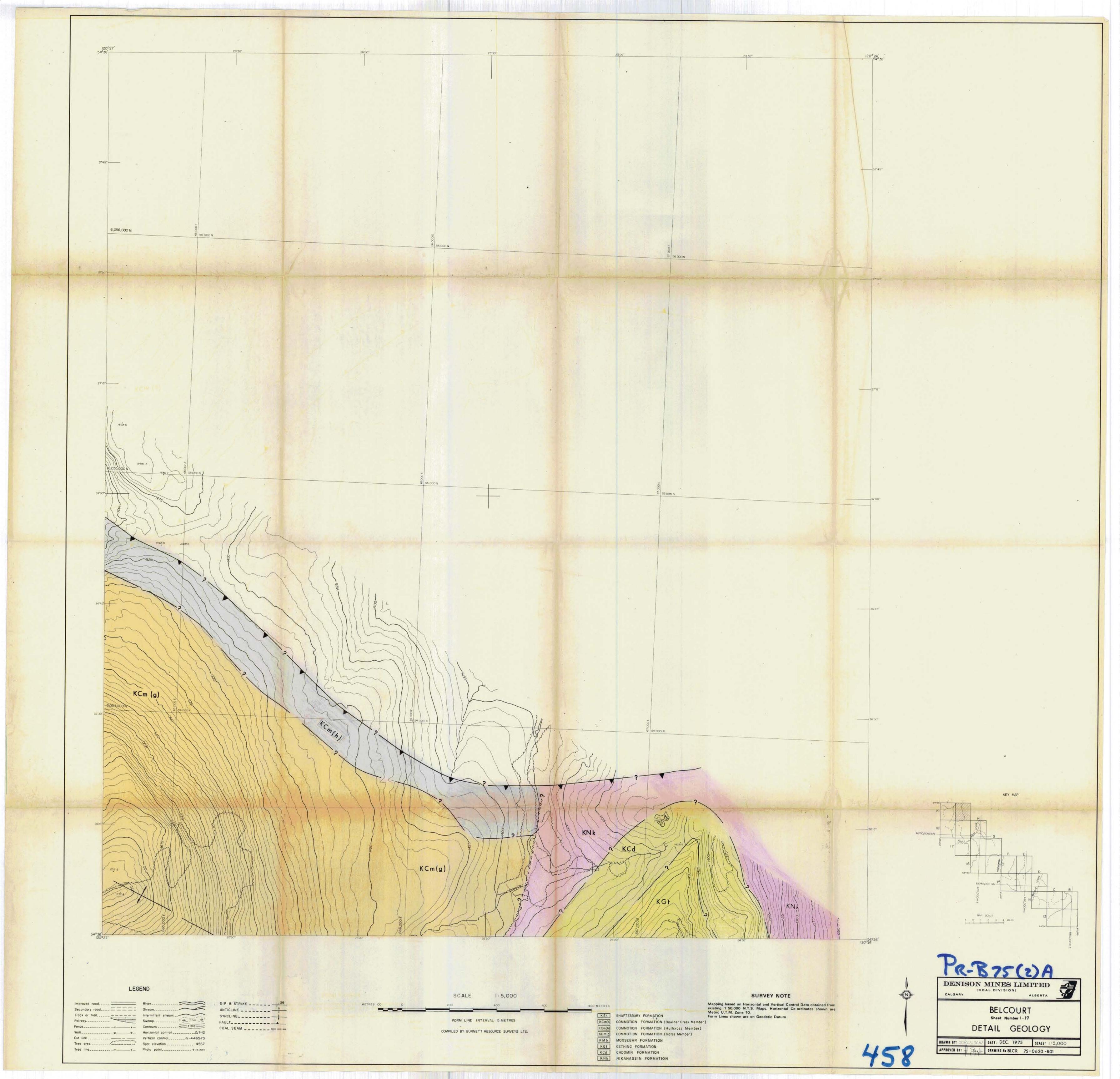


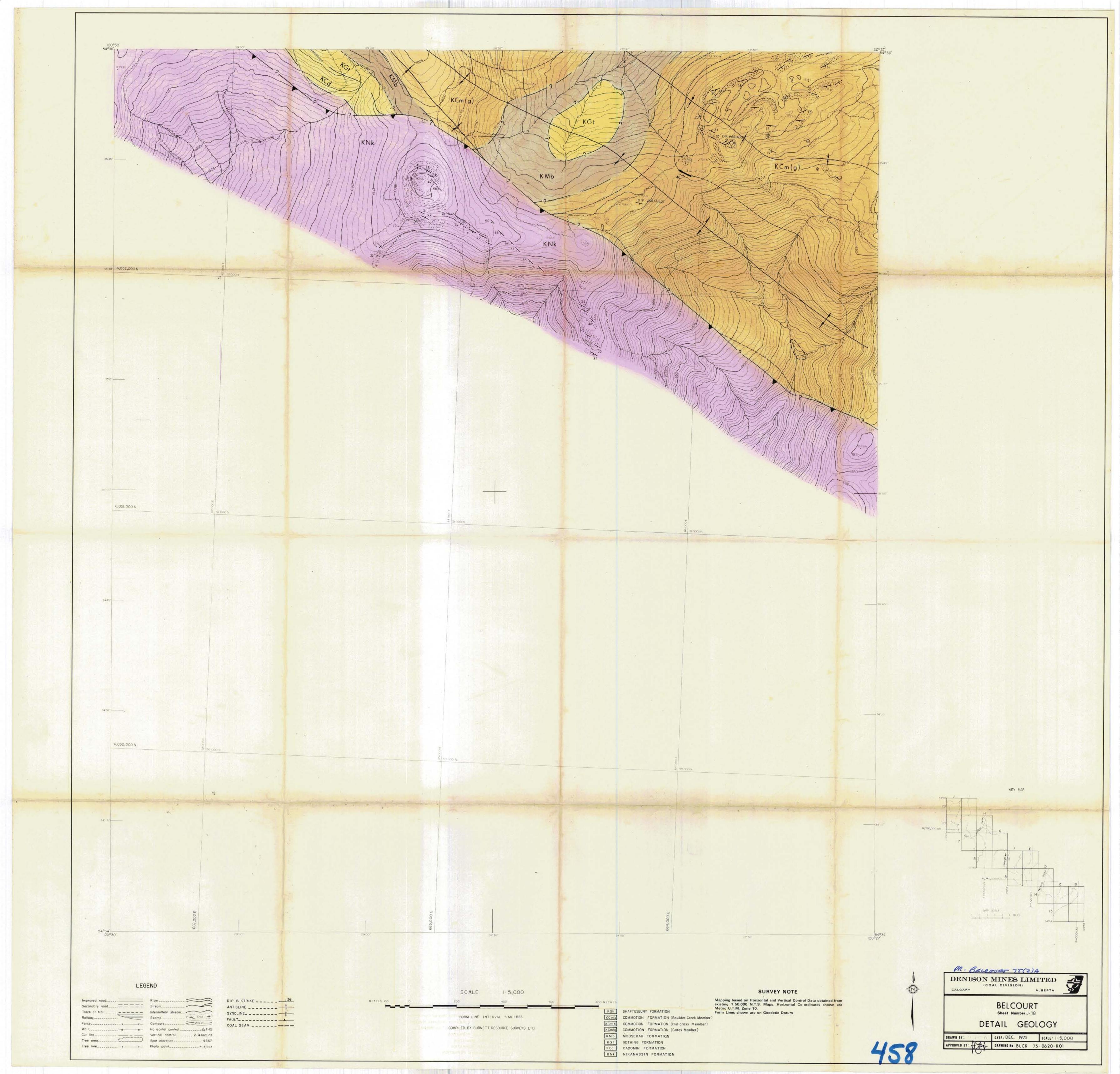


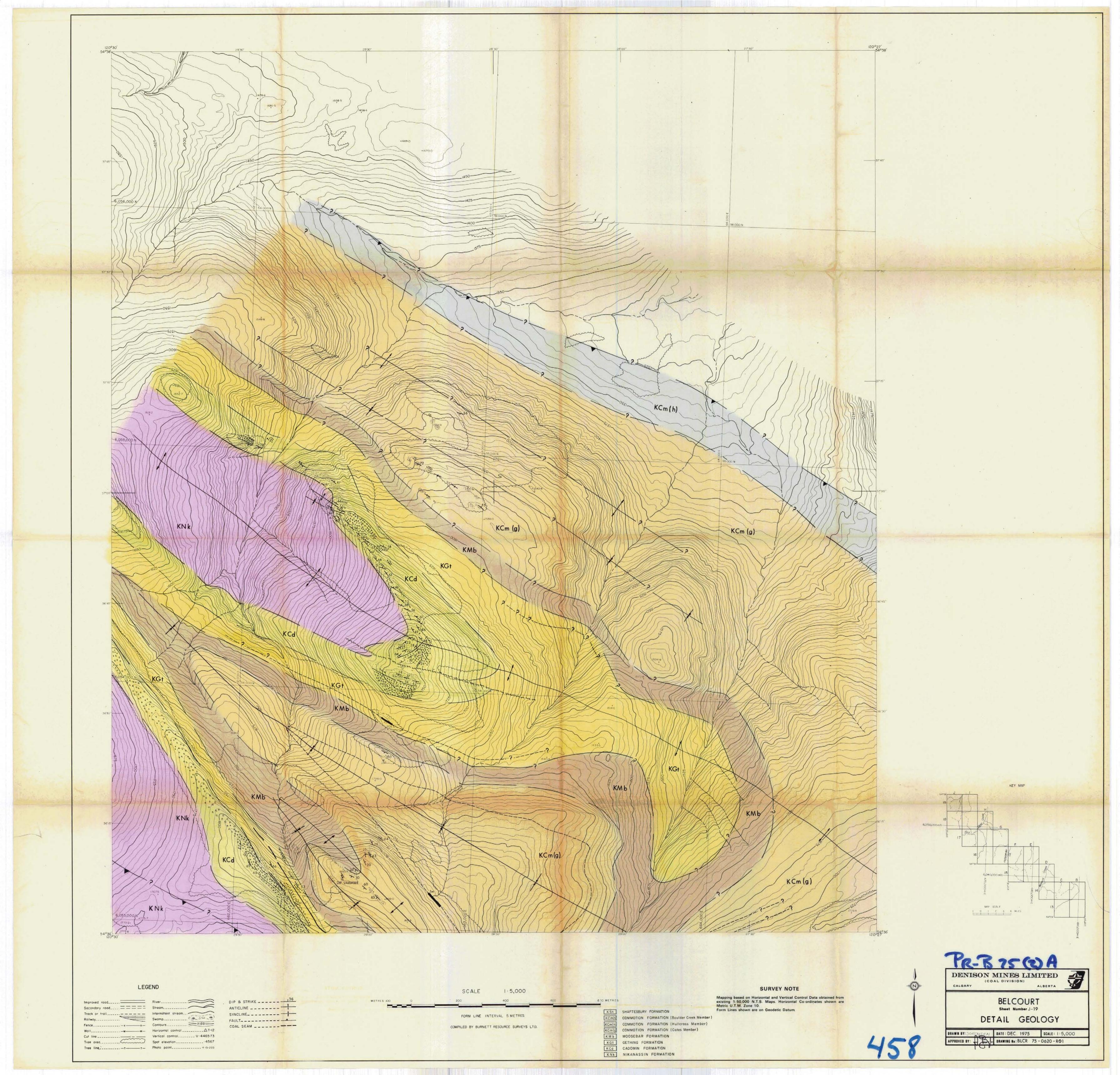


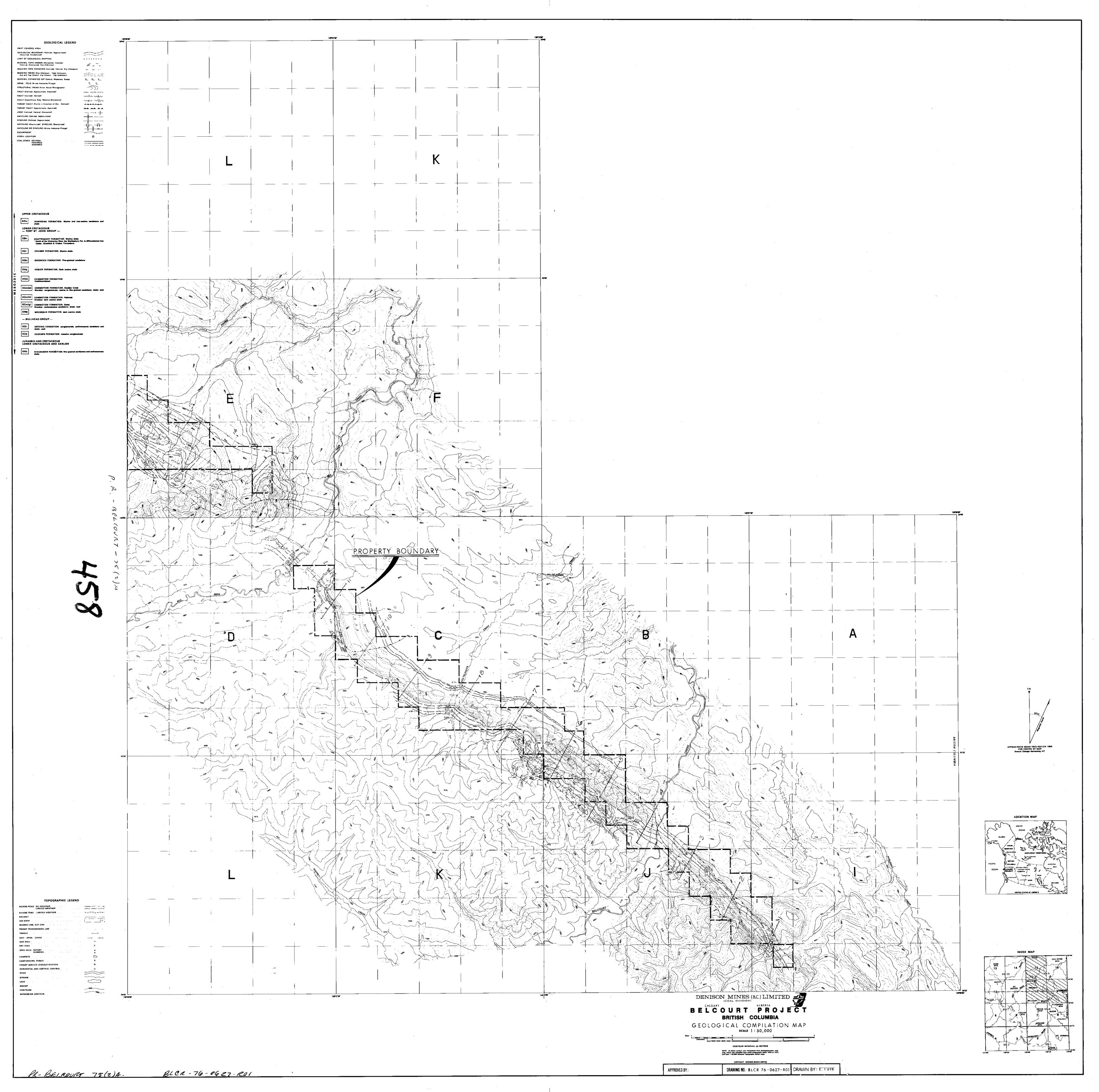


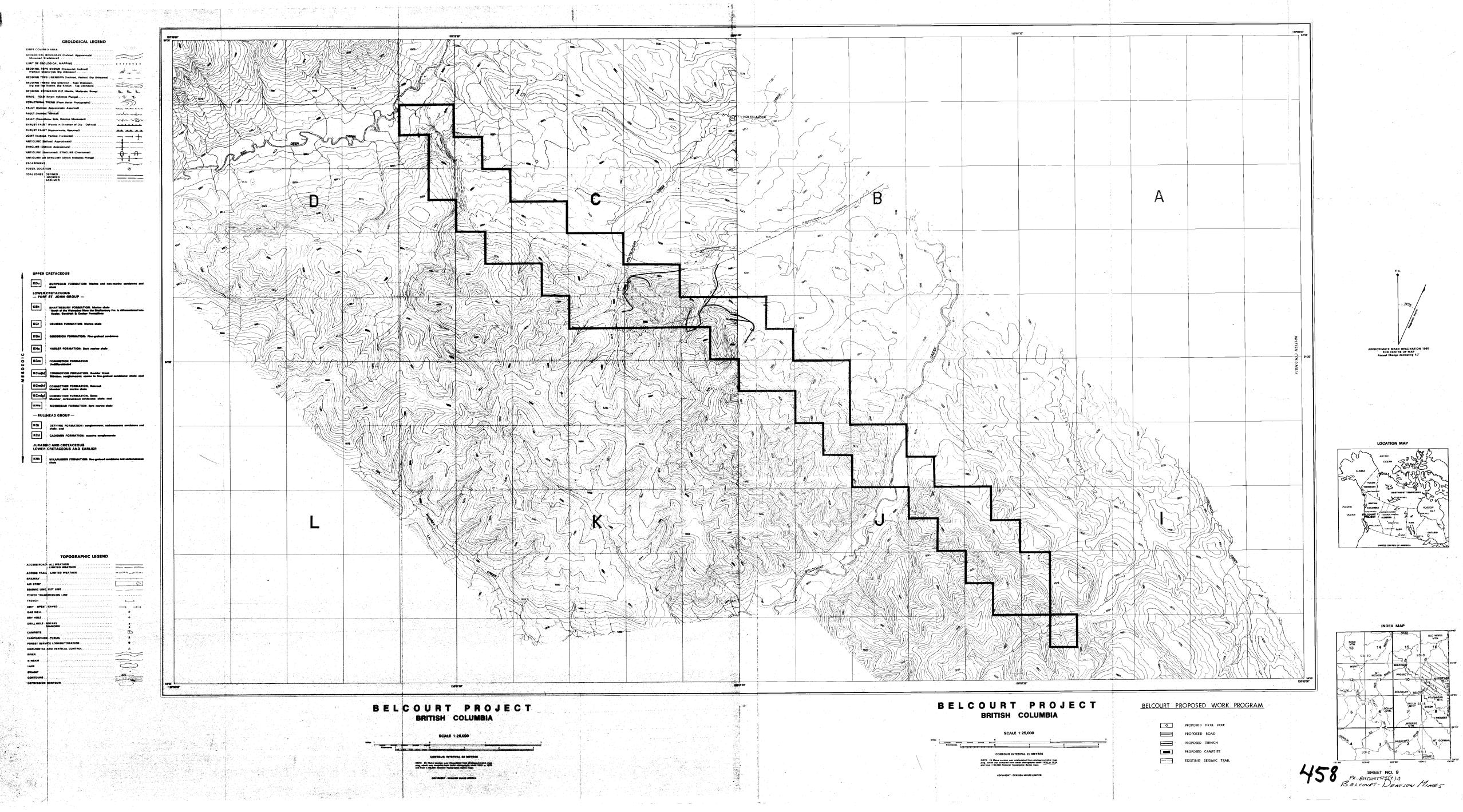


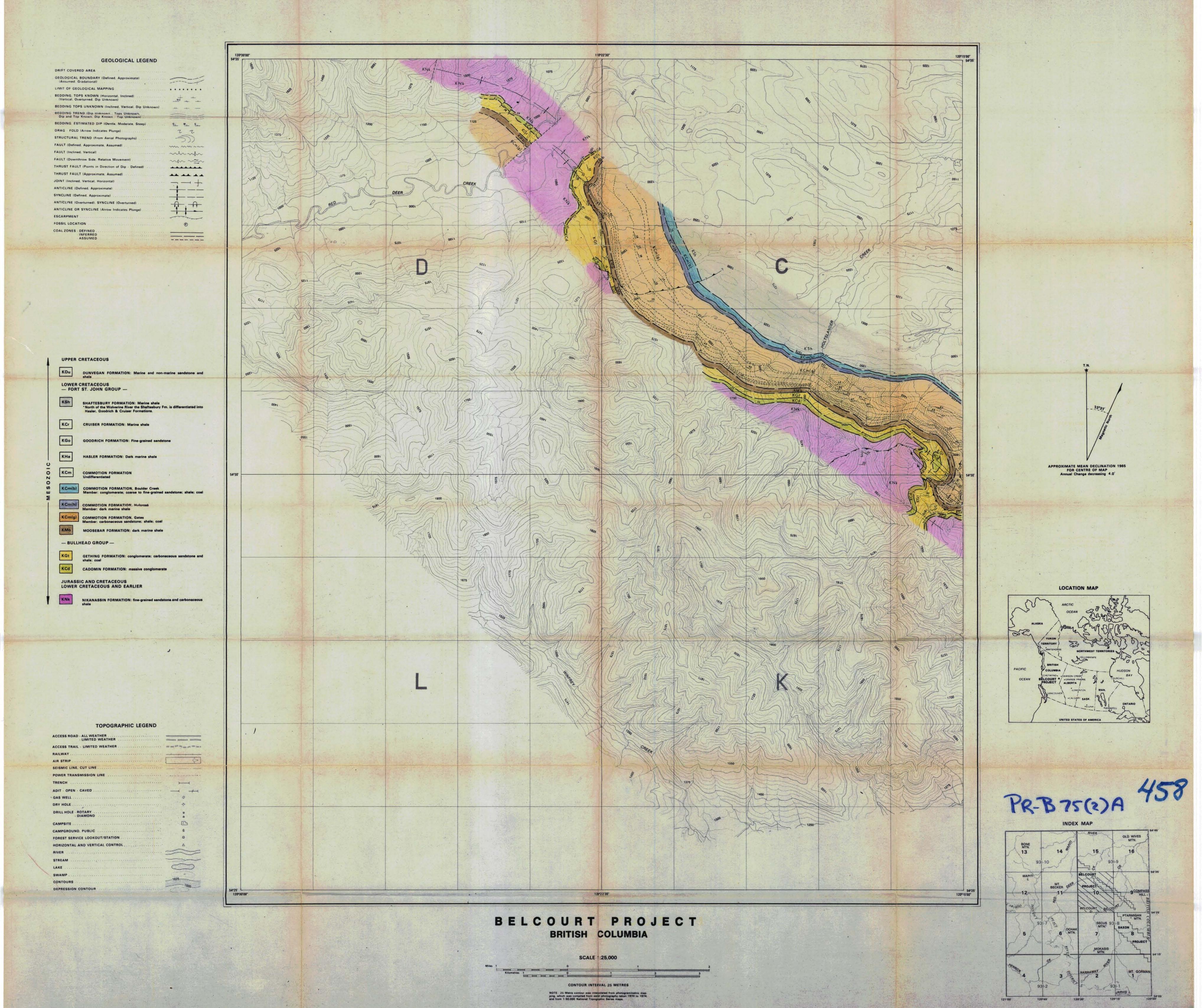




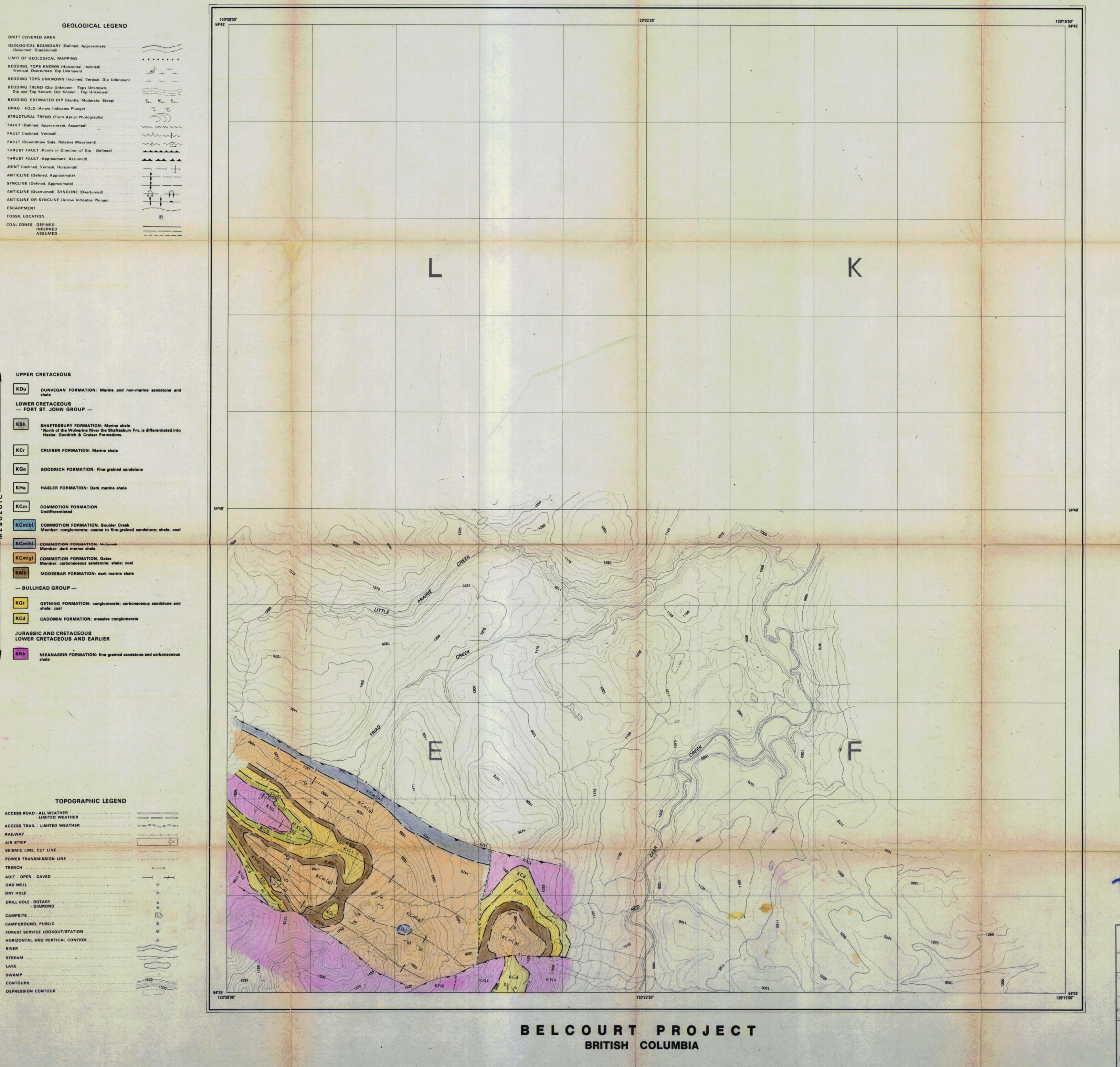








SHEET NO. 10



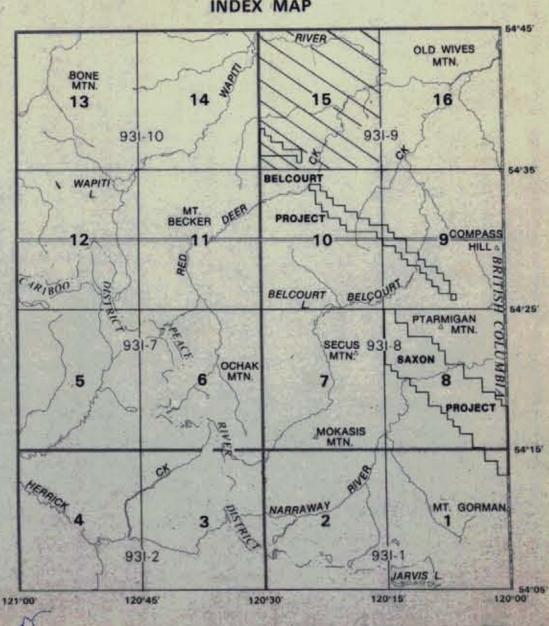
SCALE 1:25,000

APPROXIMATE MEAN DECLINATION 1965 FOR CENTRE OF MAP Annual Change decreasing 4.0'

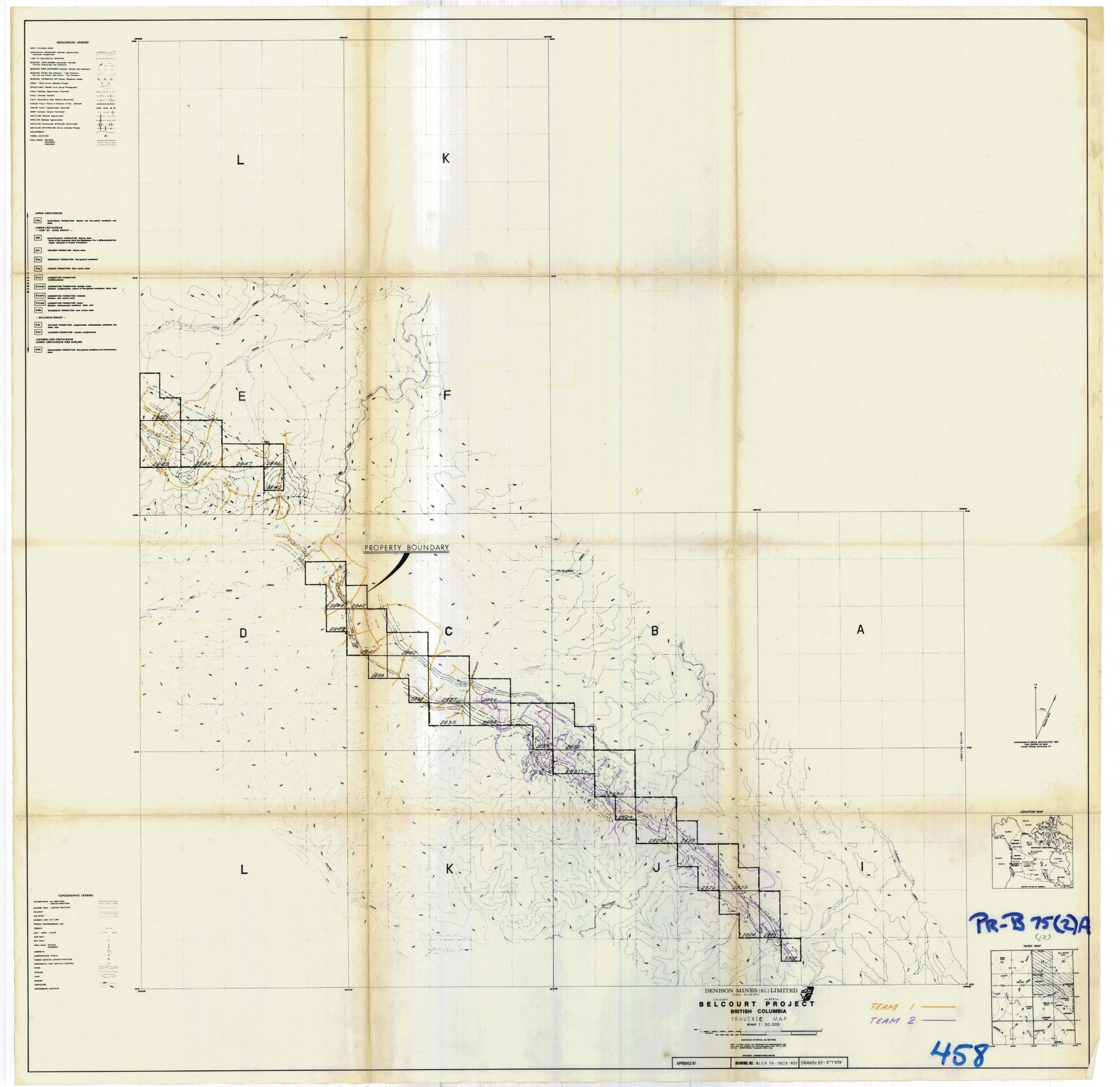
LOCATION MAP

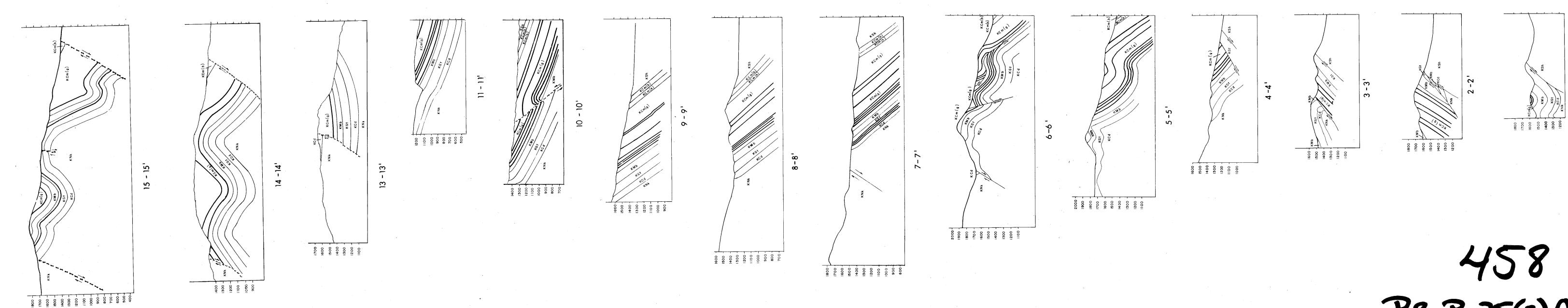


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SHEET NO. 15





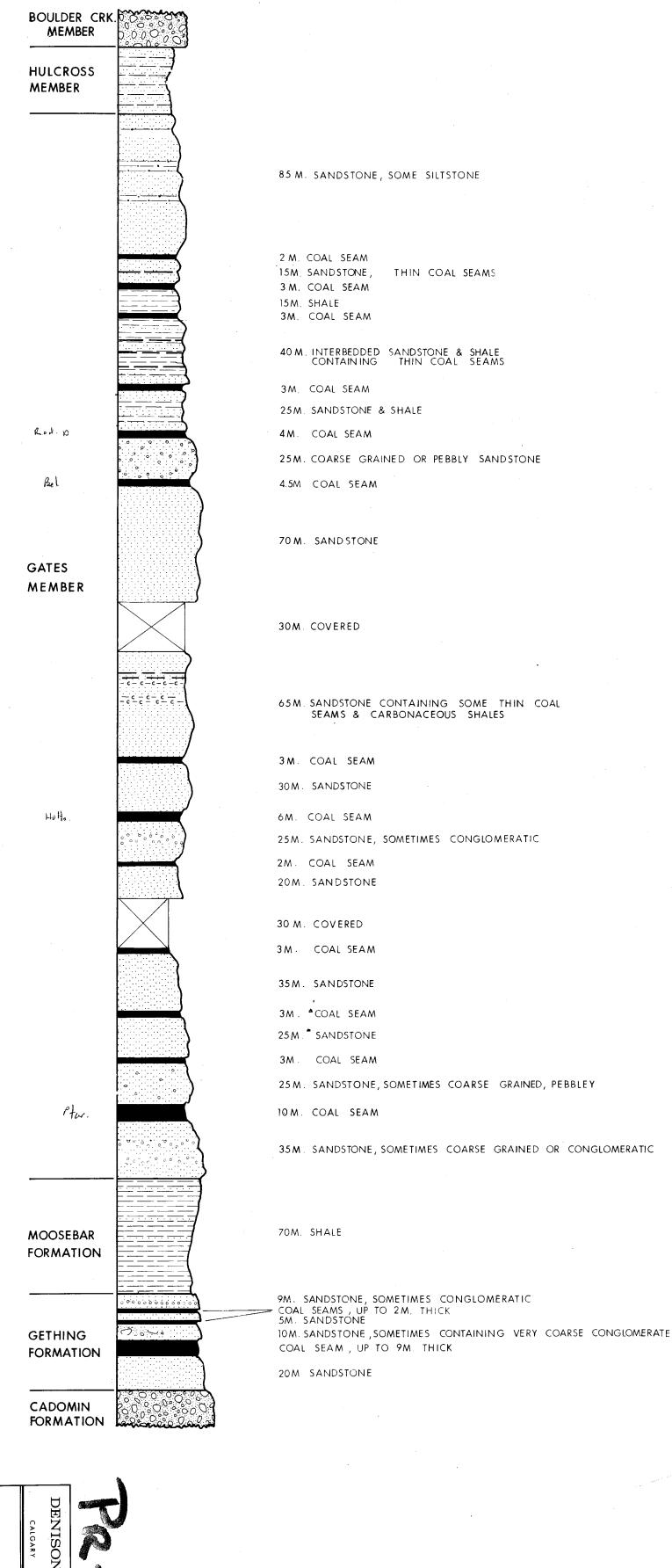
LEGEND

COMMOTION FORMATION (Boulder Creek Member) COMMOTION FORMATION (Hullcross Member) COMMOTION FORMATION (Gates Member) MOOSEBAR FORMATION GETHING FORMATION CADOMIN FORMATION KNK NIKANASSIN FORMATION

ELEVATIONS IN METERS ABOVE SEA LEVEL

458 PR-B75(2)A

DENISON MINES (BC) LIMITED CALGARY ALBERTA BELCOURT CROSS SECTIONS DRAWN BY: SORENSEN DATE: JAN. 1976 SCALE: 1:25,000 DRAWING NO: BLCR. 76 - 0626 - RO1



DRAWING NO: BLCT 71-0194 - R03

DATE: NOV, 75 SCALE: : 1CM = 20M

ORAWN BY

STRATIGRAPHIC BELCOUR SECTION

60.

DENISON MINES (B.C.) LIMITED





