SAWYER CONSULTANTS INC.

-520440 VSE, state

REPORT ON THE SILVER PROPERTIES

in the

SLOCAN MINING CAMP

Kootenay District

Slocan Mining Division, B.C.

of

SILVEX RESOURCES CORPORATION

JULY 24th, 1980

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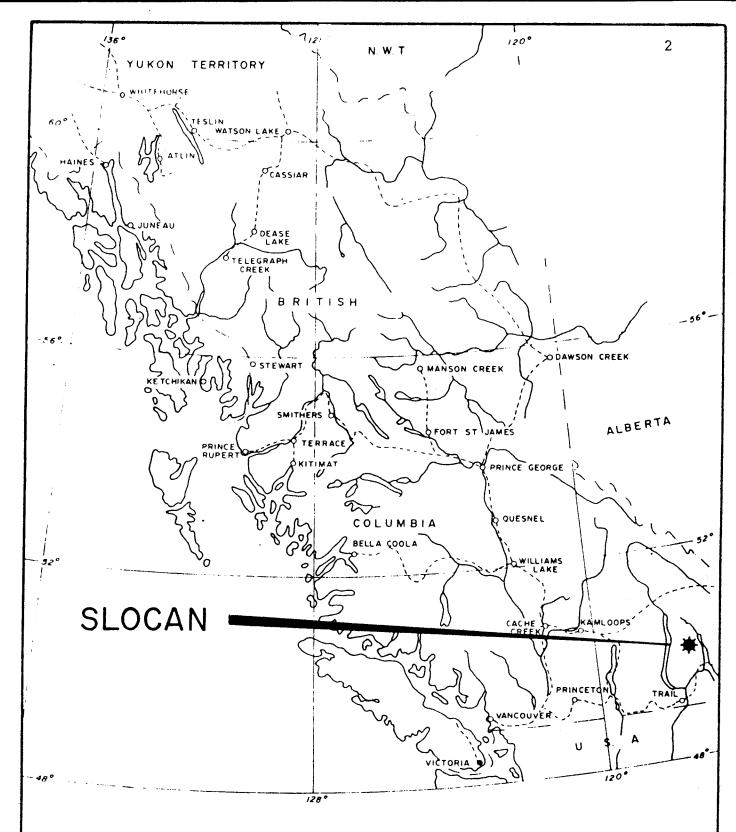
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INTRODUCTION

Silvex Resources Corporation (formerly Reco Silver Mines Ltd.) has held 48 Crown Grants in the Slocan Mining Camp for a number of years. Within the past 12 months or so the Company has acquired by purchase and/or option a number of additional groups of claims and Crown Grants so that their total holdings in this area are now comprised of 113 individual claims. These are covered by several agreements with the various vendors.

Earlier work in the area had indicated known bodies of probable ore in two or three locations and earlier reports prepared for the Company had suggested exploration programs more fully to investigate these. Some of these additional recommendations were made several years ago and were justified on the basis of improved silver prices at that time. Since then, of course, silver and gold metal prices have appreciated considerably from the levels in the 1970's so that these original recommendations are still pertinent and the probability of being able to re-establish a profitable mining operation based on these ore zones is considerably enhanced.

At the request of the Directors of Silvex Resources Corporation the writer has reviewed a considerable volume of data on former workings and more recent plans, as well as of the history of the area, preparatory to compilation of the attached report. Both geologically and from a practical mining point of view the properties and plans of Silvex Resources Corporation in the Slocan Camp appear to be soundly based and to have a very strong probability of being built into a profitable mining operation.



GENERAL LOCATION SKETCH SLOCAN CAMP

KOOTENAY DISTRICT, B. C.

SUMMARY

Over the past eighteen months Silvex Resources Corporation (formerly Reco Silver Mines Ltd.) has added to its original claim holdings in the Slocan area by entering into a number of agreements either to option or to purchase outright several additional groups of claims. The present consolidated holdings of the Company now comprise a total of 113 individual claims most of which are contiguous, lying in the Reco Mountain-Payne Mountain-Carpenter Creek area of the Slocan Mining Camp.

Careful research of old records and plans has led to definition of a number of targets considered to have good chance for hosting additional The primary target area selected is the possible reserves of silver ore. downward extension of the Noble Five and Surprise vein systems and adjacent vein systems which occur near the Slocan Sediment-Surprise Porphyry contact. Apparently these same targets were recognized in the late 1920's and plans were developed to carry out additional underground exploration on these zones, but this work appears to have been curtailed by the economic crash of 1929 and the properties have remained relatively untouched since that Secondary and tertiary target zones include the former Payne Mine and Chambers Mine on which a limited amount of work has been carried out over the past 20-30 years. In addition several other claim groups have been acquired and will be more fully explored in subsequent years. Planned 1980 work programs involve additional underground drifting on the Noble Five-Surprise and Chambers Zones and additional underground drilling on these and on the Payne Mine. The overall concept of this program is sound and appears to have been well planned and organized. The estimated total costs of the planned 1980 work program is \$1,520,650.00.

PROPERTY

The following lists the several claim holdings, Crown Grants, etc. which now constitute the holdings of Silvex Resources Corporation in the Slocan mining camp.

RECO GROUP

| Name | No. | Name | No. |
|------------------|------|----------------------|------|
| Jay Gould | 1754 | Omega | 618 |
| Eureka | 1753 | Twilight | 1814 |
| Chambers | 1752 | Mollie | 808 |
| Wellington | 1755 | Eldorado | 2901 |
| Oro | 2434 | Polo | 2260 |
| Kaslo Alma | 2432 | Number One | 4560 |
| Shoshone | 2433 | Number Two | 4561 |
| | 4002 | Number Three | 5961 |
| Clifton | 517 | Number Four | 5917 |
| Grandview | 3998 | Number Five Fraction | 5918 |
| New Denver | 612 | Pirate | 1304 |
| Ruceau | 624 | Slocan Sovereign | 1927 |
| Gopher | 1851 | Deadman | 613 |
| Ephraim Fraction | 600 | Pay 1 | 1688 |
| Texas | 589 | Pay 2 | 1689 |

The Group which now also includes the Deadman claim, is 100% owned by Silvex. The Deadman claim is being purchased under the terms of an agreement dated March 5th, 1980. Total purchase price for 100% interest in the claim is \$15,000.00. There are no royalty payments to the vendor but he has the right to acquire one dump located on the property, surface rights to which are held by Silvex. Payments under this agreement are being made.

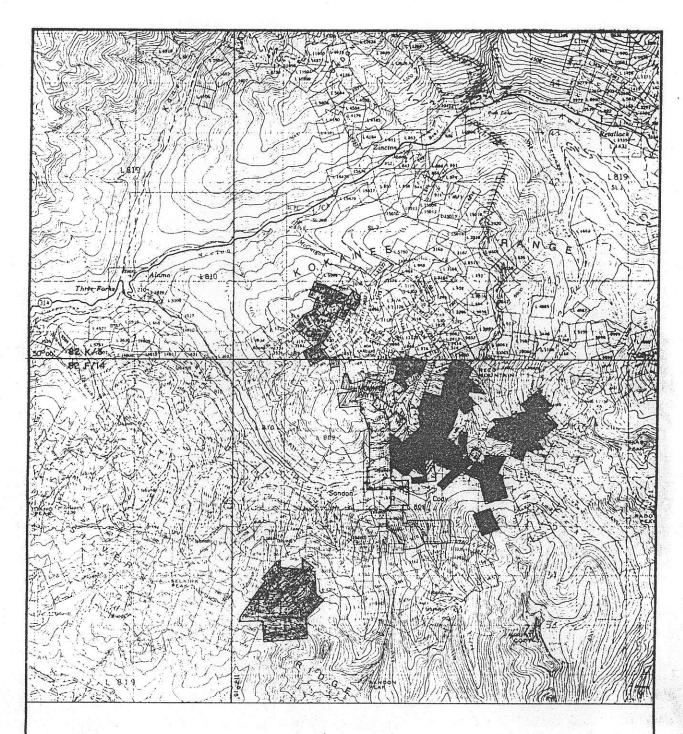
Two grid claims, Pay 1 and Pay 2, comprising 7 units have been staked by Silvex. The details of these claims are as follows:

| Claim | No. of Units | Record No. | Located | Recorded | Expiry Date |
|-------|-----------------|---------------|---------------|---------------|---------------|
| Pay 1 | 3 | 1688 | January 16/80 | January 21/80 | January 21/81 |
| Pay 2 | 4 | 1689 | January 16/80 | January 21/80 | January 21/81 |

PAYNE GROUP

| Name | No. | Name | | No. |
|-----------------------------|--------------------|--|-----|--------------|
| Mountain Chief Two Jacks | CGL 498 CGL 497 | Good Day Fraction Tramp Planet Fraction | | 2345 2359 |
| Payne Maid of Enin | CGL 499 | Dominion | | 2641 |
| Maid of Erin | CGL 500 | Felix No. 3 | CGL | 2643 |

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RECO GROUP



PAYNE GROUP



MONTOREX GROUP



SILVER CORD GROUP



PARLAKE RESOURCES OPTION



ROYAL TRUST GROUP



IVANHOF GROUP

SILVEX RESOURCES CORPORATION

SLOCAN MINING CAMP BRITISH COLUMBIA

PROPERTY LOCATION MAP

Scale: 1:50,000 Figure 2

Payne Group (cont.)

| Name | No. | Name | No. |
|---|--|--|--|
| Telephone Thursday Fraction Silver Reef Return Good Day | CGL 3185 CGL 3524 CGL 3996 CGL 1018 CGL 2344 | OBH Exeter Payne Fraction St. Keverne | CGL 2644 CGL 2645 CGL 2646 CGL 2642 |

Silvex may earn a 60% interest in the property by making expenditures of \$200,000.00 a year for five years or by placing the property in production.

MONTOREX GROUP

| Name | No. | <u>Name</u> | No. |
|------------------|------|---------------------------|------|
| Erie | 3995 | Rushford | 2068 |
| General Sheridan | 2066 | General Sheridan Fraction | |
| Great Eastern | 2289 | Legal Tender | 1749 |
| Argenta | 1412 | L.T. Fraction | |
| Madison | 1411 | Unit June #1 | 652 |
| Condore | 5615 | Unit June #2 | 653 |
| Condore Fraction | | Shoeswap | 3158 |
| Deerslayer | 2491 | Kesef | 2492 |

Silvex has the option to acquire the property from George C. Cook for the sum of \$232,000.00 payable as to,

\$32,000.00 - on execution of the formal agreement.

\$50,000.00 - December 31st, 1980.

\$50,000.00 - July 1st, 1981. \$50,000.00 - October 1st, 1981.

\$50,000.00 - December 31st, 1981.

As of the date of this report the sum of \$32,000.00 has been paid.

SILVER CORD GROUP

| Name | No. | Name | No. |
|--------------------|------------|-----------------------------|--------------|
| Galena Blue Jay | 593 594 | Silver Cord Little Widow | 1848 1850 |
| Starlight No. 3 | 595 | Starlight Fraction | 2343 |

Silvex has the right to purchase from Silver Cord Mining Co. Ltd. of Victoria, B.C. these six claims for the sum of \$70,000.00 plus a 15% net profits royalty. The cash amount is payable as follows:

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\$500.00 - paid April 1st, 1980.

\$4,500.00 - on signing formal agreement which is presently in preparation.

\$5,000.00 - on first anniversary of execution of final agreement.

\$5,000.00 - on second anniversary of execution of agreement.

\$50,000.00 - on third anniversary of execution of agreement.

IVANHOE GROUP

The Ivanhoe Group is comprised of the following claims:

| Name | No. | Name | No. |
|----------------------------|--------------|-----------------------------|--------------|
| Kitchen Fraction Benbow | 3107 4551 | Bendigo Fraction Triumph | 3741 4552 |
| Seaton Fraction | | Triumph Fraction | 4849 |
| Great Eastern | 753 | Morning No. 3 | 3105 |
| Admiral Nelson | 3106 | Bendigo | 3740 |
| Tom Bowling | 4549 | Big Kanawha | 4550 |
| Elgin | 742 | Ivanhoe | 743 |

The claims of this Group are leased to Mr. Adrian Kessler of Silverton, B.C. by the owners, William A. Gardner, Jane G. Head, and Robert E. Gardner of the United States of America who are to receive a 12.5% net smelter return from all ore and minerals mined and concentrate shipped from the claims. Mr. Kessler has agreed to assign his rights in these claims to Silvex in consideration of a cash payment of \$2,000.00 and a royalty of $2\frac{1}{2}\%$ of net profits received from sale of ore from the claims.

Two grid claims, Prize 1 and Prize 2, comprising 20 units, have been staked by Silvex in this area. The details of these claims are as follows:

| Claims | No. of Units | Record No. | Located | Recorded | Expiry Date |
|---------|-----------------|---------------|----------------|------------|-------------|
| Prize 1 | 15 | 1834 | February 23/80 | March 6/80 | March 6/81 |
| Prize 2 | 5 | 1835 | February 23/80 | March 6/80 | March 6/81 |

ROYAL TRUST GROUP

| <u>Name</u> | No. | Name | No. |
|-----------------|--------------|----------------------|--------------|
| Nabob Sunset | 3999 1164 | Trade Dollar Bell | 1432 1165 |
| Cashier | 5751 | No. 3 Fraction | 3532 |

Under the terms of a recently concluded agreement Silvex has acquired an option to purchase a 90% undivided interest in the claims for a total price of \$60,000.00 payable as to,

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\$5,000.00 - on execution of the formal agreement.

\$10,000.00 - on May 1st, 1981.

\$15,000.00 - on May 1st, 1982.

\$30,000.00 - on May 1st, 1983.

The agreement also provides for a $12\frac{1}{2}\%$ royalty on pre-tax profits derived from Silvex's 90% of production from the claims, payable to Royal Trust. Royal Trust's 10% retained interest in the claims will provide them 10% of Net Profits realized from sale of minerals from the claims. In this context Net Profits means profits calculated prior to deduction of any taxes.

PARLAKE RESOURCES LTD. OPTION CLAIMS

| Name | No. | Name | No. |
|---------------------|------|-------------------|------|
| Ajax | 1727 | Maud E | 463 |
| Blizzard | 1849 | World's Fair | 464 |
| Black Hawk Fraction | 4546 | Bonanza King | 465 |
| Frank Fraction | 4547 | Knoxville | 466 |
| American Boy | 571 | Noble Five | 467 |
| Treasure Vault | 587 | Lucetta | 599 |
| lessie | 620 | Wild Goose | 614 |
| Chicago | 622 | Đerby | 1855 |
| Last Chance | 717 | Summit Fraction | 5599 |
| Lady Jane | 1305 | Surprise Fraction | 5600 |
| Legal Fraction | 4534 | r | _ |

These claims are held under an option agreement with Parlake Resources Ltd. dated October 15th, 1968. This is an ongoing agreement the terms of which provide for payments of \$1,000.00 a year by the lessee plus a royalty of 5% of the net smelter returns from ore produced from any of the claims. In addition the lessees are obligated to pay a royalty of 10¢ a ton on any ore shipped by them through the adits on claims of Parlake Resources. At the time of preparation of this report the annual payments have been made up to October 15th, 1984.

Map 2 accompanying this report shows most of the claims of the Reco Group, Parlake Resources Option, and Silver Cord Group.

The following brief descriptions, taken from Cairnes (1935) summarize the salient points of some of the better known claim groups in the area which now form a part of the holdings of Silvex Resources Corporation.

RECO GROUP

The current Reco Claim Group is comprised of the original Reco Group of 18 Crown Granted claims as listed above as well as four Crown Grants which were originally part of the Chambers Group, and one or two other grants.

Reco Group

The claims of this group occupy a large area on the south slope of Reco Mountain the workings lying mainly between 1500 and 2500 feet above Sandon. The history of the group dates from 1892 and in 1895 the No. 3 or Reco-Goodenough lode was discovered and was developed into an important mine on which the Reco Mining and Milling Company was incorporated. In the ensuing years the production was obtained from four lodes numbered 1, 2, 3 and 4, and it is recorded that in the period 1894 to 1919 inclusive there was production every year from one or other of these lodes. Total production from the four lodes for the period 1894 to 1922 totalled some 1,298,809 oz. silver, 7,387,607 lbs. of lead, yielding net smelter returns of \$869,974.00. The claims are in both sedimentary and intrusive rocks the former being part of the Slocan Series which have a general north-westerly strike but have been folded into a major anticlinal structure.

Chambers Group

The original Chambers Group included the Chambers, Wellington, Eureka, and Jay Gould Crown Granted claims, all located on the lower northern side of the Carpenter Creek valley, about half a mile above Cody. Workings on the property which is underlain by Slocan Series sediments cut by several acid porphyry dykes in the upper workings and a dykeshaped mass of quartz porphyry, included five adits. The main lode is a strongly sheared zone from 5-10 feet wide partly filled with quartz vein and carrying small shoots of argentiferous galena.

PAYNE GROUP

The present Silvex Resources Corporation Payne Group includes the claims of the original Payne Group as well as several other claims and grants which formerly were parts of other groups or independent claims.

Payne Group

The original Payne Group consisted of the Payne Fraction, Maid of Erin, Mountain Chief, Two Jacks, Telephone, and Thursday Fraction Crown They were located across the summit of the ridge which Granted claims. extends northwesterly from Payne Mountain. The property is underlain mainly by Slocan sediments including largely massive argillaceous quartzitic and calcareous beds. The sediments are deformed and faulted and intruded by quartz and feldspar porphyry dykes. The Payne lode at the Summit the ridge has a strike of N55 E dipping southeasterly at angles of from 50° to 70°. The mine was developed by seven adits and tunnels extending over a vertical range of some 1450 feet below the outcrop and up to 1935 the workings included over 10,000 feet of drifts. As with most of these old mines production records are incomplete but Cairnes (1935) has estimated that the aggregate value of ore produced up to 1905 was about \$5,000,000.00.

MONTOREX GROUP

This group includes claims which were formerly part of the Madison Group, as well as a number of other separate properties on most of which there appears to be little historical data.

Madison Group

The original group was comprised of the Argenta, Madison, Marden Fraction and Great Eastern Crown Granted claims which lie on the north side of the Carpenter Creek valley between Sandon and Cody. The old workings on these properties were developed on two lodes known as the Argenta and Madison. These two lodes are parallel and about 400 feet apart having a strike of N35 $^{\circ}$ E. Each was opened up by three adits.

PARLAKE RESOURCES OPTION

Claims which constitute part of the Parlake Resources Option include claims originally part of three separate groups, the Noble Five Group, American Boy Group, and Last Chance Group.

Noble Five Group

Claims comprising the original Noble Five Group included the Noble Five, Knoxville, Bonanza King, World's Fair, Maud E, Deadman, Lucette, and Wild Goose Crown Granted mineral claims. They are on the southern slope of Reco Mountain northeast of Sandon, located between the American Boy and Last Chance Groups to the west and the Reco Group to the east, and include the workings of the Noble Five and Deadman Mines. Up to the end of 1896 shipments of ore totalling a value estimated at between \$125,000.00 and \$130,000.00 had been made and subsequent mining continued to yield good ore. For example, in 1913 52.0175 net tons gave 4144 oz. of silver and 41,932 lbs. of lead. The Noble Five lode was developed by cleven adits, the No. 8 being about 800 feet below the lode apex. of these adits, the 18 level crosscut, was driven as part of a work program commenced in 1905 after the Honorable James Dunsmuir had acquired owner-This 2700 feet crosscut, aimed at tapping the Noble ship of the property. Five lode 1000 feet below the then lowest workings on No. 8 level, cut through a complete section of rocks all of which are Slocan sediments intruded by numerous dykes of quartz porphyry and a few smaller more basic dykes. The sediments, apparently, are strongly compacted massive types having a general N38 W strike and a southwesterly dip averaging basic dykes. 57° . The Noble Five lode down to No. 8 level had a general strike of 55° E with a southeasterly dip at from 55° to 70° . Some of the later work, in 1928, was done to explore a pyritized shear zone, known as the Deadman vein, which had been encountered in the long No. 18 crosscut. by the resident engineer in 1928 indicate that this exploration had been successful in locating additional ore and in 1929 it was reported that the orebody "as at present developed is about 350 feet long. The orebody varies considerably in width ... the mineral area at (its western extremity where first encountered) ... being up to 20 feet wide. Going easterly the ore pinches and swells, with a good stoping width throughout the greater length of the orebody."

This long No. 18 level crosscut is the drift from which the proposed 1980 exploration is to be started, see Map No. 1.

American Boy and Last Chance Groups

These two groups of claims adjoin and exploit the same lode system. They are located on the steep southern slope of the high west ridge of Reco Mountain overlooking Carpenter Creek to the northeast of Sandon. Workings range over an elevation from about 5700 feet to over 7700 feet. The American Boy Group originally consisted of the American Boy, Treasure Vault, Chicago, and Jessie claims, and the Franc and Black Hawk Fractions. The Last Chance Group originally consisted of the Last Chance, Starlight No. 3, Galena, and Blizzard claims, and the Little Widow and Starlight Fractions.

The main American Boy-Last Chance vein lode follows a strongly fissured zone which cuts across sediments and porphyritic intrusives. Its strike varies from about N75°E on the American Boy to about N60°E on the Last Chance claim, and the dip is to the southeast at an average of from 60° to 65°. The workings comprise eleven adits and several intermediate levels aggregating about 3 miles of drift and crosscut. The vein matter is mainly argentiferous galena with zincblende, pyrite, quartz, siderite, and crushed rock. There also was some grey copper and ruby silver associated with the sulphides. Most of the orebodies were small and fairly erratically distributed but apparently provided fairly steady production over a number of years. To the end of 1922 the total recorded production from the mine was 4721 tons which averaged 124 oz. silver and 48% lead.

SILVER CORD

In terms of their location and history the claims of the present Silvex Resources Corporation Silver Cord Group are closely related to those of Silvex's Parlake Resources Ltd. Option. Four of the original claims of the Last Chance Group, the Starlight No. 3, Galena, Little Widow, and Starlight Fraction claims, now form part of the Silver Cord Group and the remaining two claims, Galena and Blizzard, are now part of Silvex's Parlake Option. The comments made above therefore with regard to the American Boy and Last Chance Groups are pertinent to most of the claims of the Silver Cord Group. There appears to be little historical record of the development of the remaining two claims of this Group, Blue Jay and Silver Cord.

The Galena claim is described (Cairnes 1935) as being located "on the summit of the divide at the head of the south fork of McGuigan Creek and east of Payne Mountain." Workings developed on this claim include a 490 foot long tunnel driven through the ridge at an elevation of about 7500 feet to follow a vein lode of which the strike was 055° having a southeasterly dip. The vein was in metamorphosed Slocan Series argillites which had been intruded by numerous dykes and sills of quartz porphyry. Apparently the mineralization of the vein was made up largely of sphalerite and siderite. Early in the century an attempt was made to intersect this same lode through a long crosscut driven from the No. 4 level of the Last Chance Mine and it appears that this was achieved at a distance of 1590

feet from the portal. A limited amount of drilling was done on this section of the lode but there are no reports of the tenor of mineralization at this point.

ROYAL TRUST GROUP

The six claims which are now referred to as the Royal Trust Group were originally known as the Sunset-Trade Dollar and Bell Group which were owned in the 1930's by a Mr. W.J.C. Wakefield of Washington State. The property is located at the head of Jackson Creek and extends across the divide there at elevations of between 6000 and 7000 feet. The original Sunset-Trade Dollar Group included the Sunset, Trade Dollar, No. 3 Fraction, Nabob, and Cashier claims on which mining was commenced in the last few years of the 19th century. A considerable production, mainly from the Sunset and Trade Dollar claims, was obtained early in the present century (Cairnes 1935). The Bell claim, which also forms a part of this Group, achieved its principal production in the years 1916 to 1918 following which all of the claims remained relatively idle for a period of several years. In the winter of 1926-27 lessees are reported to have shipped over 100 tons from the workings on the Trade Dollar claim.

Workings on the Sunset and Trade Dollar claims are comprised of twelve adits of which four were driven from the northern slope, on the Sunset claim, and the remainder from the southern slope on the Trade Dollar claim. In all a total of at least 7700 feet of underground workings had been completed by 1935 and it is apparent from descriptions of the elevations and lengths of the various workings that the main lode was explored over a considerable vertical range, at least 1000 feet.

The main lode on which all these workings were based was on the southwestern limb of a synclinal structure in Slocan Series sediments. The uppermost beds are massive quartzites with varying amounts of argillaceous and calcareous material. Lower, the sediments are more slaty and are interbedded with thinly banded argillites and occasional limestone beds. The whole structure is cut by numerous dykes of porphyritic acid intrusives which in general are on the same strike as those of the country rocks. The nature of the ore in these workings also varies. On the Sunset and Trade Dollar claims the ore was mixed and includes a fair amount of galena as well as sphalerite whereas on the Bell claim the ore was almost entirely Figures on some early shipments of ore from the Sunset-Trade Dollar claims indicate an average grade of over 130 oz. of silver and 75% lead on an aggregate production in excess of 2600 tons. As production from the Bell claim was developed all of the ore from Sunset-Trade Dollar was shipped with that of the Bell to which it was subordinate. duction from the Sunset-Trade Dollar area apparently was of much lower grade, 100 tons of ore shipped in 1925-26 apparently running in the order of 14 oz. of silver to the ton, 40% zinc, and a little over 1% lead.

On the Bell claim the workings include three short adits covering a vertical distance of about 90 feet. Although the orebodies on the Bell claim consisted of almost pure sphalerite in places, they were of limited extent in a vertical sense there being apparently little continuity between

distinct ore shoots in that sense. A number of parallel fault zones and cross structures which are mineralized occur in addition to the main lode both in the Bell and Sunset-Trade Dollar areas. The Bell ore, as mentioned earlier, was fairly pure sphalerite and carried very little silver and almost no galena. The orebodies were developed as replacements in limestone.

IVANHOE GROUP

The original Ivanhoe Group was comprised of the Ivanhoe and Elgin Crown Granted claims which must be amongst some of the earliest in this camp. The original property was located about 1893 and worked up to 1905, and, after a period of idleness, again from 1913 to 1921. Apparently little work had been done from 1921 up to the time of Cairnes reports in 1935. He reports that in 1900 a 100 ton mill was erected at Sandon on the site of the later Silversmith concentrator which was connected to the mine workings by an 8500 foot aerial tramway. This mill was burned in July of 1915 and later rebuilt in 1919 by new operators, the Rosebery-Surprise Mining Company.

The mine workings consist of eight levels over a vertical range of some 600 feet. First production was in 1895 from which shipments of 150 tons averaging 100 oz. of silver to the ton and 60% lead were made. Up to 1900 some 400 tons of similar ore had been shipped and the year of heaviest production was 1904 when 12,900 tons of concentrating are, which averaged about 9 oz. per ton silver and 6% lead, were shipped.

Geologically the property is underlain by a synclinal structure in Slocan Series sediments which are cut by dykes of quartz and feldspar porphyry. The general downward succession of strata in this area passes through a variety of sediments including some calcareous, argillaceous and quartzitic members underlain by greater thicknesses of more massive grey quartzitic argillites, etc. As in many parts of the camp a number of faults and shear zones have affected these rocks and the mineralized lodes. The Ivanhoe lode itself is described as a strongly sheared and fissured zone reaching 20 feet or more in width.

OIL AND GAS PROPERTIES, TEXAS

In addition to the several mining properties in the Slocan District, British Columbia, Silvex Resources Corporation has acquired interests in some oil and gas leases located in Fayette County, Texas. Under the terms of a letter/agreement dated April 1st, 1980, Silvex Resources Corporation, through their agents, Messrs. J. Simpson and W. Tyler, acquired a $9\frac{1}{2}\%$ interest in the working interest in Union Oil & Minerals Corporation's Pasuer No. 1 well for considerations of cash and shares.

The property is known as the Green's Creek prospect located in Fayette County, Texas, the subject lease consisting of approximately 420 acres. The potentially productive horizons underlying this lease are in the Buda and Austin Chalk Formations from which there has been considerable production of both oil and gas over the last four years. An idea of the intensity of the activity can be gained from the fact that in January 1977 there were eight wells producing from the Austin Chalk in this general area and by the end of March 1979 there were 177 wells which had a per well cumulative of over 33,000 barrels of oil and 36 million cubic feet of gas. An evaluation of the property was carried out for Union Oil & Minerals Corporation by V.P. Hammerle & Associates Inc. of Houston, Texas, in a report dated November 9th, 1979. A copy of this report has been made available to us for review and readers are referred to it for more complete details of the evaluation study, and cash flow projections.

LOCATION AND ACCESS

The Slocan Mining Camp is in southeastern British Columbia approximately 55 air miles north of the International Boundary, between Slocan Lake on the west and Kootenay Lake which lies a few miles to the east. The village of New Denver lies about 12 miles northwest of the property and the city of Trail, site of the Cominco smelter, is approximately 85 miles to the south by road.

Access to the Slocan area is readily available through a series of well maintained Provincial highways. B.C. Highway #3 which traverses the southern part of the province from Vancouver to Alberta passes just south of the area and from it Provincial Highway #6 goes northwards through Castlegar, Slocan, New Denver, eventually up to Revelstoke and the Trans Canada Highway. Within the local area good gravel roads provide access to the Slocan Mining Camp and within the properties themselves gravel roads, which may in part only be accessible by four-wheel drive vehicle because of extremes of relief which make for difficult terrain, lead to the various parts of the camp.

PHYSIOGRAPHY

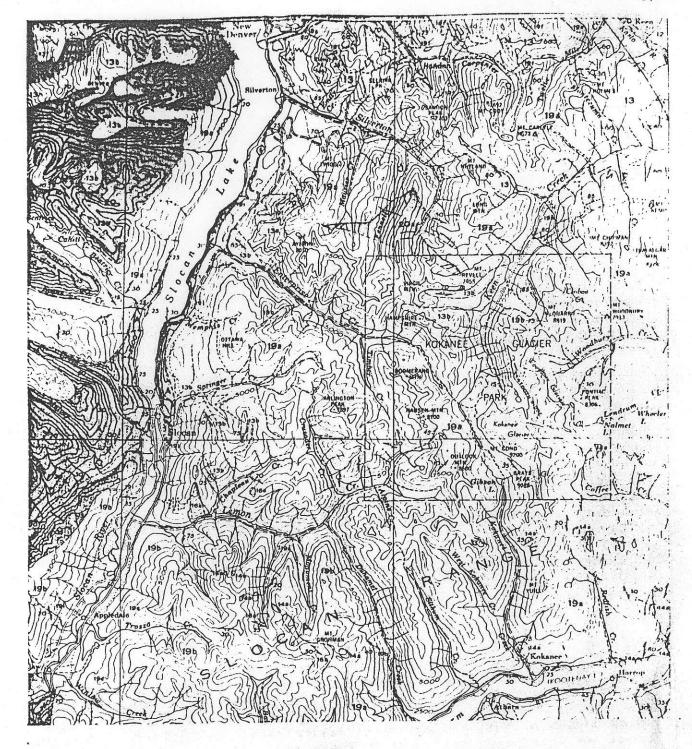
The property is within the Cassiar-Columbia Mountains physiographic region in which the topography is of alpine type, elevations being in the range 4000-8000 feet above sea level. Relief therefore is sometimes extremely rugged. Mean annual precipitation in the area is in the range 75-150 centimetres and the temperature range is from about -10 to +70 Fahrenheit. There is good growth of timber over much of the area, including cedar, hemlock, and fir, to elevations of around 5000 feet.

GEOLOGY

The Slocan camp lies within the Selkirk Mountains which include geological formations ranging in age from Late Precambrian to Tertiary but as Cairnes (1934) has pointed out, "Precambrian measures and Post Triassic intrusives occupy the major part of the territory." Sedimentary rocks of Palaeozoic and Mesozoic age as well as volcanic rocks also occur within the area "as scattered patches or narrow belts resting on the basement of the Precambrian rocks or caught up as inclusions with the Post Triassic intrusives." The rocks with which we are most concerned, i.e. those which host many deposits of the Slocan Mining Camp, are predominantly sedimentary Mesozoic rocks and Post Triassic intrusives. The former are now referred to the Triassic, mainly on the basis of palaeontological evidence because these sedimentary strata show no evidence of interruption in sedimentation from Upper Carboniferous to Triassic time, and the latter are referred to a complex of batholithic rocks of probable Lower Cretaceous Table I for the northeastern part of age known as the Nelson Batholith. the Nelson map area, taken from Little (1960), summarizes these stratigraphic relationships.

The lowest Mesozoic strata in the area are assigned to the Kaslo Group and, lithologically, are comprised predominantly of volcanic rocks with minor sedimentary carbonate rocks and slates. These are overlain unconformably by the predominantly sedimentary Slocan Group rocks which host the major mineralization of the camp. Rocks of the Slocan Group underlie the entire region between Slocan Lake and Kaslo River north of the Nelson Batholith. The Slocan Group is composed "predominantly of argillaceous rocks, but fine grained quartzite and limestone are fairly Tuffaceous beds and a little conglomerate are also present", abundant. (Little, 1960). Hedley (1945) has referred to the basal part of the group as the slate belt because of the predominance of argillaceous rocks however a number of limestone bands and some quartzitic strata also occur. slates and phyllites are described as being grey to black, and locally greenish and showing evidence of lateral gradation towards the northwest into more arenaceous and less calcareous phases. Several thousand feet of strata above the basal belt appear generally to resemble the beds over a large part of the area but further to the west they apparently become mainly grey argillaceous rocks that contrast sharply with the lower Higher in the section rocks become more arenaceous, as exemplified by beds exposed between Mount Payne and Idaho Peak. Here the dominant rock type is, "a dark, well bedded, quartzitic argillite in which the alternating strata of various degrees of purity range in thickness from a fraction of an inch to 2 or 3 feet. These rocks are fine grained and silty", (Little, 1960). Impure quartzites and limestones are less abundant in this Other rocks, for example those between Idaho Peak and Slocan Lake, representing the highest part of the section, contain beds of tuffaceous origin. There appears to have been considerable discussion over the years as to the true thickness of the Slocan Group rocks. Originally it was estimated by Cairnes (1934) as not being more than 6800 feet however Hedley (1952) thought that the thickness may be several times that figure and Irwin (1951) concluded that the Slocan Group is represented by some 37,000 feet of strata. Cairnes apparently objected to this great thickness and suggested that major repetitions may have been unrecognized by the other workers. Evidence from Nevada shows that Triassic rocks there have

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Lower Cretaceous

[20] Valhalla Plutonic Rocks

Triassic

13 Slocan Group - Sediments
Probably Early Mesozoic

Nelson Plutonic Rocks

Augen gneiss, minor limestone

REGIONAL GEOLOGY

NORTHEAST SECTION OF NELSON MAP AREA, B.C. including Slocan Mining Camp

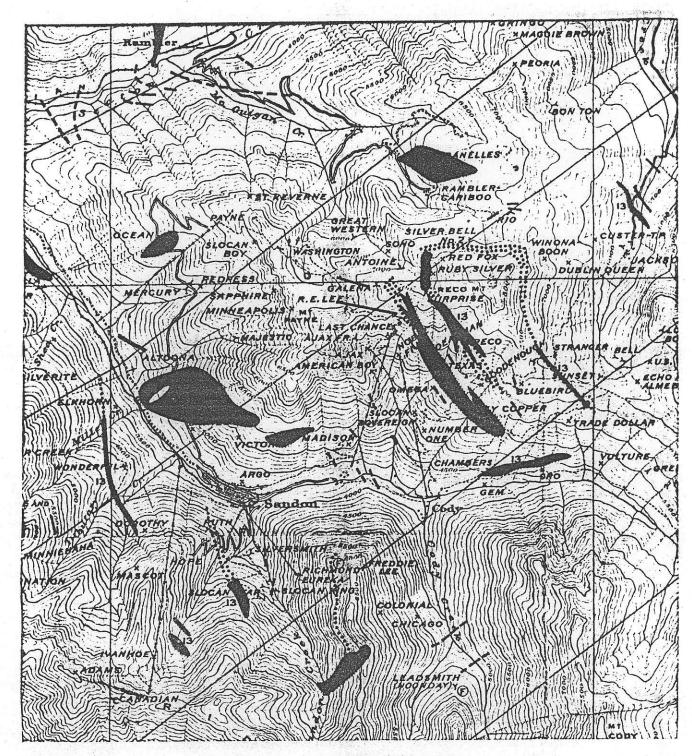
(after H.E. Little, 1960 - Map 1090A)

Scale: 1 inch = 4 miles

a total thickness in excess of 24,000 feet which would appear to invalidate Cairnes' objections that the 37,000 feet estimated by Irwin is much greater than the maximum thickness of any known Triassic section anywhere in the world. It seems probable from a review of all of the studies that the total thickness of the Slocan Group is great, and this may have some significance in terms of persistence to depth of some of the ore bearing structures. West of Slocan Lake and again further to the south, in the core of the Nelson Batholith, Slocan Group rocks are represented by paragneisses which occur both as roof pendants in the Nelson Batholith and also for some distance around the contact.

Table I

Northeast Part of Nelson Map Area Group or Formation|Lithology Period or Epoch Era Cenozoic Tertiary Mesozoic or Upper Cretaceous Cenozoic or later Lower Cretaceous Nelson Plutonic Porphyritic and non-Rocks porphyritic granite; granodiorite, quartz diorite, and related dyke rocks Intrusive Contact with Slocan Group lurassic and Cretaceous Middle and Upper Jurassic Mesozoic Late Lower Rossland Roof of pendants of metalurassic Formation morphosed greenstone Early Lower Jurassic Early Mesozoic Triassic and Slocan Group Slate, argillite, quartz-Lower Cretaceous ite, limestone, conglomerale, tuff DISCONFORMABLE CONTACT Triassic Kaslo Group Greenstone, minor slate Base not exposed within map area



Post Triassic

Triassic

1215

Plutonic Rocks

7 Slocan Series

GEOLOGY OF SANDON AREA

KOOTENAY DISTRICT, B.C.

(after C.E. Cairnes, 1934 - Map 273A)

Scale: 1 inch = 4000 feet

MINERAL DEPOSITS

The important mineral deposits of the Slocan are predominantly of vein type, either single or composite veins, which occur either in the Slocan Series rocks or in the intrusive rocks of the Nelson Batholith. relative importance of these two formations as host rocks is perhaps not easily appreciated as evidenced by some earlier figures given by Cairnes, however it may also be that a renewed period of exploration in this camp, sparked by the current high precious metal values, may provide new data which may change our view of this apparent relationship somewhat. Cairnes (1934) has pointed out that within the Sandon and Slocan Quadrangles the claim map showed roughly twice as many claims located in the Slocan Series rocks than in the rocks of the Nelson Batholith but the total value of ore produced from the former is about thirteen times that produced from the He notes that the deposits in the intrusive rocks are on the average smaller than those in the Slocan Series but are also mostly richer carrying high values in silver and sometimes gold but relatively small percentages of lead and zinc. Cairnes studied the mineral deposits of the Slocan area in considerable detail, both in the field and the laboratory, and on the evidence derived from these studies has classified the ore deposits into five principal types as follows:

- (1) Barren or nearly barren quartz veins occurring in all formations having generally random orientation. They may carry sparsely disseminated pyrite and more rarely pyrrhotite, and the wall rocks may be conspicuously impregnated with pyrite. The veins are generally narrow but may reach widths of several feet and may be traced for several hundred feet. These are thought to represent a very early stage of mineralization in the district.
- (2) Widely scattered mineral deposits containing values in gold and consisting of bodies of quartz and silicified wall rocks carrying two or more of such minerals as pyrite, pyrrhotite, chalcopyrite, arsenopyrite and gold.
- (3) The most important mineral deposits of the camp are the typical silver-lead-zinc "wet ore" deposits which occur characteristically in the Slocan Series rocks. These deposits carry values in all three metals, silver, lead and zinc, often in roughly equal amounts, although generally silver values predominate. Gangue minerals include quartz, generally conspicuous in the upper parts of the deposits but often replaced at depth by siderite, and at even greater depths again by quartz.
- (4) "Dry ore" type veins in which silver is the metal of chief importance but in which values in lead or zinc, or both, also occur. Quartz is the abundant gangue mineral and gangue is greatly in excess of metals within the deposits. This type of deposit is confined mainly to the Nelson granite.
- (5) The fifth type of deposit are the dry ores in which silver and in some instances silver and gold are the only metals of economic importance. Quartz is the abundant and only significant

gangue mineral however all minerals represent only a relatively insignificant proportion of the deposit as compared with the gangue. There are of course gradations between the various types and in some instances it is difficult to classify them. Also, some composite veins have undoubtedly been formed by successive injection of mineral bearing solutions which further complicates the classification.

From all of these studies Cairnes (1934) has concluded that the evidence "indicates that Slocan mineral deposits formed during one, probably fairly long, period of mineralization." He has summarized the important features connected with these deposits as follows:

- (1) The deposits formed from solutions of various compositions.
- (2) That all these solutions are related in origin.
- (3) That certain deposits may resemble one type in their upper parts and pass at depth into ores more like another type.
- (4) That this passage is invariably in one direction, viz. from deposits resembling the fifth type downward to deposits like fourth and from those of the fourth type downwards to those similar to the third type, and so on.

He suggests that "This downward gradation from deposits resembling one type into those like another, and the fact that the gradations are everywhere in the same direction indicate temperature control over the mineral composition of the deposits." These observations have a practical application in allowing the determination of relative ages of veins of different type which may occur in the same general area and in providing a basis for determining whether or not a particular deposit, as exposed, represents a certain stage of mineralization or whether it is merely an evolutionary phase of a later stage. These kind of observations and deductions obviously may play an important role in guiding future mineral exploration in the camp.

1980 WORK PROGRAM

The work program originally proposed for the 1980 season, which is now in progress, focuses on three separate areas and former mines within the Slocan Camp, namely the Noble Five and Surprise, and the Chambers Zone, and the Payne Mine. Of these the primary target area and the work which has first priority is on the Noble Five and associated veins.

Noble Five - Surprise Veins

Previous work in the area of the Surprise and Noble Five veins has indicated a favourable trend along the boundary of the Surprise sedimentary belt and Surprise porphyry in which the formerly worked lodes It is apparent from earlier reports of Noble Five Mines Ltd. and others that potential target areas had been defined and were to be investigated as part of continuing programs at the time the mines were in operation Apparently these objectives were never reached due in the late 1920's. to forced shutdown of the mine at the time of the 1929 crash. Ellis (1970) proposed an exploration plan which would utilize the existing No. 18 level crosscut and by driving an extension from this crosscut some 500 feet reach a position from which the postulated extensions of about five vein systems can be investigated by diamond drilling. The Noble Five No. 18 level crosscut starts on the Mollie Crown Grants near the boundary with the southwestern corner of the Slocan Sovereign claim (see Map 2) and it extends northwards through the western extremity of the Slocan Sovereign and Omega Grants, across the southwestern corner of the Deadman into the Bonanza This crosscut will be extended northeasterly across the Deadman claim and into the Wild Goose claim area, a distance of some 500 to 800 From this point diamond drilling involving holes about 500 feet in length can be drilled to the north and south to intersect the postulated extensions of the veins. Fill-in drilling will be required between the original drill centres where favourable structures or ore intercepts are The original entry plan was to clean out the portal of the No. 18 crosscut and to carry out whatever rehabilitation was necessary to make the crosscut safe and available for carrying out the extension. it has been found that the first few hundred feet of this crosscut was in overburden and that the timbers have rotted in the period that the property has been dormant so that much of this initial part of the crosscut had To overcome this a new adit was driven from the west side a short distance north of the caved area for a length of approximately 140 feet to intersect the No. 18 crosscut in bedrock. It was anticipated that because of the generally good ground in this area that once into bedrock the crosscut would require relatively little rehabilitation. This assumption has in fact been proven correct by the work to date, the No. 18 crosscut in bedrock having been found to be in excellent shape requiring only dewatering and general clearing up and reinstallation of track and pipe. ently it was not even necessary to slash any of the walls in this initial work.

A contract for the underground work has been let to Canadian Mine Services Ltd. Details of the work and costs, and the costs of the proposed drilling are set out below under "Cost Estimates".

Once the extension of the crosscut has been completed drill stations will be cut out and a program of diamond drilling to attempt to intersect downward extensions of the Noble Five and Surprise veins will be commenced. From this location it will also be possible to test for extensions of the Reco No. 1, No. 2, and Reco Goodenough veins, etc. This can be achieved by drilling holes at right angles to the plane of the structures being 30 down to the north or 30 up to the south. Map 3 accompanying this report is a vertical section which shows the relative positions of these several veins and of the proposed crosscut extension.

In planning this work consideration was given to rehabilitating and extending both the No. 18 and the upper No. 8 level into the Surprise Such a plan was originally considered to be prudent in porphyry area. that logistics involved in mobilization and housing of crew, etc. could be optimized by extending both drifts at the same time. Present plans will follow essentially on these lines although they have been modified slightly inasmuch as at the present time work is proceeding only on the No. 18 level to establish general ground conditions, costs, etc. In all probability work will be commenced on the No. 8 level later in the season. It is of interest that continuing research by J.S. Simpson has recently turned up some new information which indicates the existence of reserves of ore between the No. 8 and No. 18 levels of some 50,000 tons grading 12% zinc, 4% lead, and 4-5 oz./ton silver. This information is based on the results of a sampling program apparently carried out in 1943.

Work which had been completed to the time of preparation of this report includes re-entry into the No. 18 crosscut and its rehabilitation including re-laying of new track and pipe in some 2700 feet of the crosscut. One hundred and fifty feet of new drift have been driven and the mine has been dewatered. To facilitate this a flume was built to prevent effluent mine water from undercutting the hillside in the portal area. In addition. 150 feet of trestle and one small ore bin have been constructed and work has started on a second ore bin. As this work has proceeded some low grade muck which had sloughed into the workings from the Noble Five spur vein, and other veins, has been removed and shipped. We understand that some of this muck has run in the range from 3-10 oz./ton silver. Removal of this material was essential as part of the clean-up and re-entry process so that proceeds received from its shipment represents an unanticipated bonus.

Chambers Zone

Work planned for the current season on the Chambers Zone will involve regaining access on the lower level and rehabilitation of 600 ft. of workings. Once this has been completed diamond drilling of up holes will be carried out to attempt to intersect the upper Chambers Zone. If the diamond drilling is successful in achieving its objective a raise will be driven to attempt to define ore zones. Recent communication from the property has indicated that rehabilitation of the portal area has been completed and a start has been made on work on the crosscut. It is anticipated that diamond drilling will begin in early August. A report by John Lamb, P.Eng. dated November 1969 describes two diamond drill holes which were

put down to test the Chambers lode below the open cut. Apparently both of these holes intersected mineralization about 70-100 feet below surface and approximately 100 feet ahead of the face of the existing 4788 level. The Chambers lode is a strong structure which has an east to northeast strike and a southeasterly dip of between 50 $^{\circ}$ and 80 $^{\circ}$ which has been traced for over 1000 feet along strike up the steep southern slopes of Reco Mountain.

Payne Mine

In a report dated April 2nd, 1980, R.W. Phendler, P.Eng. made recommendations to Reco Silver Mines Ltd. (now Silvex Resources Corporation) for work on the Payne Mine. These recommendations were based on information which Mr. Phendler had gained from an inspection of the Payne property, including some sampling, carried out in 1972. According to this report the possibility exists that there may be some 30,000 tons of mineralized vein material averaging 7.53% zinc, 1.2 oz. of silver, and a minor amount of lead between the No. 6 and No. 10 veins. He recommended that this material be subjected to metallurgical testing and that further exploration be carried out on three levels to search for extensions of the Payne vein and to locate possible parallel veins. Expenditures involved in implementing Mr. Phendler's recommendations would be \$365,200.00. The reader is referred to Mr. Phendler's report for more details of this work.

COST ESTIMATES

| Genera | 1 |
|--------|---|
|--------|---|

| General | |
|--|--------------|
| Research, preparation and planning, supervision, including travel costs, etc. (1979-1980) | \$ 50,000.00 |
| Property acquisition costs to June 1980 | 60,000.00 |
| Road work and preparation | 10,000.00 |
| Contractor - mobilization/demobilization (contract) | 17,900.00 |
| Contingency | 10,000.00 |
| Sub Total | \$147,900.00 |
| Noble Five-Surprise | |
| Site preparation - includes building trestle and dump facility, work shop, battery charging station | \$ 60,000.00 |
| Timbered drift to No. 18 crosscut | 80,000.00 |
| Rehabilitation of No. 18 crosscut | 250,000.00 |
| Excavation of 500 ft. of 6'x8' track drift (contract) | 131,500.00 |
| Provision for additional drifting contingent upon favourable results from diamond drilling program. 800' of 6'x8' drift (contract) | 210,800.00 |
| Diamond drilling from end of drift extension - estimate 5000' @ contract \$18.50/ft. | 92,500.00 |
| Rehabilitation of No. 8 level portal area* | 20,000.00 |
| Assaying | 3,000.00 |
| Engineering, supervision, camp and accommodation | 15,000.00 |
| Contingency | 60,000.00 |
| Sub Total (Noble Five-Surprise) | \$922,800.00 |
| *Note: No provision is made here for No. 8 level drifting, for which additional financing would have to be arranged. | |
| Chambers Zone | |
| Rehabilitation of Lower Chambers Zone | \$25,000.00 |
| Diamond drilling, 2500 ft. @ \$18.50/ft. | 46,250.00 |
| Assaying | 1,000.00 |
| Engineering, supervision, camp and accommodation | 5,000.00 |
| Contingency | 7,500.00 |
| Sub Total (Chambers Zone) | \$84,750.00 |

Payne Mine

The planned work program on the Payne Mine will be that recommended by R.W. Phendler, P.Eng. in his report dated April 2nd, 1980. The cost estimates given below are therefore those compiled by Mr. Phendler and have been taken directly from his report.

| Rehabilitate No. 5 level (presently caved) | \$ 15,000.00 |
|---|----------------|
| Rehabilitate No. 8 level | 5,000.00 |
| Rehabilitate No. 15 level (caved) | 75,000.00 |
| Diamond drilling - 5 level - 3000' @ \$25.00/ft. | 75,000.00 |
| 8 level - 2000' @ \$25.00/ft. | 50,000.00 |
| 15 level - 2000' @ \$25.00/ft. | 50,000.00 |
| Rehabilitate access roads | 20,000.00 |
| Assaying drill core samples | 5,000.00 |
| Geological mapping | 2,000.00 |
| Metallurgical test | 10,000.00 |
| Engineering and Geology | 25,000.00 |
| Total | \$332,000.00 |
| 10% Contingencies | 33,200.00 |
| Sub Total (Payne Mine) | \$365,200.00 |
| Grand Total Noble Five-Surprise-Chambers-Payne Mine | \$1,520,650.00 |

GENERAL CONCLUSIONS

The geological and mining history of the Slocan Camp has been well documented and the reputation of the camp as one of the major silver producing areas in North America is widely recognized. Resulting from the very considerable number of mines and workings which were developed in the Slocan-Sandon-Cody area a great deal of knowledge has been compiled on the ore deposits in the area. Production records and histories of many of the older mines clearly demonstrate that although many of the ores of the area are extremely rich the development of ore shoots and their distribution are not always easily recognized. However, certain characteristics of individual deposits and of the deposits in the camp as a whole have been amply described by a number of workers so that a general understanding of the geology and mode of occurrence of the deposits has been develop-It is clear from all of this that rock types are important in controlling the distribution of ore shoots within particular lodes or structures and in general the occurrence of these structures in the porphyries and other intrusive rocks is a favourable indication. Some of the richer mines have been developed in these rocks or in contact zones between Slocan Series sediments and intrusives and in general the persistence of many of the lodes has been demonstrated over considerable distances. This being so some of the more favourable places to search for new ore is in extensions of these structures from which ore has already been mined. The 1980 work programs planned by Silvex Resources Corporation are based on just this type of geological reasoning and the specific areas selected as the primary target zones have been defined by careful research and data compilation followed by a well conceived and astutely executed program of property acquisition. The overall program is considered to be soundly based on good geological and mining principals and to have been well planned. The contractors and personnel engaged to carry out the work are competent and well qualified and the financial arrangements made to fund the planned work appears similarly to be adequate. The very limited information gathered from the work completed to the time of preparation of this report appears to support this opinion. On the basis of all the available evidence and information the probability for success for this program in defining new ore and successfully mining it appears to be better than average.

Respectfully submitted,

SAWYER CONSULTANTS INC.

J.B.P. Sawyer P.Eng.

CERTIFICATE

I, J.B.P. Sawyer, DO HEREBY DECLARE:

- (1) That I am a consulting geologist with business office at 1201 675 W. Hastings St., Vancouver, B.C., V6B 1N2, and President of Sawyer Consultants Inc.
- (2) That I am a graduate in geology of Manchester University (B.Sc. 1953) and of the University of Western Ontario (M.Sc. 1957).
- (3) That I am a Registered Professional Engineer (geological) in the Association of Professional Engineers of the Province of British Columbia, and a Registered Chartered Engineer with the Council of Engineering Professions, London.
- (4) That I am a Fellow of the Geological Association of Canada, a Member of the Canadian Institute of Mining & Metallurgy, a Fellow of the Geological Society of London, and Fellow of the Institution of Mining & Metallurgy, London.
- (5) That I have practised my profession as a geologist for the past twenty-six years.
- (6) That the information and opinions expressed in the attached report are based on personal research of published maps, plans, and records, and on a general knowledge of the mineral deposits of the Slocan area of British Columbia. I did not carry out any field examination of the various claims and mine workings referred to for the purposes of this report.
- (7) That I own no interest in the shares or securities of Silvex Resources Corporation, nor in any of the claims to which this report refers, nor do I expect to receive any such interest.

J.B.P. Sawyer P. Ing.

Dated at Vancouver, British Columbia, this 24th day of July, 1980.

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