OME Region III

UNITED STATES
DEPARTMENT OF THE INTERIOR
OFFICE OF MINERALS EXPLORATION
WASHINGTON 25, D. C.

GEOLOGICAL SURVEY

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DEPARTMENT OF THE INTERIOR
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The Aspen Consolidated Mining Company
Box 799
Aspen, Colorado 81611

Re: OME-4473 (Silver)
The Aspen Consolidated Mining Company
Smuggler-Durant and Dalla S Properties
Pitkin County, Colorado

Gentlemen:

We regret to inform you that the Government could not participate in the exploration work as now proposed in the subject application because (1) of the excessive amount of rehabilitation involved in which the OME cannot participate, and (2) the total estimated cost of $709,398.00 for all of the work. Under the present OME regulations (copy enclosed) Government participation in any single contract cannot exceed $250,000.00; thus, a contract for silver exploration cannot exceed $333,333.00.

There is also the question of whether the work, in part at least, would be eligible for exploration assistance because the dominant value of some of the mineralization sought is in lead and zinc and not silver as indicated by the work done by the Bureau of Mines. Ore averaging approximately 1 oz. of silver, 5 percent lead, and 5 percent zinc as an exploration target would not qualify as copper, lead, and zinc were removed from the list of eligible commodities on July 1, 1962.

Enclosed are three copies of OME Form 40 should you wish to amend your application in keeping with the OME regulations. If a revised application is submitted, valid information in the present application need not be repeated. However, new bank letters would be required, and all possible support should be given that the work proposed involves mineralization with dominant silver value and not lead-zinc.

Although the application mentions the assignment of the Durant lease as Exhibit No. 5, we did not receive a copy. In addition to the assignment, we should have five copies of the pertinent Lien and

Subordination Agreements (six enclosed)signed by the lessor.

In regard to the land of the Baile & Consolidated Mines Co., a formal document granting control of it is required.

Sincerely yours,

(signed) FRANK E. JOHNSON

Frank E. Johnson
Chief, Office of
Minerals Exploration

Enclosures

GCSelfridge/gla (7-13-65)
cc to: Director's Reading File
Division File
Economic Geology File
OME File
OME Reading File
OME Region III
George C. Selfridge (2)
120M

INTRODUCTION

This application is made by The Aspen Consolidated Mining Company, a Colorado Corporation, to explore for silver in the Roaring Fork Mining District, located at Aspen, Pitkin County, Colorado. This district, and in particular the Smuggler Mountain area, includes two former productive mines, the Smuggler, and the Molly Gibson, both with a record of high silver production. The lands submitted in this application consist of patented mining claims, all held under long term lease and purchase. The work will be performed by the company. The applicant will contribute all work of an engineering, geological, and administrative nature. Because of the past history of this property, and the results of our preliminary work which indicate that the former operators may have overlooked certain areas of favorability, described in detail in this report, we believe the project outlined for the discovery of additional mineral reserves is of the type contemplated by the Office of Mineral Exploration.

1. FINANCIAL ELIGIBILITY

(a) The applicant applied to the Bank of Aspen, its local depository, for a loan of $ 530,024.00 , the amount requested in this application. The loan was denied. The applicant also applied to the First National Bank of Glenwood Springs, Colorado, for the same amount, and this loan was denied. Both banks considered this type of loan inappropriate for their business to undertake. Copies of the correspondence are included in Exhibit No. 1.

(b) The sole interested party in this application is:

The Aspen Consolidated Mining Company
P.O. Box 799
Aspen, Colorado.

(c) Applicant's share of the cost of the exploration work will be furnished from internal sources.

(d) Applicant is financially prepared to pay the total cost of operation until reimbursement is made.

(e) Applicant would not undertake full expenditure of the proposed exploration program without financial assistance.

2. APPLICANT'S RIGHTS IN LAND

The applicant, The Aspen Consolidated Mining Company, has leases to cover the subject premises (see Claim Map, attached). The first lease acquired was from the Smuggler-Durant Mining Co. and is for a period of ten years. This lease is dated March 31, 1964. Properties of the Della S Consolidated Mines Co. are being acquired by outright purchase. In all, 38 patented claims plus approximately 160 acres of mineral rights only in Section 5, Township 10 South, Range 84 West are involved.

1. Mining Lease - between Smuggler-Durant Mining Corporation, a New Yrok corporation, Lessor, and Edwin J. Smart and John G. O'Brien, Lessees, made March 31, 1964. Recorded as Document 119966, Book 211, Page 498 on February 17, 1965. Lease and Addendum attached as Exhibit No. 2. The assignment of this lease to the applicant is attached as Exhibit No. 3.

2. Proof of Ownership by Lessor (Smuggler-Durant Mining Corp.)
   (a) Complete abstracting of Smuggler-Durant claims done by applicant, copies on County records and in applicant's files.
   (b) Tax list of patented claims from Treasurer's Office, Pitkin County, in company files.

3. Proof of Ownership by Seller (Della S Consolidated Mines)
   (a) Complete abstracting of Della S claims done by applicant and in company files.

III. PHYSICAL DESCRIPTION

Introductory Statement

The premises referred to in Section II cover more than 10,000 feet along the known productive zone of the north Aspen area. Portaling at 7930 feet elevation, a major transportation working, the Cowenhoven tunnel, when reopened will permit access to this zone at a favorable geological horizon. On balance it is believed more advantageous to reopen and occupy the tunnel for drill sites than to explore this zone from the surface, Although the locus of major silver-lead production in the past, two relatively unexplored types of targets are believed to exist throughout the nearly two miles of length.

A. Past Mining and Exploration Operations

The North Aspen area, comprising properties from the Molly Gibson northward were explored beginning in 1881 by winzes, drifts and crosscuts, perhaps aggregating 100 miles of underground workings. For the greater part, these are now inaccessible, but a great number of maps of most of these workings are available in the company office. Exploration has been conducted from an elevation of approximately 9000 feet to an elevation of 6850 feet above sea level, and vertical range of roughly 2000 feet. Several million tons of silver, lead, zinc ore was mined from these workings.

The Cowenhoven tunnel is driven principally in hard dolomite in the footwall of the so-called contact zone, for a distance of 11,300 feet from its portal. The last several thousand feet of the tunnel were driven with the idea of reaching the Lenado mines then owned by the same persons (now held by Floodtide, Inc. and the subject of an OME application made in the spring of 1965.) The Cowenhoven tunnel is

caved for a distance of approximately 500 feet from its portal as the result of a fire on July 4, 1947. The tunnel is known to be full of water to an elevation of approximately 20 feet above the portal sill.

The only open tunnel at the present time is Smuggler No. 2 at an elevation of 8130 feet, approximately 200 feet above the elevation of the Cowenhoven tunnel. This tunnel is standard 5 x 7 production drift, accessible approximately 1200 feet from the portal. It is caved where it enters heavily stoped ground. The tunnel is connected by an untimbered working, the Irish Stope - Raise to the next lower tunnel, Smuggler No. 1, whose portal is at elevation of 7950 feet and to which is connected the Smuggler shaft. The Smuggler shaft was rehabilitated in 1964 to the level of the Smuggler tunnel. It is full of water and jammed with pipes and caved in timber below this point. The Smuggler tunnel is caved at the portal and has not been reopened since it was put in working condition by the U.S. Bureau of Mines during their sampling program, 1947-1949. This tunnel is accessible a distance of approximately 1200 feet northward from the Smuggler shaft to a point where it enters old fire fills. At this point a raise from the Cowenhoven tunnel to the Smuggler No. 2 apparently is open, at least it is standing full of water 20 feet below its collar. At the point where the Smuggler No. 1 crosses the Cowenhoven tunnel, it appears to be approximately 40 feet above the Cowenhoven tunnel, the difference in elevation being due to the flatter grade of the transportation tunnel as compared with Smuggler No. 1.

It is pertinent to this project to inquire as to the expected condition of the Cowenhoven tunnel beyond the point of its obvious collapse. To the point where the tunnel has collapsed, it is driven through glacial outwash. This material requiring continuous support and after the supports were burned out, collapsed. At approximately the

point of visible surface collapse, the tunnel is known to enter hard quartzites of the Maroon formation and to remain in these quartzites for approximately 500 feet. Through a section roughly 1000 feet long the tunnel then crosses Weber shales. These shales are known to squeeze and they can be inspected in the so-called Anaconda crosscut, driven in 1952 from the Smuggler No. 2 tunnel. This crosscut (Anaconda) stands without timbering and except for the fact that Cowenhoven tunnel has been under water for all these years, we would expect this section of the tunnel to be in good condition. Mr. Sparovic, the last leaser in the mine, states that in 1947 this tunnel was in excellent condition, was double-tracked and although timbered solidly, gave no trouble. Other viewpoints are that the squeezing of the Weber shales due to the wet condition may have collapsed the tunnel. From the point where it leaves the Weber shales northward, the tunnel is entirely in the Leadville dolomite and parting quartzite. For the greater part of the distance the tunnel is driven in the footwall of major structures. It does, however, cross at least 10 northwesterly trending cross faults, some of which are the locus of mineralization and have been stoped. The tunnel is known to be timbered where it crosses these faults and it is the opinion of Mr. Sparovic that there will be runs and caves at these various points. It is his opinion, however, on which we must rely in absence of any better information, that none of these caves will be of serious extent. Forty-pound rail and six-inch airline were known to be present in the tunnel at the time of its caving in 1947.

In 1947 to 1949 the U.S. Bureau of Mines explored the Smuggler section of this proposed project with six underground diamond drill holes, designed to prospect the Weber shale. Ore was found in

all but one of these holes. In 1952 the Anaconda Company, taking a lease on the Smuggler property, drove a crosscut into the Weber ore zone and did a few hundred feet of drifting. In our opinion this work was done at the extreme south end of the mineralization. Subsequent to, and immediately preceding the Anaconda work, the Herron brothers of Aspen, Colorado, mined small sections of these Weber ores, shipping a few carloads of sorted materials to the then existent Leadville smelter.

This same Weber contact had been explored some time prior to 1934 by D. P. Rohlfing by a 300-foot long drift off of the Smuggler No. 1 tunnel. This drift was caved at the time of the Bureau of Mines examination and a hole parallel to the so-called Rohlfing crosscut was put in. This hole, No. 106, substantiated that the Rohlfing crosscut did intersect mineralization, there being approximately 15 feet of ore grade material in drill hole 106. For details of the Bureau of Mines work, reference should be made to the U.S. Bureau of Mines Report of Investigations No. 4696. As will be noted on the attached map, Figure _____, older workings and workings of unknown date in the general vicinity of the Della S incline, explore the so-called Weber contact.

B. Aspen Consolidated rehabilitated the Smuggler shaft in 1964. All of the rest of the workings were driven by previous operators.

C. Production

There is no current production from the mines, the last ore having been shipped in 1952 by the Herron brothers from the Smuggler No. 2 level.

Fragmentary production records of Smuggler are available in the company offices. We are unable to separate the production of this belt from that of the general Aspen district as a whole. We append a

table showing production of Aspen, as reported in Minerals Yearbook and Minerals Resource. These records are incomplete and completely missing prior to the year 1904 when Aspen production was combined with that of other districts. From a rough planimeter measuring measurement of stope maps for the Smuggler, Della S, Regent and Argent mines, it is our opinion that total production amounts to about three million tons of ore, principally valuable for its silver and lead content. There remain at the portal of the Cowenhoven tunnel over 400,000 tons of dumps which, according to Anaconda's sampling in 1947-49, average 2 oz. silver and more than 2% lead. Dumps of similar size exist at the collars of other shafts and portals of tunnels leading us to believe that this order of magnitude is approximately correct.

D. Ore Reserves

There are no proven or probable reserves due to the inaccessibility of the greater part of the mine. Reserves may be inferred for Weber ore zone in the section developed by the Rohlfing and Herron drifts and U.S. Bureau of Mines drilling. These represent, in rough figures, 100,000 tons of material grading 2 oz. silver, 5% lead, 5% zinc. If this ore zone is extended northward to where geologic comments such as "ore in shale" are noted on older maps, the strike length in which mineralization is positively known to exist is more than 1500 feet and the vertical range to the land surface from the lowest known mineralized exposures is more than 800 feet. Such a zone could contain 600,000 tons of ore; more probably contains between 1/3 and 1/2 of such a reserve. The low silver content of the known mineralization is, in our opinion, due to the fact that mineralization is developed principally away from those intersections which are known to have produced high grade ore. As we will develop hereinafter, we do not believe that this

grade can be used as a fair average of the targets to be expected.

The data on which such reserves as are quoted are estimated are contained in U.S. Bureau of Mines Report of Investigations.

E. Geologic Features in the Property

There are only four reports containing any substantitive information on the Aspen district. The U.S.G.S. Monograph #XXX1 by J. E. Spur, a report by John Vanderwilt, , U.S. Bureau of Mines Report of Investigations #4696 and a Masters Thesis by William Worden, Colorado School of Mines.

To briefly summarize, the ores in the North Aspen district came from breccias developed along the contact between the overlying Pennsylvanian Weber shales and the underlying Mississippian Leadville formation. There is no Leadville blue limestone known in the North Aspen district. The basal dolomite member of the Leadville formation is everywhere in contact with the Weber shale. The contact is, however, a locus of intense brecciation, silicification and mineralization of at least two ages. In general the contact strikes to the northeast and dips anywhere from 70° to 30° to the west. It is broken by numerous northwest trending faults in general which have the offsets in plan to the left looking northward and appear to be normal faults. Some of the members of this group, however, have reverse movement and the offset is to the right looking north. Still other faults trend approximately east-west such as the Clark fault, Hunter Creek fault. These appear to be high angle faults with dominantly strike slip movement as judged from slickensides on the Clark fault seen underground. They would in both cases be what is known as left lateral faults.

Although suggested by Vanderwilt that these structures

caused the intense brecciation and are the prime localizers of ore, this appears to be true only in part. We have only seen a few of these northwest trending faults where exposed in Smuggler No. 1 and Smuggler No. 2 level, but where we have observed them, they appear to be relatively clean breaks that cut through the breccias and do not appear to be of the same generation.

Within the Weber shale and locally cutting through the dolomites are alaskite albite prophyries that are dike-like in shape, although locally parallel to the bedding of the shale. These dikes or portions of the same dike range from a few feet to over a hundred feet in width, strike generally parallel with the contact breccias. However, between Smuggler No. 1 shaft where the dike is well developed, and the Rohlfing crosscut where the dike is well developed, exploration and stoping shows that the dike was cut out by the breccias and that where this occurs the greater part of the breccia fragments consist of dike material.

In that portion of the Smuggler mine which is accessible for examination there are clearly two types of mineralization. There is an early quartz barite sulfide mineralization which occurs in definite veins in the dolomite. This material is brecciated and fragments of it incorporated in the contact breccias. The contact breccia itself is mineralized with silver, lead, zinc minerals. It is these latter deposits that have produced the larger tonnages of ore mined. The fabulous high grade ore mined in the Smuggler and Molly Gibson appears to have come from a quartz barite deposit, perhaps secondarily enriched, perhaps not, but at any rate where these deposits impinged upon the contact breccias.

The greatest development of stopes, and the greatest values of ore reported by leasers and old time operators, etc. occurs where contact breccias are involved with the northwest trending faults. The particular intersections which made major stopes, some of which were followed down the pitch over 4000 feet, are the Smuggler, Della 1, 2, 3, 4, Regent, Alta Argent, St. Joe faults. Stope maps show that substantial tonnages were mined at the intersection, along the contact breccias extending away from the intersection, and along the fault themselves.

A source of minor quantities of ore, actually only subjected to minor exploration, was the hanging wall and footwall contacts of the Parting quartzite. In the Della S workings, leasers developed a 700 foot long ore shoot averaging 4 feet in width that is reported to have run 12 to 15 ounces of silver. Very little of this material was mined since it was not economic at the low prices of silver then prevailing.

The third locus of mineralization appears to have been certain dolomitic beds lying in the Weber shale, in the general vicinity of the porphyry dike previously referred to. Ore occurs on both walls of the dike at various levels from 100 feet above the Smuggler No. 2 level, at least as far down as the Cowenhoven level and along a distance of 1500 feet.

F. Reason for Expecting to Find Ore

The principal reason for expecting to find ore are two: (1) the general lack of exploration in Parting quartzite and Weber shale ore zones throughout the entire two mile length of the property to be explored. It is our belief that where these known mineralized structures intersect the cross faults which produce the principal ore intersections

along the main contact between the Leadville and the Weber, there will be found better grades of ore than have been found in the few spots that they have been intersected away from such contacts. These two targets then are the principal subjects of exploration.

However, they are not the sole targets. For northward from the St. Joe shaft (reference Fig._____) there is a section more than 4000 feet long along the Cowenhoven tunnel in which there appears to be almost no exploration. The tunnel was driven to stay in the footwall dolomites and to head for Lenado. It is our opinion that this area offers attractive exploration possibilities along the main Weber-Leadville contact, as well as in the Parting quartzite and Weber shale.

Principal production came from the zone between the intersection of the Regent fault with the contact breccias, and the Molly Gibson fault with the contact breccias. The larger stopes were concentrated along the breccias of the Della fault and the Smuggler fault from their subsurface apex in the general vicinity of the Regent shaft to the lowest development on Free Silver shaft level 12 at an elevation of 6840 feet above sea level. The pitch projection of these long ore shoots generally following the intersections between northwest faults and the northeast trending contact, lies almost entirely within the property of Aspen Consolidated Mining Company. For example, at a projected elevation of 6350 feet, more than 1500 feet of this projection lies within the property of Aspen Consolidated. At elevation of Free Silver 11 level, 6970 feet, approximately 2500 feet of this intersection lies within the property of Aspen Consolidated Mining Company. From information available, it is impossible at this time to tell whether or not

mining stopped because of low metal prices and litigation, water handling problems, etc. or whether the ore shoots actually were bottoming at this depth. The nature of the ore shoots is such, however, that it would be most unlikely that they would bottom at relatively shallow depth as reached by these mine workings in view of the very much larger depth and pitchlengths found by similar ore shoots at Gilman, Leadville and other western limestone camps. It is our opinion, therefore, that the down dip projection of these principal ore shoots, Smuggler - Della S, merit exploration.

Apparently several drill holes were put down in an attempt to explore this general zone by the Anaconda Company in 1950-52. We have been unable to get any information on this drilling other than hearsay that 60 to 70 feet of core containing visible metal was pulled from one drill hole.

As a basis of assessing the size of the targets which might be found from exploration of this pitch projection, if we assume that 50% of the mineral encountered will be of ore grade throughout an average strike length of 2000 feet of favorable zone, and for the additional pitch length just to the point vertically below the Cowenhoven tunnel, we would have an area 2000 feet by 1000 feet. Assuming a 12 foot thickness, substantially less than that mined in the past, this would be equivalent to 1 million tons of ore.

Similar computations (of no real value other than to indicate that the targets are large) can be put together for both the Parting quartzite and the Weber shale ores previously referred to. The targets to be envisaged in the two-mile section of the property to be

explored are sufficiently good and sufficiently large that many millions of tons of ore may be developed. Only some small parts of this material will be of very high silver content, but all of it will be principally valuable and minable because of its silver content. In view of the general low tenor of Aspen ores in the past, it is necessary to develop large tonnages in order to support a mining operation. This is the reasoning behind the extensive rehabilitation and drilling program applied for herein.

G. Engineering and Geological Reports

Except for the published works of the U.S. Geological Survey and U.S. Bureau of Mines, no engineering or geological reports are known to exist. Although fragments of extensive reports by Spur and Cox and other consultants have been found, none of them contribute any substantial information to assessing this project.

IV. ACCESSIBILITY OF THE PROPERTY

A. OME Representation

The OME representative who may wish to examine the property should contact Edwin Smart, John O'Brien or Manning W. Cox, all of Aspen, Colorado. The property lies approximately one-half mile from the downtown center of Aspen, and from there northward for two miles. Jeep roads are available that will take you to most parts of the surface of the property. As previously stated, only portions of Smuggler No. 1 and No. 2 tunnels are now accessible for examination.

B. Shipping & Supply Points

The principal supply point for Aspen is Grand Junction, Colorado, the center of the uranium boom of the 50's. Supply houses such as Salt Lake Hardware, S & M Supply Company, etc. are capable of

furnishing all the materials and supplies needed for any size mining operation. Grand Junction is a point on the Denver-Rio Grande Railroad, approximately 130 miles by rail from Aspen, Colorado. Aspen, Colorado, is a shipping point on the Denver-Rio Grande. Power and water are available at the edge of the property. There is no local mine labor supply; however, mine labor is believed to be available from the surrounding Colorado mining camps.

V. EXPLORATION WORK

Introduction

Because of the geographic extent and the complexity of the proposed exploration, it is proposed to divide it into at least three stages. The first stage would contemplate lateral exploration above the water table, approximately 3500 feet along the strike of the mineralized zone, by means of short hole diamond drilling from the Cowenhoven tunnel. It will involve rehabilitation of the Cowenhoven tunnel. The second stage which might be undertaken concurrently with the first stage, or might be undertaken sequentially, would involve exploration from the surface for the depth extension of the pitch of the main Smuggler-Della S-Regent ore zones within Aspen Consolidated property. This would involve surface diamond drilling only. The third stage will involve lateral exploration of the northern section of the Aspen Consolidated property, approximately 4500 feet along the strike. This would involve establishment of new ventilation, rehabilitation and reequipment of the Cowenhoven tunnel and short hole underground diamond drilling. Concurrently with stage three drilling, it is proposed that drift and raise exploration to test the continuity of mineralization be undertaken in the area explored by stage one drilling. Exploration

would take the form of short sections of drifting and short sections of raising the establish the continuity and determine that minable grades exist. For the purposes of descriptions, then, rather than firm commitment, the program is divided into Stages I, II and III.

A. Stage I

Stage I exploration contemplates, in this order: A - reopening, rehabilitation, and re-equipment of the Cowenhoven tunnel for underground diamond drill exploration; B - Exploration of 3500 feet along the strike length by horizontal and up drill holes above water table from the Cowenhoven tunnel. Inasmuch as the Cowenhoven tunnel is caved at the portal, it is impossible to accurately state the conditions which will be encountered. However, discussion with mine operators, particularly recent leasers from the Cowenhoven level, leads us to believe that the following conditions will prevail.

From 0 to 500 feet, tunnel is obviously caved through to the surface. Water is standing in the Cowenhoven tunnel approximately 20 feet above the portal elevation. This means that water has backed into the tunnel a maximum distance of approximately 3000 feet. Taking into account the size of the underground openings which must be filled with water, there is somewhere between 3 million and 6 million gallons of stored water to be drained. It is known that the tunnel makes very little water and once this is drained it is believed that operations will continue in the dry. It is proposed to excavate this section of the tunnel with a crawler or truck mounted drag line with a sufficiently long boom to station the excavating gear safely to one side of the caved tunnel. It is proposed to slope the sides of this excavation at a 1:1 grade and to leave this portion of the tunnel as an open ditch.

This would be approximately 500 feet long and have a maximum of roughly 40 feet of vertical height at its deepest point. It is obvious that this section of the former Cowenhoven tunnel must be re-equipped with ties, rail, pipe and drainage ditch. From the point of caving of the Cowenhoven tunnel to the point where the tunnel crosses Smuggler fault, is a distance of 1500 feet. It is known that the first 500 feet of this section is in the quartzites of the Maroon formation and it is believed that the tunnel which we understand to be a 10 x 14 double track tunnel will be in good condition throughout this section. The remaining 1000 feet of the tunnel is driven in the Weber shale. The tunnel may be completely collapsed for this section in which case it would be required to drive a new entry or spile through this caved section. We do not, however, believe this to be the case and we believe that something not much more complicated than local retimbering, ditching, cleaning up resetting of a few ties, etc. will be required. For the purposes of estimating this section of the tunnel will be lumped with the succeeding 1000' section where the tunnel crosses through at least 5 strands of the combined Della S - Smuggler fault zone. We are therefore estimating that approximately 2000 feet of the Cowenhoven tunnel will require substantial work, this work to consist of resetting timber, resetting track, pipe and rail. For purposes of arriving at a dollar value, we are estimating that 30% or 600 feet of this 2000 feet section will require complete reworking and the balance will require only routine work. We are therefore estimating on the basis that there is no pipe and no rail. Should useable rail and pipe be found, project cost may be lessened. It will be necessary to establish underground

ventilation for the purposes of diamond drilling and other exploration work contemplated. It is most feasible to carry power either in the Cowenhoven tunnel or the Smuggler shaft to a point at the so-called Daylight turn in the Cowenhoven tunnel, there to install an electric powered fan and from that point on ventilation pipe. To initiate the project, it will be necessary to establish surface facilities consisting of a transformer station, a compressor house and compressors, a repair shop for underground equipment, a combined office, change room and warehouse. Two trucks will be required for personnel and materials.

It is proposed to drill both east and west of the Cowenhoven tunnel for the Parting quartzite and Weber shale ores on 200-foot centers with horizontal holes. The holes will be drilled NX where possible. There will be 34 holes, averaging 200 feet in length and a total of 6800 feet of horizontal hole drilling.

It is proposed further to drive 16 holes upwards at various angles to test the continuity of ore found on both walls. The holes would average 200 feet in length for a total of 3,200 feet of drilling.

It is proposed to obtain sites for such vertical drilling by driving a maximum of 5 crosscuts into the east, or footwall side of the Cowenhoven drift, a maximum distance of 150 feet. A total of 600 feet of crosscut will be driven, utilizing a mucking machine.

The total work for stage I then may be recapitulated as: rehabilitation and re-equipping, 10,000 feet of underground drilling, and 600 feet of underground crosscutting.

B. Stage II Exploration

It is proposed to put down a series of eight vertical holes from the surface within Aspen Consolidated ground, four of which are

aimed at hitting the pitch projection of the contact ore shoots 200 feet down the dip from the lowest level, or an elevation of 6650' and four of which are aimed at hitting the pitch projection of these ore shoots 500 feet down the dip at an elevation of 6350'. The holes will collar at an average elevation of 7550' elevation; four of them will be 1500 feet in length and four will be 2000 feet in length for a total of 14,000 feet of surface drilling. No additional facilities and no rehabilitation is required for this project.

Stage III. Exploration

Should Stage I exploration be successful in indicating substantial targets, it is proposed to continue this exploration northward to the limit of Aspen Consolidated ground an additional 4500 feet along the strike of the favorable geologic formations. For this work it will be necessary to establish northward ventilation. It is proposed to drill an 800 foot hole on Aspen Consolidated ground between the Iowa and Champion shafts in a point where it can easily be connected to the Cowenhoven tunnel. This hole will be reamed to 16 inches in diameter, cased to allow free air access and ventilation fans installed. Power will be brought to the drill hole either from the surface or by extending northward from the existing ventilation connection, a distance of approximately 3000 feet. It is proposed to rehabilitate and re-equip the Cowenhoven tunnel north to the north property line and as the tunnel is reopened to drill with the hanging wall and the footwall as before at 200 foot centers with horizontal holes. A total of 44 holes will be required. It is proposed to drill on 400 foot centers, 22 up holes to explore mineralization found by this horizontal drilling, at 200 foot length each. The total drilling contemplated for stage III is 13,200 feet.

At the same time as drilling is undertaken on Stage III, it is proposed to test the continuity of mineralization encountered by Stage I drilling by four short drift sections and four raise sections within the first 3500 feet of explored ground. Each drift will be 300 feet long, each raise 200 feet high, at locations to be picked by conferences between the project administrating officer and the owner. There will be a total of 1200 feet of drifting and 800 feet of raising.

The objective of these three stages of exploration is to develop the reasonable expectancy of sufficient ore of the relatively low tenor previously mined in Aspen to justify the installation of a major concentration and mining plant.

B. No access roads are required.

C. Time Considerations

It is estimated that if an OME contract is executed, approximately sixty days will be required for assembling and mobilization of equipment and personnel to undertake Stage I. Approximately 30 to 60 days will be required to open the Cowenhoven tunnel and re-shape and re-equip it to the expected bedrock face, a distance of 500 feet. It is estimated that to re-equip and rehabilitate the next 2000 feet of the Cowenhoven tunnel from the bedrock face, four months will be required, on the basis of 30% or 600 feet of down ground. Drilling will be done on a two-shift basis, 6 days per week, with a 20-foot per machine shift core hole advance. It is believed that only two machines can be usefully employed, thus giving a daily advance of 40 x 2 or80 feet. Allowing for down time, it is estimated that 125 working days, or five months will be required for the completion of the drilling phase of

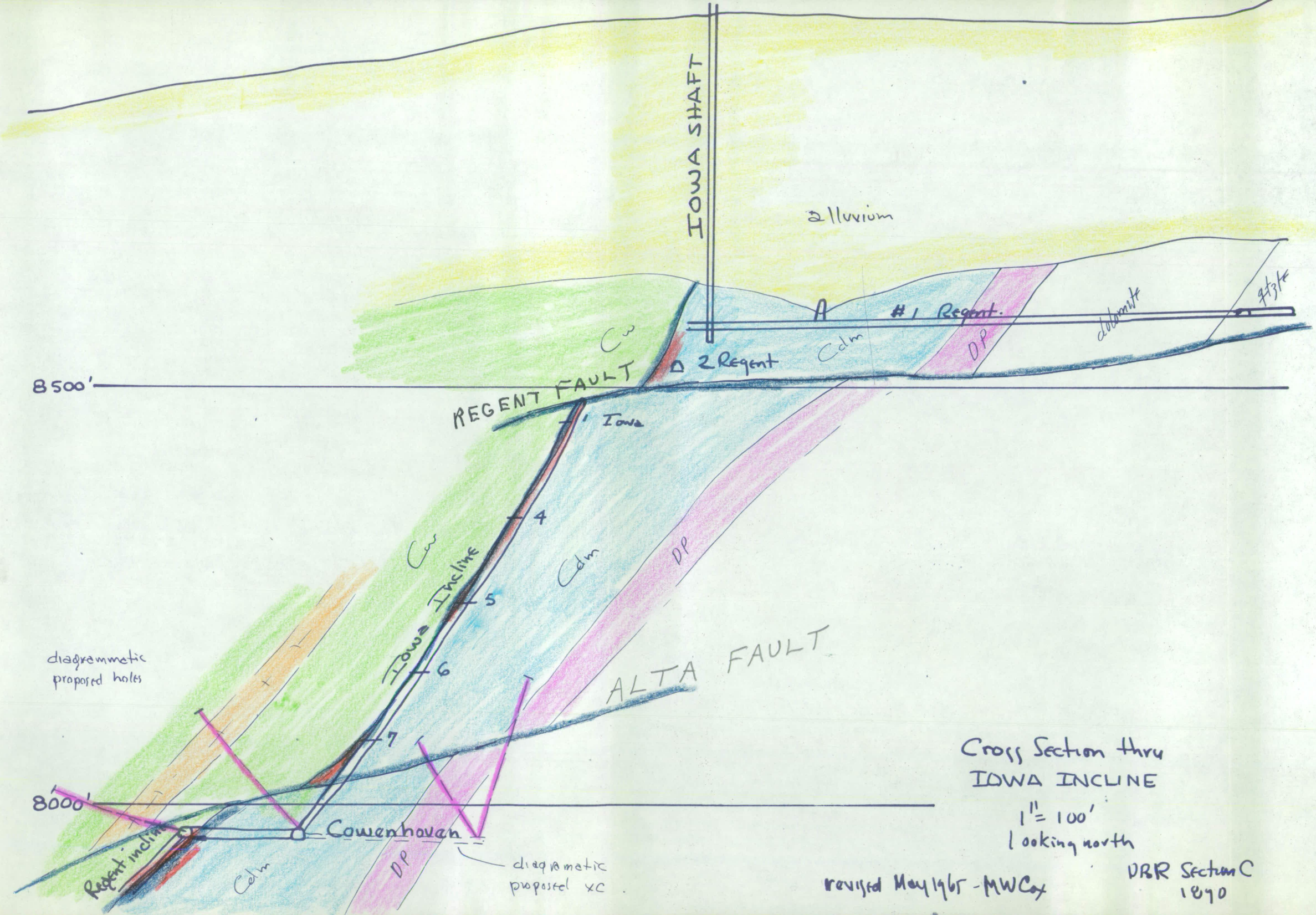
Stage I. Recapitulating, Stage I from the inception of mobilization is estimated to require 11 to 12 months to complete.

It is proposed to begin Stage II at the onset of good weather in the summer of 1966, utilizing two surface drill rigs. Averaging 20 feet per drill shift, two shifts per day, 6 days per week, advance is estimated at 80 feet per day, for a total of 175 working days for completion of the project, or approximately seven months.

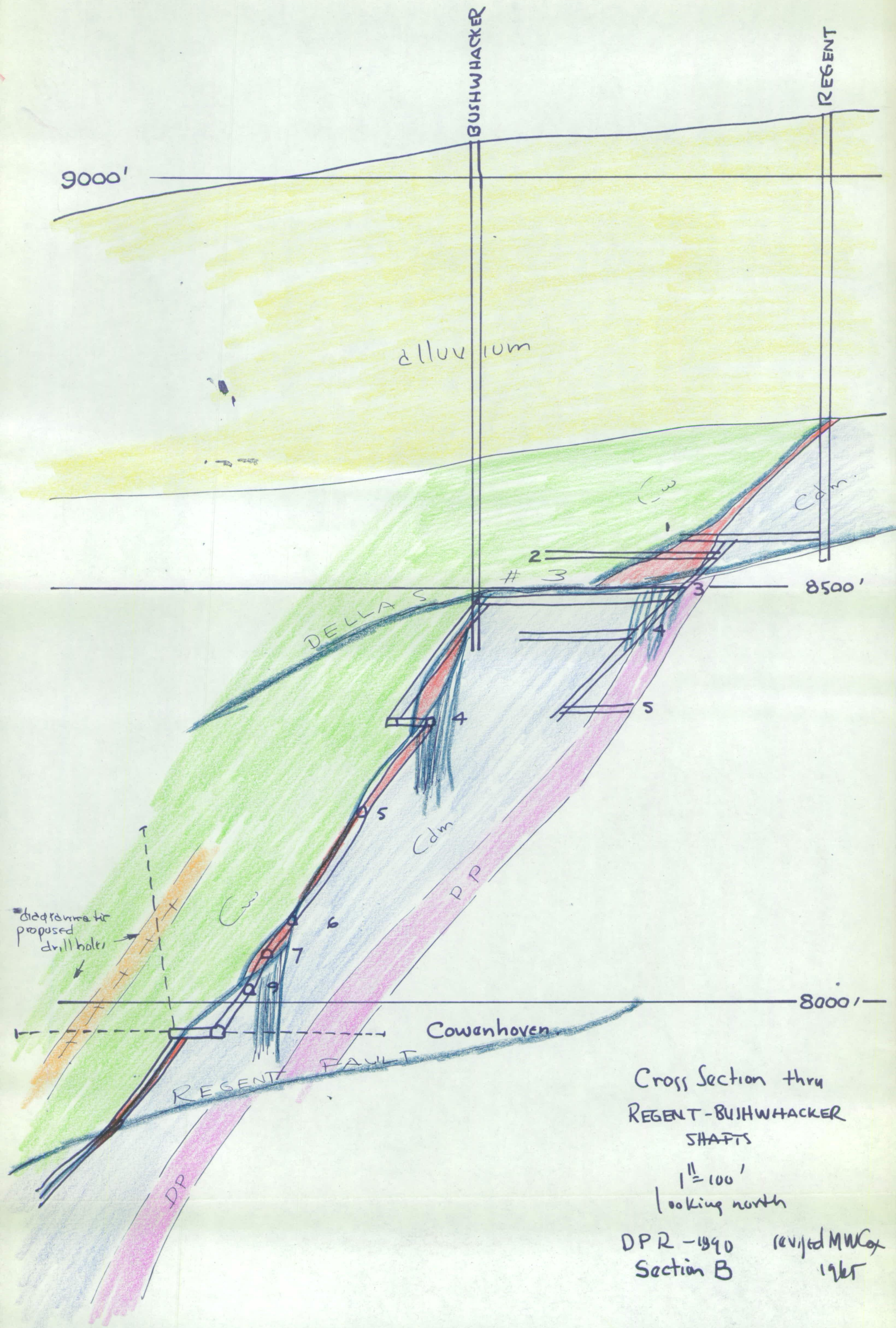
Stage III will begin immediately upon completion of Stage I and proceed independently of Stage II. It is estimated that the time to drill, ream and case a 16-inch drill hole for ventilation, to install power and ventilation line to permit the drilling work on Stage II will be approximately 90 days. Drilling is estimated to proceed at the same rate as for Stage I, with a total of 13200 feet of drilling anticipated, 2 machines averaging 80 feet a day, 165 working days or approximately 7 months will be required for completion of State III. Drift and raise exploration, operating one raise and one drift heading, will begin simultaneously with drilling. It is estimated that seven months will be required for the drifting and exploration phase, operating with two crews. Recapitulating, the elapsed time on Stage II from beginning of operations in that stage will be 10 to 12 months. The total time for Stages I and Stage II will be 22 to 24 months. It is proposed to allow a leeway of two months for preparation of reports, delay in assays, down time, etc. for a total project time of 25 months from the beginning of mineralization. It is believed, however, that since all projects run into troubles which cannot be foreseen, that this project should have a 30 month completion time from the beginning of mobilization.

VI. EXPERIENCE

Aspen Consolidated Mining Company, a newly formed Colorado corporation, has no experience in the mining business. It therefore proposes to retain the firm of Manning W. Cox Associates, of 57 Post Street, San Francisco, California, to manage all stages of the investigation. Work will be under the personal charge of Manning Cox, a resident of Aspen, Colorado. Mr. Cox has had substantial exploration experience and has been in charge of the conduct of one Office of Mineral Exploration project at Creede, Colorado, and directly connected with supervision of several other projects. Personnel directly in charge of the work will be selected by Mr. Cox as required. An experience record of Manning W. Cox Associates is attached hereto.



Cross Section thru
IOWA INCLINE
1" = 100'
looking north

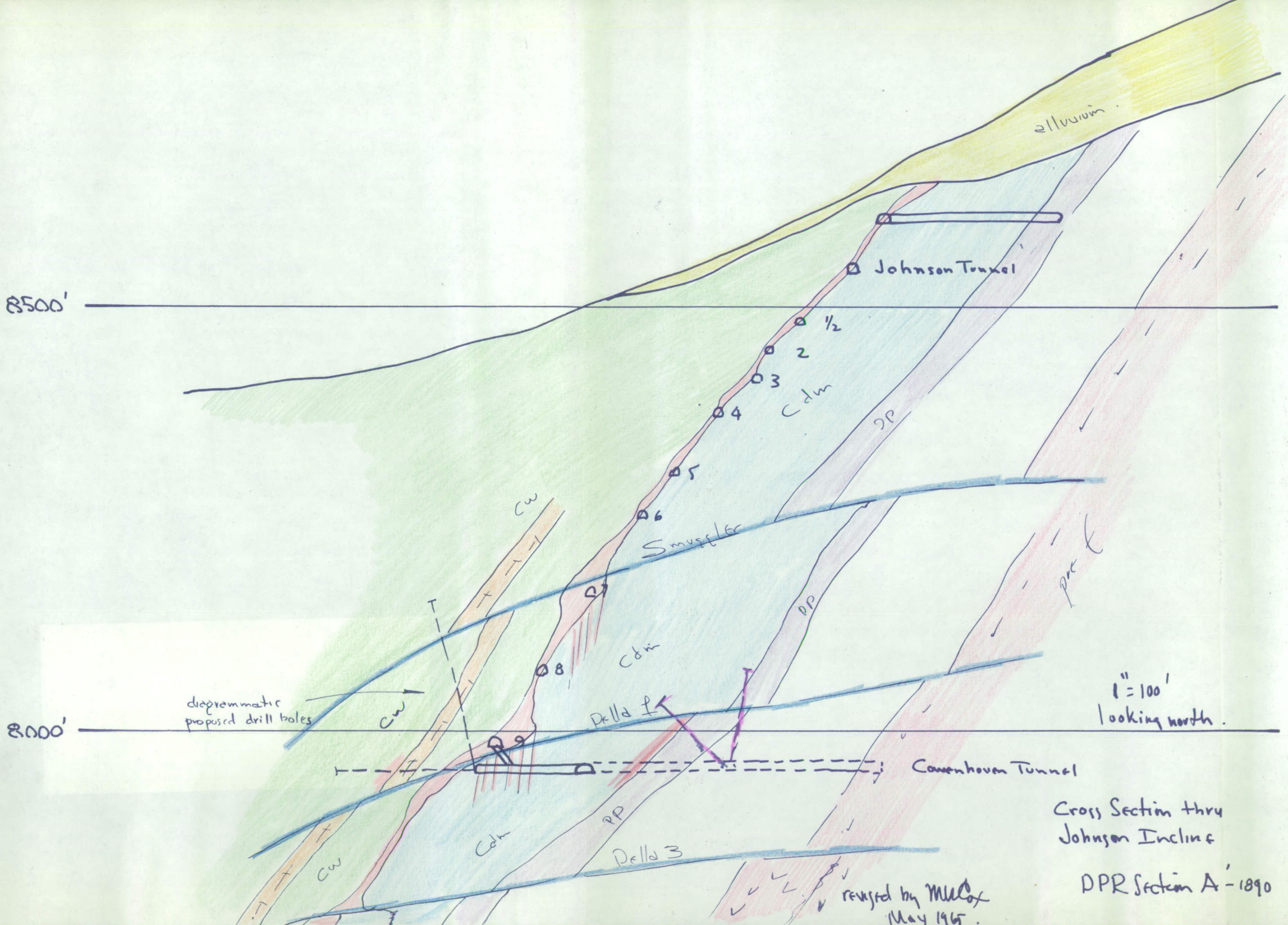


Cross Section thru
REGENT-BUSHWHACKER
SHAFTS

1" = 100'
looking north

DPR - 1990
Section B

revised MWCox
1987

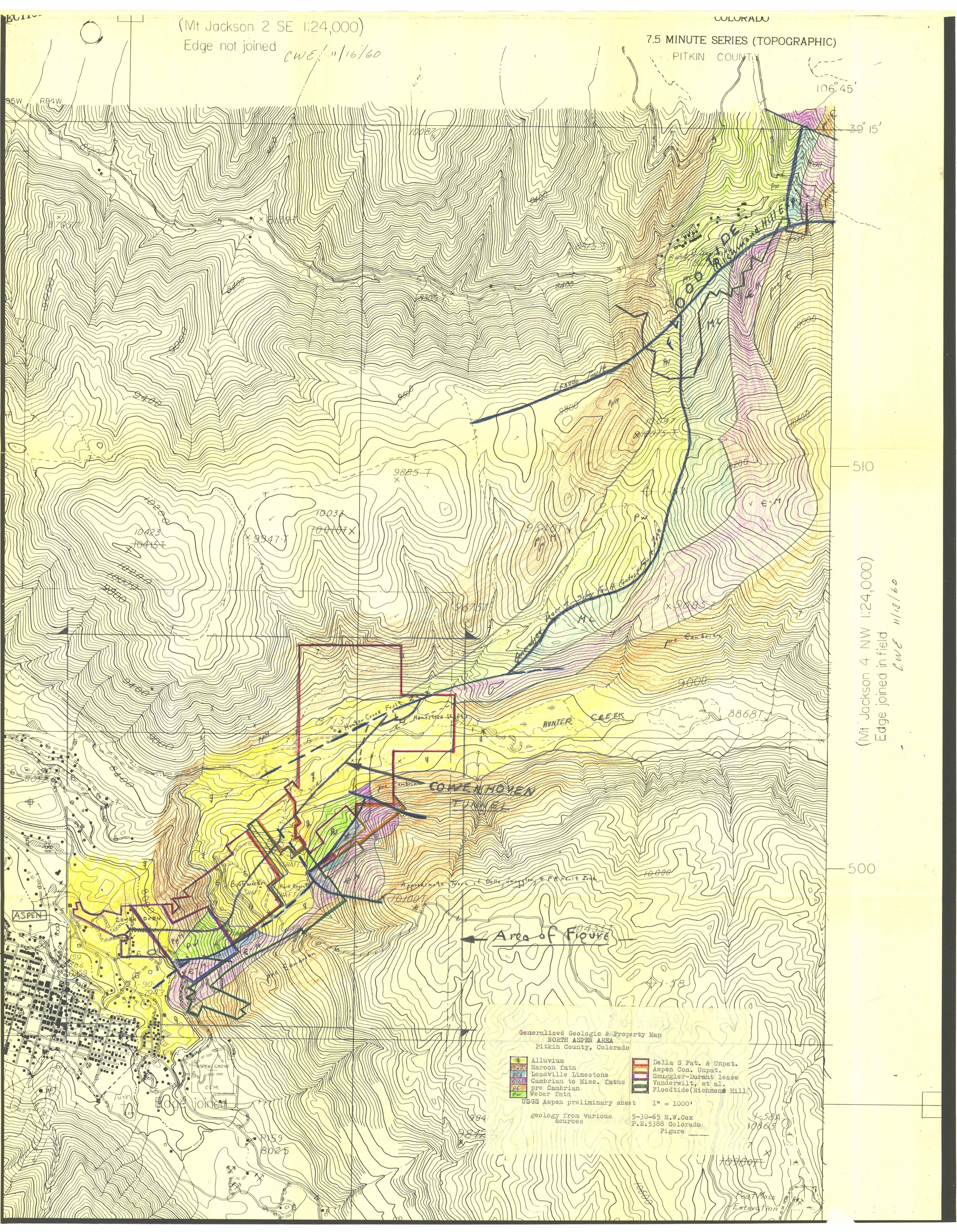


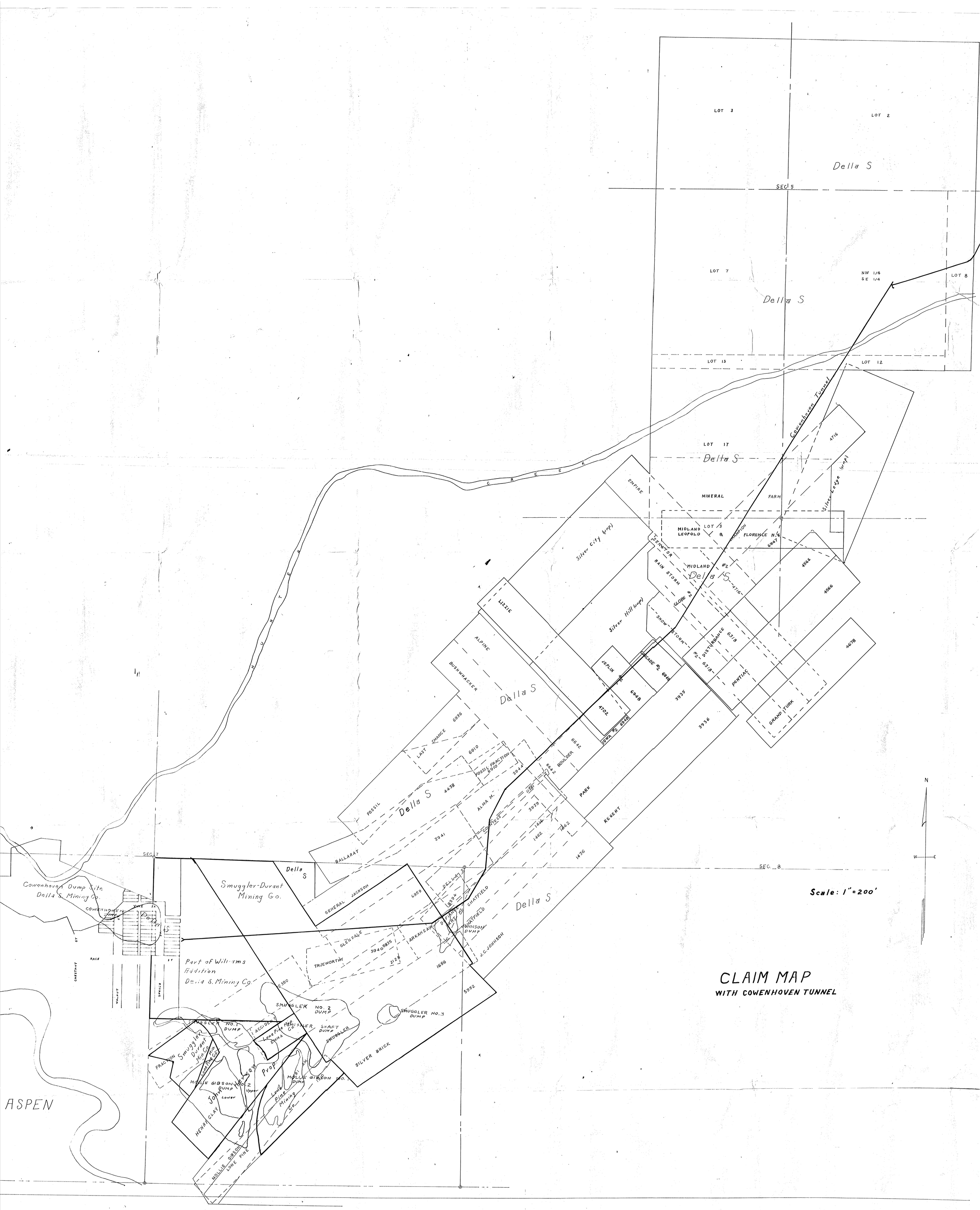
Cross Section thru
Johnson Incline

DPR Section A' - 1890

3 CROSS SECTIONS

1" = 100'


(Mt Jackson 2 SE 1:24,000)
Edge not joined
CWE 11/16/60
COLORADO
7.5 MINUTE SERIES (TOPOGRAPHIC)
PITKIN COUNTY
106°45'
39°15'
R85W
R84W
FLOOD TIDE
Richmond Hill
Leadville Fault
Hunter Creek Fault
Homestead Shaft
HUNTER CREEK
COWEN OVEN TUNNEL
SHAFTS
Bushwacker SHAFT
Park Regent SHAFT
Approximate Trace of Della, Smuggler & P.R. Fault Zone
Area of Figure
ASPEN
COWEN OVEN
ASPEN GROVE
CEM.
Edge joined
(Mt Jackson 4 NW 1:24,000)
Edge joined in field
CWE 11/18/60
510
500
Generalized Geologic & Property Map
NORTH ASPEN AREA
Pitkin County, Colorado
Alluvium
Maroon fmtn
Leadville Limestone
Cambrian to Miss. fmtns
pre Cambrian
Weber fmtn
Della S Pat. & Unpat.
Aspen Con. Unpat.
Smuggler-Durant lease
Vanderwilt, et al.
Floodtide(Richmond Hill)
USGS Aspen preliminary sheet
1" = 1000'
geology from various sources
5-30-65 M.W.Cox
P.E.5388 Colorado
Figure ____
Peat Moss Excavation


LOT 3
LOT 2
Della S
SEC 5
LOT 7
NW 1/4
SE 1/4
LOT 8
Della S
LOT 13
LOT 12
Cowenhoven Tunnel
LOT 17
Della S
4716
Silver Ledge (unp)
EMPIRE
MINERAL
FARM
MIDLAND
LEOPOLD
LOT 3
& 8
CHAMPION
FLORENCE N.S
6947
Silver City (unp)
SENATOR
RAIN STORM
MIDLAND #2
Della S
4716
4566
4566
LIZZIE
Silver Hill (unp)
GLOBE #2
SNOW STORM
DISTURBANCE
6319
#2
6319
4678
ALPINE
BUSHWHACKER
Della S
JOPLIN
CASCADE #2 6948
PONTIAC
6948
3935
4702
IOWA #2 6948
3936
GRAND TURK
LAST CHANCE
6936
6910
FOSSIL FRACTION
6910
3944
6642
6642
BOULDER
FOSSIL
Della S
4438
ALMA M.
1581
PARK
3941
COMPTESS
3939
1462
1462
REGENT
BALLARAT
1436
SEC 7
SEC 8
W
E
Cowenhoven Dump Site
Della S. Mining Co.
Smuggler-Durant
Mining Co.
Della S
GENERAL JACKSON
6359
DELLA S
3394
DELANCEY
CHATFIELD
CHATFIELD
JOHNSON DUMP
J.C. JOHNSON
Della S
COWENHOVEN TUNNEL
YUKE ST
Della S
RACE ST
CHESTNUT ST
WALNUT
SPRUCE
Part of Williams
Addition
Della S. Mining Co.
GLENDALE
TRUEWORTHY
3940 6835
ARKANSAW
212 1/2
1656
3952
SMUGGLER NO. 2
DUMP
SMUGGLER NO. 3
DUMP
SMUGGLER NO. 1
DUMP
ACCIDENT
Lone Pine Min. Co.
EMMA
SMUGGLER
SHAFT
DUMP
SILVER BRICK
FRACTION
Smuggler
Durant
Min. Co.
Lone Pine Cat Min.
MOLLIE GIBSON
DUMP
Johnson
No. 2
Upper
Lower
Prop
HENRY CLAY
Lone
Pine
Mining
Co.
MOLLIE GIBSON
DUMP
MOLLIE GIBSON NO. 1
MOLLIE GIBSON
LONE PINE
ASPEN
Scale: 1" = 200'
CLAIM MAP
WITH COWENHOVEN TUNNEL

COWENHOVEN TUNNEL
showing known geology & proposed exploration
1" = 100'
compiled from USBM, USGS & older company maps
MWG – May 1965
principal notes D P Rohlfing 1890 - 1940
Stopes just above & below Cowenhoven Level
SMUGGLER #2 ADIT
SMUGGLER SHAFT
SMUGGLER #3 TUNNEL
Use for ventilation connection to Smuggler #1
7990 top
OPEN RISE
SECT "A"
SECT "B"
SECT "C"
REGENT
BUSH WHACKER
Vanderwilt
Aspen Con
IOWA
IOWA INCLINE
REGENT INCLINE
DELLA S INCLINE
7955'
7964'
Stage III ventilation hole (proposed)
CHAMPION
CHAMPION INCLINE
ST JOE
STEAM RISE (to ST JOE)
HANSBROUGH INCLINE
ALTA INCLINE
STAGE III (DRILLING)
diagrammatic representation of proposed drill layout
HOMESTEAD
8720'
?
no connection to Cowenhoven
Hunter Fault Zone
Aspen Con N line ?
portal + 10,000'
11,300' face of Cowenhoven (from portal)
STAGE I
DRILLING
STAGE III
DRIFTS & XC's
ES 11 level
N
SMUGGLER #1 ADIT
7950'
FREE SILVER SHAFT
FREE SILVER 12 LEVEL 6840'
11 LEVEL @ 6960'
LEASE
FREE SILVER
DURANT
DELLA
SMUGGLER CON.
ASPEN CON.
DELLA & SMUGGLER HW
This section caved to surface
contour on Cdm/Cw contact
6650'
6350'
2-1
2-2
2-3
2-4
2-5
2-6
2-7
2-8
STAGE II
A SHAFT at this site would be 180' to Cdm/Cw contact
COWENHOVEN TUNNEL
7929'
WORKING YARD for STAGES I, II, III