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*file name 110p
Arizona - Excelsior -
Big Bar Gold Corp*

PRELIMINARY GEOLOGICAL EXAMINATION

EXCELSIOR AND O.K. GOLD-SILVER PROPERTY

Gold Basin Area, Mohave County, Arizona
35°47'N; 114°12'W

IMW I 11-3-D1

for

BIG BAR GOLD CORPORATION, LTD.

Box 157

Ashcroft, British Columbia, CANADA, V0K 1A0

by

Charles A. R. Lammle, PEng.
Salt Lake City, Utah

27 April, 1985



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Maps

1. Location Map (Roadmap)
2. Location Map (1:250,000)
3. Location Map (1:62,500)

Faceplate
Faceplate

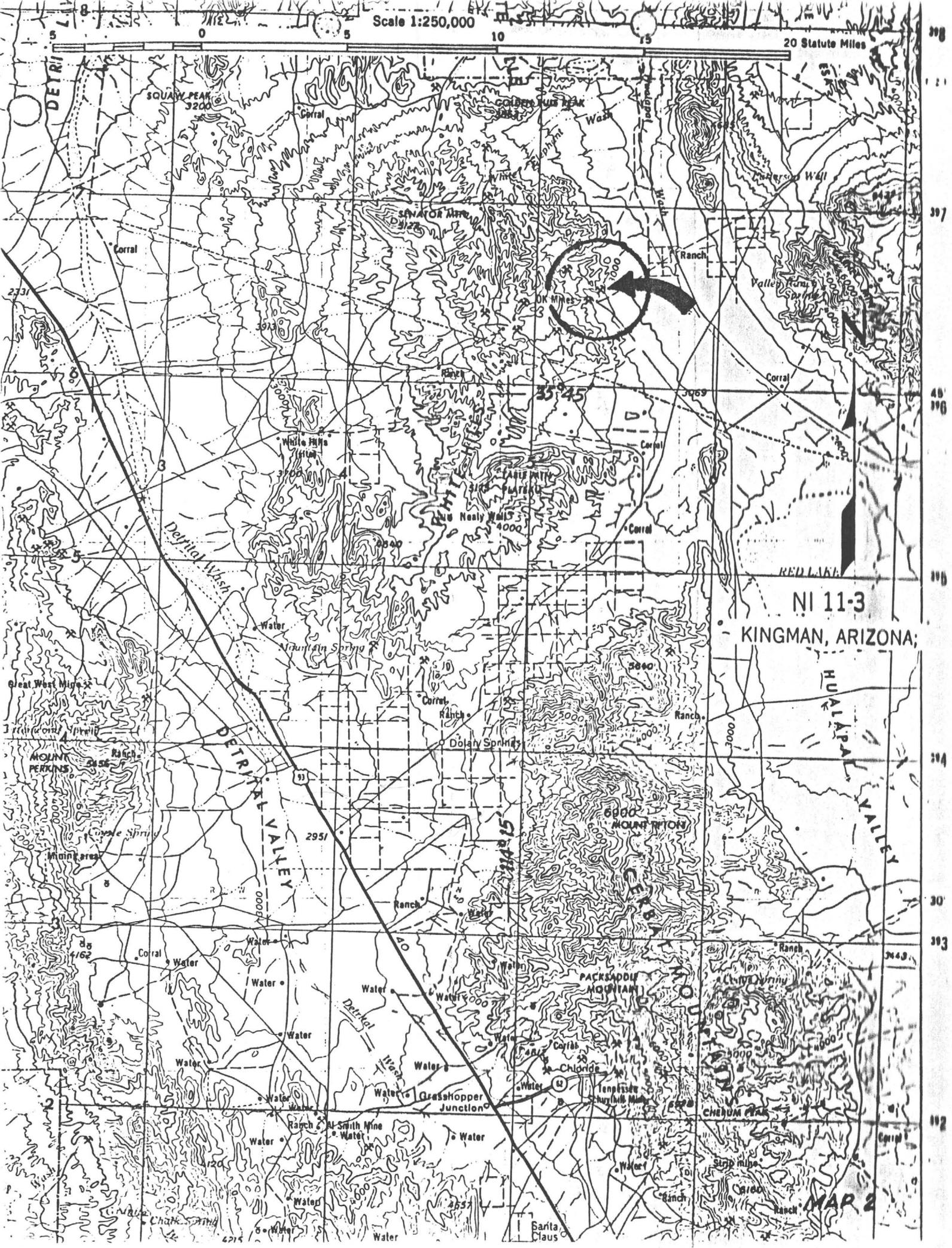
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1. Claims Map (1:3600)
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Pocket
Pocket

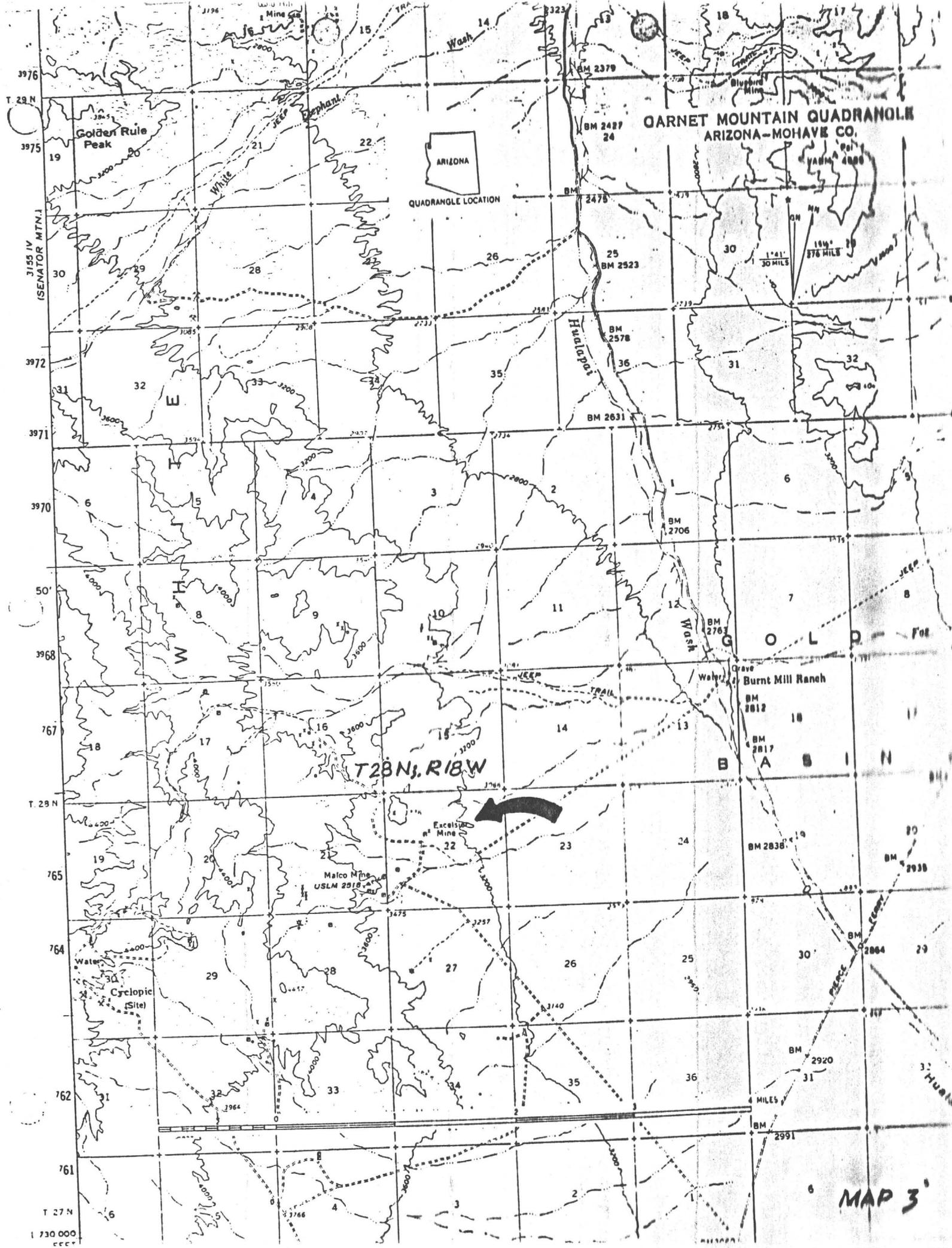
Scale 1:250,000

20 Statute Miles



NI 11-3
KINGMAN, ARIZONA;

MAR 2



GARNET MOUNTAIN QUADRANGLE
ARIZONA-MOHAVE CO.



QUADRANGLE LOCATION

T28N, R18W

MAP 3

3155 IV
(SENATOR MTN.)

T 27 N
1 730 000

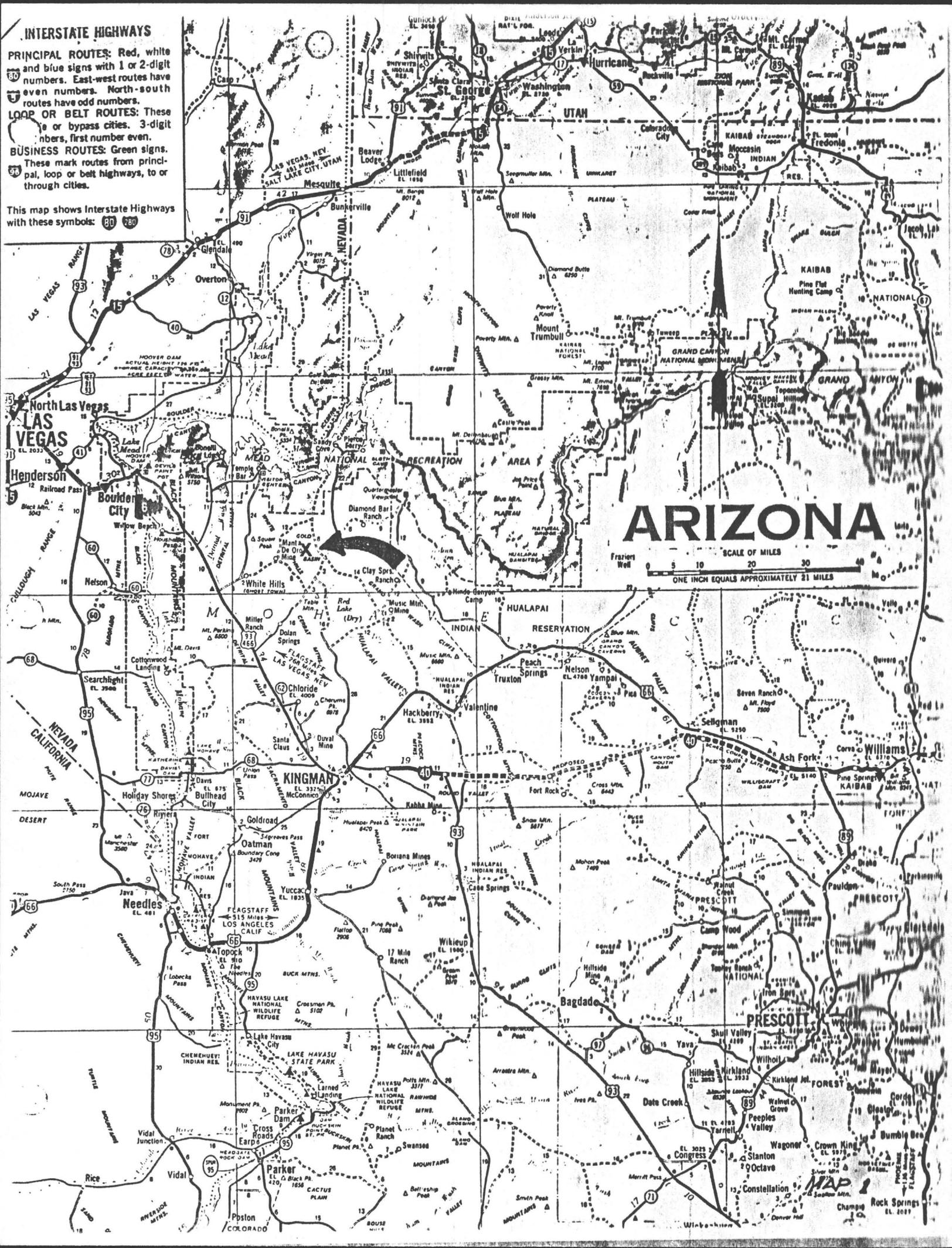
MILES

MISSISSIPPI

INTERSTATE HIGHWAYS

PRINCIPAL ROUTES: Red, white and blue signs with 1 or 2-digit numbers. East-west routes have even numbers. North-south routes have odd numbers. **LOOP OR BELT ROUTES:** These go around or bypass cities. 3-digit numbers, first number even. **BUSINESS ROUTES:** Green signs. These mark routes from principal, loop or belt highways, to or through cities.

This map shows Interstate Highways with these symbols:  



ARIZONA

SCALE OF MILES
ONE INCH EQUALS APPROXIMATELY 21 MILES

MAP
of Southern Arizona

PRELIMINARY GEOLOGICAL EXAMINATION

EXCELSIOR AND O.K. GOLD-SILVER PROPERTY
Gold Basin Area, Mohave County, Arizona
IMW I 11-3-D1

Charles A. R. Lammler, PEng.

27 April, 1985

INTRODUCTION, SUMMARY AND RECOMMENDATIONS

During mid-April, 1985, the writer was commissioned by the Directors of Big Bar Gold Corporation, Ashcroft, British Columbia, to make a preliminary geological examination of the subject fissure vein gold-silver property, located 43 airmiles NNW of Kingman in northwestern Arizona, and to prepare a report describing the results of the examination, containing if warranted by results, a recommended program for continuing exploration on the property. The report was to include an estimate of the costs of any such recommended exploration program.

The results of the preliminary examination were positive. Intriguing possibilities for both underground- and small open pit-type exploration targets were identified. At least 6 underground fissure-vein targets with good remaining exploration potential exist on the property, such that in terms of target potential, four are of such character that potential tonnage that might be expected from each would be in the order of 100,000 tons. The average grade of mineralization from 17 samples taken by the author on 6 of these targets on the property was 0.37 oz Au/ton and 0.50 oz Ag/ton, with an average width of 2.6', and in some of the vein areas, low grade values might be expected in the wall rock, which would increase tonnage possibilities dramatically. Additionally, one small area among some of the mineralized mesothermal veins on Roundtop Lode Claim consisted of a quartz-vein stockwork with very intriguing exploration possibilities for a small surface precious metals deposit that might be amenable to mining by open pit; a second such area on Lillian Lode Claims part of the property is reported by the vendors but was not examined during the visit.

Consequently, it is concluded that good exploration possibilities exist on the property for relatively small tonnages of good grade gold and silver, from which there is a very distinct chance of winning quite reasonable profits. Accordingly, a two staged exploration program of geological, geophysical, dozing, percussion drilling, and underground work with bulk sample testing, is outlined and recommended, with total estimated costs being US\$ 300,000.

Execution of Stage 2 is to be contingent, of course, on obtaining encouraging results from Stage 1.

The property visit was carried out during 20-22 April, 1985, with the guidance of geologist Jay Mackenzie, Provo, Utah, and William J. House, Layton, Utah. The latter is a principal of H.A.S. Petroleum, Inc., a Utah firm which has a working option arrangement with the owners of the property - Fleck Mining Company, Inc., Corvina, California. Messrs. House and Mackenzie gave many details regarding the history of the property and also a small written report showing details of claims, fissure-veins, underground workings, and sample assays, etc. I also spoke at length on the telephone with Mr. John Michael Adams, also a principal of H.A.S. Petroleum, Inc., who gave additional details. A number of the old claim posts that mark out the property and their relationship to legally surveyed Township and Range brass monuments were examined, and some preliminary surface mapping was done to permit drafting a map to help in describing the preliminary results. Seventeen samples of mineralized portions of the fissure-veins were taken to verify mineralization and grade, and were submitted for Au-Ag analyses to Assay Labs Incorporated, Salt Lake City, a firm specializing in fire assays only for Au and Ag, and a firm that I have had opportunity in the past to check out for repeatability and accuracy with the aid of USBM standard mineralized samples for which the gold and silver content is accurately known. Part of 22 April was spent in the Mohave County Recorder's Office investigating and acquiring copies of official County Records.

At the time of the examination, Tri-State Gold, an underground mining contractor on commission to H.A.S. Petroleum was just beginning an inclined shaft on the northeastern portion of the Excelsior vein near a point where there had been an old shaft.

As the results of my preliminary examination and sampling are encouraging, this report will describe my geological observations, and sample results. It will also outline my recommendations for a program of continuing surface and underground exploration as requested, and it will give an estimate of the costs to commence and complete the recommended program.

ESTIMATED COST OF RECOMMENDED EXPLORATION PROGRAM

STAGE 1.

Grid preparation, geological mapping and supervision, sampling and assaying, bulldozer trenching, percussion drilling.

Geologist	3 months@ \$3000/mo	US\$ 9000
Geological assistant	2 months@ 1730/mo	3500
Accommodation, sustenance		6000
Pickup; rental, fuel, maintenance		5000
Assays; Au&Ag, 300@ \$12/sample		3600
Freight		500
Geophysical instrument rental		2000
Bulldozing	85hr@ \$120/hr	10200
Percussion drilling		36000
Supervisory travel		4000
Head office expense		8000
Communications		200

88000
9000

Contingencies

ESTIMATED STAGE 1 COSTS

US\$97000

STAGE 2.

Contingent on achieving encouraging results from Stage 1: geological mapping and supervision, sampling bulldozing, reverse circulation drilling, underground exploration and bulk sampling, milling and heap leach testing.

Geologist	6months@ \$3000/mo	US\$18000
Geological Assistant	5mo@ \$1750/mo	8700
Accommodation, sustenance		13000
Pickup; rental, fuel, maintenance		10000
Assays		20000
Freight		3000
Bulldozing		10000
Reverse Circulation Drilling	1500'@ \$15/ft	22500
Underground exploration		40000
Milling and heap leach testing		18000
Supervisory travel		6000
Head office expense		12000
Communications		800

182000
21000

Contingencies

ESTIMATED STAGE 2 COSTS

US\$203000

TOTAL ESTIMATED COST: STAGE 1 AND STAGE 2

US\$300000
=====

PROPERTY The property consists of two patented claims, 28 lode claims, and one millsite. All date well back in time and predate other recent staking activity that is normal for a mineralized area. Several companies, including Western States Minerals and Santa Fe are active in the area and have overstaked portions of the area in the recent past.

The claim record details are listed below: (See Plate 1)

Claim Name	Claim type	BLM No.	Mohave Co Book	Records Page	Record Date
Excelsior*	Patented	Surv. No.2518			14May'08
O.K.	Patented	Surv. No.2517A			16May'08
O.K.	Millsite	Surv. No.2517B			" "
M.O. #1	Lode	AMC 81903	664	423	16Oct'00
M.O. #2	Lode	AMC 81904	664	424	" "
M.O. #3	Lode	AMC 81905	664	425	" "
Louise	Lode	AMC 81914	664	425	" "
Flora	Lode	AMC 81906	664	426	" "
O.K. Extension	Lode	AMC 81907	664	427	" "
O.D. #6	Lode	AMC 81909	664	428	" "
Roundtop	Lode	AMC 81928	664	429	" "
Bert	Lode	AMC 81911	664	429	" "
Ernest	Lode	AMC 81910	664	429	" "
Billy #1	Lode	AMC 81912	664	430	" "
O.D. #1	Lode	AMC 81908	664	430	" "
Excelsior Extn	Lode	AMC 81913	664	431	" "
C.L.	Lode	AMC 81915	664	432	" "
L & W	Lode	AMC 81916	664	432	" "
Fleck #1	Lode	AMC 81921	664	433	" "
Lillian	Lode	AMC 81917	664	434	" "
Lillian Extn	Lode	AMC 81918	664	435	" "
Ridge Lode	Lode	AMC 81919	664	436	" "
St. Charles	Lode	AMC 81922	664	437	" "
Divide	Lode	AMC 81920	664	437	" "
Lester #1	Lode	AMC 81923	664	438	" "
Lester #2	Lode	AMC 81924	664	439	" "
Lester #3	Lode	AMC 81925	664	440	" "
Low Pass	Lode	AMC 81927	664	440	" "
Eastside	Lode	AMC 81926	664	441	" "
Roundtop #2	Lode	AMC 81929	664	442	" "
Walter	Lode?	?	?	?	

* Note - Spelling is "Excelsor" on Survey No. 2518; "Excelsior" in all USGS, USBM and other available literature!

My work has not yet verified the existence of the Walter Lode Claim, as I did not traverse the ground looking for these particular claim posts, and on first pass, I did not find either the BLM record number nor the Mohave County Book and Page numbers. Although this claim is shown on the data provided by H.A.S.

Petroleum, its actual status should be investigated further and verified.

Further regarding the claims, H.A.S. Petroleum indicate that there is a 5 acre "Millsite" included in the property package. This is presumed to be the 5 acre O.K. Mill Site shown on previously itemized Survey No. 2517 A&B. The microfiche of this old blueprint appears to show some kind of a discrepancy that I am not sure about - it appears to position the O.K. Millsite with respect to USLM 2517 (land monument), and the O.K. patented claim with respect to the nearby USLM 2518; and then it ties the nearest corners of each of the claims with a bearing and a distance. My problem is the indicated distance which is stated on the blueprint to be 16811.08 ft., which is some 3 miles or so, and this seems inconsistent with the H.A.S. data, with the way one would expect the surveyors to tie two related claims together, and with what would have been the original objectives of the stakers. There is another millsite shown on the County records - the M.O. #1 Millsite, (but only 3.67 acres) Book 664, Page 423, but without record numbers. Hence, there is some confusion about just what millsite claim is involved with the package, and when questioned, Bill House did not seem to know the whereabouts nor other details of this claim. This relatively small problem should be remedied.

The record dates shown for the Lode Claims suggest relatively recent staking, but this is not the case. The dates shown merely indicate the time that the U.S. Bureau of Land Management intruded itself into the mining records business in the United States. Prior to that time, all records were kept by the respective State in the county court house records office. Actually, as one can judge by the style and degree of weathering on the posts for the Lode Claims, it is clear that they were staked a number of decades ago, and that clearly the subject property and its records predates all modern staking activity and recording in the immediate area.

Land status in the area is a mix between private ownership and public lands administered by BLM. Sections 16, 22, and SW $\frac{1}{4}$ 15 are public lands, but portions of the northern one-half of Section 21 (T28N; R18W) are shown on land status maps to be held privately. There appears to be little overlap of claims on privately held surface rights, but this should be checked accurately to see if any of the private lands in the area include mineral rights.

LOCATION AND ACCESS

The property is located at 35°47'N; 114°12'W; elevation 3300', in north-western Mohave County: T.28 N; R18 W: Gila and Salt River Meridian. International Map of the World sheet (NTS) is I 11-3-D1. This location is 60 airmiles SE of Las Vegas, NV, or alternatively, 43 airmiles NNW of Kingman, AZ. Duval's former

open pit copper mine at Mineral Park is 34 airmiles due south, and the ghost town of Chloride, once a bustling high-grade silver mining community, is 27 airmiles due south. (See location maps)

Access is SE from Las Vegas on U.S. 93 a distance of some 71 miles, to the Dolan Springs turnoff, then 5 miles NE to that mobile-home community of 3500 people. The property may be reached by two-wheel-drive vehicles from Dolan Springs by driving 14 miles north on county road, and then 5 miles NW on sandy mining access roads. Several local property roads lead to various parts of the property, and may require 4x4 vehicles depending on requirements and conditions.

Dolan Springs has a couple of restaurants, a grocery store, a gas station, a small motel (Wyatt 602-767-3562), and a number of bars. The nearest supply center is Kingman, Mohave County seat, about 36 miles distant.

There is neither power nor water on the property, but both may be obtained relatively easily. There are several power lines at no great distance, and the Hoover Dam and power station are only 30 airmiles away. Adequate water can most likely be obtained from wells in the topographic area known as Gold Basin: in years past water was obtained for former mining purposes via a long pipeline from Garnet Mountain area, some 8 miles to the east.

The physiography of the area is the eastern mountainous region the Basin and Range province, and for practical descriptive purposes, it may be described as desert. The usual desert thorny vegetation and cactus are present, as is a sparse Joshua "forest". None of the vegetation has any commercial value, but aesthetic values are protected by BLM, and permits must be obtained for all mining work requiring heavy motorized machinery. The ordinary field geological, geophysical and geochemical work needs no permitting.

HISTORY OF THE AREA

Fissure-vein gold and silver mineralization was discovered in the Gold Basin area in the mid 1870's, and the district had yielded appreciable gold prior to 1900, principally from the Eldorado Mine, located about 1½ mile SW of Excelsior and O.K. Mines. Several of the old underground mines in the Gold Basin District have provided sporadic and intermittent production during the 1930's and early 1940's, but for the most part they lay dormant during the 1940's and 1950's.

The principal mines in the district were the Eldorado, Excelsior, O.K., Golden Rule, Jim Blair, Never-get-left, and Cyclopic. Most were developed on thin but persistent mesothermal fissure-vein systems that consist of variously silicified faults and fractures in Precambrian granitic rocks and older remnants of metamorphic schists. Most of the mines were developed by shafts

inclined down the vein, by drifts, by crosscuts, and by narrow stopes on the thicker portions of the pinching and swelling fissure-veins.

The Chloride District, 27 miles to the south, was the most important mining area in the region in the late 1800's. There, persistent veins carrying values in Ag, Pb, and Cu with some Au were developed at some 20 mines, to depths of 600', but a few were worked to depths of only 300'. The veins were in Precambrian granitic and metamorphic rock apparently similar to those at Gold Basin. The Mineral Park District 4 miles SE of Chloride, first discovered in 1870, was originally exploited for Au, Ag, Pb, and Cu in fissure-veins, but in more recent years it was a (Duval) porphyry copper. Veins there extended to depths exceeding 500'.

GENERAL GEOLOGY

The Gold Basin region of Arizona is situated close to the margin of the Basin and Range and Colorado Plateau physiographic provinces. Here, the eastern margin of the Basin and Range region consists of highly complex geology, for it was once a region of plate tectonic compression, but some 30 million years ago when the San Andreas Fault began slicing into North America, it became a region of plate tectonic extension. Consequently, the older or basement rocks are structurally complex Precambrian schists, gneisses and various granitic rocks in places dyked with diabase, lamprophyre and basalt. In places Paleozoic sedimentary rocks (those exposed in the Grand Canyon) cover the older assemblage. Overlying stratigraphically in turn are Tertiary and Quaternary volcanic rocks, principally basalts.

The principal faults to be expected in the region are strong NW trending listric faults which have hanging-wall-down type of movement but on a curving, concave-up fault plane, which flattens to near horizontal at depth. In places some of the flat portions of these listric faults have been exposed by uplift and resulting erosion; some are important precious metal exploration targets. In this setting this type of major fault would dip westerly, and its offset would result in eastward-tilted mountain range-sized blocks of country rock separated by north-westerly trending basins. These range-sized blocks are in turn intricately faulted with all kinds of faults of all sizes, some of which have created porous and permeable zones favourable for mineralizing fluids and which are also now attractive precious metal exploration targets.

The northwest corner of Arizona is characterized by two different types of precious metal vein deposits - mesothermal and epithermal as Lindgren named them. The epithermal veins are characterized by open space fillings, well developed crystal faces in drusy cavities, coxcomb texture, repetitive mineralogical banding, and often times with low temperature hot-spring type of chalcedonic and opalitic quartz, and adularia. They

are usually found in Tertiary or younger igneous and volcanic and sometimes sedimentary rock. This type of vein is well known because some notably lack persistence with depth. Perhaps the best example of epithermal veins in this part of Arizona are those at Oatman, and at Union Pass, in Black Mountains, 16 miles SW and W of Kingman, respectively.

The other type of precious metal vein deposit in this part of Arizona are the mesothermal ones. Such veins were formed at greater depths and at higher temperatures than their near surface counterpart. Consequently they are characterized by a more solid textural aspect, by much different gangue and sulphide mineralogy, usually by older host rock, and almost always by much greater persistence along strike and at depth. Both types of vein commonly pinch where the strike or dip of the vein changes, and they likewise commonly swell to greater thicknesses in the dilatant zones between such pinched portions. The Chloride and Gold Basin areas, in Cerbat Mountains and White Hills, respectively, are the generally quoted regions having mesothermal veins in this part of Arizona.

LOCAL GEOLOGY

The Gold Basin District is underlain largely by Precambrian granitic rock which contains large remnants and irregular masses of older metamorphic schist. The granitic rocks are most frequently dark coloured, medium to coarse grained, biotite quartz diorite and granodiorite, but some younger looking, lighter coloured, coarsely porphyritic granites and some aplites are present, at least judging from float. Dykes of diabase and lamprophyre are present, frequently along the faults forming the mineralized fissure-veins, and locally there are some basalt dykes that were likely the feeders to overlying basalt flows, only remnants of which now exist. In places, contact zones between the granitic textured rock and the metamorphic schists can be inferred because of incompletely granitized, migmatitic, and xenolithic material, observed again mostly in float rock. The schists observed in outcrop consist of brown or tan coloured micaceous rock having a strong foliated fabric.

Structures Faults of diverse strike and dip cut both granitic rock and schists. Usually these fault zones are very slightly more susceptible to erosion than the country rock and may be traced to some extent by faint topographic depressions on the hillsides. In covered areas, however, there is no topographic expression. Slickensides can be seen on some of the fault surfaces, particularly in underground exposures.

At one point on the north west side of a local topographic prominence known as Roundtop, the granitic rock among mineralized fissure veins is broken up and ramified with small discontinuous quartz veinlets, and might be described as a quartz-vein stockwork, and as such it is reasonable to expect the stockwork area

to contain precious metal values. Another such stockwork was said by Bill House to be present at the northwest part of the property on Lillian Lode claim. Both of these areas should be thoroughly investigated by geological and geophysical mapping, and dozer trenching as warranted by results.

Most of the known faults planes are either silicified or replaced to varying degrees by mineralized vein quartz, forming fissure-veins. Quartz float from such veins has been carefully prospected over the years, mainly by the old-time miners, resulting in the underground mine workings on a number of the claims, particularly Excelsior, O.K., O.K Extension, M.O. #1, Lillian, and resulting also in a large number of small surface hand cuts and trenches.

Fissure-Vein Thickness The mineralized fissure veins are narrow and generally pinch at high load-bearing surfaces along rolls, and swell at dilatant zones in between such rolls. A general average thickness would be about 2.0', a maximum thickness that I observed in workings would be about 5'. The averaged thicknesses of the samples I took variously over the property is 2.6'. In places, as at one point in the main level of the Excelsior Mine where there would appear to be a roll in the dip of the vein pitching downwards to the northeast, the thickness diminishes to obscurity and was re-discovered offset in echelon fashion a short distance away, but only after extensive searching by underground work. Granitic wall rock of the fissure veins is usually crushed and altered and carries low values (a few hundredths of an ounce) in gold (and a few tenths of an ounce) in silver; however, wallrock in many places has a red, limonitic or "pregnant" look and should be carefully investigated for precious metals in sufficient quantity to be heap leached.

Mineralization The fissure-veins are almost completely oxidized in all of the workings examined. Minor galena was noted in two or three small pockets of the more siliceous mineralization. The main indication of good grade mineralization would appear to be rust-stained siliceous vein material, particularly where galena can be seen, or where a little malachite staining is evident. Mineralogy reported in the literature for mesothermal, siliceous base and precious metal fissure-veins is pyrite, galena, sphalerite, chalcopyrite, arsenopyrite, tetrahedrite in a gangue of vitreous to milky quartz with or without ankeritic carbonates. Vein wall rocks show sericite and carbonate alteration along with clays in the fault zone. In unoxidized material, the gold values are said to occur partly as free gold, but mostly as sub-microscopic molecular intergrowths in the sulphides, particularly in the finer-grained galena, chalcopyrite, and pyrite. Oxidized fissure-vein material is said to be rich in free gold, and this has been confirmed by fire assays (one-assay ton crucible charges) of my samples.

The grade of gold and silver in the veins, as indicated by infor-

mation given me by H.A.S. Petroleum, and as verified in channel samples that I cut across the veins is quit good. Indiscriminantly averaged, my 16 channel samples taken variously around the claims for verification purposes give the following:

Avg. width	Au oz/ton	Ag oz/ton
2.6'	0.37	0.50

Data given me by H.A.S. Petroleum contains assay data for 64 samples, taken widely over the property. I arbitrarily ignored 5 of the high grade from these and otherwise indiscriminantly averaged them as above, with the following results:

Avg. width	Au oz/ton	Ag oz/ton
?	0.50	0.75'

Suffice to say that there is good precious metals values over narrow widths in several of the workings and surface pits on the Gold Basin property of H.A.S. Petroleum, Inc. Gross values per ton indicated by my very preliminary verification sampling would be about US\$123.00/ton. Diluted to a mining width of 5', this would work out to something around US\$60.00/ton.

However, these numbers are clearly not intended to reflect the grade that might be won from any of the fissure veins; rather the objective was merely to verify the presence of gold and silver, and to indicate some order of magnitude for the grade that might be expected. (One does not determine accurate grade that might be available on a mining prospect during a preliminary 1/2 day examination.)

The general attitude of the vein at Excelsior is N45°E/35°-55°NW; at O.K., N63°E/vert; at M.O. #1, N80°E/80°N; at O.K. Extension, N85°E/74°N; at Roundtop, N10°E/35°E; at Roundtop #2, N20°W/20E; and at Lillian, N78°E/31°S. If projected a number of these fissure veins, or their controlling fault structures could intersect in the low, covered, and poorly explored ground between Excelsior and O.K. Mines. This would suggest good exploration possibilities underlying this large, relatively unexplored area.

This covered area should be thoroughly explored by geological, magnetic, and Crone VLF electromagnetic methods, and by bulldozer trenching, again as warranted by the technical work.

Analyses of Preliminary Samples Tabulated details regarding my preliminary verification sampling and resulting fire assays (1 assay-ton crucible charges) are as follows:

ASSAY LAB, INC. (West Jordan, UT)

No.	Sample Description	Type	Width(ft.)	Au oz/t	Ag oz/t
EX-1	Excelsior, surface workings; 330' east of headframe	Chan	1.8	0.728	0.51
EX-2	Excelsior, main lev, face; 680' from portal	Chan	1.8	0.580	0.70
EX-3	Excelsior, main lev, 600' from portal	Chan	1.8	0.730	0.32
EX-4	Excelsior, main lev, Loading shoot in drift that cuts back towards portal	Chan	3.0	0.304	0.08
EX-5	Excelsior, main lev, loading shoot, high grade zone; vein widens to 4' at a distance 15' west	Chan	1.0	0.985	0.53
EX-6	Excelsior, main lev, 15' east of a 4'x4' weak-looking pillar	Chan	4.3	0.472	2.21
DC-1	Excelsior, new shaft west side wall, vein	Chan	1.8	0.036	0.10
DC-2	Excelsior, new shaft face, 12' in; crushed reddish hanging wall	Chan	5.2	0.12	0.16
MO-1	MO #1, 14' east of old shaft, grab from small hand cut, old car frame near by	Grab	2.2	0.316	0.38
L-1	Lillian, adit, 60' from portal, north wall, near access road	Chan	3.5	0.244	1.58
L-2	Lillian, same adit, south wall, 58' from portal	Chan	3.0	0.193	0.50

OK-1	O.K., face, decline off main level, dusty	Chan	2.8	0.318	0.08
OK-2	O.K., Back near lagging at point where decline from main level starts	Chan	2.8	0.578	0.60
OKex-1	O.K. Extn, undergrd, at stope through to surface, winze below	Chan	1.0	0.090	0.11
OKex-2	O.K. Extn, undergrd, 200' west of OKex-1 loading shoot at main stope	Chan	1.4	0.438	0.14
RT-1	Roundtop, surface, old hand cut on quartz vein, footwall is diabase dyke	Chan	3.5	0.260	0.37
RT-2	Roundtop, surface, old hand cut on quartz vein, near quartz-vein stockwork area	Chan	4.1	0.008	<0.05

OLD MINE WORKINGS

Excelsior The workings on the Excelsior patented claim consist of a main level and two other lower levels, each at about 100' intervals down the dip of the vein, all connected by an inclined shaft and in places by small stopes. Stopped areas break through to the surface in several spots, making for good ventilation. Stulls, ladders and lagging are in near new condition. Survey No. 2518 shows four workings - No. 1 Discovery Shaft at the center of the claim, No. 2 Tunnel near the Discovery Shaft, No. 3 Shaft 200' to the southwest, and No. 4 Shaft 370' to the northeast. When fitted to the existing surface workings, the outline of the claim can be positioned accurately, and this then indicates that the No. 4 Shaft, said to have been 4x8x100, would have been right at or very close to the site of the inclined shaft currently being sunk by jackleg and slusher. (See Plate 2)

O.K. The underground workings at this claim are similar to those at Excelsior - a main adit level with a shaft on the vertical vein at the portal. A thumb nail sketch in USGS Bull. 397 shows the lower level to be 80' below the main level, and the upper level to be 70' above the main. A raise breaks through to the surface for good ventilation, and here the old timbers and lagging are in excellent condition, as at Excelsior.

O.K. Extension Underground workings on this lode claim consist of an adit, a stope through to surface, and a deep winze which is a natural trap for snakes that enter the mine. Timber in these workings are in good condition as well.

THE CURRENT EXPLORATION PROGRAM The exploration work currently in progress consists of a contract for 240' of underground work. It is being supervised by H.A.S. Petroleum, and may consist entirely of shaft sinking, or on the basis of results and the discretion of H.A.S., it may be changed to a drifting program. The contractor is prepared to do some contract mining if results warrant.

The cart is before the horse, so to speak, on this program however, for there has been no material surveying adequate enough to establish elevations, or to position the existing underground workings in plan view. The program is based principally on speculation that the new shaft will encounter mineable mineralization. The work is being done by a crew of three equipped with compressor, jackleg, slusher, and front-end loader.

REMAINING EXPLORATION POTENTIAL Very little modern exploration work appears to have been done on the property. A small amount of diamond drilling has been done on one claim, and a small amount of backhoe trenching has been done on another, 800' or 900' south of the former Excelsior mill, in an ineffectual effort to trace narrow veins that have been found near surface. The remaining exploration potential for relatively small tonnages of mineralization having grades in the order of that obtained by the verification sampling - 0.37 oz Au/t and 0.50 oz Ag/ton - is considered good. It is believed that there is a good chance of discovering additional mineralization both along strike and down dip of the existing veins at Excelsior, O.K., O.K. Extension, MO #1, Lillian and Roundtop. Also, as mentioned, the quartz-vein stockwork at the northwest portion of Roundtop hill, albeit exposed only over a small area, is a very intriguing geological feature which, under the circumstances should more than likely be mineralized, and if so, the mineralization here might well be amenable to mining by small open pit. H.A.S. Petroleum advises that a similar quartz-vein stockwork exists on Lillian claims, and if so, it would likewise be expected to be mineralized, and if so, to be probably mineable likewise by small open pit.



H.A.S. Petroleum

SELECTED REFERENCES

- Schrader, F.C., 1909, Mineral Deposits of the Cerbat Range, Black Mountains, and Grand Wash Cliffs, Mohave County, Arizona, U.S.G.S. Bull. 397.
- Gillespie, J.B., and Bentley, C.B., 1971, Geohydrology of Hualapai and Sacramento Valleys, Mohave County, Arizona, U.S.G.S. Water Supply Paper 1899-H.
- Bastin, E.S., 1925, Origin of Certain Rich Silver Ores near Chloride and Kingman, Arizona, U.S.G.S. Bull. 750.
- Koschmann, A.H. and Bergendahl, M.H., 1968, Principal Gold Mining Districts of the United States, U.S.G.S. Professional Paper 610, p40.
- Hill, James M., 1912, The Mining Districts of the Western United States, U.S.G.S. Bull. 507, pp54-76.
- Wilson, Eldred D., Cunningham, J.B., and Butler, G.M., 1934. Arizona Lode Gold Mines and Gold Mining, Arizona Bureau of Mines Bull. 137, p261.
- Hayes, C.W., and Lindgren, Waldemar, 1908, Contributions to Economic Geology, U.S.G.S. Bull. 340, pp 69-70.
- Wilson, Eldred D., and Moore, Richard T., 1959, Geologic Map of Mohave County, Arizona, Arizona Bureau of Mines, University of Tucson, 1:375,000.
- Lausen, Carl, 1931, Gold Veins of the Oatman and Katherine Districts, Arizona, Arizona Bureau of Mines Bull 131, p126.
- Ransome, F.C., 1923, Geology of the Oatman Gold District, Arizona, U.S.G.S. Bull. 743.
- Johnson, M.G., 1972, Placer Gold Deposits of Arizona, U.S.G.S. Bull. 1355, p103.
- Anon, 1969, Mineral and Water Resources of Arizona, Arizona Bureau of Mines Bull. 180, University of Tucson.

CERTIFICATE AND PERMISSION TO USE REPORT

Re: Lammle, C.A.R., 27Apr85, Preliminary Geological Report
Excelsior and O.K. Gold-Silver Property, Mohave County,
Arizona, report to Big Bar Gold Corporation, Ltd.,
Ashcroft, B.C., CANADA.

I, Charles A.R. Lammle, PEng, hereby certify that:

1. I am a registered professional Geological Engineer (APEBC, APEO, NSPE, USPE) residing at 2476 Skyline Drive, Salt Lake City, Utah, 84108, USA.
2. I am a graduate of the University of British Columbia, having been granted the B.A.Sc degree in Geological Engineering in 1962.
3. I have practiced my profession widely and continuously since 1962.
4. I have been a member of APEBC continuously since March, 1965.
5. I have no interest, direct nor indirect in the above named mineral property, nor in the securities of the above named company. I have not been promised any such interest. The only remuneration I expect to receive for preparing this report is the amount of my professional fee which will be normally rendered.
6. I hereby give permission to Big Bar Gold Corporation, Ltd., to use this report for its corporate purposes, particularly in connection with any pertinent prospectus, statement of material fact, or filing statement.

Charles A.R. Lammle, PEng
Salt Lake City, Utah, USA

