

Knox, Kaufman, Inc., P.O. Box 14336, Spokane, Wa. 99214; 509 924-9462

TO: Jackie E. Stephens, U.S. Borax & Chemical Corp.

FROM: Knox, Kaufman, Inc.

RE: U.S.B. Star Project Summary Report, 1984 - 1987, November 4, 1987 (refer to accompanying maps and sections)

BACKGROUND INFORMATION:

The Star property, which is situated approximately 5 miles southwest of Nelson and is centered on the ridge between Sandy and Eagle creeks, was recognized as a promising gold target during a 1982 prospecting program carried out by KK on behalf of U.S. Borax. In 1984 a group of 25 critical crown grants were optioned from Finley Co., and additional lands were subsequently acquired by option and by staking. Currently Ryan Exploration Co. Ltd., a subsidiary of U.S. Borax controls about two square miles comprising the Star Prospect.

Prior to Ryan's acquisition, a small amount of high grade gold was produced over the years from the Star and Alma N workings, and during the late 1950s, an attempt was made to mine copper-gold-silver ore from the Eureka workings. Minor exploration drilling was undertaken near the Star and Eureka workings during the 1930s, the 1950s and the 1960s. Ryan's work, consisting of geochemical surveys, geophysical surveys, trenching, and 15 angle rotary-reverse circulation drill holes, has indicated a very extensive gold anomaly, in places with associated copper and silver, underlying large portions of the Star property, within which some areas of possible ore grade potential can be recognized.

GEOLOGY:

Outcrop within the Star property and surrounding areas is very scarce to nonexistent, so that the geological picture can only be pieced together by the few bedrock exposures, scattered old workings, geophysical (particularly IP) information, and trenches and drill holes. The overburden consists chiefly of glacial clays and sands ranging from a few feet to 20 feet thick on ridge crests to 40 feet or more in places on the sidehills.

The general geological picture appears to be an unusual coincidence of "porphyry", contact, and stratabound type gold-copper-silver mineralization localized along the southern and southeastern margins of a "dioritic" stock in contact with Rosland formation volcanic-sedimentary rocks. Our IP survey indicates a strong north-northwesterly striking sulfide zone coincident with the known contact area, and extending several hundred meters easterly. South of our line zero, this broad anomaly swings to a more southeasterly direction, and extends for more than one kilometer in this direction (it probably continues further east - southeast beyond our property, but the survey was stopped at our boundary). Within some portions of the contact zone exposed by trenching along the west margin of the IP anomaly, very coarse breccia comprised of hunks of felsic volcanic rock engulfed by "diorite" was recognized. The very limited amount of trenching that reached bedrock within the vast IP anomaly away from the mapped contact zone and the few drill holes that have penetrated it have encountered mineralized volcanics, probably predominantly of dacitic composition, which are generally anomalous in gold. Most interesting, are a few small outcrops of silicified, pyritized felsic volcanoclastics exposed across strike for about 100 meters in gullies within the southeast portion of the IP anomaly, which generally assay between .015 and .05 opt gold, indicating a very thick section of what appears to be stratabound type mineralization comprising a portion of the IP response. This occurrence appears geologically similar to some of the areas in the shield thought to contain stratabound gold deposits such as Hemlo and Bousquet - Dumagami. Though some of the sulfide zones within the IP anomaly might be stratabound, it appears probable that the "diorite" might have a gentle easterly dip, and that there is a strong sulfide component of contact metasomatic origin occurring in the intruded volcanics-sediments and in the postulated subjacent intrusive. The overall picture then seems to be that of a thick, arcuate band of mineralized volcanics coming from the southeast and eventually dissipating into a dioritic intrusive which is itself mineralized. Looking easterly from the known contact, it is very likely that the volcanics are underlain by the intrusive for a considerable but unknown distance, and it is not inconceivable that the "Star" pluton might be connected at depth with the Silver King porphyry.

Along the ridge crest in the central portion of the property within the known intrusive - volcanic contact zone, where there is some outcrop and overburden is relatively shallow, three northerly

trending structures have been recognized, called the Alma N, Star, and Eureka. All of the old workings are located along these zones which probably represent areas of stronger faulting and silicification (but not necessarily higher sulfide) where grade is enhanced over widths of tens to hundreds of feet relative to the surrounding anomalous areas. Not surprisingly, all of our highest grade drill intercepts are also found within these postulated structures.

HIGHLIGHTS OF DRILLING RESULTS:

- Alma N Zone: Three holes drilled within the Alma N zone over a strike length of 300 feet corroborate the presence of high grade mineralization as was evidenced by the main dump, samples from which assayed between .25 and 2.0 opt gold. It is encouraging that some of the high grade intersected in the holes was considerably deeper than the depth of the old workings, which are thought to only extend a maximum of about 60 feet. The northernmost of the holes, #3, cut a twenty foot thickness averaging .219 opt gold from 95 to 115 feet, including a 5 foot thickness grading .517 opt, and a deeper intercept from 170 to 185 feet averaging .169 opt. The whole interval from 85 to 205 feet averages .09 opt gold. The central hole, #5, which was drilled under the main shaft, intersected a 10 foot interval from 125 to 135 feet averaging .168 opt within a broader zone from 90 to 175 feet which averaged .056 opt gold, and a 20 foot thickness from 225 to 245 feet which averaged .72 opt including the 5 foot section from 225 to 230 feet which assayed 2.76 opt. The whole uncut 155 foot interval from 90 to 245 feet would average .126 opt gold, but is heavily influenced by the one high grade intercept from 225 to 230 feet. The southerly hole, #11, intersected a 35 foot section from 80 to 115 feet which averaged .032 opt, and a 25 foot section from 295 to 320 feet which averaged .138 opt (or a 15 foot section from 295 to 310 feet which averaged .201 opt) including the interval 300 to 305 feet which assayed .495 opt. Hole #6, located about 300 feet north of #3, did not intersect any significant values directly on strike with the zone cut by #3, but the bottom 275 feet averaged .015 opt gold, and the last 5 feet ran .16 opt. There is therefore some suggestion of an en echelon zone to the north. We have no drilling south of hole #11, so we can only guess as to possible further southerly extent.

Geologically, the Alma N zone appears to be controlled by silicification along faults cutting rhyolitic to dacitic volcanics intruded by quartz diorite. It is possible that some of the rock

identified as rhyolite may be intrusive. The mineralized zones appear to be comprised of disseminated pyrite, minor chalcopyrite, specular hematite, and unidentifiable gray metallics, estimated to total from a few percent to + 5% of the rock by volume. The most consistent zones of possible bulk tonnage type mineralization so far seen in this area occur in the intruded volcanics, while the quartz diorite contains significant values in places and in other places is quite barren. It is possible, therefore, that significant bulk tonnage values might extend westward from the intersections in holes #3 and 5 where the volcanics might extend further west (see cross sections). As far as narrower high grade zones, they very likely could extend to depth in the intrusive, as they do in the Rosland camp.

- STAR ZONE: What we call the Star zone is a mineralized area in the vicinity of the old Star workings located about .65 kilometer northwest of the Alma N shaft. As we have only penetrated this zone with holes # 8 and 10, we have little knowledge of it's extent. Based upon old records, a small amount of copper-gold ore running .6 opt gold was mined at 60 foot depth from a stope off the Star shaft. Geologically this area is somewhat different from the Alma N in that it is predominantly underlain by quartz diorite (though often contaminated with hunks of volcanic rock), sulfide content is generally quite low, and copper content is generally higher.

Referring to the section showing both holes #8 and 10, it is possible to visualize a true width of 300 feet which could average about .03 opt gold. The best intersection in the Star zone was from 45 to 150 feet in hole #10 which averaged .048 opt gold, .33% copper, and .13 opt silver (including the interval from 95 to 125 feet which averaged .093 opt gold, .68% copper, and .22 opt silver. We did cut one narrow high grade section in hole #8 (.315 opt gold from 375 to 380 feet). Near surface, the mineralized sections show scant evidence of sulfides. Iron oxide is generally present, occasionally, minor green oxide copper is evident, and fine specs of gray can be seen, which might be chalcocite. Even at depth sulfides are generally not abundant, and iron oxide is sporadically present. The apparent control is multidirectional fracturing.

Our geochemical survey suggests that the Star zone might extend for considerable distances from the old workings, particularly to the northwest. If so, it is possible that considerable tonnages of low grade oxide material grading in the .03 to .055 opt gold range could be developed, but it is not certain whether

accompanying copper might be an asset or a liability.

-EUREKA ZONE: Our knowledge of this mineralized area is limited to some old workings plans and study of the dumps. During the 1950s an attempt was made to develop a copper-silver-gold deposit localized in irregular fault zones within a large area of fracture controlled lower grade mineralization hosted chiefly in quartz diorite. The dumps contain marbleized limestone and minor volcanic rock as well as abundant quartz diorite, but it is not possible to determine the true nature of the included material. All rock types are well mineralized with pyrite and chalcopyrite, and minor galena is present along with rare fracture coatings of molybdenite, chiefly in the intrusive.

A compilation of over 200 samples shown on an old stope map and level plan averages 2% copper, 3.96 opt silver, and .057 opt gold, indicating that there might be interesting potential on strike and at depth. We have thus far made no attempt to drill under the old workings, but our hole #13 located about 350 meters to the south did pick up what is probably an extension of the Eureka zone near it's bottom, the last 65 feet of the hole from 330 to 395 feet averaging .0278 opt gold, 5.45 ppm silver, and .165 copper. It should be noted that this hole was subject to extremely heavy water flow causing a severe loss of fines, and that assays of fines from this same interval were .042 opt gold, 9.2 ppm silver, and .28% copper, including the last 5 feet which assayed .18 opt gold, 51 ppm silver, and .33% copper.

ADVANTAGES AND DISADVANTAGES OF ROTARY DRILLING:

All of our drilling to date has been rotary reverse circulation. It is inexpensive (\$9.50 per foot), and provides an excellent sample as long as heavy water flows are not encountered. However, once heavy water flows are prevalent, penetration becomes difficult if not impossible, and a sampling problem develops with excessive loss of fines (as is well exemplified by our discussion of hole #13 above).

Upon becoming aware of the severity of the fines loss problem, I instigated a rough procedure where we caught our water overflow in large buckets, and sampled the fines collecting at the bottom. This procedure is far from perfect, as we were only collecting a portion of the fines (water flows can be many hundreds of gallons per 5 foot run), but it does give us some handle on the

situation. It can be stated that under severe water flows the total amount of fines lost can easily equal or even exceed the amount of normal sample collected, and on the average, assays of the fines compared to the normal sample are 52% higher.

Considering this problem, and looking back at our drilling to date, it appears probable that all drill intercepts below 200 feet where we have no comparison fine samples might be higher than indicated, including the significant, deep intercepts in the Alma N zone.

Despite the problems created by heavy water flows, I would still suggest using the rotary because of its low cost, particularly for reconnaissance drilling, but a simple fines sampling procedure should be set up for all future rotary holes. By doing this I believe that a high and low assay parameter can be established for each assay run. However, some core drilling will be suggested as a follow-up procedure in areas of interest, to test areas inaccessible to the rotary equipment, and to test targets deeper than the rotary can penetrate. It will be imperative, though, that an effective sludge collection system be a part of any core drilling program.

UNTESTED POTENTIAL AND SUGGESTED FURTHER EXPLORATION:

Geologically, I would liken the Star prospect area to a Bousquet - Dumagami shield type occurrence superimposed on a Cordilleran porphyry- contact environment. There appears to be potential for structurally enhanced high grade zones as well as bulk tonnage discoveries in both environments. If exploration were successful here, and I think there is a very good chance that it will be, I would expect ultimately, some combination of open pit and underground production.

Drilling results on the Alma N, Star, and Eureka mineralized zones are sufficiently encouraging to warrant follow-up. Fill in, extension, and deep drilling will be required to adequately test the Alma N zone, and reconnaissance drilling will be required to explore the Star and Eureka areas.

The vast area of anomalous IP response occupying the largely overburden covered valley of Sandy Creek east and southeast of the above mentioned known mineralized zones remains a huge, largely untested target. The thick section of mineralized volcanoclastics exposed within the southeastern portion of the response area is in itself a promising target as is it's postulated

projection northwesterly under the overburden. Also to be considered in this area is the possibility of significant blind contact mineralization at depth, keeping in mind that our best results to date have been found within one hundred feet or so above and below the intrusive-volcanic contact. Because of deep overburden covering most of the anomaly, and based on our geological knowledge (better gold values in places seem to be controlled by unpredictable assay boundaries within very large anomalous areas), it appears that in the end, this large IP indicated sulfide zone can only be dealt with by extensive, systematic drilling.

Initially, a continuation of our angle rotary drilling program is suggested, but vertical holes will be necessary to follow up in areas thought to have bulk tonnage potential, and core drilling will undoubtedly be required to test certain targets such as deep under the Alma N, and the mineralized volcanoclastic section comprising the southeastern portion of our large IP anomaly. A list of some suggested drill sites is attached. At a very minimum, at least \$250,000(CDN) will be required to carry out further drilling, and it is likely that more than \$400,000 will be justified.

M. A. Kaufman

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Nov. 4, 1987

KNOX, KAUFMAN, INC.

MINERAL EXPLORATION MANAGEMENT
GEOLOGICAL CONSULTING

SPOKANE, WASHINGTON

P O BOX 1416
TELEPHONE 467-1100

September 8, 1987

TO: Mr. Daniel R. Finley, President
Robertson-Finley Operating Co.

FROM: Knox, Kaufman, Inc.

RE: Star Prospect - some suggested drill sites

Follow-up of Previous Drilling

ALMA N Zone

One deep hole under S-5	30N, 77.3E -45° to W or 30N, 83.3W -45° to E
One hole to south of S-11	80S, 30E -45° to W
One hole between S-3 and S-6	100N, 10E -45° to W
One hole west of S-6	150N, 70W - 45° to W

STAR Zone

One hole	575N, 450W -45° to E
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EUDEKA Zone

One hole east of S-13	600N, 275W -45° to E
One hole north of S-13	800N, 325W -45° to E

OTHER TARGETS

Geochem Anomaly Line 750N, 650W to 550W	
One hole	750N, 675W -45° to E

IP and Geochem Anomaly Line 600 N, 50E to 150E	
One hole	600N, 150E -45° to W

Strong IP response along Sandy Creek

One hole	0, 310E -45° to W
One hole (site already in)	0, 310E -45° to E
One hole	0, 400E -45° to E
One hole	200N, 350E -45° to E
One hole	200N, 350E -45° to W
One hole	200S, 500E -45° to E
One hole	200S, 500E -45° to W
One hole	400S, 700E -45° to W
One hole	400S, 700E -45° to E

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Additional Targets

The interesting combination of silicified-pyritized felsic volcanic-clastics and anomalous geochem and geophysics seen between lines 600S and 800S, east of 900E is an attractive drill target, which should be attacked as soon as claim boundaries could be clearly established.

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1000, 310E - 45° to W	One hole
1000, 310E - 45° to E	One hole
1000, 400E - 45° to E	One hole
1000, 350E - 45° to E	One hole
1000, 350E - 45° to W	One hole
1000, 300E - 45° to E	One hole
1000, 300E - 45° to W	One hole
1000, 200E - 45° to W	One hole
1000, 150E - 45° to E	One hole
1000, 150E - 45° to W	One hole
1000, 100E - 45° to E	One hole
1000, 100E - 45° to W	One hole
1000, 50E - 45° to E	One hole
1000, 50E - 45° to W	One hole
1000, 0E - 45° to E	One hole
1000, 0E - 45° to W	One hole
1000, 310E - 45° to W	One hole
1000, 310E - 45° to E	One hole
1000, 400E - 45° to E	One hole
1000, 350E - 45° to E	One hole
1000, 350E - 45° to W	One hole
1000, 300E - 45° to E	One hole
1000, 300E - 45° to W	One hole
1000, 200E - 45° to W	One hole
1000, 150E - 45° to E	One hole
1000, 150E - 45° to W	One hole
1000, 100E - 45° to E	One hole
1000, 100E - 45° to W	One hole
1000, 50E - 45° to E	One hole
1000, 50E - 45° to W	One hole
1000, 0E - 45° to E	One hole
1000, 0E - 45° to W	One hole