

CARGET: Delineate reserves to extend sine-life.
cAPSULE SUMMARY OF PROGRAM:
!и!
Silver bearing veins, striking NE-SN or E-H, occupy a northeasterly structural zone of a large body of Cretaceous quartz diorite. The quartz veins vary froe a few inches to 6 ft . in width and average 11 inches. Lean and rich zones alternate. Severe faulting offsets occur. Defining ore reserves is difficult and costly.

An area of gold mineralization has been encountered on the 2900 level. Due to falling silver prices, an effort will be concentrated in this area to define, by drilling $\&$ drifting, a mineable reserve of gold bearing material.

## REPORTED PROGRESS WITH PROGRAM TO DATE:

## *\&

OCT: Surface: 10 holes completed on Bell claim with encouraging results in 2 areas. Best intersections were $\mathrm{Ag} 100.0302 / t$, $\mathrm{Au} .0802 / \mathrm{t}$ over 3.0 ' and $\mathrm{Ag} 125.7902 / \mathrm{t}$, Au. $0502 / \mathrm{t}$ over 1.0'. Underground: Intersections to North in general area of old stope $\$ 2912$ have returned values up to $\mathrm{Ag} 160.77 \mathrm{0z} / \mathrm{t}$, $\mathrm{Au}, 09 \mathrm{oz} / \mathrm{t}$ over 3.4'. Further drilling will be done.
NOV: 2 holes completed prior to freeze-up to attempt to extend good ore intersections in area of North Gulch pit, located in Oct drilling. Zone located with best intersection being Ag 11.29, Au $0.0302 / t$ over 1.5'. Surface drilling stopped. 2900 level drilling continued to trace ore zone to E approx. 60' below 2900 level. From limited D.D. intersections and exposures in drifts appears ore zone has changed strike to atleast $E-N$ and
 beyond last area mined with cost distant intersection assaying Ag 22.76, Au . 06 02/t over 2.7 ' in D.D. hale F2918.
DEC: Drilling from 2911 drift in area of 2912 stope located extensions to ore zone previously dined with best intersection assaying Ag 3.66, Au. $1402 / t$ over 0.6 ' Holes to North to explore for up dip or faulted extensions to 2912 stope ore have located stringers assaying up to Ag 1.93, Au $0.42 \mathrm{oz} / \mathrm{t}$ over 0.5 ' to 1.5'.
JAN: Lower Mines - 2900 Level: 2 drills operated all month with good success in locating gold rich extensions to previously located ore and in extending the ore bearing structure to $E .3$ best intersections were Ag 7.27, Au 1.0902/t over 0.3', Ag 38.86, Au 1.54 02/t over 1.5', Ag 62.32, Au $0.1402 / t$ over 3.7'. Recent gold assays are highest ever encountered at aline. Upper Mine - New Beaver: Large number of important intersections located in drilling froe New Beaver 03 crosscut. 2 of the best were Ag 114.57, Au . $0502 / \mathrm{t}$ over 1.0', and Ag 175.41, Au 0.07 oz /t over 0.6 '. Good results achieved in January go a long way towards developing tonnage necessary to justify 2800 level development. :
proportion of fame funding to total project cost: proportion of total "ames' funds on this project:
13.33\%1

FORECAST VS ACTUAL PROJECT EXPENDITURES:


## FAME Property Report Notes

ME - Teck Corporation - Beavardell Mine
Uisit with W.R. Smuth, Wednesciay, January 7, 1987.
Bruno Goetting - Mine Manager
Wayne Murton - Contract gealogist hired to run the FAME sponsored exploration program.
Peter Urban - Assistant

## Genaral Oparation

- 35 people on the payroll: - B mill
- 5 surface
- 6 staff
-15 undergraund
- 115 tpd milling continuaus
- 70 tpd mining (Monday - Friday, one shift)
- Balance of mill feed ( $30 \%-50 \%$ ) coming from old dumps from (pre-1950) operations when ore was hand cobbed and sent to Irail. Flotation mill built in 1950.

First dump through the mid (1960) ran $60 \mathrm{oz} / \mathrm{t}$ Ag. Now averaging around $10 \mathrm{oz/t}$ Ag. Gurrent overall average for dumps remaining is 5 az/t Ag. have $30,000-40,000$ tons of this material remaining. Only get $80 \%$ recovery due to oxidation problems compared with $90 \%$ recovery on fresh underground ore. Gold content of the concentrate sent to Trail has increased from $0.20 \mathrm{oz} / \mathrm{t}-0.25 \mathrm{oz/t}$ to 0.46 oz/t-0.4B oz/t due to mining ore from lower levels which have a higher gold content.

- Old fill in shrinkage stopes runs around $10 \mathrm{gz/t}$ Ag and is being mined.
- Tailings: 200,000 tons containing around $5 \mathrm{az} / \mathrm{t}$ Ag. Bob Seraphin wants to make a deal on these to heap leach them at the lon Mine. A feasibility study carried out when silver prices were around CDN \$15/oz indicated a 1.5 year payback followed by 2.5 to 3 years profit. Represented a s3 million investment, construction of plant commenced ...then was cancelled when silver prices dropped.
- Silver Production: around 1,000 ounces/day.
- Fower costs: $\$ 5.000 /$ month usually
\$7.500 currently due to increased use of compressors on FAME expioration.
- Union Operation: Agreement expired in April 1985. Not yet renegotiated.
- Profitabilities: Has been losing money for the last 2 years. Need at least CDN \$10/oz to break even.
- Mining Method: Dpen stoping; don't need to backfill.
- Mining Costs: s40/ton
- Milling Costs: S1B-20/ton
- Total Costs: araund $\mathfrak{s} 60 /$ ton.
- Production Rate: 1950-86 average of 80 tpd
- Milling: 80-95\% recovery for Ag depending on axidation level of silver feed. Silver partitioning 1:5 between zinc and lead concentrates.

Zinc con. - runs at 50\%-56\% (minimum acceptable to Cominco is 40\%); $100 \mathrm{oz} / \mathrm{t}$ Ag.

Lead con. - $18 \%-20 \% \mathrm{~Pb}, 500 \mathrm{oz} / \mathrm{t}$ - $500 \mathrm{oz} / \mathrm{t}$ Ag and $0.45 \mathrm{oz} / \mathrm{t} \mathrm{Au}$.

Jig con. - $500 \mathrm{az} / t-600 \mathrm{az} / \mathrm{t}$ Ag and $0.45 \mathrm{az} / \mathrm{t} \mathrm{Au}$.

## Geology

- Good compilation papers exist by Colin Godwin and Pat Watson. UBC field notes by Marie Archambault also useful.

Very useful compiled glass models (at 1 ": 100 ft scale) showing stopes, drifts, raises and ore zones have been prepared both as sections and level plans. Give great food for thought and arm waving.

- Iwo major faults the 'East and West Terminal Faults' downthrow the vein system in 300 ft to 700 ft steps to the west dividing the mine into 3 main areas: the 'Bell', 'Lass' and 'Lower'.
- Many subsidiary faults are clear on the sections, a common factor appears to be that east dipping faults downthrow to the east and west dipping faults downthrow to the west, producing graben and horst type structures. East dipping faults, in general, have larger throws than the west dipping ones.
- The vein system as a whoie parallels and slightly transgresses the Gramodiorite-wallace Formation contact. Most of the ore deveioped to date has been within the granodiorite.
- Although the overall system parallels the wallace Formation contact individual ore shoots are quite steeply inclined to this overall trend. They give the impression of occupying an-echelon structures developed as the result of a shear couple sub-parallel to the wallace Formation contact.
- As the mineralized zone transgresses from the granodionite host into the Wallace Formation fundamental chemical changes appear, gold values increase, together with lead and zinc whereas silver values decrease.


## Bottom Line on FAME

Has been a success in finding new ore, some of which has been mined and processed already. Company has confirmed that the lifetime has been extended as a result of the FAME program. Because only 8\% refunds are available for drifting they have concentrated on drilling. This is not necessarily the optimum exploration technique to use in this type of mine.

Ref．No：M1 Date：01／26／88
Company Name：Teck Corporation
Project Name：Beaverdell
Location：$\quad 100 \mathrm{~km} \mathrm{~S}$ of Kelowna

Contact：B．Goetting
Title：Mine Manager
Phone：（604）484－5510

Previous Budget：\＄75，000，000 Current Budget：$\$$ 607，250 Grant：$\$ 110,000$

Location：


FAME Grant Issued
in 1986／87？：Yes
Amount of Previous
Grant：200，000
Agreement Returned：Yes

Capsule Summary of Project： Delineate reserves to extend aine life．

District Geologist：R．Meyers
NTS Reference：82E6E
Commodity Sought：AG
Visited By：
Proportion of FAME Funding to Total Budget：18．11\％
Proportion of Total MEIP Funds on Project：7．75\％


1987／88 Program：
6500 anderground dianond drilling in loner and upper nines， 2700 surface dianond drilling，surface stripping，trenching， 150 』 drift and crosscuts．

## Comments：

磁 qill visit in the fall．

## Progress：

JoHB：Surface：Prepared drill sites and condacted a linited anount of stripping on the Highland Praction and Sally clain．Surface dianond drilling： 2 holes on Revenge clain belon old rorkings failed to intersect a zone of interest．Onderground Dianond Drilling： Drilling belon 2900 level to attenpt to trace the dorn dip continuation of the ore zone located lor grade（ $508 /$ ton dg ）sections． JOLY：Surface：Stripping and trenching of potential sineralized areas nas conducted on the Revenge，Idaho，Lass and Highlander Pr． clains．Dianond Drilling：Pour holes on the Snitchback vein indicated a continuation of the sineral zone to the east nith the best intersection $1.5^{\circ}$ of $2402 /$ ton Ag and $0.0603 /$ ton An ．Drilling in 2901 drift has located good looking hanging nall stringers nith assays anaited．
AVGOSf：frenching ras conducted on a sineralized zone in the Mallace on the Lass clain near the Highland Chief boundary（Rast Lass）．

The area required a short access trail. In the lonar nine on 2900 L , drilling in 2901 drift and 2905 drift has located nineable ore above the level. The best latersection nas $123.94 \mathrm{Ag}, 0.04 \mathrm{Ao} / 5.5^{\circ}$. In the Ponder Ponael $4160^{\circ}$ eleration, tro good ore intersections uere cat, nith the best, assayias $152.49 \mathrm{As}, 0.01 \mathrm{Au} / 2.0^{\circ}$.
SPPf: Stripping on the Bell clain and Pueblo fraction revealed indications of sineralization that require sore nort. Pro drill pads nere cleared on the Pueblo and Rob Roy clains. In the loner nine, drilling in 2901 drift attenpted to locate hanging nall stringers and a dopn dip continuation of the nain ore sone nith only linited success.
OCF: $1100^{\circ}$ cut nas put in on the Rob Roy clain to the Sh fron ore indications found at 1600 \& \& 1300 B . The nen rein is exposed over a surface length of $750^{\circ}$ disappears to the $\mathbb{N B}$ under an old nine dunp. October footage $3,088^{\circ}$, Pabis PO DAFB $11,084^{\circ}$. Phree holes put in under the nineralization discussed above cut 3 good ore intersections of $4408 /$ ton Ag over $3.0^{\circ}, 172$ oz/ton as over $2.0^{\circ} 108$ $08 /$ ton $A g$ over 1.5 . This area aill be ained fron surface anderground in 1988 . Drilling in the "Opper line fron the Ponder Ponnel $\& 7$ level has cut a nuaber of good grade intersections ahich should provide ore over the next several nonths.
N07: Pro achines operated all month. In the upper sine, $1,260^{\circ}$ nere drilled and tro ore grade intersections nere located. Phe best
 intersection assayed Ag 28.67 03/ton, Au 0.28 0z/ton over 2.2.
DBC: Pro underground achines operated all wonth, one in the lower sine and one in the upper sine.
In the loner aine ( 2900 level), $1,036^{\prime}$ were drilled nith several ore grade intersections cut. The best ran $51.3402 /$ ton $\mathrm{dg}, 0.26$ 03/ton Au over 4.5.
In the upper nine, $1,206^{\circ}$ rere drilled nith several ore grade intersections cut. The best ran $209.4008 /$ ton $\mathrm{Ag}, 0.0408 /$ ton Au over $5.0^{\circ}$.

## FAME TRAM－MONTHLY REPORT FO．

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Ref．No：E23 Date：01／13／88

Company Name：IGF Metals Inc．
Project Name：Beaverdell
Location：SE of Beaverdell

Contact：L．J．Manning
Title：President
Phone：（604）688－4557

Previous Budget：\＄2，659，378
Location：


FAME Grant Issued
in 1986／87？：No
Amount of Previous Grant：

N／A
Agreement
Returned：Yes

Capsule Summary of Project： Idjacent to feck property at Beaverdell．

Current Budget：$\$ 308,000$ Grant：$\$ 30,000$
District Geologist：R．Meyers
NTS Reference：82E6E
Commodity Sought：AG
Visited By：
Proportion of FAME Funding to Total Budget：9．74\％
Proportion of Total MEIP Funds on Project：0．98\％


1987／88 Program：
Survey and drill to delineate reserves．
Comments：
RIK nill visit in fall qhen visiting neighbouring feck operation．
Progress：
STPP：Iorth－South grid lines spaced at 100 nere blazed and flagged over nost of the 30 clair group doring lay and Jone．Soil sanples
rere taken at 25 intervals on alteraate lines，and analysed for gold，silver，and arsenic．All previons reports rere studies．Host of the reported old portings nere recorered in the field and plotted on the grid nap，and rock chip sanpling of obvious reing and shonings nas conpleted．Areas of interest rere noted，and it ras decided to extend all lines over previonsly ongrided clains and conplete soil sanpling of all lines at the 25 neter interval flags．Air photo nosaic negatives rere made on the sane scale so that probable sranp anonalies etc could be properly graded．
DIC：fle results of three holes are described as follons：－DDAs 87－1 ．．．Mo values，stroas fanlt zone．DDIS 87－2 ．．．Intercept feet 50．5－35．0，Peet of core leagth 2．5，Peet of Irue lidth 1．06，An ．03，ag 71．94，Silver assayxtrue nidth＝76，Good rein．DDII $87-3 \ldots$ Intercept Peet 40．5－44．5，Peet of Core Leagth 4．0，Peet of frue Midth 1．69，40．02，As 39．32，Silver Assayxtrue Midth＝66，Good vide
voin.
Doser treaching, apping and sampling of sereral of the amomilies comenced nith 2 anonalies being olininatod and one fond to be the continuity of a hoon deposit on lect sronnd. Several other specinens of rein raterial vith econonic potential nere also fond. additional detailed geochenistry is reconnended on sone areas.

EA PROGRAM - MONTHLY REPORT RM

Ref. No: M1
Company Name: Teck Corporation
Project Name: Beaverdell
Location: $\quad 100 \mathrm{~km}$ S of Relowna
Date: 02/25/88

Previous Budget:\$75,000,000
Current Budget: $\$ 607,250$ Grant: $\$ 110,000$

Location:



FAME Grant Issued
in 1986/87?: Yes
Amount of Previous
Grant: 200,000
Agreement Returned: Yes

Capsule Summary of Project: Delineate reserves to extend nine life.

District Geologist: R. Meyers
NTS Reference: 82E6E
Commodity Sought:
AG
Visited By:
Proportion of FAME Funding to Total Budget: 18.11\% Proportion of Total MEIP Funds on Project: 7.75\%


1987/88 Program:
6500 anderground dianoad drilling in loner and apper nines, 2700 isarface dianond drilling, sarface stripping, treaching, 150 a drift and crosscate.

Comments:
RBL Rill risit in the fall.
Progress:
Jous: Sarface: Prepared drill sites and conducted a linited anount of stripping on the \#ighland Praction and Sally clain. Sarface dianond drilling: 2 boles on Revenge clain belon old morkings failed to intersect a zone of interest. Ondergronad Dianond Drilling: Drilling belon 2900 level to attenpt to trace the donn dip continuation of the ore zone located lor grade ( $508 / \mathrm{ton} \mathrm{Ag}$ ) sections. JoLY: Sarface: Stripping and trenching of potential nineralized areas mas conducted on the Revenge, Idaho, hass and fighlander Pr. clains. Dianond Drilling: Pour boles on the Snitciback rein indicated a continuation of the sineral zone to the east rith the best intersection $1.5^{\circ}$ of $2408 /$ ton Ag and 0.06 08/ton Aa. Drilling in 2901 drift has located good looting hanging aall stringers nith assays anaited.
AOCOSf: Irenching ras condacted on a nineralized zone in the Hallace on the Lass clain near the Iighland Chief boundary (Bast Lass).

The area required a short access trail. In the loner nine on 2900 L , drilling in 2901 drift and 2905 drift has located nineable ore above the level. Phe best intersection pas $123.94 \mathrm{Ag}, 0.04 \mathrm{da} / 5.5^{\circ}$. In the Ponder Yunael $\mathbb{e} 4160^{\circ}$ eleration, tro good ore intersections nere cat, rith the best, assaying $152.19 \mathrm{Ag}, 0.0140 / 2.0^{\circ}$.
SEPP: Stripping on the Bell clais and Pueblo fraction revealed indications of nineralization that require aore nort. fino drill pads nere cleared on the Pueblo and Rob Roy clains. In the loner aine, drilling in 2901 drift attenpted to locate hanging rall stringers and a down dip continuation of the adin ore zone gith only lisited success.
OCf: $\triangle 100^{\circ}$ cut nas put in on the Rob Roy clain to the SH from ore indications found at 1600 F \& 13008 . The nen rein is exposed over a surface length of $750^{\circ}$ disappears to the $\mathbb{R}$ under an old nine duap. October footage $3,088^{\circ}$, PA4B PO DAFB $11,084^{\circ}$. Fibree holes pot in under the sineralisation discussed above cut 3 good ore intersections of $4408 /$ ton Ag over $3.0^{\circ}, 17208 /$ ton Ag over $2.0^{\circ}$ a 108 $08 /$ ton Ag over $1.5^{\circ}$. Phis area aill be sined fron surface $\&$ underground in 1988. Drilling in the "Opper Hine fron the Ponder funael \& 7 level has cut a nunber of good grade intersections nhich should provide ore over the next several months.
MOF: Pro nachines operated all month. In the upper nine, $1,260^{\circ}$ were drilled and tro ore grade intersections nere located. Phe best one assajed $\mathrm{AB} 60.11 \mathrm{oz} / \mathrm{ton} \mathrm{An} 0.07 \mathrm{oz} /$ ton over $2.5^{\circ}$. In the loner nine ( 2900 level) a total of $984^{\circ}$ nere drilled. The best intersection assajed Ag $28.67 \mathrm{0z} / \mathrm{ton}$, Au 0.28 oz/ton over $2.2^{\circ}$.
DBC: Tro underground nachines operated all month, one in the lower yine and one in the apper nine. In the loner nine ( 2900 level), $1,036^{\prime}$ nere drilled vith several ore grade intersections cat. The best ran $51.3408 /$ ton $\mathrm{Ag}, 0.26$ $08 /$ ton lu over $4.5^{\circ}$.
In the upper aine, $1,206^{\circ}$ nere drilled pith several ore grade intersections cat. Phe best ran $209.40 \mathrm{oz} / \mathrm{ton} \mathrm{Ag}, 0.0408 /$ ton An over $5.0^{\circ}$.
Jall: One underground achine operated all nonth in both the loner and upper sines. Intersections of interest cane from the lower nine where the best intercept ran $\mathrm{Ag} 22.32 \mathrm{oz} / \mathrm{ton}$, Au $0.06 \mathrm{oz} /$ ton over $3.3^{\circ}$.
PBB: One underground dianond drill nill operate all nonth.

Ref．No：M1
Company Name：Teck Corporation
Project Name：Beaverdell
Location：$\quad 100 \mathrm{~km}$ S of Kelowna

Date： $12 / 15 / 87$
Contact：B．Goetting
Title：Mine Manager
Phone：（604）484－5510

Previous Eudget：$\$ 75,000,000$ Current Budget：$\$$ \＆ 607,250 Grant：$\$ 110,000$


| Iistriot Geologist： | R Meyers |
| :--- | :--- |
| NTS Referenos： | 82 E 6 E |
| Commodity Sought： | AG |

Visited By：
Proportion of FAME Funding to Total Budget：18．11\％ Proportion of Total MEIP Funds on Project：7．75\％

| Forecast vs Actual Project Expenditures： |  |  |  |
| :---: | :---: | :---: | :---: |
| MONTH | $\begin{gathered} \text { FORECAST } \\ \$ \end{gathered}$ | $\begin{gathered} \text { ACTUAL } \\ \$ \end{gathered}$ | $\begin{gathered} \text { VARIANCE } \\ \$ \\ \$ \end{gathered}$ |
| April 87 | 0 | 0 |  |
| May 87 | 0 | 0 |  |
| June 87 | 25，000 | 22，000 | （ 3，000 |
| July 87 | 40，000 | 39，000 | （ 1，000 |
| Aug 87 | 55，000 | 48，000 | （ 7，000 |
| Sept 87 | 55，000 | 46，000 | （ 9，000 |
| Oct 87 | 45，000 | 50，000 | 5，000 |
| Nov 87 | 40，000 | 43，000 | 3,000 |
| Dec 87 | 25，000 | 0 |  |
| Jan 88 | 25,000 | 0 |  |
| Feb 88 | 20，000 | 0 |  |
| March 88 | 0 | 0 |  |
| TOTAL： | 330，000 | 248，000 |  |
| Budgeted | ds Remaini | 82，000 |  |

Capsule Summary of Project： Delineate reserves to extend wine life．

1987／88 Program：
6500 underground diamond drilling in loker and upper wines， 2700 surface dianond drilling，surface stripping，trenching， 150 a drift and crosscuts．

Comments：
RBM will visit in the fall．
Progress：
JONB：Surface：Prepared drill sites and conducted a livited anount of stripping on the Highland Praction and Sally clain．Surface dianond drilling： 2 holes on Revenge clain belon old norkings failed to intersect a zone of interest．Onderground Dianond Drilling： Drilling belor 2900 level to attenpt to trace the donn dip continuation of the ore zone located $10 \mathrm{ngrade}(502 / \mathrm{ton} \mathrm{Ag}$ ）sections． JOLP：Surface：Stripping and trenching of potential nineralized areas mas conducted on the Revenge，Idaho，Lass and Bighlander Pr． clains．Dianond Drilling：Pour holes on the Sritchback vein indicated a continuation of the nineral zone to the east nith the best intersection $1.5^{\circ}$ of $2402 /$ ton Ag and $0.0602 /$ ton Au．Drilling in 2901 drift has located good looking hanging rall stringers rith assays awaited．
AOGOSF：Frenching ras conducted on a mineralized zone in the Hallace on the Lass claim near the Highland Chief boundary（Bast Lass）．
The area required a short access trail．In the loner nine on 2900 L ，drilling in 2901 drift and 2905 drift has located sineable ore above the level．The best intersection aas $123.94 \mathrm{Ag}, 0.04 \mathrm{Au} / 5^{\circ} .5^{\circ}$ ．In the Ponder Funnel $4160^{\circ}$ elevation，tro good ore intersections nere cut，with the best，assaying $152.49 \mathrm{Ag}, 0.01 \mathrm{Au} / 2.0^{\circ}$ ．
SBPF：Stripping on the Bell clain and Pueblo fraction revealed indications of nineralization that require nore nork．Fro drill pads mere cleared on the Pueblo and Rob Roy clains．In the loner nine，drilling in 2901 drift attenpted to locate hanging nall stringers and a dosn dip continuation of the main ore zone with only linited success．
OCT：\＆ $100^{\circ}$ cut ras put in on the Rob Roy clain to the $S K$ from ore indications found at 1600 N \＆ 1300 ．The ner vein is exposed over a surface length of $750^{\circ}$ \＆disappears to the $N \mathbb{E}$ under an old nine dunp．October footage $3,088^{\circ}$ ，PAMR TO DATB $11,084^{\circ}$ ．Three holes put in under the vis：zalization discussed above cut 3 good ore intersections of $4402 /$ ton Ag over $3.0^{\circ}, 17202 /$ ton Ag over $2.0^{\prime} \& 108$
$02 /$ ton $A g$ over 1.5 ．This area nill be nined fron surface \＆underground in 1988．Drilling in the＂Opper Mine＂fron the Ponder Tunns：
$\& 7$ level has cu：a number of good grade intersections ahich should provide ore over the next several nonths．
NOV：Two machines operated all month．In the upper nine， $1,260^{\prime}$ nere drilled and tro ore grade intersections were located．The bes：

intersection ass：jed $A g 28.6702 /$ ton，Au $0.2802 /$ ton over $2.2^{\prime}$

