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PRINTED: 07-28-2010

#### ARIZONA DEPARTMENT OF MINES AND MINERAL RESOURCES AZMILS DATA

PRIMARY NAME: WATERS AND SUNSET PATENTED

**ALTERNATE NAMES:** 

**BLUE CHIP GROUP** 

YAVAPAI COUNTY MILS NUMBER: 16

LOCATION: TOWNSHIP 12 N RANGE 9 W SECTION 29 QUARTER N2 LATITUDE: N 34DEG 21MIN 30SEC LONGITUDE: W 113DEG 12MIN 55SEC

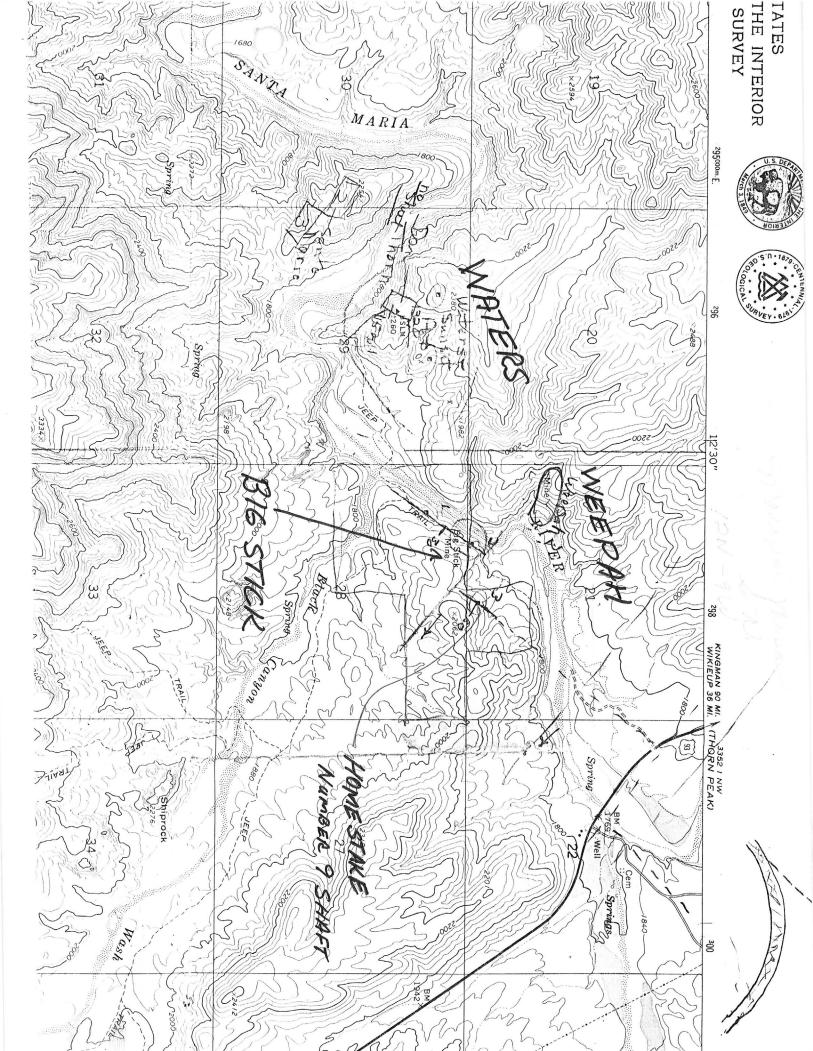
TOPO MAP NAME: MALPAIS MESA SW - 7.5 MIN

**CURRENT STATUS: PAST PRODUCER** 

COMMODITY: GOLD

**BIBLIOGRAPHY:** 

USGS MALPAIS MESA SW QUAD BLM MINING DISTRICT SHEET ADMMR WATERS AND SUNSET PATENTED FILE



Yavapai Co.

Terramar Resources reports that a geological mapping and sampling program has commenced on the  $\underline{\text{Waters-Sunset}}$  propert near Wickenburg, AZ under the direction of Sawyer Consultants Inc.

Gavin Cooper, Terramar Vice-President, said that bulldozer trencing of vein extensions is planned was well as rehabilitation of old underground workings to enable further channel sampling of vein structures.

From: APSMOA Newsletter, Sept. 1985

ARIZONA DEPT. OF MINES & MINERAL RESOURCES
STATE OFFICE BUILDING
416 W. CONGRESS, ROOM 161
TUCSON, ARIZONA 85701

DEC 18 1986

The Mining Records
12/17/86

Weekly Metal Prices

AVERAGE WEEKLY CLOSING PRICE

E+M5 Aug, 1985

## YAVAPAI COUNTY

WATERS MINE

NJN WR 8/1/86: Richard Reldo with TRC Resources Inc, P O Box 191, Summit City, C-lifornia 96089, (916) 275-4881, visited and reported that he will be doing assessment work consisting of geochemical sampling for Terramar Resources (c) at the Waters Mine (file) Yavapai County.

WATERS YAVAPAI COUNTY

RRB WR 9/25/81: Dave Laxton and Ted Wilmer were in looking up information on the Santa Maria River area. Looked at the Norma, Big Stick, Oro Buena, Turnbeaugh and Waters properties.

KAP WR 3/5/82: Tom Parma, 10011 Trailpine Dr., Dallas, Texas 75238, phone (204) 348-3919 reported he is contemplating a cyanide heap leaching operation at the Waters Mine at the North side of the Santa Maria River, Eureka District Yavapai county.

NJN WR 3/19/82: Tom Parma of Texas called. He was representing his and another investor's interest in the Waters and Sunset claims, Yavapai County located by the Santa Maria River. He reported having 21,000 tons of proven ore reserves grading .23oz.Au/ton. He has questions about mining and cyanide heap leaching operations in Arizona. Specifically he wanted to know why there were so many failures and what successful operations he could visit.

RRB WR 8/5/83: Bobby Westbrook, P.O. Box 20370, Wickenburg checking files on Golcanda and Gold Spot in Maricopa County. He reports that he sold the Waters-Sunset property to Terramar.

NJN WR 7/15/83: Bob Westbrook, P.O. Box 20370, Wickenburg, Arizona 85358, visited and reported he leased (sold?) the Sunset/Waters Property, Yavapai County, including the 16 claim Blue Chip group and 6 claim Hefner Group to Terramar Resources. Terramar, listed on the Vancouver Stock Exhange, is said to have significant German and English backing. The company is planning to do 5,000 feet of drilling on the property next month. Price of the property package was reportedly \$60,000.

RRB WR 8/26/83: As I stood contemplating the Santa Maria River crossing to the Waters-Sunset property Doug Chamberlin who is in charge of the drilling for Terramar drove up with two other people. He said that Gordon House was the geologist for the job but that he was not yet back from Canada. They had a pickup truck on each side of the river and they parked and waded across to the other pickup. When they need to move fuel and supplies they winch one of the trucks across.

NJN WR 6/14/85: Jan Lamb reported that Terramar Resource Corp. (f) will be drilling at the Waters Mine (f) Yavapai County again in a couple of weeks.

## Arizona Department of Mines and Mineral Resources

## VERBAL INFORMATION SUMMARY

## May be Reproduced

| 1.   | Information from: Gordon House, Geologist (604) 929-1383                      |  |  |  |  |  |
|--|---|--|--|--|--|--|
|  | Address: 4507 Summerside Ln, North Vancouver, BC V7G 1H4 Canada               |  |  |  |  |  |
| 2.   | Mine: Waters - Sunset 3. ADMMR Mine File Waters Mine                          |  |  |  |  |  |
| 4.   | County: Yavapai 5. District Eureka  |  |  |  |  |  |
| 6.   | Township Range Sec(s)   |  |  |  |  |  |
| 7.   | Location: North side of Santa Maria River West of highway 93                  |  |  |  |  |  |
| 8.   | No. of Claims - PatentedUnpatented  |  |  |  |  |  |
| 9.   | Owner (if different from above)   |  |  |  |  |  |
| 10.  | Address:  |  |  |  |  |  |
|  | Operating Company:Terramar  |  |  |  |  |  |
| 12.  | Pertinent People and/or Firm:   |  |  |  |  |  |
|  | Commodities:  |  |  |  |  |  |
|  | Operational Status: <u>Exploration</u>  |  |  |  |  |  |
| 15.  | 5. Summary of information received, comments, etc.:                           |  |  |  |  |  |
|  | Mr. House reports that 5500 ft. of drilling has been done to delineate the    |  |  |  |  |  |
| vien structure and that there is sufficient at 4 foot mining width but |   |  |  |  |  |  |
| reserves have not been blocked out.                                    |   |  |  |  |  |  |
|  |   |  |  |  |  |  |
|  | They have applied for a permit to build a road into the property on the north |  |  |  |  |  |
| side of the Santa Maria. When it is completed they will do some bulk   |   |  |  |  |  |  |
|  | sampling. The Colorado School of Mines has agreed to do metallurgical test    |  |  |  |  |  |
|  | for them. Mr. House believes the flow sheet will be a simple crush, grind,    |  |  |  |  |  |
|  | gravity and agitation cyanide leach.  |  |  |  |  |  |
|  | ·   |  |  |  |  |  |
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|  |   |  |  |  |  |  |
|  | Date: 8/3/84 Suhen Plune  |  |  |  |  |  |
|  | (Signature) ADMMR   |  |  |  |  |  |

SAWYER CONSULTANTS INC.

## STATE MINE INSPECTOR

FEB 06 1984

START

February 1st, 1984

WATER - SUPSET FELLE

State Mine Inspector, 705 West Wing, Capitol Building, Phoenix, Arizona. 85007 U.S.A.

Dear Sir:

We will be carrying out exploration work for TRC Resources Inc. on the Blue Chip and Hefner Group claims, T.12N, R.9W, Sections 20, 29, G.R.S.R.M., Yavapai County, Arizona, during the coming year. In order that we carry out our operations correctly, would you please forward us a copy of the Mining Code and Regulations for our use.

South of 5R93 near the Gonda Maria Viver.

Yours very truly,

SAWYER CONSULTANTS INC.

Gordon D. House

GDH: JF

Hamm

# STATE MANE INSPECTOR

JUL 25 1985

10031500 July 23, 1985

Lagion.

ARIZONA PROPERTIES Carl R. Olsen P.O. Box 373 Yarnell, Arizona 85362 RECEIVED

AUG 2 6 1985

DEPT. OF MINES & MINERAL RESOURCES

Re: Mining operation located on the Santa Maria.

Known as the Waters Property

Attention: State Mining Inspector

Dear Sir;

We are doing some exploration work at this time. I expect between 30 and 60 days work.

At this time I have contacted, David Hamm of this district.

Location is about 4 miles south west of the Santa Maria bridge on highway 93.

Thank you,

Carl R. Olsen, Contractor

ARIZONA PROPERTIES

l of 3 copies CRO/deo

Wirtracked Myw

## DEPARTMENT OF MINERAL RESOURCES

STATE OF ARIZONA FIELD ENGINEERS REPORT

Mine

WATERS

Date

District

Eureka

(Yavapai County)

Engineer

Ken A. Phillips

Subject:

Attached Four Page Copy of "Affidavit Of Labor Performed And Improvements

Made By Geological, Geophysical and Geochemical Survey".

ADMR Mine File: Waters Mine

Applicable ClaimsNames: Left #1 & #2

Tom #1 & #2

Location: N½ Sec. 29, T12N, R9W

The attached Affidavit of Labor for the Big 1 - 8, One #1 & #2, and Two #1 Claims contains a map which shows the location of the (Left #1 & #2, Ned #1 & #2, and Tom #1 & #2 Claims. These claims appear to cover the ground previously known as the Waters Mine. The Waters Mine property is believed to include two patented claims, the Waters and the Sun Set and the patented Waters Mill The location of the patents are shown on a copy of a portion of the Bureau of Land Management Mining District Sheet #331 for the SW4 of T12N, R9W.

KAP:mw

Enc1

Terramar Resource Corporation Notes to Consolidated Financial Statements September 30, 1983

## 3. Investments (Continued)

Rainbow Claims

On August 10, 1983, TRC Resources Inc., a wholly owned subsidiary of the Company acquired 100% interest in mining claims known as Rainbow Claims, located in Shasta County, California, for \$50,000 U.S. cash.

Waters Sunset

By agreement dated April 8, 1983 the Company obtained an option to acquire an interest in mining properties located in the county of Yavapai, Arizona (known as Waters Sunset) by funding a drilling and development program. The first payment under the agreement was made June 7, 1983 in the amount of \$25,000 U.S. (\$31,000 Cdn.). Future payments (in U.S. funds) reguired by the agreement are as follows:

October 8, 1983 \$25,000;

April 8, 1984 \$50,000.

If the Company continues with the development of the property but does not place the property into commercial production by April 8, 1985, then the Company will make royalty payments thereafter of \$5,000 per month. Once the property is in commercial production there is a 10% royalty payable on net smelter returns.

The Company, by funding a drilling and development program, may obtain an interest in the properties at the rate of 5% for each \$50,000 U.S. invested to a maximum of a 90% interest for investments totalling \$900,000 U.S. If the Company elects to stop the funding or allow the option to expire, it retains an interest of 2-1/2% for each \$50,000 U.S. invested to a maximum of a 50% interest.

Blue Chip Claims

By agreement dated June 29, 1983, TRC Resources Inc., a wholly owned subsidiary of the Company, with Timothy E. Gallagher, acquired a 100% interest in the Blue Chip Claims, located in the Eureka Mining District, Yavapai County, Arizona, for an investment of \$60,000 U.S. (\$74,211 Cdn.)

Belden and Blake

The Company acquired 20 units of Belden and Blake Limited Partnership No. 82, a U.S. oil and gas exploration program, on June 1, 1983 for \$100,000 U.S. (\$123,386 Cnd).

New York Oil and Gas Leases

By agreement dated August 12, 1983, with Cambria Petroleum Resources Inc., the Company acquired a 16.667% interest in oil and gas leases, located in Tompkins County, New York for an investment of \$4,654 U.S. (\$5,763 Cdn.).

MAR 20 1981

AL RESOURCES

AFFIDAVIT OF LABOR PERFORMED AND IMPROVEMENTS MADE
BY GEOLOGICAL, GEOPHYSICAL AND GEOCHEMICAL SHRWEY.

STATE OF ARIZONA )
) ss.
COUNTY OF MARICOPA)

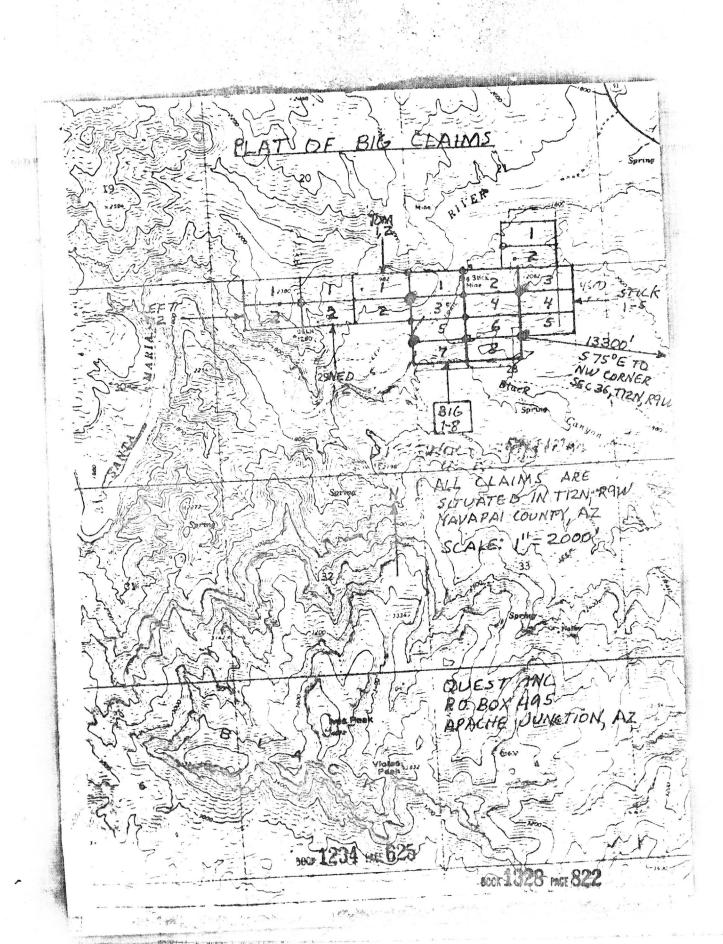
HAROLD E. BEST being first duly sworn deposes and says that he is a citizen of the United States; that he is over the age of eighteen, and resides at P. O. Box 495, Apache Junction, Arizona 85220; that he is personally acquainted with the unpatented lode mining claims described below which are situated in Township 12 North, Range 9 West, G&SRM in the Eureka Mining District, Yavapai County, Arizona, the location notices of which are recorded in the office of the County Recorder in the said county as follows:

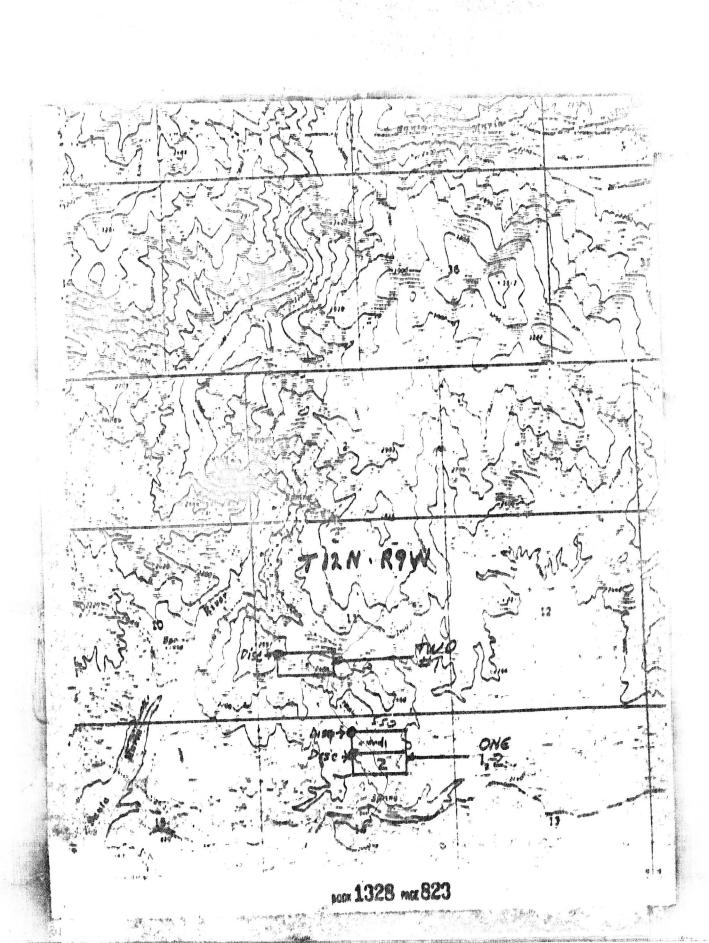
| NAME OF CL | AIM DOCKET | PAGE | BLM SERIAL NO. |
|------------|------------|------|----------------|
| Big #1     | 1234       | 626  | A MC 63073     |
| Big #2     | 1234       | 627  | A MC 63074     |
| Big #3     | 1234       | 628  | A MC 63075     |
| Big #4     | 1234       | 629  | A MC 63076     |
| Big #5     | 1234       | 630  | A MC 63077     |
| Big #6     | 1234       | 631  | A MC 63078     |
| Big #7     | 1234       | 632  | A MC 63079     |
| B19 #8     | 1234       | 633  | A MC 63080     |
| One #1     | 1238       | 49   | A MC 63901     |
| One #2     | 1238       | 51   | A MC 63902     |
| Two #1     | 1238       | 52   | A MC 63903     |

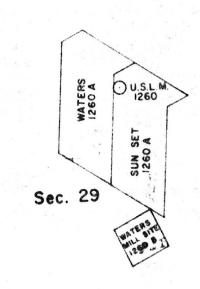
That the claims are owned by Harold R. Best and Quest, Inc., and that the labor upon them was done in behalf of the owners under an agreement with Endless Energy Corp.; that between August 1, 1980 and August 31, 1980, affiant caused Stanley B. Reamsbottom, B.Sc., Ph.D., P.Eng., to make a geological and geophysical survey of the above described claims; that Stanley B. Reamsbottom is a qualified expert within the meaning of 30 U.S.C., \$28-1, the statute under which this Affidavit is made. The cost of the surveys is in excess of \$1,200.00.

W. T. ELSING
34 WEST MORNOZ, SUITE SEE
PHOENIX, ARIZONA \$5503

1328 mg 820







FROM
BLM
ANINING DIST
SHEET #331
SW/4, TIZN, R9W
EUREKA DIST
Sec. 28

Sec. 32

Sec. 33 Sec. 34 Sec. 33 Sec. 33 Sec. 34 Sec. 33 Sec. 34 Sec. 3

Whitehalas 7

April, 1956

WATERS MINE
Santa Maria River
31 Mi. from Congress
Yavapai County

OWNER: Dick Martin, Prescott, Arizona

Lode Gold.

(Tl2N, R9W, Sec. 29)

As per M.G.

X

## THE WALLES MINE

The saters kine was located in the early days by Billy waters, who built two arastras on the opposite side of the river and operated them till he was interested by the discovery of the Billside mine and moved to that district. The ground was then located by Dan'Thorn and Tom Bowe who sold it to C. D. Clark about 1895. Clark built a 20 stamp mill on it and treated the oxidized ore near the surface. This ore ran from \$20.00 to \$40.00 and would plate about 50% of its value. In 1890 he put in a cyanide plant and treated the tailings recovering all but 25% per ton. About this time the ground became involved in a lawsuit which shut it down and it was in court for 8 years. Mr. Clark by this time was interested in the cil land at Santa Fe Springs near los Angeles where he died. His widow dropped the ground and the mill was moved off.

the ground and the mill was moved off.

2/ Mw from Congress
The ledge crosses the Santa haria river and climbs the clie
of the cliff from three to four feet in width the upper part of
it was faulted and thrown to the west about 200 feet. This
portion continued to the summit and is called the Weepah. There
is a shaft on it 90 feet deep and several car loads of ore
shipped from it.

There are several tunnels driven into the mountain and the high grade ore milled but the lowest level where the ore could be put on the tramway there is a tunnel 600 feet with the ore in place. This ore will run \$7 to \$8 old price. I can't tell you how much ore there is in sight as that would call for some work but enough to show a strong ledge going down. I will give it as my opinion that the big ore shoot dips under the river and could be recovered by sinking a shaft on the bank and drifting. This is almost certain as the ledge crosses the river and such of the ore out out.

It is not easy to tell how much ore was taken out or how much money was made out of it. All I could tell you is that Mr. Clark told me it always paid and was not shut down because of lack of good ore. The drawback to it is that it is located in a hard place to get into and would suggest making arrangements for milling the ere on the Portland or Big Stick ground.

The ore slong this river will not plate more than half its value and won't float but will cyanide easy. The nearest railroad is Congress, 31 miles and water is plentiful, climate is good except for hot spell in summer. The cause of the law suit was Clark gave an option to som Phoemix promoters and the buyers agreed to take the ground if the mill for 30 days returns agreed with the figures Clark gave them. The returns were satisfactory but Clark refused to carry out his agreement and was sued by the promoters for their losses and they attached everything, but Clark being a millionaire won the suit but it took eight years to do it. You will find this roughly correct. The price paid by Clark was around \$20,000. The expert who sampled the ground was C. F. Eankin.

Alec Lucy

TI2N R9W Sec 29



## REPORT ON

## DETAILED MAPPING AND SAMPLING PROGRAM

ON THE

WATERS/SUNSET PROPERTY

Eureka Mining District

Yavapai County, Arizona

for

TERRAMAR RESOURCE CORPORATION

June 17th, 1983



## REPORT ON

## DETAILED MAPPING AND SAMPLING PROGRAM

ON THE

WATERS/SUNSET PROPERTY

Eureka Mining District

Yavapai County, Arizona

for

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June 17th, 1983

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SP YER CONSULTANTS INC.

## INTRODUCTION

The Waters/Sunset property, located on the Santa Maria River in Yavapai County, Arizona, was presented to Terramar Resource Corporation as a property submittal in January 1983. Sawyer Consultants Inc. were retained to evaluate the preliminary data presented and on the basis of this were requested further to carry out an initial property examination. This was completed in the period January 30th to February 2nd, 1983 by J.B.P. Sawyer, P.Eng. It was evident from this examination that significant gold mineralization was associated with a series of vein structures which occur on the property, at least one major structure having been mined through a number of adits and tunnels early in the century. As part of this examination a number of samples were taken both from underground and surface which returned sufficiently high values to indicate that more detailed exploration was The unweighted average of all of the 12 samples taken was 0.27 oz./ton gold.

At the suggestion of Sawyer Consultants Inc. Terramar Resource Corporation negotiated a 60 day examination option during which time a more detailed program of underground channel sampling and mapping, and surface mapping and sampling was completed by Gordon D. House, M.S., for Sawyer Consultants Inc. The results of this program with recommendations for a further exploration program are described in detail in this report.

### SUMMARY

The Waters/Sunset property, located in Yavapai County, Arizona, on the Santa Maria River about 45 miles northwest of Wickenburg, Arizona, consists of two patented claims and a millsite with water rights and six unpatented claims.

On April 6th, 1983 Terramar Resource Corporation acquired a 60 day examination option from the owners. Sawyer Consultants Inc. were retained to carry out a program of mapping and sampling, the work being completed during the period of 13th May to 1st June, 1983.

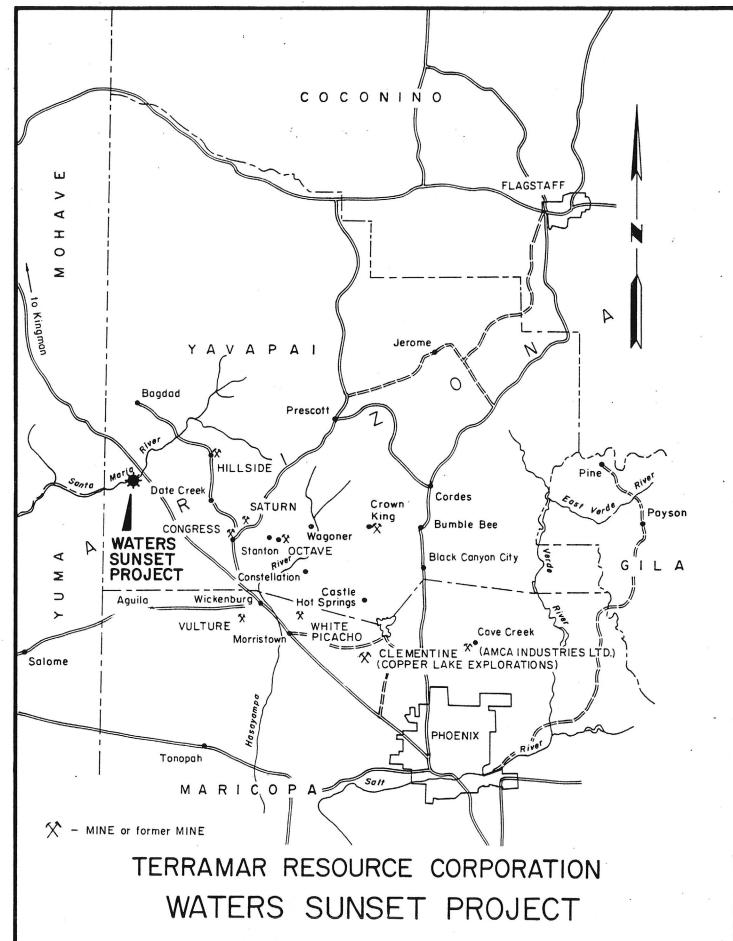
The old underground workings on the Waters claim had been opened up and cleaned out by the owners as part of a plan to mine and heap-leach some of the ore remaining in the workings, however operating problems closed down the operation shortly after the pads were put into operation.

The accessible portions of the underground workings were surveyed using chain and Brunton compass, and carefully channel sampled at 15 foot intervals, where possible, on the mineralized vein structure. Geological mapping was carried out using the survey points for control. Results were plotted at 1 inch = 20 feet for the Geology and Assay Plans, Maps 3 and 4.

A preliminary surface mapping program was carried out in an effort to trace extensions of the main Waters Vein and to sample both it and other quartz veins found. Time did not permit of detailed mapping of the property but the Property Map, Map 1, shows the results of the limited surface mapping.

A total of 94 samples were taken during the examination of which 57 were channel samples taken underground. The samples were sent to Bondar-Clegg & Company Ltd. of North Vancouver, B.C. for fire assay for Gold and Silver. The average value of all of the 57 underground channel sample assays is 0.2456 oz./ton Au and 0.5321 oz./ton Ag. The results are shown on the Underground Assay Plan, Map 2, while copies of the Assay Certificates are included in the Appendix.

The examination carried out by Sawyer Consultants Inc. on the Waters/Sunset property has confirmed the tenor of mineralization in the Waters Vein and has indicated there is good potential for the occurrence of significant additional reserves of similarly mineralized material both at depth and in strike extensions of the Waters Vein, and in other parallel vein structures. Further, the underground mapping and sampling shows there are mineable ore shoots remaining in the mine. Recommendations for continued exploration involving completion of detailed geological mapping, and diamond drilling, at an estimated cost of \$246,668.00 are made.



GENERAL LOCATION MAP

Scale: linch = 20 mile (approx.)

FIGURE

### PROPERTY AND OWNERSHIP

The Waters/Sunset property consists of two patented claims, the Waters and the Sunset, of 40 acres each; a patented Millsite, the Waters Millsite, of 5 acres; six unpatended lode claims of the Hefner Group, Hefner Group Nos. 1-6, totalling 120 acres; and six unpatented placer claims covering the Santa Maria River downstream from the Millsite for 9000 feet. Water rights of 50 miner's inches or 562.5 gallons per minute are included with the Waters Millsite.

The claims are located under Federal Law on BLM land and are reported in good standing. A total of 205 acres is covered by the Waters/Sunset property lode claims and 120 acres of placer claims.

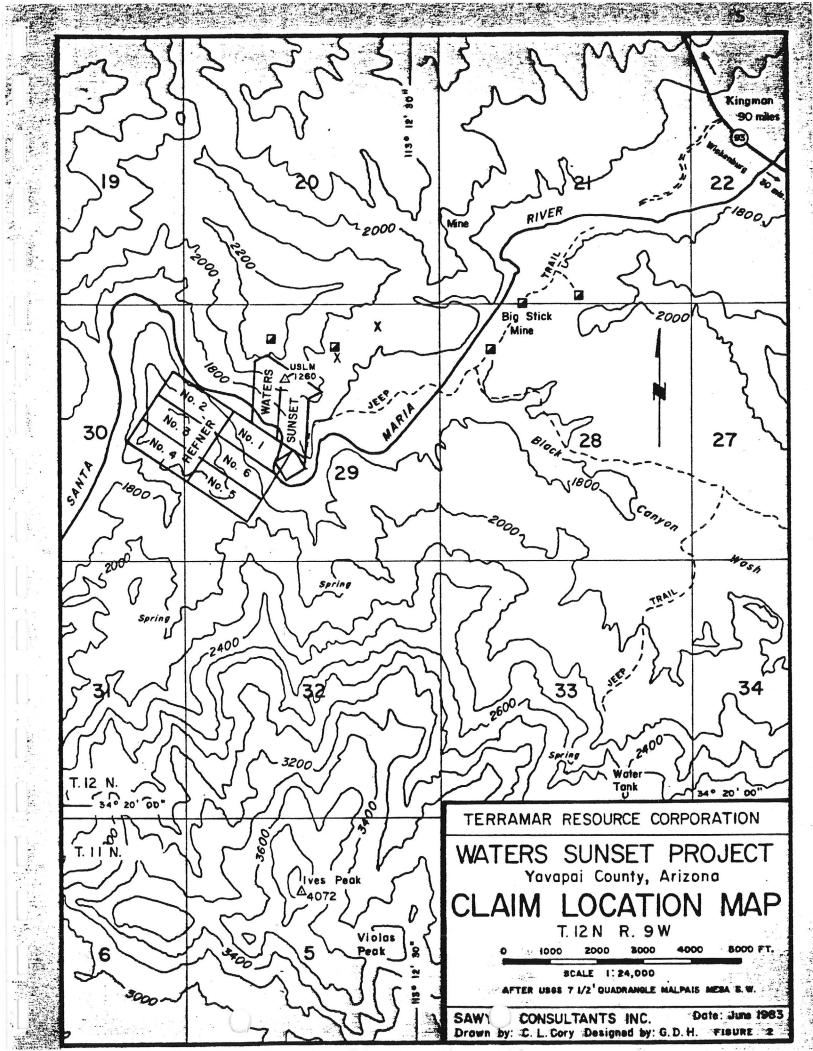
The property is owned by Mr. & Mrs. Bobby Westbrook of Waxahachie, Texas, who are presently residing in Wickenburg, Arizona. Mr. Westbrook acquired the patented ground from the previous owners and acquired the Hefner Group of claims from the owner, Ross Hefner. Documentation attesting to Mr. Westbrook's ownership of the property were examined and reported on in a previous Sawyer Consultants Inc. report.

### LOCATION AND ACCESS

The Waters/Sunset property is located in Section 29, T.12N, R.9W, Gila and Salt River Meridian, Arizona, and the Heffner Group claims are in Sections 29 and 30, T.12N, R.9W, Gila and Salt River Meridian, Arizona. The property is on the Santa Maria River at Latitude 34  $^{\circ}$ 21'30"N and Longitude 113  $^{\circ}$ 12'13"W, in the Prescott Land District, and the Eureka Mining District. The area is covered by U.S.G.S.  $7\frac{1}{2}$  minute topographic map, Malpais Mesa SW Quadrangle, Yavapai County, Arizona.

The patented claims are located on the north bank of the Santa Maria River about 2 miles below the Highway #93 bridge, but access at present is by six miles of dirt road from Highway #93 at a point approximately 35 miles north of Wickenburg. The river, which has proved an effective barrier during periods of rain or flash flood, is crossed at Black Canyon Wash near the Big Stick Mine.

The road from the river crossing to the Millsite area was up-graded recently, however there is a steep pitch just above the Millsite.



### **PHYSIOGRAPHY**

The property covers the Santa Maria River at about 1700 feet elevation, and rises steeply to about 2400 feet on the north and 2300 feet on the south. Terrain near the rivers and creeks is usually steep to precipitous with more level terrain in areas away from the river. Mesas and buttes occur to the south towards Ives Peak at over 4000 feet, and are formed in erosional remnants and outliers of Miocene volcanic tuffs and sandstones.

The area lies within the Mountain Region in the northern Basin and Range Physiographic Province, at the Transition Zone to the Plateau Province. The predominant land form in the Basin and Range Provinces consists of ridges of more resistant rocks aligned along the predominant northeasterly trend of fault blocks.

The climate in the east-central part of Arizona is arid and classed as desert. Rivers and creeks are intermittent, being dry for most of the year but subject to flash flooding and torrential high water levels during rains and the winter. Vegetation is relatively sparse, consisting mostly of cacti and resistant bushes such as mesquite and creosote.

Animal life is relatively abundant with mule deer, cougar and coyote among the larger mammals reported; wild burros and various smaller mammals are common. Bats are common and occupy most of the old shafts and tunnels in the area.

### HISTORY AND PREVIOUS WORK

The earliest reports of gold on the Santa Maria River were by early Spanish and Mexican explorers who passed through the country in the eighteenth century. A Spanish cannon was found at Artillery Peak about 20 miles west of the Waters/Sunset property.

The Waters claim was located in 1887 by T.C. Bowe, H.A. Owen, and I.M. Owen, and the Sunset Mine was located in 1889 by T.C. Bowe. The Waters Millsite was located in 1890 by T.C. Bowe and D.C. Thorne. The ores from the Waters Vein were first worked in arrastras, the remains of several of which are seen on the south side of the river opposite the mine workings. By 1897 there was a 20 stamp mill in operation supplied along the 1100 foot tramway from the Waters Mine.

The property was owned by the Santa Maria Gold Company when the Patent Survey was carried out in 1897, with the original location notice amended to cover discrepancies shown by the survey. Patent was granted in 1898, and the mine apparently operated until the early 1900's, with a cyanide plant installed in 1899 to treat tailings. The property was involved in litigation around the turn

of the century and operations ceased. There apparently has been no active mining since that time although there may have been some "sniping" or illegal mining during the Depression in the 1930's.

There are no records as to the production from the Waters Mine or amount of gold produced during the period it operated. During the underground mapping program it was discovered that there were at least two different mining operations with the lower levels developed after the upper older workings were mined out. The operations apparently ceased before the ore shoots developed from the lower levels were mined.

There has been some exploration on the property in recent years, with sampling and mapping carried out by Laxton and Townsend in 1982 for Mr. Bobby Westbrook who purchased the patented ground from the heirs of the original owners around this time. The workings were opened up from the 1800 foot level tunnel and cleaned out in preparation for a small mining and heap leaching operation.

There were operational problems in the cyanide circuit and the material being treated which halted the operation. The property became available for option at this time and Terramar Resource Corporation negotiated an examination option for two months with Mr. Bobby Westbrook.

## REGIONAL GEOLOGY

The region of east-central Arizona occupied by Yavapai County and including the Waters/Sunset property is underlain by Precambrian schists, quartzites, and granite gneisses with extensive pegmatite intrusions. This terrane has been affected by subsequent tectonic and metamorphic events, which are extrapolated from adjoining areas. Among these events were Late Mesozoic intrusions and associated volcanism related to subduction zones and tectonism of the Laramide orogeny.

In the early Tertiary the tectonic style changed to crustal extension with rift related intermediate to acidic intrusions and volcanism in the Miocene. Cessation of crustal extension at the end of the Miocene was followed by outpourings of alkali plateau basalts.

The outcrop pattern and bedrock geology has been controlled by the dominant northwest-southeast trend of the Basin and Range tectonics resulting in northwest trending ridges and mountains separated by large areas of sand and gravel of Tertiary to Recent age. The widespread ash and tuffs of the Miocene acidic and intermediate volcanism has mostly been eroded with subsequent rivers and creeks superimposed over the pre-volcanism river channels and terrain. Remnants of the Miocene volcanism remain as mesas and buttes surrounding the old volcanic centres and plugs.

## DETAILED GEOLOGY - Waters/Sunset Property

The Waters/Sunset property is underlain by Precambrian schists, quartzites and granite gneisses, metamorphosed and intruded by pegmatites and quartz monzonite to dioritic dykes. The pegmatites and intrusives appear to be of Precambrian age although some of the fine grained quartz monzonite dykes may be Mesozoic or Tertiary in age.

The older rocks have been affected by later tectonism of the Laramide and Basin and Range orogenies of Eocene through Miocene ages. The volcanism and intrusions of rhyolitic and dacitic plugs occurred during the Mid Miocene apparently reflecting a change in gross tectonic style from the earlier subduction related calc-alkaline volcanism to extension tectonics or rift associated intermediate to acidic volcanism. In the Late Miocene plateau flood type basalts reflected cessation of the rifting processes.

The intermediate to acidic volcanism of Mid Miocene age blanketed the area with tuff and ash flows as well as lava flows. Subsequent erosion has removed most of the volcanic material but erosional remnants surround the central plugs of Ives Peak and Negro Ben Peak within several miles of the property.

Foliation within the Precambrian schists and gneisses trends northeasterly; the strikes of the pegmatite dykes are similar. Most of the structures observed on the property have similar orientation.

The proximity to the property of volcanic centres now represented by the volcanic plugs at Ives Peak and Negro Ben Peak with the remnants of the extensive tuff and ash flows mantling the pre volcanic terrain around them indicates the possibility of an epithermal origin for the mineralization in the Waters Vein and quartz veins on the property.

Tectonism and hydrothermal fluid flow associated with volcanism nearby could have been important in the formation of the Waters Vein and quartz veins in the area and could have been the source of the mineralization. During the surface mapping several alteration zones were noted east of the old mine workings but were not mapped in detail due to time constraints.

The mineralization in the Waters Mine is contained in a quartz breccia vein and shear zones which cut the older rocks at angles of from 25 to 60°, dipping east, and a strike of 030°. The break, known as the "Waters Break or Vein," cuts the foliation and other structures in the older rocks with pegmatite dykes truncated abruptly at the margins of the break.

The 'vein' has been affected by later tectonic events, and is broken up in several places by faults and shears as can be seen from the Underground Geological Plan, Map 4. Some sense of relative movement can be seen at these faults as a more brittle style of deformation was involved in the movements.

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The vein or break is up to three feet wide and has both hanging wall and footwall shear zones of varying widths as well as internal shears. The shears also cross-cut the vein and wander from hanging wall to footwall without apparently affecting the attitudes but occasionally increasing the width. The shear zones consist of gouge and fine grained rock fragments and are usually strongly silicified. Shear surfaces are smooth, flat, and highly polished.

The 'vein' is composed of grey to grey-white crystalline quartz, translucent, and with reddish-brown surface colouration due to limonite and oxide stain. The quartz is brecciated and broken up into fragments within the shear margins. In places the brecciation is less intense and in several locations a recognizable 'solid' quartz vein can be traced within the brecciated quartz vein. This suggests several periods of quartz introduction but no sequence could be discerned due to the brecciation and shearing.

No recognizable sulphides were noted in the 'vein' but oxides or gossan after sulphides gives the characteristic deep reddish-brown colour to the surfaces of the quartz breccia fragments. The gouge of the shears is a medium to light brown in colour due to the oxides with no sulphides recognizable.

The Waters Vein is the main structural feature of interest on the Waters/Sunset property but several later faults have cut the These dislocations are vein causing dislocations and interruptions. not seen on surface except in the western part of the Waters claim where the surface trace of the vein outcrop from the Waters Mine and the present access portal, diagonally up the hill, is interrupted by a "major" fault. There are several adits west of the fault, which is exposed in the bedrock of a prominent gulley, and mapping of the immediate area shows the down-throw on the fault (which strikes at 030°) to be on the west. Several other faults were mapped underground and the down-throw on these faults, where determinable, also shows down-throw on the west. The mine workings area appears to consist of a series of at least four step fault blocks, with the vein repeated in each block.

On the east side of the Sunset claim, north of the Millsite area, there are several pits, shafts and trenches put down on quartz veins which carry sulphide and visible gold. These shafts were mapped and sampled during the surface mapping and values of from 0.42 oz./ton to 1.07 oz./ton Au over widths of up to 1.0 feet were returned on channel samples. The veins are dissimilar to the Waters Vein but may represent additional mineralization which should be further investigated during the extended surface mapping program recommended.

### 1983 EVALUATION PROGRAM

Following a preliminary examination of the Waters/Sunset property in January 1983 by Sawyer Consultants Inc., a program further to evaluate the mineralization and potential was recommended. This program was completed during the period 13th May through 1st June, 1983.

The program included chain and compass surveying and geological mapping of the accessible underground workings at a scale of 1 inch = 20 feet, detailed channel sampling of all mineralized structures underground at intervals of 15 feet along continuous exposures of the vein and surface geological mapping at a scale of 1 inch = 200 feet. The surface mapping program also included a search for mineralized structures, veins, etc., and sampling of the same. A base map for the surface mapping was made by enlarging a suitable section of the Malpais Mesa S.W. Quadrangle map to a scale of 200 feet to the inch; prints were used for field maps.

The underground workings were first surveyed by chain and Brunton compass with survey points marked on walls and back of the drifts or raises. Irregularities in the ribs of the drift were plotted by "lefts and rights" at 5.0 foot intervals along the chain stretched between survey points, a 6 foot folding engineers rule being used at right angles to the chain.

The underground plan was plotted and tracings on  $8\frac{1}{2}$ " x 11" clearprint used as worksheets for the geological mapping.

The vein was sampled at 15 foot intervals along the continuous exposures in the drifts and raises by taking channel samples at right angles across the width of the vein. The sampled width was measured and the true width measured or calculated.

The channels were cut using a  $1\frac{1}{4}$ " chisel and a 3 pound single jack hammer. The channel was cut to a depth of  $1\frac{1}{2}$ " to 2" and about 2 inches wide. The sample surface and walls were cleaned off with a whisk broom before sampling began; the cuttings from the sampling were caught in a canvas tarpaulin. The samples were packed in polyethylene sample bags, carefully tagged and securely fastened. The accumulated samples were stored in a secure place until shipped to Bondar-Clegg & Company Ltd. of North Vancouver, B.C., for Fire Assay for Gold and Silver.

Each sample site was measured and tied in to a survey point and the location plotted. The location was marked on the walls with white spray paint and can be easily re-located.

A sketch was made of each sample point with pertinent geological features noted as well as the sample points. The widths sampled and true widths were also noted and recorded with the sketches.

The underground geological mapping was carried out following the underground sampling. The survey stations were used for control and  $8\frac{1}{2}$ " x 11" sheets of tracing paper with the underground plan plotted in India Ink were used for work sheets. Control was from a chain laid on the floor of the drift with distances from the survey points noted. All geological features were plotted and dip angles of the vein recorded at regular intervals as well as the true width of the vein.

The geology was mapped at breast height, about 4 feet above the floor, and all features mapped were projected to this level and plotted beyond the ribs as necessary. Features not seen in the drift cannot be plotted thus there are several sections on the underground geological plan where the vein is not plotted purely because it was not seen in the drift and could not be extrapolated.

The main effort in the surface mapping was to locate and sample all quartz veins and mineralized structures found, as well as to map the surface geology. Due to constraints of time the surface was not mapped in any great detail with the main effort to trace the extensions of the Waters Vein to the north and across the river to the south. There are several other quartz veins outcropping on the surface that returned interesting assays from the previous examination; these veins were located and carefully sampled and mapped.

The ground covered by the six unpatented lode claims of the Hefner Group was traversed in one day by following the ridge up Hill 2254 and searching for old workings, tailings piles or gossan areas. One location with a couple of pits was found and the mineralized quartz vein sampled. The rock underlying Hill 2254 is mostly pegmatites in granite gneiss with some quartz monzonite dykes and isolated "rafts" of schist and quartzite. The Santa Maria River was followed back from the south side of Hill 2254; no workings other than those associated with the Waters Sunset claim were noted on the steep hillsides on either side of the river.

Results from the surface and underground sampling have confirmed the tenor of the mineralization indicated by previous sampling while the geological mapping has shown the main Waters Vein to be one structure. The Waters Vein has been traced to the north and south but its extent to depth can only be tested by diamond drilling. The mapping of the underground workings also showed that the vein had not been fully extracted and there were no down dip excavations or extraction by the earlier workers.

#### RECOMMENDATIONS

The evaluation program of mapping and detailed sampling on the Waters/Sunset property has confirmed the tenor of the gold mineralization in the Waters Vein while the underground mapping confirmed the continuity of the vein structure through the accessible workings. The extension of the Waters Vein to the south was located and sampled but was not traced further than the test adit on the south bank of the Santa Maria River. The northern extension of the west part of the Waters Vein was traced to the north end of the Waters claim but structural complications in the area require more detailed mapping and bulldozer trenching more fully to delimit the extensions.

Several other quartz veins which were located on the Waters/Sunset property were sampled and some interesting values were obtained. The quartz veins on the eastern side of the Sunset claim including the "Palo Verde Shaft" will require more detailed mapping to trace the extensions. These quartz veins carry sulphides as well as visible gold and were not mined by the earlier workers.

The Waters Vein has the potential to develop economic tonnages of ore grade mineralization at depth and along strike both to the north and south. The sulphide-gold quartz veins have potential for tonnage but require mapping and drill testing to trace the extensions.

A program of surface diamond drilling is recommended to test the Waters Vein to depth and to trace the northerly extension while further mapping, prospecting, and bulldozer trenching are required to trace the southern extensions. The surface geological mapping should be completed over the Waters and Sunset claims and surrounding areas; this would take about two weeks to complete. Geological mapping on the vein extensions to the north and south should utilize bulldozer trenching to trace the vein.

The diamond drill program will be carried out from the surface. A drill access road can most readily be constructed from the existing trail to the Millsite by putting in a bulldozer track north from the saddle above the Millsite by following the ridge running north to USLM 1260, as illustrated in the sketch of proposed drill holes and locations, Map and Cross Sections, Map 5. The drill set-ups on this ridge are approximately 500 feet vertically above the down-dip extension of the Waters Vein and about 300 feet horizontally distant from the existing workings as shown on the cross sections in Map and Cross Sections, Map 5. The drill core should be NQ at minimum due to the brecciated nature of the vein and good to excellent core recovery in the vein would be essential.

The quartz veins on the east side of the Sunset claim could be tested from drill set-ups on the proposed access road above the Palo Verde (or P.V.) Shaft area.

Up to 1500 feet of drilling will be required from each of three set-ups proposed in order to test a 600 foot strike length of the Waters Vein below the old workings, which gives a total of about 5000 feet of NQ diamond drilling at an estimated cost of \$125,000.00. Further testing of the vein at closer spacing or to the north can be carried out from the same access road, while the quartz veins of Palo Verde or P.V. Shaft area can be tested from the same access road.

The difficulty of tracing the Waters Vein both south of the Santa Maria River and to the north suggests that some geophysical method might be suitable to trace the shear zones in the vein. A trial run of several lines of EM-16 survey over known vein locations is recommended for inclusion with the geological mapping program. If the test lines are successful in tracing the vein a more complete geophysical survey should be carried out over the less rugged areas where vein extensions could be expected, such as south of the Santa Maria River and to the north of the Waters claim on the Blue Chip ground.

The following Cost Estimates cover the detailed geological mapping required on surface as well as the initial diamond drilling program. The geological mapping will require about fourteen days for completion and the diamond drilling program is estimated to take about forty days to complete.

Depending on results from the initial diamond drilling it may be necessary to expand the drill program at which time an underground rehabilitation program should be considered in order to determine the full extent of the previous mining and further aid in deciphering the complex structural situation on the Waters/Sunset property.

# COST ESTIMATES

| 1. | Geological Mapping |
|----|--------------------|
|    |                    |

| Geologist and assistant - estimate 15 days @ \$390.00/day Travel, air fares Truck rental, plus fuel @ \$80.00 per day for 15 days Accommodation, meals - 15 man days @ \$60.00 man/day Assays - estimate 30 samples @ \$13.50/sample (Au, Ag) Consulting - 6 days @ \$400.00/day EM-16 rental for 3 days @ \$150.00/day | \$ 5,850.00<br>1,800.00<br>1,200.00<br>900.00<br>405.00<br>2,400.00<br>450.00 |
|---|---|
| Sub total   | \$13,005.00   |
| 2. First Stage Diamond Drilling   |   |
| Mob/Demob   | 5,000.00  |
| 5000 feet NQ @ \$25.00/ft.  | 125,000.00  |
| Bulldozer, roads and site preparation, trenching -  |   |
| estimate 150 hours @ \$65.00/hour   | 9,750.00  |
| Mob/Demob   | 300.00  |
| Geologist and assistant - 45 days @ \$390.00/day  | 17,550.00   |
| Travel, air fares   | 3,000.00  |
| Truck rental, plus fuel - 45 days @ \$80.00/day Accommodation and meals   | 3,600.00  |
| Assaying - estimate 75 samples @ \$13.50/sample (Au, Ag) say  | 2,700.00  |
| Sample shipping charges   | 1,013.00<br>250.00  |
| Engineering and supervision   | 15,000.00   |
| Office costs  | 7,500.00  |
| Consulting - 10 days @ \$400.00/day   | 4,000.00  |
| Contingency   | 39,000.00   |
|   | \$246,668.00  |

SSOCIATION OF CAMADO SELLOW

Respectfully submitted,

SAWYER CONSULTANTS INC.

Gordon D. House, M.S., F.G.A.C.

J.B.P. Sawyer, P.Eng.

## CERTIFICATE OF QUALIFICATION

- I, Gordon D. House, of North Vancouver, British Columbia, DO HEREBY CERTIFY:
- That I am a Consulting Geologist, a graduate of Trinity College, Dublin, in 1961 with a B.A. in Honors Natural Science - Geology. I received a M.S. degree in Geology from the University of Alaska, Fairbanks, in 1980.
- 2. That I am a Member of The Institution of Mining and Metallurgy, London, since 1964, and a Registered Chartered Engineer with the Council of Engineering Professions, London. I am a Fellow of the Geological Society, London; a Member of the Society of Mining Engineers of the American Institute of Mining, Metallurgical and Petroleum Engineers; a Member of the Canadian Institute of Mining and Metallurgy; and a Fellow of the Geological Association of Canada.
- 3. That I have practised my profession as a Geologist since 1962 in Ireland and West Africa; since 1965 in British Columbia, Yukon, Northwest Territories, Saskatchewan, Manitoba, Ontario, Alaska, California, Nevada and Idaho. I have undertaken professional visits to Germany, Australia, New Zealand, Fiji, and South Africa.
- 4. That the information, opinions and recommendations in this report are based on work carried out on the Waters/Sunset property during the period 12th May to 1st June, 1983.
- 5. That I have no direct or indirect interest in any of the subject properties of this report, nor in the shares or securities of Terramar Resource Corporation, nor of Sunset Mines, nor do I expect to receive any such interest.

GORDON D. HOUSE

Gordon D. House, M.S., F.G.A.C.

Dated at Vancouver, British Columbia, this 17th day of June, 1983.

### CERTIFICATE

- 1, J.B.P. Sawyer, DO HEREBY CERTIFY:
- 1. That I am a consulting geologist with business office at 1201 675 West Hastings Street, Vancouver, B.C., V6B 1N2, and President of Sawyer Consultants Inc.
- 2. That I am a graduate in geology of Manchester University (B.Sc. 1953) and of the University of Western Ontario (M.Sc. 1957).
- 3. That I am a Registered Professional Engineer (geological) in the Association of Professional Engineers of the Province of British Columbia, and a Registered Chartered Engineer with the Council of Engineering Professions, London.
- 4. That I am a Fellow of the Geological Association of Canada, a Member of the Canadian Institute of Mining & Metallurgy, a Fellow of the Geological Society of London, and Fellow of the Institution of Mining & Metallurgy, London.
- 5. That I have practised my profession as a geologist for the past twenty-eight years.
- 6. That the information, opinions and recommendations in the attached report are based on personal knowledge of the Waters/Sunset property and adjacent areas, and from general supervision of the work program described herein.
- 7. That I own no interest in the Waters/Sunset property, nor the adjoining properties, nor in the shares or securities of Terramar Resource Corporation, nor of Sunset Mines, nor do I expect to receive any such interest.

J.B.P. Sawyer, P.Eng.

Dated at Vancouver, British Columbia, this 17th day of June, 1983.

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| APPENDIX   |        |
|--|--------|
|  |        |
| Surface Sample Descriptions and Assay Certificates |        |
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| Sample No. | Sample Location   | Au<br>oz./ton | Ag<br>oz./ton |
|------------|---|---------------|---------------|
| 92383      | Top end West Vein, above adits, quartz vein.  | 0.006         | 0.02          |
| 92384      | West Vein, extension to Top Shaft, above 92383.   | 0.021         | 0.02          |
| 92385      | Quartz vein in road, first switchback above Blue Chip portal.                                       | 0.002         | 0.02          |
| 92886      | 2.0' chip quartz vein in granite, Blue Chip #6,<br>Big Stick Mine, trench. Opposite Big Stick Mine. | 0.258         | 0.17          |
| 92387      | Palo Verde Shaft - 1.0' channel quartz vein, east side of shaft.                                    | 0.028         | 0.26          |
| 92388      | P.V. Shaft 20' West - 1.0' chip across vein.  | 1.072         | 0.67          |
| 92389      | X-Shaft 0.83' - quartz vein, footwall and hanging wall shears. North side of shaft.                 | 0.828         | 1.28          |
| 92390      | X-Shaft - grab sample from dump.  | 0.137         | 1.36          |
| 92391      | West Vein - south extension, adit - 0.7' quartz vein.   | 0.052         | 0.05          |
| 92392      | West Vein - South extension, adit - 1.0' quartz vein.   | 0.393         | 0.18          |
| 92393      | Below P.V. Shaft in gulley trench/pit - 0.5' on quartz vein.  | 0.439         | 0.57          |
| 92394      | Grab chip on gossan vein, trench below X-Shaft.   | 0.006         | 0.03          |



Certificate of Analysis

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|                     |             |         |             |         |                     |        |          |           | •     |      | 14 2 0 3 0                            | N - 3 1983 |
|---------------------|-------------|---------|-------------|---------|---------------------|--------|----------|-----------|-------|------|---------------------------------------|------------|
| REPORT!             | 423-0536    | PROJECT | : WATERS/   | SUNSET  |                     |        |          |           |       | PAGE | 1                                     |            |
| SAMPLE              | ELEMENT     | AU      | - As        | Sò      | As                  | NOTES  | SAMPLE   | ELEMENT   |       |      |                                       | AS NOT     |
| NUMBER              | UNITS       | - OPT   | <b>DP</b> T | PCT     | PCT                 |        | NUMBER   | UNITS     | DPT   | DPT  | PCT                                   | PCI        |
| ¥ 92301             |             | 0.043   | 0.25        |         |                     |        | R 92341  | 4         | 0.124 | 0.32 |                                       |            |
| R 92302             | The same of | 0.139   | 0.21        | 0.02    | 0.03                |        | R 92342  |           | 0.121 | 0.34 |                                       |            |
| R 92303             |             | 0.060   | 0.14        |         |                     |        | R 92343  |           | 0.151 | 0.39 |                                       |            |
| F 72304             |             | 0.003   | 0.15        | 7 478   |                     |        | ₹ 92344  |           | 0.054 | 0.15 |                                       |            |
| R 92305             |             | 0.080   | 0.16        |         |                     |        | R 92345  |           | 0.038 | 0.11 |                                       |            |
| ₹ <del>9</del> 2306 |             | 0.015   | 0.02        |         |                     |        | ₹ 92346  |           | 0.174 | 0.31 |                                       |            |
| ₹ 92307             |             | 0.006   | 0.02        | w/()    |                     |        | R 92347  | ) 50<br>1 | 0.151 | 0.22 |                                       |            |
| R 92308             |             | 0.022   | 0.02        |         |                     |        | R 92348  |           | 0.188 | 0.70 |                                       |            |
| R 92309             |             | 0.009   | 0.02        |         |                     |        | R 92349  |           | 0.614 | 1.35 |                                       |            |
| R 92310             |             | 0.017   | 0.02        |         |                     |        | R 92350  |           | 0.878 | 2.01 |                                       |            |
| R 92311             |             | <0.002  | <0.02       |         |                     |        | ₹ 92351  | 1981 I    | 2,468 | 4.63 |                                       |            |
| R 92312             | 17.0434     | 0.008   | 0.02        |         |                     |        | R 92352  |           | 1.800 | 2.83 |                                       |            |
| ₹ 92313             |             | 0.093   | 0.54        | Va. yez |                     |        | R 92353  | 14.       | 0.175 | 0.52 |                                       |            |
| R 92314             |             | 0.086   | 0.38        | -       |                     | .00    | F: 92354 |           | 0.702 | 0.81 |                                       |            |
| ·R 92315            |             | 0,003   | 0.22        |         |                     |        | R 92355  | 1         | 0,215 | 0.29 |                                       |            |
| a¥ 92316            |             | 0.149   | 0.55        | 60.7    |                     |        | R 92356  |           | 0.262 | 0.33 | ****                                  |            |
| R 92317             |             | 0.165   | 0.49        |         |                     |        | R 92357  |           | 0.011 | 0.07 |                                       |            |
| ₹ 92318             |             | 0.076   | 0.27        | -70-    |                     |        | R 92358  |           | 0.024 | 0.51 |                                       |            |
| ₹ 92319             |             | 0.023   | 0.12        |         |                     |        | R 92359  |           | 0.359 | 1.11 |                                       |            |
| PR 92320            |             | 0.312   | 0.46        |         |                     |        | R 92360  | A.        | 0.162 | 0.61 |                                       |            |
| R 92321             |             | 0.007   | 0.09        |         |                     |        | R 92361  |           | 1.038 | 1.72 |                                       |            |
| R 92322             |             | 0.054   | 0.13        |         |                     |        | R 92362  |           | 0.315 | 0.71 |                                       |            |
| R 92323             |             | 0.066   | 0.20        |         | · · · · · · · · · · |        | F 92363  |           | 0.011 | 0.02 |                                       |            |
| F 72324             | 1 10        | 0.007   | 0.07        |         |                     |        | R 92364  |           |       |      |                                       |            |
| R 92325             |             | 0.020   | 0.07        |         |                     |        | R 92365  |           | 0.014 | 0.10 |                                       |            |
| R 92326             | - 47 (Em    | 0.032   | 0.12        | .5.     |                     |        | R 92366  |           | 0.447 | 0.69 |                                       |            |
| R 92327             |             | 0.030   | 0.15        |         |                     |        |          | 1.0       |       |      |                                       |            |
| R 92328             |             | 0.035   | 0.11        |         |                     |        | R 92367  | •         | 0.264 | 0.47 |                                       |            |
| R 92329             |             | 0.033   |             |         |                     |        | ₹ 9236B  |           | 0,242 | 0.26 |                                       |            |
| ₹ 92330             |             | 0.005   | 0.14        |         |                     |        | R 92369  |           | 0.204 | 0.55 |                                       |            |
| R 72331             |             | 0.032   | 0.21        |         |                     |        |          |           |       |      |                                       | 15.00      |
| R 92332             |             | 0.044   | 0.11        |         |                     |        |          |           |       |      |                                       |            |
| →R 72333            |             | 0.029   |             |         |                     |        |          |           |       |      |                                       |            |
| R 92334             |             |         | 0.12        | ******  |                     |        |          |           |       |      |                                       |            |
| R 92335             |             | 0.020   | 0.07        |         | 8                   |        |          |           |       |      |                                       |            |
| R 72336             |             | 0.377   | 0.66        |         |                     |        |          |           |       | 10.4 | Air-                                  |            |
| 35.2 •              | . N. J.     |         |             |         |                     |        |          |           |       |      |                                       |            |
| R 72337             |             |         | 0.18        |         |                     |        |          |           |       |      | i i i i i i i i i i i i i i i i i i i |            |
| F 92338             |             |         | 0.52        | 1.20    |                     | 11.4   |          | with the  |       |      | 1                                     |            |
| T 32339             |             |         | 1.03        | 165     | 740.56              | sky di | ENGTH.D  |           |       |      |                                       |            |
| R 92340             | 7. 2 D      | 20.069  | 0.19        |         |                     | WWW.   |          |           |       | 0    | 12.0                                  | 3-3        |

Bondar-Clogs & Company Ltd.

130 Pemberton Ave. North Vancouver, B.C. Canada V7P 2R5 Phone: (604) 983-0681 Telex: 04-352667

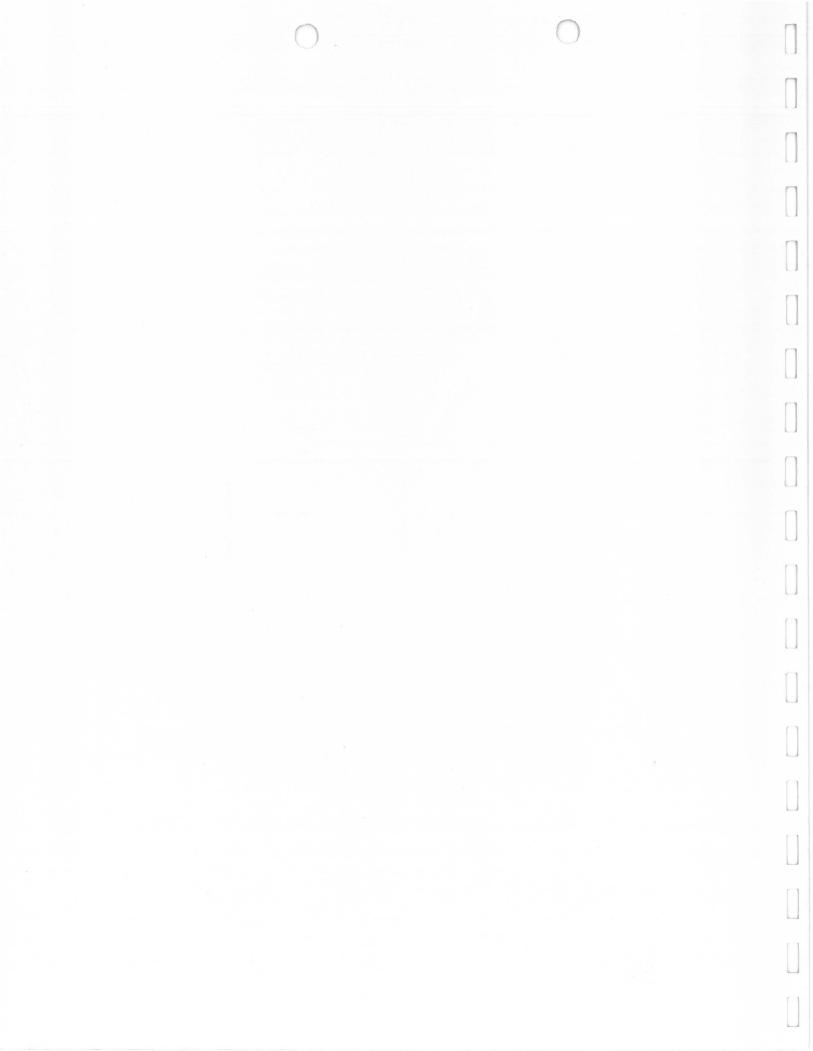


Certificate of Analysis

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|--|----------------|--|------|-------|----|-------------|------------|
| REPORT: 4  | 23-0874 PRO    | JECT: W-S  | 76.4 |       |    | PAGE 1      |            |
| SAMPLE   |                | Au As<br>Opt Opt   |      | NOTES |    |             |            |
| R 92370<br>R 92371<br>R 92372<br>R 92373<br>R 92374      | 0.<br>0.<br>0. | 006 0.03<br>006 0.03<br>026 0.17<br>072 0.11<br>213 0.37   | (A)  |       |    |             |            |
| \$ 92375<br>\$ 92376<br>\$ 92377<br>\$ 92378<br>\$ 92379 | 0.<br>0.       | 005 0.04<br>004 0.02<br>087 0.13<br>004 <0.02<br>080 0.04  |      |       |    |             |            |
| # 92380<br># 92381<br># 92382<br># 92383<br># 92384      | 0.<br>0.<br>0. | 086 0.03<br>199 0.10<br>004 0.02<br>006 0.02<br>021 0.02   |      |       |    |             |            |
| R 92385<br>R 92386<br>R 92387<br>R 92388<br>R 92389      | 0.<br>0.<br>1. | 002 0.02<br>258 0.17<br>028 0.26<br>072 0.67<br>828 1.28   |      |       |    |             |            |
| R 92390<br>R 92391<br>R 92392<br>R 92393<br>R 92394      | 0,<br>0,<br>0, | 137 1.36<br>052 0.05<br>.393 0.18<br>439 0.57<br>.006 0.03 |      |       |    |             |            |
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Resistered Asseser, Province of British Columbia





Report on

FIRST STAGE DRILLING PROGRAM

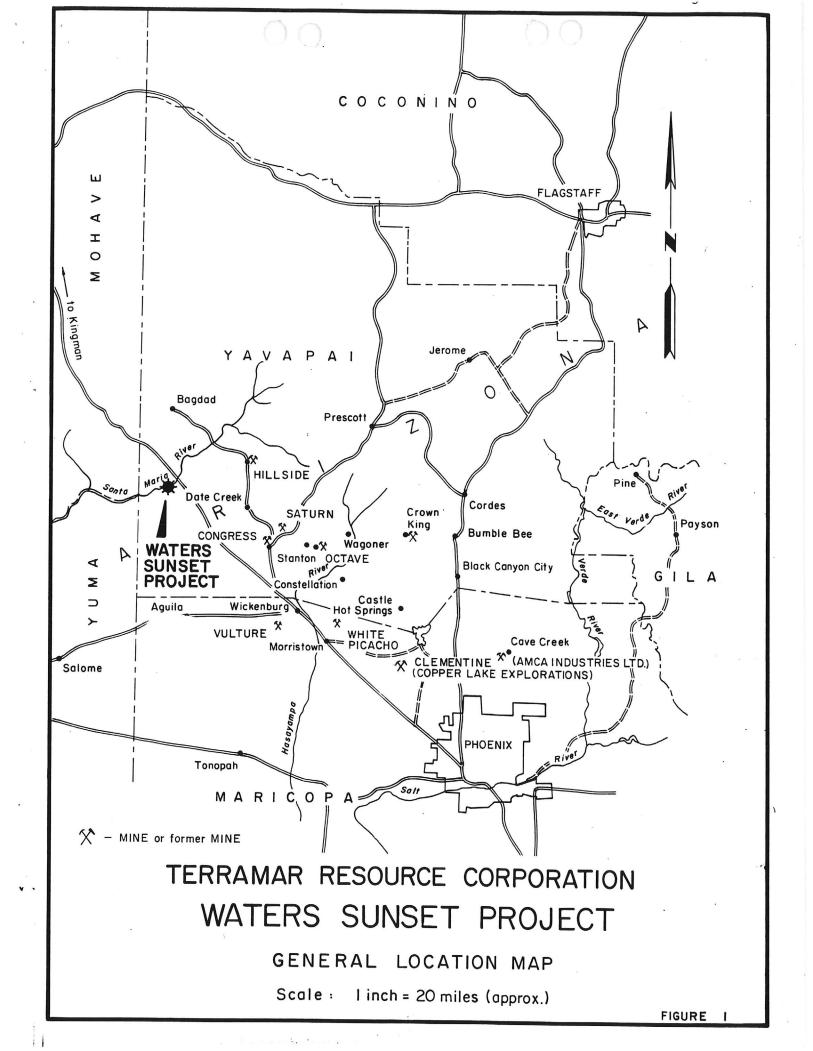
on the

WATERS/SUNSET PROPERTY Eureka Mining District Yavapai County, Arizona

for

TERRAMAR RESOURCE CORPORATION

November 10th, 1983



#### INTRODUCTION

The Waters/Sunset property, located on the Santa Maria River in Yavapai County, Arizona, has been acquired by option and purchase by Terramar Resource Corporation. Following initial examination and a detailed mapping and sampling program on the underground workings in May and June 1983, a program of diamond drilling to test the strike and dip extensions of the main Waters Vein was recommended.

The diamond drilling program was initiated on July 19th, 1983 with construction of access roads and drill sites, and the drilling commenced on August 1st, 1983. The program consisted of the drilling of 5,557 feet in 10 holes from three set-ups, and was completed on September 15th, 1983. As part of this program, surface mapping and sampling was carried out over the Blue Chip claims from the 5th to 15th October 1983. The results of the diamond drill program, and of the geological mapping and sampling, with recommendations for further exploration, are described in detail in this report.

The Waters/Sunset property, located in the Eureka Mining District of Yavapai County, Arizona, on the Santa Maria River about 45 miles northwest of Wickenburg, Arizona, consists of two patented claims, a patented millsite with water rights, six unpatented claims of the Hefner Group and the recently acquired Blue Chip group of 16 unpatented claims.

In April, 1983, Terramar Resource Corporation acquired an examination option on the Waters/Sunset property and retained Sawyer Consultants Inc. to carry out a program of detailed mapping and sampling.

The old underground workings had been rehabilitated by the owners as part of a plan to mine and heap leach ore from shoots remaining in the workings. In May and June 1983, the workings were surveyed by chain and compass, geologically mapped and channel sampled at approximately 15-foot intervals. A limited program of surface geological mapping and sampling was also carried out.

Results of the above program are described in the report by Sawyer Consultants Inc. dated June 17th, 1983 (House, 1983) which included recommendations for a 5000 foot diamond drilling program on the main Waters Vein structure.

The diamond drilling program was completed during the period July 19th to September 15th, 1983 with a total of 5,557 feet drilled in 10 holes from three set-ups. A surface mapping and sampling program on the Blue Chip claims was completed between October 5th and October 15th, 1983.

The diamond drilling program has confirmed the strength and continuity of the Waters vein along 600 feet of strike length and down dip for 500 feet from the old workings. Some of the assay values returned on Waters Vein intercepts are not as high as expected, but it is known from the underground sampling that there are richer shoots within the Waters Vein.

The surface sampling of quartz veins on the Blue Chip claims returned some very interesting values, indicating that further work is necessary on these veins to outline grades and tonnages over minable widths.

Further work programs are recommended for the Waters/-Sunset Project properties which will involve diamond drilling to test the northerly and southerly extensions of the Waters Vein, a program of bulldozer trenching, drilling and blasting followed by channel sampling of the quartz veins on the Blue Chip claims to outline grades and tonnages; rehabilitation of 300 feet of the second level adit not previously cleaned out, and extension of geological mapping and sampling to this area; and a test program of geophysical surveying using VLF-EM techniques to aid in tracing the vein extensions.

An alternate route, wholly on the north side of the Santa Maria River, has been located where a road can be built relatively easily freeing the property from the lack of access it presently suffers during the winter months and summer rainy season when the Santa Maria River is in flood.

#### PROPERTY AND OWNERSHIP

The Waters/Sunset property now consists of two patented claims, the Waters and the Sunset, a patented millsite, six unpatented lode claims (the Hefner Group) and sixteen unpatented Blue Chip claims which adjoin the Waters/Sunset patented claims to the north and east and cover the northerly strike extension of the Waters Vein.

The original patented Waters/Sunset claims and the Hefner Group are held under option from Mr. and Mrs. Bobby Westbrook of Waxahachie, Texas, presently residing in Wickenburg, Arizona, and the Blue Chip claims are 100% owned by T.R.C. Resources, the U.S. subsidiary of Terramar Resource Corporation. The latter were purchased for cash from the Gallagher family of Bagdad, Arizona in June 1983.

Total acreage involved in the Waters/Sunset Project properties is approximately 490, as detailed below:

| Waters/Sunset patented claims | 46.28  | acres |
|-------------------------------|--------|-------|
| Hefner Group                  | 123.96 | acres |
| Blue Chip Claims              | 320.00 | acres |

TOTAL 490.24 acres approximately

The details of these claims are tabulated in Appendix B.

#### LOCATION AND ACCESS

The Waters/Sunset claims are located in Section 29, T.12N, R.9W, Gila and Salt River Meridian, Arizona; the Hefner Group claims are located in Section 29 and 30, T.12N, R.9W, G.&S.R. Meridian, Arizona; and the Blue Chip claims are located in Sections 20, 21, 28 and 29, T.12N, R.9W, G.&S.R.M., Arizona. The property is located on the Santa Maria River at Latitude 34°21'30"N and Longitude 113°12'13"W in the Eureka Mining District, Prescott Land District, Yavapai County, Arizona. The area is covered by U.S.G.S. 7-1/2 minute topographic map, Malpais Mesa SW Quadrangle, Yavapai County, Arizona, on a scale of 1:24000.

The patented claims are located on the north bank of the Santa Maria River about 2-1/2 miles below the Highway 93 bridge; the Hefner Group claims are located on the south side of the River opposite the Waters/Sunset claims and the Blue Chip claims adjoin the Waters/Sunset claims on the northeast, lying on the north side of the river.

Access to the property at present is by six miles of desert road from Highway 93 at a point approximately 35 miles north of Wickenburg. The Santa Maria River is crossed at Black Canyon Wash near the Big Stick Mine, however the river crossing is impassable during periods of rain due to flash floods.

SAWYER CONSULTANTS INC.

### **PHYSIOGRAPHY**

The property covers the Santa Maria River at about 1700 feet elevation, the terrain rises steeply to the north to about 2400 feet and more gently on the south to around 2300 feet. The terrain is usually steep to precipitous near the rivers and creeks with more level ground and gentler slopes away from the rivers.

The area lies within the Mountain Region in the northern Basin and Range Physiographic Province, at the Transition Zone to the Plateau Province. The main landform in the Basin and Range Province consists of ridges of more resistant rocks aligned along the predominantly northwesterly trend of fault blocks.

The climate in east-central Arizona is arid and classed as desert. Rivers and creeks are intermittent, being dry for most of the year, but subject to flash flooding and torrential high water levels during the summer rains and in the winter months. Vegetation consists mostly of cacti and resistant bushes such as palo verde, mesquite and creosote.

There is a range of animal life with mule deer, cougar and coyote among the larger mammals reported, with wild burros and smaller mammals common.

# FIRST STAGE DRILLING PROGRAM, 1983

The First Stage Drilling Program on the Waters/Sunset property, as recommended in our earlier report (House, 1983) commenced on July 19th, 1983 with the construction of the necessary access roads and clearing of drill sites. The drill was mobilized onto the property on July 29th and drilling of the first hole, 83-WS-1, commenced on August 1st, 1983.

A total of 10 diamond drill holes were completed on three set-ups for a total footage of 5,557 feet; the last hole, 83-WS-10, was completed on September 14th, 1983 and the drill demobilized off the property on September 15th, 1983.

The first three holes were drilled from the middle set-up on the ridge east of the Waters adit as it was the closest to the old workings and was projected to intersect with the Waters Vein below the workings. The first diamond drill hole, 83-WS-1, was drilled at -45° on an azimuth of 300° to intersect the down dip projection of the Waters Vein at about 420 feet. The ground was very broken, resulting in lost circulation and caving problems. There was a core recovery problem at quartz vein intersections where the transition from relatively soft ground to hard ground caused blocking with subsequent grinding of core and poor recovery.

There were several quartz vein intersections in 83-WS-1 and all were sampled, the Waters Vein was not recognized due to the core loss problem. The hole was drilled to 599.0 feet to ensure any possible down-faulted section of the Waters Vein was intersected.

The second hole, 83-WS-2, was drilled at -60° on an azimuth of 300° and while the steeper angle of the hole reduced some of the caving and lost circulation problems, there was still a core recovery problem at quartz vein intersections. The Waters Vein intersection was projected at 450 feet but a re-evaluation from the quartz vein intersections in 83-WS-1 indicated the intersection could occur between 350 and 420 feet. A pegmatite dyke was cut from 383 feet to 450 feet with evidence of shearing and faulting on both contacts. The Waters Vein was not intersected in 83-WS-2 due to faulting, the hole was stopped at 570.0 feet.

The third hole was drilled at -80° on a 300° azimuth with much less lost circulation problems but still with a core recovery problem at quartz vein intersections. The depth of the Waters Vein was projected at 500 feet. A red, hematite stained, brecciated quartz vein with hanging wall and footwall shears was intersected from 512.0 feet to 523.5 feet. The two foot section from 516.0 feet to 518.0 feet returned an assay of 0.432 oz/ton gold. The hole was stopped at 541.0 feet.

It had been planned to drill the next three holes from the lower set-up before moving to the top set-up, but the drill and shack were too heavy for one tractor to move and had required the use of two tractors to move uphill to the middle set-up, however one tractor could move it downhill. Thus, the next three holes were drilled from the top or upper set-up to save tractor hours in moving.

The fourth hole, 83-WS-4, was drilled at -50° on an azimuth of 300°, with the -50° dip chosen to help eliminate some of the caving problems which were encountered in 83-WS-1. There were fewer problems with lost circulation and caving but the core loss problem at quartz vein intersections remained. The Waters Vein intersection was projected at about 300 feet and the red hematitic shear bounded, brecciated quartz vein was intersected from 331.0 feet to 337.0 feet. The hole was stopped at 513.0 feet to ensure any down-faulted section of the Waters Vein was intersected.

During the drilling of 83-WS-4, there were a series of storms in Central Arizona in the watershed of the Santa Maria River and the river flooded. It was impassable, even on foot, for 5 days and no drilling took place. When drilling resumed, there was a crew change with the dayshift driller being replaced.

The fifth hole of the program, 83-WS-5, was drilled at -65° on an azimuth of 300° with the vein intersection predicted at 420 feet. The Waters Vein was not intersected in this hole, a narrow quartz vein from 523.5 feet to 526.0 feet returned one assay of 0.018 oz/ton Au over 1.3 feet, but had none of the typical red hematitic colouration. The hole was drilled to 594.0 feet to ensure any down-faulted sections of the vein would be intersected.

The sixth hole, 83-WS-6, was drilled at -80° on an azimuth of 300° with the vein intersection predicted at 455.0 feet. However, extrapolation of the vein intersection and dip in 83-WS-3 and 83-WS-4 suggested the vein was deeper so the hole was drilled beyond the 500-foot depth and intersected the red hematitic, brecciated quartz vein with HW and FW shears from 683.0 feet to 690.8 feet. An assay of 0.132 oz/ton Au over 1.7 feet from 684.3 feet to 686.0 feet was returned within this intersection.

During the drilling of 83-WS-6, there was a crew change with the foreman being replaced, after which drilling performance was greatly improved and there was near 1001 core recovery in the Waters Vein intersections. Because of this marked improvement in core recovery, it was decided to drill the seventh hole, 83-WS-7, on the middle set-up at a dip of -50° and on an azimuth of 300° - which in effect was redrilling 83-WS-1. There were a few problems with lost circulation but core recovery was excellent, with the Waters Vein intersected from 310.0 feet to 319.0 feet including the HW and FW shear zones. The intersection was typical of the Waters Vein seen underground, with red hematitic colouration of the brecciated quartz

vein and the boundary shears cross-cutting the foliation of the wall rock schist. An assay of 0.318 oz/ton Au over 2 feet was returned from 315.0 feet to 317.0 feet within the intersection. The hole was stopped at 425.0 feet.

The next three holes were drilled from the lower set-up which was recommended as set-up number 2 in our report of June 17th, 1983.

The eighth hole, 83-WS-8 was drilled at -50° on an azimuth of 300° with the vein intersetion predicted at 450.0 feet. A red hematitic, brecciated quartz vein was intersected from 312.0 feet to 320.0 feet and returned values of 0.156 oz/ton Au over 1 foot within the intersection from 313.0 feet to 314.0 feet. The hole was stopped at 447.0 feet.

The ninth hole, 83-WS-9, was drilled at -65° on an azimuth of 300° with the vein intersection predicted at 460.0 feet. Three quartz veins were intersected; two veins, from 377.0 feet to 378.0 feet and 399.0 feet to 401.0 feet had red hematite colouration, while the third vein, from 421.0 feet to 423.3 feet, was associated with black carbonate vein material and had no red hematitic colouration. The hole was stopped at 515.0 feet, the conclusion being drawn that the Waters Vein had been intersected in fault zones where it was broken up and incomplete.

The tenth and last hole of the program, 83-WS-10, was drilled at -80° on an azimuth of 300° with the vein intersection predicted at 490.0 feet. A brecciated quartz vein with HW and FW shear zones and red hematitic colouration was intersected from 487.0 feet to 492.5 feet with a brecciated pegmatite dyke caught up in the HW shear zone of the vein. The hole was drilled to 640.0 feet to ensure that any downfaulted section of the Waters Vein was intersected.

The First Stage Drill Program has successfully demonstrated the strength and continuity of the Waters Vein along strike and to depth down the dip of the structure, and while the assays from several of the holes are low, it should be remembered that the underground sampling program outlined richer ore shoots within the vein structure.

As part of the program, the surface mapping and sampling of the Blue Chip Group of claims was carried out from October 5th, 1983 to October 15th, 1983. During this period, the Santa Maria River was in flood and impassable to vehicles, but was crossed on foot and traversing carried out over the Blue Chip claims.

During the surface mapping, a total of fourteen quartz veins, twelve of which are new to Terramar, were located. Chip samples were taken across the quartz veins and visible gold was noted in several of them. The veins and surrounding areas were mapped and located as accurately as possible in relation to the claims. The samples taken on the veins returned interesting values, which are shown on Table I following.

Because the Santa Maria River was in flood and impassable to vehicles, and had caused delays in the drilling program for the same reason, an alternate access route on the north side of the river was investigated. It had earlier been thought that a possible route along the north side of the river, just above the river level, could be used for access but it was soon found to be impassable due to cliffs extending to the water's edge as well as several steep-sided canyons cutting down from the north.

The simplest and most practical route, which was walked out on the ground, extends from the flat ground adjoining the Highway 93 bridge across the river and along a ridge which curves in a horseshoe fashion around the heads of the creeks entering the river from the north, and down a ridge spur to Gallagher Creek on the northern edge of the Blue Chip claims. There is an existing old mining road down to the creek from the Blue Chip ground at this point which follows the jeep trail down to the flat above the present Santa Maria River crossing. The trails and proposed access route have been put on the Composite Geology and Sampling Plan, Map 1.

Pertinent details of the diamond drilling program are summarized below.

# SUMMARY OF DIAMOND DRILL HOLE DATA

| Satura | Belouth                                      | <b>-</b> 2-   | Final<br>Depth  |   |  |
|--------|--|---|---|---|--|
| secup  | MZ IMU CD                                    | DIP   | (Ft.)   | Started   | Completed  |
| Middle | 300°   | -45°  | 599   | 1/8/83  | 6/8/83   |
| Middle | 300°   | -60°  | 570   | 6/8/83  | 12/8/83  |
| Middle | 300°   | -80°  | 541   | 12/8/83   | 15/8/83  |
| Upper  | 300°   | -50°  | 513   | 16/8/83   | 24/8/83  |
| Upper  | 300°   | -65°  | 594   | 24/8/83   | 28/8/83  |
| Upper  | 300°   | -80°  | 713   | 28/8/83   | 1/9/83   |
| Middle | 300°   | -50°  | 425   | 2/9/83  | 5/9/83   |
| Lower  | 300°   | -50°  | 447   | 5/9/83  | 7/9/83   |
| Lower  | 300°   | -65°  | 515   | 7/9/83  | 9/9/83   |
| Lower  | 300°   | -80°  | 640   |   | 14/9/83  |
|        | Tot  | tal   | 5557  | •   |  |
|        | Middle Middle Upper Upper Upper Middle Lower | Middle 300° Middle 300° Middle 300° Upper 300° Upper 300° Upper 300° Lower 300° Lower 300° Lower 300° | Middle 300° -45°  Middle 300° -60°  Middle 300° -80°  Upper 300° -50°  Upper 300° -65°  Upper 300° -50°  Lower 300° -50°  Lower 300° -65° | Setup         Azimuth         Dip         Depth (Ft.)           Middle         300°         -45°         599           Middle         300°         -60°         570           Middle         300°         -80°         541           Upper         300°         -50°         513           Upper         300°         -65°         594           Upper         300°         -80°         713           Middle         300°         -50°         425           Lower         300°         -65°         515           Lower         300°         -80°         640 | Setup         Azimuth         Dip         Depth (Ft.)         Started           Middle         300°         -45°         599         1/8/83           Middle         300°         -60°         570         6/8/83           Middle         300°         -80°         541         12/8/83           Upper         300°         -50°         513         16/8/83           Upper         300°         -65°         594         24/8/83           Upper         300°         -80°         713         28/8/83           Middle         300°         -50°         425         2/9/83           Lower         300°         -50°         447         5/9/83           Lower         300°         -65°         515         7/9/83           Lower         300°         -80°         640         10/9/83 |

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TABLE I: VEIN LOCATIONS, SAMPLES AND ASSAYS

| VEIN SAMPLES                         | BLUE CHIP   | ASSA   | YS     |
|--------------------------------------|-------------|--------|--------|
| Location                             | width       | Au OPT | Ag OPT |
| 9.                                   |             |        |        |
| East Adit, Gallagher Creek           | 1.25        | 0.003  | 0.04   |
| West Adit, Gallagher Creek           | 1.0         | 2.180  | 0.46   |
| Pit, west of H.G. Hill, on strike    |             |        |        |
| with High Grade (H.G.) Vein          | 0.83        | 0.109  | 0.51   |
| Sheared quartz vein, shear zone, pit | r.          |        |        |
| H.G. Hill                            | 1.25'       | 0.390  | 0.42   |
| Brecciated quartz vein in shear, pit |             |        |        |
| H.G. Hill                            | 1.0         | 0.329  | 1.04   |
| Lower adit, quartz vein brecciated   |             |        |        |
| in shear, H.G. Hill                  | 1.0'        | 0.020  | 0.29   |
| Cathedral stope, H.G. Hill           | 0.5         | 0.238  | 0.39   |
| Platform Shaft                       | 1.0         | 0.007  | 0.08   |
| Bee Shaft, H.W. aplite               | 2.0         | 0.002  | 0.05   |
| Decline above Blue Chip adit         | 1.0'        | 0.002  | 0.07   |
| Mother Vein                          | 0.42        | 1.187  | 0.79   |
| Ocatilla adit, quartz vein           | 0.4         | 0.257  | 0.25   |
| Ocatilla adit, dilation zone         | 1.0'        | 0.327  | 0.13   |
| Collapsed adit                       | 0.4"        | 0.034  | 0.08   |
| High grade vein, W. end face         | 0.83        | 0.965  | 0.96   |
| High grade adit, E. end face         | 1.7'        | 0.115  | 0.53   |
| 50' W. of High Grade Vein, on strike | 0.5         | 0.084  | 0.21   |
| Velvet adit                          | 2.0         | 0.022  | 0.08   |
| Two prong vein, East end, quartz     |             |        |        |
| stringer zone                        | 1.0' - 2.0' | 0.380  | 0.86   |
| Two prong vein, 50° West of above    | 1.0         | 0.237  | 0.36   |
| Trench beside BR - 4/1260 Sunset     | 1.0'        | 0.098  | 0.12   |

OPT - TROY OUNCES PER SHORT TON

TABLE II: DRILL HOLE VEIN INTERSECTIONS AND ASSAYS

| Hole No. | Intersection                        | Weighted Averages        | Unweighted   |
|----------|-------------------------------------|--------------------------|--|
| 83-WS-1  | 314.0'-318.0'                       | Lost core, 2.5' recovery | 0.128 OPT Au, 314.0'-318.0'                                |
| 83-WS-2  | No vein intersec<br>due to faulting | tion                     |  |
| 83-WS-3  | 516.0'-520.0'                       | 0.291 OPT Au over 4.0'   | 0.432 OPT Au, 516.0'-518.0'                                |
| 83-WS-4  | 331.0'-335.5'                       | 0.027 OPT Au over 4.5'   |  |
| 83-WS-5  | No vein intersec<br>due to faulting |                          | 0.065 OPT Au, 332.5'-334.0'                                |
| 83-WS-6  | 684.3'-688.0'                       | 0.073 OPT Au over 3.7'   | 0.132 OPT Au, 684.3'-686.0'                                |
| 83-WS-7  | 314.0'-319.0'                       | 0.138 OPT Au over 5.0'   | 0.318 OPT Au, 315.0'-317.0'                                |
| 83-WS-8  | 312.0'-316.0'                       | 0.058 OPT Au over 4.0'   | 0.156 OPT Au, 313.0'-314.0'                                |
| 83-WS-9  | Vein intersection                   |                          |  |
| 83-WS-10 | 489.0'-492.3'                       | 0.018 OPT Au over 3.3'   | 0.053 OPT Au, 421.0'-422.0'<br>0.048 OPT Au, 491.2'-492.3' |
|          |                                     |                          |  |

OPT = TROY OUNCES PER SHORT TON

The First Stage Drill program on the Waters/Sunset property has shown the strength and continuity of the Waters Vein over a strike length of 600 feet and a down dip extension of 500 feet. The surface geological mapping phase of the program covered most of the Blue Chip claims, with the location and sampling of mineralized quartz veins the priority.

During the mapping program, it was apparent that the surface expression of geological structures would only be seen in geomorphological features, due to the effects of the desert weathering processes which mantle the bedrock surface with rock debris and fragments. The larger structural elements such as faults and shear zones do have a surface expression in that they are zones of weakness and are eroded more rapidly, resulting in gullies and creeks along the strike of these zones. The irregular course of the Santa Maria River on the southern boundary of the Waters/Sunset claims appears to be controlled by block faulting which can be seen in the canyon east of the Millsite. The course of Gallagher Creek on the north side of the Blue Chip claims also reflects faulting as zones of weakness now followed by the creek.

The earlier underground mapping had indicated that a series of faults striking at 030°, with downthrow on the west, were breaking up the Waters Vein and this was confirmed in the diamond drilling. Another series of faults, striking roughly northwest (approximately 310°), was noted, with an apparent downthrow to the east.

The overall effect of this faulting has been to break up the ground into a series of fault bounded blocks or "panels", with the Waters Vein contained in such "panels" effectively raised on the east of the 030° faults. The throw on the 310° faults is unknown but would effectively drop the Waters Vein in the "panels" on the east of the faults. The Waters Vein extension north of the Waters/Sunset claims is believed to have been broken up into a sequence of fault bounded "panels" generally trending north-easterly under the Blue Chip ground. The mineralised quartz veins on the Blue Chip claims may be related to the Waters Vein in these "panels" due to remobilization caused by tectonism or associated with the fine grained quartz monzonite intrusive in the Blue Chip adit area.

The southerly extension of the Waters Vein across the Santa Maria River was not traced beyond the two adits sampled in the earlier program in May 1983. A higher adit on strike with the West Vein adit was noted during this later program, but was not visited. It is believed that the trace of the main Waters Vein south of the river would follow up the gully noted during the May 1983 program as containing much vein quartz float.

It is suspected that this trace of the main vein may have been surface mined by earlier workers, maybe even by the Spanish explorers. Any trace of such earlier workings, by primitive methods, would have been obscured by later erosion and flooding down the gully. This would perhaps also explain the presence of the several old arrastras on the south side of the river.

The Waters/Sunset property comprising the patented claims, the Hefner Group and the Blue Chip claims is believed effectively to cover the Waters Vein and extensions for a strike length of over 6,000 feet and a width of around 2,000 feet. The programs carried out to date have tested about 800 feet of strike length of the main Waters Vein with encouraging results.

# RECOMMENDATIONS

The First Stage Drilling Program on the Waters/Sunset property has confirmed the continuity and strength of the Waters Vein over a strike length of greater than 600 feet and down dip for 500 feet from the underground workings. The surface sampling of quartz veins on the Blue Chip claims returned interesting gold values from 10 of the 16 quartz veins sampled.

A further program of exploration is recommended for the property as follows:

- (A) Diamond drilling to delimit and test the northerly extension of the Waters Vein.
- (B) Diamond drilling to test the southerly extension of the Waters Vein across the Santa Maria River.
- (C) Bulldozer trenching, with drilling and blasting to provide faces for channel sampling, of the quartz veins on the Blue Chip claims, in order to outline grades and tonnages over minable widths.
- (D) Rehabilitation and ventilation of the unexplored section of the Second Level at the Waters Mine, where the earlier reported 300 feet of drift should be geologically mapped and channel sampled at 15-foot intervals to provide geological and structural information as well as outline unmined reserves.
- (E) Run a limited geophysical survey over the Waters Vein to test the response, which, if favourable, would require a full VLF-EM survey over the properties.

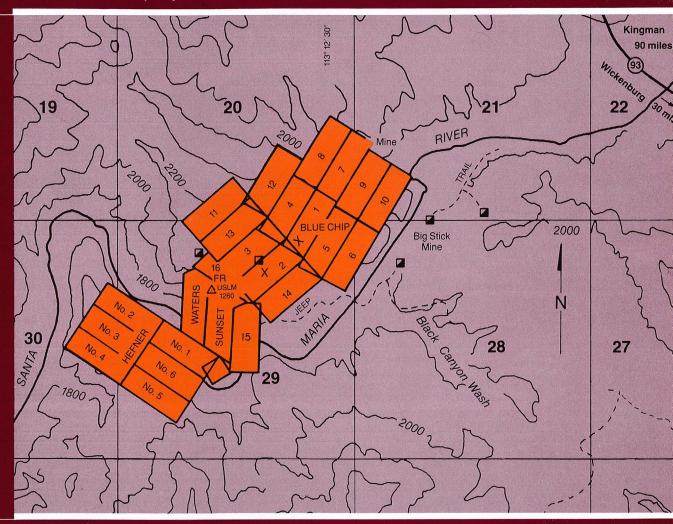


Terramar Resource Corporation



Shares Traded: Vancouver Stock Exchange Toronto Stock Exchange Trading Symbol — TEM

Waters Sunset Property, Arizona, U.S.A.



Production Information Summary ORE RESERVES: Probable, possible and inferred on Waters Sunset, Blue Chip and Hefner Claims

TONNAGE: 500,000 (Further potential many times this figure)

GRADE: .15 oz./ton gold

MINING COSTS: US\$25 per ton RECOVERY METHOD: Heap leach

**RECOVERY RATE: 70%** 

DAYS WORKED PER YEAR: 350

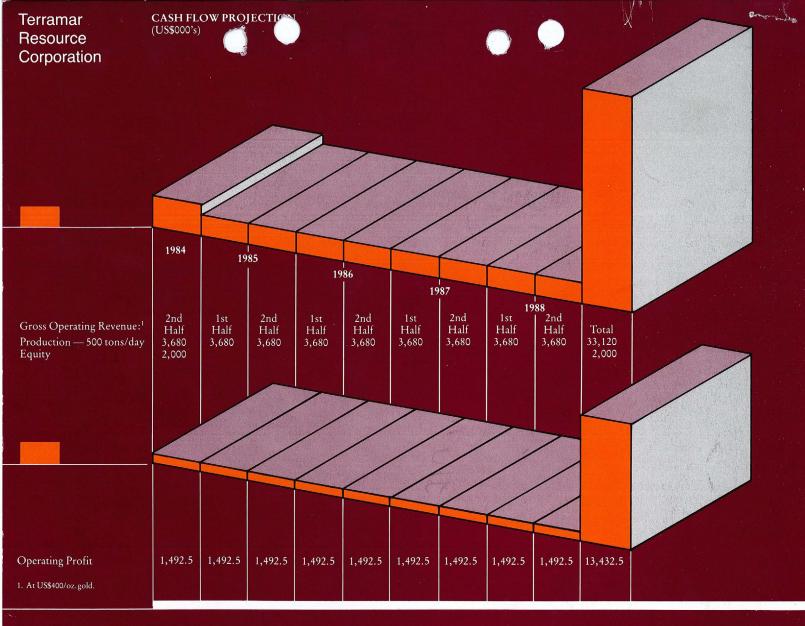
TONS ORE PROCESSED PER YEAR (500 t.p.d.): 175,000

OUNCES GOLD RECOVERED PER YEAR (500 t.p.d.): 18,400

GROSS VALUE OF ANNUAL PRODUCTION: U\$\$7,360,000

(500 t.p.d. at \$US400 per ounce gold)

ANNUAL OPERATING PROFIT (500 t.p.d.): Cdn.\$3,701,400



Operating Profit Projection

|  | 19                  | 984                   | 1985                |                       |  |
|--|---------------------|-----------------------|---------------------|-----------------------|--|
|  | 500 tons<br>per day | 1,000 tons<br>per day | 500 tons<br>per day | 1,000 tons<br>per day |  |
| Production (tons) Gold Recovered (ounces) (.15 oz./ton gold, 70% recovery) | 87,500<br>9,200     | 175,000<br>18,400     | 175,000<br>18,400   | 350,000<br>36,800     |  |
| Gross Operating Revenue (US\$)<br>(US\$400 per ounce gold)                 | 3,680,000           | 7,360,000             | 7,360,000           | 14,720,000            |  |
| Operating Costs (US\$)<br>(US\$25/ton)                                     | 2,187,500           | 4,375,000             | 4,375,000           | 8,750,000             |  |
| Operating Profit (US\$)  | 1,492,500           | 2,985,000             | 2,985,000           | 5,970,000             |  |
| Operating Profit (Cdn.\$)<br>(Exchange rate US\$1.00 = Cdn.\$1.24)         | 1,850,700           | 3,701,400             | 3,701,400           | 7,402,800             |  |
| Operating Profit Per Share (Cdn.\$) (5.6 million shares outstanding)       | .33                 | .66                   | .66                 | 1.32                  |  |

C. PHILIP YEARDLE EXECUTIVE VICE-PRESIDENT

## TERRAMAR RESOURCE CORPORATION

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