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05/05/93

ARIZONA DEPARTMENT OF MINES AND MINERAL RESOURCES FILE DATA

PRIMARY NAME: WILLIAMS GARNET PROPERTY

ALTERNATE NAMES:

GARNET #1  
B & G GROUP

MOHAVE COUNTY MILS NUMBER: 860

LOCATION: TOWNSHIP 29 N RANGE 21 W SECTION 31 QUARTER NW  
LATITUDE: N 35DEG 51MIN 39SEC LONGITUDE: W 114DEG 34MIN 35SEC  
TOPO MAP NAME: HOUSEHOLDER PASS - 7.5 MIN

CURRENT STATUS: RAW PROSPECT

COMMODITY:

ABRASIVE GARNET  
SPECIMENS GARNET

BIBLIOGRAPHY:

ADMMR WILLIAMS GARNET PROPERTY FILE  
CLAIMS EXTEND INTO SECS 27, 28, 29, 30, 31,  
32, 33, 34

Date Printed: 04/26/93

ARIZONA DEPARTMENT OF MINES AND MINERAL RESOURCES

VERBAL INFORMATION SUMMARY

Information from: **Mike Carr**

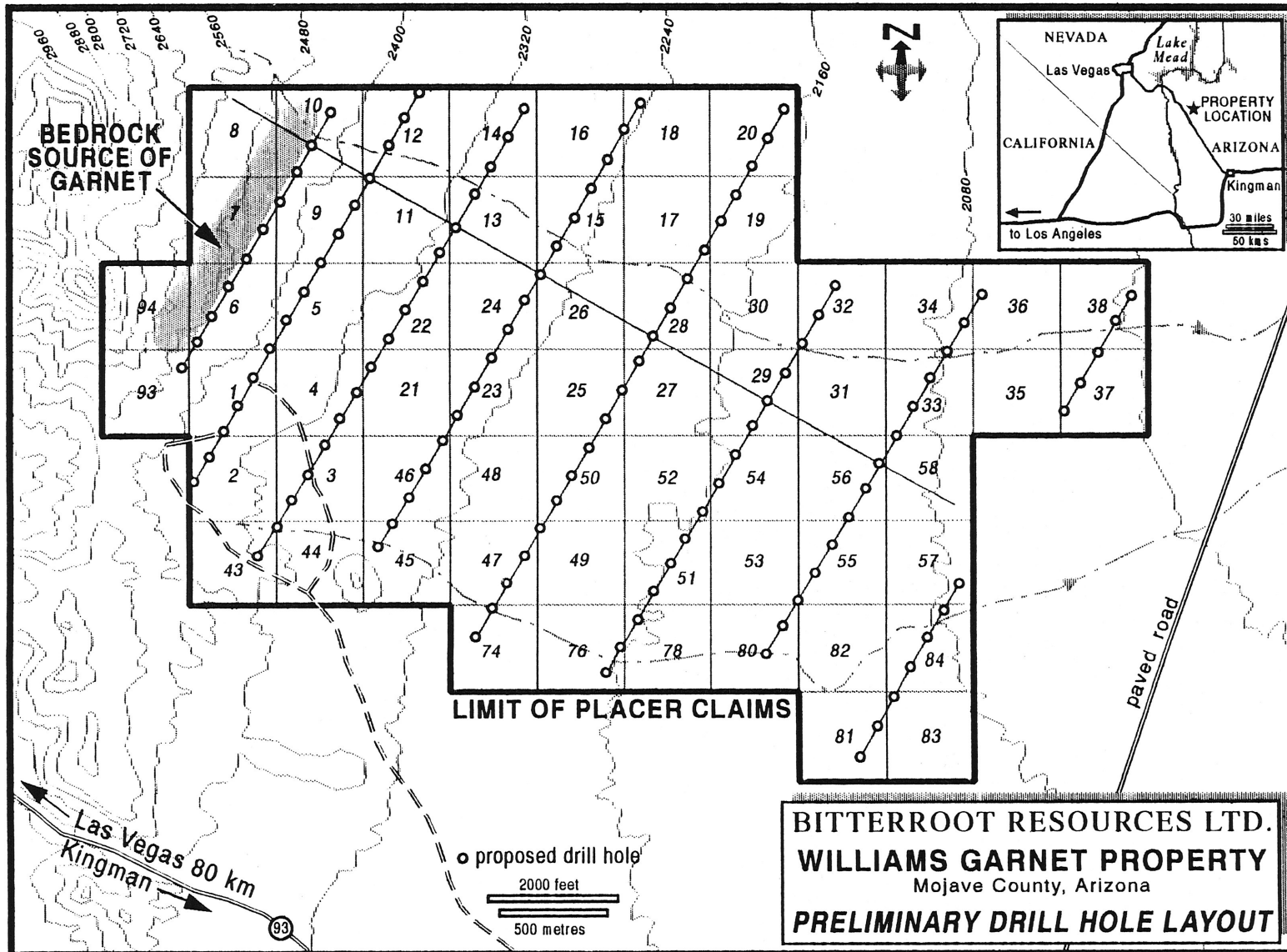
Company: Bitterroot Resources  
Address: 625 Howe Street, Suite 900  
City, State ZIP: Vancouver, B.C., V6C 2T6  
Phone: 604-684-1175  
  
MINE: Williams Garnet Property  
  
ADMMR Mine File: (to be made)  
County: Mohave  
AzMILS Number:

SUMMARY

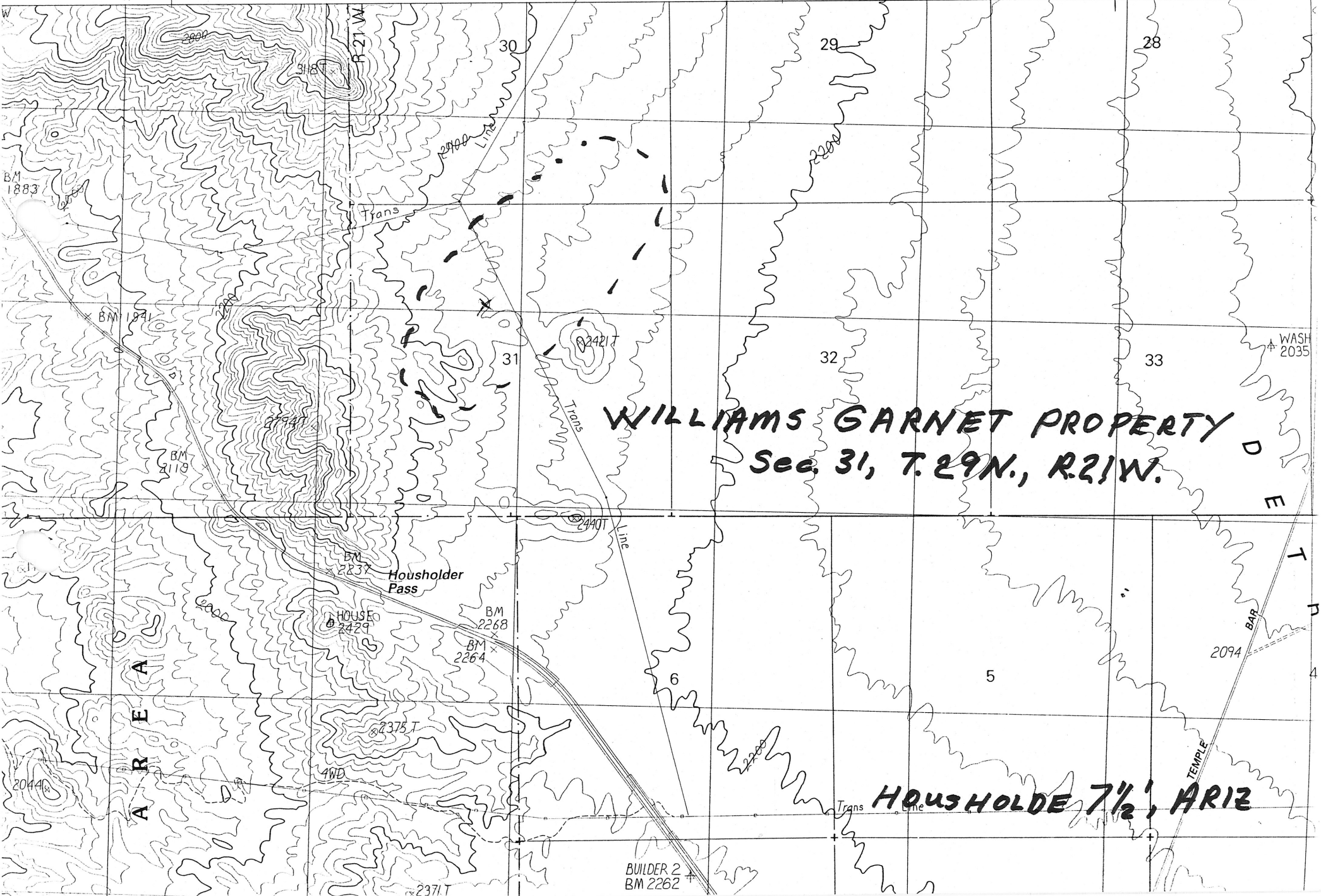
The company has optioned a group of nearly 100 claims from Gary R. Williams, 620 Weathervane Court, Las Vegas, Nevada 89110. Mr. Williams is reported to be a mineral processing engineer. The primary area of interest is just north of Householder Pass west of the Temple Bar Road in Mohave County. The claims are located in several sections of the southwest corner of T.29N.,R.21W. They cover an alluvial garnet occurrence that Bitterroot hopes to prove to be a viable deposit. Mr. Carr explained that the occurrence contains red almandite garnet. They hope to complete a placer sampling project on a portion of the claim group by the end of April 1993. He feels there is potential for placer concentrations of four to five percent garnet. Dry recovery methods are being studied. The property had been previously optioned to Myers Metals and Minerals in Seattle.

The claim group consists of the Garnet #1 Claim in the SW, Sec. 30, T.29N.,R.21W., the B & G 1 through 4, and the BG 5 through 94 covering portions of Sections 27, 28, 29, 30, 31, 32, 33, and 34, T.29N.,R.21W.

Ken A. Phillips, Chief Engineer      Date: April 12, 1993



717 718 35' 719 720 721 32' 30"



**WILLIAMS GARNET PROPERTY**  
**Sec. 31, T. 29N., R. 21W.**

**HOUSE 7 1/2, ARIZ**

A  
R  
E  
A

D  
E  
T  
U

BUILDER 2  
BM 2262

WASH  
2035

2094

5

32

33

31

30

29

28

BM 1883

BM 1871

BM 2119

BM 2237

BM 2268

BM 2264

2375 T

1WD

2421 T

2440 T

2044

2371 T

318

R-21 W

2900

Line

Trans

Trans

Line

Trans

TEMPLE

BAR

PRINTED: 09/12/2002

ARIZONA DEPARTMENT OF MINES AND MINERAL RESOURCES AZMILS DATA

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BITTERROOT RESOURCES

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32, 33, 34

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Williams Garnet Property **January 29, 1997**

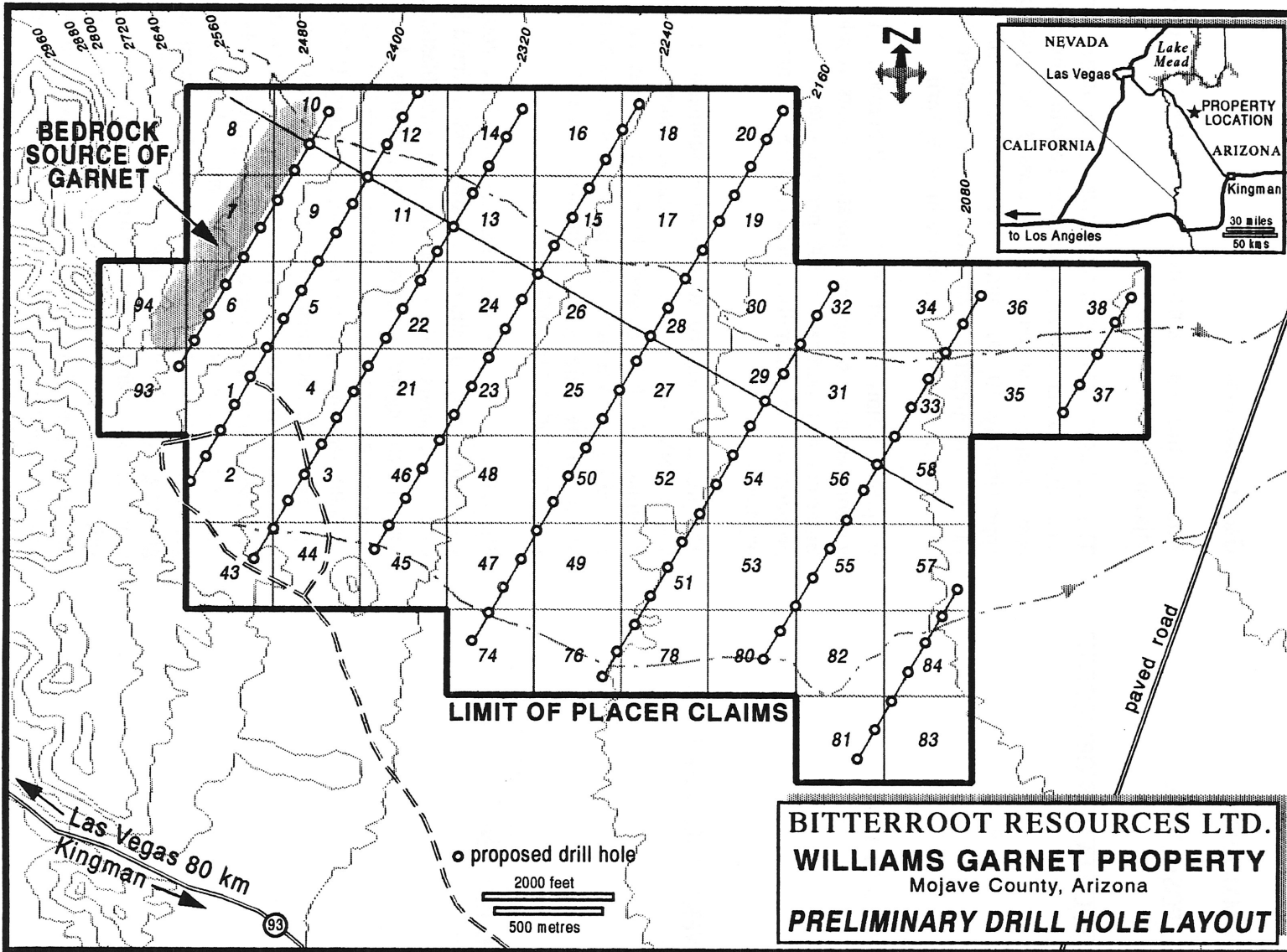
Dittman A. i. P. 10



**WILLIAMS GARNET PROPERTY (file)**  
**MOHAVE CO., ARIZONA****March 1993**

<b>COMMODITY</b>	Garnet (almandine)
<b>DEPOSIT TYPE</b>	Alluvial almandine garnet derived from the erosion of adjacent metamorphic rocks.
<b>EXPLORATION OBJECTIVES</b>	The primary exploration objective is to define an almandine garnet deposit which can be mined by low cost open-pit methods and processed to produce approximately 10,000 tonnes per year of almandine garnet. Aggregates could also be a valuable by-product. Drilling will commence in early April.
<b>LAND STATUS</b>	64 placer claims are under lease to Bitterroot. The vendor retains a 6 percent operating profits royalty. Bitterroot may purchase a 100 percent interest in the property for US\$1.2 million, less royalties and property payments.
<b>INFRASTRUCTURE</b>	The property is located 80 kilometres southeast of Las Vegas, NV and a similiar distance northwest of Kingman, AZ. It is accessible by paved highway and is crossed by a power line. The property is well situated relative to the major garnet consuming markets on the west coast and in the southeast.
<b>MARKETING</b>	The Williams garnet property has the potential to host a significant deposit of almandine garnet which would be sold to consumers in the water filtration, sand blasting, water jet cutting and abrasive coatings industries. North American garnet prices currently range from US\$150 to US\$600 per tonne and average approximately US\$200 per tonne. Garnet consumption in the U.S. has grown at an annual rate of approximately 8 percent since the mid 1980's and prices have increased approximately 5 percent per year over the same period. Demand for garnet in North America is expected to continue growing from the current level of 65,000 tonnes per year. Environmental concerns are reducing the use of silica sand and slags for sand blasting, and are increasing demand for water filtration. Growing use of newer technologies such as water jet cutting and secondary oilfield enhancement, together with moderate rates of economic growth should continue to stimulate demand for almandine garnet.





THE NORTHERN MINER

MARCH 1, 1993

...the company is also evaluat-

...states as a producer of