CONTACT INFORMATION
Mining Records Curator
Arizona Geological Survey
416 W. Congress St., Suite 100
Tucson, Arizona 85701
520-770-3500
http://www.azgs.az.gov
inquiries@azgs.az.gov

The following file is part of the

James Doyle Sell Mining Collection

ACCESS STATEMENT

These digitized collections are accessible for purposes of education and research. We have indicated what we know about copyright and rights of privacy, publicity, or trademark. Due to the nature of archival collections, we are not always able to identify this information. We are eager to hear from any rights owners, so that we may obtain accurate information. Upon request, we will remove material from public view while we address a rights issue.

CONSTRAINTS STATEMENT

The Arizona Geological Survey does not claim to control all rights for all materials in its collection. These rights include, but are not limited to: copyright, privacy rights, and cultural protection rights. The User hereby assumes all responsibility for obtaining any rights to use the material in excess of "fair use."

The Survey makes no intellectual property claims to the products created by individual authors in the manuscript collections, except when the author deeded those rights to the Survey or when those authors were employed by the State of Arizona and created intellectual products as a function of their official duties. The Survey does maintain property rights to the physical and digital representations of the works.

QUALITY STATEMENT

The Arizona Geological Survey is not responsible for the accuracy of the records, information, or opinions that may be contained in the files. The Survey collects, catalogs, and archives data on mineral properties regardless of its views of the veracity or accuracy of those data.

Rex E. Loesby, P.E.

19288 East Hickock Dr., Parker, CO 80134
Tel: (303) 840-7812 Fax: (303) 840-7816

January 31, 1994

Mr. Peter Vikre
Asarco
510 East Plum Lane
Reno, NV 89502

Dear Peter:

Enclosed is a Properties Summary for the Tombstone District Projects near Tombstone, Arizona. The package includes six projects in the Tombstone area, one of which is a surface mineable gold target in more advanced stages of development. The other five properties are earlier stage targets with significant indications of mineralization and merit further investigation.

As usual, I have a finder agreement with the owner that calls for my fee to be paid by the owner. Please let me know if you would like to investigate any or all of the properties. Thank you.

Sincerely,

Rex E. Loesby

Peter 702/826-7007

TOMBSTONE DISTRICT PROJECTS

PROPERTIES SUMMARY

Prepared by Rex E. Loesby, P. E.

January 1994

While the information contained in this Property Summary has been reviewed and is believed to accurately reflect the reports delivered to Mr. Loesby by the owners of the properties described herein and others, as well as information gathered in conversations with the owners of the properties described herein and others, Mr. Loesby expressly disclaims any and all liability for representations, expressed or implied, contained in, or omissions from, this report or any other written or oral communication transmitted to any interested party in the course of the reader's evaluation of the properties described herein. The reader should rely upon his or her own evaluation of the property and independently verify all of the information presented in this summary report before taking any action with respect to the properties.

NEITHER THIS DOCUMENT NOR ITS DELIVERY TO THE READER SHALL CONSTITUTE OR BE CONSTRUED TO BE AN OFFER TO SELL ANY OF THE SECURITIES OF ANY COMPANY. SUCH AN OFFER CAN ONLY BE MADE BY THE DELIVERY OF AN OFFERING MEMORANDUM BY SUCH COMPANY TO THE PROSPECTIVE INVESTOR.

For information, contact Rex E. Loesby at 19288 E. Hickock Dr., Parker, CO 80134, Tel: 303-840-7812, Fax: 303-840-7816

I. INTRODUCTION

The Tombstone District Projects, controlled by Excellon Resources of Toronto, consist of six separate mineral properties, all near the town of Tombstone, Cochise County, Arizona (please see the attached map). A seventh, the Robbers Roost Project, was recently optioned by a major mining company. The properties are shown on the attached map. Tombstone is located approximately 70 miles southeast of Tucson, Arizona on US Highway 80. The properties are held by Excellon subject to the terms of a number of lease agreements with the underlying owners. Details of the leases are available to interested parties from Excellon.

The TDC Lease area has had the most significant exploration and mining activity and is in the most advanced stage of development of all of the projects described in this report. Excellon has held the property for a number of years, during which time it and joint venturers have performed extensive geologic evaluations including substantial drilling programs.

The Tombstone district was previously thought to be a mid-Tertiary aged epithermal silver-lead-zinc district of limited size and potential. More recent work shows it to be of Laramide age. Mineralization is associated with volcanism and related caldera formation, and alteration assemblages are characteristic of porphyry copper deposits. Five such potential porphyry copper centers in the Tombstone area have been acquired by Excellon in addition to the core TDC Lease area. Excellon's consultants are Dr. John M. Guilbert, Professor Emeritus, The University of Arizona, and James A. Briscoe, President, JABA, Inc., both recognized authorities on ore deposit geology. A very detailed report on the Tombstone District and Guilbert's/Briscoe's recommendations for development programs on all of Excellon's holdings is available to interested parties from Excellon.

Excellon offers each property separately, or will consider combining some or all of the properties in a single package. Excellon offers these properties to a joint venture partner or purchaser under terms which might include an initial cash payment with minimum spending requirements for development. On full development of any of the properties, Excellon offers a direct interest which could ultimately amount to majority control of that property.

The following two sections describe the properties. The first section concentrates on the TDC Lease Project area as it has had significant past mining activity and the data available from drilling and geologic evaluations are quite extensive. The second section describes each of the outlying properties.

II. TDC LEASES

Property Description: The TDC Leases project area includes the original gold/silver discoveries and mines that were the reason for the building of the town of Tombstone, Arizona in 1877. The property consists of 89 patented and 59 unpatented lode claims just south and immediately adjacent to the town of Tombstone.

Reserves: During the first half of 1993, 86 reverse circulation holes were drilled. Approximately 50 percent of this drilling was adjacent to and within a previously mined open pit area. This drilling suggested a geologic resource of 1.2 million tons grading 0.063 opt gold equivalent. An additional deeper geologic resource of 289,000 tons grading 0.098 opt gold equivalent was also identified. Excellon's partner in the drilling became discouraged when the most prolific gold zone appeared to fade abruptly to the west and

chose to abandon their interest in the area. Subsequent analysis by Briscoe revealed there was a failure to take into account a major strike slip fault which offset the gold zone some 400 feet to the south. Further examination of this data plus data from previous work suggest there is the potential to develop in excess of 600,000 ounces of gold equivalent within the disturbed ground in and around the old open pit area. Furthermore, the potential exists on other partially tested and untested ground which, according to Briscoe, could contain more than 1.5 million ounces of gold equivalent.

Metallurgy: Based on prior operators' experience, the gold ores of the project are known to respond favorably to heap leaching with high recovery rates.

History: Initial gold discoveries of gold and silver were made in 1877. From 1877 to 1907, gold production was 194,000 ounces and silver production was 24 million ounces. During the past 20 years, numerous attempts have been made to re-develop mines in the district. The property was developed in 1980 by Tombstone Exploration Inc. (TEI) and it produced an estimated 100,000 ounces of gold equivalent from 1980 to 1984. In 1989 a Merrill Crowe processing plant was installed on the property by Cowichan Resources, Inc., but under-capitalization resulted in a closing of operations late in 1989. Excellon acquired an option on the property in 1990.

Planned Development Work: An exploration program has been recommended by Briscoe. The program is estimated to cost approximately $200,000 and would consist of geochemistry, geophysics, and 10,000 feet of scout drilling to broadly outline ore zones. A follow-up definition drilling program totalling approximately 20,000 feet is estimated to cost $260,000.

Infrastructure: Mine utilities, services and skilled labor are readily available in the area. A 3,000 tpd Merrill-Crowe processing plant was installed on the property in 1989 by a previous owner. The plant remains and could be made operational with minimal expenditures.

Permitting: All permits are in place for both the mining and leaching operation. The people of the town of Tombstone seem very supportive of a mining operation at the sight.

III. OTHER PROPERTIES

The other five properties held by Excellon in the Tombstone area include the Walnut Creek Porphyry Centre, the State of Maine Porphyry Centre, the Johnson Ranch Property, the Zebra Property, and the Prompter Ridge Property. With respect to these five properties, Guilbert writes:

> "Potential in the district is for carbonate-hosted replacement-type porphyry copper mineralization at intermediate to moderate depth and perhaps great depth; shallow chalcocite blanket porphyry type mineralization; statigraphically and structurally controlled carbonate replacement lead-zinc-silver mineralization; similarly controlled gold of low grade to high grade; volcanic-hosted disseminated precious metal mineralization; supergene enriched volcanic and sediment hosted intermediate to high grade precious metal mineralization; and porphyry-copper-associated distal sediment or volcanic hosted gold mineralization."

All of the five properties are early stage exploration targets where there are significant indications of mineralization that merit further investigation. Guilbert and Briscoe have designed integrated exploration programs for all of the properties including geophysics, geochemistry, biogeochemistry, and drilling to test the areas.

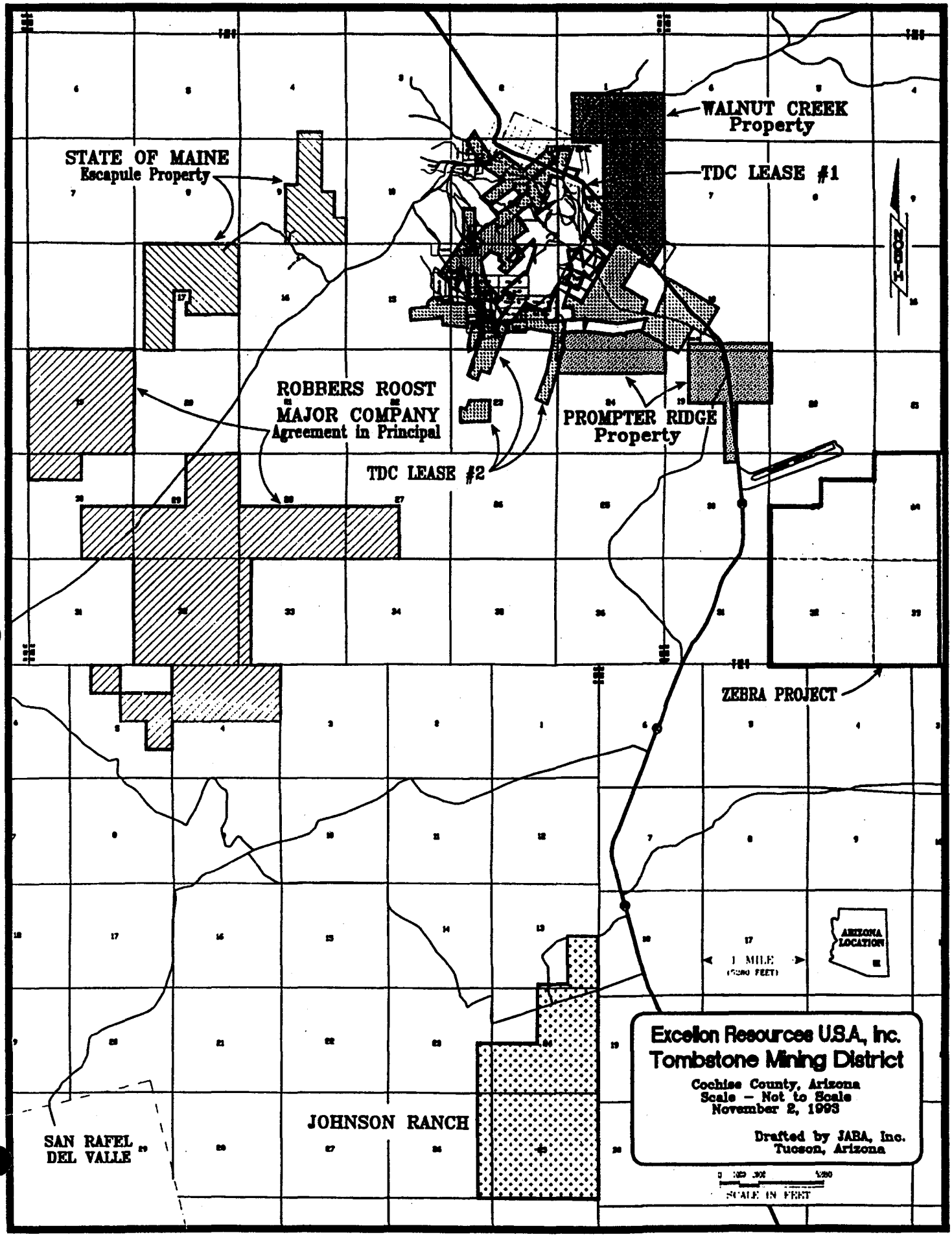
Walnut Creek Porphyry Centre, Prompter Ridge Distal Gold Target: The Walnut Creek property is located east of and immediately adjacent to the town of Tombstone, while the Prompter Ridge property is located southeast of the TDC Lease property. Guilbert writes:

> "Although (the Walnut Creek) suspected porphyry center is under alluvium cover, zonation of precious metals in exposed rocks around the projected center is similar to recently recognized haloes around better exposed porphyries... new orthophotography showed that the Prompter fault is not straight as it has been mapped previously, but rather is concave to the north. It lines up with the north to northeast concave Lucky Cuss fault system. The combination of the two faults describes an arcuate structure, the centroid of which is the projected Walnut Creek Porphyry Center. These faults localize manganese-silver mineralization that may reasonably be interpreted as the outer part of a porphyry alteration zonation. Recent gold discoveries at Chimney Creek, Bingham Canyon, and the adjacent Barney's Canyon, and studies on these and other areas by Osterberg and Guilbert (1989), Sillitoe and Bonham (1990), and Schuh and Guilbert (1993), show that there can be a distal gold zone around porphyry systems hosted by carbonate and pelitic sedimentary rocks. According to Sillitoe and Bonham (1990), these gold halos occur up to a radius of 5 km away from the porphyry center... Such an outer gold center appears to have been discovered by Santa Fe Pacific Mining in the spring of 1992 in the area south of the Prompter Ridge Mine.

State of Maine Mine Porphyry Centre: Located two to three mile west of the town of Tombstone, just north of the Robbers Roost Project Area. Geochemical sampling by Newell (1974) showed a significant molybdenum anomaly over this area and mapping shows wide hydrothermal veins in Uncle Sam tuff. Vein area is greater than in the Tombstone center. The property has a thin veneer of intracaldera tuffs that are mineralized with silver and gold. Copper values increase at shallow depths. A full section of folded Paleozoic and cretaceous sediments is known to underlie the volcanics. Guilbert and Briscoe believe this mineral zone may be the upper portion of a porphyry copper centre. Enriched gold and silver mineralization in broad zones, perhaps of bonanza grades, perhaps underlain at significant depth by porphyry copper mineralization, comprises the potential of the area. Successful exploration could define shallow depth surface mineable silver-gold zones, underlain by polymetallic underground mineable replacement deposits of significant size.

Johnson Ranch Porphyry Anomaly: Located eight to ten miles directly south of the town of Tombstone. The block is comprised of 66 unpatented lode mining claims totalling 1,366 acres. The claims are staked over a silver-molybdenum anomaly defined by Newell (1974) in his mesquite twig geochemical sampling, a pattern similar to that over the main Tombstone porphyry center. This suggests another Tombstone-like porphyry system on the property. If so, it is hidden beneath Quaternary soil and alluvium.

Zebra Property: Located three to four miles southeast of the TDC Lease property. Guilbert writes: "Another significant occurrence of the distal Tombstone gold zone is at the Zebra Property... There, disseminated invisible (Carlin style?) gold of up to an ounce per ton on the surface is disseminated in the Upper Paleozoic Naco formation." Minor jasperoid is associated with gold apparently disseminated in silty limestone along structural features. Anomalous gold in surface samples occurs over several square miles in the Zebra project area. Some geophysics has been done and limited near surface drilling has indicated 100,000 tons of material at 0.09 opt gold in one small area.


WALNUT CREEK
Property
TDC LEASE #1
STATE OF MAINE
Escapule Property
ROBBERS ROOST
MAJOR COMPANY
Agreement in Principal
PROMPTER RIDGE
Property
TDC LEASE #2
ZEBRA PROJECT
ARIZONA LOCATION
1 MILE
(5280 FEET)
JOHNSON RANCH
SAN RAFEL
DEL VALLE
Excelon Resources U.S.A., Inc.
Tombstone Mining District
Cochise County, Arizona
Scale – Not to Scale
November 2, 1993
Drafted by JABA, Inc.
Tucson, Arizona
SCALE IN FEET

ASARCO

Great Basin Exploration Division

February 8, 1994

TO: J.D. Sell
Tucson Office

Tombstone, AZ
Properties

Attached is a description of several Tombstone (AZ) properties being offered by Excellon Resources. It is your decision whether these properties are worth pursuing. Also attached is the requested claim map for the Courtland-Gleeson property. Please note that this map is confidential and not for public information.

Thanks for faxing your schedule of future activities and status of present investigations.

Yours truly,

Peter G. Vikre, KS

Peter G. Vikre

PGV:ks
Attachments

JABA INC.
2100 N. Wilmot Rd. #218
Tucson, AZ 85712
(602) 885-9141
(FAX) 721-2768

FAX TRANSMITTAL # of Pages 2
TO: Jim Sell FROM: J.A. BRISCOE
CO: ASARCO JABA, INC.
DATE: 4/6/94 PHONE: (602) 721-1375
FAX # 798-7783 FAX # (602) 206-0088 #2
COMMENTS

April 6, 1994

Mr. James D. Sell
Expl.Mgr.
ASARCO, Inc.
1150 N. 7th Avenue
P. O. Box 5747
Tucson, AZ USA 85703

Dear Mr. Sell:

Re: Excellon Data On The Tombstone Mining District, Cochise County, Arizona USA.

You have signed that certain confidentiality agreement with Excellon Resources Inc. and will use the following documents with regard to that agreement. The available data on the district at this time are:

✓ * Geologic Report on the JABA Inc. Properties in the Tombstone Mining District, Cochise Co., AZ by John M. Guilbert, 2/5/93 $21.74

✓ * Review of the work done by USMX Inc. on the Tombstone Target Area, ... AZ, and recommendations for additional work. Consulting report to Excellon report by James A. Briscoe Sept. 13, 1993 $0.30

✓ * The Tombstone Project, Cochise County, AZ for Excellon Resources Inc. by Ross Glanville and C. J. Westerman, Jan. 31, 1993. $1.74

* Tombstone Project Exploration Summary, Cochise Co., AZ, by Karl Kansbergs, Sr. Geologist, USMX Inc. July 7, 1993.
✓ Vol. 1 260 letter size pages - report and assays $16
NO Vol. 2 277 " " " - 14 over size maps and crossections (uncolored). $60

✓ * Report on the Zebra Property - A gold prospect, Cochise Co., AZ, prepared for Primo Gold Ltd., by Leroy Halterman, Registered Geologist, MinSearch, Inc. March 30, 1991 20 pages & oversize maps. $20.

James A. Briscoe, Registered Professional Geologist, Arizona #9424, California #518

A master set of these reports is available at Zudos Copies, 4733 E. Broadway, Tucson, AZ. FAX number (602)322-9850, Phone (602)322-5955. If you wish to obtain copies of any or all of the above listed reports, they can be copied at your expense for the approximate dollar amounts listed after each of the titles above. These prices are for unbound copies on white bond paper. You can make arrangements through Zudos to bind them if you desire and ship them to you again at your expense.

My signature on this letter and your identification will authorize Zudos to make any copies of the above documents at your expense, to be used under the provisions of the confidentiality agreement you have already signed. Please FAX this letter to Zudos, along with your ID (Co. letter head and signature or business card with signature) and indicate the documents you wish to get.

Very truly yours;

James A. Briscoe,
Agent for Excellon Resources Inc.

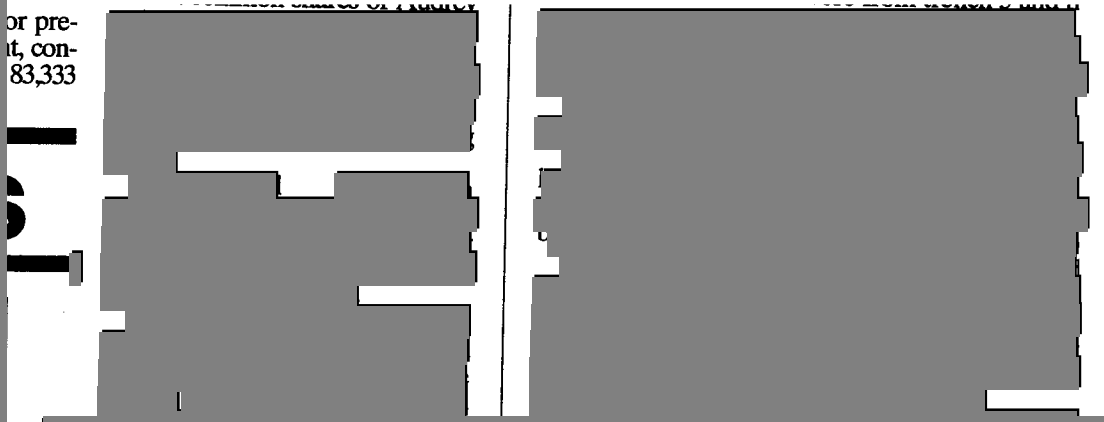
ZUDOS3/22/94
cc A.D. Mackenzie, Excellon, Toronto

ASARCO

James D. Sell
Manager
Exploration

ASARCO Incorporated P. O. Box 5747 Phone (602) 798-7714
1150 North 7th Avenue Tucson, AZ 85703 Fax (602) 798-7783

or pre-
t, con-
83,333



The Northern Miner, V. 80, No. 5, p. 11, 2/25/94

Southwestern Exploration Associates

COUNTY NOTEBOOK RESEARCH SYSTEM

CONSULTING SERVICES IN:

literature research
mineral exploration
geothermal exploration
geophysical exploration
multispectral aerial photography
space imagery search and retrieval
image enhancement and processing
remote sensing and interpretation
environmental studies

4500 E. Speedway, Suite 14
Tucson, Arizona 85712
(602) 795-6097

COUNTY NOTEBOOK INVENTORY LIST

Volume 1: County Summary Material

1. Mining District index map with USGS quadrangle overlay
2. County bibliography list with explanations
3. Target listing
4. Listing of all deposits with current exploration status
5. Map indexes to various commodities and a generalized land status map
6. County report by State Bureau of Mines
7. Information on industrial mineral occurrences within the county
8. General articles filed alphabetically, preceded by bibliography list
9. Metal price list

Volume 2: Thesis Material

1. Index map of available theses
2. Theses arranged alphabetically by author

Volume 3: U.S.G.S. Reduced Topographic Sheets

1. Reduced A.M.S. sheets
2. Reduced 7½ and 15 minute quad sheets with list of mines located on each quad sheet

Volume 4: U.S.G.S. Geologic, Geophysical, Geochemical and Open File Maps

1. Index to maps in Volume 4
2. Geologic maps
3. Geophysical maps
4. Geochemical maps
5. Photo index maps

Volume 5: Mining District Notebooks

1. Mining district summary sheet
2. Mint records, mineral resources material, Weed's Copper Handbook (colored sheets separate these sections)
3. Mining district articles listed alphabetically
4. Bibliography
5. Mine summary sheets with geologic data
6. Land status

elements will be run on all samples and include As, Bi, Cd, Ga, Hg, Pb, Sb, Se, Sn, Te, Tl, and Zn. Recent studies suggest that metal ions migrate through bedrock into post mineral soil cover, along electrical current lines of self potential caused by oxidizing sulfides, and are detectable by these low level techniques. This would be a natural phenomenon capitalized on in the Russian electrogeochemical technique CHIM. Evidence suggests that mineral bodies can be detected through more than 100m cover. In the following cost estimates, where cost per sample is quoted, these are " all in " costs and include all sample collection costs including mobe and demobe, travel, food and lodging, field crew and supervision, base maps, sample bags, shipping, sample preparation and assay costs,. The "all in" cost per biogeochemical and soil samples at the designated spacing is $36.55 per sample. For rock chip samples the "all in" cost is $23.65.

Electrical-method geophysics across the zones should be able to identify specific drill targets. Controlled Source Audio Frequency Magneto Tellurics (CSAMT) may be able to give detail, while Induced Polarization (IP) would detect broad areas of disseminated sulfide mineralization. The approximate cost of the above electrical methods of assumed adequate detail in this area is about $5,000 per square mile. Detailed magnetic profile lines run across the zone may be helpful also. The approximate cost of ground magnetics is $2,000 per square mile. The Walnut Creek and Johnson Ranch blocks should be especially appropriate for geophysical techniques.

Drilling proposed for these projects is reverse circulation drilling using either a down-the-hole hammer or a tricone bit. The only exception to this is the Walnut Creek area "Scout Holes" which are designed to penetrate an expected average of 200' of post mineral cover and drill 50 feet into bedrock to sample for rock and alteration type and obtain geochemical samples. Here regular circulation will be used at a substantial cost savings - a direct drilling cost of $5 per foot. In all cases, dry drilling using air circulation will be used above the water table unless hole conditions dictate the use of water and lost circulation materials, or dust is a problem. Air circulation will also be used below the water table. Reverse circulation direct drilling costs are expected to range from $6.35 to $9.00 per foot depending on depth. All drill footage costs in the following cost estimates are "all in" estimates and include supervision, travel, food, and lodging, sample collection and bags, geologic and computer logging, cutting board (Core Board) construction, sample shipment, sample preparation and assay costs for 16 element analysis.

Data reduction where used in the following cost estimates shall mean computer entry into the AutoCad model of the district, or entry into RockWorks Logger, CrossSect or other appropriate programs. These data can be transferred where appropriate to MedsSystem or other appropriate ore reserve estimating software.

Walnut Creek (Block 1)

The Walnut Creek porphyry center is completely but thinly covered by Recent alluvium and Quaternary Gila Conglomerate, so exploration techniques will have to be able to penetrate post mineral cover. The adjacent precious metal-lead-zinc-manganese halo that has been mined can yield important vectors to the porphyry center. Exploration procedures include:

1. Plotting past production by metal and metal ratios to establish metal zoning patterns.

JABA INC.
2100 N. Wilmot Rd. #218
Tucson, AZ 85712
(602) 885-9141
(FAX) 721-2768

FAX TRANSMITTAL # of Pages 2
TO: Jim Sell FROM: J.A. BRISCOE
CO: ASARCO JABA, INC.
DATE: 4/6/94 PHONE: (602) 721-1375
FAX # 798-7783 FAX # (602) 206-6668 *2
COMMENTS

April 6, 1994

Mr. James D. Sell
Expl.Mgr.
ASARCO, Inc.
1150 N. 7th Avenue
P. O. Box 5747
Tucson, AZ USA 85703

Dear Mr. Sell:

Re: Excellon Data On The Tombstone Mining District, Cochise County, Arizona USA.

You have signed that certain confidentiality agreement with Excellon Resources Inc. and will use the following documents with regard to that agreement. The available data on the district at this time are:

✓ * Geologic Report on the JABA Inc. Properties in the Tombstone Mining District, Cochise Co., AZ by John M. Guilbert, 2/5/93 $21.74 53p + 10p biblio + map & block.

✓ * Review of the work done by USMX Inc. on the Tombstone Target Area, ... AZ, and recommendations for additional work. Consulting report to Excellon report by James A. Briscoe Sept. 13, 1993 $0.30 5 pages

✓ * The Tombstone Project, Cochise County, AZ for Excellon Resources Inc. by Ross Glanville and C. J. Westerman, Jan. 31, 1993. $1.74

* Tombstone Project Exploration Summary, Cochise Co., AZ, by Karl Kansbergs, Sr. Geologist, USMX Inc. July 7, 1993.
✓ Vol. 1 260 letter size pages - report and assays $16
Vol. 2 277 " " " - 14 over size maps and crossections (uncolored). $60

✓ * Report on the Zebra Property - A gold prospect, Cochise Co., AZ, prepared for Primo Gold Ltd., by Leroy Halterman, Registered Geologist, MinSearch, Inc. March 30, 1991 20 pages & oversize maps. $20. (5) + resource map 4.7

✓ Navs update - Zebra Gold Prospect - Cochise Co., AZ, by Primo Gold Ltd (Condot

James A. Briscoe, Registered Professional Geologist, Arizona #9424, California #518

A master set of these reports is available at Zudos Copies, 4733 E. Broadway, Tucson, AZ. FAX number (602)322-9850, Phone (602)322-5955. If you wish to obtain copies of any or all of the above listed reports, they can be copied at your expense for the approximate dollar amounts listed after each of the titles above. These prices are for unbound copies on white bond paper. You can make arrangements through Zudos to bind them if you desire and ship them to you again at your expense.

My signature on this letter and your identification will authorize Zudos to make any copies of the above documents at your expense, to be used under the provisions of the confidentiality agreement you have already signed. Please FAX this letter to Zudos, along with your ID (Co. letter head and signature or business card with signature) and indicate the documents you wish to get.

Very truly yours;

James A. Briscoe,
Agent for Excellon Resources Inc.

ZUDOS3/22/94
cc A.D. Mackenzie, Excellon, Toronto

GEOLOGIC REPORT

on the

JABA, INC. PROPERTIES

in the

TOMBSTONE MINING DISTRICT,

COCHISE COUNTY, ARIZONA

Submitted to

Vancouver Stock Exchange

By

John M. Guilbert
Professor Emeritus of Economic Geology
University of Arizona
Tombstone, Arizona 85821

February 5, 1993

CERTIFICATION

I, John M. Guilbert of Tucson, Arizona, do hereby state:

1. I am a Consulting Geologist and am 62 years of age. I graduated from the University of North Carolina in 1953 with a B.S. in Geology, the University of Wisconsin in 1955 with an M.S., and the University of Wisconsin in 1962 with a Ph.D. in Economic Geology.

2. My address is 740 West Las Lomitas Road, Tucson, Arizona 85704.

3. I am a member in good standing of the Society of Economic Geologists in which I have held executive positions. I am also a Fellow of the Geological Society of America, Arizona Geological Society, Society of the Genesis of Ore Deposits, a Fellow of the Mineralogical Society of America, Geologic Society of South Africa, International Association on the Genesis of Ore Deposits, Canadian Mineralogical Association, and Geological Society of Chile. I am the senior author of the advanced text book, Geology of Ore Deposits, used as a text throughout the world in teaching the study of ore deposits.

4. I am Professor Emeritus of Economic Geology in the Department of Geosciences, University of Arizona, Tucson, Arizona, where I have been a Professor for 27 years.

5. Since graduation, I have practiced geology for 35 years, on a world-wide basis., specializing in porphyry copper deposits.

6. My report is based on numerous visits to the Tombstone Mining District over the last 20 years. My most recent work in the Tombstone Mining District culminated in October, 1992, with the dissertation defense of one of my students on remote sensing aspects of the Tombstone area.

7. JABA, Inc. has given permission to use the data they acquired in this evaluation and report.

8. This report entitled "Geologic Report on the JABA, Inc. Properties in the Tombstone Mining District, Cochise County, Arizona", February 4, 1993, may be used by Excellon Resources USA, Inc. in a public financing.

9. I, myself, have no direct or indirect interest in any of the Tombstone District properties discussed in this report or in Excellon Resources USA, Inc.

Dated at Tucson, Arizona, the 4th day of February, 1993.

Dr. John M. Guilbert
Professor Emeritus Economic Geology
University of Arizona
Tucson, Arizona

TABLE OF CONTENTS

	Page
INTRODUCTION	1
SUMMARY	1
HISTORY	2
TOPOGRAPHY, VEGETATION, CULTURE & ACCESS	4
Physical Features	22
Climate and Vegetation	22
PREVIOUS WORK	23
GENERAL GEOLOGY OF THE DISTRICT	25
District Geology	25
Pre-Laramide Structural Deformation	27
Laramide Volcanism and Caldera Formation	27
Age Dates of Volcanic and Intrusive Events	28
A Model for Caldera Formation and Multiple Zoned Porphyry-Copper-Related Precious Metal Hydrothermal Systems	35
PROPOSED EXPLORATION	35
The Main Tombstone District - Walnut Creek Porphyry Copper Center (Block 1) and Prompter Ridge Distal Gold Target (Block 2)	42
The Johnson Ranch Porphyry Center (Block 3)	43
State of Maine-Escapule Porphyry Center (Block 4)	43
The Robbers' Roost Breccia Pipe (Block 5)	46
RECOMMENDED EXPLORATION PROGRAMS AND COST ESTIMATES	47
Basic Parameters	47
Walnut Creek (Block 1)	49
Prompter Ridge Distal Gold Target (Block 2)	50
Johnson Ranch Biogeochemical Anomaly (Block 3)	51
State of Maine - Escapule Porphyry Center (Block 4)	52
Robbers' Roost Breccia Pipe (Block 5)	52

FIGURES

		Page
Figure 1:	Western United States Map Showing the Location of the Project Area	5
Figure 2:	Highway Map Showing the Location of the Project Area in Relation to Tucson, and Phoenix, Arizona	6
Figure 3:	Generalized Geologic & Structural Map	7
Figure 4:	Not Included	
Figure 5:	Land Status Map - as of October, 1981	8
Figure 6:	Distribution Pattern for High Silver Ratios in Dump Samples	9
Figure 7:	Distribution Pattern for High Zinc Ratios in Dump Samples	10
Figure 8:	Distribution Pattern for High Lead Ratios in Dump Samples	11
Figure 9:	Distribution Pattern for High Copper Ratios in Dump Samples	12
Figure 10:	Distribution Pattern for High Molybdenum Ratios in Dump Samples	13
Figure 11:	Distribution Pattern for High Molybdenum and Zinc Ratios in Dump Samples	14
Figure 12:	Distribution Pattern of Silver in Mesquite Trees	15
Figure 13:	Distribution Pattern of Zinc in Mesquite Trees	16
Figure 14:	Distribution Pattern of Copper in Mesquite Trees	17
Figure 15:	Distribution Pattern of Molybdenum in Mesquite Trees	18
Figure 16:	Aeromagnetic Map of the Tombstone Area	19
Figure 17:	Gravity Map of the Tombstone Area	20
Figure 18:	100 Year Silver Price Chart	21
Figure 19:	Porphyry Copper Block and Rio Grande Rift Gold and Silver Deposits	26

FIGURES Continued...

		Page
Figure 20:	Metal Production and Average Grade Per Ton at Tombstone, 1879 to 1937	36
Figure 21a:	Generalized Ash Flow Caldera Cycle - Peter Lipman	37a
Figure 21b:	Tombstone Caldera with Three Other Porphyry Copper Associated Calderas, SE AZ - Lipman and Sawyer	37b
Figure 22:	Models of Plutonic and Volcanic Porphyry Coppers	38
Figure 23:	Schematic Model of Possible Links Between Porphyry Districts and Sediment-Hosted Gold Deposits	39
Figure 24:	Model of Classic-Type Porphyry Copper Deposits	40
Figure 25:	Generalized Zoning Model for Gold Enriched Porphyry Copper Systems	41
Figure 26:	Interpretive Cross-Section of the State of Maine Mine Area	44
Figure 27:	Interpretive and Diagrammatic Cross-Section of the Clipper Vein, State of Maine Mine Area	45

ATTACHMENT IN POCKET

Map as of January 25, 1993, Showing JABA, Inc. Property Blocks 1, 2, 3, 4, & 5

REFERENCES & BIBLIOGRAPHY

Following Pocket

INTRODUCTION

The report that follows has been brought together from many sources, chiefly by and through the sustained involvement in the district of James A. Briscoe of JABA, Inc., Tucson. My involvement has been through interest in Tombstone geology sparked by boyhood visits in 1944, through my professional involvement in 'porphyry copper', Arizona, and Tombstone geology as a Professor at the University of Arizona, from 1965 to the present, and through use of the Tombstone District as an ongoing investigative lab project for graduate students in Economic Geology since 1985. It is herewith acknowledged that Briscoe has joined the ranks of Butler, Ransome, and Wilson as a contributor to and synthesizer of geologic information on the Tombstone District. Most of the data to follow results from his efforts, and the credit for recent progress and many of the points made in this report belongs to him.

SUMMARY

Tombstone, discovered in 1877, has produced approximately 1/3 of a billion dollars, at modern metal prices, in gold, silver, lead, zinc, copper, and manganese. Previously thought to be a mid-Tertiary aged epithermal silver-lead-zinc district of limited size and potential, more recent work shows it to be of Laramide age. Mineralization is associated with volcanism and related caldera formation, and alteration assemblages are characteristic of porphyry copper deposits. Five such potential porphyry copper centers identified by Briscoe have been acquired by JABA Inc.

Potential in the district is for carbonate-hosted replacement-type porphyry copper mineralization at intermediate to moderate depth and perhaps great depth; shallow chalcocite blanket porphyry type mineralization; stratigraphically and structurally controlled carbonate replacement lead-zinc-silver mineralization; similarly controlled gold of low grade to high grade; volcanic-hosted disseminated precious metal mineralization; supergene enriched volcanic and sediment hosted intermediate to high grade precious metal mineralization; and porphyry-copper-associated distal sediment or volcanic hosted gold mineralization.

An exploration program for each of the 5 blocks owned by JABA Inc. has been designed to test these targets. Various industry accepted exploration tools will be used in the exploration program to define drill targets, culminating in each case with exploration drilling using reverse circulation.

The estimated exploration expenditures for each block are:

Block 1	$227,120
Block 2	$120,445
Block 3	$100,036
Block 4	$139,250

Block 5	$108,103
Total for the entire program	$694,954

This would include 10,000m feet of drilling. The program cost would average $22.79 per foot of drilled hole.

HISTORY

The Tombstone Mining District, then in Arizona Territory, was discovered in 1877 in outcrops near the present Lucky Cuss mine, by Edward L. Schieffelin, a prospector and son of California 49ers. Tombstone, isolated and subject to marauding Indians and outlaws in its early days, was affected by world events through their effect on silver prices. During the 38 year period from 1877 to 1915, when most of the ore was produced at Tombstone, declining silver prices, financial panics, and the removal of the United States currency from the silver standard, had immeasurably more effect on the mines than the Earp/Clanton feud, Apaches, bandits, or underground waters.

The district has generally been divided into the main (eastern) portion and the western portion - the State of Maine & Charleston sub-district.

In 1911, silver prices of $0.55 per ounce (less than half that in effect when Schieffelin discovered Tombstone) brought the demise of efforts to un-water the mines and the bankruptcy of the Development Corporation of America and its Tombstone Consolidated Mines subsidiary. The Phelps Dodge Corporation, a creditor, took over the mines and operated them in a desultory fashion from 1914 through 1933. The Pittman Act, supporting the price of silver at $1 per ounce between 1920 and 1923, stimulated some production in the main part of the district, primarily in the Bunker Hill mine, and small production in the western part. With the repeal of the Pittman Act in 1923, the price of silver plummeted (Fig. 18) and the mines closed.

The higher gold price instituted by Franklin Roosevelt in 1932 stimulated some development, particularly in exploration in the main part of the district. During World War II, there was some study of the manganese deposits in the district in relation to the war effort. Also during World War II, in late 1940, a controlling interest in the surviving Tombstone Development Company was acquired by the Newmont Mining Company. After holding the property until late 1950, Newmont's controlling interest was sold to the current owners, a group of investors from Grand Island, Nebraska, under the name Tombstone Development Company. Exploration work in late 1950 by the Eagle Picher Company in the northeastern part of the main district showed values in lead and zinc (Burton DeVere, Billiton Exploration, 1983, pers. comm.). In 1965, the Duval Corporation drilled several rotary holes in the main part of the district probing for porphyry-copper-type mineralization. Not much is known of the results of this exploration, though data is thought to be in the files of the Tombstone Development Company. In the period of 1972 to 1973, the American Smelting & Refining Company (ASARCO) obtained a lease on the Horne claims around the Robbers' Roost breccia pipe. They drilled three holes to a maximum depth of 1700m (5,000 ft) on a porphyry copper alteration zone in the vicinity of the breccia pipes. These holes intersected extensive but low-grade mineralization, grading vertically downward from a lead-zinc phase of mineralization into porphyry

copper type mineralization, including disseminated pyrite, chalcopyrite, and molybdenite, as well as secondary K-feldspar and purple anhydrite. The Uncle Sam tuff was penetrated, intersecting Bisbee Formation, and at about 1700m, the Bisbee was penetrated and the drill entered the Naco Limestone. Poor copper prices at the time and since have discouraged further exploration for copper at this depth. It is noteworthy that scientific progress in this period led to the recognition that (1) the age of mineralization at Tombstone is of Laramide age, not mid-Tertiary, as had been surmised, and (2) the mineralization is of 'porphyry copper' affinity and therefore of large scale, not of epithermal style and local. Both realizations substantially enlarge exploration perspectives in the district.

In 1973, a limited Partnership headed by Hewlett, Stevenson, and Bishop optioned holdings in the western part of the district, and later the lands belonging to the Tombstone Development Company, Inc. In the spring of 1973, geologist James A. Briscoe was hired by Richard Hewlett to prepare a report on the State of Maine area. A topographic and geologic map of the State of Maine area was prepared at a scale of 1" = 200'. Previously unrecognized windows exposing sediments beneath the Uncle Sam tuff, as well as isoclinal folding in the sediments, were mapped. A comprehensive exploration program was planned and recommended. Also, in October of 1973, just before completion of the detailed report on the State of Maine area, the entire Tombstone District was flown in color aerial photography at a scale of 1" = 2,000' along north-south flight lines. The Partnership also consolidated all of the old mine dumps in the main district on Tombstone Development Company land into one large heap leach pad, which was operated until 1977, when the Tombstone Development Company lease was relinquished. None of the exploration program recommended to the Partnership by Briscoe was carried out.

At about the same time, Newell was completing a Stanford PhD dissertation covering the area. Newell's maps cover the district as far west as the San Pedro River and as far south as the Bronco Hills at a scale of 1:31,250 and 1:12,000 (Newell, 1974, Plates 1 & 2), and are the most detailed and complete geologic coverage to date. Newell also presented geochemical data from regional sampling of mine dumps (Figs. 3 through 17, and Newell, 1974, p. 13-23), which suggest that mineralization in the district is related to a series of porphyry copper centers.

In 1980, Tombstone Exploration, Inc. obtained a lease on patented Tombstone Development Company lands in the main part of the district. Between 1980 and 1985, Tombstone Exploration, Inc. operated an open pit mine on the Contention vein, and produced up to 3,000 tons per day of ore averaging in the range of 1.25 ounces silver and 0.02 ounces gold. Approximately 40% of the silver and 60% of the gold was recovered by cyanide leaching. Graves (1985) reports that 2 million ounces of silver and 10,000 ounces of gold were produced in the period from 1970 to 1985, mostly from the Tombstone Exploration, Inc. open pit operation, and in a small part by the Partnership mine dump consolidation. No exploration drilling was ever done, and no ore reserves of significance were measured ahead of mining. Lowered silver and gold prices, poor management, and a lack of reserves forced T.E.I. into bankruptcy in 1985, and its assets were liquidated.

A regional map covering southeastern Arizona, compiled by Harald Drewes of the United States Geological Survey, was published in 1980. In 1982, J. A. Briscoe and T. E. Waldrip, Jr. compiled data and maps from the work of Newell, Drewes, and others (Figs. 3 through 17). It was concluded from these various data that the volcanic geology and structure in the Tombstone area is related to a district-scale Laramide caldera. Mineralization in the district is also related to the caldera and

attendant hydrothermal fluid migration.

Tombstone has primarily been a silver camp, although substantial gold and lead, and subordinate copper, zinc, and manganese have also been produced. The silver to gold ratio for documented production between 1877 and 1937 is 126 to 1. Production has come mainly from mineralized vein fractures cutting folded Lower Cretaceous limestones and basal conglomerate of the Bisbee group within the Tombstone Basin (main part of the district). Ninety-five percent or more of the production is from the surface to 200m, and is primarily from oxide ore minerals.

Unpublished figures and estimates compiled by Tenney from old company reports and other sources (Butler, p. 48), indicate that $28,400,000 was produced between 1879 and 1907. Unfortunately, this compilation is based only on value; it is assumed this production was primarily gold and silver. From 1908 through 1936, Briscoe has estimated that 1.25 million tons of ore was produced from the Tombstone district. Using this estimated tonnage and the recorded metal production, average grade for ore produced was 26 ounces silver, 0.21 ounces gold, 2.6% lead, and 0.10% copper, with smaller amounts of zinc and manganese. Not included in these figures are the substantial amounts produced between 1980 and 1985 by Tombstone Exploration, Inc. from its open pit mining operation along the Contention vein, nor from the dump leaching done by the Partnership between 1974 and 1977.

Total production at Tombstone, not including that of the Partnership or Tombstone Exploration, Inc., in terms of $400 gold and $10 silver, $.50 lead, $1.00 copper, and $.40 zinc, is approximately $463 million (Fig. 21). Over a quarter million ounces of gold (262,500) are included in that figure, and the viability of gold exploration in the district is heightened by the fact that gold was a geochemical accompaniment but secondary economic target through virtually the entire district production life.

TOPOGRAPHY, VEGETATION, CULTURE & ACCESS

The Tombstone Mining District (Fig. 1) is located in southeastern Arizona, 40 Km north of the international boundary with Mexico, and 100 Km southeast of Tucson (Figs. 1&2). It is in western Cochise County, and is on the Tombstone USGS 15-minute quadrangle, which is bounded by meridians 110^0 15 minutes, and 110^0, and parallels 31^0 30 minutes, and 31^0 45 minutes. These boundaries are shown on Figures 1 and 2, and Figures 3 through 17.

Tombstone is the only town in the quadrangle, but Sierra Vista, which services the Army Electronic Proving Ground at Ft. Huachuca, lies just west of the quadrangle 25 Km from Tombstone via the Charleston Road. Tombstone is well serviced by paved all-weather highways, including U.S. Highway 80, which goes through the center of town, and Arizona State Highways 82 and 90. Many mining supplies are available in Tombstone, and most types of supplies are available in Sierra Vista, with 30,000 inhabitants and the fastest growing city in Cochise County. Semi-skilled to skilled labor is available in Tombstone and Sierra Vista. The old mining camp of Bisbee lies about 50 Km southwest of Tombstone, where underground and open-pit copper mines, operated for about 100 years by Phelps Dodge, were shut down in 1982. The newly defined open pit chalcocite blanket ore body - the Cochise Mine - is scheduled for start-up in a year or so. A core work force of skilled underground miners is probably available in Bisbee. The second largest city in Arizona, Tucson, is

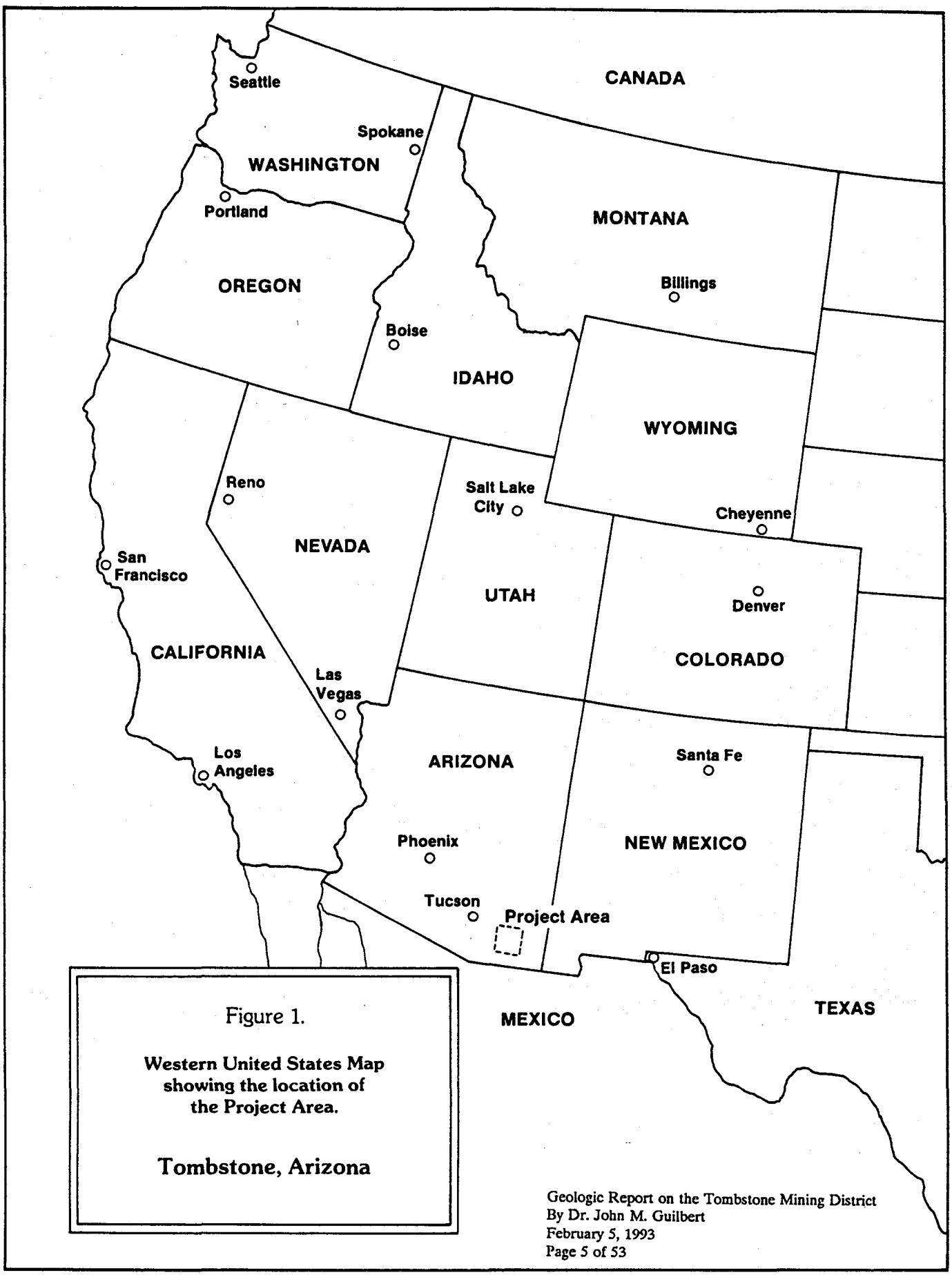


Figure 1.

Western United States Map showing the location of the Project Area.

Tombstone, Arizona

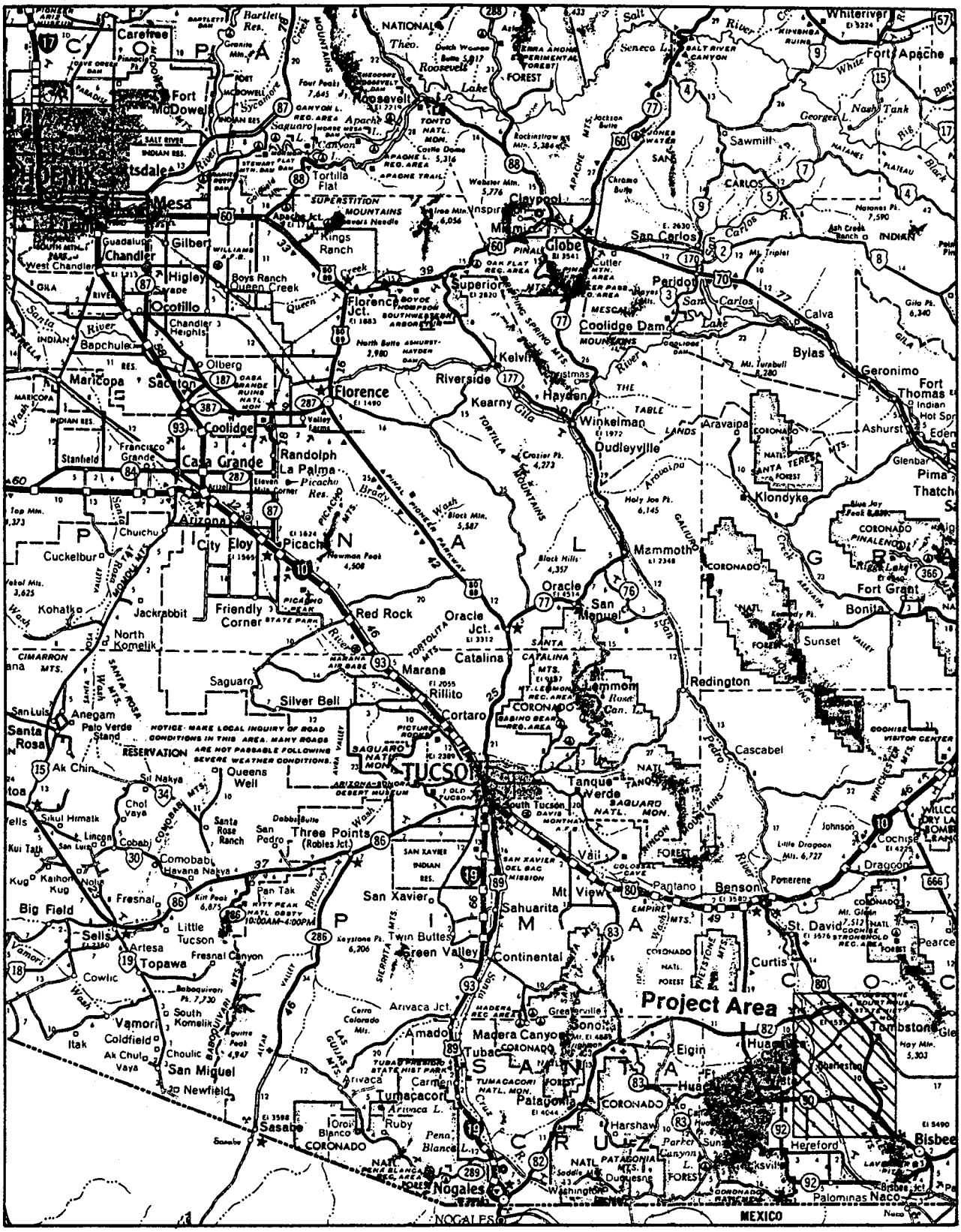


Figure 2. Highway map showing the location of the Project Area in relation to Tucson and Phoenix, Arizona

Explanation

Geology

QTgu — OLDER OR UNDIFFERENTIATED SURFICAL DEPOSITS (HOLOCENE TO OLIGOCENE)—Gravel, sand, and silt (Pleistocene and Pliocene—Mainly alluvium of basins, includes some colluvium and landslide deposits. Generally light pinkish gray, weakly indurated, and with poorly rounded clasts; locally well indurated. Thickness several meters to hundreds of meters.

QTb — Basalt (Pleistocene to Pliocene)—Lava flows, pyroclastic rocks, and some intercalated gravel. Thickness several meters to a few hundred meters in most places. Radiometrically dated at 0.25, 1.0, and 3.2 m.y. old

Tva — Extensive andesite and dacite (Miocene and Upper Oligocene)—Lava flows, pyroclastic rocks, some intercalated epiclastic rocks, and dikes. Mostly gray, fine-grained, porphyritic rocks; includes some very coarse feldspar porphyry andesite (Turkey track porphyry, an informal term of Cooper, 1961). Thickness mostly several meters to several tens of meters. Dated at 24, 25, 27, 33, and 39 m.y.

Tv — Extrusive rhyolite and rhyodacite (Miocene and Upper Oligocene—Lava flows, welded tuff, pyroclastic rocks, and some intercalated epiclastic rocks. Light-gray to grayish pink, vitric to fine-grained, porphyritic. Commonly a few tens to a few thousand of meters thick. Dated at 23, 24, 25, 26, 26, 26, and 27 m.y. An additional date of 47 m.y., if substantiated, may indicate the presence of Eocene rocks in the lower member of the S O Volcanics of Cochise Co

Tlc — Lower conglomerate, gravel, and sand (Oligocene and Eocene)—Alluvium, commonly grayish red deposits of small, well rounded, nonvolcanic clasts. Mostly several meters to a few tens of meters thick.

Tlv — UPPER CORDILLERAN (LARAMIDE) IGNEOUS ROCKS (LOWER PALEOCENE) – Lower volcanic rocks—Rhyolite to andesite lava flows, pyroclastic rocks, and some intercalated epiclastic rocks. Dated at 57 m.y. Possibly younger age to east

TKg — MAIN CORDILLERAN (LARAMIDE) IGNEOUS ROCKS—Porphyritic and aplitic intrusive rocks (Paleocene and Upper Cretaceous)—Mostly felsic porphyry to dacitic porphyry in small stocks and plugs and aplitic bodies not associated with other granitoid stocks. Dated at 61, 63, 63, 64, and 65 m.y.

Kib — Fluidized intrusive breccia – exact age unknown, but penetrates, and thus younger than Uncle Sam porphyry

Kr — Rhyodacite tuff and welded tuff – Includes parts of Salero Formation, Sugarloaf Quartz Latite, and Bronco Volcanics, and all of Red Bay Rhyolite, Cat Mountain Rhyolite of Brown (1939) and Uncle Sam Prophyry. Includes local intrusive bodies and locally contains fragments of exotic rocks. Thickness commonly several tens of meters to several hundreds of meters. Dated at 66(?), 70, 72, 73, and 73 m.y. The Uncle Sam, in the Tombstone area, is dated 72 m.y.

Ka — Andesitic to dacitic volcanic breccia—Includes parts of Salero Formation, Sugarloaf Quartz Latite, and Bronco Volcanics, and all of Demetrie Volcanics and Silverbell Formation of Courtright (1958). Commonly contains large blocks of exotic rocks and locally includes some sedimentary rocks and intrusive rocks. Several tens of meters to several hundreds of meters thick in most places.

Kla — Lower quartz monzonite and granodiorite – Includes some quartz diorite, appears in small stocks. Locally associated with mineralization. Dated at 70, 71, 72, 73, 74, 74, 74, and 76 m.y. The Schwiffin granodiorite at Tombstone is 72 m.y.

Kb — BISBEE FORMATION OR GROUP, UNDIFFERENTIATED (LOWER CRETACEOUS)—Upper part of Bisbee Formation or Group, undifferentiated, and related rocks.—Includes upper part of Bisbee Formation, Mural Limestone, Morita, Cintura, Willow Canyon, Apache Canyon, Shellenberger Canyon and Turney Ranch Formations (not listed in stratigraphic sequence) of the Bisbee Group, Arrola Arkose of Bryant and Kennison (1956), and Arpaite Arkose. Consists of brownish to reddish-arkose, gray siltstone, sandstone, conglomerate, and some fossiliferous gray limestone. Commonly several hundred meters thick

Jg — GRANITE AND QUARTZ MONZONITE (JURASSIC)—Stocks of pinkish-gray coarse grained rock. Locally associated with mineralization. Dated at 140, 148, 149, 149, 150, 153, 160, 161, 167, 178, 185 m.y.

PIPs — Sedimentary rocks (Lower Permian and Upper Pennsylvanian)—Consists of Epitaph Dolomite (Lower Permian), Colina Limestone (Lower Permian), and Earp Formation (Lower Permian and Upper Pennsylvanian), undifferentiated. Epitaph Dolomite is a dark- to light-gray slightly cherty dolomite, limestone, marl, siltstone, and gypsum, 120-280 meters thick. Colina Limestone is a medium gray, thick-bedded, sparsely cherty, and sparsely fossiliferous limestone 120-280 meters thick. Earp Formation is a pale red siltstone, mudstone, shale, and limestone, 120-240 meters thick

IPh — Horquilla Limestone (Upper and Middle Pennsylvanian)—Light pinkish-gray, thick- to thin-bedded, cherty, fossiliferous limestone and intercalated pale-brown to pale reddish-gray siltstone that increases in abundance upward. Typically 300-490 meters thick.

MDs — SEDIMENTARY ROCKS (MISSISSIPPIAN AND DEVONIAN)—Consists mainly of Escabrosa Limestone (Mississippian)—locally (Armstrong and Silberman, 1974) called Escabrosa Group—and Martin Formation (Upper Devonian), undifferentiated. In part of the Chiricahua Mountains also includes Paradise Formation (Upper Mississippian) and Portal Formation of Sabins, 1957a (Upper Devonian). In the Little Dragoon Mountains and some adjacent hills also includes Black Prince Limestone, whose fauna and correlation show strongest affinities with Mississippian rocks but which may include some Pennsylvanian rocks. Escabrosa Limestone is a medium-gray, massive to thick-bedded, commonly crinoidal, cherty, fossiliferous limestone 90-310 meters thick. Martin Formation is thick- to thin-bedded, gray to brown dolomite, gray sparsely fossiliferous, and some siltstone and sandstone, 90-120 meters thick. Paradise Formation is a brown, fossiliferous, shaly limestone. Portal Formation is a black shale and limestone 6-105 meters thick. Black Prince Limestone is pinkish-gray limestone with a basal shale and chert conglomerate, as much as 52 meters thick.

OSs — SEDIMENTARY ROCKS (LOWER ORDOVICIAN TO MIDDLE CAMBRIAN)—El Paso Limestone (Lower Ordovician and Upper Cambrian), Abrigo Formation (Upper and Middle Cambrian), and Bolsa Quartz (Middle Cambrian), undifferentiated.—El Paso Limestone is a gray, thin-bedded cherty limestone and dolomite 90 meters to about 220 meters thick. Abrigo Formation is a brown, thin-bedded fossiliferous limestone, sandstone, quartzite, and shale, 210-240 meters thick. Bolsa Quartzite is a brown to white or purplish-gray, thick-bedded, coarse-grained quartzite and sandstone with a basal conglomerate, 90-180 meters thick. To the east, equivalents of part of the Abrigo Formation and Bolsa Quartzite are known as the Coronado Sandstone.

Os — Sedimentary rocks (Upper and Middle Cambrian)—Abrigo Formation (Upper and Middle Cambrian), and Bolsa Quartzite (Middle Cambrian), undifferentiated.

Yg — GRANITOID ROCKS (PRECAMBRIAN Y)—Mainly granodiorite and quartz monzonite, unfoliated to foliated, in part metamorphosed. Generally in stocks, which alive been little studied

Ys — PINAL SCHIST (PRECAMBRIAN X)—Chlorite schist, phyllite, and some metavolcanic rocks, metavolcanic rocks, metaquartzite, metaquartzite conglomerate, and gneiss. One metavolcanic rock dated at 1715 m.y.

CONTACT—Dotted where concealed.

MARKER HORIZON—Dotted where concealed

DIKES—Showing dip.

FAULTS—Showing dip. Dotted where concealed or intruded, ball and bar on downthrown side

Normal

Reverse

Strike-slip—Arrow couple shows relative displacement. Single arrow shows movement of active block.

Major thrust fault—Sawteeth on upper plate.

Thrust fault—Sawteeth on upper plate.

Anticline.

Syncline.

Inclined strike and dip of beds.

EXOTIC-BLOCK BRECCIA—Rock contains chip or block inclusions of rock different from those of host or other blocks nearby. Typically of volcanic-tectonic or sedimentary-tectonic origin; excludes Tertiary megabreccia deposits.

Site of well or generalized site of several wells, showing unit penetrated, if known, and depth of well, in feet. 100 feet equals 30.5 meters.

COLLECTION SITE—Radiogenically dated rock showing age in millions of years. Query before symbol where precise location uncertain.

Roads and Highways

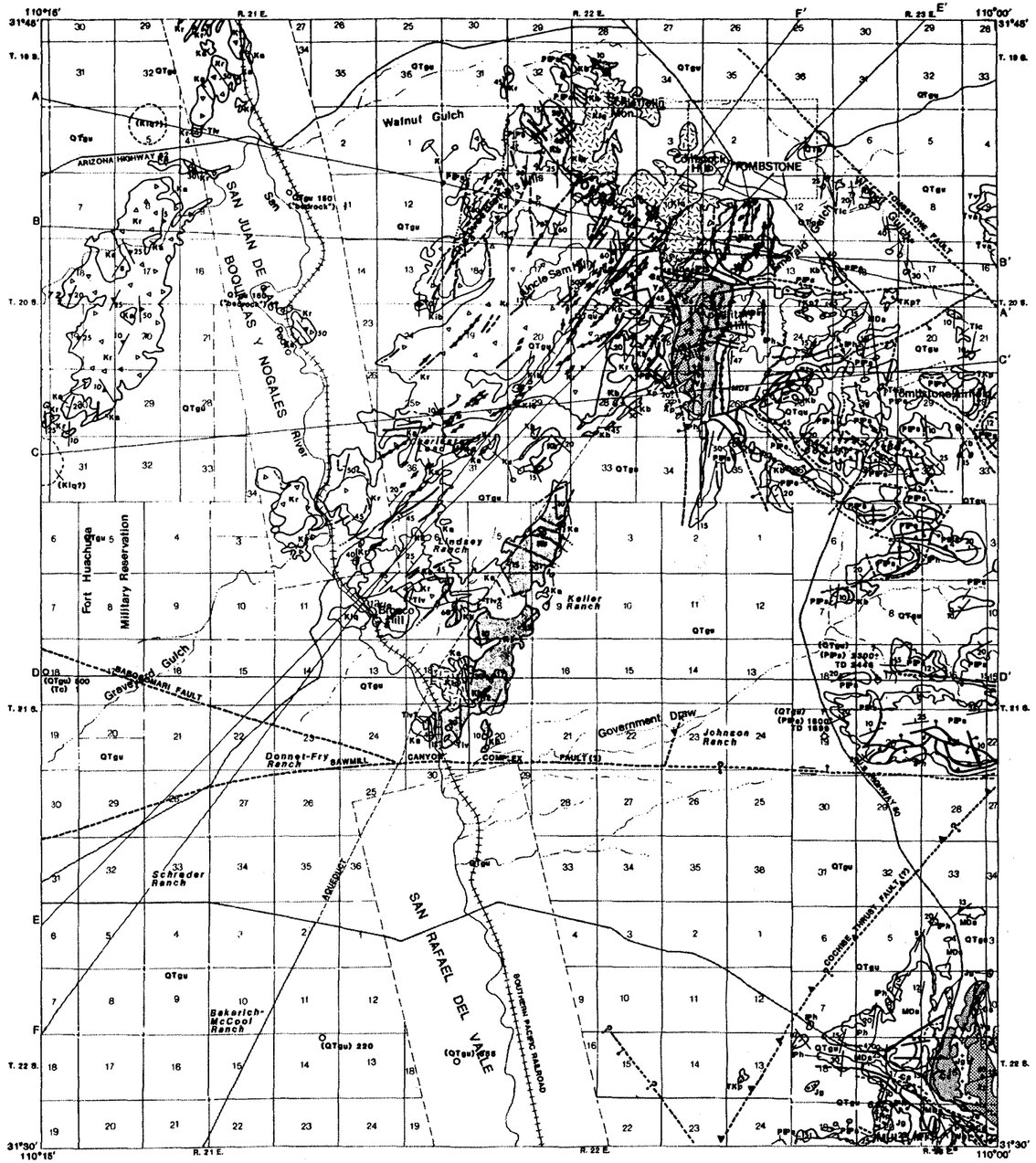
Dry wash

Southern Pacific Railroad

Government Reservation Boundary

Aqueduct

A——A' Cross section line



Tombstone Development Company, Inc.
Tombstone, Arizona

Geology adopted from Drewes, Harold, 1980, and Newell, R.A., 1973.

Figure 3. Generalized geological and structural map on screened topographic base.

By James A. Briscoe
James A. Briscoe and Associates
Tucson, Arizona

Explanation

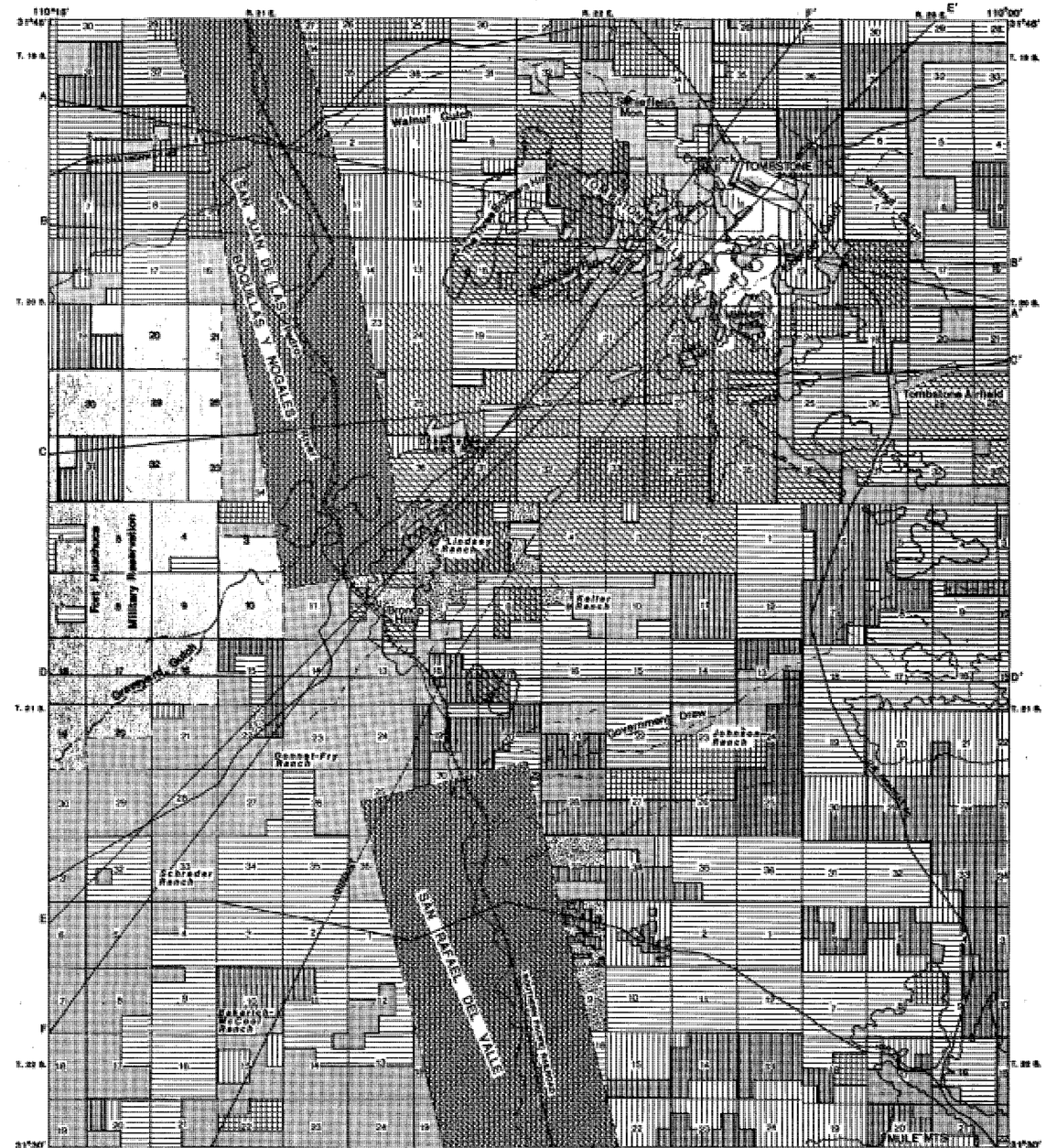
Land Status

- Public Domain - Mineral and Surface owned by Federal Government.
- State Domain - Mineral and Surface owned by State of Arizona.
- Public Domain Mineral and Surface. Mineral owned by Federal Government; Surface owned by State of Arizona.
- Fee Simple - Mineral and Surface privately owned.
- Fee Simple Surface and Public Domain Mineral Private Surface ownership Mineral owned by Federal Government.
- Spanish Land Grants - Fee Simple. Mineral and Surface privately owned; Reservation of Gold, Silver and Mercury to Federal Government.
- Military Reservation - Restricted Mineral Entry. Not open to Mining.
- Water & Power Resource Service & Various other Withdrawals - Not open to Mineral Entry or Mining.
- Mineral and Surface owned by Federal Government. Mineral Rights privately claimed.
- Mineral and Surface owned by State of Arizona. Mineral leases, prospecting permits or applications privately held.
- Public Domain Mineral and State of Arizona Surface. Mineral rights privately claimed.
- Public Domain Mineral and Fee Simple Surface. Mineral rights privately claimed.

Tombstone Development Company, Inc. Lands

- Public Domain Mineral and Surface. Mineral rights claimed by Tombstone Development Company, Inc.
- Mineral and Surface owned by State of Arizona. Prospecting permits or applications held by Tombstone Development Company.
- Public Domain Mineral and Surface owned by State of Arizona. Mineral rights claimed by Tombstone Development Company, Inc.
- Patented Mining Claims owned by Tombstone Development Company, Inc.
- Public Domain Mineral and Fee Simple Surface. Mineral rights claimed by Tombstone Development Company, Inc.
- Fee Simple Surface and State of Arizona Mineral. Prospecting Permit held by Tombstone Development Company, Inc.

- Roads and Highways
- Dry wash
- Southern Pacific Railroad
- Government Reservation Boundary
- Aqueduct
- A——A' Cross section line



Tombstone Development Company, Inc.
Tombstone, Arizona

Land Status Map, Tombstone
15 min. Quadrangle

By Thomas E. Waldrip, Jr.
James A. Briscoe and Associates
Tucson, Arizona

Figure 5. Property map showing ownership of major holdings of mineral rights in the Tombstone area. Red overprint shows state, federal and private land and lands with mineral rights held by the Tombstone Development Company as of October 15, 1981.

Explanation

Geology

QTgu — OLDER OR UNDIFFERENTIATED SURFICIAL DEPOSITS (HOLOCENE TO OLIGOCENE) — Gravel, sand, and silt (Pleistocene and Pliocene — Mainly alluvium of basins, includes some colluvium and landslide deposits. Generally light pinkish gray, weakly indurated, and with poorly rounded clasts, locally well indurated. Thickness several meters to hundreds of meters.

QTb — Basalt (Pleistocene to Pliocene) — Lava flows, pyroclastic rocks, and some intercalated gravel. Thickness several meters to a few hundred meters in most places. Radiometrically dated at 0.25, 1.0, and 3.2 m.y. old

Tva — Extensive andesite and dacite (Miocene and Upper Oligocene) — Lava flows, pyroclastic rocks, some intercalated epiclastic rocks, and dikes. Mostly gray, fine-grained, porphyritic rocks, includes some very coarse feldspar porphyry andesite (Turkey track porphyry, an informal term of Cooper, 1961). Thickness mostly several meters to several tens of meters. Dated at 24, 25, 27, 33, and 39 m.y.

Tv — Extrusive rhyolite and rhyodacite (Miocene and Upper Oligocene — Lava flows, welded tuff, pyroclastic rocks, and some intercalated epiclastic rocks. Light gray to grayish pink, vitric to fine-grained, porphyritic. Commonly a few tens to a few thousand of meters thick. Dated at 23, 24, 25, 26, 26, 26, and 27 m.y. An additional date of 47 m.y., if substantiated, may indicate the presence of Eocene rocks in the lower member of the S.O. Volcanics of Cochise Co.

Tlc — Lower conglomerate, gravel, and sand (Oligocene and Eocene?) — Alluvium, commonly grayish red deposits of small, well rounded, nonvolcanic clasts. Mostly several meters to a few tens of meters thick.

Tlv — UPPER CORDILLERAN (LARAMIDE) IGNEOUS ROCKS (LOWER PALEOCENE) — Lower volcanic rocks — Rhyolite to andesite lava flows, pyroclastic rocks, and some intercalated epiclastic rocks. Dated at 57 m.y. Possibly younger age to east

TKp — MAIN CORDILLERAN (LARAMIDE) IGNEOUS ROCKS — Porphyritic and aplitic intrusive rocks (Paleocene and Upper Cretaceous) — Mostly latitic porphyry to dacitic porphyry in small stocks and plugs and aplitic bodies not associated with other granitoid stocks. Dated at 61, 63, 63, 64, and 65 m.y.

Kib — Fluidized intrusive breccia — exact age unknown, but penetrates, and thus younger than Uncle Sam porphyry.

Kr — Rhyodacite tuff and welded tuff — Includes parts of Salero Formation, Sugarloaf Quartz Latite, and Bronco Volcanics, and all of Red Bay Rhyolite, Cat Mountain Rhyolite of Brown (1939) and Uncle Sam Porphyry. Includes local intrusive bodies and locally contains fragments of exotic rocks. Thickness commonly several tens of meters to several hundreds of meters. Dated at 66(?), 70, 72, 73, and 73 m.y. The Uncle Sam, in the Tombstone area, is dated 72 m.y.

Ka — Andesitic to dacitic volcanic breccia — Includes parts of Salero Formation, Sugarloaf Quartz Latite, and Bronco Volcanics, and all of Demetrius Volcanics and Silverbell Formation of Courtright (1958). Commonly contains large blocks of exotic rocks and locally includes some sedimentary rocks and intrusive rocks. Several tens of meters to several hundreds of meters thick in most places.

Kfq — Lower quartz monzonite and granodiorite — Includes some quartz diorite; appears in small stocks. Locally associated with mineralization. Dated at 70, 71, 72, 73, 74, 74, 74, and 76 m.y. The Schefflin granodiorite at Tombstone is 72 m.y.

Kb — BISBEE FORMATION OR GROUP, UNDIFFERENTIATED (LOWER CRETACEOUS) — Upper part of Bisbee Formation or Group, undifferentiated, and related rocks. — Includes upper part of Bisbee Formation, Mural Limestone, Morita, Cintura, Willow Canyon, Apache Canyon, Shellenberger Canyon and Turney Ranch Formations (not listed in stratigraphic sequence) of the Bisbee Group, Amole Arkose of Bryant and Kinnison (1954), and Angelic Arkose. Consists of brownish to reddish arkose, gray siltstone, sandstone, conglomerate, and some fossiliferous gray limestone. Commonly several hundred meters thick.

Jg — GRANITE AND QUARTZ MONZONITE (JURASSIC) — Stocks of pinkish gray coarse grained rock. Locally associated with mineralization. Dated at 140, 148, 149, 149, 150, 153, 160, 161, 167, 178, 185 m.y.

PIPs — Sedimentary rocks (Lower Permian and Upper Pennsylvanian) — consists of Epitaph Dolomite (Lower Permian), Colina Limestone (Lower Permian), and Earp Formation (Lower Permian and Upper Pennsylvanian), undifferentiated. Epitaph Dolomite is a dark- to light-gray slightly cherty dolomite, limestone, marl, siltstone, and gypsum, 120-280 meters thick. Colina Limestone is a medium gray, thick bedded, sparsely cherty, and sparsely fossiliferous limestone 120-280 meters thick. Earp Formation is a pale red siltstone, mudstone, shale, and limestone, 120-240 meters thick.

IPh — Horquilla Limestone (Upper and Middle Pennsylvanian) — Light pinkish-gray, thick- to thin bedded, cherty, fossiliferous limestone and intercalated pale brown to pale reddish-gray siltstone that increases in abundance upward. Typically 300-490 meters thick.

MDs — SEDIMENTARY ROCKS (MISSISSIPPIAN AND DEVONIAN) — Consists mainly of Escabrosa Limestone (Mississippian) — locally (Armstrong and Silberman, 1974) called Escabrosa Group — and Martin Formation (Upper Devonian), undifferentiated. In part of the Chiricahua Mountains also includes Paradise Formation (Upper Mississippian) and Portal Formation of Sabins, 1957a (Upper Devonian). In the Little Dragoon Mountains and some adjacent hills also includes Black Prince Limestone, whose fauna and correlation show stronger affinities with Mississippian rocks but which may include some Pennsylvanian rocks. Escabrosa Limestone is a medium-gray, massive to thick-bedded, commonly oolitic, cherty, fossiliferous limestone 90-310 meters thick. Martin Formation is thick- to thin-bedded, gray to brown dolomite, gray sparsely fossiliferous, and some siltstone and sandstone, 90-120 meters thick. Paradise Formation is a brown, fossiliferous, shaly limestone. Portal Formation is a black shale and limestone 6-105 meters thick. Black Prince Limestone is pinkish gray limestone with a basal shale and chert conglomerate, as much as 52 meters thick.

OCs — SEDIMENTARY ROCKS (LOWER ORDOVICIAN TO MIDDLE CAMBRIAN) — El Paso Limestone (Lower Ordovician and Upper Cambrian), Abrigo Formation (Upper and Middle Cambrian), and Bolsa Quartz (Middle Cambrian), undifferentiated. — El Paso Limestone is a gray, thin-bedded cherty limestone and dolomite 90 meters to about 220 meters thick. Abrigo Formation is a brown, thin-bedded fossiliferous limestone, sandstone, quartzite, and shale, 210-240 meters thick. Bolsa Quartzite is a brown to white or purplish-gray, thick-bedded, coarse-grained quartzite and sandstone with a basal conglomerate, 90-180 meters thick. To the east, equivalents of part of the Abrigo Formation and Bolsa Quartzite are known as the Coronado Sandstone.

Ꞓs — Sedimentary rocks (Upper and Middle Cambrian) — Abrigo Formation (Upper and Middle Cambrian), and Bolsa Quartzite (Middle Cambrian), undifferentiated.

Yg — GRANITOID ROCKS (PRECAMBRIAN Y) — Mainly granodiorite and quartz monzonite, unfoliated to foliated, in part metamorphosed. Generally in stocks, which show been little studied

Xp — PINAL SCHIST (PRECAMBRIAN X) — Chlorite schist, phyllite, and some metavolcanic rocks, metavolcanic rocks, metaquartzite, metaquartzite conglomerate, and gneiss. One metavolcanic rock dated at 1715 m.y.

CONTACT — Dotted where concealed

MARKER HORIZON — Dotted where concealed

DIKES — Showing dip

FAULTS — Showing dip. Dotted where concealed or intruded; ball and bar on downthrown side

Normal

Reverse

Strike slip — Arrow couple shows relative displacement. Single arrow shows movement of active block.

Major thrust fault — Sawteeth on upper plate.

Thrust fault — Sawteeth on upper plate.

Anticline

Syncline

Inclined strike and dip of beds.

EXOTIC BLOCK BRECCIA — Rock contains chip or block inclusions of rock different from those of host or other blocks nearby. Typically of volcanic tectonic or sedimentary-tectonic origin; excludes Tertiary megabreccia deposits.

(QTgu) 187 — Site of well or generalized site of several wells, showing unit penetrated, if known, and depth of well, in feet. 100 feet equals 30.5 meters.

72x — COLLECTION SITE — Radiogenically dated rock showing age in millions of years. Quarry before symbol where precise location uncertain.

Roads and Highways

Dry wash

Southern Pacific Railroad

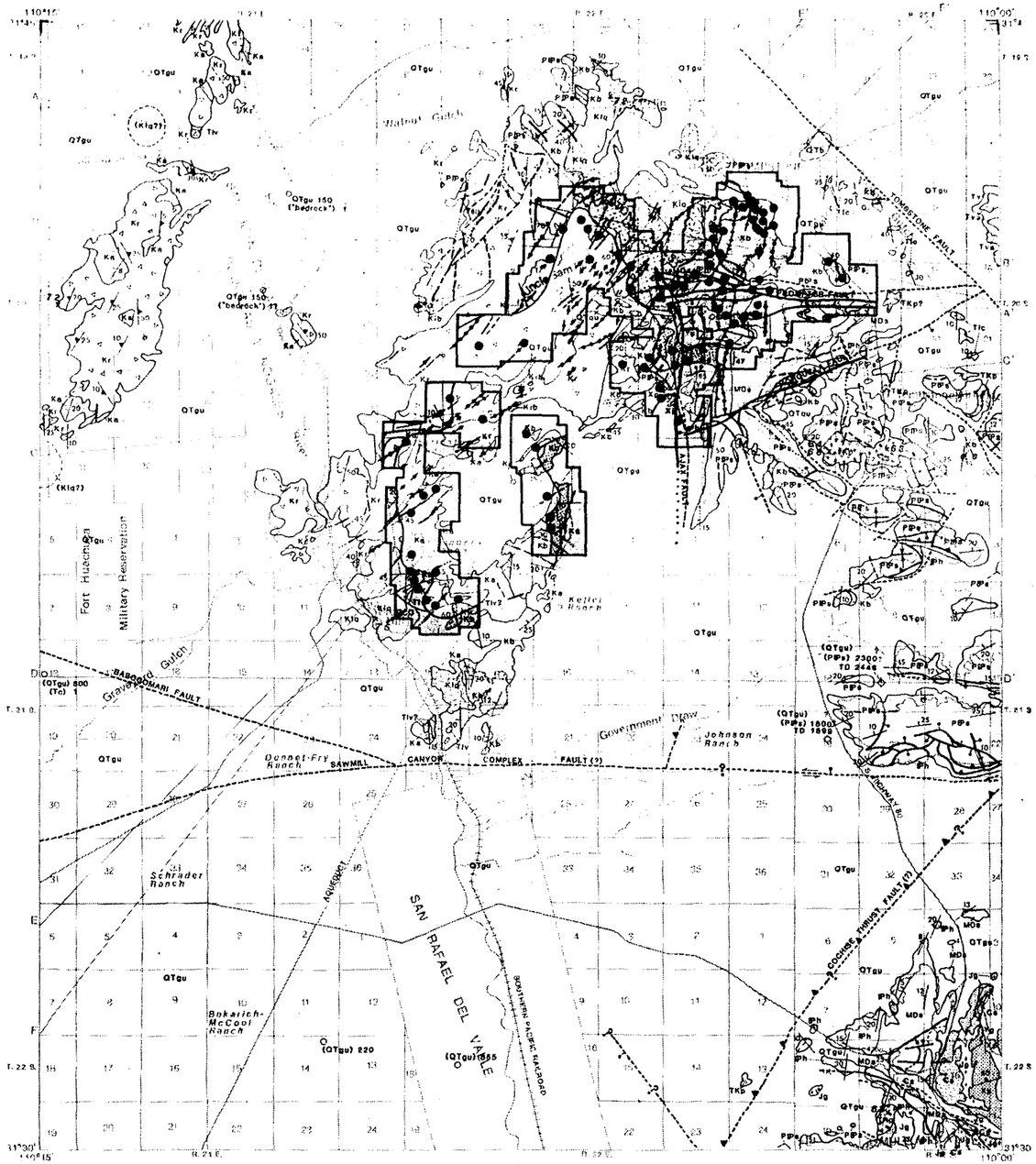
Government Reservation Boundary

Aqueduct

A——A' Cross section line

Dump sample location

Silver



Tombstone Development Company, Inc.
Tombstone, Arizona

Geology adopted from Drewes, Harold, 1980, and Newell, R.A., 1973.

By James A. Briscoe
James A. Briscoe and Associates
Tucson, Arizona

Figure 6. Dump sample location map showing area of influence boundaries and the Ajax, Prompter, and Horquilla faults, from Newell, R.A., 1973.

Distribution pattern for high silver ratios in dump samples (in red).

Explanation

Geology

QTgu — OLDER OR UNDIFFERENTIATED SURFICAL DEPOSITS (HOLOCENE TO OLIGOCENE) – Gravel, sand, and silt (Pleistocene and Pliocene – Mainly alluvium of basins, includes some colluvium and landslide deposits. Generally light pinkish gray, weakly indurated, and with poorly rounded clasts, locally well indurated. Thickness several meters to hundreds of meters

QTb — Basalt (Pleistocene to Pliocene) – Lava flows, pyroclastic rocks, and some intercalated gravel. Thickness several meters to a few hundred meters in most places. Radiometrically dated at 0.25, 1.0, and 3.2 m.y. old

Tva — Extensive andesite and dacite (Miocene and Upper Oligocene) – Lava flows, pyroclastic rocks, some intercalated epiclastic rocks, and dikes. Mostly gray, fine-grained, porphyritic rocks, includes some very coarse feldspar porphyry andesite (Turkey track porphyry, an informal term of Cooper, 1961). Thickness mostly several meters to several tens of meters. Dated at 24, 25, 27, 33, and 39 m.y.

Tr — Extensive rhyolite and rhyodacite (Miocene and Upper Oligocene – Lava flows, welded tuff, pyroclastic rocks, and some intercalated epiclastic rocks. Light gray to grayish pink, vitric to fine grained, porphyritic. Commonly a few tens to a few thousand of meters thick. Dated at 23, 24, 25, 26, 26, 26, and 27 m.y. An additional date of 47 m.y., if substantiated, may indicate the presence of Eocene rocks in the lower member of the S.O. Volcanics of Cochise Co.

Tlc — Lower conglomerate, gravel, and sand (Oligocene and Eocene?) – Alluvium, commonly grayish red deposits of small, well rounded, nonvolcanic clasts. Mostly several meters to a few tens of meters thick

Tlv — UPPER CORDILLERAN (LARAMIDE) IGNEOUS ROCKS (LOWER PALEOCENE) – Lower volcanic rocks – Rhyolite to andesite lava flows, pyroclastic rocks, and some intercalated epiclastic rocks. Dated at 57 m.y. Possibly younger age to east

TKp — MAIN CORDILLERAN (LARAMIDE) IGNEOUS ROCKS – Porphyritic and aplitic intrusive rocks (Paleocene and Upper Cretaceous) – Mostly latite porphyry to dacite porphyry in small stocks and plugs and aplitic bodies not associated with other granitoid stocks. Dated at 61, 63, 63, 64, and 65 m.y.

Kib — Fluidized intrusive breccia – exact age unknown, but penetrates, and thus younger than Uncle Sam porphyry

Kr — Rhyodacite tuff and welded tuff – Includes parts of Salero Formation, Sugarloaf Quartz Latite, and Bronco Volcanics, and all of Red Bay Rhyolite, Cat Mountain Rhyolite of Brown (1939) and Uncle Sam Prophyry. Includes local intrusive bodies and locally contains fragments of exotic rocks. Thickness commonly several tens of meters to several hundreds of meters. Dated at 66(?), 70, 72, 73, and 73 m.y. The Uncle Sam, in the Tombstone area, is dated 72 m.y.

Ka — Andesitic to dacitic volcanic breccia – Includes parts of Salero Formation, Sugarloaf Quartz Latite, and Bronco Volcanics, and all of Demetree Volcanics and Silverbell Formation of Courtright (1958). Commonly contains large blocks of exotic rocks and locally includes some sedimentary rocks and intrusive rocks. Several tens of meters to several hundreds of meters thick in most places.

Klg — Lower quartz monzonite and granodiorite – Includes some quartz diorite; appears in small stocks. Locally associated with mineralization. Dated at 70, 71, 72, 73, 74, 74, 74, and 76 m.y. The Schieffin granodiorite at Tombstone is 72 m.y.

Kb — BISBEE FORMATION OR GROUP, UNDIFFERENTIATED (LOWER CRETACEOUS) – Upper part of Bisbee Formation or Group, undifferentiated, and related rocks. – Includes upper part of Bisbee Formation, Mural Limestone, Morita, Cintura, Willow Canyon, Apache Canyon, Shellenberger Canyon and Turney Ranch Formations (not listed in stratigraphic sequence) of the Bisbee Group, Amole Arkose of Bryant and Kinnison (1964), and Argyle Arkose. Consists of brownish to reddish arkose, gray siltstone, sandstone, conglomerate, and some fossiliferous gray limestone. Commonly several hundred meters thick

Jg — GRANITE AND QUARTZ MONZONITE (JURASSIC) – Stocks of pinkish-gray coarse grained rock. Locally associated with mineralization. Dated at 140, 148, 149, 149, 150, 153, 160, 161, 167, 178, 185 m.y.

PIPs — Sedimentary rocks (Lower Permian and Upper Pennsylvanian) – consists of Epitaph Dolomite (Lower Permian), Colina Limestone (Lower Permian), and Earp Formation (Lower Permian and Upper Pennsylvanian), undifferentiated. Epitaph Dolomite is a dark to light gray slightly cherty dolomite, limestone, marl, siltstone, and gypsum, 120-280 meters thick. Colina Limestone is a medium-gray, thick bedded, sparsely cherty, and sparsely fossiliferous limestone 120-280 meters thick. Earp Formation is a pale red siltstone, mudstone, shale, and limestone, 120-240 meters thick

Ph — Horquilla Limestone (Upper and Middle Pennsylvanian) – Light pinkish-gray, thick to thin-bedded, cherty, fossiliferous limestone and intercalated pale brown to pale reddish-gray siltstone that increases in abundance upward. Typically 300-490 meters thick

MDs — SEDIMENTARY ROCKS (MISSISSIPPIAN AND DEVONIAN) – Consists mainly of Escabrosa Limestone (Mississippian) – locally (Armstrong and Silberman, 1974) called Escabrosa Group – and Martin Formation (Upper Devonian), undifferentiated. In part of the Chiricahua Mountains also includes Paradise Formation (Upper Mississippian) and Portal Formation of Sabins, 1957a (Upper Devonian). In the Little Dragoon Mountains and some adjacent hills also includes Black Prince Limestone, whose fauna and correlation show strongest affinities with Mississippian rocks but which may include some Pennsylvanian rocks. Escabrosa Limestone is a medium-gray, massive to thick bedded, commonly crinoidal, cherty, fossiliferous limestone 90-310 meters thick. Martin Formation is thick to thin-bedded, gray to brown dolomite, gray sparsely fossiliferous, and some siltstone and sandstone, 90-120 meters thick. Paradise Formation is a brown, fossiliferous, shaly limestone. Portal Formation is a black shale and limestone 6-105 meters thick. Black Prince Limestone is pinkish gray limestone with a basal shale and chert conglomerate, as much as 52 meters thick.

Ꞓe — SEDIMENTARY ROCKS (LOWER ORDOVICIAN TO MIDDLE CAMBRIAN) – El Paso Limestone (Lower Ordovician and Upper Cambrian), Abrigo Formation (Upper and Middle Cambrian), and Bolsa Quartz (Middle Cambrian), undifferentiated – El Paso Limestone is a gray, thin-bedded cherty limestone and dolomite 90 meters to about 220 meters thick. Abrigo Formation is a brown, thin-bedded fossiliferous limestone, sandstone, quartzite, and shale, 210-240 meters thick. Bolsa Quartzite is a brown to white or purplish-gray, thick-bedded, coarse grained quartzite and sandstone with a basal conglomerate, 90-180 meters thick. To the east, equivalents of part of the Abrigo Formation and Bolsa Quartzite are known as the Coronado Sandstone.

Ꞓe — Sedimentary rocks (Upper and Middle Cambrian) – Abrigo Formation (Upper and Middle Cambrian), and Bolsa Quartzite (Middle Cambrian), undifferentiated

Yg — GRANITOID ROCKS (PRECAMBRIAN Y) – Mainly granodiorite and quartz monzonite, unfoliated to foliated, in part metamorphosed. Generally in stocks, which have been little studied

Xp — PINAL SCHIST (PRECAMBRIAN X) – Chlorite schist, phyllite, and some metavolcanic rocks, metavolcanic rocks, metaquartzite, metaquartzite conglomerate, and gneiss. One metavolcanic rock dated at 1715 m.y.

CONTACT – Dotted where concealed

MARKER HORIZON – Dotted where concealed

DIKES – Showing dip

FAULTS – Showing dip. Dotted where concealed or inferred, ball and bar on downthrown side

70 — Normal

45 — Reverse

Strike slip – Arrow couple shows relative displacement. Single arrow shows movement of active block.

Major thrust fault – Sawteeth on upper plate

Thrust fault – Sawteeth on upper plate

Anticline

Syncline

30 — Inclined strike and dip of beds.

EXOTIC-BLOCK BRECCIA – Rock contains chip or block inclusions of rock different from those of host or other blocks nearby. Typically of volcanic-tectonic or sedimentary-tectonic origin; excludes Tertiary megabreccia deposits.

(QTgu) 157 — Site of well or generalized site of several wells, showing unit penetrated, if known, and depth of well, in feet. 100 feet equals 30.5 meters.

72x — COLLECTION SITE – Radiogenically dated rock showing age in millions of years. Quarry before symbol where precise location uncertain.

Roads and Highways

Dry wash

Southern Pacific Railroad

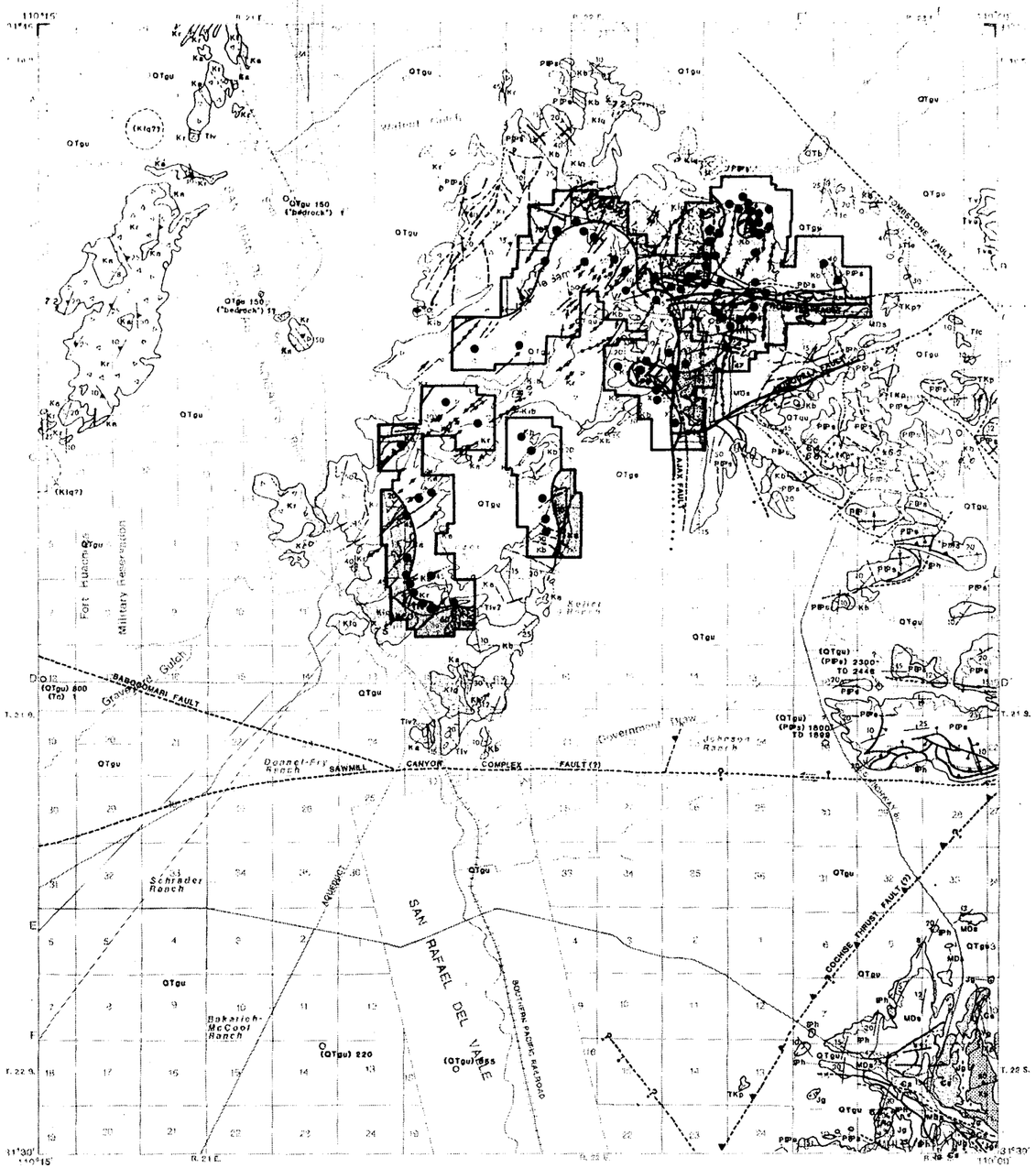
Government Reservation Boundary

Aqueduct

A——A' Cross section line

Dump sample location

Zinc



Tombstone Development Company, Inc.
Tombstone, Arizona

Geology adopted from Drewes, Harold, 1980, and Newell, R.A., 1973.

By James A. Briscoe
James A. Briscoe and Associates
Tucson, Arizona

Figure 7. Dump sample location map showing area of influence boundaries and the Ajax, Prompter, and Horquilla faults, from Newell, R.A., 1973.

Distribution pattern for high zinc ratio in dump samples (in red).

Explanation

Geology

QTgu — OLDER OR UNDIFFERENTIATED SURFICAL DEPOSITS (HOLOCENE TO OLIGOCENE) — Gravel, sand, and silt (Pleistocene and Pliocene — Mainly alluvium of basins, includes some colluvium and landslide deposits. Generally light pinkish gray, weakly indurated, and with poorly rounded clasts, locally well indurated. Thickness several meters to hundreds of meters.

QTb — Basalt (Pleistocene to Pliocene)— Lava flows, pyroclastic rocks, and some intercalated gravel. Thickness several meters to a few hundred meters in most places. Radiometrically dated at 0.25, 1.0, and 3.2 m.y. old

Tvs — Extensive andesite and dacite (Miocene and Upper Oligocene)- Lava flows, pyroclastic rocks, some intercalated epiclastic rocks, and dikes. Mostly gray, fine grained, porphyritic rocks, includes some very coarse feldspar porphyry andesite (Turkey track porphyry, an informal term of Cooper, 1961). Thickness mostly several meters to several tens of meters. Dated at 24, 25, 27, 33, and 39 m.y.

Tr — Extrusive rhyolite and rhyodacite (Miocene and Upper Oligocene —Lava flows, welded tuff, pyroclastic rocks, and some intercalated epiclastic rocks. Light gray to grayish-pink, vitric to fine-grained, porphyritic. Commonly a few tens to a few thousand of meters thick. Dated at 22, 24, 25, 26, 26, 26, and 27 m.y. An additional date of 47 m.y., if substantiated, may indicate the presence of Eocene rocks in the lower member of the S O Volcanics of Cochise Co.

Tlc — Lower conglomerate, gravel, and sand (Oligocene and Eocene?) - Alluvium, commonly grayish red deposits of small, well rounded, nonvolcanic clasts. Mostly several meters to a few tens of meters thick.

Tlv — UPPER CORDILLERAN (LARAMIDE) IGNEOUS ROCKS (LOWER PALEOCENE) — Lower volcanic rocks—Rhyolite to andesite lava flows, pyroclastic rocks, and some intercalated epiclastic rocks. Dated at 57 m.y. Possibly younger age to east

TKg — MAIN CORDILLERAN (LARAMIDE) IGNEOUS ROCKS.—Porphyritic and aplitic intrusive rocks (Paleocene and Upper Cretaceous)- Mostly felsic porphyry to dacitic porphyry in small stocks and plugs and aplitic bodies not associated with other granitoid stocks. Dated at 61, 63, 63, 64, and 66 m.y.

Kib — Fluidized intrusive breccia - exact age unknown, but penetrates, and thus younger than Uncle Sam porphyry

Kr — Rhyodacite tuff and welded tuff. Includes parts of Salero Formation, Sugarloaf Quartz Latite, and Bronco Volcanics, and all of Red Bay Rhyolite, Cat Mountain Rhyolite of Brown (1939) and Uncle Sam Prophyry. Includes local intrusive bodies and locally contains fragments of exotic rocks. Thickness commonly several tens of meters to several hundreds of meters. Dated at 66(?), 70, 72, 73, and 73 m.y. The Uncle Sam, in the Tombstone area, is dated 72 m.y.

Ka — Andesitic to dacitic volcanic breccia. —Includes parts of Salero Formation, Sugarloaf Quartz Latite, and Bronco Volcanics, and all of Demetrie Volcanics and Silverbell Formation of Courtright (1958). Commonly contains large blocks of exotic rocks and locally includes some sedimentary rocks and intrusive rocks. Several tens of meters to several hundreds of meters thick in most places.

Ktg — Lower quartz monzonite and granodiorite.- Includes some quartz diorite; appears in small stocks. Locally associated with mineralization. Dated at 70, 71, 72, 73, 74, 74, 74, and 76 m.y. The Schieffelin granodiorite at Tombstone is 72 m.y.

Kb — BISBEE FORMATION OR GROUP, UNDIFFERENTIATED (LOWER CRETACEOUS) —Upper part of Bisbee Formation or Group, undifferentiated, and related rocks.—Includes upper part of Bisbee Formation, Mural Limestone, Morita, Cintura, Willow Canyon, Apache Canyon, Shellenberger Canyon and Turney Ranch Formations (not listed in stratigraphic sequence) of the Bisbee Group, Amole Arkose of Bryant and Kinnison (1954), and Angelic Arkose. Consists of brownish to reddish arkose, gray siltstone, sandstone, conglomerate, and some fossiliferous gray limestone. Commonly several hundred meters thick

Jg — GRANITE AND QUARTZ MONZONITE (JURASSIC) - Stocks of pinkish-gray coarse grained rock. Locally associated with mineralization. Dated at 140, 148, 149, 149, 150, 153, 160, 161, 167, 178, 185 m.y.

PIPs — Sedimentary rocks (Lower Permian and Upper Pennsylvanian)—consists of Epitaph Dolomite (Lower Permian), Colina Limestone (Lower Permian), and Earp Formation (Lower Permian and Upper Pennsylvanian), undifferentiated. Epitaph Dolomite is a dark to light-gray slightly cherty dolomite, limestone, marl, siltstone, and gypsum, 120-280 meters thick. Colina Limestone is a medium gray, thick bedded, sparsely cherty, and sparsely fossiliferous limestone 120-280 meters thick. Earp Formation is a pale red siltstone, mudstone, shale, and limestone, 120-240 meters thick

Ph — Horquilla Limestone (Upper and Middle Pennsylvanian) —Light pinkish-gray, thick to thin-bedded, cherty, fossiliferous limestone and intercalated pale-brown to pale reddish-gray siltstone that increases in abundance upward. Typically 300-490 meters thick.

MDs — SEDIMENTARY ROCKS (MISSISSIPPIAN AND DEVONIAN)— Consists mainly of Escabrosa Limestone (Mississippian)—locally (Armstrong and Silberman, 1974) called Escabrosa Group— and Martin Formation (Upper Devonian), undifferentiated. In part of the Chiricahua Mountains also includes Paradise Formation (Upper Mississippian) and Portal Formation of Sabins, 1957a (Upper Devonian). In the Little Dragoon Mountains and some adjacent hills also includes Black Prince Limestone, whose fauna and correlation show strongest affinities with Mississippian rocks but which may include some Pennsylvanian rocks. Escabrosa Limestone is a medium-gray, massive to thick-bedded, commonly crinoidal, cherty, fossiliferous limestone 90-310 meters thick. Martin Formation is thick- to thin-bedded, gray to brown dolomite, gray sparsely fossiliferous, and some siltstone and sandstone, 90-120 meters thick. Paradise Formation is a brown, fossiliferous, shaly limestone. Portal Formation is a black shale and limestone 6-105 meters thick. Black Prince Limestone is pinkish-gray limestone with a basal shale and chert conglomerate, as much as 52 meters thick.

Ꞓs — SEDIMENTARY ROCKS (LOWER ORDOVICIAN TO MIDDLE CAMBRIAN) —El Paso Limestone (Lower Ordovician and Upper Cambrian), Abrigo Formation (Upper and Middle Cambrian), and Bolsa Quartz (Middle Cambrian), undifferentiated.—El Paso Limestone is a gray, thin-bedded cherty limestone and dolomite 90 meters to about 220 meters thick. Abrigo Formation is a brown, thin-bedded fossiliferous limestone, mudstone, quartzite, and shale, 210-240 meters thick. Bolsa Quartzite is a brown to white or purplish-gray, thick-bedded, coarse-grained quartzite and sandstone with a basal conglomerate, 90-180 meters thick. To the east, equivalents of part of the Abrigo Formation and Bolsa Quartzite are known as the Coronado Sandstone.

Ꞓs — Sedimentary rocks (Upper and Middle Cambrian)— Abrigo Formation (Upper and Middle Cambrian), and Bolsa Quartzite (Middle Cambrian), undifferentiated

Yg — GRANITOID ROCKS (PRECAMBRIAN Y) —Mainly granodiorite and quartz monzonite, undeformed to foliated, in part metamorphosed. Generally in stocks, which have been little studied

Xp — PINAL SCHIST (PRECAMBRIAN X)—Chlorite schist, phyllite, and some metavolcanic rocks, metavolcanic rocks, metaquartzite, metaquartzite conglomerate, and gneiss. One metavolcanic rock dated at 1715 m.y.

CONTACT—Dotted where concealed

MARKER HORIZON—Dotted where concealed

DIKES—Showing dip

FAULTS—Showing dip. Dotted where concealed or intruded, ball and bar on downthrown side

70 — 45 — Normal

45 — Reverse

Strike slip—Arrow couple shows relative displacement. Single arrow shows movement of active block.

Major thrust fault—Sawteeth on upper plate.

Thrust fault—Sawteeth on upper plate

Anticline

Syncline

30 — Inclined strike and dip of beds.

EXOTIC BLOCK BRECCIA—Rock contains chip or block inclusions of rock different from those of host or other blocks nearby. Typically of volcanic-tectonic or sedimentary-tectonic origin; excludes Tertiary megabreccia deposits.

(QTgu) 187 — Site of well or generalized site of several wells, showing unit penetrated, if known, and depth of well, in feet. 100 feet equals 30.5 meters.

72x — COLLECTION SITE—Radiogenically dated rock showing age in millions of years. Quarry before symbol where precise location uncertain.

Roads and Highways

Dry wash

Southern Pacific Railroad

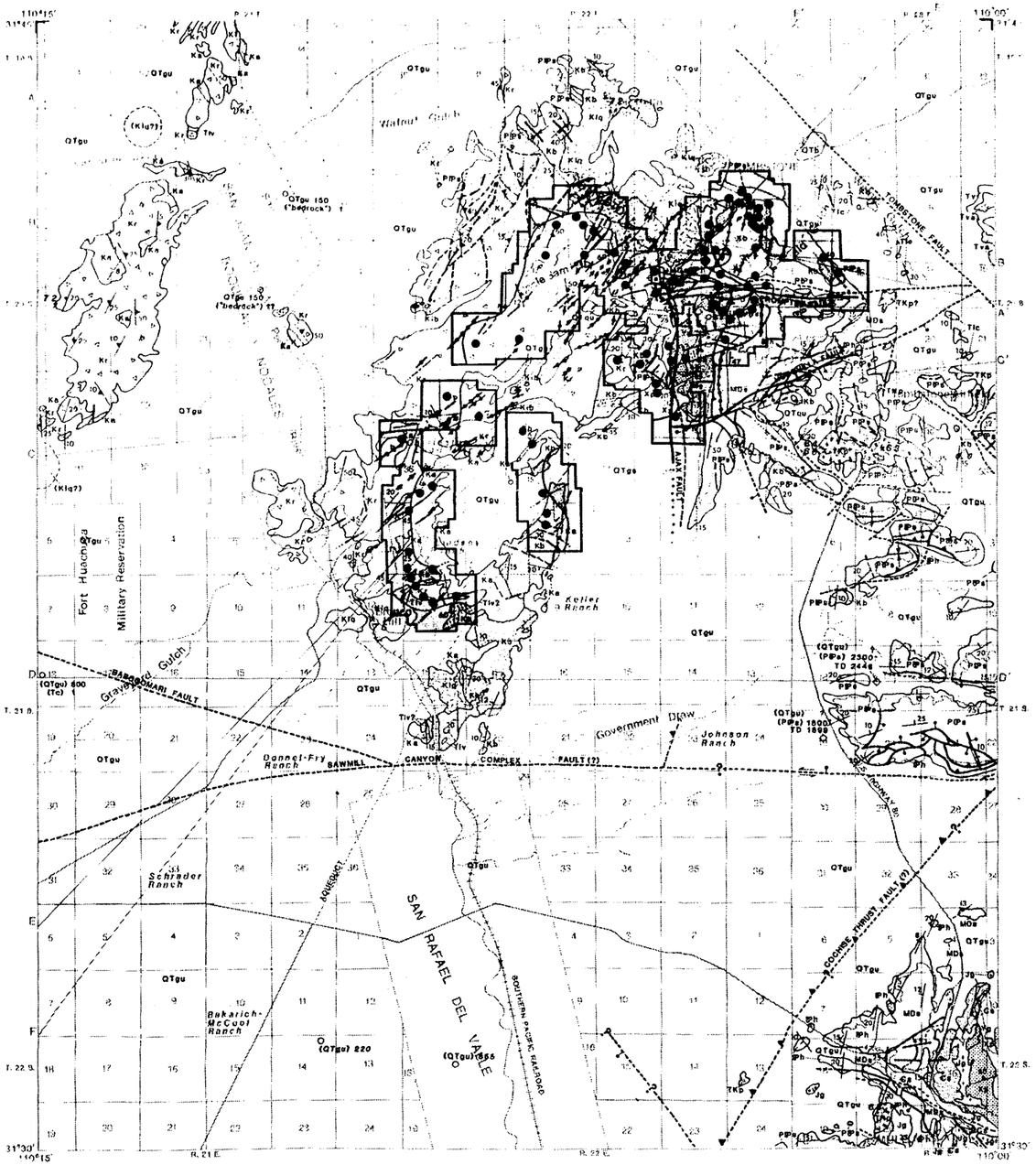
Government Reservation Boundary

Aqueduct

A——A' Cross section line

• Dump sample location

Lead



Tombstone Development Company, Inc.
Tombstone, Arizona

1 0 1 2 3 Miles

N

Geology adopted from Drewes, Harold, 1980, and Newell, R.A., 1973.

Figure 8. Dump sample location map showing area of influence boundaries and the Ajax, Prompter, and Horquilla faults, from Newell, R.A., 1973.

Distribution pattern for high lead ratios in dump samples (in red).

By James A. Briscoe
James A. Briscoe and Associates
Tucson, Arizona

Explanation

Geology

QTgu — OLDER OR UNDIFFERENTIATED SURFICAL DEPOSITS (HOLOCENE TO OLIGOCENE) — Gravel, sand, and silt (Pleistocene and Pliocene — Mainly alluvium of basins, includes some colluvium and landslide deposits. Generally light pinkish gray, weakly indurated, and with poorly rounded clasts, locally well indurated. The terms several meters to hundreds of meters

QTb — Basalt (Pleistocene to Pliocene) - Lava flows, pyroclastic rocks, and some intercalated gravel. The terms several meters to a few hundred meters in most places. Radiometrically dated at 0.25, 1.0 and 3.2 m.y. old

Tva — Extrusive andesite and dacite (Miocene and Upper Oligocene) - Lava flows, pyroclastic rocks, some intercalated epiclastic rocks, and dikes. Mostly gray, fine grained, porphyritic rocks, includes some very coarse feldspar porphyry andesite (Turley, track porphyry, an informal term of Cooper, 1961). Thickness mostly several meters to several tens of meters. Dated at 24, 25, 27, 33, and 39 m.y.

Tv — Extrusive rhyolite and rhyodacite (Miocene and Upper Oligocene - Lava flows, welded tuff, pyroclastic rocks, and some intercalated epiclastic rocks. Light gray to grayish pink, vitric to fine grained, porphyritic. Commonly a few tens to a few thousand of meters thick. Dated at 23, 24, 25, 26, 26, 26, and 27 m.y. An additional date of 47 m.y., if substantiated, may indicate the presence of Eocene rocks in the lower member of the S.O. Volcanics of Cochise Co.

Tlc — Lower conglomerate, gravel, and sand (Oligocene and Eocene?) - Alluvium, commonly grayish red deposits of small, well rounded, nonvolcanic clasts. Mostly several meters to a few tens of meters thick.

Tlv — UPPER CORDILLERAN (LARAMIDE) IGNEOUS ROCKS (LOWER PALEOCENE) — Lower volcanic rocks - Rhyolite to andesite lava flows, pyroclastic rocks, and some intercalated epiclastic rocks. Dated at 57 m.y. Probably younger age to east

TKp — MAIN CORDILLERAN (LARAMIDE) IGNEOUS ROCKS - Porphyritic and aplitic intrusive rocks (Paleocene and Upper Cretaceous) - Mostly latitic porphyry to dacite porphyry in small stocks and plugs and aplitic bodies not associated with other granitoid stocks. Dated at 61, 63, 63, 64, and 65 m.y.

Kib — Fluidized intrusive breccia - exact age unknown, but penetrates, and thus younger than Uncle Sam porphyry

Kr — Rhyodacite tuff and welded tuff - Includes parts of Salero Formation, Sugarloaf Quartz Latite, and Bronco Volcanics, and all of Red Bay Rhyolite, Cat Mountain Rhyolite of Brown (1939) and Uncle Sam Porphyry. Includes local intrusive bodies and locally contains fragments of exotic rocks. Thickness commonly several tens of meters to several hundreds of meters. Dated at 66(?), 70, 72, 73, and 73 m.y. The Uncle Sam, in the Tombstone area, is dated 72 m.y.

Ka — Andesitic to dacitic volcanic breccia - Includes parts of Salero Formation, Sugarloaf Quartz Latite, and Bronco Volcanics, and all of Demetrine Volcanics and Silverbell Formation of Courtright (1958). Commonly contains large blocks of exotic rocks and locally includes some sedimentary rocks and intrusive rocks. Several tens of meters to several hundreds of meters thick in most places.

Klq — Lower quartz monzonite and granodiorite - Includes some quartz diorite; appears in small stocks. Locally associated with mineralization. Dated at 70, 71, 72, 73, 74, 74, 74, and 76 m.y. The Schieffin granodiorite at Tombstone is 72 m.y.

Kb — BISBEE FORMATION OR GROUP, UNDIFFERENTIATED (LOWER CRETACEOUS) — Upper part of Bisbee Formation or Group, undifferentiated, and related rocks. - Includes upper part of Bisbee Formation, Mural Limestone, Morita, Cintura, Willow Canyon, Apache Canyon, Shellenberger Canyon and Turney Ranch Formations (not listed in stratigraphic sequence) of the Bisbee Group, Amole Arkose of Bryant and Keyser (1954), and Angelic Arkose. Consists of brownish to reddish arkose, gray siltstone, sandstone, conglomerate, and some fossiliferous gray limestone. Commonly several hundred meters thick

Jg — GRANITE AND QUARTZ MONZONITE (JURASSIC) — Stocks of pinkish gray, coarse grained rock. Locally associated with mineralization. Dated at 140, 148, 149, 149, 150, 153, 160, 161, 167, 178, 185 m.y.

PIPs — Sedimentary rocks (Lower Permian and Upper Pennsylvanian) — consists of Epitaph Dolomite (Lower Permian), Colina Limestone (Lower Permian), and Earp Formation (Lower Permian and Upper Pennsylvanian), undifferentiated. Epitaph Dolomite is a dark to light-gray slightly cherty dolomite, limestone, marl, siltstone, and gypsum, 120-280 meters thick. Colina Limestone is a medium gray, thick bedded, sparsely cherty, and sparsely fossiliferous limestone 120-280 meters thick. Earp Formation is a pale red siltstone, mudstone, shale, and limestone, 120-240 meters thick.

IPh — Horquilla Limestone (Upper and Middle Pennsylvanian) — Light pinkish-gray, thick to thin bedded, cherty, fossiliferous limestone and intercalated pale brown to pale reddish-gray siltstone that increases in abundance upward. Typically 300-650 meters thick.

MDs — SEDIMENTARY ROCKS (MISSISSIPPIAN AND DEVONIAN) — Consists mainly of Escabrosa Limestone (Mississippian) - locally (Armstrong and Silberman, 1974) called Escabrosa Group - and Martin Formation (Upper Devonian), undifferentiated. In part of the Chiricahua Mountains also includes Paradise Formation (Upper Mississippian) and Portal Formation of Sabins, 1957a (Upper Devonian). In the Little Dragoon Mountains and some adjacent hills also includes Black Prince Limestone, whose fauna and correlation show strongest affinities with Mississippian rocks but which may include some Pennsylvanian rocks. Escabrosa Limestone is a medium-gray, massive to thick-bedded, commonly crinoidal, cherty, fossiliferous limestone 90-310 meters thick. Martin Formation is thick to thin-bedded, gray to brown dolomite, gray sparsely fossiliferous, and some siltstone and sandstone, 90-120 meters thick. Paradise Formation is a brown, fossiliferous, shaly limestone. Portal Formation is a black shale and limestone 6-105 meters thick. Black Prince Limestone is a pinkish gray limestone with a basal shale and chert conglomerate, as much as 52 meters thick.

O€s — SEDIMENTARY ROCKS (LOWER ORDOVICIAN TO MIDDLE CAMBRIAN) — El Paso Limestone (Lower Ordovician and Upper Cambrian), Abrigo Formation (Upper and Middle Cambrian), and Bolsa Quartz (Middle Cambrian), undifferentiated. - El Paso Limestone is a gray, thin-bedded cherty limestone and dolomite 90 meters to about 220 meters thick. Abrigo Formation is a brown, thin-bedded fossiliferous limestone, sandstone, quartzite, and shale, 210-240 meters thick. Bolsa Quartzite is a brown to white or purplish-gray, thick-bedded, coarse-grained quartzite and sandstone with a basal conglomerate, 90-180 meters thick. To the east, equivalents of part of the Abrigo Formation and Bolsa Quartzite are known as the Coronado Sandstone.

€s — Sedimentary rocks (Upper and Middle Cambrian) — Abrigo Formation (Upper and Middle Cambrian), and Bolsa Quartzite (Middle Cambrian), undifferentiated

Yg — GRANITOID ROCKS (PRECAMBRIAN Y) — Mainly granodiorite and quartz monzonite, unfoliated to foliated, in part metamorphosed. Generally in stocks, which show been little studied

Xp — PINAL SCHIST (PRECAMBRIAN X) — Chlorite schist, phyllite, and some metavolcanic rocks, metavolcanic rocks, metaquartzite, metaquartzite conglomerate, and gneiss. One metavolcanic rock dated at 1715 m.y.

CONTACT — Dotted where concealed

MARKER HORIZON — Dotted where concealed

DIKES — Showing dip

FAULTS — Showing dip. Dotted where concealed or intruded, ball and bar on downthrown side

70 — 45 — Normal

45 — Reverse

Strike slip — Arrow couple shows relative displacement. Single arrow shows movement of active block.

Major thrust fault — Sawteeth on upper plate.

Thrust fault — Sawteeth on upper plate

Anticline.

Syncline.

30 — Inclined strike and dip of beds.

EXOTIC BLOCK BRECCIA — Rock contains chip or block inclusions of rock different from those of host or other blocks nearby. Typically of volcanic tectonic or sedimentary-tectonic origin, excludes Tertiary megabreccia deposits.

(QTgu) 187 — Site of well or generalized site of several wells, showing unit penetrated, if known, and depth of well, in feet. 100 feet equals 30.5 meters.

72x — COLLECTION SITE — Radiogenically dated rock showing age in millions of years. Query before symbol where precise location uncertain.

Roads and Highways

Dry wash

Southern Pacific Railroad

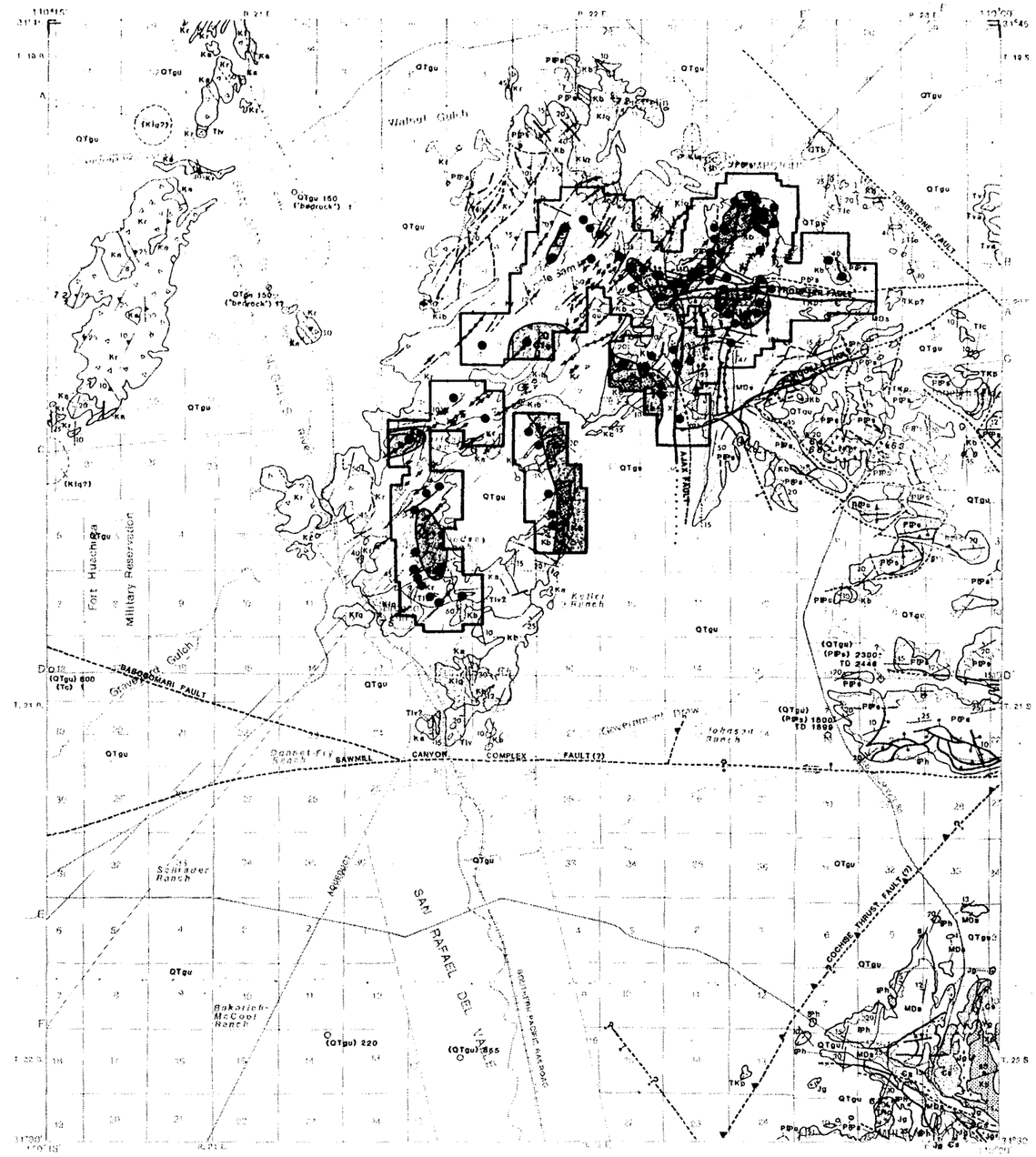
Government Reservation Boundary

Aqueduct

A——A' Cross section line

● Dump sample location

Copper



Tombstone Development Company, Inc.
Tombstone, Arizona

Geology adopted from Drewes, Harold, 1980, and Newell, R.A., 1973.

By James A. Briscoe
James A. Briscoe and Associates
Tucson, Arizona

Figure 9. Dump sample location map showing area of influence boundaries and the Ajax, Prompter, and Horquilla faults, from Newell, R.A., 1973.

Distribution pattern for high copper ratios in dump samples (in red).

Explanation

Geology

QTgu — OLDER OR UNDIFFERENTIATED SURFICAL DEPOSITS (HOLOCENE TO OLIGOCENE) Gravel, sand, and silt (Pleistocene and Pliocene Mainly alluvium of basins, includes some colluvium and landslide deposits Generally light pinkish gray, weakly indurated, and with poorly rounded clasts, locally well indurated Thickness several meters to hundreds of meters

QTb — Basalt (Pleistocene to Pliocene) - Lava flows, pyroclastic rocks, and some intercalated gravel Thickness several meters to a few hundred meters in most places Radiometrically dated at 0 25 1 0 and 3 2 m y old

Tva — Extensive andesite and dacite (Miocene and Upper Oligocene) - Lava flows, pyroclastic rocks, some intercalated epiclastic rocks, and dikes Mostly gray, fine grained, porphyritic rocks, includes some very coarse feldspar porphyry andesite (Turkey track porphyry, an informal term of Cooper, 1961) Thickness mostly several meters to several tens of meters Dated at 24, 25, 27, 33, and 39 m y

Tv — Extensive rhyolite and rhyodacite (Miocene and Upper Oligocene - Lava flows, welded tuff, pyroclastic rocks, and some intercalated epiclastic rocks Light gray to grayish pink, vitric to fine-grained, porphyritic Commonly a few tens to a few thousand of meters thick Dated at 23, 24, 25, 26, 26, 26, and 27 m y An additional date of 47 m y, if substantiated, may indicate the presence of Eocene rocks in the lower member of the S O Volcanics of Cochise Co

Tlc — Lower conglomerate, gravel, and sand (Oligocene and Eocene?)-- Alluvium, commonly grayish red deposits of small, well rounded, nonvolcanic clasts Mostly several meters to a few tens of meters thick

Tlv — UPPER CORDILLERAN (LARAMIDE) IGNEOUS ROCKS (LOWER PALEOCENE) - Lower volcanic rocks - Rhyolite to andesite lava flows, pyroclastic rocks, and some intercalated epiclastic rocks Dated at 57 m y Possibly younger age to east

TKp — MAIN CORDILLERAN (LARAMIDE) IGNEOUS ROCKS -- Porphyritic and aplitic intrusive rocks (Paleocene and Upper Cretaceous) - Mostly latitic porphyry to dacitic porphyry in small stocks and plugs and aplitic bodies not associated with other granitoid stocks Dated at 61, 63, 63, 64, and 65 m y

Kib — Fluidized intrusive breccia exact age unknown, but penetrates, and thus younger than Uncle Sam porphyry

Kr — Rhyodacite tuff and welded tuff Includes parts of Salero Formation, Sugarloaf Quartz Latite, and Bronco Volcanics, and all of Red Bay Rhyolite Cat Mountain Rhyolite of Brown (1939) and Uncle Sam Prophyry Includes local intrusive bodies and locally contains fragments of exotic rocks Thickness commonly several tens of meters to several hundreds of meters Dated at 66(?), 70, 72, 73, and 73 m.y The Uncle Sam, in the Tombstone area, is dated 72 m y

Ka — Andesitic to dacitic volcanic breccia --Includes parts of Salero Formation, Sugarloaf Quartz Latite, and Bronco Volcanics, and all of Demetrie Volcanics and Silverbell Formation of Courtright (1958). Commonly contains large blocks of exotic rocks and locally includes some sedimentary rocks and intrusive rocks. Several tens of meters to several hundreds of meters thick in most places

Klq — Lower quartz monzonite and granodiorite -- Includes some quartz diorite, appears in small stocks Locally associated with mineralization. Dated at 70, 71, 72, 73, 74, 74, 74, and 76 m.y The Schwitkin granodiorite at Tombstone is 72 m y

Kb — BISBEE FORMATION OR GROUP, UNDIFFERENTIATED (LOWER CRETACEOUS) -- Upper part of Bisbee Formation or Group, undifferentiated, and related rocks - Includes upper part of Bisbee Formation, Mural Limestone, Morita, Cintura, Willow Canyon, Apache Canyon, Shellenberger Canyon and Turney Ranch Formations (not listed in stratigraphic sequence) of the Bisbee Group, Amole Arkose of Bryant and Kennedy (1954), and Angelic Arkose Consists of brownish to reddish arkose, gray siltstone, sandstone, conglomerate, and some fossiliferous gray limestone Commonly several hundred meters thick

Jg — GRANITE AND QUARTZ MONZONITE (JURASSIC) Stocks of pinkish gray coarse grained rock Locally associated with mineralization Dated at 140, 148, 149, 149, 150, 153, 160, 161, 167, 178, 185 m y

PIPs — Sedimentary rocks (Lower Permian and Upper Pennsylvanian) --Consists of Epitaph Dolomite (Lower Permian), Colina Limestone (Lower Permian), and Earp Formation (Lower Permian and Upper Pennsylvanian), undifferentiated Epitaph Dolomite is a dark to light gray slightly cherty dolomite, limestone, marl, siltstone, and gypsum, 120-280 meters thick Colina Limestone is a medium gray, thick bedded, sparsely cherty, and sparsely fossiliferous limestone 120-280 meters thick Earp Formation is a pale red siltstone, mudstone, shale, and limestone, 120-240 meters thick

Ph — Horquilla Limestone (Upper and Middle Pennsylvanian) Light pinkish gray, thick to thin bedded, cherty, fossiliferous limestone and intercalated pale brown to pale reddish gray siltstone that increases in abundance upward Typically, 300-490 meters thick

MDs — SEDIMENTARY ROCKS (MISSISSIPPIAN AND DEVONIAN)--Consists mainly of Escabrosa Limestone (Mississippian) - locally (Armstrong and Silberman, 1974) called Escabrosa Group and Martin Formation (Upper Devonian), undifferentiated In part of the Chiricahua Mountains also includes Paradise Formation (Upper Mississippian) and Portal Formation of Sabins, 1957a (Upper Devonian) In the Little Dragoon Mountains and some adjacent hills also includes Black Prince Limestone, whose fauna and correlation show strongest affinities with Mississippian rocks but which may include some Pennsylvanian rocks. Escabrosa Limestone is a medium-gray, massive to thick bedded, commonly crinoidal, cherty, fossiliferous limestone 90-310 meters thick. Martin Formation is thick- to thin bedded, gray to brown dolomite, gray sparsely fossiliferous, and some siltstone and sandstone, 90-120 meters thick. Paradise Formation is a brown, fossiliferous, shaly limestone Portal Formation is a black shale and limestone 6-105 meters thick. Black Prince Limestone is pinkish-gray limestone with a basal shale and chert conglomerate, as much as 52 meters thick.

OEs — SEDIMENTARY ROCKS (LOWER ORDOVICIAN TO MIDDLE CAMBRIAN) --El Paso Limestone (Lower Ordovician and Upper Cambrian), Abrigo Formation (Upper and Middle Cambrian), and Bolsa Quartz (Middle Cambrian), undifferentiated -- El Paso Limestone is a gray, thin-bedded cherty limestone and dolomite 90 meters to about 220 meters thick. Abrigo Formation is a brown, thin-bedded fossiliferous limestone, sandstone, quartzite, and shale, 210-240 meters thick. Bolsa Quartzite is a brown to white or purplish-gray, thick-bedded, coarse-grained quartzite and sandstone with a basal conglomerate, 90-180 meters thick. To the east, equivalents of part of the Abrigo Formation and Bolsa Quartzite are known as the Coronado Sandstone.

Ꞓe — Sedimentary rocks (Upper and Middle Cambrian) Abrigo Formation (Upper and Middle Cambrian), and Bolsa Quartzite (Middle Cambrian), undifferentiated

Yg — GRANITOID ROCKS (PRECAMBRIAN Y) -- Mainly granodiorite and quartz monzonite, unfoliated to foliated, in part metamorphosed Generally in stocks, which have been little studied

Xp — PINAL SCHIST (PRECAMBRIAN X) - Chlorite schist, phyllite, and some metavolcanic rocks, metavolcanic rocks, metaquartzite, metaquartzite conglomerate, and gneiss One metavolcanic rock dated at 1715 m y

CONTACT - Dotted where concealed

MARKER HORIZON - Dotted where concealed

DIKES - Showing dip

FAULTS--Showing dip Dotted where concealed or intruded, ball and bar on downthrown side

Normal

Reverse

Strike-slip-- Arrow couple shows relative displacement Single arrow shows movement of active block

Major thrust fault -- Sawteeth on upper plate

Thrust fault - Sawteeth on upper plate

Anticline

Syncline

Inclined strike and dip of beds

EXOTIC BLOCK BRECCIA--Rock contains chip or block inclusions of rock different from those of host or other blocks nearby. Typically of volcanic-tectonic or sedimentary-tectonic origin; excludes Tertiary megabreccia deposits.

(QTgu) 187 — Site of well or generalized site of several wells, showing unit penetrated, if known, and depth of well, in feet 100 feet equals 30.5 meters

72x — COLLECTION SITE--Radiogenically dated rock showing age in millions of years. Query before symbol where precise location uncertain.

Roads and Highways

Dry wash

Southern Pacific Railroad

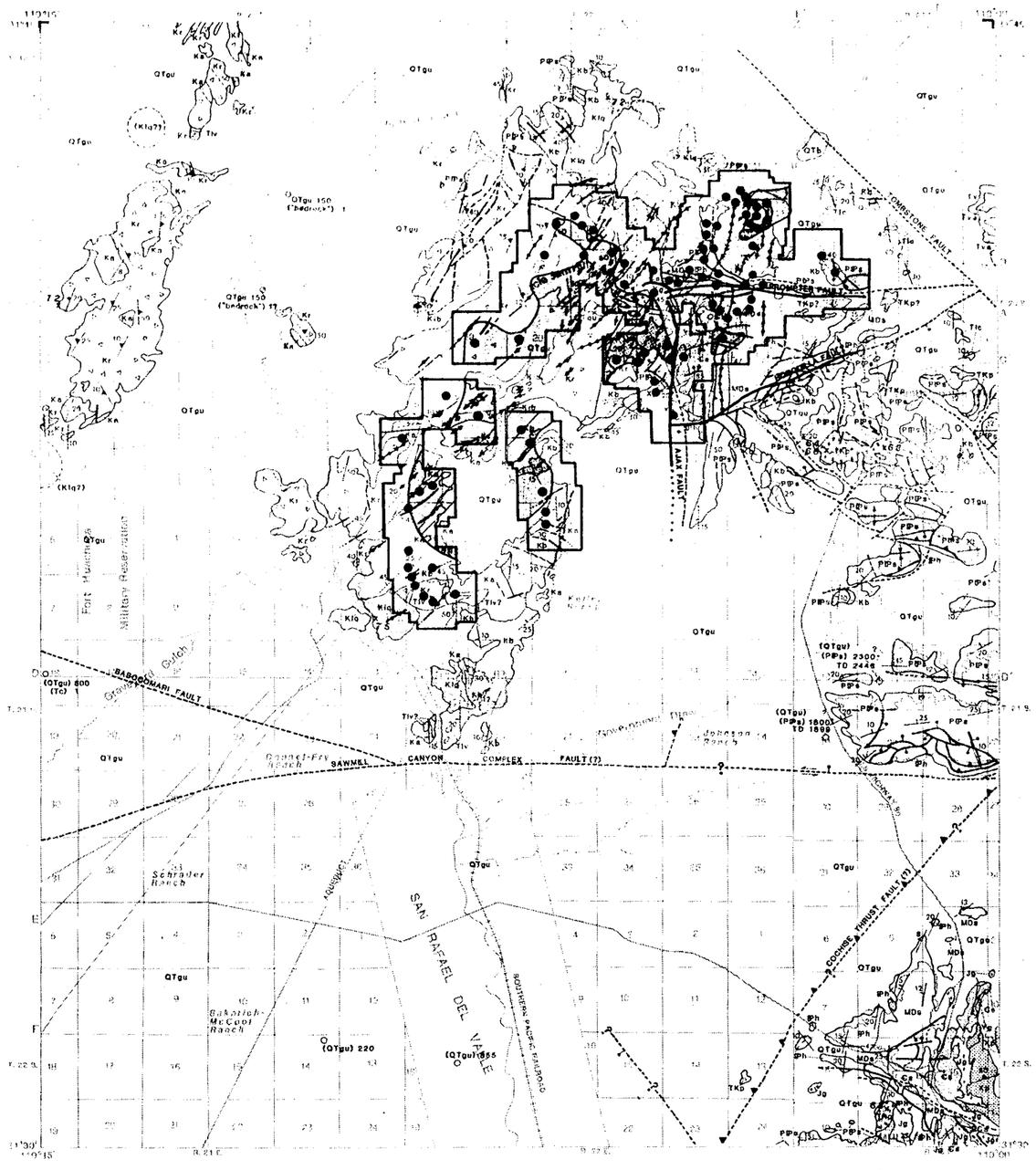
Government Reservation Boundary

Aqueduct

A——A' Cross section line

Dump sample location

Molybdenum



Tombstone Development Company, Inc.
Tombstone, Arizona

Geology adopted from Drewes, Harold, 1980, and Newell, R.A., 1973.

By James A. Briscoe
James A. Briscoe and Associates
Tucson, Arizona

Figure 10. Dump sample location map showing area of influence boundaries and the Ajax, Prompter, and Horquilla faults, from Newell, R.A., 1973.

Distribution pattern for high molybdenum ratios in dump samples (in red).

Explanation

Geology

QTgu — OLDER OR UNDIFFERENTIATED SURFICAL DEPOSITS (HOLOCENE TO OLIGOCENE) Gravel, sand, and silt (Pleistocene and Pliocene - Mainly, alluvium of basins, includes some colluvium and landslide deposits. Generally light pinkish gray, weakly indurated, and with poorly rounded clasts, locally well indurated. The forms several meters to hundreds of meters.

QTb — Basalt (Pleistocene to Pliocene) Lava flows, pyroclastic rocks, and some intercalated gravel. The forms several meters to a few hundred meters in most places. Radiometrically dated at 0.25, 1.0, and 3.2 m.y. old.

Tva — Extrusive andesite and dacite (Miocene and Upper Oligocene) Lava flows, pyroclastic rocks, some intercalated epiclastic rocks, and dikes. Mostly gray, fine grained, porphyritic rocks, includes some very coarse feldspar porphyry andesite (Turley, nach porphyry, an informal term of Cooper, 1961). The forms mostly several meters to several tens of meters. Dated at 24, 25, 27, 33, and 39 m.y.

Tv — Extrusive rhyolite and rhyodacite (Miocene and Upper Oligocene Lava flows, welded tuff, pyroclastic rocks, and some intercalated epiclastic rocks. Light-gray to grayish pink, vitric to fine grained, porphyritic. Commonly a few tens to a few thousand of meters thick. Dated at 23, 24, 25, 26, 26, 26, and 27 m.y. An additional date of 47 m.y. if substantiated, may indicate the presence of Eocene rocks in the lower member of the S.O. Volcanics of Cochise Co.

Tlc — Lower conglomerate, gravel, and sand (Oligocene and Eocene?) - Alluvium, commonly grayish red deposits of small, well rounded, nonvolcanic clasts. Mostly several meters to a few tens of meters thick.

Tlv — UPPER CORDILLERAN (LARAMIDE) IGNEOUS ROCKS (LOWER PALEOCENE) - Lower volcanic rocks - Rhyolite to andesite lava flows, pyroclastic rocks, and some intercalated epiclastic rocks. Dated at 57 m.y. Possibly younger age to east.

Tkp — MAIN CORDILLERAN (LARAMIDE) IGNEOUS ROCKS - Porphyritic and aplitic intrusive rocks (Paleocene and Upper Cretaceous) - Mostly latitic porphyry to dacitic porphyry in small stocks and plugs and aplitic bodies not associated with other granitoid stocks. Dated at 61, 63, 63, 64, and 65 m.y.

Kib — Fluidized intrusive breccia - exact age unknown, but penetrates, and thus younger than Uncle Sam porphyry.

Kr — Rhyodacite tuff and welded tuff - Includes parts of Salero Formation, Sugarloaf Quartz Latite, and Bronco Volcanics, and all of Red Bay Rhyolite. Cat Mountain Rhyolite of Brown (1939) and Uncle Sam Porphyry. Includes local intrusive bodies and locally contains fragments of exotic rocks. The forms commonly several tens of meters to several hundreds of meters. Dated at 66(?), 70, 72, 73, and 73 m.y. The Uncle Sam, in the Tombstone area, is dated 72 m.y.

Ka — Andesitic to dacitic volcanic breccia - Includes parts of Salero Formation, Sugarloaf Quartz Latite, and Bronco Volcanics, and all of Demetrie Volcanics and Silverbell Formation of Courtright (1956). Commonly contains large blocks of exotic rocks and locally includes some sedimentary rocks and intrusive rocks. Several tens of meters to several hundreds of meters thick in most places.

Klq — Lower quartz monzonite and granodiorite - Includes some quartz diorite, appears in small stocks. Locally associated with mineralization. Dated at 70, 71, 72, 73, 74, 74, 74, and 76 m.y. The Scherrillo granodiorite at Tombstone is 72 m.y.

Kb — BISBEE FORMATION OR GROUP, UNDIFFERENTIATED (LOWER CRETACEOUS) - Upper part of Bisbee Formation or Group, undifferentiated, and related rocks. Includes upper part of Bisbee Formation, Mural Limestone, Morita, Cintura, Willow Canyon, Apache Canyon, Shellenberger Canyon and Turney Ranch Formations (not listed in stratigraphic sequence) of the Bisbee Group, Amole Arkose of Bryant and Kinnison (1954), and Angelo Arkose. Consists of brownish- to reddish-arkose, gray siltstone, sandstone, conglomerate, and some fossiliferous gray limestone. Commonly several hundred meters thick.

Jg — GRANITE AND QUARTZ MONZONITE (JURASSIC) - Stocks of pinkish-gray coarse grained rock. Locally associated with mineralization. Dated at 140, 148, 149, 149, 150, 153, 160, 161, 167, 178, 185 m.y.

PPs — Sedimentary rocks (Lower Permian and Upper Pennsylvanian) - consists of Epitaph Dolomite (Lower Permian), Colina Limestone (Lower Permian), and Earp Formation (Lower Permian and Upper Pennsylvanian), undifferentiated. Epitaph Dolomite is a dark- to light-gray, slightly cherty dolomite, limestone, marl, siltstone, and gypsum, 120-280 meters thick. Colina Limestone is a medium gray, thick bedded, sparsely cherty, and sparsely fossiliferous limestone, 120-280 meters thick. Earp Formation is a pale red siltstone, mudstone, shale, and limestone, 120-240 meters thick.

Ph — Horquilla Limestone (Upper and Middle Pennsylvanian) - Light pinkish-gray, thick- to thin-bedded, cherty, fossiliferous limestone and intercalated pale brown to pale reddish-gray, siltstone that increases in abundance upward. Typically, 300-490 meters thick.

MDs — SEDIMENTARY ROCKS (MISSISSIPPIAN AND DEVONIAN) - Consists mainly of Escabrosa Limestone (Mississippian) - locally (Armstrong and Silberman, 1974) called Escabrosa Group - and Martin Formation (Upper Devonian), undifferentiated. In part of the Chiricahua Mountains also includes Paradise Formation (Upper Mississippian) and Portal Formation of Sabins, 1957a (Upper Devonian). In the Little Dragoon Mountains and some adjacent hills also includes Black Prince Limestone, whose fauna and correlation show strongest affinities with Mississippian rocks but which may include some Pennsylvanian rocks. Escabrosa Limestone is a medium-gray, massive to thick bedded, commonly crinoidal, cherty, fossiliferous limestone 90-310 meters thick. Martin Formation is thick- to thin-bedded, gray to brown dolomite, gray sparsely fossiliferous, and some siltstone and sandstone, 90-120 meters thick. Paradise Formation is a brown, fossiliferous, shaly limestone. Portal Formation is a black shale and limestone 6-105 meters thick. Black Prince Limestone is pinkish gray, limestone with a basal shale and chert conglomerate, as much as 52 meters thick.

CЄs — SEDIMENTARY ROCKS (LOWER ORDOVICIAN TO MIDDLE CAMBRIAN) - El Paso Limestone (Lower Ordovician and Upper Cambrian), Abrigo Formation (Upper and Middle Cambrian), and Bolsa Quartz (Middle Cambrian), undifferentiated - El Paso Limestone is a gray, thin-bedded cherty limestone and dolomite 90 meters to about 220 meters thick. Abrigo Formation is a brown, thin-bedded fossiliferous limestone, sandstone, quartzite, and shale, 210-240 meters thick. Bolsa Quartzite is a brown to white or purplish-gray, thick-bedded, coarse-grained quartzite and sandstone with a basal conglomerate, 90-180 meters thick. To the east, equivalents of part of the Abrigo Formation and Bolsa Quartzite are known as the Coronado Sandstone.

Єs — Sedimentary rocks (Upper and Middle Cambrian) - Abrigo Formation (Upper and Middle Cambrian), and Bolsa Quartzite (Middle Cambrian), undifferentiated.

Yg — GRANITOID ROCKS (PRECAMBRIAN Y) - Mainly granodiorite and quartz monzonite, unfoliated to foliated, in part metamorphosed. Generally in stocks, which have been little studied.

Xp — PINAL SCHIST (PRECAMBRIAN X) - Chlorite schist, phyllite, and some metavolcanic rocks, metavolcanic rocks, metaquartzite, metaquartzite conglomerate, and gneiss. One metavolcanic rock dated at 1715 m.y.

CONTACT - Dotted where concealed

MARKER HORIZON - Dotted where concealed

DIKES - Showing dip

FAULTS - Showing dip. Dotted where concealed or intruded; ball and bar on downthrown side

Normal

Reverse

Strike slip - Arrow couple shows relative displacement. Single arrow shows movement of active block.

Major thrust fault - Sawteeth on upper plate.

Thrust fault - Sawteeth on upper plate.

Anticline

Syncline

Inclined strike and dip of beds.

EXOTIC BLOCK BRECCIA - Rock contains chip or block inclusions of rock different from those of host or other blocks nearby. Typically of volcanic-tectonic or sedimentary-tectonic origin; excludes Tertiary megabreccia deposits.

(QTgu) 157 — Site of well or generalized site of several wells, showing unit penetrated, if known, and depth of well, in feet. 100 feet equals 30.5 meters.

72x — COLLECTION SITE - Radiogenically dated rock showing age in millions of years. Query before symbol where precise location uncertain.

Roads and Highways

Dry wash

Southern Pacific Railroad

Government Reservation Boundary

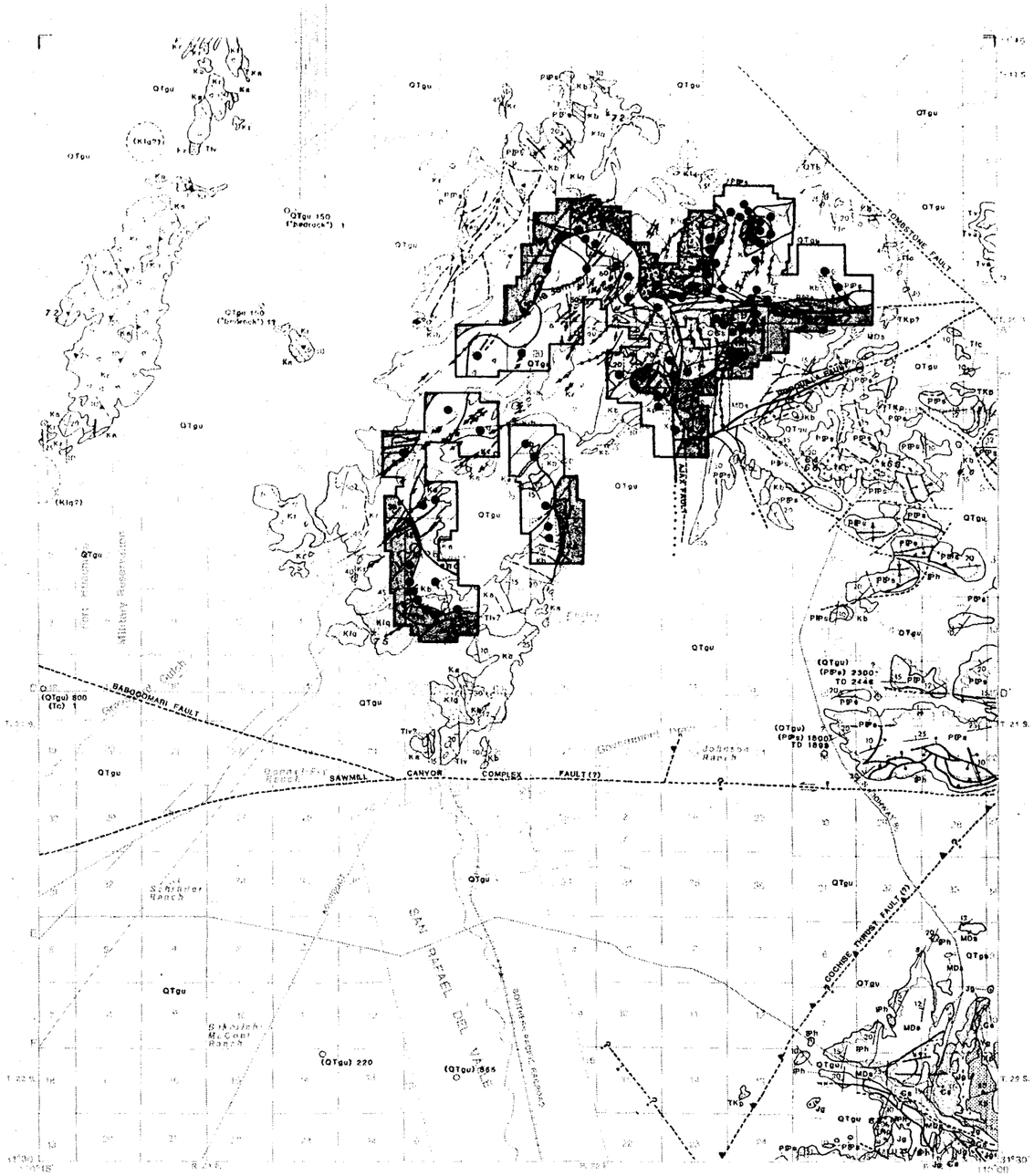
Aqueduct

A——A' Cross section line

Dump sample location

Molybdenum

Zinc



Tombstone Development Company, Inc.
Tombstone, Arizona

1 0 1 2 3 Miles

N

Geology adopted from Drewes, Harold, 1960, and Newell, R.A., 1973.

By James A. Briscoe
James A. Briscoe and Associates
Tucson, Arizona

Figure 11. Dump sample location map showing area of influence boundaries and the Ajax, Prompter, and Horquilla faults, from Newell, R.A., 1973.

Distribution pattern for high molybdenum and zinc ratios in dump samples (in red).

Explanation

Geology

QTgu — OLDER OR UNDIFFERENTIATED SURFICIAL DEPOSITS (HOLOCENE TO OLIGOCENE) Gravel, sand, and silt (Pleistocene and Pliocene Basin, alluvium of basins, includes some colluvium and landslide deposits. Generally, light pinkish gray, weakly indurated, and with poorly rounded clasts, locally well indurated. Thickness several meters to hundreds of meters.

QTb — Basalt (Pleistocene to Pliocene) Lava flows, pyroclasts, rocks, and some intercalated gravel. Thickness several meters to a few hundred meters in most places. Radiometrically, dated at 0.25, 1.0, and 1.2 m.y. old.

Tva — Extensive andesite and dacite (Miocene and Upper Oligocene) Lava flows, pyroclasts, rocks, some intrusive rocks, and dikes. Mostly gray, fine grained, porphyritic rocks, includes some very coarse feldspar porphyry andesite (Turley, rock porphyry, an informal term of Cooper, 1961). Thickness mostly, several meters to several tens of meters. Dated at 24, 25, 27, 33 and 39 m.y.

Tv — Extrusive rhyolite and rhyodacite (Miocene and Upper Oligocene) Lava flows, welded tuff, pyroclasts, rocks, and some intercalated epiclastic rocks. Light gray to grayish pink, vitric to fine grained porphyritic. Commonly a few tens to a few thousand of meters thick. Dated at 23, 24, 25, 26, 26, 26, and 27 m.y. An additional date of 47 m.y. if substantiated, may indicate the presence of Eocene rocks in the lower member of the S.O. Volcanics of Cochise Co.

Tlc — Lower conglomerate, gravel, and sand (Oligocene and Eocene?) Alluvium, commonly, grayish red deposits of small, well rounded, nonvolcanic clasts. Mostly, several meters to a few tens of meters thick.

Tlv — UPPER CORDILLERAN (LARAMIDE) IGNEOUS ROCKS (LOWER PALEOCENE) Lower volcanic rocks - Rhyolite to andesite lava flows, pyroclastic rocks, and some intercalated epiclastic rocks. Dated at 57 m.y. Possibly younger age to east.

TKd — MAIN CORDILLERAN (LARAMIDE) IGNEOUS ROCKS - Porphyritic and aplitic intrusive rocks (Paleocene and Upper Cretaceous) Mostly latitic porphyry to dacitic porphyry in small stocks and plugs and aplitic bodies not associated with other granitoid stocks. Dated at 61, 63, 63, 64, and 65 m.y.

Kib — Fluidized intrusive breccia - exact age unknown, but penetrates, and thus younger than Uncle Sam porphyry.

Kr — Rhyodacite tuff and welded tuff Includes parts of Salero Formation, Sugarloaf Quartz Latite, and Bronco Volcanics, and all of Red Bay Rhyolite, Cat Mountain Rhyolite of Brown (1939) and Uncle Sam Porphyry. Includes local intrusive bodies and locally contains fragments of exotic rocks. Thickness commonly several tens of meters to several hundreds of meters. Dated at 66.9, 70, 72, 73, and 73 m.y. The Uncle Sam, in the Tombstone area, is dated 72 m.y.

Ka — Andesitic to dacitic volcanic breccia — Includes parts of Salero Formation, Sugarloaf Quartz Latite, and Bronco Volcanics, and all of Demetrie Volcanics and Silverbell Formation of Courtright (1968). Commonly contains large blocks of exotic rocks and locally includes some sedimentary rocks and intrusive rocks. Several tens of meters to several hundreds of meters thick in most places.

Kiq — Lower quartz monzonite and granodiorite Includes some quartz diorite; appears in small stocks. Locally associated with mineralization. Dated at 70, 71, 72, 73, 74, 74, 74, and 76 m.y. The Schieffelin granodiorite at Tombstone is 72 m.y.

Kb — BISBEE FORMATION OR GROUP UNDIFFERENTIATED (LOWER CRETACEOUS) Upper part of Bisbee Formation or Group, undifferentiated, and related rocks. Includes upper part of Bisbee Formation: Mural Limestone, Morita, Cintura, Willow Canyon, Apache Canyon, Shellenberger Canyon and Turney Ranch Formations (not listed in stratigraphic sequence) of the Bisbee Group, Arizona Arkose of Bryant and Keroson (1954), and Angelic Arkose. Consists of brownish to reddish arkose, grit, siltstone, sandstone, conglomerate, and some fossiliferous gray limestone. Commonly several hundred meters thick.

Jg — GRANITE AND QUARTZ MONZONITE (JURASSIC) Stocks of pinkish gray, coarse grained rock. Locally associated with mineralization. Dated at 149, 148, 149, 149, 150, 151, 160, 161, 167, 178, 185 m.y.

PIPs — Sedimentary rocks (Lower Permian and Upper Pennsylvanian) Consists of Epitaph Dolomite (Lower Permian), Colina Limestone (Lower Permian), and Earp Formation (Lower Permian and Upper Pennsylvanian), undifferentiated. Epitaph Dolomite is a dark to light gray, slightly cherty, dolomite, limestone, marl, siltstone, and gypsum, 120-280 meters thick. Colina Limestone is a medium gray, thick bedded, sparsely cherty, and sparsely fossiliferous limestone 120-280 meters thick. Earp Formation is a pale red siltstone, mudstone shale, and limestone, 120-240 meters thick.

IPh — Horquilla Limestone (Upper and Middle Pennsylvanian) Light pinkish gray, thick to thin bedded, cherty, fossiliferous limestone and intercalated pale brown to pale reddish gray, siltstone that increases in abundance upward. Typically, 300-240 meters thick.

MDs — SEDIMENTARY ROCKS (MISSISSIPPIAN AND DEVONIAN) Consists mainly of Escabrosa Limestone (Mississippian) locally (Armstrong and Silberman, 1974) called Escabrosa Group and Martin Formation (Upper Devonian), undifferentiated. In part of the Chiricahua Mountains also includes Paradise Formation (Upper Mississippian) and Portal Formation of Sabins, 1967a (Upper Devonian). In the Little Dragoon Mountains and some adjacent hills also includes Black Prince Limestone, whose fauna and correlation show strongest affinities with Mississippian rocks but which may include some Pennsylvanian rocks. Escabrosa Limestone is a medium gray, massive to thick bedded, commonly crinoidal, cherty, fossiliferous limestone 90-310 meters thick. Martin Formation is thick to thin bedded, gray to brown dolomite, gray sparsely fossiliferous, and some siltstone and sandstone, 90-120 meters thick. Paradise Formation is a brown, fossiliferous, shaly limestone. Portal Formation is a black shale and limestone 6-105 meters thick. Black Prince Limestone is pinkish gray limestone with a basal shale and chert conglomerate, as much as 52 meters thick.

O€a — SEDIMENTARY ROCKS (LOWER ORDOVICIAN TO MIDDLE CAMBRIAN) - El Paso Limestone (Lower Ordovician and Upper Cambrian), Abrigo Formation (Upper and Middle Cambrian), and Bolsa Quartz (Middle Cambrian), undifferentiated. - El Paso Limestone is a gray, thin-bedded cherty limestone and dolomite 90 meters to about 220 meters thick. Abrigo Formation is a brown, thin-bedded fossiliferous limestone, sandstone, quartzite, and shale, 210-240 meters thick. Bolsa Quartzite is a brown to white or purplish-gray, thick-bedded, coarse grained quartzite and sandstone with a basal conglomerate, 90-180 meters thick. To the east, equivalents of part of the Abrigo Formation and Bolsa Quartzite are known as the Coronado Sandstone.

€s — Sedimentary rocks (Upper and Middle Cambrian) Abrigo Formation (Upper and Middle Cambrian), and Bolsa Quartzite (Middle Cambrian), undifferentiated.

Yg — GRANITOID ROCKS (PRECAMBRIAN Y) Mainly granodiorite and quartz monzonite, unfoliated to foliated, in part metamorphosed. Generally in stocks, which also have been little studied.

Xp — PINAL SCHIST (PRECAMBRIAN X) Chlorite schist, phyllite, and some metavolcanic rocks, metavolcanic rocks, metaquartzite, metaquartzite conglomerate, and gneiss. One metavolcanic rock dated at 1715 m.y.

CONTACT Dotted where concealed

MARKER HORIZON Dotted where concealed

DIKES Showing dip

FAULTS Showing dip. Dotted where concealed or intruded, ball and bar on downthrown side

Normal

Reverse

Strike slip Arrow couple shows relative displacement. Single arrow shows movement of active block.

Minor thrust fault Sawteeth on upper plate.

Thrust fault Sawteeth on upper plate

Anticline

Syncline

Inclined strike and dip of beds.

EXOTIC BLOCK BRECCIA—Rock contains chip or block inclusions of rock different from those of host or other blocks nearby. Typically of volcanic-tectonic or sedimentary-tectonic origin; excludes Tertiary megabreccia deposits.

(QTgu) 157 — Site of well or generalized site of several wells, showing total penetrated, if known, and depth of well, in feet. 100 feet equals 30.5 meters.

72x — COLLECTION SITE—Radiogenically dated rock showing age in millions of years. Query before symbol where precise location uncertain.

Roads and Highways

Dry wash

Southern Pacific Railroad

Government Reservation Boundary

Aqueduct

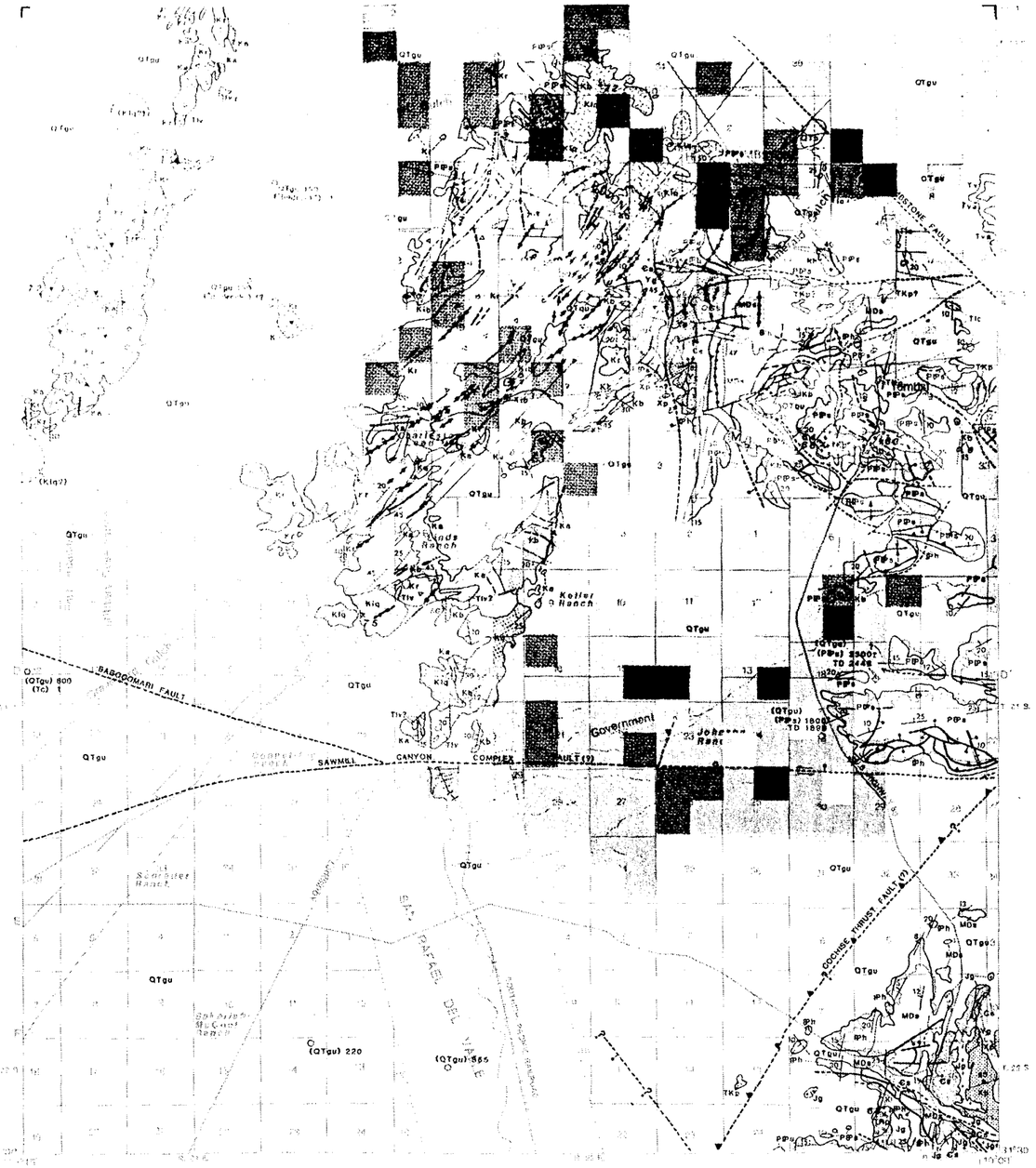
A——A' Cross section line

≤ 1 ppm

1.1 - 2 ppm

2.1 - 3 ppm

≥ 3 ppm



Tombstone Development Company, Inc.
Tombstone, Arizona

1 0 1 2 3 Miles

N

Geology adopted from Drewes, Harold, 1980, and Newell, R.A., 1973.

By James A. Briscoe
James A. Briscoe and Associates
Tucson, Arizona

Figure 12. Distribution pattern of silver in mesquite trees (in red), from Newell, R.A., 1973.

Explanation

Geology

QTgu — OLDER OR UNDIFFERENTIATED SURFICAL DEPOSITS (HOLOCENE TO OLIGOCENE) -- Gravel, sand, and silt (Pleistocene and Pliocene -- Mainly alluvium of basins, includes some colluvium and landslide deposits. Generally light pinkish gray, weakly indurated, and with poorly rounded clasts, locally well indurated. Thickness several meters to hundreds of meters

QTb — Basalt (Pleistocene to Pliocene) -- Lava flows, pyroclastic rocks, and some intercalated gravel. Thickness several meters to a few hundred meters in most places. Radiometrically dated at 0.25, 1.0, and 3.2 m.y. old

Tva — Extensive andesite and dacite (Miocene and Upper Oligocene) -- Lava flows, pyroclastic rocks, some intercalated epiclastic rocks, and dikes. Mostly gray, fine-grained, porphyritic rocks, includes some very coarse feldspar porphyry andesite (Turkey Track porphyry, an informal term of Cooper, 1961). Thickness mostly several meters to several tens of meters. Dated at 24, 25, 27, 33, and 39 m.y.

Tr — Extensive rhyolite and rhyodacite (Miocene and Upper Oligocene -- Lava flows, welded tuff, pyroclastic rocks, and some intercalated epiclastic rocks. Light gray to grayish pink, vitric to fine-grained, porphyritic. Commonly a few tens to a few thousand of meters thick. Dated at 23, 24, 25, 26, 26, 26, and 27 m.y. An additional date of 47 m.y., if substantiated, may indicate the presence of Eocene rocks in the lower member of the S.O. Volcanics of Cochise Co.

Tlc — Lower conglomerate, gravel, and sand (Oligocene and Eocene?) -- Alluvium, commonly grayish red deposits of small, well rounded, nonvolcanic clasts. Mostly several meters to a few tens of meters thick.

Tlv — UPPER CORDILLERAN (LARAMIDE) IGNEOUS ROCKS (LOWER PALEOCENE) -- Lower volcanic rocks -- Rhyolite to andesite lava flows, pyroclastic rocks, and some intercalated epiclastic rocks. Dated at 57 m.y. Possibly younger age to east

TKd — MAIN CORDILLERAN (LARAMIDE) IGNEOUS ROCKS -- Porphyritic and aplitic intrusive rocks (Paleocene and Upper Cretaceous) -- Mostly latric porphyry to dacitic porphyry in small stocks and plugs and aplitic bodies not associated with other granitoid stocks. Dated at 61, 63, 63, 64, and 65 m.y.

Kib — Fluidized intrusive breccia -- exact age unknown, but penetrates, and thus younger than Uncle Sam porphyry

Kr — Rhyodacite tuff and welded tuff -- Includes parts of Salero Formation, Sugarloaf Quartz Latite, and Bronco Volcanics, and all of Red Bay Rhyolite, Cat Mountain Rhyolite of Brown (1939) and Uncle Sam Prophyry. Includes local intrusive bodies and locally contains fragments of exotic rocks. Thickness commonly several tens of meters to several hundreds of meters. Dated at 66(?), 70, 72, 73, and 73 m.y. The Uncle Sam, in the Tombstone area, is dated 72 m.y.

Ka — Andesitic to dacitic volcanic breccia. -- Includes parts of Solero Formation, Sugarloaf Quartz Latite, and Bronco Volcanics, and all of Demetrie Volcanics and Silverbell Formation of Courtright (1958). Commonly contains large blocks of exotic rocks and locally includes some sedimentary rocks and intrusive rocks. Several tens of meters to several hundreds of meters thick in most places.

Klq — Lower quartz monzonite and granodiorite -- Includes some quartz diorite, appears in small stocks. Locally associated with mineralization. Dated at 70, 71, 72, 73, 74, 74, 74, and 76 m.y. The Schefflin granodiorite at Tombstone is 72 m.y.

Kb — BISBEE FORMATION OR GROUP, UNDIFFERENTIATED (LOWER CRETACEOUS) -- Upper part of Bisbee Formation or Group, undifferentiated, and related rocks. -- Includes upper part of Bisbee Formation, Mural Limestone, Morita, Cintura, Willow Canyon, Apache Canyon, Shellenberger Canyon and Turney Ranch Formations (not listed in stratigraphic sequence) of the Bisbee Group, Amole Arkose of Bryant and Kennison (1964), and Angelic Arkose. Consists of brownish to reddish arkose, gray siltstone, sandstone, conglomerate, and some fossiliferous gray limestone. Commonly several hundred meters thick

Jg — GRANITE AND QUARTZ MONZONITE (JURASSIC) -- Stocks of pinkish gray coarse grained rock. Locally associated with mineralization. Dated at 140, 148, 149, 149, 150, 153, 160, 161, 167, 178, 185 m.y.

PIPs — Sedimentary rocks (Lower Permian and Upper Pennsylvanian) -- Consists of Epitaph Dolomite (Lower Permian), Colina Limestone (Lower Permian), and Earp Formation (Lower Permian and Upper Pennsylvanian), undifferentiated. Epitaph Dolomite is a dark to light gray slightly cherty dolomite, limestone, marl, siltstone, and gypsum, 120-280 meters thick. Colina Limestone is a medium gray, thick bedded, sparsely cherty, and sparsely fossiliferous limestone, 120-280 meters thick. Earp Formation is a pale red siltstone, mudstone, shale, and limestone, 120-240 meters thick

Ph — Horquilla Limestone (Upper and Middle Pennsylvanian) -- Light pinkish gray, thick to thin bedded, cherty, fossiliferous limestone and intercalated pale brown to pale reddish gray siltstone that increases in abundance upward. Typically 300-490 meters thick.

MDs — SEDIMENTARY ROCKS (MISSISSIPPIAN AND DEVONIAN) -- Consists mainly of Escabrosa Limestone (Mississippian) -- locally (Armstrong and Silberman, 1974) called Escabrosa Group -- and Martin Formation (Upper Devonian), undifferentiated. In part of the Chiricahua Mountains also includes Paradise Formation (Upper Mississippian) and Portal Formation of Sabins, 1957a (Upper Devonian). In the Little Dragoon Mountains and some adjacent hills also includes Black Prince Limestone, whose fauna and correlation show strongest affinities with Mississippian rocks but which may include some Pennsylvanian rocks. Escabrosa Limestone is a medium-gray, massive to thick-bedded, commonly crinoidal, cherty, fossiliferous limestone 90-310 meters thick. Martin Formation is thick to thin-bedded, gray to brown dolomite, gray sparsely fossiliferous, and some siltstone and sandstone, 90-120 meters thick. Paradise Formation is a brown, fossiliferous, shaly limestone. Portal Formation is a black shale and limestone 6-105 meters thick. Black Prince Limestone is pinkish-gray limestone with a basal shale and chert conglomerate, as much as 52 meters thick.

OCs — SEDIMENTARY ROCKS (LOWER ORDOVICIAN TO MIDDLE CAMBRIAN) -- El Paso Limestone (Lower Ordovician and Upper Cambrian), Abrigo Formation (Upper and Middle Cambrian), and Bolsa Quartz (Middle Cambrian), undifferentiated -- El Paso Limestone is a gray, thin-bedded cherty limestone and dolomite 90 meters to about 220 meters thick. Abrigo Formation is a brown, thin-bedded fossiliferous limestone, sandstone, quartzite, and shale, 210-240 meters thick. Bolsa Quartzite is a brown to white or purplish-gray, thick-bedded, coarse-grained quartzite and sandstone with a basal conglomerate, 90-180 meters thick. To the east, equivalents of part of the Abrigo Formation and Bolsa Quartzite are known as the Coronado Sandstone

Cs — Sedimentary rocks (Upper and Middle Cambrian) -- Abrigo Formation (Upper and Middle Cambrian), and Bolsa Quartzite (Middle Cambrian), undifferentiated

Yg — GRANITOID ROCKS (PRECAMBRIAN Y) -- Mainly granodiorite and quartz monzonite, unfoliated to foliated, in part metamorphosed. Generally in stocks, which alive been little studied

Xp — PINAL SCHIST (PRECAMBRIAN X) -- Chlorite schist, phyllite, and some metavolcanic rocks, metavolcanic rocks, metaquartzite, metaquartzite conglomerate, and gneiss. One metavolcanic rock dated at 1715 m.y.

CONTACT -- Dotted where concealed

MARKER HORIZON -- Dotted where concealed

DIKES -- Showing dip

FAULTS -- Showing dip. Dotted where concealed or intruded; ball and bar on downthrown side

Normal

Reverse

Strike slip -- Arrow couple shows relative displacement. Single arrow shows movement of active block

Major thrust fault -- Sawteeth on upper plate

Thrust fault -- Sawteeth on upper plate

Anticline

Syncline

Inclined strike and dip of beds.

EXOTIC BLOCK BRECCIA -- Rock contains chip or block inclusions of rock different from those of host or other blocks nearby. Typically of volcanic-tectonic or sedimentary-tectonic origin; excludes Tertiary megabreccia deposits.

(QTgu) 187 — Site of well or generalized site of several wells, showing unit penetrated, if known, and depth of well, in feet. 100 feet equals 30.5 meters.

72x — COLLECTION SITE -- Radiogenically dated rock showing age in millions of years. Quarry before symbol where precise location uncertain.

Roads and Highways

Dry wash

Southern Pacific Railroad

Government Reservation Boundary

Aqueduct

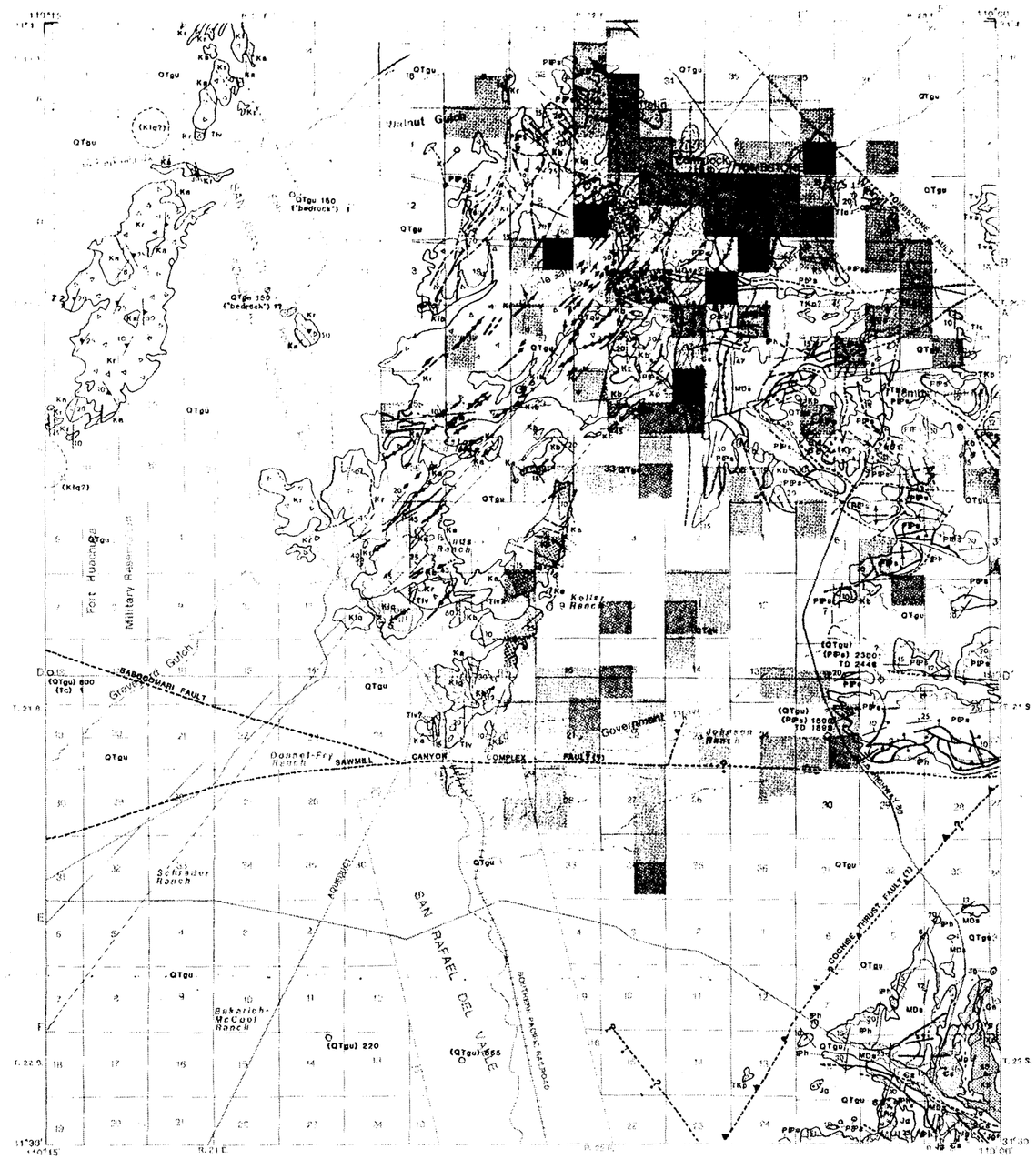
A——A' Cross section line

≤ 400 ppm

401 - 600 ppm

601 - 800 ppm

≥ 800 ppm



Tombstone Development Company, Inc.
Tombstone, Arizona

1 0 1 2 3 Miles

N

Geology adopted from Drewes, Harold, 1980, and Newell, R.A., 1973.

By James A. Briscoe
James A. Briscoe and Associates
Tucson, Arizona

Figure 13. Distribution pattern of zinc in mesquite trees (in red), from Newell, R.A., 1973.

Explanation

Geology

QTgu — OLDER OR UNDIFFERENTIATED SURFICIAL DEPOSITS (HOLOCENE TO OLIGOCENE) — Gravel, sand, and silt (Pleistocene and Pliocene — Mainly alluvium of basins, includes some colluvium and landslide deposits. Generally light pinkish gray, weakly indurated, and with poorly rounded clasts, locally well indurated. Thickness several meters to hundreds of meters

QTb — Basalt (Pleistocene to Pliocene)—Lava flows, pyroclastic rocks, and some intercalated gravel. Thickness several meters to a few hundred meters in most places. Radiometrically dated at 0.25, 1.0, and 3.2 m.y. old

Tva — Extensive andesite and dacite (Miocene and Upper Oligocene)—Lava flows, pyroclastic rocks, some intercalated epiclastic rocks, and dikes. Mostly gray, fine-grained, porphyritic rocks, includes some very coarse feldspar porphyry andesite (Turkey track porphyry, an informal term of Cooper, 1961). Thickness mostly several meters to several tens of meters. Dated at 24, 25, 27, 33, and 39 m.y.

Tr — Extrusive rhyolite and rhyodacite (Miocene and Upper Oligocene—Lava flows, welded tuff, pyroclastic rocks, and some intercalated epiclastic rocks. Light gray to grayish pink, vitric to fine grained, porphyritic. Commonly a few tens to a few thousand of meters thick. Dated at 23, 24, 25, 26, 26, 26, and 27 m.y. An additional date of 47 m.y., if substantiated, may indicate the presence of Eocene rocks in the lower member of the S.O. Volcanics of Cochise Co.

Tlc — Lower conglomerate, gravel, and sand (Oligocene and Eocene?)—Alluvium, commonly grayish red deposits of small, well rounded, nonvolcanic clasts. Mostly several meters to a few tens of meters thick

Tlv — UPPER CORDILLERAN (LARAMIDE) IGNEOUS ROCKS (LOWER PALEOCENE) — Lower volcanic rocks—Rhyolite to andesite lava flows, pyroclastic rocks, and some intercalated epiclastic rocks. Dated at 57 m.y. Possibly younger age to east

TKd — MAIN CORDILLERAN (LARAMIDE) IGNEOUS ROCKS —Porphyritic and aplitic intrusive rocks (Paleocene and Upper Cretaceous). Mostly latitic porphyry to dacitic porphyry in small stocks and plugs and aplitic bodies not associated with other granitoid stocks. Dated at 61, 63, 63, 64, and 65 m.y.

Kib — Fluidized intrusive breccia, exact age unknown, but penetrates, and thus younger than Uncle Sam porphyry

Kr — Rhyodacite tuff and welded tuff. Includes parts of Salero Formation, Sugarloaf Quartz Latite, and Bronco Volcanics, and all of Red Bay Rhyolite, Cat Mountain Rhyolite of Brown (1939) and Uncle Sam Prophyry. Includes local intrusive bodies and locally contains fragments of exotic rocks. Thickness commonly several tens of meters to several hundreds of meters. Dated at 66(?), 70, 72, 73, and 73 m.y. The Uncle Sam, in the Tombstone area, is dated 72 m.y.

Ka — Andesitic to dacitic volcanic breccia —Includes parts of Salero Formation, Sugarloaf Quartz Latite, and Bronco Volcanics, and all of Demetrie Volcanics and Silverbell Formation of Courtright (1958). Commonly contains large blocks of exotic rocks and locally includes some sedimentary rocks and intrusive rocks. Several tens of meters to several hundreds of meters thick in most places

Klq — Lower quartz monzonite and granodiorite. Includes some quartz diorite; appears in small stocks. Locally associated with mineralization. Dated at 70, 71, 72, 73, 74, 74, 74, and 76 m.y. The Schieffelin granodiorite at Tombstone is 72 m.y.

Kb — BISBEE FORMATION OR GROUP: UNDIFFERENTIATED (LOWER CRETACEOUS) — Upper part of Bisbee Formation or Group, undifferentiated, and related rocks. —Includes upper part of Bisbee Formation, Mural Limestone, Morita, Centura, Willow Canyon, Apache Canyon, Shellenberger Canyon and Turney Ranch Formations (not listed in stratigraphic sequence) of the Bisbee Group, Arrole Arkose of Bryant and Kennison (1964), and Angelic Arkose. Consists of brownish to reddish arkose, gray siltstone, sandstone, conglomerate, and some fossiliferous gray limestone. Commonly several hundred meters thick

Jg — GRANITE AND QUARTZ MONZONITE (JURASSIC) —Stocks of pinkish-gray coarse grained rock. Locally associated with mineralization. Dated at 140, 148, 149, 149, 150, 153, 160, 161, 167, 178, 185 m.y.

PPs — Sedimentary rocks (Lower Permian and Upper Pennsylvanian) —Consists of Epitaph Dolomite (Lower Permian), Colina Limestone (Lower Permian), and Earp Formation (Lower Permian and Upper Pennsylvanian), undifferentiated. Epitaph Dolomite is a dark- to light gray slightly cherty dolomite, limestone, marl, siltstone, and gypsum, 120-280 meters thick. Colina Limestone is a medium gray, thick bedded, sparsely cherty, and sparsely fossiliferous limestone 120-280 meters thick. Earp Formation is a pale red siltstone, mudstone, shale, and limestone, 120-240 meters thick

IPh — Horquilla Limestone (Upper and Middle Pennsylvanian) —Light pinkish-gray, thick to thin bedded, cherty, fossiliferous limestone and intercalated pale brown to pale reddish-gray siltstone that increases in abundance upward. Typically 300-490 meters thick

MDs — SEDIMENTARY ROCKS (MISSISSIPPIAN AND DEVONIAN) —Consists mainly of Escabrosa Limestone (Mississippian) —locally (Armstrong and Silberman, 1974) called Escabrosa Group— and Martin Formation (Upper Devonian), undifferentiated. In part of the Chiricahua Mountains also includes Paradise Formation (Upper Mississippian) and Portal Formation of Sabins, 1957a (Upper Devonian). In the Little Dragoon Mountains and some adjacent hills also includes Black Prince Limestone, whose fauna and correlation show strongest affinities with Mississippian rocks but which may include some Pennsylvanian rocks. Escabrosa Limestone is a medium-gray, massive to thick bedded, commonly crinoidal, cherty, fossiliferous limestone 90-310 meters thick. Martin Formation is thick- to thin bedded, gray to brown dolomite, gray sparsely fossiliferous, and some siltstone and sandstone, 90-120 meters thick. Paradise Formation is a brown, fossiliferous, shaly limestone. Portal Formation is a black shale and limestone 6-105 meters thick. Black Prince Limestone is a pinkish gray limestone with a basal shale and chert conglomerate, as much as 52 meters thick

Ꞓs — SEDIMENTARY ROCKS (LOWER ORDOVICIAN TO MIDDLE CAMBRIAN) — El Paso Limestone (Lower Ordovician and Upper Cambrian), Abrigo Formation (Upper and Middle Cambrian), and Bolsa Quartz (Middle Cambrian), undifferentiated. —El Paso Limestone is a gray, thin-bedded cherty limestone and dolomite 90 meters to about 220 meters thick. Abrigo Formation is a brown, thin-bedded fossiliferous limestone, sandstone, quartzite, and shale, 210-240 meters thick. Bolsa Quartzite is a brown to white or purplish-gray, thick-bedded, coarse-grained quartzite and sandstone with a basal conglomerate, 90-180 meters thick. To the east, equivalents of part of the Abrigo Formation and Bolsa Quartzite are known as the Coronado Sandstone

Ꞓa — Sedimentary rocks (Upper and Middle Cambrian)—Abrigo Formation (Upper and Middle Cambrian), and Bolsa Quartzite (Middle Cambrian), undifferentiated

Yg — GRANITOID ROCKS (PRECAMBRIAN Y) —Mainly granodiorite and quartz monzonite, unfoliated to foliated, in part metamorphosed. Generally in stocks, which show been little studied

Xp — PINAL SCHIST (PRECAMBRIAN X)—Chlorite schist, phyllite, and some metavolcanic rocks, metavolcanic rocks, metaquartzite, metaquartzite conglomerate, and gneiss. One metavolcanic rock dated at 1715 m.y.

CONTACT—Dotted where concealed

MARKER HORIZON—Dotted where concealed

DIKES—Showing dip

FAULTS—Showing dip. Dotted where concealed or intruded, ball and bar on downthrown side

Normal

Reverse

Strike-slip—Arrow couple shows relative displacement. Single arrow shows movement of active block.

Major thrust (fault—Sawteeth on upper plate

Thrust fault—Sawteeth on upper plate

Anticline

Syncline

Inclined strike and dip of beds.

EXOTIC BLOCK BRECCIA—Rock contains chip or block inclusions of rock different from those of host or other blocks nearby. Typically of volcanic tectonic or sedimentary tectonic origin; excludes Tertiary megabreccia deposits.

(QTgu) 187 — Site of well or generalized site of several wells, showing unit penetrated, if known, and depth of well, in feet. 100 feet equals 30.5 meters.

72x — COLLECTION SITE—Radiogenically dated rock showing age in millions of years. Querry before symbol where precise location uncertain.

Roads and Highways

Dry wash

Southern Pacific Railroad

Government Reservation Boundary

Aqueduct

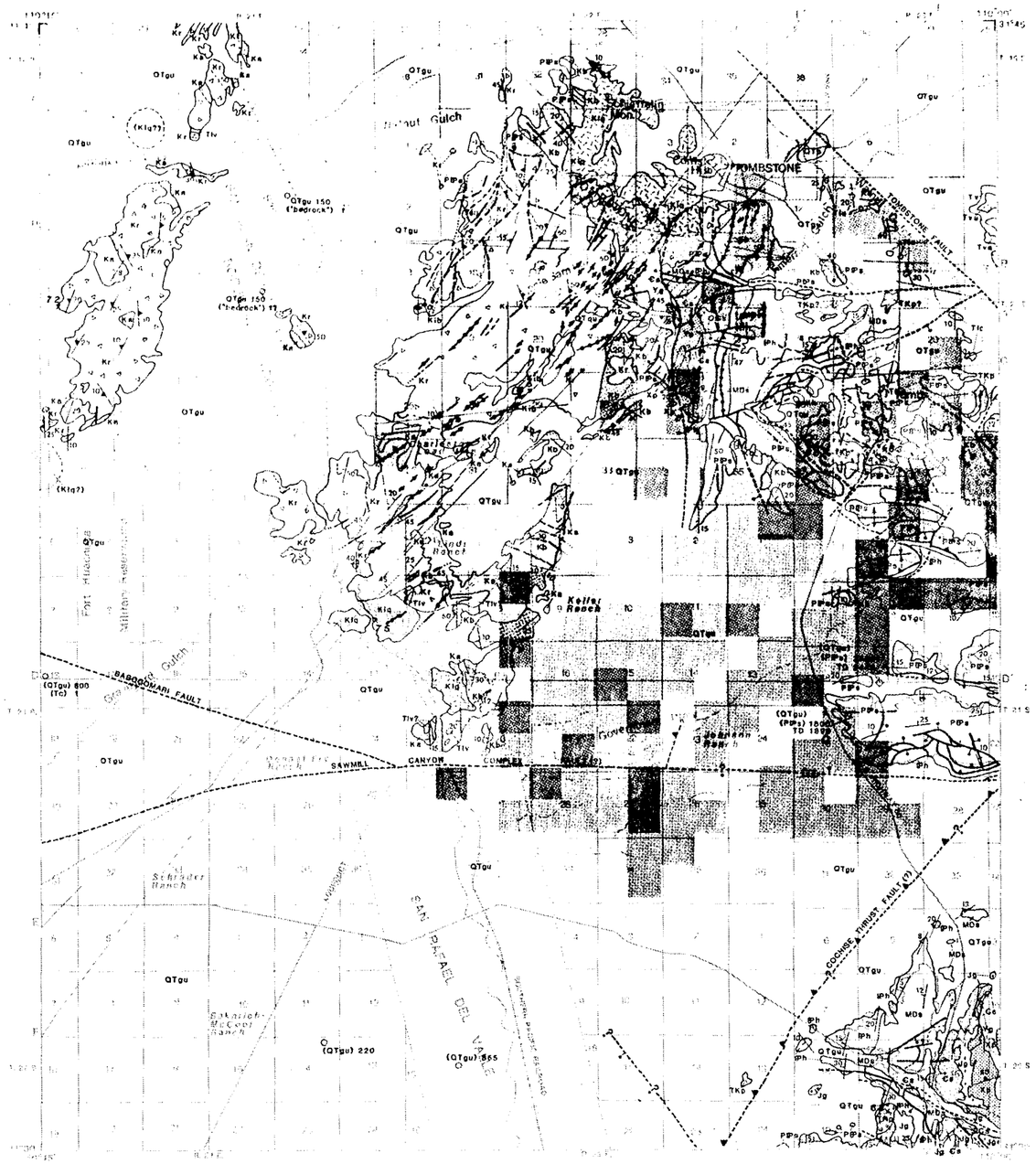
A——A' Cross section line

≤ 100 ppm

101 - 150 ppm

151 - 200 ppm

≥ 200 ppm



Tombstone Development Company, Inc.
Tombstone, Arizona

1 0 1 2 3 Miles

N

Geology adopted from Drewes, Harold, 1980, and Newell, R.A., 1973.

Figure 14. Distribution pattern of copper in mesquite trees (in red), from Newell, R.A., 1973.

By James A. Briscoe
James A. Briscoe and Associates
Tucson, Arizona

Explanation

Geology

QTgu — OLDER OR UNDIFFERENTIATED SURFICIAL DEPOSITS (HOLOCENE TO OLIGOCENE) — Gravel, sand, and silt (Pleistocene and Pliocene — Mainly alluvium of basins, includes some colluvium and landslide deposits. Generally light pinkish gray, weakly indurated, and with poorly rounded clasts, locally well indurated. Thickness several meters to hundreds of meters.

QTb — Basalt (Pleistocene to Pliocene) — Lava flows, pyroclastic rocks, and some intercalated gravel. Thickness several meters to a few hundred meters in most places. Radiometrically dated at 0.25, 1.0, and 3.2 m.y. old

Tva — Extensive andesite and dacite (Miocene and Upper Oligocene) — Lava flows, pyroclastic rocks, some intercalated epiclastic rocks, and dikes. Mostly gray, fine-grained, porphyritic rocks, includes some very coarse feldspar porphyry andesite (Turkey track porphyry, an informal term of Cooper, 1961). Thickness mostly several meters to several tens of meters. Dated at 24, 25, 27, 33, and 39 m.y.

Tr — Extrusive rhyolite and rhyodacite (Miocene and Upper Oligocene — Lava flows, welded tuff, pyroclastic rocks, and some intercalated epiclastic rocks. Light-gray to grayish-pink, vitric to fine-grained, porphyritic. Commonly a few tens to a few thousand of meters thick. Dated at 23, 24, 25, 26, 26, 26, and 27 m.y. An additional date of 47 m.y., if substantiated, may indicate the presence of Eocene rocks in the lower member of the S O Volcanics of Cochise Co.

Tlc — Lower conglomerate, gravel, and sand (Oligocene and Eocene?) — Alluvium, commonly grayish-red deposits of small, well rounded, nonvolcanic clasts. Mostly several meters to a few tens of meters thick.

Tlv — UPPER CORDILLERAN (LARAMIDE) IGNEOUS ROCKS (LOWER PALEOCENE) — Lower volcanic rocks — Rhyolite to andesite lava flows, pyroclastic rocks, and some intercalated epiclastic rocks. Dated at 57 m.y. Possibly younger age to east

Tid — MAIN CORDILLERAN (LARAMIDE) IGNEOUS ROCKS — Porphyritic and aplitic intrusive rocks (Paleocene and Upper Cretaceous) — Mostly latitic porphyry to dacitic porphyry in small stocks and plugs and aplitic bodies not associated with other granitoid stocks. Dated at 61, 63, 63, 64, and 65 m.y.

Kib — Fluidized intrusive breccia — exact age unknown, but penetrates, and thus younger than Uncle Sam porphyry.

Kr — Rhyodacite tuff and welded tuff. Includes parts of Salero Formation, Sugarloaf Quartz Latite, and Bronco Volcanics, and all of Red Bay Rhyolite, Cat Mountain Rhyolite of Brown (1939) and Uncle Sam Prophyry. Includes local intrusive bodies and locally contains fragments of exotic rocks. Thickness commonly several tens of meters to several hundreds of meters. Dated at 66(?), 70, 72, 73, and 73 m.y. The Uncle Sam, in the Tombstone area, is dated 72 m.y.

Ks — Andesitic to dacitic volcanic breccia. — Includes parts of Salero Formation, Sugarloaf Quartz Latite, and Bronco Volcanics, and all of Demetrie Volcanics and Silverbell Formation of Courtright (1958). Commonly contains large blocks of exotic rocks and locally includes some sedimentary rocks and intrusive rocks. Several tens of meters to several hundreds of meters thick in most places.

Klq — Lower quartz monzonite and granodiorite — Includes some quartz diorite; appears in small stocks. Locally associated with mineralization. Dated at 70, 71, 72, 73, 74, 74, 74, and 78 m.y. The Schieffin granodiorite at Tombstone is 72 m.y.

Kb — BISBEE FORMATION OR GROUP, UNDIFFERENTIATED (LOWER CRETACEOUS) — Upper part of Bisbee Formation or Group, undifferentiated, and related rocks. — Includes upper part of Bisbee Formation, Mural Limestone, Morita, Cintura, Willow Canyon, Apache Canyon, Shellenberger Canyon and Turney Ranch Formations (not listed in stratigraphic sequence) of the Bisbee Group, Amole Arkose of Bryant and Kennison (1964), and Angelic Arkose. Consists of brownish, to reddish arkose, gray siltstone, sandstone, conglomerate, and some fossiliferous gray limestone. Commonly several hundred meters thick

Jg — GRANITE AND QUARTZ MONZONITE (JURASSIC) — Stocks of pinkish-gray coarse grained rock. Locally associated with mineralization. Dated at 140, 148, 149, 149, 150, 153, 160, 161, 167, 178, 185 m.y.

PPs — Sedimentary rocks (Lower Permian and Upper Pennsylvanian) — consists of Epitaph Dolomite (Lower Permian), Colina Limestone (Lower Permian), and Earp Formation (Lower Permian and Upper Pennsylvanian), undifferentiated. Epitaph Dolomite is a dark- to light-gray slightly cherty dolomite, limestone, marl, siltstone, and gypsum, 120-280 meters thick. Colina Limestone is a medium gray, thick bedded, sparsely cherty, and sparsely fossiliferous limestone 120-280 meters thick. Earp Formation is a pale-red siltstone, mudstone, shale, and limestone, 120-240 meters thick.

Ph — Horquilla Limestone (Upper and Middle Pennsylvanian) — Light pinkish-gray, thick to thin-bedded, cherty, fossiliferous limestone and intercalated pale brown to pale-reddish-gray siltstone that increases in abundance upward. Typically 300-490 meters thick.

MDs — SEDIMENTARY ROCKS (MISSISSIPPIAN AND DEVONIAN) — Consists mainly of Escabrosa Limestone (Mississippian) — locally, (Armstrong and Silberman, 1974) called Escabrosa Group — and Martin Formation (Upper Devonian), undifferentiated. In part of the Chiricahua Mountains also includes Paradise Formation (Upper Mississippian) and Portal Formation of Sabins, 1957a (Upper Devonian). In the Little Dragoon Mountains and some adjacent hills also includes Black Prince Limestone, whose fauna and correlation show strongest affinities with Mississippian rocks but which may include some Pennsylvanian rocks. Escabrosa Limestone is a medium-gray, massive to thick-bedded, commonly crinoidal, cherty, fossiliferous limestone 90-310 meters thick. Martin Formation is thick- to thin-bedded, gray to brown dolomite, gray sparsely fossiliferous, and some siltstone and sandstone, 90-120 meters thick. Paradise Formation is a brown, fossiliferous, shaly limestone. Portal Formation is a black shale and limestone 6-105 meters thick. Black Prince Limestone is pinkish-gray, limestone with a basal shale and chert conglomerate, as much as 52 meters thick.

OEs — SEDIMENTARY ROCKS (LOWER ORDOVICIAN TO MIDDLE CAMBRIAN) — El Paso Limestone (Lower Ordovician and Upper Cambrian), Abrigo Formation (Upper and Middle Cambrian), and Bolsa Quartz (Middle Cambrian), undifferentiated. — El Paso Limestone is a gray, thin-bedded cherty limestone and dolomite 90 meters to about 220 meters thick. Abrigo Formation is a brown, thin-bedded fossiliferous limestone, sandstone, quartzite, and shale, 210-240 meters thick. Bolsa Quartzite is a brown to white or purplish-gray, thick-bedded, coarse grained quartzite and sandstone with a basal conglomerate, 90-180 meters thick. To the east, equivalents of part of the Abrigo Formation and Bolsa Quartzite are known as the Coronado Sandstone.

Ꞓu — Sedimentary rocks (Upper and Middle Cambrian) — Abrigo Formation (Upper and Middle Cambrian), and Bolsa Quartzite (Middle Cambrian), undifferentiated

Yg — GRANITOID ROCKS (PRECAMBRIAN Y) — Mainly granodiorite and quartz monzonite, unfoliated to foliated, in part metamorphosed. Generally in stocks, which also been little studied.

Yp — PINAL SCHIST (PRECAMBRIAN Y) — Chlorite schist, phyllite, and some metavolcanic rocks, metavolcanic rocks, metaquartzite, metaquartzite conglomerate, and gneiss. One metavolcanic rock dated at 1715 m.y.

CONTACT — Dotted where concealed.

MARKER HORIZON — Dotted where concealed.

DIKES — Showing dip

FAULTS — Showing dip. Dotted where concealed or intruded, ball and bar on downthrown side.

70 — 45 — Normal

45 — Reverse

Strike-slip — Arrow couple shows relative displacement. Single arrow shows movement of active block

Major thrust fault — Sawteeth on upper plate.

Thrust fault — Sawteeth on upper plate.

Anticline.

Syncline

30 — Inclined strike and dip of beds.

EXOTIC-BLOCK BRECCIA — Rock contains chip or block inclusions of rock different from those of host or other blocks nearby. Typically of volcanic-tectonic or sedimentary-tectonic origin; includes Tertiary megabreccia deposits.

○ (QTgu) 187 — Site of well or generalized site of several wells, showing unit penetrated, if known, and depth of well, in feet. 100 feet equals 30.5 meters.

72x — COLLECTION SITE — Radiogenically dated rock showing age in millions of years. Query before symbol where precise location uncertain.

Roads and Highways

Dry wash

Southern Pacific Railroad

Government Reservation Boundary

Aqueduct

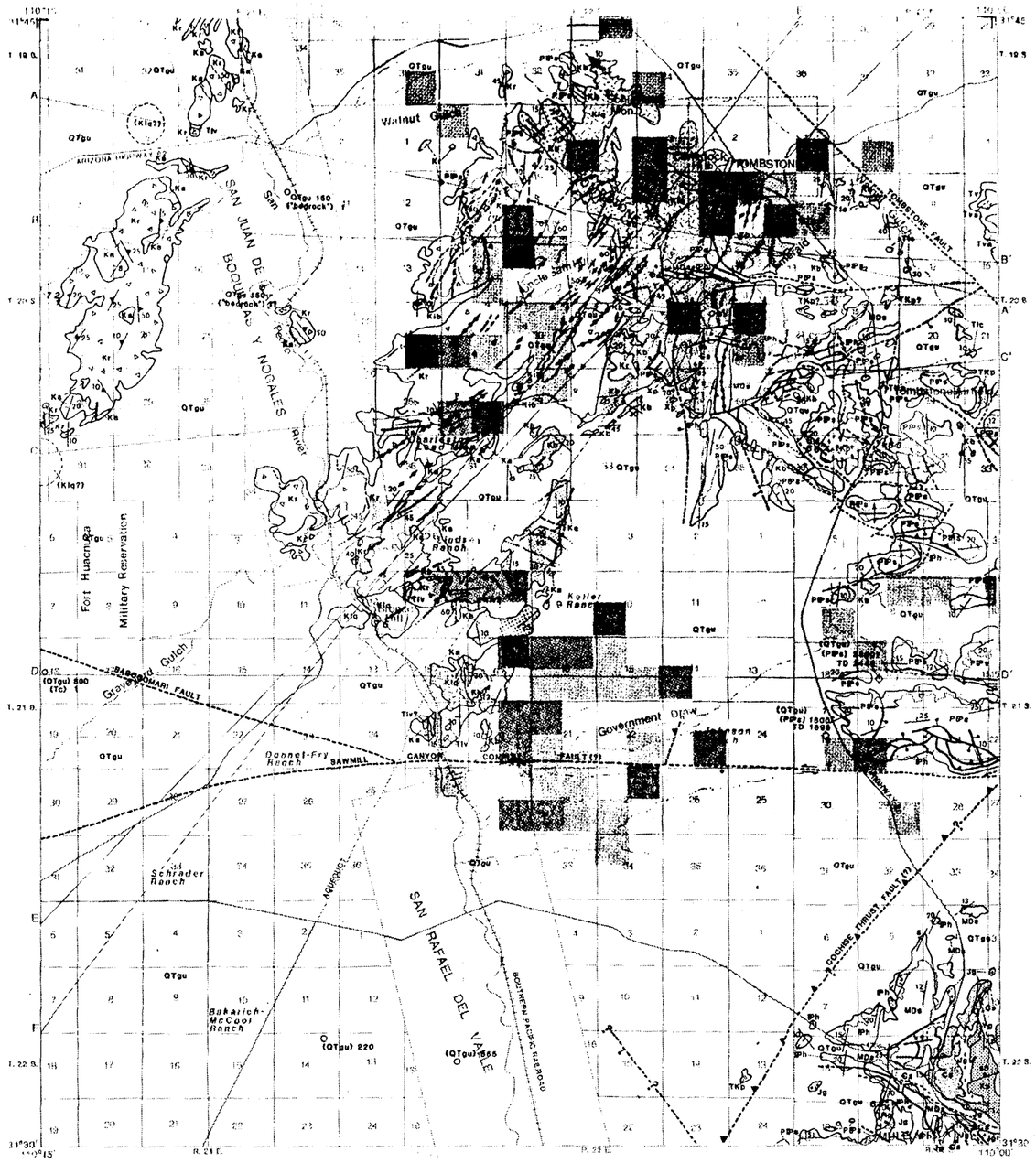
A——A' Cross section line

≤ 5 ppm

5.1 - 9 ppm

9.1 - 14 ppm

≥ 14 ppm



Tombstone Development Company, Inc.
Tombstone, Arizona

1 0 1 2 3 Miles

N

Geology adopted from Drewes, Harold, 1980, and Newell, R.A., 1973.

Figure 15. Distribution pattern of molybdenum in mesquite trees (in red), from Newell, R.A., 1973.

By James A. Briscoe
James A. Briscoe and Associates
Tucson, Arizona

Explanation

Geology

QTgu — OLDER OR UNDIFFERENTIATED SURFICAL DEPOSITS (HOLOCENE TO OLIGOCENE) Gravel, sand, and silt (Pleistocene and Pliocene Mainly alluvium of basins, includes some colluvium and landslide deposits Generally light pinkish gray, weakly indurated, and with poorly rounded clasts, locally well indurated Thickness several meters to hundreds of meters

QTb — Basalt (Pleistocene to Pliocene) Lava flows, pyroclastic rocks, and some intercalated gravel Thickness several meters to a few hundred meters in most places Radiometrically dated at 0.25, 1.0, and 3.2 m.y. old

Tva — Extensive andesite and dacite (Miocene and Upper Oligocene) Lava flows, pyroclastic rocks, some intercalated epiclastic rocks, and dikes Mostly gray, fine grained, porphyritic rocks, includes some very coarse feldspar porphyry andesite (Turkey track porphyry, an informal term of Cooper, 1961) Thickness mostly several meters to several tens of meters Dated at 24, 25, 27, 33, and 39 m.y.

Tv — Extrusive rhyolite and rhyodacite (Miocene and Upper Oligocene Lava flows, welded tuff, pyroclastic rocks, and some intercalated epiclastic rocks Light gray to grayish pink, vitric to fine grained, porphyritic Commonly a few tens to a few thousand of meters thick. Dated at 23, 24, 25, 26, 26, 26, and 27 m.y. An additional date of 47 m.y., if substantiated, may indicate the presence of Eocene rocks in the lower member of the S O Volcanics of Cochise Co

Tlc — Lower conglomerate, gravel, and sand (Oligocene and Eocene?) - Alluvium, commonly grayish red deposits of small, well rounded, nonvolcanic clasts Mostly several meters to a few tens of meters thick

Tlv — UPPER CORDILLERAN (LARAMIDE) IGNEOUS ROCKS (LOWER PALEOCENE) – Lower volcanic rocks – Rhyolite to andesite lava flows, pyroclastic rocks, and some intercalated epiclastic rocks Dated at 57 m.y. Possibly younger age to east

TKd — MAIN CORDILLERAN (LARAMIDE) IGNEOUS ROCKS - Porphyritic and aplitic intrusive rocks (Paleocene and Upper Cretaceous) - Mostly latitic porphyry to dacitic porphyry in small stocks and plugs and aplitic bodies not associated with other granitoid stocks Dated at 61, 63, 63, 64, and 65 m.y.

Kib — Fluidized intrusive breccia exact age unknown, but *penetrates, and thus younger than Uncle Sam* porphyry

Kr — Rhyodacite tuff and welded tuff Includes parts of Salero Formation, Sugarloaf Quartz Latite, and Bronco Volcanics, and all of Red Bay Rhyolite, Cat Mountain Rhyolite of Brown (1939) and Uncle Sam Prophyry Includes local intrusive bodies and locally contains fragments of exotic rocks Thickness commonly several tens of meters to several hundreds of meters Dated at 66(?), 70, 72, 73, and 73 m.y. The Uncle Sam, in the Tombstone area, is dated 72 m.y.

Ka — Andesitic to dacitic volcanic breccia – Includes parts of Salero Formation, Sugarloaf Quartz Latite, and *Bronco Volcanics, and all of Demetrie Volcanics* and Silverbell Formation of Courtright (1958) Commonly contains large blocks of exotic rocks and locally includes some sedimentary rocks and intrusive rocks. Several tens of meters to several hundreds of meters thick in most places

Klq — *Lower quartz monzonite and granodiorite* Includes some quartz diorite; appears in small stocks Locally associated with mineralization Dated at 70, 71, 72, 73, 74, 74, 74, and 76 m.y. The Schieffelin granodiorite at Tombstone is 72 m.y.

Kb — BISBEE FORMATION OR GROUP, UNDIFFERENTIATED (LOWER CRETACEOUS) Upper part of Bisbee Formation or Group, undifferentiated, and related rocks Includes upper part of Bisbee Formation, Mural Limestone, Monta, Cintura, Willow Canyon, Apache Canyon, Shellenberger Canyon and Turney Ranch Formations (not listed in stratigraphic sequence) of the Bisbee Group, *Amole Arkose of Bryant and Kinnison (1954),* and Angelic Arkose Consists of brownish to reddish arkose, gray siltstone, sandstone, conglomerate, and some fossiliferous gray limestone Commonly several hundred meters thick

Jg — GRANITE AND QUARTZ MONZONITE (JURASSIC) Stocks of pinkish gray coarse grained rock Locally associated with mineralization Dated at 140, 148, 149, 149, 150, 153, 160, 161, 167, 178, 185 m.y.

PIPe — Sedimentary rocks (Lower Permian and Upper Pennsylvanian) - consists of Epitaph Dolomite (Lower Permian), Colina Limestone (Lower Permian), and Earp Formation (Lower Permian and Upper Pennsylvanian), undifferentiated Epitaph Dolomite is a dark to light gray slightly cherty dolomite, limestone, marl, siltstone, and gypsum, 120-280 meters thick Colina Limestone is a medium gray, thick bedded, sparsely cherty, and sparsely fossiliferous limestone 120-280 meters thick Earp Formation is a pale red siltstone, mudstone, shale, and limestone, 120-240 meters thick

IPh — Horquilla Limestone (Upper and Middle Pennsylvanian) Light pinkish gray, thick to thin bedded, cherty, fossiliferous limestone and intercalated pale brown to pale reddish gray siltstone that increases in abundance upward Typically 300-490 meters thick

MDs — SEDIMENTARY ROCKS (MISSISSIPPIAN AND DEVONIAN) - Consists mainly of Escabrosa Limestone (Mississippian) - locally (Armstrong and Silberman, 1974) called Escabrosa Group - and Martin Formation (Upper Devonian), undifferentiated *In part of the Chiricahua* Mountains also includes Paradise Formation (Upper Mississippian) and Portal Formation of Sabins, 1957a (Upper Devonian) In the Little Dragoon Mountains and some adjacent hills also includes Black Prince Limestone, whose fauna and correlation show strongest affinities with Mississippian rocks *but which may include some* Pennsylvanian rocks Escabrosa Limestone is a medium-gray, massive to thick bedded, commonly crinoidal, cherty, fossiliferous limestone 90-310 meters thick. Martin Formation is thick to thin bedded, gray to brown dolomite, gray sparsely fossiliferous, and some siltstone and sandstone, *90-120 meters thick* Paradise Formation is a brown, fossiliferous, shaly limestone. Portal Formation is a black shale and limestone 6-106 meters thick Black Prince Limestone is pinkish-gray limestone with a basal shale and chert conglomerate, as much as 52 meters thick

O€s — *SEDIMENTARY ROCKS (LOWER ORDOVICIAN* TO MIDDLE CAMBRIAN) – El Paso Limestone (Lower Ordovician and Upper Cambrian), Abrigo Formation (Upper and Middle Cambrian), and Bolsa Quartz (Middle Cambrian), undifferentiated – El Paso Limestone is a gray, thin bedded cherty limestone and dolomite 90 meters to about 220 meters thick. Abrigo Formation is a brown, thin-bedded fossiliferous limestone, sandstone, quartzite, and shale, 210-240 meters thick Bolsa Quartzite is a brown to white or purplish-gray, thick bedded, coarse-grained quartzite and sandstone with a basal conglomerate, 90-180 meters thick. To the east, equivalents of part of the Abrigo Formation and Bolsa Quartzite are known as the Coronado Sandstone

€s — Sedimentary rocks (Upper and Middle Cambrian) - Abrigo Formation (Upper and Middle Cambrian), and Bolsa Quartzite (Middle Cambrian), undifferentiated

Yg — *GRANITOID ROCKS (PRECAMBRIAN Y)* Mainly granodiorite and quartz monzonite, unfoliated to foliated, in part metamorphosed Generally in stocks, which ahve been little studied

Xp — PINAL SCHIST (PRECAMBRIAN X) Chlorite schist, phyllite, and some metavolcanic rocks, metavolcanic rocks, metaquartzite, metaquartzite conglomerate, and gneiss One metavolcanic rock dated at 1715 m.y.

CONTACT Dotted where concealed

MARKER HORIZON Dotted where concealed

DIKES Showing dip

FAULTS - Showing dip. Dotted where concealed or intruded, ball and bar on downthrown side

Normal

Reverse

Strike-slip – Arrow couple shows relative displacement. Single arrow shows movement of active block.

Major thrust fault – Sawteeth on upper plate.

Thrust fault – Sawteeth on upper plate.

Anticline.

Syncline.

Inclined strike and dip of beds

EXOTIC-BLOCK BRECCIA – Rock contains chip or block inclusions of rock different from those of host or other blocks nearby. Typically of volcanic-tectonic or sedimentary-tectonic origin; excludes Tertiary megabreccia deposits.

? (QTgu) 157 — Site of well or generalized site of several wells, showing unit penetrated, if known, and depth of well, in feet. 100 feet equals 30.5 meters.

72x — COLLECTION SITE – Radiogenically dated rock showing age in millions of years. Query before symbol where precise location uncertain.

Roads and Highways

Dry wash

Southern Pacific Railroad

Government Reservation Boundary

Aqueduct

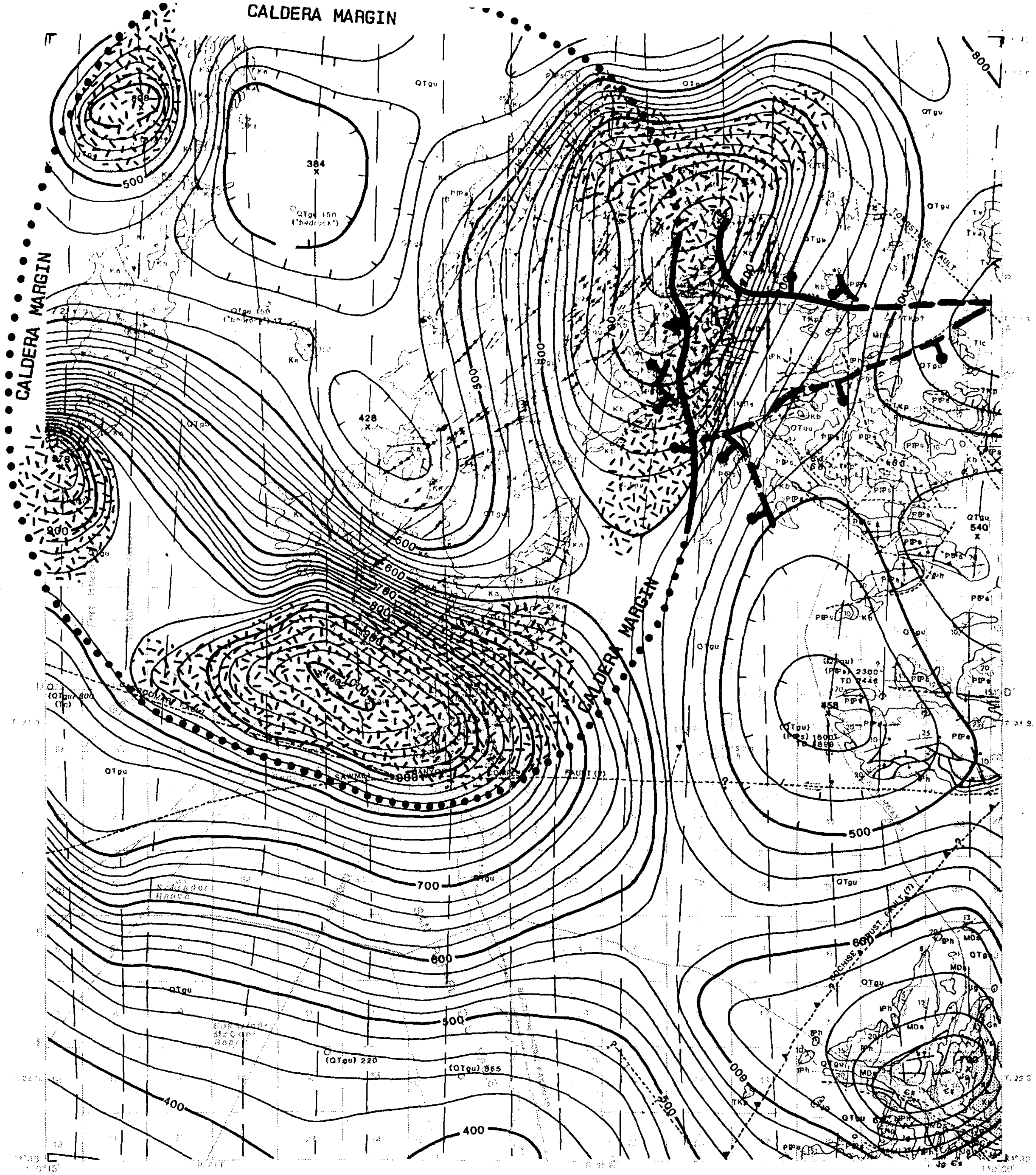
A——A' Cross section line

Flight line

Index contour line

Contour line

Contour interval: 25 gammas



Tombstone Development Company, Inc.
Tombstone, Arizona

Geology adopted from Drewes, Harold, 1980, and Newell, R.A., 1973.

By James A. Briscoe
James A. Briscoe and Associates
Tucson, Arizona

Figure 16. Aeromagnetic map of the Tombstone area.

From *Residual Aeromagnetic map of Southeastern Arizona,* Sauck, W.A., and Sumner, J.S., 1970. From Andreason, G.E., Mitchell, C.M., and Tyson, N.S., 1965

1 0 1 2 3 Miles

N

Explanation

Geology

QTgu — OLDER OR UNDIFFERENTIATED SURFICIAL DEPOSITS (HOLOCENE TO OLIGOCENE) Gravel, sand, and silt (Pleistocene and Pliocene Mainly, alluvium of basins, includes some colluvium and landslide deposits Generally, light pinkish gray, weakly indurated, and with poorly rounded clasts, locally well indurated The forms several meters to hundreds of meters

QTb — Basalt (Pleistocene to Pliocene) Lava flows, pyroclastic rocks, and some intercalated gravel The forms several meters to a few hundred meters in most places Radiometric ages, dated at 0.25, 1.0, and 1.2 m.y., old

Tva — Extensive andesite and dacite (Miocene and Upper Oligocene) Lava flows, pyroclastic rocks, some intercalated epiclastic rocks, and dikes Mostly gray, fine grained, porphyritic rocks, includes some very coarse lithidate porphyry andesite (Turley, rock porphyry, an informal term of Cooper, 1961) The forms mostly several meters to several tens of meters Dated at 24, 25, 27, 33 and 39 m.y.

Tv — Extensive rhyolite and rhyodacite (Miocene and Upper Oligocene Lava flows, welded tuff, pyroclastic rocks, and some intercalated epiclastic rocks Light gray to grayish pink, vitric to fine grained, porphyritic Commonly a few tens to a few thousand of meters thick Dated at 23, 24, 25, 26 26, 26, and 27 m.y An additional date of 47 m.y., if substantiated, may indicate the presence of Eocene rocks in the lower members of the S O Volcanics of Cochise Co

Tlc — Lower conglomerate, gravel, and sand (Oligocene and Eocene?) Alluvium, commonly grayish red deposits of small, well rounded, nonvolcanic clasts Mostly several meters to a few tens of meters thick

Tlv — UPPER CORDILLERAN (LARAMIDE) IGNEOUS ROCKS (LOWER PALEOCENE) Lower volcanic rocks Rhyolite to andesite lava flows, pyroclastic rocks, and some intercalated epiclastic rocks Dated at 57 m.y Possibly younger age to east

TKq — MAIN CORDILLERAN (LARAMIDE) IGNEOUS ROCKS Porphyritic and aplitic intrusive rocks (Paleocene and Upper Cretaceous) Mostly, latite porphyry to dacite porphyry in small stocks and plugs and aplitic bodies not associated with other grained stocks. Dated at 61, 63, 63, 64, and 66 m.y

Kib — Fluidized intrusive breccia exact age unknown, but penetrates, and thus younger than Uncle Sam porphyry

Kr — Rhyodacite tuff and welded tuff Includes parts of Salero Formation Sugarloaf Quartz Latite, and Brown Volcanics, and all of Red Bluff, Rhyolite, Cat Mountain Rhyolite of Brown (1939) and Uncle Sam Prophyry Includes for all intrusive bodies and locally contains fragments of exotic rocks Thickness commonly several tens of meters to several hundreds of meters Dated at 66(?), 70, 72, 73, and 73 m.y The Uncle Sam, in the Tombstone area, is dated 72 m.y

Ka — Andesitic to dacitic volcanic breccia —Includes parts of Solero Formation, Sugarloaf Quartz Latite, and Bronco Volcanics, and all of Demetrie Volcanics and Silverbell Formation of Courtright (1958) Commonly contains large blocks of exotic rocks and locally includes some sedimentary rocks and intrusive rocks. Several tens of metres to several hundreds of meters thick in most places

Kld — Lower quartz monzonite and granodiorite Includes some quartz diorite, appears in small stocks Locally associated with mineralization Dated at 70, 71, 72, 73, 74, 74, 74, and 76 m.y The Scheiffin granodiorite at Tombstone is 72 m.y

Kb — BISBEE FORMATION OR GROUP, UNDIFFERENTIATED (LOWER CRETACEOUS) Upper part of Bisbee Formation or Group, undifferentiated, and related rocks Includes upper part of Bisbee Formation, Mural Limestone Morita, Cintura, Willow Canyon, Apache Canyon, Shellenberger Canyon and Turney Ranch Formations (not listed in stratigraphic sequence) of the Bisbee Group, Amole Arkose of Bryant and Kinnison (1964), and Angelo Arkose Consists of brownish to reddish arkose gray, siltstone, sandstone, conglomerate, and some fossiliferous gray limestone Commonly several hundred meters thick

Jg — GRANITE AND QUARTZ MONZONITE (JURASSIC) Stocks of pinkish gray, coarse grained rock Locally associated with mineralization Dated at 140, 148, 149, 149, 150, 153, 160, 161, 167, 178, 185 m.y

PIPs — Sedimentary rocks (Lower Permian and Upper Pennsylvanian) Consists of Epitaph Dolomite (Lower Permian), Colina Limestone (Lower Permian), and Earp Formation (Lower Permian and Upper Pennsylvanian), undifferentiated Epitaph Dolomite is a dark to light gray, slightly cherty, dolomite, limestone, marl, siltstone, and gypsum, 120-280 meters thick Colina Limestone is a medium gray, thick bedded, sparsely cherty, and sparsely fossiliferous limestone 120-280 meters thick Earp Formation is a pale red siltstone, mudstone, shale and limestone, 120-240 meters thick

IPh — Horquilla Limestone (Upper and Middle Pennsylvanian) Light pinkish gray, thick to thin bedded, cherty, fossiliferous limestone and intercalated pale brown to pale reddish gray siltstone that increases in abundance upward Typically, 300-490 meters thick

MDs — SEDIMENTARY ROCKS (MISSISSIPPIAN AND DEVONIAN) Consists mainly of Escabrosa Limestone (Mississippian) locally, (Armstrong and Silberman, 1974) called Escabrosa Group and Martin Formation (Upper Devonian), undifferentiated In part of the Chiricahua Mountains also includes Paradise Formation (Upper Mississippian) and Portal Formation of Sabins, 1957a (Upper Devonian) In the Little Dragoon Mountains and some adjacent hills also includes Black Prince Limestone, whose fauna and correlation show strongest affinities with Mississippian rocks but which may include some Pennsylvanian rocks Escabrosa Limestone is a medium gray, massive to thick bedded, commonly crinoidal, cherty, fossiliferous limestone 90-310 meters thick Martin Formation is thick to thin bedded, gray to brown dolomite, gray sparsely fossiliferous, and some siltstone and sandstone, 90-120 meters thick Paradise Formation is a brown, fossiliferous, shaly limestone Portal Formation is a black shale and limestone 6-105 meters thick Black Prince Limestone is pinkish gray limestone with a basal shale and chert conglomerate, as much as 52 meters thick

OCb — SEDIMENTARY ROCKS (LOWER ORDOVICIAN TO MIDDLE CAMBRIAN) —El Paso Limestone (Lower Ordovician and Upper Cambrian), Abrigo Formation (Upper and Middle Cambrian), and Bolsa Quartz (Middle Cambrian), undifferentiated —El Paso Limestone is a gray, thin-bedded cherty limestone and dolomite 90 meters to about 220 meters thick. Abrigo Formation is a brown, thin bedded fossiliferous limestone, sandstone, quartzite, and shale, 210-240 meters thick. Bolsa Quartzite is a brown to white or purplish-gray, thick-bedded, coarse-grained quartzite and sandstone with a basal conglomerate, 90-180 meters thick. To the east, equivalents of part of the Abrigo Formation and Bolsa Quartzite are known as the Coronado Sandstone

Ꞓe — Sedimentary rocks (Upper and Middle Cambrian) Abrigo Formation (Upper and Middle Cambrian), and Bolsa Quartzite (Middle Cambrian), undifferentiated

Yg — GRANITOID ROCKS (PRECAMBRIAN Y) Mainly granodiorite and quartz monzonite, unfoliated to foliated, in part metamorphosed Generally in stocks, which show been little studied

Xp — PINAL SCHIST (PRECAMBRIAN X) Chlorite schist, phyllite, and some metavolcanic rocks, metavolcanic rocks, metaquartzite, metaquartzite conglomerate, and gneiss One metavolcanic rock dated at 1715 m.y.

CONTACT Dotted where concealed

MARKER HORIZON Dotted where concealed

DIKES Showing dip

FAULTS Showing dip Dotted where concealed or intruded half arrow bar on downthrown side

Normal

Reverse

Strike slip Arrow couple shows relative displacement Single arrow shows movement of active block

Major thrust fault Sawteeth on upper plate

Thrust fault Sawteeth on upper plate

Anticline

Syncline

Inclined strike and dip of beds

EXOTIC BLOCK BRECCIA—Rock contains chip or block inclusions of rock different from those of host or other blocks nearby Typically of volcanic tectonic or sedimentary tectonic origin; excludes Tertiary megabreccia deposits.

(QTgu) 157 — Site of well or generalized site of several wells, showing unit penetrated, if known, and depth of well, in feet 100 feet equals 30.5 meters.

72x — COLLECTION SITE—Radiogenically dated rock showing age in millions of years Query before symbol where precise location uncertain.

Roads and Highways

Dry wash

Southern Pacific Railroad

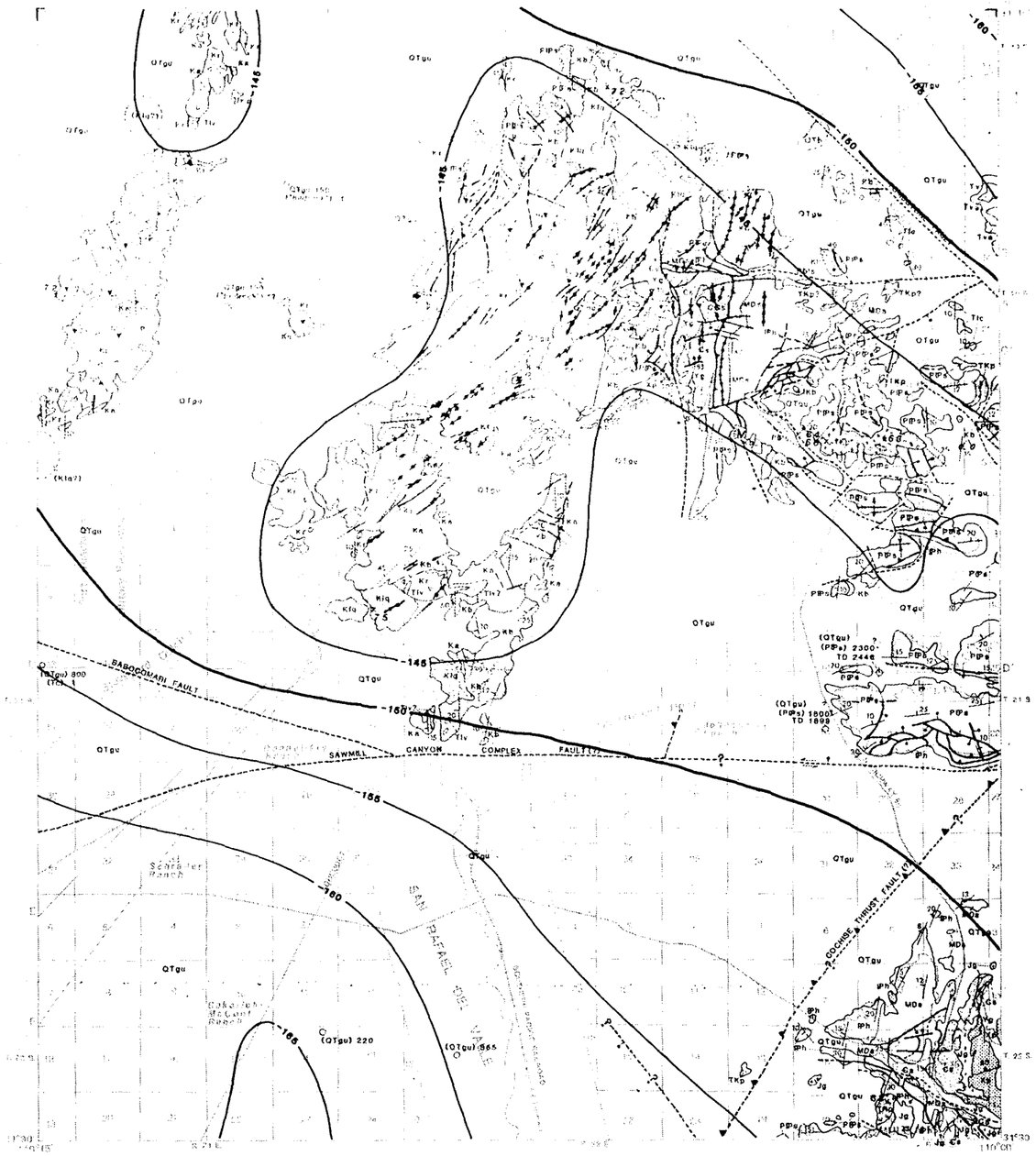
Government Reservation Boundary

Aqueduct

A—A' Cross section line

-150 Gravity contour line

Contour interval: 5 milligals



Tombstone Development Company, Inc.
Tombstone, Arizona

1 0 1 2 3 Miles

N

Geology adopted from Drewes, Harold, 1980, and Newell, R.A., 1973.

By James A. Briscoe
James A. Briscoe and Associates
Tucson, Arizona

Figure 17. Gravity map of the Tombstone area.

From *Bouguer Gravity Anomaly map of Southeastern Arizona*, West, E.E., Sumner, J.S., Aiken, C.L.V., and Conley, J.N., 1973.

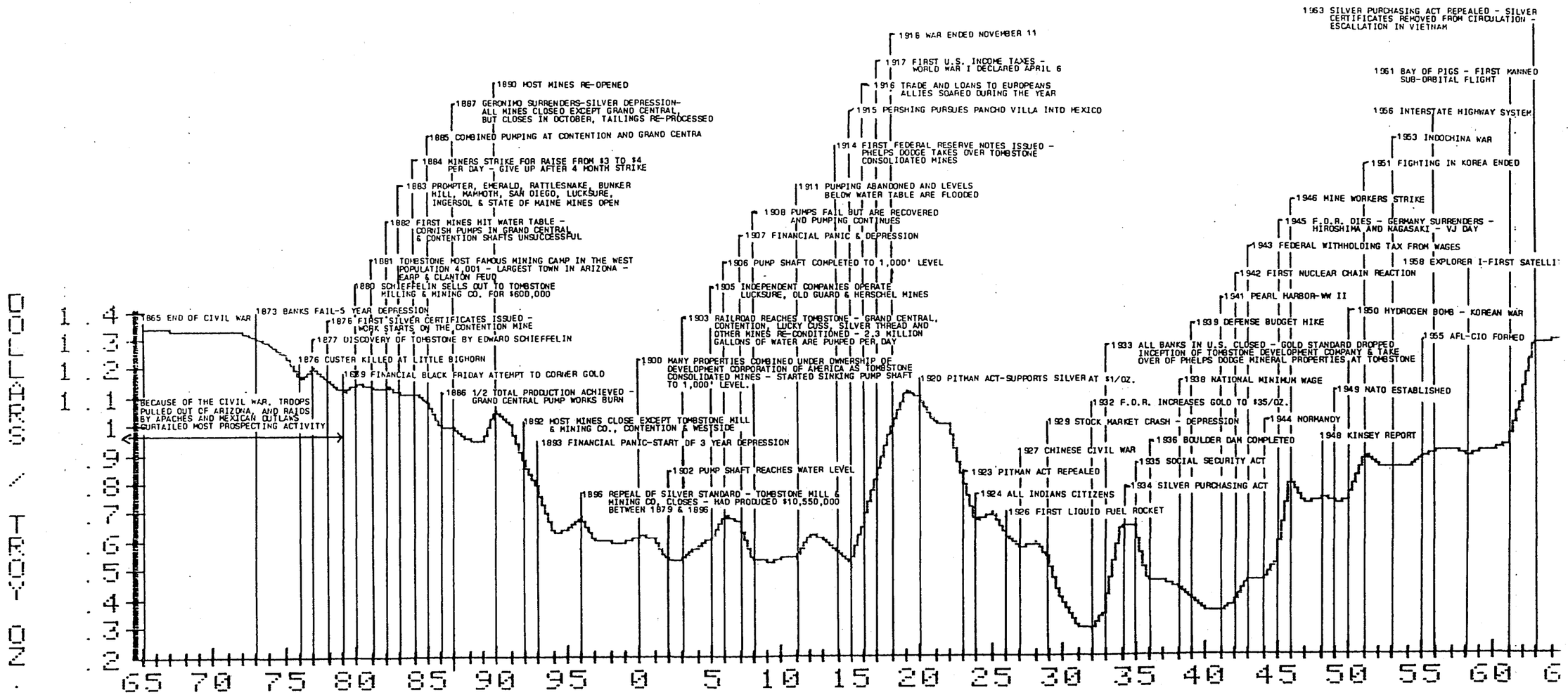


Figure 18: **100 Year Silver Price Chart**

an hour away by U.S. 80 and Interstate 10 to the northeast. Tucson is served by an international airport, with scheduled flights by several carriers. The Tombstone Municipal Airport has a 5,000-foot oiled strip, adequate for light planes, but no fuel or other facilities. Tombstone, until 1950, was serviced by a standard gauge branch S.P. railroad line at Fairbank, seven miles west of Tombstone. This connection to Fairbank has been dismantled, though the rail line which connects with Douglas, Arizona, is currently in service. There are plans to re-establish the branch line to Tombstone, so it could bring tourists in for visits to the historic townsite. If this comes to pass, freight could also be hauled.

Physical Features

Physical features in italics are quoted directly from Butler, B.S., Wilson, E.D, and Rasor, C.A., 1938, with some deletions:

> *The Tombstone district is in the Tombstone hills, a group of low, scattered mountains that extend northwestward from the Mule Mountains in which the Bisbee district is located. Tombstone is near the northwest margin of the area, at an altitude of 4,530 feet or 670 feet above the San Pedro River at Fairbank. The Tombstone Hills rise to a maximum altitude of 5,339 feet or some 800 feet above the surrounding plain, which slopes westward to the San Pedro River. In the vicinity of the hills, this plain is a pediment, cut on hard rock.*
>
> *Even slopes and rounded contours characterize the northern half of the area in contrast to the steep-sided, linear ridges that prevail in the southern half.*
>
> *There are no perennial streams in the area. Drainage is westward to the San Pedro River through steep-sided gulches or arroyos that dissect the plain. Torrential rains flood these arroyos for short periods, but during most of the year no water flows at the surface.*
>
> *Water is encountered in the mines of the eastern part of the district at an elevation of 4,120 feet above sea level. This mine water has been used for concentration of ores, but, according to analyses by H. V. Smith, of the University of Arizona, its fluorine content makes it unsuitable for drinking. Some water is obtained from shallow wells in the gulches, but the main supply for Tombstone is piped from springs in the Huachuca Mountain, about 25 miles southwest of the town.*

In general, the gentle, rolling topography is ideally suited to mining activities of all sorts.

Climate and Vegetation

The following italics are also quoted directly from Butler, Wilson, and Rasor, 1938:

> *The climate of Tombstone is that of the intermediate altitudes of southern Arizona. The winters are characterized by moderate temperatures and only a few light falls of snow. In summer the days are hot, but the nights are comfortably cool. The average range in temperature for a twenty-seven-year period, prior to 1928, is from an extreme maximum in June of 101.9º to an extreme minimum of 20.8 degrees in January. The average annual precipitation for a thirty-one-day period prior to 1928 was 14.48 inches. The main rainy season is from July to September, and the driest months are April, May, and June.*

The vegetation of the district is likewise characteristic of the intermediate elevations of southern Arizona. It is above the altitudes favorable to abundant cacti and below those favorable to forest trees. Desert shrubs predominate. Cat's-claw and creosote or greasewood bush, together with some mesquite and ocotillo, form thickets on the foothill slopes and pediments. Several species of cacti are present, but prickly pear is most abundant. Mescal and yucca are sparingly present. Along gulches and arroyos mesquite, palo verde, and walnut are common. No trees in the district are suitable for lumber or for ordinary mine timber. On flats and slopes where soil and moisture are favorable, various grasses thrive.

Climatic conditions do not appear to have changed significantly since those paragraphs were written.

PREVIOUS WORK

The following section in italics is quoted from Newell, 1974, with portions deleted. Geology and structure, adapted from Newell (1973) & Drewes (1980), are given on Figure 3:

Previous Investigations. The geological and mining literature abounds with references to the Tombstone district, and attention will be limited to those which provide significant insight into the geology and the development of the area.

Between the years 1879 and 1886, E/MJ published numerous notes concerning the nature, extent, and progress of underground development work in the district. E/MJ (1881, v. 31, p. 316-317) stated the Tombstone silver ores were mostly of a carbonate or chloride nature, and that production was about 300 tons/day. Recoveries were about 80%, and the average yield was about $75/ton. E/MJ (1883, v. 35, p. 267-269) reported that on the third level of the Westside mine the ore was assaying about 40 oz/ton silver and about 0.5 oz/ton gold. Manganese ore from the Lucky Cuss mine at a depth of 100 ft, carried about 25 oz/ton of silver. E/MJ (1883, v. 36, p. 229-230) announced the discovery, between the third and fourth levels, in the Westside mine, of several tons of telluride ore that averaged $1200/ton (assumed to be gold telluride - at $20/oz, about 60 oz per ton).

Blake (1882a, b, c, d) provided the earliest geologic descriptions of the district, and he recognized that the mineralization was closely associated with north-south trending dikes and cross-cutting northeast-southwest fissures. He also stated that, where either dikes or fissures crossed anticlinal structures, mineralization often developed along crests of the folds as bedded replacement deposits. Comstock (1900, p. 1045, 1089) confirmed that folds were important to ore deposition at Tombstone.

(Church, 1903) believed that dikes in the district exercised a relatively minor control on the mineralization, and that the major controls were anticlinal folds and cross-cutting fissures. Lakes (1904) compared anticlinal structures at Tombstone with those at Bendigo, Australia.

Between 1904 and 1920 little was published that dealt with the geology in Tombstone.

Ransome (1920) described the manganese mineralization at Tombstone. High concentrations of manganese were associated with the Prompter fault, and the principal manganese production was derived from the Oregon, Prompter, Lucky Cuss, Luck Sure, Bunker Hill, and Comet mines. Psilomelane, the major manganese mineral, typically occurred in pipes and chimneys in limestone horizons. Supergene processes were considered to have been

responsible for forming the present manganese deposits. High grade mineralization contained between 70% and 80% MnO_2 after sorting, while low grade mineralization contained about 40% MnO_2. Ransome mentioned that in 1917 the manganese ore contained between 7 and 8 oz/ton silver.

The geology at Tombstone was investigated in more detail during the later 1930's. Butler and Wilson (1937) noted that the mineralization was associated with north-south dike fissures, faults, anticlines, and northeast-southwest fissures. Rasor (1937) investigated the mineralogy and petrography of the district, and he found hypogene silver-bearing minerals to include hessite, tetrahedrite, and galena. Alabandite was found to be the only definitely hypogene manganese mineral. Bromyrite, embolite, cerargyrite, argentite (acanthite), stromeyerite, native silver, (native gold - addition by Briscoe, 1985, see Butler et al. p. 51), *and argentojarosite were identified as supergene ore minerals. The zone of oxidation was thought to be at least 600 ft deep (Rasor, 1937, p. 83), and bromyrite was believed to be the most abundant supergene silver mineral. Butler, Wilson and Rasor (1938) and Butler and Wilson (1938) published insight into a complex sequence of structural events in the district, and the authors also suggested a broad pattern of mineral zoning. Butler and Wilson (1942) summarized their work at Tombstone in Newhouse (1942).*

Ingerson (1939) measured joint and platy inclusion orientations within the Uncle Sam "porphyry" west of Tombstone. The emplacement of the Uncle Sam "porphyry" was discussed at length by Gilluly (1945), and he considered the body to be either laccolithic or sill-like in form.

Gilluly, Cooper and Williams (1954) described the Late Paleozoic stratigraphy of central Cochise County. Gilluly (1956) incorporated his earlier work on the Uncle Sam "porphyry", with the stratigraphy to provide an exhaustive description of the geology of central Cochise County.

Creasey and Kistler (1962) determined radiometric ages for an intrusive rhyolite and the Schieffelin Granodiorite by potassium-argon methods as 63 and 72 m.y. respectively.

Andreason, Mitchell and Tyson (1965) published an aeromagnetic map for the area around and including Tombstone. Background values at Tombstone were about 300 to 400 gammas, but the granodiorite was found to have values between 700 and 1000 gammas. Brant (1966) found the Schieffelin Granodiorite to have a magnetic susceptibility of 1800×10^{-6} (c.g.s. units). Brant assumed the Schieffelin to be of Tertiary age, and he stated that this relatively high susceptibility was typical for Tertiary intrusives in southern Arizona. In fact the Schieffelin is a Laramide intrusive (Drewes, 1971), and Brant (1966) stated that most Laramide intrusives in southern Arizona have an average susceptibility of only 100×10^{-6}. Thus, for a Laramide intrusive, the Schieffelin is anomalously magnetic.

Previous Mineralogical Investigations. *E/MJ (1881, v. 31, p. 316-317) reported that the Tombstone silver ores were mainly of chloride varieties, and that the ore contained a little lead. In 1883, E/MJ (v. 36, p. 229-230) reported the discovery of several tons of telluride ore between the third and fourth levels of the Westside mine.*

Penrose (1890) noted the presence of manganiferous silver ore at Tombstone, and Moses and Laquer (1892) reported the existence of alabandite at the Lucky Cuss mine. Silver-bearing manganese minerals in Arizona and New Mexico were studied by Hewett and Pardee (1933), and they found that silver was present as argentiferous manganite. These authors observed that black calcite was commonly associated with the manganese deposits, and that the calcite had

black manganese oxide intergrowths that could be manganite, but not hausmannite.

Rasor (1937) conducted the first detailed study of the mineralogy at Tombstone. He identified four main stages of hypogene mineralization. Rasor (1938) apparently reported the first United States occurrence of bromyrite at Tombstone. Hewett (1972) observed that the minerals hollandite, psilomelane, and cryptomelane formed most of the manganese oxide deposits, and he assigned a hypogene origin to all of them.

Previous Milling and Smelting Investigations. The earliest mention of milling procedures at Tombstone (E/MJ, 1879, v. 27, p. 468) indicated the successful operation of a 10 stamp mill, which yielded a recovery of about 77%. In 1881 about 120 stamps were in operation at Tombstone, treating about 300 tons/day (E/MJ, 1881, v. 31, p. 316-317).

Chapman, later to become Dean and Dean Emeritus of the College of Mines at the University of Arizona, wrote a masters thesis for the University of Arizona entitled The Metallurgy of Silver Chloride Ore From the State of Maine Mine in the Tombstone District. Chapman stated that the State of Maine mine produced 200,000 to 300,000 ounces of silver from 1900 to 1921.

Romslo and Ravitz (1947) reported the successful treatment of manganese-silver ore from Tombstone. Very poor results were obtained by direct cyanide and flotation methods, but a calcium dithionate process recovered 80% to 90% of the silver and 90% of the manganese.

Previous Hydrological Investigations. After water was first encountered in the Sulphurette mine in 1881, pumps with a capacity of 700 gpm were installed at the Contention and Grand Central mines in December 1883 (E/MJ, 1883, v. 36, p. 328, 400). The pumps worked successfully until 1886, when the Grand Central pump house burned (Dunning, 1959). Blake (1904a, b) mentioned that new pumps had lowered the water level to near the 700 ft level of the Contention mine. The water temperature was reported to be about 80º F.

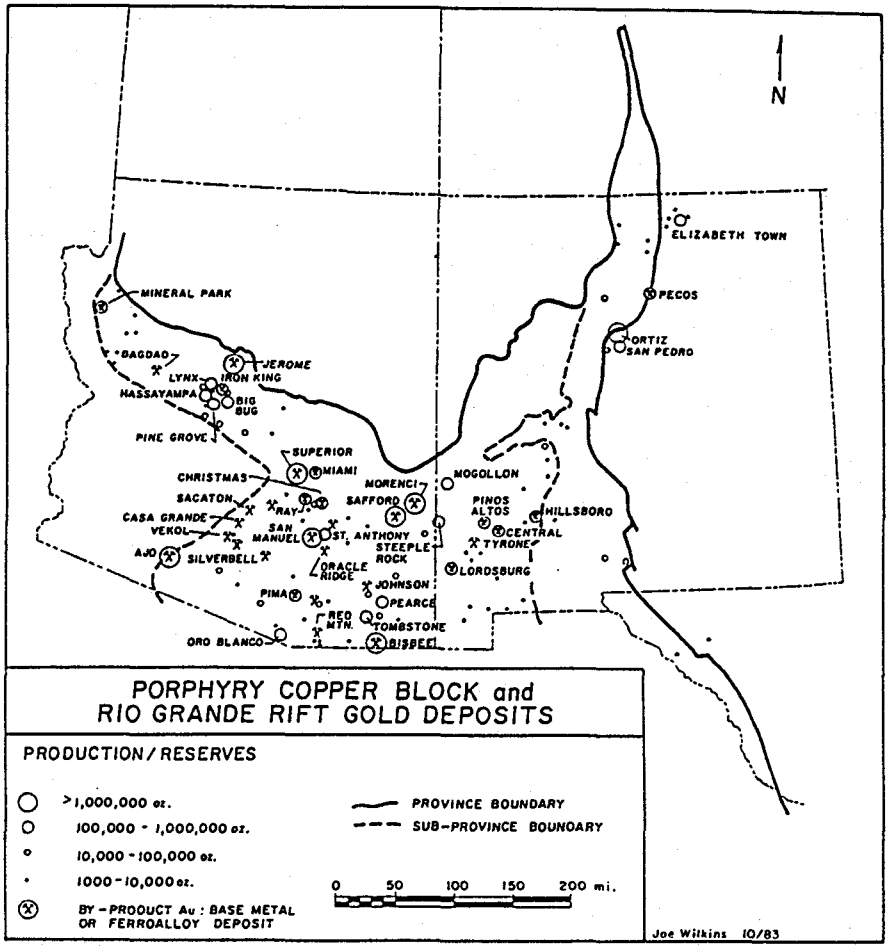
Walker (1909) stated that water volumes of up to 4500 gpm were not uncommon. High pumping costs coupled with a low silver price (about $.50/oz) forced abandoning operations on January 19, 1911. Water pumps still remain on the 1000-, 800-, 700-, and 600-ft levels (Butler, Wilson, and Rasor, 1938, p. 47).

GENERAL GEOLOGY OF THE DISTRICT

District Geology

The Tombstone Mining District lies in the southwestern North American porphyry copper province (Fig. 19), and on the edge of the Cretaceous Sonoran Basin.

The Tombstone area has had a complex geologic history, which includes sedimentation, folding, thrust faulting, explosive acid volcanism and caldera formation and resurgence, several stages of igneous intrusion, and mineralization from hydrothermal solutions at least between 72 m.y. and 63 m.y.



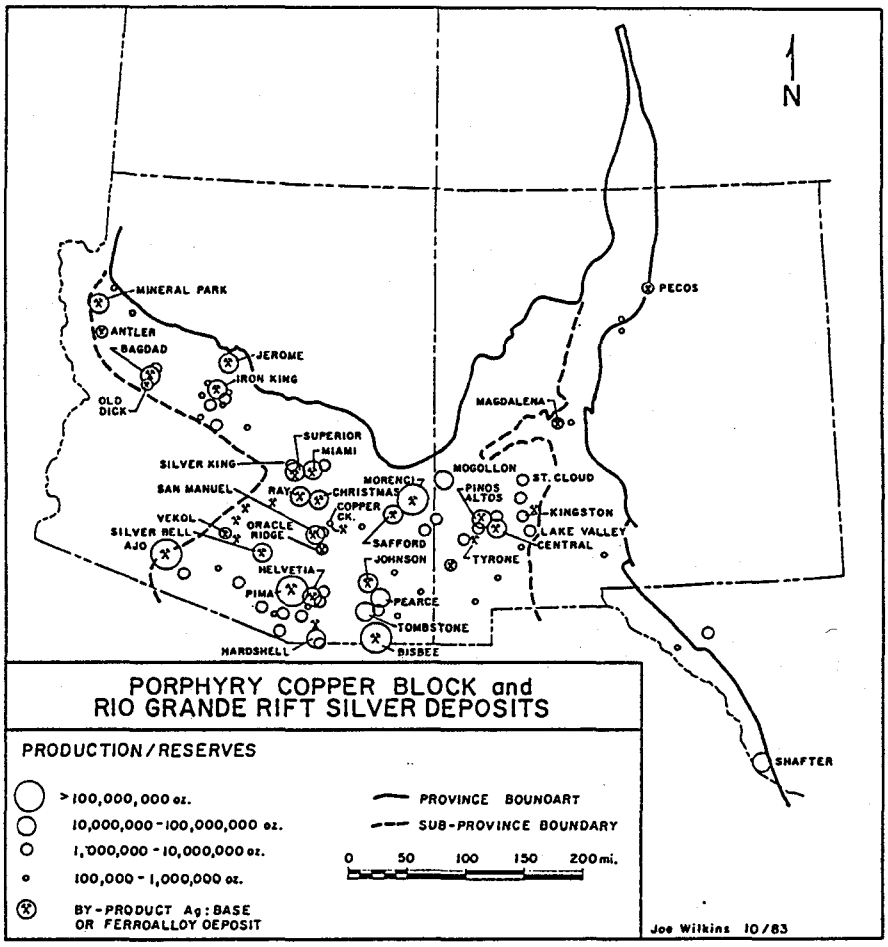


Figure 19: **Porphyry Copper Block and Rio Grande Rift Gold and Silver Deposits**

Basement rocks are Precambrian granodiorite and Pinal schist beneath approximately 2000m of Paleozoic sediments consisting, for the most part, of limestone. Mesozoic sedimentation deposited unconformably over rugged to moderate topography developed on the upper Paleozoic sediments includes the early Cretaceous Bisbee Formation consisting of more than 1000m of sandstones, shales, mudstones, and minor limestones over a basal conglomerate of varying thickness.

Pre-Laramide Structural Deformation

The post-Paleozoic tectonic history of the Tombstone area has been complex. It was certainly affected by tectonics, plutonism, volcanism, and hydrothermal activity while the Jurassic magmatic arc comprised the edge of the North American craton and emplaced porphyry-copper-type mineralization at Bisbee and Courtland Gleeson to its south (50 Km) and to the northeast (25 Km) respectively. At least two episodes of folding and thrust faulting have taken place (Gilluly 1956, p. 122-130). It is apparent that an earlier (Jurassic?) period of deformation created eastward-trending features, and later deformation formed north-trending and oblique features. During the first stage, north-south compression formed east-trending folds and minor thrusts, with a north strike and northerly low-angle dips. Later, the area underwent southwest-northeast compression, which produced thrust faults of northwesterly trend, and was probably responsible for large features visible in the district today, including the Empire anticline and the north 50^0 east fractures.

Laramide Volcanism and Caldera Formation

There must have existed profound structural weakness, perhaps a lineament intersection, at the current location of the Tombstone Hills, because Laramide volcanism appears to form a focus at Tombstone, with relatively lesser effects in the surrounding terrain for a distance of 30 or more Km. Laramide surface volcanism began with the extrusion of the Bronco volcanics, comprised of lower andesite flows and breccias, overlain by rhyolitic tuffs and flows. The lower Bronco andesites, which were extruded as flows, flow breccias, and probable lahars, are of the Silver Bell type. Briscoe (1985) suggests that the upper rhyolites, at least in part, may be a series of coalescing rhyolite domes, as they exhibit contorted flow and, in places, flow breccia structures. Extruded over the Bronco volcanics is the 71.9 $\pm$ 2.4 m.y. (Drewes, 1971) Uncle Sam quartz latite tuff. The extrusion of the tuff, which probably started from the area of the Bronco Hills, resulted in partial evacuation of the underlying magma chamber and caldera collapse, with later resurgent extrusion of more quartz latite tuffs (Briscoe, 1985). The current Ajax fault, with some 1600m of stratigraphic throw, formed the eastern margin of the caldera, and appears to localize some of the 'Uncle Sam' vents, as well as later intrusives. Apophyses of the parent magma intruded along the northeasterly portion of the caldera, forming the present outcrops of Schieffelin Granodiorite southwest of Tombstone. Additional apophyses of Schieffelin Granodiorite intruded along the caldera margin at Bronco Hill, near Fairbank, and on the west side of the San Pedro River on the Ft. Huachuca Military Reservation. These probable intrusions are thought to be the source of aeromagnetic anomalies (Figure 16). The Prompter and Horquilla faults may, in part, be radiating tension fractures due to doming before the extrusion of the Uncle Sam tuff. Several episodes of explosive eruption are indicated by multiple cooling units of Uncle Sam tuff, best exposed in the Charleston area. Convection cells that propelled fluids along fractures in the cooling volcanic and related plutonic rocks at depth gave rise to copper, molybdenum, lead, zinc, silver, and gold mineralization centers within and adjacent to the caldera.

Phreatic explosions and venting probably gave rise to the breccia pipes in the Robbers' Roost-Charleston Lead mine area. Deep exploration drill holes in this area confirm unexposed apophyses of porphyritic quartz monzonite below these altered areas, the probable driving mechanism of both hydrothermal fluidization in the breccia pipes and mineralization. David Sawyer, in his Stanford PhD dissertation, determined the Silver Bell mineral-volcanic complex to be a caldera complex. The Silver Bell andesite, dacite, and Mt. Lord ignimbrite sequence is the same type and sequence of extrusives as are present at Tombstone, i.e., the Bronco andesite, Bronco rhyolite, and Uncle Sam tuff. At Silver Bell, quartz monzonites intrude the caldera fault, to be later mineralized by copper-, molybdenum-, silver-, lead- and zinc-bearing hydrothermal solutions. At Silver Bell, the volcanic complex is Laramide, approximately 65 m.y old.

Age Dates of Volcanic and Intrusive Events

Age dating of samples of altered rock collected by Newell (1974) at the Charleston Lead mine, show a potassium-argon age of sericite of 74.5 $\pm$ 3 m.y., while a sample of the altered Contention dike material collected by Gustafson (Newell, 1974) yielded an age of 72 m.y. The age date of 63 m.y. by Creasey, et al. (1962) for potassium-argon on rhyolite intimately associated with manganese south of the Emerald mine suggests that the age of manganese mineralization (at least in the Military Hill-Emerald mine area south of the Prompter Fault) is approximately 10 m.y. younger than mineralization in the Contention dike and at Charleston. In 1982, Briscoe mapped a previously unnoticed apophysis of quartz monzonite porphyry in the Tombstone Extension area, and dikes of the same material in the Comstock Hill area, northwest of the Tombstone townsite. In 1985, Drewes reported that this rock, the Comstock porphyry, has an age of 62.6 $\pm$ 2.8 m.y. This intrusive may be the source of the rhyolite dated by Creasey that intruded the Prompter fault and occurs as dikes south of the Prompter fault, as well as in sill-like bodies southwest of Tombstone near the municipal airport. Further, they may be the source of rhyolite dikes associated with mineralization in the State of Maine mine area. Unfortunately, no date on the mineralization on the State of Maine mine has been made.

As pointed out by Livingston et al. (1968), "*15 of the 16 known porphyry copper deposits in Arizona are intimately related to late-Cretaceous or early-Tertiary plutons of the Laramide (75 to 55 m.y.)...*", and of these 15 deposits, 10 had dates between 55 and 65 m.y., and only two had dates greater than 70 m.y. The importance of determining the age of Tombstone mineralization is paramount if it is to be linked to porphyry copper systems. If mineralization at Tombstone can be shown to be contemporaneous with other productive 'porphyry copper' deposits in the area, then the long-term potential for deeper mineralization would be enhanced. Briscoe (1985) believes that the extrusion of the Uncle Sam tuff through a series of vents resulted in evacuation of the underlying magma chamber and caldera collapse. The deepest collapse documented by geologic mapping so far is along the Ajax Hill fault, where some 1600m of stratigraphic throw, between the Precambrian on the upside and Cretaceous Bisbee on the downside, is also the locus of conduits for various extrusions and intrusions including the Uncle Sam tuff, the Schieffelin Granodiorite, the quartz latite porphyry, the granophyre, and the rhyodacite.

The reopening of the northeast-trending fracture zones, the prevalent fracture direction in Arizona inherited from the Precambrian, allowed the circulation of geothermally convecting fluids that altered the surrounding rock and emplaced base and precious metal mineralization. At specific spots of high

permeability, this hydrothermal activity appeared to be concentrated and the zones of concentration as known at this time would include the main part of the Tombstone district, the State of Maine area, the Robbers' Roost breccia pipe area, the Charleston lead mine area, possibly mesquite-twig Mo geochemical anomalies at Government Draw and Louis Springs (Newell, 1974), and possibly magnetic anomalies at the Charleston crossing, on the Huachuca Military Reservation, west of the San Pedro River, and at Fairbank.

Generally following Newell's (1974) chronology, Briscoe has convincingly rearranged the geochronology to include the new dates and evidence for caldera formation, and intrusion of the Schieffelin Granodiorite after the extrusion of the Uncle Sam tuff and caldera collapse. The rearranged chronology is built upon the chronological evidence cited by Newell. The only major changes are the timing of movement on the Ajax fault, the extrusion of the Uncle Sam tuff, and the intrusion of the Schieffelin Granodiorite along the caldera fracture zone:

Chronological Summary--Igneous and Structural Activity

1. *Pre-Cretaceous movement along the Prompter-Horquilla faults. Evidence: Total offset on the Prompter Fault is about 1300m but the Cretaceous Bisbee Formation is offset only about 900m.*

2. *Folding of the Bisbee Formation in the central portion of the Tombstone district. Evidence:*
   a. *The Tombstone basin is bounded on the west by the Ajax Hill fault.*
   b. *Fold trends are cut by the Schieffelin Granodiorite, which also cuts the Ajax Hill fault.*

3. *Movement along the Ajax Hill fault. Evidence:*
   a. *The Ajax Hill fault cuts the Prompter fault.*
   b. *The Ajax Hill fault is cut by the Schieffelin Granodiorite.*
   c. *The Ajax Hill fault bounds the western margin of the Tombstone basin.*

4. *Extrusion of the Bronco Andesite, followed by extrusion of the Bronco Rhyolite. Evidence:*
   a. *The Bronco Rhyolite cuts the andesite immediately north of the Charleston lead mine.*
   b. *The Uncle Sam tuff cuts the Bronco Andesite (center sec. 28, T.20S., R.22E.).*
   c. *The Uncle Sam tuff intrudes the Ajax Hill fault. Note: The Ajax Hill fault is not in contact with the Bronco volcanics, and the possibility exists that these volcanics pre-date the Ajax Hill fault.*

5. *Intrusion of the north-trending andesite porphyry dikes. Evidence:*
   a. *The dikes cut folds within the Bisbee Formation.*
   b. *The dikes occur in sedimentary rocks which contain the Schieffelin Granodiorite at depth.*
   c. *The dikes do not cut the Schieffelin Granodiorite.*

6. *Intrusion of the Schieffelin Granodiorite. 72 my. Evidence:*
   a. *The granodiorite cuts the Ajax Hill fault.*
   b. *The Schieffelin is less siliceous than the Uncle Sam tuff.*
   c. *Creasey et al. (1962) dated the granodiorite at 72 m.y.*

7. *Renewed movement along the Prompter fault. Evidence:*
   a. *The Prompter fault cuts andesite porphyry dikes.*
   b. *The Prompter fault offsets the Ajax Hill fault.*

8. *Emplacement and extrusion of the Uncle Sam tuff. 71.9 my. Evidence:*
   a. *The Uncle Sam tuff cuts the Bronco volcanics (sec. 28, T.20S., R.22E., and Sec. 25, T.20S., R.21E.).*
   b. *The Uncle Sam tuff follows the Ajax Hill fault.*
   c. *A hornblende andesite dike cuts the Schieffelin Granodiorite and the Uncle Sam tuff north of Bronco Hill.*
   d. *The Uncle Sam tuff is more siliceous than the Schieffelin Granodiorite.*
   e. *A potassium-argon date (71.9 $\pm$ 2.4 m.y., Drewes, 1971) from the Uncle Sam tuff indicates the same age as the Schieffelin Granodiorite.*

9. *Emplacement of the quartz latite porphyry. Evidence:*
   a. *The quartz latite porphyry cuts the Bronco Andesite.*
   b. *The quartz latite porphyry is compositionally very similar to the Uncle Sam tuff. Note: The quartz latite porphyry is probably an equivalent of the Uncle Sam tuff, but textural evidence suggests the porphyry did not vent to the surface.*

10. *Emplacement of the granophyre. Evidence:*
   a. *The granophyre intrudes the Ajax Hill fault.*
   b. *The granophyre is intensely altered, and this may follow upon emplacement of the rhyodacite.*

11. *Emplacement of the rhyodacite. Evidence:*
   a. *The rhyodacite intrudes the Ajax Hill fault.*
   b. *The rhyodacite intrudes the Uncle Sam tuff.*
   c. *Hydrothermal activity with its rhyodacite probably altered the granophyre.*

12. *Earliest fracturing along the northeast-trending fissures. Evidence:*
   a. *The fissures cut the Uncle Sam tuff.*
   b. *The fissures are intruded by hornblende andesite dikes.*

13. *Emplacement of the hornblende andesite dikes. Evidence: The dikes follow the northeast-trending fissures in the Uncle Sam tuff and in the Schieffelin Granodiorite.*

14. *Introduction of hydrothermal solutions and formation of the base-metal and silver deposits at Charleston and at Tombstone. Evidence:*
   a. *Hornblende andesite dikes are hydrothermally altered (Charleston lead mine; sericite date 74.5 $\pm$ 3 m.y., Appendix I).*
   b. *The mineralization followed northeast-trending fractures at Tombstone (Butler and Wilson, 1942, p. 201).*
   c. *Alteration along the Contention dike yielded a potassium-argon date of about 72 m.y. (Gustafson, pers. comm.).*

15. *Emplacement of the rhyolite porphyry, and associated dikes and sills. Evidence:*
    a. *A rhyolite dike cuts an andesite porphyry dike immediately west of Military Hill.*
    b. *The rhyolite intruded the Prompter fault zone.*
    c. *Creasey et al. (1962) obtained a potassium-argon date of 63 m.y. for the rhyolite.*

16. *Renewed minor fracturing along the northeast-trending fissures. Evidence: A northeast-trending fissure cuts the rhyolite dike west of Military Hill.*

17. *Renewed movement along the Prompter fault. Evidence:*
    a. *A rhyolite porphyry dike is cut and offset left laterally about 200 ft by the Prompter fault system.*
    b. *The northeast-trending fissures do not cross faults belonging to the Prompter system.*

18. *Introduction of the manganese mineralization, in the southern part of the district. Evidence:*
    a. *Manganese mineralization is intimately associated with the rhyolite porphyry in the Side Wheel mine west of Military Hill.*
    b. *Alteration related to silver mineralization along the Contention dike yielded an age of about 72 m.y. (Gustafson, pers. comm.)*
    c. *The age of the rhyolite porphyry is about 63 m.y. (Creasey et al., 1962)*
    d. *Manganese deposits are closely associated with the Prompter fault (Butler, Wilson and Rasor, 1938, p. 80), and the rhyolite porphyry has intruded along the Prompter fault.*
    e. *Quartz veinlets were observed paralleling the ore fissure which cuts the rhyolite dike west of Military Hill.*

19. *Partial district tilting to the northeast possibly associated with the northwest faulting. Evidence:*
    a. *Quaternary (?) conglomerate beds along Walnut gulch dip 40º NE.*
    b. *Northwest-trending faults (Grand Central, East Boundary, and Walnut Gulch) have progressively lowered the district to the northeast.*
    c. *Northwest-trending faults post-date the mineralization (Butler, Wilson and Rasor, 1938, p. 37)*

20. *Emplacement of the basalt and phonolite in Walnut Gulch. Evidence: The basalt cuts Tertiary and Quaternary (?) gravels.*

Here follows a chronological summary of igneous and structural activity that accommodates the hypothesis by Briscoe that the Tombstone volcanics and mineral deposits are part of a Laramide caldera complex.

The summary is presented in a tabulated form to allow better separation and understanding of the complex structural history. Underlined words and phrases are those added to Newell's summary by Briscoe.

1. *Pre-Cretaceous* (Nevadan, 180 m.y., contemporaneous with movement along the parallel Dividend fault at Bisbee) *movement along the Prompter-Horquilla faults. Evidence: Total maximum offset on the Prompter fault is about 4,000 ft, and the Cretaceous Bisbee Formation*

is offset only about 2,800 ft.

2. Folding of the Bisbee Formation in the central portion of the Tombstone district - the folding is probably district-wide at least, and may be regional. Evidence:
   a. The Tombstone basin is bounded on the west by the Ajax Hill fault.
   b. Fold trends are cut by the Schieffelin Granodiorite, which also cuts the Ajax Hill fault.
   c. Isoclinal folds in basal Bisbee group sediments, north of the Uncle Sam shaft, State of Maine area.

3. Extrusion of the Bronco Andesite, followed by extrusion of the Bronco Rhyolite. Evidence:
   a. The Bronco Rhyolite cuts the andesite, immediately north of the Charleston lead mine.
   b. The Uncle Sam tuff cuts the Bronco Andesite (center sec. 28, T.20S., R.22E.).
   c. The Uncle Sam tuff intrudes the Ajax Hill fault. Note: The Ajax Hill fault is not in contact with the Bronco volcanics, and the possibility exists that these volcanics pre-date the Ajax Hill fault.

4. Intrusion of the north-trending andesite porphyry dikes. Evidence:
   a. The dikes cut folds within the Bisbee Formation.
   b. The dikes occur in sedimentary rocks which contain the Schieffelin Granodiorite at depth.
   c. The dikes do not cut the Schieffelin Granodiorite.

5. Explosive acid volcanism - extrusion of the Uncle Sam tuff, followed by caldera collapse and resurgence. Evidence:
   a. The Uncle Sam tuff cuts the Bronco volcanics (sec. 28, T.20S., R.22E., and sec. 25, T.20S., R.21E.).
   b. The Uncle Sam tuff follows the Ajax Hill fault.
   c. A hornblende andesite dike cuts the Schieffelin Granodiorite and the Uncle Sam tuff north of Bronco Hill.
   d. (?)The Uncle Sam tuff is more siliceous than the Schieffelin Granodiorite(?).
   e. A potassium-argon date (71.9 $\pm$ 2.4 m.y., Drewes, 1971) from the Uncle Sam tuff indicates it to be the same age as the Schieffelin Granodiorite.

6. Movement along the Ajax Hill fault following caldera collapse - 5 above. Evidence:
   a. The Ajax Hill fault cuts the Prompter fault.
   b. The Ajax Hill fault is cut by the Schieffelin Granodiorite.
   c. The Ajax Hill fault bounds the western margin of the Tombstone basin.

7. Renewed movement along the Prompter fault. Evidence:
   a. The Prompter fault cuts andesite porphyry dikes.
   b. The Prompter fault offsets the Ajax Hill fault.

8. Emplacement of the quartz latite porphyry after caldera resurgence above. Evidence:
   a. The quartz latite porphyry cuts the Bronco Andesite.

b. The quartz latite porphyry is compositionally very similar to the Uncle Sam tuff. Note: The quartz latite porphyry is probably an equivalent of the Uncle Sam tuff, but textural evidence suggests the porphyry did not vent to the surface

9. Intrusion of the Schieffelin Granodiorite. Evidence:
   a. The granodiorite cuts (intrudes) the Ajax Hill fault.
   b. (?)The Schieffelin is less siliceous than the Uncle Sam tuff(?).
   c. Creasey et al. (1962) dated the granodiorite at 72 m.y.

10. Emplacement of the granophyre. Evidence:
   a. The granophyre intrudes the Ajax Hill fault.
   b. The granophyre is intensely altered, and this may be due to the emplacement of the rhyodacite.

11. Earliest fracturing along the northeast-trending fissures. Evidence:
   a. The fissures cut the Uncle Sam tuff.
   b. The fissures are intruded by hornblende andesite dikes.

12. Emplacement of the hornblende andesite dikes. Evidence: The dikes follow the northeast-trending fissures, in the Uncle Sam tuff, and in the Schieffelin Granodiorite.

13. Emplacement of the rhyodacite. Evidence:
   a. The rhyodacite intrudes the Ajax Hill fault.
   b. The rhyodacite intrudes the Uncle Sam tuff.
   c. The rhyodacite probably altered the granophyre (and related alteration of the hornblende andesite dikes above).

14. Introduction of hydrothermal solutions and formation of the base-metal and silver deposits at Charleston and at Tombstone. Phreatic explosive activity at the surface and fluidized breccia pipe formation in the sub-surface at Robbers' Roost and the Charleston lead mine area with attendant hydrothermal alteration and base and precious metal mineralization. Evidence:
   a. Hornblende andesite dikes are hydrothermally altered. (Charleston lead mine; sericite date 74.5 $\pm$ 3 m.y., Appendix I).
   b. The mineralization followed northeast-trending fractures at Tombstone (Butler & Wilson, 1942, p. 201).
   c. Alteration along the Contention dike yielded a potassium-argon date of about 72 m.y. (Gustafson, pers. comm.).
   d. Fluidized breccia pipes at Robbers Roost and Charleston lead mine.
   e. Cupola of quartz monzonite porphyry intersected in Asarco drill holes in Robbers Roost area.
   f. Secondary K-spar, biotite, purple anhydrite, disseminated pyrite, chalcopyrite and molybdenite intersected in Asarco drill holes in the Robbers Roost area.
   g. Sericite, sphalerite, galena, disseminated pyrite, and silver values intersected by Horne drilling in Charleston lead mine area.

15. Emplacement of Extension/Comstock quartz monzonite porphyry. Evidence: Potassium-argon (hornblende) of 62.8 $\pm$ 2.6 m.y. by Briscoe/Drewes.

16. Emplacement of the rhyolite porphyry and associated dikes and sills. Evidence:
    a. A rhyolite dike cuts an andesite porphyry dike immediately west of Military Hill.
    b. The rhyolite intruded the Prompter fault zone.
    c. Creasey et al. (1962) obtained a potassium-argon date of 63 m.y. for the rhyolite.

17. Renewed minor fracturing along the northeast-trending fissures. Evidence: A northeast-trending fissure cuts the rhyolite dike west of Military Hill.

18. Introduction of the manganese mineralization in the southern part of the district. Evidence:
    a. Manganese mineralization is intimately associated with the rhyolite porphyry in the Side Wheel mine west of Military Hill.
    b. Alteration related to silver mineralization along the Contention dike yielded an age of about 72 m.y. (Gustafson, pers. comm.).
    c. The age of the rhyolite porphyry is about 63 m.y. (Creasey et al., 1962).
    d. Manganese deposits are closely associated with the Prompter fault (Butler, Wilson & Rasor, 1938, p. 80), and the rhyolite porphyry has intruded along the Prompter fault.
    e. Quartz veinlets were observed paralleling the ore fissure which cuts the rhyolite dike west of Military Hill.

19. Renewed movement along the Prompter fault. Evidence:
    a. A rhyolite porphyry dike is cut and offset left laterally about 200 ft by the Prompter fault system. <u>The Free Coinage vein in the State of Maine area is offset 200 ft left laterally by the northern bifurcation of the Prompter fault.</u>
    b. The northeast-trending fissures do not cross faults belonging to the Prompter system.

20. Partial district tilting to the northeast possibly associated with the northwest faulting. Evidence:
    a. Quaternary (?) conglomerate beds along Walnut Gulch dip 40^0 NE.
    b. Northwest-trending faults (Grand Central, East Boundary, and Walnut Gulch) have progressively lowered the district to the northeast.
    c. Northwest-trending faults post-date the mineralization (Butler, Wilson & Rasor, 1938, p. 37).

21. Emplacement of the basalt and phonolite in Walnut Gulch. Evidence: The basalt cuts Tertiary and Quaternary(?) gravels.

Perhaps the greatest impact of this expanded interpretation of the geologic history of the Tombstone area is upon the scale of the potential mineralized totality. Until about 1970, most geologists viewed Tombstone as a small-scale localized precious-metal epithermal to mesothermal replacement system in carbonate host rocks, generally restricted to a square kilometer or so of area around the Lucky Cuss-Toughnut sites beneath the streets of the townsite. We now perceive of it as not just a single porphyry-related system and thus of 10 square Km potential, but rather as a ring of porphyry-related systems along a sub-circular fracture zone with exploration targets of several tens of Km^2. Recent

(post 1988) understanding of gold peripheral enrichments, normally accompanied by silver, further enhance these exploration targets and elevate Tombstone into the ranks of attractive gold exploration situations.

The following paragraphs develop that concept.

A Model for Caldera Formation and Multiple Zoned Porphyry-Copper-Related Precious Metal Hydrothermal Systems

Improved understanding of the extrusive volcanic environment and of associated intrusive systems, and the relationship of both to convective hydrothermal cells, allows better understanding of the mineral systems within the Tombstone Mining District (Figures 21 & 22). We have known for two decades that porphyry systems are zoned laterally as well as vertically (Figures 23, 24 & 25). Further, the surface expressions of porphyries appear to be volcanic edifices (Figures 23). It appears, at least in the southwestern USA, that porphyries can be associated with caldera complexes, and that the Tombstone volcanic terrain is such a Laramide caldera complex (Briscoe, 1982 & Lipman & Sawyer, 1985). The remaining volcanic tuff - the Uncle Sam tuff - is an intracaldera tuff, but the tuff outside the caldera rim, however thick, appears to be completely eroded away.

From a variety of evidence including characteristic alteration zoning, mineralization zoning, and geochemical halos, there are several porphyry centers within and around the Tombstone caldera complex. The geologic developments of this last decade suggest that additional porphyry centers may be recognized as the details of the geologic picture unfold.

The most compelling evidence for such porphyry centers is the regional geochemical pattern derived from the district-wide sampling conducted by Newell (1974). That data, re-compiled by Briscoe and Waldrip (1982), is presented here as Figures 6 through 15. It shows characteristic porphyry copper metal zoning of Cu-Mo 'high' areas surrounded by lead-zinc-silver halos, most strikingly apparent when Mo is presented with Zn (Figure 11).

When the geochemical data from Newell are combined with data from geologic mapping, aeromagnetic surveys, drill information, metal production, observations of surface characteristics, and color air photo interpretation, it can be deduced that 'porphyry' centers are present at:
(1) the main Tombstone district, the porphyry center under the southeast corner of the Tombstone townsite; (2) the State of Maine mine area; (3) the Robbers' Roost breccia pipe area; and (4) because the mesquite tree geochemical anomalies are similar, the Johnson Ranch area in the southeast part of the district, adjacent to the caldera.

PROPOSED EXPLORATION

The actual target claim blocks to be examined by JABA and Excellon are blocks either staked or acquired by JABA over a period of several years between 1980 and 1993. There are five prime areas, the Walnut Creek, the Prompter Ridge, the State of Maine Escapule, the Johnson Ranch, and the Robbers' Roost lease groups.

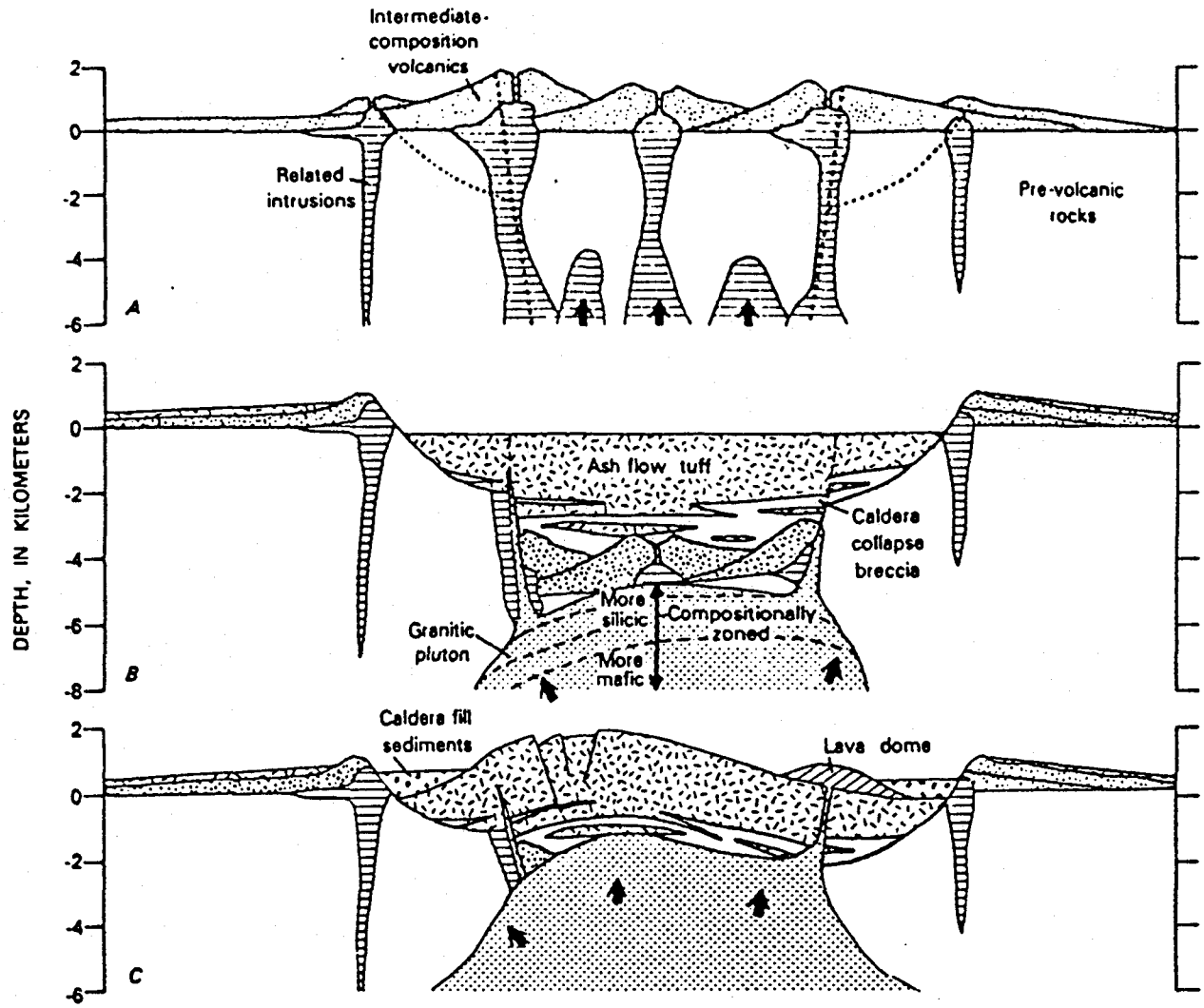
SUMMARY OF TOTAL RECORDED PRODUCTION AT TOMBSTONE
1879 TO 1937
CALCULATED TO CURRENT VALUES - $400 GOLD, $10 SILVER, $1.00 COPPER, $.50 LEAD, $.40 ZINC

SOURCE & YEAR	TOTAL VALUE OF PRODUCTION IN YEAR PRODUCED	CALCULATED OUNCES OF GOLD PRODUCED	VALUE AT $400/OZ.	CALCULATED OUNCES OF SILVER PRODUCED	VALUE AT $10/OZ.	CALCULATED POUNDS OF LEAD PRODUCED	VALUE AT $.50/LB.	CALCULATED POUNDS OF COPPER PRODUCED	VALUE AT $1.00/LB.	CALCULATED POUNDS OF ZINC PRODUCED	VALUE AT $.40/LB.	TOTAL CURRENT VALUE OF PRODUCTION
J. B. TENNEY												
1879 TO 1907	28400000	192356	76942400	24338159	243381590	31805070	15902535	NRP*	NRP	NRP	NRP	336226525
MINERAL RESOURCES OF THE UNITED STATES												
1908 TO 1934	8138571	57971	23188400	6659692	66596920	23767829	11883915	2358495	2358495	1058234	423294	104451023
TOMBSTONE DEVELOPMENT TOMBSTONE MINING CO'S.												
1935 TO 1936	564437	6375	2550000	390305	3903050	3197305	1598653	157536	157536	NRP	NRP	8209239
TOMBSTONE EXTENSION												
1930 TO 1937	374972	1083	433056	1080491	10804907	6335734	3167867	NRP	NRP	NRP	NRP	14405829
TOTAL	37477980	257785	103113856	32468647	324686467	65105938	32552969	2516031	2516031	1058234	423294	463292616
AVERAGE/TON**		0.21	82.22	25.89	258.90	51.91	25.96	2.01	2.01	0.84	0.34	369.42

*NO RECORDED PRODUCTION

**TOTAL TONNAGE ASSUMED TO BE - 1254097

Figure 20: Metal Production and Average Grade Per Ton at Tombstone, 1879 to 1937



A generalized ash flow caldera cycle. These diagrams incorporate many common elements of ash flow calderas; complex possible alternative scenarios are discussed in the text. (*a*) Precollapse volcanism. Clustered intermediate-composition stratovolcanoes grow over isloated small high-level plutons that mark beginning of accumulation of batholithic size silicic magma body that will feed ash flow eruptions. Uplift related to emplacement of plutons leads to development of arcuate ring fractures: site of subsequent caldera collapse indicated by dotted lines. Heavy arrows indicate upward movement of magma. (*b*) Caldera geometry just after ash flow eruptions and concurrent caldera collapse. Central area of clustered earlier volcanoes caves into collapsed area. Intracaldera tuff ponds during subsidence and is an order of magnitude thicker than cogenetic outflow ash flow sheet. Initial collapse along ring faults is followed by slumping of oversteepened caldera walls and accumulation of voluminous collapse breccias that interfinger with ash flow tuff in the caldera fill sequence. Caldera floor subsides asymmetrically and is tilted to the left side of diagram. Main magma body underlies entire caldera area and is compositionally zoned (or was prior to eruptions), becoming more mafic downward. (*c*) Resurgence and postcaldera deposition. Resurgence is asymmetrical, with greatest uplift in area of greatest prior collapse. Extensional graben faults form over crest of the dome. Some resurgent uplift is accommodated by movement along the ring faults in the sense oppposite that during caldera subsidence. Magma body has risen into volcanic pile and intrudes cogenetic intracaldera welded tuff. Original caldera floor has been almost entirely obliterated by rise of the magma chamber to near the level of prevolcanic land surface. Caldera moat is partly filled by lava domes and volcaniclastic sediments. Hydrothermal activity and mineralization become dominant late in cycle.

Figure 21: Generalized Ash Flow Caldera Cycle - Peter Lipman

tains, base- and precious-metal veins are widespread (Drewes, 1971a), and the potential for concealed mineralization seems high.

TOMBSTONE-CHARLESTON AREA

The Uncle Sam Porphyry, considered intrusive rhyolite by Gilluly (1956), was identified as a 74 Ma welded tuff by Drewes (1971b, p. 75). Our observations (Fig. 2D) confirm previous suggestions of a possible Cretaceous caldera in this area (Drewes, 1980, section D-D'; J. A. Briscoe, 1982, written commun.). The Tombstone-Charleston area contains a little-deformed caldera-fill assemblage 15 by 20 km across, including intracaldera Uncle Sam tuff and associated collapse breccia, intruded by the 76 Ma Schieffelin Granodiorite. Exposed granodiorite is postulated to

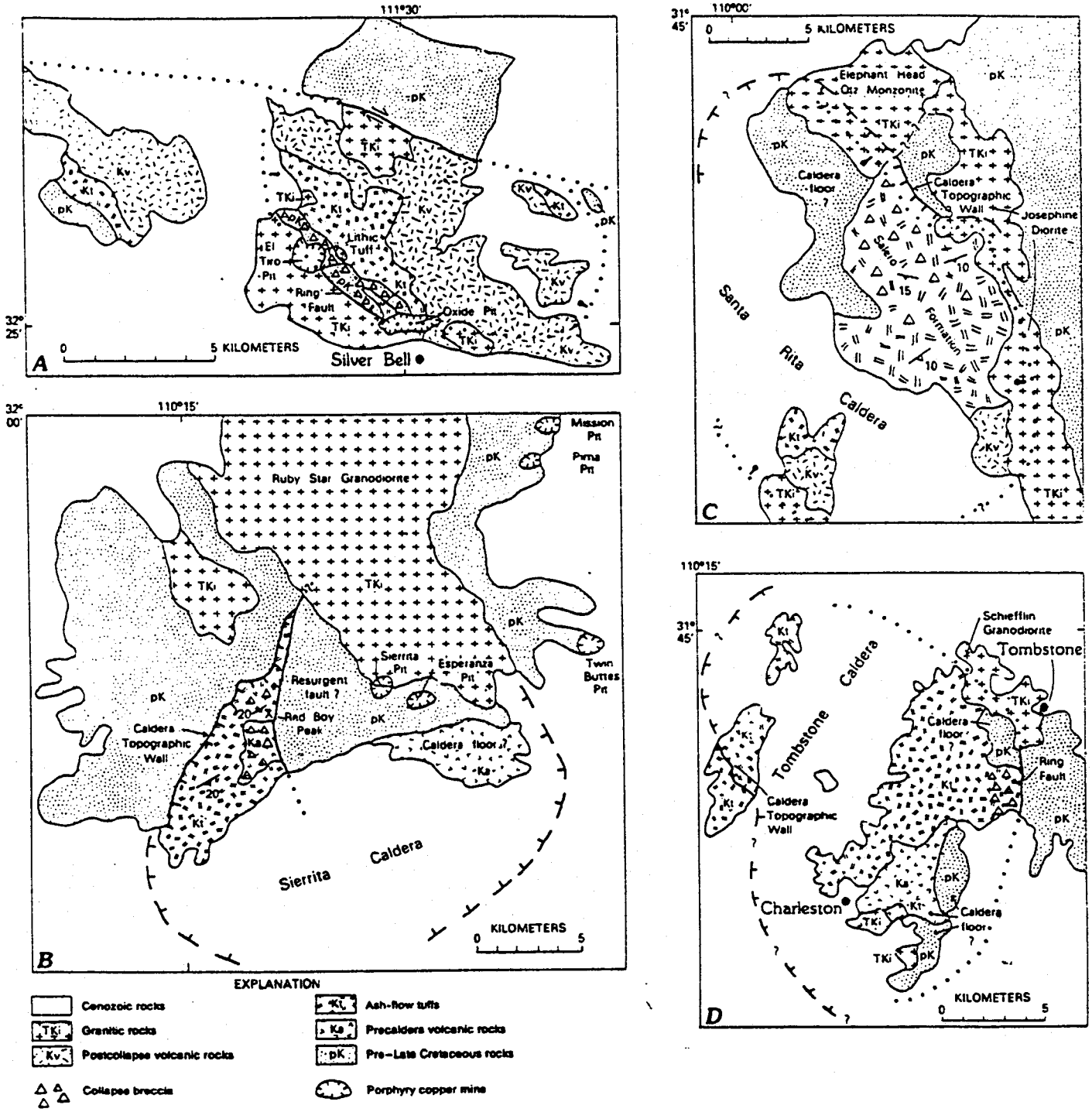
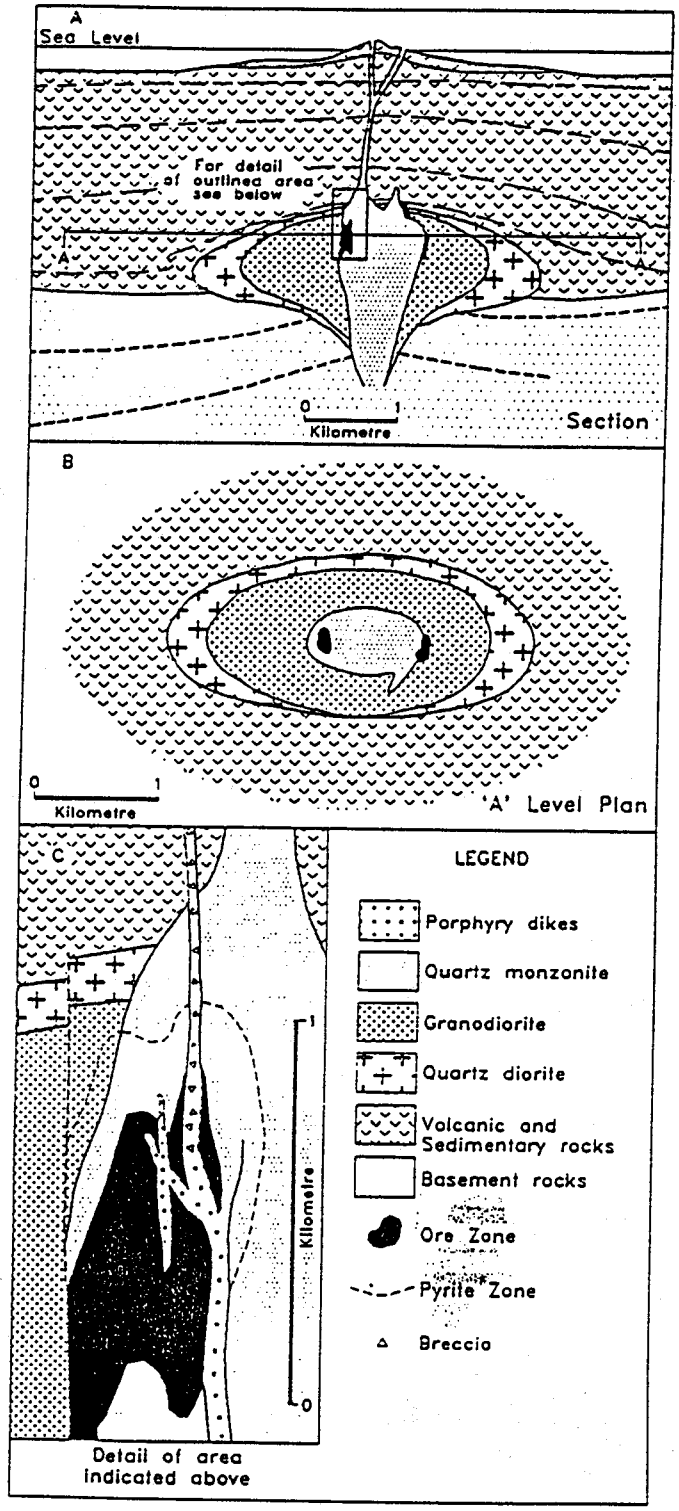
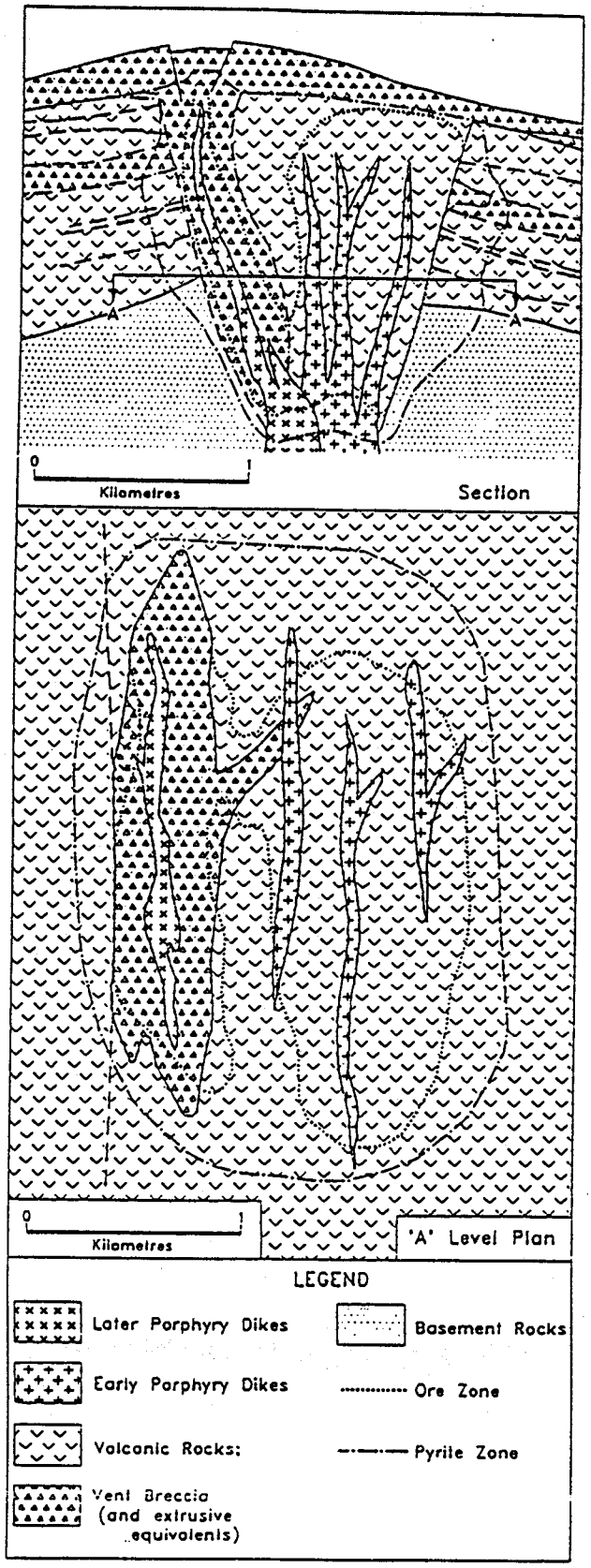


Figure 2. Generalized geologic maps of areas interpreted as containing fragments of Late Cretaceous calderas (most regional structures omitted). A: Silver Bell Mountains, Arizona (from D. A. Sawyer, in prep.). B: Southern Sierrita Mountains (modified from Cooper, 1973). C: Southwest Santa Rita Mountains (modified from Drewes, 1971a). D: Tombstone-Charleston area (modified from Gilluly, 1956; Drewes, 1980).

Figure 21b: Tombstone Caldera with Three Other Porphyry Copper Associated Calderas, SE AZ - Lipman and Sawyer



Model of Cordilleran plutonic-type porphyry copper deposits (after Sutherland Brown, 1976).



Model of Cordilleran volcanic-type porphyry copper deposits (after Sutherland Brown, 1976).

Figure 22: Models of Plutonic and Volcanic Porphyry Coppers

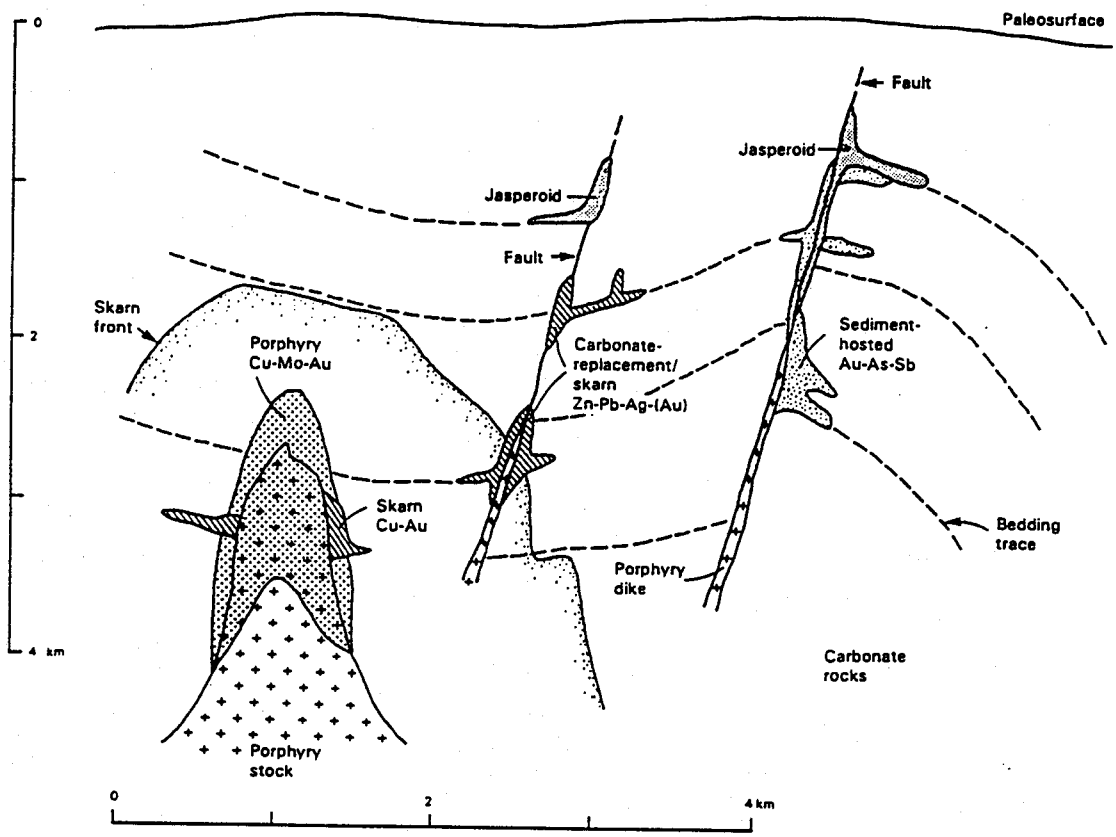
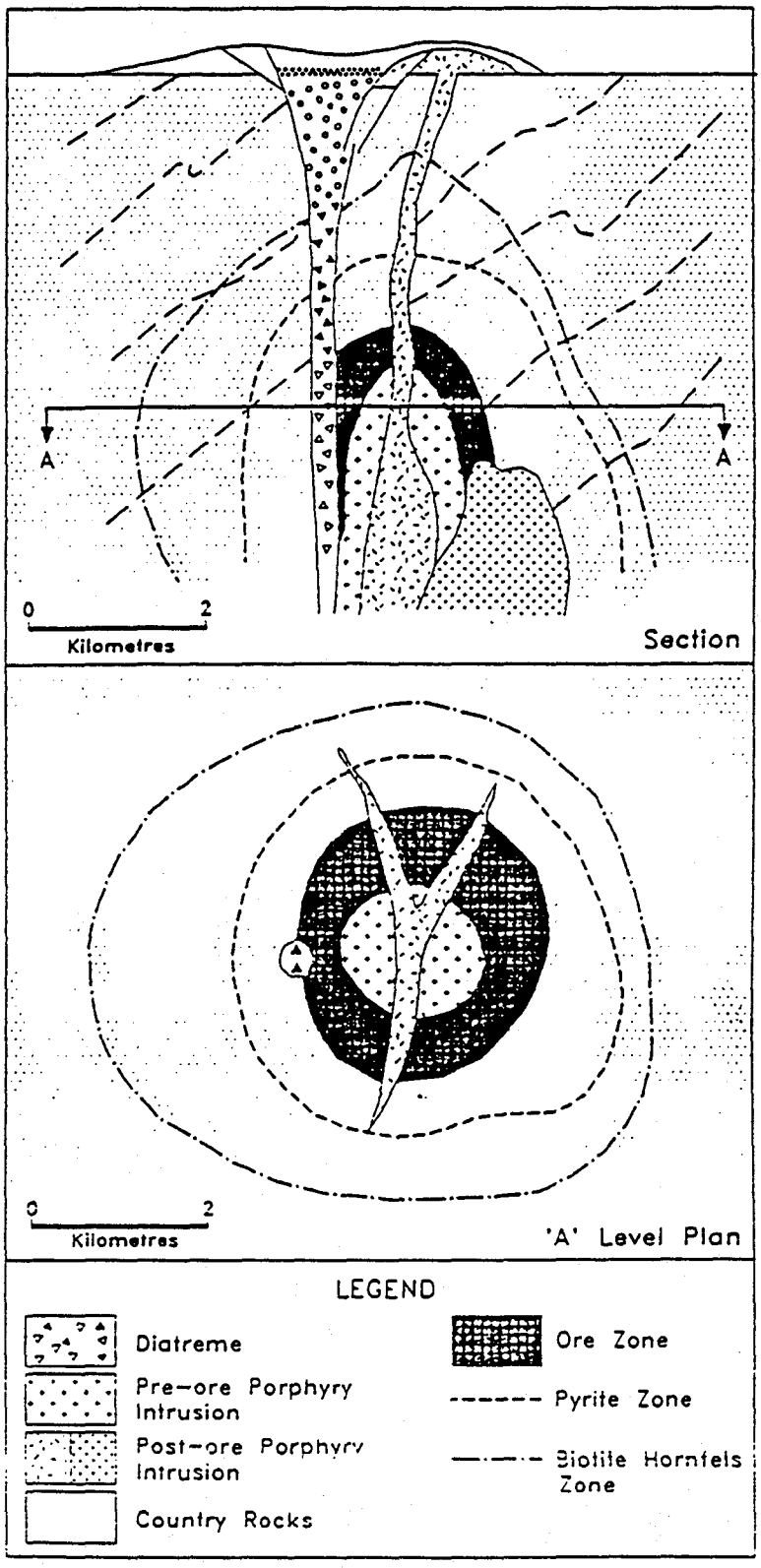


Figure 3. Schematic model to illustrate typical position of sediment-hosted gold deposits on peripheries of intrusion-centered base- and precious-metal districts.

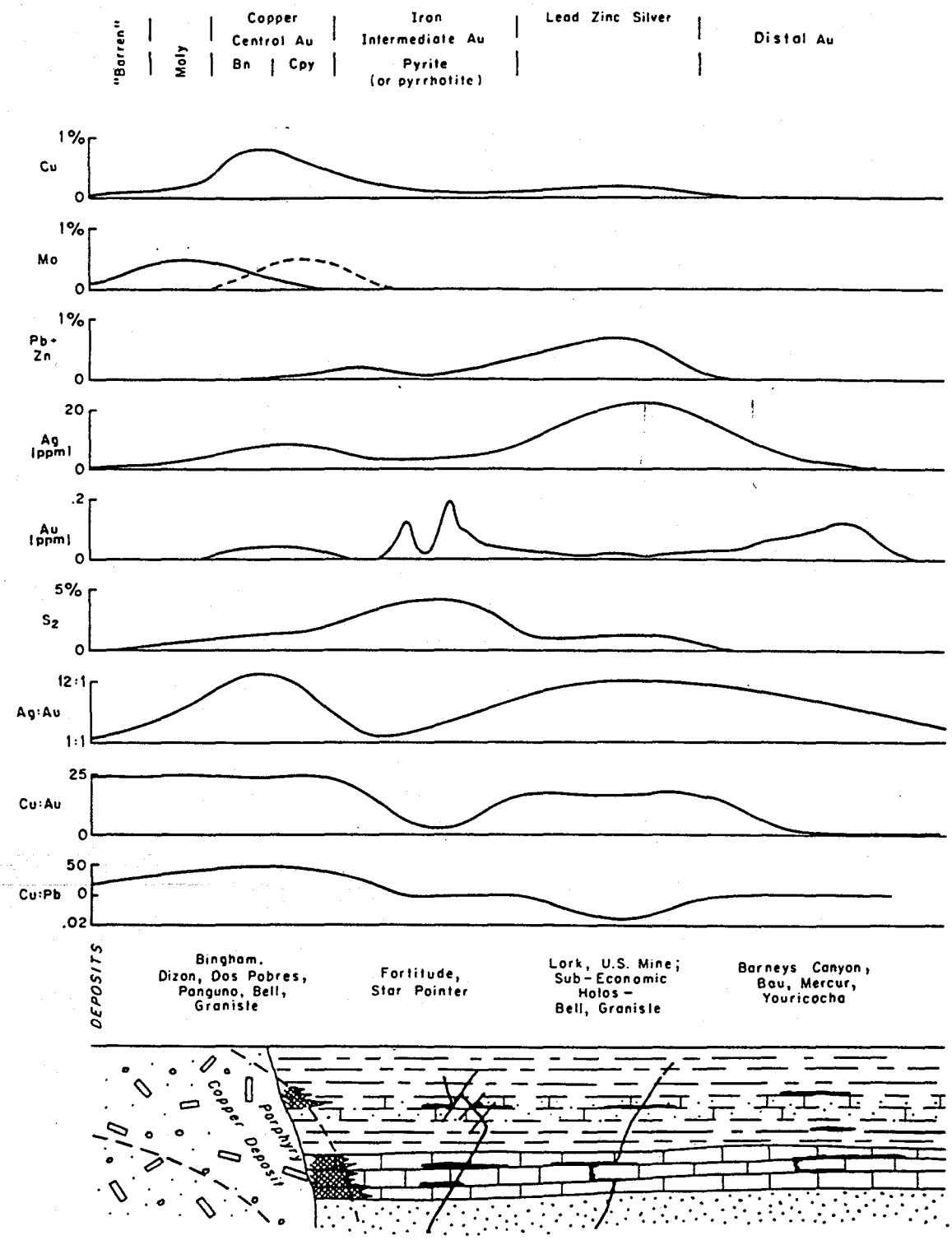
GEOLOGY, February 1990

Figure 23: Schematic Model of Possible Links Between Porphyry Districts and Sediment-Hosted Gold Deposits



Model of Cordilleran classic-type porphyry copper deposits (after Sutherland Brown, 1976).

Figure 24: Model of Classic-Type Porphyry Copper Deposits



Generalized zoning model for gold-enriched porphyry copper systems showing changes in metal concentrations and metal ratios with distance from the source intrusion. All element concentrations are in ppm, unless "%" shown. Ag:Au is ppm Ag/ppm Au; Cu:Au is %Cu/ppmAu; and Cu:Pb is %Cu/%Pb.

Figure 25: Generalized Zoning Model for Gold Enriched Porphyry Copper Systems

The Walnut Creek group has no bedrock outcrop, but it is staked over and near a geochemically-geophysically-geologically projected porphyry-copper center. The Prompter Ridge has moderate outcrop and is of porphyry-distal gold-silver interest. The State of Maine-Escapule has moderate outcrop and excellent subsurface data and is a distal porphyry target, and the Johnson Ranch is similar to Walnut Creek. The recently discovered Zebra Project resource of gold mineralization in Paleozoic limestones distal to the claim areas - near the airport (Figure 3) - adds to the project feasibility. An ongoing USMX drilling project immediately west of the Contention pit is designed to intersect projections of fold-fault-shear structures known from old workings and the literature to be mineralized along strike; the project also reflects a new exploration strategy in which gold, rather than silver, is the prime economic target.

The following paragraphs describe the JABA-Excellon claim blocks and exploration strategies in greater detail.

The Main Tombstone District - Walnut Creek Porphyry Center (Block 1) and Prompter Ridge Distal Gold Target (Block 2)

The main Tombstone district has produced approximately 1/3 of a billion modern dollars worth of gold, silver, lead, copper, zinc, and manganese. A zoning pattern is apparent from production and alteration-mineralization studies. High manganese-silver mineralization characterized the outer arcuate rim of mines from northwest to southeast, including the Lucky Cuss, Prompter-Oregon, Emerald, and Bunker Hill. As one moves from the outer manganese zone toward the southeast corner of the townsite, Mn decreases while Zn, Cu, silica, Au, F, and Mo increase (Figures 6-11). Because of cover, the central zone porphyry, if it exists, is never seen. The bedrock into which the mineral system is presumed to have been emplaced is composed of a thick section in all directions of 2 Km of Paleozoic carbonates capped by an unknown remaining thickness of Cretaceous clastics of the Bisbee formation. Before its erosion, a blanket of unknown thickness of extracaldera Uncle Sam tuff capped the Laramide erosion surface on the Bisbee sediments. It would be expected that such a porphyry mineral system would consist of skarn alteration of the carbonates proximal to the mineral center along with carbonate replacement bodies of massive sulfides of zinc, lead, and perhaps at some depth copper and molybdenum. The record of such mineralization is an exploration objective, but what we do know is compelling. Exploration by Eagle Pitcher Mining Co. in the 1950's discovered massive sphalerite galena-silver bodies (Burton Devere, pers. comm. to Briscoe, 1982), and production of this type of material from the Jeanes Roll was documented by Butler & Wilson. Ransome's unpublished notes from his first investigations in the district in 1914 contain comments about pervasive calc-silicate alteration of the Naco limestone on the 600 ft level of the Contention mine.

Although the suspected Walnut Creek porphyry center is under cover, zonation of precious metals in exposed rocks around the projected porphyry center is similar to recently recognized haloes around better exposed porphyries (Figure 25). Excellon Resources, as part of its exploration campaign in the Tombstone area, contracted for new orthophotography at 1" = 2,000'. It is apparent on this new photography that the Prompter fault is not straight as it has been mapped previously, but rather is concave to the north. It lines up with the north- to northeast-concave Lucky Cuss fault system. The combination of the two faults describes an arcuate structure the centroid of which is the projected Walnut Creek porphyry center. These faults localize manganese-silver mineralization that may

reasonably be interpreted as the outer part of a porphyry alteration zonation.

Recent gold discoveries at Chimney Creek, Bingham Canyon, and the adjacent Barney's Canyon and studies on these and other areas by Osterberg and Guilbert (1989), Sillitoe and Bonham (1990), and Schuh and Guilbert (1993) show that there can be a distal gold zone around porphyry systems hosted by carbonate and pelitic sedimentary rocks. According to Sillitoe and Bonham (1990) these gold halos occur up to a radius of 5 Km away from the porphyry center. Mineralization can consist of little besides gold and minor silica as jasperoid. Volatile metals such as mercury and arsenic may be present geochemically. The inner portion of this outer gold zone may be the outer manganese zone (pers. comm., Sillitoe, 1992), which is also present as a halo around Bisbee, Ruth-Ely, San Manuel, and elsewhere. Such an outer gold zone appears to have been discovered by Santa Fe Pacific Mining in the spring of 1992 in the area south of the Prompter mine. Another significant occurrence of the distal Tombstone gold zone is at the Zebra Property which lies just south of the Tombstone airport. There, disseminated invisible Carlin? style gold of up to an ounce per ton on the surface is disseminated in the Upper Paleozoic Naco formation. The Zebra Property is about 5 Km from the projected porphyry center in the southeast corner of Tombstone.

These targets were recognized by Briscoe circa 1980, and at that time Walnut Creek, Block 1, consisting of 55 unpatented lode mining claims, and Prompter Ridge, Block 2, consisting of 48 lode mining claims, were staked (Attachment 1). Block 1 covers the area of the projected porphyry copper center while Block 2 covers area prospective for distal gold mineralization south of the Prompter fault.

The Johnson Ranch Porphyry Center (Block 3)

This block is comprised of 66 unpatented lode mining claims totalling 1,366 acres (Attachment 1). The claims are staked over a silver-molybdenum anomaly defined by Newell (1974) in his mesquite twig geochemical sampling (Figures 12 & 15), a pattern similar to that over the main Tombstone porphyry center. The suggestion is that there may be another Tombstone-like porphyry system in the Johnson Ranch area. If so, it is hidden beneath Quaternary soil and alluvium. Molybdenum and copper in mesquite tree new growth, whose roots probe as deep as 80m, have been a recognized geochemical exploration tool since 1970 studies in the Pima Mining District south of Tucson and elsewhere, showed such anomalies to reflect the presence of porphyry ore bodies. Silver goes along with molybdenum geochemically and reinforces the anomaly at Johnson Ranch.

State of Maine-Escapule Porphyry Center (Block 4)

The State of Maine mine area and an area within a radius of about 2 Km around the State of Maine shaft appears to be another porphyry center. Again the most compelling evidence is Newell's geochemistry data, which shows a significant molybdenum anomaly over this area (Figures 10 & 11). Mapping shows wide hydrothermal veins in Uncle Sam tuff. Vein area (length x width of mapped veins) is greater than in the Tombstone center. An apophysis of rhyolite near the State of Maine mine may be the top of a porphyry body.

Outcrops in the immediate State of Maine mine area are intracaldera Uncle Sam tuff, the type locality being Uncle Sam Hill adjacent to the State of Maine mine. Alteration at the surface is

INTERPRETIVE CROSS SECTION OF THE STATE OF MAINE MINE AREA
SCALE APPROXIMATELY 1 INCH = 300 FEET

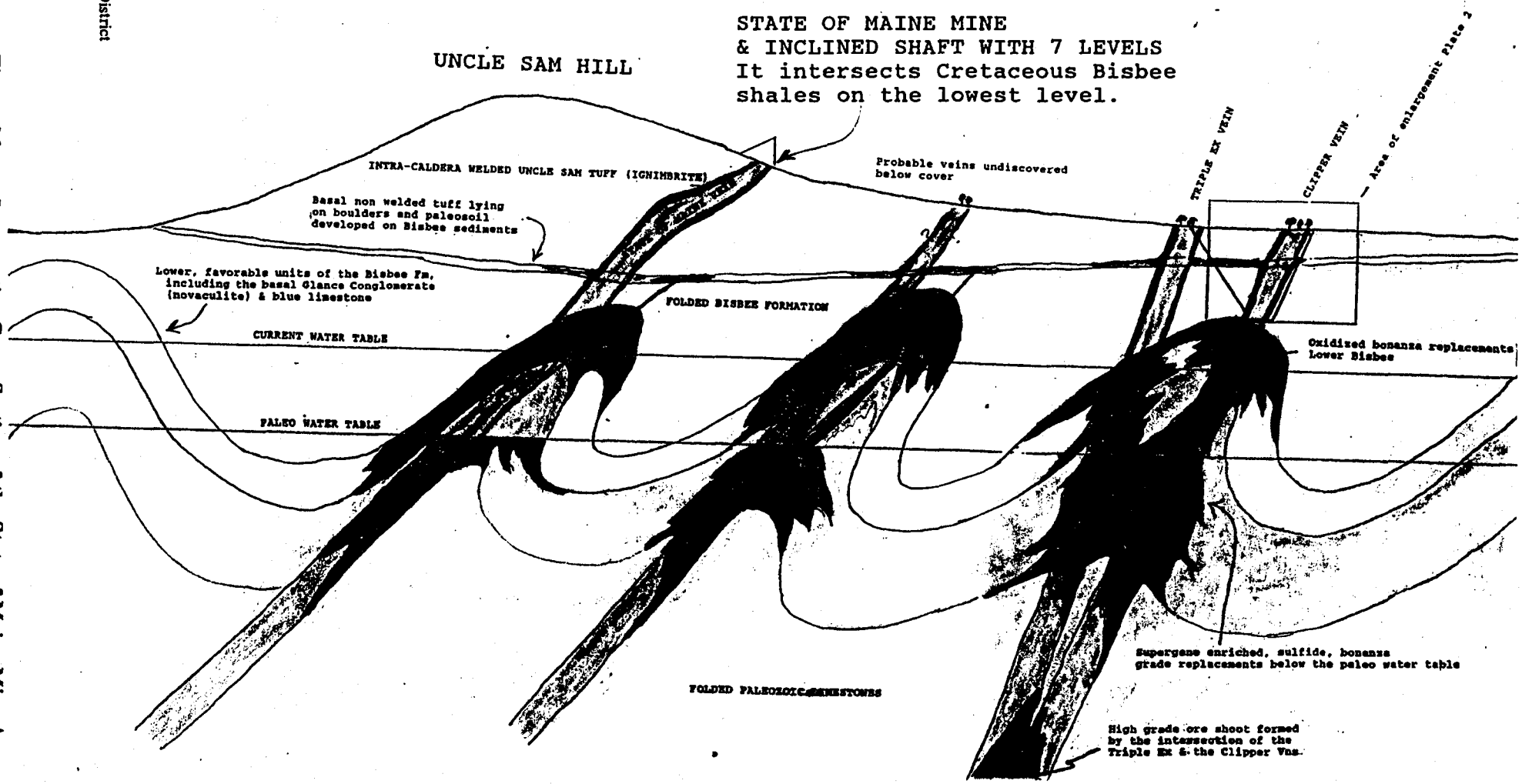


Figure 26: Interpretive Cross-Section of the State of Maine Mine Area

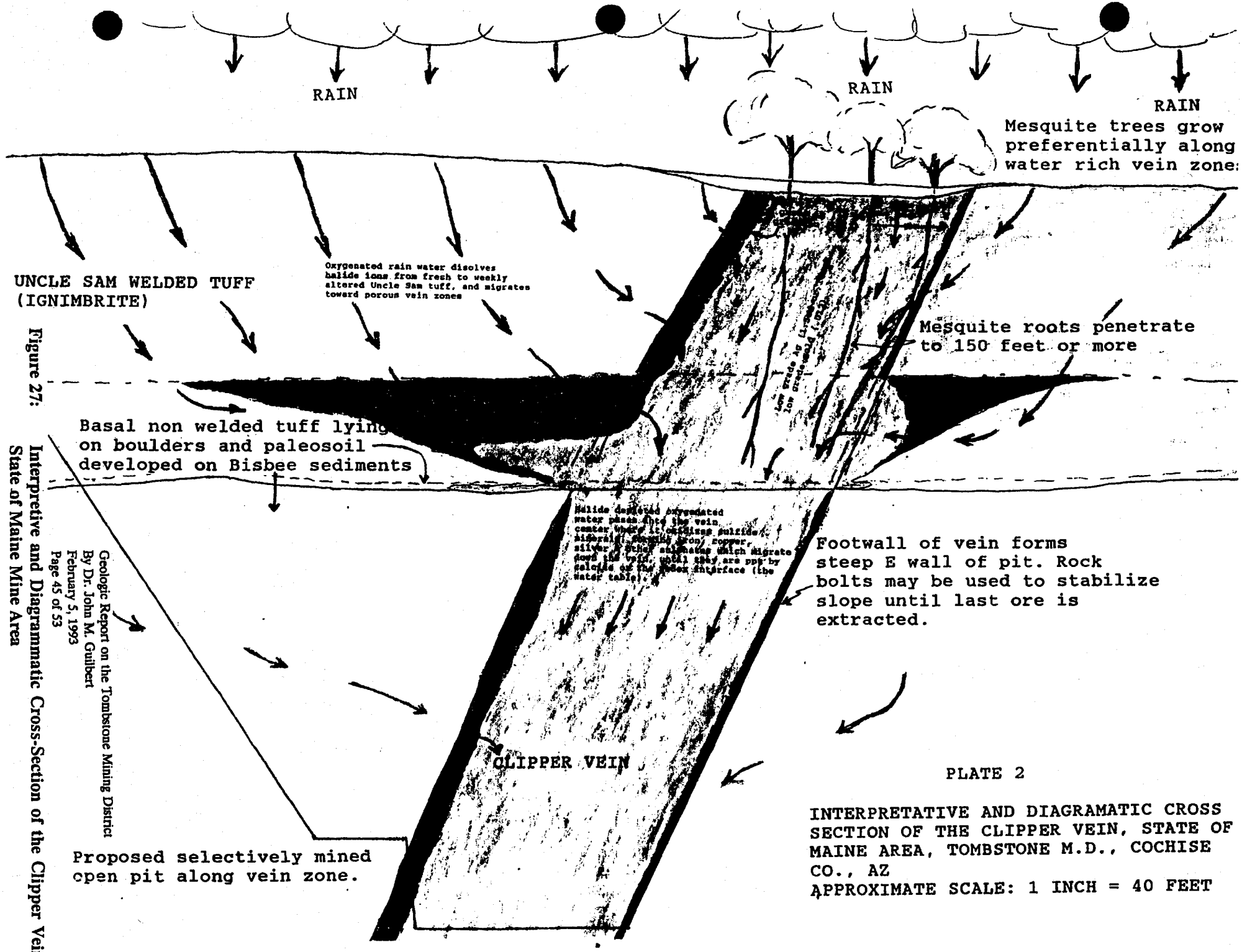


Figure 27: Interpretive and Diagrammatic Cross-Section of the Clipper Vein, State of Maine Mine Area

Geologic Report on the Tombstone Mining District
By Dr. John M. Guilbert
February 5, 1993
Page 45 of 53

different than that exposed in the main part of the Tombstone district. Phyllic alteration predominates along wide vein zones such as along the State of Maine vein on the 2nd level, which is 60m wide. Leached capping from these vein zones appears similar to that of porphyry copper leached capping elsewhere. This material has never been drilled to the sulfide zone; the mineral content in the sulfide zone is thus unknown. However, copper sulfate (chalcanthite) in the walls of the State of Maine underground workings at and below the #2 level attest to the presence of copper in the rock. As in the Tombstone center, manganese, silver, and gold are ubiquitous, but their depositional mechanisms are not well known. A mechanism illustrated in cartoon fashion (Figures 26 & 27) is thought to account for the enriched bonanza ore mined in the Tombstone center, as well as the potential for the same in the State of Maine center.

JABA has acquired by lease three groups of claims, the West Fox, the Solstice, and the Misy, comprising 78 unpatented lode mining claims that make up Block 3 (Attachment 1). Block 3 surrounds the State of Maine patented lode claims. These patents are the only asset of a bankrupt corporation. Several mineralization modes involving replacement and open space filling may well pertain.

Robbers' Roost Breccia Pipe (Block 5)

Located in the SE1/4 of Section 30 and the N1/2 of the SW1/4 of Section 29,, and held under Arizona State Prospecting Permit (Attachment 1), the Robbers' Roost Breccia Pipe is a northeast-elongate elliptical area approximately 800m by 500m of outcropping breccia pipes and dikes of heterolithic, clast-supported, well-rounded fragments showing extensive phyllic alteration. Fragments are primarily crystal rich Uncle Sam tuff, intrusive into the same rock. Almost spherical, well-rounded golf-ball- to tennis-ball-sized fragments of quartzitic sedimentary rock are probably derived from the underlying Bisbee formation. The intruded Uncle Sam tuff is intensely fractured, with up to 60 fractures per meter over large areas. These fractures are lined with limonite-jarosite (goethite-hematite) and define a leached capping typical of igneous-hosted porphyry copper alteration zones in this climate zone. Interpretation of this leached capping suggests that pyrite is predominant, probably with supergene chalcocite coatings in the sub-outcrop. The pipes are generally siliceous and hold up the small knolls and hills in the area. The phyllically altered tuff on the other hand is relatively soft and comprises low areas, valleys, and arroyos in the alteration zone. The creeks and washes in which the alteration assemblages are exposed are ideal targets for quantitative alteration mapping and analysis.

The area is included in Newell's high copper and moly anomaly (Figures 9 & 10). Three deep holes, 1300m, 1650m, and 1000m, were drilled in the zone by ASARCO in 1973 and 1974. Briscoe's examination of core from these holes showed that they intercepted indications of a porphyry system. These indicators include multi-textured granodiorite to quartz monzonite porphyries that have not been mapped in outcrop, phyllic alteration, fluidized breccias grading into potassic alteration including secondary K-feldspar and biotite, and purple anhydrite. Mineralization included low grade but disseminated chalcopyrite and molybdenite. Some chalcocite was cut below the leached cap in one hole. Not all the core was split and analyzed and logging was substantially overgeneralized by ASARCO with key alteration features not noted in the logs. Luckily, though this core was poorly stored and vandalized and in part destroyed, a significant part of it was recovered and re-boxed in 1985 and safely stored so that it can be re-logged. It may be that the ASARCO holes were not

positioned to penetrate the copper-moly portion of the mineral halo.

In the SE1/4 of Section 19 (Attachment 1), also held under an Arizona State Prospecting Permit, there is a wide vein zone showing extensive phyllic alteration and breccia dikes with the same golf-ball- to tennis-ball-sized rounded quartzitic fragments. This planar feature is 300m wide in the southeast corner of Section 19 and strikes 40^0 to 45^0 NE. It may be part of a major structure in the district as it appears to be either part of, or closely en echelon with, the State of Maine vein to the northeast and part of the Mustang vein-Charleston Lead mine vein to the southwest. Within the SE1/4 of Section 19 the vein appears to carry a few ppm silver. Cu and Mo assays have not been run. Shallow drill holes with the same silver content have been drilled to the water table at 33m without penetrating the leached capping and intersecting the sulfide zone.

The potential in the Robber's Roost (Block 5) is for several types of targets, essentially similar to the State of Maine zone. However, the top of the porphyry system is thought to be much nearer the surface at Robbers' Roost as evinced by fluidized breccias, more pervasive phyllic alteration, and much more extensive leached capping consistent with the potential of a chalcocite blanket beneath. Thus the exploration targets would include:

(1) A chalcocite blanket at about 50m, beneath limonite leached capping

(2) A sediment- or igneous-hosted porphyry copper deposit. Depth would probably preclude open pit mining. The center of such a copper porphyry could be offset from the exposed breccia pipe area.

(3) What is interpreted to be a manganese halo, similar to the one on the exposed perimeter of the Tombstone center, lies outside of the lease area in Section 32 and the SE corner of Section 29. A distal gold halo outside the manganese zone is a distinct possibility. An interior high gold zone (Figure 25) like that in the main Tombstone zone may be present within the Block 5 leases.

(4) Anticlinal saddle-reef-type silver-gold and carbonate replacement lead zinc ore like those of the main Tombstone center may also be present. Whether these are within economically mineable depths is a question that remains to be answered.

RECOMMENDED EXPLORATION PROGRAMS AND COST ESTIMATES

Basic Parameters

In the following recommended exploration programs for the various target zones, similar types of exploration tools have been used, based on the success of previous studies in the district and general familiarity with successful exploration techniques in the porphyry copper environment.

The most important and effective basic tool is accurate geology and zonal alteration characteristics plotted on accurate base maps. Geologic studies have been done by numerous geologists over the last century but the 1974 work by Newell gives good detail on the rock types in the district and shows the efficacy of biogeochemical phreatophyte (mesquite) twig sampling and rock chip sampling. Briscoe has designed several color air photo programs over the last 20 years that give complete coverage for the district, and in mid-October, 1992, Excellon Resources flew another color air photo campaign of Briscoe's design over the main Tombstone mining area, including the area of JABA's Block 1 and 2. This state-of-the-art photogrammetric survey makes available, in addition to color photography at scales of 1:36,000, and 1:12,500, an orthophoto mosaic at a scale of 1:24,000, traditional topographic map coverage over the same area at 1" = 200', with 5 ft contours in hard copy and computer disk as well as matching scale orthophotography, and a Digital Elevation Model (DEM) in computer format which provides for a 3-dimensional treatment of topography, geology and subsurface data. Using these detailed base maps, accurate outcrop geologic mapping and Quantitative Alteration Mapping can be done and then entered into the computer map data base.

Quantitative Alteration Mapping is a technique to show quantitatively the alteration mineral zoning that characterizes porphyry copper deposits and thus gives the investigator the ability to predict vectorially and in 3 dimensions the position of the porphyry copper system. I have developed this approach to alteration mapping over the past decade. We have recently used the technique with great effectiveness in evaluation of the Bajo De La Alumbera porphyry copper-gold deposit in Argentina (and elsewhere), both for surface mapping and down-hole logging. 'Alteration mapping', and 'alteration logging' of drill hole cuttings in the following exploration plan and cost estimate, will refer to the Quantitative Alteration Mapping technique.

Color air photo interpretation will be used to augment surface mapping. Remote sensing techniques using space imagery and the color air photos scanned into the computer may be used to augment traditional air photo interpretation. The digital information from the remote sensing can be combined with the digital orthophoto maps at any appropriate scale, or combined with the DEM model and geology, geochemistry, geophysics or any other thematic mapping or combination thereof.

Remote sensing geochemistry, i.e., geobotanical and soil sampling, may be of use in all 5 areas. Geobotanical sampling would be of deep rooted phreatophyte desert plants, including mesquite, cat's claw (acacia), and creosote bush (greasewood). Soil gas geochemistry including mercury and radon using track etch cups may be productive. Mercury and radon can rise through a significant thickness of cover, and uranium-radon anomalies are normal in porphyry systems. Radon might closely pinpoint the copper zone.

Biogeochemical plant twig samples will be taken at 1/4 mile intervals or 16 samples per square mile. Soil samples will be taken at the same intervals, but probably between each plant sample. Where outcrop is available, rock chip samples will be taken at 500 foot intervals, except over the Robbers' Roost Breccia Pipe outcrop area which will be sampled at 250 foot intervals. All samples, including drill cuttings, will be subjected to the same type of extremely low detection level analytical techniques, which include ICP and Graphite Furnace AA (GFAA). These methodologies will give the following detection limits: Plant ash (30 gm aliquots) gold 0.05 ppb, silver 1 ppb, copper 5 ppb, Mo 5 ppb; Soil (15 gm aliquots) gold 0.2 ppb, silver 3 ppb, copper 10 ppb, Mo 20 ppb; Rock chips (5 gm aliquots) gold 0.5 ppb, silver 15 ppb, copper 50 ppb and Mo 100 ppb. Twelve additional

elements will be run on all samples and include As, Bi, Cd, Ga, Hg, Pb, Sb, Se, Sn, Te, Tl, and Zn. Recent studies suggest that metal ions migrate through bedrock into post mineral soil cover, along electrical current lines of self potential caused by oxidizing sulfides, and are detectable by these low level techniques. This would be a natural phenomenon capitalized on in the Russian electrogeochemical technique CHIM. Evidence suggests that mineral bodies can be detected through more than 100m cover. In the following cost estimates, where cost per sample is quoted, these are " all in " costs and include all sample collection costs including mobe and demobe, travel, food and lodging, field crew and supervision, base maps, sample bags, shipping, sample preparation and assay costs,. The "all in" cost per biogeochemical and soil samples at the designated spacing is $36.55 per sample. For rock chip samples the "all in" cost is $23.65.

Electrical-method geophysics across the zones should be able to identify specific drill targets. Controlled Source Audio Frequency Magneto Tellurics (CSAMT) may be able to give detail, while Induced Polarization (IP) would detect broad areas of disseminated sulfide mineralization. The approximate cost of the above electrical methods of assumed adequate detail in this area is about $5,000 per square mile. Detailed magnetic profile lines run across the zone may be helpful also. The approximate cost of ground magnetics is $2,000 per square mile. The Walnut Creek and Johnson Ranch blocks should be especially appropriate for geophysical techniques.

Drilling proposed for these projects is reverse circulation drilling using either a down-the-hole hammer or a tricone bit. The only exception to this is the Walnut Creek area "Scout Holes" which are designed to penetrate an expected average of 200' of post mineral cover and drill 50 feet into bedrock to sample for rock and alteration type and obtain geochemical samples. Here regular circulation will be used at a substantial cost savings - a direct drilling cost of $5 per foot. In all cases, dry drilling using air circulation will be used above the water table unless hole conditions dictate the use of water and lost circulation materials, or dust is a problem. Air circulation will also be used below the water table. Reverse circulation direct drilling costs are expected to range from $6.35 to $9.00 per foot depending on depth. All drill footage costs in the following cost estimates are "all in" estimates and include supervision, travel, food, and lodging, sample collection and bags, geologic and computer logging, cutting board (Core Board) construction, sample shipment, sample preparation and assay costs for 16 element analysis.

Data reduction where used in the following cost estimates shall mean computer entry into the AutoCad model of the district, or entry into RockWorks Logger, CrossSect or other appropriate programs. These data can be transferred where appropriate to MedsSystem or other appropriate ore reserve estimating software.

Walnut Creek (Block 1)

The Walnut Creek porphyry center is completely but thinly covered by Recent alluvium and Quaternary Gila Conglomerate, so exploration techniques will have to be able to penetrate post mineral cover. The adjacent precious metal-lead-zinc-manganese halo that has been mined can yield important vectors to the porphyry center. Exploration procedures include:

1. Plotting past production by metal and metal ratios to establish metal zoning patterns.

2. Geochemical sampling along suspected vectors (or radii) to determine the relative abundances and ratios of Cu, Mo, Pb, Zn, Ag, Au, Hg, Mn, F and Te.

3. Quantitative alteration mapping to determine the distribution of characteristic alteration minerals and assemblages, including skarn, phyllic, argillic, propylitic, and potassic associations with various types of sulfide minerals.

4. Color photo interpretation to identify structures and coloration features not readily seen on the ground. Remote sensing techniques applied to the color aerial photography may be useful.

5. Geologic interpretation of data available from old mine records giving subsurface understanding of the third dimension, where applicable. Excellon as part of their study of the Tombstone Development Company portion of the Walnut Creek porphyry center has a substantial portion of the old mine data digitized into a 3 dimensional AutoCAD model. This project should be completed, with emphasis placed on metal and alteration zoning.

6. Geochemical sampling including biogeochemical, soil and rock chip in areas of outcrop. Radon track etch samples to pinpoint the copper zone will be considered.

7. Electrical - method geophysics across the zone and ground magnetics with profile lines radial across the porphyry center or in a grid if the center cannot be spotted.

The following budget for Phase I, II and III programs is:

Phase I	Data Compilation, Photo and Remote Sensing Interpretation, Geologic and Alteration Mapping	$ 27,120
Phase II	Geochemical Sampling, Geophysics and "Scout" Overburden Drilling.	$100,000
Phase III	Target Drilling to a depth of 1,000 ft with Reverse Circulation, - 8 Holes	$100,000
	Total for Phase I through III	$227,120

Prompter Ridge Distal Gold Target (Block 2)

Prompter Ridge lies on the south flank of the high angle reverse Prompter fault. Much of the area is outcropping marbleized upper Paleozoic limestone, i.e., lower Pennsylvanian Horquilla, and Mississippian Escabrosa. Soil predominates in the southeast portion in the direction of the known gold bearing Zebra Prospect in the same rock types. The limestones are cut by 63 my rhyolite dikes and sills. Some prospects are present and mapped fissures (veins) can be projected into the area from the Tombstone Extension area to the north. The productive Bunker Hill silver-manganese mine

lies on the northwest edge of the property block. Prompter Ridge lies on the outer periphery of the Tombstone Porphyry center and is thought to have potential for distal gold mineralization.

Exploration will be by soil and biogeochemical plant sampling and rock chip geochem sampling in areas of outcrop. Geologic and Quantitative Alteration Mapping will also be applied. Color air photo interpretation and remote sensing will be used to identify structure and alteration patterns not discernable from the ground.

After targets have been identified, ten 100 foot deep "Scout" holes will be drilled. Follow on will be ten 400 foot RC drill holes. As the terrain is relatively steep, road work and site preparation will be required.

The following budget for Phase I, II and III programs is:

Phase I	Biogeochemical and soil sampling over 9 square miles, rock chip sampling over 2.5 square miles, data reduction, interpretation and planning for Phase II.	$21,345
Phase II	Color air photo interpretation, & remote sensing, geologic and alteration mapping, data compilation, interpretation and design of phase III.	$24,100
Phase III	"Scout Drilling" - 10 drill holes to 100 feet, including road work and site prep.	$21,000
Phase IV	"Target Drilling" - 10 drill holes to 400 feet, including road work and site prep.	$54,000
	Total for Phase I through IV	$120,445

Johnson Ranch Biogeochemical Anomaly (Block 3)

Though less than 1.5 Km from outcrop at the northeast end, the Johnson Ranch is completely covered with post-mineral soil. Its location is based entirely on a molybdenum - silver biogeochemical (mesquite twig) anomaly from Newell's work. There is also a magnetic anomaly in the vicinity which is characteristic of porphyry copper alteration zones (verbal communication Dr. John S. Sumner, 1972), and was staked (but not drilled) by Sumner and the author.

Remote techniques will of necessity have to be used. These will include biogeochemical and soil sampling perhaps including soil gas sampling, electrical geophysics and ground magnetics. The geophysical surveys should give a good depth to bedrock indication, to determine the feasibility of drilling.

The following budget for Phase I, II, and III programs is:

Phase I	Electrical geophysics - CSAMT & IP, and ground magnetics.	$38,000
Phase II	Biogeochemistry and soil geochemistry	$14,036
Phase III	"Target" drilling - four 1,000 foot drill holes	$48,000
	Total for Phase I through III	$100,036

State of Maine - Escapule Porphyry Center (Block 4)

The State of Maine area, based on a variety of evidence previously cited, appears to be a porphyry center, with all zonal mineralization appurtenant thereto. Thus it is much like the Walnut Creek - Tombstone center, except that it is intracaldera and covered with pre-mineral Uncle Sam Tuff. Outcrop and soil cover are about equally divided. There is potential for near surface low grade ore, intermediate depth high grade ore and deep seated ore . The approach can be similar to the Walnut Creek - Tombstone center, except that there appears to be some shallow targets which could be drilled early on.

The following budget for Phase I, II, III, and IV programs is:

Phase I	Data compilation, interpretation, and drill program design.	$12,000
Phase II	Road work, site prep. and drilling for shallow precious metal targets. Five 400' drill holes.	$29,000
Phase III	Exploration to identify the position and attitude of the porphyry center. This will include geology and Quantitative Alteration Mapping, biogeochemical, soil and rock chip geochemical sampling, electrical geophysics and ground magnetics and data compilation, interpretation and Phase IV design.	$68,248
Phase IV	"Scout" drilling - one hole to 2,000 feet	$30,000
	Total for Phase I through IV	$139,248

Robbers' Roost Breccia Pipe (Block 5)

The Robbers' Roost breccia pipe is relatively well exposed along Robbers' Roost wash, but alteration plunges beneath shallow cover in all directions except west along the wash. The old ASARCO drill hole logs need to be studied and the remaining core re-logged, using Quantitative Alteration Mapping techniques. The geochemistry of the surrounding thinly covered areas must be determined using

biogeochemistry and soil sampling. Closely spaced (250 foot centers) rock chip sampling should be done in the outcrop areas. Detailed geology, Quantitative Alteration Mapping and leached capping interpretation mapping should be performed in the areas of outcrop to determine the lateral position of the outcrop in relation to the porphyry center, as well as pinpointing drill locations to test for chalcocite blanket mineralization. Though leached capping after sulfide minerals can be clearly seen in outcrop, electrical geophysical and ground magnetic mapping might aid in pinpointing contact areas, overall geometry, and deep drilling targets.

The following budget for Phase I, II, III, IV and V programs is:

Phase I	Surface geologic, Quantitative Alteration, and leached capping interpretative mapping, rock chip geochemistry, compilation of existing data and re-logging of remaining ASARCO core, interpretation and design of shallow drill program.	$22,331
Phase II	Shallow drill test for a chalcocite blanket - five 400 foot holes.	$24,000
Phase III	Broad biogeochemical and soil sampling to define the position of porphyry copper metal zoning and determine the potential presence of a distal gold zone.	$ 9,722
Phase IV	Electrical geophysics and ground magnetics	$22,000
Phase V	Deep "Scout" drilling - one hole to 2,000 feet.	$30,000
	Total for Phase I through V	$108,103
TOTAL FOR ALL PHASES OF ALL 5 BLOCKS		**$694,954**

This includes 30,500 feet of drilling at an all inclusive cost average of $22.79 per foot.

TOMBSTONE MINING DISTRICT
COCHISE COUNTY, ARIZONA
BIBLIOGRAPHY AND REFERENCES

Andreasen, G. E., Mitchell, C. M., and Tyson, N. S. (1965), Aeromagnetic map of Tombstone and vicinity, Cochise and Santa Cruz Counties, Arizona: United States Geological Survey Open File Report, June 11.

Anthony, J. W., Williams, S. A., and Bideaux, R. A. (1977), Mineralogy of Arizona: Tucson, University of Arizona Press, 255 pages.

Austin, W. L. (1883), Silver milling at Charleston, Arizona: Engineering & Mining Journal, v. 35, January 27, pages 44-46.

Blake, W. P. (1882a), The geology and veins of Tombstone, Arizona: American Institute of Mining and Metallurgical Engineering Translation, v. 10, pages 334-345.

(1882b), The geology and veins of Tombstone, Arizona--I: Engineering & Mining Journal, v. 33, March 18, pages 145-146.

(1882c), The geology and veins of Tombstone, Arizona--II: Engineering & Mining Journal, v. 33, March 25, page 157.

(1882d), Porphyry dike, Tombstone District, Arizona: Engineering & Mining Journal, v. 34, July 15, pages 29-30.

(1902), Tombstone and its mines - a report upon the past and present conditions of the mines of Tombstone, Cochise County, Arizona: private report to The Development Company of America, 82 pages.

(1904a), Mining in the southwest: Engineering & Mining Journal, v. 77, January 7, pages 35-37.

(1904b), Tombstone and its mines: American Institute of Mining & Metallurgical Engineering Translation, v. 34, pages 668-670.

Blanchard, Roland (1968), Interpretation of Leached Outcrops, Nevada Bureau of Mines Bulletin 66, Mackay School of Mines, University of Nevada, Reno.

Brinsmade, R. B. (1907), Tombstone, Arizona, restored: Mines and Minerals, v. 27, no. 8, pages 371-374.

Briscoe, James A. (1973), Interim geologic report on the Tombstone Mining District, Cochise County, with particular emphasis on the State of Maine Mine area: Private report to Sierra Mineral Management Company, 71 pages.

Briscoe, James A. and Waldrip, Thomas E. Jr. (1982), A Summary of the Tombstone Development Company Lands in the Tombstone Caldera Complex, Cochise County, Arizona - A Geologic Appraisal and Estimate of Mineral Potential, unpublished report to the Tombstone Development Company, Grand Island, Nebraska.

Butler, B. S., and Wilson, E. D. (1937), Structural control of the ore deposits at Tombstone, Arizona (abstract): Economic Geology, v. 32, pages 196-197.

(1938), Some Arizona ore deposits: Arizona Bureau of Mines Bulletin 145, pages 104-110.

(1942), Ore deposits at Tombstone, Arizona, in Newhouse, W.H., ed., Ore deposits as related to structural features: New York, Hafner Publications Company, pages 201-203.

Butler, B. S., Wilson, E. D., and Rasor, C. A. (1938), Geology and ore deposits of the Tombstone District, Arizona: Arizona Bureau of Mines Geologic Series No. 10, Bulletin No. 143, 114 pages.

Chapman, Thomas G. (1924), The Metallurgy of Chloride Ore From the State of Maine Mine in the Tombstone Mining District, M.Sc. Thesis, University of Arizona, 47 pages.

Church, J. A. (1882), The geology and veins of Tombstone, Arizona: Engineering & Mining Journal, v. 33, pages 218-219, 313.

(1883), Mines and Mills of the Tombstone Mill and Mining Company with Production and Expenses, Annual Report, March 31, 29 pages with attachments.

(1887a), Concentration and smelting at Tombstone, Arizona: American Institute of Mining and Metallurgical Engineering Translation, v. 15, pages 601-613.

(1887b), Concentration and smelting at Tombstone, Arizona: Engineering & Mining Journal, v. 43, April 16, pages 274-276.

(1902), Tombstone, Arizona, mining district: Engineering & Mining Journal, v. 73, April 26, page 584.

(1903), The Tombstone, Arizona, mining district: American Institute of Mining & Metallurgical Engineering Translation, v. 33, pages 3-37.

Clark, F. W. (1914), Water analysis (from the 1000-foot level, Contention mine, Tombstone, Arizona): United States Geological Survey Water Supply Paper 364, page 39.

Comstock, T. B. (1900), The geology and vein-phenomena of Arizona: American Institute of Mining & Metallurgical Engineering Translation, v. 30., pages 1038-1101.

TOMBSTONE MINING DISTRICT
COCHISE COUNTY, ARIZONA
BIBLIOGRAPHY AND REFERENCES

Andreasen, G. E., Mitchell, C. M., and Tyson, N. S. (1965), Aeromagnetic map of Tombstone and vicinity, Cochise and Santa Cruz Counties, Arizona: United States Geological Survey Open File Report, June 11.

Anthony, J. W., Williams, S. A., and Bideaux, R. A. (1977), Mineralogy of Arizona: Tucson, University of Arizona Press, 255 pages.

Austin, W. L. (1883), Silver milling at Charleston, Arizona: Engineering & Mining Journal, v. 35, January 27, pages 44-46.

Blake, W. P. (1882a), The geology and veins of Tombstone, Arizona: American Institute of Mining and Metallurgical Engineering Translation, v. 10, pages 334-345.

(1882b), The geology and veins of Tombstone, Arizona--I: Engineering & Mining Journal, v. 33, March 18, pages 145-146.

(1882c), The geology and veins of Tombstone, Arizona--II: Engineering & Mining Journal, v. 33, March 25, page 157.

(1882d), Porphyry dike, Tombstone District, Arizona: Engineering & Mining Journal, v. 34, July 15, pages 29-30.

(1902), Tombstone and its mines - a report upon the past and present conditions of the mines of Tombstone, Cochise County, Arizona: private report to The Development Company of America, 82 pages.

(1904a), Mining in the southwest: Engineering & Mining Journal, v. 77, January 7, pages 35-37.

(1904b), Tombstone and its mines: American Institute of Mining & Metallurgical Engineering Translation, v. 34, pages 668-670.

Blanchard, Roland (1968), Interpretation of Leached Outcrops, Nevada Bureau of Mines Bulletin 66, Mackay School of Mines, University of Nevada, Reno.

Brinsmade, R. B. (1907), Tombstone, Arizona, restored: Mines and Minerals, v. 27, no. 8, pages 371-374.

Briscoe, James A. (1973), Interim geologic report on the Tombstone Mining District, Cochise County, with particular emphasis on the State of Maine Mine area: Private report to Sierra Mineral Management Company, 71 pages.

Creasey, S. C., and Kistler, R. W. (1962), Age of some copper-bearing porphyries and other igneous rocks in southeastern Arizona: United States Geological Survey Professional Paper 450-D, pages D1-D5.

Damon, P. E., and Bikerman, M. (1964), Potassium-argon dating of post-Laramide plutonic and volcanic rocks within the Basin and Range province of southeastern Arizona and adjacent areas: Arizona Geological Society Digest, v. 7, pages 63-78.

Damon, P. E., and Mauger, R. L. (1966), Epeirogeny-orogeny viewed from the Basin and Range province: American Institute of Mining & Metallurgical Engineering Translation, v. 235, pages 99-112.

Devere, B. J., Jr. (1978), The Tombstone mining district; history, geology, and ore deposits, in Callender, J. F., and others, eds., Land of Cochise - southeastern Arizona: New Mexico Geological Society Guidebook, 29th Field Conference, pages 315-320.

Development Company of America (1911), Annual report: Engineering & Mining Journal, v. 92, July 8, page 61.

Drewes, Harald (1980), Tectonic map of southeast Arizona: United States Geological Survey miscellaneous investigation series, Map I-1109, 2 sheets, scale 1:125,000.

(1971), Mesozoic stratigraphy of the Santa Rita Mountains, southeast of Tucson, Arizona: United States Geological Survey Professional Paper 658-C, 81 pages.

Dumble, E. T. (1902), Notes on the geology of southeastern Arizona: American Institute of Mining & Metallurgical Engineering Translation, v. 31, pages 696-715.

Dunning, C. H. (1959), Rocks to riches: Phoenix, Arizona, Southwest Publication Company, Inc., 406 pages.

Eissler, M. (1901), Concentration of tailings at Tombstone, Arizona, in The Metallurgy of Silver, 5th Edition: New York, D. Von Nostrand Co., pages 103-111.

Engineering & Mining Journal (1878), General mining news: Engineering & Mining Journal, v. 26, October 19, pages 279-280.

(1879), General mining news: Engineering & Mining Journal, v. 27, May 31, page 392.

(1879), General mining news: Engineering & Mining Journal, v. 27, June 28, page 468.

(1879), General mining news: Engineering & Mining Journal, v. 28, August 16, page 112.

(1879), Answers to some inquiries concerning Arizona and Nevada mines: Engineering & Mining Journal, v. 28, November 1, pages 311-312.

(1879), Tombstone mining district, Arizona: Engineering & Mining Journal, v. 28, November 8, page 340.

(1879), Tombstone district, Arizona: Engineering & Mining Journal, v. 28, November 29, page 393.

(1880), General mining news: Engineering & Mining Journal, v. 29, March 20, page 204.

(1880), General mining news: Engineering & Mining Journal, v. 29, March 27, page 221.

(1880), General mining news: Engineering & Mining Journal, v. 29, April 3, page 238.

(1881), General mining news: Engineering & Mining Journal, v. 31, April 9, page 252.

(1881), Tombstone, Arizona: Engineering & Mining Journal, v. 31, May 7, pages 316-317.

(1882), General mining news: Engineering & Mining Journal, v. 33, March 18, page 147.

(1882), Official statement and reports--Tombstone Mill and Mining Co., Tombstone, Arizona: Engineering & Mining Journal, v. 33, May 6, page 234.

(1882), General mining news: Engineering & Mining Journal, v. 34, July 22, pages 46-47.

(1883), The Tombstone Mill and Mining Co., Tombstone, Arizona: Engineering & Mining Journal, v. 35, May 12, pages 267-269.

(1883), The present condition of the mines of the Tombstone Mill and Mining Co.: Engineering & Mining Journal, v. 36, October 13, pages 229-230.

(1883), General mining news: Engineering & Mining Journal, v. 36, November 24, page 328.

(1883), General mining news: Engineering & Mining Journal, v. 36, December 29, page 400.

(1902), The mining revival at Tombstone: Engineering & Mining Journal, v. 73, March 1, pages 314-315.

(1904), General mining news: Engineering & Mining Journal, v. 77, February 25, pages 334-338.

(1904), General mining news: Engineering & Mining Journal, v. 77, April 14, pages 618-621.

(1904), The Tombstone mines, Arizona: Engineering & Mining Journal, v. 77, June 9, pages 919-920.

(1911), The discovery of Tombstone: Engineering and Mining Journal, September 8, 1911, page 61.

Creasey, S. C., and Kistler, R. W. (1962), Age of some copper-bearing porphyries and other igneous rocks in southeastern Arizona: United States Geological Survey Professional Paper 450-D, pages D1-D5.

Damon, P. E., and Bikerman, M. (1964), Potassium-argon dating of post-Laramide plutonic and volcanic rocks within the Basin and Range province of southeastern Arizona and adjacent areas: Arizona Geological Society Digest, v. 7, pages 63-78.

Damon, P. E., and Mauger, R. L. (1966), Epeirogeny-orogeny viewed from the Basin and Range province: American Institute of Mining & Metallurgical Engineering Translation, v. 235, pages 99-112.

Devere, B. J., Jr. (1978), The Tombstone mining district; history, geology, and ore deposits, in Callender, J. F., and others, eds., Land of Cochise - southeastern Arizona: New Mexico Geological Society Guidebook, 29th Field Conference, pages 315-320.

Development Company of America (1911), Annual report: Engineering & Mining Journal, v. 92, July 8, page 61.

Drewes, Harald (1980), Tectonic map of southeast Arizona: United States Geological Survey miscellaneous investigation series, Map I-1109, 2 sheets, scale 1:125,000.

(1971), Mesozoic stratigraphy of the Santa Rita Mountains, southeast of Tucson, Arizona: United States Geological Survey Professional Paper 658-C, 81 pages.

Dumble, E. T. (1902), Notes on the geology of southeastern Arizona: American Institute of Mining & Metallurgical Engineering Translation, v. 31, pages 696-715.

Dunning, C. H. (1959), Rocks to riches: Phoenix, Arizona, Southwest Publication Company, Inc., 406 pages.

Eissler, M. (1901), Concentration of tailings at Tombstone, Arizona, in The Metallurgy of Silver, 5th Edition: New York, D. Von Nostrand Co., pages 103-111.

Engineering & Mining Journal (1878), General mining news: Engineering & Mining Journal, v. 26, October 19, pages 279-280.

(1879), General mining news: Engineering & Mining Journal, v. 27, May 31, page 392.

(1879), General mining news: Engineering & Mining Journal, v. 27, June 28, page 468.

(1879), General mining news: Engineering & Mining Journal, v. 28, August 16, page 112.

(1879), Answers to some inquiries concerning Arizona and Nevada mines: Engineering & Mining Journal, v. 28, November 1, pages 311-312.

(1982), Featured this month: Pelletizing Aids Tombstone Leaching Operating: Engineering & Mining Journal, v. 182, No. 1, January, 1981, pages 94-95.

Escapule, C. Bailey Jr. (1981), Geological Report on the Grace Claim Group, Cochise County, Arizona, for Tombstone Silver Mines, Inc., unpublished private report.

Farnham, L. L., Stewart, L. A., and Delong, C. W. (1961), Manganese deposits of eastern Arizona: United States Bureau of Mines I.C. 7990, 178 pages.

Genth, J. A. (1887), Hessite from the Westside mine, Arizona: American Philosophical Society, v. 24, page 36.

Gilluly, James (1945), Emplacement of Uncle Sam porphyry, Tombstone district, Arizona: American Journal of Science, v. 243, pages 643-666.

(1956), General geology of central Cochise County, Arizona: United States Geological Survey Professional Paper 281, 169 pages.

(1963), The tectonic evolution of the western United States: Geological Society London Quarterly Journal, v. 119, pages 133-174.

Gilluly, James, Cooper, J. R., and Williams, J. S. (1954), Late Paleozoic stratigraphy of central Cochise County, Arizona: United States Geological Survey Professional Paper 226, 49 pages.

Goodale, C. W. (1889), The occurrence and treatment of the argentiferous manganese ores of the Tombstone district, Arizona: American Institute of Mining & Metallurgical Engineering Translation, v. 17, pages 767-777.

(1890), Addition to the occurrence and treatment of the argentiferous manganese ores of Tombstone district, Arizona: American Institute of Mining & Metallurgical Engineering Translation, v. 38, pages 910-912.

Graves, Arthur J. (1984), Geological and Preliminary Valuation Report on the State of Maine Area, Cochise County, Arizona, private report to Tombstone Silver Mines, Inc.

(1985), Private report to Tombstone Silver Mines, Inc. on exploration and drilling programs starting in June, 1984.

Hayes, P. T. (1970), Cretaceous paleogeography of southeastern Arizona and adjacent areas: United States Geological Survey Professional Paper 658-B, 42 pages.

Hayes, P. T., Simons, F. S., and Raup, R. E. (1965), Lower Mesozoic extrusive rocks in southeastern Arizona--the Canelo Hills volcanics: United States Geological Survey Bulletin 1194-M, pages M1-M9.

Hewett, D. F. (1972), Manganite, hausmannite, braunite: features, modes of origin: Economic Geology, v. 67, pages 83-102.

Hewett, D. F., and Pardee, J. T. (1933), Manganese in western hydrothermal ore deposits, in Ore deposits of the western states (lindgren volume): American Institute of Mining & Metallurgical Engineering, pages 680-681.

Hewett, D. F., and Radtke, A. S. (1967), Silver bearing black calcite in western mining districts: Economic Geology, v. 62, pages 1-21.

Hewett, D. F., and Rove, O. N. (1930), Occurrence and relations of alabandite: Economic Geology, v. 25, pages 36-56.

Hillebrand, W. F. (1886), Emmonsite, a ferric tellurite (Tombstone, Arizona): Colo. Sci. Soc. Proc., v. 2, pages 20-23.

(1889), Analyses of three descloizites from new localities: American Journal of Science, v. 37, pages 434-439.

Hollyday, E. F. (1963), A geohydraulic analysis of mine dewatering and water development, Tombstone, Cochise County, Arizona: M.Sc. thesis, University of Arizona, 90 pages.

Huff, L. C. (1970), A geochemical study of alluvium-covered copper deposits in Pima County, Arizona: United States Geological Survey Bulletin 1312-C, pages C1-C31.

Jensen, Mead L., and Bateman, Alan M. (1981), Economic Mineral Deposits: John Wiley & Sons, New York.

Jones, Brian K. (1992), Application of metal zoning to gold exploration in porphyry copper systems: Journal of Geochemical Exploration, n. 43, pages 127-155.

Jones, E. L. and Ransome, F. L. (1920), Deposits of Manganese ore in Arizona: United States Geological Survey Bulletin 710-D, pages 96-119.

Keith, S. B. (1973), Index of mining properties in Cochise County, Arizona: Arizona Bureau of Mines Bulletin 187, 98 pages.

Keith, Stanley B., Gest, Don E., et al. (1983), Metallic Mineral Districts and Production in Arizona: Arizona Bureau of Geology and Mineral Technology, Geological Survey Branch, University of Arizona, Tucson, Arizona.

Kellogg, A. E., Ed. (1930), Schieffelin, the founder of Tombstone: Mining Journal, v. 14, no. 12, pages 7-8.

Lakes, Arthur (1904), Ore in anticlinals, as at Bendigo, Australia, and Tombstone, Arizona: Min. Sci. Press, v. 88, pages 193.

(1982), Featured this month: Pelletizing Aids Tombstone Leaching Operating: Engineering & Mining Journal, v. 182, No. 1, January, 1981, pages 94-95.

Escapule, C. Bailey Jr. (1981), Geological Report on the Grace Claim Group, Cochise County, Arizona, for Tombstone Silver Mines, Inc., unpublished private report.

Farnham, L. L., Stewart, L. A., and Delong, C. W. (1961), Manganese deposits of eastern Arizona: United States Bureau of Mines I.C. 7990, 178 pages.

Genth, J. A. (1887), Hessite from the Westside mine, Arizona: American Philosophical Society, v. 24, page 36.

Gilluly, James (1945), Emplacement of Uncle Sam porphyry, Tombstone district, Arizona: American Journal of Science, v. 243, pages 643-666.

(1956), General geology of central Cochise County, Arizona: United States Geological Survey Professional Paper 281, 169 pages.

(1963), The tectonic evolution of the western United States: Geological Society London Quarterly Journal, v. 119, pages 133-174.

Gilluly, James, Cooper, J. R., and Williams, J. S. (1954), Late Paleozoic stratigraphy of central Cochise County, Arizona: United States Geological Survey Professional Paper 226, 49 pages.

Goodale, C. W. (1889), The occurrence and treatment of the argentiferous manganese ores of the Tombstone district, Arizona: American Institute of Mining & Metallurgical Engineering Translation, v. 17, pages 767-777.

(1890), Addition to the occurrence and treatment of the argentiferous manganese ores of Tombstone district, Arizona: American Institute of Mining & Metallurgical Engineering Translation, v. 38, pages 910-912.

Graves, Arthur J. (1984), Geological and Preliminary Valuation Report on the State of Maine Area, Cochise County, Arizona, private report to Tombstone Silver Mines, Inc.

(1985), Private report to Tombstone Silver Mines, Inc. on exploration and drilling programs starting in June, 1984.

Hayes, P. T. (1970), Cretaceous paleogeography of southeastern Arizona and adjacent areas: United States Geological Survey Professional Paper 658-B, 42 pages.

Hayes, P. T., Simons, F. S., and Raup, R. E. (1965), Lower Mesozoic extrusive rocks in southeastern Arizona--the Canelo Hills volcanics: United States Geological Survey Bulletin 1194-M, pages M1-M9.

Lee, L. C. (1967), The economic geology of portions of the Tombstone-Charleston district, Cochise County, Arizona, in light of 1967 silver economics: M.Sc. thesis (unpublished), University of Arizona, 99 pages.

Libby, Fred J., Wallace, D. E., and Spangler, D. P. (1970), Seismic refraction studies of the subsurface geology of Walnut Gulch Experimental Watershed, Arizona: United States Department of Agriculture, Agriculture Research Service Report ARS-41-164, 14 pages.

Lindgren, Waldemar (1933), Mineral Deposits 4th Edition: McGraw-Hill Book Company, Inc., New York & London.

Love, Harold O. (1979), Town to tough to die: Tombstone Epitaph, National Edition, v. 6, no. 3, pages 1, 3-4.

Luepke, Gretchen (1971), A re-examination of the type section of the Scherrer Formation (Permian) in Cochise County, Arizona: Arizona Geological Society Digest, v. IX, pages 245-257.

McKnight, E. T. (1933), Mesothermal silver-lead-zinc deposits, in Ore deposits of the western states: American Institute of Mining and Metallurgical Engineers, pages 592-593, 602.

Mahoney, Ralph (1958), The water that doomed Tombstone: Arizona Days Ways Magazine, March 2, 1958, pages 7+.

Moore, R. T., and Wilson, E. D. (1965), Bibliography of the Geology and Mineral Resources of Arizona, 1948-1964: Arizona Bureau of Mines Bulletin 173.

Moses, A. J. (1893), Ettringite from Tombstone, Arizona, and a formula for ettringite: American Journal of Science, 3rd series 45, pages 489-492.

(1893), Ettringite and alabandin von Tombstone, Arizona: Zeitschr. Kryst., v. 23, pages 16-19.

(1893), Mineralogical notes, the gangue of Arizona ettringite: Columbia University Schools Mines Quarterly, v. 14, pages 323-326.

Moses, A. J., and Laquer, L. M. I. (1892), Alabandite from Tombstone: Columbia University School of Mines Quarterly, v. 13, pages 236-239.

Needham, A. B., and Storms, W. R. (1956), Investigation of Tombstone district manganese deposits, Cochise County, Arizona: United States Bureau of Mines RI 5188, 34 pages.

Newell, Roger A. (1974), Exploration geology and geochemistry of the Tombstone-Charleston Area, Cochise County, Arizona: PhD. dissertation (unpublished), Stanford University, 205 pages.

Newhouse, W. H., ed. (1942), Ore deposits as related to structural features: Princeton, New Jersey, Princeton University Press, 280 pages.

Oetking, Philip (1967), Map No. 2, Geological Highway Map of the Southern Rocky Mountain Region, The American Association of Petroleum Geologists, P. O. Box 979, Tulsa, Oklahoma.

Park, Charles F. Jr., and MacDiarmid, Roy A. (1975), Ore Deposits, 3rd Edition: W. H. Freeman and Company, San Francisco, California.

Patch, Susan (1969), Petrology and stratigraphy of the Epitaph Dolomite (Permian) in the Tombstone Hills, Cochise County, Arizona: M.Sc. thesis (unpublished), University of Arizona, 42 pages.

(1973), Petrology and stratigraphy of the Epitaph Dolomite (Permian) in the Tombstone Hills, Cochise County, Arizona: Journal of Sedimentary Petroleum, v. 43, no. 1, pages 107-117.

Penrose, R. A. F. (1890), The manganiferous silver ores of Arizona--Tombstone: Geological Survey of Arkansas Annual Report, v. 1, pages 465-468.

Peters, William C., 1987, Exploration and Mining Geology, Second Edition: John Wiley and Sons, 685 pages.

Ransome, F. L. (1904), Geology and ore deposits of the Bisbee quadrangle, Arizona: United States Geological Survey Professional Paper 21, 167 pages.

(1911), United States Geological Survey Tombstone District, Arizona, Notebook 11 (personal geologic notes on investigations in the Tombstone Mining District).

(1916), Some Paleozoic sections in Arizona and their correlations: United States Geological Survey Professional Paper 98-K, pages 133-166.

(1920), Deposits of manganese ore in Arizona--Bisbee and Tombstone district, Cochise County: United States Geological Survey Bulletin 710, pages 96-103, 113-119.

Rasor, C. A. (1937), Mineralogy and petrography of the Tombstone mining district, Arizona: PhD. dissertation (unpublished), University of Arizona, 115 pages.

(1938), Bromeyrite from Tombstone, Arizona: American Mineralogy, v. 23, pages 157-159.

(1939), Manganese mineralization at Tombstone, Arizona: Economic Geology, v. 34, pages 790-803.

Romslo, T. M., and Ravitz, S. F. (1947), Arizona manganese-silver ores: United States Bureau of Mines RI 4097, 13 pages.

Sarle, C. J., and Mellgren, V. G. (1928), Report on the Mellgren Mines, Tombstone Mining District, Cochise County, Arizona, unpublished private report.

Lee, L. C. (1967), The economic geology of portions of the Tombstone-Charleston district, Cochise County, Arizona, in light of 1967 silver economics: M.Sc. thesis (unpublished), University of Arizona, 99 pages.

Libby, Fred J., Wallace, D. E., and Spangler, D. P. (1970), Seismic refraction studies of the subsurface geology of Walnut Gulch Experimental Watershed, Arizona: United States Department of Agriculture, Agriculture Research Service Report ARS-41-164, 14 pages.

Lindgren, Waldemar (1933), Mineral Deposits 4th Edition: McGraw-Hill Book Company, Inc., New York & London.

Love, Harold O. (1979), Town to tough to die: Tombstone Epitaph, National Edition, v. 6, no. 3, pages 1, 3-4.

Luepke, Gretchen (1971), A re-examination of the type section of the Scherrer Formation (Permian) in Cochise County, Arizona: Arizona Geological Society Digest, v. IX, pages 245-257.

McKnight, E. T. (1933), Mesothermal silver-lead-zinc deposits, in Ore deposits of the western states: American Institute of Mining and Metallurgical Engineers, pages 592-593, 602.

Mahoney, Ralph (1958), The water that doomed Tombstone: Arizona Days Ways Magazine, March 2, 1958, pages 7+.

Moore, R. T., and Wilson, E. D. (1965), Bibliography of the Geology and Mineral Resources of Arizona, 1948-1964: Arizona Bureau of Mines Bulletin 173.

Moses, A. J. (1893), Ettringite from Tombstone, Arizona, and a formula for ettringite: American Journal of Science, 3rd series 45, pages 489-492.

(1893), Ettringite and alabandin von Tombstone, Arizona: Zeitschr. Kryst., v. 23, pages 16-19.

(1893), Mineralogical notes, the gangue of Arizona ettringite: Columbia University Schools Mines Quarterly, v. 14, pages 323-326.

Moses, A. J., and Laquer, L. M. I. (1892), Alabandite from Tombstone: Columbia University School of Mines Quarterly, v. 13, pages 236-239.

Needham, A. B., and Storms, W. R. (1956), Investigation of Tombstone district manganese deposits, Cochise County, Arizona: United States Bureau of Mines RI 5188, 34 pages.

Newell, Roger A. (1974), Exploration geology and geochemistry of the Tombstone-Charleston Area, Cochise County, Arizona: PhD. dissertation (unpublished), Stanford University, 205 pages.

Newhouse, W. H., ed. (1942), Ore deposits as related to structural features: Princeton, New Jersey, Princeton University Press, 280 pages.

Schmitt, H. (1966), The porphyry copper deposits in their regional setting, in Titley, S. R., and Hicks, C. L., eds., Geology of the porphyry copper deposits, southwestern North America: Tucson, Arizona, University of Arizona Press, pages 17-33.

Shaw, S. F. (1909), Mining milling in Tombstone district, Arizona: Mining World, v. 30, pages 589-590.

Sillitoe, Richard H. (1973), The Tops and Bottoms of Porphyry Copper Deposits: Economic Geology, v. 68, No. 6, pages 799-813.

Sillitoe, Richard H., and Bonham, Harold F. Jr. (1985), Volcanic Land Forms and Ore Deposits: Economic Geology, v. 70, No. 6, pages 1286-1298.

Sillitoe, Richard H., and Bonham, Harald F. Jr. (1990), Sediment-hosted gold deposits: Distal products of magmatic-hydrothermal systems: Geology, v. 18, pages 157-161.

Spangler, Daniel P., and Libby, Fred J. (1968), Application of the Gravity Survey Method to Watershed Hydrology: Ground Water, v. 6, No. 6, pages 21-26.

(1969), A geophysical study of the hydrogeology of the Walnut-Gulch experimental watershed, Tombstone, Arizona: PhD. dissertation (unpublished), University of Arizona, 103 pages.

Staunton, W. F. (1894), Personal correspondence with Cheyney, W. J., General Manager of the Tombstone Mill & Mining Co., 18 pages with attachments.

(1910), The pumping problems at the Tombstone mine: Engineering & Mining Journal, January 15, p. 174.

(1918), Effects of an earthquake in a mine at Tombstone, Arizona: Seismology Society of America Bulletin, v. 8, pages 25-27.

Sutherland Browm, A. (1976), Morphology and classification, in Porphyry Deposits of the Canadian Cordillera, Sutherland Brown, A., ed.: Canadian Institute of Mining and Metallurgy, Special Volume 15, pages 44-51.

Tenny, J. B. (1927-29), History of mining in Arizona: University of Arizona (unpublished manuscript), v. 1-2, 514 pages.

(1938), Geology and ore deposits of the Tombstone district, Arizona (revised): Economic Geology, v. 33, pages 675-678.

Timmins, W. G. (1981), Geological Report on the Grace Claim Group, Cochise County, Arizona for Artex Resources, Inc., private, unpublished report.

Walker, E. W. (1909), Pumping plant at the Tombstone Consolidated: Engineering and Mining Journal, v. 88, no. 4, pages 160-162.

Wallace, D. E. (1970), Some limitations of seismic refraction methods in geophysical surveys of deep alluvial basins: Ground Water, v. 8, no. 6, pages 8-13.

Wallace, D. E., and Cooper, L. R. (1969), Natural chemical dispersion in groundwater from various rock types in a portion of the San Pedro River Basin: Arizona Journal of Hydrology 2, ART.477, pages 121-135.

(1970), Dispersion of naturally occurring ions in groundwater from various rock types in a portion of the San Pedro River basin, Arizona: Journal of Hydrology, v. 10, pages 391-405.

Wallace, D. E., and Renard, K. G. (1967), Contribution to regional water table from transmission losses of ephemeral streambeds: American Society of Agricultural Engineering Translation 10(6), pages 786-790.

West, E. E., Sumner, J. S., Aiken, C. L. V., and Conley, J. N. (1974), Bouguer gravity anomaly map of southeastern Arizona, from a geophysical and geological investigation of potentially favorable areas for petroleum exploration in southeastern Arizona; Laboratory of Geophysics, Department of Geosciences, University of Arizona; Arizona Oil & Gas Conservation Commission, Report of Investigations 3, 44 pages.

Williams, S. A. (1978), Khinite, parakhinite, and dugganite, three new tellurates from Tombstone, Arizona: American Mineralogist, v. 63, no. 9-10, pages 1016-1019.

(1980), Schieffelinite, a new lead tellurate-sulphate from Tombstone, Arizona: Mineral Magazine, v. 43, pages 771-773.

(1980), The Tombstone district, Cochise County, Arizona: Mineralogical Record, v. 11, no. 4, pages 251-256.

Wilson, E. D., and Butler, G. M. (1930), Manganese ore deposits in Arizona: Arizona Bureau of Mines Bulletin 127, pages 47-55.

Wilson, E. D., Cunningham, J. B., and Butler, G. M. (1934), Arizona lode gold mines and gold mining: Arizona Bureau of Mines Bulletin 137, pages 122-124.

Wilt, J. C. (1969), Petrology and stratigraphy of Colina Limestone (Permian) in Cochise County, Arizona: M.Sc. thesis (unpublished), University of Arizona, 117 pages.

Winters, Wayne (1969), Prospectors scouting hills in Tombstone-Gleason area: Mining Record, February 26, 1969, page 3.

(1974), Mining firm head says Arizona production will boom: Mining Record, January 9, 1974, page 1.

(1977), State of Maine silver -- now it is .999 pure: Mining Record, April 20, 1977, page 5.

Schmitt, H. (1966), The porphyry copper deposits in their regional setting, in Titley, S. R., and Hicks, C. L., eds., Geology of the porphyry copper deposits, southwestern North America: Tucson, Arizona, University of Arizona Press, pages 17-33.

Shaw, S. F. (1909), Mining milling in Tombstone district, Arizona: Mining World, v. 30, pages 589-590.

Sillitoe, Richard H. (1973), The Tops and Bottoms of Porphyry Copper Deposits: Economic Geology, v. 68, No. 6, pages 799-813.

Sillitoe, Richard H., and Bonham, Harold F. Jr. (1985), Volcanic Land Forms and Ore Deposits: Economic Geology, v. 70, No. 6, pages 1286-1298.

Sillitoe, Richard H., and Bonham, Harald F. Jr. (1990), Sediment-hosted gold deposits: Distal products of magmatic-hydrothermal systems: Geology, v. 18, pages 157-161.

Spangler, Daniel P., and Libby, Fred J. (1968), Application of the Gravity Survey Method to Watershed Hydrology: Ground Water, v. 6, No. 6, pages 21-26.

(1969), A geophysical study of the hydrogeology of the Walnut-Gulch experimental watershed, Tombstone, Arizona: PhD. dissertation (unpublished), University of Arizona, 103 pages.

Staunton, W. F. (1894), Personal correspondence with Cheyney, W. J., General Manager of the Tombstone Mill & Mining Co., 18 pages with attachments.

(1910), The pumping problems at the Tombstone mine: Engineering & Mining Journal, January 15, p. 174.

(1918), Effects of an earthquake in a mine at Tombstone, Arizona: Seismology Society of America Bulletin, v. 8, pages 25-27.

Sutherland Browm, A. (1976), Morphology and classification, in Porphyry Deposits of the Canadian Cordillera, Sutherland Brown, A., ed.: Canadian Institute of Mining and Metallurgy, Special Volume 15, pages 44-51.

Tenny, J. B. (1927-29), History of mining in Arizona: University of Arizona (unpublished manuscript), v. 1-2, 514 pages.

(1938), Geology and ore deposits of the Tombstone district, Arizona (revised): Economic Geology, v. 33, pages 675-678.

Timmins, W. G. (1981), Geological Report on the Grace Claim Group, Cochise County, Arizona for Artex Resources, Inc., private, unpublished report.

Walker, E. W. (1909), Pumping plant at the Tombstone Consolidated: Engineering and Mining Journal, v. 88, no. 4, pages 160-162.

TR-

1 ✓	11 ✓	21 ✓	31 ✓	41 ✓
2 ✓	12 ✓	22 ✓	32 ✓	42 ✓
3 ✓	13 ✓	23 ✓	33 ✓	43 ✓
4 ✓	14 ✓	24 ✓	34 ✓	44 ✓
5 ✓	15 ✓	25	35 ✓	45 ✓
6 ✓	16 ✓	26 ✓	36 ✓	46 ✓
7 ✓	17 ✓	27 ✓	37 ✓	47 ✓
8 ✓	18	28 ✓	38 ✓	48 ✓
9 ✓	19	29 ✓	39 ✓	49 ✓
10 ✓	20 ✓	30 ✓	40 ✓	50 ✓

51 ✓	61 ✓	71 ✓	81 ✓	91
52 ✓	62 ✓	72 ✓	82 ✓	92
53 ✓	63 ✓	73 ✓	83 ✓	93
54 ✓	64 ✓	74 ✓	84 ✓	94
55 ✓	65 ✓	75 ✓	85 ✓	95
56 ✓	66 ✓	76 ✓	86 ✓	96
57 ✓	67 ✓	77 ✓	87	97
58 ✓	68 ✓	78 ✓	88	98
59 ✓	69 ✓	79 ✓	89	99
60 ✓	70 ✓	80	90	100

MAP SCALE

0 100 200 300

REVISIONS	DATE	MADE BY	DESCRIPTION
1			
2			
3			
4			

DATE	DRAWN BY	CHECKED	APPROVED
06-23-93			

TOMBSTONE PROJECT TOPOGRAPHY
AND DRILL HOLE COLLAR LOCATION
"HOMIX"

OFFICE | DEPARTMENT

CONFIDENTIAL
USMX INC. DOES NOT MAKE ANY REPRESENTATION OR WARRANTY (EXPRESS OR IMPLIED, OF ANY KIND OR NATURE WHATSOEVER) WITH REGARD TO THE ACCURACY, RELIABILITY, OR COMPLETENESS OF THIS INFORMATION OR MATTER. ANY USE OF, OR RELIANCE UPON, THIS INFORMATION OR MATTER BY ANY PERSON, FIRM OR CORPORATION SHALL BE AT HIS OR ITS SOLE RISK AND RESPONSIBILITY.

MAP INDEX NUMBER	SCALE	DRAWING NUMBER
	1"=100.FT	PLATE 1

• PLOT VBM DATA •

biogeochemistry and soil sampling. Closely spaced (250 foot centers) rock chip sampling should be done in the outcrop areas. Detailed geology, Quantitative Alteration Mapping and leached capping interpretation mapping should be performed in the areas of outcrop to determine the lateral position of the outcrop in relation to the porphyry center, as well as pinpointing drill locations to test for chalcocite blanket mineralization. Though leached capping after sulfide minerals can be clearly seen in outcrop, electrical geophysical and ground magnetic mapping might aid in pinpointing contact areas, overall geometry, and deep drilling targets.

The following budget for Phase I, II, III, IV and V programs is:

Phase I	Surface geologic, Quantitative Alteration, and leached capping interpretative mapping, rock chip geochemistry, compilation of existing data and re-logging of remaining ASARCO core, interpretation and design of shallow drill program.	$22,331
Phase II	Shallow drill test for a chalcocite blanket - five 400 foot holes.	$24,000
Phase III	Broad biogeochemical and soil sampling to define the position of porphyry copper metal zoning and determine the potential presence of a distal gold zone.	$ 9,722
Phase IV	Electrical geophysics and ground magnetics	$22,000
Phase V	Deep "Scout" drilling - one hole to 2,000 feet.	$30,000
	Total for Phase I through V	$108,103
TOTAL FOR ALL PHASES OF ALL 5 BLOCKS		**$694,954**

This includes 30,500 feet of drilling at an all inclusive cost average of $22.79 per foot.

JABA INC.
2100 N. Wilmot Rd. #218
Tucson, AZ 85712
(602) 885-9141
(FAX) 721-2768

REVIEW OF THE EXPLORATION WORK DONE BY USMX INC. ON THE TOMBSTONE TARGET AREA, TOMBSTONE MINING DISTRICT, TOMBSTONE CALDERA COMPLEX, COCHISE COUNTY, ARIZONA, AND RECOMMENDATION FOR ADDITIONAL WORK

SUMMARY

During the first half of 1993, USMX drilled 86 reverse circulation drill holes totaling 24,885 feet for an expenditure of about $500,000. Approximately 100 thousand ounces of gold equivalent (combined gold and silver) of apparent minable grade were drill indicated. Time was of the essence to USMX and normal geology, geochemistry and geophysics as a result were subordinated to rapid drilling. The drilling in addition to delimiting Indicated reserves confirmed ore grade mineralization in past productive structures. These structures have the potential to contain in excess of 2 million ounces of gold equivalent in minable grades, at open pit depths. **Additional exploration effort is warranted and recommended.**

Relatively complex geology and cover rocks suggest the use of geochemistry, geophysics and scout drilling to broadly outline ore zones. Follow up reserve definition drilling will measure ore bodies discovered by the scout drilling. A two phased program is recommended including existing data compilation, geology, geophysics and the two types of drilling mentioned above. A total of 81 holes averaging 400 feet in depth and aggregating 32,400 feet of drilling is proposed. Cost would be $460 thousand (US) and average an expenditure of $14.20 per foot of hole drilled, all inclusive.

THE USMX INC. PROGRAM AND RESULTS

Between the first days of January and the end of June 1993, USMX Inc. conducted an exploration program on Excellon Resources Inc.'s (Excellon) leases from the Tombstone Development Company (TDC) covering all of their holdings in the Tombstone Mining District. Their exploration emphasized the Contention open pit (cut) area excavated by Tombstone Exploration Inc. (TEI) in the late 1970's and early '80's and by PBR/Cowichan Mines Inc. in the late 1980's. Both of these companies went bankrupt and no longer exist, but as pointed out by Ross Glanville in his 1990 report, "failure of these operations can be directly related to problems other than lack of ore potential". Just prior to its demise in 1989, PBR/Cowichan drilled one hole into a significant gold zone in the southwest side of the pit showing in the interval between 45 and 110 feet, 65 feet averaging 0.13 opt gold and 1.27 opt silver. Follow-up sampling by USMX showed brecciated gold-bearing Cretaceous sediments over a

James A. Briscoe, Registered Professional Geologist, Arizona #9424, California #518

width of 90 feet assaying 0.051 opt gold and 3.8 opt silver exposed in the lower west wall of the pit. This discovery provided impetus and direction to their efforts which were largely concentrated around this recent exposure. As explained in their final report, *due to the "deadline - oriented" nature of our agreement with Excellon, drilling had to be emphasized early and to a greater extent than in other less time dependent situations. ... Consequently I feel that geology and certainly District recon was not carried out to the extent that it otherwise should have been. Certainly, other legitimate targets remain to be tested at the property level.* Thus their approach was to emphasize drilling at the expense of geology, geochemistry and geophysics.

This drilling oriented program resulted in 86 reverse circulation holes to a maximum depth of 420 feet, for a total of 24,885 feet. Most of these holes were inclined at various angles in attempts to cut roughly visualized structural features thought to carry values. Approximately $500 thousand was expended during the exploration program.

The objective of USMX was to define a minimum of 250 thousand ounces of gold or gold equivalent (combined gold and silver). By the end of June they had defined approximately 100 thousand ounces, contained in three shallow bodies, averaging about 0.063 opt gold equivalent and a deeper zone averaging 0.098 opt gold equivalent.

One of the major negatives in the USMX program was that their "Contention" target - the gold breccia zone in the west wall of the pit - appeared to fade abruptly out to the west. A careful comparison of the geology from older more detailed maps suggests this supposed fade out has a more positive explanation. The breccia zone, which appears to be on the axis of the Westside Roll (anticline), is cut by the north-trending Contention-Tranquility (CT) fault and offset some 400+ feet in a southward and left-lateral direction, perhaps also becoming involved in the west-northwest trending Grand Central fault zone. The area of its "fading out" corresponds exactly with the CT fault. In all likelihood the zone continues to the west as the axial fracture mineralization of the Westside Roll on the other side of the CT fault from its offset position. Since the Westside Roll continues for some 3,700 feet to the west, several hundred thousand ounces of potential may be present.

Minor drilling to the west by USMX appears to confirm the suggestion proposed by Waldrip and Briscoe (1992), that the rolls are soft, easily eroded, form valleys, and are better mineralized, while the synclines are resistant, form ridges, and are poor hosts for mineralization. As the valleys are alluviated and the ridges well exposed outcrops, there is a dangerous tendency to estimate the area is less well mineralized than it probably is, since poorly mineralized rock is always best exposed, while mineralization is always hidden under cover.

In the area between the Skip shaft and the Silver Thread shaft just beyond the north end of the Contention pit, USMX drilled six holes, all with significant ore grade intercepts. Though this area appears to be included with the projected ore reserves it was not pursued, even though it is open in all directions. The general area is the loci of much of the camps greatest production from structural traps along the folds of the Empire anticline. It could be easily open pit mined along a block one thousand feet on a side, and historical production records show productive workings to a depth of 400 feet. Thus, a block of 30 million tons is prospective and could have the potential at a 0.06 opt gold equivalent grade (similar to that drilled out by USMX) of containing 1.8 million ounces gold

JABA INC.
2700 N. Wilmot Rd. #300
Tucson, AZ 85712
(602) 885-6141
(FAX) 721-2708

equivalent. Favorable geology extends at depth below 400 feet, and also both northwest and southeast of this block, along the trend of the Empire anticline, with significant production from early mining indicating additional potential.

The USMX program "drill indicated" approximately 100 thousand ounces gold equivalent, thought to be minable under current price conditions. But perhaps more importantly, it confirmed ore grade mineralization along geologic targets which they did not pursue. These targets include the poorly explored Westside roll and the highly productive Empire anticline trend described above. Potential in these two areas appears to considerably exceed 1 million opt gold equivalent. Not even touched upon by the USMX exploration program are the entire Tombstone Extension subdistrict lying to the east, nor the Oregon-Prompter area to the southwest where a recent program by Santa Fe Mining obtained encouraging results for gold disseminated in Paleozoic limestones. This area is now part of the Excellon Lease from TDC. Also not included is the Walnut Creek porphyry copper center, estimated to lie 2 to 4 thousand feet further northeast of the Contention pit (probably the source of the precious metal mineralization at Tombstone) nor the Prompter Ridge distal gold target area lying between the Contention zone and the probably associated distal gold zone of the Zebra property - disseminated gold in Paleozoic limestone. All of these untested areas are contiguous and controlled by Excellon. Application of the Sillitoe-Bonham model suggests all these targets are genetically linked with the buried Walnut Creek porphyry copper target. If these targets should be productive, in excess of another million ounces of gold or gold equivalent can be envisioned plus the porphyry copper. Thus, conservatively, potential for in excess of 2 million ounces of gold or gold equivalent plus a significantly large porphyry copper center with more than a billion contained pounds of copper and associated replacement lead and zinc is proposed.

A continued exploration effort to add to reserves and bring reserves into the Measured category, preparatory to mine design is recommended.

RECOMMENDED CONTINUED EXPLORATION EFFORTS IN THE CONTENTION - WESTSIDE ROLL - EMPIRE ANTICLINE AREAS WITH EMPHASIS ON GOLD AND SILVER MINERALIZATION

Efficient exploration in the main part of the Tombstone Mining District will of necessity be geologically oriented. Numerous ore-bearing structures including dikes, fissures (district term for veins/veinlets), layer cake stratigraphy of favorable and unfavorable sedimentary strata, rolls, synclines pre- and post-mineral faults all effect where ore is located and disseminated, and in the case of post-mineral faulting what location it has been displaced to. From the USMX exploration program it can be concluded that gold and silver values are disseminated in favorable structures and strata, but not uniformly disseminated throughout all rock units. Post mineral faulting can have an important effect on the position of ore bodies. There is much cover in the area of interest, both pre- and post-mineral in age.

Additional exploration drilling will have to be carefully positioned and the results carefully interpreted in relation to the geology in order to measure ore reserves accurately at low cost. Much of this work has already in part been accomplished by detailed geology done circa 1914 by USGS geologist F. L. Ransome and published by the Arizona Bureau of Mines in 1938. Excellon has most of the Ransome

JABA
JABA INC.
2100 N. Wilmot Rd. #218
Tucson, AZ 85712
(520) 885-0141
(FAX) 721-3768

underground maps and can get additional company data from the active mining period. This has been partially digitized onto a new digital terrain model map acquired by Excellon at the start of their lease with TDC in 1992. Some additional compilation of this early material will finalize an accurate model of the three dimensional geology in mined areas. Surface geochemistry in exposed areas can then be used to confirm or refine potential areas of ore targets. Geophysics in the form of IP (Induced Polarization) and CSAMT (Controlled Source Audio-frequency Magnetotellurics), provided by Zonge Engineering of Tucson, may have the capability of identifying anomalies associated with known ore zones and extrapolating from the known to the unknown pinpointing with great accuracy blind ore targets.

During and after compilation of the geology, geochemistry and geophysics, scout drilling can be performed to confirm geology geophysics and mineral targets. Mr. Steve Henderson, currently the Director of Public works in Tombstone, and in custodial charge of the TDC ground, has a PortaDrill capable of performing this scout drilling. It can drill regular circulation rotary with mud or air, regular circulation down-the-hole air hammer drilling, and can take spot cores using a 20 foot standard core barrel. Mr. Henderson has some 30 years of drilling experience ranging from oil field drilling to mineral exploration. As he lives in Tombstone, scout drill holes can be drilled at a rate of one to two holes per week without incurring stand by or mobe and demobe charges. In this way, targets can be slowly and methodically tested. As the progress rate will be slow, the geologic-geophysical-geochemical data can be assimilated and targeting changes made in response to new information from the preceding drilling. In fact, additional geophysics can be run or additional surface geochemical samples collected based on results from the methodical drilling. This Phase I, low cost but effective procedure, combining geophysics, geology and geochemistry, with scout drilling, should broadly define ore zones.

Phase II would use reverse circulation drilling at a rapid rate of 400 feet to 600 feet per day to define measured reserves within the broad outlines defined by Phase I. As ore grade zones will have been roughly defined, detailed in-fill drilling should be easily input into the ore reserve model so on completion of the program, ore reserves will be established.

The budget for Phase I & II is as follows:

PROPOSED WORK PROGRAM AND BUDGET

Phase I

Compilation, field geologic mapping, geologging of 1989 & 1993 drill cuttings, computer input and geologic interpretation	$ 32,000
CSAMT/IP geophysical surveying	28,000
Soil and rock geochemistry	25,000

JABA INC.
2700 N. Wilmot Rd. #218
Tucson, AZ 85712
(520) 885-9141
(FAX) 721-7768

Preliminary or scout drilling - regular circulation down-the-hole hammer drilling and spot diamond coring, 10,000 feet or 25 - 400 foot holes, inclusive of assays, geologging, computer input and preliminary modeling		90,000
Analysis and report		8,000
	Sub-Total	$183,000
Contingency @ 10%		18,000
	Phase I Total	$201,000

Phase II

Reserve measurement drilling - 22,500 feet, reverse circulation drilling of 56-four hundred foot holes, inclusive of assays, geologging, and computer input		$225,000
Reserve calculation, project review and report		10,000
	Sub-Total	$235,000
Contingency @ 10%		24,000
	Phase II Total	$259,000
	Grand Total Phase I and II	**$460,000**

Total footage drilled in the program is 32,400 feet in 51 four hundred foot drill holes.

Average cost for the entire program per foot drilled is $14.20.

Submitted by:

JAMES A. BRISCOE,
Registered Geologist, Arizona #9424

REGISTERED GEOLOGIST
CERTIFICATE NO.
8424
JAMES A.
BRISCOE
DATE SIGNED 9/13/93
Arizona U. S. A.

JABA

TOTAL P.06

Phase I	Electrical geophysics - CSAMT & IP, and ground magnetics.	$38,000
Phase II	Biogeochemistry and soil geochemistry	$14,036
Phase III	"Target" drilling - four 1,000 foot drill holes	$48,000
	Total for Phase I through III	$100,036

State of Maine - Escapule Porphyry Center (Block 4)

The State of Maine area, based on a variety of evidence previously cited, appears to be a porphyry center, with all zonal mineralization appurtenant thereto. Thus it is much like the Walnut Creek - Tombstone center, except that it is intracaldera and covered with pre-mineral Uncle Sam Tuff. Outcrop and soil cover are about equally divided. There is potential for near surface low grade ore, intermediate depth high grade ore and deep seated ore . The approach can be similar to the Walnut Creek - Tombstone center, except that there appears to be some shallow targets which could be drilled early on.

The following budget for Phase I, II, III, and IV programs is:

Phase I	Data compilation, interpretation, and drill program design.	$12,000
Phase II	Road work, site prep. and drilling for shallow precious metal targets. Five 400' drill holes.	$29,000
Phase III	Exploration to identify the position and attitude of the porphyry center. This will include geology and Quantitative Alteration Mapping, biogeochemical, soil and rock chip geochemical sampling, electrical geophysics and ground magnetics and data compilation, interpretation and Phase IV design.	$68,248
Phase IV	"Scout" drilling - one hole to 2,000 feet	$30,000
	Total for Phase I through IV	$139,248

Robbers' Roost Breccia Pipe (Block 5)

The Robbers' Roost breccia pipe is relatively well exposed along Robbers' Roost wash, but alteration plunges beneath shallow cover in all directions except west along the wash. The old ASARCO drill hole logs need to be studied and the remaining core re-logged, using Quantitative Alteration Mapping techniques. The geochemistry of the surrounding thinly covered areas must be determined using

TOMBSTONE PROJECT
EXPLORATION SUMMARY
COCHISE CO., ARIZONA

By

Karl Kanbergs
Senior Geologist

USMX, Inc.
5450 Riggins Ct., #4
Reno, NV

July 7, 1993

CONFIDENTIAL

USMX INC. DOES NOT MAKE ANY REPRESENTATION C WARRANTY, EXPRESS OR IMPLIED, OF ANY KIND C. NATURE WHATSOEVER WITH RESPECT TO TH: ACCURACY, RELIABILITY, OR COMPLETENESS OF THIS INFORMATION OR MATTER. ANY USE OF, OR RELIANCE UPON, THIS INFORMATION OR MATTER BY ANY PERSON, FIRM OR CORPORATION SHALL BE AT HIS OR ITS SOLE RISK AND RESPONSIBILITY.

TABLE OF CONTENTS

Page No.

Summary and Conclusions.....1
Introduction.....2
Location Map.....3
Geology.....4
    General.....4
    Stratigraphy.....4
Target Location Map.....5
    Structure.....6
    Structural History, Contention Pit Area.....7
Mineralization and Alteration.....7
Resources and Additional Potential.....8

LIST OF PLATES

Plate 1, Drill Hole Location Map, 1"=100'
Plate 2, Geologic Map, 1"=50'
Plates 3 through 8, East-West Geologic Sections
Plates 9 through 17, East-West Assay Sections

LIST OF APPENDICES

Appendix A, Drill Hole Tables I and II (Behind Text)
Appendix B, Drill Logs
Appendix C, Drill Assay Data

SUMMARY AND CONCLUSIONS

During the first half of 1993 USMX Inc. conducted an exploration program for bulk minable gold and silver within the Tombstone Mining district, Cochise County Arizona. The exploration was conducted under an option and subsequent joint venture agreement with Excellon Resources. Exploration focused on the northeast part of the district, in and adjacent to areas of previous open pit mining. Work consisted of rock chip sampling, geologic mapping, and extensive drilling by r.c. methods. 86 drill holes were completed for a total footage of 24,885 feet. The deepest hole was 420 feet. Within the area tested, all surface and subsurface rock exposures consist of various sedimentary members of the Cretaceous Bisbee Formation, and a few dike rocks. Alteration and mineralization is characteristic of deeper epithermal deposits or possibly mesothermal deposits.

Drilling failed to find a major deposit. However, a number of good intercepts were obtained and several smaller deposits are present, that under the right circumstances, could be mined at a profit. The data indicate that mineralization is more characteristic of Bonanza vein or tightly structurally controlled deposits, in contrast to truly disseminated ores; although some areas exhibit dissemination. Mineralization is quite spotty outside of a core area within the Contention zone. Adjacent untested ground in the northeast part of the district, and other areas of the property, are legitimate exploration targets. Due to the Bonanza style aspects of the mineralization it is conceivable that the above resource base could be increased considerably. On the other hand, the tight style of mineralization could negatively impact any future definition or exploration drilling.

A geologic resource was calculated for the major drill tested areas. A standard manual cross-section method was employed. The resulting numbers represent only an indication of what may be present, and are not an engineered reserve. Optimal reserves can not be calculated until additional infill drilling is completed. A total probable geologic resource of about 73,000 ounces Au equivalent, with a minimum strip of about 5:1, is present among the Contention, Tranquility and Silverthread zones. The Contention zone, by itself, and as one possible open pittable deposit, may contain a resource of about 47,000 ounces Au equivalent, with a minimum strip of approximately 4:1. Average grades are in the .06 Oz/Ton Au equivalent range. The silver to gold ratio is about 28 to 1.

CONFIDENTIAL

USMX INC. DOES NOT MAKE ANY REPRESENTATION OR WARRANTY, EXPRESS OR IMPLIED, OF ANY KIND OR NATURE WHATSOEVER WITH RESPECT TO THE ACCURACY, RELIABILITY, OR COMPLETENESS OF THIS INFORMATION OR MATTER. ANY USE OF, OR RELIANCE UPON, THIS INFORMATION OR MATTER BY ANY PERSON, FIRM OR CORPORATION SHALL BE AT HIS OR ITS SOLE RISK, AND RESPONSIBILITY.

INTRODUCTION

This report is a summary of exploration activities at the Tombstone Project, conducted by USMX during the first half of 1993. The purpose of the report is to document and elaborate on the attached data which includes maps, sections and analyses. (See "List of Illustrations" and the body of the text.) As such, the reader is referred to other reports, both private and published for more in-depth looks at District geology and project history.

The area explored by USMX consists of a small part of the Tombstone District. The area is just southeast of the town of Tombstone (Figure 1). While mining dates back to the 1800's, thorough modern exploration has been somewhat limited. A number of major companies have taken a crack at various parts of the district, with various models and commodities in mind. The most extensive work, however, was carried out by two Canadian companies; TEI exploration, followed by PBR Resources, who developed an open pit along the Contention Zone. From what I can gather, exploration and grade control was rather limited and un focused. The main commodity was silver and the gold content appears to have had secondary importance.

Exploration work by PBR in the late 1980's indicated an interesting gold zone along the west wall of the Contention open pit. Unfortunately PBR filed bankruptcy and could not continue exploration. Excellon Resources, a Toronto based exploration company, acquired the rights and obligations from PBR who in turn had agreements with the Tombstone Development Company, the owners of the underlying patented claims. USMX, initially evaluated the property 1991 (G. Schell), and then again in late 1992 (Kanbergs and Cox). An agreement was reached with Excellon, which allowed USMX 120 days initial evaluation prior to entering a joint venture agreement. The initial investigation results were favorable and a J.V. was entered.

USMX has completed 86 reverse circulation drill holes, drilled to a maximum depth of 420 feet, for a cumulative footage of 24,885 feet. The majority of holes were completed using a Drill Systems track mounted rig. Table I provides key survey and other data on the drill holes. Table II summarizes the drill intercepts. These can be found as Appendix A. Appendix B consists of the drill logs, and Appendix C is a printout of the drillhole assay file. Plate 1 is a 1"= 100' drill hole location map. Please note that drill hole locations TR-01 through TR-30 have been surveyed, the rest are merely brunton and taped and are therefore approximate.

The main zone sampled on the west pit wall contained 90' of continuous sample length which averaged .051 opt Au and 3.8 opt Ag. Based on the hypothesis that the zone trended northwest-southeast, the initial drilling consisted of north-south oriented fences, located both east and west of the known extent of the zone. Drill results indicated that mineralization extended about 400 feet northwest of the sampled area, but failed to continue further

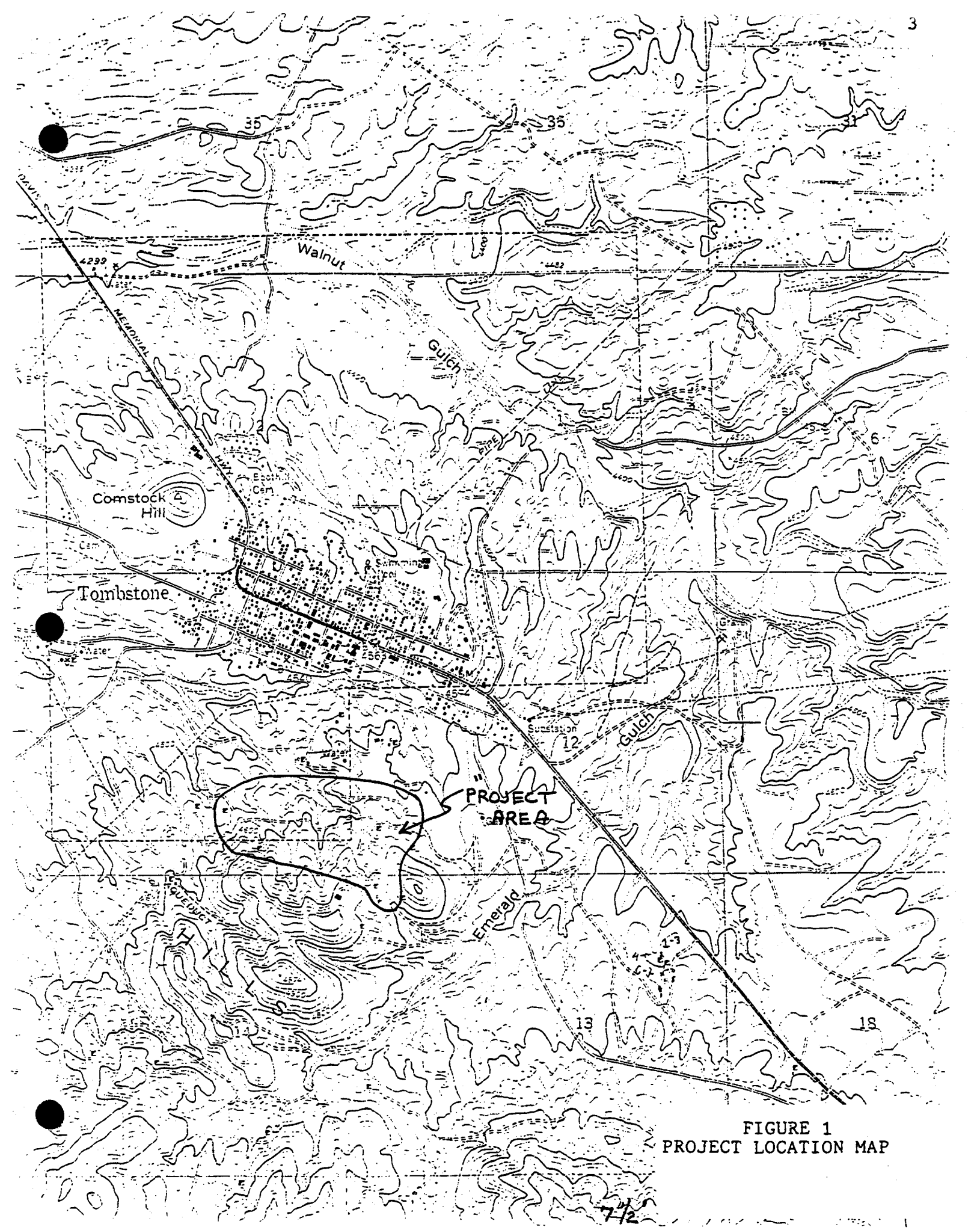


FIGURE 1
PROJECT LOCATION MAP

westward or eastward. The remainder of the program consisted of further definition drilling of the known mineralized area, drilling to the north, up to and including the Tranquility and Silverthread zones, and drilling various wildcat targets west of the Contention Pit. For orientation of the various target areas, please refer to an Exploration Target Map, Figure 2.

Due to the "deadline-oriented" nature of our agreement with Excellon, drilling had to be emphasized early and to a greater extent than in other less time dependent situations. Our initial target goal was 250,000 ounces Au contained. Consequently, I feel that geology, and certainly District recon was not carried out to the extent that it otherwise could have been. Certainly, other legitimate targets remain to be tested at the property level.

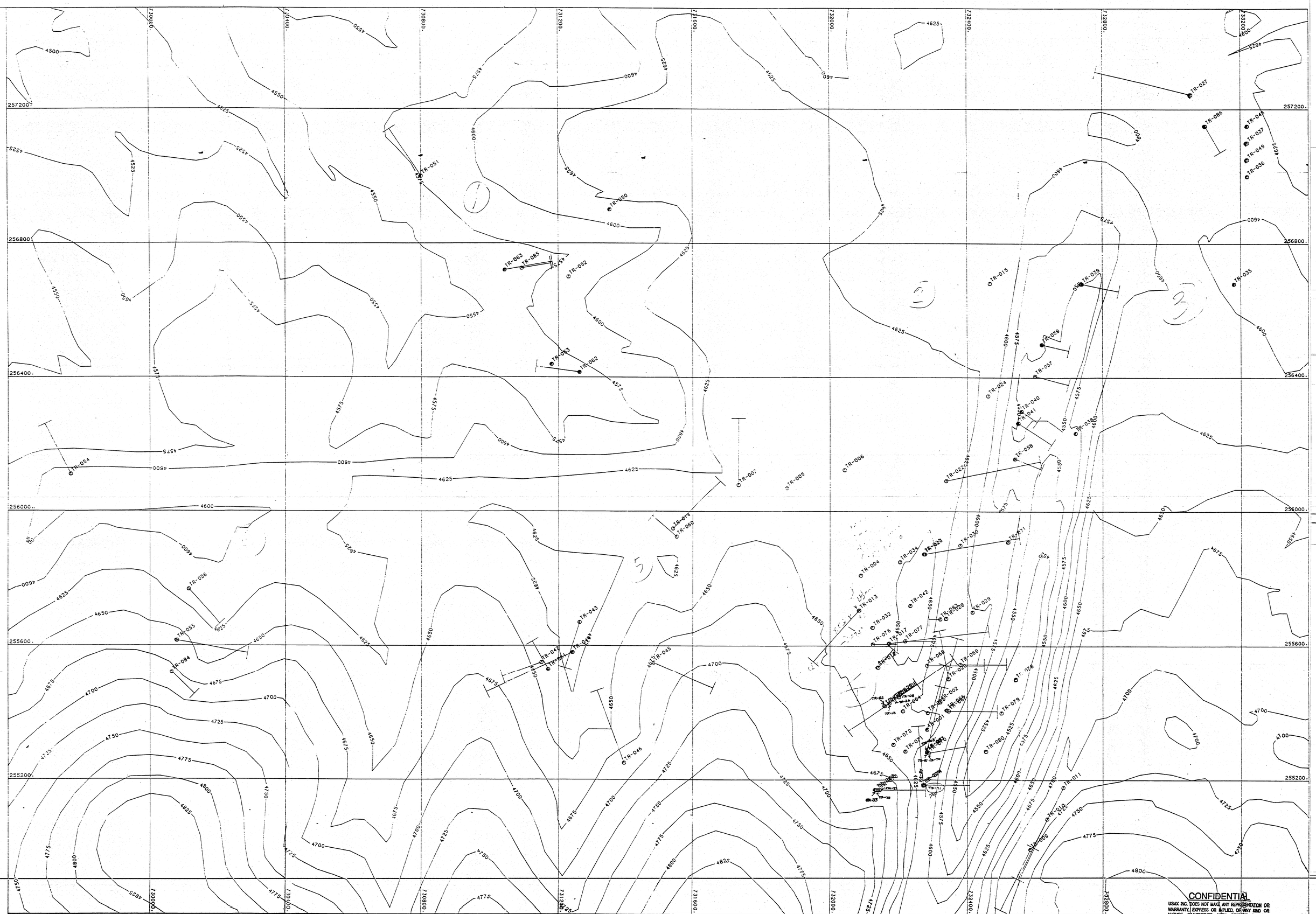
GEOLOGY

General

Bedrock exposures in the project area consist entirely of the Cretaceous Bisbee Formation, which occasionally is cut by Laramide age monzonite porphyry dike rock. On a District scale, the central and southern part of the District is underlain by Paleozoic carbonate-dominated rocks, and the western portion of the District is dominated by plutonic rocks. The sedimentary units are affected by thermal metamorphism, ranging from mild "baking" to various calc-silicate hornfelses and granulites. Evidence points to a number of thermal or porphyry style centers underlying the District. Hydrothermal alteration is widespread, but classic stockworks or skarns are not apparent in the work area. Thus a distal porphyry or "failed" porphyry environment is suggested.

Stratigraphy

The Bisbee Formation within the study area consists of quartz sandstone, siltstone, limestone, minor chert, and tectonic and heterolithic (intrusion) breccias. The environment of deposition appears to be subaerial to subaqueous, basinally controlled, and at least partially redbed in character. The area of study occurs in the lower to middle part of the Formation. Plate 2 is a 1"=50 ' Geologic map that covers the main area of interest. The stratigraphy is described on the legend. We were able to identify the limestone unit as the "Joe" ("Little Joe") limestone. The unit serves as a handy marker, delineating a quartz sandstone dominated section above from a siltstone and wacke sandstone section below. In detail, a thin, less than 100 foot thick siltstone with chert unit, labeled Kbsl, overlies the limestone. It, and the section immediately underlying the limestone are the main units involved in mineralization. The various breccia units, are probably mainly tectonic in character, but also include what I believe are intrusion breccias. These breccias were formed along northeast trending faults that also controlled intrusion of the dike rocks, and to a lesser extent along a northwest trend. The breccias often contain fragments of dike rock, thus suggesting an intimate, if not genetic association with the dikes. The highest grade mineralization, and the bulk of the ounces is actually contained



CONFIDENTIAL

USMX INC. DOES NOT MAKE ANY REPRESENTATION OR WARRANTY, EXPRESS OR IMPLIED, OF ANY KIND OR NATURE WHATSOEVER WITH RESPECT TO THE ACCURACY, RELIABILITY, OR COMPLETENESS OF THIS INFORMATION OR MATTER. ANY USE OF, OR RELIANCE UPON, THIS INFORMATION OR MATTER BY ANY PERSON, FIRM OR CORPORATION SHALL BE AT HIS OR ITS SOLE RISK, AND RESPONSIBILITY.

MAP SCALE

0 100 200 300

REVISIONS	DATE	MADE BY	DESCRIPTION
1			
2			
3			
4			
5			

DATE	DRAWN BY	CHECKED	APPROVED
06-22-93			

TOMBSTONE PROJECT TOPOGRAPHY AND DRILL HOLE COLLAR LOCATION

"USMX"

OFFICE	DEPARTMENT

MAP INDEX NUMBER	SCALE	DRAWING NUMBER
	1"=100.FT	PLATE I 5

within various breccias.

Structure

Please refer to the geologic map, and accompanying sections for a description of structure. As a note of explanation, the geologic map was drafted prior to completion of additional drilling in the Contention area. Therefore, there is some discrepency, in detail, between the subsurface geologic interpretation on the sections, and the surface geologic interpretation. In general, the geology of the study area is decipherable, but in detail, especially the Contention Zone, it is very complex. For all essential purposes the Bisbee Formation forms a moderately east dipping monocline, with beds striking north to northeast. The bedding is disrupted by folds, faults, and fissures. The folds trend northwesterly and exhibit folding styles from broad and open to extremely tight. They are one of the District-wide ore controls. High angle faults trend predominantly north-northeast, and secondarily northwest. Both directions display some post-mineral movement, which tends to complicate the geology. The fissures trend northeasterly, and are an important mineralized element. Movement on the faults is both strike slip and dip slip. Regional thrusting, and bedding plane faulting is also documented.

In the Contention pit area the dikes, breccias and mineralized structures strike northeast, just slightly more easterly than bedding, and they dip steeply westward to vertical. This structural system is called the Contention-Empire zone. Parallel to this element is a post-mineral fault zone, referred to in the literature as the Contention-Tranquility fault. It is a moderately to steeply east dipping structure, that steps down the previously discussed western dipping elements. Cumulative throw on the Contention-Tranquility fault probably exceeds 150 feet. Along the axis of the Contention pit is a near-vertical to west dipping mineralized structure that has right lateral offset, based on the mapped offset of the Joe Limestone. Movement on this fault was most likely pre, syn, and post-mineral.

Sense of movement on the Contention-Empire mineralized structures is hard to ascertain. In all likelihood, these structures are related to the strike slip fault previously mentioned, and may only be tensional in nature.

The northwest folds and faults complicate structure in the mineralized Contention zone. The original values sampled in the pit are contained along a northwest trending graben. This graben roughly coincides with a broad fold structure called the Westside roll. Brecciation volume and intensity increases at the intersection of the northwest element with the Contention-Empire system. When viewing the geologic sections or mineralization sections, one must keep in mind that some of the brecciation (and mineralization) is in the plane of the section. Also, on the geologic map, brecciation is more limited, than based on subsurface interpretation.

Exploration was extended north of the Contention Zone along strike of the Empire-Contention system. The Tranquility target occurs at the intersection of this structure and an unnamed, tight, northwest trending fold. The Silverthread target occurs at the intersection of a series of northeast trending fissure with a series of northwest trending folds, herein called the Silverthread anticlinorium.

The remaining targets, the Boss, Westside, Mayflower, Ingersoll, and Tribute are mostly fissure targets or fissure-dike intersection targets. While historic high grade production and/or surface rock chip sampling provided incentive for drilling, overall neither the intensity of structure nor the alteration is as strong as that found in the area of the Contention pit. — Theirs?

Structural History, Contention Pit Area

Comments regarding the structural history (post-eastward tilting) are a synthesis of previous work and interpretation of the geologic mapping. The northwest folds and probably northwest axial plane jointing resulted form regional N-S to NE-SW compression. Probably nearly contemporaneous to this event was the formation of NS to NNE trending shears (strike-slip faults)--essentially tear faults. Probably also related to this event was the formation of northeast trending fissures , subparallel to the fold axis. Emplacement of the dike rocks followed, and then one or more mineralizing events. The mineralization is most likely Laramide. The Tranquility-Contention fault system is probably a mid or late Tertiary fault as is some movement on certain northwest structures.

MINERALIZATION AND ALTERATION

Mineralization within the Contention pit area is primarily controlled by structurally induced permeability, and secondarily by favorable lithology. The most intense structure, alteration and mineralization are coincident at the Contention Zone. Elsewhere, mineralization is less extensive, mainly because one or more of the structural elements is either not present or less pronounced. Specifically, the Contention Zone is a product of the intersection of the Contention-Empire zone with the West side roll, and accompanying northwest structures. Of importance is that ore tends to develop in the siltstones and wackes, with very little ore forming in the overlying quartz sandstones.

The mineralized zones actually correlate fairly well from section to section in the Contention Zone. The mineralization is clearly controlled by the west dipping structures, and occurs largely as steeply west dipping bodies which are offset several times, down dropped to the east, by the Tranquility-Contention fault zone. The easternmost mineralized structure appears to be a separate fault from the mineralized zones located westward, which are probably fault repetitions. Within the heart of the Contention zone, mineralization appears to coalesce and achieve more of a disseminated character. This is due to the effects of cross faulting and the presence of a fold axis. Both north and south of

the central part of the zone mineralization occurs mostly as distinct west dipping structures. The shallow mineralization in the extreme western part of the Contention zone is enigmatic. It appears stratabound, however no feeder has been found. The presence of this mineralization provides some hope for additional ore in the western part of the zone, presumably at open pit depths.

Overall, mineralization behaves a lot like a Bonanza style or Mesothermal vein system. This is probably due to effects of strike slip dominance either during, or as a structural preparation to, mineralization. The effect would be to create open and closed features along strike and down rake of the structures, essentially forming ore shoots.

Ore grade rock is almost always characterized by intense hematite, and sometimes intense limonite. The drill intercepts are almost all oxide with minor pods of sulfide rock where silicification is most intense. Alteration accompanying mineralization consists of hematite, and varying amounts of silica and clay. Clearly, at least one phase of silicification occurred, as did at least one phase of (hypogene?) clay alteration. Silicification is more in the form of replacement rather than distinct veining or open space filling, although mechanical remobilization clouds the picture. Mineralization can occur in almost any rock type but is usually spatially related and most pronounced in the breccias. The mineralized rock is usually surrounded by propylitic alteration in the form of epidote, clay, chlorite and variable, usually less intense, iron oxides.

From a geochemical point of view, metal element zoning and a strong base metal signature suggests that the ore system is mesothermal.

The north-northeast trending Contention-Empire system was clearly the main mineralizing structure, with alteration and most mineralization being hypogene. The silver values are typically leached near the surface, and overall quite erratic, probably due to supergene leaching. The gold, however, appears to be relatively immobile.

RESOURCES AND ADDITIONAL POTENTIAL

A probable geologic resource was calculated for the areas explored in vicinity of the Contention pit. This calculation is a manual one. A pit slope of 45 degrees and a tonnage factor of 13 cubic feet/ton was used. The silver to gold ratio is about 28:1, therefore the calculation reports ounces of gold equivalent, using a price of $4.39 per oz of Ag and $374 per oz of Au. Combining the Contention, Tranquility and Silverthread zones, a resource of about 1,154,000 tons at a grade of .063 opt Au equiv. is reported. This would have a minimum strip of about 5:1. The Contention area alone, as one possible pit, was calculated to contain a resource of about 717,000 tons at a grade of .065 opt Au equiv. and a minimum strip of 4:1. An additional resource, that could not be incorporated into the pit outlines, namely because it is mostly too

47KOZS

72,700 OZ AU EQUIV.

deep, would add 289,000 tons at a grade of .098 opt Au equivalent to the greater Contention, Tranquility and Silverthread resource base. Most of these ounces are derived from the deep intercepts of holes TR-33 and TR-12.

Considerable additional infill drilling would have to be undertaken in order to prove up the probable geologic resource as an engineered reserve. Some drilling is clearly suggested by "holes" in the sections. Significant drilling would be required in the area between section 255700N and 256300N. To date, mineralization in this area is very spotty.

Realistically, the additional drilling will probably decrease the resource in some areas and increase it in others. Due to the "shooty" and often high grade characteristics of mineralization, luck may have a lot to do with success. Specifically, areas with potential to impact the resource base favorably would be the western portion of the Contention Zone, if another post mineral fault exposes the footwall at a shallower level, the area north of section 255700N, especially along the pit axis, and the Silverthread zone, northeast of the drilled area. Other targets would be in and around the Boss dike, and the southern extension of the Contention-Empire system. Some underground minable resources also appear likely. Additionally, the interesting silver values from the basal portions of the Bisbee Formation, as noted in the Ingersoll and Boss areas, suggest possible bulk minable silver targets.

CONFIDENTIAL

USMX INC. DOES NOT MAKE ANY REPRESENTATION OR WARRANTY, EXPRESS OR IMPLIED, OF ANY KIND OR NATURE WHATSOEVER WITH RESPECT TO THE ACCURACY, RELIABILITY, OR COMPLETENESS OF THIS INFORMATION OR MATTER. ANY USE OF, OR RELIANCE UPON, THIS INFORMATION OR MATTER BY ANY PERSON, FIRM OR CORPORATION SHALL BE AT HIS OR ITS SOLE RISK, AND RESPONSIBILITY.

TABLE 1
TOMBSTONE DATA, 6-29-93

Drill Hole	TD	Angle	AZ	Date
TR-1	400	-60	N16E	1-19-93
TR-2	395	-60	N15E	1-20-93
TR-3	400	-60	N13E	1-21-93
TR-4	400	-90	----	1-22-93
TR-5	400	-90	----	1-23-93
TR-6	360	-90	----	1-23-93
TR-7	400	-60	N00E	1-24-93
TR-8	400	-60	N55E	1-25-93
TR-9	400	-60	S26W	1-26-93
TR-10	400	-60	S26W	1-27-93
TR-11	400	-60	S27W	2-02-93
TR-12	400	-80	N39E	2-03-93
TR-13	400	-60	S40W	2-03-93
TR-14	400	-60	N45E	2-04-93
TR-15	400	-90	----	2-05-93
TR-16	420	-70	S55W	2-06-93
TR-17	420	-45	N83E	2-07-93
TR-18	420	-45	S70W	2-08-93
TR-19	400	-50	S68W	2-09-93
TR-20	295	-60	N11W	2-09-93
TR-21	355	-60	N05W	2-10-93
TR-22	400	-45	N78E	2-20-93
TR-23	400	-45	N80E	2-21-93
TR-24	340	-90	----	2-22-93
TR-25	295	-90	----	2-23-93
TR-26	400	-90	----	2-23-93
TR-27	395	-45	N76W	2-24-93
TR-28	275	-90	----	3-19-93
TR-29	295	-90	----	3-20-93
TR-30	285	-90	----	3-21-93
TR-31	270	-90	----	3-22-93
TR-32	265	-90	----	3-23-93
TR-33	400	-90	----	3-24-93
TR-34	295	-90	----	3-25-93
TR-35	275	-90	----	3-26-93
TR-36	200	-90	----	3-26-93
TR-37	300	-90	----	3-31-93
TR-38	275	-90	----	3-31-93
TR-39	215	-60	S78E	4-02-93
TR-40	110	-60	S55E	4-03-93
TR-41	235	-60	S57E	4-03-93
TR-42	260	-90	----	4-05-93
TR-43	285	-60	S17W	4-06-93
TR-44	395	-45	S65W	4-07-93
TR-45	275	-45	S67E	4-08-93
TR-46	325	-45	N20W	4-14-93
TR-47	175	-45	S70W	4-15-93
TR-48	350	-90	----	4-14-93
TR-49	350	-90	----	4-16-93
TR-50	345	-90	----	4-16-93

Drill Hole	TD	Angle	AZ	Date
TR-51	295	-60	N33W	4-17-93
TR-52	345	-90	----	4-18-93
TR-53	345	-90	----	4-19-93
TR-54	335	-60	N26W	4-22-93
TR-55	305	-45	S80E	4-23-93
TR-56	195	-45	S42E	4-23-93
TR-57	140	-45	S75E	4-24-93
TR-58	170	-60	S68E	4-25-93
TR-59	165	-60	S77E	4-25-93
TR-60	195	-60	N50W	4-26-93
TR-61	135	-45	N30W	4-26-93
TR-62	180	-45	N82W	4-28-93
TR-63	285	-60	N80E	4-30-93
TR-64	290	-90	----	5-21-93
TR-65	280	-90	----	5-21-93
TR-66	290	-90	----	5-22-93
TR-67	285	-60	090	5-23-93
TR-68	265	-55	090	5-23-93
TR-69	235	-55	090	5-24-93
TR-70	225	-60	080	5-25-93
TR-71	235	-90	----	5-25-93
TR-72	235	-90	----	5-27-93
TR-73	210	-50	090	5-28-93
TR-74	240	-57	093	6-04-93
TR-75	165	-75	090	6-05-93
TR-76	125	-54	095	6-06-93
TR-77	160	-90	----	6-07-93
TR-78	165	-90	----	6-08-93
TR-79	175	-90	----	6-08-93
TR-80	175	-90	----	6-09-93
TR-81	220	-90	----	6-10-93
TR-82	230	-60	----	6-11-93
TR-83	100	-70	270	6-11-93
TR-84	185	-60	135	6-11-93
TR-85	175	-60	080	6-12-93
TR-86	180	-60	150	6-13-93

TABLE 2
SUMMARY OF TOMBSTONE DRILL INTERCEPTS
6-29-93

Note -- * = intercepts w/all assays >.02 Au, through TR-27

DRILL HOLE	SIGNIFICANT INTERCEPTS Au/Ag oz./ton
TR-1	60-200/140 @ .06/3.40
	Working 85-90,165-170
	*60-85/25 @.078/2.04
	*140-200/60 @ .089/6.17
	Working or fractured
	255-300/45 @ .043/1.48
	*325-330/5 @ .024/.56
	380-400/20 @ .053/.73
TR-2	55-230/175 @ .039/1.13
	*55-65/10 @.049/5.83
	*80-90/10 @ .058/2.87
	*100-110/10 @ .029/.51
	*115-230/115 @.044/.76
	185-195 Possible Workings
TR-3	80-95 Working
	*95-115/20 @ .076/2.29
	95-200/105 @ .047/1.93
	*130-140/10 @ .024/1.64
	*155-160/5 @ .142/4.30
	*165-200/35 @ .037/1.81
	140-155 Working
	160-175 Working or Cave
	*250-260/10 @ .071/.70
TR-4	165-175/10 @ .03/.85
	335-340/5 @ .03/.60
TR-8	190-200 Workings/Backfill
	*170-190/20 @ .076/1.74
	*195-260/65 @ .06/1.39
	*130-135/5 @ .038/.23
	*280-295/15 @ .117/1.56
	170-295/125 @ .063/1.28
TR-12	25-75/50 @ .036/.17
	*25-55/30 @ .046/.15
	*70-75/5 @ .042/.12
	*145-150/5 @ .037/.06
	*180-190/10 @ .044/2.04
	*215-220/5 @ .033/.61
	*225-230/5 @ .026/.43
	*240-270/30 @ .170/2.71
	215-270/55 @ .110/1.22

DRILL HOLE	SIGNIFICANT INTERCEPTS Oz/Ton Au/Ag
TR-13	*60-65/5 @ .02/.60
	*80-85/5 @ .028/.53
	60-85/25 @ .012/.47
	290-305/15 @ .010/.52
TR-14	*290-295/5 @ .052/.31
	290-310/20 @ .021/.18
TR-15	*105-115/10 @ .074/.75
	*120-125/5 @ .022/.38
	105-130/25 @ .038/.59
	*335-340/5 @ .028/.13
TR-16	*105-110/5 @ .031/.46
	105-120/15 @ .018/.41
	*380-385/5 @ .043/1.58
	375-390/15 @ .021/.873
TR-17	*10-15/5 @ .037/.02
	*180-185/5 @ .025/.033
	*225-230/5 @ .035/1.06
	*245-260/15 @ .035/1.18
	225-260/35 @ .024/.94
	225-310/85 @ .013/.48
TR-20	*95-100/5 @ .065/.15
	95-110/15 @ .031/.15
	130-185/55 @ .052/1.66
	195-210/15 @ .012/.86
TR-21	*25-30/5 @ .029/.53
	25-40/15 @ .016/.52
	80-95/15 @ .014/1.19
	*165-180/15 @ .035/.57
	250-265/15 @ .025/.63
	*345-350/5 @ .022/1.06
TR-22	*245-255/10 @ .042/.36
	*330-340/10 @ .034/.75
TR-23	*115-120/5 @ .048/.02
	115-125/10 @ .031/<.02
	310-345/35 @ .01/.44
	375-395/10 @ .022/.26
	345-365 Working/Backfill
TR-24	*250-255/5 @ .047/.24
	*260-270/10 @ .027/.23
	*285-295/10 @ .067/.23
	250-315/65 @ .024/.21
TR-25	*125-135/10 @ .044/.09

DRILL HOLE	SIGNIFICANT INTERCEPT Oz/Ton Au/Ag
TR-25	*175-190/15 @ .076/3.92 170-200/30 @ .045/2.29 *225-235/10 @ .038/1.03 225-250/25 @ .025/1.03
TR-26	130-150/20 @ .035/.65 190-220/30 @ .055/.99 310-335/25 @ .017/.23
TR-27	*160-175/15 @ .180/3.52
TR-28	115-165/50 @ .062/2.2
TR-29	140-150/10 @ .019/.72
TR-30	195-205/10 @ .022/.31
TR-31	65-85/20 @ .04/.45 170-200/30 @.06/.62
TR-32	5-20/15 @ .06/.62
TR-33	295-325/30 @ .190/6.41
TR-34	265-280/15 @ .012/.17
TR-35	No Significant Values
TR-36	0-40/40 @ .018/.70 75-95/20 @ .032/.66
TR-37	5-45/40 @ .023/.27 160-190/30 .089/3.77 195-245, No Sample, Stopes 245-270/25 @ .097/2.36
TR-38	60-80/20 @ .011/.095
TR-39	No Significant Values
TR-40	25-70/45 @ .098/.92
TR-41	20-100/80 @ .103/1.53
TR-42	175-195/20 @ .045/.42
TR-43	205-215/10 @ .016/1.49 55-70/15 @ ---/.83

DRILL HOLE	SIGNIFICANT INTERCEPTS Au/Ag oz./ton
TR-44	No Significant Values
TR-45	10-25/15 @ ---/.60 45-60/15 @ ---/.72 150-155/5 @ .028/.88
TR-46	0-10/10 @ .021/.84
TR-47	No Significant Values
TR-48	250-270/20 @ .113/1.39
TR-49	85-95/10 @ .056/.38 115-125/10 @ .064/.64
TR-50	105-110/5 @ .018/.35
TR-51	145-150/5 @ ---/2.45 155-160/5 @ .006/1.12
TR-52	200-205/5 @ .017/.12 240-245/5 @ .002/2.45 290-315/25 @ .015/1.35
TR-53	70-90/20 @ .007/1.16 90-95 Working 95-100/5 @ .011/.49 115-135/20 @ ---/1.15 135-140/5 @ .055/.97 215-225/10 @ ---/2.31 270-285/15 @ .004/3.01 320-345/25 @ ---/2.2
TR-54	210-225/15 @ .007/1.74 225-230 Working 230-235/5 @ .003/.76 235-240 Fractured, No Sample 240-250/10 @ .02/3.17
TR-55	15-45/30 @ .058/.37
TR-56	85-90/5 @ .025/5.27
TR-57	60-70/10 @ .015/.95 120-135/15 @ .013/1.54
TR-58	60-85/25 @ .024/.52
TR-59	30-45/15 @ .049/.09 85-95/10 @ .019/.078 115-125/10 @ .015/.41

DRILL HOLE	SIGNIFICANT INTERCEPTS	Au/Ag oz./ton
TR-60	145-155/10 @ .004/.89	
	25-30/5 @ .033/3.56	
TR-61	110-115/5 @ .071/6.30	
TR-62	NSV	
TR-63	205-225/20 @ .101/6.40	
TR-64	5-30/25 @ .031/.30	
	110-145/35 @ .022/.86	
	175-220/45 @ .023/1.08	
	235-265/30 @ .013/2.95	
TR-65	55-155/100 @ .033/1.37	
	215-220/10 @ .021/1.3	
TR-66	105-175/70 @ .031/1.20	
TR-67	215-285/70 @ .041/2.13	
TR-68	150-170/20 @ .074/1.15	
TR-69	230-235/5 @ .021/.52	
TR-70	105-145/40 @ .085/2.68	
	195-225/30 @ .058/3.57	
TR-71	170-200/30 @ .022/.78	
TR-72	220-235/15 @ .023/1.25	
TR-73	170-175/5 @ .035/1.60	
TR-74	80-90/10 @ .012/.99	
	170-215/45 @ .014/1.99	
	230-235/5 @ .020/.75	
TR-75	5-20/5 @ .016/.24	
TR-76	NSV	
TR-77	70-85/15 @ .018/.10	
TR-78	5-15/10 @ .003/1.95	
	100-110/10 @ .015/.20	
TR-79	20-65/45 @ .008/1.42	
TR-80	10-20/10 @ .017/1.76	
TR-81	75-85/10 @ .023/.44	

DRILL HOLE	SIGNIFICANT INTERCEPTS	Au/Ag oz./ton
TR-81	125-165/40 @ .079.3.36	
TR-82	225-230/5 @ .299/.59	
TR-83	NSV	
TR-84	80-90/10 @ NSV/1.12 110-145/35 @ NSV/.78	
TR-85	0-50, Missing 85-95,10 @ .046/.17	
TR-86	40-50/ 10 @ .03/.23 130-140/10 @ .227/15.6	

TR-001	732280.1	255350.0	4603.6	16.000	-60.000	400.00
TR-001				AU	Ag	Rock
TR-001	0.00	5.00	5.00	0.003	0.150	8.000
TR-001	5.00	10.00	5.00	0.000	0.050	8.000
TR-001	10.00	15.00	5.00	0.000	0.020	8.000
TR-001	15.00	20.00	5.00	0.000	0.020	8.000
TR-001	20.00	25.00	5.00	0.000	0.020	8.000
TR-001	25.00	30.00	5.00	0.000	0.020	8.000
TR-001	30.00	35.00	5.00	0.000	0.020	8.000
TR-001	35.00	40.00	5.00	0.001	0.060	8.000
TR-001	40.00	45.00	5.00	0.001	0.070	7.000
TR-001	45.00	50.00	5.00	0.001	0.080	7.000
TR-001	50.00	55.00	5.00	0.000	0.090	7.000
TR-001	55.00	60.00	5.00	0.000	0.090	7.000
TR-001	60.00	65.00	5.00	0.169	1.790	7.000
TR-001	65.00	70.00	5.00	0.080	1.930	7.000
TR-001	70.00	75.00	5.00	0.056	2.370	7.000
TR-001	75.00	80.00	5.00	0.039	2.270	7.000
TR-001	80.00	85.00	5.00	0.044	1.830	7.000
TR-001	85.00	90.00	5.00	-1.000	-1.000	0.000
TR-001	90.00	95.00	5.00	0.018	0.710	4.000
TR-001	95.00	100.00	5.00	0.013	0.340	4.000
TR-001	100.00	105.00	5.00	0.018	0.700	7.000
TR-001	105.00	110.00	5.00	0.013	0.520	7.000
TR-001	110.00	115.00	5.00	0.023	1.090	3.000
TR-001	115.00	120.00	5.00	0.029	0.910	3.000
TR-001	120.00	125.00	5.00	0.016	0.870	3.000
TR-001	125.00	130.00	5.00	0.020	0.940	3.000
TR-001	130.00	135.00	5.00	0.015	0.710	3.000
TR-001	135.00	140.00	5.00	0.011	0.530	3.000
TR-001	140.00	145.00	5.00	0.023	1.140	3.000
TR-001	145.00	150.00	5.00	0.154	19.950	3.000
TR-001	150.00	155.00	5.00	0.038	2.590	3.000
TR-001	155.00	160.00	5.00	0.060	3.770	3.000
TR-001	160.00	165.00	5.00	0.030	1.750	3.000
TR-001	165.00	170.00	5.00	0.040	3.330	10.000
TR-001	170.00	175.00	5.00	0.152	6.550	3.000
TR-001	175.00	180.00	5.00	0.153	3.640	3.000
TR-001	180.00	185.00	5.00	0.149	7.050	3.000
TR-001	185.00	190.00	5.00	0.107	6.980	7.000
TR-001	190.00	195.00	5.00	0.112	14.580	7.000
TR-001	195.00	200.00	5.00	0.048	2.710	7.000
TR-001	200.00	205.00	5.00	0.017	1.690	3.000
TR-001	205.00	210.00	5.00	0.007	1.270	3.000
TR-001	210.00	215.00	5.00	0.007	1.040	3.000
TR-001	215.00	220.00	5.00	0.005	1.210	1.000
TR-001	220.00	225.00	5.00	0.003	0.090	1.000
TR-001	225.00	230.00	5.00	0.002	0.090	1.000
TR-001	230.00	235.00	5.00	0.001	0.220	1.000
TR-001	235.00	240.00	5.00	0.002	0.340	1.000
TR-001	240.00	245.00	5.00	0.002	0.400	1.000
TR-001	245.00	250.00	5.00	0.003	0.200	1.000
TR-001	250.00	255.00	5.00	0.011	0.410	1.000

TR-001	255.00	260.00	5.00	0.141	3.840	2.000
TR-001	260.00	265.00	5.00	0.054	0.960	2.000
TR-001	265.00	270.00	5.00	0.027	0.750	2.000
TR-001	270.00	275.00	5.00	0.026	1.090	2.000
TR-001	275.00	280.00	5.00	0.040	1.860	2.000
TR-001	280.00	285.00	5.00	0.024	1.430	2.000
TR-001	285.00	290.00	5.00	0.024	0.830	2.000
TR-001	290.00	295.00	5.00	0.020	1.560	2.000
TR-001	295.00	300.00	5.00	0.039	1.030	2.000
TR-001	300.00	305.00	5.00	-1.000	-1.000	0.000
TR-001	305.00	310.00	5.00	-1.000	-1.000	0.000
TR-001	310.00	315.00	5.00	-1.000	-1.000	0.000
TR-001	315.00	320.00	5.00	-1.000	-1.000	0.000
TR-001	320.00	325.00	5.00	-1.000	-1.000	0.000
TR-001	325.00	330.00	5.00	0.024	0.560	1.000
TR-001	330.00	335.00	5.00	0.013	0.280	1.000
TR-001	335.00	340.00	5.00	0.008	0.200	1.000
TR-001	340.00	345.00	5.00	0.009	0.220	2.000
TR-001	345.00	350.00	5.00	0.001	0.070	2.000
TR-001	350.00	355.00	5.00	0.003	0.070	2.000
TR-001	355.00	360.00	5.00	0.000	0.060	2.000
TR-001	360.00	365.00	5.00	0.001	0.070	2.000
TR-001	365.00	370.00	5.00	0.001	0.060	2.000
TR-001	370.00	375.00	5.00	0.026	0.420	3.000
TR-001	375.00	380.00	5.00	0.016	0.200	3.000
TR-001	380.00	385.00	5.00	0.025	0.130	3.000
TR-001	385.00	390.00	5.00	0.046	0.700	3.000
TR-001	390.00	395.00	5.00	0.049	0.450	3.000
TR-001	395.00	400.00	5.00	0.093	1.640	3.000

TR-002	732320.0	255432.0	4624.3	15.000	-60.000	395.00

TR-002						
TR-002	0.00	5.00	5.00	0.005	0.270	8.000
TR-002	5.00	10.00	5.00	0.005	0.180	8.000
TR-002	10.00	15.00	5.00	0.028	0.170	8.000
TR-002	15.00	20.00	5.00	0.011	0.150	8.000
TR-002	20.00	25.00	5.00	0.005	0.120	8.000
TR-002	25.00	30.00	5.00	0.005	0.160	8.000
TR-002	30.00	35.00	5.00	0.011	0.250	8.000
TR-002	35.00	40.00	5.00	0.011	0.170	8.000
TR-002	40.00	45.00	5.00	0.006	1.750	8.000
TR-002	45.00	50.00	5.00	0.006	0.400	8.000
TR-002	50.00	55.00	5.00	0.007	1.900	3.000
TR-002	55.00	60.00	5.00	0.064	8.020	3.000
TR-002	60.00	65.00	5.00	0.035	3.650	3.000
TR-002	65.00	70.00	5.00	0.019	0.750	3.000
TR-002	70.00	75.00	5.00	0.008	0.740	3.000
TR-002	75.00	80.00	5.00	0.017	1.060	3.000
TR-002	80.00	85.00	5.00	0.044	2.050	3.000
TR-002	85.00	90.00	5.00	0.073	3.700	3.000
TR-002	90.00	95.00	5.00	0.016	0.640	3.000
TR-002	95.00	100.00	5.00	0.015	0.310	3.000
TR-002	100.00	105.00	5.00	0.031	0.530	3.000

TR-002	105.00	110.00	5.00	0.027	0.500	3.000
TR-002	110.00	115.00	5.00	0.005	0.170	3.000
TR-002	115.00	120.00	5.00	0.030	0.490	3.000
TR-002	120.00	125.00	5.00	0.048	1.020	3.000
TR-002	125.00	130.00	5.00	0.029	0.830	3.000
TR-002	130.00	135.00	5.00	0.020	0.540	3.000
TR-002	135.00	140.00	5.00	0.034	0.460	3.000
TR-002	140.00	145.00	5.00	0.027	0.490	3.000
TR-002	145.00	150.00	5.00	0.020	0.600	3.000
TR-002	150.00	155.00	5.00	0.021	0.480	3.000
TR-002	155.00	160.00	5.00	0.024	0.740	3.000
TR-002	160.00	165.00	5.00	0.024	0.670	3.000
TR-002	165.00	170.00	5.00	0.066	1.850	3.000
TR-002	170.00	175.00	5.00	0.043	0.660	3.000
TR-002	175.00	180.00	5.00	0.035	1.000	3.000
TR-002	180.00	185.00	5.00	0.043	0.920	3.000
TR-002	185.00	190.00	5.00	0.031	0.630	10.000
TR-002	190.00	195.00	5.00	0.045	0.600	10.000
TR-002	195.00	200.00	5.00	0.078	0.810	3.000
TR-002	200.00	205.00	5.00	0.870	0.480	3.000
TR-002	205.00	210.00	5.00	0.066	0.590	3.000
TR-002	210.00	215.00	5.00	0.066	0.990	3.000
TR-002	215.00	220.00	5.00	0.075	0.920	3.000
TR-002	220.00	225.00	5.00	0.050	0.540	3.000
TR-002	225.00	230.00	5.00	0.052	1.290	7.000
TR-002	230.00	235.00	5.00	0.012	0.530	7.000
TR-002	235.00	240.00	5.00	0.006	0.240	7.000
TR-002	240.00	245.00	5.00	0.005	0.290	7.000
TR-002	245.00	250.00	5.00	0.002	0.080	7.000
TR-002	250.00	255.00	5.00	0.002	0.220	7.000
TR-002	255.00	260.00	5.00	0.006	0.710	7.000
TR-002	260.00	265.00	5.00	0.004	0.320	7.000
TR-002	265.00	270.00	5.00	0.007	0.350	5.000
TR-002	270.00	275.00	5.00	0.007	1.480	5.000
TR-002	275.00	280.00	5.00	0.004	0.410	2.000
TR-002	280.00	285.00	5.00	0.008	0.500	2.000
TR-002	285.00	290.00	5.00	0.003	0.160	2.000
TR-002	290.00	295.00	5.00	0.006	0.100	2.000
TR-002	295.00	300.00	5.00	0.001	0.070	2.000
TR-002	300.00	305.00	5.00	0.001	0.060	2.000
TR-002	305.00	310.00	5.00	0.000	0.170	2.000
TR-002	310.00	315.00	5.00	0.003	0.120	2.000
TR-002	315.00	320.00	5.00	0.007	0.630	2.000
TR-002	320.00	325.00	5.00	0.001	0.450	2.000
TR-002	325.00	330.00	5.00	0.005	0.530	2.000
TR-002	330.00	335.00	5.00	0.006	0.550	2.000
TR-002	335.00	340.00	5.00	0.009	0.380	2.000
TR-002	340.00	345.00	5.00	0.012	1.140	2.000
TR-002	345.00	350.00	5.00	0.017	0.420	2.000
TR-002	350.00	355.00	5.00	0.004	0.360	2.000
TR-002	355.00	360.00	5.00	0.004	0.300	2.000
TR-002	360.00	365.00	5.00	0.004	0.200	2.000
TR-002	365.00	370.00	5.00	0.001	0.060	2.000
TR-002	370.00	375.00	5.00	0.002	0.130	2.000

TR-002	375.00	380.00	5.00	0.001	0.130	2.000
TR-002	380.00	385.00	5.00	0.001	0.140	2.000
TR-002	385.00	390.00	5.00	0.006	0.330	5.000
TR-002	390.00	395.00	5.00	0.003	0.310	5.000
TR-003	732279.0	255282.6	4624.3	13.000	-60.000	400.00
TR-003						
TR-003	0.00	5.00	5.00	0.005	0.050	8.000
TR-003	5.00	10.00	5.00	0.000	0.040	8.000
TR-003	10.00	15.00	5.00	0.003	0.040	8.000
TR-003	15.00	20.00	5.00	0.001	0.080	8.000
TR-003	20.00	25.00	5.00	0.000	0.050	8.000
TR-003	25.00	30.00	5.00	0.007	0.120	8.000
TR-003	30.00	35.00	5.00	0.009	0.100	8.000
TR-003	35.00	40.00	5.00	0.003	0.080	8.000
TR-003	40.00	45.00	5.00	0.013	0.280	8.000
TR-003	45.00	50.00	5.00	0.005	0.310	8.000
TR-003	50.00	55.00	5.00	0.001	0.250	8.000
TR-003	55.00	60.00	5.00	0.000	0.130	7.000
TR-003	60.00	65.00	5.00	0.001	0.220	7.000
TR-003	65.00	70.00	5.00	0.004	0.260	7.000
TR-003	70.00	75.00	5.00	0.001	0.180	7.000
TR-003	75.00	80.00	5.00	0.001	0.160	7.000
TR-003	80.00	85.00	5.00	0.000	0.000	0.000
TR-003	85.00	90.00	5.00	0.000	0.000	0.000
TR-003	90.00	95.00	5.00	0.000	0.000	0.000
TR-003	95.00	100.00	5.00	0.470	2.090	3.000
TR-003	100.00	105.00	5.00	0.174	3.590	3.000
TR-003	105.00	110.00	5.00	0.038	1.150	3.000
TR-003	110.00	115.00	5.00	0.045	2.340	3.000
TR-003	115.00	120.00	5.00	0.016	0.720	3.000
TR-003	120.00	125.00	5.00	0.012	1.690	3.000
TR-003	125.00	130.00	5.00	0.013	1.020	3.000
TR-003	130.00	135.00	5.00	0.031	1.930	3.000
TR-003	135.00	140.00	5.00	0.018	1.350	3.000
TR-003	140.00	145.00	5.00	0.000	0.000	0.000
TR-003	145.00	150.00	5.00	0.000	0.000	0.000
TR-003	150.00	155.00	5.00	0.000	0.000	0.000
TR-003	155.00	160.00	5.00	0.142	4.300	4.000
TR-003	160.00	165.00	5.00	0.000	0.000	0.000
TR-003	165.00	170.00	5.00	0.031	2.190	0.000
TR-003	170.00	175.00	5.00	0.045	2.040	0.000
TR-003	175.00	180.00	5.00	0.044	1.200	3.000
TR-003	180.00	185.00	5.00	0.039	1.760	3.000
TR-003	185.00	190.00	5.00	0.032	1.620	3.000
TR-003	190.00	195.00	5.00	0.035	2.070	3.000
TR-003	195.00	200.00	5.00	0.036	1.840	3.000
TR-003	200.00	205.00	5.00	0.010	0.400	3.000
TR-003	205.00	210.00	5.00	0.011	0.170	3.000
TR-003	210.00	215.00	5.00	0.004	0.330	3.000
TR-003	215.00	220.00	5.00	0.003	0.260	2.000
TR-003	220.00	225.00	5.00	0.003	0.110	2.000
TR-003	225.00	230.00	5.00	0.003	0.080	2.000

TR-003	230.00	235.00	5.00	0.010	0.390	2.000
TR-003	235.00	240.00	5.00	0.004	0.300	2.000
TR-003	240.00	245.00	5.00	0.003	0.270	2.000
TR-003	245.00	250.00	5.00	0.012	0.220	2.000
TR-003	250.00	255.00	5.00	0.410	0.700	2.000
TR-003	255.00	260.00	5.00	0.101	0.710	2.000
TR-003	260.00	265.00	5.00	0.009	0.170	2.000
TR-003	265.00	270.00	5.00	0.010	0.380	2.000
TR-003	270.00	275.00	5.00	0.005	0.230	2.000
TR-003	275.00	280.00	5.00	0.009	0.740	2.000
TR-003	280.00	285.00	5.00	0.011	1.840	2.000
TR-003	285.00	290.00	5.00	0.014	1.880	2.000
TR-003	290.00	295.00	5.00	0.002	0.790	2.000
TR-003	295.00	300.00	5.00	0.004	0.600	2.000
TR-003	300.00	305.00	5.00	0.003	0.170	2.000
TR-003	305.00	310.00	5.00	0.011	0.090	2.000
TR-003	310.00	315.00	5.00	0.019	0.200	2.000
TR-003	315.00	320.00	5.00	0.003	0.130	2.000
TR-003	320.00	325.00	5.00	0.002	0.190	2.000
TR-003	325.00	330.00	5.00	0.001	0.080	2.000
TR-003	330.00	335.00	5.00	0.000	0.060	2.000
TR-003	335.00	340.00	5.00	0.001	0.120	2.000
TR-003	340.00	345.00	5.00	0.003	0.290	2.000
TR-003	345.00	350.00	5.00	0.019	0.360	2.000
TR-003	350.00	355.00	5.00	0.010	0.480	2.000
TR-003	355.00	360.00	5.00	0.006	0.500	2.000
TR-003	360.00	365.00	5.00	0.002	0.160	2.000
TR-003	365.00	370.00	5.00	0.000	0.060	2.000
TR-003	370.00	375.00	5.00	0.000	0.060	2.000
TR-003	375.00	380.00	5.00	0.000	0.060	2.000
TR-003	380.00	385.00	5.00	0.005	0.370	2.000
TR-003	385.00	390.00	5.00	0.005	0.240	2.000
TR-003	390.00	395.00	5.00	0.015	0.580	2.000
TR-003	395.00	400.00	5.00	0.002	0.210	2.000

TR-004	732085.7	255809.8	4627.8	0.000	-90.000	400.00

TR-004						
TR-004	0.00	5.00	5.00	0.008	0.070	0.000
TR-004	5.00	10.00	5.00	0.002	0.130	0.000
TR-004	10.00	15.00	5.00	0.002	0.090	0.000
TR-004	15.00	20.00	5.00	0.008	0.130	0.000
TR-004	20.00	25.00	5.00	0.001	0.070	0.000
TR-004	25.00	30.00	5.00	0.002	0.120	0.000
TR-004	30.00	35.00	5.00	0.003	0.100	0.000
TR-004	35.00	40.00	5.00	0.001	0.040	0.000
TR-004	40.00	45.00	5.00	0.000	0.000	0.000
TR-004	45.00	50.00	5.00	0.000	0.110	0.000
TR-004	50.00	55.00	5.00	0.010	0.160	0.000
TR-004	55.00	60.00	5.00	0.002	0.100	0.000
TR-004	60.00	65.00	5.00	0.007	0.400	0.000
TR-004	65.00	70.00	5.00	0.004	0.430	0.000
TR-004	70.00	75.00	5.00	0.001	0.140	0.000
TR-004	75.00	80.00	5.00	0.003	0.150	0.000

TR-004	80.00	85.00	5.00	0.003	0.110	0.000
TR-004	85.00	90.00	5.00	0.000	0.040	0.000
TR-004	90.00	95.00	5.00	0.002	0.170	0.000
TR-004	95.00	100.00	5.00	0.000	0.020	0.000
TR-004	100.00	105.00	5.00	0.002	0.030	0.000
TR-004	105.00	110.00	5.00	0.000	0.040	0.000
TR-004	110.00	115.00	5.00	0.000	0.020	0.000
TR-004	115.00	120.00	5.00	0.000	0.020	0.000
TR-004	120.00	125.00	5.00	0.000	0.000	0.000
TR-004	125.00	130.00	5.00	0.000	0.030	0.000
TR-004	130.00	135.00	5.00	0.000	0.000	0.000
TR-004	135.00	140.00	5.00	0.001	0.000	0.000
TR-004	140.00	145.00	5.00	0.000	0.020	0.000
TR-004	145.00	150.00	5.00	0.000	0.000	0.000
TR-004	150.00	155.00	5.00	0.000	0.000	0.000
TR-004	155.00	160.00	5.00	0.000	0.030	0.000
TR-004	160.00	165.00	5.00	0.000	0.040	0.000
TR-004	165.00	170.00	5.00	0.032	1.180	0.000
TR-004	170.00	175.00	5.00	0.028	0.520	0.000
TR-004	175.00	180.00	5.00	0.002	0.140	0.000
TR-004	180.00	185.00	5.00	0.002	0.120	0.000
TR-004	185.00	190.00	5.00	0.000	0.130	0.000
TR-004	190.00	195.00	5.00	0.000	0.060	0.000
TR-004	195.00	200.00	5.00	0.006	0.340	0.000
TR-004	200.00	205.00	5.00	0.006	0.180	0.000
TR-004	205.00	210.00	5.00	0.012	0.250	0.000
TR-004	210.00	215.00	5.00	0.002	0.130	0.000
TR-004	215.00	220.00	5.00	0.003	0.160	0.000
TR-004	220.00	225.00	5.00	0.000	0.030	0.000
TR-004	225.00	230.00	5.00	0.000	0.060	0.000
TR-004	230.00	235.00	5.00	0.000	0.000	0.000
TR-004	235.00	240.00	5.00	0.000	0.090	0.000
TR-004	240.00	245.00	5.00	0.001	0.060	0.000
TR-004	245.00	250.00	5.00	0.001	0.080	0.000
TR-004	250.00	255.00	5.00	0.001	0.110	0.000
TR-004	255.00	260.00	5.00	0.000	0.060	0.000
TR-004	260.00	265.00	5.00	0.000	0.000	0.000
TR-004	265.00	270.00	5.00	0.000	0.000	0.000
TR-004	270.00	275.00	5.00	0.000	0.000	0.000
TR-004	275.00	280.00	5.00	0.000	0.000	0.000
TR-004	280.00	285.00	5.00	0.001	0.060	0.000
TR-004	285.00	290.00	5.00	0.000	0.030	0.000
TR-004	290.00	295.00	5.00	0.000	0.020	0.000
TR-004	295.00	300.00	5.00	0.003	0.050	0.000
TR-004	300.00	305.00	5.00	0.000	0.030	0.000
TR-004	305.00	310.00	5.00	0.000	0.110	0.000
TR-004	310.00	315.00	5.00	0.000	0.040	0.000
TR-004	315.00	320.00	5.00	0.000	0.030	0.000
TR-004	320.00	325.00	5.00	0.001	0.080	0.000
TR-004	325.00	330.00	5.00	0.001	0.120	0.000
TR-004	330.00	335.00	5.00	0.008	0.090	0.000
TR-004	335.00	340.00	5.00	0.030	0.600	0.000
TR-004	340.00	345.00	5.00	0.002	0.330	0.000
TR-004	345.00	350.00	5.00	0.002	0.380	0.000

TR-004	350.00	355.00	5.00	0.001	0.080	0.000
TR-004	355.00	360.00	5.00	0.000	0.100	0.000
TR-004	360.00	365.00	5.00	0.002	0.140	0.000
TR-004	365.00	370.00	5.00	0.000	0.030	0.000
TR-004	370.00	375.00	5.00	0.000	0.020	0.000
TR-004	375.00	380.00	5.00	0.001	0.180	0.000
TR-004	380.00	385.00	5.00	0.001	0.070	0.000
TR-004	385.00	390.00	5.00	0.002	0.090	0.000
TR-004	390.00	395.00	5.00	0.009	0.190	0.000
TR-004	395.00	400.00	5.00	0.001	0.080	0.000
TR-005	731873.2	256069.0	4636.1	0.000	-90.000	400.00
TR-005						
TR-005	0.00	5.00	5.00	0.001	0.040	0.000
TR-005	5.00	10.00	5.00	0.003	0.130	0.000
TR-005	10.00	15.00	5.00	0.004	0.220	0.000
TR-005	15.00	20.00	5.00	0.002	0.110	0.000
TR-005	20.00	25.00	5.00	0.001	0.040	0.000
TR-005	25.00	30.00	5.00	0.000	0.000	0.000
TR-005	30.00	35.00	5.00	0.000	0.000	0.000
TR-005	35.00	40.00	5.00	0.000	0.000	0.000
TR-005	40.00	45.00	5.00	0.000	0.000	0.000
TR-005	45.00	50.00	5.00	0.000	0.000	0.000
TR-005	50.00	55.00	5.00	0.000	0.000	0.000
TR-005	55.00	60.00	5.00	0.000	0.020	0.000
TR-005	60.00	65.00	5.00	0.001	0.040	0.000
TR-005	65.00	70.00	5.00	0.000	0.000	0.000
TR-005	70.00	75.00	5.00	0.000	0.000	0.000
TR-005	75.00	80.00	5.00	0.000	0.000	0.000
TR-005	80.00	85.00	5.00	0.000	0.000	0.000
TR-005	85.00	90.00	5.00	0.000	0.000	0.000
TR-005	90.00	95.00	5.00	0.000	0.190	0.000
TR-005	95.00	100.00	5.00	0.000	0.080	0.000
TR-005	100.00	105.00	5.00	0.000	0.000	0.000
TR-005	105.00	110.00	5.00	0.000	0.000	0.000
TR-005	110.00	115.00	5.00	0.000	0.000	0.000
TR-005	115.00	120.00	5.00	0.000	0.000	0.000
TR-005	120.00	125.00	5.00	0.000	0.000	0.000
TR-005	125.00	130.00	5.00	0.000	0.000	0.000
TR-005	130.00	135.00	5.00	0.000	0.000	0.000
TR-005	135.00	140.00	5.00	0.000	0.000	0.000
TR-005	140.00	145.00	5.00	0.000	0.040	0.000
TR-005	145.00	150.00	5.00	0.000	0.020	0.000
TR-005	150.00	155.00	5.00	0.000	0.040	0.000
TR-005	155.00	160.00	5.00	0.000	0.000	0.000
TR-005	160.00	165.00	5.00	0.000	0.000	0.000
TR-005	165.00	170.00	5.00	0.000	0.000	0.000
TR-005	170.00	175.00	5.00	0.000	0.000	0.000
TR-005	175.00	180.00	5.00	0.000	0.000	0.000
TR-005	180.00	185.00	5.00	0.000	0.020	0.000
TR-005	185.00	190.00	5.00	0.000	0.040	0.000
TR-005	190.00	195.00	5.00	0.000	0.000	0.000
TR-005	195.00	200.00	5.00	0.000	0.000	0.000

TR-005	200.00	205.00	5.00	0.001	0.000	0.000
TR-005	205.00	210.00	5.00	0.000	0.110	0.000
TR-005	210.00	215.00	5.00	0.000	0.040	0.000
TR-005	215.00	220.00	5.00	0.000	0.060	0.000
TR-005	220.00	225.00	5.00	0.002	0.060	0.000
TR-005	225.00	230.00	5.00	0.000	0.020	0.000
TR-005	230.00	235.00	5.00	0.000	0.000	0.000
TR-005	235.00	240.00	5.00	0.000	0.000	0.000
TR-005	240.00	245.00	5.00	0.000	0.000	0.000
TR-005	245.00	250.00	5.00	0.000	0.000	0.000
TR-005	250.00	255.00	5.00	0.000	0.000	0.000
TR-005	255.00	260.00	5.00	0.000	0.000	0.000
TR-005	260.00	265.00	5.00	0.000	0.030	0.000
TR-005	265.00	270.00	5.00	0.000	0.030	0.000
TR-005	270.00	275.00	5.00	0.000	0.030	0.000
TR-005	275.00	280.00	5.00	0.000	0.000	0.000
TR-005	280.00	285.00	5.00	0.000	0.040	0.000
TR-005	285.00	290.00	5.00	0.000	0.030	0.000
TR-005	290.00	295.00	5.00	0.002	0.080	0.000
TR-005	295.00	300.00	5.00	0.004	0.040	0.000
TR-005	300.00	305.00	5.00	0.001	0.050	0.000
TR-005	305.00	310.00	5.00	0.000	0.020	0.000
TR-005	310.00	315.00	5.00	0.001	0.020	0.000
TR-005	315.00	320.00	5.00	0.016	0.300	0.000
TR-005	320.00	325.00	5.00	0.005	0.350	0.000
TR-005	325.00	330.00	5.00	0.006	0.710	0.000
TR-005	330.00	335.00	5.00	0.000	0.050	0.000
TR-005	335.00	340.00	5.00	0.000	0.060	0.000
TR-005	340.00	345.00	5.00	0.000	0.040	0.000
TR-005	345.00	350.00	5.00	0.002	0.090	0.000
TR-005	350.00	355.00	5.00	0.000	0.020	0.000
TR-005	355.00	360.00	5.00	0.000	0.040	0.000
TR-005	360.00	365.00	5.00	0.000	0.000	0.000
TR-005	365.00	370.00	5.00	0.001	0.050	0.000
TR-005	370.00	375.00	5.00	0.007	0.300	0.000
TR-005	375.00	380.00	5.00	0.003	0.110	0.000
TR-005	380.00	385.00	5.00	0.000	0.000	0.000
TR-005	385.00	390.00	5.00	0.000	0.000	0.000
TR-005	390.00	395.00	5.00	0.000	0.050	0.000
TR-005	395.00	400.00	5.00	0.000	0.050	0.000

TR-006	732041.6	256123.6	4633.6	0.000	-90.000	365.00

TR-006						
TR-006	0.00	5.00	5.00	0.001	0.080	0.000
TR-006	5.00	10.00	5.00	0.001	0.090	0.000
TR-006	10.00	15.00	5.00	0.002	0.080	0.000
TR-006	15.00	20.00	5.00	0.000	0.040	0.000
TR-006	20.00	25.00	5.00	0.000	0.030	0.000
TR-006	25.00	30.00	5.00	0.000	0.020	0.000
TR-006	30.00	35.00	5.00	0.000	0.020	0.000
TR-006	35.00	40.00	5.00	0.000	0.030	0.000
TR-006	40.00	45.00	5.00	0.000	0.000	0.000
TR-006	45.00	50.00	5.00	0.000	0.030	0.000

TR-006	50.00	55.00	5.00	0.000	0.000	0.000
TR-006	55.00	60.00	5.00	0.000	0.000	0.000
TR-006	60.00	65.00	5.00	0.000	0.000	0.000
TR-006	65.00	70.00	5.00	0.000	0.020	0.000
TR-006	70.00	75.00	5.00	0.002	0.000	0.000
TR-006	75.00	80.00	5.00	0.000	0.000	0.000
TR-006	80.00	85.00	5.00	0.000	0.000	0.000
TR-006	85.00	90.00	5.00	0.000	0.000	0.000
TR-006	90.00	95.00	5.00	0.000	0.000	0.000
TR-006	95.00	100.00	5.00	0.000	0.040	0.000
TR-006	100.00	105.00	5.00	0.000	0.000	0.000
TR-006	105.00	110.00	5.00	0.000	0.040	0.000
TR-006	110.00	115.00	5.00	0.000	0.050	0.000
TR-006	115.00	120.00	5.00	0.000	0.000	0.000
TR-006	120.00	125.00	5.00	0.000	0.000	0.000
TR-006	125.00	130.00	5.00	0.000	0.000	0.000
TR-006	130.00	135.00	5.00	0.000	0.000	0.000
TR-006	135.00	140.00	5.00	0.000	0.040	0.000
TR-006	140.00	145.00	5.00	0.000	0.070	0.000
TR-006	145.00	150.00	5.00	0.000	0.060	0.000
TR-006	150.00	155.00	5.00	0.000	0.000	0.000
TR-006	155.00	160.00	5.00	0.000	0.040	0.000
TR-006	160.00	165.00	5.00	0.000	0.120	0.000
TR-006	165.00	170.00	5.00	0.000	0.160	0.000
TR-006	170.00	175.00	5.00	0.000	0.160	0.000
TR-006	175.00	180.00	5.00	0.000	0.160	0.000
TR-006	180.00	185.00	5.00	0.000	0.000	0.000
TR-006	185.00	190.00	5.00	0.000	0.060	0.000
TR-006	190.00	195.00	5.00	0.000	0.030	0.000
TR-006	195.00	200.00	5.00	0.000	0.000	0.000
TR-006	200.00	205.00	5.00	0.000	0.110	0.000
TR-006	205.00	210.00	5.00	0.001	0.060	0.000
TR-006	210.00	215.00	5.00	0.000	0.000	0.000
TR-006	215.00	220.00	5.00	0.000	0.000	0.000
TR-006	220.00	225.00	5.00	0.000	0.000	0.000
TR-006	225.00	230.00	5.00	0.000	0.000	0.000
TR-006	230.00	235.00	5.00	0.000	0.000	0.000
TR-006	235.00	240.00	5.00	0.000	0.000	0.000
TR-006	240.00	245.00	5.00	0.000	0.000	0.000
TR-006	245.00	250.00	5.00	0.000	0.000	0.000
TR-006	250.00	255.00	5.00	0.000	0.000	0.000
TR-006	255.00	260.00	5.00	0.000	0.000	0.000
TR-006	260.00	265.00	5.00	0.000	0.000	0.000
TR-006	265.00	270.00	5.00	0.000	0.000	0.000
TR-006	270.00	275.00	5.00	0.001	0.000	0.000
TR-006	275.00	280.00	5.00	0.000	0.000	0.000
TR-006	280.00	285.00	5.00	0.013	0.040	0.000
TR-006	285.00	290.00	5.00	0.002	0.080	0.000
TR-006	290.00	295.00	5.00	0.000	0.020	0.000
TR-006	295.00	300.00	5.00	0.000	0.000	0.000
TR-006	300.00	305.00	5.00	0.000	0.000	0.000
TR-006	305.00	310.00	5.00	0.000	0.000	0.000
TR-006	310.00	315.00	5.00	0.000	0.110	0.000
TR-006	315.00	320.00	5.00	0.001	0.030	0.000

TR-006	320.00	325.00	5.00	0.001	0.030	0.000
TR-006	325.00	330.00	5.00	0.003	0.080	0.000
TR-006	330.00	335.00	5.00	0.000	0.040	0.000
TR-006	335.00	340.00	5.00	0.002	0.090	0.000
TR-006	340.00	345.00	5.00	0.008	0.030	0.000
TR-006	345.00	350.00	5.00	0.000	0.000	0.000
TR-006	350.00	355.00	5.00	0.002	0.030	0.000
TR-006	355.00	360.00	5.00	0.002	0.040	0.000
TR-007	731731.4	256079.0	4638.6	0.000	-60.000	400.00
TR-007						
TR-007	0.00	5.00	5.00	0.004	0.180	0.000
TR-007	5.00	10.00	5.00	0.002	0.080	0.000
TR-007	10.00	15.00	5.00	0.003	0.150	0.000
TR-007	15.00	20.00	5.00	0.003	0.170	0.000
TR-007	20.00	25.00	5.00	0.004	0.280	0.000
TR-007	25.00	30.00	5.00	0.004	0.300	0.000
TR-007	30.00	35.00	5.00	0.001	0.130	0.000
TR-007	35.00	40.00	5.00	0.002	0.150	0.000
TR-007	40.00	45.00	5.00	0.001	0.060	0.000
TR-007	45.00	50.00	5.00	0.000	0.000	0.000
TR-007	50.00	55.00	5.00	0.000	0.060	0.000
TR-007	55.00	60.00	5.00	0.000	0.200	0.000
TR-007	60.00	65.00	5.00	0.000	0.210	0.000
TR-007	65.00	70.00	5.00	0.001	0.180	0.000
TR-007	70.00	75.00	5.00	0.000	0.060	0.000
TR-007	75.00	80.00	5.00	0.002	0.550	0.000
TR-007	80.00	85.00	5.00	0.002	0.400	0.000
TR-007	85.00	90.00	5.00	0.003	0.440	0.000
TR-007	90.00	95.00	5.00	0.002	0.130	0.000
TR-007	95.00	100.00	5.00	0.000	0.050	0.000
TR-007	100.00	105.00	5.00	0.001	0.140	0.000
TR-007	105.00	110.00	5.00	0.000	0.040	0.000
TR-007	110.00	115.00	5.00	0.000	0.060	0.000
TR-007	115.00	120.00	5.00	0.000	0.270	0.000
TR-007	120.00	125.00	5.00	0.000	0.180	0.000
TR-007	125.00	130.00	5.00	0.001	0.130	0.000
TR-007	130.00	135.00	5.00	0.002	0.210	0.000
TR-007	135.00	140.00	5.00	0.000	0.130	0.000
TR-007	140.00	145.00	5.00	0.000	0.040	0.000
TR-007	145.00	150.00	5.00	0.000	0.030	0.000
TR-007	150.00	155.00	5.00	0.001	0.160	0.000
TR-007	155.00	160.00	5.00	0.000	0.220	0.000
TR-007	160.00	165.00	5.00	0.001	0.090	0.000
TR-007	165.00	170.00	5.00	0.000	0.110	0.000
TR-007	170.00	175.00	5.00	0.000	0.080	0.000
TR-007	175.00	180.00	5.00	0.000	0.050	0.000
TR-007	180.00	185.00	5.00	0.000	0.060	0.000
TR-007	185.00	190.00	5.00	0.000	0.060	0.000
TR-007	190.00	195.00	5.00	0.000	0.100	0.000
TR-007	195.00	200.00	5.00	0.000	0.030	0.000
TR-007	200.00	205.00	5.00	0.000	0.000	0.000
TR-007	205.00	210.00	5.00	0.005	0.180	0.000

TR-007	210.00	215.00	5.00	0.004	0.530	0.000
TR-007	215.00	220.00	5.00	0.002	0.660	0.000
TR-007	220.00	225.00	5.00	0.000	0.160	0.000
TR-007	225.00	230.00	5.00	0.000	0.090	0.000
TR-007	230.00	235.00	5.00	0.000	0.030	0.000
TR-007	235.00	240.00	5.00	0.000	0.030	0.000
TR-007	240.00	245.00	5.00	0.000	0.030	0.000
TR-007	245.00	250.00	5.00	0.000	0.020	0.000
TR-007	250.00	255.00	5.00	0.001	0.040	0.000
TR-007	255.00	260.00	5.00	0.000	0.060	0.000
TR-007	260.00	265.00	5.00	0.000	0.050	0.000
TR-007	265.00	270.00	5.00	0.002	0.070	0.000
TR-007	270.00	275.00	5.00	0.010	0.040	0.000
TR-007	275.00	280.00	5.00	0.000	0.030	0.000
TR-007	280.00	285.00	5.00	0.000	0.040	0.000
TR-007	285.00	290.00	5.00	0.000	0.070	0.000
TR-007	290.00	295.00	5.00	0.001	0.040	0.000
TR-007	295.00	300.00	5.00	0.000	0.030	0.000
TR-007	300.00	305.00	5.00	0.004	0.030	0.000
TR-007	305.00	310.00	5.00	0.000	0.030	0.000
TR-007	310.00	315.00	5.00	0.000	0.030	0.000
TR-007	315.00	320.00	5.00	0.000	0.040	0.000
TR-007	320.00	325.00	5.00	0.002	0.030	0.000
TR-007	325.00	330.00	5.00	0.000	0.020	0.000
TR-007	330.00	335.00	5.00	0.000	0.090	0.000
TR-007	335.00	340.00	5.00	0.000	0.050	0.000
TR-007	340.00	345.00	5.00	0.000	0.000	0.000
TR-007	345.00	350.00	5.00	0.002	0.230	0.000
TR-007	350.00	355.00	5.00	0.000	0.150	0.000
TR-007	355.00	360.00	5.00	0.001	0.290	0.000
TR-007	360.00	365.00	5.00	0.000	0.050	0.000
TR-007	365.00	370.00	5.00	0.000	0.060	0.000
TR-007	370.00	375.00	5.00	0.004	0.800	0.000
TR-007	375.00	380.00	5.00	0.000	0.140	0.000
TR-007	380.00	385.00	5.00	0.000	0.000	0.000
TR-007	385.00	390.00	5.00	0.003	0.180	0.000
TR-007	390.00	395.00	5.00	0.000	0.030	0.000
TR-007	395.00	400.00	5.00	0.000	0.030	0.000

TR-008	732196.1	255446.8	4632.9	55.000	-60.000	400.00

TR-008						
TR-008	0.00	5.00	5.00	0.000	0.040	12.000
TR-008	5.00	10.00	5.00	0.000	0.020	6.000
TR-008	10.00	15.00	5.00	0.000	0.000	5.000
TR-008	15.00	20.00	5.00	0.000	0.000	5.000
TR-008	20.00	25.00	5.00	0.000	0.000	6.000
TR-008	25.00	30.00	5.00	0.000	0.000	6.000
TR-008	30.00	35.00	5.00	0.000	0.000	6.000
TR-008	35.00	40.00	5.00	0.003	0.000	6.000
TR-008	40.00	45.00	5.00	0.000	0.000	6.000
TR-008	45.00	50.00	5.00	0.000	0.000	6.000
TR-008	50.00	55.00	5.00	0.000	0.020	6.000
TR-008	55.00	60.00	5.00	0.000	0.060	6.000

TR-008	60.00	65.00	5.00	0.000	0.000	6.000
TR-008	65.00	70.00	5.00	0.000	0.040	6.000
TR-008	70.00	75.00	5.00	0.000	0.000	6.000
TR-008	75.00	80.00	5.00	0.001	0.020	6.000
TR-008	80.00	85.00	5.00	0.004	0.030	6.000
TR-008	85.00	90.00	5.00	0.002	0.020	6.000
TR-008	90.00	95.00	5.00	0.000	0.000	2.000
TR-008	95.00	100.00	5.00	0.000	0.000	2.000
TR-008	100.00	105.00	5.00	0.000	0.020	2.000
TR-008	105.00	110.00	5.00	0.000	0.000	2.000
TR-008	110.00	115.00	5.00	0.000	0.040	2.000
TR-008	115.00	120.00	5.00	0.000	0.060	2.000
TR-008	120.00	125.00	5.00	0.000	0.060	6.000
TR-008	125.00	130.00	5.00	0.008	0.120	6.000
TR-008	130.00	135.00	5.00	0.038	0.230	4.000
TR-008	135.00	140.00	5.00	0.008	0.460	4.000
TR-008	140.00	145.00	5.00	0.005	0.230	3.000
TR-008	145.00	150.00	5.00	0.014	0.310	3.000
TR-008	150.00	155.00	5.00	0.005	0.300	6.000
TR-008	155.00	160.00	5.00	0.004	0.670	6.000
TR-008	160.00	165.00	5.00	0.008	0.560	6.000
TR-008	165.00	170.00	5.00	0.011	0.460	2.000
TR-008	170.00	175.00	5.00	0.052	0.590	2.000
TR-008	175.00	180.00	5.00	0.130	4.280	2.000
TR-008	180.00	185.00	5.00	0.066	1.130	2.000
TR-008	185.00	190.00	5.00	0.059	0.990	2.000
TR-008	190.00	195.00	5.00	-1.000	-1.000	0.000
TR-008	195.00	200.00	5.00	0.084	0.960	3.000
TR-008	200.00	205.00	5.00	0.045	0.530	10.000
TR-008	205.00	210.00	5.00	0.041	0.070	10.000
TR-008	210.00	215.00	5.00	0.054	1.930	2.000
TR-008	215.00	220.00	5.00	0.036	1.560	2.000
TR-008	220.00	225.00	5.00	0.065	1.980	2.000
TR-008	225.00	230.00	5.00	0.041	0.810	2.000
TR-008	230.00	235.00	5.00	0.029	0.500	2.000
TR-008	235.00	240.00	5.00	0.127	1.150	2.000
TR-008	240.00	245.00	5.00	0.083	2.200	2.000
TR-008	245.00	250.00	5.00	0.137	2.390	3.000
TR-008	250.00	255.00	5.00	0.034	1.230	3.000
TR-008	255.00	260.00	5.00	0.030	2.180	3.000
TR-008	260.00	265.00	5.00	0.010	0.450	3.000
TR-008	265.00	270.00	5.00	0.007	0.170	3.000
TR-008	270.00	275.00	5.00	0.011	0.200	3.000
TR-008	275.00	280.00	5.00	0.018	0.210	3.000
TR-008	280.00	285.00	5.00	0.133	1.480	6.000
TR-008	285.00	290.00	5.00	0.187	1.760	6.000
TR-008	290.00	295.00	5.00	0.031	1.440	6.000
TR-008	295.00	300.00	5.00	0.015	0.900	6.000
TR-008	300.00	305.00	5.00	0.010	1.010	6.000
TR-008	305.00	310.00	5.00	0.012	0.750	6.000
TR-008	310.00	315.00	5.00	0.007	0.420	6.000
TR-008	315.00	320.00	5.00	0.003	0.320	2.000
TR-008	320.00	325.00	5.00	0.003	0.030	2.000
TR-008	325.00	330.00	5.00	0.005	2.110	2.000

TR-008	330.00	335.00	5.00	0.006	1.190	2.000
TR-008	335.00	340.00	5.00	0.007	0.360	2.000
TR-008	340.00	345.00	5.00	0.007	0.360	2.000
TR-008	345.00	350.00	5.00	0.005	0.200	2.000
TR-008	350.00	355.00	5.00	0.005	0.460	2.000
TR-008	355.00	360.00	5.00	0.003	0.280	2.000
TR-008	360.00	365.00	5.00	0.003	0.170	2.000
TR-008	365.00	370.00	5.00	0.003	0.240	2.000
TR-008	370.00	375.00	5.00	0.005	0.310	2.000
TR-008	375.00	380.00	5.00	0.008	0.480	2.000
TR-008	380.00	385.00	5.00	0.009	0.560	2.000
TR-008	385.00	390.00	5.00	0.005	0.260	1.000
TR-008	390.00	395.00	5.00	0.004	0.110	1.000
TR-008	395.00	400.00	5.00	0.002	0.060	1.000
TR-009	732584.6	254993.5	4714.9	206.000	-60.000	400.00
TR-009						
TR-009	0.00	5.00	5.00	0.000	0.000	0.000
TR-009	5.00	10.00	5.00	0.000	0.000	0.000
TR-009	10.00	15.00	5.00	0.000	0.000	0.000
TR-009	15.00	20.00	5.00	0.000	0.000	0.000
TR-009	20.00	25.00	5.00	0.000	0.000	0.000
TR-009	25.00	30.00	5.00	0.000	0.000	0.000
TR-009	30.00	35.00	5.00	0.001	0.000	0.000
TR-009	35.00	40.00	5.00	0.001	0.000	0.000
TR-009	40.00	45.00	5.00	0.003	0.110	0.000
TR-009	45.00	50.00	5.00	0.000	0.000	0.000
TR-009	50.00	55.00	5.00	0.000	0.000	0.000
TR-009	55.00	60.00	5.00	0.000	0.000	0.000
TR-009	60.00	65.00	5.00	0.000	0.000	0.000
TR-009	65.00	70.00	5.00	0.000	0.000	0.000
TR-009	70.00	75.00	5.00	0.000	0.000	0.000
TR-009	75.00	80.00	5.00	0.000	0.000	0.000
TR-009	80.00	85.00	5.00	0.000	0.000	0.000
TR-009	85.00	90.00	5.00	0.000	0.000	0.000
TR-009	90.00	95.00	5.00	0.000	0.000	0.000
TR-009	95.00	100.00	5.00	0.000	0.000	0.000
TR-009	100.00	105.00	5.00	0.002	0.030	0.000
TR-009	105.00	110.00	5.00	0.002	0.060	0.000
TR-009	110.00	115.00	5.00	0.002	0.070	0.000
TR-009	115.00	120.00	5.00	0.003	0.370	0.000
TR-009	120.00	125.00	5.00	0.003	0.480	0.000
TR-009	125.00	130.00	5.00	0.006	0.300	0.000
TR-009	130.00	135.00	5.00	0.005	0.340	0.000
TR-009	135.00	140.00	5.00	0.003	0.130	0.000
TR-009	140.00	145.00	5.00	0.001	0.090	0.000
TR-009	145.00	150.00	5.00	0.001	0.040	0.000
TR-009	150.00	155.00	5.00	0.000	0.040	0.000
TR-009	155.00	160.00	5.00	0.000	0.040	0.000
TR-009	160.00	165.00	5.00	0.002	0.150	0.000
TR-009	165.00	170.00	5.00	0.000	0.020	0.000
TR-009	170.00	175.00	5.00	0.000	0.000	0.000
TR-009	175.00	180.00	5.00	0.000	0.000	0.000

TR-009	180.00	185.00	5.00	0.000	0.000	0.000
TR-009	185.00	190.00	5.00	0.000	0.000	0.000
TR-009	190.00	195.00	5.00	0.001	0.020	0.000
TR-009	195.00	200.00	5.00	0.001	0.050	0.000
TR-009	200.00	205.00	5.00	0.000	0.000	0.000
TR-009	205.00	210.00	5.00	0.000	0.040	0.000
TR-009	210.00	215.00	5.00	0.000	0.060	0.000
TR-009	215.00	220.00	5.00	0.001	0.070	0.000
TR-009	220.00	225.00	5.00	0.001	0.040	0.000
TR-009	225.00	230.00	5.00	0.000	0.020	0.000
TR-009	230.00	235.00	5.00	0.000	0.030	0.000
TR-009	235.00	240.00	5.00	0.000	0.020	0.000
TR-009	240.00	245.00	5.00	0.000	0.000	0.000
TR-009	245.00	250.00	5.00	0.000	0.040	0.000
TR-009	250.00	255.00	5.00	0.001	0.030	0.000
TR-009	255.00	260.00	5.00	0.000	0.020	0.000
TR-009	260.00	265.00	5.00	0.001	0.000	0.000
TR-009	265.00	270.00	5.00	0.001	0.040	0.000
TR-009	270.00	275.00	5.00	0.002	0.020	0.000
TR-009	275.00	280.00	5.00	0.002	0.020	0.000
TR-009	280.00	285.00	5.00	0.000	0.020	0.000
TR-009	285.00	290.00	5.00	0.001	0.020	0.000
TR-009	290.00	295.00	5.00	0.001	0.030	0.000
TR-009	295.00	300.00	5.00	0.002	0.060	0.000
TR-009	300.00	305.00	5.00	0.002	0.050	0.000
TR-009	305.00	310.00	5.00	0.002	0.050	0.000
TR-009	310.00	315.00	5.00	0.001	0.030	0.000
TR-009	315.00	320.00	5.00	0.000	0.000	0.000
TR-009	320.00	325.00	5.00	0.000	0.000	0.000
TR-009	325.00	330.00	5.00	0.000	0.000	0.000
TR-009	330.00	335.00	5.00	0.000	0.000	0.000
TR-009	335.00	340.00	5.00	0.000	0.000	0.000
TR-009	340.00	345.00	5.00	0.000	0.030	0.000
TR-009	345.00	350.00	5.00	0.000	0.020	0.000
TR-009	350.00	355.00	5.00	0.000	0.030	0.000
TR-009	355.00	360.00	5.00	0.001	0.100	0.000
TR-009	360.00	365.00	5.00	0.001	0.050	0.000
TR-009	365.00	370.00	5.00	0.002	0.050	0.000
TR-009	370.00	375.00	5.00	0.000	0.030	0.000
TR-009	375.00	380.00	5.00	0.000	0.030	0.000
TR-009	380.00	385.00	5.00	0.001	0.040	0.000
TR-009	385.00	390.00	5.00	0.003	0.090	0.000
TR-009	390.00	395.00	5.00	0.002	0.060	0.000
TR-009	395.00	400.00	5.00	0.000	0.030	0.000

TR-010	732635.0	255084.2	4710.6	206.000	-60.000	400.00

TR-010						
TR-010	0.00	5.00	5.00	0.000	0.040	0.000
TR-010	5.00	10.00	5.00	0.000	0.000	0.000
TR-010	10.00	15.00	5.00	0.002	0.000	0.000
TR-010	15.00	20.00	5.00	0.000	0.000	0.000
TR-010	20.00	25.00	5.00	0.000	0.000	0.000
TR-010	25.00	30.00	5.00	0.001	0.000	0.000

TR-010	30.00	35.00	5.00	0.003	0.000	0.000
TR-010	35.00	40.00	5.00	0.001	0.030	0.000
TR-010	40.00	45.00	5.00	0.000	0.000	0.000
TR-010	45.00	50.00	5.00	0.000	0.000	0.000
TR-010	50.00	55.00	5.00	0.001	0.000	0.000
TR-010	55.00	60.00	5.00	0.002	0.000	0.000
TR-010	60.00	65.00	5.00	0.006	0.150	0.000
TR-010	65.00	70.00	5.00	0.000	0.060	0.000
TR-010	70.00	75.00	5.00	0.001	0.040	0.000
TR-010	75.00	80.00	5.00	0.002	0.040	0.000
TR-010	80.00	85.00	5.00	0.000	0.000	0.000
TR-010	85.00	90.00	5.00	0.000	0.000	0.000
TR-010	90.00	95.00	5.00	0.000	0.000	0.000
TR-010	95.00	100.00	5.00	0.000	0.000	0.000
TR-010	100.00	105.00	5.00	0.000	0.000	0.000
TR-010	105.00	110.00	5.00	0.000	0.000	0.000
TR-010	110.00	115.00	5.00	0.002	0.000	0.000
TR-010	115.00	120.00	5.00	0.000	0.000	0.000
TR-010	120.00	125.00	5.00	0.000	0.000	0.000
TR-010	125.00	130.00	5.00	0.000	0.000	0.000
TR-010	130.00	135.00	5.00	0.000	0.000	0.000
TR-010	135.00	140.00	5.00	0.000	0.000	0.000
TR-010	140.00	145.00	5.00	0.000	0.000	0.000
TR-010	145.00	150.00	5.00	0.000	0.000	0.000
TR-010	150.00	155.00	5.00	0.000	0.000	0.000
TR-010	155.00	160.00	5.00	0.000	0.000	0.000
TR-010	160.00	165.00	5.00	0.000	0.000	0.000
TR-010	165.00	170.00	5.00	0.000	0.000	0.000
TR-010	170.00	175.00	5.00	0.000	0.000	0.000
TR-010	175.00	180.00	5.00	0.000	0.000	0.000
TR-010	180.00	185.00	5.00	0.000	0.000	0.000
TR-010	185.00	190.00	5.00	0.000	0.000	0.000
TR-010	190.00	195.00	5.00	0.000	0.000	0.000
TR-010	195.00	200.00	5.00	0.000	0.040	0.000
TR-010	200.00	205.00	5.00	0.002	0.050	0.000
TR-010	205.00	210.00	5.00	0.001	0.000	0.000
TR-010	210.00	215.00	5.00	0.000	0.000	0.000
TR-010	215.00	220.00	5.00	0.001	0.090	0.000
TR-010	220.00	225.00	5.00	0.001	0.100	0.000
TR-010	225.00	230.00	5.00	0.001	0.080	0.000
TR-010	230.00	235.00	5.00	0.001	0.040	0.000
TR-010	235.00	240.00	5.00	0.001	0.050	0.000
TR-010	240.00	245.00	5.00	0.000	0.040	0.000
TR-010	245.00	250.00	5.00	0.002	0.030	0.000
TR-010	250.00	255.00	5.00	0.002	0.020	0.000
TR-010	255.00	260.00	5.00	0.002	0.030	0.000
TR-010	260.00	265.00	5.00	0.001	0.130	0.000
TR-010	265.00	270.00	5.00	0.001	0.100	0.000
TR-010	270.00	275.00	5.00	0.000	0.070	0.000
TR-010	275.00	280.00	5.00	0.000	0.070	0.000
TR-010	280.00	285.00	5.00	0.000	0.080	0.000
TR-010	285.00	290.00	5.00	0.000	0.030	0.000
TR-010	290.00	295.00	5.00	0.000	0.000	0.000
TR-010	295.00	300.00	5.00	0.000	0.000	0.000

TR-010	300.00	305.00	5.00	0.001	0.000	0.000
TR-010	305.00	310.00	5.00	0.000	0.000	0.000
TR-010	310.00	315.00	5.00	0.000	0.030	0.000
TR-010	315.00	320.00	5.00	0.002	0.080	0.000
TR-010	320.00	325.00	5.00	0.001	0.080	0.000
TR-010	325.00	330.00	5.00	0.001	0.100	0.000
TR-010	330.00	335.00	5.00	0.001	0.100	0.000
TR-010	335.00	340.00	5.00	0.000	0.070	0.000
TR-010	340.00	345.00	5.00	0.000	0.150	0.000
TR-010	345.00	350.00	5.00	0.000	0.170	0.000
TR-010	350.00	355.00	5.00	0.000	0.430	0.000
TR-010	355.00	360.00	5.00	0.003	0.400	0.000
TR-010	360.00	365.00	5.00	0.002	0.390	0.000
TR-010	365.00	370.00	5.00	0.004	0.500	0.000
TR-010	370.00	375.00	5.00	0.002	0.280	0.000
TR-010	375.00	380.00	5.00	0.003	0.250	0.000
TR-010	380.00	385.00	5.00	0.000	0.150	0.000
TR-010	385.00	390.00	5.00	0.000	0.080	0.000
TR-010	390.00	395.00	5.00	0.000	0.050	0.000
TR-010	395.00	400.00	5.00	0.000	0.000	0.000

TR-011	732683.2	255177.8	4702.6	207.000	-60.000	400.00

TR-011						
TR-011	0.00	5.00	5.00	0.006	0.130	0.000
TR-011	5.00	10.00	5.00	0.000	0.120	0.000
TR-011	10.00	15.00	5.00	0.001	0.120	0.000
TR-011	15.00	20.00	5.00	0.001	0.180	0.000
TR-011	20.00	25.00	5.00	0.001	0.180	0.000
TR-011	25.00	30.00	5.00	0.003	0.270	0.000
TR-011	30.00	35.00	5.00	0.000	0.110	0.000
TR-011	35.00	40.00	5.00	0.000	0.110	0.000
TR-011	40.00	45.00	5.00	0.000	0.060	0.000
TR-011	45.00	50.00	5.00	0.000	0.080	0.000
TR-011	50.00	55.00	5.00	0.002	0.080	0.000
TR-011	55.00	60.00	5.00	0.002	0.090	0.000
TR-011	60.00	65.00	5.00	0.002	0.150	0.000
TR-011	65.00	70.00	5.00	0.006	0.200	0.000
TR-011	70.00	75.00	5.00	0.004	0.140	0.000
TR-011	75.00	80.00	5.00	0.004	0.100	0.000
TR-011	80.00	85.00	5.00	0.002	0.080	0.000
TR-011	85.00	90.00	5.00	0.002	0.110	0.000
TR-011	90.00	95.00	5.00	0.001	0.080	0.000
TR-011	95.00	100.00	5.00	0.000	0.050	0.000
TR-011	100.00	105.00	5.00	0.003	0.130	0.000
TR-011	105.00	110.00	5.00	0.000	0.050	0.000
TR-011	110.00	115.00	5.00	0.000	0.040	0.000
TR-011	115.00	120.00	5.00	0.000	0.030	0.000
TR-011	120.00	125.00	5.00	0.000	0.000	0.000
TR-011	125.00	130.00	5.00	0.000	0.000	0.000
TR-011	130.00	135.00	5.00	0.000	0.000	0.000
TR-011	135.00	140.00	5.00	0.001	0.000	0.000
TR-011	140.00	145.00	5.00	0.001	0.000	0.000
TR-011	145.00	150.00	5.00	0.002	0.000	0.000

TR-011	150.00	155.00	5.00	0.001	0.000	0.000
TR-011	155.00	160.00	5.00	0.000	0.000	0.000
TR-011	160.00	165.00	5.00	0.000	0.000	0.000
TR-011	165.00	170.00	5.00	0.000	0.000	0.000
TR-011	170.00	175.00	5.00	0.000	0.000	0.000
TR-011	175.00	180.00	5.00	0.000	0.000	0.000
TR-011	180.00	185.00	5.00	0.000	0.000	0.000
TR-011	185.00	190.00	5.00	0.000	0.000	0.000
TR-011	190.00	195.00	5.00	0.000	0.000	0.000
TR-011	195.00	200.00	5.00	0.000	0.000	0.000
TR-011	200.00	205.00	5.00	0.000	0.000	0.000
TR-011	205.00	210.00	5.00	0.000	0.000	0.000
TR-011	210.00	215.00	5.00	0.000	0.000	0.000
TR-011	215.00	220.00	5.00	0.000	0.000	0.000
TR-011	220.00	225.00	5.00	0.000	0.030	0.000
TR-011	225.00	230.00	5.00	0.000	0.000	0.000
TR-011	230.00	235.00	5.00	0.000	0.000	0.000
TR-011	235.00	240.00	5.00	0.000	0.000	0.000
TR-011	240.00	245.00	5.00	0.000	0.440	0.000
TR-011	245.00	250.00	5.00	0.003	2.980	0.000
TR-011	250.00	255.00	5.00	0.003	1.590	0.000
TR-011	255.00	260.00	5.00	0.007	0.600	0.000
TR-011	260.00	265.00	5.00	0.004	1.060	0.000
TR-011	265.00	270.00	5.00	0.002	0.480	0.000
TR-011	270.00	275.00	5.00	0.000	0.200	0.000
TR-011	275.00	280.00	5.00	0.000	0.050	0.000
TR-011	280.00	285.00	5.00	0.000	0.050	0.000
TR-011	285.00	290.00	5.00	0.000	0.080	0.000
TR-011	290.00	295.00	5.00	0.000	0.140	0.000
TR-011	295.00	300.00	5.00	0.000	0.280	0.000
TR-011	300.00	305.00	5.00	0.000	0.030	0.000
TR-011	305.00	310.00	5.00	0.000	0.020	0.000
TR-011	310.00	315.00	5.00	0.000	0.020	0.000
TR-011	315.00	320.00	5.00	0.000	0.000	0.000
TR-011	320.00	325.00	5.00	0.000	0.000	0.000
TR-011	325.00	330.00	5.00	0.000	0.000	0.000
TR-011	330.00	335.00	5.00	0.000	0.000	0.000
TR-011	335.00	340.00	5.00	0.000	0.030	0.000
TR-011	340.00	345.00	5.00	0.000	0.140	0.000
TR-011	345.00	350.00	5.00	0.001	0.200	0.000
TR-011	350.00	355.00	5.00	0.000	0.190	0.000
TR-011	355.00	360.00	5.00	0.000	0.480	0.000
TR-011	360.00	365.00	5.00	0.000	1.010	0.000
TR-011	365.00	370.00	5.00	0.004	0.690	0.000
TR-011	370.00	375.00	5.00	0.004	1.050	0.000
TR-011	375.00	380.00	5.00	0.003	0.320	0.000
TR-011	380.00	385.00	5.00	0.000	0.060	0.000
TR-011	385.00	390.00	5.00	0.000	0.060	0.000
TR-011	390.00	395.00	5.00	0.000	0.020	0.000
TR-011	395.00	400.00	5.00	0.000	0.000	0.000

TR-012	732135.9	255536.6	4633.3	39.000	-80.000	400.00

TR-012

TR-012	0.00	5.00	5.00	0.002	0.060	1.000
TR-012	5.00	10.00	5.00	0.000	0.030	1.000
TR-012	10.00	15.00	5.00	0.001	0.040	1.000
TR-012	15.00	20.00	5.00	0.004	0.040	1.000
TR-012	20.00	25.00	5.00	0.003	0.060	1.000
TR-012	25.00	30.00	5.00	0.033	0.230	1.000
TR-012	30.00	35.00	5.00	0.048	0.110	1.000
TR-012	35.00	40.00	5.00	0.013	0.180	1.000
TR-012	40.00	45.00	5.00	0.115	0.150	1.000
TR-012	45.00	50.00	5.00	0.046	0.130	1.000
TR-012	50.00	55.00	5.00	0.020	0.120	1.000
TR-012	55.00	60.00	5.00	0.017	0.460	1.000
TR-012	60.00	65.00	5.00	0.016	0.100	1.000
TR-012	65.00	70.00	5.00	0.014	0.110	1.000
TR-012	70.00	75.00	5.00	0.042	0.120	1.000
TR-012	75.00	80.00	5.00	0.004	0.130	1.000
TR-012	80.00	85.00	5.00	0.003	0.150	1.000
TR-012	85.00	90.00	5.00	0.002	0.200	1.000
TR-012	90.00	95.00	5.00	0.002	0.070	2.000
TR-012	95.00	100.00	5.00	0.009	0.130	2.000
TR-012	100.00	105.00	5.00	0.003	0.080	2.000
TR-012	105.00	110.00	5.00	0.006	0.220	2.000
TR-012	110.00	115.00	5.00	0.002	0.090	1.000
TR-012	115.00	120.00	5.00	0.006	0.270	1.000
TR-012	120.00	125.00	5.00	0.004	0.210	1.000
TR-012	125.00	130.00	5.00	0.011	0.630	2.000
TR-012	130.00	135.00	5.00	0.008	0.450	2.000
TR-012	135.00	140.00	5.00	0.002	0.110	2.000
TR-012	140.00	145.00	5.00	0.002	0.040	2.000
TR-012	145.00	150.00	5.00	0.037	0.060	2.000
TR-012	150.00	155.00	5.00	0.005	0.090	2.000
TR-012	155.00	160.00	5.00	0.002	0.060	2.000
TR-012	160.00	165.00	5.00	0.005	0.040	2.000
TR-012	165.00	170.00	5.00	0.005	0.340	4.000
TR-012	170.00	175.00	5.00	0.009	0.270	4.000
TR-012	175.00	180.00	5.00	0.009	1.040	4.000
TR-012	180.00	185.00	5.00	0.058	2.300	4.000
TR-012	185.00	190.00	5.00	0.031	1.790	4.000
TR-012	190.00	195.00	5.00	0.010	0.360	4.000
TR-012	195.00	200.00	5.00	0.009	0.630	4.000
TR-012	200.00	205.00	5.00	0.009	0.270	3.000
TR-012	205.00	210.00	5.00	0.004	0.100	3.000
TR-012	210.00	215.00	5.00	0.012	0.260	3.000
TR-012	215.00	220.00	5.00	0.033	0.610	0.000
TR-012	220.00	225.00	5.00	-1.000	-1.000	0.000
TR-012	225.00	230.00	5.00	0.026	0.430	3.000
TR-012	230.00	235.00	5.00	0.017	0.270	2.000
TR-012	235.00	240.00	5.00	0.005	0.100	2.000
TR-012	240.00	245.00	5.00	0.046	0.450	2.000
TR-012	245.00	250.00	5.00	0.343	4.070	2.000
TR-012	250.00	255.00	5.00	0.391	2.630	2.000
TR-012	255.00	260.00	5.00	0.073	0.590	3.000
TR-012	260.00	265.00	5.00	0.148	1.270	3.000
TR-012	265.00	270.00	5.00	0.020	1.830	4.000

TR-012	270.00	275.00	5.00	0.009	0.400	4.000
TR-012	275.00	280.00	5.00	0.011	0.470	4.000
TR-012	280.00	285.00	5.00	0.011	0.380	4.000
TR-012	285.00	290.00	5.00	0.005	0.270	4.000
TR-012	290.00	295.00	5.00	0.004	0.250	4.000
TR-012	295.00	300.00	5.00	0.003	0.210	4.000
TR-012	300.00	305.00	5.00	0.001	0.110	11.000
TR-012	305.00	310.00	5.00	0.003	0.070	4.000
TR-012	310.00	315.00	5.00	0.003	0.090	4.000
TR-012	315.00	320.00	5.00	0.005	0.070	4.000
TR-012	320.00	325.00	5.00	0.004	0.110	4.000
TR-012	325.00	330.00	5.00	0.004	0.100	3.000
TR-012	330.00	335.00	5.00	0.007	0.200	3.000
TR-012	335.00	340.00	5.00	0.002	0.100	1.000
TR-012	340.00	345.00	5.00	0.002	0.060	1.000
TR-012	345.00	350.00	5.00	0.000	0.030	1.000
TR-012	350.00	355.00	5.00	0.007	0.250	1.000
TR-012	355.00	360.00	5.00	0.002	0.150	1.000
TR-012	360.00	365.00	5.00	0.002	0.170	1.000
TR-012	365.00	370.00	5.00	0.001	0.080	1.000
TR-012	370.00	375.00	5.00	0.003	0.130	1.000
TR-012	375.00	380.00	5.00	0.002	0.290	1.000
TR-012	380.00	385.00	5.00	0.002	0.280	1.000
TR-012	385.00	390.00	5.00	0.002	0.300	1.000
TR-012	390.00	395.00	5.00	0.002	0.270	1.000
TR-012	395.00	400.00	5.00	0.000	0.050	1.000

TR-013	732080.6	255706.0	4626.8	220.000	-60.000	400.00

TR-013						
TR-013	0.00	5.00	5.00	0.010	0.540	2.000
TR-013	5.00	10.00	5.00	0.007	0.230	2.000
TR-013	10.00	15.00	5.00	0.001	0.080	2.000
TR-013	15.00	20.00	5.00	0.001	0.380	2.000
TR-013	20.00	25.00	5.00	0.000	0.060	2.000
TR-013	25.00	30.00	5.00	0.000	0.070	2.000
TR-013	30.00	35.00	5.00	0.000	0.040	2.000
TR-013	35.00	40.00	5.00	0.000	0.060	2.000
TR-013	40.00	45.00	5.00	0.000	0.030	2.000
TR-013	45.00	50.00	5.00	0.002	0.030	2.000
TR-013	50.00	55.00	5.00	0.001	0.070	2.000
TR-013	55.00	60.00	5.00	0.002	0.000	2.000
TR-013	60.00	65.00	5.00	0.020	0.600	2.000
TR-013	65.00	70.00	5.00	0.002	0.280	2.000
TR-013	70.00	75.00	5.00	0.006	0.550	2.000
TR-013	75.00	80.00	5.00	0.004	0.390	2.000
TR-013	80.00	85.00	5.00	0.028	0.530	2.000
TR-013	85.00	90.00	5.00	0.002	0.150	2.000
TR-013	90.00	95.00	5.00	0.001	0.060	2.000
TR-013	95.00	100.00	5.00	0.008	0.210	2.000
TR-013	100.00	105.00	5.00	0.003	0.090	2.000
TR-013	105.00	110.00	5.00	0.001	0.070	2.000
TR-013	110.00	115.00	5.00	0.003	0.050	2.000
TR-013	115.00	120.00	5.00	0.001	0.070	2.000

TR-013	120.00	125.00	5.00	0.001	0.030	2.000
TR-013	125.00	130.00	5.00	0.007	0.300	2.000
TR-013	130.00	135.00	5.00	0.010	0.650	2.000
TR-013	135.00	140.00	5.00	0.006	0.160	2.000
TR-013	140.00	145.00	5.00	0.001	0.070	2.000
TR-013	145.00	150.00	5.00	0.001	0.080	2.000
TR-013	150.00	155.00	5.00	0.002	0.140	2.000
TR-013	155.00	160.00	5.00	0.000	0.280	2.000
TR-013	160.00	165.00	5.00	0.000	0.160	2.000
TR-013	165.00	170.00	5.00	0.000	0.070	2.000
TR-013	170.00	175.00	5.00	0.002	0.080	2.000
TR-013	175.00	180.00	5.00	0.000	0.060	2.000
TR-013	180.00	185.00	5.00	0.002	0.040	2.000
TR-013	185.00	190.00	5.00	0.000	0.030	2.000
TR-013	190.00	195.00	5.00	0.000	0.030	2.000
TR-013	195.00	200.00	5.00	0.000	0.040	2.000
TR-013	200.00	205.00	5.00	0.005	0.100	2.000
TR-013	205.00	210.00	5.00	0.008	0.570	2.000
TR-013	210.00	215.00	5.00	0.003	0.160	2.000
TR-013	215.00	220.00	5.00	0.002	0.110	2.000
TR-013	220.00	225.00	5.00	0.001	0.070	2.000
TR-013	225.00	230.00	5.00	0.003	0.160	2.000
TR-013	230.00	235.00	5.00	0.000	0.020	2.000
TR-013	235.00	240.00	5.00	0.001	0.060	2.000
TR-013	240.00	245.00	5.00	0.007	0.320	2.000
TR-013	245.00	250.00	5.00	0.000	0.030	2.000
TR-013	250.00	255.00	5.00	0.001	0.220	2.000
TR-013	255.00	260.00	5.00	0.004	0.450	2.000
TR-013	260.00	265.00	5.00	0.008	0.750	2.000
TR-013	265.00	270.00	5.00	0.002	0.090	2.000
TR-013	270.00	275.00	5.00	0.002	0.030	2.000
TR-013	275.00	280.00	5.00	0.001	0.040	2.000
TR-013	280.00	285.00	5.00	0.000	0.060	2.000
TR-013	285.00	290.00	5.00	0.000	0.030	2.000
TR-013	290.00	295.00	5.00	0.004	0.150	2.000
TR-013	295.00	300.00	5.00	0.090	0.520	2.000
TR-013	300.00	305.00	5.00	0.019	0.890	3.000
TR-013	305.00	310.00	5.00	0.003	0.160	3.000
TR-013	310.00	315.00	5.00	0.000	0.080	3.000
TR-013	315.00	320.00	5.00	0.001	0.050	3.000
TR-013	320.00	325.00	5.00	0.000	0.090	3.000
TR-013	325.00	330.00	5.00	0.004	0.170	3.000
TR-013	330.00	335.00	5.00	0.007	0.520	3.000
TR-013	335.00	340.00	5.00	0.004	0.640	3.000
TR-013	340.00	345.00	5.00	0.006	0.280	3.000
TR-013	345.00	350.00	5.00	0.002	0.100	3.000
TR-013	350.00	355.00	5.00	0.001	0.030	3.000
TR-013	355.00	360.00	5.00	0.000	0.030	3.000
TR-013	360.00	365.00	5.00	0.000	0.040	3.000
TR-013	365.00	370.00	5.00	0.002	0.090	3.000
TR-013	370.00	375.00	5.00	0.002	0.050	3.000
TR-013	375.00	380.00	5.00	0.002	0.040	3.000
TR-013	380.00	385.00	5.00	0.001	0.110	3.000
TR-013	385.00	390.00	5.00	0.000	0.220	3.000

TR-013	390.00	395.00	5.00	0.000	0.100	3.000
TR-013	395.00	400.00	5.00	0.000	0.270	3.000
TR-014	731539.0	255949.0	4639.0	45.000	-60.000	400.00
TR-014						
TR-014	0.00	5.00	5.00	0.002	0.080	0.000
TR-014	5.00	10.00	5.00	0.007	0.040	0.000
TR-014	10.00	15.00	5.00	0.002	0.060	0.000
TR-014	15.00	20.00	5.00	0.003	0.050	0.000
TR-014	20.00	25.00	5.00	0.004	0.070	0.000
TR-014	25.00	30.00	5.00	0.002	0.130	0.000
TR-014	30.00	35.00	5.00	0.003	0.060	0.000
TR-014	35.00	40.00	5.00	0.002	0.040	0.000
TR-014	40.00	45.00	5.00	0.000	0.000	0.000
TR-014	45.00	50.00	5.00	0.000	0.000	0.000
TR-014	50.00	55.00	5.00	0.001	0.000	0.000
TR-014	55.00	60.00	5.00	0.000	0.000	0.000
TR-014	60.00	65.00	5.00	0.000	0.040	0.000
TR-014	65.00	70.00	5.00	0.000	0.070	0.000
TR-014	70.00	75.00	5.00	0.000	0.240	0.000
TR-014	75.00	80.00	5.00	0.001	0.130	0.000
TR-014	80.00	85.00	5.00	0.000	0.020	0.000
TR-014	85.00	90.00	5.00	0.000	0.070	0.000
TR-014	90.00	95.00	5.00	0.002	0.160	0.000
TR-014	95.00	100.00	5.00	0.002	0.190	0.000
TR-014	100.00	105.00	5.00	0.000	0.120	0.000
TR-014	105.00	110.00	5.00	0.005	1.790	0.000
TR-014	110.00	115.00	5.00	0.000	0.240	0.000
TR-014	115.00	120.00	5.00	0.000	0.030	0.000
TR-014	120.00	125.00	5.00	0.000	0.060	0.000
TR-014	125.00	130.00	5.00	0.000	0.060	0.000
TR-014	130.00	135.00	5.00	0.000	0.070	0.000
TR-014	135.00	140.00	5.00	0.000	0.160	0.000
TR-014	140.00	145.00	5.00	0.000	0.080	0.000
TR-014	145.00	150.00	5.00	0.002	0.670	0.000
TR-014	150.00	155.00	5.00	0.000	0.300	0.000
TR-014	155.00	160.00	5.00	0.000	0.080	0.000
TR-014	160.00	165.00	5.00	0.000	0.070	0.000
TR-014	165.00	170.00	5.00	0.000	0.090	0.000
TR-014	170.00	175.00	5.00	0.000	0.110	0.000
TR-014	175.00	180.00	5.00	0.000	0.240	0.000
TR-014	180.00	185.00	5.00	0.001	0.270	0.000
TR-014	185.00	190.00	5.00	0.000	0.320	0.000
TR-014	190.00	195.00	5.00	0.000	0.160	0.000
TR-014	195.00	200.00	5.00	0.000	0.150	0.000
TR-014	200.00	205.00	5.00	0.001	0.250	0.000
TR-014	205.00	210.00	5.00	0.000	0.200	0.000
TR-014	210.00	215.00	5.00	0.005	1.610	0.000
TR-014	215.00	220.00	5.00	0.013	1.440	0.000
TR-014	220.00	225.00	5.00	0.006	1.610	0.000
TR-014	225.00	230.00	5.00	0.003	1.310	0.000
TR-014	230.00	235.00	5.00	0.003	0.420	0.000
TR-014	235.00	240.00	5.00	0.000	0.290	0.000

TR-014	240.00	245.00	5.00	0.001	0.210	0.000
TR-014	245.00	250.00	5.00	0.000	0.050	0.000
TR-014	250.00	255.00	5.00	0.002	0.060	0.000
TR-014	255.00	260.00	5.00	0.000	0.050	0.000
TR-014	260.00	265.00	5.00	0.001	0.060	0.000
TR-014	265.00	270.00	5.00	0.000	0.030	0.000
TR-014	270.00	275.00	5.00	0.000	0.020	0.000
TR-014	275.00	280.00	5.00	0.000	0.000	0.000
TR-014	280.00	285.00	5.00	0.000	0.000	0.000
TR-014	285.00	290.00	5.00	0.000	0.050	0.000
TR-014	290.00	295.00	5.00	0.052	0.310	0.000
TR-014	295.00	300.00	5.00	0.009	0.060	0.000
TR-014	300.00	305.00	5.00	0.005	0.170	0.000
TR-014	305.00	310.00	5.00	0.019	0.170	0.000
TR-014	310.00	315.00	5.00	0.004	0.110	0.000
TR-014	315.00	320.00	5.00	0.002	0.160	0.000
TR-014	320.00	325.00	5.00	0.002	0.110	0.000
TR-014	325.00	330.00	5.00	0.000	0.000	0.000
TR-014	330.00	335.00	5.00	0.004	0.000	0.000
TR-014	335.00	340.00	5.00	0.000	0.000	0.000
TR-014	340.00	345.00	5.00	0.000	0.000	0.000
TR-014	345.00	350.00	5.00	0.000	0.000	0.000
TR-014	350.00	355.00	5.00	0.000	0.000	0.000
TR-014	355.00	360.00	5.00	0.001	0.090	0.000
TR-014	360.00	365.00	5.00	0.000	0.000	0.000
TR-014	365.00	370.00	5.00	0.000	0.000	0.000
TR-014	370.00	375.00	5.00	0.000	0.060	0.000
TR-014	375.00	380.00	5.00	0.002	0.030	0.000
TR-014	380.00	385.00	5.00	0.001	0.350	0.000
TR-014	385.00	390.00	5.00	0.012	0.500	0.000
TR-014	390.00	395.00	5.00	0.001	0.350	0.000
TR-014	395.00	400.00	5.00	0.002	0.100	0.000

TR-015	732468.0	256681.0	4606.9	0.000	-90.000	400.00

TR-015						
TR-015	0.00	5.00	5.00	0.002	0.060	0.000
TR-015	5.00	10.00	5.00	0.004	0.070	0.000
TR-015	10.00	15.00	5.00	0.002	0.000	0.000
TR-015	15.00	20.00	5.00	0.000	0.000	0.000
TR-015	20.00	25.00	5.00	0.000	0.000	0.000
TR-015	25.00	30.00	5.00	0.000	0.000	0.000
TR-015	30.00	35.00	5.00	0.000	0.000	0.000
TR-015	35.00	40.00	5.00	0.001	0.000	0.000
TR-015	40.00	45.00	5.00	0.001	0.000	0.000
TR-015	45.00	50.00	5.00	0.001	0.000	0.000
TR-015	50.00	55.00	5.00	0.003	0.060	0.000
TR-015	55.00	60.00	5.00	0.004	0.060	0.000
TR-015	60.00	65.00	5.00	0.006	0.150	0.000
TR-015	65.00	70.00	5.00	0.006	0.870	0.000
TR-015	70.00	75.00	5.00	0.003	0.700	0.000
TR-015	75.00	80.00	5.00	0.002	0.800	0.000
TR-015	80.00	85.00	5.00	0.001	0.250	0.000
TR-015	85.00	90.00	5.00	0.002	0.100	0.000

TR-015	90.00	95.00	5.00	0.001	0.040	0.000
TR-015	95.00	100.00	5.00	0.001	0.110	0.000
TR-015	100.00	105.00	5.00	0.002	0.150	0.000
TR-015	105.00	110.00	5.00	0.126	0.690	0.000
TR-015	110.00	115.00	5.00	0.023	0.810	0.000
TR-015	115.00	120.00	5.00	0.003	0.320	0.000
TR-015	120.00	125.00	5.00	0.022	0.380	0.000
TR-015	125.00	130.00	5.00	0.018	0.750	0.000
TR-015	130.00	135.00	5.00	0.005	0.240	0.000
TR-015	135.00	140.00	5.00	0.008	0.410	0.000
TR-015	140.00	145.00	5.00	0.003	0.490	0.000
TR-015	145.00	150.00	5.00	0.003	0.310	0.000
TR-015	150.00	155.00	5.00	0.006	0.200	0.000
TR-015	155.00	160.00	5.00	0.002	0.110	0.000
TR-015	160.00	165.00	5.00	0.001	0.000	0.000
TR-015	165.00	170.00	5.00	0.002	0.020	0.000
TR-015	170.00	175.00	5.00	0.002	0.000	0.000
TR-015	175.00	180.00	5.00	0.007	0.030	0.000
TR-015	180.00	185.00	5.00	0.003	0.020	0.000
TR-015	185.00	190.00	5.00	0.004	0.030	0.000
TR-015	190.00	195.00	5.00	0.002	0.020	0.000
TR-015	195.00	200.00	5.00	0.002	0.040	0.000
TR-015	200.00	205.00	5.00	0.003	0.000	0.000
TR-015	205.00	210.00	5.00	0.007	0.000	0.000
TR-015	210.00	215.00	5.00	0.005	0.000	0.000
TR-015	215.00	220.00	5.00	0.002	0.030	0.000
TR-015	220.00	225.00	5.00	0.002	0.030	0.000
TR-015	225.00	230.00	5.00	0.001	0.020	0.000
TR-015	230.00	235.00	5.00	0.004	0.060	0.000
TR-015	235.00	240.00	5.00	0.002	0.070	0.000
TR-015	240.00	245.00	5.00	0.001	0.090	0.000
TR-015	245.00	250.00	5.00	0.003	0.170	0.000
TR-015	250.00	255.00	5.00	0.001	0.120	0.000
TR-015	255.00	260.00	5.00	0.000	0.070	0.000
TR-015	260.00	265.00	5.00	0.000	0.110	0.000
TR-015	265.00	270.00	5.00	0.000	0.120	0.000
TR-015	270.00	275.00	5.00	0.002	0.060	0.000
TR-015	275.00	280.00	5.00	0.000	0.060	0.000
TR-015	280.00	285.00	5.00	0.002	0.130	0.000
TR-015	285.00	290.00	5.00	0.001	0.050	0.000
TR-015	290.00	295.00	5.00	0.001	0.040	0.000
TR-015	295.00	300.00	5.00	0.001	0.050	0.000
TR-015	300.00	305.00	5.00	0.002	0.060	0.000
TR-015	305.00	310.00	5.00	0.000	0.060	0.000
TR-015	310.00	315.00	5.00	0.001	0.060	0.000
TR-015	315.00	320.00	5.00	0.002	0.060	0.000
TR-015	320.00	325.00	5.00	0.001	0.060	0.000
TR-015	325.00	330.00	5.00	0.000	0.040	0.000
TR-015	330.00	335.00	5.00	0.010	0.100	0.000
TR-015	335.00	340.00	5.00	0.028	0.130	0.000
TR-015	340.00	345.00	5.00	0.002	0.060	0.000
TR-015	345.00	350.00	5.00	0.002	0.060	0.000
TR-015	350.00	355.00	5.00	0.000	0.040	0.000
TR-015	355.00	360.00	5.00	0.000	0.030	0.000

TR-015	360.00	365.00	5.00	0.001	0.040	0.000
TR-015	365.00	370.00	5.00	0.002	0.040	0.000
TR-015	370.00	375.00	5.00	0.001	0.040	0.000
TR-015	375.00	380.00	5.00	0.001	0.060	0.000
TR-015	380.00	385.00	5.00	0.003	0.090	0.000
TR-015	385.00	390.00	5.00	0.008	0.230	0.000
TR-015	390.00	395.00	5.00	0.100	0.690	0.000
TR-015	395.00	400.00	5.00	0.003	0.150	0.000
TR-016	732168.7	255428.3	4633.2	235.000	-70.000	420.00
TR-016						
TR-016	0.00	5.00	5.00	0.003	0.130	5.000
TR-016	5.00	10.00	5.00	0.002	0.060	5.000
TR-016	10.00	15.00	5.00	0.000	0.030	5.000
TR-016	15.00	20.00	5.00	0.000	0.000	6.000
TR-016	20.00	25.00	5.00	0.000	0.000	5.000
TR-016	25.00	30.00	5.00	0.000	0.000	5.000
TR-016	30.00	35.00	5.00	0.000	0.040	5.000
TR-016	35.00	40.00	5.00	0.000	0.000	5.000
TR-016	40.00	45.00	5.00	0.000	0.000	5.000
TR-016	45.00	50.00	5.00	0.000	0.020	1.000
TR-016	50.00	55.00	5.00	0.000	0.020	1.000
TR-016	55.00	60.00	5.00	0.000	0.000	1.000
TR-016	60.00	65.00	5.00	0.000	0.000	1.000
TR-016	65.00	70.00	5.00	0.000	0.000	1.000
TR-016	70.00	75.00	5.00	0.001	0.000	1.000
TR-016	75.00	80.00	5.00	0.005	0.000	1.000
TR-016	80.00	85.00	5.00	0.000	0.000	1.000
TR-016	85.00	90.00	5.00	0.001	0.000	1.000
TR-016	90.00	95.00	5.00	0.000	0.000	1.000
TR-016	95.00	100.00	5.00	0.000	0.000	1.000
TR-016	100.00	105.00	5.00	0.000	0.000	2.000
TR-016	105.00	110.00	5.00	0.031	0.460	11.000
TR-016	110.00	115.00	5.00	0.012	0.260	1.000
TR-016	115.00	120.00	5.00	0.011	0.510	1.000
TR-016	120.00	125.00	5.00	0.004	0.320	1.000
TR-016	125.00	130.00	5.00	0.002	0.250	1.000
TR-016	130.00	135.00	5.00	0.004	0.440	1.000
TR-016	135.00	140.00	5.00	0.002	0.190	1.000
TR-016	140.00	145.00	5.00	0.000	0.070	1.000
TR-016	145.00	150.00	5.00	0.000	0.110	2.000
TR-016	150.00	155.00	5.00	0.000	0.070	2.000
TR-016	155.00	160.00	5.00	0.000	0.060	2.000
TR-016	160.00	165.00	5.00	0.000	0.090	2.000
TR-016	165.00	170.00	5.00	0.004	0.070	2.000
TR-016	170.00	175.00	5.00	0.001	0.040	2.000
TR-016	175.00	180.00	5.00	0.000	0.060	2.000
TR-016	180.00	185.00	5.00	0.002	0.060	2.000
TR-016	185.00	190.00	5.00	0.010	0.270	2.000
TR-016	190.00	195.00	5.00	0.004	0.220	2.000
TR-016	195.00	200.00	5.00	0.002	0.110	2.000
TR-016	200.00	205.00	5.00	0.004	0.230	2.000
TR-016	205.00	210.00	5.00	0.004	0.090	2.000

TR-016	210.00	215.00	5.00	0.003	0.230	2.000
TR-016	215.00	220.00	5.00	0.000	0.070	2.000
TR-016	220.00	225.00	5.00	0.000	0.030	2.000
TR-016	225.00	230.00	5.00	0.001	0.110	2.000
TR-016	230.00	235.00	5.00	0.000	0.070	2.000
TR-016	235.00	240.00	5.00	0.000	0.050	2.000
TR-016	240.00	245.00	5.00	0.000	0.040	2.000
TR-016	245.00	250.00	5.00	0.000	0.150	2.000
TR-016	250.00	255.00	5.00	0.002	0.120	3.000
TR-016	255.00	260.00	5.00	0.000	0.140	3.000
TR-016	260.00	265.00	5.00	0.001	0.260	3.000
TR-016	265.00	270.00	5.00	0.001	0.150	3.000
TR-016	270.00	275.00	5.00	0.004	0.080	3.000
TR-016	275.00	280.00	5.00	0.001	0.050	3.000
TR-016	280.00	285.00	5.00	0.001	0.060	3.000
TR-016	285.00	290.00	5.00	0.001	0.040	3.000
TR-016	290.00	295.00	5.00	0.000	0.030	2.000
TR-016	295.00	300.00	5.00	0.001	0.030	2.000
TR-016	300.00	305.00	5.00	0.001	0.000	2.000
TR-016	305.00	310.00	5.00	0.002	0.040	2.000
TR-016	310.00	315.00	5.00	0.007	0.180	2.000
TR-016	315.00	320.00	5.00	0.002	0.090	2.000
TR-016	320.00	325.00	5.00	0.002	0.080	2.000
TR-016	325.00	330.00	5.00	0.001	0.040	2.000
TR-016	330.00	335.00	5.00	0.001	0.040	2.000
TR-016	335.00	340.00	5.00	0.000	0.060	2.000
TR-016	340.00	345.00	5.00	0.000	0.060	2.000
TR-016	345.00	350.00	5.00	0.003	0.240	2.000
TR-016	350.00	355.00	5.00	0.008	0.260	3.000
TR-016	355.00	360.00	5.00	0.011	0.220	3.000
TR-016	360.00	365.00	5.00	0.005	0.360	3.000
TR-016	365.00	370.00	5.00	0.005	0.470	3.000
TR-016	370.00	375.00	5.00	0.002	0.130	3.000
TR-016	375.00	380.00	5.00	0.012	0.340	3.000
TR-016	380.00	385.00	5.00	0.043	1.580	4.000
TR-016	385.00	390.00	5.00	0.009	0.700	4.000
TR-016	390.00	395.00	5.00	0.002	0.170	4.000
TR-016	395.00	400.00	5.00	0.001	0.170	4.000
TR-016	400.00	405.00	5.00	0.005	0.540	4.000
TR-016	405.00	410.00	5.00	0.007	0.430	4.000
TR-016	410.00	415.00	5.00	0.002	0.260	4.000
TR-016	415.00	420.00	5.00	0.001	0.200	4.000

TR-017	732168.4	255607.8	4631.6	83.000	-45.000	420.00

TR-017						
TR-017	0.00	5.00	5.00	0.007	0.440	1.000
TR-017	5.00	10.00	5.00	0.006	0.080	1.000
TR-017	10.00	15.00	5.00	0.037	0.020	1.000
TR-017	15.00	20.00	5.00	0.001	0.000	1.000
TR-017	20.00	25.00	5.00	0.005	0.000	1.000
TR-017	25.00	30.00	5.00	0.003	0.000	1.000
TR-017	30.00	35.00	5.00	0.000	0.000	1.000
TR-017	35.00	40.00	5.00	0.000	0.000	2.000

TR-017	40.00	45.00	5.00	0.000	0.000	2.000
TR-017	45.00	50.00	5.00	0.001	0.000	2.000
TR-017	50.00	55.00	5.00	0.003	0.000	2.000
TR-017	55.00	60.00	5.00	0.001	0.000	2.000
TR-017	60.00	65.00	5.00	0.001	0.000	2.000
TR-017	65.00	70.00	5.00	0.001	0.000	2.000
TR-017	70.00	75.00	5.00	0.000	0.000	2.000
TR-017	75.00	80.00	5.00	0.000	0.000	2.000
TR-017	80.00	85.00	5.00	0.002	0.000	2.000
TR-017	85.00	90.00	5.00	0.002	0.000	2.000
TR-017	90.00	95.00	5.00	0.000	0.000	2.000
TR-017	95.00	100.00	5.00	0.006	0.000	2.000
TR-017	100.00	105.00	5.00	0.001	0.000	1.000
TR-017	105.00	110.00	5.00	0.000	0.000	1.000
TR-017	110.00	115.00	5.00	0.003	0.000	1.000
TR-017	115.00	120.00	5.00	0.007	0.000	1.000
TR-017	120.00	125.00	5.00	0.003	0.020	1.000
TR-017	125.00	130.00	5.00	0.001	0.030	1.000
TR-017	130.00	135.00	5.00	0.000	0.000	2.000
TR-017	135.00	140.00	5.00	0.002	0.020	2.000
TR-017	140.00	145.00	5.00	0.009	0.050	2.000
TR-017	145.00	150.00	5.00	0.003	0.030	1.000
TR-017	150.00	155.00	5.00	0.000	0.050	1.000
TR-017	155.00	160.00	5.00	0.000	0.030	1.000
TR-017	160.00	165.00	5.00	0.004	0.050	1.000
TR-017	165.00	170.00	5.00	0.004	0.060	1.000
TR-017	170.00	175.00	5.00	0.000	0.040	1.000
TR-017	175.00	180.00	5.00	0.004	0.240	1.000
TR-017	180.00	185.00	5.00	0.025	0.330	2.000
TR-017	185.00	190.00	5.00	0.010	0.230	2.000
TR-017	190.00	195.00	5.00	0.005	0.100	2.000
TR-017	195.00	200.00	5.00	0.002	0.030	2.000
TR-017	200.00	205.00	5.00	0.000	0.020	1.000
TR-017	205.00	210.00	5.00	0.000	0.000	1.000
TR-017	210.00	215.00	5.00	0.001	0.050	1.000
TR-017	215.00	220.00	5.00	0.001	0.050	1.000
TR-017	220.00	225.00	5.00	0.002	0.160	1.000
TR-017	225.00	230.00	5.00	0.035	1.060	4.000
TR-017	230.00	235.00	5.00	0.012	0.750	4.000
TR-017	235.00	240.00	5.00	0.007	0.380	4.000
TR-017	240.00	245.00	5.00	0.008	0.870	4.000
TR-017	245.00	250.00	5.00	0.032	0.840	4.000
TR-017	250.00	255.00	5.00	0.041	0.870	0.000
TR-017	255.00	260.00	5.00	0.033	1.850	4.000
TR-017	260.00	265.00	5.00	0.008	0.390	2.000
TR-017	265.00	270.00	5.00	0.002	0.120	2.000
TR-017	270.00	275.00	5.00	0.009	0.160	2.000
TR-017	275.00	280.00	5.00	0.008	0.130	2.000
TR-017	280.00	285.00	5.00	0.003	0.160	2.000
TR-017	285.00	290.00	5.00	0.003	0.130	2.000
TR-017	290.00	295.00	5.00	0.011	0.110	2.000
TR-017	295.00	300.00	5.00	0.003	0.070	2.000
TR-017	300.00	305.00	5.00	0.010	0.090	2.000
TR-017	305.00	310.00	5.00	0.010	0.010	2.000

TR-017	310.00	315.00	5.00	0.008	0.410	2.000
TR-017	315.00	320.00	5.00	0.005	1.150	2.000
TR-017	320.00	325.00	5.00	0.004	0.600	2.000
TR-017	325.00	330.00	5.00	0.004	0.490	2.000
TR-017	330.00	335.00	5.00	0.006	0.550	2.000
TR-017	335.00	340.00	5.00	0.005	0.270	2.000
TR-017	340.00	345.00	5.00	0.004	0.210	2.000
TR-017	345.00	350.00	5.00	0.004	0.460	2.000
TR-017	350.00	355.00	5.00	0.005	0.220	2.000
TR-017	355.00	360.00	5.00	0.003	0.140	2.000
TR-017	360.00	365.00	5.00	0.002	0.050	2.000
TR-017	365.00	370.00	5.00	0.000	0.030	2.000
TR-017	370.00	375.00	5.00	0.000	0.020	2.000
TR-017	375.00	380.00	5.00	0.000	0.030	2.000
TR-017	380.00	385.00	5.00	0.000	0.040	2.000
TR-017	385.00	390.00	5.00	0.000	0.040	2.000
TR-017	390.00	395.00	5.00	0.000	0.040	2.000
TR-017	395.00	400.00	5.00	0.001	0.100	2.000
TR-017	400.00	405.00	5.00	0.011	0.320	9.000
TR-017	405.00	410.00	5.00	0.005	0.570	9.000
TR-017	410.00	415.00	5.00	0.002	0.180	9.000
TR-017	415.00	420.00	5.00	0.002	0.130	9.000

TR-018	732106.3	253807.5	4758.6	250.000	-45.000	420.00

TR-018						
TR-018	0.00	5.00	5.00	0.000	0.040	0.000
TR-018	5.00	10.00	5.00	0.000	0.000	0.000
TR-018	10.00	15.00	5.00	0.000	0.000	0.000
TR-018	15.00	20.00	5.00	0.000	0.000	0.000
TR-018	20.00	25.00	5.00	0.003	0.000	0.000
TR-018	25.00	30.00	5.00	0.002	0.000	0.000
TR-018	30.00	35.00	5.00	0.000	0.000	0.000
TR-018	35.00	40.00	5.00	0.000	0.000	0.000
TR-018	40.00	45.00	5.00	0.000	0.000	0.000
TR-018	45.00	50.00	5.00	0.000	0.000	0.000
TR-018	50.00	55.00	5.00	0.000	0.000	0.000
TR-018	55.00	60.00	5.00	0.000	0.000	0.000
TR-018	60.00	65.00	5.00	0.000	0.000	0.000
TR-018	65.00	70.00	5.00	0.000	0.000	0.000
TR-018	70.00	75.00	5.00	0.000	0.000	0.000
TR-018	75.00	80.00	5.00	0.000	0.000	0.000
TR-018	80.00	85.00	5.00	0.000	0.000	0.000
TR-018	85.00	90.00	5.00	0.000	0.000	0.000
TR-018	90.00	95.00	5.00	0.000	0.000	0.000
TR-018	95.00	100.00	5.00	0.000	0.000	0.000
TR-018	100.00	105.00	5.00	0.000	0.000	0.000
TR-018	105.00	110.00	5.00	0.000	0.000	0.000
TR-018	110.00	115.00	5.00	0.000	0.000	0.000
TR-018	115.00	120.00	5.00	0.000	0.000	0.000
TR-018	120.00	125.00	5.00	0.000	0.020	0.000
TR-018	125.00	130.00	5.00	0.000	0.060	0.000
TR-018	130.00	135.00	5.00	0.000	0.030	0.000
TR-018	135.00	140.00	5.00	0.000	0.030	0.000

TR-018	140.00	145.00	5.00	0.000	0.080	0.000
TR-018	145.00	150.00	5.00	0.000	0.000	0.000
TR-018	150.00	155.00	5.00	0.000	0.030	0.000
TR-018	155.00	160.00	5.00	0.000	0.000	0.000
TR-018	160.00	165.00	5.00	0.000	0.090	0.000
TR-018	165.00	170.00	5.00	0.000	0.340	0.000
TR-018	170.00	175.00	5.00	0.000	0.070	0.000
TR-018	175.00	180.00	5.00	0.000	0.030	0.000
TR-018	180.00	185.00	5.00	0.000	0.020	0.000
TR-018	185.00	190.00	5.00	0.000	0.000	0.000
TR-018	190.00	195.00	5.00	0.000	0.000	0.000
TR-018	195.00	200.00	5.00	0.000	0.000	0.000
TR-018	200.00	205.00	5.00	0.000	0.000	0.000
TR-018	205.00	210.00	5.00	0.000	0.060	0.000
TR-018	210.00	215.00	5.00	0.000	0.020	0.000
TR-018	215.00	220.00	5.00	0.000	0.000	0.000
TR-018	220.00	225.00	5.00	0.000	0.000	0.000
TR-018	225.00	230.00	5.00	0.000	0.000	0.000
TR-018	230.00	235.00	5.00	0.000	0.000	0.000
TR-018	235.00	240.00	5.00	0.000	0.020	0.000
TR-018	240.00	245.00	5.00	0.000	0.000	0.000
TR-018	245.00	250.00	5.00	0.000	0.000	0.000
TR-018	250.00	255.00	5.00	0.000	0.020	0.000
TR-018	255.00	260.00	5.00	0.000	0.030	0.000
TR-018	260.00	265.00	5.00	0.000	0.000	0.000
TR-018	265.00	270.00	5.00	0.000	0.000	0.000
TR-018	270.00	275.00	5.00	0.000	0.000	0.000
TR-018	275.00	280.00	5.00	0.000	0.000	0.000
TR-018	280.00	285.00	5.00	0.000	0.020	0.000
TR-018	285.00	290.00	5.00	0.000	0.000	0.000
TR-018	290.00	295.00	5.00	0.000	0.000	0.000
TR-018	295.00	300.00	5.00	0.000	0.000	0.000
TR-018	300.00	305.00	5.00	0.000	0.000	0.000
TR-018	305.00	310.00	5.00	0.000	0.320	0.000
TR-018	310.00	315.00	5.00	0.000	0.000	0.000
TR-018	315.00	320.00	5.00	0.000	0.040	0.000
TR-018	320.00	325.00	5.00	0.000	0.050	0.000
TR-018	325.00	330.00	5.00	0.003	0.040	0.000
TR-018	330.00	335.00	5.00	0.000	0.020	0.000
TR-018	335.00	340.00	5.00	0.000	0.000	0.000
TR-018	340.00	345.00	5.00	0.000	0.020	0.000
TR-018	345.00	350.00	5.00	0.000	0.000	0.000
TR-018	350.00	355.00	5.00	0.000	0.000	0.000
TR-018	355.00	360.00	5.00	0.000	0.000	0.000
TR-018	360.00	365.00	5.00	0.000	0.000	0.000
TR-018	365.00	370.00	5.00	0.000	0.000	0.000
TR-018	370.00	375.00	5.00	0.000	0.000	0.000
TR-018	375.00	380.00	5.00	0.000	0.020	0.000
TR-018	380.00	385.00	5.00	0.000	0.030	0.000
TR-018	385.00	390.00	5.00	0.000	0.000	0.000
TR-018	390.00	395.00	5.00	0.000	0.000	0.000
TR-018	395.00	400.00	5.00	0.000	0.000	0.000
TR-018	400.00	405.00	5.00	0.000	0.000	0.000
TR-018	405.00	410.00	5.00	0.000	0.000	0.000

TR-018	410.00	415.00	5.00	0.000	0.000	0.000
TR-018	415.00	420.00	5.00	0.001	0.000	0.000
TR-019	731929.4	253514.6	4709.9	248.000	-50.000	400.00
TR-019						
TR-019	0.00	5.00	5.00	0.001	0.170	0.000
TR-019	5.00	10.00	5.00	0.000	0.030	0.000
TR-019	10.00	15.00	5.00	0.000	0.020	0.000
TR-019	15.00	20.00	5.00	0.001	0.020	0.000
TR-019	20.00	25.00	5.00	0.000	0.000	0.000
TR-019	25.00	30.00	5.00	0.000	0.000	0.000
TR-019	30.00	35.00	5.00	0.000	0.000	0.000
TR-019	35.00	40.00	5.00	0.000	0.000	0.000
TR-019	40.00	45.00	5.00	0.000	0.020	0.000
TR-019	45.00	50.00	5.00	0.001	0.020	0.000
TR-019	50.00	55.00	5.00	0.000	0.000	0.000
TR-019	55.00	60.00	5.00	0.000	0.020	0.000
TR-019	60.00	65.00	5.00	0.000	0.000	0.000
TR-019	65.00	70.00	5.00	0.000	0.000	0.000
TR-019	70.00	75.00	5.00	0.000	0.010	0.000
TR-019	75.00	80.00	5.00	0.000	0.000	0.000
TR-019	80.00	85.00	5.00	0.000	0.000	0.000
TR-019	85.00	90.00	5.00	0.000	0.000	0.000
TR-019	90.00	95.00	5.00	0.000	0.000	0.000
TR-019	95.00	100.00	5.00	0.000	0.000	0.000
TR-019	100.00	105.00	5.00	0.000	0.000	0.000
TR-019	105.00	110.00	5.00	0.000	0.000	0.000
TR-019	110.00	115.00	5.00	0.000	0.000	0.000
TR-019	115.00	120.00	5.00	0.000	0.030	0.000
TR-019	120.00	125.00	5.00	0.000	0.020	0.000
TR-019	125.00	130.00	5.00	0.000	0.030	0.000
TR-019	130.00	135.00	5.00	0.000	0.000	0.000
TR-019	135.00	140.00	5.00	0.000	0.040	0.000
TR-019	140.00	145.00	5.00	0.000	0.040	0.000
TR-019	145.00	150.00	5.00	0.000	0.000	0.000
TR-019	150.00	155.00	5.00	0.000	0.000	0.000
TR-019	155.00	160.00	5.00	0.000	0.000	0.000
TR-019	160.00	165.00	5.00	0.000	0.000	0.000
TR-019	165.00	170.00	5.00	0.000	0.000	0.000
TR-019	170.00	175.00	5.00	0.000	0.000	0.000
TR-019	175.00	180.00	5.00	0.000	0.000	0.000
TR-019	180.00	185.00	5.00	0.000	0.000	0.000
TR-019	185.00	190.00	5.00	0.002	0.000	0.000
TR-019	190.00	195.00	5.00	0.000	0.000	0.000
TR-019	195.00	200.00	5.00	0.001	0.000	0.000
TR-019	200.00	205.00	5.00	0.000	0.000	0.000
TR-019	205.00	210.00	5.00	0.000	0.000	0.000
TR-019	210.00	215.00	5.00	0.000	0.000	0.000
TR-019	215.00	220.00	5.00	0.000	0.000	0.000
TR-019	220.00	225.00	5.00	0.000	0.000	0.000
TR-019	225.00	230.00	5.00	0.001	0.000	0.000
TR-019	230.00	235.00	5.00	0.001	0.000	0.000
TR-019	235.00	240.00	5.00	0.000	0.000	0.000

TR-019	240.00	245.00	5.00	0.000	0.000	0.000
TR-019	245.00	250.00	5.00	0.000	0.030	0.000
TR-019	250.00	255.00	5.00	0.000	0.000	0.000
TR-019	255.00	260.00	5.00	0.000	0.000	0.000
TR-019	260.00	265.00	5.00	0.000	0.000	0.000
TR-019	265.00	270.00	5.00	0.000	0.000	0.000
TR-019	270.00	275.00	5.00	0.000	0.000	0.000
TR-019	275.00	280.00	5.00	0.000	0.000	0.000
TR-019	280.00	285.00	5.00	0.000	0.000	0.000
TR-019	285.00	290.00	5.00	0.000	0.000	0.000
TR-019	290.00	295.00	5.00	0.000	0.090	0.000
TR-019	295.00	300.00	5.00	0.000	0.020	0.000
TR-019	300.00	305.00	5.00	0.000	0.000	0.000
TR-019	305.00	310.00	5.00	0.000	0.000	0.000
TR-019	310.00	315.00	5.00	0.000	0.000	0.000
TR-019	315.00	320.00	5.00	0.000	0.000	0.000
TR-019	320.00	325.00	5.00	0.000	0.000	0.000
TR-019	325.00	330.00	5.00	0.000	0.000	0.000
TR-019	330.00	335.00	5.00	0.000	0.000	0.000
TR-019	335.00	340.00	5.00	0.000	0.000	0.000
TR-019	340.00	345.00	5.00	0.000	0.000	0.000
TR-019	345.00	350.00	5.00	0.000	0.000	0.000
TR-019	350.00	355.00	5.00	0.000	0.000	0.000
TR-019	355.00	360.00	5.00	0.000	0.000	0.000
TR-019	360.00	365.00	5.00	0.000	0.000	0.000
TR-019	365.00	370.00	5.00	0.000	0.000	0.000
TR-019	370.00	375.00	5.00	0.000	0.000	0.000
TR-019	375.00	380.00	5.00	0.000	0.000	0.000
TR-019	380.00	385.00	5.00	0.000	0.000	0.000
TR-019	385.00	390.00	5.00	0.000	0.000	0.000
TR-019	390.00	395.00	5.00	0.000	0.000	0.000
TR-019	395.00	400.00	5.00	0.000	0.000	0.000
TR-020	732345.3	255500.9	4619.0	349.000	-60.000	295.00
TR-020						
TR-020	0.00	5.00	5.00	0.000	0.050	8.000
TR-020	5.00	10.00	5.00	0.002	0.000	8.000
TR-020	10.00	15.00	5.00	0.002	0.000	8.000
TR-020	15.00	20.00	5.00	0.000	0.000	8.000
TR-020	20.00	25.00	5.00	0.001	0.000	8.000
TR-020	25.00	30.00	5.00	0.003	0.030	7.000
TR-020	30.00	35.00	5.00	0.002	0.040	7.000
TR-020	35.00	40.00	5.00	0.000	0.030	7.000
TR-020	40.00	45.00	5.00	0.001	0.020	7.000
TR-020	45.00	50.00	5.00	0.004	0.040	3.000
TR-020	50.00	55.00	5.00	0.000	0.000	3.000
TR-020	55.00	60.00	5.00	0.000	0.000	3.000
TR-020	60.00	65.00	5.00	0.001	0.110	3.000
TR-020	65.00	70.00	5.00	0.001	0.040	3.000
TR-020	70.00	75.00	5.00	0.001	0.040	3.000
TR-020	75.00	80.00	5.00	0.001	0.040	3.000
TR-020	80.00	85.00	5.00	0.002	0.000	3.000
TR-020	85.00	90.00	5.00	0.003	0.000	3.000

TR-020	90.00	95.00	5.00	0.003	0.000	3.000
TR-020	95.00	100.00	5.00	0.065	0.150	5.000
TR-020	100.00	105.00	5.00	0.015	0.200	5.000
TR-020	105.00	110.00	5.00	0.016	0.100	1.000
TR-020	110.00	115.00	5.00	0.002	0.070	1.000
TR-020	115.00	120.00	5.00	0.000	0.050	1.000
TR-020	120.00	125.00	5.00	0.000	0.030	1.000
TR-020	125.00	130.00	5.00	0.000	0.060	1.000
TR-020	130.00	135.00	5.00	0.027	0.190	1.000
TR-020	135.00	140.00	5.00	0.019	0.210	1.000
TR-020	140.00	145.00	5.00	0.021	0.140	3.000
TR-020	145.00	150.00	5.00	0.041	0.230	3.000
TR-020	150.00	155.00	5.00	0.014	0.300	3.000
TR-020	155.00	160.00	5.00	0.083	4.400	3.000
TR-020	160.00	165.00	5.00	0.037	1.850	3.000
TR-020	165.00	170.00	5.00	0.033	1.330	3.000
TR-020	170.00	175.00	5.00	0.099	2.650	3.000
TR-020	175.00	180.00	5.00	0.086	2.070	3.000
TR-020	180.00	185.00	5.00	0.112	4.890	3.000
TR-020	185.00	190.00	5.00	0.014	1.670	3.000
TR-020	190.00	195.00	5.00	0.002	0.420	2.000
TR-020	195.00	200.00	5.00	0.014	1.240	2.000
TR-020	200.00	205.00	5.00	0.013	0.990	2.000
TR-020	205.00	210.00	5.00	0.010	0.350	2.000
TR-020	210.00	215.00	5.00	-1.000	-1.000	0.000
TR-020	215.00	220.00	5.00	-1.000	-1.000	0.000
TR-020	220.00	225.00	5.00	0.003	0.100	2.000
TR-020	225.00	230.00	5.00	0.004	0.180	2.000
TR-020	230.00	235.00	5.00	0.006	0.680	2.000
TR-020	235.00	240.00	5.00	0.010	0.780	2.000
TR-020	240.00	245.00	5.00	0.006	0.510	2.000
TR-020	245.00	250.00	5.00	0.000	0.290	2.000
TR-020	250.00	255.00	5.00	0.000	0.150	2.000
TR-020	255.00	260.00	5.00	0.000	0.190	2.000
TR-020	260.00	265.00	5.00	0.003	0.440	2.000
TR-020	265.00	270.00	5.00	0.001	0.290	2.000
TR-020	270.00	275.00	5.00	0.000	0.090	2.000
TR-020	275.00	280.00	5.00	0.002	0.220	2.000
TR-020	280.00	285.00	5.00	0.005	0.280	1.000
TR-020	285.00	290.00	5.00	0.000	0.070	1.000
TR-020	290.00	295.00	5.00	0.000	0.040	1.000

TR-021	732268.3	255183.7	4622.9	355.000	-60.000	355.00

TR-021						
TR-021	0.00	5.00	5.00	0.001	0.140	8.000
TR-021	5.00	10.00	5.00	0.002	0.140	8.000
TR-021	10.00	15.00	5.00	0.004	0.230	8.000
TR-021	15.00	20.00	5.00	0.003	0.180	8.000
TR-021	20.00	25.00	5.00	0.002	0.160	8.000
TR-021	25.00	30.00	5.00	0.029	0.530	8.000
TR-021	30.00	35.00	5.00	0.009	0.560	8.000
TR-021	35.00	40.00	5.00	0.010	0.480	8.000
TR-021	40.00	45.00	5.00	0.003	0.130	8.000

TR-021	45.00	50.00	5.00	0.001	0.060	8.000
TR-021	50.00	55.00	5.00	0.003	0.200	8.000
TR-021	55.00	60.00	5.00	0.009	0.290	8.000
TR-021	60.00	65.00	5.00	0.004	0.410	4.000
TR-021	65.00	70.00	5.00	0.000	0.220	4.000
TR-021	70.00	75.00	5.00	0.002	0.220	4.000
TR-021	75.00	80.00	5.00	0.003	0.460	4.000
TR-021	80.00	85.00	5.00	0.012	0.620	4.000
TR-021	85.00	90.00	5.00	0.010	0.870	4.000
TR-021	90.00	95.00	5.00	0.010	2.090	4.000
TR-021	95.00	100.00	5.00	0.006	1.350	4.000
TR-021	100.00	105.00	5.00	0.001	1.020	4.000
TR-021	105.00	110.00	5.00	0.002	2.620	4.000
TR-021	110.00	115.00	5.00	0.001	0.870	4.000
TR-021	115.00	120.00	5.00	0.002	0.710	3.000
TR-021	120.00	125.00	5.00	0.003	0.780	3.000
TR-021	125.00	130.00	5.00	0.002	0.380	3.000
TR-021	130.00	135.00	5.00	0.001	0.310	3.000
TR-021	135.00	140.00	5.00	0.003	0.450	3.000
TR-021	140.00	145.00	5.00	0.002	0.210	3.000
TR-021	145.00	150.00	5.00	0.001	0.150	3.000
TR-021	150.00	155.00	5.00	0.001	0.140	3.000
TR-021	155.00	160.00	5.00	0.001	0.110	3.000
TR-021	160.00	165.00	5.00	0.009	0.240	3.000
TR-021	165.00	170.00	5.00	0.035	0.620	3.000
TR-021	170.00	175.00	5.00	0.046	0.630	3.000
TR-021	175.00	180.00	5.00	0.026	0.470	2.000
TR-021	180.00	185.00	5.00	0.003	0.150	2.000
TR-021	185.00	190.00	5.00	0.008	0.180	2.000
TR-021	190.00	195.00	5.00	0.004	0.130	2.000
TR-021	195.00	200.00	5.00	0.003	0.140	2.000
TR-021	200.00	205.00	5.00	0.001	0.090	2.000
TR-021	205.00	210.00	5.00	0.000	0.100	2.000
TR-021	210.00	215.00	5.00	0.000	0.100	2.000
TR-021	215.00	220.00	5.00	0.000	0.050	2.000
TR-021	220.00	225.00	5.00	0.001	0.110	2.000
TR-021	225.00	230.00	5.00	0.004	0.270	2.000
TR-021	230.00	235.00	5.00	0.006	0.510	2.000
TR-021	235.00	240.00	5.00	0.002	0.190	2.000
TR-021	240.00	245.00	5.00	0.003	0.290	2.000
TR-021	245.00	250.00	5.00	0.004	0.250	2.000
TR-021	250.00	255.00	5.00	0.022	0.780	2.000
TR-021	255.00	260.00	5.00	0.016	0.540	2.000
TR-021	260.00	265.00	5.00	0.038	0.560	2.000
TR-021	265.00	270.00	5.00	0.003	0.420	2.000
TR-021	270.00	275.00	5.00	0.002	0.120	2.000
TR-021	275.00	280.00	5.00	0.003	0.150	2.000
TR-021	280.00	285.00	5.00	0.000	0.260	2.000
TR-021	285.00	290.00	5.00	0.004	0.950	2.000
TR-021	290.00	295.00	5.00	0.003	4.690	2.000
TR-021	295.00	300.00	5.00	0.003	0.660	2.000
TR-021	300.00	305.00	5.00	0.003	0.400	2.000
TR-021	305.00	310.00	5.00	0.016	2.270	2.000
TR-021	310.00	315.00	5.00	0.002	0.180	2.000

TR-021	315.00	320.00	5.00	0.001	0.040	2.000
TR-021	320.00	325.00	5.00	0.001	0.070	2.000
TR-021	325.00	330.00	5.00	0.000	0.040	2.000
TR-021	330.00	335.00	5.00	0.000	0.020	2.000
TR-021	335.00	340.00	5.00	0.001	0.020	2.000
TR-021	340.00	345.00	5.00	0.001	0.040	2.000
TR-021	345.00	350.00	5.00	0.022	1.060	2.000
TR-021	350.00	355.00	5.00	0.007	0.370	2.000
TR-022	732337.9	256091.3	4645.5	78.000	-45.000	400.00
TR-022						
TR-022	0.00	5.00	5.00	0.001	0.040	0.000
TR-022	5.00	10.00	5.00	0.000	0.040	0.000
TR-022	10.00	15.00	5.00	0.000	0.020	0.000
TR-022	15.00	20.00	5.00	0.000	0.000	0.000
TR-022	20.00	25.00	5.00	0.000	0.000	0.000
TR-022	25.00	30.00	5.00	0.000	0.000	0.000
TR-022	30.00	35.00	5.00	0.000	0.000	0.000
TR-022	35.00	40.00	5.00	0.000	0.000	0.000
TR-022	40.00	45.00	5.00	0.000	0.000	0.000
TR-022	45.00	50.00	5.00	0.000	0.030	0.000
TR-022	50.00	55.00	5.00	0.001	0.040	0.000
TR-022	55.00	60.00	5.00	0.000	0.030	0.000
TR-022	60.00	65.00	5.00	0.000	0.000	0.000
TR-022	65.00	70.00	5.00	0.000	0.000	0.000
TR-022	70.00	75.00	5.00	0.000	0.000	0.000
TR-022	75.00	80.00	5.00	0.000	0.000	0.000
TR-022	80.00	85.00	5.00	0.000	0.000	0.000
TR-022	85.00	90.00	5.00	0.000	0.000	0.000
TR-022	90.00	95.00	5.00	0.000	0.000	0.000
TR-022	95.00	100.00	5.00	0.000	0.040	0.000
TR-022	100.00	105.00	5.00	0.000	0.020	0.000
TR-022	105.00	110.00	5.00	0.000	0.000	0.000
TR-022	110.00	115.00	5.00	0.000	0.000	0.000
TR-022	115.00	120.00	5.00	0.000	0.000	0.000
TR-022	120.00	125.00	5.00	0.000	0.000	0.000
TR-022	125.00	130.00	5.00	0.000	0.000	0.000
TR-022	130.00	135.00	5.00	0.000	0.000	0.000
TR-022	135.00	140.00	5.00	0.000	0.000	0.000
TR-022	140.00	145.00	5.00	0.000	0.000	0.000
TR-022	145.00	150.00	5.00	0.000	0.000	0.000
TR-022	150.00	155.00	5.00	0.000	0.000	0.000
TR-022	155.00	160.00	5.00	0.000	0.000	0.000
TR-022	160.00	165.00	5.00	0.000	0.000	0.000
TR-022	165.00	170.00	5.00	0.000	0.000	0.000
TR-022	170.00	175.00	5.00	0.000	0.000	0.000
TR-022	175.00	180.00	5.00	0.000	0.000	0.000
TR-022	180.00	185.00	5.00	0.000	0.000	0.000
TR-022	185.00	190.00	5.00	0.000	0.000	0.000
TR-022	190.00	195.00	5.00	0.000	0.000	0.000
TR-022	195.00	200.00	5.00	0.000	0.000	0.000
TR-022	200.00	205.00	5.00	0.001	0.000	0.000
TR-022	205.00	210.00	5.00	0.001	0.000	0.000

TR-022	210.00	215.00	5.00	0.002	0.000	0.000
TR-022	215.00	220.00	5.00	0.010	0.020	0.000
TR-022	220.00	225.00	5.00	0.002	0.170	0.000
TR-022	225.00	230.00	5.00	0.002	0.060	0.000
TR-022	230.00	235.00	5.00	0.000	0.060	0.000
TR-022	235.00	240.00	5.00	0.000	0.020	0.000
TR-022	240.00	245.00	5.00	0.000	0.040	0.000
TR-022	245.00	250.00	5.00	0.046	0.320	0.000
TR-022	250.00	255.00	5.00	0.039	0.410	0.000
TR-022	255.00	260.00	5.00	0.001	0.210	0.000
TR-022	260.00	265.00	5.00	0.000	0.220	0.000
TR-022	265.00	270.00	5.00	0.000	0.090	0.000
TR-022	270.00	275.00	5.00	0.001	0.080	0.000
TR-022	275.00	280.00	5.00	0.001	0.210	0.000
TR-022	280.00	285.00	5.00	0.000	0.280	0.000
TR-022	285.00	290.00	5.00	0.005	0.320	0.000
TR-022	290.00	295.00	5.00	0.001	0.130	0.000
TR-022	295.00	300.00	5.00	0.001	0.350	0.000
TR-022	300.00	305.00	5.00	0.008	0.700	0.000
TR-022	305.00	310.00	5.00	0.008	0.980	0.000
TR-022	310.00	315.00	5.00	0.002	0.510	0.000
TR-022	315.00	320.00	5.00	0.002	0.830	0.000
TR-022	320.00	325.00	5.00	0.000	0.430	0.000
TR-022	325.00	330.00	5.00	0.005	0.280	0.000
TR-022	330.00	335.00	5.00	0.037	0.540	0.000
TR-022	335.00	340.00	5.00	0.310	0.970	0.000
TR-022	340.00	345.00	5.00	0.012	0.980	0.000
TR-022	345.00	350.00	5.00	0.009	0.430	0.000
TR-022	350.00	355.00	5.00	0.004	0.270	0.000
TR-022	355.00	360.00	5.00	0.005	0.260	0.000
TR-022	360.00	365.00	5.00	0.002	0.140	0.000
TR-022	365.00	370.00	5.00	0.001	0.110	0.000
TR-022	370.00	375.00	5.00	0.002	0.120	0.000
TR-022	375.00	380.00	5.00	0.001	0.100	0.000
TR-022	380.00	385.00	5.00	0.003	0.060	0.000
TR-022	385.00	390.00	5.00	0.005	0.070	0.000
TR-022	390.00	395.00	5.00	0.006	0.060	0.000
TR-022	395.00	400.00	5.00	0.005	0.080	0.000

TR-023	732273.7	255872.9	4651.3	80.000	-45.000	400.00

TR-023						
TR-023	0.00	5.00	5.00	0.001	0.080	0.000
TR-023	5.00	10.00	5.00	0.000	0.040	0.000
TR-023	10.00	15.00	5.00	0.001	0.020	0.000
TR-023	15.00	20.00	5.00	0.004	0.070	0.000
TR-023	20.00	25.00	5.00	0.000	0.000	0.000
TR-023	25.00	30.00	5.00	0.000	0.000	0.000
TR-023	30.00	35.00	5.00	0.000	0.000	0.000
TR-023	35.00	40.00	5.00	0.000	0.000	0.000
TR-023	40.00	45.00	5.00	0.000	0.000	0.000
TR-023	45.00	50.00	5.00	0.000	0.000	0.000
TR-023	50.00	55.00	5.00	0.000	0.000	0.000
TR-023	55.00	60.00	5.00	0.000	0.000	0.000

TR-023	60.00	65.00	5.00	0.000	0.030	0.000
TR-023	65.00	70.00	5.00	0.000	0.030	0.000
TR-023	70.00	75.00	5.00	0.000	0.000	0.000
TR-023	75.00	80.00	5.00	0.000	0.000	0.000
TR-023	80.00	85.00	5.00	0.000	0.000	0.000
TR-023	85.00	90.00	5.00	0.000	0.000	0.000
TR-023	90.00	95.00	5.00	0.000	0.020	0.000
TR-023	95.00	100.00	5.00	0.002	0.020	0.000
TR-023	100.00	105.00	5.00	0.002	0.000	0.000
TR-023	105.00	110.00	5.00	0.007	0.030	0.000
TR-023	110.00	115.00	5.00	0.002	0.020	0.000
TR-023	115.00	120.00	5.00	0.048	0.020	0.000
TR-023	120.00	125.00	5.00	0.015	0.000	0.000
TR-023	125.00	130.00	5.00	0.005	0.000	0.000
TR-023	130.00	135.00	5.00	0.000	0.000	0.000
TR-023	135.00	140.00	5.00	0.002	0.000	0.000
TR-023	140.00	145.00	5.00	0.001	0.020	0.000
TR-023	145.00	150.00	5.00	0.000	0.020	0.000
TR-023	150.00	155.00	5.00	0.000	0.000	0.000
TR-023	155.00	160.00	5.00	0.000	0.000	0.000
TR-023	160.00	165.00	5.00	0.000	0.000	0.000
TR-023	165.00	170.00	5.00	0.000	0.000	0.000
TR-023	170.00	175.00	5.00	0.000	0.030	0.000
TR-023	175.00	180.00	5.00	0.000	0.000	0.000
TR-023	180.00	185.00	5.00	0.000	0.000	0.000
TR-023	185.00	190.00	5.00	0.000	0.000	0.000
TR-023	190.00	195.00	5.00	0.000	0.000	0.000
TR-023	195.00	200.00	5.00	0.001	0.030	0.000
TR-023	200.00	205.00	5.00	0.000	0.000	0.000
TR-023	205.00	210.00	5.00	0.001	0.000	0.000
TR-023	210.00	215.00	5.00	0.000	0.000	0.000
TR-023	215.00	220.00	5.00	0.000	0.000	0.000
TR-023	220.00	225.00	5.00	0.000	0.000	0.000
TR-023	225.00	230.00	5.00	0.000	0.000	0.000
TR-023	230.00	235.00	5.00	0.000	0.000	0.000
TR-023	235.00	240.00	5.00	0.000	0.000	0.000
TR-023	240.00	245.00	5.00	0.000	0.000	0.000
TR-023	245.00	250.00	5.00	0.000	0.080	0.000
TR-023	250.00	255.00	5.00	0.000	0.090	0.000
TR-023	255.00	260.00	5.00	0.000	0.230	0.000
TR-023	260.00	265.00	5.00	0.001	0.450	0.000
TR-023	265.00	270.00	5.00	0.000	0.190	0.000
TR-023	270.00	275.00	5.00	0.000	0.170	0.000
TR-023	275.00	280.00	5.00	0.000	0.080	0.000
TR-023	280.00	285.00	5.00	0.000	0.080	0.000
TR-023	285.00	290.00	5.00	0.000	0.050	0.000
TR-023	290.00	295.00	5.00	0.000	0.040	0.000
TR-023	295.00	300.00	5.00	0.000	0.070	0.000
TR-023	300.00	305.00	5.00	0.000	0.140	0.000
TR-023	305.00	310.00	5.00	0.002	0.170	0.000
TR-023	310.00	315.00	5.00	0.010	0.220	0.000
TR-023	315.00	320.00	5.00	0.020	0.240	0.000
TR-023	320.00	325.00	5.00	-1.000	-1.000	0.000
TR-023	325.00	330.00	5.00	0.010	0.180	0.000

TR-023	330.00	335.00	5.00	0.002	0.630	0.000
TR-023	335.00	340.00	5.00	0.004	0.640	0.000
TR-023	340.00	345.00	5.00	0.019	0.710	0.000
TR-023	345.00	350.00	5.00	0.007	0.410	0.000
TR-023	350.00	355.00	5.00	0.003	0.370	0.000
TR-023	355.00	360.00	5.00	-1.000	-1.000	0.000
TR-023	360.00	365.00	5.00	-1.000	-1.000	0.000
TR-023	365.00	370.00	5.00	0.003	0.260	0.000
TR-023	370.00	375.00	5.00	0.009	0.270	0.000
TR-023	375.00	380.00	5.00	0.012	0.300	0.000
TR-023	380.00	385.00	5.00	0.043	0.340	0.000
TR-023	385.00	390.00	5.00	0.004	0.320	0.000
TR-023	390.00	395.00	5.00	0.032	0.090	0.000
TR-023	395.00	400.00	5.00	0.000	0.080	0.000

TR-024	732461.6	256345.6	4616.4	0.000	-90.000	335.00

TR-024						
TR-024	0.00	5.00	5.00	0.002	0.120	0.000
TR-024	5.00	10.00	5.00	0.000	0.050	0.000
TR-024	10.00	15.00	5.00	0.000	0.000	0.000
TR-024	15.00	20.00	5.00	0.000	0.000	0.000
TR-024	20.00	25.00	5.00	0.000	0.000	0.000
TR-024	25.00	30.00	5.00	0.000	0.000	0.000
TR-024	30.00	35.00	5.00	0.000	0.000	0.000
TR-024	35.00	40.00	5.00	0.000	0.000	0.000
TR-024	40.00	45.00	5.00	0.000	0.000	0.000
TR-024	45.00	50.00	5.00	0.000	0.000	0.000
TR-024	50.00	55.00	5.00	0.000	0.000	0.000
TR-024	55.00	60.00	5.00	0.000	0.000	0.000
TR-024	60.00	65.00	5.00	0.000	0.000	0.000
TR-024	65.00	70.00	5.00	0.000	0.000	0.000
TR-024	70.00	75.00	5.00	0.000	0.000	0.000
TR-024	75.00	80.00	5.00	0.000	0.000	0.000
TR-024	80.00	85.00	5.00	0.000	0.000	0.000
TR-024	85.00	90.00	5.00	0.000	0.000	0.000
TR-024	90.00	95.00	5.00	0.000	0.000	0.000
TR-024	95.00	100.00	5.00	0.000	0.000	0.000
TR-024	100.00	105.00	5.00	0.000	0.000	0.000
TR-024	105.00	110.00	5.00	0.000	0.000	0.000
TR-024	110.00	115.00	5.00	0.003	0.000	0.000
TR-024	115.00	120.00	5.00	0.006	0.050	0.000
TR-024	120.00	125.00	5.00	0.001	0.120	0.000
TR-024	125.00	130.00	5.00	0.000	0.050	0.000
TR-024	130.00	135.00	5.00	0.000	0.000	0.000
TR-024	135.00	140.00	5.00	0.000	0.000	0.000
TR-024	140.00	145.00	5.00	0.001	0.030	0.000
TR-024	145.00	150.00	5.00	0.000	0.020	0.000
TR-024	150.00	155.00	5.00	0.000	0.000	0.000
TR-024	155.00	160.00	5.00	0.005	0.040	0.000
TR-024	160.00	165.00	5.00	0.011	0.040	0.000
TR-024	165.00	170.00	5.00	0.003	0.020	0.000
TR-024	170.00	175.00	5.00	0.001	0.000	0.000
TR-024	175.00	180.00	5.00	0.004	0.000	0.000

TR-024	180.00	185.00	5.00	0.002	0.000	0.000
TR-024	185.00	190.00	5.00	0.001	0.000	0.000
TR-024	190.00	195.00	5.00	0.000	0.000	0.000
TR-024	195.00	200.00	5.00	0.000	0.000	0.000
TR-024	200.00	205.00	5.00	0.000	0.000	0.000
TR-024	205.00	210.00	5.00	0.000	0.000	0.000
TR-024	210.00	215.00	5.00	0.000	0.000	0.000
TR-024	215.00	220.00	5.00	0.000	0.050	0.000
TR-024	220.00	225.00	5.00	0.000	0.060	0.000
TR-024	225.00	230.00	5.00	0.002	0.100	0.000
TR-024	230.00	235.00	5.00	0.002	0.110	0.000
TR-024	235.00	240.00	5.00	0.018	0.130	0.000
TR-024	240.00	245.00	5.00	0.003	0.130	0.000
TR-024	245.00	250.00	5.00	0.007	0.150	0.000
TR-024	250.00	255.00	5.00	0.047	0.240	0.000
TR-024	255.00	260.00	5.00	0.007	0.220	0.000
TR-024	260.00	265.00	5.00	0.033	0.280	0.000
TR-024	265.00	270.00	5.00	0.021	0.190	0.000
TR-024	270.00	275.00	5.00	0.003	0.280	0.000
TR-024	275.00	280.00	5.00	0.001	0.180	0.000
TR-024	280.00	285.00	5.00	0.013	0.220	0.000
TR-024	285.00	290.00	5.00	0.063	0.130	0.000
TR-024	290.00	295.00	5.00	0.071	0.340	0.000
TR-024	295.00	300.00	5.00	0.008	0.090	0.000
TR-024	300.00	305.00	5.00	0.019	0.080	0.000
TR-024	305.00	310.00	5.00	0.015	0.090	0.000
TR-024	310.00	315.00	5.00	0.018	0.040	0.000
TR-024	315.00	320.00	5.00	0.006	0.250	0.000
TR-024	320.00	325.00	5.00	0.005	0.320	0.000
TR-024	325.00	330.00	5.00	0.001	0.150	0.000
TR-024	330.00	335.00	5.00	0.004	0.090	0.000

TR-025	732270.7	255873.3	4651.3	0.000	-90.000	250.00

TR-025						
TR-025	0.00	5.00	5.00	0.001	0.080	0.000
TR-025	5.00	10.00	5.00	0.000	0.020	0.000
TR-025	10.00	15.00	5.00	0.000	0.030	0.000
TR-025	15.00	20.00	5.00	0.000	0.000	0.000
TR-025	20.00	25.00	5.00	0.000	0.000	0.000
TR-025	25.00	30.00	5.00	0.000	0.000	0.000
TR-025	30.00	35.00	5.00	0.000	0.000	0.000
TR-025	35.00	40.00	5.00	0.000	0.000	0.000
TR-025	40.00	45.00	5.00	0.000	0.000	0.000
TR-025	45.00	50.00	5.00	0.000	0.000	0.000
TR-025	50.00	55.00	5.00	0.000	0.000	0.000
TR-025	55.00	60.00	5.00	0.000	0.000	0.000
TR-025	60.00	65.00	5.00	0.001	0.000	0.000
TR-025	65.00	70.00	5.00	0.006	0.000	0.000
TR-025	70.00	75.00	5.00	0.000	0.000	0.000
TR-025	75.00	80.00	5.00	0.000	0.110	0.000
TR-025	80.00	85.00	5.00	0.000	0.040	0.000
TR-025	85.00	90.00	5.00	0.001	0.000	0.000
TR-025	90.00	95.00	5.00	0.005	0.070	0.000

TR-025	95.00	100.00	5.00	0.000	0.100	0.000
TR-025	100.00	105.00	5.00	0.000	0.090	0.000
TR-025	105.00	110.00	5.00	0.005	0.040	0.000
TR-025	110.00	115.00	5.00	0.001	0.020	0.000
TR-025	115.00	120.00	5.00	0.000	0.000	0.000
TR-025	120.00	125.00	5.00	0.000	0.000	0.000
TR-025	125.00	130.00	5.00	0.031	0.070	0.000
TR-025	130.00	135.00	5.00	0.058	0.120	0.000
TR-025	135.00	140.00	5.00	0.002	0.180	0.000
TR-025	140.00	145.00	5.00	0.004	0.030	0.000
TR-025	145.00	150.00	5.00	0.002	0.030	0.000
TR-025	150.00	155.00	5.00	0.000	0.030	0.000
TR-025	155.00	160.00	5.00	0.002	0.040	0.000
TR-025	160.00	165.00	5.00	0.000	0.050	0.000
TR-025	165.00	170.00	5.00	0.006	0.080	0.000
TR-025	170.00	175.00	5.00	0.013	0.240	0.000
TR-025	175.00	180.00	5.00	0.023	1.080	0.000
TR-025	180.00	185.00	5.00	0.136	6.160	0.000
TR-025	185.00	190.00	5.00	0.071	4.520	0.000
TR-025	190.00	195.00	5.00	0.010	0.820	0.000
TR-025	195.00	200.00	5.00	0.022	0.900	0.000
TR-025	200.00	205.00	5.00	0.030	0.200	0.000
TR-025	205.00	210.00	5.00	0.001	0.200	0.000
TR-025	210.00	215.00	5.00	0.007	0.230	0.000
TR-025	215.00	220.00	5.00	0.002	0.260	0.000
TR-025	220.00	225.00	5.00	0.003	0.990	0.000
TR-025	225.00	230.00	5.00	0.023	1.220	0.000
TR-025	230.00	235.00	5.00	0.053	0.850	0.000
TR-025	235.00	240.00	5.00	0.009	0.160	0.000
TR-025	240.00	245.00	5.00	0.022	1.380	0.000
TR-025	245.00	250.00	5.00	0.019	1.530	0.000

TR-026	732182.9	255440.2	4633.8	0.000	-90.000	400.00

TR-026						
TR-026	0.00	5.00	5.00	0.002	0.090	5.000
TR-026	5.00	10.00	5.00	0.000	0.000	5.000
TR-026	10.00	15.00	5.00	0.001	0.050	5.000
TR-026	15.00	20.00	5.00	0.000	0.030	4.000
TR-026	20.00	25.00	5.00	0.001	0.000	5.000
TR-026	25.00	30.00	5.00	0.000	0.050	5.000
TR-026	30.00	35.00	5.00	0.000	0.000	5.000
TR-026	35.00	40.00	5.00	0.000	0.000	5.000
TR-026	40.00	45.00	5.00	0.000	0.000	5.000
TR-026	45.00	50.00	5.00	0.000	0.000	5.000
TR-026	50.00	55.00	5.00	0.001	0.050	5.000
TR-026	55.00	60.00	5.00	0.000	0.000	2.000
TR-026	60.00	65.00	5.00	0.000	0.000	2.000
TR-026	65.00	70.00	5.00	0.000	0.000	2.000
TR-026	70.00	75.00	5.00	0.000	0.060	2.000
TR-026	75.00	80.00	5.00	0.000	0.000	2.000
TR-026	80.00	85.00	5.00	0.000	0.020	1.000
TR-026	85.00	90.00	5.00	0.000	0.000	1.000
TR-026	90.00	95.00	5.00	0.000	0.000	1.000

TR-026	95.00	100.00	5.00	0.000	0.000	1.000
TR-026	100.00	105.00	5.00	0.000	0.030	1.000
TR-026	105.00	110.00	5.00	0.000	0.000	1.000
TR-026	110.00	115.00	5.00	0.000	0.030	2.000
TR-026	115.00	120.00	5.00	0.000	0.030	2.000
TR-026	120.00	125.00	5.00	0.000	0.010	2.000
TR-026	125.00	130.00	5.00	0.000	0.010	1.000
TR-026	130.00	135.00	5.00	0.038	0.210	11.000
TR-026	135.00	140.00	5.00	0.070	0.510	2.000
TR-026	140.00	145.00	5.00	0.011	0.280	2.000
TR-026	145.00	150.00	5.00	0.022	1.610	2.000
TR-026	150.00	155.00	5.00	0.007	0.440	2.000
TR-026	155.00	160.00	5.00	0.002	0.460	2.000
TR-026	160.00	165.00	5.00	0.004	0.240	2.000
TR-026	165.00	170.00	5.00	0.005	0.220	11.000
TR-026	170.00	175.00	5.00	0.001	0.220	1.000
TR-026	175.00	180.00	5.00	0.004	0.150	1.000
TR-026	180.00	185.00	5.00	0.015	0.300	1.000
TR-026	185.00	190.00	5.00	0.013	0.530	1.000
TR-026	190.00	195.00	5.00	0.022	0.560	1.000
TR-026	195.00	200.00	5.00	0.078	1.290	1.000
TR-026	200.00	205.00	5.00	0.029	0.660	4.000
TR-026	205.00	210.00	5.00	0.064	1.190	4.000
TR-026	210.00	215.00	5.00	0.087	1.340	3.000
TR-026	215.00	220.00	5.00	0.053	0.880	3.000
TR-026	220.00	225.00	5.00	0.015	0.710	3.000
TR-026	225.00	230.00	5.00	0.011	0.710	3.000
TR-026	230.00	235.00	5.00	0.015	0.780	3.000
TR-026	235.00	240.00	5.00	0.010	0.860	3.000
TR-026	240.00	245.00	5.00	0.005	0.320	3.000
TR-026	245.00	250.00	5.00	0.007	0.460	3.000
TR-026	250.00	255.00	5.00	0.006	0.410	3.000
TR-026	255.00	260.00	5.00	0.005	0.360	3.000
TR-026	260.00	265.00	5.00	0.005	0.290	3.000
TR-026	265.00	270.00	5.00	0.008	0.260	3.000
TR-026	270.00	275.00	5.00	0.004	0.260	3.000
TR-026	275.00	280.00	5.00	0.002	0.130	3.000
TR-026	280.00	285.00	5.00	0.002	0.150	3.000
TR-026	285.00	290.00	5.00	0.003	0.180	3.000
TR-026	290.00	295.00	5.00	0.004	0.250	3.000
TR-026	295.00	300.00	5.00	0.003	0.080	3.000
TR-026	300.00	305.00	5.00	0.003	0.110	3.000
TR-026	305.00	310.00	5.00	0.002	0.150	2.000
TR-026	310.00	315.00	5.00	0.018	0.420	2.000
TR-026	315.00	320.00	5.00	0.006	0.170	2.000
TR-026	320.00	325.00	5.00	0.033	0.240	2.000
TR-026	325.00	330.00	5.00	0.019	0.120	2.000
TR-026	330.00	335.00	5.00	0.012	0.220	2.000
TR-026	335.00	340.00	5.00	0.004	0.180	2.000
TR-026	340.00	345.00	5.00	0.004	0.060	2.000
TR-026	345.00	350.00	5.00	0.001	0.050	2.000
TR-026	350.00	355.00	5.00	0.002	0.080	2.000
TR-026	355.00	360.00	5.00	0.000	0.020	2.000
TR-026	360.00	365.00	5.00	0.003	0.130	2.000

TR-026	365.00	370.00	5.00	0.002	0.100	2.000
TR-026	370.00	375.00	5.00	0.004	0.080	2.000
TR-026	375.00	380.00	5.00	0.001	0.050	2.000
TR-026	380.00	385.00	5.00	0.004	0.200	2.000
TR-026	385.00	390.00	5.00	0.005	0.340	2.000
TR-026	390.00	395.00	5.00	0.003	0.490	2.000
TR-026	395.00	400.00	5.00	0.005	0.530	2.000
TR-027	733051.9	257243.8	4622.1	284.000	-45.000	395.00
TR-027						
TR-027	0.00	5.00	5.00	0.037	2.240	0.000
TR-027	5.00	10.00	5.00	0.009	0.600	0.000
TR-027	10.00	15.00	5.00	0.021	0.780	0.000
TR-027	15.00	20.00	5.00	0.016	0.630	0.000
TR-027	20.00	25.00	5.00	0.006	0.240	0.000
TR-027	25.00	30.00	5.00	0.002	0.260	0.000
TR-027	30.00	35.00	5.00	0.003	0.230	0.000
TR-027	35.00	40.00	5.00	0.001	0.080	0.000
TR-027	40.00	45.00	5.00	0.002	0.090	0.000
TR-027	45.00	50.00	5.00	0.003	0.170	0.000
TR-027	50.00	55.00	5.00	0.004	0.150	0.000
TR-027	55.00	60.00	5.00	0.002	0.130	0.000
TR-027	60.00	65.00	5.00	0.011	0.180	0.000
TR-027	65.00	70.00	5.00	0.000	0.020	0.000
TR-027	70.00	75.00	5.00	0.002	0.040	0.000
TR-027	75.00	80.00	5.00	0.000	0.080	0.000
TR-027	80.00	85.00	5.00	0.002	0.030	0.000
TR-027	85.00	90.00	5.00	0.001	0.000	0.000
TR-027	90.00	95.00	5.00	0.000	0.000	0.000
TR-027	95.00	100.00	5.00	0.000	0.000	0.000
TR-027	100.00	105.00	5.00	0.000	0.000	0.000
TR-027	105.00	110.00	5.00	0.007	0.060	0.000
TR-027	110.00	115.00	5.00	0.003	0.030	0.000
TR-027	115.00	120.00	5.00	0.004	0.020	0.000
TR-027	120.00	125.00	5.00	0.002	0.050	0.000
TR-027	125.00	130.00	5.00	0.013	0.210	0.000
TR-027	130.00	135.00	5.00	0.018	0.440	0.000
TR-027	135.00	140.00	5.00	0.006	0.240	0.000
TR-027	140.00	145.00	5.00	0.004	0.110	0.000
TR-027	145.00	150.00	5.00	0.001	0.050	0.000
TR-027	150.00	155.00	5.00	0.000	0.040	0.000
TR-027	155.00	160.00	5.00	0.000	0.050	0.000
TR-027	160.00	165.00	5.00	0.024	0.200	0.000
TR-027	165.00	170.00	5.00	0.337	5.860	0.000
TR-027	170.00	175.00	5.00	0.179	1.180	0.000
TR-027	175.00	180.00	5.00	0.006	0.050	0.000
TR-027	180.00	185.00	5.00	0.004	0.040	0.000
TR-027	185.00	190.00	5.00	0.003	0.030	0.000
TR-027	190.00	195.00	5.00	0.001	0.020	0.000
TR-027	195.00	200.00	5.00	0.000	0.000	0.000
TR-027	200.00	205.00	5.00	0.002	0.130	0.000
TR-027	205.00	210.00	5.00	0.000	0.040	0.000
TR-027	210.00	215.00	5.00	0.001	0.030	0.000

TR-027	215.00	220.00	5.00	0.000	0.060	0.000
TR-027	220.00	225.00	5.00	0.000	0.080	0.000
TR-027	225.00	230.00	5.00	0.007	0.140	0.000
TR-027	230.00	235.00	5.00	0.000	0.090	0.000
TR-027	235.00	240.00	5.00	0.000	0.150	0.000
TR-027	240.00	245.00	5.00	0.002	0.180	0.000
TR-027	245.00	250.00	5.00	0.001	0.080	0.000
TR-027	250.00	255.00	5.00	0.003	0.340	0.000
TR-027	255.00	260.00	5.00	0.004	0.290	0.000
TR-027	260.00	265.00	5.00	0.001	0.300	0.000
TR-027	265.00	270.00	5.00	0.015	0.330	0.000
TR-027	270.00	275.00	5.00	0.004	0.840	0.000
TR-027	275.00	280.00	5.00	0.002	0.870	0.000
TR-027	280.00	285.00	5.00	0.002	0.320	0.000
TR-027	285.00	290.00	5.00	0.003	0.440	0.000
TR-027	290.00	295.00	5.00	0.002	0.200	0.000
TR-027	295.00	300.00	5.00	0.001	0.110	0.000
TR-027	300.00	305.00	5.00	0.001	0.110	0.000
TR-027	305.00	310.00	5.00	0.001	0.030	0.000
TR-027	310.00	315.00	5.00	0.000	0.000	0.000
TR-027	315.00	320.00	5.00	0.000	0.060	0.000
TR-027	320.00	325.00	5.00	0.001	0.030	0.000
TR-027	325.00	330.00	5.00	0.000	0.030	0.000
TR-027	330.00	335.00	5.00	0.000	0.060	0.000
TR-027	335.00	340.00	5.00	0.000	0.000	0.000
TR-027	340.00	345.00	5.00	0.000	0.000	0.000
TR-027	345.00	350.00	5.00	0.000	0.040	0.000
TR-027	350.00	355.00	5.00	0.001	0.080	0.000
TR-027	355.00	360.00	5.00	0.000	0.030	0.000
TR-027	360.00	365.00	5.00	0.000	0.000	0.000
TR-027	365.00	370.00	5.00	0.001	0.110	0.000
TR-027	370.00	375.00	5.00	0.001	0.120	0.000
TR-027	375.00	380.00	5.00	0.000	0.060	0.000
TR-027	380.00	385.00	5.00	0.001	0.090	0.000
TR-027	385.00	390.00	5.00	0.002	0.120	0.000
TR-027	390.00	395.00	5.00	0.002	0.050	0.000

TR-028	732337.8	255681.7	4624.5	0.000	-90.000	275.00

TR-028						
TR-028	0.00	5.00	5.00	0.002	0.080	6.000
TR-028	5.00	10.00	5.00	0.000	0.040	6.000
TR-028	10.00	15.00	5.00	0.000	0.040	6.000
TR-028	15.00	20.00	5.00	0.000	0.020	6.000
TR-028	20.00	25.00	5.00	0.002	0.020	6.000
TR-028	25.00	30.00	5.00	0.000	0.000	6.000
TR-028	30.00	35.00	5.00	0.000	0.020	6.000
TR-028	35.00	40.00	5.00	0.000	0.020	6.000
TR-028	40.00	45.00	5.00	0.000	0.000	6.000
TR-028	45.00	50.00	5.00	0.001	0.030	6.000
TR-028	50.00	55.00	5.00	0.000	0.020	6.000
TR-028	55.00	60.00	5.00	0.000	0.040	1.000
TR-028	60.00	65.00	5.00	0.000	0.020	1.000
TR-028	65.00	70.00	5.00	0.000	0.000	1.000

TR-028	70.00	75.00	5.00	0.000	0.000	1.000
TR-028	75.00	80.00	5.00	0.000	0.000	1.000
TR-028	80.00	85.00	5.00	0.000	0.000	1.000
TR-028	85.00	90.00	5.00	0.000	0.000	1.000
TR-028	90.00	95.00	5.00	0.000	0.000	1.000
TR-028	95.00	100.00	5.00	0.000	0.000	1.000
TR-028	100.00	105.00	5.00	0.009	0.000	1.000
TR-028	105.00	110.00	5.00	0.007	0.000	2.000
TR-028	110.00	115.00	5.00	0.000	0.090	2.000
TR-028	115.00	120.00	5.00	0.190	2.510	3.000
TR-028	120.00	125.00	5.00	0.035	0.720	3.000
TR-028	125.00	130.00	5.00	0.053	1.280	3.000
TR-028	130.00	135.00	5.00	0.038	3.060	3.000
TR-028	135.00	140.00	5.00	0.041	2.380	3.000
TR-028	140.00	145.00	5.00	0.006	0.910	3.000
TR-028	145.00	150.00	5.00	0.021	1.890	3.000
TR-028	150.00	155.00	5.00	0.067	1.890	3.000
TR-028	155.00	160.00	5.00	0.148	5.010	3.000
TR-028	160.00	165.00	5.00	0.020	0.700	3.000
TR-028	165.00	170.00	5.00	0.006	1.240	3.000
TR-028	170.00	175.00	5.00	0.021	1.310	3.000
TR-028	175.00	180.00	5.00	0.002	0.080	2.000
TR-028	180.00	185.00	5.00	0.001	0.060	2.000
TR-028	185.00	190.00	5.00	0.002	0.110	2.000
TR-028	190.00	195.00	5.00	0.002	0.080	6.000
TR-028	195.00	200.00	5.00	0.003	0.140	6.000
TR-028	200.00	205.00	5.00	0.009	0.560	6.000
TR-028	205.00	210.00	5.00	0.008	0.570	6.000
TR-028	210.00	215.00	5.00	0.004	0.720	6.000
TR-028	215.00	220.00	5.00	0.003	0.770	2.000
TR-028	220.00	225.00	5.00	0.002	0.140	2.000
TR-028	225.00	230.00	5.00	0.000	0.110	1.000
TR-028	230.00	235.00	5.00	0.002	0.170	1.000
TR-028	235.00	240.00	5.00	0.000	0.060	1.000
TR-028	240.00	245.00	5.00	0.000	0.110	1.000
TR-028	245.00	250.00	5.00	0.000	0.220	1.000
TR-028	250.00	255.00	5.00	0.001	0.210	1.000
TR-028	255.00	260.00	5.00	0.003	0.280	1.000
TR-028	260.00	265.00	5.00	0.002	0.200	1.000
TR-028	265.00	270.00	5.00	0.000	0.040	1.000
TR-028	270.00	275.00	5.00	0.000	0.040	1.000

TR-029	732415.5	255700.8	4601.7	0.000	-90.000	295.00

TR-029						
TR-029	0.00	5.00	5.00	0.001	0.030	8.000
TR-029	5.00	10.00	5.00	0.001	0.000	8.000
TR-029	10.00	15.00	5.00	0.000	0.000	7.000
TR-029	15.00	20.00	5.00	0.001	0.000	7.000
TR-029	20.00	25.00	5.00	0.002	0.020	6.000
TR-029	25.00	30.00	5.00	0.000	0.000	6.000
TR-029	30.00	35.00	5.00	0.000	0.000	7.000
TR-029	35.00	40.00	5.00	0.000	0.000	8.000
TR-029	40.00	45.00	5.00	0.000	0.040	7.000

TR-029	45.00	50.00	5.00	0.000	0.020	7.000
TR-029	50.00	55.00	5.00	0.000	0.000	7.000
TR-029	55.00	60.00	5.00	0.000	0.000	7.000
TR-029	60.00	65.00	5.00	0.001	0.030	5.000
TR-029	65.00	70.00	5.00	0.002	0.030	5.000
TR-029	70.00	75.00	5.00	0.000	0.060	5.000
TR-029	75.00	80.00	5.00	0.003	0.250	5.000
TR-029	80.00	85.00	5.00	0.000	0.230	5.000
TR-029	85.00	90.00	5.00	0.000	0.090	5.000
TR-029	90.00	95.00	5.00	0.001	0.750	11.000
TR-029	95.00	100.00	5.00	0.000	0.260	1.000
TR-029	100.00	105.00	5.00	0.000	0.330	1.000
TR-029	105.00	110.00	5.00	0.000	0.170	1.000
TR-029	110.00	115.00	5.00	0.000	0.250	2.000
TR-029	115.00	120.00	5.00	0.000	0.530	2.000
TR-029	120.00	125.00	5.00	0.000	0.760	2.000
TR-029	125.00	130.00	5.00	0.000	0.380	2.000
TR-029	130.00	135.00	5.00	0.000	0.230	2.000
TR-029	135.00	140.00	5.00	0.000	0.390	2.000
TR-029	140.00	145.00	5.00	0.011	0.630	2.000
TR-029	145.00	150.00	5.00	0.028	0.800	2.000
TR-029	150.00	155.00	5.00	0.007	0.840	2.000
TR-029	155.00	160.00	5.00	0.005	0.360	2.000
TR-029	160.00	165.00	5.00	0.003	0.090	2.000
TR-029	165.00	170.00	5.00	0.004	0.060	2.000
TR-029	170.00	175.00	5.00	0.006	0.090	2.000
TR-029	175.00	180.00	5.00	0.003	0.120	2.000
TR-029	180.00	185.00	5.00	0.002	0.060	2.000
TR-029	185.00	190.00	5.00	0.000	0.060	2.000
TR-029	190.00	195.00	5.00	0.002	0.150	4.000
TR-029	195.00	200.00	5.00	0.003	0.150	4.000
TR-029	200.00	205.00	5.00	0.000	0.150	2.000
TR-029	205.00	210.00	5.00	0.000	0.170	2.000
TR-029	210.00	215.00	5.00	0.001	0.340	2.000
TR-029	215.00	220.00	5.00	0.000	0.170	2.000
TR-029	220.00	225.00	5.00	0.000	0.150	2.000
TR-029	225.00	230.00	5.00	0.000	0.150	2.000
TR-029	230.00	235.00	5.00	0.000	0.170	2.000
TR-029	235.00	240.00	5.00	0.003	0.240	2.000
TR-029	240.00	245.00	5.00	0.000	0.260	2.000
TR-029	245.00	250.00	5.00	0.002	0.240	2.000
TR-029	250.00	255.00	5.00	0.002	0.270	2.000
TR-029	255.00	260.00	5.00	0.030	1.100	1.000
TR-029	260.00	265.00	5.00	0.005	0.860	1.000
TR-029	265.00	270.00	5.00	0.000	0.050	2.000
TR-029	270.00	275.00	5.00	0.001	0.080	2.000
TR-029	275.00	280.00	5.00	0.020	0.770	2.000
TR-029	280.00	285.00	5.00	0.003	0.260	2.000
TR-029	285.00	290.00	5.00	0.003	0.410	2.000
TR-029	290.00	295.00	5.00	0.004	0.390	2.000

TR-030	732379.9	255899.5	4624.6	0.000	-90.000	285.00

TR-030

TR-030	0.00	5.00	5.00	0.000	0.040	0.000
TR-030	5.00	10.00	5.00	0.000	0.030	0.000
TR-030	10.00	15.00	5.00	0.000	0.000	0.000
TR-030	15.00	20.00	5.00	0.000	0.000	0.000
TR-030	20.00	25.00	5.00	0.000	0.000	0.000
TR-030	25.00	30.00	5.00	0.000	0.000	0.000
TR-030	30.00	35.00	5.00	0.000	0.000	0.000
TR-030	35.00	40.00	5.00	0.000	0.020	0.000
TR-030	40.00	45.00	5.00	0.000	0.000	0.000
TR-030	45.00	50.00	5.00	0.000	0.000	0.000
TR-030	50.00	55.00	5.00	0.000	0.000	0.000
TR-030	55.00	60.00	5.00	0.000	0.000	0.000
TR-030	60.00	65.00	5.00	0.002	0.000	0.000
TR-030	65.00	70.00	5.00	0.000	0.000	0.000
TR-030	70.00	75.00	5.00	0.000	0.000	0.000
TR-030	75.00	80.00	5.00	0.000	0.000	0.000
TR-030	80.00	85.00	5.00	0.002	0.000	0.000
TR-030	85.00	90.00	5.00	0.000	0.000	0.000
TR-030	90.00	95.00	5.00	0.000	0.020	0.000
TR-030	95.00	100.00	5.00	0.000	0.020	0.000
TR-030	100.00	105.00	5.00	0.000	0.020	0.000
TR-030	105.00	110.00	5.00	0.000	0.000	0.000
TR-030	110.00	115.00	5.00	0.001	0.000	0.000
TR-030	115.00	120.00	5.00	0.001	0.000	0.000
TR-030	120.00	125.00	5.00	0.001	0.000	0.000
TR-030	125.00	130.00	5.00	0.001	0.000	0.000
TR-030	130.00	135.00	5.00	0.002	0.070	0.000
TR-030	135.00	140.00	5.00	0.000	0.100	0.000
TR-030	140.00	145.00	5.00	0.000	0.060	0.000
TR-030	145.00	150.00	5.00	0.000	0.040	0.000
TR-030	150.00	155.00	5.00	0.000	0.060	0.000
TR-030	155.00	160.00	5.00	0.000	0.130	0.000
TR-030	160.00	165.00	5.00	0.000	0.060	0.000
TR-030	165.00	170.00	5.00	0.003	0.000	0.000
TR-030	170.00	175.00	5.00	0.001	0.000	0.000
TR-030	175.00	180.00	5.00	0.000	0.000	0.000
TR-030	180.00	185.00	5.00	0.002	0.000	0.000
TR-030	185.00	190.00	5.00	0.000	0.020	0.000
TR-030	190.00	195.00	5.00	0.001	0.040	0.000
TR-030	195.00	200.00	5.00	0.024	0.160	0.000
TR-030	200.00	205.00	5.00	0.020	0.470	0.000
TR-030	205.00	210.00	5.00	0.006	0.410	0.000
TR-030	210.00	215.00	5.00	0.004	0.090	0.000
TR-030	215.00	220.00	5.00	0.009	1.400	0.000
TR-030	220.00	225.00	5.00	0.001	0.340	0.000
TR-030	225.00	230.00	5.00	0.001	0.230	0.000
TR-030	230.00	235.00	5.00	0.002	0.090	0.000
TR-030	235.00	240.00	5.00	0.000	0.050	0.000
TR-030	240.00	245.00	5.00	0.001	0.070	0.000
TR-030	245.00	250.00	5.00	0.000	0.130	0.000
TR-030	250.00	255.00	5.00	0.000	0.050	0.000
TR-030	255.00	260.00	5.00	0.022	0.100	0.000
TR-030	260.00	265.00	5.00	0.006	0.060	0.000
TR-030	265.00	270.00	5.00	0.002	0.150	0.000

TR-030	270.00	275.00	5.00	0.000	0.080	0.000
TR-030	275.00	280.00	5.00	0.003	0.290	0.000
TR-030	280.00	285.00	5.00	0.001	0.080	0.000
TR-031	732520.0	255910.0	4570.0	0.000	-90.000	270.00
TR-031						
TR-031	0.00	5.00	5.00	-1.000	-1.000	0.000
TR-031	5.00	10.00	5.00	-1.000	-1.000	0.000
TR-031	10.00	15.00	5.00	-1.000	-1.000	0.000
TR-031	15.00	20.00	5.00	-1.000	-1.000	0.000
TR-031	20.00	25.00	5.00	0.004	0.050	0.000
TR-031	25.00	30.00	5.00	0.002	0.040	0.000
TR-031	30.00	35.00	5.00	0.000	0.040	0.000
TR-031	35.00	40.00	5.00	0.002	0.030	0.000
TR-031	40.00	45.00	5.00	0.000	0.020	0.000
TR-031	45.00	50.00	5.00	0.001	0.030	0.000
TR-031	50.00	55.00	5.00	0.005	0.050	0.000
TR-031	55.00	60.00	5.00	0.002	0.080	0.000
TR-031	60.00	65.00	5.00	0.003	0.060	0.000
TR-031	65.00	70.00	5.00	0.037	0.180	0.000
TR-031	70.00	75.00	5.00	0.077	0.370	0.000
TR-031	75.00	80.00	5.00	0.025	0.340	0.000
TR-031	80.00	85.00	5.00	0.023	0.920	0.000
TR-031	85.00	90.00	5.00	0.006	0.310	0.000
TR-031	90.00	95.00	5.00	0.004	0.230	0.000
TR-031	95.00	100.00	5.00	0.005	0.200	0.000
TR-031	100.00	105.00	5.00	0.015	0.300	0.000
TR-031	105.00	110.00	5.00	0.001	0.160	0.000
TR-031	110.00	115.00	5.00	0.000	0.200	0.000
TR-031	115.00	120.00	5.00	0.003	0.190	0.000
TR-031	120.00	125.00	5.00	0.005	0.250	0.000
TR-031	125.00	130.00	5.00	0.007	0.200	0.000
TR-031	130.00	135.00	5.00	0.003	0.190	0.000
TR-031	135.00	140.00	5.00	0.002	0.110	0.000
TR-031	140.00	145.00	5.00	0.002	0.110	0.000
TR-031	145.00	150.00	5.00	0.005	0.260	0.000
TR-031	150.00	155.00	5.00	0.005	0.230	0.000
TR-031	155.00	160.00	5.00	0.008	0.300	0.000
TR-031	160.00	165.00	5.00	0.019	0.360	0.000
TR-031	165.00	170.00	5.00	0.008	0.410	0.000
TR-031	170.00	175.00	5.00	0.123	0.520	0.000
TR-031	175.00	180.00	5.00	-1.000	-1.000	0.000
TR-031	180.00	185.00	5.00	0.101	0.710	0.000
TR-031	185.00	190.00	5.00	0.031	0.730	0.000
TR-031	190.00	195.00	5.00	0.029	0.580	0.000
TR-031	195.00	200.00	5.00	0.019	0.550	0.000
TR-031	200.00	205.00	5.00	0.007	0.460	0.000
TR-031	205.00	210.00	5.00	-1.000	-1.000	0.000
TR-031	210.00	215.00	5.00	0.002	1.190	0.000
TR-031	215.00	220.00	5.00	0.002	1.030	0.000
TR-031	220.00	225.00	5.00	0.001	0.350	0.000
TR-031	225.00	230.00	5.00	0.000	0.400	0.000
TR-031	230.00	235.00	5.00	0.001	0.250	0.000

TR-031	235.00	240.00	5.00	0.000	0.340	0.000
TR-031	240.00	245.00	5.00	0.000	0.340	0.000
TR-031	245.00	250.00	5.00	0.004	0.620	0.000
TR-031	250.00	255.00	5.00	0.001	1.010	0.000
TR-031	255.00	260.00	5.00	0.003	0.370	0.000
TR-031	260.00	265.00	5.00	0.002	0.230	0.000
TR-031	265.00	270.00	5.00	0.000	0.090	0.000

TR-032	732120.0	255655.0	4635.0	0.000	-90.000	265.00

TR-032						
TR-032	0.00	5.00	5.00	0.009	0.530	12.000
TR-032	5.00	10.00	5.00	0.036	0.510	2.000
TR-032	10.00	15.00	5.00	0.105	0.240	2.000
TR-032	15.00	20.00	5.00	0.022	0.120	11.000
TR-032	20.00	25.00	5.00	0.004	0.080	1.000
TR-032	25.00	30.00	5.00	0.001	0.180	1.000
TR-032	30.00	35.00	5.00	0.000	0.090	1.000
TR-032	35.00	40.00	5.00	0.001	0.120	1.000
TR-032	40.00	45.00	5.00	0.000	0.190	1.000
TR-032	45.00	50.00	5.00	0.000	0.150	1.000
TR-032	50.00	55.00	5.00	0.000	0.040	1.000
TR-032	55.00	60.00	5.00	0.000	0.060	1.000
TR-032	60.00	65.00	5.00	0.000	0.060	1.000
TR-032	65.00	70.00	5.00	0.001	0.090	1.000
TR-032	70.00	75.00	5.00	0.016	0.130	1.000
TR-032	75.00	80.00	5.00	0.006	0.110	2.000
TR-032	80.00	85.00	5.00	0.004	0.090	2.000
TR-032	85.00	90.00	5.00	0.008	1.510	2.000
TR-032	90.00	95.00	5.00	0.008	1.210	2.000
TR-032	95.00	100.00	5.00	0.003	0.150	2.000
TR-032	100.00	105.00	5.00	0.002	0.120	2.000
TR-032	105.00	110.00	5.00	0.001	0.100	2.000
TR-032	110.00	115.00	5.00	0.002	0.160	2.000
TR-032	115.00	120.00	5.00	0.003	0.080	2.000
TR-032	120.00	125.00	5.00	0.004	0.090	2.000
TR-032	125.00	130.00	5.00	0.010	0.280	2.000
TR-032	130.00	135.00	5.00	0.003	0.290	2.000
TR-032	135.00	140.00	5.00	0.002	0.360	2.000
TR-032	140.00	145.00	5.00	0.000	0.190	2.000
TR-032	145.00	150.00	5.00	0.002	0.190	2.000
TR-032	150.00	155.00	5.00	0.000	0.040	2.000
TR-032	155.00	160.00	5.00	0.000	0.040	2.000
TR-032	160.00	165.00	5.00	0.002	0.200	2.000
TR-032	165.00	170.00	5.00	0.002	0.220	2.000
TR-032	170.00	175.00	5.00	0.001	0.130	2.000
TR-032	175.00	180.00	5.00	0.005	0.380	2.000
TR-032	180.00	185.00	5.00	0.005	0.480	2.000
TR-032	185.00	190.00	5.00	0.004	0.320	2.000
TR-032	190.00	195.00	5.00	0.000	0.130	2.000
TR-032	195.00	200.00	5.00	0.000	0.060	2.000
TR-032	200.00	205.00	5.00	0.000	0.050	2.000
TR-032	205.00	210.00	5.00	0.000	0.060	2.000
TR-032	210.00	215.00	5.00	0.000	0.130	2.000

TR-032	215.00	220.00	5.00	0.001	0.060	2.000
TR-032	220.00	225.00	5.00	0.000	0.040	2.000
TR-032	225.00	230.00	5.00	0.000	0.050	2.000
TR-032	230.00	235.00	5.00	0.015	1.180	2.000
TR-032	235.00	240.00	5.00	0.005	0.980	2.000
TR-032	240.00	245.00	5.00	0.004	0.410	2.000
TR-032	245.00	250.00	5.00	0.002	0.400	2.000
TR-032	250.00	255.00	5.00	0.004	0.560	2.000
TR-032	255.00	260.00	5.00	0.004	0.430	2.000
TR-032	260.00	265.00	5.00	0.000	0.060	2.000

TR-033	732130.0	255170.0	4685.0	0.000	-90.000	400.00

TR-033						
TR-033	0.00	5.00	5.00	0.009	0.280	12.000
TR-033	5.00	10.00	5.00	0.006	0.150	12.000
TR-033	10.00	15.00	5.00	0.004	0.140	12.000
TR-033	15.00	20.00	5.00	0.005	0.120	8.000
TR-033	20.00	25.00	5.00	0.004	0.070	8.000
TR-033	25.00	30.00	5.00	0.007	0.110	8.000
TR-033	30.00	35.00	5.00	0.007	0.110	8.000
TR-033	35.00	40.00	5.00	0.004	0.370	8.000
TR-033	40.00	45.00	5.00	0.002	0.320	8.000
TR-033	45.00	50.00	5.00	0.001	0.170	8.000
TR-033	50.00	55.00	5.00	0.000	0.260	8.000
TR-033	55.00	60.00	5.00	0.000	0.060	8.000
TR-033	60.00	65.00	5.00	0.000	0.040	8.000
TR-033	65.00	70.00	5.00	0.000	0.000	8.000
TR-033	70.00	75.00	5.00	0.000	0.000	8.000
TR-033	75.00	80.00	5.00	0.000	0.100	8.000
TR-033	80.00	85.00	5.00	0.000	0.000	7.000
TR-033	85.00	90.00	5.00	0.000	0.020	7.000
TR-033	90.00	95.00	5.00	0.000	0.020	7.000
TR-033	95.00	100.00	5.00	0.000	0.040	7.000
TR-033	100.00	105.00	5.00	0.002	0.080	7.000
TR-033	105.00	110.00	5.00	0.006	0.090	7.000
TR-033	110.00	115.00	5.00	0.008	0.180	5.000
TR-033	115.00	120.00	5.00	0.002	0.050	6.000
TR-033	120.00	125.00	5.00	0.002	0.030	6.000
TR-033	125.00	130.00	5.00	0.004	0.210	6.000
TR-033	130.00	135.00	5.00	0.009	0.380	6.000
TR-033	135.00	140.00	5.00	0.003	0.360	6.000
TR-033	140.00	145.00	5.00	0.000	0.160	5.000
TR-033	145.00	150.00	5.00	0.000	0.060	5.000
TR-033	150.00	155.00	5.00	0.000	0.080	1.000
TR-033	155.00	160.00	5.00	0.000	0.070	1.000
TR-033	160.00	165.00	5.00	0.004	0.130	1.000
TR-033	165.00	170.00	5.00	0.000	0.060	2.000
TR-033	170.00	175.00	5.00	0.001	0.200	2.000
TR-033	175.00	180.00	5.00	0.000	0.100	2.000
TR-033	180.00	185.00	5.00	0.000	0.090	5.000
TR-033	185.00	190.00	5.00	0.000	0.100	5.000
TR-033	190.00	195.00	5.00	0.000	0.270	2.000
TR-033	195.00	200.00	5.00	0.002	0.070	2.000

TR-033	200.00	205.00	5.00	0.002	0.080	1.000
TR-033	205.00	210.00	5.00	0.000	0.070	1.000
TR-033	210.00	215.00	5.00	0.000	0.020	1.000
TR-033	215.00	220.00	5.00	0.000	0.020	1.000
TR-033	220.00	225.00	5.00	0.002	0.030	1.000
TR-033	225.00	230.00	5.00	0.000	0.040	1.000
TR-033	230.00	235.00	5.00	0.000	0.200	4.000
TR-033	235.00	240.00	5.00	0.000	0.160	4.000
TR-033	240.00	245.00	5.00	0.002	0.260	4.000
TR-033	245.00	250.00	5.00	0.008	0.200	4.000
TR-033	250.00	255.00	5.00	0.004	0.230	4.000
TR-033	255.00	260.00	5.00	0.004	0.310	4.000
TR-033	260.00	265.00	5.00	0.003	0.340	4.000
TR-033	265.00	270.00	5.00	0.013	0.480	2.000
TR-033	270.00	275.00	5.00	0.012	0.570	2.000
TR-033	275.00	280.00	5.00	0.003	0.200	2.000
TR-033	280.00	285.00	5.00	0.003	0.310	2.000
TR-033	285.00	290.00	5.00	0.011	0.330	2.000
TR-033	290.00	295.00	5.00	-1.000	-1.000	0.000
TR-033	295.00	300.00	5.00	0.089	1.180	3.000
TR-033	300.00	305.00	5.00	0.259	7.260	3.000
TR-033	305.00	310.00	5.00	0.191	7.030	3.000
TR-033	310.00	315.00	5.00	0.139	8.050	3.000
TR-033	315.00	320.00	5.00	0.265	9.130	3.000
TR-033	320.00	325.00	5.00	0.195	5.800	3.000
TR-033	325.00	330.00	5.00	-1.000	-1.000	0.000
TR-033	330.00	335.00	5.00	-1.000	-1.000	0.000
TR-033	335.00	340.00	5.00	-1.000	-1.000	0.000
TR-033	340.00	345.00	5.00	0.046	1.010	3.000
TR-033	345.00	350.00	5.00	0.017	1.540	3.000
TR-033	350.00	355.00	5.00	0.008	0.630	3.000
TR-033	355.00	360.00	5.00	0.005	0.390	3.000
TR-033	360.00	365.00	5.00	0.009	0.490	3.000
TR-033	365.00	370.00	5.00	0.015	0.860	3.000
TR-033	370.00	375.00	5.00	0.018	0.890	3.000
TR-033	375.00	380.00	5.00	0.020	0.350	2.000
TR-033	380.00	385.00	5.00	0.008	0.140	2.000
TR-033	385.00	390.00	5.00	0.002	0.060	2.000
TR-033	390.00	395.00	5.00	0.007	0.110	2.000
TR-033	395.00	400.00	5.00	0.001	0.060	2.000

TR-034	732200.0	255850.0	4640.0	0.000	-90.000	295.00

TR-034						
TR-034	0.00	5.00	5.00	0.000	0.000	0.000
TR-034	5.00	10.00	5.00	0.000	0.000	0.000
TR-034	10.00	15.00	5.00	0.000	0.000	0.000
TR-034	15.00	20.00	5.00	0.000	0.000	0.000
TR-034	20.00	25.00	5.00	0.000	0.000	0.000
TR-034	25.00	30.00	5.00	0.000	0.000	0.000
TR-034	30.00	35.00	5.00	0.000	0.000	0.000
TR-034	35.00	40.00	5.00	0.001	0.000	0.000
TR-034	40.00	45.00	5.00	0.000	0.000	0.000
TR-034	45.00	50.00	5.00	0.002	0.000	0.000

TR-034	50.00	55.00	5.00	0.002	0.000	0.000
TR-034	55.00	60.00	5.00	0.002	0.080	0.000
TR-034	60.00	65.00	5.00	0.005	0.020	0.000
TR-034	65.00	70.00	5.00	0.000	0.040	0.000
TR-034	70.00	75.00	5.00	0.000	0.030	0.000
TR-034	75.00	80.00	5.00	0.000	0.020	0.000
TR-034	80.00	85.00	5.00	0.000	0.000	0.000
TR-034	85.00	90.00	5.00	0.014	0.000	0.000
TR-034	90.00	95.00	5.00	0.016	0.000	0.000
TR-034	95.00	100.00	5.00	0.002	0.000	0.000
TR-034	100.00	105.00	5.00	0.007	0.040	0.000
TR-034	105.00	110.00	5.00	0.001	0.000	0.000
TR-034	110.00	115.00	5.00	0.000	0.040	0.000
TR-034	115.00	120.00	5.00	0.000	0.030	0.000
TR-034	120.00	125.00	5.00	0.000	0.040	0.000
TR-034	125.00	130.00	5.00	0.001	0.080	0.000
TR-034	130.00	135.00	5.00	0.000	0.080	0.000
TR-034	135.00	140.00	5.00	0.000	0.020	0.000
TR-034	140.00	145.00	5.00	0.000	0.000	0.000
TR-034	145.00	150.00	5.00	0.000	0.020	0.000
TR-034	150.00	155.00	5.00	0.000	0.250	0.000
TR-034	155.00	160.00	5.00	0.000	0.190	0.000
TR-034	160.00	165.00	5.00	0.002	0.060	0.000
TR-034	165.00	170.00	5.00	0.072	0.080	0.000
TR-034	170.00	175.00	5.00	0.005	0.070	0.000
TR-034	175.00	180.00	5.00	0.004	0.270	0.000
TR-034	180.00	185.00	5.00	0.000	0.180	0.000
TR-034	185.00	190.00	5.00	0.012	1.180	0.000
TR-034	190.00	195.00	5.00	0.006	0.250	0.000
TR-034	195.00	200.00	5.00	0.001	0.370	0.000
TR-034	200.00	205.00	5.00	0.000	0.110	0.000
TR-034	205.00	210.00	5.00	0.000	0.130	0.000
TR-034	210.00	215.00	5.00	0.002	0.110	0.000
TR-034	215.00	220.00	5.00	0.003	0.070	0.000
TR-034	220.00	225.00	5.00	0.001	0.040	0.000
TR-034	225.00	230.00	5.00	0.001	0.060	0.000
TR-034	230.00	235.00	5.00	0.000	0.210	0.000
TR-034	235.00	240.00	5.00	0.002	0.120	0.000
TR-034	240.00	245.00	5.00	0.018	0.520	0.000
TR-034	245.00	250.00	5.00	0.005	0.380	0.000
TR-034	250.00	255.00	5.00	0.002	0.070	0.000
TR-034	255.00	260.00	5.00	0.004	0.150	0.000
TR-034	260.00	265.00	5.00	0.005	0.120	0.000
TR-034	265.00	270.00	5.00	0.012	0.150	0.000
TR-034	270.00	275.00	5.00	0.004	0.170	0.000
TR-034	275.00	280.00	5.00	0.026	0.190	0.000
TR-034	280.00	285.00	5.00	0.004	0.150	0.000
TR-034	285.00	290.00	5.00	0.002	0.100	0.000
TR-034	290.00	295.00	5.00	0.002	0.110	0.000

TR-035	733180.0	256680.0	4580.0	0.000	-90.000	275.00

TR-035						
TR-035	0.00	5.00	5.00	0.000	0.000	0.000

TR-035	5.00	10.00	5.00	0.000	0.000	0.000
TR-035	10.00	15.00	5.00	0.000	0.000	0.000
TR-035	15.00	20.00	5.00	0.000	0.000	0.000
TR-035	20.00	25.00	5.00	0.000	0.000	0.000
TR-035	25.00	30.00	5.00	0.000	0.060	0.000
TR-035	30.00	35.00	5.00	0.000	0.100	0.000
TR-035	35.00	40.00	5.00	0.000	0.220	0.000
TR-035	40.00	45.00	5.00	0.000	0.100	0.000
TR-035	45.00	50.00	5.00	0.000	0.060	0.000
TR-035	50.00	55.00	5.00	0.000	0.040	0.000
TR-035	55.00	60.00	5.00	0.000	0.020	0.000
TR-035	60.00	65.00	5.00	0.000	0.000	0.000
TR-035	65.00	70.00	5.00	0.001	0.120	0.000
TR-035	70.00	75.00	5.00	0.000	0.150	0.000
TR-035	75.00	80.00	5.00	0.000	0.070	0.000
TR-035	80.00	85.00	5.00	0.000	0.030	0.000
TR-035	85.00	90.00	5.00	0.000	0.060	0.000
TR-035	90.00	95.00	5.00	0.000	0.060	0.000
TR-035	95.00	100.00	5.00	0.002	0.110	0.000
TR-035	100.00	105.00	5.00	0.000	0.030	0.000
TR-035	105.00	110.00	5.00	0.004	0.330	0.000
TR-035	110.00	115.00	5.00	0.000	0.080	0.000
TR-035	115.00	120.00	5.00	0.000	0.030	0.000
TR-035	120.00	125.00	5.00	0.000	0.100	0.000
TR-035	125.00	130.00	5.00	0.000	0.070	0.000
TR-035	130.00	135.00	5.00	0.007	0.120	0.000
TR-035	135.00	140.00	5.00	0.000	0.000	0.000
TR-035	140.00	145.00	5.00	0.004	0.000	0.000
TR-035	145.00	150.00	5.00	0.002	0.150	0.000
TR-035	150.00	155.00	5.00	0.004	0.180	0.000
TR-035	155.00	160.00	5.00	0.001	0.670	0.000
TR-035	160.00	165.00	5.00	0.002	0.230	0.000
TR-035	165.00	170.00	5.00	0.001	0.090	0.000
TR-035	170.00	175.00	5.00	0.000	0.100	0.000
TR-035	175.00	180.00	5.00	0.001	0.060	0.000
TR-035	180.00	185.00	5.00	0.000	0.040	0.000
TR-035	185.00	190.00	5.00	0.000	0.040	0.000
TR-035	190.00	195.00	5.00	0.002	0.040	0.000
TR-035	195.00	200.00	5.00	0.000	0.040	0.000
TR-035	200.00	205.00	5.00	0.000	0.000	0.000
TR-035	205.00	210.00	5.00	0.000	0.020	0.000
TR-035	210.00	215.00	5.00	0.001	0.030	0.000
TR-035	215.00	220.00	5.00	0.000	0.040	0.000
TR-035	220.00	225.00	5.00	0.000	0.050	0.000
TR-035	225.00	230.00	5.00	0.000	0.060	0.000
TR-035	230.00	235.00	5.00	0.001	0.070	0.000
TR-035	235.00	240.00	5.00	0.000	0.120	0.000
TR-035	240.00	245.00	5.00	0.000	0.030	0.000
TR-035	245.00	250.00	5.00	0.000	0.000	0.000
TR-035	250.00	255.00	5.00	0.000	0.040	0.000
TR-035	255.00	260.00	5.00	0.000	0.050	0.000
TR-035	260.00	265.00	5.00	0.000	0.020	0.000
TR-035	265.00	270.00	5.00	0.000	0.000	0.000
TR-035	270.00	275.00	5.00	0.000	0.000	0.000

TR-036	733220.0	257000.0	4615.0	0.000	-90.000	200.00
TR-036						
TR-036	0.00	5.00	5.00	0.017	1.740	0.000
TR-036	5.00	10.00	5.00	0.018	0.830	0.000
TR-036	10.00	15.00	5.00	0.006	0.820	0.000
TR-036	15.00	20.00	5.00	0.020	0.890	0.000
TR-036	20.00	25.00	5.00	0.014	0.550	0.000
TR-036	25.00	30.00	5.00	0.008	0.270	0.000
TR-036	30.00	35.00	5.00	0.032	0.340	0.000
TR-036	35.00	40.00	5.00	0.029	0.170	0.000
TR-036	40.00	45.00	5.00	0.005	0.090	0.000
TR-036	45.00	50.00	5.00	0.001	0.040	0.000
TR-036	50.00	55.00	5.00	0.001	0.040	0.000
TR-036	55.00	60.00	5.00	0.000	0.030	0.000
TR-036	60.00	65.00	5.00	0.004	0.200	0.000
TR-036	65.00	70.00	5.00	0.000	0.140	0.000
TR-036	70.00	75.00	5.00	0.006	0.190	0.000
TR-036	75.00	80.00	5.00	0.017	0.290	0.000
TR-036	80.00	85.00	5.00	0.006	0.190	0.000
TR-036	85.00	90.00	5.00	0.014	0.470	0.000
TR-036	90.00	95.00	5.00	0.091	1.170	0.000
TR-036	95.00	100.00	5.00	0.005	0.530	0.000
TR-036	100.00	105.00	5.00	0.000	0.320	0.000
TR-036	105.00	110.00	5.00	0.000	0.130	0.000
TR-036	110.00	115.00	5.00	0.000	0.110	0.000
TR-036	115.00	120.00	5.00	0.000	0.190	0.000
TR-036	120.00	125.00	5.00	0.000	0.260	0.000
TR-036	125.00	130.00	5.00	0.000	0.560	0.000
TR-036	130.00	135.00	5.00	0.000	0.110	0.000
TR-036	135.00	140.00	5.00	0.000	0.260	0.000
TR-036	140.00	145.00	5.00	0.000	0.060	0.000
TR-036	145.00	150.00	5.00	0.000	0.030	0.000
TR-036	150.00	155.00	5.00	0.000	0.000	0.000
TR-036	155.00	160.00	5.00	0.000	0.000	0.000
TR-036	160.00	165.00	5.00	0.000	0.000	0.000
TR-036	165.00	170.00	5.00	0.000	0.000	0.000
TR-036	170.00	175.00	5.00	0.000	0.000	0.000
TR-036	175.00	180.00	5.00	0.000	0.020	0.000
TR-036	180.00	185.00	5.00	0.000	0.030	0.000
TR-036	185.00	190.00	5.00	0.000	0.040	0.000
TR-036	190.00	195.00	5.00	0.000	0.030	0.000
TR-036	195.00	200.00	5.00	0.000	0.050	0.000
TR-037	733220.0	257100.0	4620.0	0.000	-90.000	300.00
TR-037						
TR-037	0.00	5.00	5.00	0.004	0.170	0.000
TR-037	5.00	10.00	5.00	0.036	0.390	0.000
TR-037	10.00	15.00	5.00	0.005	0.150	0.000
TR-037	15.00	20.00	5.00	0.004	0.140	0.000
TR-037	20.00	25.00	5.00	0.031	0.500	0.000
TR-037	25.00	30.00	5.00	0.014	0.430	0.000

TR-037	30.00	35.00	5.00	0.007	0.210	0.000
TR-037	35.00	40.00	5.00	0.015	0.130	0.000
TR-037	40.00	45.00	5.00	0.064	0.190	0.000
TR-037	45.00	50.00	5.00	0.004	0.150	0.000
TR-037	50.00	55.00	5.00	0.003	0.240	0.000
TR-037	55.00	60.00	5.00	0.002	0.230	0.000
TR-037	60.00	65.00	5.00	0.000	0.000	0.000
TR-037	65.00	70.00	5.00	0.000	0.000	0.000
TR-037	70.00	75.00	5.00	0.001	0.000	0.000
TR-037	75.00	80.00	5.00	0.003	0.040	0.000
TR-037	80.00	85.00	5.00	0.003	0.050	0.000
TR-037	85.00	90.00	5.00	0.007	0.040	0.000
TR-037	90.00	95.00	5.00	-1.000	-1.000	0.000
TR-037	95.00	100.00	5.00	-1.000	-1.000	0.000
TR-037	100.00	105.00	5.00	0.003	0.230	0.000
TR-037	105.00	110.00	5.00	0.009	0.170	0.000
TR-037	110.00	115.00	5.00	0.016	0.450	0.000
TR-037	115.00	120.00	5.00	0.011	0.400	0.000
TR-037	120.00	125.00	5.00	0.010	0.360	0.000
TR-037	125.00	130.00	5.00	0.007	0.370	0.000
TR-037	130.00	135.00	5.00	0.008	0.590	0.000
TR-037	135.00	140.00	5.00	0.017	0.500	0.000
TR-037	140.00	145.00	5.00	0.010	0.560	0.000
TR-037	145.00	150.00	5.00	0.015	0.390	0.000
TR-037	150.00	155.00	5.00	0.005	0.460	0.000
TR-037	155.00	160.00	5.00	0.008	0.540	0.000
TR-037	160.00	165.00	5.00	0.021	1.430	0.000
TR-037	165.00	170.00	5.00	-1.000	-1.000	0.000
TR-037	170.00	175.00	5.00	0.043	2.570	0.000
TR-037	175.00	180.00	5.00	0.142	5.160	0.000
TR-037	180.00	185.00	5.00	-1.000	-1.000	0.000
TR-037	185.00	190.00	5.00	0.153	5.920	0.000
TR-037	190.00	195.00	5.00	-1.000	-1.000	0.000
TR-037	195.00	200.00	5.00	-1.000	-1.000	0.000
TR-037	200.00	205.00	5.00	-1.000	-1.000	0.000
TR-037	205.00	210.00	5.00	-1.000	-1.000	0.000
TR-037	210.00	215.00	5.00	-1.000	-1.000	0.000
TR-037	215.00	220.00	5.00	-1.000	-1.000	0.000
TR-037	220.00	225.00	5.00	-1.000	-1.000	0.000
TR-037	225.00	230.00	5.00	-1.000	-1.000	0.000
TR-037	230.00	235.00	5.00	-1.000	-1.000	0.000
TR-037	235.00	240.00	5.00	-1.000	-1.000	0.000
TR-037	240.00	245.00	5.00	-1.000	-1.000	0.000
TR-037	245.00	250.00	5.00	0.067	4.270	0.000
TR-037	250.00	255.00	5.00	0.123	5.730	0.000
TR-037	255.00	260.00	5.00	0.118	1.550	0.000
TR-037	260.00	265.00	5.00	0.134	1.810	0.000
TR-037	265.00	270.00	5.00	0.047	0.250	0.000
TR-037	270.00	275.00	5.00	0.011	0.270	0.000
TR-037	275.00	280.00	5.00	0.005	0.310	0.000
TR-037	280.00	285.00	5.00	-1.000	-1.000	0.000
TR-037	285.00	290.00	5.00	0.002	0.430	0.000
TR-037	290.00	295.00	5.00	0.003	0.440	0.000
TR-037	295.00	300.00	5.00	0.019	0.960	0.000

TR-038	732720.0	256235.0	4595.0	0.000	-90.000	275.00

TR-038						
TR-038	0.00	5.00	5.00	0.015	5.160	0.000
TR-038	5.00	10.00	5.00	0.004	0.510	0.000
TR-038	10.00	15.00	5.00	0.001	0.240	0.000
TR-038	15.00	20.00	5.00	0.000	0.130	0.000
TR-038	20.00	25.00	5.00	0.000	0.250	0.000
TR-038	25.00	30.00	5.00	0.000	0.130	0.000
TR-038	30.00	35.00	5.00	0.000	0.160	0.000
TR-038	35.00	40.00	5.00	0.000	0.100	0.000
TR-038	40.00	45.00	5.00	0.003	0.220	0.000
TR-038	45.00	50.00	5.00	0.002	0.160	0.000
TR-038	50.00	55.00	5.00	0.003	0.110	0.000
TR-038	55.00	60.00	5.00	0.005	0.110	0.000
TR-038	60.00	65.00	5.00	0.016	0.060	0.000
TR-038	65.00	70.00	5.00	0.003	0.110	0.000
TR-038	70.00	75.00	5.00	0.006	0.100	0.000
TR-038	75.00	80.00	5.00	0.021	0.110	0.000
TR-038	80.00	85.00	5.00	0.000	0.050	0.000
TR-038	85.00	90.00	5.00	0.002	0.090	0.000
TR-038	90.00	95.00	5.00	0.003	0.040	0.000
TR-038	95.00	100.00	5.00	0.001	0.030	0.000
TR-038	100.00	105.00	5.00	0.000	0.000	0.000
TR-038	105.00	110.00	5.00	0.000	0.000	0.000
TR-038	110.00	115.00	5.00	0.000	0.030	0.000
TR-038	115.00	120.00	5.00	0.000	0.000	0.000
TR-038	120.00	125.00	5.00	0.000	0.000	0.000
TR-038	125.00	130.00	5.00	0.000	0.030	0.000
TR-038	130.00	135.00	5.00	0.000	0.000	0.000
TR-038	135.00	140.00	5.00	0.000	0.020	0.000
TR-038	140.00	145.00	5.00	0.001	0.000	0.000
TR-038	145.00	150.00	5.00	0.001	0.000	0.000
TR-038	150.00	155.00	5.00	0.000	0.000	0.000
TR-038	155.00	160.00	5.00	0.000	0.040	0.000
TR-038	160.00	165.00	5.00	0.000	0.030	0.000
TR-038	165.00	170.00	5.00	0.005	0.000	0.000
TR-038	170.00	175.00	5.00	0.000	0.030	0.000
TR-038	175.00	180.00	5.00	0.000	0.000	0.000
TR-038	180.00	185.00	5.00	0.000	0.000	0.000
TR-038	185.00	190.00	5.00	0.000	0.000	0.000
TR-038	190.00	195.00	5.00	0.000	0.050	0.000
TR-038	195.00	200.00	5.00	0.000	0.040	0.000
TR-038	200.00	205.00	5.00	0.007	0.060	0.000
TR-038	205.00	210.00	5.00	0.002	0.000	0.000
TR-038	210.00	215.00	5.00	0.000	0.000	0.000
TR-038	215.00	220.00	5.00	0.000	0.000	0.000
TR-038	220.00	225.00	5.00	0.001	0.000	0.000
TR-038	225.00	230.00	5.00	0.000	0.000	0.000
TR-038	230.00	235.00	5.00	0.000	0.000	0.000
TR-038	235.00	240.00	5.00	0.000	0.000	0.000
TR-038	240.00	245.00	5.00	0.000	0.020	0.000
TR-038	245.00	250.00	5.00	0.000	0.080	0.000

TR-038	250.00	255.00	5.00	0.002	0.080	0.000
TR-038	255.00	260.00	5.00	0.001	0.080	0.000
TR-038	260.00	265.00	5.00	0.000	0.000	0.000
TR-038	265.00	270.00	5.00	0.000	0.040	0.000
TR-038	270.00	275.00	5.00	0.000	0.060	0.000
TR-039	732740.0	256680.0	4560.0	102.000	-60.000	215.00
TR-039						
TR-039	0.00	5.00	5.00	0.000	0.010	0.000
TR-039	5.00	10.00	5.00	0.000	0.070	0.000
TR-039	10.00	15.00	5.00	0.000	0.060	0.000
TR-039	15.00	20.00	5.00	0.000	0.120	0.000
TR-039	20.00	25.00	5.00	0.000	0.180	0.000
TR-039	25.00	30.00	5.00	0.000	0.200	0.000
TR-039	30.00	35.00	5.00	0.000	0.370	0.000
TR-039	35.00	40.00	5.00	0.001	0.220	0.000
TR-039	40.00	45.00	5.00	0.038	0.550	0.000
TR-039	45.00	50.00	5.00	0.027	0.390	0.000
TR-039	50.00	55.00	5.00	0.002	0.100	0.000
TR-039	55.00	60.00	5.00	0.002	0.130	0.000
TR-039	60.00	65.00	5.00	0.002	0.100	0.000
TR-039	65.00	70.00	5.00	0.005	0.130	0.000
TR-039	70.00	75.00	5.00	0.008	0.170	0.000
TR-039	75.00	80.00	5.00	0.003	0.080	0.000
TR-039	80.00	85.00	5.00	0.002	0.200	0.000
TR-039	85.00	90.00	5.00	0.001	0.040	0.000
TR-039	90.00	95.00	5.00	0.003	0.060	0.000
TR-039	95.00	100.00	5.00	0.002	0.110	0.000
TR-039	100.00	105.00	5.00	0.000	0.340	0.000
TR-039	105.00	110.00	5.00	0.000	0.130	0.000
TR-039	110.00	115.00	5.00	0.000	0.080	0.000
TR-039	115.00	120.00	5.00	0.000	0.060	0.000
TR-039	120.00	125.00	5.00	0.000	0.020	0.000
TR-039	125.00	130.00	5.00	0.000	0.030	0.000
TR-039	130.00	135.00	5.00	0.000	0.070	0.000
TR-039	135.00	140.00	5.00	0.000	0.040	0.000
TR-039	140.00	145.00	5.00	0.000	0.030	0.000
TR-039	145.00	150.00	5.00	0.000	0.000	0.000
TR-039	150.00	155.00	5.00	0.000	0.000	0.000
TR-039	155.00	160.00	5.00	0.000	0.000	0.000
TR-039	160.00	165.00	5.00	0.000	0.000	0.000
TR-039	165.00	170.00	5.00	0.000	0.000	0.000
TR-039	170.00	175.00	5.00	0.000	0.000	0.000
TR-039	175.00	180.00	5.00	0.000	0.030	0.000
TR-039	180.00	185.00	5.00	0.000	0.040	0.000
TR-039	185.00	190.00	5.00	0.001	0.220	0.000
TR-039	190.00	195.00	5.00	0.004	0.430	0.000
TR-039	195.00	200.00	5.00	0.001	0.800	0.000
TR-039	200.00	205.00	5.00	0.000	0.140	0.000
TR-039	205.00	210.00	5.00	0.000	0.130	0.000
TR-039	210.00	215.00	5.00	0.000	0.180	0.000
TR-040	732560.0	256300.0	4545.0	125.000	-60.000	110.00

TR-040						
TR-040	0.00	5.00	5.00	0.003	0.030	0.000
TR-040	5.00	10.00	5.00	0.001	0.020	0.000
TR-040	10.00	15.00	5.00	0.000	0.050	0.000
TR-040	15.00	20.00	5.00	0.001	0.070	0.000
TR-040	20.00	25.00	5.00	0.000	0.160	0.000
TR-040	25.00	30.00	5.00	0.038	1.110	0.000
TR-040	30.00	35.00	5.00	0.052	0.260	0.000
TR-040	35.00	40.00	5.00	0.498	0.280	0.000
TR-040	40.00	45.00	5.00	0.149	0.220	0.000
TR-040	45.00	50.00	5.00	0.032	0.690	0.000
TR-040	50.00	55.00	5.00	0.011	0.240	0.000
TR-040	55.00	60.00	5.00	0.023	0.470	0.000
TR-040	60.00	65.00	5.00	0.029	0.230	0.000
TR-040	65.00	70.00	5.00	0.052	2.390	0.000
TR-040	70.00	75.00	5.00	0.006	0.250	0.000
TR-040	75.00	80.00	5.00	0.000	0.150	0.000
TR-040	80.00	85.00	5.00	0.000	0.140	0.000
TR-040	85.00	90.00	5.00	0.120	0.510	0.000
TR-040	90.00	95.00	5.00	0.001	0.270	0.000
TR-040	95.00	100.00	5.00	0.003	0.160	0.000
TR-040	100.00	105.00	5.00	0.002	0.150	0.000
TR-040	105.00	110.00	5.00	0.003	0.130	0.000

TR-041	732550.0	256265.0	4540.0	123.000	-60.000	235.00

TR-041						
TR-041	0.00	5.00	5.00	0.000	0.000	0.000
TR-041	5.00	10.00	5.00	0.000	0.000	0.000
TR-041	10.00	15.00	5.00	0.000	0.040	0.000
TR-041	15.00	20.00	5.00	0.002	0.110	0.000
TR-041	20.00	25.00	5.00	0.561	0.080	0.000
TR-041	25.00	30.00	5.00	0.151	0.100	0.000
TR-041	30.00	35.00	5.00	0.184	0.090	0.000
TR-041	35.00	40.00	5.00	0.215	0.090	0.000
TR-041	40.00	45.00	5.00	0.030	1.100	0.000
TR-041	45.00	50.00	5.00	0.009	1.600	0.000
TR-041	50.00	55.00	5.00	0.076	3.060	0.000
TR-041	55.00	60.00	5.00	0.020	1.980	0.000
TR-041	60.00	65.00	5.00	0.021	2.440	0.000
TR-041	65.00	70.00	5.00	0.022	2.530	0.000
TR-041	70.00	75.00	5.00	0.022	4.260	0.000
TR-041	75.00	80.00	5.00	0.092	1.370	0.000
TR-041	80.00	85.00	5.00	0.051	2.130	0.000
TR-041	85.00	90.00	5.00	0.124	2.380	0.000
TR-041	90.00	95.00	5.00	0.024	0.920	0.000
TR-041	95.00	100.00	5.00	0.022	0.340	0.000
TR-041	100.00	105.00	5.00	0.019	0.470	0.000
TR-041	105.00	110.00	5.00	0.010	0.320	0.000
TR-041	110.00	115.00	5.00	0.003	0.600	0.000
TR-041	115.00	120.00	5.00	0.210	0.670	0.000
TR-041	120.00	125.00	5.00	0.011	0.690	0.000
TR-041	125.00	130.00	5.00	0.007	0.790	0.000

TR-041	130.00	135.00	5.00	0.003	0.520	0.000
TR-041	135.00	140.00	5.00	0.006	0.470	0.000
TR-041	140.00	145.00	5.00	0.010	0.900	0.000
TR-041	145.00	150.00	5.00	0.008	0.390	0.000
TR-041	150.00	155.00	5.00	0.003	0.180	0.000
TR-041	155.00	160.00	5.00	0.002	0.170	0.000
TR-041	160.00	165.00	5.00	0.001	0.130	0.000
TR-041	165.00	170.00	5.00	0.003	0.190	0.000
TR-041	170.00	175.00	5.00	0.001	0.060	0.000
TR-041	175.00	180.00	5.00	0.003	0.110	0.000
TR-041	180.00	185.00	5.00	0.002	0.100	0.000
TR-041	185.00	190.00	5.00	0.003	0.220	0.000
TR-041	190.00	195.00	5.00	0.007	0.140	0.000
TR-041	195.00	200.00	5.00	0.005	0.210	0.000
TR-041	200.00	205.00	5.00	0.000	0.000	0.000
TR-041	205.00	210.00	5.00	0.002	0.060	0.000
TR-041	210.00	215.00	5.00	0.000	0.000	0.000
TR-041	215.00	220.00	5.00	0.001	0.040	0.000
TR-041	220.00	225.00	5.00	0.001	0.000	0.000
TR-041	225.00	230.00	5.00	0.005	0.060	0.000
TR-041	230.00	235.00	5.00	0.004	0.240	0.000

TR-042	732230.0	255720.0	4657.0	0.000	-90.000	260.00

TR-042						
TR-042	0.00	5.00	5.00	0.001	0.040	5.000
TR-042	5.00	10.00	5.00	0.000	0.020	5.000
TR-042	10.00	15.00	5.00	0.002	0.020	5.000
TR-042	15.00	20.00	5.00	0.004	0.000	5.000
TR-042	20.00	25.00	5.00	0.009	0.030	5.000
TR-042	25.00	30.00	5.00	0.015	0.030	5.000
TR-042	30.00	35.00	5.00	0.000	0.000	5.000
TR-042	35.00	40.00	5.00	0.000	0.000	5.000
TR-042	40.00	45.00	5.00	0.000	0.000	5.000
TR-042	45.00	50.00	5.00	0.003	0.000	5.000
TR-042	50.00	55.00	5.00	0.002	0.020	1.000
TR-042	55.00	60.00	5.00	0.003	0.000	1.000
TR-042	60.00	65.00	5.00	0.000	0.000	1.000
TR-042	65.00	70.00	5.00	0.000	0.000	1.000
TR-042	70.00	75.00	5.00	0.000	0.000	1.000
TR-042	75.00	80.00	5.00	0.000	0.000	1.000
TR-042	80.00	85.00	5.00	0.000	0.000	1.000
TR-042	85.00	90.00	5.00	0.000	0.000	1.000
TR-042	90.00	95.00	5.00	0.002	0.000	1.000
TR-042	95.00	100.00	5.00	0.001	0.000	1.000
TR-042	100.00	105.00	5.00	0.007	0.000	1.000
TR-042	105.00	110.00	5.00	0.000	0.000	1.000
TR-042	110.00	115.00	5.00	0.000	0.000	1.000
TR-042	115.00	120.00	5.00	0.000	0.000	1.000
TR-042	120.00	125.00	5.00	0.000	0.020	1.000
TR-042	125.00	130.00	5.00	0.000	0.080	1.000
TR-042	130.00	135.00	5.00	0.001	0.270	1.000
TR-042	135.00	140.00	5.00	0.018	0.310	1.000
TR-042	140.00	145.00	5.00	0.024	0.320	2.000

TR-042	145.00	150.00	5.00	0.006	0.120	2.000
TR-042	150.00	155.00	5.00	0.003	0.070	2.000
TR-042	155.00	160.00	5.00	0.002	0.090	1.000
TR-042	160.00	165.00	5.00	0.018	0.110	1.000
TR-042	165.00	170.00	5.00	0.001	0.120	1.000
TR-042	170.00	175.00	5.00	0.000	0.090	3.000
TR-042	175.00	180.00	5.00	0.035	0.310	3.000
TR-042	180.00	185.00	5.00	0.045	0.480	3.000
TR-042	185.00	190.00	5.00	0.082	0.430	3.000
TR-042	190.00	195.00	5.00	0.020	0.480	3.000
TR-042	195.00	200.00	5.00	0.009	0.120	3.000
TR-042	200.00	205.00	5.00	0.005	0.150	2.000
TR-042	205.00	210.00	5.00	-1.000	-1.000	0.000
TR-042	210.00	215.00	5.00	0.001	0.140	2.000
TR-042	215.00	220.00	5.00	0.004	0.170	2.000
TR-042	220.00	225.00	5.00	0.011	0.260	3.000
TR-042	225.00	230.00	5.00	0.020	0.200	3.000
TR-042	230.00	235.00	5.00	-1.000	-1.000	0.000
TR-042	235.00	240.00	5.00	0.016	0.040	3.000
TR-042	240.00	245.00	5.00	0.011	0.500	3.000
TR-042	245.00	250.00	5.00	0.010	0.900	3.000
TR-042	250.00	255.00	5.00	0.003	0.830	3.000
TR-042	255.00	260.00	5.00	0.005	0.430	3.000

TR-043	731260.0	255670.0	4610.0	197.000	-60.000	285.00

TR-043						
TR-043	0.00	5.00	5.00	0.007	0.150	0.000
TR-043	5.00	10.00	5.00	0.001	0.040	0.000
TR-043	10.00	15.00	5.00	0.000	0.000	0.000
TR-043	15.00	20.00	5.00	0.002	0.000	0.000
TR-043	20.00	25.00	5.00	0.001	0.020	0.000
TR-043	25.00	30.00	5.00	0.010	0.000	0.000
TR-043	30.00	35.00	5.00	0.001	0.020	0.000
TR-043	35.00	40.00	5.00	0.000	0.040	0.000
TR-043	40.00	45.00	5.00	0.001	0.070	0.000
TR-043	45.00	50.00	5.00	0.003	0.070	0.000
TR-043	50.00	55.00	5.00	0.003	0.090	0.000
TR-043	55.00	60.00	5.00	0.000	1.330	0.000
TR-043	60.00	65.00	5.00	0.000	0.600	0.000
TR-043	65.00	70.00	5.00	0.000	0.570	0.000
TR-043	70.00	75.00	5.00	0.000	0.080	0.000
TR-043	75.00	80.00	5.00	0.000	0.110	0.000
TR-043	80.00	85.00	5.00	0.000	0.140	0.000
TR-043	85.00	90.00	5.00	0.000	0.240	0.000
TR-043	90.00	95.00	5.00	0.000	0.510	0.000
TR-043	95.00	100.00	5.00	0.000	0.040	0.000
TR-043	100.00	105.00	5.00	0.000	0.090	0.000
TR-043	105.00	110.00	5.00	0.000	0.150	0.000
TR-043	110.00	115.00	5.00	0.000	0.030	0.000
TR-043	115.00	120.00	5.00	0.001	0.070	0.000
TR-043	120.00	125.00	5.00	0.000	0.040	0.000
TR-043	125.00	130.00	5.00	0.000	0.040	0.000
TR-043	130.00	135.00	5.00	0.000	0.120	0.000

TR-043	135.00	140.00	5.00	0.000	0.060	0.000
TR-043	140.00	145.00	5.00	0.000	0.030	0.000
TR-043	145.00	150.00	5.00	0.000	0.050	0.000
TR-043	150.00	155.00	5.00	0.000	0.020	0.000
TR-043	155.00	160.00	5.00	0.002	0.090	0.000
TR-043	160.00	165.00	5.00	0.004	0.080	0.000
TR-043	165.00	170.00	5.00	0.000	0.080	0.000
TR-043	170.00	175.00	5.00	0.000	0.070	0.000
TR-043	175.00	180.00	5.00	0.003	0.290	0.000
TR-043	180.00	185.00	5.00	0.000	0.090	0.000
TR-043	185.00	190.00	5.00	0.001	0.110	0.000
TR-043	190.00	195.00	5.00	0.003	0.090	0.000
TR-043	195.00	200.00	5.00	0.002	0.340	0.000
TR-043	200.00	205.00	5.00	0.008	0.810	0.000
TR-043	205.00	210.00	5.00	0.009	1.190	0.000
TR-043	210.00	215.00	5.00	0.024	1.790	0.000
TR-043	215.00	220.00	5.00	0.003	0.760	0.000
TR-043	220.00	225.00	5.00	0.002	0.160	0.000
TR-043	225.00	230.00	5.00	0.000	0.040	0.000
TR-043	230.00	235.00	5.00	0.000	0.000	0.000
TR-043	235.00	240.00	5.00	0.000	0.080	0.000
TR-043	240.00	245.00	5.00	0.000	0.080	0.000
TR-043	245.00	250.00	5.00	0.000	0.140	0.000
TR-043	250.00	255.00	5.00	0.001	0.030	0.000
TR-043	255.00	260.00	5.00	0.001	0.030	0.000
TR-043	260.00	265.00	5.00	0.000	0.080	0.000
TR-043	265.00	270.00	5.00	0.000	0.000	0.000
TR-043	270.00	275.00	5.00	0.000	0.000	0.000
TR-043	275.00	280.00	5.00	0.000	0.000	0.000
TR-043	280.00	285.00	5.00	0.000	0.030	0.000

TR-044	731240.0	255580.0	4615.0	245.000	-45.000	395.00

TR-044						
TR-044	0.00	5.00	5.00	0.007	0.190	0.000
TR-044	5.00	10.00	5.00	0.007	0.190	0.000
TR-044	10.00	15.00	5.00	0.010	0.080	0.000
TR-044	15.00	20.00	5.00	0.002	0.290	0.000
TR-044	20.00	25.00	5.00	0.004	0.520	0.000
TR-044	25.00	30.00	5.00	0.001	0.370	0.000
TR-044	30.00	35.00	5.00	0.001	0.820	0.000
TR-044	35.00	40.00	5.00	0.002	0.260	0.000
TR-044	40.00	45.00	5.00	0.009	1.090	0.000
TR-044	45.00	50.00	5.00	0.001	0.150	0.000
TR-044	50.00	55.00	5.00	0.003	0.130	0.000
TR-044	55.00	60.00	5.00	0.000	0.070	0.000
TR-044	60.00	65.00	5.00	0.000	0.120	0.000
TR-044	65.00	70.00	5.00	0.002	0.090	0.000
TR-044	70.00	75.00	5.00	0.001	0.270	0.000
TR-044	75.00	80.00	5.00	0.000	0.080	0.000
TR-044	80.00	85.00	5.00	0.000	0.000	0.000
TR-044	85.00	90.00	5.00	0.000	0.000	0.000
TR-044	90.00	95.00	5.00	0.000	0.000	0.000
TR-044	95.00	100.00	5.00	0.000	0.000	0.000

TR-044	100.00	105.00	5.00	0.000	0.030	0.000
TR-044	105.00	110.00	5.00	0.000	0.000	0.000
TR-044	110.00	115.00	5.00	0.000	0.030	0.000
TR-044	115.00	120.00	5.00	0.000	0.050	0.000
TR-044	120.00	125.00	5.00	0.000	0.040	0.000
TR-044	125.00	130.00	5.00	0.000	0.040	0.000
TR-044	130.00	135.00	5.00	0.000	0.020	0.000
TR-044	135.00	140.00	5.00	0.000	0.000	0.000
TR-044	140.00	145.00	5.00	0.000	0.030	0.000
TR-044	145.00	150.00	5.00	0.000	0.040	0.000
TR-044	150.00	155.00	5.00	0.002	0.020	0.000
TR-044	155.00	160.00	5.00	0.006	0.480	0.000
TR-044	160.00	165.00	5.00	0.000	0.410	0.000
TR-044	165.00	170.00	5.00	0.000	0.110	0.000
TR-044	170.00	175.00	5.00	0.001	0.110	0.000
TR-044	175.00	180.00	5.00	0.002	0.320	0.000
TR-044	180.00	185.00	5.00	0.000	0.190	0.000
TR-044	185.00	190.00	5.00	0.000	0.110	0.000
TR-044	190.00	195.00	5.00	0.002	0.170	0.000
TR-044	195.00	200.00	5.00	0.001	0.170	0.000
TR-044	200.00	205.00	5.00	0.000	0.070	0.000
TR-044	205.00	210.00	5.00	0.001	0.040	0.000
TR-044	210.00	215.00	5.00	0.000	0.030	0.000
TR-044	215.00	220.00	5.00	0.000	0.030	0.000
TR-044	220.00	225.00	5.00	0.000	0.000	0.000
TR-044	225.00	230.00	5.00	0.000	0.000	0.000
TR-044	230.00	235.00	5.00	0.000	0.020	0.000
TR-044	235.00	240.00	5.00	0.000	0.040	0.000
TR-044	240.00	245.00	5.00	0.000	0.070	0.000
TR-044	245.00	250.00	5.00	0.000	0.050	0.000
TR-044	250.00	255.00	5.00	0.000	0.070	0.000
TR-044	255.00	260.00	5.00	0.000	0.030	0.000
TR-044	260.00	265.00	5.00	0.000	0.000	0.000
TR-044	265.00	270.00	5.00	0.000	0.030	0.000
TR-044	270.00	275.00	5.00	0.000	0.190	0.000
TR-044	275.00	280.00	5.00	0.000	0.400	0.000
TR-044	280.00	285.00	5.00	0.000	0.150	0.000
TR-044	285.00	290.00	5.00	0.000	0.080	0.000
TR-044	290.00	295.00	5.00	0.000	0.110	0.000
TR-044	295.00	300.00	5.00	0.000	0.130	0.000
TR-044	300.00	305.00	5.00	0.000	0.180	0.000
TR-044	305.00	310.00	5.00	0.003	0.270	0.000
TR-044	310.00	315.00	5.00	0.004	0.190	0.000
TR-044	315.00	320.00	5.00	0.003	0.070	0.000
TR-044	320.00	325.00	5.00	0.000	0.230	0.000
TR-044	325.00	330.00	5.00	0.000	0.180	0.000
TR-044	330.00	335.00	5.00	0.001	0.100	0.000
TR-044	335.00	340.00	5.00	0.001	0.240	0.000
TR-044	340.00	345.00	5.00	0.002	0.080	0.000
TR-044	345.00	350.00	5.00	0.000	0.040	0.000
TR-044	350.00	355.00	5.00	0.000	0.990	0.000
TR-044	355.00	360.00	5.00	0.003	0.240	0.000
TR-044	360.00	365.00	5.00	0.009	0.230	0.000
TR-044	365.00	370.00	5.00	0.005	0.320	0.000

TR-044	370.00	375.00	5.00	0.002	0.070	0.000
TR-044	375.00	380.00	5.00	0.000	0.030	0.000
TR-044	380.00	385.00	5.00	0.000	0.040	0.000
TR-044	385.00	390.00	5.00	0.000	0.040	0.000
TR-044	390.00	395.00	5.00	0.000	0.000	0.000
TR-045	731480.0	255550.0	4675.0	113.000	-45.000	275.00
TR-045						
TR-045	0.00	5.00	5.00	0.003	0.290	0.000
TR-045	5.00	10.00	5.00	0.003	0.450	0.000
TR-045	10.00	15.00	5.00	0.002	1.040	0.000
TR-045	15.00	20.00	5.00	0.000	0.270	0.000
TR-045	20.00	25.00	5.00	0.000	0.490	0.000
TR-045	25.00	30.00	5.00	0.000	0.340	0.000
TR-045	30.00	35.00	5.00	0.001	0.210	0.000
TR-045	35.00	40.00	5.00	0.001	0.410	0.000
TR-045	40.00	45.00	5.00	0.002	0.250	0.000
TR-045	45.00	50.00	5.00	0.003	0.490	0.000
TR-045	50.00	55.00	5.00	0.003	1.020	0.000
TR-045	55.00	60.00	5.00	0.002	0.640	0.000
TR-045	60.00	65.00	5.00	0.000	0.200	0.000
TR-045	65.00	70.00	5.00	0.000	0.370	0.000
TR-045	70.00	75.00	5.00	0.000	0.180	0.000
TR-045	75.00	80.00	5.00	0.000	0.200	0.000
TR-045	80.00	85.00	5.00	0.000	0.040	0.000
TR-045	85.00	90.00	5.00	0.000	0.070	0.000
TR-045	90.00	95.00	5.00	0.000	0.620	0.000
TR-045	95.00	100.00	5.00	0.001	0.410	0.000
TR-045	100.00	105.00	5.00	0.001	0.300	0.000
TR-045	105.00	110.00	5.00	0.000	0.230	0.000
TR-045	110.00	115.00	5.00	0.000	0.850	0.000
TR-045	115.00	120.00	5.00	0.000	0.070	0.000
TR-045	120.00	125.00	5.00	0.001	0.060	0.000
TR-045	125.00	130.00	5.00	0.000	0.040	0.000
TR-045	130.00	135.00	5.00	0.000	0.080	0.000
TR-045	135.00	140.00	5.00	0.000	0.020	0.000
TR-045	140.00	145.00	5.00	0.000	0.000	0.000
TR-045	145.00	150.00	5.00	0.000	0.080	0.000
TR-045	150.00	155.00	5.00	0.028	0.880	0.000
TR-045	155.00	160.00	5.00	0.007	0.730	0.000
TR-045	160.00	165.00	5.00	0.002	0.080	0.000
TR-045	165.00	170.00	5.00	0.001	0.080	0.000
TR-045	170.00	175.00	5.00	0.000	0.040	0.000
TR-045	175.00	180.00	5.00	0.001	0.100	0.000
TR-045	180.00	185.00	5.00	0.002	0.110	0.000
TR-045	185.00	190.00	5.00	0.000	0.040	0.000
TR-045	190.00	195.00	5.00	0.005	0.240	0.000
TR-045	195.00	200.00	5.00	0.001	0.080	0.000
TR-045	200.00	205.00	5.00	0.000	0.040	0.000
TR-045	205.00	210.00	5.00	0.000	0.040	0.000
TR-045	210.00	215.00	5.00	0.000	0.040	0.000
TR-045	215.00	220.00	5.00	0.000	0.040	0.000
TR-045	220.00	225.00	5.00	0.000	0.040	0.000

TR-045	225.00	230.00	5.00	0.002	0.000	0.000
TR-045	230.00	235.00	5.00	0.000	0.000	0.000
TR-045	235.00	240.00	5.00	0.000	0.000	0.000
TR-045	240.00	245.00	5.00	0.000	0.030	0.000
TR-045	245.00	250.00	5.00	0.000	0.030	0.000
TR-045	250.00	255.00	5.00	0.000	0.030	0.000
TR-045	255.00	260.00	5.00	0.000	0.000	0.000
TR-045	260.00	265.00	5.00	0.000	0.030	0.000
TR-045	265.00	270.00	5.00	0.000	0.080	0.000
TR-045	270.00	275.00	5.00	0.001	0.040	0.000
TR-046	731390.0	255250.0	4675.0	340.000	-45.000	325.00
TR-046						
TR-046	0.00	5.00	5.00	0.032	1.460	0.000
TR-046	5.00	10.00	5.00	0.011	0.220	0.000
TR-046	10.00	15.00	5.00	0.006	0.540	0.000
TR-046	15.00	20.00	5.00	0.001	0.030	0.000
TR-046	20.00	25.00	5.00	0.001	0.030	0.000
TR-046	25.00	30.00	5.00	0.000	0.030	0.000
TR-046	30.00	35.00	5.00	0.002	0.040	0.000
TR-046	35.00	40.00	5.00	0.000	0.080	0.000
TR-046	40.00	45.00	5.00	0.000	0.080	0.000
TR-046	45.00	50.00	5.00	0.000	0.080	0.000
TR-046	50.00	55.00	5.00	0.004	0.270	0.000
TR-046	55.00	60.00	5.00	0.001	0.270	0.000
TR-046	60.00	65.00	5.00	0.001	0.200	0.000
TR-046	65.00	70.00	5.00	0.000	0.070	0.000
TR-046	70.00	75.00	5.00	0.000	0.070	0.000
TR-046	75.00	80.00	5.00	0.000	0.060	0.000
TR-046	80.00	85.00	5.00	0.000	0.030	0.000
TR-046	85.00	90.00	5.00	0.000	0.020	0.000
TR-046	90.00	95.00	5.00	0.000	0.020	0.000
TR-046	95.00	100.00	5.00	0.000	0.000	0.000
TR-046	100.00	105.00	5.00	0.000	0.000	0.000
TR-046	105.00	110.00	5.00	0.000	0.000	0.000
TR-046	110.00	115.00	5.00	0.000	0.000	0.000
TR-046	115.00	120.00	5.00	0.000	0.000	0.000
TR-046	120.00	125.00	5.00	0.000	0.000	0.000
TR-046	125.00	130.00	5.00	0.000	0.000	0.000
TR-046	130.00	135.00	5.00	0.000	0.000	0.000
TR-046	135.00	140.00	5.00	0.000	0.000	0.000
TR-046	140.00	145.00	5.00	0.000	0.000	0.000
TR-046	145.00	150.00	5.00	0.000	0.000	0.000
TR-046	150.00	155.00	5.00	0.000	0.000	0.000
TR-046	155.00	160.00	5.00	0.000	0.000	0.000
TR-046	160.00	165.00	5.00	0.000	0.000	0.000
TR-046	165.00	170.00	5.00	0.000	0.000	0.000
TR-046	170.00	175.00	5.00	0.000	0.000	0.000
TR-046	175.00	180.00	5.00	0.000	0.000	0.000
TR-046	180.00	185.00	5.00	0.000	0.000	0.000
TR-046	185.00	190.00	5.00	0.000	0.000	0.000
TR-046	190.00	195.00	5.00	0.000	0.000	0.000
TR-046	195.00	200.00	5.00	0.000	0.000	0.000

TR-046	200.00	205.00	5.00	0.000	0.000	0.000
TR-046	205.00	210.00	5.00	0.000	0.000	0.000
TR-046	210.00	215.00	5.00	0.000	0.000	0.000
TR-046	215.00	220.00	5.00	0.000	0.000	0.000
TR-046	220.00	225.00	5.00	0.000	0.000	0.000
TR-046	225.00	230.00	5.00	-1.000	0.000	0.000
TR-046	230.00	235.00	5.00	0.000	0.000	0.000
TR-046	235.00	240.00	5.00	0.000	0.000	0.000
TR-046	240.00	245.00	5.00	0.000	0.000	0.000
TR-046	245.00	250.00	5.00	0.001	0.000	0.000
TR-046	250.00	255.00	5.00	0.000	0.000	0.000
TR-046	255.00	260.00	5.00	0.003	0.000	0.000
TR-046	260.00	265.00	5.00	0.000	0.000	0.000
TR-046	265.00	270.00	5.00	0.000	0.000	0.000
TR-046	270.00	275.00	5.00	0.000	0.000	0.000
TR-046	275.00	280.00	5.00	0.000	0.000	0.000
TR-046	280.00	285.00	5.00	0.000	0.000	0.000
TR-046	285.00	290.00	5.00	0.002	0.000	0.000
TR-046	290.00	295.00	5.00	0.000	0.000	0.000
TR-046	295.00	300.00	5.00	0.000	0.000	0.000
TR-046	300.00	305.00	5.00	0.000	0.000	0.000
TR-046	305.00	310.00	5.00	0.000	0.000	0.000
TR-046	310.00	315.00	5.00	0.000	0.000	0.000
TR-046	315.00	320.00	5.00	0.000	0.000	0.000
TR-046	320.00	325.00	5.00	0.000	0.000	0.000
TR-047	731150.0	255550.0	4695.0	250.000	-45.000	175.00
TR-047						
TR-047	0.00	5.00	5.00	0.000	0.090	0.000
TR-047	5.00	10.00	5.00	0.000	0.080	0.000
TR-047	10.00	15.00	5.00	0.000	0.140	0.000
TR-047	15.00	20.00	5.00	0.000	0.410	0.000
TR-047	20.00	25.00	5.00	0.000	0.030	0.000
TR-047	25.00	30.00	5.00	0.000	0.050	0.000
TR-047	30.00	35.00	5.00	0.000	0.100	0.000
TR-047	35.00	40.00	5.00	0.000	0.000	0.000
TR-047	40.00	45.00	5.00	0.002	0.000	0.000
TR-047	45.00	50.00	5.00	0.000	0.000	0.000
TR-047	50.00	55.00	5.00	0.000	0.000	0.000
TR-047	55.00	60.00	5.00	0.000	0.000	0.000
TR-047	60.00	65.00	5.00	0.000	0.000	0.000
TR-047	65.00	70.00	5.00	0.006	0.000	0.000
TR-047	70.00	75.00	5.00	0.003	0.000	0.000
TR-047	75.00	80.00	5.00	0.001	0.000	0.000
TR-047	80.00	85.00	5.00	0.000	0.000	0.000
TR-047	85.00	90.00	5.00	0.000	0.000	0.000
TR-047	90.00	95.00	5.00	0.000	0.000	0.000
TR-047	95.00	100.00	5.00	0.000	0.000	0.000
TR-047	100.00	105.00	5.00	0.000	0.000	0.000
TR-047	105.00	110.00	5.00	0.000	0.000	0.000
TR-047	110.00	115.00	5.00	0.000	0.000	0.000
TR-047	115.00	120.00	5.00	0.000	0.000	0.000
TR-047	120.00	125.00	5.00	0.000	0.000	0.000

TR-047	125.00	130.00	5.00	0.000	0.000	0.000
TR-047	130.00	135.00	5.00	0.000	0.000	0.000
TR-047	135.00	140.00	5.00	0.000	0.000	0.000
TR-047	140.00	145.00	5.00	0.000	0.000	0.000
TR-047	145.00	150.00	5.00	0.000	0.000	0.000
TR-047	150.00	155.00	5.00	0.000	0.000	0.000
TR-047	155.00	160.00	5.00	0.000	0.000	0.000
TR-047	160.00	165.00	5.00	0.000	0.000	0.000
TR-047	165.00	170.00	5.00	0.000	0.090	0.000
TR-047	170.00	175.00	5.00	0.000	0.000	0.000
TR-048	733220.0	257150.0	4620.0	0.000	-90.000	350.00
TR-048						
TR-048	0.00	5.00	5.00	0.004	0.220	0.000
TR-048	5.00	10.00	5.00	0.031	0.170	0.000
TR-048	10.00	15.00	5.00	0.002	0.100	0.000
TR-048	15.00	20.00	5.00	0.001	0.370	0.000
TR-048	20.00	25.00	5.00	0.002	0.140	0.000
TR-048	25.00	30.00	5.00	0.009	0.330	0.000
TR-048	30.00	35.00	5.00	0.010	0.360	0.000
TR-048	35.00	40.00	5.00	0.005	0.220	0.000
TR-048	40.00	45.00	5.00	0.007	0.210	0.000
TR-048	45.00	50.00	5.00	0.006	0.420	0.000
TR-048	50.00	55.00	5.00	0.003	0.170	0.000
TR-048	55.00	60.00	5.00	0.000	0.040	0.000
TR-048	60.00	65.00	5.00	0.001	0.030	0.000
TR-048	65.00	70.00	5.00	0.001	0.030	0.000
TR-048	70.00	75.00	5.00	0.000	0.040	0.000
TR-048	75.00	80.00	5.00	0.000	0.000	0.000
TR-048	80.00	85.00	5.00	0.003	0.030	0.000
TR-048	85.00	90.00	5.00	0.004	0.050	0.000
TR-048	90.00	95.00	5.00	0.031	0.640	0.000
TR-048	95.00	100.00	5.00	0.003	1.150	0.000
TR-048	100.00	105.00	5.00	0.002	0.200	0.000
TR-048	105.00	110.00	5.00	0.004	0.450	0.000
TR-048	110.00	115.00	5.00	0.000	0.270	0.000
TR-048	115.00	120.00	5.00	0.000	0.160	0.000
TR-048	120.00	125.00	5.00	0.000	0.040	0.000
TR-048	125.00	130.00	5.00	0.000	0.000	0.000
TR-048	130.00	135.00	5.00	0.000	0.000	0.000
TR-048	135.00	140.00	5.00	0.000	0.000	0.000
TR-048	140.00	145.00	5.00	0.000	0.000	0.000
TR-048	145.00	150.00	5.00	0.000	0.000	0.000
TR-048	150.00	155.00	5.00	0.000	0.000	0.000
TR-048	155.00	160.00	5.00	0.000	0.000	0.000
TR-048	160.00	165.00	5.00	0.000	0.000	0.000
TR-048	165.00	170.00	5.00	0.000	0.000	0.000
TR-048	170.00	175.00	5.00	0.000	0.000	0.000
TR-048	175.00	180.00	5.00	0.000	0.000	0.000
TR-048	180.00	185.00	5.00	0.000	0.000	0.000
TR-048	185.00	190.00	5.00	0.000	0.000	0.000
TR-048	190.00	195.00	5.00	0.000	0.000	0.000
TR-048	195.00	200.00	5.00	0.000	0.000	0.000

TR-048	200.00	205.00	5.00	0.000	0.000	0.000
TR-048	205.00	210.00	5.00	0.000	0.000	0.000
TR-048	210.00	215.00	5.00	0.000	0.050	0.000
TR-048	215.00	220.00	5.00	0.000	0.110	0.000
TR-048	220.00	225.00	5.00	0.000	0.130	0.000
TR-048	225.00	230.00	5.00	0.000	0.230	0.000
TR-048	230.00	235.00	5.00	0.000	0.220	0.000
TR-048	235.00	240.00	5.00	0.000	0.160	0.000
TR-048	240.00	245.00	5.00	0.000	0.120	0.000
TR-048	245.00	250.00	5.00	-1.000	-1.000	0.000
TR-048	250.00	255.00	5.00	0.147	0.800	0.000
TR-048	255.00	260.00	5.00	0.078	0.330	0.000
TR-048	260.00	265.00	5.00	0.103	2.130	0.000
TR-048	265.00	270.00	5.00	0.124	2.310	0.000
TR-048	270.00	275.00	5.00	0.005	0.700	0.000
TR-048	275.00	280.00	5.00	0.001	0.680	0.000
TR-048	280.00	285.00	5.00	0.007	0.920	0.000
TR-048	285.00	290.00	5.00	0.000	0.150	0.000
TR-048	290.00	295.00	5.00	0.000	0.110	0.000
TR-048	295.00	300.00	5.00	0.000	0.080	0.000
TR-048	300.00	305.00	5.00	0.000	0.090	0.000
TR-048	305.00	310.00	5.00	0.001	0.060	0.000
TR-048	310.00	315.00	5.00	0.002	0.100	0.000
TR-048	315.00	320.00	5.00	0.000	0.130	0.000
TR-048	320.00	325.00	5.00	0.000	0.070	0.000
TR-048	325.00	330.00	5.00	0.000	0.100	0.000
TR-048	330.00	335.00	5.00	0.000	0.260	0.000
TR-048	335.00	340.00	5.00	0.000	0.390	0.000
TR-048	340.00	345.00	5.00	0.000	0.070	0.000
TR-048	345.00	350.00	5.00	0.000	0.080	0.000

TR-049	733220.0	257050.0	4615.0	0.000	-90.000	355.00

TR-049						
TR-049	0.00	5.00	5.00	0.008	0.410	0.000
TR-049	5.00	10.00	5.00	0.003	0.170	0.000
TR-049	10.00	15.00	5.00	0.004	0.160	0.000
TR-049	15.00	20.00	5.00	0.004	0.290	0.000
TR-049	20.00	25.00	5.00	0.004	0.140	0.000
TR-049	25.00	30.00	5.00	0.004	0.180	0.000
TR-049	30.00	35.00	5.00	0.008	0.210	0.000
TR-049	35.00	40.00	5.00	0.003	0.080	0.000
TR-049	40.00	45.00	5.00	0.002	0.070	0.000
TR-049	45.00	50.00	5.00	0.000	0.000	0.000
TR-049	50.00	55.00	5.00	0.001	0.030	0.000
TR-049	55.00	60.00	5.00	0.001	0.030	0.000
TR-049	60.00	65.00	5.00	0.002	0.080	0.000
TR-049	65.00	70.00	5.00	0.000	0.070	0.000
TR-049	70.00	75.00	5.00	0.000	0.050	0.000
TR-049	75.00	80.00	5.00	0.000	0.080	0.000
TR-049	80.00	85.00	5.00	0.002	0.080	0.000
TR-049	85.00	90.00	5.00	0.093	0.350	0.000
TR-049	90.00	95.00	5.00	0.020	0.410	0.000
TR-049	95.00	100.00	5.00	0.005	0.310	0.000

TR-049	100.00	105.00	5.00	0.004	0.540	0.000
TR-049	105.00	110.00	5.00	0.000	0.410	0.000
TR-049	110.00	115.00	5.00	0.000	0.320	0.000
TR-049	115.00	120.00	5.00	0.071	0.580	0.000
TR-049	120.00	125.00	5.00	0.058	0.710	0.000
TR-049	125.00	130.00	5.00	0.007	1.020	0.000
TR-049	130.00	135.00	5.00	0.001	0.330	0.000
TR-049	135.00	140.00	5.00	0.011	0.630	0.000
TR-049	140.00	145.00	5.00	0.004	0.340	0.000
TR-049	145.00	150.00	5.00	0.002	0.910	0.000
TR-049	150.00	155.00	5.00	0.000	0.640	0.000
TR-049	155.00	160.00	5.00	0.000	0.290	0.000
TR-049	160.00	165.00	5.00	0.000	0.160	0.000
TR-049	165.00	170.00	5.00	0.000	0.200	0.000
TR-049	170.00	175.00	5.00	0.000	0.100	0.000
TR-049	175.00	180.00	5.00	0.000	0.130	0.000
TR-049	180.00	185.00	5.00	0.000	0.110	0.000
TR-049	185.00	190.00	5.00	0.000	0.120	0.000
TR-049	190.00	195.00	5.00	0.000	0.100	0.000
TR-049	195.00	200.00	5.00	0.000	0.050	0.000
TR-049	200.00	205.00	5.00	0.000	0.050	0.000
TR-049	205.00	210.00	5.00	0.000	0.020	0.000
TR-049	210.00	215.00	5.00	0.000	0.030	0.000
TR-049	215.00	220.00	5.00	0.000	0.040	0.000
TR-049	220.00	225.00	5.00	0.001	0.040	0.000
TR-049	225.00	230.00	5.00	0.000	0.080	0.000
TR-049	230.00	235.00	5.00	0.004	0.190	0.000
TR-049	235.00	240.00	5.00	0.002	0.470	0.000
TR-049	240.00	245.00	5.00	0.001	0.110	0.000
TR-049	245.00	250.00	5.00	0.000	0.100	0.000
TR-049	250.00	255.00	5.00	0.000	0.080	0.000
TR-049	255.00	260.00	5.00	0.000	0.080	0.000
TR-049	260.00	265.00	5.00	0.001	0.090	0.000
TR-049	265.00	270.00	5.00	0.002	0.390	0.000
TR-049	270.00	275.00	5.00	0.000	0.130	0.000
TR-049	275.00	280.00	5.00	0.000	0.020	0.000
TR-049	280.00	285.00	5.00	0.000	0.020	0.000
TR-049	285.00	290.00	5.00	0.000	0.040	0.000
TR-049	290.00	295.00	5.00	0.000	0.050	0.000
TR-049	295.00	300.00	5.00	0.000	0.060	0.000
TR-049	300.00	305.00	5.00	0.000	0.020	0.000
TR-049	305.00	310.00	5.00	0.000	0.040	0.000
TR-049	310.00	315.00	5.00	0.000	0.010	0.000
TR-049	315.00	320.00	5.00	0.000	0.030	0.000
TR-049	320.00	325.00	5.00	0.000	0.050	0.000
TR-049	325.00	330.00	5.00	0.000	0.080	0.000
TR-049	330.00	335.00	5.00	0.000	0.040	0.000
TR-049	335.00	340.00	5.00	0.000	0.020	0.000
TR-049	340.00	345.00	5.00	0.000	0.020	0.000
TR-049	345.00	350.00	5.00	0.000	0.030	0.000
TR-049	350.00	355.00	5.00	0.000	0.030	0.000

TR-050	731350.0	256900.0	4635.0	0.000	-90.000	345.00

TR-050						
TR-050	0.00	5.00	5.00	0.003	0.050	0.000
TR-050	5.00	10.00	5.00	0.000	0.000	0.000
TR-050	10.00	15.00	5.00	0.000	0.000	0.000
TR-050	15.00	20.00	5.00	0.000	0.000	0.000
TR-050	20.00	25.00	5.00	0.000	0.020	0.000
TR-050	25.00	30.00	5.00	0.000	0.000	0.000
TR-050	30.00	35.00	5.00	0.000	0.020	0.000
TR-050	35.00	40.00	5.00	0.000	0.060	0.000
TR-050	40.00	45.00	5.00	0.000	0.000	0.000
TR-050	45.00	50.00	5.00	0.000	0.000	0.000
TR-050	50.00	55.00	5.00	0.000	0.000	0.000
TR-050	55.00	60.00	5.00	0.001	0.000	0.000
TR-050	60.00	65.00	5.00	0.000	0.000	0.000
TR-050	65.00	70.00	5.00	0.000	0.030	0.000
TR-050	70.00	75.00	5.00	0.000	0.020	0.000
TR-050	75.00	80.00	5.00	0.000	0.000	0.000
TR-050	80.00	85.00	5.00	0.000	0.000	0.000
TR-050	85.00	90.00	5.00	0.000	0.000	0.000
TR-050	90.00	95.00	5.00	0.000	0.020	0.000
TR-050	95.00	100.00	5.00	0.000	0.000	0.000
TR-050	100.00	105.00	5.00	0.000	0.060	0.000
TR-050	105.00	110.00	5.00	0.018	0.350	0.000
TR-050	110.00	115.00	5.00	0.005	0.100	0.000
TR-050	115.00	120.00	5.00	0.002	0.040	0.000
TR-050	120.00	125.00	5.00	0.003	0.040	0.000
TR-050	125.00	130.00	5.00	0.000	0.040	0.000
TR-050	130.00	135.00	5.00	0.000	0.030	0.000
TR-050	135.00	140.00	5.00	0.000	0.040	0.000
TR-050	140.00	145.00	5.00	0.003	0.040	0.000
TR-050	145.00	150.00	5.00	0.000	0.080	0.000
TR-050	150.00	155.00	5.00	0.001	0.050	0.000
TR-050	155.00	160.00	5.00	0.000	0.060	0.000
TR-050	160.00	165.00	5.00	0.000	0.000	0.000
TR-050	165.00	170.00	5.00	0.001	0.290	0.000
TR-050	170.00	175.00	5.00	0.002	0.350	0.000
TR-050	175.00	180.00	5.00	0.000	0.080	0.000
TR-050	180.00	185.00	5.00	0.000	0.080	0.000
TR-050	185.00	190.00	5.00	0.000	0.180	0.000
TR-050	190.00	195.00	5.00	0.000	0.040	0.000
TR-050	195.00	200.00	5.00	0.002	0.100	0.000
TR-050	200.00	205.00	5.00	0.000	0.090	0.000
TR-050	205.00	210.00	5.00	0.000	0.000	0.000
TR-050	210.00	215.00	5.00	0.000	0.000	0.000
TR-050	215.00	220.00	5.00	0.000	0.000	0.000
TR-050	220.00	225.00	5.00	0.000	0.040	0.000
TR-050	225.00	230.00	5.00	0.000	0.000	0.000
TR-050	230.00	235.00	5.00	0.000	0.000	0.000
TR-050	235.00	240.00	5.00	0.001	0.000	0.000
TR-050	240.00	245.00	5.00	0.000	0.020	0.000
TR-050	245.00	250.00	5.00	0.000	0.040	0.000
TR-050	250.00	255.00	5.00	0.001	0.120	0.000
TR-050	255.00	260.00	5.00	0.000	0.000	0.000
TR-050	260.00	265.00	5.00	0.000	0.020	0.000

TR-050	265.00	270.00	5.00	0.000	0.030	0.000
TR-050	270.00	275.00	5.00	0.000	0.040	0.000
TR-050	275.00	280.00	5.00	0.000	0.030	0.000
TR-050	280.00	285.00	5.00	0.000	0.050	0.000
TR-050	285.00	290.00	5.00	0.000	0.020	0.000
TR-050	290.00	295.00	5.00	0.000	0.030	0.000
TR-050	295.00	300.00	5.00	0.001	0.000	0.000
TR-050	300.00	305.00	5.00	0.000	0.000	0.000
TR-050	305.00	310.00	5.00	0.000	0.000	0.000
TR-050	310.00	315.00	5.00	0.000	0.000	0.000
TR-050	315.00	320.00	5.00	0.000	0.000	0.000
TR-050	320.00	325.00	5.00	0.000	0.000	0.000
TR-050	325.00	330.00	5.00	0.000	0.000	0.000
TR-050	330.00	335.00	5.00	0.000	0.000	0.000
TR-050	335.00	340.00	5.00	0.000	0.000	0.000
TR-050	340.00	345.00	5.00	0.000	0.000	0.000
TR-051	730800.0	257000.0	4575.0	327.000	-60.000	335.00
TR-051						
TR-051	0.00	5.00	5.00	0.000	0.020	0.000
TR-051	5.00	10.00	5.00	0.000	0.000	0.000
TR-051	10.00	15.00	5.00	0.000	0.000	0.000
TR-051	15.00	20.00	5.00	0.000	0.000	0.000
TR-051	20.00	25.00	5.00	0.000	0.000	0.000
TR-051	25.00	30.00	5.00	0.000	0.000	0.000
TR-051	30.00	35.00	5.00	0.000	0.000	0.000
TR-051	35.00	40.00	5.00	0.000	0.000	0.000
TR-051	40.00	45.00	5.00	0.000	0.000	0.000
TR-051	45.00	50.00	5.00	0.000	0.000	0.000
TR-051	50.00	55.00	5.00	0.000	0.000	0.000
TR-051	55.00	60.00	5.00	0.000	0.000	0.000
TR-051	60.00	65.00	5.00	0.000	0.000	0.000
TR-051	65.00	70.00	5.00	0.000	0.020	0.000
TR-051	70.00	75.00	5.00	0.000	0.000	0.000
TR-051	75.00	80.00	5.00	0.000	0.000	0.000
TR-051	80.00	85.00	5.00	0.000	0.000	0.000
TR-051	85.00	90.00	5.00	0.000	0.000	0.000
TR-051	90.00	95.00	5.00	0.000	0.000	0.000
TR-051	95.00	100.00	5.00	0.000	0.000	0.000
TR-051	100.00	105.00	5.00	0.000	0.000	0.000
TR-051	105.00	110.00	5.00	0.000	0.000	0.000
TR-051	110.00	115.00	5.00	0.000	0.000	0.000
TR-051	115.00	120.00	5.00	0.000	0.020	0.000
TR-051	120.00	125.00	5.00	0.000	0.040	0.000
TR-051	125.00	130.00	5.00	0.000	0.030	0.000
TR-051	130.00	135.00	5.00	0.000	0.030	0.000
TR-051	135.00	140.00	5.00	0.000	0.090	0.000
TR-051	140.00	145.00	5.00	0.000	0.290	0.000
TR-051	145.00	150.00	5.00	0.000	2.450	0.000
TR-051	150.00	155.00	5.00	-1.000	-1.000	0.000
TR-051	155.00	160.00	5.00	0.006	1.120	0.000
TR-051	160.00	165.00	5.00	0.000	0.300	0.000
TR-051	165.00	170.00	5.00	0.001	0.090	0.000

TR-051	170.00	175.00	5.00	0.000	0.040	0.000
TR-051	175.00	180.00	5.00	0.000	0.090	0.000
TR-051	180.00	185.00	5.00	0.000	0.040	0.000
TR-051	185.00	190.00	5.00	0.000	0.020	0.000
TR-051	190.00	195.00	5.00	0.000	0.040	0.000
TR-051	195.00	200.00	5.00	0.002	0.070	0.000
TR-051	200.00	205.00	5.00	0.000	0.000	0.000
TR-051	205.00	210.00	5.00	0.000	0.000	0.000
TR-051	210.00	215.00	5.00	0.000	0.000	0.000
TR-051	215.00	220.00	5.00	0.000	0.000	0.000
TR-051	220.00	225.00	5.00	0.000	0.000	0.000
TR-051	225.00	230.00	5.00	0.000	0.000	0.000
TR-051	230.00	235.00	5.00	0.000	0.000	0.000
TR-051	235.00	240.00	5.00	0.000	0.000	0.000
TR-051	240.00	245.00	5.00	0.000	0.000	0.000
TR-051	245.00	250.00	5.00	0.000	0.000	0.000
TR-051	250.00	255.00	5.00	0.000	0.000	0.000
TR-051	255.00	260.00	5.00	0.000	0.000	0.000
TR-051	260.00	265.00	5.00	0.000	0.000	0.000
TR-051	265.00	270.00	5.00	0.000	0.000	0.000
TR-051	270.00	275.00	5.00	0.000	0.000	0.000
TR-051	275.00	280.00	5.00	0.000	0.000	0.000
TR-051	280.00	285.00	5.00	0.000	0.000	0.000
TR-051	285.00	290.00	5.00	0.000	0.000	0.000
TR-051	290.00	295.00	5.00	0.000	0.000	0.000
TR-051	295.00	300.00	5.00	0.000	0.000	0.000
TR-051	300.00	305.00	5.00	0.000	0.000	0.000
TR-051	305.00	310.00	5.00	0.000	0.000	0.000
TR-051	310.00	315.00	5.00	0.000	0.000	0.000
TR-051	315.00	320.00	5.00	0.000	0.000	0.000
TR-051	320.00	325.00	5.00	0.000	0.000	0.000
TR-051	325.00	330.00	5.00	0.000	0.000	0.000
TR-051	330.00	335.00	5.00	0.000	0.000	0.000

TR-052	731230.0	256700.0	4585.0	0.000	-90.000	345.00

TR-052						
TR-052	0.00	5.00	5.00	0.000	0.000	0.000
TR-052	5.00	10.00	5.00	0.000	0.030	0.000
TR-052	10.00	15.00	5.00	0.000	0.020	0.000
TR-052	15.00	20.00	5.00	0.000	0.000	0.000
TR-052	20.00	25.00	5.00	0.000	0.000	0.000
TR-052	25.00	30.00	5.00	0.000	0.020	0.000
TR-052	30.00	35.00	5.00	0.000	0.060	0.000
TR-052	35.00	40.00	5.00	0.000	0.000	0.000
TR-052	40.00	45.00	5.00	0.000	0.000	0.000
TR-052	45.00	50.00	5.00	0.000	0.000	0.000
TR-052	50.00	55.00	5.00	0.003	0.000	0.000
TR-052	55.00	60.00	5.00	0.000	0.020	0.000
TR-052	60.00	65.00	5.00	0.000	0.020	0.000
TR-052	65.00	70.00	5.00	0.000	0.000	0.000
TR-052	70.00	75.00	5.00	0.000	0.000	0.000
TR-052	75.00	80.00	5.00	0.000	0.000	0.000
TR-052	80.00	85.00	5.00	0.000	0.000	0.000

TR-052	85.00	90.00	5.00	0.000	0.000	0.000
TR-052	90.00	95.00	5.00	0.000	0.000	0.000
TR-052	95.00	100.00	5.00	0.000	0.000	0.000
TR-052	100.00	105.00	5.00	0.000	0.000	0.000
TR-052	105.00	110.00	5.00	0.000	0.000	0.000
TR-052	110.00	115.00	5.00	0.000	0.000	0.000
TR-052	115.00	120.00	5.00	0.000	0.000	0.000
TR-052	120.00	125.00	5.00	0.000	0.050	0.000
TR-052	125.00	130.00	5.00	0.000	0.020	0.000
TR-052	130.00	135.00	5.00	0.000	0.000	0.000
TR-052	135.00	140.00	5.00	0.000	0.000	0.000
TR-052	140.00	145.00	5.00	0.000	0.030	0.000
TR-052	145.00	150.00	5.00	0.000	0.000	0.000
TR-052	150.00	155.00	5.00	0.000	0.000	0.000
TR-052	155.00	160.00	5.00	0.000	0.030	0.000
TR-052	160.00	165.00	5.00	0.000	0.100	0.000
TR-052	165.00	170.00	5.00	0.000	0.020	0.000
TR-052	170.00	175.00	5.00	0.000	0.040	0.000
TR-052	175.00	180.00	5.00	0.000	0.050	0.000
TR-052	180.00	185.00	5.00	0.001	0.000	0.000
TR-052	185.00	190.00	5.00	0.000	0.000	0.000
TR-052	190.00	195.00	5.00	0.000	0.000	0.000
TR-052	195.00	200.00	5.00	0.004	0.070	0.000
TR-052	200.00	205.00	5.00	0.017	0.120	0.000
TR-052	205.00	210.00	5.00	0.006	0.140	0.000
TR-052	210.00	215.00	5.00	0.000	0.050	0.000
TR-052	215.00	220.00	5.00	0.000	0.060	0.000
TR-052	220.00	225.00	5.00	0.006	0.390	0.000
TR-052	225.00	230.00	5.00	0.001	0.090	0.000
TR-052	230.00	235.00	5.00	0.000	0.130	0.000
TR-052	235.00	240.00	5.00	-1.000	-1.000	0.000
TR-052	240.00	245.00	5.00	0.002	2.450	0.000
TR-052	245.00	250.00	5.00	0.001	0.410	0.000
TR-052	250.00	255.00	5.00	0.000	0.060	0.000
TR-052	255.00	260.00	5.00	0.000	0.160	0.000
TR-052	260.00	265.00	5.00	0.001	0.090	0.000
TR-052	265.00	270.00	5.00	0.002	0.490	0.000
TR-052	270.00	275.00	5.00	0.007	0.580	0.000
TR-052	275.00	280.00	5.00	-1.000	-1.000	0.000
TR-052	280.00	285.00	5.00	-1.000	-1.000	0.000
TR-052	285.00	290.00	5.00	0.003	0.240	0.000
TR-052	290.00	295.00	5.00	0.010	1.410	0.000
TR-052	295.00	300.00	5.00	0.006	1.710	0.000
TR-052	300.00	305.00	5.00	0.043	1.440	0.000
TR-052	305.00	310.00	5.00	0.005	0.930	0.000
TR-052	310.00	315.00	5.00	0.009	1.270	0.000
TR-052	315.00	320.00	5.00	0.004	0.360	0.000
TR-052	320.00	325.00	5.00	0.000	0.040	0.000
TR-052	325.00	330.00	5.00	0.000	0.000	0.000
TR-052	330.00	335.00	5.00	0.000	0.020	0.000
TR-052	335.00	340.00	5.00	0.000	0.100	0.000
TR-052	340.00	345.00	5.00	0.000	0.090	0.000
TR-053	731180.0	256440.0	4560.0	0.000	-90.000	345.00

TR-053						
TR-053	0.00	5.00	5.00	0.011	0.740	0.000
TR-053	5.00	10.00	5.00	0.001	0.180	0.000
TR-053	10.00	15.00	5.00	0.001	0.210	0.000
TR-053	15.00	20.00	5.00	0.001	0.260	0.000
TR-053	20.00	25.00	5.00	0.000	0.300	0.000
TR-053	25.00	30.00	5.00	0.000	0.290	0.000
TR-053	30.00	35.00	5.00	0.001	0.250	0.000
TR-053	35.00	40.00	5.00	0.002	5.080	0.000
TR-053	40.00	45.00	5.00	0.000	0.710	0.000
TR-053	45.00	50.00	5.00	0.001	0.250	0.000
TR-053	50.00	55.00	5.00	-1.000	-1.000	0.000
TR-053	55.00	60.00	5.00	-1.000	-1.000	0.000
TR-053	60.00	65.00	5.00	-1.000	-1.000	0.000
TR-053	65.00	70.00	5.00	-1.000	-1.000	0.000
TR-053	70.00	75.00	5.00	0.015	1.920	0.000
TR-053	75.00	80.00	5.00	0.007	1.120	0.000
TR-053	80.00	85.00	5.00	0.003	1.000	0.000
TR-053	85.00	90.00	5.00	0.005	0.610	0.000
TR-053	90.00	95.00	5.00	-1.000	-1.000	0.000
TR-053	95.00	100.00	5.00	0.011	0.490	0.000
TR-053	100.00	105.00	5.00	0.000	0.040	0.000
TR-053	105.00	110.00	5.00	0.000	0.060	0.000
TR-053	110.00	115.00	5.00	0.000	0.050	0.000
TR-053	115.00	120.00	5.00	0.000	0.640	0.000
TR-053	120.00	125.00	5.00	0.000	2.560	0.000
TR-053	125.00	130.00	5.00	0.003	0.990	0.000
TR-053	130.00	135.00	5.00	0.002	0.400	0.000
TR-053	135.00	140.00	5.00	0.055	0.970	0.000
TR-053	140.00	145.00	5.00	-1.000	-1.000	0.000
TR-053	145.00	150.00	5.00	0.007	0.360	0.000
TR-053	150.00	155.00	5.00	-1.000	-1.000	0.000
TR-053	155.00	160.00	5.00	0.004	0.290	0.000
TR-053	160.00	165.00	5.00	0.000	0.460	0.000
TR-053	165.00	170.00	5.00	0.000	0.850	0.000
TR-053	170.00	175.00	5.00	0.000	0.620	0.000
TR-053	175.00	180.00	5.00	0.001	0.420	0.000
TR-053	180.00	185.00	5.00	-1.000	-1.000	0.000
TR-053	185.00	190.00	5.00	-1.000	-1.000	0.000
TR-053	190.00	195.00	5.00	-1.000	-1.000	0.000
TR-053	195.00	200.00	5.00	0.000	0.120	0.000
TR-053	200.00	205.00	5.00	0.000	0.170	0.000
TR-053	205.00	210.00	5.00	0.000	0.130	0.000
TR-053	210.00	215.00	5.00	0.000	0.170	0.000
TR-053	215.00	220.00	5.00	0.001	2.350	0.000
TR-053	220.00	225.00	5.00	0.002	2.270	0.000
TR-053	225.00	230.00	5.00	0.000	0.290	0.000
TR-053	230.00	235.00	5.00	0.000	0.190	0.000
TR-053	235.00	240.00	5.00	0.000	0.480	0.000
TR-053	240.00	245.00	5.00	0.000	0.190	0.000
TR-053	245.00	250.00	5.00	0.000	0.120	0.000
TR-053	250.00	255.00	5.00	0.000	0.160	0.000
TR-053	255.00	260.00	5.00	0.000	0.450	0.000

TR-053	260.00	265.00	5.00	0.000	0.230	0.000
TR-053	265.00	270.00	5.00	0.000	0.070	0.000
TR-053	270.00	275.00	5.00	0.004	1.780	0.000
TR-053	275.00	280.00	5.00	0.003	6.390	0.000
TR-053	280.00	285.00	5.00	0.005	0.860	0.000
TR-053	285.00	290.00	5.00	0.000	0.260	0.000
TR-053	290.00	295.00	5.00	-1.000	-1.000	0.000
TR-053	295.00	300.00	5.00	0.000	0.130	0.000
TR-053	300.00	305.00	5.00	-1.000	-1.000	0.000
TR-053	305.00	310.00	5.00	0.002	0.570	0.000
TR-053	310.00	315.00	5.00	0.001	0.620	0.000
TR-053	315.00	320.00	5.00	0.000	0.100	0.000
TR-053	320.00	325.00	5.00	0.005	4.430	0.000
TR-053	325.00	330.00	5.00	0.003	1.560	0.000
TR-053	330.00	335.00	5.00	0.002	0.770	0.000
TR-053	335.00	340.00	5.00	0.005	2.070	0.000
TR-053	340.00	345.00	5.00	0.005	2.110	0.000

TR-054	729775.0	256110.0	4605.0	334.000	-60.000	335.00

TR-054						
TR-054	0.00	5.00	5.00	0.002	0.250	0.000
TR-054	5.00	10.00	5.00	0.000	0.000	0.000
TR-054	10.00	15.00	5.00	0.000	0.250	0.000
TR-054	15.00	20.00	5.00	0.000	0.250	0.000
TR-054	20.00	25.00	5.00	0.000	0.040	0.000
TR-054	25.00	30.00	5.00	0.000	0.020	0.000
TR-054	30.00	35.00	5.00	0.000	0.020	0.000
TR-054	35.00	40.00	5.00	0.000	0.040	0.000
TR-054	40.00	45.00	5.00	0.000	0.060	0.000
TR-054	45.00	50.00	5.00	0.000	0.000	0.000
TR-054	50.00	55.00	5.00	0.000	0.000	0.000
TR-054	55.00	60.00	5.00	0.000	0.000	0.000
TR-054	60.00	65.00	5.00	0.000	0.020	0.000
TR-054	65.00	70.00	5.00	0.000	0.000	0.000
TR-054	70.00	75.00	5.00	0.000	0.020	0.000
TR-054	75.00	80.00	5.00	0.000	0.020	0.000
TR-054	80.00	85.00	5.00	0.000	0.000	0.000
TR-054	85.00	90.00	5.00	0.000	0.020	0.000
TR-054	90.00	95.00	5.00	0.000	0.070	0.000
TR-054	95.00	100.00	5.00	0.000	0.050	0.000
TR-054	100.00	105.00	5.00	0.000	0.050	0.000
TR-054	105.00	110.00	5.00	0.000	0.040	0.000
TR-054	110.00	115.00	5.00	0.000	0.060	0.000
TR-054	115.00	120.00	5.00	0.000	0.000	0.000
TR-054	120.00	125.00	5.00	0.000	0.000	0.000
TR-054	125.00	130.00	5.00	0.000	0.000	0.000
TR-054	130.00	135.00	5.00	0.000	0.000	0.000
TR-054	135.00	140.00	5.00	0.000	0.000	0.000
TR-054	140.00	145.00	5.00	0.000	0.030	0.000
TR-054	145.00	150.00	5.00	0.000	0.000	0.000
TR-054	150.00	155.00	5.00	0.000	0.000	0.000
TR-054	155.00	160.00	5.00	0.000	0.000	0.000
TR-054	160.00	165.00	5.00	0.000	0.020	0.000

TR-054	165.00	170.00	5.00	0.000	0.000	0.000
TR-054	170.00	175.00	5.00	0.000	0.020	0.000
TR-054	175.00	180.00	5.00	0.000	0.070	0.000
TR-054	180.00	185.00	5.00	0.000	0.020	0.000
TR-054	185.00	190.00	5.00	0.000	0.000	0.000
TR-054	190.00	195.00	5.00	0.002	0.650	0.000
TR-054	195.00	200.00	5.00	0.002	0.140	0.000
TR-054	200.00	205.00	5.00	0.002	0.050	0.000
TR-054	205.00	210.00	5.00	0.002	0.080	0.000
TR-054	210.00	215.00	5.00	0.013	2.920	0.000
TR-054	215.00	220.00	5.00	0.006	1.720	0.000
TR-054	220.00	225.00	5.00	0.003	0.580	0.000
TR-054	225.00	230.00	5.00	-1.000	-1.000	0.000
TR-054	230.00	235.00	5.00	0.003	0.760	0.000
TR-054	235.00	240.00	5.00	-1.000	-1.000	0.000
TR-054	240.00	245.00	5.00	0.002	1.030	0.000
TR-054	245.00	250.00	5.00	0.038	5.310	0.000
TR-054	250.00	255.00	5.00	-1.000	-1.000	0.000
TR-054	255.00	260.00	5.00	0.001	0.260	0.000
TR-054	260.00	265.00	5.00	0.002	0.430	0.000
TR-054	265.00	270.00	5.00	0.001	0.840	0.000
TR-054	270.00	275.00	5.00	0.000	0.080	0.000
TR-054	275.00	280.00	5.00	0.000	0.160	0.000
TR-054	280.00	285.00	5.00	0.000	0.060	0.000
TR-054	285.00	290.00	5.00	0.005	0.620	0.000
TR-054	290.00	295.00	5.00	0.008	0.020	0.000
TR-054	295.00	300.00	5.00	0.025	0.170	0.000
TR-054	300.00	305.00	5.00	0.000	0.000	0.000
TR-054	305.00	310.00	5.00	0.000	0.020	0.000
TR-054	310.00	315.00	5.00	0.003	0.000	0.000
TR-054	315.00	320.00	5.00	0.001	0.000	0.000
TR-054	320.00	325.00	5.00	0.000	0.000	0.000
TR-054	325.00	330.00	5.00	0.000	0.070	0.000
TR-054	330.00	335.00	5.00	0.000	0.000	0.000

TR-055	730075.0	255615.0	4658.0	100.000	-45.000	305.00

TR-055						
TR-055	0.00	5.00	5.00	-1.000	-1.000	0.000
TR-055	5.00	10.00	5.00	0.002	0.070	0.000
TR-055	10.00	15.00	5.00	0.005	0.340	0.000
TR-055	15.00	20.00	5.00	0.130	0.390	0.000
TR-055	20.00	25.00	5.00	0.051	0.290	0.000
TR-055	25.00	30.00	5.00	0.005	0.300	0.000
TR-055	30.00	35.00	5.00	0.008	0.210	0.000
TR-055	35.00	40.00	5.00	0.300	0.430	0.000
TR-055	40.00	45.00	5.00	0.128	0.630	0.000
TR-055	45.00	50.00	5.00	0.006	0.220	0.000
TR-055	50.00	55.00	5.00	0.007	0.180	0.000
TR-055	55.00	60.00	5.00	0.014	0.170	0.000
TR-055	60.00	65.00	5.00	0.001	0.210	0.000
TR-055	65.00	70.00	5.00	0.000	0.160	0.000
TR-055	70.00	75.00	5.00	0.000	0.120	0.000
TR-055	75.00	80.00	5.00	0.000	0.080	0.000

TR-055	80.00	85.00	5.00	0.002	0.120	0.000
TR-055	85.00	90.00	5.00	0.001	0.080	0.000
TR-055	90.00	95.00	5.00	0.001	0.110	0.000
TR-055	95.00	100.00	5.00	0.004	0.050	0.000
TR-055	100.00	105.00	5.00	0.003	0.060	0.000
TR-055	105.00	110.00	5.00	0.001	0.060	0.000
TR-055	110.00	115.00	5.00	0.002	0.040	0.000
TR-055	115.00	120.00	5.00	0.002	0.060	0.000
TR-055	120.00	125.00	5.00	0.000	0.040	0.000
TR-055	125.00	130.00	5.00	0.001	0.070	0.000
TR-055	130.00	135.00	5.00	0.000	0.040	0.000
TR-055	135.00	140.00	5.00	0.003	0.040	0.000
TR-055	140.00	145.00	5.00	0.000	0.030	0.000
TR-055	145.00	150.00	5.00	0.001	0.070	0.000
TR-055	150.00	155.00	5.00	0.002	0.060	0.000
TR-055	155.00	160.00	5.00	0.001	0.120	0.000
TR-055	160.00	165.00	5.00	0.015	0.130	0.000
TR-055	165.00	170.00	5.00	0.003	0.270	0.000
TR-055	170.00	175.00	5.00	0.000	0.110	0.000
TR-055	175.00	180.00	5.00	0.002	0.070	0.000
TR-055	180.00	185.00	5.00	0.002	0.060	0.000
TR-055	185.00	190.00	5.00	0.003	0.080	0.000
TR-055	190.00	195.00	5.00	0.001	0.150	0.000
TR-055	195.00	200.00	5.00	0.001	0.080	0.000
TR-055	200.00	205.00	5.00	0.000	0.110	0.000
TR-055	205.00	210.00	5.00	0.001	0.090	0.000
TR-055	210.00	215.00	5.00	0.000	0.060	0.000
TR-055	215.00	220.00	5.00	0.000	0.150	0.000
TR-055	220.00	225.00	5.00	0.000	0.050	0.000
TR-055	225.00	230.00	5.00	0.001	0.090	0.000
TR-055	230.00	235.00	5.00	0.000	0.100	0.000
TR-055	235.00	240.00	5.00	0.001	0.090	0.000
TR-055	240.00	245.00	5.00	0.000	0.090	0.000
TR-055	245.00	250.00	5.00	0.000	0.070	0.000
TR-055	250.00	255.00	5.00	0.000	0.090	0.000
TR-055	255.00	260.00	5.00	0.001	0.050	0.000
TR-055	260.00	265.00	5.00	0.000	0.070	0.000
TR-055	265.00	270.00	5.00	0.000	0.040	0.000
TR-055	270.00	275.00	5.00	0.000	0.040	0.000
TR-055	275.00	280.00	5.00	0.000	0.060	0.000
TR-055	280.00	285.00	5.00	0.000	0.040	0.000
TR-055	285.00	290.00	5.00	0.000	0.050	0.000
TR-055	290.00	295.00	5.00	0.000	0.090	0.000
TR-055	295.00	300.00	5.00	0.000	0.040	0.000
TR-055	300.00	305.00	5.00	0.000	0.130	0.000

TR-056	730110.0	255768.0	4615.0	138.000	-45.000	195.00

TR-056						
TR-056	0.00	5.00	5.00	0.004	0.050	0.000
TR-056	5.00	10.00	5.00	0.002	0.060	0.000
TR-056	10.00	15.00	5.00	0.013	1.780	0.000
TR-056	15.00	20.00	5.00	0.007	0.830	0.000
TR-056	20.00	25.00	5.00	0.001	0.600	0.000

TR-056	25.00	30.00	5.00	0.004	0.150	0.000
TR-056	30.00	35.00	5.00	0.002	0.220	0.000
TR-056	35.00	40.00	5.00	0.000	0.040	0.000
TR-056	40.00	45.00	5.00	0.000	0.000	0.000
TR-056	45.00	50.00	5.00	0.000	0.000	0.000
TR-056	50.00	55.00	5.00	0.000	0.030	0.000
TR-056	55.00	60.00	5.00	0.001	0.040	0.000
TR-056	60.00	65.00	5.00	0.002	0.030	0.000
TR-056	65.00	70.00	5.00	0.000	0.000	0.000
TR-056	70.00	75.00	5.00	0.000	0.000	0.000
TR-056	75.00	80.00	5.00	0.000	0.030	0.000
TR-056	80.00	85.00	5.00	0.000	0.050	0.000
TR-056	85.00	90.00	5.00	0.025	5.270	0.000
TR-056	90.00	95.00	5.00	0.002	0.280	0.000
TR-056	95.00	100.00	5.00	0.000	0.310	0.000
TR-056	100.00	105.00	5.00	0.000	0.440	0.000
TR-056	105.00	110.00	5.00	0.000	0.130	0.000
TR-056	110.00	115.00	5.00	0.000	0.060	0.000
TR-056	115.00	120.00	5.00	0.000	0.050	0.000
TR-056	120.00	125.00	5.00	0.000	0.080	0.000
TR-056	125.00	130.00	5.00	0.000	0.040	0.000
TR-056	130.00	135.00	5.00	0.000	0.030	0.000
TR-056	135.00	140.00	5.00	0.000	0.020	0.000
TR-056	140.00	145.00	5.00	0.000	0.000	0.000
TR-056	145.00	150.00	5.00	0.000	0.000	0.000
TR-056	150.00	155.00	5.00	0.000	0.000	0.000
TR-056	155.00	160.00	5.00	0.000	0.000	0.000
TR-056	160.00	165.00	5.00	0.000	0.000	0.000
TR-056	165.00	170.00	5.00	0.000	0.000	0.000
TR-056	170.00	175.00	5.00	0.000	0.000	0.000
TR-056	175.00	180.00	5.00	0.000	0.000	0.000
TR-056	180.00	185.00	5.00	0.000	0.030	0.000
TR-056	185.00	190.00	5.00	0.000	0.040	0.000
TR-056	190.00	195.00	5.00	0.000	0.080	0.000

TR-057	732600.0	256405.0	4548.0	105.000	-45.000	145.00

TR-057						
TR-057	0.00	5.00	5.00	0.000	0.100	0.000
TR-057	5.00	10.00	5.00	0.000	0.080	0.000
TR-057	10.00	15.00	5.00	0.000	0.080	0.000
TR-057	15.00	20.00	5.00	0.001	0.150	0.000
TR-057	20.00	25.00	5.00	0.000	0.070	0.000
TR-057	25.00	30.00	5.00	-1.000	-1.000	0.000
TR-057	30.00	35.00	5.00	0.000	0.030	0.000
TR-057	35.00	40.00	5.00	0.000	0.020	0.000
TR-057	40.00	45.00	5.00	0.000	0.000	0.000
TR-057	45.00	50.00	5.00	-1.000	-1.000	0.000
TR-057	50.00	55.00	5.00	-1.000	-1.000	0.000
TR-057	55.00	60.00	5.00	0.002	0.000	0.000
TR-057	60.00	65.00	5.00	0.017	1.190	0.000
TR-057	65.00	70.00	5.00	0.013	0.710	0.000
TR-057	70.00	75.00	5.00	0.006	0.300	0.000
TR-057	75.00	80.00	5.00	0.005	0.360	0.000

TR-057	80.00	85.00	5.00	0.007	0.670	0.000
TR-057	85.00	90.00	5.00	0.002	0.350	0.000
TR-057	90.00	95.00	5.00	0.000	0.190	0.000
TR-057	95.00	100.00	5.00	0.001	0.150	0.000
TR-057	100.00	105.00	5.00	0.002	0.180	0.000
TR-057	105.00	110.00	5.00	0.000	0.080	0.000
TR-057	110.00	115.00	5.00	0.001	0.050	0.000
TR-057	115.00	120.00	5.00	0.008	0.320	0.000
TR-057	120.00	125.00	5.00	0.012	0.680	0.000
TR-057	125.00	130.00	5.00	0.017	0.760	0.000
TR-057	130.00	135.00	5.00	0.010	4.400	0.000
TR-057	135.00	140.00	5.00	0.002	0.560	0.000
TR-057	140.00	145.00	5.00	0.000	0.160	0.000
TR-058	732540.0	256158.0	4557.0	112.000	-60.000	170.00
TR-058						
TR-058	0.00	5.00	5.00	0.000	0.160	0.000
TR-058	5.00	10.00	5.00	0.000	0.220	0.000
TR-058	10.00	15.00	5.00	0.000	0.230	0.000
TR-058	15.00	20.00	5.00	0.000	0.160	0.000
TR-058	20.00	25.00	5.00	0.000	0.670	0.000
TR-058	25.00	30.00	5.00	0.006	0.490	0.000
TR-058	30.00	35.00	5.00	0.002	0.250	0.000
TR-058	35.00	40.00	5.00	0.000	0.180	0.000
TR-058	40.00	45.00	5.00	0.000	0.160	0.000
TR-058	45.00	50.00	5.00	0.000	0.140	0.000
TR-058	50.00	55.00	5.00	0.012	0.280	0.000
TR-058	55.00	60.00	5.00	0.016	0.320	0.000
TR-058	60.00	65.00	5.00	0.029	0.320	0.000
TR-058	65.00	70.00	5.00	0.035	0.380	0.000
TR-058	70.00	75.00	5.00	0.022	1.020	0.000
TR-058	75.00	80.00	5.00	0.014	0.520	0.000
TR-058	80.00	85.00	5.00	0.022	0.340	0.000
TR-058	85.00	90.00	5.00	-1.000	-1.000	0.000
TR-058	90.00	95.00	5.00	0.003	0.300	0.000
TR-058	95.00	100.00	5.00	0.004	2.060	0.000
TR-058	100.00	105.00	5.00	0.001	0.260	0.000
TR-058	105.00	110.00	5.00	0.000	0.200	0.000
TR-058	110.00	115.00	5.00	0.017	0.260	0.000
TR-058	115.00	120.00	5.00	0.016	0.170	0.000
TR-058	120.00	125.00	5.00	0.000	0.130	0.000
TR-058	125.00	130.00	5.00	0.000	0.140	0.000
TR-058	130.00	135.00	5.00	0.002	0.290	0.000
TR-058	135.00	140.00	5.00	0.008	0.560	0.000
TR-058	140.00	145.00	5.00	0.002	0.290	0.000
TR-058	145.00	150.00	5.00	0.000	0.200	0.000
TR-058	150.00	155.00	5.00	0.002	0.270	0.000
TR-058	155.00	160.00	5.00	0.000	0.120	0.000
TR-058	160.00	165.00	5.00	0.000	0.130	0.000
TR-058	165.00	170.00	5.00	0.001	0.120	0.000
TR-059	732620.0	256500.0	4552.0	103.000	-60.000	165.00

TR-059						
TR-059	0.00	5.00	5.00	0.000	0.110	0.000
TR-059	5.00	10.00	5.00	0.002	0.020	0.000
TR-059	10.00	15.00	5.00	0.000	0.000	0.000
TR-059	15.00	20.00	5.00	0.000	0.000	0.000
TR-059	20.00	25.00	5.00	0.000	0.000	0.000
TR-059	25.00	30.00	5.00	0.000	0.000	0.000
TR-059	30.00	35.00	5.00	0.012	0.050	0.000
TR-059	35.00	40.00	5.00	0.089	0.060	0.000
TR-059	40.00	45.00	5.00	0.047	0.150	0.000
TR-059	45.00	50.00	5.00	0.004	0.070	0.000
TR-059	50.00	55.00	5.00	0.001	0.110	0.000
TR-059	55.00	60.00	5.00	0.003	0.060	0.000
TR-059	60.00	65.00	5.00	0.015	0.160	0.000
TR-059	65.00	70.00	5.00	0.006	0.060	0.000
TR-059	70.00	75.00	5.00	0.008	0.030	0.000
TR-059	75.00	80.00	5.00	0.008	0.030	0.000
TR-059	80.00	85.00	5.00	0.009	0.170	0.000
TR-059	85.00	90.00	5.00	0.015	0.690	0.000
TR-059	90.00	95.00	5.00	0.023	0.860	0.000
TR-059	95.00	100.00	5.00	0.008	1.800	0.000
TR-059	100.00	105.00	5.00	0.009	0.970	0.000
TR-059	105.00	110.00	5.00	0.009	0.320	0.000
TR-059	110.00	115.00	5.00	0.003	0.200	0.000
TR-059	115.00	120.00	5.00	0.017	0.230	0.000
TR-059	120.00	125.00	5.00	0.013	0.590	0.000
TR-059	125.00	130.00	5.00	0.002	0.410	0.000
TR-059	130.00	135.00	5.00	0.000	0.050	0.000
TR-059	135.00	140.00	5.00	0.000	0.070	0.000
TR-059	140.00	145.00	5.00	0.003	0.350	0.000
TR-059	145.00	150.00	5.00	0.004	0.240	0.000
TR-059	150.00	155.00	5.00	0.000	0.060	0.000
TR-059	155.00	160.00	5.00	0.001	0.200	0.000
TR-059	160.00	165.00	5.00	0.022	0.400	0.000
TR-060	731550.0	255925.0	4636.0	310.000	-60.000	195.00
TR-060						
TR-060	0.00	5.00	5.00	0.001	0.100	0.000
TR-060	5.00	10.00	5.00	0.019	0.080	0.000
TR-060	10.00	15.00	5.00	0.006	0.090	0.000
TR-060	15.00	20.00	5.00	0.014	0.130	0.000
TR-060	20.00	25.00	5.00	0.003	0.110	0.000
TR-060	25.00	30.00	5.00	0.002	0.040	0.000
TR-060	30.00	35.00	5.00	0.003	0.100	0.000
TR-060	35.00	40.00	5.00	0.003	0.080	0.000
TR-060	40.00	45.00	5.00	0.003	0.160	0.000
TR-060	45.00	50.00	5.00	-1.000	-1.000	0.000
TR-060	50.00	55.00	5.00	0.000	0.020	0.000
TR-060	55.00	60.00	5.00	0.000	0.050	0.000
TR-060	60.00	65.00	5.00	0.000	0.050	0.000
TR-060	65.00	70.00	5.00	0.000	0.000	0.000
TR-060	70.00	75.00	5.00	0.000	0.000	0.000
TR-060	75.00	80.00	5.00	0.000	0.000	0.000

TR-059						
TR-059	0.00	5.00	5.00	0.000	0.110	0.000
TR-059	5.00	10.00	5.00	0.002	0.020	0.000
TR-059	10.00	15.00	5.00	0.000	0.000	0.000
TR-059	15.00	20.00	5.00	0.000	0.000	0.000
TR-059	20.00	25.00	5.00	0.000	0.000	0.000
TR-059	25.00	30.00	5.00	0.000	0.000	0.000
TR-059	30.00	35.00	5.00	0.012	0.050	0.000
TR-059	35.00	40.00	5.00	0.089	0.060	0.000
TR-059	40.00	45.00	5.00	0.047	0.150	0.000
TR-059	45.00	50.00	5.00	0.004	0.070	0.000
TR-059	50.00	55.00	5.00	0.001	0.110	0.000
TR-059	55.00	60.00	5.00	0.003	0.060	0.000
TR-059	60.00	65.00	5.00	0.015	0.160	0.000
TR-059	65.00	70.00	5.00	0.006	0.060	0.000
TR-059	70.00	75.00	5.00	0.008	0.030	0.000
TR-059	75.00	80.00	5.00	0.008	0.030	0.000
TR-059	80.00	85.00	5.00	0.009	0.170	0.000
TR-059	85.00	90.00	5.00	0.015	0.690	0.000
TR-059	90.00	95.00	5.00	0.023	0.860	0.000
TR-059	95.00	100.00	5.00	0.008	1.800	0.000
TR-059	100.00	105.00	5.00	0.009	0.970	0.000
TR-059	105.00	110.00	5.00	0.009	0.320	0.000
TR-059	110.00	115.00	5.00	0.003	0.200	0.000
TR-059	115.00	120.00	5.00	0.017	0.230	0.000
TR-059	120.00	125.00	5.00	0.013	0.590	0.000
TR-059	125.00	130.00	5.00	0.002	0.410	0.000
TR-059	130.00	135.00	5.00	0.000	0.050	0.000
TR-059	135.00	140.00	5.00	0.000	0.070	0.000
TR-059	140.00	145.00	5.00	0.003	0.350	0.000
TR-059	145.00	150.00	5.00	0.004	0.240	0.000
TR-059	150.00	155.00	5.00	0.000	0.060	0.000
TR-059	155.00	160.00	5.00	0.001	0.200	0.000
TR-059	160.00	165.00	5.00	0.022	0.400	0.000
TR-060	731550.0	255925.0	4636.0	310.000	-60.000	195.00
TR-060						
TR-060	0.00	5.00	5.00	0.001	0.100	0.000
TR-060	5.00	10.00	5.00	0.019	0.080	0.000
TR-060	10.00	15.00	5.00	0.006	0.090	0.000
TR-060	15.00	20.00	5.00	0.014	0.130	0.000
TR-060	20.00	25.00	5.00	0.003	0.110	0.000
TR-060	25.00	30.00	5.00	0.002	0.040	0.000
TR-060	30.00	35.00	5.00	0.003	0.100	0.000
TR-060	35.00	40.00	5.00	0.003	0.080	0.000
TR-060	40.00	45.00	5.00	0.003	0.160	0.000
TR-060	45.00	50.00	5.00	-1.000	-1.000	0.000
TR-060	50.00	55.00	5.00	0.000	0.020	0.000
TR-060	55.00	60.00	5.00	0.000	0.050	0.000
TR-060	60.00	65.00	5.00	0.000	0.050	0.000
TR-060	65.00	70.00	5.00	0.000	0.000	0.000
TR-060	70.00	75.00	5.00	0.000	0.000	0.000
TR-060	75.00	80.00	5.00	0.000	0.000	0.000

TR-059						
TR-059	0.00	5.00	5.00	0.000	0.110	0.000
TR-059	5.00	10.00	5.00	0.002	0.020	0.000
TR-059	10.00	15.00	5.00	0.000	0.000	0.000
TR-059	15.00	20.00	5.00	0.000	0.000	0.000
TR-059	20.00	25.00	5.00	0.000	0.000	0.000
TR-059	25.00	30.00	5.00	0.000	0.000	0.000
TR-059	30.00	35.00	5.00	0.012	0.050	0.000
TR-059	35.00	40.00	5.00	0.089	0.060	0.000
TR-059	40.00	45.00	5.00	0.047	0.150	0.000
TR-059	45.00	50.00	5.00	0.004	0.070	0.000
TR-059	50.00	55.00	5.00	0.001	0.110	0.000
TR-059	55.00	60.00	5.00	0.003	0.060	0.000
TR-059	60.00	65.00	5.00	0.015	0.160	0.000
TR-059	65.00	70.00	5.00	0.006	0.060	0.000
TR-059	70.00	75.00	5.00	0.008	0.030	0.000
TR-059	75.00	80.00	5.00	0.008	0.030	0.000
TR-059	80.00	85.00	5.00	0.009	0.170	0.000
TR-059	85.00	90.00	5.00	0.015	0.690	0.000
TR-059	90.00	95.00	5.00	0.023	0.860	0.000
TR-059	95.00	100.00	5.00	0.008	1.800	0.000
TR-059	100.00	105.00	5.00	0.009	0.970	0.000
TR-059	105.00	110.00	5.00	0.009	0.320	0.000
TR-059	110.00	115.00	5.00	0.003	0.200	0.000
TR-059	115.00	120.00	5.00	0.017	0.230	0.000
TR-059	120.00	125.00	5.00	0.013	0.590	0.000
TR-059	125.00	130.00	5.00	0.002	0.410	0.000
TR-059	130.00	135.00	5.00	0.000	0.050	0.000
TR-059	135.00	140.00	5.00	0.000	0.070	0.000
TR-059	140.00	145.00	5.00	0.003	0.350	0.000
TR-059	145.00	150.00	5.00	0.004	0.240	0.000
TR-059	150.00	155.00	5.00	0.000	0.060	0.000
TR-059	155.00	160.00	5.00	0.001	0.200	0.000
TR-059	160.00	165.00	5.00	0.022	0.400	0.000
TR-060	731550.0	255925.0	4636.0	310.000	-60.000	195.00
TR-060						
TR-060	0.00	5.00	5.00	0.001	0.100	0.000
TR-060	5.00	10.00	5.00	0.019	0.080	0.000
TR-060	10.00	15.00	5.00	0.006	0.090	0.000
TR-060	15.00	20.00	5.00	0.014	0.130	0.000
TR-060	20.00	25.00	5.00	0.003	0.110	0.000
TR-060	25.00	30.00	5.00	0.002	0.040	0.000
TR-060	30.00	35.00	5.00	0.003	0.100	0.000
TR-060	35.00	40.00	5.00	0.003	0.080	0.000
TR-060	40.00	45.00	5.00	0.003	0.160	0.000
TR-060	45.00	50.00	5.00	-1.000	-1.000	0.000
TR-060	50.00	55.00	5.00	0.000	0.020	0.000
TR-060	55.00	60.00	5.00	0.000	0.050	0.000
TR-060	60.00	65.00	5.00	0.000	0.050	0.000
TR-060	65.00	70.00	5.00	0.000	0.000	0.000
TR-060	70.00	75.00	5.00	0.000	0.000	0.000
TR-060	75.00	80.00	5.00	0.000	0.000	0.000

TR-059						
TR-059	0.00	5.00	5.00	0.000	0.110	0.000
TR-059	5.00	10.00	5.00	0.002	0.020	0.000
TR-059	10.00	15.00	5.00	0.000	0.000	0.000
TR-059	15.00	20.00	5.00	0.000	0.000	0.000
TR-059	20.00	25.00	5.00	0.000	0.000	0.000
TR-059	25.00	30.00	5.00	0.000	0.000	0.000
TR-059	30.00	35.00	5.00	0.012	0.050	0.000
TR-059	35.00	40.00	5.00	0.089	0.060	0.000
TR-059	40.00	45.00	5.00	0.047	0.150	0.000
TR-059	45.00	50.00	5.00	0.004	0.070	0.000
TR-059	50.00	55.00	5.00	0.001	0.110	0.000
TR-059	55.00	60.00	5.00	0.003	0.060	0.000
TR-059	60.00	65.00	5.00	0.015	0.160	0.000
TR-059	65.00	70.00	5.00	0.006	0.060	0.000
TR-059	70.00	75.00	5.00	0.008	0.030	0.000
TR-059	75.00	80.00	5.00	0.008	0.030	0.000
TR-059	80.00	85.00	5.00	0.009	0.170	0.000
TR-059	85.00	90.00	5.00	0.015	0.690	0.000
TR-059	90.00	95.00	5.00	0.023	0.860	0.000
TR-059	95.00	100.00	5.00	0.008	1.800	0.000
TR-059	100.00	105.00	5.00	0.009	0.970	0.000
TR-059	105.00	110.00	5.00	0.009	0.320	0.000
TR-059	110.00	115.00	5.00	0.003	0.200	0.000
TR-059	115.00	120.00	5.00	0.017	0.230	0.000
TR-059	120.00	125.00	5.00	0.013	0.590	0.000
TR-059	125.00	130.00	5.00	0.002	0.410	0.000
TR-059	130.00	135.00	5.00	0.000	0.050	0.000
TR-059	135.00	140.00	5.00	0.000	0.070	0.000
TR-059	140.00	145.00	5.00	0.003	0.350	0.000
TR-059	145.00	150.00	5.00	0.004	0.240	0.000
TR-059	150.00	155.00	5.00	0.000	0.060	0.000
TR-059	155.00	160.00	5.00	0.001	0.200	0.000
TR-059	160.00	165.00	5.00	0.022	0.400	0.000
TR-060	731550.0	255925.0	4636.0	310.000	-60.000	195.00
TR-060						
TR-060	0.00	5.00	5.00	0.001	0.100	0.000
TR-060	5.00	10.00	5.00	0.019	0.080	0.000
TR-060	10.00	15.00	5.00	0.006	0.090	0.000
TR-060	15.00	20.00	5.00	0.014	0.130	0.000
TR-060	20.00	25.00	5.00	0.003	0.110	0.000
TR-060	25.00	30.00	5.00	0.002	0.040	0.000
TR-060	30.00	35.00	5.00	0.003	0.100	0.000
TR-060	35.00	40.00	5.00	0.003	0.080	0.000
TR-060	40.00	45.00	5.00	0.003	0.160	0.000
TR-060	45.00	50.00	5.00	-1.000	-1.000	0.000
TR-060	50.00	55.00	5.00	0.000	0.020	0.000
TR-060	55.00	60.00	5.00	0.000	0.050	0.000
TR-060	60.00	65.00	5.00	0.000	0.050	0.000
TR-060	65.00	70.00	5.00	0.000	0.000	0.000
TR-060	70.00	75.00	5.00	0.000	0.000	0.000
TR-060	75.00	80.00	5.00	0.000	0.000	0.000

TR-060	80.00	85.00	5.00	0.001	0.040	0.000
TR-060	85.00	90.00	5.00	0.000	0.000	0.000
TR-060	90.00	95.00	5.00	0.000	0.000	0.000
TR-060	95.00	100.00	5.00	0.000	0.000	0.000
TR-060	100.00	105.00	5.00	0.000	0.040	0.000
TR-060	105.00	110.00	5.00	0.000	0.000	0.000
TR-060	110.00	115.00	5.00	0.001	0.080	0.000
TR-060	115.00	120.00	5.00	0.000	0.020	0.000
TR-060	120.00	125.00	5.00	0.000	0.040	0.000
TR-060	125.00	130.00	5.00	0.000	0.020	0.000
TR-060	130.00	135.00	5.00	0.001	0.060	0.000
TR-060	135.00	140.00	5.00	0.001	0.320	0.000
TR-060	140.00	145.00	5.00	0.002	0.330	0.000
TR-060	145.00	150.00	5.00	0.002	0.950	0.000
TR-060	150.00	155.00	5.00	0.007	0.830	0.000
TR-060	155.00	160.00	5.00	0.002	0.180	0.000
TR-060	160.00	165.00	5.00	0.002	0.120	0.000
TR-060	165.00	170.00	5.00	0.004	0.190	0.000
TR-060	170.00	175.00	5.00	0.000	0.040	0.000
TR-060	175.00	180.00	5.00	0.000	0.030	0.000
TR-060	180.00	185.00	5.00	0.000	0.000	0.000
TR-060	185.00	190.00	5.00	0.002	0.050	0.000
TR-060	190.00	195.00	5.00	0.000	0.030	0.000

TR-061	731170.0	255530.0	4640.0	330.000	-45.000	135.00

TR-061						
TR-061	0.00	5.00	5.00	0.007	0.690	0.000
TR-061	5.00	10.00	5.00	0.005	0.630	0.000
TR-061	10.00	15.00	5.00	0.001	0.280	0.000
TR-061	15.00	20.00	5.00	0.000	0.250	0.000
TR-061	20.00	25.00	5.00	0.000	0.130	0.000
TR-061	25.00	30.00	5.00	0.033	3.560	0.000
TR-061	30.00	35.00	5.00	0.002	0.130	0.000
TR-061	35.00	40.00	5.00	0.000	0.050	0.000
TR-061	40.00	45.00	5.00	0.000	0.050	0.000
TR-061	45.00	50.00	5.00	0.002	0.120	0.000
TR-061	50.00	55.00	5.00	0.001	0.060	0.000
TR-061	55.00	60.00	5.00	0.000	0.040	0.000
TR-061	60.00	65.00	5.00	0.004	0.320	0.000
TR-061	65.00	70.00	5.00	0.000	0.110	0.000
TR-061	70.00	75.00	5.00	0.000	0.150	0.000
TR-061	75.00	80.00	5.00	0.000	0.000	0.000
TR-061	80.00	85.00	5.00	0.000	0.000	0.000
TR-061	85.00	90.00	5.00	0.002	0.000	0.000
TR-061	90.00	95.00	5.00	0.000	0.000	0.000
TR-061	95.00	100.00	5.00	0.001	0.070	0.000
TR-061	100.00	105.00	5.00	0.001	0.080	0.000
TR-061	105.00	110.00	5.00	0.006	0.850	0.000
TR-061	110.00	115.00	5.00	0.071	6.300	0.000
TR-061	115.00	120.00	5.00	0.004	2.330	0.000
TR-061	120.00	125.00	5.00	0.000	0.170	0.000
TR-061	125.00	130.00	5.00	0.002	0.310	0.000
TR-061	130.00	135.00	5.00	0.000	0.000	0.000

TR-062	731260.0	256415.0	4567.0	278.000	-45.000	180.00

TR-062						
TR-062	0.00	5.00	5.00	-1.000	-1.000	0.000
TR-062	5.00	10.00	5.00	0.007	0.280	0.000
TR-062	10.00	15.00	5.00	0.000	0.050	0.000
TR-062	15.00	20.00	5.00	0.002	0.120	0.000
TR-062	20.00	25.00	5.00	0.002	0.250	0.000
TR-062	25.00	30.00	5.00	0.002	0.060	0.000
TR-062	30.00	35.00	5.00	0.000	0.060	0.000
TR-062	35.00	40.00	5.00	0.001	0.070	0.000
TR-062	40.00	45.00	5.00	0.000	0.110	0.000
TR-062	45.00	50.00	5.00	0.000	0.120	0.000
TR-062	50.00	55.00	5.00	0.001	0.210	0.000
TR-062	55.00	60.00	5.00	0.000	0.090	0.000
TR-062	60.00	65.00	5.00	0.000	0.050	0.000
TR-062	65.00	70.00	5.00	0.000	0.030	0.000
TR-062	70.00	75.00	5.00	0.000	0.030	0.000
TR-062	75.00	80.00	5.00	0.000	0.000	0.000
TR-062	80.00	85.00	5.00	0.000	0.030	0.000
TR-062	85.00	90.00	5.00	0.000	0.120	0.000
TR-062	90.00	95.00	5.00	0.000	0.040	0.000
TR-062	95.00	100.00	5.00	0.000	0.040	0.000
TR-062	100.00	105.00	5.00	0.000	0.060	0.000
TR-062	105.00	110.00	5.00	0.000	0.050	0.000
TR-062	110.00	115.00	5.00	0.000	0.060	0.000
TR-062	115.00	120.00	5.00	0.000	0.180	0.000
TR-062	120.00	125.00	5.00	0.003	0.340	0.000
TR-062	125.00	130.00	5.00	-1.000	-1.000	0.000
TR-062	130.00	135.00	5.00	-1.000	-1.000	0.000
TR-062	135.00	140.00	5.00	0.002	0.400	0.000
TR-062	140.00	145.00	5.00	0.002	0.230	0.000
TR-062	145.00	150.00	5.00	0.002	0.100	0.000
TR-062	150.00	155.00	5.00	0.000	0.030	0.000
TR-062	155.00	160.00	5.00	0.000	0.000	0.000
TR-062	160.00	165.00	5.00	0.002	0.000	0.000
TR-062	165.00	170.00	5.00	0.000	0.000	0.000
TR-062	170.00	175.00	5.00	0.000	0.000	0.000
TR-062	175.00	180.00	5.00	0.000	0.000	0.000

TR-063	731042.0	256720.0	4573.0	80.000	-60.000	285.00

TR-063						
TR-063	0.00	5.00	5.00	0.013	0.610	0.000
TR-063	5.00	10.00	5.00	0.010	0.100	0.000
TR-063	10.00	15.00	5.00	0.003	0.070	0.000
TR-063	15.00	20.00	5.00	0.004	0.060	0.000
TR-063	20.00	25.00	5.00	0.003	0.060	0.000
TR-063	25.00	30.00	5.00	0.000	0.050	0.000
TR-063	30.00	35.00	5.00	0.002	0.040	0.000
TR-063	35.00	40.00	5.00	0.000	0.000	0.000
TR-063	40.00	45.00	5.00	0.000	0.000	0.000
TR-063	45.00	50.00	5.00	0.000	0.040	0.000

TR-063	50.00	55.00	5.00	0.000	0.080	0.000
TR-063	55.00	60.00	5.00	0.000	0.060	0.000
TR-063	60.00	65.00	5.00	0.000	0.040	0.000
TR-063	65.00	70.00	5.00	0.000	0.020	0.000
TR-063	70.00	75.00	5.00	0.002	0.080	0.000
TR-063	75.00	80.00	5.00	0.000	0.070	0.000
TR-063	80.00	85.00	5.00	0.000	0.000	0.000
TR-063	85.00	90.00	5.00	0.000	0.050	0.000
TR-063	90.00	95.00	5.00	0.001	0.190	0.000
TR-063	95.00	100.00	5.00	0.004	0.290	0.000
TR-063	100.00	105.00	5.00	0.000	0.150	0.000
TR-063	105.00	110.00	5.00	0.002	0.270	0.000
TR-063	110.00	115.00	5.00	0.001	0.200	0.000
TR-063	115.00	120.00	5.00	0.011	0.150	0.000
TR-063	120.00	125.00	5.00	0.003	0.180	0.000
TR-063	125.00	130.00	5.00	0.000	0.210	0.000
TR-063	130.00	135.00	5.00	0.000	0.080	0.000
TR-063	135.00	140.00	5.00	0.003	0.260	0.000
TR-063	140.00	145.00	5.00	0.001	0.160	0.000
TR-063	145.00	150.00	5.00	0.003	0.130	0.000
TR-063	150.00	155.00	5.00	-1.000	-1.000	0.000
TR-063	155.00	160.00	5.00	-1.000	-1.000	0.000
TR-063	160.00	165.00	5.00	0.013	0.380	0.000
TR-063	165.00	170.00	5.00	0.006	0.170	0.000
TR-063	170.00	175.00	5.00	0.002	0.970	0.000
TR-063	175.00	180.00	5.00	0.002	0.990	0.000
TR-063	180.00	185.00	5.00	0.002	0.360	0.000
TR-063	185.00	190.00	5.00	0.002	0.380	0.000
TR-063	190.00	195.00	5.00	0.000	0.260	0.000
TR-063	195.00	200.00	5.00	0.001	0.440	0.000
TR-063	200.00	205.00	5.00	0.003	0.780	0.000
TR-063	205.00	210.00	5.00	0.066	4.670	0.000
TR-063	210.00	215.00	5.00	0.247	17.390	0.000
TR-063	215.00	220.00	5.00	0.060	1.550	0.000
TR-063	220.00	225.00	5.00	0.033	2.010	0.000
TR-063	225.00	230.00	5.00	0.006	0.500	0.000
TR-063	230.00	235.00	5.00	0.006	0.250	0.000
TR-063	235.00	240.00	5.00	0.019	1.530	0.000
TR-063	240.00	245.00	5.00	0.011	0.740	0.000
TR-063	245.00	250.00	5.00	0.006	0.460	0.000
TR-063	250.00	255.00	5.00	0.010	1.010	0.000
TR-063	255.00	260.00	5.00	0.010	1.010	0.000
TR-063	260.00	265.00	5.00	0.004	1.880	0.000
TR-063	265.00	270.00	5.00	-1.000	-1.000	0.000
TR-063	270.00	275.00	5.00	0.002	0.160	0.000
TR-063	275.00	280.00	5.00	0.000	0.250	0.000
TR-063	280.00	285.00	5.00	0.002	0.400	0.000

TR-064	732208.0	255405.0	4630.0	0.000	-90.000	290.00

TR-064						
TR-064	0.00	5.00	5.00	0.005	0.180	7.000
TR-064	5.00	10.00	5.00	0.028	0.220	7.000
TR-064	10.00	15.00	5.00	0.047	0.330	7.000

TR-064	15.00	20.00	5.00	0.022	0.250	7.000
TR-064	20.00	25.00	5.00	0.026	0.340	7.000
TR-064	25.00	30.00	5.00	0.035	0.370	7.000
TR-064	30.00	35.00	5.00	0.003	0.300	7.000
TR-064	35.00	40.00	5.00	0.005	0.240	7.000
TR-064	40.00	45.00	5.00	0.006	0.220	7.000
TR-064	45.00	50.00	5.00	0.010	0.310	7.000
TR-064	50.00	55.00	5.00	0.002	0.180	7.000
TR-064	55.00	60.00	5.00	0.002	0.650	7.000
TR-064	60.00	65.00	5.00	0.006	0.540	7.000
TR-064	65.00	70.00	5.00	0.028	0.690	7.000
TR-064	70.00	75.00	5.00	0.012	0.360	7.000
TR-064	75.00	80.00	5.00	0.012	0.280	7.000
TR-064	80.00	85.00	5.00	0.003	0.200	7.000
TR-064	85.00	90.00	5.00	0.010	0.340	7.000
TR-064	90.00	95.00	5.00	0.013	0.920	7.000
TR-064	95.00	100.00	5.00	0.007	0.370	7.000
TR-064	100.00	105.00	5.00	0.003	0.240	7.000
TR-064	105.00	110.00	5.00	0.007	0.370	7.000
TR-064	110.00	115.00	5.00	0.020	0.900	7.000
TR-064	115.00	120.00	5.00	0.038	1.570	7.000
TR-064	120.00	125.00	5.00	0.027	0.860	3.000
TR-064	125.00	130.00	5.00	0.015	1.310	3.000
TR-064	130.00	135.00	5.00	0.014	0.370	3.000
TR-064	135.00	140.00	5.00	0.022	0.380	3.000
TR-064	140.00	145.00	5.00	0.021	0.600	6.000
TR-064	145.00	150.00	5.00	0.011	0.400	6.000
TR-064	150.00	155.00	5.00	0.010	0.480	6.000
TR-064	155.00	160.00	5.00	0.011	0.330	6.000
TR-064	160.00	165.00	5.00	0.012	0.610	6.000
TR-064	165.00	170.00	5.00	0.007	0.360	6.000
TR-064	170.00	175.00	5.00	0.003	0.090	6.000
TR-064	175.00	180.00	5.00	0.012	0.530	6.000
TR-064	180.00	185.00	5.00	0.022	1.030	6.000
TR-064	185.00	190.00	5.00	0.011	1.130	6.000
TR-064	190.00	195.00	5.00	0.010	0.980	6.000
TR-064	195.00	200.00	5.00	0.012	0.970	6.000
TR-064	200.00	205.00	5.00	0.013	1.200	6.000
TR-064	205.00	210.00	5.00	0.081	2.350	6.000
TR-064	210.00	215.00	5.00	0.012	0.750	6.000
TR-064	215.00	220.00	5.00	0.037	0.750	6.000
TR-064	220.00	225.00	5.00	0.010	0.200	6.000
TR-064	225.00	230.00	5.00	-1.000	-1.000	0.000
TR-064	230.00	235.00	5.00	0.010	0.470	0.000
TR-064	235.00	240.00	5.00	0.042	2.800	2.000
TR-064	240.00	245.00	5.00	0.004	5.140	2.000
TR-064	245.00	250.00	5.00	0.003	2.540	2.000
TR-064	250.00	255.00	5.00	0.009	1.190	2.000
TR-064	255.00	260.00	5.00	0.002	2.580	11.000
TR-064	260.00	265.00	5.00	0.016	3.450	1.000
TR-064	265.00	270.00	5.00	0.000	0.580	2.000
TR-064	270.00	275.00	5.00	0.001	0.250	2.000
TR-064	275.00	280.00	5.00	0.001	0.030	2.000
TR-064	280.00	285.00	5.00	0.000	0.000	2.000

TR-064	285.00	290.00	5.00	0.000	0.000	2.000
TR-065	732282.0	255400.0	4625.0	0.000	-90.000	280.00
TR-065						
TR-065	0.00	5.00	5.00	0.002	0.260	7.000
TR-065	5.00	10.00	5.00	0.000	0.190	7.000
TR-065	10.00	15.00	5.00	0.000	0.150	7.000
TR-065	15.00	20.00	5.00	0.000	0.080	7.000
TR-065	20.00	25.00	5.00	0.000	0.060	7.000
TR-065	25.00	30.00	5.00	0.001	0.060	7.000
TR-065	30.00	35.00	5.00	0.000	0.020	7.000
TR-065	35.00	40.00	5.00	0.022	0.070	7.000
TR-065	40.00	45.00	5.00	0.008	0.060	7.000
TR-065	45.00	50.00	5.00	0.000	0.030	7.000
TR-065	50.00	55.00	5.00	0.013	0.290	7.000
TR-065	55.00	60.00	5.00	0.032	0.320	7.000
TR-065	60.00	65.00	5.00	0.019	0.250	7.000
TR-065	65.00	70.00	5.00	0.021	0.280	7.000
TR-065	70.00	75.00	5.00	0.021	0.250	7.000
TR-065	75.00	80.00	5.00	0.014	2.120	7.000
TR-065	80.00	85.00	5.00	0.029	0.450	7.000
TR-065	85.00	90.00	5.00	0.026	0.680	7.000
TR-065	90.00	95.00	5.00	0.208	8.750	7.000
TR-065	95.00	100.00	5.00	0.050	0.990	7.000
TR-065	100.00	105.00	5.00	0.034	1.330	6.000
TR-065	105.00	110.00	5.00	0.021	1.440	6.000
TR-065	110.00	115.00	5.00	0.020	1.530	6.000
TR-065	115.00	120.00	5.00	0.012	0.750	6.000
TR-065	120.00	125.00	5.00	0.010	0.530	6.000
TR-065	125.00	130.00	5.00	0.021	0.620	6.000
TR-065	130.00	135.00	5.00	0.015	0.800	6.000
TR-065	135.00	140.00	5.00	0.016	1.470	6.000
TR-065	140.00	145.00	5.00	0.043	2.500	3.000
TR-065	145.00	150.00	5.00	0.042	1.360	3.000
TR-065	150.00	155.00	5.00	0.010	1.040	3.000
TR-065	155.00	160.00	5.00	0.002	0.150	3.000
TR-065	160.00	165.00	5.00	0.008	0.710	2.000
TR-065	165.00	170.00	5.00	0.003	0.060	2.000
TR-065	170.00	175.00	5.00	0.004	0.270	2.000
TR-065	175.00	180.00	5.00	0.000	0.040	2.000
TR-065	180.00	185.00	5.00	0.000	0.040	2.000
TR-065	185.00	190.00	5.00	0.000	0.000	2.000
TR-065	190.00	195.00	5.00	0.000	0.030	2.000
TR-065	195.00	200.00	5.00	0.000	0.050	2.000
TR-065	200.00	205.00	5.00	0.001	0.070	2.000
TR-065	205.00	210.00	5.00	0.000	0.040	2.000
TR-065	210.00	215.00	5.00	0.002	0.040	2.000
TR-065	215.00	220.00	5.00	0.013	0.320	2.000
TR-065	220.00	225.00	5.00	0.029	2.280	2.000
TR-065	225.00	230.00	5.00	0.002	0.500	2.000
TR-065	230.00	235.00	5.00	0.002	0.310	2.000
TR-065	235.00	240.00	5.00	0.002	0.310	2.000
TR-065	240.00	245.00	5.00	0.004	0.590	2.000

TR-065	245.00	250.00	5.00	0.003	0.320	2.000
TR-065	250.00	255.00	5.00	0.001	0.140	2.000
TR-065	255.00	260.00	5.00	0.001	0.040	2.000
TR-065	260.00	265.00	5.00	0.005	0.150	2.000
TR-065	265.00	270.00	5.00	0.007	1.690	5.000
TR-065	270.00	275.00	5.00	0.001	0.180	5.000
TR-065	275.00	280.00	5.00	0.000	0.060	2.000

TR-066	732340.0	255408.0	4615.0	0.000	-90.000	290.00

TR-066						
TR-066	0.00	5.00	5.00	0.003	0.110	8.000
TR-066	5.00	10.00	5.00	0.008	0.190	8.000
TR-066	10.00	15.00	5.00	0.003	0.060	8.000
TR-066	15.00	20.00	5.00	0.006	0.090	8.000
TR-066	20.00	25.00	5.00	0.015	0.120	8.000
TR-066	25.00	30.00	5.00	0.003	0.030	8.000
TR-066	30.00	35.00	5.00	0.002	0.040	8.000
TR-066	35.00	40.00	5.00	0.002	0.080	8.000
TR-066	40.00	45.00	5.00	0.003	0.120	8.000
TR-066	45.00	50.00	5.00	0.009	0.160	8.000
TR-066	50.00	55.00	5.00	0.007	0.130	8.000
TR-066	55.00	60.00	5.00	0.010	0.160	8.000
TR-066	60.00	65.00	5.00	0.012	0.090	8.000
TR-066	65.00	70.00	5.00	0.003	0.180	8.000
TR-066	70.00	75.00	5.00	0.021	0.250	8.000
TR-066	75.00	80.00	5.00	0.013	0.260	8.000
TR-066	80.00	85.00	5.00	0.001	0.120	8.000
TR-066	85.00	90.00	5.00	0.000	0.130	8.000
TR-066	90.00	95.00	5.00	0.000	0.150	8.000
TR-066	95.00	100.00	5.00	0.010	0.390	8.000
TR-066	100.00	105.00	5.00	0.014	0.290	8.000
TR-066	105.00	110.00	5.00	0.019	0.600	8.000
TR-066	110.00	115.00	5.00	0.016	0.630	4.000
TR-066	115.00	120.00	5.00	0.019	0.800	4.000
TR-066	120.00	125.00	5.00	0.017	2.280	4.000
TR-066	125.00	130.00	5.00	0.113	3.670	4.000
TR-066	130.00	135.00	5.00	0.010	0.800	3.000
TR-066	135.00	140.00	5.00	0.031	1.490	3.000
TR-066	140.00	145.00	5.00	0.035	1.200	3.000
TR-066	145.00	150.00	5.00	0.030	2.680	3.000
TR-066	150.00	155.00	5.00	0.023	6.130	3.000
TR-066	155.00	160.00	5.00	0.017	0.930	3.000
TR-066	160.00	165.00	5.00	0.018	1.160	3.000
TR-066	165.00	170.00	5.00	0.034	0.520	3.000
TR-066	170.00	175.00	5.00	0.046	1.080	2.000
TR-066	175.00	180.00	5.00	0.009	0.960	2.000
TR-066	180.00	185.00	5.00	0.009	0.200	2.000
TR-066	185.00	190.00	5.00	0.001	0.180	2.000
TR-066	190.00	195.00	5.00	0.000	0.200	2.000
TR-066	195.00	200.00	5.00	0.000	0.060	2.000
TR-066	200.00	205.00	5.00	0.000	0.060	2.000
TR-066	205.00	210.00	5.00	0.002	0.060	2.000
TR-066	210.00	215.00	5.00	0.000	0.100	2.000

TR-066	215.00	220.00	5.00	0.000	0.070	2.000
TR-066	220.00	225.00	5.00	0.000	0.100	2.000
TR-066	225.00	230.00	5.00	0.000	0.460	2.000
TR-066	230.00	235.00	5.00	0.000	0.140	2.000
TR-066	235.00	240.00	5.00	0.000	0.090	2.000
TR-066	240.00	245.00	5.00	0.055	0.970	2.000
TR-066	245.00	250.00	5.00	0.004	0.430	2.000
TR-066	250.00	255.00	5.00	0.002	0.440	5.000
TR-066	255.00	260.00	5.00	0.002	0.640	2.000
TR-066	260.00	265.00	5.00	0.002	0.060	2.000
TR-066	265.00	270.00	5.00	0.001	0.120	2.000
TR-066	270.00	275.00	5.00	0.002	0.170	2.000
TR-066	275.00	280.00	5.00	0.008	0.400	2.000
TR-066	280.00	285.00	5.00	0.002	0.410	2.000
TR-066	285.00	290.00	5.00	0.003	0.260	2.000

TR-067	732345.0	255405.0	4615.0	90.000	-60.000	285.00

TR-067						
TR-067	0.00	5.00	5.00	0.005	0.450	7.000
TR-067	5.00	10.00	5.00	0.002	0.270	7.000
TR-067	10.00	15.00	5.00	0.007	0.250	7.000
TR-067	15.00	20.00	5.00	0.006	0.170	7.000
TR-067	20.00	25.00	5.00	0.007	0.150	7.000
TR-067	25.00	30.00	5.00	0.014	0.060	7.000
TR-067	30.00	35.00	5.00	0.009	0.110	7.000
TR-067	35.00	40.00	5.00	0.004	0.070	7.000
TR-067	40.00	45.00	5.00	0.007	0.070	7.000
TR-067	45.00	50.00	5.00	0.010	0.190	7.000
TR-067	50.00	55.00	5.00	0.002	0.090	7.000
TR-067	55.00	60.00	5.00	0.001	0.050	7.000
TR-067	60.00	65.00	5.00	0.005	0.100	7.000
TR-067	65.00	70.00	5.00	0.001	0.080	7.000
TR-067	70.00	75.00	5.00	0.001	0.080	7.000
TR-067	75.00	80.00	5.00	0.016	0.080	7.000
TR-067	80.00	85.00	5.00	0.005	0.230	7.000
TR-067	85.00	90.00	5.00	0.006	0.250	7.000
TR-067	90.00	95.00	5.00	0.005	0.280	7.000
TR-067	95.00	100.00	5.00	0.002	0.290	7.000
TR-067	100.00	105.00	5.00	0.001	0.290	7.000
TR-067	105.00	110.00	5.00	0.002	0.340	7.000
TR-067	110.00	115.00	5.00	0.013	0.190	8.000
TR-067	115.00	120.00	5.00	0.003	0.110	8.000
TR-067	120.00	125.00	5.00	0.015	0.680	8.000
TR-067	125.00	130.00	5.00	0.006	0.700	8.000
TR-067	130.00	135.00	5.00	0.008	0.580	8.000
TR-067	135.00	140.00	5.00	0.006	0.440	8.000
TR-067	140.00	145.00	5.00	0.002	0.230	8.000
TR-067	145.00	150.00	5.00	0.003	0.230	8.000
TR-067	150.00	155.00	5.00	0.002	0.390	8.000
TR-067	155.00	160.00	5.00	0.009	0.860	3.000
TR-067	160.00	165.00	5.00	0.010	0.550	3.000
TR-067	165.00	170.00	5.00	0.013	0.530	3.000
TR-067	170.00	175.00	5.00	0.011	0.460	3.000

TR-067	175.00	180.00	5.00	0.014	0.390	3.000
TR-067	180.00	185.00	5.00	0.008	0.430	3.000
TR-067	185.00	190.00	5.00	0.012	0.740	3.000
TR-067	190.00	195.00	5.00	0.005	3.210	3.000
TR-067	195.00	200.00	5.00	0.012	0.860	10.000
TR-067	200.00	205.00	5.00	-1.000	-1.000	10.000
TR-067	205.00	210.00	5.00	0.004	0.800	3.000
TR-067	210.00	215.00	5.00	-1.000	-1.000	3.000
TR-067	215.00	220.00	5.00	0.024	1.540	3.000
TR-067	220.00	225.00	5.00	0.061	2.650	3.000
TR-067	225.00	230.00	5.00	0.072	3.450	3.000
TR-067	230.00	235.00	5.00	0.028	1.840	3.000
TR-067	235.00	240.00	5.00	0.036	2.320	3.000
TR-067	240.00	245.00	5.00	0.048	3.350	3.000
TR-067	245.00	250.00	5.00	0.058	1.760	3.000
TR-067	250.00	255.00	5.00	0.025	2.710	3.000
TR-067	255.00	260.00	5.00	0.024	1.950	3.000
TR-067	260.00	265.00	5.00	0.045	3.280	6.000
TR-067	265.00	270.00	5.00	0.031	1.090	6.000
TR-067	270.00	275.00	5.00	0.029	1.080	2.000
TR-067	275.00	280.00	5.00	0.065	1.330	2.000
TR-067	280.00	285.00	5.00	0.033	1.500	2.000

TR-068	732280.0	255542.0	4625.0	90.000	-50.000	265.00

TR-068						
TR-068	0.00	5.00	5.00	0.000	0.040	12.000
TR-068	5.00	10.00	5.00	0.000	0.000	5.000
TR-068	10.00	15.00	5.00	0.000	0.000	5.000
TR-068	15.00	20.00	5.00	0.000	0.050	5.000
TR-068	20.00	25.00	5.00	0.000	0.030	5.000
TR-068	25.00	30.00	5.00	0.000	0.000	5.000
TR-068	30.00	35.00	5.00	0.000	0.020	5.000
TR-068	35.00	40.00	5.00	0.002	0.000	5.000
TR-068	40.00	45.00	5.00	0.000	0.000	5.000
TR-068	45.00	50.00	5.00	0.000	0.000	5.000
TR-068	50.00	55.00	5.00	0.000	0.030	5.000
TR-068	55.00	60.00	5.00	0.000	0.000	5.000
TR-068	60.00	65.00	5.00	0.000	0.020	5.000
TR-068	65.00	70.00	5.00	0.000	0.000	5.000
TR-068	70.00	75.00	5.00	0.000	0.000	2.000
TR-068	75.00	80.00	5.00	-1.000	-1.000	2.000
TR-068	80.00	85.00	5.00	0.000	0.000	2.000
TR-068	85.00	90.00	5.00	0.000	0.000	2.000
TR-068	90.00	95.00	5.00	0.000	0.000	2.000
TR-068	95.00	100.00	5.00	0.000	0.000	2.000
TR-068	100.00	105.00	5.00	0.001	0.000	2.000
TR-068	105.00	110.00	5.00	0.000	0.000	2.000
TR-068	110.00	115.00	5.00	0.000	0.000	2.000
TR-068	115.00	120.00	5.00	0.000	0.000	2.000
TR-068	120.00	125.00	5.00	0.000	0.000	2.000
TR-068	125.00	130.00	5.00	0.002	0.000	2.000
TR-068	130.00	135.00	5.00	0.002	0.000	2.000
TR-068	135.00	140.00	5.00	0.001	0.000	2.000

TR-068	140.00	145.00	5.00	0.009	0.000	2.000
TR-068	145.00	150.00	5.00	0.012	0.030	5.000
TR-068	150.00	155.00	5.00	0.079	0.270	5.000
TR-068	155.00	160.00	5.00	0.086	0.670	6.000
TR-068	160.00	165.00	5.00	0.105	1.500	6.000
TR-068	165.00	170.00	5.00	0.025	2.160	3.000
TR-068	170.00	175.00	5.00	0.002	0.400	3.000
TR-068	175.00	180.00	5.00	0.002	0.220	3.000
TR-068	180.00	185.00	5.00	0.000	0.180	3.000
TR-068	185.00	190.00	5.00	0.005	0.330	3.000
TR-068	190.00	195.00	5.00	0.001	0.060	2.000
TR-068	195.00	200.00	5.00	0.003	0.040	2.000
TR-068	200.00	205.00	5.00	0.000	0.000	2.000
TR-068	205.00	210.00	5.00	0.000	0.000	2.000
TR-068	210.00	215.00	5.00	0.000	0.000	2.000
TR-068	215.00	220.00	5.00	0.008	0.000	2.000
TR-068	220.00	225.00	5.00	0.000	0.000	2.000
TR-068	225.00	230.00	5.00	0.000	0.000	2.000
TR-068	230.00	235.00	5.00	0.000	0.000	2.000
TR-068	235.00	240.00	5.00	0.001	0.000	2.000
TR-068	240.00	245.00	5.00	0.001	0.000	2.000
TR-068	245.00	250.00	5.00	0.001	0.000	2.000
TR-068	250.00	255.00	5.00	0.000	0.000	2.000
TR-068	255.00	260.00	5.00	0.000	0.000	2.000
TR-068	260.00	265.00	5.00	0.000	0.030	2.000

TR-069	732380.0	255545.0	4605.0	90.000	-55.000	235.00

TR-069						
TR-069	0.00	5.00	5.00	0.004	0.310	8.000
TR-069	5.00	10.00	5.00	0.000	0.000	8.000
TR-069	10.00	15.00	5.00	0.000	0.020	8.000
TR-069	15.00	20.00	5.00	0.002	0.000	8.000
TR-069	20.00	25.00	5.00	0.001	0.000	8.000
TR-069	25.00	30.00	5.00	0.000	0.000	8.000
TR-069	30.00	35.00	5.00	0.000	0.000	8.000
TR-069	35.00	40.00	5.00	0.000	0.000	8.000
TR-069	40.00	45.00	5.00	0.000	0.000	8.000
TR-069	45.00	50.00	5.00	0.000	0.000	8.000
TR-069	50.00	55.00	5.00	0.000	0.000	8.000
TR-069	55.00	60.00	5.00	0.000	0.000	8.000
TR-069	60.00	65.00	5.00	0.000	0.000	8.000
TR-069	65.00	70.00	5.00	0.001	0.000	8.000
TR-069	70.00	75.00	5.00	0.000	0.000	8.000
TR-069	75.00	80.00	5.00	0.001	0.000	8.000
TR-069	80.00	85.00	5.00	0.001	0.000	8.000
TR-069	85.00	90.00	5.00	0.003	0.000	8.000
TR-069	90.00	95.00	5.00	0.000	0.000	8.000
TR-069	95.00	100.00	5.00	0.002	0.000	8.000
TR-069	100.00	105.00	5.00	0.002	0.000	8.000
TR-069	105.00	110.00	5.00	0.001	0.000	8.000
TR-069	110.00	115.00	5.00	0.001	0.000	8.000
TR-069	115.00	120.00	5.00	0.001	0.020	8.000
TR-069	120.00	125.00	5.00	0.002	0.050	8.000

TR-069	125.00	130.00	5.00	0.002	0.020	8.000
TR-069	130.00	135.00	5.00	0.000	0.000	8.000
TR-069	135.00	140.00	5.00	0.000	0.000	8.000
TR-069	140.00	145.00	5.00	0.000	0.000	8.000
TR-069	145.00	150.00	5.00	0.030	0.560	8.000
TR-069	150.00	155.00	5.00	0.001	0.000	8.000
TR-069	155.00	160.00	5.00	0.001	0.030	8.000
TR-069	160.00	165.00	5.00	0.001	0.030	7.000
TR-069	165.00	170.00	5.00	0.000	0.000	7.000
TR-069	170.00	175.00	5.00	0.002	0.080	7.000
TR-069	175.00	180.00	5.00	0.000	0.080	4.000
TR-069	180.00	185.00	5.00	0.000	0.020	4.000
TR-069	185.00	190.00	5.00	0.005	0.040	3.000
TR-069	190.00	195.00	5.00	0.007	0.070	3.000
TR-069	195.00	200.00	5.00	0.003	0.070	3.000
TR-069	200.00	205.00	5.00	0.002	0.090	3.000
TR-069	205.00	210.00	5.00	0.001	0.080	8.000
TR-069	210.00	215.00	5.00	0.001	0.080	8.000
TR-069	215.00	220.00	5.00	0.001	0.110	8.000
TR-069	220.00	225.00	5.00	0.002	0.110	8.000
TR-069	225.00	230.00	5.00	0.004	0.110	8.000
TR-069	230.00	235.00	5.00	0.021	0.520	8.000

TR-070	732285.0	255280.0	4615.0	80.000	-60.000	225.00

TR-070						
TR-070	0.00	5.00	5.00	0.016	0.740	8.000
TR-070	5.00	10.00	5.00	0.000	0.030	8.000
TR-070	10.00	15.00	5.00	0.002	0.080	8.000
TR-070	15.00	20.00	5.00	0.003	0.060	8.000
TR-070	20.00	25.00	5.00	0.001	0.080	8.000
TR-070	25.00	30.00	5.00	0.010	0.050	8.000
TR-070	30.00	35.00	5.00	0.004	0.060	8.000
TR-070	35.00	40.00	5.00	0.002	0.020	8.000
TR-070	40.00	45.00	5.00	0.002	0.040	8.000
TR-070	45.00	50.00	5.00	0.005	0.070	8.000
TR-070	50.00	55.00	5.00	0.006	0.060	8.000
TR-070	55.00	60.00	5.00	0.004	0.040	8.000
TR-070	60.00	65.00	5.00	0.001	0.060	4.000
TR-070	65.00	70.00	5.00	0.002	0.130	4.000
TR-070	70.00	75.00	5.00	0.000	0.120	7.000
TR-070	75.00	80.00	5.00	0.003	0.110	7.000
TR-070	80.00	85.00	5.00	0.000	0.100	7.000
TR-070	85.00	90.00	5.00	0.005	0.560	3.000
TR-070	90.00	95.00	5.00	0.008	0.290	3.000
TR-070	95.00	100.00	5.00	0.003	0.330	3.000
TR-070	100.00	105.00	5.00	0.007	0.570	3.000
TR-070	105.00	110.00	5.00	0.024	0.270	3.000
TR-070	110.00	115.00	5.00	0.014	0.880	3.000
TR-070	115.00	120.00	5.00	0.253	10.560	3.000
TR-070	120.00	125.00	5.00	0.168	6.000	1.000
TR-070	125.00	130.00	5.00	0.013	0.560	1.000
TR-070	130.00	135.00	5.00	0.086	1.200	1.000
TR-070	135.00	140.00	5.00	0.085	1.090	1.000

TR-070	140.00	145.00	5.00	0.034	0.880	1.000
TR-070	145.00	150.00	5.00	0.006	0.420	1.000
TR-070	150.00	155.00	5.00	0.002	0.340	1.000
TR-070	155.00	160.00	5.00	0.004	0.180	1.000
TR-070	160.00	165.00	5.00	0.001	0.110	1.000
TR-070	165.00	170.00	5.00	0.065	1.300	1.000
TR-070	170.00	175.00	5.00	0.005	0.320	1.000
TR-070	175.00	180.00	5.00	0.008	0.220	1.000
TR-070	180.00	185.00	5.00	0.006	0.200	1.000
TR-070	185.00	190.00	5.00	0.002	0.190	1.000
TR-070	190.00	195.00	5.00	0.000	0.080	1.000
TR-070	195.00	200.00	5.00	0.037	0.080	1.000
TR-070	200.00	205.00	5.00	0.073	3.530	3.000
TR-070	205.00	210.00	5.00	0.036	2.250	3.000
TR-070	210.00	215.00	5.00	0.041	0.770	3.000
TR-070	215.00	220.00	5.00	0.032	0.850	3.000
TR-070	220.00	225.00	5.00	0.127	13.970	3.000

TR-071 732215.0 255285.0 4630.0 0.000 -90.000 235.00

TR-071						
TR-071	0.00	5.00	5.00	0.002	0.200	7.000
TR-071	5.00	10.00	5.00	0.004	0.140	7.000
TR-071	10.00	15.00	5.00	0.000	0.060	7.000
TR-071	15.00	20.00	5.00	0.001	0.040	7.000
TR-071	20.00	25.00	5.00	0.000	0.040	7.000
TR-071	25.00	30.00	5.00	0.000	0.000	7.000
TR-071	30.00	35.00	5.00	0.000	0.050	7.000
TR-071	35.00	40.00	5.00	0.000	0.090	7.000
TR-071	40.00	45.00	5.00	0.000	0.110	7.000
TR-071	45.00	50.00	5.00	0.004	0.100	7.000
TR-071	50.00	55.00	5.00	0.003	0.080	7.000
TR-071	55.00	60.00	5.00	0.003	0.080	7.000
TR-071	60.00	65.00	5.00	0.005	0.130	7.000
TR-071	65.00	70.00	5.00	0.002	0.050	7.000
TR-071	70.00	75.00	5.00	0.002	0.110	5.000
TR-071	75.00	80.00	5.00	0.002	0.110	5.000
TR-071	80.00	85.00	5.00	0.001	0.080	6.000
TR-071	85.00	90.00	5.00	0.003	0.250	6.000
TR-071	90.00	95.00	5.00	0.021	0.440	6.000
TR-071	95.00	100.00	5.00	0.005	0.260	6.000
TR-071	100.00	105.00	5.00	0.002	0.390	4.000
TR-071	105.00	110.00	5.00	0.002	0.260	4.000
TR-071	110.00	115.00	5.00	0.003	0.280	4.000
TR-071	115.00	120.00	5.00	0.002	0.150	4.000
TR-071	120.00	125.00	5.00	0.000	0.210	4.000
TR-071	125.00	130.00	5.00	0.000	0.150	4.000
TR-071	130.00	135.00	5.00	0.000	0.110	4.000
TR-071	135.00	140.00	5.00	0.000	0.100	4.000
TR-071	140.00	145.00	5.00	0.003	0.100	4.000
TR-071	145.00	150.00	5.00	0.002	0.140	4.000
TR-071	150.00	155.00	5.00	0.005	0.150	4.000
TR-071	155.00	160.00	5.00	0.003	0.230	4.000
TR-071	160.00	165.00	5.00	0.004	0.190	4.000

TR-071	165.00	170.00	5.00	0.007	0.320	4.000
TR-071	170.00	175.00	5.00	0.018	0.550	4.000
TR-071	175.00	180.00	5.00	0.029	1.030	3.000
TR-071	180.00	185.00	5.00	0.008	0.540	3.000
TR-071	185.00	190.00	5.00	0.011	0.950	3.000
TR-071	190.00	195.00	5.00	0.017	0.780	3.000
TR-071	195.00	200.00	5.00	0.052	0.850	3.000
TR-071	200.00	205.00	5.00	0.004	0.390	4.000
TR-071	205.00	210.00	5.00	0.004	0.340	4.000
TR-071	210.00	215.00	5.00	0.009	0.740	4.000
TR-071	215.00	220.00	5.00	0.020	0.910	3.000
TR-071	220.00	225.00	5.00	-1.000	-1.000	3.000
TR-071	225.00	230.00	5.00	0.027	2.070	3.000
TR-071	230.00	235.00	5.00	0.032	3.680	3.000

TR-072	732180.0	255305.0	4640.0	0.000	-90.000	235.00

TR-072						
TR-072	0.00	5.00	5.00	0.002	0.050	12.000
TR-072	5.00	10.00	5.00	0.003	0.100	12.000
TR-072	10.00	15.00	5.00	0.002	0.070	7.000
TR-072	15.00	20.00	5.00	0.002	0.070	7.000
TR-072	20.00	25.00	5.00	0.001	0.030	7.000
TR-072	25.00	30.00	5.00	0.001	0.040	7.000
TR-072	30.00	35.00	5.00	0.000	0.040	7.000
TR-072	35.00	40.00	5.00	0.000	0.040	7.000
TR-072	40.00	45.00	5.00	0.000	0.030	7.000
TR-072	45.00	50.00	5.00	0.000	0.040	7.000
TR-072	50.00	55.00	5.00	0.003	0.030	7.000
TR-072	55.00	60.00	5.00	0.004	0.040	7.000
TR-072	60.00	65.00	5.00	0.000	0.040	7.000
TR-072	65.00	70.00	5.00	0.002	0.040	7.000
TR-072	70.00	75.00	5.00	0.007	0.040	7.000
TR-072	75.00	80.00	5.00	0.004	0.040	7.000
TR-072	80.00	85.00	5.00	0.003	0.030	7.000
TR-072	85.00	90.00	5.00	0.000	0.130	7.000
TR-072	90.00	95.00	5.00	0.001	0.050	7.000
TR-072	95.00	100.00	5.00	0.005	0.140	6.000
TR-072	100.00	105.00	5.00	0.004	0.130	6.000
TR-072	105.00	110.00	5.00	0.004	0.080	6.000
TR-072	110.00	115.00	5.00	0.003	0.080	6.000
TR-072	115.00	120.00	5.00	0.008	0.090	6.000
TR-072	120.00	125.00	5.00	0.002	0.350	6.000
TR-072	125.00	130.00	5.00	0.003	0.260	6.000
TR-072	130.00	135.00	5.00	0.012	1.070	6.000
TR-072	135.00	140.00	5.00	0.003	0.650	6.000
TR-072	140.00	145.00	5.00	0.001	0.470	2.000
TR-072	145.00	150.00	5.00	0.003	0.200	1.000
TR-072	150.00	155.00	5.00	0.002	0.180	1.000
TR-072	155.00	160.00	5.00	0.002	0.150	1.000
TR-072	160.00	165.00	5.00	0.002	0.130	1.000
TR-072	165.00	170.00	5.00	0.002	0.120	1.000
TR-072	170.00	175.00	5.00	0.002	0.130	1.000
TR-072	175.00	180.00	5.00	0.000	0.180	1.000

TR-072	180.00	185.00	5.00	0.000	0.220	1.000
TR-072	185.00	190.00	5.00	0.001	0.310	1.000
TR-072	190.00	195.00	5.00	0.004	0.360	4.000
TR-072	195.00	200.00	5.00	0.005	0.330	4.000
TR-072	200.00	205.00	5.00	0.007	0.540	4.000
TR-072	205.00	210.00	5.00	0.003	0.280	4.000
TR-072	210.00	215.00	5.00	0.002	0.320	4.000
TR-072	215.00	220.00	5.00	0.004	0.340	4.000
TR-072	220.00	225.00	5.00	0.018	1.260	4.000
TR-072	225.00	230.00	5.00	0.027	1.630	3.000
TR-072	230.00	235.00	5.00	0.024	0.860	3.000
TR-073	732140.0	255170.0	4685.0	90.000	-50.000	210.00
TR-073						
TR-073	0.00	5.00	5.00	0.005	0.490	8.000
TR-073	5.00	10.00	5.00	0.002	0.090	8.000
TR-073	10.00	15.00	5.00	0.002	0.080	8.000
TR-073	15.00	20.00	5.00	0.002	0.080	8.000
TR-073	20.00	25.00	5.00	0.002	0.110	8.000
TR-073	25.00	30.00	5.00	0.003	0.150	8.000
TR-073	30.00	35.00	5.00	0.001	0.070	8.000
TR-073	35.00	40.00	5.00	0.004	0.110	8.000
TR-073	40.00	45.00	5.00	0.002	0.130	8.000
TR-073	45.00	50.00	5.00	0.001	0.120	8.000
TR-073	50.00	55.00	5.00	0.002	0.180	8.000
TR-073	55.00	60.00	5.00	0.001	0.220	8.000
TR-073	60.00	65.00	5.00	0.001	0.150	8.000
TR-073	65.00	70.00	5.00	0.001	0.100	8.000
TR-073	70.00	75.00	5.00	0.002	0.180	8.000
TR-073	75.00	80.00	5.00	0.001	0.190	8.000
TR-073	80.00	85.00	5.00	0.001	0.250	8.000
TR-073	85.00	90.00	5.00	0.001	0.230	8.000
TR-073	90.00	95.00	5.00	0.000	0.250	8.000
TR-073	95.00	100.00	5.00	0.000	0.280	8.000
TR-073	100.00	105.00	5.00	0.000	0.220	8.000
TR-073	105.00	110.00	5.00	0.000	0.160	8.000
TR-073	110.00	115.00	5.00	0.000	0.150	8.000
TR-073	115.00	120.00	5.00	0.000	0.140	8.000
TR-073	120.00	125.00	5.00	0.002	0.210	8.000
TR-073	125.00	130.00	5.00	0.001	0.210	8.000
TR-073	130.00	135.00	5.00	0.000	0.210	8.000
TR-073	135.00	140.00	5.00	0.000	0.280	8.000
TR-073	140.00	145.00	5.00	0.001	0.270	8.000
TR-073	145.00	150.00	5.00	0.003	0.290	8.000
TR-073	150.00	155.00	5.00	0.002	0.220	8.000
TR-073	155.00	160.00	5.00	0.003	0.630	8.000
TR-073	160.00	165.00	5.00	0.004	1.060	8.000
TR-073	165.00	170.00	5.00	0.003	1.120	4.000
TR-073	170.00	175.00	5.00	0.039	1.600	4.000
TR-073	175.00	180.00	5.00	0.003	0.570	4.000
TR-073	180.00	185.00	5.00	0.002	0.220	4.000
TR-073	185.00	190.00	5.00	0.002	0.220	4.000
TR-073	190.00	195.00	5.00	0.001	0.070	4.000

TR-073	195.00	200.00	5.00	0.002	0.270	4.000
TR-073	200.00	205.00	5.00	-1.000	-1.000	0.000
TR-073	205.00	210.00	5.00	-1.000	-1.000	0.000

TR-074	732272.0	255185.0	4620.0	90.000	-55.000	235.00

TR-074						
TR-074	0.00	5.00	5.00	0.008	0.170	8.000
TR-074	5.00	10.00	5.00	0.004	0.090	8.000
TR-074	10.00	15.00	5.00	0.000	0.040	8.000
TR-074	15.00	20.00	5.00	0.001	0.080	8.000
TR-074	20.00	25.00	5.00	0.000	0.040	8.000
TR-074	25.00	30.00	5.00	0.000	0.040	8.000
TR-074	30.00	35.00	5.00	0.000	0.030	8.000
TR-074	35.00	40.00	5.00	0.007	0.080	8.000
TR-074	40.00	45.00	5.00	0.010	0.360	3.000
TR-074	45.00	50.00	5.00	0.020	2.840	3.000
TR-074	50.00	55.00	5.00	0.003	1.040	3.000
TR-074	55.00	60.00	5.00	0.003	0.500	3.000
TR-074	60.00	65.00	5.00	0.004	0.590	3.000
TR-074	65.00	70.00	5.00	0.005	0.460	3.000
TR-074	70.00	75.00	5.00	0.002	0.320	3.000
TR-074	75.00	80.00	5.00	0.009	0.480	3.000
TR-074	80.00	85.00	5.00	0.011	0.800	3.000
TR-074	85.00	90.00	5.00	0.013	1.180	3.000
TR-074	90.00	95.00	5.00	0.002	0.300	3.000
TR-074	95.00	100.00	5.00	0.001	0.180	3.000
TR-074	100.00	105.00	5.00	0.006	0.370	7.000
TR-074	105.00	110.00	5.00	0.006	0.220	7.000
TR-074	110.00	115.00	5.00	0.002	0.070	7.000
TR-074	115.00	120.00	5.00	0.001	0.150	7.000
TR-074	120.00	125.00	5.00	0.000	0.110	7.000
TR-074	125.00	130.00	5.00	0.000	0.080	7.000
TR-074	130.00	135.00	5.00	0.000	0.080	7.000
TR-074	135.00	140.00	5.00	0.002	0.080	7.000
TR-074	140.00	145.00	5.00	0.008	0.140	7.000
TR-074	145.00	150.00	5.00	0.006	0.350	7.000
TR-074	150.00	155.00	5.00	0.002	0.260	3.000
TR-074	155.00	160.00	5.00	0.002	0.120	3.000
TR-074	160.00	165.00	5.00	0.018	0.350	3.000
TR-074	165.00	170.00	5.00	0.009	0.540	3.000
TR-074	170.00	175.00	5.00	0.031	6.480	3.000
TR-074	175.00	180.00	5.00	0.006	1.980	3.000
TR-074	180.00	185.00	5.00	0.005	0.410	3.000
TR-074	185.00	190.00	5.00	0.020	2.120	3.000
TR-074	190.00	195.00	5.00	0.015	1.440	3.000
TR-074	195.00	200.00	5.00	0.011	1.020	7.000
TR-074	200.00	205.00	5.00	0.006	0.750	4.000
TR-074	205.00	210.00	5.00	0.013	1.920	4.000
TR-074	210.00	215.00	5.00	0.015	1.830	3.000
TR-074	215.00	220.00	5.00	0.008	0.880	3.000
TR-074	220.00	225.00	5.00	0.005	0.540	3.000
TR-074	225.00	230.00	5.00	0.005	0.390	3.000
TR-074	230.00	235.00	5.00	0.020	0.750	3.000

TR-075	732135.0	255170.0	4685.0	90.000	-55.000	165.00
TR-075						
TR-075	0.00	5.00	5.00	0.006	0.280	8.000
TR-075	5.00	10.00	5.00	0.013	0.100	8.000
TR-075	10.00	15.00	5.00	0.021	0.310	8.000
TR-075	15.00	20.00	5.00	0.015	0.310	8.000
TR-075	20.00	25.00	5.00	0.006	0.200	8.000
TR-075	25.00	30.00	5.00	0.004	0.150	8.000
TR-075	30.00	35.00	5.00	0.004	0.120	8.000
TR-075	35.00	40.00	5.00	0.000	0.090	8.000
TR-075	40.00	45.00	5.00	0.003	0.070	8.000
TR-075	45.00	50.00	5.00	0.000	0.060	8.000
TR-075	50.00	55.00	5.00	0.000	0.110	8.000
TR-075	55.00	60.00	5.00	0.001	0.170	7.000
TR-075	60.00	65.00	5.00	0.000	0.180	7.000
TR-075	65.00	70.00	5.00	0.000	0.070	7.000
TR-075	70.00	75.00	5.00	0.000	0.040	7.000
TR-075	75.00	80.00	5.00	0.000	0.050	7.000
TR-075	80.00	85.00	5.00	0.001	0.060	7.000
TR-075	85.00	90.00	5.00	0.001	0.070	8.000
TR-075	90.00	95.00	5.00	0.001	0.050	8.000
TR-075	95.00	100.00	5.00	0.000	0.040	8.000
TR-075	100.00	105.00	5.00	0.000	0.040	8.000
TR-075	105.00	110.00	5.00	0.000	0.000	7.000
TR-075	110.00	115.00	5.00	0.002	0.000	7.000
TR-075	115.00	120.00	5.00	0.000	0.030	7.000
TR-075	120.00	125.00	5.00	0.000	0.030	3.000
TR-075	125.00	130.00	5.00	0.000	0.000	3.000
TR-075	130.00	135.00	5.00	0.000	0.090	3.000
TR-075	135.00	140.00	5.00	0.001	0.170	7.000
TR-075	140.00	145.00	5.00	0.001	0.130	7.000
TR-075	145.00	150.00	5.00	0.002	0.140	7.000
TR-075	150.00	155.00	5.00	0.002	0.250	7.000
TR-075	155.00	160.00	5.00	0.001	0.120	7.000
TR-075	160.00	165.00	5.00	0.000	0.040	7.000
TR-076	732120.0	255605.0	4640.0	90.000	-55.000	125.00
TR-076						
TR-076	0.00	5.00	5.00	0.007	0.200	12.000
TR-076	5.00	10.00	5.00	0.005	0.080	12.000
TR-076	10.00	15.00	5.00	0.009	0.430	2.000
TR-076	15.00	20.00	5.00	0.002	0.110	2.000
TR-076	20.00	25.00	5.00	0.002	0.030	2.000
TR-076	25.00	30.00	5.00	0.000	0.200	4.000
TR-076	30.00	35.00	5.00	0.009	0.530	5.000
TR-076	35.00	40.00	5.00	0.002	1.250	2.000
TR-076	40.00	45.00	5.00	0.006	0.740	2.000
TR-076	45.00	50.00	5.00	0.002	0.320	2.000
TR-076	50.00	55.00	5.00	0.006	0.640	2.000
TR-076	55.00	60.00	5.00	0.004	0.340	2.000
TR-076	60.00	65.00	5.00	0.001	0.230	2.000

TR-076	65.00	70.00	5.00	0.000	0.300	2.000
TR-076	70.00	75.00	5.00	0.000	0.250	2.000
TR-076	75.00	80.00	5.00	0.000	0.210	2.000
TR-076	80.00	85.00	5.00	0.000	0.110	2.000
TR-076	85.00	90.00	5.00	0.003	0.110	2.000
TR-076	90.00	95.00	5.00	0.003	0.170	2.000
TR-076	95.00	100.00	5.00	0.001	0.090	2.000
TR-076	100.00	105.00	5.00	0.000	0.040	2.000
TR-076	105.00	110.00	5.00	0.004	0.130	2.000
TR-076	110.00	115.00	5.00	0.006	0.250	2.000
TR-076	115.00	120.00	5.00	0.003	0.250	2.000
TR-076	120.00	125.00	5.00	0.007	0.380	2.000
TR-077	732215.0	255615.0	4655.0	90.000	-55.000	160.00
TR-077						
TR-077	0.00	5.00	5.00	0.001	0.050	1.000
TR-077	5.00	10.00	5.00	0.002	0.000	1.000
TR-077	10.00	15.00	5.00	0.001	0.040	1.000
TR-077	15.00	20.00	5.00	0.000	0.000	1.000
TR-077	20.00	25.00	5.00	0.000	0.000	1.000
TR-077	25.00	30.00	5.00	0.000	0.000	1.000
TR-077	30.00	35.00	5.00	0.006	0.000	1.000
TR-077	35.00	40.00	5.00	0.004	0.000	1.000
TR-077	40.00	45.00	5.00	0.003	0.000	1.000
TR-077	45.00	50.00	5.00	0.002	0.000	1.000
TR-077	50.00	55.00	5.00	0.013	0.000	1.000
TR-077	55.00	60.00	5.00	0.002	0.000	1.000
TR-077	60.00	65.00	5.00	0.000	0.000	1.000
TR-077	65.00	70.00	5.00	0.008	0.030	1.000
TR-077	70.00	75.00	5.00	0.019	0.080	1.000
TR-077	75.00	80.00	5.00	0.021	0.080	1.000
TR-077	80.00	85.00	5.00	0.015	0.140	1.000
TR-077	85.00	90.00	5.00	0.008	0.180	2.000
TR-077	90.00	95.00	5.00	0.003	0.100	2.000
TR-077	95.00	100.00	5.00	0.000	0.070	2.000
TR-077	100.00	105.00	5.00	0.000	0.110	2.000
TR-077	105.00	110.00	5.00	0.005	0.150	2.000
TR-077	110.00	115.00	5.00	0.006	0.100	2.000
TR-077	115.00	120.00	5.00	0.005	0.230	2.000
TR-077	120.00	125.00	5.00	0.008	0.490	2.000
TR-077	125.00	130.00	5.00	0.007	0.240	2.000
TR-077	130.00	135.00	5.00	0.010	0.980	2.000
TR-077	135.00	140.00	5.00	0.004	0.970	2.000
TR-077	140.00	145.00	5.00	0.004	0.550	2.000
TR-077	145.00	150.00	5.00	0.001	0.640	4.000
TR-077	150.00	155.00	5.00	0.000	0.410	4.000
TR-077	155.00	160.00	5.00	0.002	0.110	4.000
TR-078	732542.0	255500.0	4515.0	0.000	-90.000	165.00
TR-078						
TR-078	0.00	5.00	5.00	0.015	0.000	7.000
TR-078	5.00	10.00	5.00	0.015	0.000	7.000

TR-078	10.00	15.00	5.00	0.002	0.000	7.000
TR-078	15.00	20.00	5.00	0.008	0.000	7.000
TR-078	20.00	25.00	5.00	0.003	0.000	7.000
TR-078	25.00	30.00	5.00	0.000	0.000	7.000
TR-078	30.00	35.00	5.00	0.000	0.000	7.000
TR-078	35.00	40.00	5.00	0.000	0.000	7.000
TR-078	40.00	45.00	5.00	0.000	0.000	7.000
TR-078	45.00	50.00	5.00	0.000	0.000	7.000
TR-078	50.00	55.00	5.00	0.000	0.000	7.000
TR-078	55.00	60.00	5.00	0.002	0.000	7.000
TR-078	60.00	65.00	5.00	0.001	0.000	7.000
TR-078	65.00	70.00	5.00	0.000	0.000	6.000
TR-078	70.00	75.00	5.00	0.000	0.000	6.000
TR-078	75.00	80.00	5.00	0.001	0.000	6.000
TR-078	80.00	85.00	5.00	0.001	0.000	6.000
TR-078	85.00	90.00	5.00	0.002	0.000	6.000
TR-078	90.00	95.00	5.00	0.004	0.000	6.000
TR-078	95.00	100.00	5.00	0.005	0.000	6.000
TR-078	100.00	105.00	5.00	0.018	0.000	6.000
TR-078	105.00	110.00	5.00	0.013	0.000	6.000
TR-078	110.00	115.00	5.00	0.006	0.000	6.000
TR-078	115.00	120.00	5.00	0.003	0.000	6.000
TR-078	120.00	125.00	5.00	0.003	0.000	6.000
TR-078	125.00	130.00	5.00	0.003	0.000	2.000
TR-078	130.00	135.00	5.00	0.002	0.000	2.000
TR-078	135.00	140.00	5.00	0.001	0.000	2.000
TR-078	140.00	145.00	5.00	0.002	0.000	1.000
TR-078	145.00	150.00	5.00	0.001	0.000	1.000
TR-078	150.00	155.00	5.00	0.000	0.000	1.000
TR-078	155.00	160.00	5.00	0.000	0.000	1.000
TR-078	160.00	165.00	5.00	0.001	0.000	1.000

TR-079	732500.0	255400.0	4515.0	0.000	-90.000	175.00

TR-079						
TR-079	0.00	5.00	5.00	0.004	0.000	12.000
TR-079	5.00	10.00	5.00	-1.000	0.000	0.000
TR-079	10.00	15.00	5.00	0.003	0.000	7.000
TR-079	15.00	20.00	5.00	0.002	0.000	7.000
TR-079	20.00	25.00	5.00	0.008	0.000	7.000
TR-079	25.00	30.00	5.00	0.008	0.000	7.000
TR-079	30.00	35.00	5.00	0.019	0.000	7.000
TR-079	35.00	40.00	5.00	-1.000	0.000	7.000
TR-079	40.00	45.00	5.00	0.007	0.000	7.000
TR-079	45.00	50.00	5.00	0.006	0.000	7.000
TR-079	50.00	55.00	5.00	0.006	0.000	7.000
TR-079	55.00	60.00	5.00	0.013	0.000	7.000
TR-079	60.00	65.00	5.00	0.004	0.000	7.000
TR-079	65.00	70.00	5.00	0.002	0.000	7.000
TR-079	70.00	75.00	5.00	0.003	0.000	7.000
TR-079	75.00	80.00	5.00	0.002	0.000	7.000
TR-079	80.00	85.00	5.00	0.003	0.000	7.000
TR-079	85.00	90.00	5.00	0.001	0.000	7.000
TR-079	90.00	95.00	5.00	0.000	0.000	6.000

TR-079	95.00	100.00	5.00	0.000	0.000	6.000
TR-079	100.00	105.00	5.00	0.000	0.000	6.000
TR-079	105.00	110.00	5.00	0.001	0.000	6.000
TR-079	110.00	115.00	5.00	0.000	0.000	0.000
TR-079	115.00	120.00	5.00	0.002	0.000	6.000
TR-079	120.00	125.00	5.00	0.002	0.000	6.000
TR-079	125.00	130.00	5.00	0.003	0.000	6.000
TR-079	130.00	135.00	5.00	0.001	0.000	2.000
TR-079	135.00	140.00	5.00	0.002	0.000	2.000
TR-079	140.00	145.00	5.00	0.001	0.000	2.000
TR-079	145.00	150.00	5.00	0.000	0.000	2.000
TR-079	150.00	155.00	5.00	0.000	0.000	1.000
TR-079	155.00	160.00	5.00	0.001	0.000	1.000
TR-079	160.00	165.00	5.00	0.000	0.000	1.000
TR-079	165.00	170.00	5.00	0.005	0.000	1.000
TR-079	170.00	175.00	5.00	0.009	0.000	1.000

TR-080	732455.0	255285.0	4515.0	0.000	-90.000	175.00

TR-080						
TR-080	0.00	5.00	5.00	0.004	0.000	12.000
TR-080	5.00	10.00	5.00	-1.000	0.000	12.000
TR-080	10.00	15.00	5.00	0.017	0.000	3.000
TR-080	15.00	20.00	5.00	0.017	0.000	3.000
TR-080	20.00	25.00	5.00	0.008	0.000	3.000
TR-080	25.00	30.00	5.00	0.008	0.000	3.000
TR-080	30.00	35.00	5.00	0.007	0.000	3.000
TR-080	35.00	40.00	5.00	0.004	0.000	3.000
TR-080	40.00	45.00	5.00	0.004	0.000	3.000
TR-080	45.00	50.00	5.00	0.008	0.000	3.000
TR-080	50.00	55.00	5.00	0.004	0.000	3.000
TR-080	55.00	60.00	5.00	0.003	0.000	3.000
TR-080	60.00	65.00	5.00	0.000	0.000	3.000
TR-080	65.00	70.00	5.00	0.002	0.000	3.000
TR-080	70.00	75.00	5.00	0.004	0.000	3.000
TR-080	75.00	80.00	5.00	0.000	0.000	6.000
TR-080	80.00	85.00	5.00	0.001	0.000	6.000
TR-080	85.00	90.00	5.00	-1.000	0.000	6.000
TR-080	90.00	95.00	5.00	-1.000	0.000	6.000
TR-080	95.00	100.00	5.00	0.006	0.000	6.000
TR-080	100.00	105.00	5.00	0.004	0.000	6.000
TR-080	105.00	110.00	5.00	0.005	0.000	6.000
TR-080	110.00	115.00	5.00	0.008	0.000	6.000
TR-080	115.00	120.00	5.00	0.012	0.000	6.000
TR-080	120.00	125.00	5.00	0.003	0.000	6.000
TR-080	125.00	130.00	5.00	0.005	0.000	6.000
TR-080	130.00	135.00	5.00	0.001	0.000	2.000
TR-080	135.00	140.00	5.00	0.001	0.000	2.000
TR-080	140.00	145.00	5.00	0.003	0.000	2.000
TR-080	145.00	150.00	5.00	0.001	0.000	2.000
TR-080	150.00	155.00	5.00	0.000	0.000	2.000
TR-080	155.00	160.00	5.00	-1.000	0.000	2.000
TR-080	160.00	165.00	5.00	0.000	0.000	2.000
TR-080	165.00	170.00	5.00	-1.000	0.000	2.000

TR-080	170.00	175.00	5.00	-1.000	0.000	1.000
TR-081	732280.0	255285.0	4615.0	0.000	-90.000	220.00
TR-081						
TR-081	0.00	5.00	5.00	-1.000	0.000	8.000
TR-081	5.00	10.00	5.00	0.013	0.000	8.000
TR-081	10.00	15.00	5.00	0.004	0.000	8.000
TR-081	15.00	20.00	5.00	0.003	0.000	8.000
TR-081	20.00	25.00	5.00	0.005	0.000	8.000
TR-081	25.00	30.00	5.00	0.002	0.000	8.000
TR-081	30.00	35.00	5.00	0.010	0.000	8.000
TR-081	35.00	40.00	5.00	0.014	0.000	7.000
TR-081	40.00	45.00	5.00	0.009	0.000	7.000
TR-081	45.00	50.00	5.00	0.005	0.000	7.000
TR-081	50.00	55.00	5.00	0.003	0.000	7.000
TR-081	55.00	60.00	5.00	0.003	0.000	7.000
TR-081	60.00	65.00	5.00	0.000	0.000	7.000
TR-081	65.00	70.00	5.00	0.012	0.000	7.000
TR-081	70.00	75.00	5.00	0.003	0.000	4.000
TR-081	75.00	80.00	5.00	0.024	0.000	4.000
TR-081	80.00	85.00	5.00	0.023	0.000	4.000
TR-081	85.00	90.00	5.00	0.007	0.000	4.000
TR-081	90.00	95.00	5.00	0.009	0.000	4.000
TR-081	95.00	100.00	5.00	0.004	0.000	4.000
TR-081	100.00	105.00	5.00	0.006	0.000	4.000
TR-081	105.00	110.00	5.00	0.005	0.000	4.000
TR-081	110.00	115.00	5.00	0.007	0.000	4.000
TR-081	115.00	120.00	5.00	0.010	0.000	4.000
TR-081	120.00	125.00	5.00	0.009	0.000	4.000
TR-081	125.00	130.00	5.00	0.035	0.000	3.000
TR-081	130.00	135.00	5.00	0.102	0.000	3.000
TR-081	135.00	140.00	5.00	0.090	0.000	3.000
TR-081	140.00	145.00	5.00	0.113	0.000	1.000
TR-081	145.00	150.00	5.00	0.121	0.000	1.000
TR-081	150.00	155.00	5.00	0.105	0.000	1.000
TR-081	155.00	160.00	5.00	-1.000	0.000	4.000
TR-081	160.00	165.00	5.00	0.045	0.000	1.000
TR-081	165.00	170.00	5.00	0.006	0.000	1.000
TR-081	170.00	175.00	5.00	-1.000	0.000	2.000
TR-081	175.00	180.00	5.00	-1.000	0.000	2.000
TR-081	180.00	185.00	5.00	-1.000	0.000	2.000
TR-081	185.00	190.00	5.00	0.000	0.000	2.000
TR-081	190.00	195.00	5.00	0.001	0.000	2.000
TR-081	195.00	200.00	5.00	0.008	0.000	2.000
TR-081	200.00	205.00	5.00	0.008	0.000	2.000
TR-081	205.00	210.00	5.00	0.001	0.000	2.000
TR-081	210.00	215.00	5.00	0.000	0.000	2.000
TR-081	215.00	220.00	5.00	0.000	0.000	2.000
TR-082	732155.0	255420.0	4620.0	55.000	-60.000	230.00
TR-082						
TR-082	0.00	5.00	5.00	0.002	0.000	7.000

TR-082	5.00	10.00	5.00	0.000	0.000	7.000
TR-082	10.00	15.00	5.00	0.000	0.000	7.000
TR-082	15.00	20.00	5.00	0.000	0.000	7.000
TR-082	20.00	25.00	5.00	0.000	0.000	7.000
TR-082	25.00	30.00	5.00	0.000	0.000	7.000
TR-082	30.00	35.00	5.00	0.000	0.000	5.000
TR-082	35.00	40.00	5.00	0.000	0.000	5.000
TR-082	40.00	45.00	5.00	0.000	0.000	5.000
TR-082	45.00	50.00	5.00	0.000	0.000	5.000
TR-082	50.00	55.00	5.00	0.000	0.000	5.000
TR-082	55.00	60.00	5.00	0.001	0.000	5.000
TR-082	60.00	65.00	5.00	0.000	0.000	5.000
TR-082	65.00	70.00	5.00	0.000	0.000	5.000
TR-082	70.00	75.00	5.00	0.000	0.000	1.000
TR-082	75.00	80.00	5.00	0.000	0.000	1.000
TR-082	80.00	85.00	5.00	0.000	0.000	1.000
TR-082	85.00	90.00	5.00	0.000	0.000	1.000
TR-082	90.00	95.00	5.00	0.000	0.000	1.000
TR-082	95.00	100.00	5.00	0.000	0.000	1.000
TR-082	100.00	105.00	5.00	0.000	0.000	1.000
TR-082	105.00	110.00	5.00	0.000	0.000	1.000
TR-082	110.00	115.00	5.00	0.000	0.000	1.000
TR-082	115.00	120.00	5.00	0.000	0.000	1.000
TR-082	120.00	125.00	5.00	0.000	0.000	1.000
TR-082	125.00	130.00	5.00	0.000	0.000	1.000
TR-082	130.00	135.00	5.00	0.000	0.000	1.000
TR-082	135.00	140.00	5.00	0.000	0.000	1.000
TR-082	140.00	145.00	5.00	0.000	0.000	1.000
TR-082	145.00	150.00	5.00	-1.000	0.000	2.000
TR-082	150.00	155.00	5.00	0.001	0.000	2.000
TR-082	155.00	160.00	5.00	0.005	0.000	4.000
TR-082	160.00	165.00	5.00	0.007	0.000	4.000
TR-082	165.00	170.00	5.00	0.003	0.000	4.000
TR-082	170.00	175.00	5.00	0.002	0.000	4.000
TR-082	175.00	180.00	5.00	0.004	0.000	4.000
TR-082	180.00	185.00	5.00	0.000	0.000	4.000
TR-082	185.00	190.00	5.00	0.002	0.000	4.000
TR-082	190.00	195.00	5.00	0.001	0.000	2.000
TR-082	195.00	200.00	5.00	0.002	0.000	2.000
TR-082	200.00	205.00	5.00	0.000	0.000	2.000
TR-082	205.00	210.00	5.00	-1.000	0.000	2.000
TR-082	210.00	215.00	5.00	0.000	0.000	2.000
TR-082	215.00	220.00	5.00	0.002	0.000	2.000
TR-082	220.00	225.00	5.00	0.008	0.000	2.000
TR-082	225.00	230.00	5.00	-1.000	0.000	2.000
TR-083	732320.0	255680.0	4620.0	270.000	-70.000	100.00
TR-083						
TR-083	0.00	5.00	5.00	0.002	0.000	7.000
TR-083	5.00	10.00	5.00	0.000	0.000	7.000
TR-083	10.00	15.00	5.00	0.009	0.000	7.000
TR-083	15.00	20.00	5.00	0.002	0.000	7.000
TR-083	20.00	25.00	5.00	0.001	0.000	7.000

TR-083	25.00	30.00	5.00	0.001	0.000	7.000
TR-083	30.00	35.00	5.00	0.001	0.000	7.000
TR-083	35.00	40.00	5.00	0.000	0.000	5.000
TR-083	40.00	45.00	5.00	0.000	0.000	5.000
TR-083	45.00	50.00	5.00	0.000	0.000	5.000
TR-083	50.00	55.00	5.00	-1.000	0.000	5.000
TR-083	55.00	60.00	5.00	0.000	0.000	5.000
TR-083	60.00	65.00	5.00	0.005	0.000	5.000
TR-083	65.00	70.00	5.00	-1.000	0.000	0.000
TR-083	70.00	75.00	5.00	0.000	0.000	1.000
TR-083	75.00	80.00	5.00	0.000	0.000	1.000
TR-083	80.00	85.00	5.00	-1.000	0.000	1.000
TR-083	85.00	90.00	5.00	0.000	0.000	1.000
TR-083	90.00	95.00	5.00	0.000	0.000	1.000
TR-083	95.00	100.00	5.00	0.000	0.000	1.000

TR-084	730060.0	255520.0	4687.0	135.000	-60.000	185.00

TR-084						
TR-084	0.00	5.00	5.00	0.000	0.000	0.000
TR-084	5.00	10.00	5.00	0.000	0.000	0.000
TR-084	10.00	15.00	5.00	0.000	0.000	0.000
TR-084	15.00	20.00	5.00	0.000	0.000	0.000
TR-084	20.00	25.00	5.00	0.000	0.000	0.000
TR-084	25.00	30.00	5.00	0.000	0.000	0.000
TR-084	30.00	35.00	5.00	0.000	0.000	0.000
TR-084	35.00	40.00	5.00	0.000	0.000	0.000
TR-084	40.00	45.00	5.00	0.000	0.000	0.000
TR-084	45.00	50.00	5.00	0.004	0.000	0.000
TR-084	50.00	55.00	5.00	0.006	0.000	0.000
TR-084	55.00	60.00	5.00	0.002	0.000	0.000
TR-084	60.00	65.00	5.00	0.002	0.000	0.000
TR-084	65.00	70.00	5.00	0.000	0.000	0.000
TR-084	70.00	75.00	5.00	0.000	0.000	0.000
TR-084	75.00	80.00	5.00	0.002	0.000	0.000
TR-084	80.00	85.00	5.00	0.001	0.000	0.000
TR-084	85.00	90.00	5.00	0.000	0.000	0.000
TR-084	90.00	95.00	5.00	0.000	0.000	0.000
TR-084	95.00	100.00	5.00	0.000	0.000	0.000
TR-084	100.00	105.00	5.00	0.000	0.000	0.000
TR-084	105.00	110.00	5.00	0.000	0.000	0.000
TR-084	110.00	115.00	5.00	0.003	0.000	0.000
TR-084	115.00	120.00	5.00	-1.000	0.000	0.000
TR-084	120.00	125.00	5.00	-1.000	0.000	0.000
TR-084	125.00	130.00	5.00	0.000	0.000	0.000
TR-084	130.00	135.00	5.00	0.000	0.000	0.000
TR-084	135.00	140.00	5.00	0.001	0.000	0.000
TR-084	140.00	145.00	5.00	0.000	0.000	0.000
TR-084	145.00	150.00	5.00	0.000	0.000	0.000
TR-084	150.00	155.00	5.00	0.000	0.000	0.000
TR-084	155.00	160.00	5.00	0.000	0.000	0.000
TR-084	160.00	165.00	5.00	0.000	0.000	0.000
TR-084	165.00	170.00	5.00	0.002	0.000	0.000
TR-084	170.00	175.00	5.00	0.002	0.000	0.000

TR-084	175.00	180.00	5.00	0.000	0.000	0.000
TR-084	180.00	185.00	5.00	0.000	0.000	0.000
TR-085	731092.0	256725.0	4575.0	80.000	-60.000	175.00
TR-085						
TR-085	0.00	5.00	5.00	-1.000	0.000	0.000
TR-085	5.00	10.00	5.00	-1.000	0.000	0.000
TR-085	10.00	15.00	5.00	-1.000	0.000	0.000
TR-085	15.00	20.00	5.00	-1.000	0.000	0.000
TR-085	20.00	25.00	5.00	-1.000	0.000	0.000
TR-085	25.00	30.00	5.00	-1.000	0.000	0.000
TR-085	30.00	35.00	5.00	-1.000	0.000	0.000
TR-085	35.00	40.00	5.00	-1.000	0.000	0.000
TR-085	40.00	45.00	5.00	-1.000	0.000	0.000
TR-085	45.00	50.00	5.00	-1.000	0.000	0.000
TR-085	50.00	55.00	5.00	0.000	0.000	0.000
TR-085	55.00	60.00	5.00	0.000	0.000	0.000
TR-085	60.00	65.00	5.00	0.000	0.000	0.000
TR-085	65.00	70.00	5.00	0.000	0.000	0.000
TR-085	70.00	75.00	5.00	0.000	0.000	0.000
TR-085	75.00	80.00	5.00	0.000	0.000	0.000
TR-085	80.00	85.00	5.00	0.001	0.000	0.000
TR-085	85.00	90.00	5.00	-1.000	0.000	0.000
TR-085	90.00	95.00	5.00	0.029	0.000	0.000
TR-085	95.00	100.00	5.00	-1.000	0.000	0.000
TR-085	100.00	105.00	5.00	0.001	0.000	0.000
TR-085	105.00	110.00	5.00	0.000	0.000	0.000
TR-085	110.00	115.00	5.00	0.000	0.000	0.000
TR-085	115.00	120.00	5.00	0.000	0.000	0.000
TR-085	120.00	125.00	5.00	0.000	0.000	0.000
TR-085	125.00	130.00	5.00	-1.000	0.000	0.000
TR-085	130.00	135.00	5.00	0.002	0.000	0.000
TR-085	135.00	140.00	5.00	0.000	0.000	0.000
TR-085	140.00	145.00	5.00	0.000	0.000	0.000
TR-085	145.00	150.00	5.00	0.000	0.000	0.000
TR-085	150.00	155.00	5.00	0.000	0.000	0.000
TR-085	155.00	160.00	5.00	0.003	0.000	0.000
TR-085	160.00	165.00	5.00	0.000	0.000	0.000
TR-085	165.00	170.00	5.00	0.000	0.000	0.000
TR-085	170.00	175.00	5.00	0.000	0.000	0.000
TR-086	733095.0	257150.0	4612.0	150.000	-60.000	180.00
TR-086						
TR-086	0.00	5.00	5.00	0.004	0.000	0.000
TR-086	5.00	10.00	5.00	0.004	0.000	0.000
TR-086	10.00	15.00	5.00	0.013	0.000	0.000
TR-086	15.00	20.00	5.00	0.003	0.000	0.000
TR-086	20.00	25.00	5.00	0.001	0.000	0.000
TR-086	25.00	30.00	5.00	1.000	0.000	0.000
TR-086	30.00	35.00	5.00	0.002	0.000	0.000
TR-086	35.00	40.00	5.00	0.006	0.000	0.000
TR-086	40.00	45.00	5.00	0.022	0.000	0.000

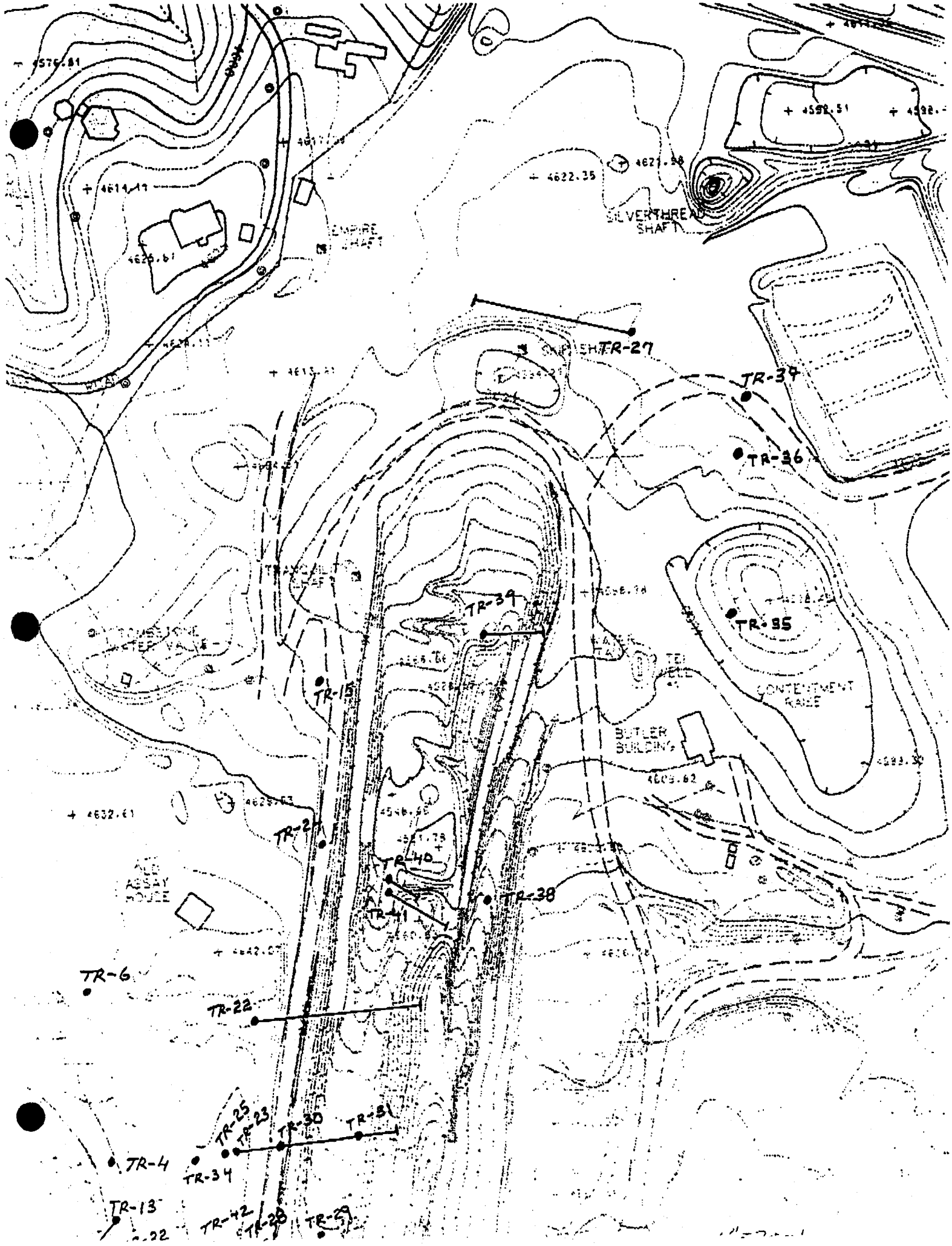
TR-086	45.00	50.00	5.00	0.038	0.000	0.000
TR-086	50.00	55.00	5.00	0.005	0.000	0.000
TR-086	55.00	60.00	5.00	0.000	0.000	0.000
TR-086	60.00	65.00	5.00	0.000	0.000	0.000
TR-086	65.00	70.00	5.00	0.000	0.000	0.000
TR-086	70.00	75.00	5.00	0.000	0.000	0.000
TR-086	75.00	80.00	5.00	0.000	0.000	0.000
TR-086	80.00	85.00	5.00	0.000	0.000	0.000
TR-086	85.00	90.00	5.00	0.000	0.000	0.000
TR-086	90.00	95.00	5.00	0.000	0.000	0.000
TR-086	95.00	100.00	5.00	0.000	0.000	0.000
TR-086	100.00	105.00	5.00	0.013	0.000	0.000
TR-086	105.00	110.00	5.00	0.002	0.000	0.000
TR-086	110.00	115.00	5.00	0.000	0.000	0.000
TR-086	115.00	120.00	5.00	0.000	0.000	0.000
TR-086	120.00	125.00	5.00	0.004	0.000	0.000
TR-086	125.00	130.00	5.00	0.006	0.000	0.000
TR-086	130.00	135.00	5.00	-1.000	0.000	0.000
TR-086	135.00	140.00	5.00	0.057	0.000	0.000
TR-086	140.00	145.00	5.00	0.006	0.000	0.000
TR-086	145.00	150.00	5.00	0.002	0.000	0.000
TR-086	150.00	155.00	5.00	0.003	0.000	0.000
TR-086	155.00	160.00	5.00	0.001	0.000	0.000
TR-086	160.00	165.00	5.00	0.000	0.000	0.000
TR-086	165.00	170.00	5.00	0.000	0.000	0.000
TR-086	170.00	175.00	5.00	0.000	0.000	0.000
TR-086	175.00	180.00	5.00	0.000	0.000	0.000

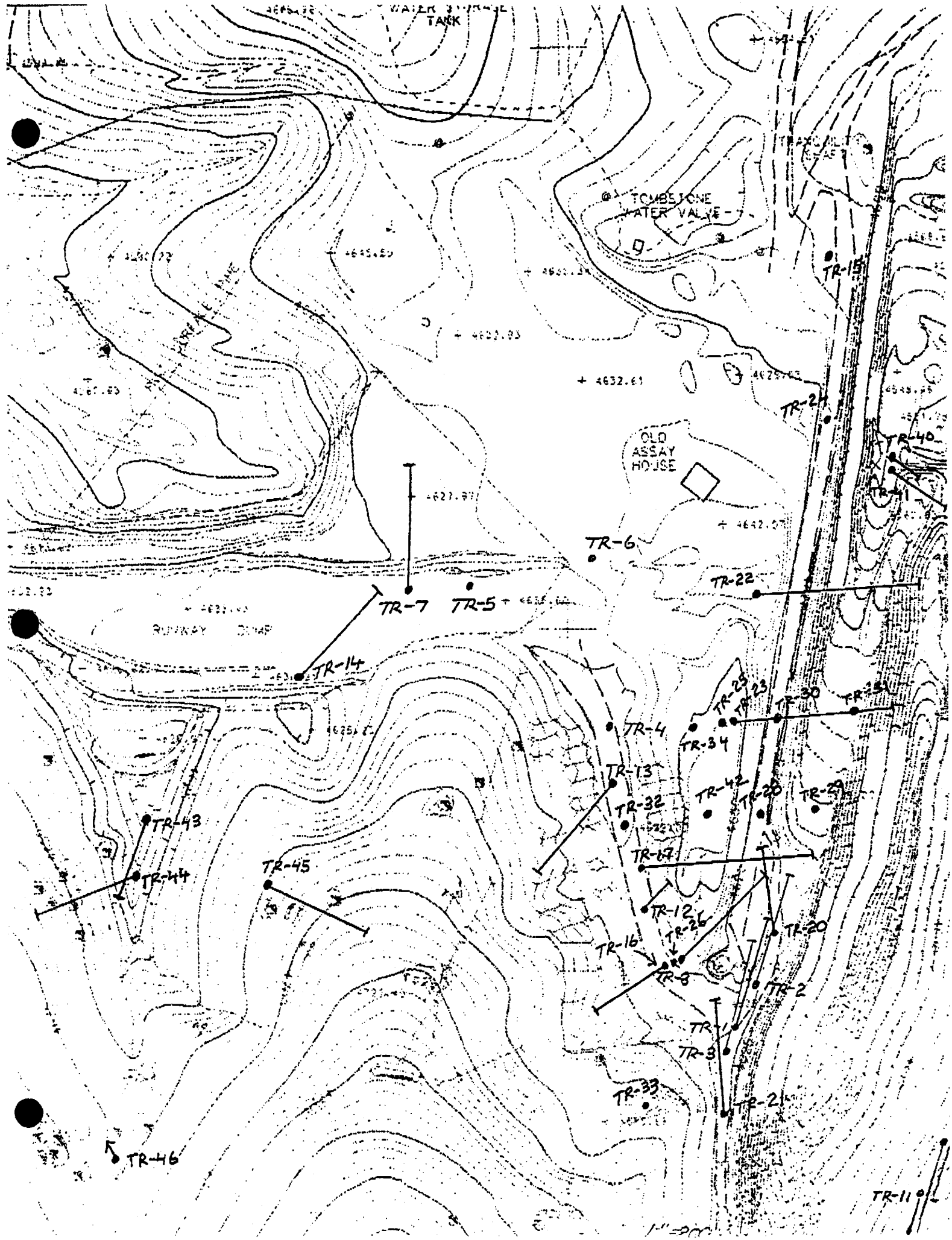
ASSAYS

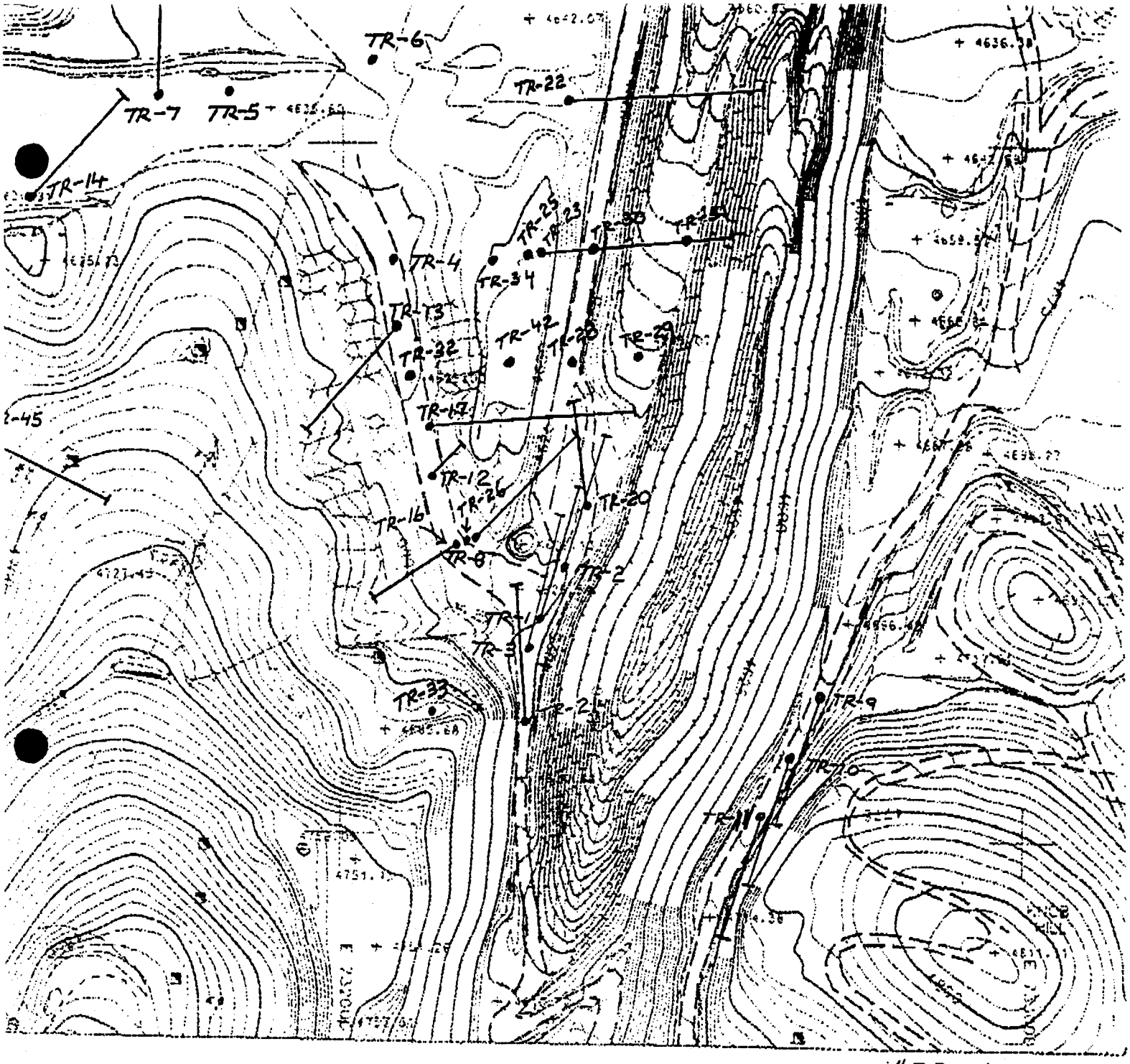
TABLE 1
TOMBSTONE DATA, 4-14-93

Drill Hole	TD	Angle	AZ	Date
TR-1	400	-60	N16E	1-19-93
TR-2	395	-60	N15E	1-20-93
TR-3	400	-60	N13E	1-21-93
TR-4	400	-90	----	1-22-93
TR-5	400	-90	----	1-23-93
TR-6	360	-90	----	1-23-93
TR-7	400	-60	N00E	1-24-93
TR-8	400	-60	N55E	1-25-93
TR-9	400	-60	S26W	1-26-93
TR-10	400	-60	S26W	1-27-93
TR-11	400	-60	S27W	2-02-93
TR-12	400	-80	N39E	2-03-93
TR-13	400	-60	S40W	2-03-93
TR-14	400	-60	N45E	2-04-93
TR-15	400	-90	----	2-05-93
TR-16	420	-70	S55W	2-06-93
TR-17	420	-45	N83E	2-07-93
TR-18	420	-45	S70W	2-08-93
TR-19	400	-50	S68W	2-09-93
TR-20	295	-60	N11W	2-09-93
TR-21	355	-60	N05W	2-10-93
TR-22	400	-45	N78E	2-20-93
TR-23	400	-45	N80E	2-21-93
TR-24	340	-90	----	2-22-93
TR-25	295	-90	----	2-23-93
TR-26	400	-90	----	2-23-93
TR-27	395	-45	N76W	2-24-93
TR-28	275	-90	----	3-19-93
TR-29	295	-90	----	3-20-93
TR-30	285	-90	----	3-21-93
TR-31	270	-90	----	3-22-93
TR-32	265	-90	----	3-23-93
TR-33	400	-90	----	3-24-93
TR-34	295	-90	----	3-25-93
TR-35	275	-90	----	3-26-93
TR-36	200	-90	----	3-26-93
TR-37	300	-90	----	3-31-93
TR-38	275	-90	----	3-31-93
TR-39	215	-60	S78E	4-02-93
TR-40	110	-60	S55E	4-03-93
TR-41	235	-60	S57E	4-03-93
TR-42	260	-90	----	4-05-93
TR-43	285	-60	S17W	4-06-93
TR-44	395	-45	S65W	4-07-93
TR-45	275	-45	S67E	4-08-93

received
4/14/93


SILVERTHREAD SHAFT
EMPIRE SHAFT
TR-27
TR-37
TR-36
TR-39
TR-35
TR-15
CONTENTMENT RAISE
BUTLER BUILDING
TR-21
TR-40
TR-38
TR-41
ASSAY HOUSE
TR-6
TR-22
TR-25
TR-23
TR-30
TR-31
TR-4
TR-34
TR-13
TR-42
TR-28
TR-29


WATER STORAGE TANK
TOMBSTONE WATER VALVE
OLD ASSAY HOUSE
RUNWAY DUMP
TR-15
TR-24
TR-40
TR-41
TR-6
TR-22
TR-7
TR-5
TR-14
TR-25
TR-23
TR-30
TR-4
TR-34
TR-13
TR-42
TR-20
TR-29
TR-32
TR-43
TR-17
TR-45
TR-44
TR-12
TR-26
TR-20
TR-16
TR-8
TR-2
TR-1
TR-3
TR-33
TR-21
TR-46
TR-11



800

Grid	+	Building	□	Concrete	- - - -
Control	△	Trailer	= =	Cattle Guard	——
Index Contour	——	Fence	—•—	Hydrant	◇
Intermediate Contour	——	Rail	—•—	Pole	•
Spot Elevation	+	Tank	○	Light Pole	✱
Paved Road	——	Stream	-·-·-·-	Mine Shaft	◪
Dirt Road	— —	Pond	-·-·-·-	Cuts	—•—
Trail	- - - -	Scar	—·—·—	Toe	—·—
		Wash	——	Crest	—·—·—
		Pipe Line	—·—·—	Prospect	⚒

TOMBSTONE PROJECT
SUMMARY – DRILL RESULTS

Hole #	Angle (degrees)	Interval (feet)	Intercept (feet)	Assay Au (oz/ton)	Assay Ag (oz/ton)
TR – 1	– 60	60 – 85	25	0.078	2.04
		85 – 145	60	0.018	0.77
		145 – 200	55	0.095	6.60
		60 – 200	140	0.058	3.50
		225 – 265	10	0.098	2.40
		255 – 330	75	0.042	1.39
		385 – 400	15	0.063	0.93
TR – 2	– 60	55 – 90	35	0.037	2.80
		90 – 165	75	0.027	0.56
		165 – 230	65	0.057	0.80
		55 – 230	175	0.039	1.12
TR – 3	– 60	95 – 115	20	0.076	2.29
		115 – 140	25	0.018	1.34
		95 – 140	45	0.044	1.76
		140 – 155	Old stope		
		155 – 200	45	0.050	2.12
		245 – 260	15	0.051	0.54
TR – 4–7	–	No significant values			
TR – 8	– 30	170 – 295	125	0.062	1.23
TR – 9–11	–	No significant values			
TR – 12	– 80	25 – 75	50	0.036	0.17
		145 – 150	5	0.037	0.06
		180 – 195	15	0.033	1.48
		215 – 270	55	0.111	1.25
TR – 13	–	No significant values			
TR – 14	– 60	290 – 295	5	0.052	0.31
TR – 15	Vertical	105 – 115	10	0.075	0.75
		105 – 130	25	0.038	0.59
TR – 16	–	No significant values			
TR – 17	– 45	10 – 15	5	0.037	N.A. *
		225 – 260	35	0.024	N.A.
TR – 18–19	–	No significant values			
TR – 20	?	95 – 110	15	0.032	N.A.
		130 – 190	60	0.049	N.A.
TR – 21	?	25 – 30	5	0.029	N.A.
		165 – 180	15	0.036	N.A.
		250 – 265	15	0.025	N.A.
TR – 22	– 45	330 – 345	15	0.027	N.A.
TR – 23	– 45	375 – 385	10	0.028	N.A.
TR – 24	Vertical	250 – 270	20	0.027	N.A.
		280 – 295	15	0.049	N.A.
		250 – 295	45	0.027	N.A.
		250 – 335	80	0.022	N.A.
TR – 25	Vertical	125 – 135	10	0.045	N.A.
		170 – 200	30	0.046	N.A.
		225 – 250	25	0.025	N.A.
TR – 26	Vertical	130 – 150	20	0.035	N.A.
		180 – 235	80	0.040	N.A.
		190 – 220	30	0.056	N.A.
		320 – 335	15	0.031	N.A.

* Not Available – assay underway

TABLE 1
TOMBSTONE DATA, 3-03-93

Drill Hole	TD	Angle	AZ	Date
TR-1	400	-60	N16E	1-19-93
TR-2	395	-60	N15E	1-20-93
TR-3	400	-60	N13E	1-21-93
TR-4	400	-90	----	1-22-93
TR-5	400	-90	----	1-23-93
TR-6	360	-90	----	1-23-93
TR-7	400	-60	N00E	1-24-93
TR-8	400	-60	N55E	1-25-93
TR-9	400	-60	S26W	1-26-93
TR-10	400	-60	S26W	1-27-93
TR-11	400	-60	S27W	2-02-93
TR-12	400	-80	N39E	2-03-93
TR-13	400	-60	S40W	2-03-93
TR-14	400	-60	N45E	2-04-93
TR-15	400	-90	----	2-05-93
TR-16	420	-70	S55W	2-06-93
TR-17	420	-45	N83E	2-07-93
TR-18	420	-45	S70W	2-08-93
TR-19	400	-50	S68W	2-09-93
TR-20	295	-60	N11W	2-09-93
TR-21	355	-60	N05W	2-10-93
TR-22	400	-45	N78E	2-20-93
TR-23	400	-45	N80E	2-21-93
TR-24	340	-90	----	2-22-93
TR-25	295	-90	----	2-23-93
TR-26	400	-90	----	2-23-93
TR-27	395	-45	N76W	2-24-93

TABLE 2
SUMMARY OF TOMBSTONE DRILL INTERCEPTS
3-03-93

Note -- Intercepts with * are runs with all assays > .02

DRILL HOLE	SIGNIFICANT INTERCEPTS Au/Ag oz./ton
TR-1	60-200/140 @ .06/3.40
	Working 85-90,165-170
	*60-85/25 @.078/2.04
	*140-200/60 @ .089/6.17
	300-325, Working or fractured
	255-300/45 @ .043/1.48
	*325-330/5 @ .024/.56
	380-400/20 @ .053/.73
TR-2	55-230/175 @ .039/1.13
	*55-65/10 @.049/5.83
	*80-90/10 @ .058/2.87
	*100-110/10 @ .029/.51
	*115-230/115 @.044/.76
	185-195 Possible Workings
TR-3	80-95 Working
	*95-115/20 @ .076/2.29
	95-200/105 @ .047/1.93
	*130-140/10 @ .024/1.64
	*155-160/5 @ .142/4.30
	*165-200/35 @ .037/1.81
	140-155 Working
	160-175 Working or Cave
	*250-260/10 @ .071/.70
TR-4	165-175/10 @ .03/.85
	335-340/5 @ .03/.60
TR-8	190-200 Workings/Backfill
	*170-190/20 @ .076/1.74
	*195-260/65 @ .06/1.39
	*130-135/5 @ .038/.23
	*280-295/15 @ .117/1.56
	170-295/125 @ .063/1.28
TR-12	25-75/50 @ .036/.17
	*25-55/30 @ .046/.15
	*70-75/5 @ .042/.12
	*145-150/5 @ .037/.06
	*180-190/10 @ .044/2.04
	*215-220/5 @ .033/.61
	*225-230/5 @ .026/.43
	*240-270/30 @ .170/2.71
	215-270/55 @ .110/1.22

DRILL HOLE	SIGNIFICANT INTERCEPTS Oz/Ton Au/Ag
TR-13	*60-65/5 @ .02/.60
	*80-85/5 @ .028/.53
	60-85/25 @ .012/.47
	290-305/15 @ .010/.52
TR-14	*290-295/5 @ .052/.31
	290-310/20 @ .021/.18
TR-15	*105-115/10 @ .074/.75
	*120-125/5 @ .022/.38
	105-130/25 @ .038/.59
	*335-340/5 @ .028/.13
TR-16	*105-110/5 @ .031/.46
	105-120/15 @ .018/.41
	*380-385/5 @ .043/1.58
	375-390/15 @ .021/.873
TR-17	*10-15/5 @ .037/.02
	*180-185/5 @ .025/.033
	*225-230/5 @ .035/1.06
	*245-260/15 @ .035/1.18
	225-260/35 @ .024/.94
	225-310/85 @ .013/.48
TR-20	*95-100/5 @ .065/.15
	95-110/15 @ .031/.15
	130-185/55 @ .052/1.66
	195-210/15 @ .012/.86
TR-21	*25-30/5 @ .029/.53
	25-40/15 @ .016/.52
	80-95/15 @ .014/1.19
	*165-180/15 @ .035/.57
	250-265/15 @ .025/.63
	*345-350/5 @ .022/1.06
TR-22	*245-255/10 @ .042/NA
	*330-340/10 @ .034/NA
TR-23	*115-120/5 @ .048/NA
	115-125/10 @ .031/NA
	310-345/35 @ .01/NA
	375-395/10 @ .022/NA
	345-365 Working/Backfill
TR-24	*250-255/5 @ .047/NA
	*260-270/10 @ .027/NA
	*285-295/10 @ .067/NA
	250-315/65 @ .024/NA
TR-25	*125-135/10 @ .044/NA

DRILL HOLE	SIGNIFICANT INTERCEPT Oz/Ton Au/Ag
TR-25	*175-190/15 @ .076/NA
	170-200/30 @ .045/NA
	*225-235/10 @ .038/NA
	225-250/25 @ .025/NA
TR-26	130-150/20 @ .035/NA
	190-220/30 @ .055/NA
	310-335/25 @ .017/NA
TR-27	*160-175/15 @ .180

PRELIMINARY REPORT

REPORT : SP 021255

Sample	Au(OZ) OZ/TON	Au(RZ) OZ/TON	AuCN OPT	Ag(OZ) OZ/TON
TR-1 0-5	0.003		--	0.15
TR-1 5-10	<0.001		--	0.05
TR-1 10-15	<0.001	<0.001	--	<0.02
TR-1 15-20	<0.001		--	<0.02
TR-1 20-25	<0.001		--	<0.02
TR-1 25-30	<0.001		--	<0.02
TR-1 30-35	<0.001		--	<0.02
TR-1 35-40	0.001		--	0.06
TR-1 40-45	0.001		--	0.07
TR-1 45-50	0.001		--	0.08
TR-1 50-55	<0.001		--	0.09
TR-1 55-60	<0.001	<0.001	--	0.09
TR-1 60-65	0.169		0.169	1.79
TR-1 65-70	0.080		0.080	1.93
TR-1 70-75	0.056		0.058	2.37
TR-1 75-80	0.039		0.038	2.27
TR-1 80-85	0.044		0.043	1.83
TR-1 90-95	0.018		0.017	0.71
TR-1 95-100	0.013	0.012	0.010	0.34
TR-1 100-105	0.018		0.017	0.70
TR-1 105-110	0.013		0.010	0.52
TR-1 110-115	0.023		--	1.09
TR-1 115-120	0.029		--	0.91
TR-1 120-125	0.016		--	0.87
TR-1 125-130	0.020	0.019	--	0.94

$\frac{0.42}{19} = 0.022$ #7.84

$\frac{11.83}{19} = 0.623$ #5D × 3 = 1.09 = 7.84 / 9.3 #8.

MEM

PRELIMINARY REPORT

REPORT : SP 021255

Sample	Au(OZ) OZ/TON	Au(RZ) OZ/TON	AuCN OPT	Ag(OZ) OZ/TON
TR-1 130-135	0.015		--	0.71
TR-1 135-140	0.011		--	0.53
TR-1 140-145	0.023		--	1.14
TR-1 145-150	0.154		--	19.95
TR-1 150-155	0.038		--	2.59
TR-1 155-160	0.060		--	3.77
TR-1 160-165	0.030		--	1.75
TR-1 165-170	0.040		--	3.33
TR-1 170-175	0.152		--	6.55
TR-1 175-180	0.153		--	3.64
TR-1 180-185	0.149		--	7.05
TR-1 185-190	0.107		--	6.98
TR-1 190-195	0.112		--	14.58
TR-1 195-200	0.048		--	2.71
TR-1 200-205	0.017	0.018	--	1.69
TR-1 205-210	0.007		--	1.27
TR-1 210-215	0.007		--	1.04
TR-1 215-220	0.005		--	1.21
TR-1 220-225	0.003		--	0.09
TR-1 225-230	0.002		--	0.09
TR-1 230-235	0.001		--	0.22
TR-1 235-240	0.002		--	0.34
TR-1 240-245	0.002	0.002	--	0.40
TR-1 245-250	0.003		--	0.20
TR-1 250-255	0.011		--	0.41

$\frac{1.21}{20} = 0.061$

$\frac{0.455}{20} = 0.0228$

$\frac{80.31}{20} = 4.016$ × 3 SD × 50% = 7.027 → $28.027

1.016 × 3 SD × 50% = 1.78 = 7.96 → $9.74

PRELIMINARY REPORT

REPORT : SP 021255

Sample	Au(OZ) OZ/TON	Au(RZ) OZ/TON	AuCN OPT	Ag(OZ) OZ/TON
TR-1 255-260	0.141	0.151	--	3.84
TR-1 260-265	0.054	0.057	--	0.96
TR-1 265-270	0.027		--	0.75
TR-1 270-275	0.026		--	1.09
TR-1 275-280	0.040		--	1.86
TR-1 280-285	0.024		--	1.43
TR-1 285-290	0.024		--	0.83
TR-1 290-295	0.020		--	1.56
TR-1 295-300	0.039		--	1.03
TR-1 325-330	0.024		--	0.56
TR-1 330-335	0.013		--	0.28
TR-1 335-340	0.008		--	0.20
TR-1 340-345	0.009		--	0.22
TR-1 345-350	0.001		--	0.07
TR-1 350-355	0.003		--	0.07
TR-1 355-360	<0.001	0.001	--	0.06
TR-1 360-365	0.001		--	0.07
TR-1 365-370	0.001		--	0.06
TR-1 370-375	0.026		--	0.42
TR-1 375-380	0.016		--	0.20
TR-1 380-385	0.025		--	0.13
TR-1 385-390	0.046		--	0.70
TR-1 390-395	0.049		--	0.45
TR-1 395-400	0.093		--	1.64
TR-2 0-5	0.005		--	0.27

< 20' Stope

0.315 / 15 @ 30 = 0.021 ≡ 1.35

5.13 / 15 = 0.34 × 0.60 = 1.35 / 1.97

Ag = 2.50 oz

PRELIMINARY REPORT

REPORT : SP 021255

Sample	Au(OZ) OZ/TON	Au(RZ) OZ/TON	AuCN OPT	Ag(OZ) OZ/TON
TR-2 5-10	0.005		--	0.18
TR-2 10-15	0.028		--	0.17
TR-2 15-20	0.011		--	0.15
TR-2 20-25	0.005	0.005	--	0.12
TR-2 25-30	0.005		--	0.16
TR-2 30-35	0.011		--	0.25
TR-2 35-40	0.007		--	0.17
TR-2 40-45	0.006		--	1.75
TR-2 45-50	0.006		--	0.40
TR-2 50-55	0.007		--	1.90
TR-2 55-60	0.064		0.047	8.02
TR-2 60-65	0.035	0.035	0.022	3.65
TR-2 65-70	0.019		0.020	0.75
TR-2 70-75	0.008		0.008	0.74
TR-2 75-80	0.017		0.012	1.06
TR-2 80-85	0.044		0.043	2.05
TR-2 85-90	0.073		0.070	3.70
TR-2 90-95	0.016		0.016	0.64
TR-2 95-100	0.015		0.015	0.31
TR-2 100-105	0.031		0.027	0.53
TR-2 105-110	0.027		--	0.50
TR-2 110-115	0.005		--	0.17
TR-2 115-120	0.030		--	0.49
TR-2 120-125	0.048		--	1.02
TR-2 125-130	0.029	0.028	--	0.83

0.387 / 20 = 0.0194 $16.77

26.44 / 20 = 1.32 $21.32

6.72 / 9.09 $9

PRELIMINARY REPORT

REPORT : SP 021255

Sample	Au(OZ) OZ/TON	Au(RZ) OZ/TON	AuCN OPT	Ag(OZ) OZ/TON
TR-2 130-135	0.020	0.023	--	0.54
TR-2 135-140	0.034		--	0.46
TR-2 140-145	0.027		--	0.49
TR-2 145-150	0.020		--	0.60
TR-2 150-155	0.021		--	0.48
TR-2 155-160	0.024		--	0.74
TR-2 160-165	0.024		--	0.67
TR-2 165-170	0.066	0.066	--	1.85
TR-2 170-175	0.043		--	0.66
TR-2 175-180	0.035		--	1.00
TR-2 180-185	0.043	0.042	--	0.92
TR-2 185-190	0.031		--	0.63
TR-2 190-195	0.045		--	0.60
TR-2 195-200	0.078		--	0.81
TR-2 200-205	0.087		--	0.48
TR-2 205-210	0.066		--	0.59
TR-2 210-215	0.066		--	0.99
TR-2 215-220	0.075		--	0.92
TR-2 220-225	0.050		--	0.54
TR-2 225-230	0.052		--	1.29
TR-2 230-235	0.012		--	0.53
TR-2 235-240	0.006		--	0.24
TR-2 240-245	0.005		--	0.29
TR-2 245-250	0.002		--	0.08
TR-2 250-255	0.002		--	0.22

$\frac{0.681}{20} = 0.0341$ @ \$350 = \$11.92

$\frac{13.99}{20} = 0.699 \times 3.5 \times 50\% = \$1.22$ = 11.93 = \$13.15

$\frac{0.465}{20} = 0.023 \times 350 = \$8.14$

$\frac{10.27}{20} = 0.514 \times 3.5 \times 50\% = 0.90$ = 8.14 = 9.04

PRELIMINARY REPORT

REPORT : SP 021255

Sample	Au(OZ) OZ/TON	Au(RZ) OZ/TON	AuCN OPT	Ag(OZ) OZ/TON
TR-2 255-260	0.006		--	0.71
TR-2 260-265	0.004		--	0.32
TR-2 265-270	0.007		--	0.35
TR-2 270-275	0.007		--	1.48
TR-2 275-280	0.004		--	0.41
TR-2 280-285	0.008		--	0.50
TR-2 285-290	0.003		--	0.16
TR-2 290-295	0.006		--	0.10
TR-2 295-300	0.001	0.001	--	0.07
TR-2 300-305	0.001		--	0.06
TR-2 305-310	<0.001		--	0.17
TR-2 310-315	0.003		--	0.12
TR-2 315-320	0.007		--	0.63
TR-2 320-325	0.010		--	0.45
TR-2 325-330	0.005		--	0.53
TR-2 330-335	0.006		--	0.55
TR-2 335-340	0.009		--	0.38
TR-2 340-345	0.012		--	1.14
TR-2 345-350	0.017		--	0.42
TR-2 350-355	0.004		--	0.36
TR-2 355-360	0.004	0.004	--	0.30
TR-2 360-365	0.004		--	0.20
TR-2 365-370	0.001		--	0.06
TR-2 370-375	0.002		--	0.13
TR-2 375-380	0.001		--	0.13

$\frac{0.096}{19} = 0.051 = 1.77$ +3σ

$\frac{6.41}{19} = 0.337$ +3σ

$\frac{0.59}{1.36} = 0.43$

PRELIMINARY REPORT

REPORT : SP 021255

Sample	Au(OZ) OZ/TON	Au(RZ) OZ/TON	AuCN DPT	Ag(OZ) OZ/TON
TR-2 380-385	<0.001		--	0.14
TR-2 385-390	0.006		--	0.33
TR-2 390-395	0.003		--	0.31
TR-3 0-5	0.005		--	0.05
TR-3 5-10	<0.001		--	0.04
TR-3 10-15	0.003		--	0.04
TR-3 15-20	0.001		--	0.08
TR-3 20-25	<0.001		--	0.05
TR-3 25-30	0.007		--	0.12
TR-3 30-35	0.009		--	0.10
TR-3 35-40	0.003		--	0.08
TR-3 40-45	0.013	0.101/17 = 0.00594 x 350 $2.08		0.28
TR-3 45-50	0.005		--	0.31
TR-3 50-55	0.001		--	0.25
TR-3 55-60	<0.001		--	0.13
TR-3 60-65	0.001		--	0.22
TR-3 65-70	0.004		--	0.26
TR-3 70-75	0.001		--	0.18
TR-3 75-80	0.001	0.001	--	0.16
TR-3 95-100	0.047		--	2.09
TR-3 100-105	0.174	0.160	--	3.59
TR-3 105-110	0.038		--	1.15
TR-3 110-115	0.065		--	2.34
TR-3 115-120	0.016		--	0.72
TR-3 120-125	0.012		--	1.69

4.44/17 = 0.26 x $3.5 x .5 = $0.46

2.08 / 2.54

15' Stope

0.0755 x 350 = $26.42

9.17/4 = 2.29 x 350 x .5 = $4.01

26.46 / 30.47

PRELIMINARY REPORT

REPORT : SP 021255

Sample	Au(OZ) OZ/TON	Au(RZ) OZ/TON	AuCN OPT	Ag(OZ) OZ/TON
TR-3 125-130	0.013		--	1.02
TR-3 130-135	0.031		0.028	1.93
TR-3 135-140	0.018		0.018	1.35
TR-3 155-160	0.142		0.108	4.30
TR-3 165-170	0.031		0.027	2.19
TR-3 170-175	0.045		0.040	2.04
TR-3 175-180	0.044		0.045	1.20
TR-3 180-185	0.039		0.030	1.76
TR-3 185-190	0.032		0.022	1.62
TR-3 190-195	0.035		0.032	2.07
TR-3 195-200	0.036		0.035	1.84
TR-3 200-205	0.010		--	0.40
TR-3 205-210	0.011		--	0.17
TR-3 210-215	0.004	0.004	--	0.33
TR-3 215-220	0.003		--	0.26
TR-3 220-225	0.003		--	0.11
TR-3 225-230	0.003	0.003	--	0.08
TR-3 230-235	0.010		--	0.39
TR-3 235-240	0.004		--	0.30
TR-3 240-245	0.003		--	0.27
TR-3 245-250	0.012		--	0.22
TR-3 250-255	0.041		--	0.70
TR-3 255-260	0.101		--	0.71
TR-3 260-265	0.009		--	0.17
TR-3 265-270	0.010		--	0.38

15 stope

0.798/16 = 0.049 × 350 = $17.46

0.453/10 = 0.0453 × 350 = $15.86

0.269/80 = 0.0135 × 350 = $4.70

32.25/16 = 2.02 × 3.5 × .5 = $3.53 + 15.86 = $19.39

20.3/16 = 2.03 × 3.50 × .5 = $3.55 + 15.86 = $19.41

10.57/20 = 0.529 × 3.50 × .5 = $0.93 + 4.70 = 5.63

PRELIMINARY REPORT

REPORT : SP 021255

Sample	Au(OZ) OZ/TON	Au(RZ) OZ/TON	AuCN OPT	Ag(OZ) OZ/TON
TR-3 270-275	0.005		--	0.23
TR-3 275-280	0.009		--	0.74
TR-3 280-285	0.011		--	1.84
TR-3 285-290	0.014		--	1.88
TR-3 290-295	0.002		--	0.79
TR-3 295-300	0.004		--	0.60
TR-3 300-305	0.003		--	0.17
TR-3 305-310	0.011		--	0.09
TR-3 310-315	0.019		--	0.20
TR-3 315-320	0.003	0.003	--	0.13
TR-3 320-325	0.002	0.002	--	0.19
TR-3 325-330	0.001		--	0.08
TR-3 330-335	<0.001		--	0.06
TR-3 335-340	0.001		--	0.12
TR-3 340-345	0.003		--	0.29
TR-3 345-350	0.019		--	0.36
TR-3 350-355	0.010		--	0.48
TR-3 355-360	0.006	$\frac{0.105}{19} = 0.006 \times 350 = \$1.93$	--	0.50
TR-3 360-365	0.002		--	0.16
TR-3 365-370	<0.001		--	0.06
TR-3 370-375	<0.001		--	0.06
TR-3 375-380	<0.001		--	0.06
TR-3 380-385	0.005		--	0.37
TR-3 385-390	0.005		--	0.24
TR-3 390-395	0.015		--	0.58

PRELIMINARY REPORT

REPORT : SP 021271

Sample	Au(OZ) OZ/TON	Au(RZ) OZ/TON	Ag(OZ) OZ/TON	
TR-4 0-5	0.008	0.008	0.07	2/26/93 JAB Comments —
TR-4 5-10	0.002		0.13	Very dark. No sign of
TR-4 10-15	0.002		0.09	W. Sirle / Bigg Hills - main
TR-4 15-20	0.008	0.007	0.13	
TR-4 20-25	0.001	0.001	0.07	
TR-4 25-30	0.002		0.12	
TR-4 30-35	0.003		0.10	
TR-4 35-40	0.001		0.04	
TR-4 40-45	<0.001		<0.02	
TR-4 45-50	<0.001		0.11	
TR-4 50-55	0.010		0.16	
TR-4 55-60	0.002		0.10	
TR-4 60-65	0.007		0.40	
TR-4 65-70	0.004	0.004	0.43	
TR-4 70-75	0.001		0.14	
TR-4 75-80	0.003		0.15	
TR-4 80-85	0.003		0.11	
TR-4 85-90	<0.001		0.04	
TR-4 90-95	0.002		0.17	
TR-4 95-100	<0.001		0.02	
TR-4 100-105	0.002		0.03	
TR-4 105-110	<0.001		0.04	
TR-4 110-115	<0.001		0.02	
TR-4 115-120	<0.001		0.02	
TR-4 120-125	<0.001		<0.02	

PRELIMINARY REPORT

REPORT : SP 021271

Sample	Au(OZ) OZ/TON	Au(RZ) OZ/TON	Ag(OZ) OZ/TON
TR-4 125-130	<0.001		0.03
TR-4 130-135	<0.001	<0.001	<0.02
TR-4 135-140	0.001		<0.02
TR-4 140-145	<0.001		0.02
TR-4 145-150	<0.001		<0.02
TR-4 150-155	<0.001		<0.02
TR-4 155-160	<0.001		0.03
TR-4 160-165	<0.001		0.04
TR-4 165-170	0.032		1.18
TR-4 170-175	0.028		0.52
TR-4 175-180	0.002		0.14
TR-4 180-185	0.002		0.12
TR-4 185-190	<0.001	<0.001	0.13
TR-4 190-195	<0.001		0.06
TR-4 195-200	0.006		0.34
TR-4 200-205	0.006		0.18
TR-4 205-210	0.012		0.25
TR-4 210-215	0.002		0.13
TR-4 215-220	0.003		0.16
TR-4 220-225	<0.001	<0.001	0.03
TR-4 225-230	<0.001		0.06
TR-4 230-235	<0.001		<0.02
TR-4 235-240	<0.001		0.09
TR-4 240-245	0.001		0.06
TR-4 245-250	0.001		0.08

PRELIMINARY REPORT

REPORT : SP 021271

Sample	Au(OZ) OZ/TON	Au(RZ) OZ/TON	Ag(OZ) OZ/TON
TR-4 250-255	0.001		0.11
TR-4 255-260	<0.001	<0.001	0.06
TR-4 260-265	<0.001		<0.02
TR-4 265-270	<0.001		<0.02
TR-4 270-275	<0.001		<0.02
TR-4 275-280	<0.001		0.03
TR-4 280-285	0.001		0.06
TR-4 285-290	<0.001		0.03
TR-4 290-295	<0.001		0.02
TR-4 295-300	0.003		0.05
TR-4 300-305	<0.001		0.03
TR-4 305-310	<0.001		0.11
TR-4 310-315	<0.001		0.04
TR-4 315-320	<0.001		0.03
TR-4 320-325	0.001		0.08
TR-4 325-330	0.001		0.12
TR-4 330-335	0.008		0.09
TR-4 335-340	0.030		0.60
TR-4 340-345	0.002	0.002	0.33
TR-4 345-350	0.002		0.38
TR-4 350-355	0.001		0.08
TR-4 355-360	<0.001	<0.001	0.10
TR-4 360-365	0.002		0.14
TR-4 365-370	<0.001		0.03
TR-4 370-375	<0.001		0.02

PRELIMINARY REPORT

REPORT : SP 021271

Sample	Au(OZ) OZ/TON	Au(RZ) OZ/TON	Ag(OZ) OZ/TON	
TR-4 375-380	0.001		0.18	
TR-4 380-385	0.001		0.07	
TR-4 385-390	0.002		0.09	
TR-4 390-395	0.009		0.19	
TR-4 395-400	0.001		0.08	
TR-5 0-5	0.001		0.04	2/26/93 JAB Comment: Very dark-
TR-5 5-10	0.003		0.13	No sign of the V.L. Sole roll re
TR-5 10-15	0.004		0.22	[illegible] Dissame. No apparent
.R-5 15-20	0.002		0.11	Dike main, in Sole
TR-5 20-25	0.001		0.04	
TR-5 25-30	<0.001		<0.02	
TR-5 30-35	<0.001		<0.02	
TR-5 35-40	<0.001		<0.02	
TR-5 40-45	<0.001	<0.001	<0.02	
TR-5 45-50	<0.001		<0.02	
TR-5 50-55	<0.001		<0.02	
TR-5 55-60	<0.001		0.02	
TR-5 60-65	0.001		0.04	
TR-5 65-70	<0.001	<0.001	<0.02	
TR-5 70-75	<0.001		<0.02	
TR-5 75-80	<0.001		<0.02	
R-5 80-85	<0.001		<0.02	
TR-5 85-90	<0.001		<0.02	
TR-5 90-95	<0.001		0.19	
TR-5 95-100	<0.001		0.08	

PRELIMINARY REPORT

REPORT : SP 021271

Sample	Au(OZ) OZ/TON	Au(RZ) OZ/TON	Ag(OZ) OZ/TON
TR-5 100-105	<0.001		<0.02
TR-5 105-110	<0.001		<0.02
TR-5 110-115	<0.001		<0.02
TR-5 115-120	<0.001		<0.02
TR-5 120-125	<0.001		<0.02
TR-5 125-130	<0.001		<0.02
TR-5 130-135	<0.001		<0.02
TR-5 135-140	<0.001		<0.02
TR-5 140-145	<0.001	<0.001	0.04
TR-5 145-150	<0.001		0.02
TR-5 150-155	<0.001		0.04
TR-5 155-160	<0.001		<0.02
TR-5 160-165	<0.001		<0.02
TR-5 165-170	<0.001		<0.02
TR-5 170-175	<0.001		<0.02
TR-5 175-180	<0.001		<0.02
TR-5 180-185	<0.001		0.02
TR-5 185-190	<0.001		0.04
TR-5 190-195	<0.001		<0.02
TR-5 195-200	<0.001		<0.02
TR-5 200-205	0.001		<0.02
TR-5 205-210	<0.001		0.11
TR-5 210-215	<0.001		0.04
TR-5 215-220	<0.001		0.06
TR-5 220-225	0.002		0.06

PRELIMINARY REPORT

REPORT : SP 021271

Sample	Au(OZ) OZ/TON	Au(RZ) OZ/TON	Ag(OZ) OZ/TON
TR-5 225-230	<0.001		0.02
TR-5 230-235	<0.001		<0.02
TR-5 235-240	<0.001	<0.001	<0.02
TR-5 240-245	<0.001		<0.02
TR-5 245-250	<0.001		<0.02
TR-5 250-255	<0.001		<0.02
TR-5 255-260	<0.001		<0.02
TR-5 260-265	<0.001		0.03
TR-5 265-270	<0.001		0.03
TR-5 270-275	0.001		0.03
TR-5 275-280	<0.001		<0.02
TR-5 280-285	<0.001		0.04
TR-5 285-290	<0.001		0.03
TR-5 290-295	0.002		0.08
TR-5 295-300	0.004	0.005	0.04
TR-5 300-305	0.001		0.05
TR-5 305-310	<0.001		0.02
TR-5 310-315	0.001		0.02
TR-5 315-320	0.016		0.30
TR-5 320-325	0.005	0.004	0.35
TR-5 325-330	0.006		0.71
TR-5 330-335	<0.001		0.05
TR-5 335-340	<0.001		0.06
TR-5 340-345	<0.001		0.04
TR-5 345-350	[illegible]		[illegible]

PRELIMINARY REPORT

REPORT : SP 021271

Sample	Au(OZ) OZ/TON	Au(RZ) OZ/TON	Ag(OZ) OZ/TON	
TR-5 350-355	<0.001		0.02	
TR-5 355-360	<0.001	<0.001	0.04	
TR-5 360-365	<0.001		<0.02	
TR-5 365-370	0.001		0.05	
TR-5 370-375	0.007		0.30	
TR-5 375-380	0.003		0.11	
TR-5 380-385	<0.001		<0.02	
TR-5 385-390	<0.001		<0.02	
TR-5 390-395	<0.001		0.05	
TR-5 395-400	<0.001		0.05	
TR-6 0-5	0.001		0.08	2/26/93 JAB Comments:
TR-6 5-10	0.001		0.09	Very dark. No sign of AZ quartz
TR-6 10-15	0.002		0.08	fission. No apparent diss. in
TR-6 15-20	<0.001		0.04	Soils.
TR-6 20-25	<0.001	<0.001	0.03	
TR-6 25-30	<0.001		0.02	
TR-6 30-35	<0.001		0.02	
TR-6 35-40	<0.001		0.03	
TR-6 40-45	<0.001		<0.02	
TR-6 45-50	<0.001		0.03	
TR-6 50-55	<0.001		<0.02	
TR-6 55-60	<0.001		<0.02	
TR-6 60-65	<0.001		<0.02	
TR-6 65-70	<0.001		0.02	
TR-6 70-75	0.002		<0.02	

PRELIMINARY REPORT

REPORT : SP 021271

Sample	Au(OZ) OZ/TON	Au(RZ) OZ/TON	Ag(OZ) OZ/TON
TR-6 75-80	<0.001		<0.02
TR-6 80-85	<0.001		<0.02
TR-6 85-90	<0.001		<0.02
TR-6 90-95	<0.001	<0.001	<0.02
TR-6 95-100	<0.001		0.04
TR-6 100-105	<0.001		<0.02
TR-6 105-110	<0.001		0.04
TR-6 110-115	<0.001		0.05
TR-6 115-120	<0.001		<0.02
TR-6 120-125	<0.001		<0.02
TR-6 125-130	<0.001	<0.001	<0.02
TR-6 130-135	<0.001		<0.02
TR-6 135-140	<0.001		0.04
TR-6 140-145	<0.001		0.07
TR-6 145-150	<0.001		0.06
TR-6 150-155	<0.001		<0.02
TR-6 155-160	<0.001		0.04
TR-6 160-165	<0.001		0.12
TR-6 165-170	<0.001		0.16
TR-6 170-175	<0.001		0.06
TR-6 175-180	<0.001		0.06
TR-6 180-185	<0.001	<0.001	<0.02
TR-6 185-190	<0.001		0.06
TR-6 190-195	<0.001		0.03
TR-6 195-200	<0.001		<0.02

PRELIMINARY REPORT

REPORT : SP 021271

Sample	Au(OZ) OZ/TON	Au(RZ) OZ/TON	Ag(OZ) OZ/TON
TR-6 200-205	<0.001		0.11
TR-6 205-210	0.001		0.06
TR-6 210-215	<0.001		<0.02
TR-6 215-220	<0.001		<0.02
TR-6 220-225	<0.001		<0.02
TR-6 225-230	<0.001	<0.001	<0.02
TR-6 230-235	<0.001		<0.02
TR-6 235-240	<0.001		<0.02
TR-6 240-245	<0.001		<0.02
TR-6 245-250	<0.001		<0.02
TR-6 250-255	<0.001		<0.02
TR-6 255-260	<0.001		0.04
TR-6 260-265	<0.001		0.03
TR-6 265-270	<0.001	<0.001	<0.02
TR-6 270-275	<0.001		<0.02
TR-6 275-280	<0.001		<0.02
TR-6 280-285	0.013		0.04
TR-6 285-290	0.002		0.08
TR-6 290-295	<0.001		0.02
TR-6 295-300	<0.001		<0.02
TR-6 300-305	<0.001		<0.02
TR-6 305-310	<0.001		<0.02
TR-6 310-315	<0.001	0.001	0.11
TR-6 315-320	0.001		0.03
TR-6 320-325	0.001		0.03

PRELIMINARY REPORT

REPORT : SP 021271

Sample	Au(OZ) OZ/TON	Au(RZ) OZ/TON	Ag(OZ) OZ/TON	
TR-6 325-330	0.003		0.08	
TR-6 330-335	<0.001		0.04	
TR-6 335-340	0.002		0.09	
TR-6 340-345	0.008		0.03	
TR-6 345-350	<0.001		<0.02	
TR-6 350-355	0.002		0.03	
TR-6 355-360	0.002		0.04	
TR-7 0-5	0.004	0.005	0.18	2/24/93 JAE Comments -
TR-7 5-10	0.002		0.08	Very clean. No signs of AZ
TR-7 10-15	0.003		0.15	Known Source. No apparent
TR-7 15-20	0.003		0.17	diss. miner in Sects.
TR-7 20-25	0.004		0.28	
TR-7 25-30	0.004		0.30	
TR-7 30-35	0.001		0.13	
TR-7 35-40	0.002		0.15	
TR-7 40-45	0.001		0.06	
TR-7 45-50	<0.001		<0.02	
TR-7 50-55	<0.001	<0.001	0.06	
TR-7 55-60	<0.001		0.20	
TR-7 60-65	<0.001		0.21	
TR-7 65-70	0.001		0.18	
TR-7 70-75	<0.001		0.06	
TR-7 75-80	0.002		0.55	
TR-7 80-85	0.002		0.40	
TR-7 85-90	0.003		0.44	

PRELIMINARY REPORT

REPORT : SP 021271

Sample	Au(OZ) OZ/TON	Au(RZ) OZ/TON	Ag(OZ) OZ/TON
TR-7 90-95	0.002	0.002	0.13
TR-7 95-100	<0.001		0.05
TR-7 100-105	0.001		0.14
TR-7 105-110	<0.001		0.04
TR-7 110-115	<0.001		0.06
TR-7 115-120	<0.001		0.27
TR-7 120-125	<0.001		0.18
TR-7 125-130	0.001		0.13
TR-7 130-135	0.002		0.21
TR-7 135-140	<0.001		0.13
TR-7 140-145	<0.001		0.04
TR-7 145-150	<0.001	<0.001	0.03
TR-7 150-155	0.001		0.16
TR-7 155-160	<0.001		0.22
TR-7 160-165	0.001		0.09
TR-7 165-170	<0.001		0.11
TR-7 170-175	<0.001		0.08
TR-7 175-180	<0.001		0.05
TR-7 180-185	<0.001		0.06
TR-7 185-190	<0.001		0.06
TR-7 190-195	<0.001		0.10
TR-7 195-200	<0.001		0.03
TR-7 200-205	<0.001	<0.001	<0.02
TR-7 205-210	0.005		0.18
TR-7 210-215	0.004		0.53

PRELIMINARY REPORT

REPORT : SP 021271

Sample	Au(OZ) OZ/TON	Au(RZ) OZ/TON	Ag(OZ) OZ/TON
TR-7 215-220	0.002		0.66
TR-7 220-225	<0.001		0.16
TR-7 225-230	<0.001		0.09
TR-7 230-235	<0.001		0.03
TR-7 235-240	<0.001		0.03
TR-7 240-245	<0.001		0.03
TR-7 245-250	<0.001		0.02
TR-7 250-255	0.001		0.04
TR-7 255-260	<0.001		0.06
TR-7 260-265	<0.001		0.05
TR-7 265-270	0.002		0.07
TR-7 270-275	0.001		0.04
TR-7 275-280	<0.001		0.03
TR-7 280-285	<0.001		0.04
TR-7 285-290	<0.001	<0.001	0.07
TR-7 290-295	0.001		0.04
TR-7 295-300	<0.001		0.03
TR-7 300-305	0.004		0.03
TR-7 305-310	<0.001		0.03
TR-7 310-315	<0.001		<0.02
TR-7 315-320	<0.001	<0.001	0.04
TR-7 320-325	0.002		0.03
TR-7 325-330	<0.001		0.02
TR-7 330-335	<0.001		0.09
TR-7 335-340	<0.001		0.05

PRELIMINARY REPORT

REPORT : SP 021271

Sample	Au(OZ) OZ/TON	Au(RZ) OZ/TON	Ag(OZ) OZ/TON
TR-7 340-345	<0.001		<0.02
TR-7 345-350	0.002		0.23
TR-7 350-355	<0.001		0.15
TR-7 355-360	0.010		0.29
TR-7 360-365	<0.001		0.05
TR-7 365-370	<0.001		0.06
TR-7 370-375	0.004	0.004	0.80
TR-7 375-380	<0.001		0.14
TR-7 380-385	<0.001		<0.02
TR-7 385-390	0.003		0.18
TR-7 390-395	<0.001	<0.001	0.03
TR-7 395-400	<0.001		0.03

Please refer to the cover sheet for further analysis details.

ANALYSIS REPORT

American Assay Laboratories Inc.

REPORT : SP 021356

Sample	Au(OZ) OZ/TON	Au(RZ) OZ/TON	AuRZ2 OZ/TON	Ag(OZ) OZ/TON
TB-8 0-5	<0.001		--	0.04
TB-8 5-10	<0.001		--	0.02
TB-8 10-15	<0.001		--	<0.02
TB-8 15-20	<0.001		--	<0.02
TB-8 20-25	<0.001		--	<0.02
TB-8 25-30	<0.001		--	<0.02
TB-8 30-35	<0.001	<0.001	--	<0.02
TB-8 35-40	0.003		--	<0.02
TB-8 40-45	<0.001		--	<0.02
TB-8 45-50	<0.001		--	<0.02
TB-8 50-55	<0.001		--	0.02
TB-8 55-60	<0.001		--	0.06
TB-8 60-65	<0.001		--	<0.02
TB-8 65-70	<0.001		--	0.04
TB-8 70-75	<0.001		--	<0.02
TB-8 75-80	0.001		--	0.02
TB-8 80-85	0.004	0.004	--	0.03
TB-8 85-90	0.002		--	0.02
TB-8 90-95	<0.001		--	<0.02
TB-8 95-100	<0.001		--	<0.02
TB-8 100-105	<0.001		--	0.02
TB-8 105-110	<0.001		--	<0.02
TB-8 110-115	<0.001		--	0.04
TB-8 115-120	<0.001		--	0.06
TB-8 120-125	<0.001		--	0.06

ANALYSIS REPORT

American Assay Laboratories Inc.

REPORT : SP 021356

Sample	Au(OZ) OZ/TON	Au(RZ) OZ/TON	AuRZ2 OZ/TON	Ag(OZ) OZ/TON
TB-8 125-130	0.008	0.007	--	0.12
TB-8 130-135	0.038	$\frac{0.054}{3} = 0.018$	--	0.23
TB-8 135-140	0.008	$\times 350 = \$6.30$	--	0.46
TB-8 140-145	0.005		--	0.23
TB-8 145-150	0.014		--	0.31
TB-8 150-155	0.005		--	0.30
TB-8 155-160	0.004		--	0.67
TB-8 160-165	0.008		--	0.56
TB-8 165-170	0.011		--	0.46
TB-8 170-175	0.052	0.054	--	0.59
TB-8 175-180	0.130		--	4.28
TB-8 180-185	0.066	$\frac{1.072}{18} = 0.0596$	--	1.13
TB-8 185-190	0.059	$\times 350 = \$20.84$	--	0.99
TB-8 195-200	0.084		--	0.96
TB-8 200-205	0.045		--	0.53
TB-8 205-210	0.041		--	0.66
TB-8 210-215	0.054		--	1.93
TB-8 215-220	0.036		--	1.56
TB-8 220-225	0.065	0.115	0.085	1.98
TB-8 225-230	0.041		--	0.81
TB-8 230-235	0.029		--	0.50
TB-8 235-240	0.127		--	1.15
TB-8 240-245	0.083		--	2.20
TB-8 245-250	0.137		--	2.39
TB-8 250-255	0.034		--	1.23

$\frac{25.53}{18} = 1.42 \times 3^{50} \times .5 = \$2.40$

20.84

$\$23.24$

90'

ANALYSIS REPORT

American Assay Laboratories Inc.

REPORT : SP 021356

Sample	Au(OZ) OZ/TON	Au(RZ) OZ/TON	AuRZ2 OZ/TON	Ag(OZ) OZ/TON
TB-8 255-260	0.030		--	2.18
TB-8 260-265	0.010		--	0.45
TB-8 265-270	0.007		--	0.17
TB-8 270-275	0.011		--	0.20
TB-8 275-280	0.018	0.020	--	0.21
TB-8 280-285	0.133		--	1.48
TB-8 285-290	0.187		--	1.76
TB-8 290-295	0.031		--	1.44
TB-8 295-300	0.015		--	0.90
TB-8 300-305	0.010		--	1.01
TB-8 305-310	0.012		--	0.75
TB-8 310-315	0.007		--	0.42
TB-8 315-320	0.003		--	0.32
TB-8 320-325	0.003		--	0.33
TB-8 325-330	0.005		--	2.11
TB-8 330-335	0.006	0.007	--	1.19
TB-8 335-340	0.007		--	0.36
TB-8 340-345	0.013	0.012	--	0.31
TB-8 345-350	0.005		--	0.20
TB-8 350-355	0.005		--	0.46
TB-8 355-360	0.003		--	0.28
TB-8 360-365	0.003		--	0.17
TB-8 365-370	0.003		--	0.24
TB-8 370-375	0.005		--	0.31
TB-8 375-380	0.008	0.007	--	0.48

$\frac{0.384}{5} = 0.077 \times 350 = 26.88$

$\frac{5.79}{5} = 1.158 \times 350 = 2.03$

$\frac{26.88}{38.91}$

ANALYSIS REPORT

American Assay Laboratories Inc.

REPORT : SP 021356

Sample	Au(OZ) OZ/TON	Au(RZ) OZ/TON	AuRZ2 OZ/TON	Ag(OZ) OZ/TON
TB-8 380-385	0.009		--	0.56
TB-8 385-390	0.005		--	0.26
TB-8 390-395	0.004		--	0.11
TB-8 395-400	0.002		--	0.06

Please refer to the cover sheet for further analysis details.

	Au	Ag
# 9	0.0605	0.011
# 10	0.0007	0.032
" 11	0.0012	0.136

1st ~~70'~~ 50', or 10 samples.. Aug

ANALYSIS REPORT

American Assay Laboratories Inc.

REPORT : SP 021367

Sample	Au(OZ) OZ/TON	Au(RZ) OZ/TON	Ag(OZ) OZ/TON
TR-9 0-5	<0.001		<0.02
TR-9 5-10	<0.001		<0.02
TR-9 10-15	<0.001		<0.02
TR-9 15-20	<0.001		<0.02
TR-9 20-25	<0.001		<0.02
TR-9 25-30	<0.001		<0.02
TR-9 30-35	0.001	0.002	<0.02
TR-9 35-40	0.001		<0.02
TR-9 40-45	0.003	0.0052	0.11
TR-9 45-50	<0.001		<0.02
TR-9 50-55	<0.001	<0.001	<0.02
TR-9 55-60	<0.001		<0.02
TR-9 60-65	<0.001		<0.02
TR-9 65-70	<0.001		<0.02
TR-9 70-75	<0.001		<0.02
TR-9 75-80	<0.001		<0.02
TR-9 80-85	<0.001		<0.02
TR-9 85-90	<0.001		<0.02
TR-9 90-95	<0.001		<0.02
TR-9 95-100	<0.001		<0.02
TR-9 100-105	0.002		0.03
TR-9 105-110	0.002		0.06
TR-9 110-115	0.002		0.07
TR-9 115-120	0.003		0.37
TR-9 120-125	0.003		0.48

0.011

2/25/93 JAE comments: This hole drilled in a barren area. A low results expected. Perhaps drilling to 100' would have intercepted the carbonate zone & better results.

Please refer to the cover sheet for further [illegible]

ANALYSIS REPORT

American Assay Laboratories Inc.

REPORT : SP 021367

Sample	Au(OZ) OZ/TON	Au(RZ) OZ/TON	Ag(OZ) OZ/TON
TR-9 125-130	0.006	0.006	0.30
TR-9 130-135	0.005		0.34
TR-9 135-140	0.003		0.13
TR-9 140-145	0.001		0.09
TR-9 145-150	0.001		0.04
TR-9 150-155	<0.001		0.04
TR-9 155-160	<0.001		0.04
TR-9 160-165	0.002		0.15
TR-9 165-170	<0.001		0.02
TR-9 170-175	<0.001		<0.02
TR-9 175-180	<0.001		<0.02
TR-9 180-185	<0.001		<0.02
TR-9 185-190	<0.001	<0.001	<0.02
TR-9 190-195	0.001		0.02
TR-9 195-200	0.001		0.05
TR-9 200-205	<0.001		<0.02
TR-9 205-210	<0.001		0.04
TR-9 210-215	<0.001		0.06
TR-9 215-220	0.001		0.07
TR-9 220-225	0.001		0.04
TR-9 225-230	<0.001		0.02
TR-9 230-235	<0.001		0.03
TR-9 235-240	<0.001	<0.001	0.02
TR-9 240-245	<0.001		<0.02
TR-9 245-250	<0.001		0.04

ANALYSIS REPORT

American Assay Laboratories Inc.

Sample	Au(OZ) OZ/TON	Au(RZ) OZ/TON	Ag(OZ) OZ/TON
TR-9 250-255	0.001		0.03
TR-9 255-260	<0.001		0.02
TR-9 260-265	0.001		<0.02
TR-9 265-270	0.001		0.04
TR-9 270-275	0.002		0.02
TR-9 275-280	0.002		0.02
TR-9 280-285	<0.001		0.02
TR-9 285-290	0.001		0.02
TR-9 290-295	0.001		0.03
TR-9 295-300	0.002	0.002	0.06
TR-9 300-305	0.002		0.05
TR-9 305-310	0.002		0.05
TR-9 310-315	0.001		0.03
TR-9 315-320	<0.001		<0.02
TR-9 320-325	<0.001		<0.02
TR-9 325-330	<0.001		<0.02
TR-9 330-335	<0.001		<0.02
TR-9 335-340	<0.001	<0.001	<0.02
TR-9 340-345	<0.001		0.03
TR-9 345-350	<0.001		0.02
TR-9 350-355	<0.001		0.03
TR-9 355-360	0.001		0.10
TR-9 360-365	0.001		0.05
TR-9 365-370	0.002		0.05
TR-9 370-375	<0.001	<0.001	0.03

ANALYSIS REPORT

American Assay Laboratories Inc.

REPORT : SP 021367

Sample	Au(OZ) OZ/TON	Au(RZ) OZ/TON	Ag(OZ) OZ/TON
TR-9 375-380	<0.001		0.03
TR-9 380-385	0.001		0.04
TR-9 385-390	0.003		0.09
TR-9 390-395	0.002		0.06
TR-9 395-400	<0.001		0.03
TR-10 0-5	<0.001		0.04
TR-10 5-10	<0.001		<0.02
TR-10 10-15	0.002		<0.02
TR-10 15-20	<0.001		<0.02
TR-10 20-25	<0.001		<0.02
TR-10 25-30	0.001		<0.02
TR-10 30-35	0.003		<0.02
TR-10 35-40	0.001	0.001	0.03
TR-10 40-45	<0.001		<0.02
TR-10 45-50	<0.001		<0.02
TR-10 50-55	0.001		<0.02
TR-10 55-60	0.002		<0.02
TR-10 60-65	0.006		0.15
TR-10 65-70	<0.001		0.06
TR-10 70-75	0.001		0.04
TR-10 75-80	0.002		0.04
TR-10 80-85	<0.001		<0.02
TR-10 85-90	<0.001	<0.001	<0.02
TR-10 90-95	<0.001		<0.02
TR-10 95-100	<0.001		<0.02

2/25/93 IAE comments
See RDH 9

ANALYSIS REPORT

American Assay Laboratories Inc.

Sample	Au(OZ) OZ/TON	Au(RZ) OZ/TON	Ag(OZ) OZ/TON
TR-10 100-105	<0.001		<0.02
TR-10 105-110	<0.001		<0.02
TR-10 110-115	0.002		<0.02
TR-10 115-120	<0.001		<0.02
TR-10 120-125	<0.001	<0.001	<0.02
TR-10 125-130	<0.001		<0.02
TR-10 130-135	<0.001		<0.02
TR-10 135-140	<0.001		<0.02
TR-10 140-145	<0.001		<0.02
TR-10 145-150	<0.001		<0.02
TR-10 150-155	<0.001		<0.02
TR-10 155-160	<0.001		<0.02
TR-10 160-165	<0.001		<0.02
TR-10 165-170	<0.001		<0.02
TR-10 170-175	<0.001		<0.02
TR-10 175-180	<0.001		<0.02
TR-10 180-185	<0.001		<0.02
TR-10 185-190	<0.001	<0.001	<0.02
TR-10 190-195	<0.001		<0.02
TR-10 195-200	<0.001		0.04
TR-10 200-205	0.002		0.05
TR-10 205-210	0.001		0.04
TR-10 210-215	<0.001		<0.02
TR-10 215-220	0.001	0.001	0.09
TR-10 220-225	0.001		0.10

ANALYSIS REPORT

American Assay Laboratories Inc.

REPORT : SP 021367

Sample	Au(OZ) OZ/TON	Au(RZ) OZ/TON	Ag(OZ) OZ/TON
TR-10 225-230	0.001		0.08
TR-10 230-235	0.001		0.04
TR-10 235-240	0.001		0.05
TR-10 240-245	<0.001		0.04
TR-10 245-250	0.002		0.03
TR-10 250-255	0.002		0.02
TR-10 255-260	0.002		0.03
TR-10 260-265	0.001		0.13
TR-10 265-270	0.001		0.10
TR-10 270-275	<0.001		0.07
TR-10 275-280	<0.001		0.07
TR-10 280-285	<0.001		0.08
TR-10 285-290	<0.001		0.03
TR-10 290-295	<0.001		<0.02
TR-10 295-300	<0.001	<0.001	<0.02
TR-10 300-305	0.001		<0.02
TR-10 305-310	<0.001		<0.02
TR-10 310-315	<0.001		0.03
TR-10 315-320	0.002		0.08
TR-10 320-325	0.001		0.08
TR-10 325-330	0.001		0.10
TR-10 330-335	0.001	0.001	0.10
TR-10 335-340	<0.001		0.07
TR-10 340-345	<0.001		0.15
TR-10 345-350	<0.001		0.17

Please refer to the cover sheets for further analytical details.

ANALYSIS REPORT

American Assay Laboratories Inc.

REPORT : SP 021367

Sample	Au(OZ) OZ/TON	Au(RZ) OZ/TON	Ag(OZ) OZ/TON
TR-10 350-355	<0.001		0.43
TR-10 355-360	0.003		0.40
TR-10 360-365	0.002		0.39
TR-10 365-370	0.004		0.50
TR-10 370-375	0.002		0.28
TR-10 375-380	0.003		0.25
TR-10 380-385	<0.001	0.001	0.15
TR-10 385-390	<0.001		0.08
TR-10 390-395	<0.001		0.05
TR-10 395-400	<0.001		0.03
TR-11 0-5	0.006		0.13
TR-11 5-10	<0.001		0.12
TR-11 10-15	0.001		0.12
TR-11 15-20	0.001		0.18
TR-11 20-25	0.001		0.18
TR-11 25-30	0.003		0.27
TR-11 30-35	<0.001		0.11
TR-11 35-40	<0.001		0.11
TR-11 40-45	<0.001		0.06
TR-11 45-50	<0.001	<0.001	0.08
TR-11 50-55	0.002		0.08
TR-11 55-60	0.002		0.09
TR-11 60-65	0.002		0.15
TR-11 65-70	0.006		0.20
TR-11 70-75	0.004	0.005	0.14

2/25/93 JAB Comments - may be top of hole better - interesting

Please refer to the cover sheet for further analysis details.

ANALYSIS REPORT

American Assay Laboratories Inc.

REPORT : SP 021367

Sample	Au(OZ) OZ/TON	Au(RZ) OZ/TON	Ag(OZ) OZ/TON
TR-11 75-80	0.004		0.10
TR-11 80-85	0.002		0.08
TR-11 85-90	0.002		0.11
TR-11 90-95	0.001		0.08
TR-11 95-100	<0.001	<0.001	0.05
TR-11 100-105	0.003		0.13
TR-11 105-110	<0.001		0.05
TR-11 110-115	<0.001		0.04
TR-11 115-120	<0.001		0.03
TR-11 120-125	<0.001		<0.02
TR-11 125-130	<0.001		<0.02
TR-11 130-135	<0.001		<0.02
TR-11 135-140	0.001		<0.02

Please refer to the cover sheet for further analysis details.

Post-it™ brand fax transmittal memo 7671 | # of pages ▸ 10

To Dennis Lance	From Kit Lamborn
Co. USMX	Co. USMX
Dept. Drill Hole Data	Phone #
Fax # Transmission	Fax #

American Assay Laboratories Inc.

REPORT : SP 021483

Sample	Au(OZ) OZ/TON	Au(RZ) OZ/TON	Ag(OZ) OZ/TON
TR-11 140-145	0.001		<0.02
TR-11 145-150	0.002		<0.02
TR-11 150-155	0.001		<0.02
TR-11 155-160	<0.001	<0.001	<0.02
TR-11 160-165	<0.001		<0.02
TR-11 165-170	<0.001		<0.02
TR-11 170-175	<0.001		<0.02
TR-11 175-180	<0.001		<0.02
TR-11 180-185	<0.001		<0.02
TR-11 185-190	<0.001		<0.02
TR-11 190-195	<0.001		<0.02
TR-11 195-200	<0.001		<0.02
TR-11 200-205	<0.001		<0.02
TR-11 205-210	<0.001		<0.02
TR-11 210-215	<0.001		<0.02
TR-11 215-220	<0.001	<0.001	<0.02
TR-11 220-225	<0.001		0.03
TR-11 225-230	<0.001		<0.02
TR-11 230-235	<0.001		<0.02
TR-11 235-240	<0.001		<0.02
TR-11 240-245	<0.001		0.44
TR-11 245-250	0.003		2.98
TR-11 250-255	0.003		1.59
TR-11 255-260	0.007		0.60
TR-11 260-265	0.004	0.004	1.06

ANALYSIS REPORT

Americ
As
Laborat
Inc.

REPORT : SP 021483

Sample	Au(OZ) OZ/TON	Au(RZ) OZ/TON	Ag(OZ) OZ/TON
TR-11 265-270	0.002		0.48
TR-11 270-275	<0.001		0.20
TR-11 275-280	<0.001		0.05
TR-11 280-285	<0.001		0.05
TR-11 285-290	<0.001		0.07
TR-11 290-295	<0.001		0.14
TR-11 295-300	<0.001		0.28
TR-11 300-305	<0.001		0.03
TR-11 305-310	<0.001		0.02
TR-11 310-315	<0.001		0.02
TR-11 315-320	<0.001		<0.02
TR-11 320-325	<0.001		<0.02
TR-11 325-330	<0.001		<0.02
TR-11 330-335	<0.001	<0.001	<0.02
TR-11 335-340	<0.001		0.03
TR-11 340-345	<0.001		0.14
TR-11 345-350	0.001		0.20
TR-11 350-355	<0.001	<0.001	0.19
TR-11 355-360	<0.001		0.48
TR-11 360-365	<0.001		1.01
TR-11 365-370	0.004		0.69
TR-11 370-375	0.013		1.05
TR-11 375-380	0.003		0.32
TR-11 380-385	<0.001		0.06
TR-11 385-390	<0.001		0.06

ANALYSIS REPORT

American Assay Laboratories Inc.

REPORT : SP 021483

Sample	Au(OZ) OZ/TON	Au(RZ) OZ/TON	Ag(OZ) OZ/TON
TR-11 390-395	<0.001	<0.001	0.02
TR-11 395-400	<0.001		<0.02

Please refer to the cover sheet for further analysis details.

ANALYSIS REPORT

American Assay Laboratories Inc.

REPORT : SP 021467

Sample	Au(OZ) OZ/TON	Au(RZ) OZ/TON	AuGRAV OZ/TON	Ag(OZ) OZ/TON
TR-12 0-5	0.002		--	0.06
TR-12 5-10	<0.001		--	0.03
TR-12 10-15	0.001		--	0.04
TR-12 15-20	0.004	0.004	--	0.04
TR-12 20-25	0.003		--	0.06
TR-12 25-30	0.033	0.036	--	0.23
TR-12 30-35	0.048		--	0.11
TR-12 35-40	0.013	0.014	--	0.18
TR-12 40-45	0.115		0.122	0.15
TR-12 45-50	0.046		--	0.13
TR-12 50-55	0.020		--	0.12
TR-12 55-60	0.017		--	0.46
TR-12 60-65	0.016		--	0.10
TR-12 65-70	0.014		--	0.11
TR-12 70-75	0.042		--	0.12
TR-12 75-80	0.004		--	0.13
TR-12 80-85	0.003	0.003	--	0.15
TR-12 85-90	0.002		--	0.20
TR-12 90-95	0.002		--	0.07
TR-12 95-100	0.009	0.008	--	0.13
TR-12 100-105	0.003	0.003	--	0.08
TR-12 105-110	0.006		--	0.22
TR-12 110-115	0.002		--	0.09
TR-12 115-120	0.006		--	0.27
TR-12 120-125	0.004		--	0.21

ANALYSIS REPORT

American Assay Laboratories Inc.

Sample	Au(OZ) OZ/TON	Au(RZ) OZ/TON	AuGRAV OZ/TON	Ag(OZ) OZ/TON
TR-12 125-130	0.011		--	0.63
TR-12 130-135	0.008		--	0.45
TR-12 135-140	0.002		--	0.11
TR-12 140-145	0.002		--	0.04
TR-12 145-150	0.037	0.035	--	0.06
TR-12 150-155	0.005		--	0.09
TR-12 155-160	0.002		--	0.06
TR-12 160-165	0.005		--	0.04
TR-12 165-170	0.005	0.004	--	0.34
TR-12 170-175	0.009		--	0.27
TR-12 175-180	0.009		--	1.04
TR-12 180-185	0.058		--	2.30
TR-12 185-190	0.031		--	1.79
TR-12 190-195	0.010		--	0.36
TR-12 195-200	0.009		--	0.63
TR-12 200-205	0.008		--	0.27
TR-12 205-210	0.004		--	0.10
TR-12 210-215	0.012		--	0.26
TR-12 215-220	0.033	0.030	--	0.61
TR-12 225-230	0.026	0.029	--	0.43
TR-12 230-235	0.017		--	0.27
TR-12 235-240	0.005		--	0.10
TR-12 240-245	0.046		--	0.45
TR-12 245-250	0.343		0.346	4.07
TR-12 250-255	0.391		0.325	2.63

ANALYSIS REPORT

American Assay Laboratories Inc.

REPORT : SP 021467

Sample	Au(OZ) OZ/TON	Au(RZ) OZ/TON	AuGRAV OZ/TON	Ag(OZ) OZ/TON
TR-12 255-260	0.073		--	0.59
TR-12 260-265	0.148		0.181	1.27
TR-12 265-270	0.020		--	1.83
TR-12 270-275	0.009	0.011	--	0.40
TR-12 275-280	0.011		--	0.47
TR-12 280-285	0.011		--	0.38
TR-12 285-290	0.005		--	0.27
TR-12 290-295	0.004		--	0.25
TR-12 295-300	0.003		--	0.21
TR-12 300-305	0.001		--	0.11
TR-12 305-310	0.003	0.004	--	0.07
TR-12 310-315	0.003		--	0.09
TR-12 315-320	0.005	0.006	--	0.07
TR-12 320-325	0.004		--	0.11
TR-12 325-330	0.004		--	0.10
TR-12 330-335	0.007		--	0.20
TR-12 335-340	0.002		--	0.10
TR-12 340-345	0.002		--	0.06
TR-12 345-350	<0.001		--	0.03
TR-12 350-355	0.007	0.007	--	0.25
TR-12 355-360	0.002		--	0.15
TR-12 360-365	0.002		--	0.17
TR-12 365-370	0.001		--	0.08
TR-12 370-375	0.003		--	0.13
TR-12 375-380	0.002		--	0.29

ANALYSIS REPORT

American Assay Laboratories Inc.

REPORT : SP 021467

Sample	Au(OZ) OZ/TON	Au(RZ) OZ/TON	AuGRAV OZ/TON	Ag(OZ) OZ/TON
TR-12 380-385	0.002		--	0.28
TR-12 385-390	0.002		--	0.30
TR-12 390-395	0.002	0.002	--	0.27
TR-12 395-400	<0.001		--	0.05
TR-13 0-5	0.010	0.012	--	0.54
TR-13 5-10	0.007		--	0.23
TR-13 10-15	0.001		--	0.08
TR-13 15-20	0.001		--	0.38
TR-13 20-25	<0.001		--	0.06
TR-13 25-30	<0.001		--	0.07
TR-13 30-35	<0.001		--	0.04
TR-13 35-40	<0.001	<0.001	--	0.06
TR-13 40-45	<0.001		--	0.03
TR-13 45-50	0.002		--	0.03
TR-13 50-55	0.001		--	0.07
TR-13 55-60	0.002		--	0.05
TR-13 60-65	0.020	0.022	--	0.60
TR-13 65-70	0.002		--	0.28
TR-13 70-75	0.006		--	0.55
TR-13 75-80	0.004		--	0.39
TR-13 80-85	0.028	0.029	--	0.53
TR-13 85-90	0.002	0.002	--	0.15
TR-13 90-95	<0.001	<0.001	--	0.06
TR-13 95-100	0.008		--	0.21
[illegible]	[illegible]		--	0.09

ANALYSIS REPORT

American Assay Laboratories Inc.

REPORT : SP 021467

Sample	Au(OZ) OZ/TON	Au(RZ) OZ/TON	AuGRAV OZ/TON	Ag(OZ) OZ/TON
TR-13 105-110	0.001		--	0.07
TR-13 110-115	0.003		--	0.05
TR-13 115-120	0.001		--	0.07
TR-13 120-125	0.001		--	0.03
TR-13 125-130	0.007		--	0.30
TR-13 130-135	0.010		--	0.65
TR-13 135-140	0.006		--	0.16
TR-13 140-145	0.001	<0.001	--	0.07
TR-13 145-150	0.001		--	0.08
TR-13 150-155	0.002		--	0.14
TR-13 155-160	<0.001		--	0.28
TR-13 160-165	<0.001	0.001	--	0.16
TR-13 165-170	<0.001		--	0.07
TR-13 170-175	0.002		--	0.08
TR-13 175-180	<0.001		--	0.06
TR-13 180-185	0.002		--	0.04
TR-13 185-190	<0.001		--	0.03
TR-13 190-195	<0.001		--	0.03
TR-13 195-200	<0.001		--	0.04
TR-13 200-205	0.005		--	0.10
TR-13 205-210	0.008	0.006	--	0.57
TR-13 210-215	0.003		--	0.16
TR-13 215-220	0.002		--	0.11
TR-13 220-225	0.001		--	0.07
TR-13 225-230	0.003		--	0.16

ANALYSIS REPORT

American Assay Laboratories Inc.

REPORT : SP 021467

Sample	Au(OZ) OZ/TON	Au(RZ) OZ/TON	AuGRAV OZ/TON	Ag(OZ) OZ/TON
TR-13 230-235	<0.001		--	0.02
TR-13 235-240	0.001		--	0.06
TR-13 240-245	0.007	0.008	--	0.32
TR-13 245-250	<0.001	<0.001	--	0.03
TR-13 250-255	0.001	0.001	--	0.22
TR-13 255-260	0.004		--	0.45
TR-13 260-265	0.008		--	0.75
TR-13 265-270	0.002		--	0.09
TR-13 270-275	0.002		--	0.03
TR-13 275-280	0.001		--	0.04
TR-13 280-285	<0.001		--	0.06
TR-13 285-290	<0.001		--	0.03
TR-13 290-295	0.004		--	0.15
TR-13 295-300	0.009	0.008	--	0.52
TR-13 300-305	0.019	0.019	--	0.89
TR-13 305-310	0.003		--	0.16
TR-13 310-315	<0.001		--	0.08
TR-13 315-320	0.001		--	0.05
TR-13 320-325	<0.001	<0.001	--	0.09
TR-13 325-330	0.004		--	0.17
TR-13 330-335	0.007		--	0.52
TR-13 335-340	0.004		--	0.64
TR-13 340-345	0.006	0.008	--	0.28
TR-13 345-350	0.002		--	0.10
TR-13 350-355	0.001		--	0.03

ANALYSIS REPORT

American Assay Laboratories Inc.

REPORT : SP 021467

Sample	Au(OZ) OZ/TON	Au(RZ) OZ/TON	AuGRAV OZ/TON	Ag(OZ) OZ/TON
TR-13 355-360	<0.001		--	0.03
TR-13 360-365	<0.001		--	0.04
TR-13 365-370	0.002		--	0.09
TR-13 370-375	0.002		--	0.05
TR-13 375-380	0.002	0.002	--	0.04
TR-13 380-385	0.001		--	0.11
TR-13 385-390	<0.001		--	0.22
TR-13 390-395	<0.001		--	0.10
TR-13 395-400	<0.001		--	0.27

Please refer to the cover sheet for further analysis details.

ANALYSIS REPORT

American Assay Laboratories Inc.

REPORT : SP 021468

Sample	Au(OZ) OZ/TON	Au(RZ) OZ/TON	Ag(OZ) OZ/TON
TR-14 0-5	0.002		0.08
TR-14 5-10	0.007	0.006	0.04
TR-14 10-15	0.002		0.06
TR-14 15-20	0.003		0.05
TR-14 20-25	0.004		0.07
TR-14 25-30	0.002		0.13
TR-14 30-35	0.003		0.06
TR-14 35-40	0.002		0.04
TR-14 40-45	<0.001	<0.001	<0.02
TR-14 45-50	<0.001		<0.02
TR-14 50-55	0.001		<0.02
TR-14 55-60	<0.001		<0.02
TR-14 60-65	<0.001		0.04
TR-14 65-70	<0.001		0.07
TR-14 70-75	<0.001	0.001	0.24
TR-14 75-80	0.001		0.13
TR-14 80-85	<0.001		0.02
TR-14 85-90	<0.001		0.07
TR-14 90-95	0.002		0.16
TR-14 95-100	0.002		0.19
TR-14 100-105	<0.001		0.12
TR-14 105-110	0.005	0.005	1.79
TR-14 110-115	<0.001		0.24
TR-14 115-120	<0.001		0.03
TR-14 120-125	<0.001	<0.001	0.06

ANALYSIS REPORT

American Assay Laboratories Inc.

REPORT : SP 021468

Sample	Au(OZ) OZ/TON	Au(RZ) OZ/TON	Ag(OZ) OZ/TON
TR-14 125-130	<0.001		0.06
TR-14 130-135	<0.001		0.07
TR-14 135-140	<0.001		0.16
TR-14 140-145	<0.001		0.08
TR-14 145-150	0.002		0.67
TR-14 150-155	<0.001	<0.001	0.30
TR-14 155-160	<0.001		0.08
TR-14 160-165	<0.001		0.07
TR-14 165-170	<0.001		0.09
TR-14 170-175	<0.001		0.11
TR-14 175-180	<0.001		0.24
TR-14 180-185	0.001		0.27
TR-14 185-190	<0.001		0.32
TR-14 190-195	<0.001		0.16
TR-14 195-200	<0.001		0.15
TR-14 200-205	0.001		0.25
TR-14 205-210	<0.001		0.20
TR-14 210-215	0.005		1.61
TR-14 215-220	0.013	0.013	1.44
TR-14 220-225	0.006	0.005	1.61
TR-14 225-230	0.003		1.31
TR-14 230-235	0.003		0.42
TR-14 235-240	<0.001		0.29
TR-14 240-245	0.001		0.21

ANALYSIS REPORT

American Assay Laboratories Inc.

REPORT : SP 021468

Sample	Au(OZ) OZ/TON	Au(RZ) OZ/TON	Ag(OZ) OZ/TON
TR-14 250-255	0.002		0.06
TR-14 255-260	<0.001		0.05
TR-14 260-265	0.001		0.06
TR-14 265-270	<0.001		0.03
TR-14 270-275	<0.001		0.02
TR-14 275-280	<0.001		<0.02
TR-14 280-285	<0.001		<0.02
TR-14 285-290	<0.001	<0.001	0.05
TR-14 290-295	0.052	0.058	0.31
TR-14 295-300	0.009	0.011	0.06
TR-14 300-305	0.005		0.17
TR-14 305-310	0.019		0.17
TR-14 310-315	0.004	0.005	0.11
TR-14 315-320	0.002		0.16
TR-14 320-325	0.002		0.11
TR-14 325-330	<0.001		<0.02
TR-14 330-335	0.004		<0.02
TR-14 335-340	<0.001		<0.02
TR-14 340-345	<0.001		<0.02
TR-14 345-350	<0.001		<0.02
TR-14 350-355	<0.001		<0.02
TR-14 355-360	0.001	0.001	0.09
TR-14 360-365	<0.001		<0.02
TR-14 365-370	<0.001		<0.02
TR-14 370-375	<0.001		0.06

missing

2/26/93 - JAE comments
No sign of Az green fissure
No diss. in seals.

ANALYSIS REPORT

American Assay Laboratories Inc.

REPORT : SP 021468

Sample	Au(OZ) OZ/TON	Au(RZ) OZ/TON	Ag(OZ) OZ/TON
TR-14 375-380	0.002		0.03
TR-14 380-385	0.001		0.35
TR-14 385-390	0.012	0.013	0.50
TR-14 390-395	0.001		0.35
TR-14 395-400	0.002		0.10
TR-15 0-5	0.002	0.002	0.06
TR-15 5-10	0.004	0.005	0.07
TR-15 10-15	0.002		<0.02
TR-15 15-20	<0.001		<0.02
TR-15 20-25	<0.001		<0.02
TR-15 25-30	<0.001		<0.02
TR-15 30-35	<0.001		<0.02
TR-15 35-40	0.001		<0.02
TR-15 40-45	0.001		<0.02
TR-15 45-50	0.001		<0.02
TR-15 50-55	0.003		0.06
TR-15 55-60	0.004		0.06
TR-15 60-65	0.006		0.15
TR-15 65-70	0.006		0.87
TR-15 70-75	0.003		0.70
TR-15 75-80	0.002	0.002	0.80
TR-15 80-85	0.001		0.25
TR-15 85-90	0.002		0.10
TR-15 90-95	0.001		0.04
TR-15 95-100	0.001		0.11

ANALYSIS REPORT

American Assay Laboratories Inc.

REPORT : SP 021468

Sample	Au(OZ) OZ/TON	Au(RZ) OZ/TON	Ag(OZ) OZ/TON
TR-15 100-105	0.002		0.15
TR-15 105-110	0.126	0.099	0.69
TR-15 110-115	0.023		0.81
TR-15 115-120	0.003	0.002	0.32
TR-15 120-125	0.022		0.38
TR-15 125-130	0.018		0.75
TR-15 130-135	0.005	0.005	0.24
TR-15 135-140	0.008		0.41
TR-15 140-145	0.003		0.49
TR-15 145-150	0.003		0.31
TR-15 150-155	0.006		0.20
TR-15 155-160	0.002	0.002	0.11
TR-15 160-165	0.001		<0.02
TR-15 165-170	0.002		0.02
TR-15 170-175	0.002		<0.02
TR-15 175-180	0.007		0.03
TR-15 180-185	0.003		0.02
TR-15 185-190	0.004		0.03
TR-15 190-195	0.002		0.02
TR-15 195-200	0.002		0.04
TR-15 200-205	0.003		<0.02
TR-15 205-210	0.007	0.007	<0.02
TR-15 210-215	0.005		<0.02
TR-15 215-220	0.002		0.03
TR-15 220-225	0.002		0.03

ANALYSIS REPORT

American Assay Laboratories Inc.

REPORT : SF 021468

Sample	Au(OZ) OZ/TON	Au(RZ) OZ/TON	Ag(OZ) OZ/TON
TR-15 225-230	0.001		0.02
TR-15 230-235	0.004		0.06
TR-15 235-240	0.002		0.07
TR-15 240-245	0.001		0.09
TR-15 245-250	0.003		0.17

Please refer to the cover sheet for further analysis details.

PRELIMINARY REPORT

REPORT # SP 021532

Sample	Au(OZ) OZ/TON	Au(RZ) OZ/TON
TR-15 250-255	0.001	
TR-15 255-260	<0.001	0.001
TR-15 260-265	<0.001	
TR-15 265-270	<0.001	
TR-15 270-275	0.002	
TR-15 275-280	<0.001	
TR-15 280-285	0.002	
TR-15 285-290	0.001	
TR-15 290-295	0.001	
TR-15 295-300	0.001	
TR-15 300-305	0.002	
TR-15 305-310	<0.001	
TR-15 310-315	0.001	
TR-15 315-320	0.002	
TR-15 320-325	0.001	
TR-15 325-330	<0.001	
TR-15 330-335	0.010	
TR-15 335-340	0.028	0.025
TR-15 340-345	0.002	
TR-15 345-350	0.002	
TR-15 350-355	<0.001	
TR-15 355-360	<0.001	
TR-15 360-365	0.001	
TR-15 365-370	0.002	
TR-15 370-375	0.001	

PRELIMINARY REPORT

REPORT : SP 021532

Sample	Au(OZ) OZ/TON	Au(RZ) OZ/TON
TR-15 375-380	0.001	
TR-15 380-385	0.003	
TR-15 385-390	0.008	
TR-15 390-395	0.010	0.007
TR-15 395-400	0.003	
TR-16 0-5	0.003	
TR-16 5-10	0.002	0.001
TR-16 10-15	<0.001	
TR-16 15-20	<0.001	
TR-16 20-25	<0.001	
TR-16 25-30	<0.001	
TR-16 30-35	<0.001	
TR-16 35-40	<0.001	
TR-16 40-45	<0.001	
TR-16 45-50	<0.001	
TR-16 50-55	<0.001	
TR-16 55-60	<0.001	
TR-16 60-65	<0.001	
TR-16 65-70	<0.001	
TR-16 70-75	0.001	
TR-16 75-80	0.005	
TR-16 80-85	<0.001	
TR-16 85-90	0.001	
TR-16 90-95	<0.001	
TR-16 95-100	<0.001	

PRELIMINARY REPORT

REPORT : SP 021532

Sample	Au(OZ) OZ/TON	Au(RZ) OZ/TON
TR-16 100-105	<0.001	
TR-16 105-110	0.031	
TR-16 110-115	0.012	
TR-16 115-120	0.011	
TR-16 120-125	0.004	0.003
TR-16 125-130	0.002	
TR-16 130-135	0.004	
TR-16 135-140	0.002	
TR-16 140-145	<0.001	
TR-16 145-150	<0.001	
TR-16 150-155	<0.001	
TR-16 155-160	<0.001	
TR-16 160-165	<0.001	
TR-16 165-170	0.004	
TR-16 170-175	0.001	
TR-16 175-180	<0.001	
TR-16 180-185	0.002	
TR-16 185-190	0.010	
TR-16 190-195	0.004	
TR-16 195-200	0.002	0.002
TR-16 200-205	0.004	
TR-16 205-210	0.004	
TR-16 210-215	0.003	
TR-16 215-220	<0.001	
TR-16 220-225	<0.001	

PRELIMINARY REPORT

REPORT : SP 021532

Sample	Au(OZ) OZ/TON	Au(RZ) OZ/TON
TR-16 225-230	0.001	
TR-16 230-235	<0.001	
TR-16 235-240	<0.001	<0.001
TR-16 240-245	<0.001	
TR-16 245-250	<0.001	
TR-16 250-255	0.002	
TR-16 255-260	<0.001	
TR-16 260-265	0.001	
TR-16 265-270	0.001	0.001
TR-16 270-275	0.004	
TR-16 275-280	0.001	
TR-16 280-285	0.001	
TR-16 285-290	0.001	
TR-16 290-295	<0.001	
TR-16 295-300	0.001	
TR-16 300-305	0.001	
TR-16 305-310	0.002	
TR-16 310-315	0.007	
TR-16 315-320	0.002	
TR-16 320-325	0.002	
TR-16 325-330	0.001	
TR-16 330-335	0.001	
TR-16 335-340	<0.001	<0.001
TR-16 340-345	<0.001	
TR-16 345-350	0.003	

PRELIMINARY REPORT

REPORT : SP 021532

Sample	Au(OZ) OZ/TON	Au(RZ) OZ/TON
TR-16 350-355	0.008	
TR-16 355-360	0.011	
TR-16 360-365	0.005	
TR-16 365-370	0.005	
TR-16 370-375	0.002	
TR-16 375-380	0.012	
TR-16 380-385	0.043	
TR-16 385-390	0.009	
TR-16 390-395	0.002	
TR-16 395-400	0.001	0.001
TR-16 400-405	0.005	
TR-16 405-410	0.007	
TR-16 410-415	0.002	
TR-16 415-420	0.001	
TR-17 0-5	0.007	
TR-17 5-10	0.006	
TR-17 10-15	0.037	0.047
TR-17 15-20	0.001	
TR-17 20-25	0.005	
TR-17 25-30	0.003	
TR-17 30-35	<0.001	
TR-17 35-40	<0.001	
TR-17 40-45	<0.001	<0.001
TR-17 45-50	0.001	
TR-17 50-55	0.003	

2/26/93 JAR Comments: Only 1 short interval appears to cut off sig. min from TR-8 to the NW. Disappointing.

PRELIMINARY REPORT

REPORT : SP 021532

Sample	Au(OZ) OZ/TON	Au(RZ) OZ/TON
TR-17 55-60	0.001	
TR-17 60-65	0.001	
TR-17 65-70	0.001	
TR-17 70-75	<0.001	
TR-17 75-80	<0.001	
TR-17 80-85	0.002	
TR-17 85-90	0.002	
TR-17 90-95	<0.001	
TR-17 95-100	0.006	
TR-17 100-105	0.001	
TR-17 105-110	<0.001	
TR-17 110-115	0.003	
TR-17 115-120	0.007	
TR-17 120-125	0.003	
TR-17 125-130	0.001	
TR-17 130-135	<0.001	
TR-17 135-140	0.002	
TR-17 140-145	0.009	0.009
TR-17 145-150	0.003	
TR-17 150-155	<0.001	
TR-17 155-160	<0.001	
TR-17 160-165	0.004	
TR-17 165-170	0.004	
TR-17 170-175	<0.001	
TR-17 175-180	0.004	

Please refer to the cover sheet for further analysis details.

PRELIMINARY REPORT

REPORT : SP 021532

Sample	Au(OZ) OZ/TON	Au(RZ) OZ/TON
TR-17 180-185	0.025	
TR-17 185-190	0.010	
TR-17 190-195	0.005	
TR-17 195-200	0.002	0.002
TR-17 200-205	<0.001	
TR-17 205-210	<0.001	
TR-17 210-215	0.001	
TR-17 215-220	0.001	
TR-17 220-225	0.002	
TR-17 225-230	0.035	
TR-17 230-235	0.012	
TR-17 235-240	0.007	0.007
TR-17 240-245	0.008	0.168 / 7 0.024 × 35 = $8.40
TR-17 245-250	0.032	
TR-17 250-255	0.041	
TR-17 255-260	0.033	
TR-17 260-265	0.008	
TR-17 265-270	0.002	
TR-17 270-275	0.009	
TR-17 275-280	0.008	
TR-17 280-285	0.003	0.003
TR-17 285-290	0.003	
TR-17 290-295	0.011	
TR-17 295-300	0.003	
TR-17 300-305	0.010	

See the cover sheet for further analysis details

PRELIMINARY REPORT

REPORT : SP 021532

Sample	Au(OZ) OZ/TON	Au(RZ) OZ/TON	
TR-17 305-310	0.010		
TR-17 310-315	0.008		
TR-17 315-320	0.005		
TR-17 320-325	0.004		
TR-17 325-330	0.004		
TR-17 330-335	0.006		
TR-17 335-340	0.005		
TR-17 340-345	0.004		
TR-17 345-350	0.004		
TR-17 350-355	0.005		
TR-17 355-360	0.003		
TR-17 360-365	0.002		
TR-17 365-370	<0.001		
TR-17 370-375	<0.001		
TR-17 375-380	<0.001	<0.001	
TR-17 380-385	<0.001		
TR-17 385-390	<0.001		
TR-17 390-395	<0.001		
TR-17 395-400	0.001		
TR-17 400-405	0.011		
TR-17 405-410	0.005		
TR-17 410-415	0.002		
TR-17 415-420	0.002		
TR-18 0-5	<0.001		2/25/93 - JAR Comments - Exact Loc
TR-18 5-10	<0.001	<0.001	Unknown - but [illegible]

PRELIMINARY REPORT

REPORT : SP 021532

Sample	Au(OZ) OZ/TON	Au(RZ) OZ/TON
TR-18 10-15	<0.001	
TR-18 15-20	<0.001	
TR-18 20-25	0.003	
TR-18 25-30	0.002	
TR-18 30-35	<0.001	
TR-18 35-40	<0.001	
TR-18 40-45	<0.001	<0.001
TR-18 45-50	<0.001	
TR-18 50-55	<0.001	
TR-18 55-60	<0.001	
TR-18 60-65	<0.001	
TR-18 65-70	<0.001	
TR-18 70-75	<0.001	
TR-18 75-80	<0.001	
TR-18 80-85	<0.001	
TR-18 85-90	<0.001	
TR-18 90-95	<0.001	
TR-18 95-100	<0.001	
TR-18 100-105	<0.001	<0.001
TR-18 105-110	<0.001	
TR-18 110-115	<0.001	
TR-18 115-120	<0.001	
TR-18 120-125	<0.001	
TR-18 125-130	<0.001	
TR-18 130-135	<0.001	

PRELIMINARY REPORT

REPORT : SP 021532

Sample	Au(OZ) OZ/TON	Au(RZ) OZ/TON
TR-18 135-140	<0.001	<0.001
TR-18 140-145	<0.001	
TR-18 145-150	<0.001	
TR-18 150-155	<0.001	
TR-18 155-160	<0.001	
TR-18 160-165	<0.001	
TR-18 165-170	<0.001	
TR-18 170-175	<0.001	
TR-18 175-180	<0.001	
TR-18 180-185	<0.001	
TR-18 185-190	<0.001	
TR-18 190-195	<0.001	
TR-18 195-200	<0.001	
TR-18 200-205	<0.001	
TR-18 205-210	<0.001	<0.001
TR-18 210-215	<0.001	
TR-18 215-220	<0.001	
TR-18 220-225	<0.001	
TR-18 225-230	<0.001	
TR-18 230-235	<0.001	
TR-18 235-240	<0.001	
TR-18 240-245	<0.001	
TR-18 245-250	<0.001	<0.001
TR-18 250-255	<0.001	
TR-18 255-260	<0.001	

PRELIMINARY REPORT

REPORT : SP 021532

Sample	Au(OZ) OZ/TON	Au(RZ) OZ/TON
TR-18 260-265	<0.001	
TR-18 265-270	<0.001	
TR-18 270-275	<0.001	
TR-18 275-280	<0.001	
TR-18 280-285	<0.001	
TR-18 285-290	<0.001	
TR-18 290-295	<0.001	
TR-18 295-300	<0.001	
TR-18 300-305	<0.001	<0.001
TR-18 305-310	<0.001	
TR-18 310-315	<0.001	
TR-18 315-320	<0.001	
TR-18 320-325	<0.001	
TR-18 325-330	0.003	
TR-18 330-335	<0.001	<0.001
TR-18 335-340	<0.001	
TR-18 340-345	<0.001	
TR-18 345-350	<0.001	
TR-18 350-355	<0.001	
TR-18 355-360	<0.001	
TR-18 360-365	<0.001	
R-18 365-370	<0.001	
TR-18 370-375	<0.001	
TR-18 375-380	<0.001	
TR-18 380-385	<0.001	

PRELIMINARY REPORT

REPORT : SP 021532

Sample	Au(OZ) OZ/TON	Au(RZ) OZ/TON
TR-18 385-390	<0.001	
TR-18 390-395	<0.001	
TR-18 395-400	<0.001	
TR-18 400-405	<0.001	
TR-18 405-410	<0.001	<0.001
TR-18 410-415	<0.001	
TR-18 415-420	0.001	
TR-19 0-5	0.001	2/25/93 - IAB Comments - Sec #9
TR-19 5-10	<0.001	
TR-19 10-15	<0.001	
TR-19 15-20	0.001	0.001
TR-19 20-25	<0.001	
TR-19 25-30	<0.001	
TR-19 30-35	<0.001	
TR-19 35-40	<0.001	
TR-19 40-45	<0.001	<0.001
TR-19 45-50	0.001	
TR-19 50-55	<0.001	
TR-19 55-60	<0.001	
TR-19 60-65	<0.001	
TR-19 65-70	<0.001	
TR-19 70-75	<0.001	
TR-19 75-80	<0.001	
TR-19 80-85	<0.001	
TR-19 85-90	<0.001	

PRELIMINARY REPORT

REPORT : SP 021532

Sample	Au(OZ) OZ/TON	Au(RZ) OZ/TON
TR-19 90-95	<0.001	
TR-19 95-100	<0.001	
TR-19 100-105	<0.001	<0.001
TR-19 105-110	<0.001	
TR-19 110-115	<0.001	
TR-19 115-120	<0.001	
TR-19 120-125	<0.001	
TR-19 125-130	<0.001	
TR-19 130-135	<0.001	
TR-19 135-140	<0.001	
TR-19 140-145	<0.001	
TR-19 145-150	<0.001	
TR-19 150-155	<0.001	
TR-19 155-160	<0.001	
TR-19 160-165	<0.001	
TR-19 165-170	<0.001	
TR-19 170-175	<0.001	<0.001
TR-19 175-180	<0.001	
TR-19 180-185	<0.001	
TR-19 185-190	0.002	
TR-19 190-195	<0.001	
TR-19 195-200	0.001	
TR-19 200-205	<0.001	
TR-19 205-210	<0.001	
TR-19 210-215	<0.001	

PRELIMINARY REPORT

REPORT : SP 021532

Sample	Au(OZ) OZ/TON	Au(RZ) OZ/TON
TR-19 215-220	<0.001	
TR-19 220-225	<0.001	
TR-19 225-230	0.001	
TR-19 230-235	0.001	
TR-19 235-240	<0.001	<0.001
TR-19 240-245	<0.001	
TR-19 245-250	<0.001	
TR-19 250-255	<0.001	
TR-19 255-260	<0.001	
TR-19 260-265	<0.001	
TR-19 265-270	<0.001	
TR-19 270-275	<0.001	
TR-19 275-280	<0.001	<0.001
TR-19 280-285	<0.001	
TR-19 285-290	<0.001	
TR-19 290-295	<0.001	
TR-19 295-300	<0.001	
TR-19 300-305	<0.001	
TR-19 305-310	<0.001	
TR-19 310-315	<0.001	
TR-19 315-320	<0.001	
TR-19 320-325	<0.001	
TR-19 325-330	<0.001	
TR-19 330-335	<0.001	<0.001
TR-19 335-340	<0.001	

PRELIMINARY REPORT

REPORT : SP 021532

Sample	Au(OZ) OZ/TON	Au(RZ) OZ/TON
TR-19 340-345	<0.001	
TR-19 345-350	<0.001	
TR-19 350-355	<0.001	
TR-19 355-360	<0.001	<0.001
TR-19 360-365	<0.001	
TR-19 365-370	<0.001	
TR-19 370-375	<0.001	
TR-19 375-380	<0.001	
TR-19 380-385	<0.001	
TR-19 385-390	<0.001	
TR-19 390-395	<0.001	
TR-19 395-400	<0.001	<0.001

Please refer to the cover sheet for further analysis details.

ANALYSIS REPORT

American Assay Laboratories Inc.
RENO: 1500 Glendale Ave, SPARKS 89431
P.O. Box 71060, RENO 89570
Ph (702)356 0606 Fax 3561413

REPORT : USMX INC.
: St 021633 : 15 Page(s)
Date : 02/25/93

Client reference : TR-15/19
Cost code :
Project : TOMBSTONE
Copies to : JOHN COX
KARL KANBERGS

Samples Received : 02/19/93 : Type

Preparation code

nalysis	Code	Quality Parameter	Detection	Units
Au(OZ)	FA30	Acc. 15 %	0.001	OZ/TON
lu(RZ)	FA30	Acc. 15 %	0.001	OZ/TON
g(OZ)	D210	Prec.10 %	0.02	OZ/TON

atory : Jorge Ugarte

ANALYSIS REPORT

American Assay Laboratories Inc.

REPORT : SP 021532

Sample	Au(OZ) OZ/TON	Au(RE) OZ/TON	Ag(OZ) OZ/TON
TR-15 250-255	0.001		0.12
TR-15 255-260	<0.001	0.001	0.07
TR-15 260-265	<0.001		0.11
TR-15 265-270	<0.001		0.12
TR-15 270-275	0.002		0.06
TR-15 275-280	<0.001		0.06
TR-15 280-285	0.002		0.13
TR-15 285-290	0.001		0.05
TR-15 290-295	0.001		0.04
TR-15 295-300	0.001		0.05
TR-15 300-305	0.002		0.06
TR-15 305-310	<0.001		0.06
TR-15 310-315	0.001		0.06
TR-15 315-320	0.002		0.06
TR-15 320-325	0.001		0.06
TR-15 325-330	<0.001		0.04
TR-15 330-335	0.010		0.10
TR-15 335-340	0.028	0.025	0.13
TR-15 340-345	0.002		0.06
TR-15 345-350	0.002		0.06
TR-15 350-355	<0.001		0.04
TR-15 355-360	<0.001		0.03
TR-15 360-365	0.001		0.04
TR-15 365-370	0.002		0.04
TR-15 370-375	0.001		0.04

Please refer to the cover sheet for further analysis details.

American Assay Laboratories Inc.

ALYSIS REPORT

: SP 021532

	Au (OZ) OZ/TON	Ag (OZ) OZ/TON	As (OZ) OZ/TON
375-380	0.001		0.06
380-385	0.003		0.09
385-390	0.008		0.23
390-395	0.010	0.007	0.69
395-400	0.003		0.15
0-5	0.003		0.13
5-10	0.002	0.001	0.06
10-15	<0.001		0.03
15-20	<0.001		<0.02
20-25	<0.001		<0.02
25-30	<0.001		<0.02
30-35	<0.001		0.04
35-40	<0.001		<0.02
40-45	<0.001		<0.02
45-50	<0.001		0.02
50-55	<0.001		0.02
55-60	<0.001		<0.02
60-65	<0.001		<0.02
65-70	<0.001		<0.02
70-75	0.001		<0.02
75-80	0.005		<0.02
80-85	<0.001		<0.02
85-90	0.001		<0.02
90-95	<0.001		<0.02
95-100	<0.001		<0.02

Refer to the cover sheet for further analysis details.

ANALYSIS REPORT

American Assay Laboratories Inc.

REPORT : SP 021532

Sample	Au(OZ) OZ/TON	Au(%) OZ/TON	Ag(OZ) OZ/TON
TR-16 100-105	<0.001		<0.02
TR-16 105-110	0.031		0.46
TR-16 110-115	0.012		0.26
TR-16 115-120	0.011		0.51
TR-16 120-125	0.004	0.003	0.32
TR-16 125-130	0.002		0.25
TR-16 130-135	0.004		0.44
TR-16 135-140	0.002		0.19
TR-16 140-145	<0.001		0.07
TR-16 145-150	<0.001		0.11
TR-16 150-155	<0.001		0.07
TR-16 155-160	<0.001		0.06
TR-16 160-165	<0.001		0.09
TR-16 165-170	0.004		0.07
TR-16 170-175	0.001		0.04
TR-16 175-180	<0.001		0.06
TR-16 180-185	0.002		0.06
TR-16 185-190	0.010		0.27
TR-16 190-195	0.004		0.22
TR-16 195-200	0.002	0.002	0.11
TR-16 200-205	0.004		0.23
TR-16 205-210	0.004		0.09
TR-16 210-215	0.003		0.23
TR-16 215-220	<0.001		0.07
TR-16 220-225	<0.001		0.03

Please refer to the cover sheet for further analysis details.

ALYSIS REPORT

	Au(OZ) OZ/TON	Au(RZ) OZ/TON	Ag(OZ) OZ/TON
.6 225-230	0.001		0.11
16 230-235	<0.001		0.07
16 235-240	<0.001	<0.001	0.05
-16 240-245	<0.001		0.04
-16 245-250	<0.001		0.15
-16 250-255	0.002		0.12
R-16 255-260	<0.001		0.14
R-16 260-265	0.001		0.26
R-16 265-270	0.001	0.001	0.15
R-16 270-275	0.004		0.08
TR-16 275-280	0.001		0.05
TR-16 280-285	0.001		0.06
TR-16 285-290	0.001		0.04
TR-16 290-295	<0.001		0.03
TR-16 295-300	0.001		0.03
TR-16 300-305	0.001		<0.02
TR-16 305-310	0.002		0.04
TR-16 310-315	0.007		0.18
TR-16 315-320	0.002		0.09
TR-16 320-325	0.002		0.08
TR-16 325-330	0.001		0.04
TR-16 330-335	0.001		0.04
TR-16 335-340	<0.001	<0.001	0.06
TR-16 340-345	<0.001		0.06
TR-16 345-350	0.003		0.24

Please refer to the cover sheet for further analysis details.

ANALYSIS REPORT

American Assay Laboratories Inc.

REPORT : SP 021532

Sample	Au(OZ) OZ/TON	Au(TZ) OZ/TON	Ag(OZ) OZ/TON
TR-16 350-355	0.008		0.26
TR-16 355-360	0.011		0.22
TR-16 360-365	0.005		0.36
TR-16 365-370	0.005		0.47
TR-16 370-375	0.002		0.13
TR-16 375-380	0.012		0.34
TR-16 380-385	0.043		1.58
TR-16 385-390	0.009		0.70
TR-16 390-395	0.002		0.17
TR-16 395-400	0.001	0.001	0.17
TR-16 400-405	0.005		0.54
TR-16 405-410	0.007		0.43
TR-16 410-415	0.002		0.26
TR-16 415-420	0.001		0.20
TR-17 0-5	0.007		0.44
TR-17 5-10	0.006		0.08
TR-17 10-15	0.037	0.047	0.02
TR-17 15-20	0.001		<0.02
TR-17 20-25	0.005		<0.02
TR-17 25-30	0.003		<0.02
TR-17 30-35	<0.001		<0.02
TR-17 35-40	<0.001		<0.02
TR-17 40-45	<0.001	<0.001	<0.02
TR-17 45-50	0.001		<0.02
TR-17 50-55	0.003		<0.02

Please refer to the cover sheet for further analysis details.

ALYSIS REPORT

American Assay Laboratories Inc.

T : SP-021532

	Au(OZ) OZ/TON	Au(RE) OZ/TON	Ag(OZ) OZ/TON
55-60	0.001		<0.02
60-65	0.001		<0.02
65-70	0.001		<0.02
70-75	<0.001		<0.02
75-80	<0.001		<0.02
80-85	0.002		<0.02
85-90	0.002		<0.02
90-95	<0.001		<0.02
95-100	0.006		<0.02
100-105	0.001		<0.02
105-110	<0.001		<0.02
110-115	0.003		<0.02
115-120	0.007		<0.02
120-125	0.003		0.02
125-130	0.001		0.03
130-135	<0.001		<0.02
135-140	0.002		0.02
140-145	0.009	0.009	0.05
145-150	0.003		0.03
150-155	<0.001		0.05
155-160	<0.001		0.03
160-165	0.004		0.05
165-170	0.004		0.06
170-175	<0.001		0.04
175-180	0.004		0.24

refer to the cover sheet for further analysis details.

ANALYSIS REPORT

American Assay Laboratories Inc.

REPORT : SP 021532

Sample	Au (OZ) OZ/TON	Au (OZ) OZ/TON	Ag (OZ) OZ/TON
TR-17 180-185	0.025		0.33
TR-17 185-190	0.010		0.23
TR-17 190-195	0.005		0.10
TR-17 195-200	0.002	0.002	0.03
TR-17 200-205	<0.001		0.02
TR-17 205-210	<0.001		<0.02
TR-17 210-215	0.001		0.05
TR-17 215-220	0.001		0.05
TR-17 220-225	0.002		0.16
TR-17 225-230	0.035		1.06
TR-17 230-235	0.012		0.75
TR-17 235-240	0.007	0.007	0.38
TR-17 240-245	0.008		0.87
TR-17 245-250	0.032		0.84
TR-17 250-255	0.041		0.87
TR-17 255-260	0.033		1.85
TR-17 260-265	0.008		0.39
TR-17 265-270	0.002		0.12
TR-17 270-275	0.009		0.16
TR-17 275-280	0.008		0.13
TR-17 280-285	0.003	0.003	0.16
TR-17 285-290	0.003		0.13
TR-17 290-295	0.011		0.11
TR-17 295-300	0.003		0.07
TR-17 300-305	0.010		0.09

Please refer to the cover sheet for further analysis details.

ANALYSIS REPORT

American Assay Laboratories Inc.

REPORT : SP 021532

Sample	Au (OZ) OZ/TON	Au (1:1) OZ/TON	Ag (OZ) OZ/TON
TR-17 305-310	0.010		0.14
TR-17 310-315	0.008		0.41
TR-17 315-320	0.005		1.15
TR-17 320-325	0.004		0.60
TR-17 325-330	0.004		0.49
TR-17 330-335	0.006		0.55
TR-17 335-340	0.005		0.27
TR-17 340-345	0.004		0.21
TR-17 345-350	0.004		0.46
TR-17 350-355	0.005		0.22
TR-17 355-360	0.003		0.14
TR-17 360-365	0.002		0.05
TR-17 365-370	<0.001		0.03
TR-17 370-375	<0.001		0.02
TR-17 375-380	<0.001	<0.001	0.03
TR-17 380-385	<0.001		0.04
TR-17 385-390	<0.001		0.04
TR-17 390-395	<0.001		0.04
TR-17 395-400	0.001		0.10
TR-17 400-405	0.011		0.32
TR-17 405-410	0.005		0.57
TR-17 410-415	0.002		0.18
TR-17 415-420	0.002		0.13
TR-18 0-5	<0.001		0.04
TR-18 5-10	<0.001	<0.001	<0.02

Please refer to the cover sheet for further analysis details.

NALYSIS REPORT

Inc.

Sample	Au(FA) OZ/TON	Au(FA) OZ/TON	Ag(OZ) OZ/TON
TR-18 10-15	<0.001		<0.02
TR-18 15-20	<0.001		<0.02
TR-18 20-25	0.003		<0.02
TR-18 25-30	0.002		<0.02
TR-18 30-35	<0.001		<0.02
TR-18 35-40	<0.001		<0.02
TR-18 40-45	<0.001	<0.001	<0.02
TR-18 45-50	<0.001		<0.02
TR-18 50-55	<0.001		<0.02
TR-18 55-60	<0.001		<0.02
TR-18 60-65	<0.001		<0.02
TR-18 65-70	<0.001		<0.02
TR-18 70-75	<0.001		<0.02
TR-18 75-80	<0.001		<0.02
TR-18 80-85	<0.001		<0.02
TR-18 85-90	<0.001		<0.02
TR-18 90-95	<0.001		<0.02
TR-18 95-100	<0.001		0.03
TR-18 100-105	<0.001	<0.001	<0.02
TR-18 105-110	<0.001		<0.02
TR-18 110-115	<0.001		<0.02
TR-18 115-120	<0.001		<0.02
TR-18 120-125	<0.001		0.02
TR-18 125-130	<0.001		0.06
TR-18 130-135	<0.001		0.03

Please refer to the cover sheet for further analysis details.

ANALYSIS REPORT

American Assay Laboratories Inc.

REPORT : SP 021532

Sample	Au (OZ) OZ/TON	Au (OZ) OZ/TON	Ag (OZ) OZ/TON
TR-18 135-140	<0.001	<0.001	0.03
TR-18 140-145	<0.001		0.08
TR-18 145-150	<0.001		<0.02
TR-18 150-155	<0.001		0.03
TR-18 155-160	<0.001		<0.02
TR-18 160-165	<0.001		0.09
TR-18 165-170	<0.001		0.34
TR-18 170-175	<0.001		0.07
TR-18 175-180	<0.001		0.03
TR-18 180-185	<0.001		0.02
TR-18 185-190	<0.001		<0.02
TR-18 190-195	<0.001		<0.02
TR-18 195-200	<0.001		<0.02
TR-18 200-205	<0.001		<0.02
TR-18 205-210	<0.001	<0.001	0.06
TR-18 210-215	<0.001		0.02
TR-18 215-220	<0.001		<0.02
TR-18 220-225	<0.001		<0.02
TR-18 225-230	<0.001		<0.02
TR-18 230-235	<0.001		<0.02
TR-18 235-240	<0.001		0.02
TR-18 240-245	<0.001		<0.02
TR-18 245-250	<0.001	<0.001	<0.02
TR-18 250-255	<0.001		0.02
TR-18 255-260	<0.001		0.03

Please refer to the cover sheet for further analysis details.

ANALYSIS REPORT

American Assay Laboratories Inc.

REPORT : SP 021532

Sample	Au(OZ) OZ/TON	Au(RZ) OZ/TON	Ag(OZ) OZ/TON
TR-18 260-265	<0.001		<0.02
TR-18 265-270	<0.001		<0.02
TR-18 270-275	<0.001		<0.02
TR-18 275-280	<0.001		<0.02
TR-18 280-285	<0.001		0.02
TR-18 285-290	<0.001		<0.02
TR-18 290-295	<0.001		<0.02
TR-18 295-300	<0.001		<0.02
TR-18 300-305	<0.001	<0.001	<0.02
TR-18 305-310	<0.001		0.32
TR-18 310-315	<0.001		<0.02
TR-18 315-320	<0.001		0.04
TR-18 320-325	<0.001		0.05
TR-18 325-330	0.003		0.04
TR-18 330-335	<0.001	<0.001	0.02
TR-18 335-340	<0.001		<0.02
TR-18 340-345	<0.001		0.02
TR-18 345-350	<0.001		<0.02
TR-18 350-355	<0.001		<0.02
TR-18 355-360	<0.001		<0.02
TR-18 360-365	<0.001		<0.02
TR-18 365-370	<0.001		<0.02
TR-18 370-375	<0.001		<0.02
TR-18 375-380	<0.001		0.02
TR-18 380-385	<0.001		0.03

Please refer to the cover sheet for further analysis details.

ANALYSIS REPORT

American Assay Laboratories Inc.

REPORT : SP 021532

Sample	Au(OZ) OZ/TON	Au(RE) OZ/TON	Ag(OZ) OZ/TON
TR-18 385-390	<0.001		<0.02
TR-18 390-395	<0.001		<0.02
TR-18 395-400	<0.001		<0.02
TR-18 400-405	<0.001		<0.02
TR-18 405-410	<0.001	<0.001	<0.02
TR-18 410-415	<0.001		<0.02
TR-18 415-420	0.001		<0.02
TR-19 0-5	0.001		0.17
TR-19 5-10	<0.001		0.03
TR-19 10-15	<0.001		0.02
TR-19 15-20	0.001	0.001	0.02
TR-19 20-25	<0.001		<0.02
TR-19 25-30	<0.001		<0.02
TR-19 30-35	<0.001		<0.02
TR-19 35-40	<0.001		<0.02
TR-19 40-45	<0.001	<0.001	0.02
TR-19 45-50	0.001		0.02
TR-19 50-55	<0.001		<0.02
TR-19 55-60	<0.001		0.02
TR-19 60-65	<0.001		<0.02
TR-19 65-70	<0.001		<0.02
TR-19 70-75	<0.001		0.13
TR-19 75-80	<0.001		<0.02
TR-19 80-85	<0.001		<0.02
TR-19 85-90	<0.001		<0.02

Please refer to the cover sheet for further analysis details.

ANALYSIS REPORT

American Assay Laboratories Inc.

REPORT : SP 021532

Sample	Au (OZ) OZ/TON	Au (%) OZ/TON	Ag (OZ) OZ/TON
TR-19 90-95	<0.001		<0.02
TR-19 95-100	<0.001		<0.02
TR-19 100-105	<0.001	<0.001	<0.02
TR-19 105-110	<0.001		<0.02
TR-19 110-115	<0.001		<0.02
TR-19 115-120	<0.001		0.03
TR-19 120-125	<0.001		0.02
TR-19 125-130	<0.001		0.03
TR-19 130-135	<0.001		<0.02
TR-19 135-140	<0.001		0.04
TR-19 140-145	<0.001		0.04
TR-19 145-150	<0.001		<0.02
TR-19 150-155	<0.001		<0.02
TR-19 155-160	<0.001		<0.02
TR-19 160-165	<0.001		<0.02
TR-19 165-170	<0.001		<0.02
TR-19 170-175	<0.001	<0.001	<0.02
TR-19 175-180	<0.001		<0.02
TR-19 180-185	<0.001		<0.02
TR-19 185-190	0.002		<0.02
TR-19 190-195	<0.001		<0.02
TR-19 195-200	0.001		<0.02
TR-19 200-205	<0.001		<0.02
TR-19 205-210	<0.001		<0.02
TR-19 210-215	<0.001		<0.02

Please refer to the cover sheet for further analysis details.

NALYSIS REPORT

Laboratories Inc.

Sample	Au(OZ) OZ/TON	Au(RZ) OZ/TON	Ag(OZ) OZ/TON
TR-19 215-220	<0.001		<0.02
TR-19 220-225	<0.001		<0.02
TR-19 225-230	0.001		<0.02
TR-19 230-235	0.001		<0.02
TR-19 235-240	<0.001	<0.001	<0.02
TR-19 240-245	<0.001		<0.02
TR-19 245-250	<0.001		0.03
TR-19 250-255	<0.001		<0.02
TR-19 255-260	<0.001		<0.02
TR-19 260-265	<0.001		<0.02
TR-19 265-270	<0.001		<0.02
TR-19 270-275	<0.001		<0.02
TR-19 275-280	<0.001	<0.001	<0.02
TR-19 280-285	<0.001		<0.02
TR-19 285-290	<0.001		<0.02
TR-19 290-295	<0.001		0.09
TR-19 295-300	<0.001		0.02
TR-19 300-305	<0.001		<0.02
TR-19 305-310	<0.001		<0.02
TR-19 310-315	<0.001		<0.02
TR-19 315-320	<0.001		<0.02
TR-19 320-325	<0.001		<0.02
TR-19 325-330	<0.001		<0.02
TR-19 330-335	<0.001	<0.001	<0.02
TR-19 335-340	<0.001		<0.02

Please refer to the cover sheet for further analysis details.

ANALYSIS REPORT

American Assay Laboratories Inc.

REPORT : SP 021532

Sample	Au(OZ) OZ/TON	Au(RE) OZ/TON	Ag(OZ) OZ/TON
TR-19 340-345	<0.001		<0.02
TR-19 345-350	<0.001		<0.02
TR-19 350-355	<0.001		<0.02
TR-19 355-360	<0.001	<0.001	<0.02
TR-19 360-365	<0.001		<0.02
TR-19 365-370	<0.001		<0.02
TR-19 370-375	<0.001		<0.02
TR-19 375-380	<0.001		<0.02
TR-19 380-385	<0.001		<0.02
TR-19 385-390	<0.001		<0.02
TR-19 390-395	<0.001		<0.02
TR-19 395-400	<0.001	<0.001	<0.02

Please refer to the cover sheet for further analysis details.

PRELIMINARY REPORT

REPORT : SP 021569

Sample	Au(OZ) OZ/TON	Au(RZ) OZ/TON	Ag(OZ) OZ/TON
TR-20 0-5	<0.001		--
TR-20 5-10	0.002		--
TR-20 10-15	0.002		--
TR-20 15-20	<0.001		--
TR-20 20-25	0.001		--
TR-20 25-30	0.003		--
TR-20 30-35	0.002	0.002	--
TR-20 35-40	<0.001		--
TR-20 40-45	0.001		--
TR-20 45-50	0.004		--
TR-20 50-55	<0.001		--
TR-20 55-60	<0.001		--
TR-20 60-65	<0.001		--
TR-20 65-70	<0.001		--
TR-20 70-75	0.001	0.001	--
TR-20 75-80	0.001		--
TR-20 80-85	0.002		--
TR-20 85-90	0.003		--
TR-20 90-95	0.003		--
TR-20 95-100	0.065	.032	--
TR-20 100-105	0.014		--
TR-20 105-110	0.016		--
TR-20 110-115	0.002		--
TR-20 115-120	<0.001		--
TR-20 120-125	<0.001		--

PRELIMINARY REPORT

REPORT : SP 021569

Sample	Au(OZ) OZ/TON	Au(RZ) OZ/TON	Ag(OZ) OZ/TON
TR-20 125-130	<0.001		--
TR-20 130-135	0.027		--
TR-20 135-140	0.019		--
TR-20 140-145	0.021		--
TR-20 145-150	0.041	0.031	--
TR-20 150-155	0.014	10' 0.5/2 = 0.049	--
TR-20 155-160	0.083	.049	--
TR-20 160-165	0.037	0.042	--
TR-20 165-170	0.033		--
TR-20 170-175	0.099		--
TR-20 175-180	0.086		--
TR-20 180-185	0.112		--
TR-20 185-190	0.014		--
TR-20 190-195	0.002		--
TR-20 195-200	0.014		--
TR-20 200-205	0.013		--
TR-20 205-210	0.010		--
TR-20 220-225	0.003		--
TR-20 225-230	0.004		--
TR-20 230-235	0.006		--
TR-20 235-240	0.010		--
TR-20 240-245	0.006	0.008	--
TR-20 245-250	<0.001		--
TR-20 250-255	<0.001		--
TR-20 255-260	<0.001		--

H 15.40 @ 00'

PRELIMINARY REPORT

REPORT : SP 021569

Sample	Au(OZ) OZ/TON	Au(RZ) OZ/TON	Ag(OZ) OZ/TON
TR-20 260-265	0.003	0.003	--
TR-20 265-270	0.001		--
TR-20 270-275	<0.001		--
TR-20 275-280	0.002		--
TR-20 280-285	0.005		--
TR-20 285-290	<0.001		--
TR-20 290-295	<0.001		--
TR-21 0-5	0.001		--
TR-21 5-10	0.002		--
TR-21 10-15	0.004		--
TR-21 15-20	0.003		--
TR-21 20-25	0.002		--
TR-21 25-30	0.029		--
TR-21 30-35	0.009		--
TR-21 35-40	0.010		--
TR-21 40-45	0.003		--
TR-21 45-50	0.001		--
TR-21 50-55	0.003		--
TR-21 55-60	0.009		--
TR-21 60-65	0.004	0.003	--
TR-21 65-70	<0.001		--
TR-21 70-75	0.002		--
TR-21 75-80	0.003		--
TR-21 80-85	0.012		--
TR-21 85-90	0.010		--

JAB comments
2/26/93 Disappointing - Doesn't appear to show much continuity of 1,243

PRELIMINARY REPORT

REPORT : SP 021569

Sample	Au(OZ) OZ/TON	Au(RZ) OZ/TON	Ag(OZ) OZ/TON
TR-21 90-95	0.021		--
TR-21 95-100	0.006	0.006	--
TR-21 100-105	0.001		--
TR-21 105-110	0.002		--
TR-21 110-115	0.001		--
TR-21 115-120	0.002		--
TR-21 120-125	0.003		--
TR-21 125-130	0.002		--
TR-21 130-135	0.001		--
TR-21 135-140	0.003		--
TR-21 140-145	0.002		--
TR-21 145-150	0.001		--
TR-21 150-155	0.001		--
TR-21 155-160	0.001		--
TR-21 160-165	0.009	0.008	--
TR-21 165-170	0.035		--
TR-21 170-175	0.046		--
TR-21 175-180	0.026		--
TR-21 180-185	0.003	0.003	--
TR-21 185-190	0.008		--
TR-21 190-195	0.004		--
TR-21 195-200	0.003		--
TR-21 200-205	0.001		--
TR-21 205-210	<0.001		--
TR-21 210-215	<0.001		--

PRELIMINARY REPORT

REPORT : SP 021569

Sample	Au(OZ) OZ/TON	Au(RZ) OZ/TON	Ag(OZ) OZ/TON
TR-21 215-220	<0.001		--
TR-21 220-225	0.001		--
TR-21 225-230	0.004	0.004	--
TR-21 230-235	0.006		--
TR-21 235-240	0.002		--
TR-21 240-245	0.003		--
TR-21 245-250	0.004		--
TR-21 250-255	0.022		--
TR-21 255-260	0.016		--
TR-21 260-265	0.038		--
TR-21 265-270	0.003		--
TR-21 270-275	0.002		--
TR-21 275-280	0.003		--
TR-21 280-285	<0.001		--
TR-21 285-290	0.004		--
TR-21 290-295	0.003		--
TR-21 295-300	0.003		--
TR-21 300-305	0.003	0.002	--
TR-21 305-310	0.016		--
TR-21 310-315	0.002		--
TR-21 315-320	0.001		--
TR-21 320-325	0.001		--
TR-21 325-330	<0.001		--
TR-21 330-335	<0.001		--
TR-21 335-340	0.001		--

PRELIMINARY REPORT

REPORT : SP 021569

Sample	Au(OZ) OZ/TON	Au(RZ) OZ/TON	Ag(OZ) OZ/TON
TR-21 340-345	0.001	0.002	--
TR-21 345-350	0.022		--
TR-21 350-355	0.007		--

Please refer to the cover sheet for further analysis details.

ANALYSIS REPORT

American Assay Laboratories Inc.
RENO: 1500 Glendale Ave, SPARKS 89431
P.O. Box 71060, RENO 89570
Ph. (702)356-0606 Fax 3561413

USMX INC.

REPORT : SI 021563 6 Page(s) Date : 02/25/93

Client reference : TR-20/21 Project : TOMBSTONE

Cost code :

Copies to : JOHN COX

KARL KANBERGS

Samples : Type Preparation code
Received : 02/19/93

Analysis	Code	Quality Parameter	Detection	Units
Au(OZ)	FA30	Acc. 15 %	0.001	OZ/TON
Au(RZ)	FA30	Acc. 15 %	0.001	OZ/TON
Ag(OZ)	D210	Prec.10 %	0.02	OZ/TON

Signatory : Jorge Ugarte

ANALYSIS REPORT

American Assay Laboratories Inc.

REPORT : SP 021569

Sample	Au (OZ) OZ/TON	Au (RZ) OZ/TON	Ag (OZ) OZ/TON
TR-20 0-5	<0.001		0.05
TR-20 5-10	0.002		<0.02
TR-20 10-15	0.002		<0.02
TR-20 15-20	<0.001		<0.02
TR-20 20-25	0.001		<0.02
TR-20 25-30	0.003		0.03
TR-20 30-35	0.002	0.002	0.04
TR-20 35-40	<0.001		0.03
TR-20 40-45	0.001		0.02
TR-20 45-50	0.004		0.04
TR-20 50-55	<0.001		<0.02
TR-20 55-60	<0.001		<0.02
TR-20 60-65	<0.001		0.11
TR-20 65-70	<0.001		0.04
TR-20 70-75	0.001	0.001	0.04
TR-20 75-80	0.001		0.04
TR-20 80-85	0.002		<0.02
TR-20 85-90	0.003		<0.02
TR-20 90-95	0.003		<0.02
TR-20 95-100	0.065		0.15
TR-20 100-105	0.014		0.20
TR-20 105-110	0.016		0.10
TR-20 110-115	0.002		0.07
TR-20 115-120	<0.001		0.05
TR-20 120-125	<0.001		0.03

Please refer to the cover sheet for further analysis details.

ANALYSIS REPORT

American Assay Laboratories Inc.

REPORT : SR 021569

Sample	Au(OZ) OZ/TON	Au(RZ) OZ/TON	Ag(OZ) OZ/TON
TR-20 125-130	<0.001		0.06
TR-20 130-135	0.027		0.19
TR-20 135-140	0.019		0.21
TR-20 140-145	0.021		0.14
TR-20 145-150	0.041	0.031	0.23
TR-20 150-155	0.014		0.30
TR-20 155-160	0.083		4.40
TR-20 160-165	0.037	0.042	1.85
TR-20 165-170	0.033		1.33
TR-20 170-175	0.099		2.65
TR-20 175-180	0.086		2.07
TR-20 180-185	0.112		4.89
TR-20 185-190	0.014		1.67
TR-20 190-195	0.002		0.42
TR-20 195-200	0.014		1.24
TR-20 200-205	0.013		0.99
TR-20 205-210	0.010		0.35
TR-20 220-225	0.003		0.10
TR-20 225-230	0.004		0.18
TR-20 230-235	0.006		0.68
TR-20 235-240	0.010		0.78
TR-20 240-245	0.006	0.008	0.51
TR-20 245-250	<0.001		0.29
TR-20 250-255	<0.001		0.15
TR-20 255-260	<0.001		0.19

Please refer to the cover sheet for further analysis details.

ANALYSIS REPORT

American Assay Laboratories Inc.

REPORT : SP 021569

Sample	Au (OZ) OZ/TON	Au (RE) OZ/TON	Ag (OZ) OZ/TON
TR-20 260-265	0.003	0.003	0.44
TR-20 265-270	0.001		0.29
TR-20 270-275	<0.001		0.09
TR-20 275-280	0.002		0.22
TR-20 280-285	0.005		0.28
TR-20 285-290	<0.001		0.07
TR-20 290-295	<0.001		0.04
TR-21 0-5	0.001		0.14
TR-21 5-10	0.002		0.14
TR-21 10-15	0.004		0.23
TR-21 15-20	0.003		0.18
TR-21 20-25	0.002		0.16
TR-21 25-30	0.029		0.53
TR-21 30-35	0.009		0.56
TR-21 35-40	0.010		0.48
TR-21 40-45	0.003		0.13
TR-21 45-50	0.001		0.06
TR-21 50-55	0.003		0.20
TR-21 55-60	0.009		0.29
TR-21 60-65	0.004	0.003	0.41
TR-21 65-70	<0.001		0.22
TR-21 70-75	0.002		0.22
TR-21 75-80	0.003		0.46
TR-21 80-85	0.012		0.62
TR-21 85-90	0.010		0.87

Please refer to the cover sheet for further analysis details.

ANALYSIS REPORT

American Assay Laboratories Inc.

REPORT : SR 021569

Sample	Au (OZ) OZ/TON	Au (RE) OZ/TON	Ag (OZ) OZ/TON
TR-21 90-95	0.021		2.09
TR-21 95-100	0.006	0.006	1.35
TR-21 100-105	0.001		1.02
TR-21 105-110	0.002		2.62
TR-21 110-115	0.001		0.87
TR-21 115-120	0.002		0.71
TR-21 120-125	0.003		0.78
TR-21 125-130	0.002		0.38
TR-21 130-135	0.001		0.31
TR-21 135-140	0.003		0.45
TR-21 140-145	0.002		0.21
TR-21 145-150	0.001		0.15
TR-21 150-155	0.001		0.14
TR-21 155-160	0.001		0.11
TR-21 160-165	0.009	0.008	0.24
TR-21 165-170	0.035		0.62
TR-21 170-175	0.046		0.63
TR-21 175-180	0.026		0.47
TR-21 180-185	0.003	0.003	0.15
TR-21 185-190	0.008		0.18
TR-21 190-195	0.004		0.13
TR-21 195-200	0.003		0.14
TR-21 200-205	0.001		0.09
TR-21 205-210	<0.001		0.10
TR-21 210-215	<0.001		0.10

Please refer to the cover sheet for further analysis details.

PRELIMINARY REPORT

RENO: 1500 Glendale Ave.SPARKS 89431
P.O. Box 71060, RENO 89570
Ph (702)356 0606 Fax 3561413

USMX INC.

REPORT : SP 02167B 15 Page(s) Date : 02/26/93

Client reference : TR-22/26 Project : TOMBSTONE

Cost code :

Copies to : JOHN COX

KARL KANBERGS

Samples : Type Preparation code
Received : 02/25/93

Analysis	Code	Quality Parameter	Detection	Units
Au(OZ)	FA30	Acc. 15 %	0.001	OZ/TON
Au(RZ)	FA30	Acc. 15 %	0.001	OZ/TON

Signatory : Jorge Ugarte

PRELIMINARY REPORT

REPORT : SP 021678

Sample	Au(DZ) OZ/TON	Au(RZ) OZ/TON
TR-22 0-5	0.001	
TR-22 5-10	<0.001	
TR-22 10-15	<0.001	
TR-22 15-20	<0.001	
TR-22 20-25	<0.001	
TR-22 25-30	<0.001	
TR-22 30-35	<0.001	
TR-22 35-40	<0.001	<0.001
TR-22 40-45	<0.001	
TR-22 45-50	<0.001	
TR-22 50-55	0.001	
TR-22 55-60	<0.001	
TR-22 60-65	<0.001	
TR-22 65-70	<0.001	
TR-22 70-75	<0.001	<0.001
TR-22 75-80	<0.001	
TR-22 80-85	<0.001	
TR-22 85-90	<0.001	
TR-22 90-95	<0.001	
TR-22 95-100	<0.001	
TR-22 100-105	<0.001	
TR-22 105-110	<0.001	
TR-22 110-115	<0.001	
TR-22 115-120	<0.001	
TR-22 120-125	<0.001	

Please refer to the cover sheet for further analysis details.

PRELIMINARY REPORT

REPORT : SP 021678

Sample	Au(OZ) OZ/TON	Au(RZ) OZ/TON
TR-22 125-130	<0.001	
TR-22 130-135	<0.001	
TR-22 135-140	<0.001	<0.001
TR-22 140-145	<0.001	
TR-22 145-150	<0.001	
TR-22 150-155	<0.001	
TR-22 155-160	<0.001	
TR-22 160-165	<0.001	<0.001
TR-22 165-170	<0.001	
TR-22 170-175	<0.001	
TR-22 175-180	<0.001	
TR-22 180-185	<0.001	
TR-22 185-190	<0.001	
TR-22 190-195	<0.001	
TR-22 195-200	<0.001	
TR-22 200-205	0.001	
TR-22 205-210	0.001	
TR-22 210-215	0.002	
TR-22 215-220	0.010	
TR-22 220-225	0.002	
TR-22 225-230	0.002	
TR-22 230-235	<0.001	
TR-22 235-240	<0.001	
TR-22 240-245	<0.001	
TR-22 245-250	0.046	

Please refer to the cover sheet for further analysis details.

PRELIMINARY REPORT

REPORT : SP 021678

Sample	Au(OZ) OZ/TON	Au(RZ) OZ/TON
TR-22 250-255	0.039	
TR-22 255-260	0.001	
TR-22 260-265	<0.001	
TR-22 265-270	<0.001	
TR-22 270-275	0.001	
TR-22 275-280	0.001	
TR-22 280-285	<0.001	0.001
TR-22 285-290	0.005	
TR-22 290-295	0.001	
TR-22 295-300	0.001	
TR-22 300-305	0.008	
TR-22 305-310	0.008	
TR-22 310-315	0.002	
TR-22 315-320	0.002	
TR-22 320-325	<0.001	
TR-22 325-330	0.005	0.006
TR-22 330-335	0.037	
TR-22 335-340	0.031	
TR-22 340-345	0.012	
TR-22 345-350	0.009	
TR-22 350-355	0.004	
TR-22 355-360	0.005	
TR-22 360-365	0.002	
TR-22 365-370	0.001	0.002
TR-22 370-375	0.002	

Please refer to the cover sheet for further analysis details.

PRELIMINARY REPORT

REPORT : SP 021678

Sample	AU(OZ) OZ/TON	AU(RZ) OZ/TON
TR-22 375-380	0.001	
TR-22 380-385	0.003	
TR-22 385-390	0.005	
TR-22 390-395	0.006	
TR-22 395-400	0.005	
TR-23 0-5	0.001	
TR-23 5-10	<0.001	
TR-23 10-15	0.001	
TR-23 15-20	0.004	
TR-23 20-25	<0.001	
TR-23 25-30	<0.001	
TR-23 30-35	<0.001	
TR-23 35-40	<0.001	
TR-23 40-45	<0.001	<0.001
TR-23 45-50	<0.001	
TR-23 50-55	<0.001	
TR-23 55-60	<0.001	
TR-23 60-65	<0.001	
TR-23 65-70	<0.001	
TR-23 70-75	<0.001	
TR-23 75-80	<0.001	
TR-23 80-85	<0.001	
TR-23 85-90	<0.001	
TR-23 90-95	<0.001	
TR-23 95-100	0.002	

Please refer to the cover sheet for further analysis details.

PRELIMINARY REPORT

REPORT : SP 021678

Sample	Au(OZ) OZ/TON	Au(RZ) OZ/TON
TR-23 100-105	0.002	
TR-23 105-110	0.007	
TR-23 110-115	0.002	
TR-23 115-120	0.048	
TR-23 120-125	0.015	
TR-23 125-130	0.005	
TR-23 130-135	<0.001	
TR-23 135-140	0.002	
TR-23 140-145	0.001	0.001
TR-23 145-150	<0.001	
TR-23 150-155	<0.001	
TR-23 155-160	<0.001	
TR-23 160-165	<0.001	
TR-23 165-170	<0.001	<0.001
TR-23 170-175	<0.001	
TR-23 175-180	<0.001	
TR-23 180-185	<0.001	
TR-23 185-190	<0.001	
TR-23 190-195	<0.001	
TR-23 195-200	0.001	
TR-23 200-205	<0.001	
TR-23 205-210	0.001	
TR-23 210-215	<0.001	
TR-23 215-220	<0.001	
TR-23 220-225	<0.001	

Please refer to the cover sheet for further analysis details.

PRELIMINARY REPORT

REPORT : SP 021678

Sample	Au(OZ) OZ/TON	Au(RZ) OZ/TON
TR-23 225-230	DTF	
TR-23 230-235	<0.001	
TR-23 235-240	<0.001	
TR-23 240-245	<0.001	
TR-23 245-250	<0.001	
TR-23 250-255	<0.001	
TR-23 255-260	<0.001	
TR-23 260-265	0.001	0.001
TR-23 265-270	<0.001	
TR-23 270-275	<0.001	
TR-23 275-280	<0.001	
TR-23 280-285	<0.001	
TR-23 285-290	<0.001	
TR-23 290-295	<0.001	
TR-23 295-300	<0.001	
TR-23 300-305	<0.001	
TR-23 305-310	0.002	0.002
TR-23 310-315	0.010	
TR-23 315-320	0.020	
TR-23 325-330	0.010	
TR-23 330-335	0.002	
TR-23 335-340	0.004	
TR-23 340-345	0.019	
TR-23 345-350	0.007	
TR-23 350-355	0.003	

Please refer to the cover sheet for further analysis details.

PRELIMINARY REPORT

REPORT : SP 021678

Sample	Au(OZ) OZ/TON	Au(RZ) OZ/TON
TR-23 365-370	0.003	0.003
TR-23 370-375	0.009	
TR-23 375-380	0.012	
TR-23 380-385	0.043	
TR-23 385-390	0.004	
TR-23 390-395	0.032	
TR-23 395-400	<0.001	
TR-24 0-5	0.002	
TR-24 5-10	<0.001	
TR-24 10-15	<0.001	
TR-24 15-20	<0.001	
TR-24 20-25	<0.001	
TR-24 25-30	<0.001	
TR-24 30-35	<0.001	
TR-24 35-40	<0.001	
TR-24 40-45	<0.001	<0.001
TR-24 45-50	<0.001	
TR-24 50-55	<0.001	
TR-24 55-60	<0.001	
TR-24 60-65	<0.001	
TR-24 65-70	<0.001	
TR-24 70-75	<0.001	<0.001
TR-24 75-80	<0.001	
TR-24 80-85	<0.001	
TR-24 85-90	<0.001	

Please refer to the cover sheet for further analysis details.

PRELIMINARY REPORT

REPORT : SP 021678

Sample	Au(OZ) OZ/TON	Au(RZ) OZ/TON
TR-24 90-95	<0.001	
TR-24 95-100	<0.001	
TR-24 100-105	<0.001	
TR-24 105-110	<0.001	
TR-24 110-115	0.003	
TR-24 115-120	0.006	
TR-24 120-125	0.001	
TR-24 125-130	<0.001	
TR-24 130-135	<0.001	
TR-24 135-140	<0.001	
TR-24 140-145	0.001	
TR-24 145-150	DTF	
TR-24 150-155	<0.001	
TR-24 155-160	0.005	
TR-24 160-165	0.011	0.012
TR-24 165-170	0.003	
TR-24 170-175	0.001	
TR-24 175-180	0.004	0.004
TR-24 180-185	0.002	
TR-24 185-190	0.001	
TR-24 190-195	<0.001	
TR-24 195-200	<0.001	
TR-24 200-205	<0.001	
TR-24 205-210	<0.001	
TR-24 210-215	<0.001	

Please refer to the cover sheet for further analysis details

PRELIMINARY REPORT

REPORT : SP 021678

Sample	Au(OZ) OZ/TON	Au(RZ) OZ/TON
TR-24 215-220	<0.001	<0.001
TR-24 220-225	<0.001	
TR-24 225-230	0.002	
TR-24 230-235	0.002	
TR-24 235-240	0.018	
TR-24 240-245	0.003	
TR-24 245-250	0.007	
TR-24 250-255	0.047	
TR-24 255-260	0.007	
TR-24 260-265	0.033	
TR-24 265-270	0.021	
TR-24 270-275	0.003	
TR-24 275-280	0.001	
TR-24 280-285	0.013	
TR-24 285-290	0.063	0.058
TR-24 290-295	0.071	
TR-24 295-300	0.008	
TR-24 300-305	0.019	
TR-24 305-310	0.015	
TR-24 310-315	0.018	
TR-24 315-320	0.006	
TR-24 320-325	0.005	
TR-24 325-330	0.001	
TR-24 330-335	0.004	
TR-25 0-5	0.001	

Please refer to the cover sheet for further analysis details.

PRELIMINARY REPORT

REPORT : SP 021678

Sample	Au(OZ) OZ/TON	Au(RZ) OZ/TON
TR-25 5-10	<0.001	
TR-25 10-15	<0.001	
TR-25 15-20	<0.001	<0.001
TR-25 20-25	<0.001	
TR-25 25-30	<0.001	
TR-25 30-35	<0.001	
TR-25 35-40	<0.001	
TR-25 40-45	<0.001	
TR-25 45-50	<0.001	
TR-25 50-55	<0.001	
TR-25 55-60	<0.001	
TR-25 60-65	0.001	
TR-25 65-70	0.006	
TR-25 70-75	<0.001	
TR-25 75-80	<0.001	<0.001
TR-25 80-85	<0.001	
TR-25 85-90	0.001	
TR-25 90-95	0.005	0.005
TR-25 95-100	<0.001	
TR-25 100-105	<0.001	
TR-25 105-110	0.005	
TR-25 110-115	0.001	
TR-25 115-120	<0.001	
TR-25 120-125	<0.001	
TR-25 125-130	0.031	

Please refer to the cover sheet for further analysis details.

PRELIMINARY REPORT

REPORT : SP 021678

Sample	Au(OZ) OZ/TON	Au(RZ) OZ/TON
TR-25 130-135	0.058	0.055
TR-25 135-140	0.002	
TR-25 140-145	0.004	
TR-25 145-150	0.002	
TR-25 150-155	<0.001	
TR-25 155-160	0.002	
TR-25 160-165	<0.001	
TR-25 165-170	0.002	
TR-25 170-175	0.013	
TR-25 175-180	0.023	
TR-25 180-185	0.136	
TR-25 185-190	0.071	0.076
TR-25 190-195	0.010	
TR-25 195-200	0.022	
TR-25 200-205	0.003	
TR-25 205-210	0.001	
TR-25 210-215	0.007	
TR-25 215-220	0.002	
TR-25 220-225	0.003	
TR-25 225-230	0.023	
TR-25 230-235	0.053	
TR-25 235-240	0.009	
TR-25 240-245	0.022	
TR-25 245-250	0.019	0.020
TR-26 0-5	0.002	

Please refer to the cover sheet for further analysis details.

PRELIMINARY REPORT

REPORT : SP 021678

Sample	Au(OZ) OZ/TON	Au(RZ) OZ/TON
TR-26 5-10	<0.001	
TR-26 10-15	0.001	
TR-26 15-20	<0.001	
TR-26 20-25	0.001	
TR-26 25-30	<0.001	
TR-26 30-35	<0.001	
TR-26 35-40	<0.001	
TR-26 40-45	<0.001	
TR-26 45-50	<0.001	<0.001
TR-26 50-55	0.001	
TR-26 55-60	<0.001	
TR-26 60-65	<0.001	
TR-26 65-70	<0.001	
TR-26 70-75	<0.001	
TR-26 75-80	<0.001	
TR-26 80-85	<0.001	
TR-26 85-90	<0.001	
TR-26 90-95	<0.001	
TR-26 95-100	<0.001	<0.001
TR-26 100-105	<0.001	
TR-26 105-110	<0.001	
TR-26 110-115	<0.001	
TR-26 115-120	<0.001	
TR-26 120-125	<0.001	
TR-26 125-130	<0.001	

Please refer to the cover sheet for further analysis details.

PRELIMINARY REPORT

REPORT : SP 021678

Sample	Au(OZ) OZ/TON	Au(RZ) OZ/TON
TR-26 130-135	0.038	
TR-26 135-140	0.070	
TR-26 140-145	0.011	
TR-26 145-150	0.022	0.021
TR-26 150-155	0.007	
TR-26 155-160	0.002	
TR-26 160-165	0.004	
TR-26 165-170	0.005	
TR-26 170-175	0.001	
TR-26 175-180	0.004	
TR-26 180-185	0.015	
TR-26 185-190	0.013	
TR-26 190-195	0.022	
TR-26 195-200	0.078	0.075
TR-26 200-205	0.029	
TR-26 205-210	0.064	
TR-26 210-215	0.087	
TR-26 215-220	0.053	
TR-26 220-225	0.015	
TR-26 225-230	0.011	
TR-26 230-235	0.015	
TR-26 235-240	0.010	
TR-26 240-245	0.005	
TR-26 245-250	0.007	
TR-26 250-255	0.006	0.006

Please refer to the cover sheet for further analysis details.

PRELIMINARY REPORT

REPORT : SP 021678

Sample	AU(OZ) OZ/TON	AU(RZ) OZ/TON
TR-26 255-260	0.005	
TR-26 260-265	0.005	
TR-26 265-270	0.008	
TR-26 270-275	0.004	
TR-26 275-280	0.002	
TR-26 280-285	0.002	0.002
TR-26 285-290	0.003	
TR-26 290-295	0.004	
TR-26 295-300	0.003	
TR-26 300-305	0.003	
TR-26 305-310	0.002	
TR-26 310-315	0.018	
TR-26 315-320	0.006	
TR-26 320-325	0.033	
TR-26 325-330	0.019	
TR-26 330-335	0.012	0.014
TR-26 335-340	0.004	
TR-26 340-345	0.004	
TR-26 345-350	0.001	
TR-26 350-355	0.002	
TR-26 355-360	<0.001	
TR-26 360-365	0.003	
TR-26 365-370	0.002	
TR-26 370-375	0.004	
TR-26 375-380	0.001	

Please refer to the cover sheet for further analysis details.

PRELIMINARY REPORT

REPORT : SP 021678

Sample	Au(DZ) OZ/TON	Au(RZ) OZ/TON
TR-26 380-385	0.004	
TR-26 385-390	0.005	0.004
TR-26 390-395	0.003	
TR-26 395-400	0.005	

Please refer to the cover sheet for further analysis details.

ANALYSIS REPORT

American Assay Laboratories Inc.

REPORT : SP 021678

Sample	Au (OZ) OZ/TON	Au (RE) OZ/TON	Au (RE) OZ/TON	Ag (OZ) OZ/TON
TR-22 0-5	0.001		--	0.04
TR-22 5-10	<0.001		--	0.04
TR-22 10-15	<0.001		--	0.02
TR-22 15-20	<0.001		--	<0.02
TR-22 20-25	<0.001		--	<0.02
TR-22 25-30	<0.001		--	<0.02
TR-22 30-35	<0.001		--	<0.02
TR-22 35-40	<0.001	<0.00.	--	<0.02
TR-22 40-45	<0.001		--	<0.02
TR-22 45-50	<0.001		--	0.03
TR-22 50-55	0.001		--	0.04
TR-22 55-60	<0.001		--	0.03
TR-22 60-65	<0.001		--	<0.02
TR-22 65-70	<0.001		--	<0.02
TR-22 70-75	<0.001	<0.001	--	<0.02
TR-22 75-80	<0.001		--	<0.02
TR-22 80-85	<0.001		--	<0.02
TR-22 85-90	<0.001		--	<0.02
TR-22 90-95	<0.001		--	<0.02
TR-22 95-100	<0.001		--	0.04
TR-22 100-105	<0.001		--	0.02
TR-22 105-110	<0.001		--	<0.02
TR-22 110-115	<0.001		--	<0.02
TR-22 115-120	<0.001		--	<0.02
TR-22 120-125	<0.001		--	<0.02

Please refer to the cover sheet for further analysis details.

ANALYSIS REPORT

American Assay Laboratories Inc.

REPORT : SP 021678

Sample	Au(OZ) OZ/TON	Au(RE) OZ/TON	AuRE2 OZ/TON	Ag(OZ) OZ/TON
TR-22 125-130	<0.001		--	<0.02
TR-22 130-135	<0.001		--	<0.02
TR-22 135-140	<0.001	<0.001	--	<0.02
TR-22 140-145	<0.001		--	<0.02
TR-22 145-150	<0.001		--	<0.02
TR-22 150-155	<0.001		--	<0.02
TR-22 155-160	<0.001		--	<0.02
TR-22 160-165	<0.001	<0.001	--	<0.02
TR-22 165-170	<0.001		--	<0.02
TR-22 170-175	<0.001		--	<0.02
TR-22 175-180	<0.001		--	<0.02
TR-22 180-185	<0.001		--	<0.02
TR-22 185-190	<0.001		--	<0.02
TR-22 190-195	<0.001		--	<0.02
TR-22 195-200	<0.001		--	<0.02
TR-22 200-205	0.001		--	<0.02
TR-22 205-210	0.001		--	<0.02
TR-22 210-215	0.002	?	--	<0.02
TR-22 215-220	0.010		--	0.02
TR-22 220-225	0.002		--	0.17
TR-22 225-230	0.002		--	0.06
TR-22 230-235	<0.001		--	0.06
TR-22 235-240	<0.001		--	0.02
TR-22 240-245	<0.001		--	0.04
TR-22 245-250	0.046	0.060	0.024	0.32

Please refer to the cover sheet for further analysis details.

ANALYSIS REPORT

American Assay Laboratories Inc.

REPORT : SP 021678

Sample	Au(OZ) OZ/TON	Au(RE) OZ/TON	[illegible] OZ/TON	Ag(OZ) OZ/TON
TR-22 250-255	0.039		--	0.41
TR-22 255-260	0.001		--	0.21
TR-22 260-265	<0.001		--	0.22
TR-22 265-270	<0.001		--	0.09
TR-22 270-275	0.001		--	0.08
TR-22 275-280	0.001		--	0.21
TR-22 280-285	<0.001	0.001	--	0.28
TR-22 285-290	0.005		--	0.32
TR-22 290-295	0.001		--	0.13
TR-22 295-300	0.011		--	0.35
TR-22 300-305	0.008		--	0.70
TR-22 305-310	0.008		--	0.98
TR-22 310-315	0.002		--	0.51
TR-22 315-320	0.002		--	0.83
TR-22 320-325	<0.001		--	0.43
TR-22 325-330	0.005	0.006	--	0.28
TR-22 330-335	0.037		--	0.54
TR-22 335-340	0.031		--	0.97
TR-22 340-345	0.012		--	0.98
TR-22 345-350	0.009		--	0.43
TR-22 350-355	0.004		--	0.27
TR-22 355-360	0.005		--	0.26
TR-22 360-365	0.002		--	0.14
TR-22 365-370	0.001	0.002	--	0.11
TR-22 370-375	0.002		--	0.12

Please refer to the cover sheet for further analysis details.

ANALYSIS REPORT

American Assay Laboratories Inc.

REPORT : SP 021678

Sample	Au(OZ) OZ/TON	Au(RZ) OZ/TON	AuRZ2 OZ/TON	Ag(OZ) OZ/TON
TR-22 375-380	0.001		--	0.10
TR-22 380-385	0.003		--	0.06
TR-22 385-390	0.005		--	0.07
TR-22 390-395	0.006		--	0.06
TR-22 395-400	0.005		--	0.08
TR-23 0-5	0.001		--	0.08
TR-23 5-10	<0.001		--	0.04
TR-23 10-15	0.001		--	0.02
TR-23 15-20	0.004		--	0.07
TR-23 20-25	<0.001		--	<0.02
TR-23 25-30	<0.001		--	<0.02
TR-23 30-35	<0.001		--	<0.02
TR-23 35-40	<0.001		--	<0.02
TR-23 40-45	<0.001	<0.001	--	<0.02
TR-23 45-50	<0.001		--	<0.02
TR-23 50-55	<0.001		--	<0.02
TR-23 55-60	<0.001		--	<0.02
TR-23 60-65	<0.001		--	0.03
TR-23 65-70	<0.001		--	0.03
TR-23 70-75	<0.001		--	<0.02
TR-23 75-80	<0.001		--	<0.02
TR-23 80-85	<0.001		--	<0.02
TR-23 85-90	<0.001		--	<0.02
TR-23 90-95	<0.001		--	0.02
TR-23 95-100	0.002		--	0.02

Please refer to the cover sheet for further analysis details.

ANALYSIS REPORT

American Assay Laboratories Inc.

REPORT : SP 021678

Sample	Au (OZ/TON)	Au (FZ) (OZ/TON)	Au RZZ (OZ/TON)	Ag (OZ) (OZ/TON)
TR-23 100-105	0.002		--	<0.02
TR-23 105-110	0.007		--	0.03
TR-23 110-115	0.002		--	0.02
TR-23 115-120	0.048	0.039	--	0.02
TR-23 120-125	0.015		--	<0.02
TR-23 125-130	0.005		--	<0.02
TR-23 130-135	<0.001		--	<0.02
TR-23 135-140	0.002		--	<0.02
TR-23 140-145	0.001	0.001	--	0.02
TR-23 145-150	<0.001		--	0.02
TR-23 150-155	<0.001		--	<0.02
TR-23 155-160	<0.001		--	<0.02
TR-23 160-165	<0.001		--	<0.02
TR-23 165-170	<0.001	<0.001	--	<0.02
TR-23 170-175	<0.001		--	0.03
TR-23 175-180	<0.001		--	<0.02
TR-23 180-185	<0.001		--	<0.02
TR-23 185-190	<0.001		--	<0.02
TR-23 190-195	<0.001		--	<0.02
TR-23 195-200	0.001		--	0.03
TR-23 200-205	<0.001		--	<0.02
TR-23 205-210	0.001		--	<0.02
TR-23 210-215	<0.001		--	<0.02
TR-23 215-220	<0.001		--	<0.02
TR-23 220-225	<0.001		--	<0.02

Please refer to the cover sheet for further analysis details.

ANALYSIS REPORT

American Assay Laboratories Inc.

REPORT : SP 021678

Sample	Au(oz) oz/ton	Au(Rr) oz/ton	Au(Rr) oz/ton	As(oz) oz/ton
TR-23 225-230	<0.001		--	<0.02
TR-23 230-235	<0.001		--	<0.02
TR-23 235-240	<0.001		--	<0.02
TR-23 240-245	<0.001		--	<0.02
TR-23 245-250	<0.001		--	0.08
TR-23 250-255	<0.001		--	0.09
TR-23 255-260	<0.001		--	0.23
TR-23 260-265	0.001	0.001	--	0.45
TR-23 265-270	<0.001		--	0.19
TR-23 270-275	<0.001		--	0.17
TR-23 275-280	<0.001		--	0.08
TR-23 280-285	<0.001		--	0.08
TR-23 285-290	<0.001		--	0.05
TR-23 290-295	<0.001		--	0.04
TR-23 295-300	<0.001		--	0.07
TR-23 300-305	<0.001		--	0.14
TR-23 305-310	0.002	0.002	--	0.17
TR-23 310-315	0.010		--	0.22
TR-23 315-320	0.020		--	0.24
TR-23 325-330	0.010		--	0.18
TR-23 330-335	0.002		--	0.63
TR-23 335-340	0.004		--	0.64
TR-23 340-345	0.019		--	0.71
TR-23 345-350	0.007		--	0.41
TR-23 350-355	0.003		--	0.37

Please refer to the cover sheet for further analysis details.

ANALYSIS REPORT

American Assay Laboratories Inc.

REPORT : SP-021678

Sample	Au(OZ) OZ/TON	Au(RE) OZ/TON	Au(2) OZ/TON	Ag(OZ) OZ/TON
TR-23 365-370	0.003	0.003	--	0.26
TR-23 370-375	0.009		--	0.27
TR-23 375-380	0.012		--	0.30
TR-23 380-385	0.043		--	0.34
TR-23 385-390	0.004		--	0.32
TR-23 390-395	0.032		--	0.09
TR-23 395-400	<0.001		--	0.08
TR-24 0-5	0.002		--	0.12
TR-24 5-10	<0.001		--	0.05
TR-24 10-15	<0.001		--	<0.02
TR-24 15-20	<0.001		--	<0.02
TR-24 20-25	<0.001		--	<0.02
TR-24 25-30	<0.001		--	<0.02
TR-24 30-35	<0.001		--	<0.02
TR-24 35-40	<0.001		--	<0.02
TR-24 40-45	<0.001	<0.001	--	<0.02
TR-24 45-50	<0.001		--	<0.02
TR-24 50-55	<0.001		--	<0.02
TR-24 55-60	<0.001		--	<0.02
TR-24 60-65	<0.001		--	<0.02
TR-24 65-70	<0.001		--	<0.02
TR-24 70-75	<0.001	<0.001	--	<0.02
TR-24 75-80	<0.001		--	<0.02
TR-24 80-85	<0.001		--	<0.02
TR-24 85-90	<0.001		--	<0.02

Please refer to the cover sheet for further analysis details.

ANALYSIS REPORT

American Assay Laboratories Inc.

REPORT : SP 021678

Sample	Au(OZ) OZ/TON	Au(RZ) OZ/TON	AuRZ2 OZ/TON	Ag(OZ) OZ/TON
TR-24 90-95	<0.001		--	<0.02
TR-24 95-100	<0.001		--	<0.02
TR-24 100-105	<0.001		--	<0.02
TR-24 105-110	<0.001		--	<0.02
TR-24 110-115	0.003		--	<0.02
TR-24 115-120	0.006		--	0.05
TR-24 120-125	0.001		--	0.12
TR-24 125-130	<0.001		--	0.05
TR-24 130-135	<0.001		--	<0.02
TR-24 135-140	<0.001		--	<0.02
TR-24 140-145	0.001		--	0.03
TR-24 145-150	<0.001		--	0.02
TR-24 150-155	<0.001		--	<0.02
TR-24 155-160	0.005		--	0.04
TR-24 160-165	0.011	0.012	--	0.04
TR-24 165-170	0.003		--	0.02
TR-24 170-175	0.001		--	<0.02
TR-24 175-180	0.004	0.004	--	<0.02
TR-24 180-185	0.002		--	<0.02
TR-24 185-190	0.00[illegible]		--	<0.02
TR-24 190-195	<0.001		--	<0.02
TR-24 195-200	<0.001		--	<0.02
TR-24 200-205	<0.001		--	<0.02
TR-24 205-210	<0.001		--	<0.02
TR-24 210-215	<0.001		--	<0.02

Please refer to the cover sheet for further analysis details.

ANALYSIS REPORT

American Assay Laboratories Inc.

REPORT : SP.021678

Sample	Au(OZ) OZ/TON	Au(RE) OZ/TON	Au(FZ) OZ/TON	Ag(OZ) OZ/TON
TR-24 215-220	<0.001	<0.001	--	0.05
TR-24 220-225	<0.001		--	0.06
TR-24 225-230	0.002		--	0.10
TR-24 230-235	0.002		--	0.11
TR-24 235-240	0.018		--	0.13
TR-24 240-245	0.003		--	0.13
TR-24 245-250	0.007		--	0.15
TR-24 250-255	0.047		--	0.24
TR-24 255-260	0.007		--	0.22
TR-24 260-265	0.033		--	0.28
TR-24 265-270	0.021		--	0.19
TR-24 270-275	0.003		--	0.28
TR-24 275-280	0.001		--	0.18
TR-24 280-285	0.013		--	0.22
TR-24 285-290	0.063	0.058	--	0.13
TR-24 290-295	0.071		--	0.34
TR-24 295-300	0.008		--	0.09
TR-24 300-305	0.019		--	0.08
TR-24 305-310	0.015		--	0.09
TR-24 310-315	0.018		--	0.40
TR-24 315-320	0.006		--	0.25
TR-24 320-325	0.005		--	0.32
TR-24 325-330	0.001		--	0.15
TR-24 330-335	0.004		--	0.09
TR-25 0-5	0.001		--	0.08

Please refer to the cover sheet for further analysis details.

ANALYSIS REPORT

American Assay Laboratories Inc.

REPORT : SP 021678

Sample	Au(OZ) OZ/TON	Au(RZ) OZ/TON	Au(RZ) OZ/TON	Ag(OZ) OZ/TON
TR-25 5-10	<0.001		--	0.02
TR-25 10-15	<0.001		--	0.03
TR-25 15-20	<0.001	<0.001	--	<0.02
TR-25 20-25	<0.001		--	<0.02
TR-25 25-30	<0.001		--	<0.02
TR-25 30-35	<0.001		--	<0.02
TR-25 35-40	<0.001		--	<0.02
TR-25 40-45	<0.001		--	<0.02
TR-25 45-50	<0.001		--	<0.02
TR-25 50-55	<0.001		--	<0.02
TR-25 55-60	<0.001		--	<0.02
TR-25 60-65	0.001		--	<0.02
TR-25 65-70	0.006		--	<0.02
TR-25 70-75	<0.001		--	<0.02
TR-25 75-80	<0.001	<0.001	--	0.11
TR-25 80-85	<0.001		--	0.04
TR-25 85-90	0.001		--	0.03
TR-25 90-95	0.005	0.005	--	0.07
TR-25 95-100	<0.001		--	0.10
TR-25 100-105	<0.001		--	0.09
TR-25 105-110	0.005		--	0.04
TR-25 110-115	0.001		--	0.02
TR-25 115-120	<0.001		--	<0.02
TR-25 120-125	<0.001		--	<0.02
TR-25 125-130	0.031		--	0.07

Please refer to the cover sheet for further analysis details.

ANALYSIS REPORT

American Assay Laboratories Inc.

REPORT : SP 021678

Samples	Au (OZ) OZ/TON	Au (RE) OZ/TON	Au (RE2) OZ/TON	As (OZ) OZ/TON
TR-25 130-135	0.058	0.055	--	0.12
TR-25 135-140	0.002	0.005	0.013	0.18
TR-25 140-145	0.004		--	0.03
TR-25 145-150	0.002		--	0.03
TR-25 150-155	<0.001		--	0.03
TR-25 155-160	0.002		--	0.04
TR-25 160-165	<0.001		--	0.05
TR-25 165-170	0.006		--	0.08
TR-25 170-175	0.013		--	0.24
TR-25 175-180	0.023		--	1.08
TR-25 180-185	0.136	0.127	--	6.16
TR-25 185-190	0.071	0.076	--	4.52
TR-25 190-195	0.010		--	0.82
TR-25 195-200	0.022		--	0.90
TR-25 200-205	0.003		--	0.20
TR-25 205-210	0.001		--	0.20
TR-25 210-215	0.007		--	0.23
TR-25 215-220	0.002		--	0.26
TR-25 220-225	0.003		--	0.99
TR-25 225-230	0.023		--	1.22
TR-25 230-235	0.053		--	0.85
TR-25 235-240	0.009		--	0.16
TR-25 240-245	0.022		--	1.38
TR-25 245-250	0.019	0.020	--	1.53
TR-26 0-5	0.002		--	0.09

Please refer to the cover sheet for further analysis details.

ANALYSIS REPORT

American Assay Laboratories Inc.

REPORT : SP 021678

Sample	Au (OZ) OZ/TON	(RZ) /TON	Au ZZ OZ/TON	Ag (OZ) OZ/TON
TR-26 5-10	<0.001		--	<0.02
TR-26 10-15	0.001		--	0.05
TR-26 15-20	<0.001		--	0.03
TR-26 20-25	0.001		--	<0.02
TR-26 25-30	<0.001		--	0.05
TR-26 30-35	<0.001		--	<0.02
TR-26 35-40	<0.001		--	<0.02
TR-26 40-45	<0.001		--	<0.02
TR-26 45-50	<0.001	<0.001	--	<0.02
TR-26 50-55	0.001		--	0.05
TR-26 55-60	<0.001		--	<0.02
TR-26 60-65	<0.001		--	<0.02
TR-26 65-70	<0.001		--	<0.02
TR-26 70-75	<0.001		--	0.06
TR-26 75-80	<0.001		--	<0.02
TR-26 80-85	<0.001		--	0.02
TR-26 85-90	<0.001		--	<0.02
TR-26 90-95	<0.001		--	<0.02
TR-26 95-100	<0.001	<0.001	--	<0.02
TR-26 100-105	<0.001		--	0.03
TR-26 105-110	<0.001		--	<0.02
TR-26 110-115	<0.001		--	0.03
TR-26 115-120	<0.001		--	0.03
TR-26 120-125	<0.001		--	0.10
TR-26 125-130	<0.001		--	0.10

Please refer to the cover sheet for further analysis details.

ANALYSIS REPORT

American Assay Laboratories Inc.

REPORT : SR.021678

Sample	Au(oz) oz/ton	Au(1B2) oz/ton	AuRZZ oz/ton	Ag(oz) oz/ton
TR-26 130-135	0.038		--	0.21
TR-26 135-140	0.070		--	0.51
TR-26 140-145	0.011		--	0.28
TR-26 145-150	0.022	0.021	--	1.61
TR-26 150-155	0.007		--	0.44
TR-26 155-160	0.002		--	0.46
TR-26 160-165	0.004		--	0.24
TR-26 165-170	0.005		--	0.22
TR-26 170-175	0.001		--	0.22
TR-26 175-180	0.004		--	0.15
TR-26 180-185	0.015		--	0.30
TR-26 185-190	0.013		--	0.53
TR-26 190-195	0.022		--	0.56
TR-26 195-200	0.078	0.075	--	1.29
TR-26 200-205	0.029		--	0.66
TR-26 205-210	0.064		--	1.19
TR-26 210-215	0.087		--	1.34
TR-26 215-220	0.053		--	0.88
TR-26 220-225	0.015		--	0.71
TR-26 225-230	0.011		--	0.71
TR-26 230-235	0.015		--	0.78
TR-26 235-240	0.010		--	0.86
TR-26 240-245	0.005		--	0.32
TR-26 245-250	0.007		--	0.46
TR-26 250-255	0.006	0.006	--	0.41

Please refer to the cover sheet for further analysis details.

ANALYSIS REPORT

American Assay Laboratories Inc.

REPORT : SP.021678

Sample	Ag(OZ) OZ/TON	Au(RZ) OZ/TON	AuRZZ OZ/TON	As(OZ) OZ/TON
TR-26 255-260	0.005		--	0.36
TR-26 260-265	0.005		--	0.29
TR-26 265-270	0.008		--	0.26
TR-26 270-275	0.004		--	0.26
TR-26 275-280	0.002		--	0.13
TR-26 280-285	0.002	0.002	--	0.15
TR-26 285-290	0.003		--	0.18
TR-26 290-295	0.004		--	0.25
TR-26 295-300	0.003		--	0.08
TR-26 300-305	0.003		--	0.11
TR-26 305-310	0.002		--	0.15
TR-26 310-315	0.018		--	0.42
TR-26 315-320	0.006		--	0.17
TR-26 320-325	0.033		--	0.24
TR-26 325-330	0.019		--	0.12
TR-26 330-335	0.012	0.014	--	0.22
TR-26 335-340	0.004		--	0.18
TR-26 340-345	0.004		--	0.06
TR-26 345-350	0.001		--	0.05
TR-26 350-355	0.002		--	0.08
TR-26 355-360	<0.001		--	0.02
TR-26 360-365	0.003		--	0.13
TR-26 365-370	0.002		--	0.10
TR-26 370-375	0.004		--	0.08
TR-26 375-380	0.001		--	0.05

Please refer to the cover sheet for further analysis details.

ANALYSIS REPORT

American Assay Laboratories Inc.

REPORT : SP 021678

Sample	Au(OZ) OZ/TON	Au(RZ) OZ/TON	AuRZZ OZ/TON	Ag(OZ) OZ/TON
TR-26 380-385	0.004		--	0.20
TR-26 385-390	0.005	0.004	--	0.34
TR-26 390-395	0.003		--	0.49
TR-26 395-400	0.005		--	0.53

Please refer to the cover sheet for further analysis details.

ANALYSIS REPORT

American Assay Laboratories Inc.
RENO: 1500 Glendale Ave, SPARKS 89431
P.O. Box 71060, RENO 89570
Ph. (702)356-0606 Fax 3561413

USMX INC

REPORT : SP 021697 Page(s) : 4 Date : 03/11/93

Client reference : TR-25/27 Project : TOMBSTONE

Cost code :

Copies to : JOHN COX

KARL KANBERGS

Samples Received : 03/01/93 : Type Preparation code

Analysis	Code	Quality Parameter	Detection	Units
Au(OZ)	FA30	Acc. 15 %	0.001	OZ/TON
Au(RZ)	FA30	Acc. 15 %	0.001	OZ/TON
Ag(OZ)	D210	Prec.10 %	0.02	OZ/TON

Signatory : Jorge Ugarte

American Assay Laboratories Inc.

ANALYSIS REPORT

REPORT : SP 021697

Sample	Au(OZ) OZ/TON	Au(4W) OZ/TON	Ag(OZ) OZ/TON
TR-25 250-255	0.004		1.12
TR-25 255-260	0.004		0.21
TR-25 260-265	0.005		0.35
TR-25 265-270	0.002		0.36
TR-25 270-275	0.003		0.37
TR-25 275-280	0.003		0.32
TR-25 280-285	0.002	0.002	0.13
TR-25 285-290	0.003		0.46
TR-25 290-295	0.003		0.40
TR-27 0-5	0.037		2.24
TR-27 5-10	0.009		0.60
TR-27 10-15	0.021		0.78
TR-27 15-20	0.016		0.63
TR-27 20-25	0.006		0.24
TR-27 25-30	0.002	0.002	0.26
TR-27 30-35	0.003		0.23
TR-27 35-40	0.001		0.08
TR-27 40-45	0.002		0.09
TR-27 45-50	0.003		0.17
TR-27 50-55	0.004		0.15
TR-27 55-60	0.002		0.13
TR-27 60-65	0.011		0.18
TR-27 65-70	<0.001		0.02
TR-27 70-75	0.002		0.04
TR-27 75-80	<0.001	<0.001	0.08

Please refer to the cover sheet for further analysis details.

ANALYSIS REPORT

American Assay Laboratories Inc.

REPORT: SP 021697

Sample	Au(OZ) OZ/TON	Au(PZ) OZ/TON	Ag(OZ) OZ/TON
TR-27 80-85	0.002		0.03
TR-27 85-90	0.001		<0.02
TR-27 90-95	<0.001		<0.02
TR-27 95-100	<0.001		<0.02
TR-27 100-105	<0.001		<0.02
TR-27 105-110	0.007		0.06
TR-27 110-115	0.003		0.03
TR-27 115-120	0.004		0.02
TR-27 120-125	0.002		0.05
TR-27 125-130	0.013		0.21
TR-27 130-135	0.018		0.44
TR-27 135-140	0.006	0.006	0.24
TR-27 140-145	0.004		0.11
TR-27 145-150	0.001		0.05
TR-27 150-155	<0.001		0.04
TR-27 155-160	<0.001		0.05
TR-27 160-165	0.024		0.20
TR-27 165-170	0.337	0.362	5.86
TR-27 170-175	0.179		1.18
TR-27 175-180	0.006		0.05
TR-27 180-185	0.004	0.004	0.04
TR-27 185-190	0.003		0.03
TR-27 190-195	0.001		0.02
TR-27 195-200	<0.001		<0.02
TR-27 200-205	0.002		0.13

Please refer to the cover sheet for further analysis details.

ANALYSIS REPORT

American Assay Laboratories Inc.

REPORT : SP 021697

Sample	Au(OZ) OZ/TON	Au(RZ) OZ/TON	Ag(OZ) OZ/TON
TR-27 205-210	<0.001		0.04
TR-27 210-215	0.001		0.03
TR-27 215-220	<0.001		0.06
TR-27 220-225	<0.001		0.08
TR-27 225-230	0.007		0.14
TR-27 230-235	<0.001		0.09
TR-27 235-240	<0.001	<0.001	0.15
TR-27 240-245	0.002		0.18
TR-27 245-250	0.001		0.08
TR-27 250-255	0.003		0.34
TR-27 255-260	0.004		0.29
TR-27 260-265	0.001		0.30
TR-27 265-270	0.015		0.33
TR-27 270-275	0.004		0.84
TR-27 275-280	0.002	0.002	0.87
TR-27 280-285	0.002		0.32
TR-27 285-290	0.003		0.44
TR-27 290-295	0.002		0.20
TR-27 295-300	0.001		0.11
TR-27 300-305	0.001		0.11
TR-27 305-310	0.001	0.001	0.03
TR-27 310-315	<0.001		<0.02
TR-27 315-320	<0.001		0.06
TR-27 320-325	0.001		0.03
TR-27 325-330	<0.001		0.03

Please refer to the cover sheet for further analysis details.

ANALYSIS REPORT

American Assay Laboratories Inc.

REPORT #: SP.021697

Sample	Au (oz) oz/ton	Au (%) oz/ton	Ag (oz) oz/ton
TR-27 330-335	<0.001		0.06
TR-27 335-340	<0.001		<0.02
TR-27 340-345	<0.001		<0.02
TR-27 345-350	<0.001		0.04
TR-27 350-355	0.001		0.08
TR-27 355-360	<0.001		0.03
TR-27 360-365	<0.001		<0.02
TR-27 365-370	0.001		0.11
TR-27 370-375	0.001		0.12
TR-27 375-380	<0.001		0.06
TR-27 380-385	0.001		0.09
TR-27 385-390	0.002		0.12
TR-27 390-395	0.002		0.05

Please refer to the cover sheet for further analysis details.

N.B. → Preliminary!!

Tombstone drill Results ~~4/9/93~~ 4/12/93 JWC

Hole #	Au	Ag
TR-28	115'-165' of .062 Au,	2.2 OPT Ag
TR-29	140'-150' of .019 Au,	.72 OPT Ag
TR-30	195'-205' of .022 Au,	.31 OPT Ag
TR-31	65'-85' of .040 Au,	.45 OPT Ag
	170'-200' of .060 Au,	.62 OPT Ag
TR-32	5'-20' of .060 Au,	.29 OPT Ag
TR-33	295'-~~325~~ 325' of .190 Au,	6.41 OPT Ag
TR-34	265'-280' of .012 Au,	N.A.
TR-35	NO SIG. VALUE,	N.A.
TR-36	0-40' of .018 Au,	NA
	75'-95' of .032 Au,	N.A.
TR-37	[redacted] 5'-45' of .023 Au,	N.A.
	~~NO ASSAYS PAST 140' IN HOLE~~	
	160'-190' of .089 Au,	N.A
	190'-245' of NO SAMPLE,	STOPES
	245'-270' of .097 Au,	NA.
TR-38	60'-80' of .011 Au,	N.A.

received 4/12/93

REVIEWED J.A.B.

FAX LEAD SHEET

TO: Jim Busse TIME:

FAX NO: DATE:

FROM: A.J. Mallee RETURN FAX NO: 416-867 - 1109

REFERENCE:

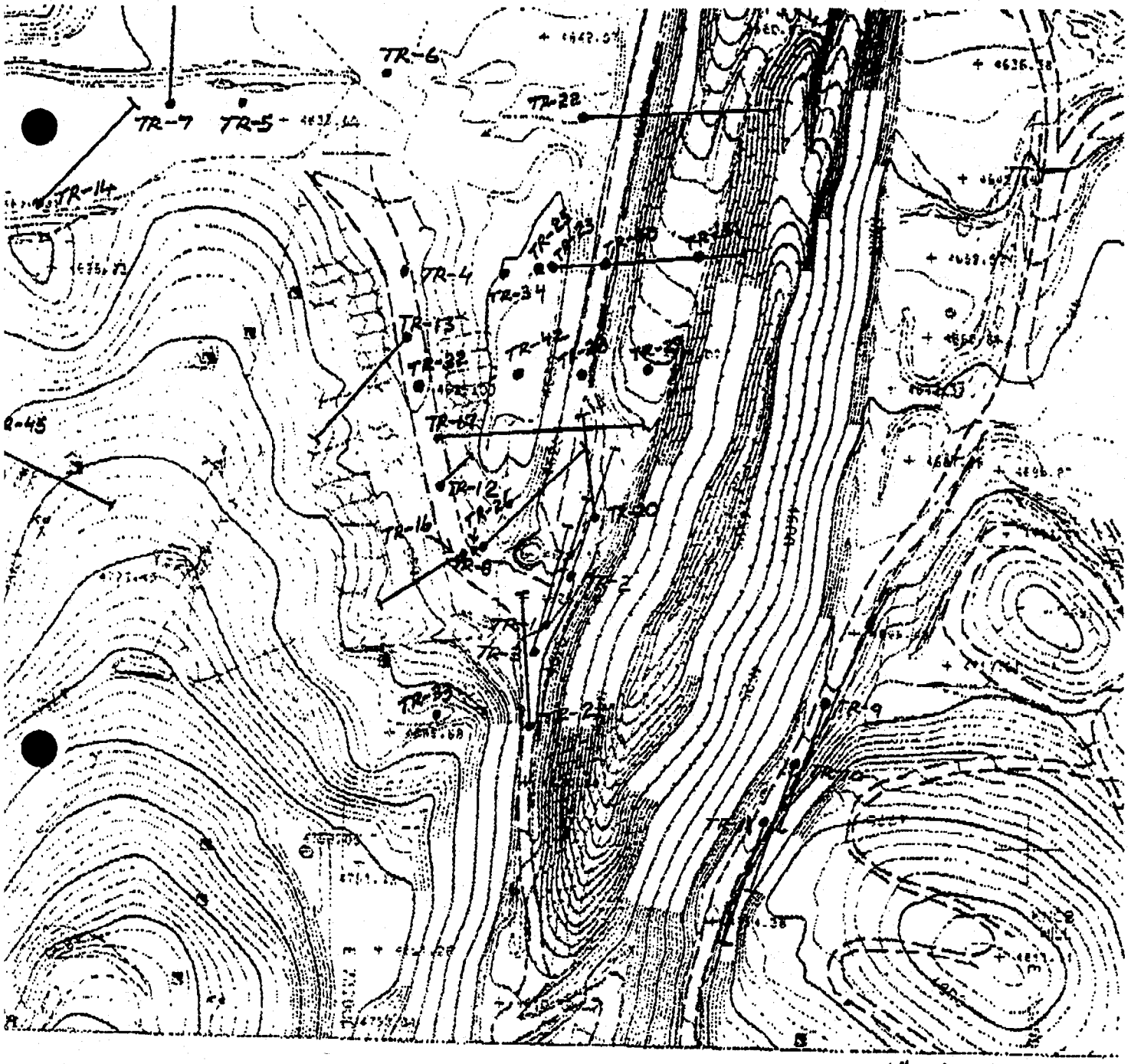
Attached are latest results.
Holes H 37 in to the N.E. are
indicated in previous maps sent to
you

NUMBER OF PAGES INCLUDING LEAD SHEET:

IF YOU DO NOT RECEIVE ALL THE PAGES, PLEASE CONTACT THE SENDER AS SOON AS POSSIBLE AT:

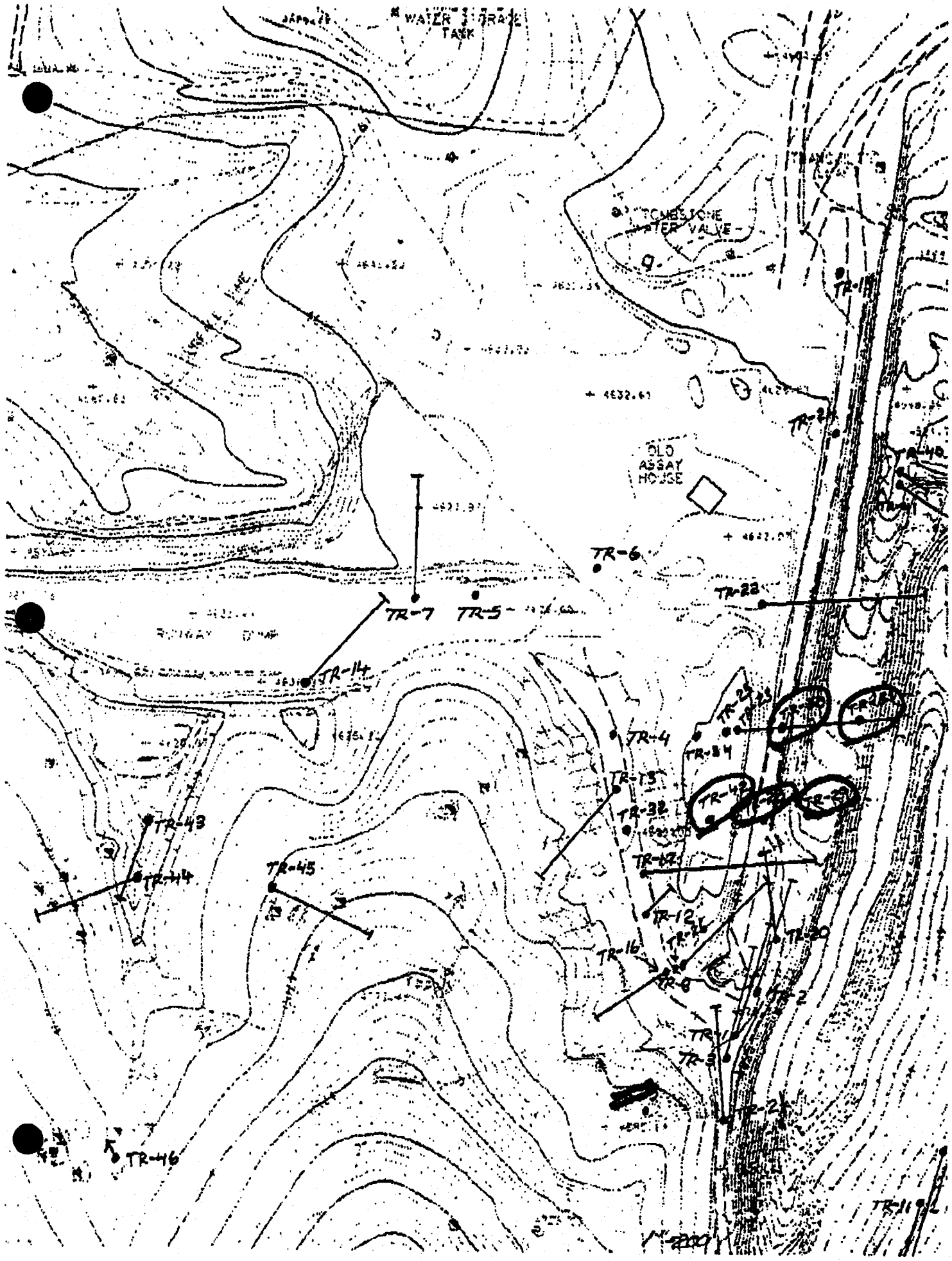
416-867-1100

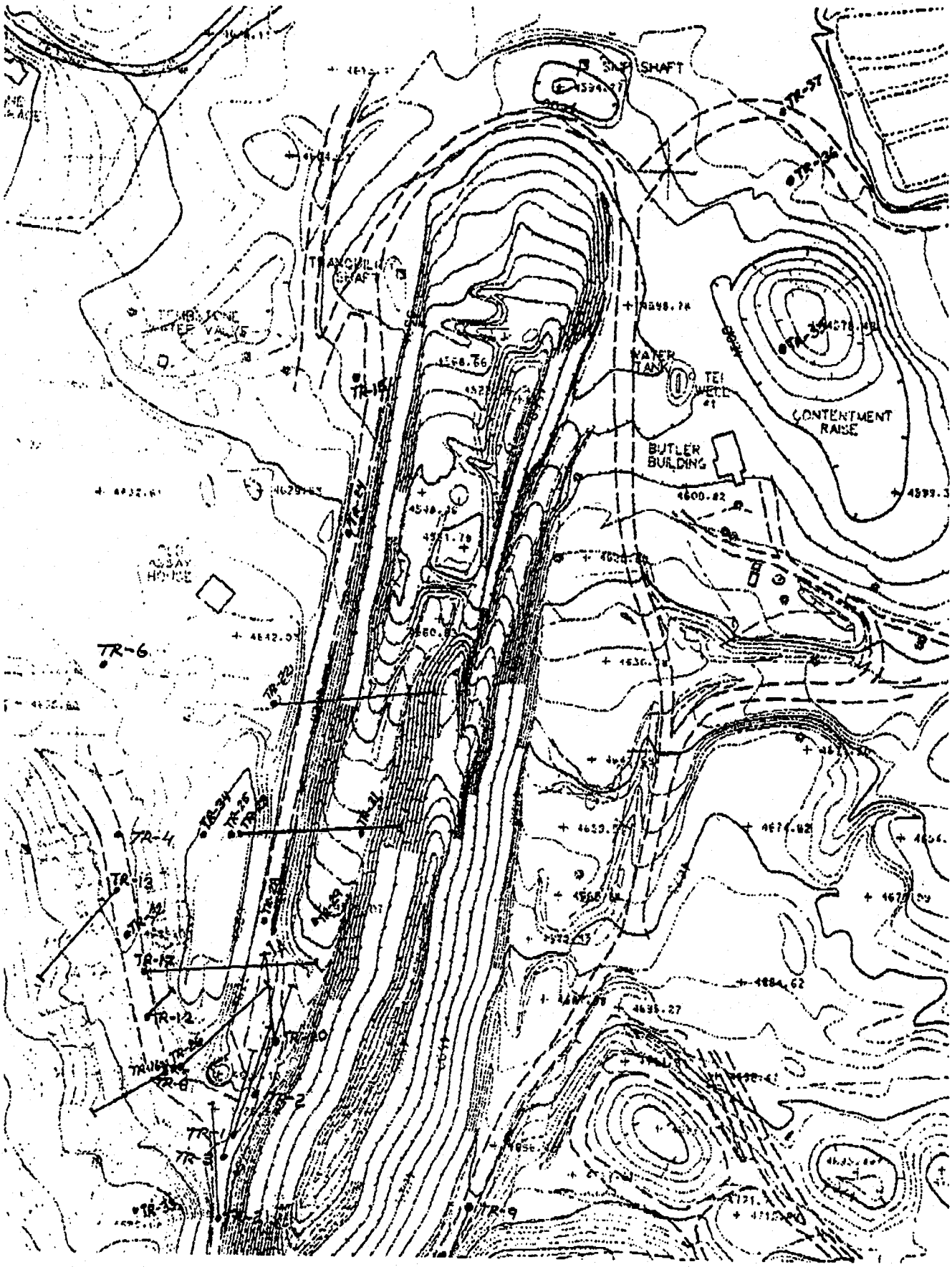
TR-32 TR-47 TR-29 1"=200'



800

Grid	+	Building		Concrete	
Control		Trailer		Cattle Guard	
Index Contour		Fence		Hydrant	
Intermediate Contour		Rail		Pole	
Spot Elevation	+	Tank		Light Pole	
Paved Road		Stream		Mine Shaft	
Dirt Road		Pond		Cuts	
Trail		Scar		Toe	
		Wash		Crest	
		Pipe Line		Prospect	


WATER TRADE TANK
TOMBSTONE WATER VALVE
OLD ASSAY HOUSE
TR-6
TR-7
TR-5
TR-22
TR-14
TR-4
TR-13
TR-32
TR-43
TR-44
TR-45
TR-12
TR-16
TR-8
TR-20
TR-2
TR-3
TR-46
TR-11


SHAFT
TR-57
TR-56
TRANQUILITY SHAFT
WATER TANK
CONTENTMENT RAISE
BUTLER BUILDING
TR-15
TR-6
TR-4
TR-13
TR-12
TR-2
TR-9

lies on the northwest edge of the property block. Prompter Ridge lies on the outer periphery of the Tombstone Porphyry center and is thought to have potential for distal gold mineralization.

Exploration will be by soil and biogeochemical plant sampling and rock chip geochem sampling in areas of outcrop. Geologic and Quantitative Alteration Mapping will also be applied. Color air photo interpretation and remote sensing will be used to identify structure and alteration patterns not discernable from the ground.

After targets have been identified, ten 100 foot deep "Scout" holes will be drilled. Follow on will be ten 400 foot RC drill holes. As the terrain is relatively steep, road work and site preparation will be required.

The following budget for Phase I, II and III programs is:

Phase I	Biogeochemical and soil sampling over 9 square miles, rock chip sampling over 2.5 square miles, data reduction, interpretation and planning for Phase II.	$21,345
Phase II	Color air photo interpretation, & remote sensing, geologic and alteration mapping, data compilation, interpretation and design of phase III.	$24,100
Phase III	"Scout Drilling" - 10 drill holes to 100 feet, including road work and site prep.	$21,000
Phase IV	"Target Drilling" - 10 drill holes to 400 feet, including road work and site prep.	$54,000
	Total for Phase I through IV	$120,445

Johnson Ranch Biogeochemical Anomaly (Block 3)

Though less than 1.5 Km from outcrop at the northeast end, the Johnson Ranch is completely covered with post-mineral soil. Its location is based entirely on a molybdenum - silver biogeochemical (mesquite twig) anomaly from Newell's work. There is also a magnetic anomaly in the vicinity which is characteristic of porphyry copper alteration zones (verbal communication Dr. John S. Sumner, 1972), and was staked (but not drilled) by Sumner and the author.

Remote techniques will of necessity have to be used. These will include biogeochemical and soil sampling perhaps including soil gas sampling, electrical geophysics and ground magnetics. The geophysical surveys should give a good depth to bedrock indication, to determine the feasibility of drilling.

The following budget for Phase I, II, and III programs is:

PRIMO GOLD LTD.

1305-1090

West Georgia St.

Vancouver

British Columbia

Canada

V6E 3V7

Telephone

(604) 685-9316

Facsimile

(604) 683-1585

MINERAL EXPLORATION & DEVELOPMENT

December 7, 1992

Mr. Jim Briscoe
JABA Inc.
2100 N. Wilmont Rd. #218
Tucson, AZ
85712

Dear Jim:

Please find enclosed the Zebra Documents as per your request.

Sincerely,

PRIMO GOLD LTD.

K.A. Cabianca

KAC:clh

enclosure

CERTIFICATION

I, Leroy Halterman of Albuquerque, New Mexico, do hereby state:

1. I am a consulting Geologist. I graduated from Missouri School of Mines, Rolla, Missouri in 1968 with a B.S. in Geology.
2. My address is 820 Piedra Vista NE, Albuquerque, NM 87123.
3. I am a member in good standing of the American Institute of Professional Geologists, and I am a Certified Professional Geologist, #3444 and a Registered Geologist #540 in the State of South Carolina.
4. I am employed by MinSearch, Inc., 11930 Menaul NE, Suite 112, Albuquerque, New Mexico 87112
5. Since graduation, I have practiced geology for 23 years, mainly in the western United States.
6. My report is based on numerous visits to the Zebra property. The most recent vist was January 14 through 25, 1991
7. Consolidated Paymaster and Tempo Resources has given permission to use the data they acquired in this evaluation and report.
8. This report entitled "THE ZEBRA PROPERTY" March 30, 1991, may be used by Primo Gold Ltd. in a public financing.
9. I myself or MinSearch, Inc. have no direct or indirect interest in the Zebra property or in Primo Gold Ltd.

Dated at Albuquerque, New Mexico, the 30th day of March, 1991.

MinSearch, Inc.

Leroy Halterman
Certified Professional
Geologist, #3444

AMERICAN INSTITUTE OF PROFESSIONAL GEOLOGISTS
3444
AIPG
LEROY HALTERMAN

Report on

THE ZEBRA PROPERTY

A Gold Prospect,
Cochise County, Arizona

Sections 27, 28, 29, 33 and 34
Township 20 South, Range 23 East

Prepared for:

Primo Gold Ltd.

by

Leroy Halterman,
Certified Professional Geologist #3444
MinSearch, Inc.

March 30, 1991

TABLE OF CONTENTS

Introduction.....1
Location, Topography, Vegetation and Access.....1
Property Status.....3
Regional Geology.....5
Local Geology.....5
Geology-Epithermal Model.....7
Geology-Other Models.....9
Previous Work.....9
1990-1991 Primo Gold Ltd. Program.....10
Expenditure for the Benefit of the Property.....10
Geology, Mineralization and Potential Drill Targets Section 28.....11
Geology, Mineralization and Potential Drill Targets Other Sections...19
Recommended Programs.....21
Phase One and Two Cost Estimates.....23
Certification.....24

LIST OF FIGURES

Figure 1. - Zebra Prospect Location Map.....2

Figure 2. - Zebra Prospect Land Status.....4

Figure 3. - Geologic and Sample Location Map.....6

Figure 4. - Mineralization Model.....8

Figure 5. - Section 28 Drill Hole Data and Location.....12

Figure 6. - Section 28 Drill Hole Data and Location.....14

Figure 7. - Geophysical Resistivity Models.....15

Figure 8. - Geochemistry Map, Soil Gold.....16

Figure 9. - Geochemistry Map, Soil Mercury.....17

Figure 10. - Geochemistry Map, Soil Arsenic.....18

Figure 11. - VLF Survey Map.....20

APPENDICES

Appendix A - Rock and Soil Sample Descriptions and Assay Results

Appendix B - 1990 -1991 Drill Hole Assay Data

ACCOMPANING DOCUMENTS

1. Zonge Engineering and Reseacrh Report

2. Soil Geochemistry Data Sheets and Assay Reports

THE ZEBRA PROPERTY

A Gold Prospect

This report was prepared at the request of Primo Gold Ltd. and was based on numerous visits to the property by the author. The most recent visit was January 14 through 25, 1991 when the author supervised a three hole drilling program and a soil sampling survey. Earlier visits to the property included supervising a drilling program, geophysical programs, geological and geochemical mapping. In addition to the field examinations, data compiled by Energy Reserves Group, Consolidated Paymaster, Wellington Finanical, and Tempo Resources Ltd. was also used in the preparation of this report.

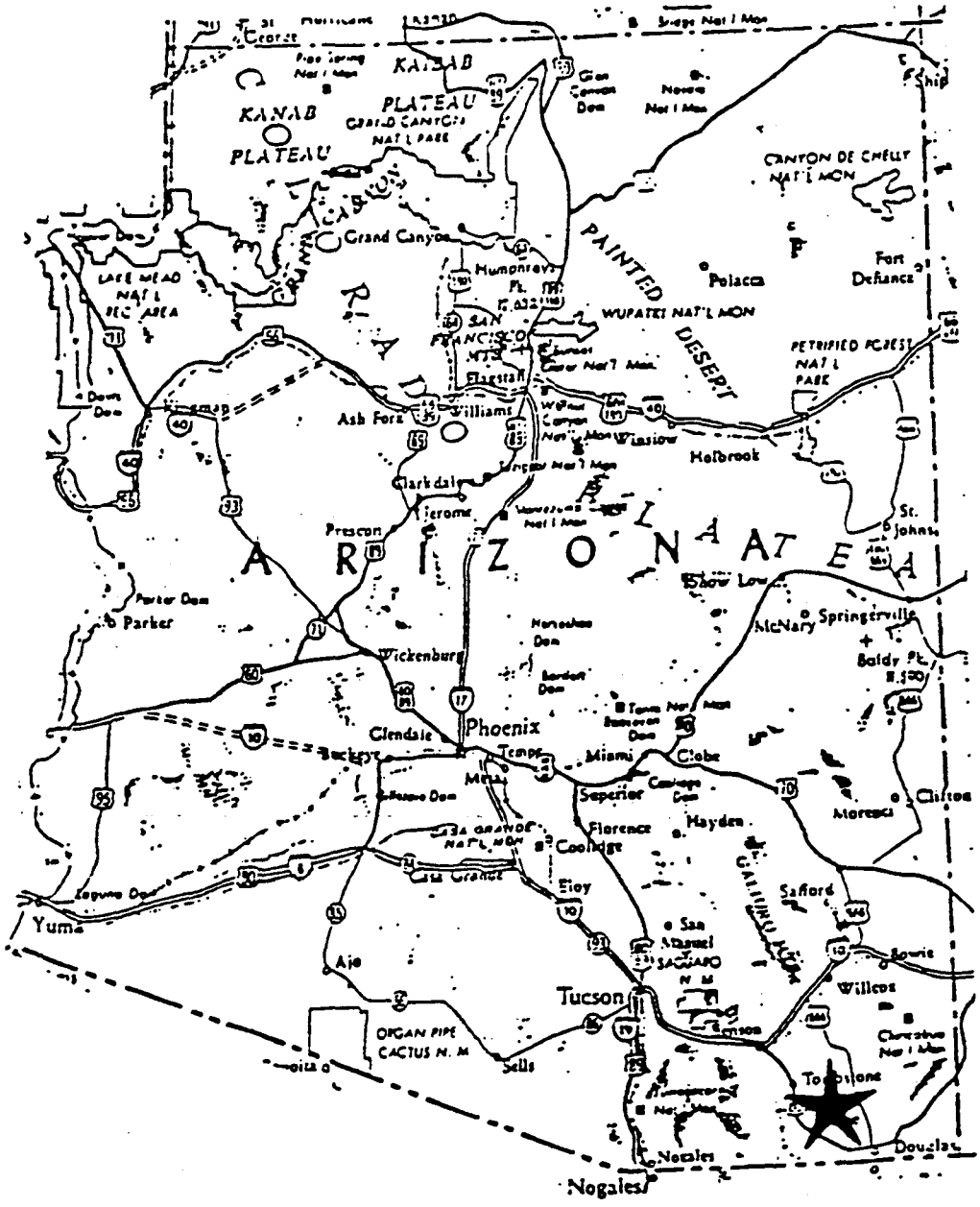
The Zebra prospect is an epithermal, disseminated gold occurrence which appears to possess potential for both a low grade heap-leach deposit and a higher grade zone which may be recoverable by conventional milling. The property as a whole was examined geologically, geophysically and geochemically.

Location, Topography, Vegetation and Access

The Zebra prospect is located in sections 27, 28, 29, 33 and 34 of T20S, R23E, (31 39'N, 110 W) in Cochise County, Arizona. Elevations vary between 4,600 and 5,000 feet.

The closest major habitation is the historic town of Tombstone which is three miles northwest of the property. The nearest commercial air service is Tucson, Arizona approximately seventy miles northwest of the prospect (Figure 1). It should be noted that Tombstone was a major producer of silver, gold and lead from veins and replacement deposits. Production from these mines totaled over 30,000,000 ounces of silver and 200,000 ounces of gold.

The northern portion of the Zebra property is most easily accessed by traveling south on Highway 80 from Tombstone for three miles, then proceeding east on a paved road for two miles towards McNeil, and finally turning south on an unimproved dirt road for three quarters of a mile. The topography in the prospect area is moderately hilly to flat, with primitive roads crossing most of the low-lying terrain. Vegetation consists of sparse desert grasses, cacti, yucca, creosote bushes, cat claw and occasional mesquite trees. Mild arid winters make year-around operations possible, although mid-summer temperatures are somewhat distressing for both men and machines.



ZEBRA PROSPECT LOCATION MAP

FIGURE 1

Property Status

The property totals 1,400 acres and includes the NE/4 of section 29, all of section 28, the NE/4 of section 33, the SW/4 and S/2 of the SE/4 of section 27 and the NW/4 and N/2 of the SW/4 of section 34, T20S, R23E and consists entirely of Arizona State Prospecting Permits (Figure 2). Details of permits with numbers assigned are as follows:

1. State of Arizona Prospecting Permit No. 95854, S/2 SE/4, Section 27, Township 20 South, Range 23 East, Cochise County, Arizona.

2. State of Arizona Prospecting Permit No. 95925, SW/4 Section 27, Township 20 South, Range 23 East.

3. State of Arizona Prospecting Permit No. 95899, S2/SW, and N/2SW, Section 28, Township 20 South, Range 23 East, Cochise County, Arizona.

4. State of Arizona Prospecting Permit No. 95857, S2/NW, and N2/NW, Section 28, Township 20 South, Range 23 East, Cochise County, Arizona.

5. State of Arizona Prospecting Permit No. 95855, NE/4 Section 28, Township 20 South, Range 23 East, Cochise County, Arizona.

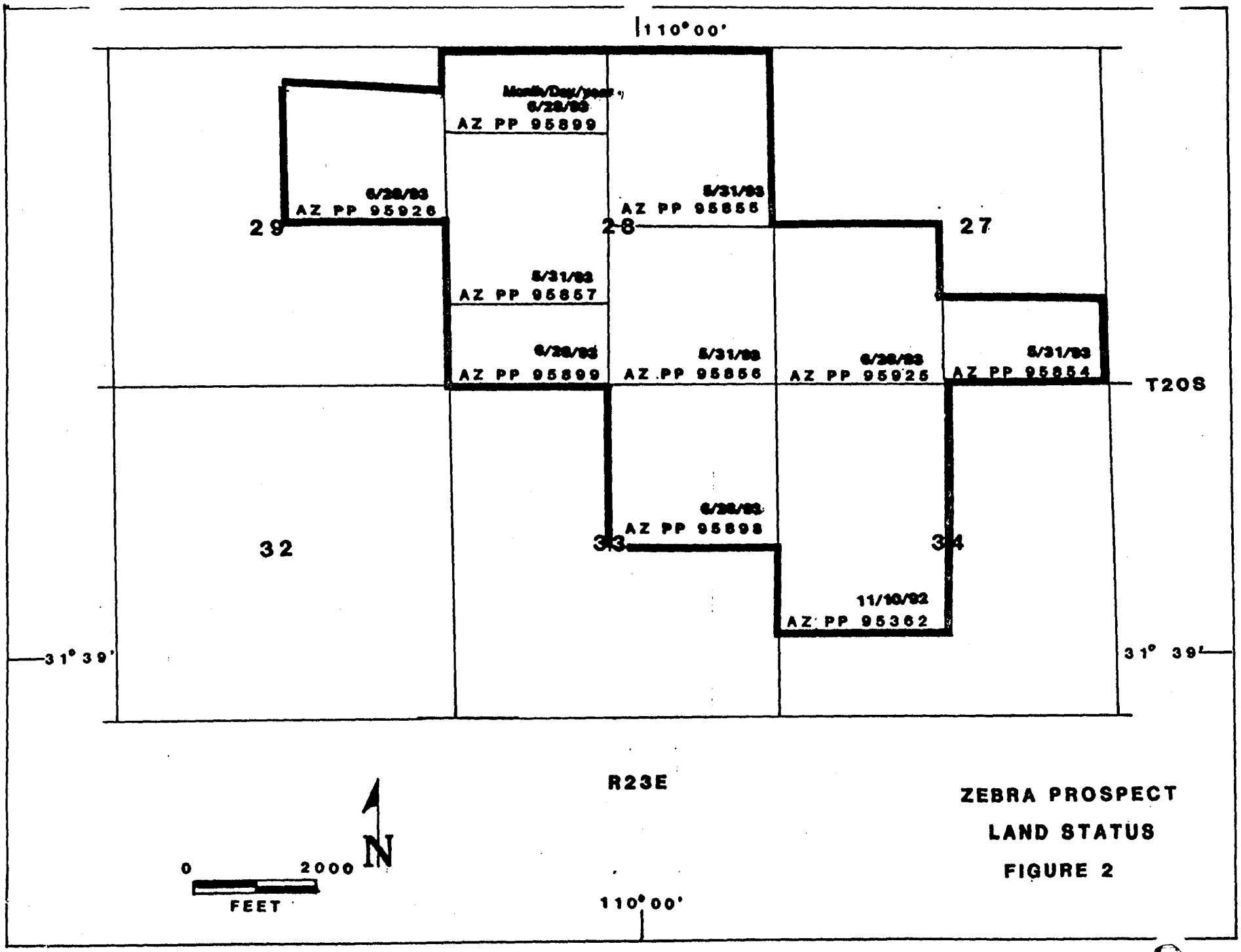
6. State of Arizona Prospecting Permit No. 95856, SE/4 Section 28, Township 20 South, Range 23 East, Cochise County, Arizona.

7. State of Arizona Prospecting Permit No. 95986, S/2 NE/4 and S/2 N/2 NE/4, Section 29, Township 20 South, Range 23 East, Cochise County, Arizona.

3. State of Arizona Prospecting Permit No. 95898, NE/4, Section 33, Township 20 South, Range 23 East, Cochise County, Arizona.

4. State of Arizona Prospecting Permit NO. 95362, NW/4 and N/2, SW/4, Township 20 South, Range 23 East, Cochise County, Arizona.

The property is registered in the name of Primo Gold U.S.A., a wholly owned subsidiary of Primo Gold Ltd., owns a 100% interest in these properties. The prospecting permits require an annual rental payment of $1 per acre and an annual work requirement of $10 per acre for the first two years and the work requirement is increased to $20 per acre in subsequent years. When the prospecting permits are converted to state leases, they will be subject to a 5% net value production royalty.



ZEBRA PROSPECT
LAND STATUS
FIGURE 2

Regional Geology

The Zebra prospect lies along the axis and slightly west of the deepest portion of the Sonoran geosyncline in an area known as the Pedregosa Basin. It also lies within a belt of north-northwest trending mountain ranges that are separated by broad alluvial-filled valleys which extend from the Colorado Plateau in central Arizona to Sonora, Mexico. Regional tectonic compression in the area began in Late Cretaceous-Early Tertiary Laramide orogeny and was directed northeast-southwest. Release of compression was accomplished by north-northwest trending folding and by faulting along abundant northwest trending low angle thrusts which in places, steepen to become high-angle reverse faults. During the Middle Tertiary, extension produced the present Basin and Range topography with deformation dominated by movement along normal faults in several orientations. Intrusion and extrusion of igneous rocks accompanied this movement. Major faults, within the prospect area, are generally aligned with this basin and range trend, and minor faults generally strike perpendicular to this trend direction.

Local Geology

The prospect area itself is underlain by a relatively thick blanket of Paleozoic and Mesozoic sediments with outcrops of predominately Permian Colina Limestone on the surface (Figure 3). Numerous small Tertiary rhyolitic and dacitic intrusives, which are the only other outcropping rocks, are located in and near the western and northern halves of section 28, T20S, R23E. Nearby rhyolite intrusives of similar composition have been age dated at 63 M.Y.

Stratigraphically, only two Permian formations will be discussed in this report. Considering their lithologies, they are the only two economic targets for mineralization when considering size and grade of the potential orebodies. In ascending order, these formations are the Earp Formation and the Colina Limestone.

The Earp Formation is Pennsylvanian and Permian in age and does not outcrop on the property. It is composed of interbedded siltstone, sandstones and light-gray limestone and dolomite beds. To the west, the limestone content is sparse. However, to the east, in the Zebra prospect area, the limestone content increases upsection. Consequently, moving upsection, there is a transitional contact rather than a sharp contact between the Colina Limestone and the Earp Formation. In the nearby Tombstone hills, a 584 foot section of Earp Formation was measured.

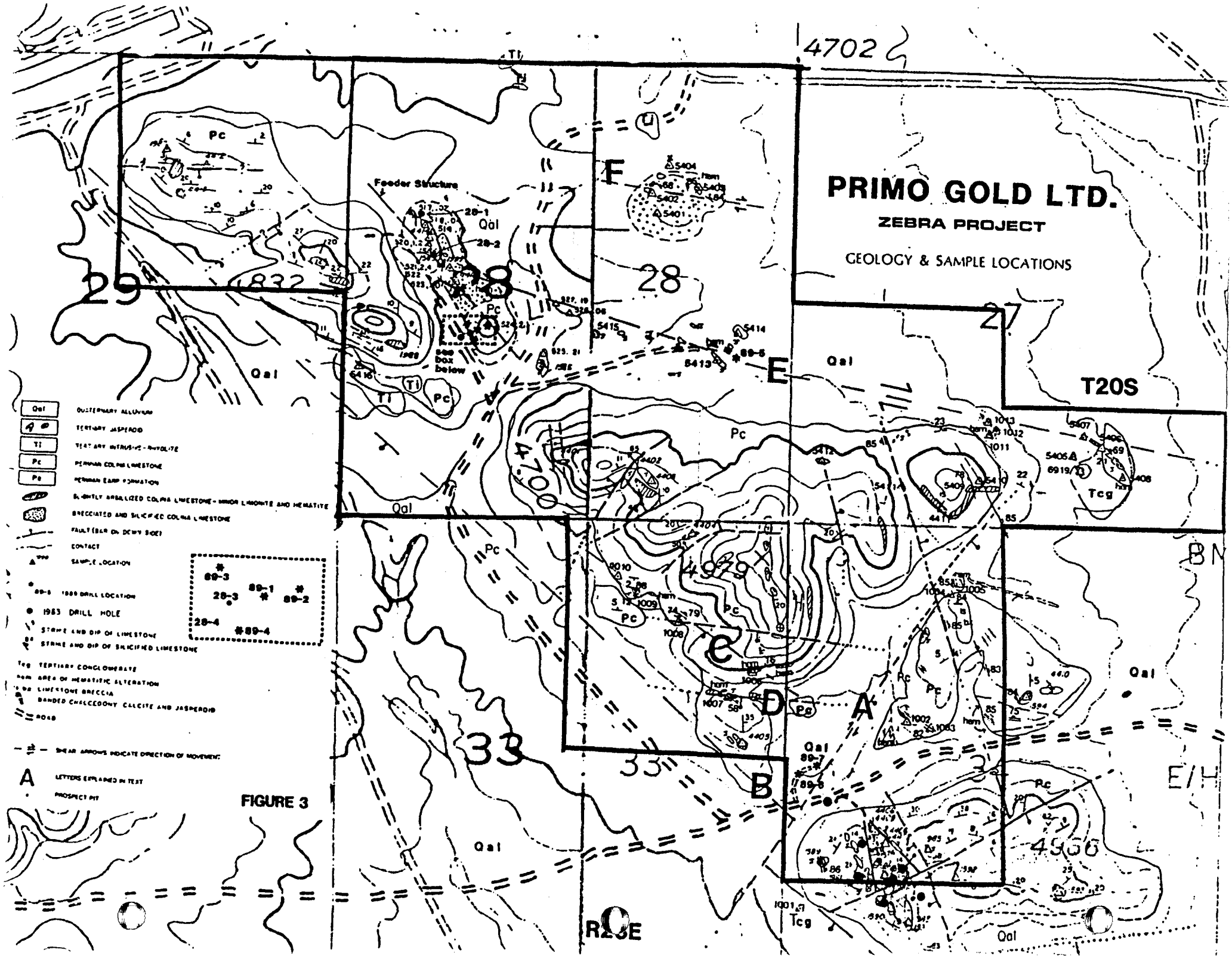

PRIMO GOLD LTD.
ZEBRA PROJECT
GEOLOGY & SAMPLE LOCATIONS
T20S
R2E
Feeder Structure
see box below
Qal
Pc
Ti
Tcg
Pg
A
B
C
D
E
F
29
28
27
33
4702
4700
4979
4956
QUATERNARY ALLUVIUM
TERTIARY JASPEROID
TERTIARY INTRUSIVE - RHYOLITE
PERMIAN COLPA LIMESTONE
PERMIAN EARP FORMATION
SLIGHTLY BRECCIATED COLPA LIMESTONE - MINOR LIMONITE AND HEMATITE
BRECCIATED AND SILICIFIED COLPA LIMESTONE
FAULT (BAR ON DOWN SIDE)
CONTACT
SAMPLE LOCATION
1989 DRILL LOCATION
1983 DRILL HOLE
STRIKE AND DIP OF LIMESTONE
STRIKE AND DIP OF SILICIFIED LIMESTONE
TERTIARY CONGLOMERATE
AREA OF HEMATITIC ALTERATION
LIMESTONE BRECCIA
BANDED CHALCEDONY CALCITE AND JASPEROID
SHEAR ARROWS INDICATE DIRECTION OF MOVEMENT
LETTERS EXPLAINED IN TEXT
PROSPECT PIT
89-3
89-1
89-2
28-3
28-4
89-4
28-1
28-2
89-5
89-6
89-7
89-8

FIGURE 3

The Permian Colina Limestone is composed of limestones, silty limestone, thin shale units, siltstones and dolomite beds. The sediments are generally medium tannish grey to grey and the limestone is often fossiliferous and contains light to dark grey chert nodules. Deformation of the sediments has occurred through folding and faulting. The Colina Limestone probably approaches its maximum thickness of 650 feet on the property. In the nearby Tombstone hills, a 633 foot section of Colina Formation was measured.

Numerous structures have been identified on the prospect. Six major structures, labeled A through F in figure 3 including structure B which is the range front fault have been identified through mapping and geophysics. Numerous smaller structures have also been identified and noted in figure 3. Detailed discussion of some these structures and their geophysical and mineralization relationship has been included in the latter part of the report. However, it should be noted at this time that in most cases where these structures can be observed, they have been silicified and contain anomalous concentrations of gold.

Geology-Epithermal Model

The epithermal model has been used to explain the origin of many low-temperature, disseminated precious-metal deposits and has been used numerous times to successfully guide exploration for these types of deposits. Although the Zebra prospect already has an identified target which conforms to this model and should be tested, this same model can be used to further explore the deeper targets and numerous other areas on the property which have the characteristics of this model.

The epithermal model implies that a buried intrusive or other heat source acts as a thermal pump to circulate meteoric waters. These fluids leach trace amounts of metals from the country rock along their circulating path. The metal enriched solutions then rise along the paths of least resistance and as the solutions cool they precipitate their dissolved metals content along with other elements. A vertical zonation of metals, gangue and alteration forms within this system. The precious metals and their associated gangues are normally the last economically important elements to precipitate. The precipitation is often associated with boiling of these ascending solutions. In addition to gold and silver, barium, arsenic, antimony and mercury are common pathfinder elements which also precipitate in association with precious metal mineralization. These elements are used to assist in the exploration for hidden epithermal deposits. (Figure 4).

Carlin Model of Precious Metals

Disseminated Replacement Type Deposit

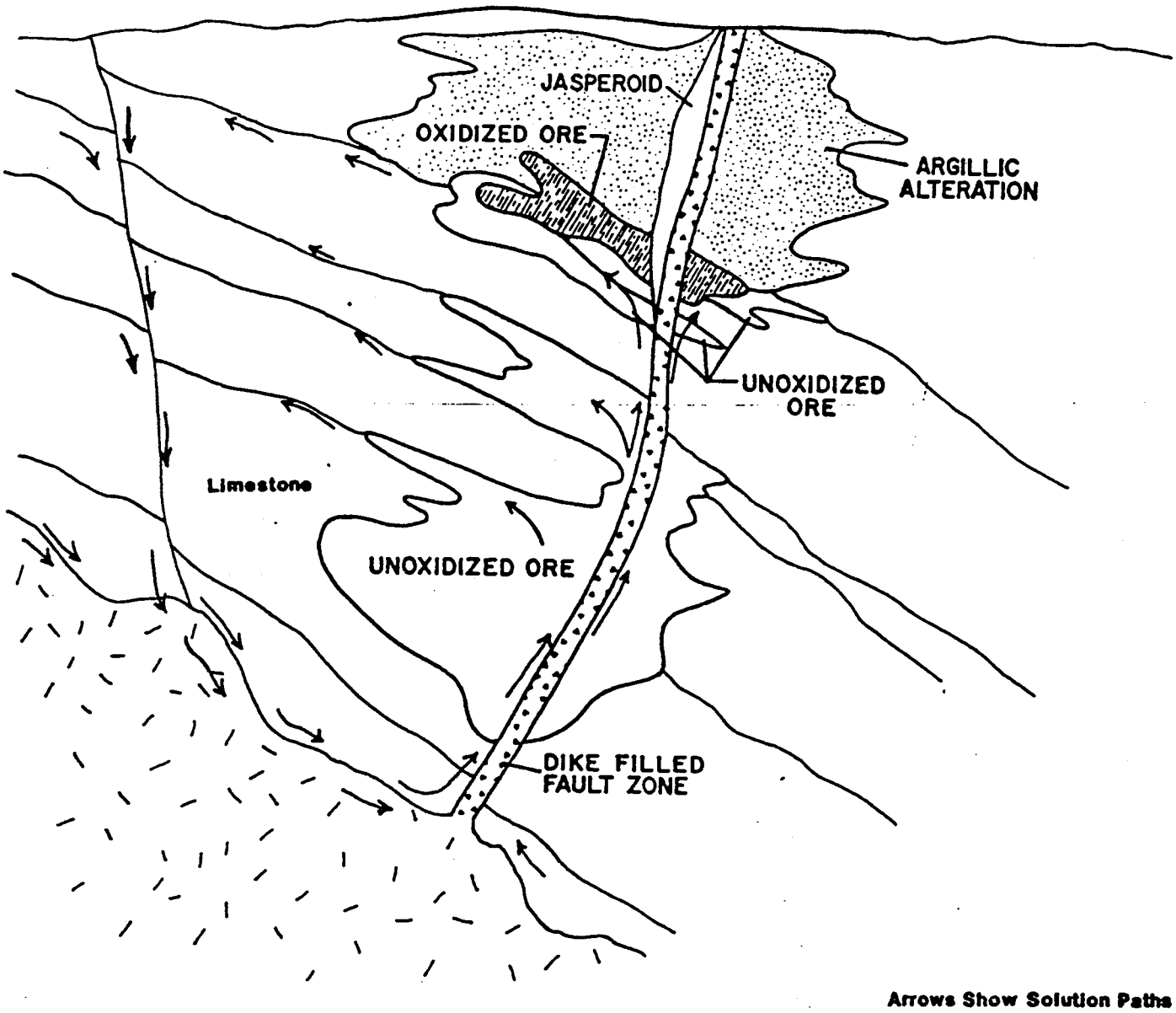


Figure 4

Wall rock alteration and its zoning are important guides in exploration for deposits within the epithermal system. In disseminated epithermal deposits, such as those which may comprise the Zebra prospect, silicification and argillic alteration of the limestones along and near structures is prevalent. Also, the introduction of iron sulfides, barite, flourite, arsenic and antimony compounds along with trace amounts of gold are common.

It should also be noted that many of the described characteristics of the Zebra property are present in the Tombstone mineral deposits. However, the carbonate replacement deposits at Tombstone are within a different formation. Also, because of the base metal content, these deposits were evidently deposited below or at the bottom of the epithermal system as we understand it. At Zebra, only three miles away, silver values are low but gold values are high. This may indicate a district wide zonation which could have important implications in an expanded exploration program.

Geology-Other Models

There appears to be some evidence that a intrusive/limestone contact silicification model may also be present in the Zebra prospect. Personal communication about recent work by Phelps Dodge has been directed towards a "Skarn Model". Some evidence of this may be the silicification associated with the contact between the limestone and intrusive in section 28. Anomalous gold values up to .29 ounces of gold per ton has been taken from the limited amount of outcrop in the area. However, it is also possible that this contact between the intrusive and the limestone served as a path for ascending auriferous solutions much like a fault or fracture resulting in replacement and mineralization.

Previous Work

The Zebra property was held in the recent gold boom by two other companies: Energy Reserves Group from 1982 thru mid-1983 and Consolidated Paymaster from mid-1983 thru mid-1985. Energy Reserves Group work consisted of geological mapping and geochemical sampling which delineated a number of potential targets, some of which are still untested today. Consolidated Paymaster's work consisted of a 10-hole drill program which totaled 2,465 feet and was designed to test several of the surface anomalies located on the property. Seven of these holes, five of which are on Primo Gold's property, were clustered in a twelve acre area in section 34 and three were located in and near a rhyolite intrusive in section 28. Later work performed in a 1988 program revealed that the holes in section 34 probably

tested only the surface remnant of mineralization that occurs at depth to the north of the drilling. Overall, this program tested only a small percentage of the prospective mineralized area in the Zebra prospect. Most holes in the 1983 Paymaster program did encounter minor mineralization, less than .01 ounces of gold per ton, with one hole, 28-3, encountering 20 feet of .045 ounces per ton gold within sixty feet of the surface.

In mid 1985, Wellington Financial conducted a one hole drilling program to test the continuity of the mineralization located by hole 28-3. This offset drill hole, 28-4, also intercepted mineralization of similar grade but thicker than that found in Paymaster's 28-3 drill hole. In 1988, Tempo Resources Ltd. conducted magnetic and VLF geophysical surveys and drilled an additional four shallow holes in this area. Three of the four holes intercepted significant amounts of alteration and two contain mineralization similar to the earlier intercepts. During this program Tempo also attempted to drill through unconsolidated sediments over a strong VLF anomaly in section 34 but had to abandoned the hole after several attempts. Tempo also drilled a 340 foot hole in the east central portion of section 28 near some anomalous jasperoids. The hole intercepted thick zones of trace gold mineralization which never exceeded .01 ounce per ton gold.

All of the previous programs contained some geological mapping and geochemical sampling. Results of this work has allowed the delineation of a large number of auriferous occurrences in a number of environments. Many of these occurrences combined with past and present work have delineated numerous targets some of the most important ones will be discussed in this report.

1990-1991 Primo Gold Ltd. Program

In mid 1990, Primo Gold Ltd. conducted additional geological mapping and sampling to further define potential targets which follow by a 9 hole 1235 foot drill program. In late 1990 and January of 1991, a combination geophysical and geochemical soil sampling as well as drill program was performed on the property. The geophysics consisted of IP, resistivity, TEM and CSAMT and the soil geochemistry program totaled 323 samples which were analyzed for gold, arsenic and mercury. This recent program, along with previous work, will be discussed in detail later in the report and will serve as a basis for some of the recommendations.

Expenditure for the Benefit of the Property

Expenditures by Primo Gold in the 1990-91 programs totals $97,449(Canadian). These funds were used for drilling, assaying, geophysics (IP,Resistivity, TEM and CSAMT), geochemical sampling, soil geochemical sampling and assaying and geological mapping.

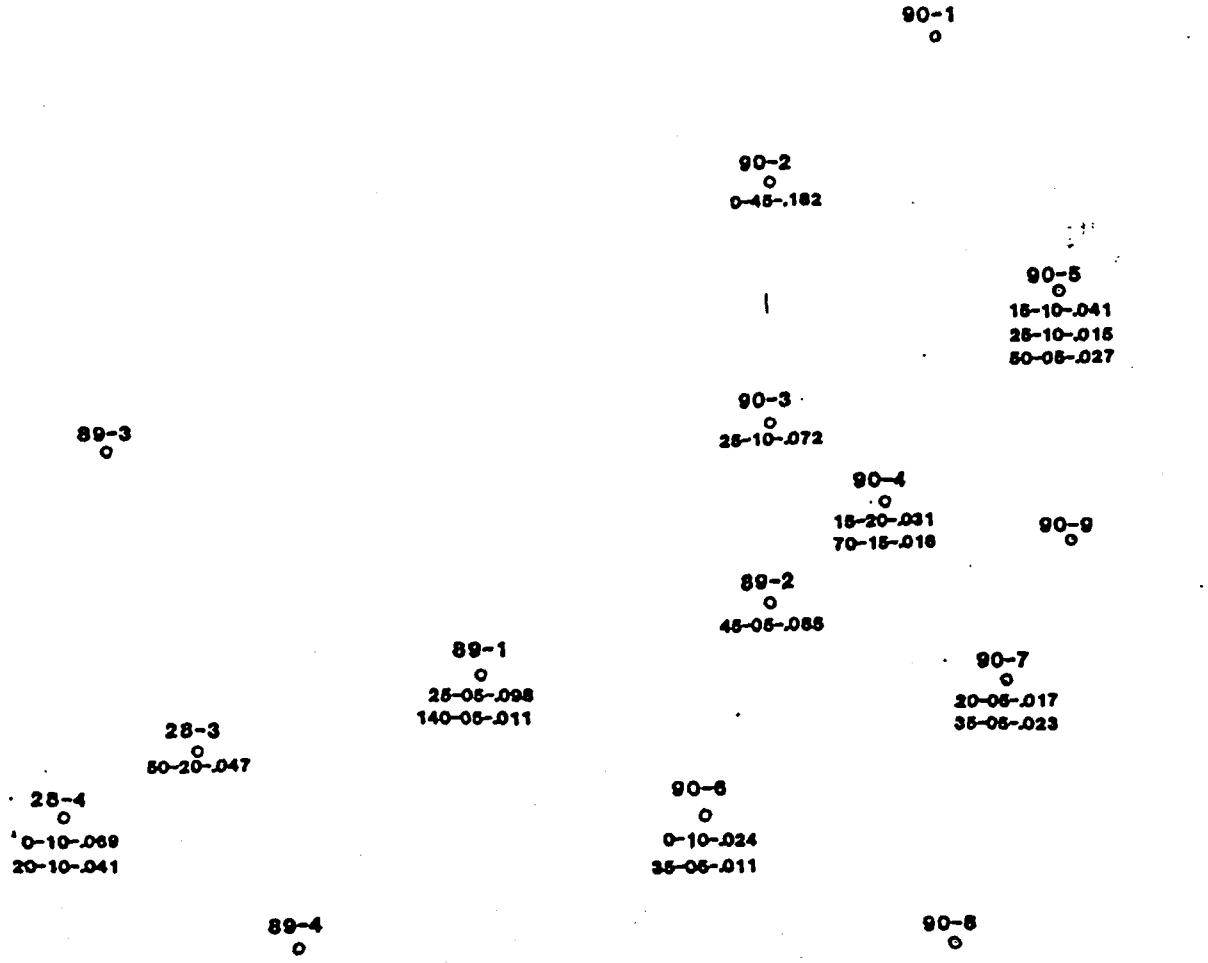
Geology, Mineralization and Potential Drill Targets
Section 28

Section 28 is a highly mineralized area which based on geology, geochemistry, geophysics and drilling has delineated numerous targets of which the best four will be discussed in this report in the order of their merit. The first is associated with a feeder structure in the west central portion of the section which strikes approximately north 40 degrees west and has a near vertical dip. Silicification associated with this structure has been sampled and mapped. Samples have varied from trace to 1.02 ounces per ton gold. Samples in excess of .1 ounce per ton gold are common. It is believed that this structure was not only mineralized but also served as a feeder structure to supply the solutions that mineralized the host bed intercepted by the drill holes. According to the epithermal model, these mineralizing solutions would rise along the structure to the zone of boiling where they would begin to precipitate their precious metals content. However, because permeable beds within the Colina Limestone were present, these solutions also migrated laterally along bedding planes mineralizing them as well as the structure. The result of this lateral migration is the mineralization that can bee seen in past and more recent drilling.

During the 1990-91, Primo Gold drilled nine holes to test and extend the mineralization. Five of these holes intercepted significant mineralization which combined with past drilling has delineated a small shallow mineral body. (Figure 5). A mineral appraisal prepared by MinSearch and dated August 31, 1990 indicates that a total of 100,632 ton of gold mineralization has been delineated with an average grade of .091 ounces per ton and a stripping ratio waste to mineral of 1.4 to 1. This mineral body is still open in both directions of an apparent northeast-southwest trend. Cyanide leach re-assays of five drill intervals indicate that approximately 70 percent of the gold was recovered by this assay method. Other nearby mineralized areas with lesser grade at the surface have not been drill tested.

It should also be noted that this mineralization is located 800 feet south of an intrusive which is in contact with the limestones. This contact has not been tested but samples taken along it sometimes contain anomalous gold with values up to .29 ounces per ton gold being recorded. In this area, as well as other areas, the contact of intrusives may represent a significant target.

The second significant target is in the center of section 28 and is associated with an a east-west structure that mineralization can be traced for over 2,000 feet along it. This length is evidenced by altered limestone outcrops and float which exhibits

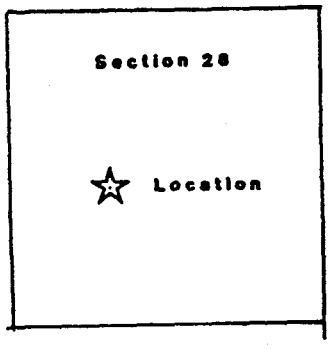


PRIMO GOLD LTD.

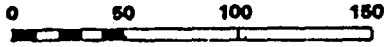
ZEBRA PROSPECT

COCHISE COUNTY, ARIZONA

SECTION 28, T20S R23E



Scale in Feet



25-10-.072

Depth-Thickness-Gold in Troy Ounces

Figure 5

8/8/90

moderate red hematite and minor orange limonite staining. One good altered outcrop extends for almost 500 feet. However, the rest of the trend is predominately float. Numerous samples have been taken along this trend with most assaying between .005 and .028 gold ounces per ton gold.

During January 1991, Primo Gold drilled three holes at the extreme east end of the trend to test some surface rock anomalies. All three holes were angle holes, two were drilled at -55 degrees to a drillers depth of 200 feet and one was drilled at a -45 degrees to a drillers depth of 600 feet (Figure 6). All holes intercepted mineralization but mineral reserve estimates can not be assigned to them without additional drilling. It is also noteworthy that hole #90-12 indicates that good grade mineralization does occur at depths of over 300 feet. Significant intercepts over .1 ppm are listed in the table below.

Hole #90-10		Hole #90-11		Hole #90-12	
Depth	Gold in ppms	Depth	Gold in ppms	Depth	Gold in ppms
20-25	.11	0-05	.15	0-05	.10
25-30	.35	35-40	1.43	10-15	.37
120-25	2.30	40-45	.12	15-20	2.05
130-35	.19	45-50	.15	60-65	.56
140-45	.25	60-65	.17	65-70	.11
		65-70	.10	435-40	.35
		105-10	.38	440-45	1.90
				445-50	.13

This trend was also tested by Primo Gold as part of a 1990-91 Geophysical program consisting of IP, Resistivity, TEM and CSAMT. One line was run in a east-west direction across the center of section 28. Resistivity and CSAMT surveys reveal two high resistivity blocks both located under the valley at approximately 2400 (anomaly 2400) feet east of the west line at a depth of approximately ±200 feet and another at 3600 (anomaly 3600) feet east of the west line at a depth of approximately ± 400 feet (Model #2, Figure 7). The resisitivity anomalies also have a slightly higher than background IP response associated with them which may indicate the presence of pyrite which is commonly associated with gold mineralization on the property. Interpretation of these anomalies are that they are either intrusives, jasperoid replacements or a combination. Should these bodies be auriferous replacements then they could represent significant mineral reserves to be added to those already delineated.

At approximately the same time that the drilling and geophysics were performed, a soil sampling program consisting of north-south lines 500 feet apart sampled at a 100 foot interval along the line. These lines covered most of section 28 and a small portion of section 34. Samples were analyzed for gold, arsenic and mercury and contour maps using the surfer software were prepared. (Figures 8,9 and 10) Both the gold and mercury maps show good

90-12

TD 600'-45° S30W
2700 FNL 700 FEL

90-11

TD 200'-55° N65W

90-10

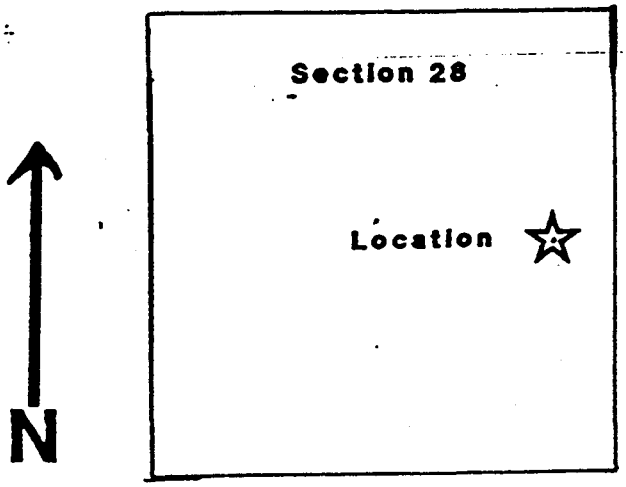
TD 200'-55° S20E

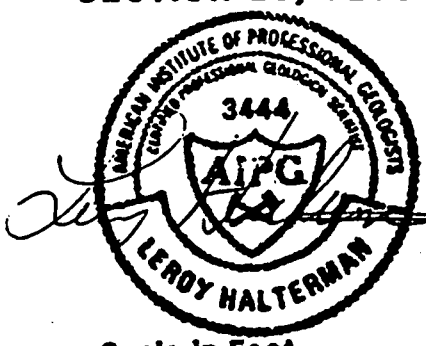
PRIMO GOLD LTD.

ZEBRA PROSPECT

COCHISE COUNTY, ARIZONA

SECTION 28, T20S R23E





Scale in Feet

0 50 100 200

Figure 6

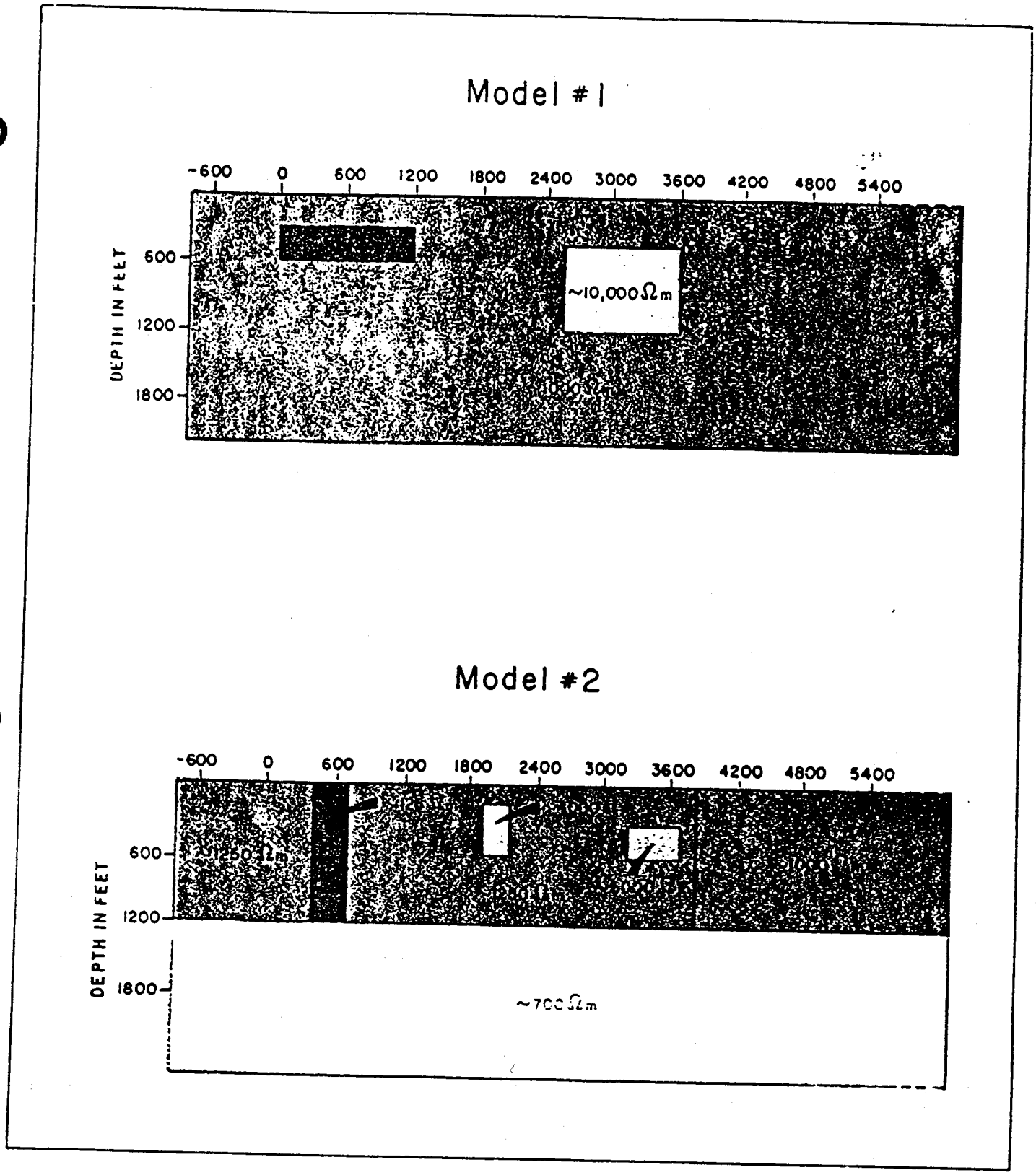


FIGURE 7

Taken from Zonge Engineering & Research Organization, Logistics Report, IP Survey

ZEBRA PROSPECT–GOLD IN SOIL (ppb)

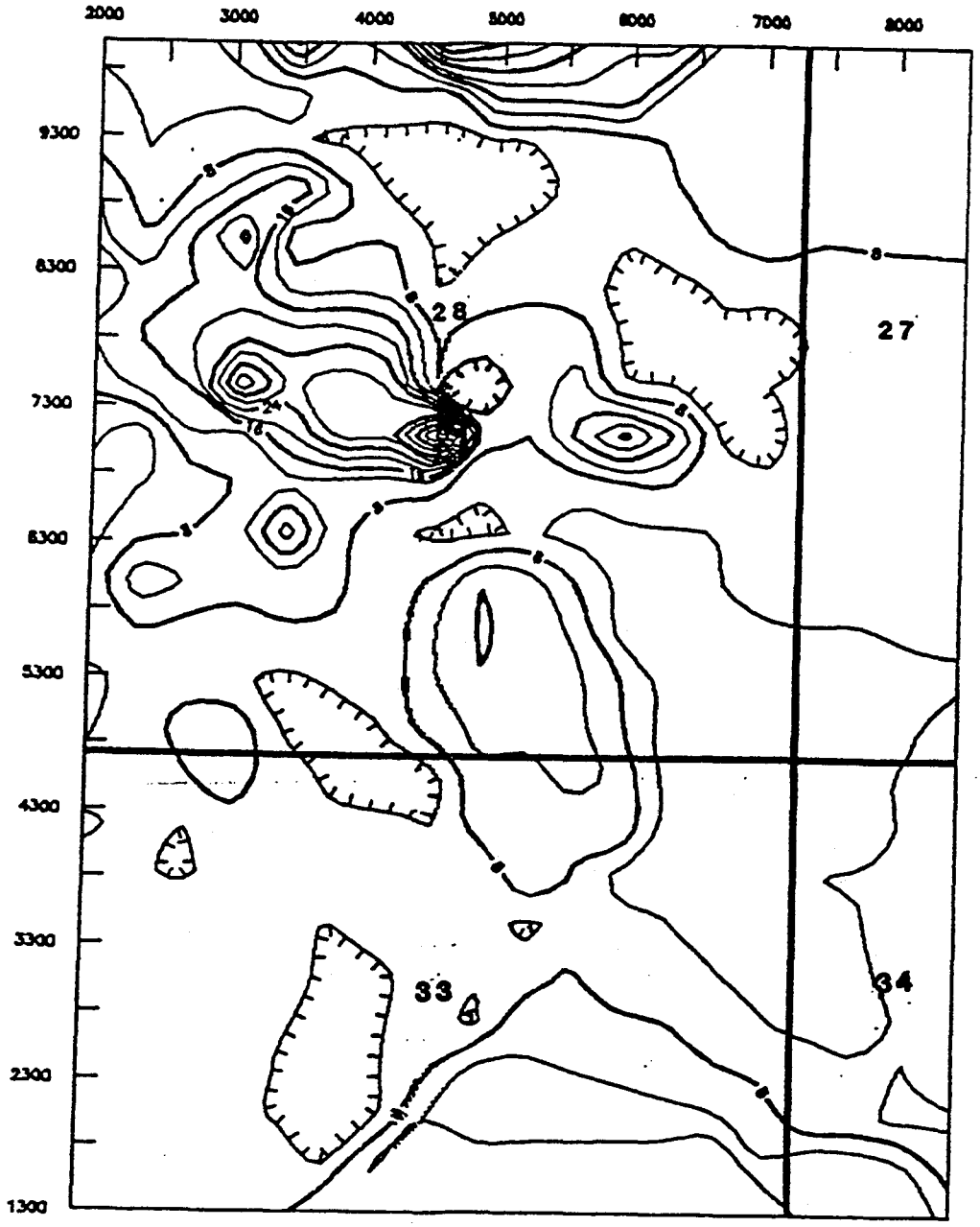
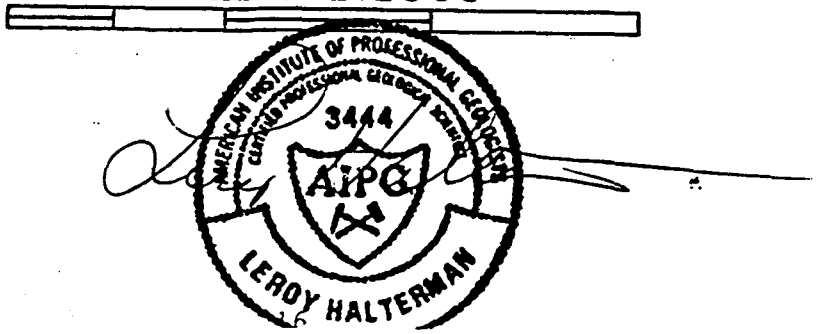


Figure 8

SCALE 1:1500



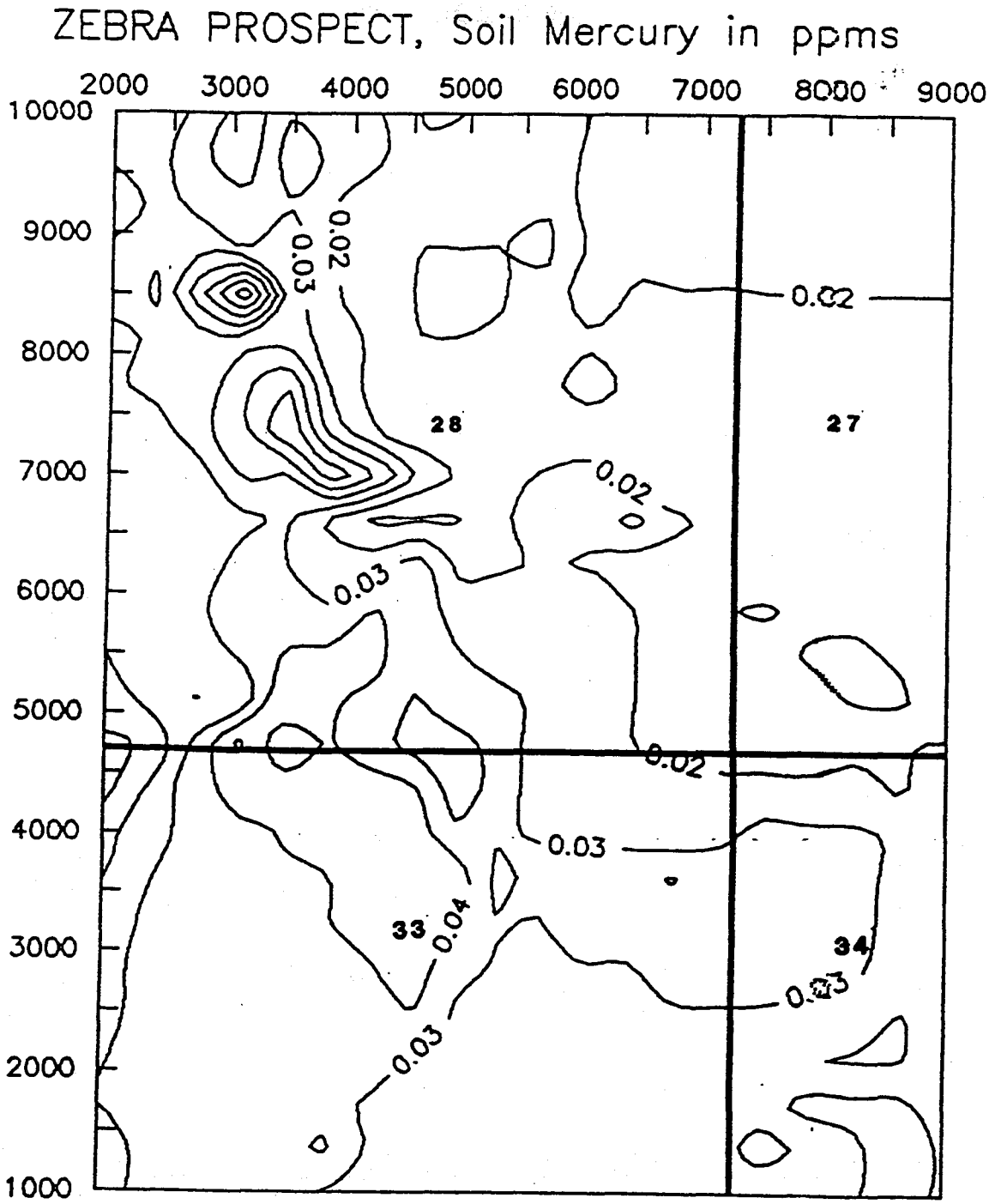
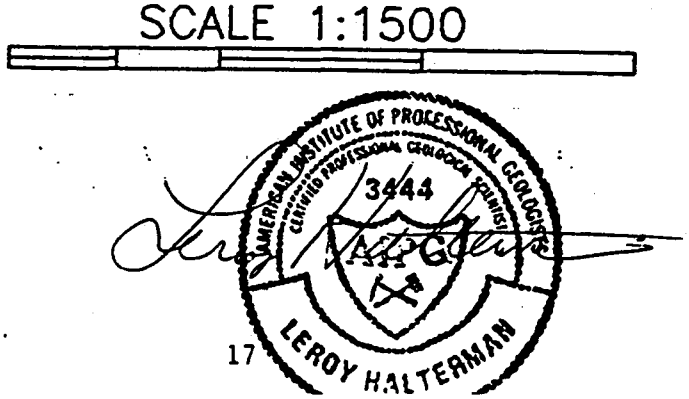


Figure 9

SCALE 1:1500



ZEBRA PROSPECT, Soil Arsenic in ppms

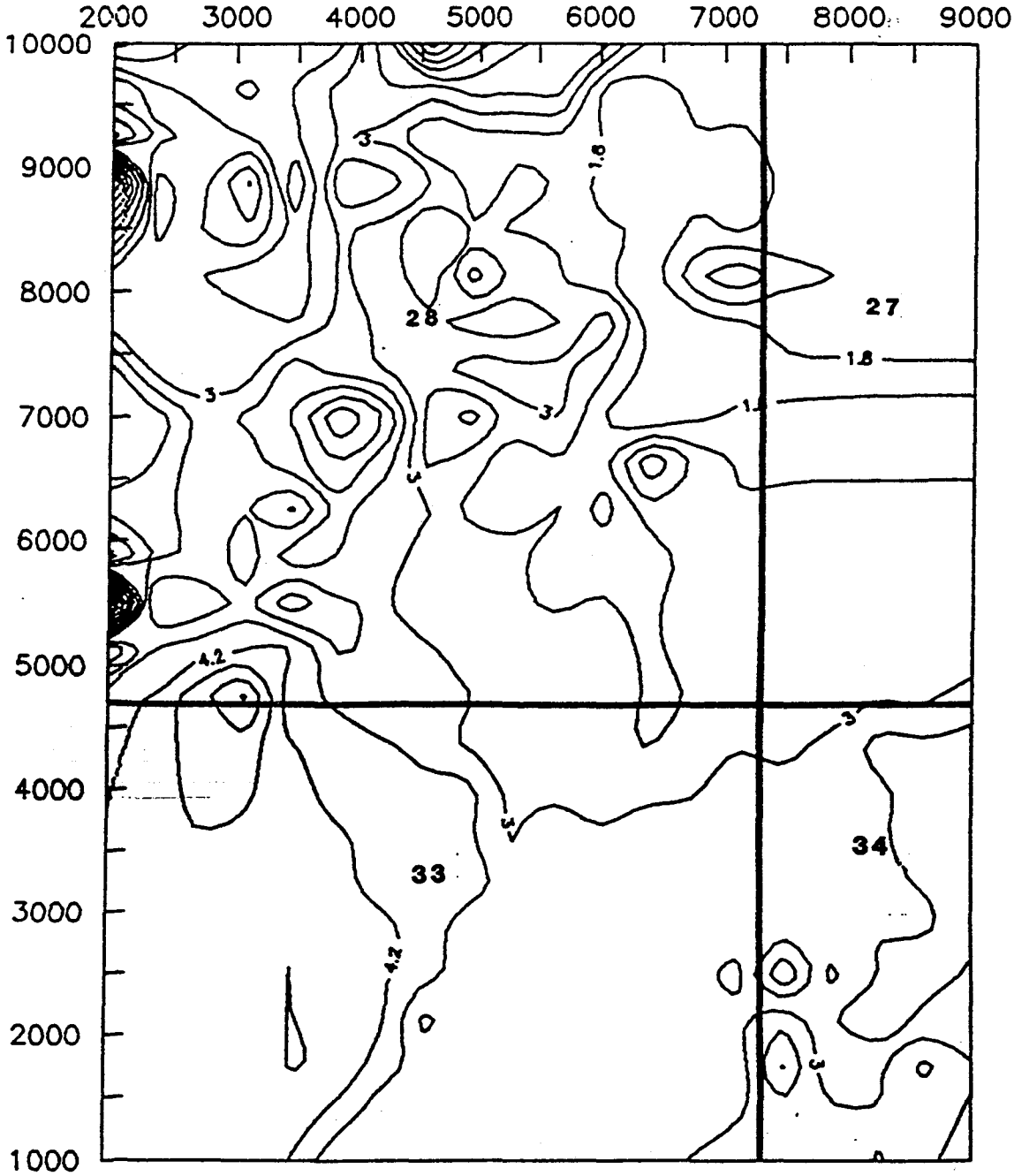
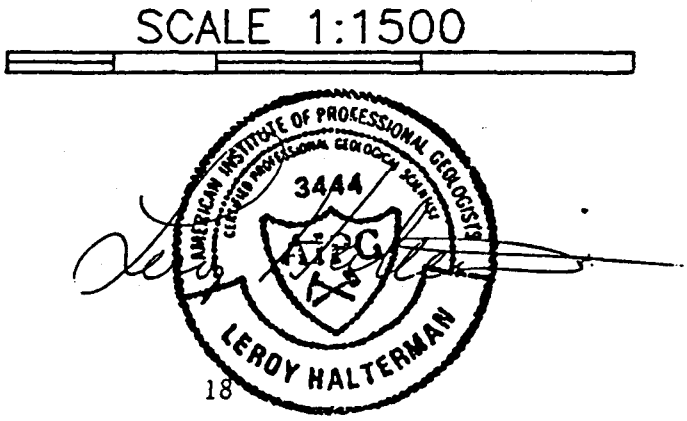


Figure 10

SCALE 1:1500



correlation with the geophysical anomalies. The geophysical highs lie in anomalous areas just off the center of the anomalies. The reason for them not being located exactly on the high may be that the mineralization was developed next to or around the feature or lateral movement of the soils or it may be that the lines which were 500 feet apart did not coincide exactly with the highs.

The third target is the large range front faults that lies under the alluvium along the western front of the hills. A smaller but parallel structure located at the foot of these hills contains anomalous gold. These structures which vary from a few inches to over ten feet commonly contain over 1 ppm (.03 ounces per ton). As an example, two of these structures just south of the geophysical line in section 28 assayed .07 ounces per ton gold. Cross structures which disappear underneath the valley fill also contain anomalous gold indicating that there is a reasonable chance that these larger structures are mineralized.

The fourth target is the Earp Formation and the transition interval between the the Colina and Earp Formations may represent an even better target than the one that has already been found and partially tested. The thin bedded nature of these formations suggests that they should be better potential hosts for gold mineralization than the horizon previously tested. This may be an especially attractive target along the larger structure such as the range front faults.

Geology, Mineralization and Potential Drill Targets Other Sections

Section 34 has targets similar to those in section 28 but lack those generated by the recent geophysical and soil geochemical program. Only a few soil samples were taken in the extreme southwest portion of the section and did not reveal any significant anomaly but most of the section remains to be tested. Targets three and four for section 28 have similar potential on section 34. This section also has numerous mineralized structures occurring on it with grades similar to those previously described which may represent additional targets.

One additional target does occur on section 34 which was the result of an earlier (1988) VLF survey. This target is a strong anomaly located in the southwest corner of the property.(Figure 11) It is believed that the anomaly may be the result of the intersection of two structures one parallel to the range front and the other trending northeast-southwest along the valley. This valley, where the anomaly is located, foiled the attempts to test the anomaly in the 1988 drilling program. Several attempts were made to drill through the valley fill but hole conditions never let the hole go deeper than 120 feet. The drilling rig used was a vertical rig not capable of drilling angle holes.

VLF Survey Zebra Prospect

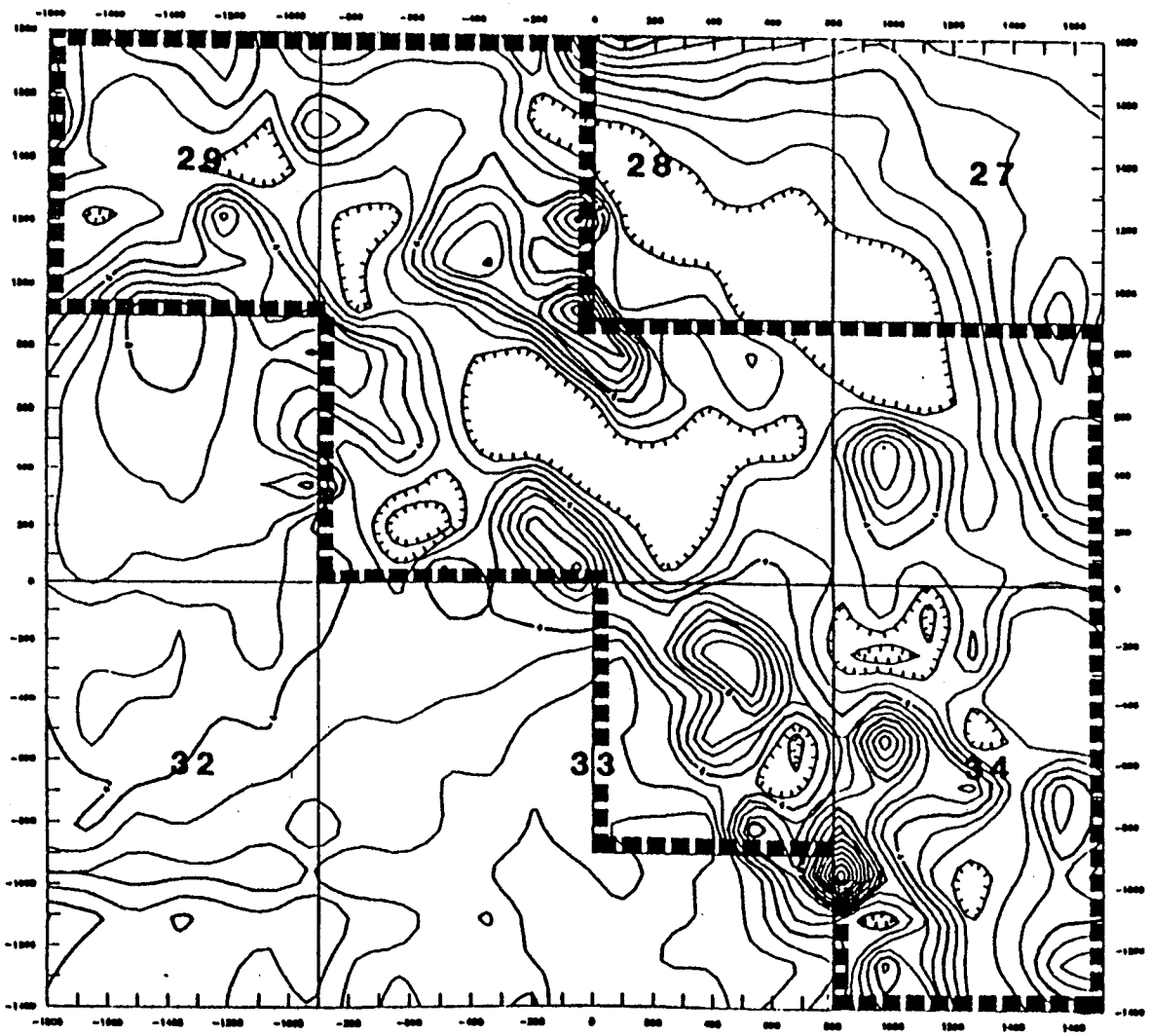
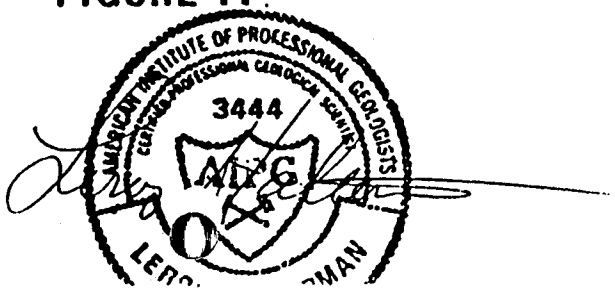
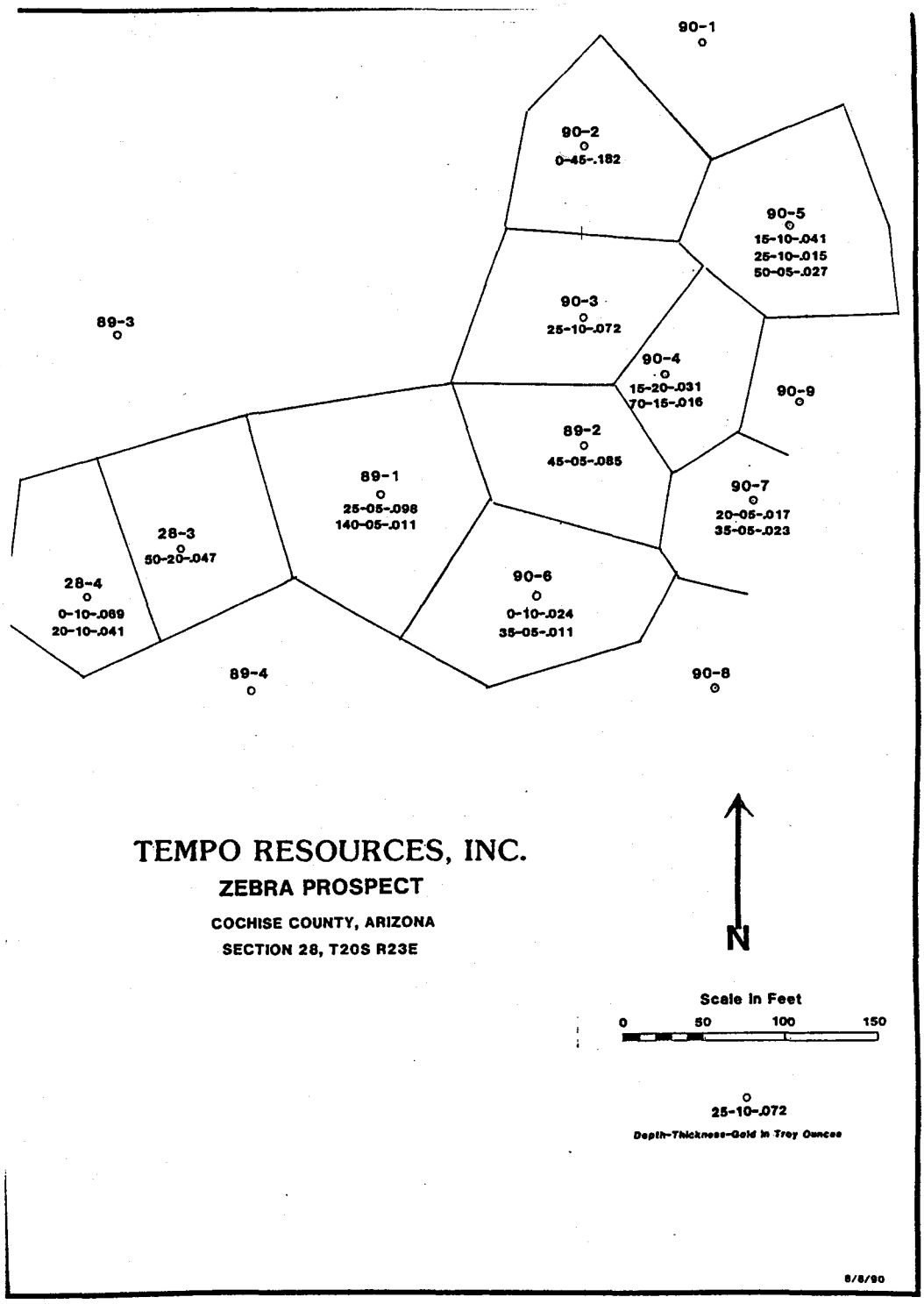


FIGURE 11



Limestone outcrop is located within 250 feet of the drill site and with an angle drilling rig a hole could be started in bedrock and angled into the anomaly, thus eliminating the problem.

Sections 27, 29 and 33 all have potential targets and with the exception of the 120 acres in 29 all have very similar structures, mineralization and anomalous gold concentrations on them. No resistivity type of geophysics or soil geochemistry has been run on them so the targets consist mainly of types three and four found in section 28. However, additional work could yield additional targets especially in areas of known strong (+1 ppm) mineralization.


90-1
90-2
0-45-.182
90-5
15-10-.041
25-10-.015
50-05-.027
90-3
25-10-.072
89-3
90-4
15-20-.031
70-15-.016
90-9
89-2
45-05-.085
89-1
25-05-.098
140-05-.011
90-7
20-05-.017
35-05-.023
28-3
50-20-.047
28-4
0-10-.069
20-10-.041
90-6
0-10-.024
35-05-.011
89-4
90-8
TEMPO RESOURCES, INC.
ZEBRA PROSPECT
COCHISE COUNTY, ARIZONA
SECTION 28, T20S R23E
N
Scale in Feet
0
50
100
150
25-10-.072
Depth-Thickness-Gold in Troy Ounces
8/8/90

2. Geochemical sampling along suspected vectors (or radii) to determine the relative abundances and ratios of Cu, Mo, Pb, Zn, Ag, Au, Hg, Mn, F and Te.

3. Quantitative alteration mapping to determine the distribution of characteristic alteration minerals and assemblages, including skarn, phyllic, argillic, propylitic, and potassic associations with various types of sulfide minerals.

4. Color photo interpretation to identify structures and coloration features not readily seen on the ground. Remote sensing techniques applied to the color aerial photography may be useful.

5. Geologic interpretation of data available from old mine records giving subsurface understanding of the third dimension, where applicable. Excellon as part of their study of the Tombstone Development Company portion of the Walnut Creek porphyry center has a substantial portion of the old mine data digitized into a 3 dimensional AutoCAD model. This project should be completed, with emphasis placed on metal and alteration zoning.

6. Geochemical sampling including biogeochemical, soil and rock chip in areas of outcrop. Radon track etch samples to pinpoint the copper zone will be considered.

7. Electrical - method geophysics across the zone and ground magnetics with profile lines radial across the porphyry center or in a grid if the center cannot be spotted.

The following budget for Phase I, II and III programs is:

Phase I	Data Compilation, Photo and Remote Sensing Interpretation, Geologic and Alteration Mapping	$ 27,120
Phase II	Geochemical Sampling, Geophysics and "Scout" Overburden Drilling.	$100,000
Phase III	Target Drilling to a depth of 1,000 ft with Reverse Circulation, - 8 Holes	$100,000
	Total for Phase I through III	$227,120

Prompter Ridge Distal Gold Target (Block 2)

Prompter Ridge lies on the south flank of the high angle reverse Prompter fault. Much of the area is outcropping marbleized upper Paleozoic limestone, i.e., lower Pennsylvanian Horquilla, and Mississippian Escabrosa. Soil predominates in the southeast portion in the direction of the known gold bearing Zebra Prospect in the same rock types. The limestones are cut by 63 my rhyolite dikes and sills. Some prospects are present and mapped fissures (veins) can be projected into the area from the Tombstone Extension area to the north. The productive Bunker Hill silver-manganese mine

NEWS UPDATE

ZEBRA GOLD PROSPECT - COCHISE COUNTY, ARIZONA

MINERAL EXPLORATION & DEVELOPMENT

PRIMO GOLD LTD.
1305-1090
West Georgia St.
Vancouver
British Columbia
Canada
V6E 3V7
Telephone
(604) 685-9316
Facsimile
(604) 683-1585

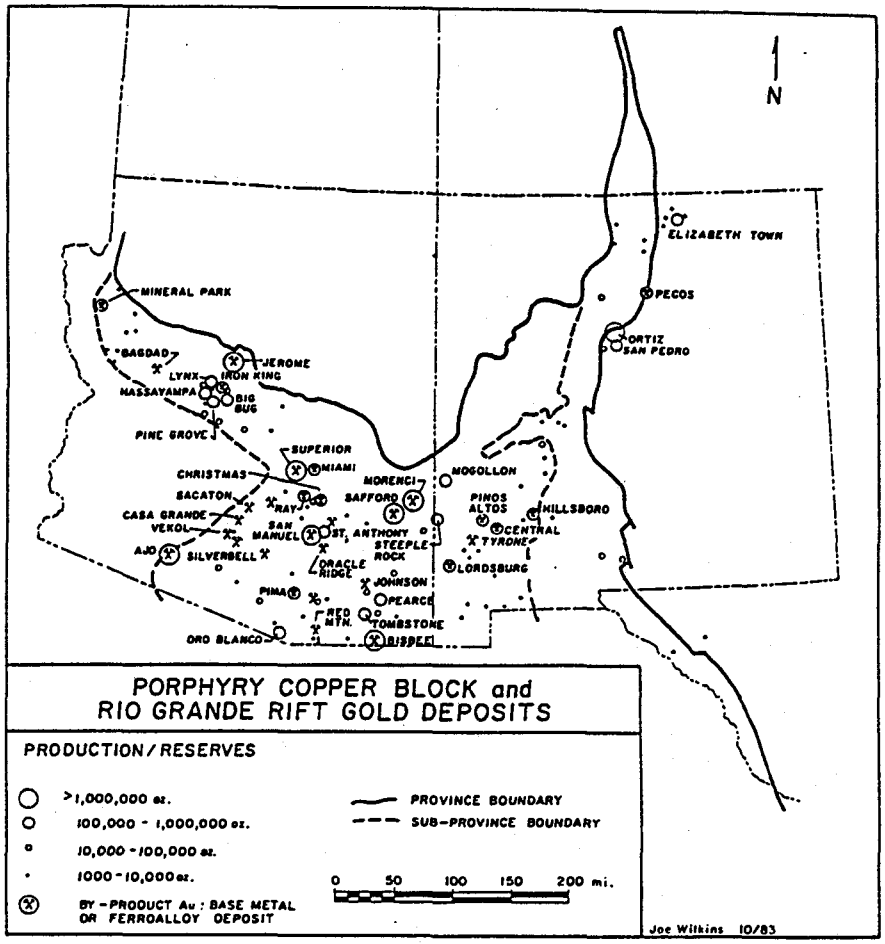
The Zebra prospect is an epithermal, disseminated gold occurrence which appears to possess the potential for both a low grade heapleach deposit and a higher grade zone which may be recovered by conventional milling. The property as a whole has been examined geologically, geophysically and geochemically. These studies have located numerous areas of anomalous gold mineralization, a shallow gold reserve of unknown size which is only partially delineated, geophysical anomalies, which at depth were found to contain anomalous gold mineralization, and a number of other targets that have not been tested.

The property totals 1,400 acres and is located approximately three miles southeast of Tombstone, Arizona. The land consists entirely of Arizona State Prospecting Permits.

Surface sampling over an area of almost three square miles has found gold mineralization in a number of geological environments. The most obvious mineralization has been found in the jasperoid outcrops where limestone beds have been silicified and contain anomalous gold values varying from sub ore grade to over one ounce per ton. However, other environments such as argillized limestones and shales contain anomalous mineralization, assays of contact silicification next to an intrusive have contained up to .29 ounces per ton gold, dark grey to black petroliferous limestones. Some of the drill holes have contained sub ore grade gold mineralization and calcite replacements on the surface and in drill holes also contained trace gold mineralization.

Drilling to date has been confined to only a few areas. One area of drilling has defined a small, shallow mineral body containing 104,632 tons of mineralization averaging .091 ounces per ton gold with a strip ratio of 1:4 to 1. Cyanide leach re-assays of five drill intervals indicate that approximately 70 percent of the gold was recovered. This mineralization has not been offset in several directions and there is no wider spaced reconnaissance drilling to locate the extensions of new bodies. A second area of drilling consists of four holes to test an area of anomalous gold mineralization in jasperoids. These holes intercepted weak to moderate gold mineralization at various depth from the surface to 450 feet. Two geophysical anomalies were located in a recently performed "test" program involving I.P. Resistivity and C.S.A.M.T. This test program consisted of only one line, approximately one mile long traversing the property in an East-West direction. One hole was drilled in each anomaly during 1992. The largest anomaly contained significant low grade mineralization over a wide interval. This hole has not been offset.

A number of large targets, both geophysical and geological have not been tested. The shallow mineral body containing ore grade gold mineralization has only been partially tested as has most of the property. Based on data generated to date it seems reasonable to assume that an aggressive drilling program would have a significant chance of locating a large economic gold ore body.



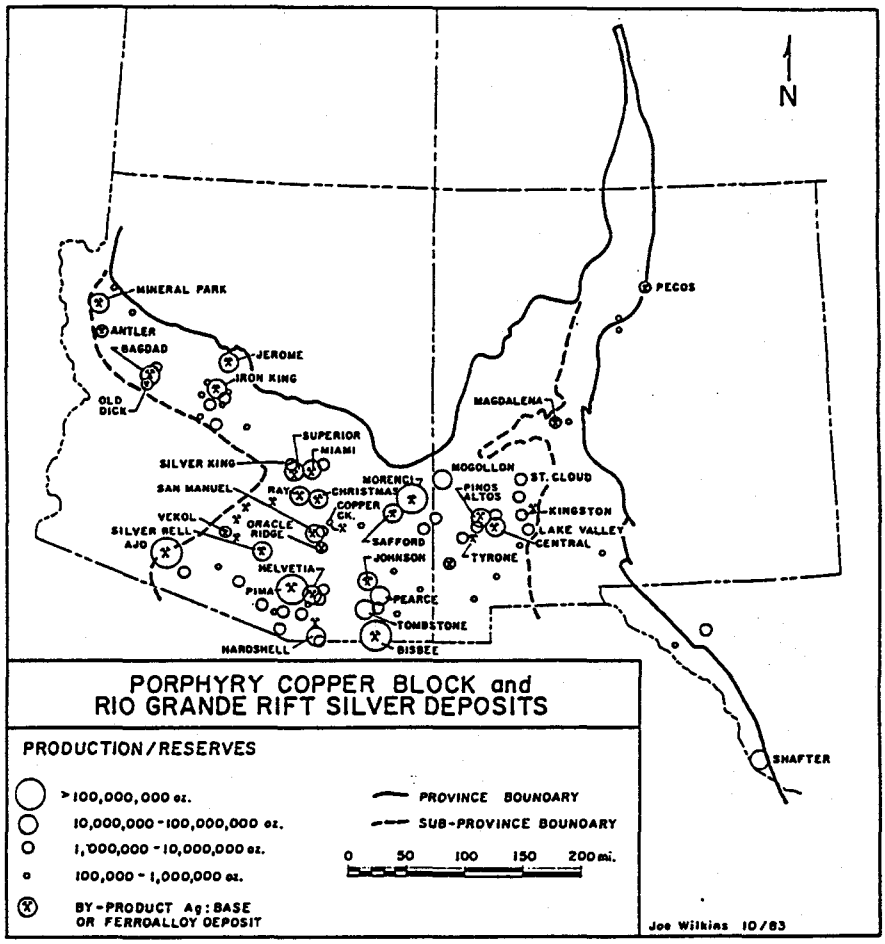


Figure 19: **Porphyry Copper Block and Rio Grande Rift Gold and Silver Deposits**

MPO RESORCES LTD.

ZEBRA PROJECT

GOGY & SAMPLE LOCATIONS

Qal	QUATERNARY ALLUVIUM
	TERTIARY JASPEROID
Ti	TERTIARY INTRUSIVE - RHYOLITE
Pc	PERMIAN COLINA LIMESTONE
Pe	PERMIAN EARP FORMATION
	SLIGHTLY ARGILLIZED COLINA LIMESTONE - MINOR LIMONITE AND HEMATITE
	BRECCIATED AND SILICIFIED COLINA LIMESTONE
	FAULT (BAR ON DOWN SIDE)
	CONTACT
1990	SAMPLE LOCATION

N

0 2000 FEET

89-5 1989 DRILL LOCATION

1983 DRILL HOLE

5 STRIKE AND DIP OF LIMESTONE

84 STRIKE AND DIP OF SILICIFIED LIMESTONE

Tcg TERTIARY CONGLOMERATE

hem AREA OF HEMATITIC ALTERATION

ls bx LIMESTONE BRECCIA

BANDED CHALCEDONY, CALCITE AND JASPEROID

ROAD

SHEAR, ARROWS INDICATE DIRECTION OF MOVEMENT

A LETTERS EXPLAINED IN TEXT

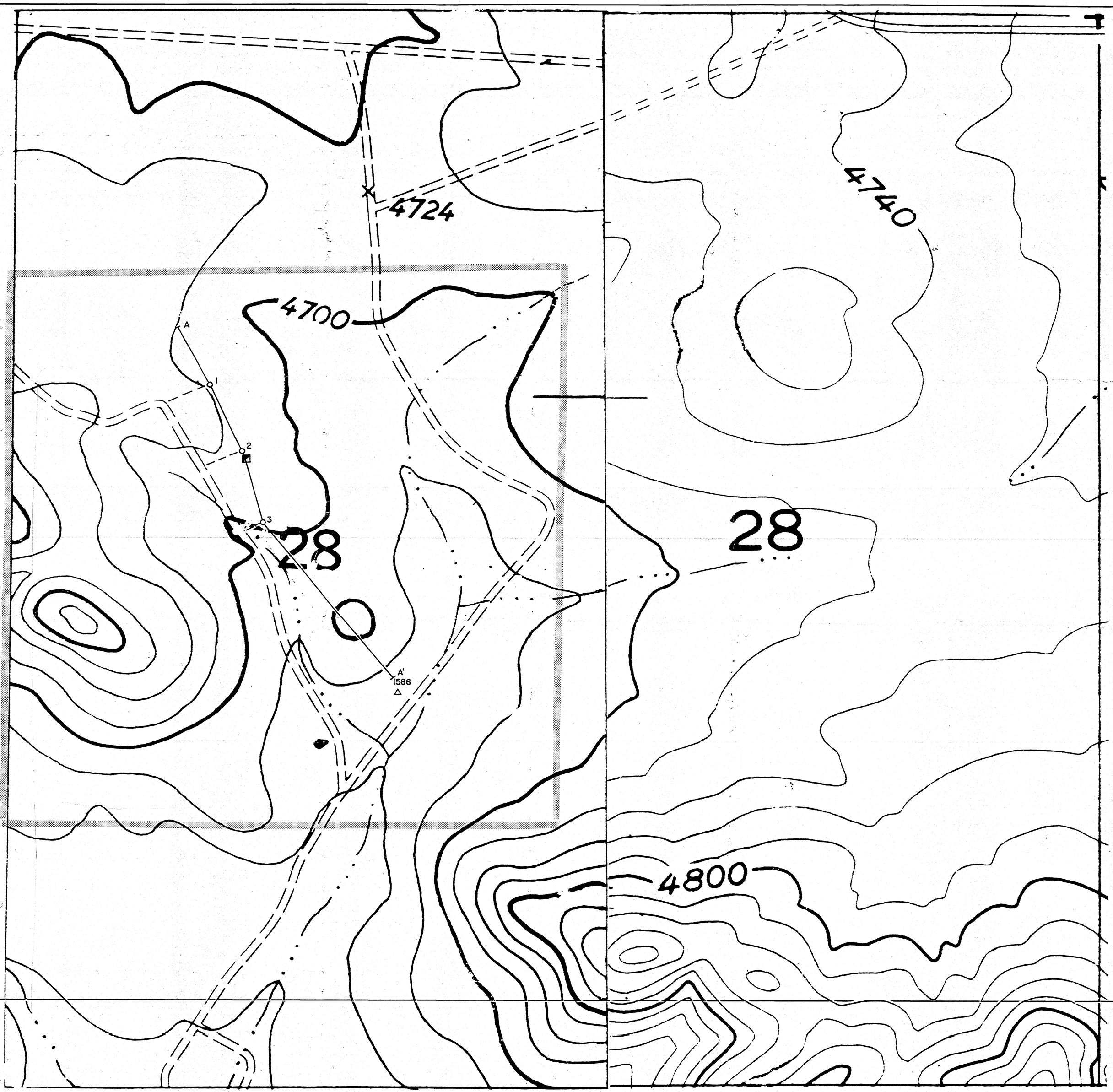
x PROSPECT PIT

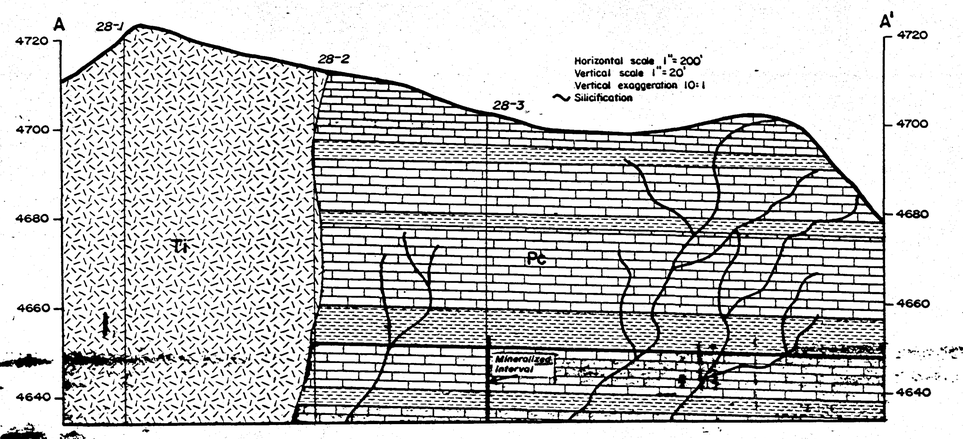
scale: 1":200'

89-3 89-2 28-3 89-1 28-4 89-4

PLATE I

Tempo Resources Ltd
Zebra Project
Geology & Sample Locations
Plate 1 22





Ti RHYOLITE PORPHYRY
Pc COLINA LIMESTONE
SHALE SEQUENCE - bleached, silicified

N

0 200 400
FEET

PLATE IV

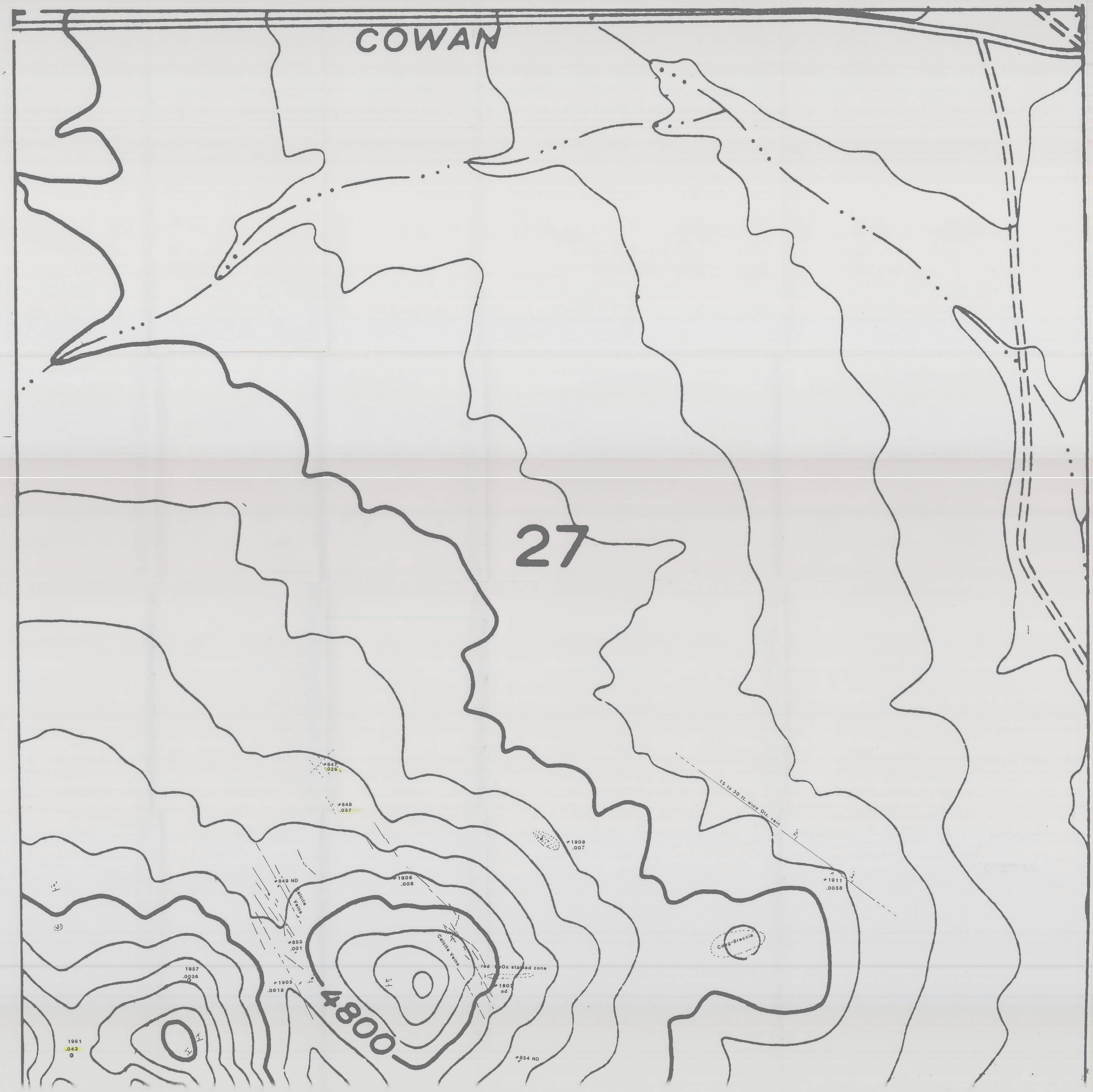
CONSOLIDATED PAYMASTER

ZEBRA PROJECT

T20S, R23E

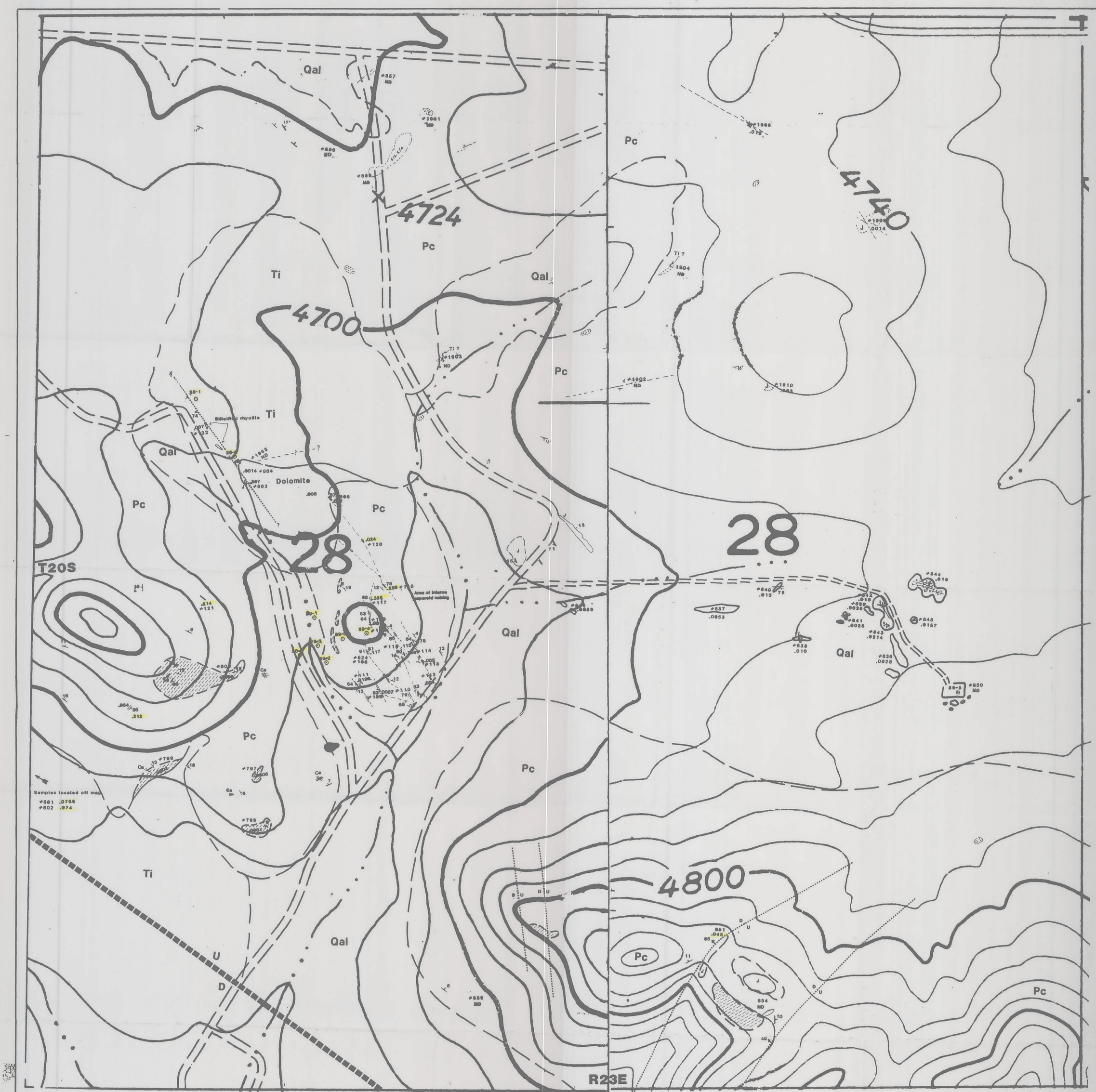
GEOLOGY & DRILL HOLES

Plate IV


COWAN
27
4800
#847
.026
#848
.037
#849 ND
Calcite Veins
#853
.001
#1905
.0018
1957
.0036
1961
.043
0
#1906
.008
Calcite Veins
red Fe Ox stained zone
#1907
nd
#854 ND
#1908
.007
15 to 30 ft. wide Qtz. vein
#1911
.0038
Conglo-Breccia

Section 27

2



ZEBRA PROSPECT
Cochise County, Arizona

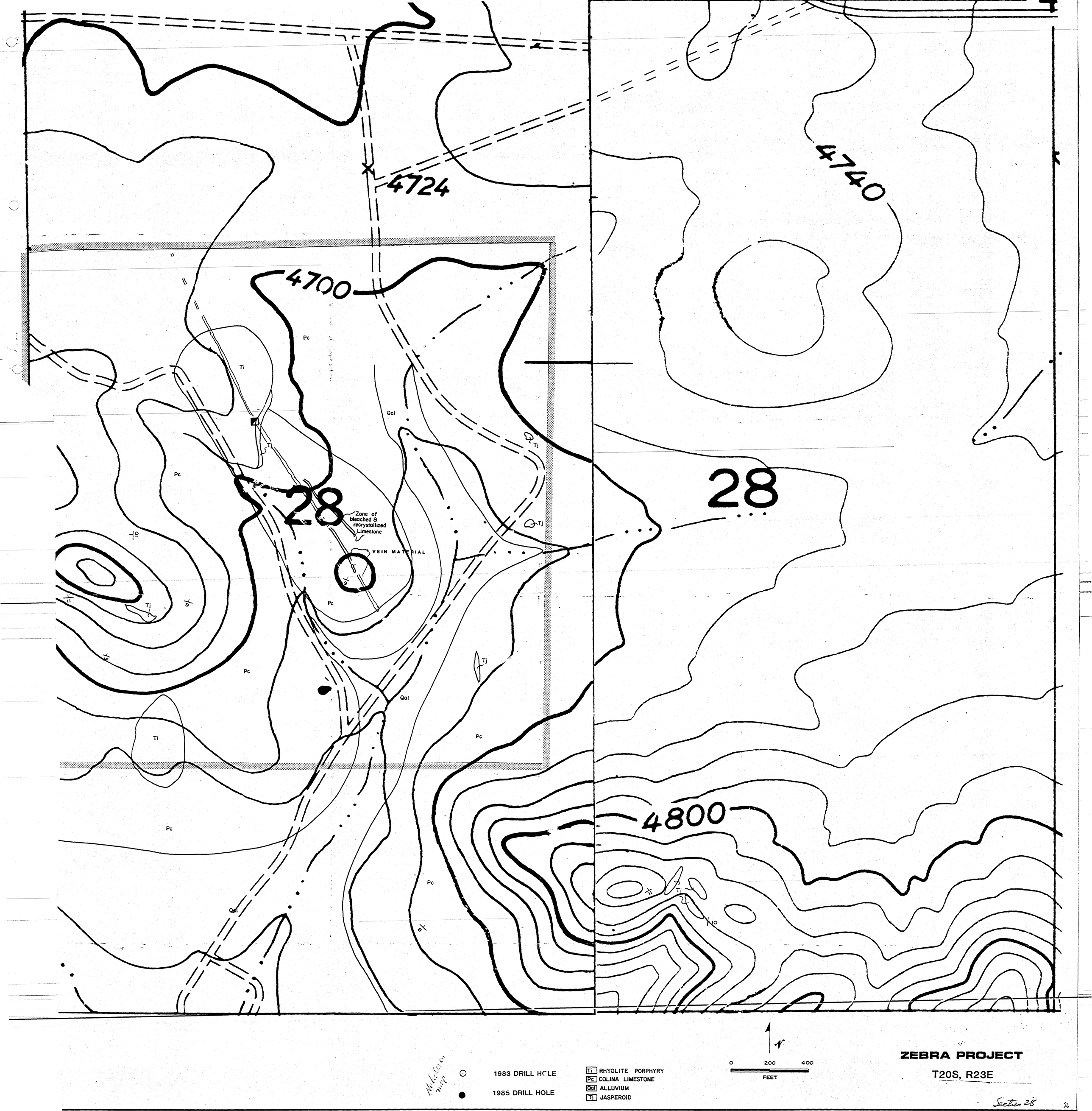
SCALE: 1" : 200'

Legend is the same as Plate I

87 / .36 Strike and dip of jasperoid with Au assay value in oz./ton

#112 Sample Number

Zebra Prospect
Section 28
w/ drill holes / assays.


4724
4740
4700
28
28
Pc
Ti
Qal
Tj
Zone of bleached & recrystallized Limestone
VEIN MATERIAL
4800
1983 DRILL HOLE
1985 DRILL HOLE
Ti RHYOLITE PORPHYRY
Pc COLINA LIMESTONE
Qal ALLUVIUM
Tj JASPEROID
0 200 400
FEET
ZEBRA PROJECT
T20S, R23E
Section 28