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06/28/1999

ARIZONA DEPARTMENT OF MINES AND MINERAL RESOURCES FILE DATA

PRIMARY NAME: PEORIA SEVEN

ALTERNATE NAMES:

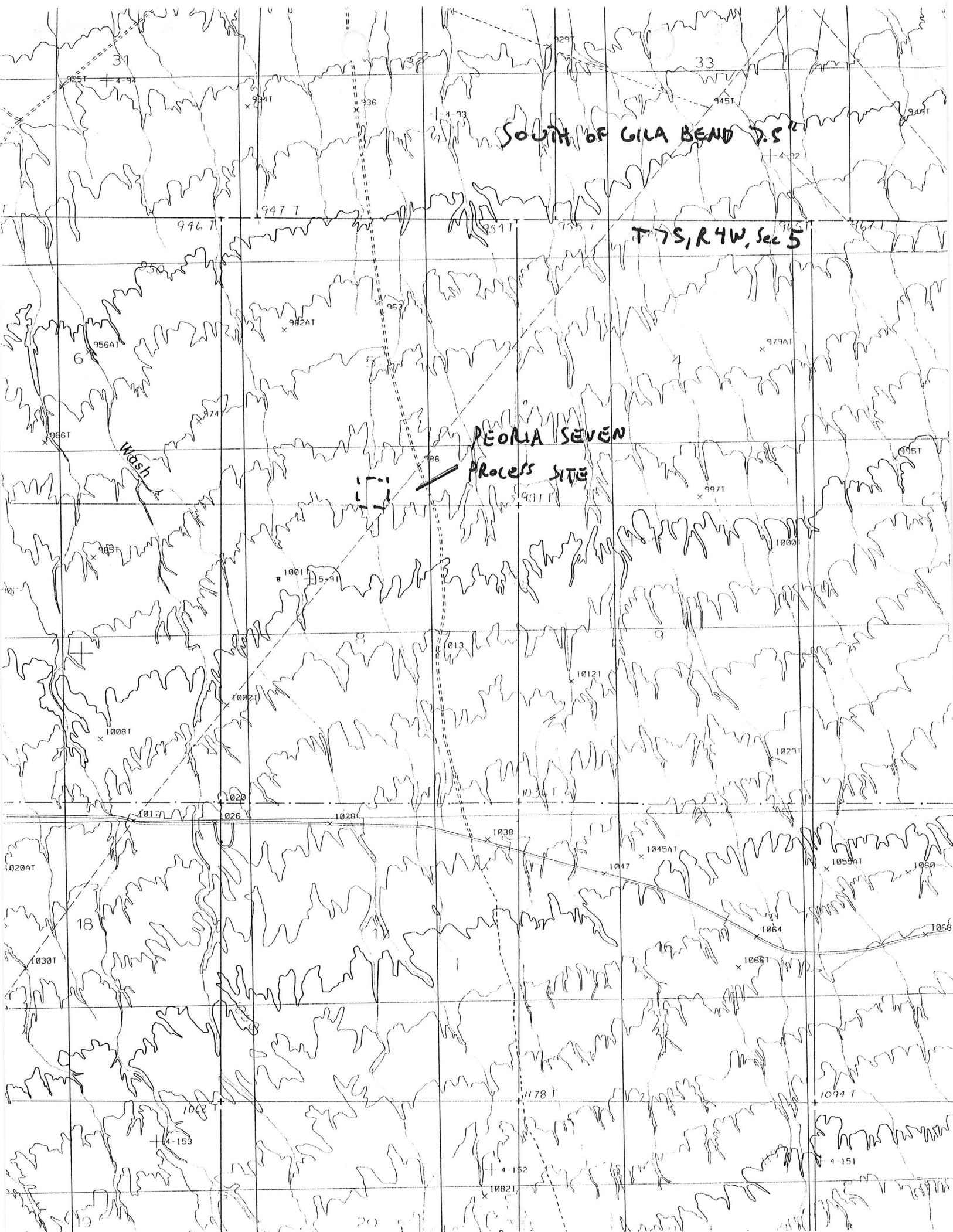
MARICOPA COUNTY MILS NUMBER: 810

LOCATION: TOWNSHIP 7 S RANGE 4 W SECTION 5 QUARTER SW
LATITUDE: N 32DEG 50MIN 26SEC LONGITUDE: W 112DEG 41MIN 29SEC
TOPO MAP NAME: SOUTH OF GILA BEND - 7.5 MIN

CURRENT STATUS: OTHER

COMMODITY:
UNKNOWN

BIBLIOGRAPHY:
ADMMR PEORIA SEVEN FILE



MOUNTAIN STATES

R & D INTERNATIONAL, INC.

PEORIA SEVEN (F) MINING

World Leader in Mineral & Environmental Technology

13801 E. Benson Highway Tel: (520) 762-5364

Suite A Fax: (520) 762-5717

Vail, Arizona 85641 E-mail: Rbhappu@aol.com

Website: www.msrdi.com

July 31, 2000

Mr. Dale Runyon

MAXAM GOLD CORPORATION

528 Fon du Lac Drive

East Peoria, Illinois 61611

Reference: MSRDI Project No. 5866 - Progress Report

Dear Dale:

Mountain States R&D International, Inc. (MSRDI) is pleased to provide you with the results of the latest study concerned with the optimization of the sampling and assaying procedures for the two Maxam Gold's Chain of Custody (COC) samples.

In previous testing it was assumed that thorough mixing of the minus 20 mesh product followed by splitting of the sample using the Jones Splitter, fine pulverization, roll cloth blending and cutting several kilogram samples would yield reasonably good repeatable fire assays and calculated heads using standard metallurgical test procedures on both the COC samples. These results were reported in MSRDI progress report dated April 18, 2000. This report concluded that it was essential to pulverize the sample in order to obtain reasonably repeatable fire assays for gold and silver with good metallurgical balances.

It should be noted that the original sample weight of 200 kg of the COC sample had been reduced into 50 kg batches by utilizing the large Jones Splitter. representative samples from this composite were then forwarded to other independent assay laboratories who reported higher gold values on supposedly identical samples.

Because of the above repeatability and assay confirmation problems that were experienced in the earlier testwork, MSRDI concluded that the major problem in sampling and assays was due to the particulate gold occurring in these samples. Also, there were additional problems associated with coating of the gold particles as well as dissemination of gold in the matrix requiring fine pulverization.

(Page 2)

Mr. Dale Runyon, July 31, 2000

Based on the above premise, MSRDI decided to take the entire reject of 150 lbs of each COC sample and re-mixed them for homogenization in a rotary blender. A blending time of four hours was allowed for each of the samples. After the above blending step a 35 lb sample was split out using the Jones Splitter.

This 35 lb sample was then subjected to a Rotary Splitter to obtain 16-1 kg test charges. These samples were then pulverized in the Shatterbox (ring and puck unit) and 2 A.T. replicate fire assays performed on 1-kg pulverized split sample picked randomly out of the 16 splits.

The flowsheet for the above test procedure is shown in attached Figure 1. The results of the above testwork is reported in attached Table 1.

These results clearly indicate that the average of the fire assays for the two COC samples are:

COC#1 = 0.98 opt Au and 0.297 opt Ag

COC#2 = 0.41 opt Au and 0.141 opt Ag

In order to confirm the above precious metal contents, an additional 35 lb sample was split from the rejects of the two COC samples and these samples were subjected to metallurgical-assay confirmation tests using the procedure shown in Figure 1.

The results of this test are reported as follows:

Table 2 The Fire Assay Results of 2 Splits of Each COC

Table 3 Results of Gravity - Assay Confirmation Test

The results of the above metallurgical test - assay confirmation show that for the COC Sample #1, the calculated Au content is 0.91 opt and 0.23 opt Ag which compares very well with the average of the 16-split - replicate assays for COC#1 of 0.98 opt Au and 0.30 opt Ag.

Similarly, the results of the gravity-assay confirmation test on COC#2 show that the average contents are 0.32 opt Au and 0.09 opt Ag which assays are in line with average head grades obtained by the above 16- split replicate assay test as COC#2 of 0.41 opt Au and 0.14 opt Ag.

(Page 3)

Mr. Dale Runyon, July 31, 2000

CONCLUSIONS

1. Based on the above most recent sampling and assaying procedure, MSRDI reports the Au/Ag contents of COC#1 and 2 as follows:

		Au (opt)	Ag (opt)
COC #1	Repeat Fire Assays	0.98	0.30
	Metallurgical Test/Assay Confirmation	0.91	0.23
COC #2	Repeat Fire Assays	0.41	0.14
	Metallurgical Test/Assay Confirmation	0.32	0.09

2. It has been conclusively shown that the metallurgical test - assay confirmation test on large samples provide reliable and reproducible head assays. Accordingly, this metallurgical - test procedure could be utilized as a standard head assay determination procedure since it can be carried out expeditiously and provide reproducible results.

Table 1. Results of Replicate Assay Ton Fire Assays (Firing entire 1kg)

Maxam Gold Corp. COC Samples 1 & 2

-20 Mesh	Au Oz/Ton	Ag Oz/Ton
COC 1	0.847	0.43
COC 1	0.822	0.2
COC 1	1.082	0.32
COC 1	0.997	0.28
COC 1	0.79	0.22
COC 1	0.896	0.36
COC 1	0.978	0.25
COC 1	0.857	0.25
COC 1	0.881	0.28
COC 1	0.978	0.27

COC 1	1.133	0.34
COC 1	1.461	0.43
COC 1	1.088	0.32
COC 1	0.759	0.22
COC 1	1.013	0.29
COC 1	1.022	0.3
AVERAGE	0.978875	0.2975

TABLE 2 - Two assay ton fire assay results on Rotary splitter samples

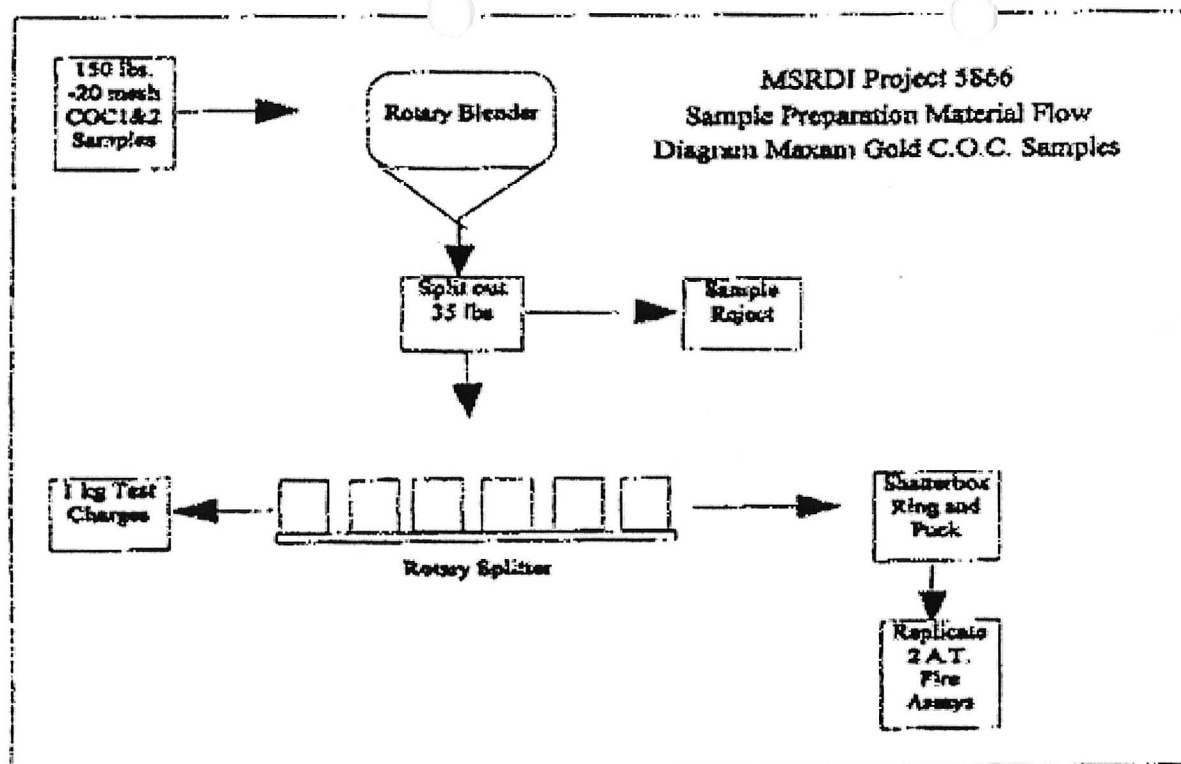
	Assay Oz./Ton	
-20 Mesh	Au	Ag
COC 1	1.338	0.31
COC 1	0.691	0.13
COC 2	0.271	N.D.
COC 2	0.237	0.03

TABLE 3 - Results of Gravity Concentration Test COC Sample #2

(-20 Mesh screened material with no grinding)

Product	Wt (gr)	Wt	Assay o.p.t.	Contents	Distribution %
		(%)	Au	Au	Au
Head Assay			0.98		
Total Calculated Hd	999.30	100.00	0.91	0.91	100.00
Gravity Conc.	13.80	1.38	57.29	0.79	86.89
Gravity Tail	985.50	98.62	0.12	0.12	13.11

MSRDI Project 5866 Sample Preparation Material Flow Diagram, Maxam Gold COC Samples





PEORIA SEVEN (F) MAR 1004

OTCBB: MXAM

PRESS RELEASE

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April 4, 2000

MAXAM GOLD CORPORATION**ANNOUNCES****License Agreement Signed With Ateba, Mines, Inc.**

East Peoria, Illinois.....July 12, 2000

Trading Symbol: MXAM

Maxam Gold Corporation today is pleased to announce that it has signed a License Agreement with Ateba Mines, Inc., Toronto, Ontario CANADA, and its subsidiary company, Claytech Environmental Services, Inc. to purchase and use Ateba's Patented process within the Maxam Leach process.

Ateba owns a Patented process which Maxam can incorporate with the Maxam Leach process to reduce processing costs and possibly have a benefit to Maxam by reducing the overall capital expenditures.

Based upon initial tests in the Maxam Laboratory, with guidance from Maxam consultant, Max Cooley, the incorporation of the Ateba process accomplished the following: 1). Significantly reduced the viscosity of the ore slurry, 2). Greatly reduced the required water for the slurry, and 3). "Scrubbing" of the clay from the fine gold resulted in rapid gold-exposure to the solvents causing a more efficient leaching of the values from the ore, including reducing the required leaching time.

These important benefits to the processing of Maxam ores convinced Maxam management to exercise a license agreement and proceed with additional tests incorporating Ateba's process within the Maxam Leach process.

Safe Harbor Statement

Some statements contained in this and/or other Company correspondence are to be considered "Forward-Looking Statements" as defined under the Private Securities Litigation Reform Act of 1995. All statements are subject to certain risks, uncertainties, and assumptions, including: the likelihood that the Company will continue to incur losses from operations and investments pending development of its mining properties; profitability of certain acquisitions; the uncertainty that the Company will be able to continue as a "going" concern; significant additional capital requirements; and, the effects of economic factors, geological factors, operations factors, and governmental regulations on exploration or mining operations. The Company does not undertake to update any of the forward-looking statements that it may make from time to time. Further, there can be no assurance that any forward-looking statements or predictions will ultimately prove to be accurate.

For additional information contact:

Dale Runyon, CEO (309) 699-8725 Fax (309) 699-1275

Al Hubbard, President (214) 999-6066 Fax (214) 999-6721

Web Site----<http://www.maxamgold.com>

00-02

Web Site: <http://www.maxamgold.com>news | properties | updates | [investor info](#) | [contact](#) | [email](#)



Peoria Seven (P)
MRI.

OTCBB: MXAM

PRESS RELEASE

April 24, 2000

[Back to Archive](#)**PRESS RELEASE****MAXAM GOLD CORPORATION****1. Chain-of-Custody Initial Results****2. Extension of Time for Sale of Peoria South**

East Peoria, Illinois....April 24, 2000

Trading Symbol: MXAM

CHAIN-OF-CUSTODY RESULTS**Gold and Silver Results**

Maxam Gold Corporation management announces receipt of Chain-of-Custody results on two bulk-samples taken from the Peoria Seven mine. Sampling, custody, and metallurgical testing were conducted by Dr. Sam Shaw, and Mountain States Research and Development International, Inc.

Mountain States, in its April 18, 2000 report to Maxam management states, in part, "...the results clearly indicate that the head assays of the two Chain-of-Custody samples can be determined and confirmed by thorough blending of the samples and by repeated fire assaying, chemical assaying and metallurgical testing with calculated heads obtained by assaying the various test products...". "...The above statement was based on running a series of assaying and metallurgical tests using different operating parameters. The results of the tests under the best conditions on the minus 20 mesh size fraction are reported as follows..."

<u>Technique or Test</u>	<u>Assays</u>			
	<u>CoC #1</u>		<u>CoC #2</u>	
	<u>Troy oz./Ton</u>		<u>Troy oz./Ton</u>	
	<u>Gold</u>	<u>Silver</u>	<u>Gold</u>	<u>Silver</u>
<u>Repeat Fire Assay</u>	0.430	0.150	0.100	0.030
<u>Acid Decomposition Assays</u>	0.335	0.029	0.103	0.029

<u>Amalgamation/Gravity Test</u> <u>(Calcd.)</u>	0.430	0.150	0.100	0.030
<u>Flotation Test (Calcd.)</u>	0.343	0.113	0.084	0.031
<u>Cyanidation Tests (Calcd.)</u> <u>(1)</u>	0.430	0.150	0.100	0.030
	(2) 0.430	0.150	0.100	0.030

The report further concludes that Gold and Silver values contained in these ore samples can be recovered [with] conventional metallurgical techniques,

Higher-grade samples taken for these tests were from an ore zone previously located by drilling and geophysics (in a paleochannel). The lower-grade sample was located on the sides of an old paleochannel. However, in both instances, these results prove that either ore-grade or lower-grade ore types can be sampled and assayed and reliable results obtained.

Using ratios of the minus-20 mesh size fraction analyzed, the following head ore grades were reported:

	<u>CoC #1</u>	<u>CoC #2</u>
Weight Percent of -20 mesh Sample		
<u>at Head Ore Grade</u>	<u>21.9%</u>	<u>18.8%</u>
	Troy oz./Ton	Troy oz./Ton
Gold	0.094	0.019
Silver	0.033	0.006

Production costs for each Ton of minus 20 mesh screened material is estimated at \$ 1.50 per Ton for large scale production.

Platinum and Palladium Results

In addition to Gold and Silver confirmations reported above, appropriate Chain-of-Custody samples were sent by Mountain States R&D International, Inc. to Copper State Analytical Laboratories for analysis of Gold and the Platinum Group metals. Results reported to Maxam management by Mountain States R&D International, Inc. are as follow:

	<u>Ton of -20 Mesh</u> <u>Fraction</u>	<u>Ton of Head Ore</u>
1. CoC #1	0.010 Troy oz. Platinum	0.0021 Troy oz. Platinum
2. CoC #2	0.020 Troy oz. Platinum	0.0037 Troy oz. Platinum
3. CoC (2-3-D) *	0.180 Troy oz. Platinum	0.0390 Troy oz. Platinum
	0.260 Troy oz. Palladium	0.0570 Troy oz. Palladium

* The CoC sample (2-3-D) fine grind with the high Platinum and Palladium values also reported relatively high Gold value (0.43 Troy oz./Ton Concentrate, or 0.094 Troy oz. Gold per Ton Head Ore).

In past analyses the higher Platinum and Palladium values were associated with lower

Gold values, making this result an interesting geochemical occurrence.

SALE OF PEORIA SOUTH MINING, LLC

Maxam Gold Corporation Chairman, Dale L. Runyon reported on November 16, 1999 the mutual signing of a Letter of Intent between Maxam and Sigma Gold Mines, LTD, proposing to sell Maxam's interest in Peoria South Mining, LLC to Sigma. The formalization of the terms was scheduled to occur by April 15, 2000, pending successful due diligence on the part of both parties.

Maxam has extended final sale agreement (which is represented by cash, plus future production royalty) formalization to provide Sigma additional time to review more complete analysis and testing on the properties. The analysis and testing involves Sigma's agreement to have the entire 640 acres of mining claims engineered to a depth of at least 100 feet. The new date for sale consummation has been set for no later than October 31, 2000.

Safe Harbor Statement

Some statements contained in this and/or other Company correspondence are to be considered

"Forward-Looking Statements" as defined under the Private Securities Litigation Reform Act of 1995.

All statements are subject to certain risks, uncertainties, and assumptions, including: the likelihood that the Company will continue to incur losses from operations and investments pending development of its mining properties; profitability of certain acquisitions; the uncertainty that the Company will be able to continue as a "going" concern; reliance on the accuracy of consultants, suppliers, and other third party advisors; reliance on significant additional capital requirements; and, the effects of economic factors, geological factors, operations factors, and governmental regulations on exploration or mining operations. The Company does not undertake to update any of the forward-looking statements that it may make from time to time. Further, there can be no assurance that any forward-looking statements or predictions will ultimately prove to be accurate.

For additional information contact:

Dale Runyon, CEO (309) 699-8725 Fax (309) 699-1275

Al Hubbard, President (214) 999-6066 Fax (214) 999-6721

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AZA-29594
AZA-30322
3715(020)

File Copy	
Name	Date
<i>MM</i>	6/25

CERTIFIED MAIL - RETURN RECEIPT REQUESTED

EFFECTIVE DATE:

June 25, 1998

DECISION



MAXAM Gold Corporation
Peoria Seven Mining, LLC
528 Fon du Lac Drive
East Peoria, Illinois 61611

: 43 CFR 3715
: Use and Occupancy
:
:

Determination of Non-Concurrence

The Bureau of Land Management (BLM), Phoenix Field Office (PFO), after review of your filing made under 43 CFR 3715.3-2, does not concur with the following elements of your proposed occupancy and for that reason, you must NOT engage in the following activities:

1. The placement, construction, maintenance, or operation of any vat or heap leach processing operation, including, but not limited to, the Hewlett Reaction System.
2. The storage of any equipment or supplies required for the operation of any vat or heap leach operation, including, but not limited to, the Hewlett Reaction System.

Your proposed occupancy fails to meet the conditions of 43 CFR 3715.2 in the following ways:

1. 43 CFR 3715.2 (c). The information that you have provided in your submissions of June 6, 1997, February 25, 1998, and May 28, 1998, have failed to demonstrate that your proposed leach system, or any other mineral processing or milling facility is reasonably calculated to lead to the extraction and beneficiation of minerals.
2. 43 CFR 3715.2 (e). The information that you have provided in your submissions of June 6, 1997, February 25, 1998, and May 28, 1998, have failed to demonstrate that your proposed leach system, or any other mineral processing or milling facility would be presently operable.

Specifically, the BLM cannot use the information that you provided to verify the existence of reserves in either the Proven or Probable reserve categories, as defined by the Securities Exchange Commission. Without proven or probable reserve estimates that can be independently verified, production facilities, such as the leach system you propose, are inappropriate to the geologic terrain and the stage of development of the property.

3809(020)
3715
AZA-30322
AZA-29594

January 21, 1998

Mr. Dale Runyon
Mr. Michael W. Runyon-Davis
Peoria Seven Mining, LLC
528 Fon Du Lac Drive
East Peoria, IL 61611

Dear Sirs:

We have completed our initial review of your 43 CFR 3715 submission for your proposed occupancy of the Peoria Seven Mine site. Your submission is incomplete and needs additional clarification. To process your request for occupancy, please provide the information/items listed below:

1. Please provide a map showing the location of all samples taken.
2. Provide assays for only those samples shown on the map requested in one, above.
 - A. Each assay provided must state if the assay sample is mine-run material or a concentrate of mine-run material. If the assay sample is a concentrate sample, the weight of mine-run material required to produce the concentrate weight must be given.
 - B. Each assay should include information on the exact analytical method used to perform the assay and the laboratory that performed the assay.
3. Based on the map and assays in one and two, above, provide a map showing the estimated size and location of the mineralized zone that will be mined.
 - A. Indicate the average grade for all minerals or elements that will be recovered by the proposed beneficiation process.
 - B. Indicate the exact samples that were used to develop the table titled "GEOCHEMISTRY: Elements That Increase With Depth", and provide a scale showing the depth and the actual assay values recorded for each constituent listed at that depth.
4. Based on the map in three, above, provide the quantity and grade of material (by mineral type) that will be mined. Also indicate the primary minerals (metals) that will be mined.
 - A. Indicate estimated mining recovery and dilution.
5. Based on four, above, provide a mining/milling production rate and a mine progression map that indicates the yearly production and the estimated time required to mine out the mineralized zone developed in three, above.
 - A. Indicate the mining method and mining equipment that you plan to use. Include the estimated production costs for this equipment.
6. The Hewlett Reaction System (HRS) leach results provided are for a sample from a mine in the Yukon.
 - A. Please provide leach tests for samples taken from the Peoria Seven site and locate these samples on the map developed in one, above.

- B. Provide a complete description of the chemical processes and steps involved in the HRS system.
7. Please provide engineering drawings and schematics for the exact HRS process circuit that you plan for the site.
- A. Include the estimated consumption rates for all process chemicals that you will use together with Material Safety Data Sheets for these chemicals, and the amount of each chemical you intend to store on-site.
 - B. Include the estimated recovery of each metal/mineral that will be recovered by the HRS system. This should include all of the metals/minerals listed in four, above, and shown on the map in three, above.
 - C. Provide cost estimates for the processing of mine-run material through the HRS system.
8. Since you propose to have a watchman and to place fences, gates and signs on the property to exclude the general public, you must show how these proposed elements meet the conditions of 43 CFR 3715.2-1.
- A. Provide a detailed map showing the proposed location of all facilities, including fences gates and signs.
9. Please develop a reclamation schedule and determine the length of time you will require the use of your facilities.

If you have any questions, please contact Mark Schwab or Jeff Garrett at 602-580-5500.

Sincerely,

Michael A. Taylor
Field Manager
Phoenix Field Office

MSCHWAB:ms:

XAM GOLD CORPORATION <Picture> <Picture>

OTCBB: MXAM

Back to Archive PRESS RELEASE
January 29, 1998

Maxam Receives Results from Ledoux and Arranges for Second Chain of Custody Analysis

East Peoria, Illinois.....January 28, 1998

LEDOUX RESULTS

Today, MAXAM GOLD CORPORATION received results from samples of ores sent to Ledoux & Company in October. Following are the results from Ledoux, converted to Troy Ounces Head Ore.

Samples were taken from Peoria Seven Pit number 7...and Peoria South Pit number 5.

Troy Ounces Per Ton Head Ore

Sample ID Gold Silver Pit 70.1980.292 Pit 50.1870.233

Maxam consultants, Hewlett Mineral Management, and Max Cooley performed "chain of custody" procedures on the ores from the two pits to Ledoux.

Hewlett Mineral Management reported on the results "...These results are good for gold and silver; typical of many hundreds of fire assays from these sites..."

Ledoux & Company is a recognized worldwide umpire for analyses between refiners and suppliers as well as between refiners and other refiners of precious metals.

SECOND CHAIN OF CUSTODY ANALYSIS UNDERWAY

MAXAM GOLD CORPORATION has arranged with Cimetta Engineering & Construction Co., Inc., Tucson, Arizona, to conduct "chain of custody" supervision for 3,000 pounds of ore from each of four locations on the Peoria South property. Cimetta has complete security of these bulk ore samples, and has provided "splits" from each to three Registered Independent Laboratories for Fire Assay, Nickel Sulfide Fire Assay, and Chlorine/Bromine Leach. Cimetta will also conduct bulk leach tests on the concentrates from each of these bulk samples. Results from these analyses are anticipated within the next 90-days

Cimetta Engineering and Construction Company, Inc., founded in 1974, provides engineering design and construction expertise for mining and allied industries. Cimetta's impressive clientele listing includes:

ASARCO, Inc.

Moly Corp.

Battle Mountain Gold
GSA Resources
Kennecott Copper Corp.

Montana Resources
Newmont Gold
Phelps Dodge

MAXAM GOLD CORPORATION is proud to have the opportunity to enlist the services of Ledoux & Company and Cimetta Engineering & Construction Co., Inc. as additional independent resources to Hewlett Mineral Management and Max Cooley.

SAFE HARBOR STATEMENT

Actual results from the above disclosures could differ materially from projection, as results from economic factors, geological factors, operations factors, government regulations or factors relied upon from independent sources, may either negatively or positively impact financial, exploration, or mining progress.

David E. Wahl, Jr., Ph.D.
Consulting Geologist
P.O. Box 10758
Scottsdale, Arizona 85271
Phone: (602) 946-0559
Fax: (602) 949-6615

5/20/98

TELECOPIER TRANSMITTAL COVER SHEET

To: NYAL NIEMUTH
ADMNR

Re: MAXAM

2 pages follow this sheet

UNITED STATES DEPARTMENT OF THE INTERIOR
BUREAU OF LAND MANAGEMENT
ARIZONA STATE OFFICE

SHORT NOTE TRANSMITTAL

June 16, 1998

TO: File Number AZA 29594 and AZA 30322

FROM: Ralph Costa, Mining Engineer, Certified Mineral Examiner 0098

SUBJECT: MAXAM Gold Analysis of Reserve Estimates

The following conclusions are based on the attached "Analysis of Exploration Sampling and Assay Data" (Attachment 1) and the results of a sample taken from the property.

Based on the analysis of the three MAXAM submissions dated June 6, 1997, February 25, 1998 and May 28, 1998, the following conclusions can be drawn:

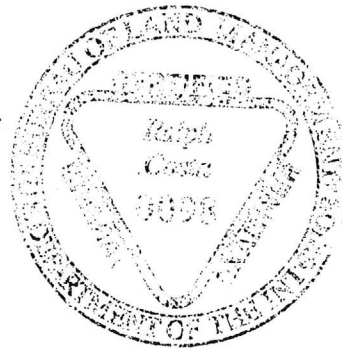
1. The naming or labeling of samples (sample nomenclature) makes it extremely difficult to identify samples with points indicated on the sample location maps and samples reported in the assay reports. For example, the prefix "PS" can mean Pit 7, Peoria South, or Peoria Seven. Often, samples on assay reports have names like PS or PS 7 and it is difficult to uniquely identify them on the sample location maps.
2. No sample weights were provided. Without this information it is impossible to verify the reserve estimates that MAXAM reports. While some sample fractions appear to have relatively high gold contents on a per ton (ton of concentrate) basis, without the weight of the fraction and the weight of the original sample, the reported assay value can not be computed on a per ton (in place) basis.
3. It appears that key assay results, especially those for the reverse circulation drill holes have been reported on a per ton of in-place material basis rather than a per ton of concentrate basis as reported by the assay lab. This gives the impression that the in-place grade is much higher than is actually the case.
4. Assay data for a large proportion of the sample locations shown on the sample location maps was not provided to the BLM. Without this data, the points can not be used to verify reserve estimates.
5. The tonnage and grades reported by MAXAM on the page labeled "BLM(15). OPEN-PIT DESIGN/MINEABLE ORE RESERVES" in the May 1998 submission, appears to be based on the results of the auger drilling program. Independent assay lab reports for the auger drilling program were not provided to the BLM. In addition, MAXAM believed that the results from the auger program were biased and conducted a reverse circulation drilling program to verify the results. The BLM was not provided assay reports for each reverse circulation hole drilled. Where assay results were provided for the reverse circulation program, the data appears to be for concentrated material and the assay values of this material was incorrectly reported as in-place. This indicates a higher in-place grade than is actually the case. It is my opinion that the grade estimate of 0.102 t. oz/ton gold is not supported by the data currently available to BLM.
6. Mark Schwab, a geologist with the Phoenix Field Office and I took a sample from the MAXAM property on March 12, 1998. The location of the sample was chosen by MAXAM personnel and the exact geologic horizon to sample was also chosen by MAXAM personnel.

The sample collected was sent to Bondar Clegg Laboratories in Reno Nevada for analysis. The sample consisted of four bags weighing 39.65 kg. From this entire sample, the minus 20 mesh screen fraction was removed for further analysis. The 20 mesh fraction weighed 6.67 kg and was pulverized to minus 150 mesh. After pulverization, the sample was split into 11 separate splits. Of the 11 splits, five samples were fire assayed with an ICP finish, three samples were assayed through neutron activation and two were assayed using atomic adsorption. The remaining sample, consisting of the remaining portion of the 20 mesh fraction, was digested using multi-acid digestion followed by ICP and whole rock analysis.

None of the assays reported values in excess of 4 parts per billion gold. If Maxam Gold is correct in their reserve estimates of 0.05 troy oz. per ton (in-place), the assay values for the 20 mesh fraction of the BLM sample should be in excess of 10,000 parts per billion, assuming that the entire gold content is contained in the minus 20 mesh fraction. Clearly, the sample collected by BLM does not support the conclusions of Maxam Gold.

Based on the points listed on the previous page and the attached "Analysis of Exploration Sampling and Assay Data", it is my opinion that the information provided to the BLM by MAXAM Gold can not be used to delineate any reserves in the measured or indicated categories of reserve estimation. Because such reserves have not been established, it is my opinion that production facilities, at this time, are not appropriate to the geologic terrain and the stage of development of the property. I recommend that concurrence under 43 CFR 3715 should not be granted for these facilities.

Ralph Costa



Analysis of Exploration Sampling and Assay Data:

Notes:

1. Throughout this discussion, "Hewlett" refers to Mr. Richard F. ("Dick") Hewlett, of Hewlett Minerals Management.
2. The term "HEAD ORE" is borrowed from MAXAM and refers simply to in-place material. The use of this term in this analysis does not infer that economic recovery of any minerals is possible or that economically valuable minerals exist at this property.

From the index of assays developed from the information submitted by MAXAM Gold in their three submissions, dated June 6, 1997, February 25, 1998 and May 28, 1998, the following conclusions can be reached concerning the sample location maps submitted in the May 1998 submission:

Figure	Samples shown with accompanying assay data	Samples shown for which assay data was not provided
Figure 1	Bakers, BC series, BMC series IC series, IT series Pit 7, PN, PS	A-5 CoC 1-5 Pit 5 Red, Pit 5 Red Zone
Figure 1.a	P-1, PS1, PS2, PS3, PS4, PS6, PS7, PS8, Pit 5	A-1, A-5 B2, B4 C3, CC1, CC2, CC3, CC4, CC5 P-2, P-3, P-4, PS5 Pit 5 Red, Pit 5 Red Zone 4, 8.5, 12.5, 15, 17, 18.5, 20, 22, 24, 25, 27, 29, 31
Figure 1.b	P-1 8-A-1, 8-A-5, 8-B-2, 8-B-4, 8-C-3	A,B,C,D,E,N,T,S,R,Q,P,O P-2, P-3, P-4, P-5, P-6, P-7, P-9, P-10, P-12, P-13, P-14, P-16, P- 17, P-18, P-19, P-20, P-22, P-23, P-25, P-27, P-28, P-29, P-30, P- 31, P-33, P-35, P-36
Figure 1.c	NONE	A,B,C,D,E,F,G A1, A5 B2, B4 C3 S1,S2,S3,S4 1, 2, 3, 4, 9, 10, 11, 12, 13, 14, 15, 16, 17, 18, 24, 23, 22, 21, 20, 19, 25, 26, 27, 28, 29, 30, 31, 32, 33, 34, 35, 36
"Magnetics Survey" August 1997	8-A-1, 8-A-5, 8-B-2, 8-B-4, 8-C-3	A,B,C,O,O,F,G,N,O,P,Q,R,S,T H-1, H-2, H-3, H-4, H-5, H-6, H- 7, H-9, H-10, H-12, H-13, H-14, H-16, H-17, H-18, H-19, H-20, H- 22, H-23, H-25, H-27, H-28, H- 29, H-30, H-31, H-33, H-35, H-36

Samples shown for which assay data was not provided:

It is unclear why, after three attempts to obtain more data from MAXAM Gold, they would provide maps containing so many samples for which assay data was not provided. However, for the purpose of determining if the proposed use of leach facilities is appropriate to the geologic terrain and the stage of development of the mine these additional sample locations are useless. Based on this, I will not further analyze any of the sample points listed in the column labeled "Samples shown for which assay data was not provided."

Samples shown with accompanying assay data:

Bakers, BC, BMC, IC series, IT series, Pit 7, PN, and PS in General:

SAMPLE LOCATION:

Quoting Hewlett, "Index" section of the May 1998 submission (page is titled "Table of Contents"): *"Sample sites for Bakers-the IT, IC, and BMC series and BC was the very bottom of the present Peoria 7 pit (dozer pushed from the bottom onto a stock-pile). Therefore, the sample locations are one-foot above the present pit bottom."* From this description, it appears that these samples could be used to determine the in-place value of the material for a one-foot horizon above the present pit bottom. To do this however, it is necessary to determine if the entire stockpile was sent for assay. If only portions of the stock-pile were collected and sent for assay, the resulting assays could be highly biased depending on the methods used to extract a "representative sample" from the stockpile. It is also unclear if the one-foot interval corresponds to a particular geologic horizon or if a one-foot sample was simply taken from the pit bottom.

The Pit 7 sample is described as a channel sample taken at the east edge of the pit. Hewlett asserts that the Skyline assay WQR 102 (Index 28) gives the assay results for this sample. While the nomenclature for the sample name is unclear, I assume that the designations 00-03, 03-05, 05-07, 07-09, 09-11 represent sample intervals at depth from the surface. If true, this is the only sample in the Pit 7 vicinity for which (with the possible exception of PN) interval samples were taken and assayed.

SAMPLE SIZE:

Hewlett states that the sample quantity taken was 5-tons (excluding the Pit 7 sample). He states further that the HEAD ORE (5 tons) was shipped to the Black Canyon Mill. Quoting Hewlett, *"The ore was broken into two batches (weight fractions not provided) with one being impacted and the other ball-milled. These two products were then table concentrated (Wilfley) and the tailings were further concentrated by a rotary concentrator. Then the individual concentrate products were table concentrated at the Bond Mill (Red Mountain CA) collecting four riffle concentrate products; called #01, #02, #03, and #04 -- where the #01 is the highest grade and grading down to the #04 riffle product which is the lowest grade."*

A second processing description is provided in a letter from Mr. Jack Greene to Dick Hewlett dated November 11, 1996. Based on this sampling and concentrating procedure, Hewlett provides the "PEORIA 7 PIT: By plant. ASSAY SUMMARY..." (assay summary). This summary consist of assays performed by Activation Labs ADI0974 (Index 13), Jacobs HEW041 (Index 18), HEW042 (Index 19), HEW 045 (Index 20) and XRAL. Of the 25 samples in the summary for which assays are reported, 24 are assays of various splits of the original 5 ton sample. The final assay, Pit 7, is described as a channel sample taken at the east edge of the pit. Both the 5 ton sample and the Pit 7 sample are within feet of each other. It is unlikely that the geology would change to this degree and suggests that the assay results are in error.

MAXAM does not provide the sample size or weight for any sample or concentrate, other than the weight of the original 5 ton sample. Without this information, it is impossible to use the assay data to estimate the in-place value of reserves.

SAMPLE HANDLING:

In our conversations with Hewlett and Dale Runyon of MAXAM Gold, both men were very concerned about the "nugget effect" on the sample that BLM collected from the site. In processing the 5 ton sample taken from Pit 7, MAXAM and Hewlett have apparently split the sample approximately 25 times. They make no mention of the "nugget effect" on their sample procedures and apparently report the assay results from the various splits through calculations that may not account for this effect.

SCREENING:

Many of the samples appear to be screened, magnetic concentrates. The assay values of these concentrates are then used for the computation of "HEAD ORE" grade. Some samples, such as Bakers +325, BC +20, +28, +48 appear to contain size fractions larger than +100 mesh. Hewlett states in his November 7, 1996 letter that *"A one-pass 'Rough Impact' shakes-loose a significant amount of precious metals--leaving the low-grade coarser fraction as plus 100-mesh, which is uneconomical to process....Process by-products (sand-screw tailings and Knelson concentrator concentrates--10 buckets..+48 mesh fraction) All contain gold that is economic to recover by the one-pass impacting and screening (+/- 100 mesh)."* Bakers and BC have been assayed and apparently used in the calculation of the reserve base, but are not identified as "by products". In fact, BC is clearly identified as "HEAD ORE" in the "PEORIA 7 PIT: By plant. ASSAY SUMMARY...".

MAGNETIC CONCENTRATION:

In the "Assay Data section of the May 1998 submission, Hewlett identifies Skyline assay WQR 089 (Index 27) as an assay for three samples, Bakers +/- 325 mesh and Mag#3T. The BLM has not been provided any documentation on the magnetic separation used on the Bakers samples, or any other samples. The only indication that Mag#3T is associated with Bakers is the latest submission. However, reviewing the Skyline assay clearly shows that the Mag#3T sample has retained the bulk of the gold reported. This is in contrast to the Skyline assay WQR 102 (Index 28), which Hewlett asserts is the assay for a vertical channel sample conducted for grade control on the east edge of the present Peoria 7 pit (see May 20 1998 under Sample Location Maps). This assay clearly shows that the P7-Pit 03-05 -50 NM, 15-17 +50 NM and 03-05 -50 NM have the highest gold concentrations. While the nomenclature is unclear for this sample, based on Hewlett's statements that NM refers to a non-magnetic fraction, this assay indicates that the gold content reports to the non-magnetic fraction. Based on the Skyline assay WQR 089 (Index 27) and the Skyline assay WQR 102 (Index 28), the gold content reports to the magnetic and nonmagnetic fraction in samples only a few feet apart. Hewlett offers no explanation for this and it is unclear if Hewlett or MAXAM is aware of this apparent inconsistency.

In addition, ACT Labs assay WQR 106 (Index 3) indicates that gold concentrations for the PS8A-1 10-15MAG and 15-20 NM are approximately evenly split. This sample would seem to suggest that there is little benefit derived from magnetic separation, but without sample weights it is difficult to be certain.

Analysis of individual samples:

Sample Bakers

In the "PEORIA 7 PIT: By plant. ASSAY SUMMARY...", Bakers is listed as "HEAD ORE". Bakers apparently refers to the 5 ton sample taken and shipped to Black Canyon City for processing. There is no mention in the sample processing description provided by Hewlett in the assay data section that any "mine run" or "pit material" was sent for analysis. The implication from the description implies that all five tons were sent either to the ball mill or the impact mill. In addition, from ACT Labs assay ADI 0974 (Index 13) and the Skyline assay WQR 089 (Index 27), the Bakers sample is listed as +/- 325 product. Hewlett also states that the Skyline sample, Mag#3T, is associated with the Bakers sample. It is unclear when the Bakers sample was screened and subjected to magnetic separation. It is also unclear why Hewlett would abandon his usual convention of labeling

samples MAG and NM for the Bakers +/- 325 sample to indicate that it is a non-magnetic fraction.

Based on these facts, and those presented in the section titled "Bakers, BC, BMC, IC series, IT series, Pit 7, PN, and PS in General", it is my opinion that the sample data for PIT BAKERS from XRAL assay 17442 (Index F), ACT Labs assay ADI 0974 (Index 13) and Skyline assay WQR089 (Index 27) Bakers +/- 325 can not be used to verify the reserve estimates made by MAXAM Gold.

Sample BC

The sample BC in, the "PEORIA 7 PIT: By plant. ASSAY SUMMARY...", is designated as "HEAD ORE." This again poses problems. Generally, Hewlett uses the designation "C" to denote a concentrate such as BMC or Ball Mill Concentrate. In addition, Hewlett clearly identifies sample BC as a concentrate in his letter of May 10, 1998 (first page of section 1, Sample Location Map in the May submission) simply to refer to it as a bulk sample in the next paragraph. Reviewing Jacobs assay HEW 042 (Index 19) it appears that the BC sample may have been screened at some point. The Jacobs assay uses the designations BC +20, +28, +48. This may refer to a screened product and a concentrated material, but this is unclear and has not been explained. No sample weights were given.

Based on these facts, and those presented in the section titled "Bakers, BC, BMC, IC series, IT series, Pit 7, PN, and PS in General," it is my opinion that the sample data for BC from Jacobs assay Hew 042 can not be used to verify the reserve estimates made by MAXAM Gold.

Samples PIT BMC1, 2, 3, 4 and PIT IT1

The assays for these samples were apparently reported on XRAL assay 17442 (Index F). The sample designations used on this assay are PIT BAKERS, PIT IT1 and 2, PIT BMC1, 2, 3 and 4. It is unclear why the designation "PIT" would be added to the samples. This usually indicates "pit run" but the samples IT, IC and BMC carry the same designation. According to Hewlett, the sample BMC1 should be the ball mill concentrate riffle #1, the IC sample should be the impact mill concentrate and the IT sample should be the impact mill tailings. These designations represent highly processed samples and not "pit run" as suggested. No sample weights were given.

Based on these facts, it is my opinion that the sample data for PIT IT1, and PIT BMC 1,2,3 AND 4 from XRAL assay 17442 (Index F) can not be used to verify the reserve estimates made by MAXAM Gold.

PIT 7

This sample is described as a vertical channel sample conducted for grade control on the east edge of the present Peoria 7 pit. Two assays appear to deal with the Pit 7 sample, the Ledoux assay 47976 (Index 24) and the Skyline assay WQR 102 (Index 28). The Ledoux assay describes the sample as "powder" indicating that the sample has apparently been subjected to some processing prior to shipment to the lab. This assay form is very unusual in that it simply reports the silver (Ag), gold (Au) and platinum in parts per million (ppm). No analytical technique is specified. The respective values reported are 10ppm (0.29 t. oz/ton) Ag, 6.8ppm (0.197 t. oz/ton) Au and platinum was not detected. These values are reported in "PEORIA 7 PIT: By plant. ASSAY SUMMARY..." where the sample is described as "HEAD ORE". There appears to be an inconsistency between Leoux's "powder" description and Hewlett's "HEAD ORE" description.

Additionally, the Skyline assay WQR 102 , according to Hewlett, gives assay results for this sample as well. Again, there are problems with sample labeling and nomenclature, but the assay results appear to be interval samples reported as a depth from surface. It is unknown if the sample designation P7, used for this sample, stands for Pit 7, or Peoria 7, the name of the property, but according to Hewlett, this sample designation was used to represent the Pit 7 channel sample. Line 8 of this report contains an illegible character but appears to be 0.020 t. oz per ton Au. If this is the case, the highest sample interval is P7-PIT 03-05NM at 0.185 t. oz/ton Au.

This result is less than the value reported by Ledoux and if the entire 19 foot interval is taken, the average grade would be significantly less than the Ledoux result reported by Hewlett in the summary. This would again suggest that the Ledoux sample is a concentrate. No sample weights were given.

Based on these facts, it is my opinion that the sample data for PIT 7 from Ledoux assay 47976 (Index 24) and Skyline assay WQR 102 (Index 28) can not be used to verify the reserve estimates made by MAXAM Gold.

PN

This sample is described as a back-hoe trench. It is shown on Figure 1 with an *, within the pit 7 pit area. This mark is located below 12 black bars. The Skyline assay WQR 061 (Index 25), which Hewlett asserts is the assay results for PN, reports values for PN 1-4, 5-8, and 9-12 +48 NM. These designations may refer to a depth below surface or a horizontal distance along the bottom or side of the pit or they may relate to the twelve markings on Figure 1. These markings may represent 12 sample locations designated collectively as PN. Since the only description given is a back-hoe trench it is unclear exactly how the sample was taken and what the designations mean.

The assay results for this sample are <.002 t. oz/ton Au (1-4), .006 t. oz/ton Au (5-8), and .024 t. oz/ton Au (9-12). These values are for samples that are apparently screened, nonmagnetic concentrates. These values are all substantially less than the MAXAM reported value of 0.05 t. oz/ton Au. Since these assay values are apparently for screened concentrates, their contribution to grade and quantity on a "HEAD ORE" basis would be further reduced.

Hewlett also asserts that assay data for this sample appears on ACT Labs assay WO 10339. No data for this sample appears on this assay report. No sample weight was given. No assay data has been received for the magnetic concentrates. The assay results for PN do not appear on the "PEORIA 7 PIT: By plant. ASSAY SUMMARY..." and the sample does not appear to have been used by MAXAM in any reserve calculations.

Based on these facts, it is my opinion that the sample data for PN from Skyline assay WQR 061 (Index 25) can not be used to verify the reserve estimates made by MAXAM Gold.

PS

This sample is described as a back-hoe trench. It is shown on Figure 1 as an *, and is approximately 500 feet south of PN. Assay data for this sample appears to be in ACT Lab assay WO 10339 (Index 1) and Skyline assay WQR 061 (Index 25). Again the assay reports values for samples PS (1-4), (5-8) and (9-12) +48 NM. These designations may refer to a depth below surface or a horizontal distance along the bottom or side of the pit. Since the only description given is a back-hoe trench it is unclear exactly how the sample was taken and what the designations mean. The assay results for gold for this sample are as follows:

Sample	Act Labs WO 10339 Report 10226		Act Labs WO 10339 Report 10226B		Skyline WQR 061	
	t. oz/ton	ppb	t. oz/ton	ppb	t. oz/ton	ppb
PS(1-4) +48 NM	.403	13,900	not listed		.295	10,172
PS(5-8) +48 NM	.005	187	.036	1,225	.06	2,069
PS(9-12) +48 NM	.008	262	.074	2,538	.065	2,241

The assay results for this sample are for samples that are apparently screened, nonmagnetic concentrates. The assay values in the table show little consistency between labs and in most cases give a gold values that are substantially less than the MAXAM reported value of 0.05 t. oz/ton. Since these assay values are apparently for screened concentrates, their grade, on a "HEAD ORE" basis would be reduced. Since no sample weight was given and Hewlett does not provide even a concentration ratio for the PS sample, it is impossible to calculate a "HEAD ORE" grade for the samples .

No assay data has been received for the magnetic concentrates. The assay results for PN do not appear on the "PEORIA 7 PIT: By plant. ASSAY SUMMARY..." and the sample does not appear to have been used by MAXAM in any reserve calculations.

Based on these facts, it is my opinion that the sample data for PS from ACT Labs WO 10339 (Index 1) and Skyline assay WQR 061 (Index 25) can not be used to verify the reserve estimates made by MAXAM Gold.

Pit 5 sample results in General:

The sampling in this area consists of a four samples, "Pit 5", "Pit 5-Red", "Pit 5-Red Zone", and "A-5". The Pit 5 sample is described by Hewlett as a bull-dozer trench dug by A-5 where numerous bulk-samples were taken. "A-5" is a reverse circulation drill hole. Pit 5 Red and Pit 5 Red zone are described as shallow surface samples.

Pit 5-Red and Pit-5 Red-Zone

None of the assay reports furnished by MAXAM contain assay information on either of these samples. Assay data for Pit 5-Red may be related to the samples PS-Red Zone on ACT Labs assay WQR 124 (Index 12) or Peoria South-Red Zone on XRAL assay 18356 (Index C). It is unclear that these assays actually relate to the Pit 5 Red Zone sample. The sample could be taken anywhere on the Peoria 7 property shown in red on Figure 2, the geochemical survey map provided in the May 1998 submission. On this map, most of the area is shown in red and the sample designation PS may mean Pit 7, Peoria Seven, or Peoria South.

Since both Pit 5-Red and Pit-5 Red Zone are shallow surface samples, their value in preparing volumetric estimates for tonnage and grade would be limited. Surface samples are usually used to guide drilling programs or interpret or verify the results of geophysical data. No sample weights were given.

Based on these facts, it is my opinion that the sample data for Pit 5-Red (No assay provided) and Pit 5 Red-Zone from XRAL assay WQR 124 (Index 25) can not be used to verify the reserve estimates made by MAXAM Gold.

Pit 5

The assay results for this sample are reported in the Ledoux assay 47976 (Index 24). The Ledoux assay describes the sample as "powder" indicating that the sample has apparently been subjected to some processing prior to shipment to the lab. This assay form is very unusual in that it simply reports the silver, gold and platinum in parts per million (ppm). No analytical technique is specified. Values for Pit 5 are 8 ppm (.232 t. oz/ton) Ag, 6.4 ppm (.1856 t. oz/ton) Au, and <.01 ppm for platinum. These values exceed the grade claimed by MAXAM, but it is unclear that this sample represents "HEAD ORE" since it is described by the lab as powder. This could indicate that the sample was subjected to a processing operation before being sent to the lab. Without a description of the sample preparation procedure, the assay values can not be used to calculate an in-place estimate of grade.

In addition, Hewlett states that numerous bulk samples were taken, yet MAXAM provides only one assay. No

sample weights were given.

Based on these facts, it is my opinion that the sample data for Pit 5 from Ledoux assay 47976 (Index 24) can not be used to verify the reserve estimates made by MAXAM Gold.

A-5, Auger Drilling and the Reverse Circulation Drill Holes in General:

Hewlett states in the memo titled "CONFIRMATION DRILLING" (no date), that initial auger drilling consisted of 39 drill-holes about 50 feet deep on between 500 and 1000 foot centers. On Figure 1b, Hewlett shows the location of 10 reverse circulation drill holes drilled to a depth of 99 feet. According to Hewlett, these holes were drilled to confirm the data developed during the auger drilling program. Quoting Hewlett, *"New ore-zones have been discovered by the reverse-circulation drilling; ore-zones below previous auger drilling and ore-zones in horizons previously shown barren or low grade by auger drilling due to poor recovery."* From this and other comments made by Hewlett and Runyon, it appears that the reverse circulation program was initiated to compensate for the poor recovery of the auger drilling program.

On Figure 1.b Hewlett indicates holes P-1, P-2, P-3, P-4, P-5, P-6, P-7, P-9, P-10, P-12, P-13, P-14, P-16, P-17, P-18, P-19, P-20, P-22, P-23, P-25, P-27, P-28, P-29, P-30, P-31, P-33, P-35 and P-36 and holes A, B, C, D, E, F, G, N, O, P, Q, R, S, T as being auger holes. Figure 1c indicates points, with approximately the same locations as those in Figure 1.b, as 1, 2, 3, 4, 9, 10, 11, 12, 13, 14, 15, 16, 17, 18, 19, 20, 21, 22, 23, 24, 25, 26, 27, 28, 29, 30, 31, 32, 33, 34, 35, and 36 and holes A,B,C,D,E,F,G. The magnetics survey map in the Index section of the May 1998 submission labels points, with approximately the same locations as those shown in Figure 1.b and Figure 1.c as, H-1, H-2, H-3, H-4, H-5, H-6, H-7, H-9, H-10, H-12, H-13, H-14, H-16, H-17, H-18, H-19, H-20, H-22, H-23, H-25, H-27, H-28, H-29, H-30, H-31, H-33, H-35, H-36 and holes

A,B,C,O,O,F,G,N,O,P,Q,R,S,T. It is clear from this, drill hole locations may have as many as three names. Additionally, Figure 1.b and the magnetics survey map in the Index section of the May 1998 submission both contain 47 points and Figure 1.c shows 48 points. Of the 48 points shown on Figure 1.c, 4 points labeled S1, S2, S3, S4 are unique to this figure. According to Hewlett, the drilling program consists of 49 drill holes, 39 auger holes and 10 reverse circulation holes. Because none of the figures show 49 locations and because of the manner in which the points are labeled, it is unclear what these maps indicate and where the drill hole locations are.

Auger and reverse circulation drill holes

Hewlett identifies Jacobs assay HEW 059 (Index 22) as the assay data for the points H-3, H-16, H-27, H-29, and B. This assay lists results for the points P7-3, P7-16, P7-27, P7-29 and P7-B. All samples carry the designation +/- 50M, indicating possibly that the samples are screened magnetic concentrates. All samples are also designated either 25-50, 50-75, 75-99. These designations may be the depth from the surface, but, in this case, the interval from 0-25 is missing. No sample weights are given and there is no discussion of the magnetic concentrating techniques used, or assays of the nonmagnetic fractions.

Additionally, Hewlett, in the Table of Contents section of the May 1998 submission, identifies XRAL assay 19392 (Index E) as providing the assay reports for PS#1-8. Hewlett describes these samples as surface samples plotted on Figure 1. This figure does not show the location of points PS#1-8. These points may refer to the points P 1-7 found on Figure 1b, but there is no point corresponding to P-8. Reviewing the assay data for these points on XRAL assay 19392, each point carries the designation (45) following a number that appears to be a screen fraction. This may be a depth from surface, but Hewlett clearly identifies these samples as surface samples. This suggests that the PS#1-8 assay data may be related to the drilling program, but this is unclear.

From this discussion it is unclear if a point such as P-3, H-3, and 3 are the same point, if it represents auger drill holes, or a reverse circulation drill hole or if the assay for the samples taken from this point is XRAL assay PS#3 or Jacobs assay P7-3.

Additionally, Hewlett prepares the following summary (refer to the Index section of the May 1998 submission) of the confirmation drilling data:

Drill Hole	Vertical interval	HEAD ORE Au t. oz/ton	Jacobs assay HEW 059	Au t. oz/ton
7-3	50-75	.052	P7-3 50-75 -50 M	.052
7-16	25-50	.054	P7-16 25-50 +50M	.054
7-27	0-25	.206	Not Listed	
7-27	75-99	.311	P7-27 75-99 -50M	.004
7-29	50-75	.059	P7-29 50-75 -50 M	.08

It is clear that for samples 7-3 and 7-16 the assay results for screened, magnetic fractions were reported as "HEAD ORE". Sample P7-29 has an assay result that is close to the value reported for "HEAD ORE". Additionally, 7-27 shows significantly higher "HEAD ORE" grades than the grades reported for the screened magnetic concentrates. None of these apparent inconsistencies has been explained by Hewlett or MAXAM Gold.

Based on these facts, it is my opinion that the sample data for those holes identified as P7-3, P7-16, P7-27, P7-29, and P7-B as identified on Jacobs assay HEW 059 can not be used to verify the reserve estimates made by MAXAM Gold. Additionally, BLM has not received assay information for the remaining points in the series P or H 1-36 and Points A, B, C, D, E, F, G, N, O, P, Q, R, S, T. For this reason, these points can not be used to verify the reserve estimates made by MAXAM Gold.

Hole 8-A-1

In the Index section of the May 1998 submission Hewlett refers to the reverse circulation drill hole as A-1 and states the fire assay result for this sample is found on Skyline assay WQR 106 and referred to as PS8A-1 and on Skyline assay WQR 106A as PS-A-1 and PSA. BLM did not receive copies of these assays. It appears that Hewlett refers to ACT Labs - Skyline assay WQR 106 (Index 3), ACT Lab - Skyline assay WQR 106A (Index 8) and ACT Labs - Skyline assay WQR 119 (Index 6) as Skyline assays.

Assuming that the ACT Lab assays are the correct assays, they yield the following comparison between the reported assays and the confirmation drilling summary presented by Hewlett:

Drill Hole	Vertical interval	HEAD ORE Au t. oz/ton	ACT Labs WQR 106	Au t. oz/ton	ACT Labs WQR 106 A	Au t. oz/ton
A-1	0-25	1.014	Average values. See note 1	1.245	Average values. See note 1	1.90
A-1	25-50	.277	Average values. See note 1	.245	Average values. See note 1	.477

Notes

1. The assay data is an arithmetic average developed using the magnetic, non-magnetic and mixed fraction values reported for intervals with the ranges 0-25 and 25-50. Because fraction weights are not provided, a weighted average can not be computed. The average value is calculated for rough comparison purposes

only.

The method of processing these samples is unclear. Usually, the magnetic fractions are screened fractions as well. If this is the case, then the Act Labs assays probably represent values for screened concentrates. In this case then, it appears that Hewlett has described the assay values for a concentrates as "HEAD ORE".

ACT Labs - Skyline assay WQR 119 (Index 6) refers to samples PS8 A-1 and 8A-1 for intervals from 55-60, 65-70, 75-80, 80-85, and 85-90 feet. Hewlett does not refer to these depths in his summary and it is not clear that any of this information was used to develop reserve estimates.

Based on these facts, it is my opinion that the sample data for the reverse circulation drill hole identified as either A-1, PS8 A-1, PS-A-1 or PSA and as identified as PS8 A-1 on ACT Lab assay WQR 106 (Index 3) and WQR 106 A (Index 8) can not be used to verify the reserve estimates made by MAXAM Gold.

Hole 8-A-5

Hewlett refers to reverse circulation drill hole A-5 and states that the fire assay results for this sample can be found on Skyline assay WQR 110 and WQR 110A and Skyline assay WQR119 as 8A-5. Again it appears that Hewlett is referring to ACT Labs - Skyline assay WQR 110 and ACT Labs - Skyline assay WQR 110A. The Skyline assay WQR119 refers to PS8A-1 and 8A-1. This report does not refer to PSA-5 or A-5.

Hewlett states that ACT Lab (assumed to be Skyline) WQR 119 reports the fire assay results for 8A-5 also referred to as A-5 and PSA-5. A review of Act Labs WQR 119 (Index 6) shows that this assay refers to samples PS8A-1 and 8A-1. The only assays referring to PS8A-5 are the ACT Lab (assumed to be Skyline) WQR110 and WQR 110A assays. Comparing the results of this assay to the confirmation drilling summary presented by Hewlett yield the following:

Drill Hole	Vertical interval	HEAD ORE Au t. oz/ton	Vertical interval ACT Labs WQR 110	Au t. oz/ton	Vertical interval ACT Labs WQR 110A	Au t. oz/ton
A-5	0-25	1.014	0-30 Average values. See note 1	.688	0-30 Average values. See note 1	.506
A-5	25-50	.277	30-55 Average values. See note 1	.25	30-55 Average values. See note 1	.242
A-5	50-75	.073	55-75 Average values. See note 1	.015	55-75 Average values. See note 1	.050

Notes

1. The assay data is an arithmetic average developed using the magnetic and non-magnetic fraction values reported for intervals with the ranges 0-30, 30-55 and 55-75. Because fraction weights are not provided, a weighted average can not be computed. The average value is calculated for rough comparison purposes only.

In all of the above sample intervals it is clear that the average value of the concentrates is less than the value Helwett reports for "HEAD ORE". This is unexpected as the entire purpose of concentrating is to raise the average grade per ton. It is unclear how Hewlett derived his summary values but it appears to be in error.

Based on these facts, it is my opinion that the sample data for the reverse circulation drill hole identified as either A-5, 8A-5, or PS8 A-5 and as identified as PS8 A-5 on ACT Lab assay WQR 110 (Index 4) and ACT Lab assay WQR 110 A (Index 9) can not be used to verify the reserve estimates made by MAXAM Gold.

Holes 8-B-2, 8-B-4, 8-C-3

The assay for these samples appears on ACT Labs assay AD10970 (Index 11) as PS8-2 (assumed to be 8-A-2), PS 8 B-4 (assumed to be 8-B-4) and PS 8 C-3 (assumed to be 8-C-3). The assay results for these samples are as follows:

Sample ID	Au in ppb	Avg Au value in ppb See note 1	Avg Au value in t. oz/ton
PS8-2 (5) 0-50 nm/mag	249 / 58	153	.0045
PS8-2 (5) 50-99 nm/mag	557 / 75	316	.009
PS8B-4 (5) 0-25 mag	6	6	.0002
PS8B-4 (5) 25-50 mag	15	15	.0004
PS8B-4 (5) 0-60 nm	50	50	.0015
PS8 C-3 (5) 0-25 mag	16	16	.0005
PS8 C-3 (5) 0-25 mag	66/58	62	.0018

Notes

1. The assay data is an arithmetic average developed using the magnetic and non-magnetic fraction values reported.

Since these values represent the grade for presumably screened magnetic and nonmagnetic concentrates, their contribution on a per ton "HEAD ORE" basis would be significantly reduced. Because the reported values are already below the 0.05 t. oz/ton grade claimed by MAXAM, these holes were probably not used in any reserve estimates. No sample weights are reported and the designation (5) is unknown.

Based on these facts, it is my opinion that the sample data for the reverse circulation drill hole identified as either 8-A-2, 8-B-4 and 8-C-3 and as identified as PS8 -2, PS8B-4 and PS8 C-3 on ACT Lab assay AD10970 (Index 11) can not be used to verify the reserve estimates made by MAXAM Gold.

Mapped Sample Locations: The following lists by Figure (Figures refer to the 5/29/98 MAXAM submission) those drill hole and sample locations that are found on the figures:

Figure 1:

A-5

Bakers, BC series, BMC series

CoC 2-5

IC series, IT series

Pit 5 Red, Pit 5 Red Zone, Pit 7, PN, PS

Figure 1.a:

A-1, A-5

B2, B4, Bakers, BMC series, BS

C3, CC1, CC2, CC3, CC4, CC5

IC series, IT series

Pit 7, P7, PN, P-1, P-2, P-3, P-4, PS1, PS2, PS3, PS4, PS5, PS6, PS7, PS8, Pit 5, Pit 5 Red, Pit 5 Red Zone
4, 8.5, 12.5, 15, 17, 18.5, 20, 22, 24, 25, 27, 29, 31

Figure 1.b:

A,B,C,D,E,F,G,N,O,P,Q,R,S,T

P-1, P-2, P-3, P-4, P-5, P-6, P-7, P-9, P-10, P-12, P-13, P-14, P-16, P-17, P-18, P-19, P-20, P-22, P-23, P-25,
P-27, P-28, P-29, P-30, P-31, P-33, P-35, P-36

8-A-1, 8-A-5, 8-B-2, 8-B-4, 8-C-3

Figure 1-c:

A,B,C,D,E,F,G

A1, A5

B2, B4

C3

S1, S2, S3, S4

1, 2, 3, 4, 9, 10, 11, 12, 13, 14, 15, 16, 17, 18, 19, 20, 21, 22, 23, 24, 25, 26, 27, 28, 29, 30, 31, 32, 33, 34, 35,
36

Figure 2

Same locations as Figure 1.a

Figures D-A-20, 40, 50, 20S, 40S:

Same locations as Figure 1.c

Figure titled "Magnetic Survey" August 1997, in Sample Location Map Section, Book One.

A,B,C,O,O,F,G,N,O,P,Q,R,S,T

H-1, H-2, H-3, H-4, H-5, H-6, H-7, H-9, H-10, H-12, H-13, H-14, H-16, H-17, H-18, H-19, H-20, H-22, H-23,
H-25, H-27, H-28, H-29, H-30, H-31, H-33, H-35, H-36

8-A-1, 8-A-5, 8-B-2, 8-B-4, 8-C-3

Notes:

- 1) The mapped samples are those that correspond to the mapped sample Locations given on the previous page.
- 2) Per Hewlett, Sample Location Maps section of the May 1998 submission. Helwett indicates that Skyline assay (WQR061), Act Labs assay (10339) and XRAL assay (9007) have samples unrelated to the subject property. This indicates that Hewlett must "batch samples" from several properties on one assay work order. Therefore, I assume that all samples not specifically identified as coming from the subject property must be from unrelated properties.
- 3) Unless otherwise specified, all references to figures refer to the May 1998 MAXAM submission.

Index	Lab	Work Order	Date	Mapped samples Note (1)	Processing Remarks	Other samples on assay	Remarks on other samples
1	ACT	WO 10339	4/25/96	PS	Samples are recorded as PS (1-4), (5-8), (9-12) NM. Samples have probably been concentrated magnetically. The 1-4, 5-8 and 9-12 designations are probably depth from surface. Sample weights are not given.	LHP, BOS	Unknown samples
2	ACT	WQR 097	5/7/97	NONE		P7- Ball Mill, BA3, BA2, BF3, 1C, BC	These samples may relate to the area designated as Pit 7 . The designation P7-BC may relate to the sample BC. The other designations may relate to Bakersfield but this is very unclear. Sample weights are not given.

Index	Lab	Work Order	Date	Mapped samples Note (1)	Processing Remarks	Other samples on assay	Remarks on other samples
3	ACT	WQR 106	5/20/97	NONE		PS8A-1	This may relate to Pit South 8A-1, but other assays and the map deal with the sample 8-A-1. It is unclear if this is the same sample. The assay indicates that this sample has probably been concentrated magnetically. See Index 6 and 7 for a discussion. Sample weights are not given.
4	ACT	WQR 110	5/23/97	NONE		PS8A-5	This may relate to Pit South 8A-5, but other assays and the map deal with the sample 8-A-5. It is unclear if this is the same sample. The assay indicates that this sample has probably been concentrated magnetically. A "mixed" sample is also designated. Sample weights are not given.
5	ACT	WQR 102	5/22/97	NONE		P7-PIT	This may relate to the Pit 7 sample, but the Pit 7 sample (designated as Pit 7) appears to be sent to Ledoux (Index 24). Similar samples designations were used for samples sent for assay to Skyline WQR 102, 5/8/97 (Index 28). Sample weights are not given.
6	ACT	WQR 119	7/24/97	8A-1	Samples are recorded as 8A-1 55-60,60-65,65-70 MAGS and NM. Sample has probably been separated magnetically. The number designations may be depth from surface. Sample weights are not given.	PS8A-1	The sample is designated as PS8A-1 (55-60)NM, It is listed directly above the sample 8A-1 (55-60) indicating that the samples PS, PS8A-1 and 8A-1 may be different samples. Samples appear to be a magnetic concentrate. Sample weights are not given.

Index	Lab	Work Order	Date	Mapped samples Note (1)	Processing Remarks	Other samples on assay	Remarks on other samples
7	ACT	ADI O786	8/11/97	8A-1	Samples are recorded as 8A-1 50-55, 95-99 MAGS. Sample has probably been separated magnetically. The number designations may be depth from surface. Sample weights are not given.	PS8A-1	The sample is designated as PS8A-1 (50-55) NM. It is listed directly above the sample 8A-1 (50-55) MAG indicating that the samples PS, PS8A-1 and 8A-1 are different samples. Based on this, the sample PS8A-1 probably does not relate to this property. Sample weights are not given.
8	ACT	WQR 106A	8/19/97	NONE		PS8A-1	This sample appears to be a magnetic concentrate. Designation appears to have a depth from surface 0-10, 10-15, 15-20, 20-25, 25-30, 30-35. Sample is probably unrelated to the property. Sample weights are not given.
9	ACT	WQR 110A	8/19/97	NONE		PS8A-5	This sample appears to be a magnetic concentrate. Designation appears to have a depth from surface 0-10, 10-15, 15-20, 20-25, 25-30, 30-35. Sample is probably unrelated to the property. Sample weights are not given.
10	ACT	ADI 0851	10/13/97	NONE		P7-CA, P7-CB, P7-CC	Possibly related to Pit 7, but the designations are unknown and the Pit 7 sample was sent to Ledoux (Index 24). Sample weights are not given.

Index	Lab	Work Order	Date	Mapped samples Note (1)	Processing Remarks	Other samples on assay	Remarks on other samples
11	ACT	ADI 0970	11/14/97	NONE		P7B, P716, PIT7-COMP, PS8-2, PS8B-4, PS8C-3, PS8C-3,5	Unknown designation possibly related to Pit 7 and Peoria South. Samples appear to be magnetic concentrates. Sample weights are not given.
12	ACT	WQR 124	11/17/97	NONE		PS-Red Zone	Possibly related to Pit 5 Red Zone but could also indicate Peoria South Red Zone. Sample weights are not given.
13	ACT	ADI 0974	11/19/97	BAKERS, IC, BMC	Sample designated as Bakers +325. Appears to be the -325 concentrate of the Bakers sample. IC(2) +80 probably relates to the IC series and the designation (2) may relate to the riffle form which the concentrate was taken. BMC(1) and BMC(2) on page 14 are identified by Hewlett as splits of the samples sent to Jacobs (Index 20). The designation (1) and (2) probably represent riffles numbers. Sample weights are not given.	Ball Mill Concentrate, SC-NM, KCA Mag, MRG-1-4152	Unknown designations. These samples are probably unrelated to the property Sample weights are not given.

Index	Lab	Work Order	Date	Mapped samples Note (1)	Processing Remarks	Other samples on assay	Remarks on other samples
14	ACT	ADI 1050	12/15/97	8A-1, 8A-5, 8C-3	Samples are designated as 8A-1 (0-50), (50-90), (90-99) NM and MAG, 8A-5 (0-60), (60-80) NM and MAG, 8C-3 (50-65), (65-80), (80-99) NM and MAG. Samples have probably been separated magnetically. The number designations may be depth from surface. Sample weights are not given.	NONE	
15	ACT	ADI 1359	2/19/98	BC, BMC	Sample is designated as BC-NM. Sample has probably been separated magnetically. The number designations may be depth from surface. BMC(1), (2), +48, +80, and BMC (2) +200 appear to be the concentrates of the BMC series samples and the designations (1) and (2) appear to be riffle numbers. Sample weights are not given.	1C, 1T, Ball Mill Concentrate, S+8 Mag, KCA.	Unknown designations probably unrelated to the property. Sample weights are not given.
16	JACOB	HEW 037	10/22/97	NONE		HO, Mags I	Unknown designations probably unrelated to the property. Sample weights are not given.

Index	Lab	Work Order	Date	Mapped samples Note (1)	Processing Remarks	Other samples on assay	Remarks on other samples
17	JACOB	HEW 039	10/22/96	NONE		MAG-1, CY, SS, K10	Unknown designations probably unrelated to the property. Sample weights are not given.
18	JACOB	HEW 041	11/25/96	IC, BC, IT	Samples are designated as IC +200, -200, BC +200, -200, IT +200, +325, -325. Samples have probably been screened. Sample weights are not given.	B. HO	Unknown designation probably unrelated to the property. Sample weights are not given.
19	JACOB	HEW 042	11/29/96	IC, BC, IT	Samples are designated as IC +20, +28, +48, BC +20, +28, +48, IT +20, +28, +48, +80, +100. Samples have probably been screened. Sample weights are not given.	B. HO	Unknown designation probably unrelated to the property. Sample weights are not given.
20	JACOB	HEW 045	12/10/96	BMC, IC, IT	Samples are designated as BMC(1), (2), (3), IC (1), (2), IT (2), (3)+20, +48, +80, +100, +200, -200. Samples have been probably been screened and concentrated in riffles per Hewlett. BMC samples were also analyzed by ACT Labs Index 13. Sample weights are not given.	BMHO	Unknown designation probably unrelated to the property. Sample weights are not given.

Index	Lab	Work Order	Date	Mapped samples Note (1)	Processing Remarks	Other samples on assay	Remarks on other samples
21	JACOB	HEW 047	12/27/96	NONE		BA-1,2,3 BF-1,2,3	Unknown designations probably unrelated to the property. Sample weights are not given.
22	JACOB	HEW 059	5/15/97	NONE		P7-3,16,27,29 AND P7-B	Hewlett, on the August 1997 Magnetics Survey Map, identifies the assay samples Pit7-3,16,27,29 and Pit7-B as corresponding to drill hole locations H-3, H-16, H-27, H-29 and B. The samples have additional designations, 25-50 +50m. It appears that they have been screened but it is unclear what 25-50 means. Sample weights are not given.
23	LEDOUX	47975	1/26/98	PIT 5	Assay is for gold and silver but the method of analysis has not been specified. Assay report is very simplistic stating only the silver, gold and platinum content of the sample. Sample weight is not specified. Sample weights are not given.	NONE	

Index	Lab	Work Order	Date	Mapped samples Note (1)	Processing Remarks	Other samples on assay	Remarks on other samples
24	LEDoux	47976	1/26/98	PIT 7	Hewlett identifies this sample as the "Pit 7" sample shown on Figure 1. Assay is for gold and silver but the method of analysis has not been specified. Assay report is very simplistic stating only the silver, gold and platinum content of the sample. Sample weight is not specified. Sample weights are not given.	NONE	
25	SKYLINE	WQR 061	4/6/96	PN, PS	Samples are designated as PN (1-4), (5-8), (9-12), PS (5-8), (9-12)., +28, +48 NM . Samples have probably been screened and concentrated magnetically. Sample weights are not given.	BOS, LHP, MN	Unknown designation probably unrelated to the property. Sample weights are not given.
26	SKYLINE	WQR 064	5/14/96	NONE		BASIC, ROSE QTZ., GRAY QTZ., BL. BASALT, RED BX, PINK GRANITE, BL. SILICEOUS, WH. AGL. R. ANDESITE, W. QTZ.	Unknown designation probably unrelated to the property. Sample weights are not given.

Index	Lab	Work Order	Date	Mapped samples Note (1)	Processing Remarks	Other samples on assay	Remarks on other samples
27	SKYLINE	WQR 089	1/9/97	BAKERS	Samples are designated as BAKERS +325, -325 Samples have probably been screened. Sample weights are not given.	MAG #3 TABLE, SUN +8 MAG, SUN -8 MAG, SUN -48 MAG GREENE BEADS	<p>The sample "MAG #3 Table is described by Hewlett as part of the Bakers sample. This can not be substantiated with either the maps or the sample designation. The sample appears to be a screened mag concentrate but this is unclear. Sample weight is not given.</p> <p>The remaining samples are unknown designations probably unrelated to the property. Sample weights are not given.</p>
28	SKYLINE	WQR 102	5/8/97	NONE		P7-PIT	<p>Hewlett identifies this sample as a pit 7 vertical channel sample from the east edge of present pit 7. The designations (00-03, 03-05, 05-07, 07-09, 09-11) appear to be depth from surface. Sample appears to be a screened magnetic concentrate. The Pit 7 sample (designated as Pit 7) appears to be sent to Ledoux (Index 24). Similar samples designations were used for samples sent for assay to ACT Lab, 5/22/97 WQR 102 (Index 5). Sample weights are not given.</p>

Index	Lab	Work Order	Date	Mapped samples Note (1)	Processing Remarks	Other samples on assay	Remarks on other samples
A	XRAL	8512 RO	6/5/96	P1	Samples are designated as P1(0-20), P1(20-40) MAGS. Sample has probably been concentrated magnetically.	BR 2, MS, LAGOSA, PEORIA, DBR 2	Hewlett identifies the Peoria +100 and -100 as being a split of the PN sample. It is unknown how the split was made or the relative size of the samples. The remaining samples have unknown designations probably unrelated to the property. Sample weights are not given.
B	XRAL	9007	7/25/96	NONE		LAGOSA, PEORIA	Hewlett identifies the Peoria +100 and -100 as being a split of the PN sample. It is unknown how the split was made or the relative size of the samples. The remaining samples have unknown designations probably unrelated to the property. Sample weights are not given.
C	XRAL	18356	11/17/97	NONE		PEORIA SOUTH-RED ZONE, P7- MAGS, P7- PARA	Peoria South - Red Zone may be the mapped sample "Pit 5-red Zone. However it is unclear why the designation would be changed for the assay. The same is true for the P7 sample, as discussed this may relate to Pit 7 but again this is unclear. Samples appear to be screened and concentrated. Sample weights are not provided.

Index	Lab	Work Order	Date	Mapped samples Note (1)	Processing Remarks	Other samples on assay	Remarks on other samples
D	XRAL	17442	12/19/97	BC	Sample is designated as PIT BC. May indicate "pit run" material.	PIT BAKERS, PIT IT2, PIT IT1, PIT BMC4, PIT BMC3	Assay is titled "Chondrite Normalized Values" and is a different assay form XRAL WO 17442 (Index F) titled "Final". These samples may relate to the mapped samples Bakers, IT, IC. It is unclear why the designation "PIT" would be added to the samples. This usually indicates "pit run" but the samples IT, IC and BMC carry the same designation. These samples appear to be concentrates from the ball mill and the impact mill and are not "pit run" material.
E	XRAL	19392	3/2/98	PS 1, 3, 4, 5, 6, 7, 8	Samples are designated as PS#1 +50, +100, +200, -200 (45), PS#3,4,5,6,7,8 -20 (45). Samples have probably been screened, The designation (45) may be depth from surface. Sample weights are not provided.	NONE	

Index	Lab	Work Order	Date	Mapped samples Note (1)	Processing Remarks	Other samples on assay	Remarks on other samples
F	XRAL	17442	5/1/98	NONE		PIT BAKERS, PIT IT2, PIT IT1, PIT BMC4, PIT BMC3	Assay is titled "Final" and is a different assay form XRAL WO 17442 (Index D) titled "Chondrite Normalized Values". These samples may relate to the mapped samples Bakers, IT, IC. It is unclear why the designation "PIT" would be added to the samples. This usually indicates "pit run" but the samples IT, IC and BMC carry the same designation. These samples appear to be concentrates from the ball mill and the impact mill and are not "pit run" material.
G	PMR						

Pages - 5 - thru 14 + APP. "A"

F. The (Hewlett) Hydrometallurgical Reaction System.

The HRS is a natural oxidizing system where slurried concentrates are pumped from a circulating tank to the head of a downward sloping riffled chamber. The flow of the material is turbulent (Reynolds Number >2,000) and causes rapid natural oxidation of the ore. The shape and size of the launder can be varied to suit most mill requirements of concentrate volume and space limitations. The system can be used for processing gravity and/or flotation concentrates in a batch mode. The concentrates are slurried and then circulated through the system where the solvent and required reagents are added. Preconditioning oxidation of the ore is achieved with the addition of calcium hypochloride. At a predetermined pH a small quantity of HCL may be added as an accelerant and, in the interest of safety, the resulting generation of hydrogen sulphide gas should be scrubbed when the system is contained in a building. In hot dry climates the system may not be contained and operate open to the atmosphere. Precautionary measures should be taken, however, to prevent inhalation by personnel during the very short burst of gas generation. When a totally open launder system is utilized, heat generated by ultra-violet radiation will accelerate the oxidizing process.

Ozone and low pressure compressed air may be introduced into the HRS by direct injection into the line between the circulating tank and distribution manifold at the head of the launder. The two latter elements also speed the oxidation process. Under certain conditions transducers can be located under the launder to accelerate oxidation and leaching and the settling characteristics of the material being processed.

The HRS Components

The components of the HRS are as follows:

1. Reaction Chamber, vertical or inclined to suit the mill facility.
2. Holding/Circulating Tank.
3. Slurry Pump for the circulation of the ore pulp.
4. Pregnant Solution Receiving Tank for "off-line" ion exchange.
5. Ion-Exchange System; resin columns and elution sub-system.

"Non-Toxic" Precious and Noble Metal Recovery - Part 1.

The Hewlett Reaction System utilizes gravity concentration as an initial step in the separation and extraction of the various economic metals, minerals and elements as show in Figure 1, as follows:

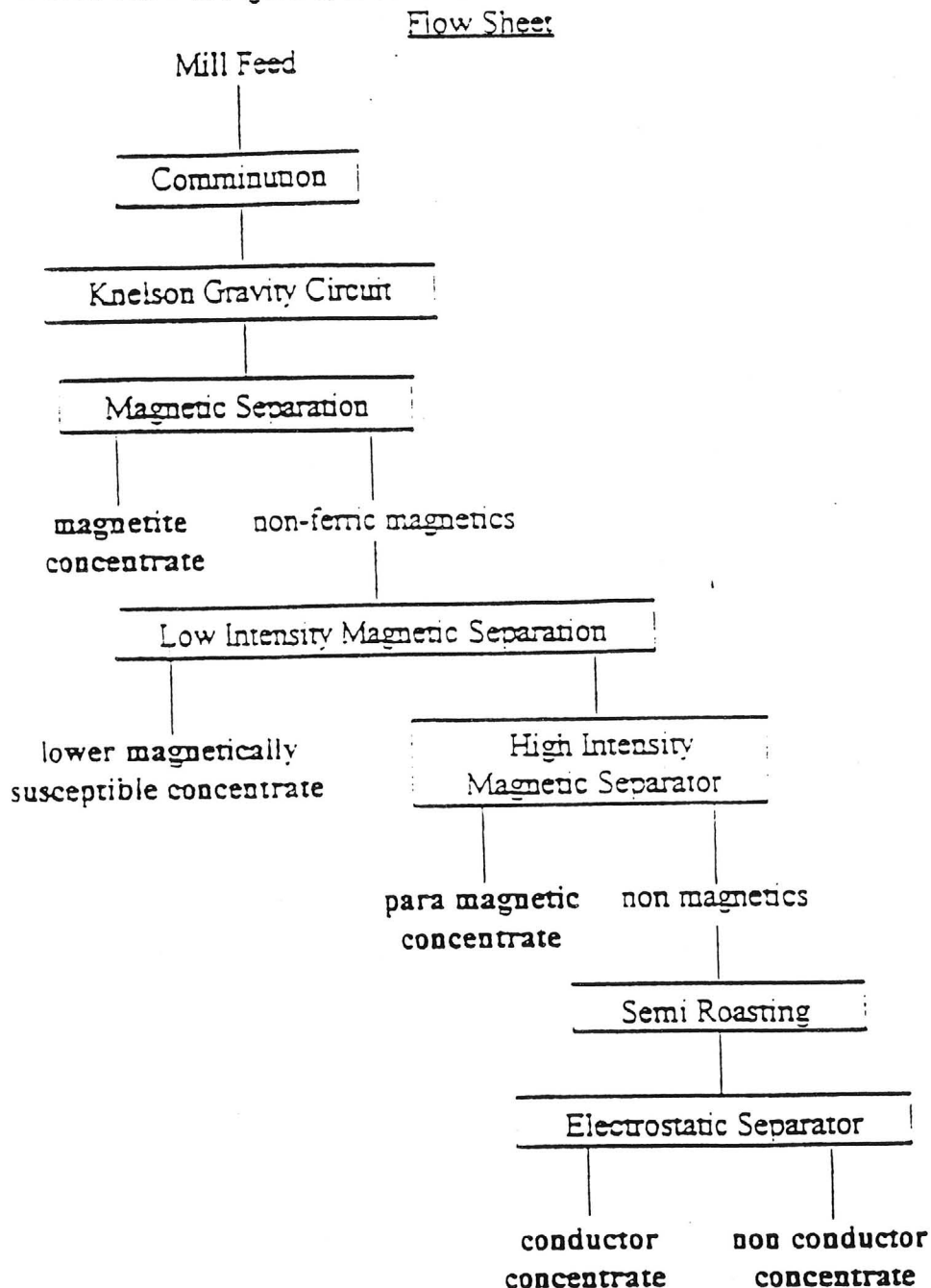


Figure 1

Note: The various concentrates report directly to smelt unless they are too low grade or when excess iron or sulphides are present. In the latter cases, the concentrates are leached.

Comparative Chemistry of Various Solvents

Cyanide is commonly used as a leaching solvent. Due to its toxicity and the problems associated with the disposal of the spent lixiviant, in the form of cyanate, it has lately been receiving adverse publicity.

Although the following discussion of the chemistry of gold dissolution by various commonly used solvents may not correspond exactly with the Handbook of Chemistry and Physics -1994; they appear to be the best compromise of all published reports researched by the principal investigator.

Cyanide:	$Au + 2CN^- = Au(CN)_2^- + E^-$	Au is solubilized as an anionic complex.
Thiourea:	$Au + 2(NH_2)_2CS = Au[(NH_2)_2C_2S] + E^-$	Au is solubilized as a cationic complex.
Thiosulphate:	$2 Au + 4 S_2O_3^{2-} + \frac{1}{2} O_2 = 2 Au(S_2O_3)_2^{-3} + H_2O$	Au is solubilized as an anionic complex.
Bromine:	$2 Au + 2Br_2 + Br^- + Br_3^- = 2AuBr_4^-$	[Overall dissolution reaction] Au forms An anionic complex.

The dissolution rates for gold (Au) compared to cyanide are as follows:

Cyanide	Thiourea	Thiosulphate	Bromine
Unity: Standard Gold/Unit time	2.04 times faster	3.6 times faster	21.02 times faster

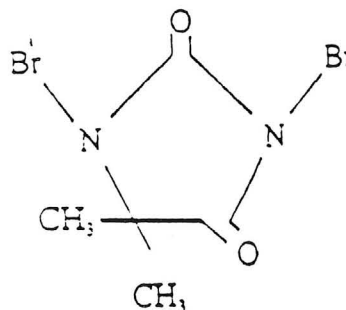
Precious and Noble Metal Recovery - Part 2.

Bromine is used in the HRS because of its much higher gold dissolution rate in comparison to other solvents. The comparison on the preceding page shows it to be more than 20 times faster. Bromine is non toxic and approved in the United States of America by the Environmental Protection Agency. See Appendix "A" - "Toxicology of Bromine." In addition, bromine can be regenerated after use and accordingly does not present a disposal problem as in the case of cyanide and other solvents. The accelerated dissolution rate, regenerative quality and environmental acceptance of bromine indicates that it is also less expensive to use than cyanide.

The form of bromine used in the HRS is as follows:

1,3-DiBromo-5,5-DiMethylhydantoin

In addition, NaBr boosters are used, as well as pre-chlorine ion oxidation, prior to the addition of the bromides.



The dissolution rate is monitored by:

- Free Br ion concentration.
- Free Cl ion concentration.
- pH.
- ORP - Oxidation Reduction Potential.
- Transition metal ion concentration.
- Gold - Silver - Platinum concentration.

cont.

One of the key factors for optimum recovery economics are:

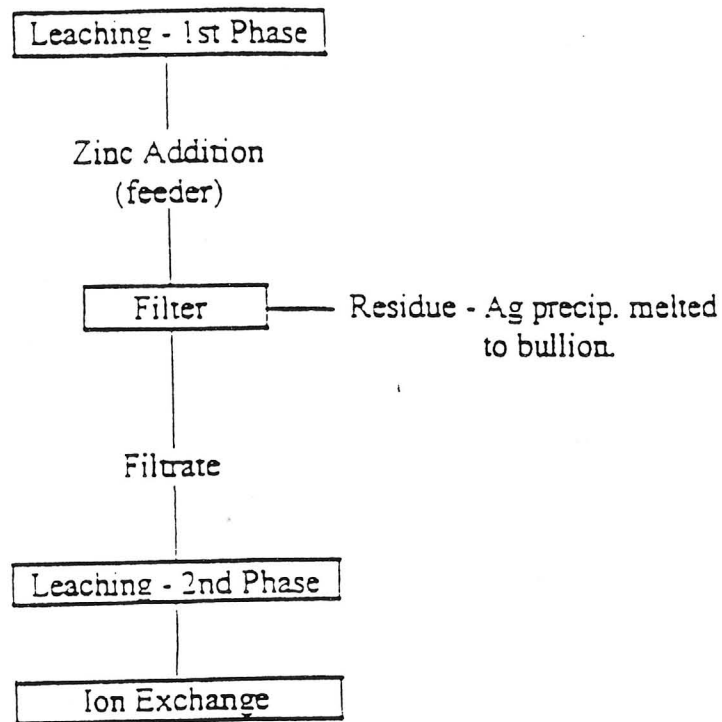
- a. Correct utilization of the HRS for oxidation and/or initial reduction.
- b. Correct Cl ion concentration during pre-Br leaching.
- c. Removal of Ag from the concentrates by the initial thiosulphate or other selective leaching and electromotive replacement by merrillite to precipitate the silver and regenerate the thiosulphate or other solution.
- d. It is important that in the bromine solvent, NaBr and NaCl are required as a mixed halide excess ion (Br & Cl). Cl is more economical than Br but equally important is that free Br loads or fumes onto the ion exchange resin and strips, robs or blocks the resin until the excess Br is consumed by oxidizing sulphides and gold. Excess Cl ion minimizes this effect. "First phase" leaching of the silver with thiosulphate and oxidation in the HRS due to turbulence should greatly minimize the requirement for the Br to oxidize the Au from -1 to -3 valance.

Recovery of the precious and noble metals is as follows:

First Phase Leach	Silver leached and ppt. by zinc - filter - AG BULLION
Second Phase Leach	Gold and Platinum Group Metals leached - ION EXCHANGE recovery

Precious and Noble Metal Recovery - Part 3

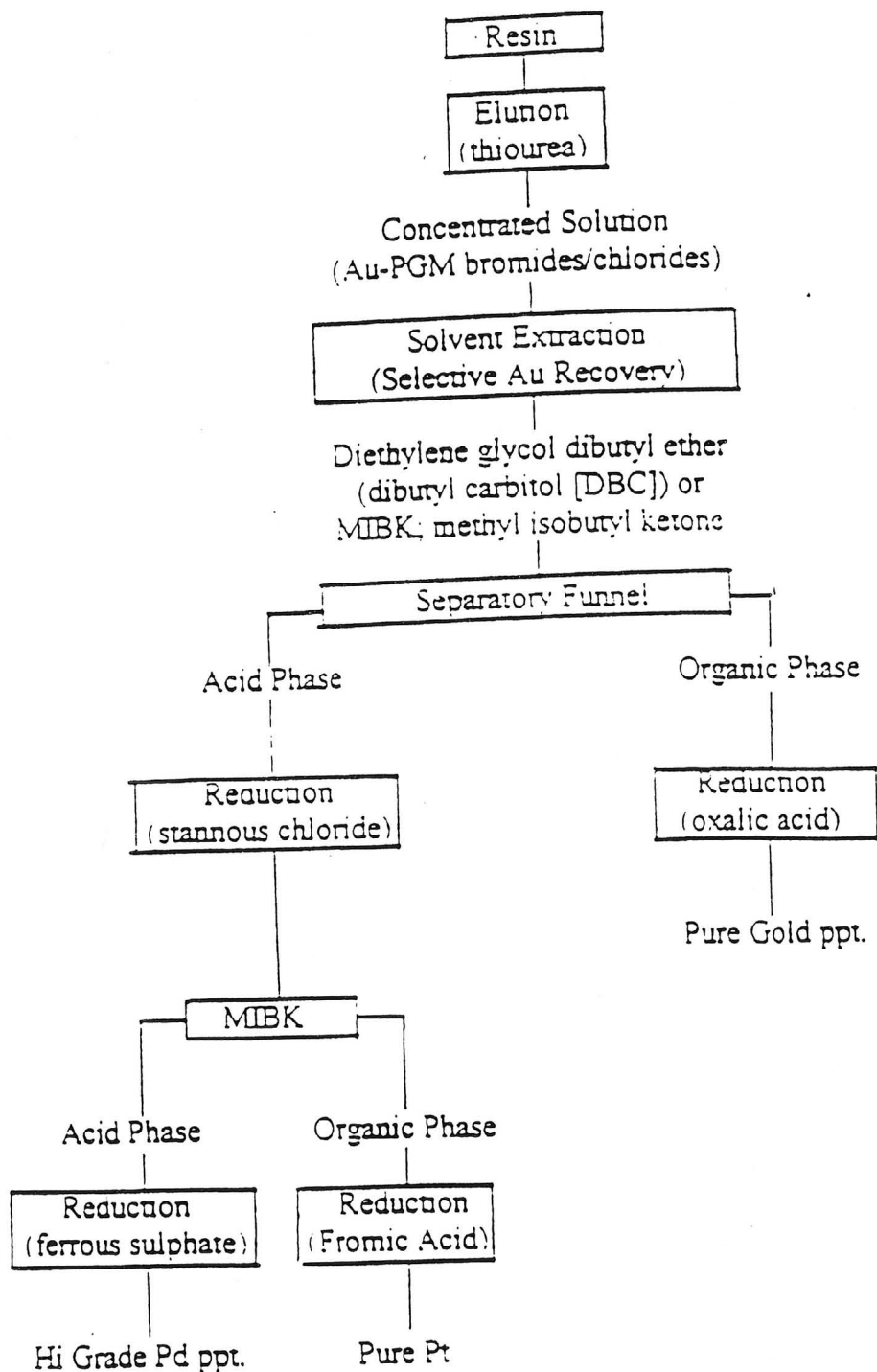
After leaching in the HRS of the various concentrates, the following process is followed for a high silver ore:



Ion Exchange is a well developed technology and the following specification apply to one recommended resin:

Sybron	SR-3	Category	Selective chelating
Chemicals	Resin		macroporus.
Inc.		Co-polymer	Styrene-DVB.
		Active Group	Isothiouonium chloride
		Physical Form	Spherical Beads
		Size	-118 - 300 μ m
		Ionic Form	Chloride
		Kg/m ³	642 Kg.
		Pounds/ft ³	40 lbs.

SR-3 will load 100 oz.t. of precious and noble metals per cubic foot or 110 grams per litre. When leakage is detected by atomic absorption, indicating that the resin is loaded, the pregnant solution is returned to storage. the resin is eluted with thiourea and is then regenerated with HCL for repeated use. The process flow is as follows:



Precious and Noble Metal Recovery - Part 4.

After the pregnant liquor has been circulated through the SR-3 ion exchange resin column, and with no AA detected Au/PGM leakage, the liquor then passes through other I-X columns. This process will recover additional economic elements and/or remove deleterious material.

As an example, SR-5 resin will recover various economic minerals:

IONAC SR-5 Styrene-Divinylbenzene Copolymer
 Iminodiacetic Acid

The order of selectivity of SR-5 is as follows:

$\text{Cu} > \text{Pb} > \text{Ni} > \text{Zn} > \text{Co} > \text{Cd} > \text{Fe}^3 > \text{Mn} > \text{Mg} > \text{Ca} > \text{Na}$

Additional selectivity occurs with pH shifts and or controls.

Elements soluble in Br/Cl Solvent

The following elements are soluble in the Br/Cl leach solution and can be recovered at a small increase in cost. The inclusion of additional ion exchange columns and specific resins designed to recover target elements or groups of elements would be required. Where the incremental recovery economics exist for specific elements in an ore, their recovery and sale will enhance the overall economics of the process.

Soluble elements are:

Gold	Zinc	Boron	Tin
Silver	Molybdenum	Barium	Calcium
Platinum	Cobalt	Beryllium	Magnesium
Palladium	Nickel	Chromium	Rare Earth Elements
Rhodium*	Bismuth	Lanthium	Actinide Elements
Iridium*	Cadmium	Strontium	Yttrium
Osmium*	Tellurium	Tungsten	Scandium,
Ruthenium*	Thalium	Iron	Lithium
Arsenic	Selenium	Phosphorus	Zirconium
Antimony	Gallium	Titanium	Rubidium
Copper	Vanadium	Uranium	Hafnium
Lead	Manganese	Mercury	Aluminum

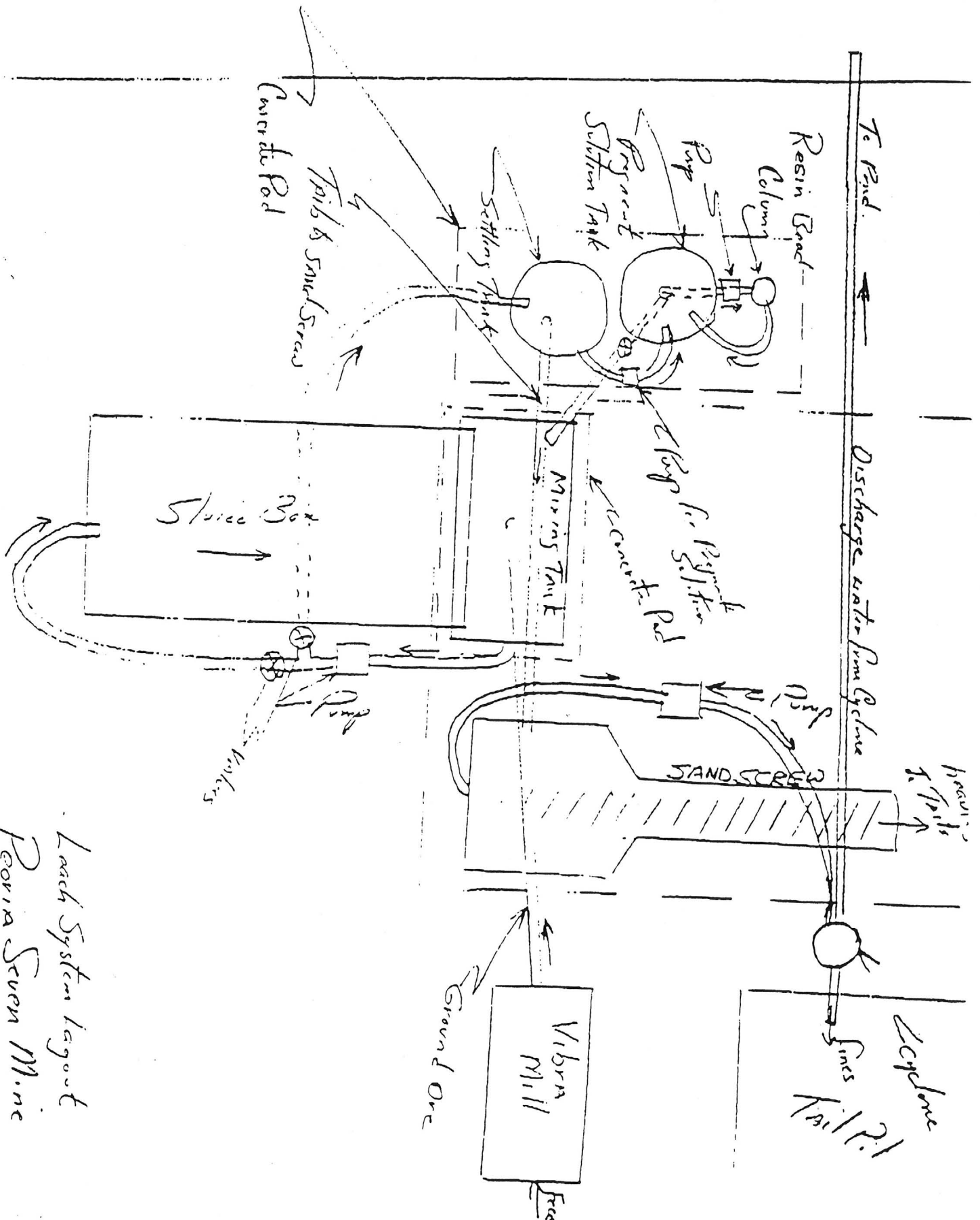
* Platinum Group Elements sometimes are natural alloys, both with themselves and other metals, and their solubility may not be complete. However, if they are at all present in the leach liquor the insoluble components can be recovered. Also, some of the above elements may not be completely soluble and if they are detected a specific analysis will determine their solubility in a "standard leach solution." This can be followed by an economic analysis of the cost of the additional solvents.

References

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Peoria Pond

396-4654
4653



Leach System layout
Peoria Seven Mine

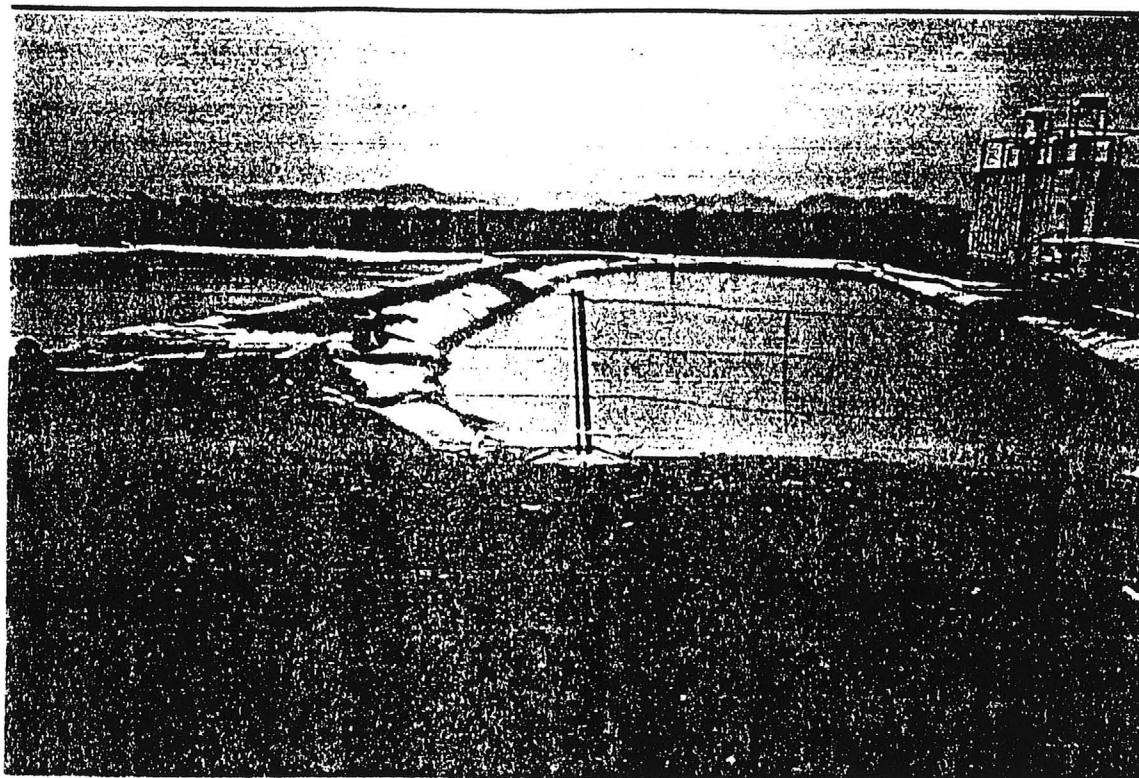


Plate 1. Process water and settling pond.

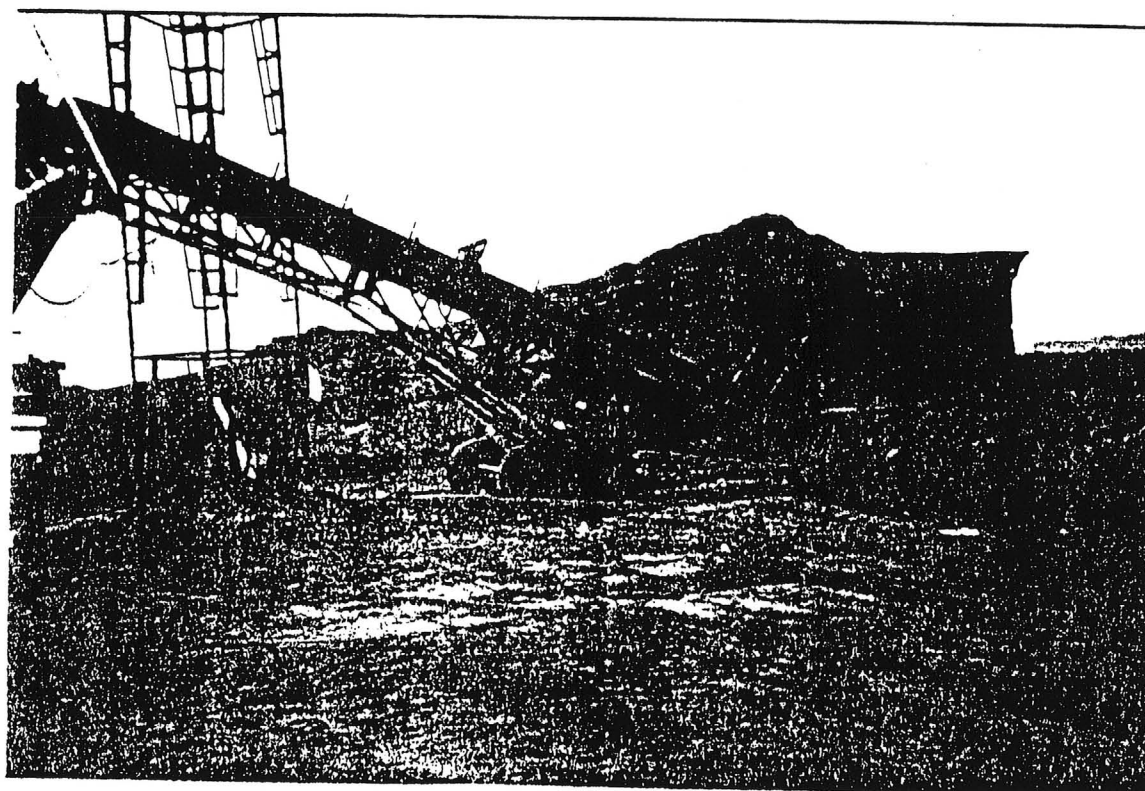


Plate 2. Stockpiled ore & screening plant.

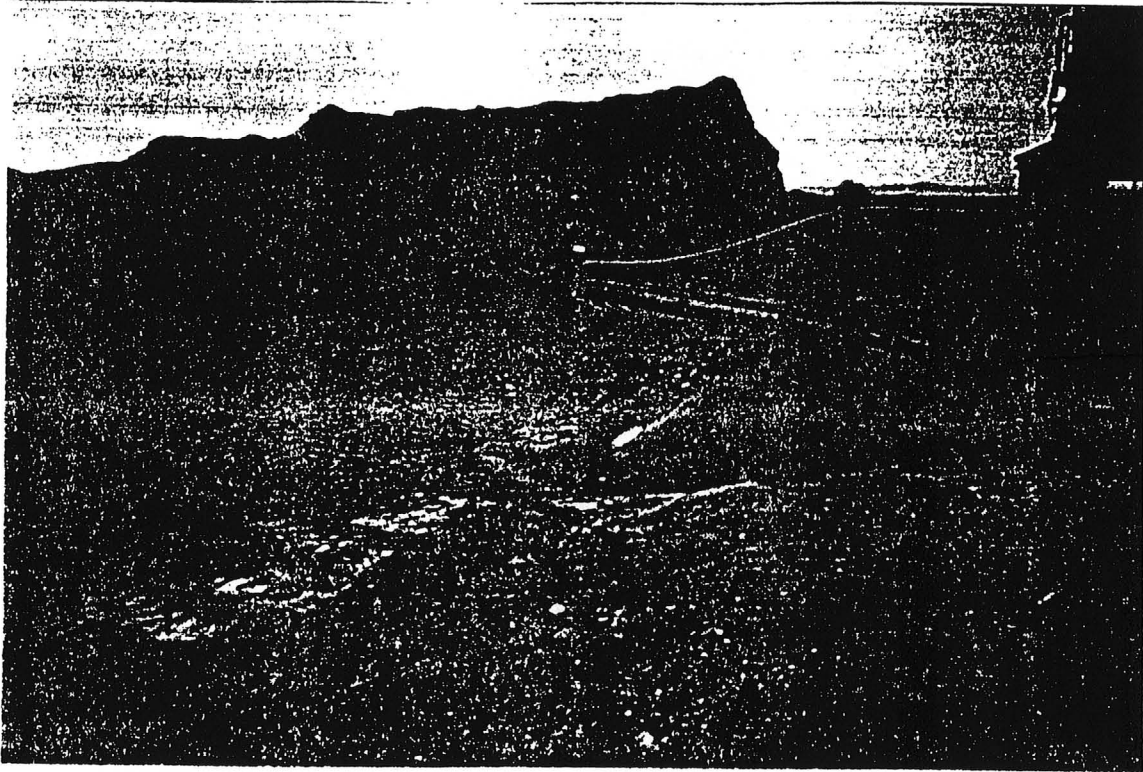


Plate 3. Screening plant.

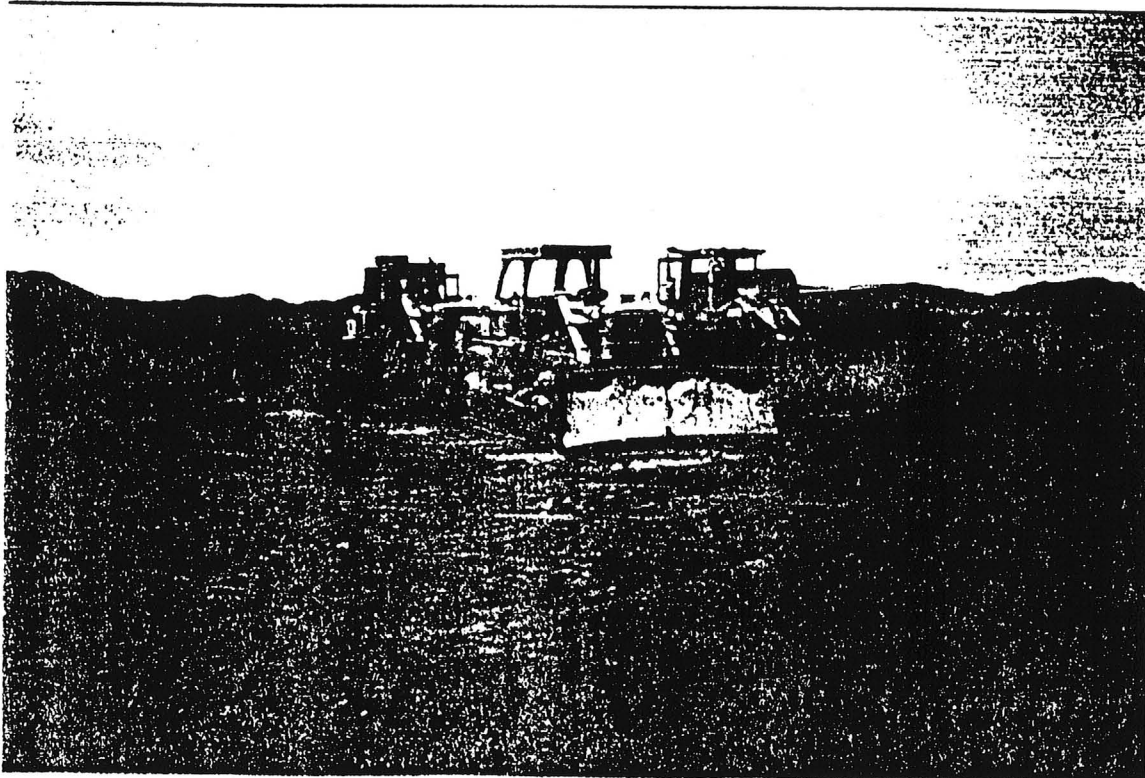


Plate 4. Available mining equipment.

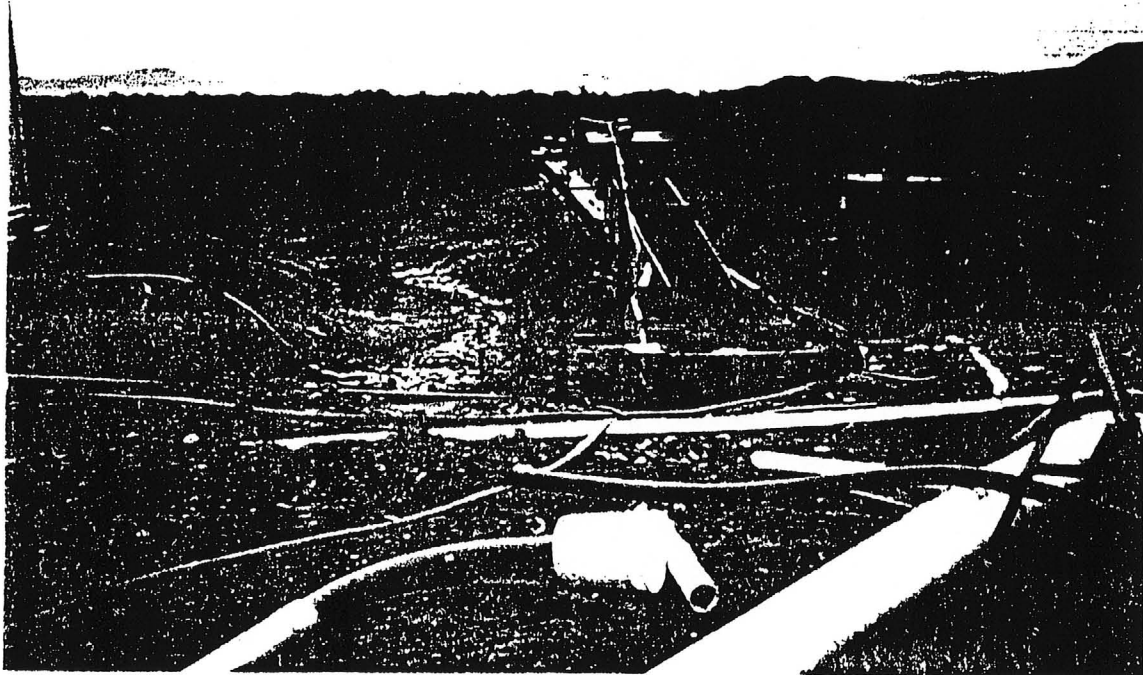


Plate 5. Classifier & ore pit

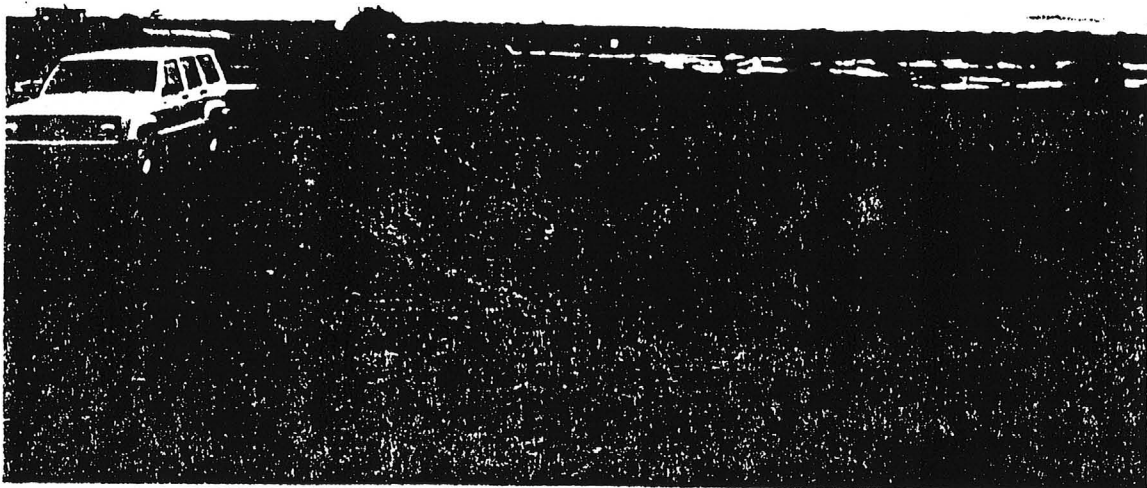


Plate6. Overview of site & photographer's finger in lower right.

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BUREAU OF LAND MANAGEMENT

Phoenix District Office
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Phoenix, AZ 85027
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PHOENIX, ARIZONA

MINING PLAN OF OPERATIONS

Maricopa County

AZA - 29594

A. OPERATOR

Name of Operator: PEORIA SEVEN MINING, LLC

Address of Operator: 528 Fon Du Lac Dr. East Peoria, IL 61611
Telephone: (309) 699-8725

Name of Field Representative: Jack Greene
Address of Field Representative: P.O. Box 554, Gila Bend, AZ 85337
Telephone: (520) 683-2035

B. CLAIM OWNER

Name	Address	Telephone
Maxam Gold Corp.	528 Fon Du Lac Dr. East Peoria, IL 61611	(309) 699-8725

C. CLAIM IDENTIFICATION

Name(s) of the Claim(s) on which the operation will be conducted:

Name and type of claim	BLM Serial No.	Section	Township	Range
MAXAM 5-3 (Placer)	AMC # 335860	SW Quarter Section 5,	T. 7 S,	R. 4 W
		Gila and Salt River Base & Meridian (approx 160 Acres)		
		Maricopa County, Arizona.		

D. MAPS

Attached as part of this Plan of Operations is a map of all claims listed above in B. (USGS Topographic Map). Also attached is a sketch map depicting the project area showing clearly the proposed physical plant, dumps and disposal areas.

Location of Proposed Activity: T. 7S, R. 4W, E. 1/4, S.W. Quarter Section 5
Gila and Salt River Base & Meridian,
(Approximately 80 Acres).

Proposed Period of Operation: FROM: October 1, 1996 or upon approval of plan.
TO: Upon completion of the Mining Operation

E. PERSONNEL, VEHICLES, EQUIPMENT

Approximately three (3) people will be working in the area of operation during a shift.

The following vehicles and equipment, listed by type and size, will be used in this operation:

Type and size	Location within Area of Operation
Caterpillar D-8 Tractor	Throughout the area
Caterpillar 980 Loader	Throughout the area
Fueloil Tanker on Rubber Wheels	The following equipment will
Trailer - Tool Shed	be located approximately 400
Guard Trailer (Camper)	ft N. and 400 ft W. of the
Power Screw Screening Plant	quarter section marker located
Water pump (3)	between Section 5 and Section 8
Generators (2) (150kw) (20kw)	T7S, R4W
Sand Screen	
Cyclones	
DCRS Recovery System	
Knelson Concentrator System	
Conveyor	
Two (2) settling ponds:	
1. 28'x110'x6' Plastic Lined with concrete slab bottom (12'x115')	
2. 53'x110'x8' Plastic lined	

Concrete Sump for Cyclones

F. DESCRIPTION OF OPERATIONS

Mining Methods: A material processing site will be located approximately 400 feet North and 400 feet West of the Quarter Section Marker located between Section 5 and Section 8, T7S, R4W (See Map). This processing site will occupy approximately 120 by 120 foot area (1/3 acre) of the 80 acres of operations located to the East and South of the processing site. The land will be worked in a clockwise direction from the East to the South. The material will be dug using a Caterpillar D-8 Tractor along with a Caterpillar 980 Loader. The dug material will be screened and processed with 99% + of the material becoming tailings. These tailings will be returned to the evacuated area and be used as backfill. Therefore, reclamation will be accomplished as the ground is being worked. A water well will be drilled on the site to provide makeup water - about 60 GPM. Approval for the water well has been obtained from the Department of Water Resources under case file number AZA-29594.

No chemicals or explosives will be used on the site except for a trace amount of lime or flocculent that might be added to the settling ponds to enhance the settling of silt from the recirculated water if needed. Trace amounts of either the lime or the flocculent used will not effect the environment if used.

The processing plant will consist of the equipment listed in E. above. The Sump and the ponds will be the only constructed temporary structures.

G. RECLAMATION MEASURES

Describe measures to be taken to prevent unnecessary and undue degradation. Describe plans for reclamation of disturbed areas and for erosion control,

including provisions for filling excavations, grading of soil banks, closing of access roads, reseeding, etc.

The top six (6) inches of soil will be scraped and stockpiled to be spread over the area upon completion of operations. Reclamation will consist of backfilling excavations with tails and recontouring to blend into the existing surroundings. The ponds and Sump will be removed upon completion. The surface will be scarified upon completion.

The existing roads will be maintained by adding gravel from our screening plant when it becomes operational.

I will complete all necessary reclamation of areas disturbed during the course of my operations to the standards described in 43 CFR 3809.1-3(d) and reasonable measures will be taken to prevent unnecessary or undo degradation of the Federal lands during operations.

H. PERIODS OF NONOPERATION

No periods of nonoperation are anticipated at this time.

I. COMMENCEMENT OF OPERATIONS

Desired start-up date is October 1, 1996 or upon approval of the plan.

J. OTHER RULES AND REGULATIONS

The mining claims listed herein have been filed with the Bureau of Land Management, 3707 N. 7th St., Phoenix, AZ 85014 and with Maricopa County.

The operator is familiar with the State Mining Codes administered by the Arizona State Mining Inspector and regulations administered by the USDl, Mine Safety and Health Administration.

K. ENCLOSURES

1. Exhibit A. - Map of General Area showing mining claims.
2. Exhibit B. - Operations site map.

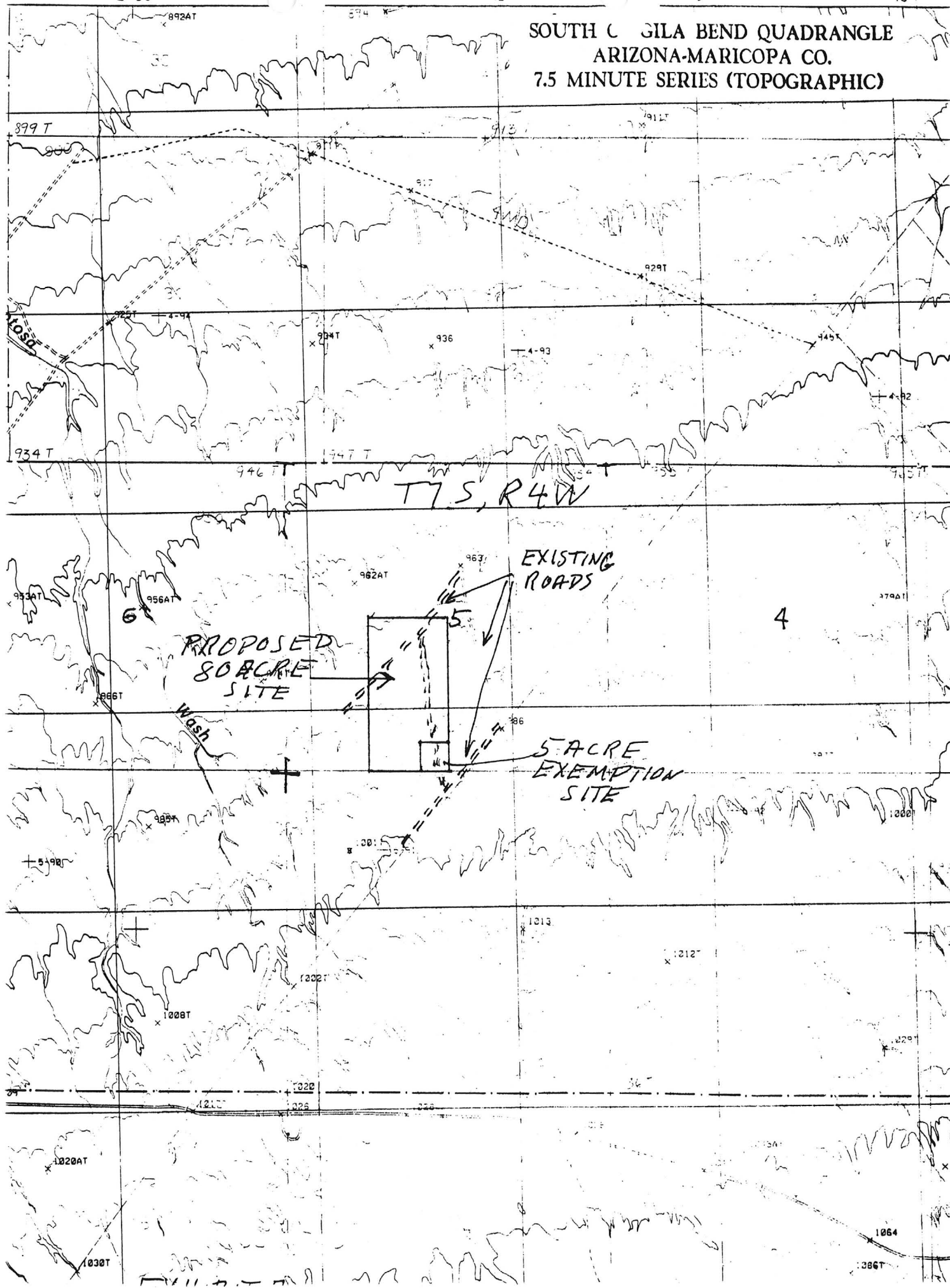
SUBMITTED BY:

Signature:

Date:

Walid Runyon Manager
May 23, 1996

SOUTH C GILA BEND QUADRANGLE
ARIZONA-MARICOPA CO.
7.5 MINUTE SERIES (TOPOGRAPHIC)



PROCESSING SITE

