MAR 20060026: BAD HEART SANDSTONE

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20060026
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A REPORT AND BACKGROUND INFORMATION PERTINENT TO THE EXPLORATION AND ANALYSIS OF THE BAD HEART SANDSTONE ON PERMITS 9396110003 AND 9396110004

Ronald T. Owens

October 16, 2006

20060026

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Part A

Most of Part A removed. Not included with Part B+C (public portions of report) SC from 4/07

Parts B & C

20060026

Metallic and Industrial Minerals Permit
Numbers 9396110003 and 9396110004
Statement of Expenditures for the period
November 5, 2004 to November 5, 2006

Hours devoted to the project: 600 hours at $20/hour	$	12,000.00
Lab materials, equipment and maintenance		7,470.44
Lab heat, electricity and rent		2,000.00
Total	$	21,470.44

I certify that these expenditures are valid and incurred conducting work related to the assessment of permits 9396110003 and 9396110004.

[redacted]

Signed

Signature/Stamp
Commissioner for Oaths

LYNETTE R. PIKELAND
NOTARY PUBLIC
MY COMMISSION EXPIRES
2007

PART - B

A REPORT AND BACKGROUND INFORMATION PERTINENT TO THE EXPLORATION AND ANALYSIS OF THE BAD HEART SANDSTONE ON PERMITS 9396110003 AND 9396110004

Ronald T. Owens

October 16, 2006

Part B:

Introduction

The focus of work done for this report has been to select a procedure for analytical evaluation of the Bad Heart Sandstone. The fact that anomalous noble metal values have occasionally appeared from some test locations, has prompted much work in the past.

The question these events create, is this being caused by improper assay procedures and/ or the so called "nugget effect"?

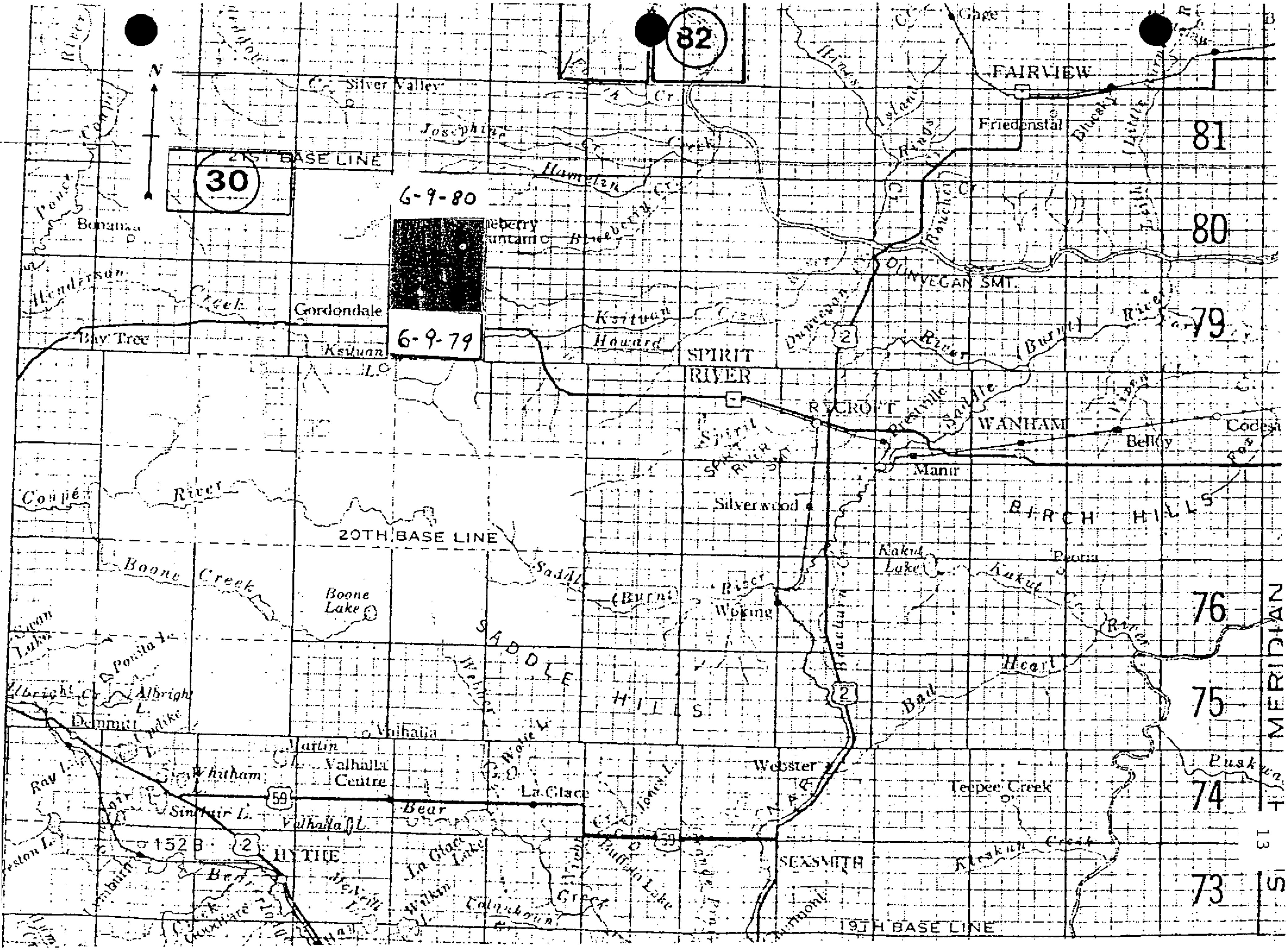
I believe that a continuation of the work demonstrated in this report will provide an important resolution of this question.

Property Location

The two properties are located in the Peace River area of northwestern Alberta at approximately 55 degrees 55 minutes North latitude and 119 degrees 20 minutes West longitude. The properties consist of 1536 hectares included in Metallic and Industrial Minerals Permit Number 9396110003. The legal land description of this permit is a portion of the 6th Meridian, Range 9, Township 79 .

Permit number 9396110004 consists of 1984 hectares with the legal land description a portion of West of the 6th Meridian, Range 9, Township 80.

These permits issued by the Province of Alberta, Canada.



82
30
21ST BASE LINE
6-9-80
6-9-79
Silver Valley
Josephine Creek
Hamelin Cr
Bonanza
Gage
FAIRVIEW
Friedenstal
81
80
79
76
75
74
73
DUNVEGAN SMT.
Henderson Creek
Gordondale
Bay Tree
Ksituan
Howard
SPIRIT RIVER
RYCROFT
WANHAM
Belloy
Codesa
Manir
Spirit River
Silverwood
BIRCH HILLS
Coupé River
20TH BASE LINE
Boone Creek
Boone Lake
Kakut Lake
Peoria
Woking
SADDLE HILLS
Albright L.
Demmitt
Valhalla
Valhalla Centre
La Glace
Webster
Teepee Creek
Sinclair L.
HYTHE
SEXSMITH
19TH BASE LINE
Bad Heart
MERIDIAN

Legal Description of lands included in
Permits 9396110003 and 9396110004

All of section 21-6-09-079
All of section 22-6-09-079
All of section 26-6-09-079
All of section 27-6-09-079
All of section 34-6-09-079
All of section 35-6-09-079

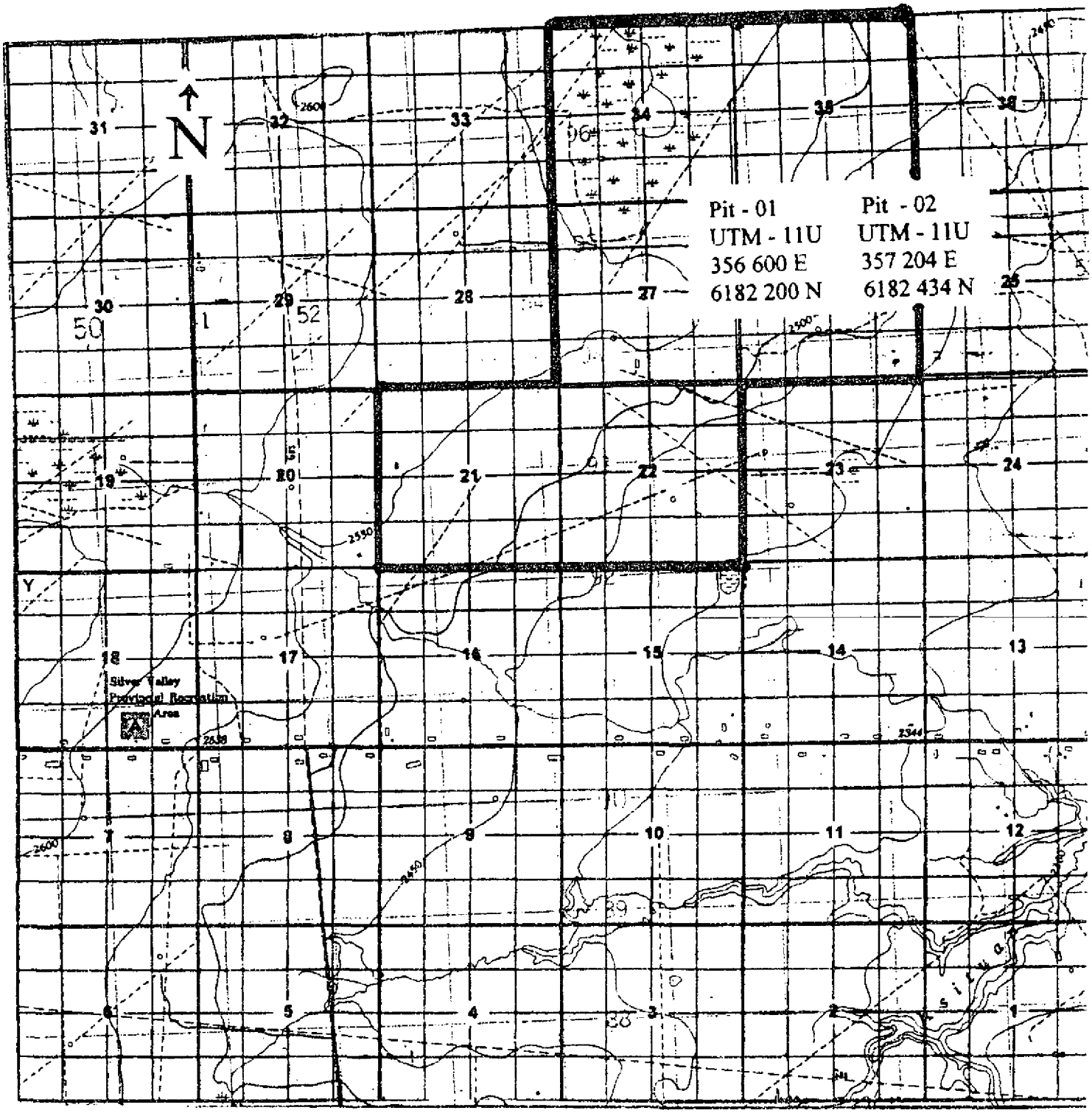
A total of 3795.4040 acres
or 1536.000 hectares included
in Permit 9396110003

All of section 2-6-09-080
All of section 3-6-09-080
All of section 7-6-09-080
All of section 8-6-09-080
All of section 9-6-09-080
All of section 10-6-09-080
The South-west quarter of section 11-6-09-080
The South one-half of section 16-6-09-080
The South one-half of section 17-6-09-080
The South one-half of section 18-6-09-080

A total of 4902.3968 acres
or 1984.0000 hectares included
in Permit 9396110004

METALLIC MINERALS PERMIT NO. 9396110003

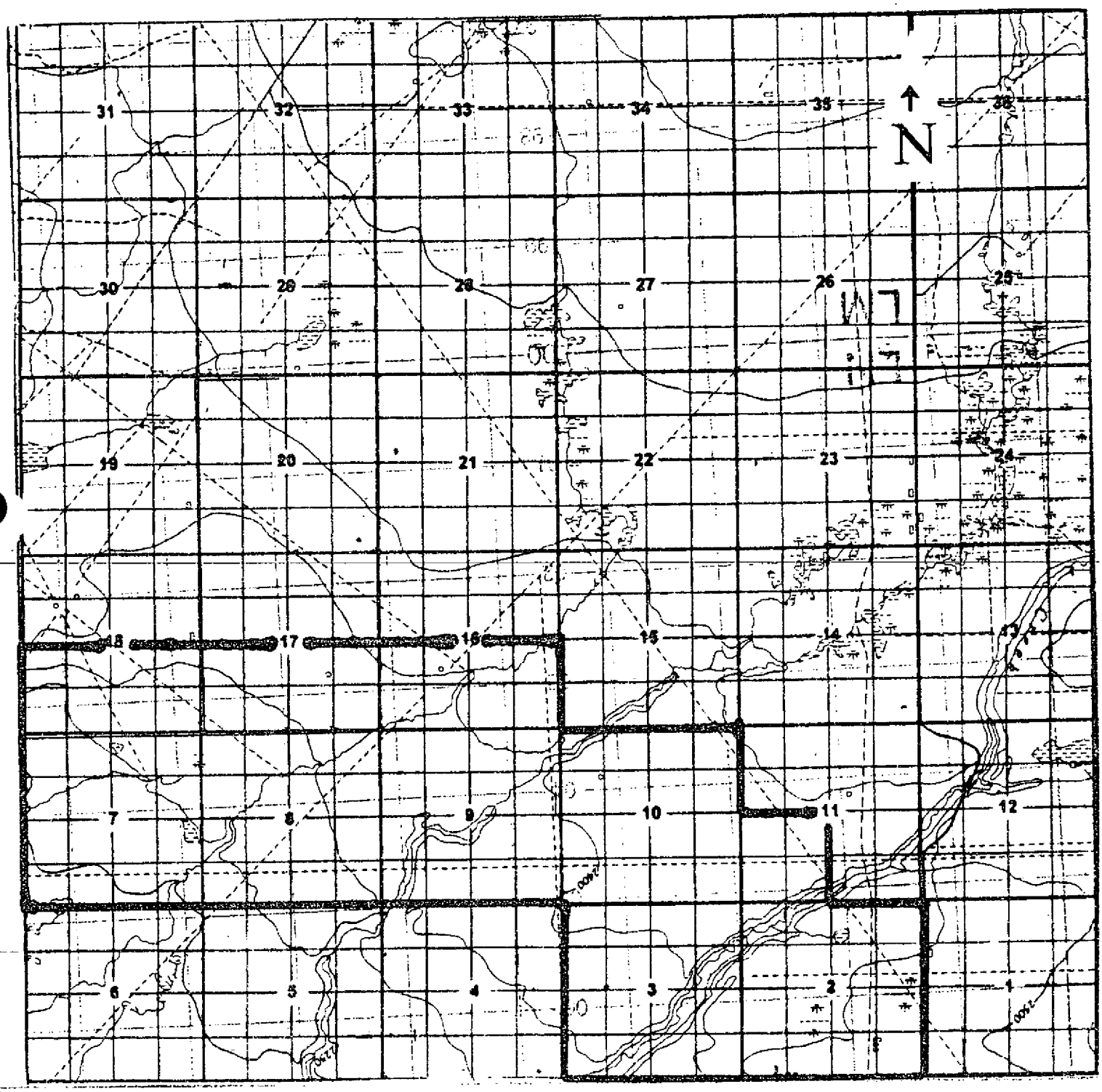
6-09-079



Blueberry Mountain Map Sheet 83M/14
Heavy line delineates the lands to be covered by this report

METALLIC MINERALS PERMIT NO. 9396110004

6-09-080



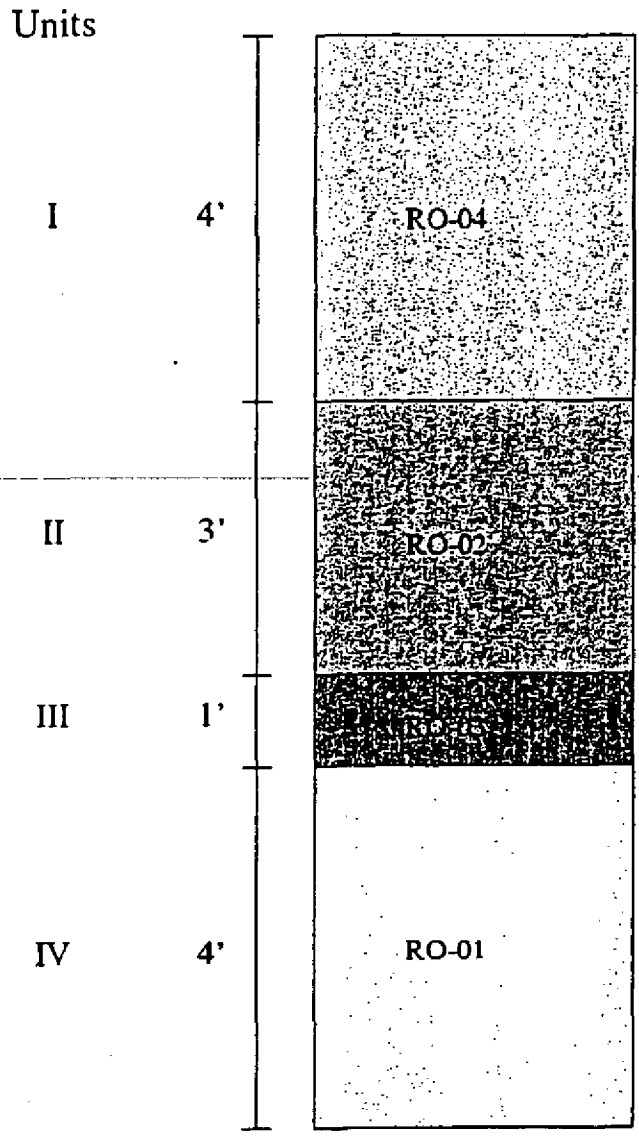
Blueberry Mountain Map Sheet 83M/14
Heavy line delineates the lands to be covered by this report

Outlined in Black is Section 26-6-09-079
Pit one is on LSD 06. 448 meters north of the southern boundary & 624 meters east of the western boundary.
Pit two is on LSD 08. 682 meters north of the southern boundary & 1228 meters east of the western boundary.
Pit one coordinates are UTM-11U
356 600E 6182 200N
Pit two coordinates are UTM-11U
357 204E 6182 434N

Stratigraphic Profile of Pit #1

Four distinct stratigraphic units were present in the sampled area. These included three units within the ironstone formation and an underlying greenish clay rich mudstone.

In Pit #1, two primary ironstone units were noted and a third minor one. Unit 1 at the top of the section was distinguished from the underlying unit II as being more heavily oxidized. Unit II was dark greenish brown in color. The third ironstone unit at the base of the ironstone bed, was relatively hard compared to units I and II



Description of Sample Material

All the following tests were conducted on material from Site-01, 356 600 Easting and 6182 200 Northing, UTM coordinates.

In August of 2003, a backhoe pit was excavated at this site and 25 pound samples were collected, in one-foot increments. Leach-fusion tests are therefore identified as 1' - 2', 2" - 3', etc.

The sample material is a twelve foot thickness of the Bad Heart Sandstone, in which the upper seven feet contain some oolites. The next one and one-half feet are a cemented conglomerate.

The remaining three and one-half feet degrade into an iron poor sandstone which bottoms in a mudstone.

Description of Leach

The saturated salt solution used, is from an oil well in Wyoming that contains significant iodine and bromine values. It also contains an average of two mgs. of silver per liter of SSS, based on eight blanks, done during this program.

The 2 mgs. per liter has to be subtracted from the bead weights of the gravimetric finish.

Summary

Conclusions:

1. Using heat to shorten leaching time caused excessive evaporation of the iodine component of the leach, skewing the resulting data.

2. The peroxide in the leach should be used sparingly.

3. The leaching of 227 gram samples seems to combat the "nugget effect" to a degree.

4. I cannot emphasize too strongly, the need to tailor the leaching protocol to the sample components.

Recommendations:

1. Attempt to duplicate the protocol of Test #25 on at least ten samples from each one foot horizon of Pit #1 and then duplicate the procedure at other locations within the boundaries of the two permits.

ASSAY REPORTS

Test #01

Date: Dec 16/04
Time: 7:15 a.m.

Sample Site 06-6-26-6'-7'
Test size 10 lbs or 4540 gms
Test
SSS brine leach and Fullers Lye Recovery
Leach temperature - ambient
Run time - 12 hours
Volume - 2 U.S. gallons
Chemical added - nitric acid and peroxide

Agitated the brine and mineral sample for ten minutes to thoroughly mix

Added 666 mls of nitric acid

7:45 a.m.
Added 165 mls of peroxide

A large amount of frothing occurred prior to the peroxide

P.H. - .05 ORP - 500 10:00 a.m.

P.H. - .05 ORP - 492 12:30 p.m.
Added 110 mls of peroxide

P.H. - .05 ORP - 820 1:00 p.m.
The peroxide caused frothing

P.H. - .05 ORP - 610 3:00 p.m.

P.H. - .05 ORP - 540 5:00 p.m.
Added 140 mls of peroxide

P.H. - .05 ORP - 780 6:40 p.m.

P.H. - .05 ORP - 600 9:40 p.m.
Shut down for the night

Continuation of Test #01

Dec 17/04
Removed material from mixer 7:00 a.m.

P.H. - 1.5 ORP - 573

The two bowling balls used as agitators in the mixer ground the mineral sample so fine, that the filtering failed. Put in sealed pail for later attempt.

Dec 31/04
This sample has been standing in a sealed 8:30 a.m.
container since Dec 17.
P.H. - 2.4 ORP - 510 after dilution of the tap water used to clean mixer barrel.
A large percentage of the fines are still in suspension, due to the over-grinding in the mixer. I put some of the unfiltered leach in a stainless steel pan to dry. Quite difficult to remove from pan. The filtering is still very slow on the balance of the leach due to filter plugging.

Jan 02/05
Succeeded in filtering about forty percent of 9:00 a.m.
this leach, then evaporated and bagged it for later processing.

Feb 12/05
Prepared a combined reduction fusing, using one 9:00 a.m.
cup of Test #01 evaporated salts and one cup of Test #02 evaporated salts with two cups of Fullers Lye Flux. These were put into a #16 silicon carbide crucible and fused at 2000°F for fifty minutes and then poured into a heated mold.

The contents of the mold were put through the 5:20 p.m.
jaw crusher and then through the hand operated corn grinder. The material was then put into five liters of deionized water to dissolve the salt.

Feb 13/05
Filtered and dried the above material into pail one.

Feb 14/05
Fused ten gms of the above concentrate with 90 gms of Action Mining standard flux and then cupelled.
The bead weighs 2.88 mgs.

Dec 18/04

Test #2

Sample	Site 06-6-26-6'-7'
Test size	500gms
Test	SSS brine leach and Fullers Lye Recovery
Volume	700 mls of SSS (saturated salt solution)
Chemical	nitric acid and peroxide
Temperature	80°F in water bath
Agitation	120 RPM

11:30 a.m. Run time - 10 hours
I added the 500 gms of mineral sample slowly to the 700 mls of SSS brine, agitated until thoroughly mixed; then added 225 mls of nitric acid and 65 mls of peroxide. Foaming was considerable, but decreased with the agitation

2:30 a.m. P.H. .0 ORP 434
Added 25 mls of peroxide, causing considerable foaming.
Increased temperature to 100°F

4:30 p.m. PH .5 ORP 466
Added 25 mls of peroxide

5:30 p.m. P.H. 1.0 ORP 493
Evaporation caused buoyancy of the beaker in the water bath so I added de-ionized water to the leach. I should have leach solution prepared for this contingency in the future.

9:30 p.m. Shut down for the night. Let material settle in the beaker over night.

Dec 19/04

P.H. 1.5 ORP 481

10:30 a.m. Started filtering

12:30 p.m. Only 800 mls of test #02 filtered successfully

1:30 p.m. Put the 800 mls in crockpot on high to evaporate down to a salt

7:00 p.m. Shut down for the day

Feb 12/05

9:00 a.m. Did a combined reduction fusion with evaporated salts from Test #01.
Results will be shown in Test #01 report.

Dec 12/04

Test #03

Sample	Site 06-6-26-6'-7'
Test size	454 gms
Test	SSS brine leach and Fullers Lye recovery leach temperature 110°F run time 13 hours volume 1050 mls chemical added - nitric acid and peroxide
8:30 a.m.	I prepared leach while wearing mask 700 mls of SSS (saturated salt solution) 225 mls of nitric acid 65 mls of peroxide I added mineral material slowly, while stirring. Foaming was considerable.
11:45 a.m.	P.H. 2 ORP 710
1:45 p.m.	Added 350 mls of SSS Added 125 mls of nitric acid Added 33 mls of peroxide
2:30 p.m.	P.H. 1.6 ORP 760
3:45 p.m.	P.H. 2.3 ORP 772 Added 350 mls of SSS P.H. 2.2 ORP 766
9:30 p.m.	Shut down for the day

Dec 13/04

8:00 a.m.	P.H. 1.4 ORP 744 after standing overnight
9:00 a.m.	Started filtering pregnant leach. The color is a very good wine color.
11:20 a.m.	Finished filtering

Jan 10/05

11:40 a.m.	Started evaporating a portion of the pregnant leach to dryness.

Test #03 - continued

Feb 12/05

11:00 a.m. Prepared two cups of evaporated salts and two cups of Fullers Lye Flux for reduction fusion.

11:50 a.m. Poured into a heated mold

5:20 p.m. The contents of the mold were put through the jaw crusher and then the hand turned corn grinder. The material was then put into five liters of de-ionized water to dissolve the salt.

Feb 13/05

Filtered and dried the above material.

Feb 17/05

Fired 10 gms of the above concentrate with 90 gms of Action Mining standard flux and then cupelled.
The bead weighed 5.18 mg

Jan 07/05

Test #04

12:00 p.m. Sample	Site 06-6-26-6'-7'
Test size	454 gms
Test	SSS brine and Fullers Lye recovery leach temperature 50°C after foaming quit volume 1000 mls I added the mineral material last, and in small increments, as foaming was a problem. Run time - 9 hours on Jan 02 static over night 11 hours on Jan 03 454 gms of mineral material 700 mls of SSS (saturated salt solution) 225 mls of nitric acid 65 mls of peroxide
1:00 p.m.	P.H. 1.3 ORP 443 Added 25 mls of peroxide
2:50 p.m.	P.H. 1.4 ORP 474 Added another 10 mls of peroxide
3:00 p.m.	Added 30 mls of nitric acid
3:20 p.m.	P.H. 1.4 ORP 456
5:05 p.m.	P.H. 1.4 ORP 474 Added 20 mls of peroxide
5:45 p.m.	Added 350 mls of SSS
7:00 p.m.	no change, so added 100 mls of nitric acid
8:00 p.m.	P.H. 1.4 ORP 456 Added 50 mls of peroxide
8:10 p.m.	ORP 485
8:20 p.m.	ORP 480
8:30 p.m.	ORP 485
9:00 p.m.	ORP 485 Shut down agitation for the night.

Jan 08/05

7:20 a.m.	P.H. 2.0 ORP 489 Turned on agitation and added water to water bath.

Test #04 - continued Jan 08/05

11:00 a.m. Added 262.5 mls of SSS
50.0 mls of nitric acid
12.5 mls of peroxide
The leach had evaporated, so that the addition was necessary. I used 1/20 th of Western Environment's volumes as I was leaching one pound of mineral material, not twenty pounds.

11:30 a.m. P.H. 0.4 ORP 477

12:00 p.m. Added 262.5 mls of SSS
50 mls of nitric acid
12.5 mls of peroxide

1:35 p.m. P.H. 0.5 ORP 499
Added 262.5 mls of SSS
50 mls of nitric acid
12.5 mls of peroxide

4:15 p.m. P.H. 0.4 ORP 507

7:50 p.m. P.H. 0.6 ORP 762
Shut down for the night

Jan 09/05

11:00 a.m. P.H. 0.9 ORP 755
The leach had settled well, I filtered 750 mls and evaporated it to a salt. The balance will be evaporated without filtering.

Jan 10/05

Evaporated the balance of the leach and dried the tailings.

Feb 12/05

12:00p.m. Prepared 1.5 cups of evaporated salts and 1.5 cups of Fullers Lye Flux for reduction fusion.

12:50 p.m. Poured into heated mold

5:20 p.m. The contents of the mold were put through the jaw crusher and then the hand turned corn grinder. The material was then put into five liters of de-ionized water to dissolve the salt.

Test #04 - continued

Feb 13/05

Filtered and dried the aforementioned material.

Feb 17/05

I put the concentrate of this test over the spiral panner, and recovered several gms of metal, much of it magnetic. This is unexpected, as iron should not have been recovered at such a low ORP.

Test #05 Jan 11/05

9:00 a.m. I prepared 454 gms of
Site 01-6-26-11'-12' material
525 mls of SSS (saturated salt solution)
100 mls of nitric acid
25 mls of peroxide
Some foaming occurred, even though the mineral sample was added slowly.
De-ionized water was sprayed on to control it.

Temperature was set at 160°F

9:30 a.m. Added 262.5 mls of SSS
50 mls of nitric acid
12.5 mls of peroxide

10:00 a.m. Added 262.5 mls of SSS
50 mls of nitric acid
12.5 mls of peroxide
Some foaming occurred.

10:30 a.m. P.H. 1.6 ORP 811

11:40 a.m. P.H. 1.4 ORP 802
Temperature is 150°F

4:20 p.m. P.H. 1.4 ORP 821

8:00 p.m. P.H. 1.4 ORP 836

9:00 p.m. P.H. 1.5 ORP 836
I shut down agitation, but left heat on after covering beaker.

Jan 12/05

7:00 a.m. I started filtering the 150°F leach; it seemed to filter faster than an ambient leach.

8:00 a.m. I had 600 mls filtered in one hour.

9:00 a.m. I evaporated the leach and dried the tailings, I will store for later processing.

Feb 12/05

10:00 a.m. Prepared one cup of evaporated salts and one cup of Fullers Flux and put into hot crucible and fused at 2000°F for fifty minutes It was then poured into a heated mold.

Test #05 - continued

Feb 12/05

5:20 p.m. The contents of the mold were put through the jaw crusher and then the hand turned corn grinder. The material was then put into five liters of de-ionized water to dissolve the salt.

Feb 13/05

Filtered and dried the above material.

Feb 14/05

Fired ten gms of the above concentrate with 90 gms of Action Mining standard flux and then cuppeled.

The bead weighs 7.75 mgs

Test #06 Jan 14/05

9:00 a.m. I prepared 454 gms of Site 01-6-26-11'-12' mineral material, and
545 mls of SSS (saturated salt solution)
100 mls of nitric acid
50 mls of peroxide

9:25 a.m. Temperature was 150°F
I added 262 mls of SSS
50 mls of nitric acid
I didnt add the peroxide; foaming was much less.

9:45 a.m. I added 262 mls of SSS
50 mls of nitric acid
12.5 mls of peroxide

10:00 a.m. P.H. 0.2 ORP 823

12:00 p.m. P.H. 0.5 ORP 808

3:20 p.m. P.H. 0.2 ORP 820

9:30 p.m. P.H. 0.2 ORP 853
Shut down for the night

Jan 15/05

9:00 a.m. I decanted 500 mls of pregnant leach and started filtering.

10:00 a.m. Completed filtering and started evaporating leach and drying tailings.

9:30 p.m. Shut down for the night.

Jan 16/05

7:30 a.m. Continued evaporating leach.

11:00 a.m. Evaporation completed and stored for later processing at another location.

Test #07 Jan 17/05

7:00 a.m. I prepared 525 mls of SSS (saturated salt solution)
100 mls of nitric acid
25 mls of peroxide
I slowly added 454 gms of
Site 01-6-26-11'-12' mineral material
and set the water bath at 150°F

7:20 a.m. I added 525 mls of SSS
100 mls of nitric acid
25 mls of peroxide

8:30 a.m. P.H. 0.4 ORP 803

10:30 a.m. P.H. 0.5 ORP 817

2:30 p.m. P.H. 0.3 ORP 827
I added 262.5 mls of SSS
50. mls of nitric acid
12.5 mls of peroxide

6:20 p.m. P.H. 0.5 ORP 841

9:00 p.m. P.H. 0.8 ORP 827
This leach behaved much better. I had to keep replenishing it due to evaporation. Will need to compare with a leaching that doesnt use additional heat.

9:10 p.m. Shut down for the night.

Jan 18/05

8:00 a.m. Started filtering

9:45 a.m. Filtering completed and evaporating begun.

9:30 p.m. Drying completed; shut down for the night.

Mar 31/05

12:00 p.m. I prepared three 100 gm charges of evaporated salts from Test #07 with equal amounts of Fullers Lye Flux, and put them into the diesel fired furnace. No crucible cover was used.

Test #07 - continued Mar 31/05

12:30 p.m.	Removed from furnace and poured into a pre-heated mold.
1:30 p.m.	Ground the fused salts to minus 80 mesh and put into de-ionized water to dissolve, prior to filtering.
1:50 p.m.	Completed filtering and put on to dry. Test #07 yielded 5.5 gms of dried filtrate.
N.B.	At a later fusion the 5.5 gms gave a 4.36 mg bead.

Test #08 Jan 19/05

7:30 a.m. I prepared 525 mls of SSS (saturated salt solution)
100 mls of nitric acid
25 mls of peroxide

I slowly added 454 gms of Site 01-6-26-7'-8' mineral and turned heat on to 150°F. Foaming was minimal.

8:00 a.m. I added 262 mls of SSS
50 mls of nitric acid
12.5 mls of peroxide

9:15 a.m. 262 mls of SSS
50 mls of nitric acid
12.5 mls of peroxide

10:00 a.m. P.H. 0.4 ORP 837

11:30 a.m. P.H. 0.5 ORP 807

1:10 p.m. P.H. 0.5 ORP 800

6:00 p.m. P.H. 0.5 ORP 830

9:00 p.m. P.H. 0.7 ORP 827

Shut down for the night.

Jan 20/05

8:00 a.m. I started filtering.

10:45 a.m. Filtering completed, the leachant was evaporated to dryness.

Jan 21/05

7:30 a.m. I bagged and labelled the Test #08 evaporated salts and dried the tailings and filter.

Test #09 Jan 20/05

11:15 a.m. I prepared 786 mls of SSS
(saturated salt solution)
150 mls of nitric acid
37.5 mls of peroxide
Added 454 gms of Site 01-6-26-7'-8'
mineral material to the SSS before
the nitric and peroxide.
This prevented some of the usual foaming.

11:30 a.m. Heat turned on at 150°F

12:30 p.m. Added 262 mls of SSS
50 mls of nitric acid
12.5 mls of peroxide

2:45 p.m. P.H. 0.4 ORP 814

9:00 p.m. P.H. 0.5 ORP 820
Shut down for the night

Jan 21/05

7:00 a.m. Decanted the Test #09 leach

9:10 a.m. Started filtering Test #09

11:15 a.m. Finished filtering and put pregnant leach
in two pans on hotplate to evaporate to
dryness.

9:35 p.m. Produced 499 gms of salts.

Feb 02/05

8:30 a.m. Prepared 421 gms of Test #09 for firing
with an equal amount by volume, with
Fullers Lye Flux. This produced 270 gms
of fused salts. After washing away the
dissolved salts through a coffee filter
that weighed 2.5 gms before use and 43 gms
after being dried. This left a net
weight of 40.5 gms of filter residue for
fusion with Action Mining standard flux.

1:30 p.m. Fired the Test #09 filter and residue, and
then immediately cupelled in the propane
furnace. The recovered bead weighed 18 mgs.

Test #10 Jan 22/05

8:00 a.m. Prepared 782 mls of SSS (saturated salt solution)
150 mls of nitric acid
37.5 mls of peroxide
Slowly added 227 gms of Site 01-6-26-4'-5'
and 227 gms of Site 01-6-26-5'-6'
mineral sample. The usual foaming occurred.

8:30 a.m. Turned on the water bath heat at 150°F

9:00 a.m. Added 262 mls of SSS
50 mls of nitric acid
12.5 mls of peroxide

11:20 a.m. P.H. 0.6 ORP 757

2:00 p.m. P.H. 0.5 ORP 739

3:35 p.m. P.H. 0.5 ORP 741

8:00 p.m. Agitation and heat were turned off and leach was allowed to settle over night.

Jan 23/05

10:30 a.m. Started filtering 1200 mls of pregnant leach.

1:05 p.m. Filtering finished. Started evaporation of filtered leach and drying of tailings and filter.

10:00 p.m. Shut down hotplate.

Test #11 (blank)

Feb 08/05

10:00 a.m. Prepared 765 mls of SSS (saturated salt solution)
150 mls of nitric acid
37.5 mls of peroxide

10:30 a.m. Added 262 mls of SSS
50 mls of nitric acid
12.5 mls of peroxide

12:00 p.m. Put the leach on to evaporate and dry.

8:30 p.m. Crushed and bagged salts from the above.

May 01/05

10:00 a.m. Electric furnace turned on.

10:30 a.m. Furnace at 500°F. Placed two clay crucibles with equal volume of dried pregnant salts and Fullers Lye Flux.

12:50 p.m. Removed crucibles (temperature at 1800°F) The clay crucibles are not suitable, as they absorbed and retained some molten material during the pouring.

1:40 p.m. Ground the recovered fused salts and put into one liter of de-ionized water to dissolve salt.
The fused salts after filtering and drying weighed 13.9 gms.
This will not be finished until later.

Jun 01/05

Ten gms of this produced a 0.94 mg bead, which extrapolates to 1.306 mgs from the reagent (SSS)

This would indicate 1.707 mgs/liter of SSS used.

Test #12

Mar 19/05

8:20 a.m. Prepared 1000 mls of SSS (saturated salt solution)
100 mls of nitric acid
50 mls of peroxide
454 gms of Site 01-6-26-11'-12' mineral sample. Temperature set at 50°C
Foaming was not a problem.

9:50 a.m. P.H. 2.4 ORP 740
Add 25 mls of nitric acid

10:05 a.m. P.H. 1.4 ORP 740
Add 25 mls of peroxide

10:15 a.m. P.H. 2.0 ORP 880

11:30 a.m. P.H. 2.0 ORP 744
Add 20 mls of nitric acid

1:30 p.m. P.H. 1.6 ORP 763

4:15 p.m. P.H. 1.7 ORP 776
Add 25 mls of peroxide

5:40 p.m. P.H. 1.5 ORP 778

9:30 p.m. Shut down for the night.

Mar 20/05

12:00 p.m. 650 mls ofpregnant leach was filtered, the balance having evaporated. It was then put on to hotplates to evaporate to dryness.

10:30 p.m. Shut down

Mar 21/05

9:00 a.m. Continued evaporation of leach and drying of the tailings.

2:30 p.m. The evaporation and drying completed.

3:00 p.m. Test #12 salts were crushed and weighed (280 gms) for future fusion and cupelling.

Test #13 Mar 23/05

8:00 a.m.	Prepared 1000 mls of SSS (saturated salt solution) 100 mls of nitric acid 454 gms of mudstone sample
8:30 a.m.	P.H. 1.9 ORP 425 Added 30 mls of nitric acid
8:35 a.m.	P.H. 1.4 ORP 445
8:40 a.m.	Added 50 mls of peroxide
9:00 a.m.	P.H. 1.4 ORP 851
11:00 a.m.	P.H. 1.6 ORP 770 Added 25 mls of nitric acid 25 mls of peroxide
11:20 a.m.	P.H. 1.3 ORP 860
6:00 p.m.	P.H. 1.6 ORP 770 Added 25 mls of peroxide
8:30 p.m.	P.H. 1.6 ORP 773 Shut down

Mar 24/05

7:30 a.m.	Started filtering the above leach.
10:15 a.m.	Filtering completed Started evaporating the leach and drying the tailings.
5:00 p.m.	Ground and stored the salts and tailings of this leach.

Mar 30/05

11:15 a.m.	I prepared three 100 gm charges of the evaporated salts of Test #13 with equal amounts by volume of Fullers Lye Flux, and put into diesel furnace.
11:45 a.m.	Removed from furnace and poured into a pre-heated mold. No crucible cover was used in this fusion.

Test #13 - continued

Mar 30/05

1:15 p.m. Ground the fused salts to minus 80 mesh and put into de-ionized water to dissolve, prior to filtering.

Mar 31/05

8:00 a.m. Started filtering the dissolved residue.

8:45 a.m. Filtering completed and put on to dry.

12:00 p.m. Test #13 yielded 4 gms of dried filtrate from 454 gms of sample.

N.B. At a later fusion and cupelling the 4 gms gave a 4.36 mg bead.

Test #14

Mar 24/05

10:30 a.m. Prepared 1000 mls of SSS (saturated salt solution)
125 mls of nitric acid
5 mls of peroxide
Temperature 50°C
Added 454 gms of Site 01-6-26-5'-6' mineral
Much foaming occurred.

11:00 a.m. P.H. 2.3 ORP 790

11:30 a.m. P.H. 1.6 ORP 738

1:20 p.m. P.H. 1.7 ORP 720

5:15 p.m. P.H. 1.5 ORP 683
Added 25 mls of peroxide

7:50 p.m. P.H. 1.6 ORP 670

9:30 p.m. Shut down

Mar 25/05

7:45 a.m. Started filtering the above test

9:00 a.m. Filtering completed

9:00 a.m. Filtering completed

9:10 a.m. Put on hotplate to dry

8:30 p.m. Shut down

Mar 30/05

9:00 a.m. Prepared three 100 gm charges of the evaporated salts of Test #14 with equal amounts by volume of Fullers Lye Flux, and put in pre-heated diesel furnace.

9:45 a.m. Removed from furnace and poured into pre-heated mold. I had difficulty removing crucible covers.

Test #14 - continued

Mar 30/05

1:00 p.m. Ground the fused salts to minus 80 mesh and put into de-ionized water to dissolve, prior to filtering.

Mar 31/05

7:15 a.m. Started filtering the dissolved salt residue.

7:50 a.m. Filtering completed and put on to dry.

12:00 p.m. Test #14 yielded 13.3 gms of dried filtrate from 454 gms of sample

N.B. At a later fusion and cupelling, the 13.3 gms gave a 14.24 mg bead.

Test #15 Apr 05/05

10:15 a.m. Prepared 1000 mls of SSS (saturated salt solution)
150 mls of nitric acid
25 mls of peroxide
Turned heat to 50°C
Added 454 gms of Site 01-6-26-6'-7' mineral sample.
Moderate foaming.

11:45 a.m. P.H. 1.9 ORP 770

1:05 p.m. P.H. 1.9 ORP 746
Added 25 mls of peroxide

3:45 p.m. P.H. 1.9 ORP 765

9:00 p.m. Shut down for the night.

Apr 06/05

8:00 a.m. After sitting overnight:
P.H. 2.8 ORP 726
Added 50 mls of nitric acid
20 mls of peroxide

12:20 p.m. P.H. 1.5 ORP 800

4:25 p.m. P.H. 1.6 ORP 797
Shut down

Apr 07/05

8:50 a.m. Started filtering.

10:25 a.m. Finished filtering and put on to evaporate to a salt.

8:00 p.m. Shut down

Apr 11/05

8:20 a.m. Continued drying of above salts.

12:00 p.m. Shut down

Apr 12/05

10:00 a.m. Started diesel fired furnace.

10:15 a.m. Prepared three charges of salts with volumes of Fullers Lye Flux and placed in furnace.

Test #15 - continued

Apr 12/05

11:08 a.m. Removed from furnace and poured into pre-heated mold.

11:10 a.m. Prepared three charges of tailings with equal volumes of Fullers Lye Flux and placed in furnace.

12:00 p.m. Removed from furnace and poured into a pre-heated mold.

1:30 p.m. Crushed and weighed the above material. The three charges of leach salts weighed 280 gms when combined. The three charges of tailings weighed 307 gms.

4:00 p.m. Put the 280 gms of fused salts into one liter of de-ionized water to dissolve.

9:30 p.m. Shut down

Apr 14/05

8:30 a.m. Started filtering the residue from the salt solution of both the leach and tailings of Test #15.

4:30 p.m. Shut down after drying the above.

Apr 15/05

8:45 a.m. The 280 gms of fused salts produced 5.2 gms of filtrate residue.

9:45 a.m. Mixed the 5.2 gms with 90 gms of Action Mining standard flux and put in electric furnace with crucible cover on crucible.

3:00 p.m. The lead prill weighed 36.4 gms. The cupelled bead weighed 5.21 mgs.

Test #16

Apr 07/05

7:30 a.m. Prepared 1000 mls of SSS (saturated salt solution)
150 mls of nitric acid
Added 454 gms of Site 01-6-26-7'-8' mineral sample.
25 mls of peroxide

8:45 a.m. Temperature at 50°C

1:25 p.m. P.H. 2.1 ORP 435
Added 50 mls of nitric acid
25 mls of peroxide

2:30 p.m. P.H. 2.0 ORP 465
Added 45 mls of peroxide

3:40 p.m. P.H. 2.0 ORP 465
Added 245 mls of SSS

4:30 p.m. P.H. 2.3 ORP 460

10:00 p.m. Shut down. This material foamed and reacted from the beginning.

Apr 09/05

9:15 a.m. P.H. 3.7 ORP 440 after sitting for thirty-six hours.
Started filtering, which was difficult due to material and foam still in suspension.

Apr 10/05

11:00 a.m. Started re-filtering Test #16 leachant.

12:40 p.m. Put on hotplate to evaporate.

9:00 p.m. Completed evaporating and drying of pregnant leach.

May 17/05

9:00 a.m. Started reduction fusion with Fullers Lye Flux in diesel fired furnace.

12:35 a.m Poured reduction fusion, then crushed and put into well water to dissolve.

Test #16 - continued

May 18/05

9:00 a.m. Started filtering the residue.

9:45 a.m. Completed filtering and commenced drying filter paper and residue.
Residue weight is 11 gms.

Jun 01/05

Prepared the eleven gms with ninety gms of Action Mining standard flux and fused; and poured. The cupelling of this produced a 16.17 mg bead.

Test #17

Apr 10/05

12:00 p.m. Prepared 1000 mls of SSS (saturated salt solution)
100 mls of nitric acid
Added 454 gms of Site 01-6-26-6'-7' mineral sample.
Turned heat to 50°C

1:00 p.m. P.H. 2.1
Added 40 mls of nitric acid

1:15 p.m. P.H. 1.5 ORP 423
Added 25 mls of peroxide

4:30 p.m. P.H. 1.7 ORP 720
Added 15 mls of peroxide

7:30 p.m. P.H. 1.8 ORP 785

11:30 p.m. P.H. 2.5 ORP 707
Shut down

Apr 11/05

9:00 a.m. Started filtering pregnant leach.

11:10 a.m. Completed filtering and began evaporating to a salt.

9:00 p.m. Shut down

May 23/05

7:30 a.m. After the reduction fusion, crushing, filtering, and drying, the filter residue weighed 16 gms. 10 gms of this and 90 gms of Action Mining standard flux, after fusion and cupellation, produced a bead weighing 2.86 gms. This extrapolated to the 16 gms would indicate a 4.57 mg bead.

Test #18

Apr 19/05

11:00 a.m. Prepared 1000 mls of SSS (saturated salt solution)
91 mls of nitric acid
23 mls of peroxide
Added 454 gms of Site 01-6-26-8'-9' mineral sample.
By slowly adding the material and leaving the heat off, very little foaming occurred.

12:45 p.m. Turned the heat on, set at 50°C

2:15 p.m. P.H. 1.9 ORP 720

7:00 p.m. P.H. 1.9 ORP 691
This leach was run continuously for 25 hours without any additional nitric acid or peroxide.

Apr 20/05

12:00 p.m. P.H. 2.0 ORP 690
It was left in fume hood to settle.

Apr 21/05

4:00 p.m. P.H. 3.8 ORP 662

5:20 p.m. Completed filtering and put pregnant leach on to evaporate to a salt.

N.B. 156.5 gms of salts were recovered.

Test #19

Apr 22/05

3:40 p.m. Put 1000 mls of SSS on hotplate to evaporate, for a blank.
This produced 238.5 gms of dried salts and 13.9 gms of dried filtrate residue from 103 gms of the 238.5 gms of dried salts.
I do not place too much value to the dried salts weights, as they can vary, due to humidity, etc.
The 13.9 gm dried filtrate residue is a much more useful stage to calculate against head sample weights.
This will be fused with Action Mining standard flux at a later date.
I have poor heat control over the diesel furnace, so am going to build a propane furnace.

Test #20 & Test #21

Jun 16/05

7:45 a.m.	Prepared two 454 gm samples of Site 01-6-26-2'-4' mineral sample material. Added them to two 1000 ml measures of SSS Added 91 mls of nitric acid to each plus 23 mls of peroxide Turned heat to 150°F
5:00 p.m.	Shut down heat and agitation, left till next day.

Jun 17/05

7:45 a.m.	Turned on heat and agitation P.H. 1.5 and 1.7 ORP 421 and 425 Added 20 mls of peroxide to each; this caused excessive foaming. Less peroxide should be used.
11:30 a.m.	P.H. 0.2 and 2.3 ORP 780 and 622
7:00 p.m.	Shut down heat and agitation.

Jun 19/05

10:45 a.m.	P.H. 1.0 and 1.0 ORP 581 and 566 P.H. test strips show 1.5; the tester may not be accurate.
11:10 a.m.	The two tests have stood without heat or agitation since 7:00 p.m. of Jun 17th.
11:20 a.m.	Started filtering
2:00 p.m.	Filtering completed and evaporation started.
9:30 p.m.	Stopped evaporation.

Test #22

Jul 07/05

8:00 a.m. Prepared 454 gms of finely ground
Site 01-6-26-2'-4' sample material
and added it slowly to
1000 mls of SSS (saturated salt solution
91 mls of nitric acid
23 mls of peroxide

9:00 a.m. Temperature of solution is 150°F

9:50 a.m. P.H. by meter 4.0 ORP 468
Added 20 mls of nitric acid to leach.

10:05 a.m. P.H. by test strip 1 ORP 412

10:15 a.m. Added 10 mls of peroxide

11:00 a.m. Added 10 mls of peroxide ORP 434

2:45 p.m. ORP 419

4:30 p.m. Shut down and let stand overnight.

Jul 08/05

7:30 a.m. ORP 439
Started heat and agitation.

9:05 a.m. Added 10 mls of peroxide

11:00 a.m. Shut down
Attempted to filter and the fact
this was ground much finer than usual
I was unable to filter at this time.
I will centrifuge it later.

Test #22A (blank) Jul 07/05

8:00 a.m.	Prepared 454 gms of barren silica sand and added it slowly to 1000 mls of SSS 91 mls of nitric acid 23 mls of peroxide
9:00 a.m.	Temperature of solution is 150°F
9:50 a.m.	P.H. by meter is 4.0 ORP 774 Added 20 mls of nitric acid
10:05 a.m.	P.H. by test strip 2.0 ORP 760
10:15 a.m.	ORP 760
2:45 p.m.	ORP 752
4:30 p.m.	Shut down and let stand overnight

Jul 08/05
ORP 711

7:30 a.m.	Started to filter
8:00 a.m.	Filtering finished; started evaporation
5:00 p.m.	Evaporation complete Will do reduction fusion later.

Jul 14/05

11:30 a.m.	Mixed above salts with equal volumes of Fullers Lye Flux for reduction fusion with crucible cover
1:30 p.m.	Poured into pre-heated mold.
5:30 p.m.	Crushed and put into 1750 mls of de-ionized water to dissolve the salt.

Jul 15/05

9:30 a.m.	Filtered and dried filter and residue.
10:30 a.m.	103.3 gms of filter residue was produced.
	A later fusion and cupelling produced a .21 mg bead from 10 gms of filter residue.

Test #23 Jul 09/05

9:00 a.m. Prepared 1000 mls of SSS (saturated salt solution)
454 gms of Site 01-6-26-6'-7' sample
92 mls of nitric acid

9:15 a.m. ORP 252

9:25 a.m. Added 10 mls of peroxide

9:35 a.m. ORP 749
Minimal foaming

1:00 p.m. ORP 735
Set temperature at 50°C

9:00 p.m. Shut down heat and agitation and will process later.

Jul 14/05

The leach was filtered, reduction fused, crushed and put into de-ionized water to dissolve.

Jul 15/05

11:00 a.m. Started filtering Test #23 salts.

11:40 a.m. Filtering completed; put filter and residue on hotplate to dry.

The dry weight of residue is 132.6 gms.

N.B. The amount of residue produced will vary from test to test depending on such things as how thorough the dissolution of the salts.

1:00 p.m. Fused 10 gms of the 132.6 gms with 90 gms of Action Mining standard flux.

3:30 p.m. Cupelled the received button and produced a .52 mg bead.

The .52 mg bead would indicate that if 10 gms of the 132.6 gms produced a .52 bead, then the 132.6 gms would produce a 6.89 mg bead.

Test #24 Jul 14/05

11:00 a.m. Prepared 1000 mls of SSS (saturated salt solution)

92 mls of nitric acid
10 mls of peroxide

454 gms of Site 01-6-26-8'-9' sample material
Foaming was not excessive

12:20 p.m. ORP 775

5:30 p.m. ORP 678
Shut down and let settle overnight.

Jul 15/05

11:45 a.m. Started filtering above leach.

12:40 p.m. Finished filtering and put on to evaporate.

4:30 p.m. Started filtering leach tailings.

6:10 p.m. Filtering completed.

Jul 18/05

6:30 a.m. Turned furnace on, to heat up.

10:30 a.m. Prepared four crucibles of 10 gms of the product of the reduction fusion and 90 gms of Action Mining standard flux in each crucible and put into furnace.

12:30 p.m. Removed and poured and put a second four crucibles of the same into furnace.

2:00 p.m. Removed and poured.

3:30 p.m. Cupelled the eight buttons.

5:00 p.m. Put the eight beads in a lead foil boat and re-cupelled.

The combined beads weighed 3.69 mgs.

Test #25

Jul 26/06

3:45 p.m. Prepared 750 mls of SSS (saturated salt solution)
46 mls of nitric acid
5 mls of peroxide
227 gms of Site 01-6-26-3'-4' sample material.

4:45 p.m. P.H. 0.1 ORP 700

5:00 p.m. No heat was used.
Foaming was not excessive.

8:00 p.m. P.H. 0.1 ORP 613
Continued agitation of leach for 29 hours.

Jul 27/06

7:00 a.m. P.H. 0.1 ORP 610

7:20 a.m. Added 3 mls of peroxide

1:30 p.m. P.H. 0.1 ORP 680

8:45 p.m. Shut down (29 hours continuous agitation)
P.H. 0.1 ORP 630

Jul 28/06

9:00 a.m. Started filtering

11:00 a.m. Filtering completed

11:45 a.m. Started evaporating pregnant leach

Jul 31/06

9:00 a.m. Reduction fusion, poured, crushed and put into well water to dissolve the salt.

12:00 p.m. Shut down; will filter the above at a later date.

Aug 05/06

9:00 a.m. Started filtering solids off the above.

Test #25 - continued Aug 05/06

10:00 a.m. Filtering completed. Put solids and filter paper on hotplate to dry.

The weight of filter residue is 20.4 gms.

Aug 07/06

9:00 a.m. Started propane furnace.

10:45 a.m. Put crucible into furnace, charged with 60 gms of Action Mining standard flux and 5 gms of leach solids. (filter residue).

12:15 p.m. Removed crucible.

1:30 p.m. Prepared button for cupelling.

2:00 p.m. Shut down for the day after storing equipment.

Aug 08/06

8:00 a.m. Started electric furnace with cupels in it.

11:00 a.m. Temperature has reached 1700°F

12:30 p.m. Shut down furnace, but left fan and scrubber on.

3:30 p.m. Shut down
Bead weighed 4.24 mgs.

As there was 20.4 gms of filter residue produced, this would extrapolate to a 17.29 mg bead from 227 gms of mineral sample material.
This would indicate 69.19 gms of noble metal per ton of head ore.

Test #26 Jul 26/06

3:45 p.m.	Prepared 750 mls of SSS (saturated salt solution) 46 mls of nitric acid 5 mls of peroxide 227 gms of Site 01-6-26-5'-6' sample material.
4:45 p.m.	P.H. 0.1 ORP 700
5:00 p.m.	No heat was used. Foaming was not excessive
8:00 p.m.	P.H. 0.1 ORP 592
	Jul 27/06
7:00 a.m.	P.H. 1.0 ORP 512
7:20 a.m.	Added 3 mls of peroxide
1:30 p.m.	P.H. 1.0 ORP 665
8:45 p.m.	Shut down after 29 hours of continuous agitation. P.H. 1.0 ORP 552
	Jul 28/06
11:00 a.m.	Started filtering
1:00 p.m.	Filtering completed
1:15 p.m.	Started evaporating pregnant leach
	Jul 31/06
9:00 a.m.	Reduction fusion, poured, crushed and put into well water to dissolve the salt.
12:00 p.m.	Shut down. I will filter the above at a later date.
	Aug 05/06
9:00 a.m.	Started filtering solids off of the above.

Test #26 - continued

		Aug 05/06
11:00	a.m.	Filtering completed. Put solids and filter paper on hotplate to dry.
9:00	a.m.	Started propane furnace.
10:45	a.m.	Put crucibles into furnace, charged with 60 gms of Action Mining standard flux and 15 gms of leach solids.
12:15	p.m.	Removed crucible.
1:30	p.m.	Prepared button for cupelling.
2:00	p.m.	Shut down for the day after storing of equipment.
		Aug 08/06
8:00	a.m.	Started electric furnace with cupels in it.
11:00	a.m.	Temperature has reached 1700°F
12:30	p.m.	Shut furnace off, but left fan and scrubber on.
3:30	p.m.	Shut down. Bead weighed 4.36 mgs.

Test #27

Aug 10/06

Prepared 90 gms of Action Mining standard flux and 10 gms of leach #25 filter residue for fusion.

Prepared 90 gms of Action Mining standard flux and 10 gms of leach #09 filter residue for fusion.

11:30 a.m. Put both crucibles in the propane furnace.

1:10 p.m. Removed crucibles from furnace and poured into pre-heated mold.

Aug 11/06

9:00 a.m. Turned the electric furnace on.

11:30 a.m. Furnace temperature is 700°C

11:45 a.m. Put cupels, with buttons from previous days fusion into furnace.

2:15 p.m. Took cupels out. Temperature was 1800°F
Will weigh beads later.

The bead from leach #25 filter residue, from this fusion-cupelling only weighed 1.57 mgs.
This weight combined with the previous 4.24 mgs bead, equals 5.81 mgs.
This would extrapolate to a 11.85 mg bead from 227 gms of mineral sample material.
This would indicate 47.40 gms of noble metal per ton of head ore.

Other fusion-cupelling tests will have to be done, to discover why this and Test #25 differ.

Test #28

Aug 23/06

9:a.m.	Prepared 750 mls of SSS (saturated salt solution) 227 gms of Site 01-6-26-8'-9' mineral sample 45 mls of nitric acid 3 mls of peroxide No heat was used and very active agitation	
10:00 a.m.	Foaming was moderate	
10:25 a.m.	3 mls of peroxide	
10:55 a.m.		ORP 682
12:45 p.m.		ORP 696
2:50 p.m.		ORP 654
6:50 p.m.		ORP 541
6:55 p.m.	3 mls of peroxide	
8:00 p.m.	P.H. 0.3	ORP 704

Aug 24/06

12:00 p.m.		ORP 697
6:45 a.m.	P.H. 0.3	ORP 616
12:30 p.m.		ORP 550
4:00 p.m.	P.H. 0.4 Shut down and let settle to the 26th	ORP 554

Aug 26/06

10:30 a.m.	Started filtering
5:15 p.m.	Re-filtered and put the pregnant leach into a sealed plastic container for later evaporation.

Test #29

Aug 23/06

9:00 a.m.	Prepared 750 mls of SSS (saturated salt solution) 227 gms of Site 01-6-26-8'-9' sample material 45 mls of nitric acid 3 mls of peroxide No heat was used and very active agitation.		
10:00 a.m.	No foaming occurred		
10:25 a.m.	3 mls of peroxide		
10:55 a.m.			ORP 723
12:45 p.m.			ORP 747
2:50 p.m.			ORP 734
6:50 p.m.			ORP 724
8:00 p.m.	P.H. 0.3		ORP 720
11:55 p.m.			ORP 682
6:45 a.m.	P.H. 0.3		ORP 664
12:30 p.m.			ORP 630
4:00 p.m.	P.H. 0.5		ORP 594
	Shut down and let settle to Aug. 26th		

Aug 26/06

11:00 a.m.	Started filtering
11:30 a.m.	Put the pregnant leach solution into a plastic container for later evaporation.

Test #30

Aug 25/06

10:00 a.m.	This is a reduction fusion of the tailings of Test #17. That is mineral sample Site 01-6-26-6'-7' material.
10:30 a.m.	Prepared equal amounts of leach tailings or filter residue and Fullers Lye Flux in a silicon carbide crucible, without a crucible cover.
12:00 p.m.	Took out, and poured into pre-heated mold. Temperature had increased from 1300°F at 10:30 a.m. to 2100°F
2:30 p.m.	Crushed and put one-half of the material in well water to dissolve salts.

Aug 26/06

9:00 a.m.	Started filtering the above.
10:00 a.m.	Finished filtering and put filter, and residue on hotplate to dry.
10:30 a.m.	Put in jar marked Test #30 fused tailings.

Test #31

Aug 28/06

9:30 a.m.	Prepared dual portions for parallel tests 750 mls of SSS (saturated salt solution) 45 mls of nitric acid 3 mls of peroxide Added 227 gms of Site 01-6-26-2'-4' sample material to each leach container. No heat was applied. Foaming was considerable. The leaches were actively agitated.
11:20 a.m.	P.H. 0.7 ORP 405 Added 3 mls of peroxide
11:40 a.m.	ORP 680
1:00 p.m.	ORP 430 Added 3 mls of peroxide
1:10 p.m.	ORP 732
2:20 p.m.	P.H. 0.5 ORP 449 Added 4 mls of peroxide
2:50 p.m.	ORP 554
5:00 p.m.	ORP 432
5:57 p.m.	P.H. 0.7 ORP 434 Added sodium hydroxide to P.H. 1.2
6:10 p.m.	Added 3 mls of peroxide
8:00 p.m.	ORP 525

Aug 30/06

3:50 a.m.	P.H. 1.9 ORP 467
10:00 a.m.	P.H. 2.0 ORP 455 Added 150 mls of SSS Added 10 mls of peroxide
10:40 a.m.	P.H. 0.7 ORP 440

Test #31 - continued

Aug 30/06

Added 5 mls of peroxide

11:05 a.m. ORP 763

2:30 p.m. ORP 510

3:30 p.m. P.H. 1.1 ORP 485
Stopped agitation and put both portions (1500 mls) into sealed pail.

Aug 31/06

9:00 a.m. Started filtering the settled portion of Test #31

11:00 a.m. Finished filtering and started evaporation of pregnant leach.

Sept 02/06

9:30 a.m. Continued with evaporating settled portion of Test #31 pregnant leach.

11:30 a.m. Prepared a reducing fusion of a portion of Test #31 evaporated pregnant salts, with an equal volume of Fullers Lye Flux.

12:30 p.m. Removed from furnace and poured into a pre-heated mold.

1:30 p.m. Crushed the fused salts, and put into de-ionized water to dissolve said salts.

Sept 03/06

12:00 p.m. Started filtering Test #31 fused salts.

1:30 p.m. Filtering completed, put the filtrate on the hotplate to dry.

Sept 05/06

8:30 a.m. Started filtering more of Test #31 evaporated salts.

9:15 a.m. First filtering completed and filter and filtrate put into de-ionized water for a second time.

Test #31 - continued

Sept 05/06

9:15 a.m. cont'd	This should remove any salt clinging to the filtrate.
11:30 a.m.	Started second filtering of this leach.
12:00 p.m.	Filtering completed and the filter and filtrate is put on hotplate to dry.

Sept 07/06

9:00 a.m.	Prepared three crucibles for fusion by mixing 10 gms of filtered and dried salts with 90 gms of Action Mining standard flux in each crucible.
9:35 a.m.	Placed in propane furnace at 1500°F
9:41 a.m.	Furnace temperature at 1600°F
10:00 a.m.	Furnace temperature at 1850°F
10:40 a.m.	Furnace temperature at 1950°F
11:30 a.m.	Furnace temperature at 2100°F Removed from furnace and poured into pre-heated molds.
11:35 a.m.	Placed two more crucibles in furnace, one with 10 gms of salts and 90 gms of flux and one with 6.8 gms of salts and 45 gms of flux.

N.B. This accounts for 47 gms of fused salts, but these tests cannot be quantitative until all the pregnant leach from the head sample has been converted to a weighed, parted bead. A single fusion can be compared against other similar fusions or against a test blank as an indicator of progress, or not.

1:15 p.m.	Put cupels in electric furnace.
2:15 p.m.	Removed cupels.
5:00 p.m.	I consolidated the beads in the five cupels into a lead boat and re-cupelled.
7:30 p.m.	Bead weighed 3.17 mgs.

PART - C

A REPORT AND BACKGROUND INFORMATION PERTINENT TO THE EXPLORATION AND ANALYSIS OF THE BAD HEART SANDSTONE ON PERMITS 9396110003 AND 9396110004

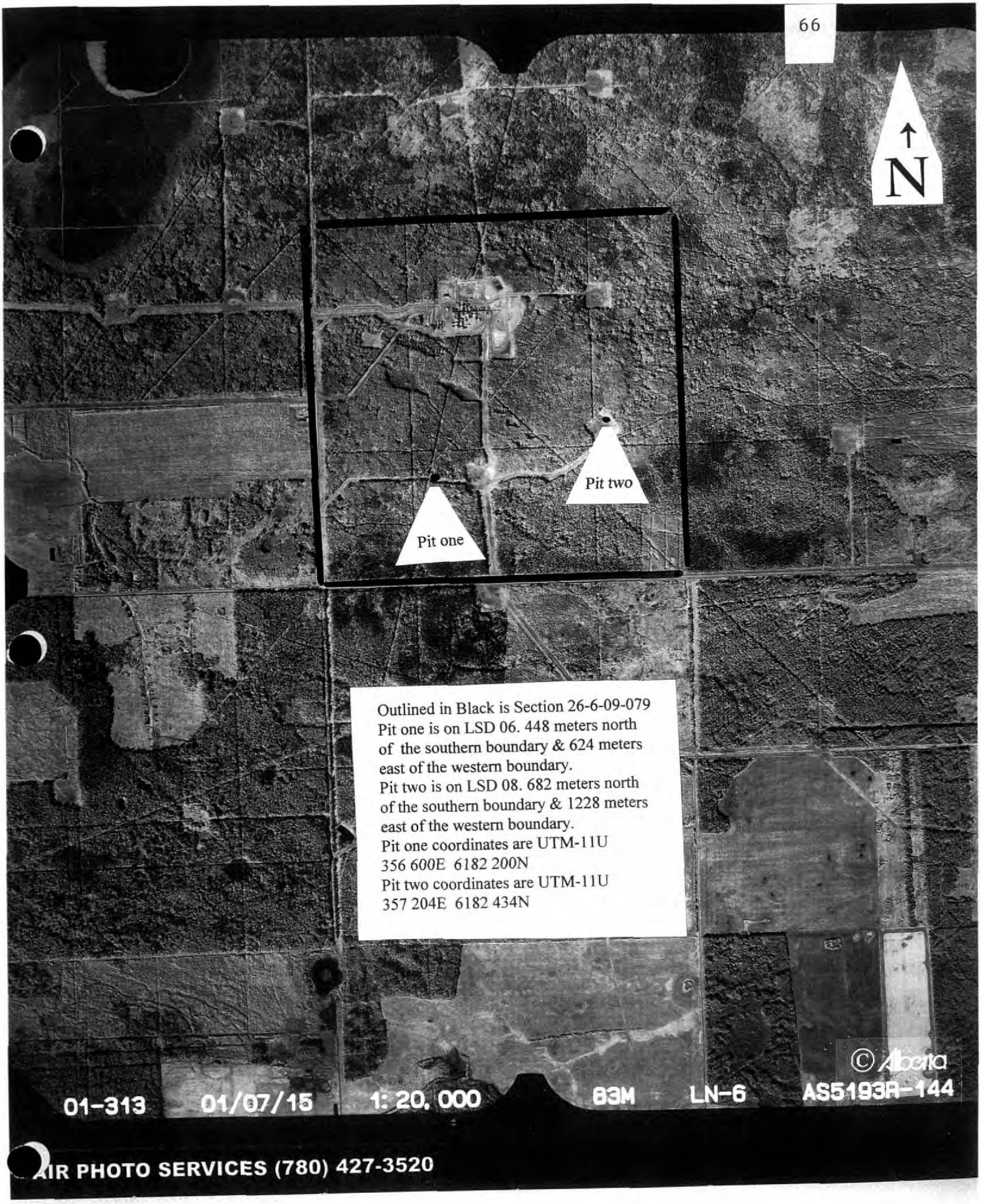
Ronald T. Owens

October 16, 2006

Part C:

Appendices

1. Photo Map of Sample Pit Location
2. Western Environmental Services Inc. Report
3. Qualifications



Outlined in Black is Section 26-6-09-079
Pit one is on LSD 06. 448 meters north of the southern boundary & 624 meters east of the western boundary.
Pit two is on LSD 08. 682 meters north of the southern boundary & 1228 meters east of the western boundary.
Pit one coordinates are UTM-11U
356 600E 6182 200N
Pit two coordinates are UTM-11U
357 204E 6182 434N

Western
Environmental
Services, Inc.
Water-treatment / Mineral Recovery / Mineral testing

December 10, 2004

Assay Report

Test #1

Client	Ronald Owens
Sample	G-28, 2 - 4 foot crushed ore
Test size	9.08 Kg
Test	Brine leach and Fullers Lye Flux recovery

*	Leach temp	18 - 20C
*	Run time	36 hrs.
*	Volume	3 gals.
*	Chemical added	1 lt. nitric acid 250 ml 35% H202

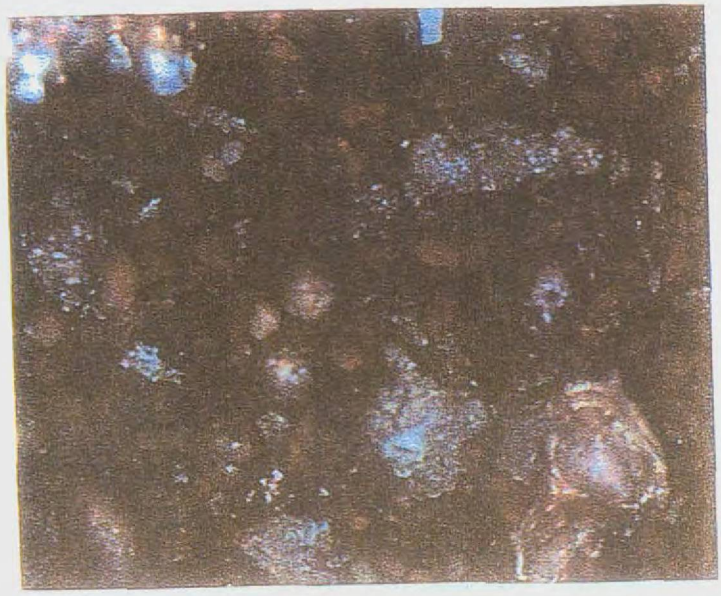
WES mixed the ore and activated leach solution and ran the leach in a rolling plastic drum for 36 hrs.

* The ORP range ran from 600-900
* The pH ran between 0.6 - 1.4
* No heat was added during the leach

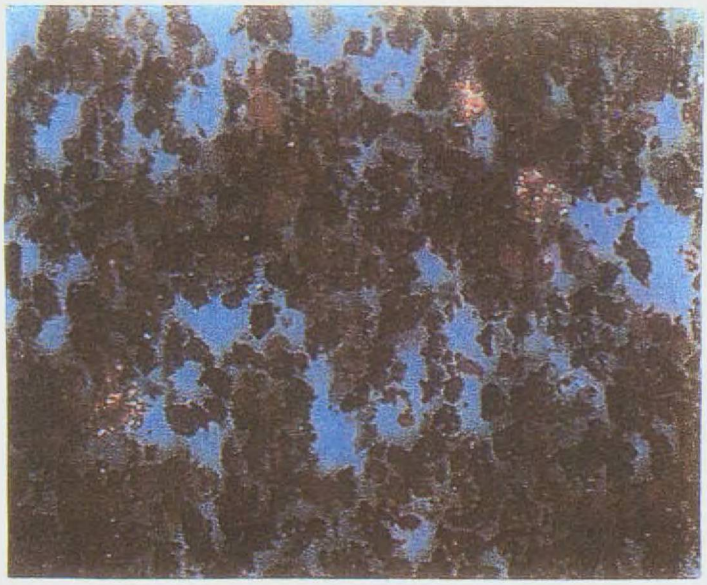
Observations

* A large amount of frothing occurred during the first 12 hrs.
* The leach solution looked golden in color
* A lot of fine particles were in a coloidal suspension during the leach

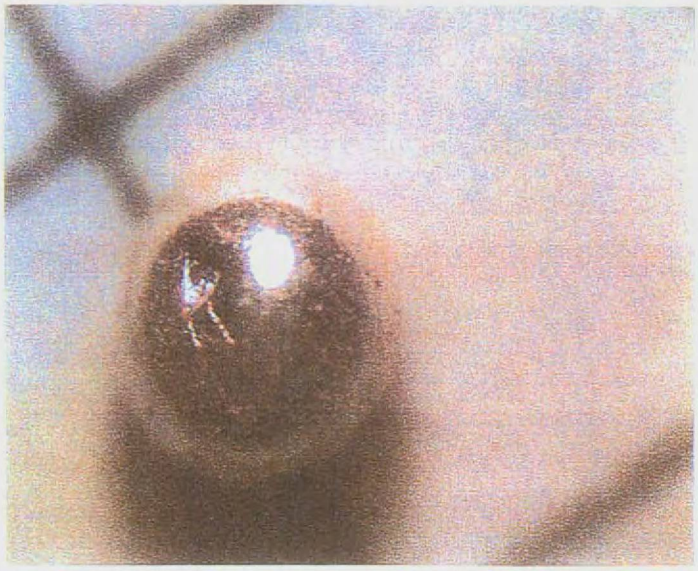
The solution was then filtered and boiled down to a salt
Mixed 1-1 with the assay Fullers Lye Flux and reduced, in a crucible at 1000 C.
The molten salt fusion was then poured into a slag mold, crushed and water added, to remove the salt.
I panned the heavies and took these pictures.



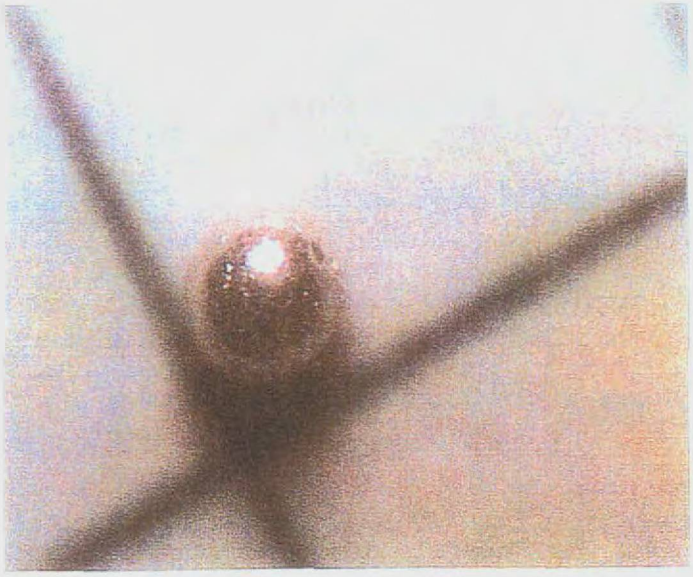
The 60X pictures show that metal was leached and recovered from the leach



This metal was then assayed using Action Mining standard assay flux



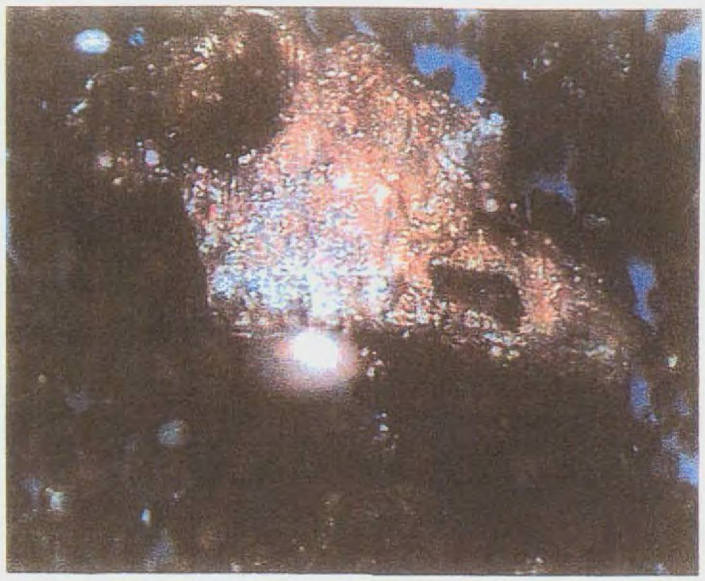
The total metal bearing powder recovered from the flux fusion equaled 643 grams. I used 10 grams and 90 grams of Action Mining flux and recovered this 13 mg bead



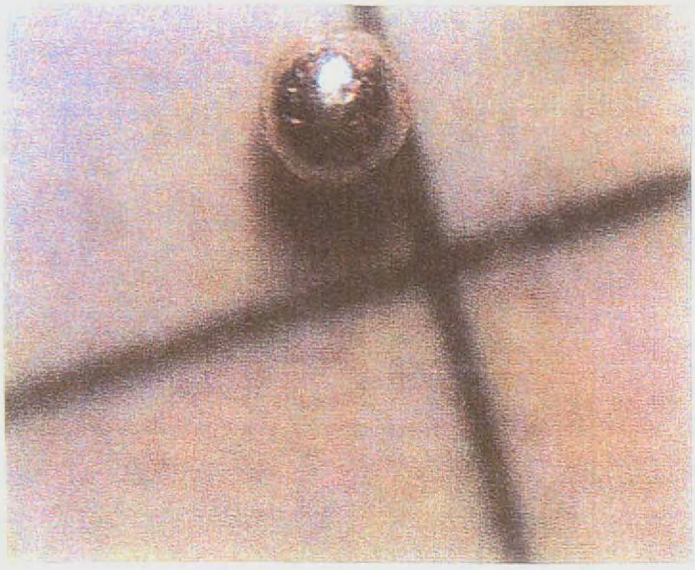
6.4 mg

I also took 5 grams and 90 grams of Action Mining flux and recovered this 6.4 mg bead. The consistency of the two assays showed that the metal is stable enough to report the recovery of 2.5 - 2.6 OPT.

I then dried the tailings and fired 1000 grams from 9060 grams. I mixed the 1000 grams with the Fullers Lye Flux and fused the mix at 1000 C, crushed, washed away the salt and panned; and took pictures of the heavies.

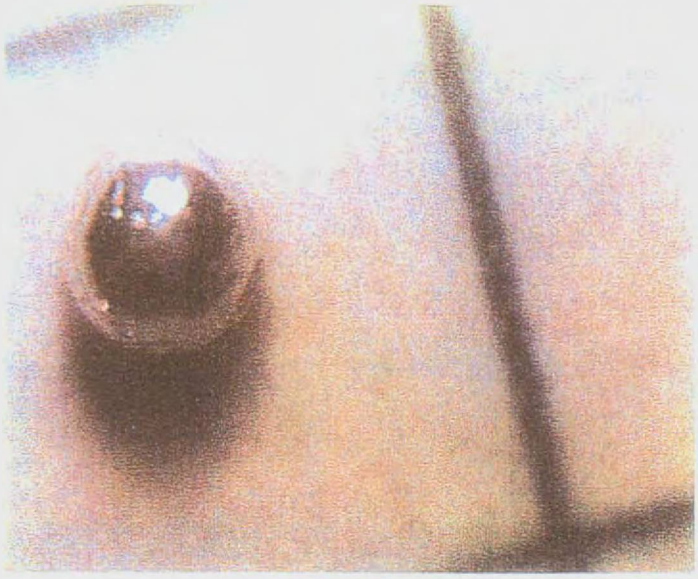


From the fusion we recovered 701 grams of metal bearing powder. Keep in mind that the pictures you see are the heavies. I assayed the powder and recovered the following.



4.2 mg

From 5 grams of powder and 90 grams of flux, the bead reported 4.2 mg.



10.0 mg

From 5 grams and 45 grams of flux the bead reported 10 mg. The assay on the leached residue showed a large amount of metal, but not as stable as the leached recovered metal.

Summary

I think the leach is effective on your ore.

The leach can be improved with the addition of heat and or a voltage applied to the ore to drive it into solution. Keep in mind that driving metal into solution will drive all the metals into solution.

Robert J. Van Risseghem
Western Environmental Services, Inc.

Qualifications

I have no formal qualifications in metallurgy, but have acquired a sizeable reference library .

In the past, I have worked under the direct supervision of a PhD in geochemistry for a three month period.

The laboratory protocol described in the "Body of Work" can be performed by anyone willing to diligently follow specific detailed instructions .

[redacted]

Ronald T. Owens
Permit Holder