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PRELIMINARY EVALUATION OF THE  
VULTURE MINE PLACER POTENTIAL  
MARICOPA COUNTY, ARIZONA

by

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Date: January 23, 1985

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1. INTRODUCTION

This author was retained by DMEA, headquartered in Scottsdale, Arizona, on a fee-paid consulting retainer basis to investigate the placer potential of the Vulture Mine area. The object of this preliminary testing program was to determine the presence of placer gold in these alluvials and whether economic concentrations could exist adjacent to the Vulture Mine. This field investigation encompassed the period of December 3rd to December 20th 1984.

The Vulture Mine is located approximately 16 miles southwest from Wickenburg. The property is easily accessed by a well graded and partially paved road from Wickenburg located in the extreme northern portion of Maricopa County, Arizona. Vegetation in the area consists of cactus and assorted desert brush which flourishes at this 200 foot elevation. Stream gulleys can contain water only after severe rain storms and consequently the Vulture Mine water is obtained from deep wells at a reported pumping rate of 75 gpm.

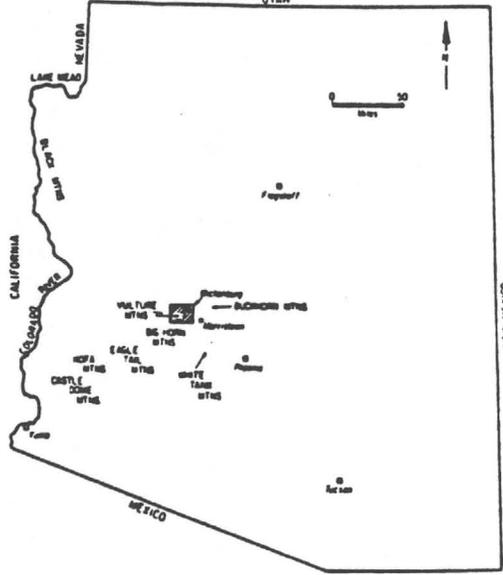
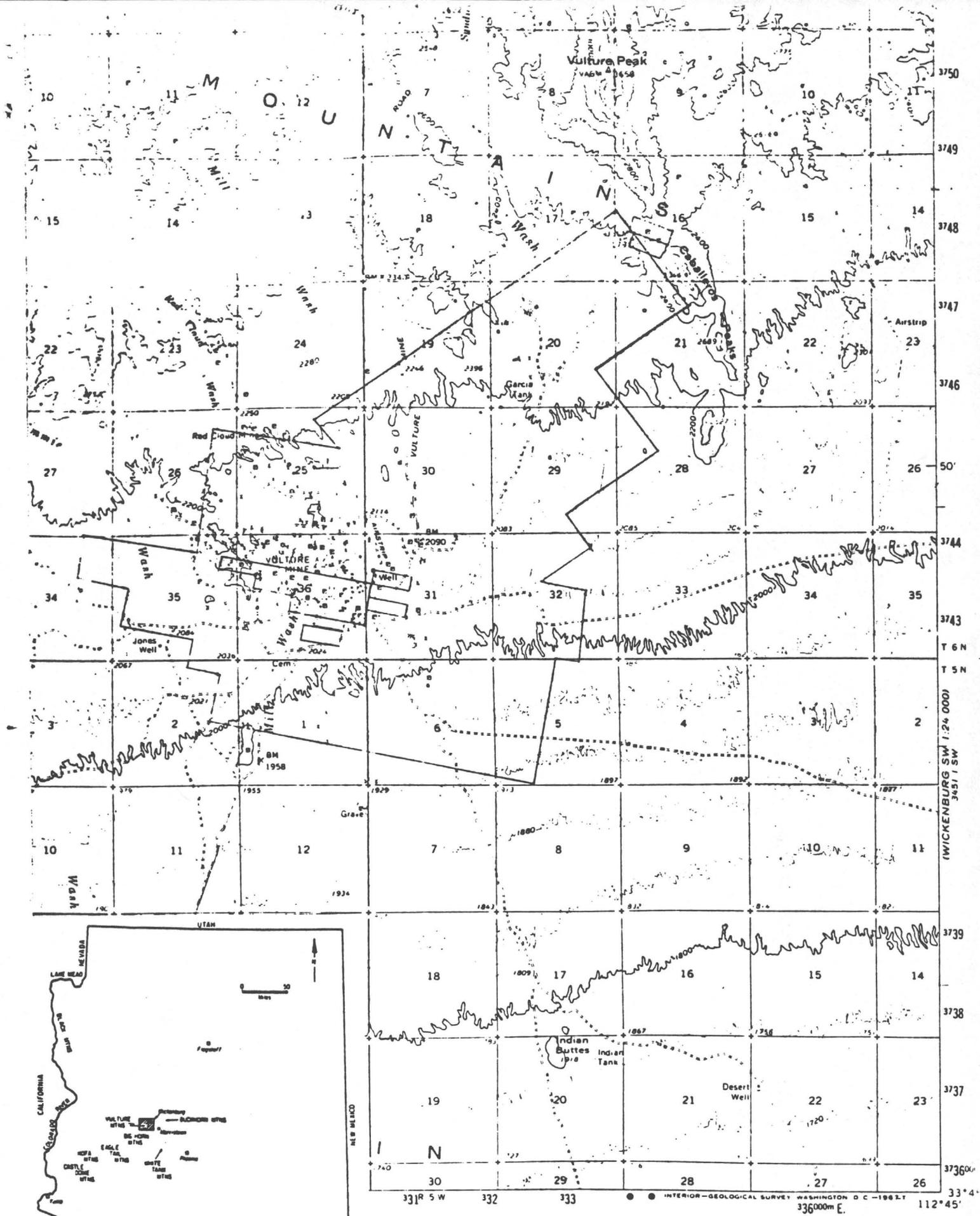


Figure 1  
 Location of Vulture Mine in SE portion. Vulture Mountain Quadrangle, Maricopa County, Arizona.

## 2. SAMPLING

Reconnaissance evaluation of a number of potential alluvial channels is best facilitated by excavating a sequence of sample points along strategically placed "fences." Hand excavated channels within back hoe trenches provides large volume geological samples for mechanical upgrading. The following described each phase of this operation.

2-1 Each "fence" of back hoe trench sites were selected after reviewing local geology, available maps and enlarged air photograph of the Vulture Mine area. A back hoe equipped with bucket rippers and capable of an effective excavating depth of 20 feet was used to provide samples at approximately 200 foot intervals along five (5) "fences" illustrated in Figures 3 through 7. Many trenches did not reach maximum depth penetration as either bedrock or dense caliche formation effectively halted practical excavation. Photograph 1 illustrates the excavator that was used on this project.

2-2 Hand excavated channels were cut the full depth or at selected intervals in strategic trenches. The typical cross sectional dimensions were 1.5 feet x 1.0 feet, however changes in this standard procedure were dictated by specific geological conditions. Channel lengths were also adjusted to geological criterion illustrated in mapped channel profiles located in Appendix I. Statistical summary of channel sample data as follows:

- 17 trenches sampled
- 7 sampled trenches reached bedrock
- 39 channels excavated
- 6.9 cubic feet average channel volume
- 20.3 feet maximum sampled depth
- 13.4 feet average sampled depth



PHOTOGRAPH 1

Excavator used in trench digging. Note twin ripper teeth on 7/8 cu yd bucket



PHOTOGRAPH 2

Sampling plant consisting of upper Denver Gold Saver and lower E-Z Panner for fines recovery

2-3 Excavated channel samples were weighed prior to mechanical processing. Individual sample data is located in Table I, with the following averages for the project:

849 pounds/sample

123.8 pounds/cu. ft. bulk density (assuming 0% moisture)

1.67 tons/cu. yd.

The processing plant utilized consisted of a two stage process (photograph 2). A "Denver Gold Saver" emulsified, classified at 5/16 inch and provided a "rougher" concentrate. The 5/16 inch tails from this unit were classified in an E-Z Panner at 20 mesh providing the "cleaner" concentrate. The E-Z Panner typically recovered virtually all the black sand and fine gold in each sample. The E-Z Panner was used initially as the primary recovery plant in samples 1-1-1 through 1-1-3 screening at 8 mesh.

Concentrate from both units were combined and hand panned producing an 85% black sand concentrate containing all the free gold. Rejects from this process were screened at 10 mesh producing the tails samples found in Table I. Black sand concentrates averaged 805.6 grams or approximately 4.18 Pounds/ton of the feed weight.

2-4 Visual gold grain counts were performed on each black sand concentrate prior to laboratory submittal. Three samples for each processed channel were submitted to Jacobs Assay Laboratory, Tucson for analysis. The black sand concentrate was submitted for amalgamation and subsequent fire assay processing with total gold reported in milligrams. Prior to amalgamation, all nuggets (> 1.5 mm) were weighed individually with their weights located in Appendix II. Detailed amalgamation procedure is located in Appendix III. The concentrate residue was fire assayed using a two (2) assay ton sample. The tails samples were each analyzed using a

two (2) assay ton fire assay charge. Results are listed in Table 1.

Select five (5) foot interval samples from previously drilled exploration reverse circulation holes were hand panned and the resulting black sand concentrates submitted to Jacobs Assay Laboratory for total fire assaying. Analytical results, together with visual gold notations, are located in Table II.

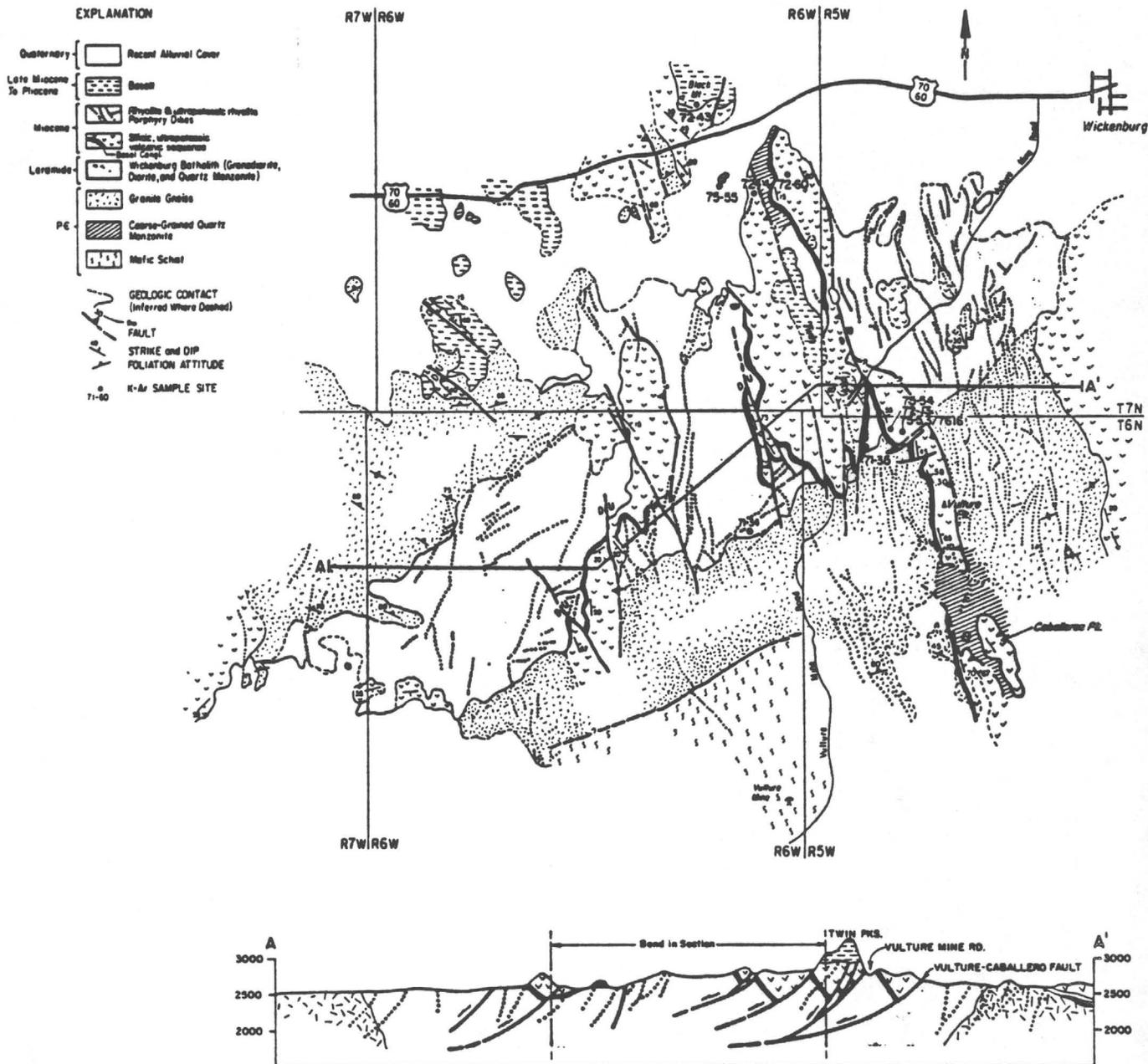


Figure 2  
 Generalized geologic map and cross section of the Vulture Mts. Precambrian rocks exhibit crude northeast pattern. Erosional unconformity exists below Miocene acid volcanics and Mio-Pliocene basalts. (After Rehrig, Shafiqullah & Damon; 1980)

### 3. GEOLOGY

3-1 Regional bedrock geology has been mapped by a variety of individuals. The most recent by Rehrig, Shafigullah and Damon (Arizona Geol. Soc. Digest. Col. XII, 1980) is found in Figure 2. They have summarized the geology of the Vulture Mountain area as:

"Geologic mapping and geochronologic studies in the Vulture Mountains near Wickenburg, Arizona, have lead to the recognition of a large, northeast-trending batholith of 68.4 m.y. age that intrudes complex gneissic and granitic rocks of probably Precambrian age. Overlying the denuded crystalline terrain is a sequence of late Oligocene to Miocene ( 26 to 16 m.y.) volcanic rocks (vitrophyres, ash-flow tuffs, welded tuffs, breccios, agglomerates and lava flows) that vary locally. -----  
Overlying this volcanic sequence in angular unconformity is a thin section of basal conglomerate and basalt lava flows dated at 13.5 m.y."

Tertiary sedimentation commenced in the Eocene coinciding with the Laramide orogeny. The landscape became increasingly higher in relief producing ever increasing percentages of clastic sediments, including gravels deposited in tectonic basins. This  $\pm 30$  m.y. sedimentation phase was terminated with the deposition of the Oligocene-Miocene acid volcanism. A second phase of clastic sedimentation ensued, which was subsequently covered by basic volcanism. Miocene and Pliocene sedimentation occurred within closed basins and produced essentially evaporite and carbonate sequences. Interbedded fine grained clastic sediments were deposited

adjacent to basin margins. The development of external drainage in the Pliocene greatly diminished evaporite-carbonate deposition which evolved into well-defined fluvial systems, without ponding, in the Pleistocene. It is believed that these established drainage systems prevailed to the Recent.

3-2 The above brief and generalized chronologic Tertiary cyclic tectonics, volcanism and sedimentation had a pronounced influence on the auriferous fluvial channels exposed during this current placer evaluation program. The well-developed regional southerly trending drainage system (Figure 1) in the Vulture Mountain area probably existed for a considerable geologic period.

Detailed geologic mapping in 1984 by Noranda Exploration (unpublished map and summary report) revealed a complex sequence of east-west trending north dipping meta-sediments and volcanics dislocated by major north-northwest and north-south trending fault zones (Talmadge and Schoolhouse Faults, respectively). These intersecting structures undoubtedly greatly influence the courses of the fluvial channels in the Vulture Mine area. In fact, the position of known placers greatly assisted in locating underground structures in the Vulture Mine (E&M. J. Vol. III No. 7, 1921).

Trench mapping during this placer evaluation-sampling program indicated general bedrock slopes to the south with coincident fluvial paleocurrent directions revealing gradients of 5 to 10 percent. Mapped east-west striking north dipping ( $110^{\circ}31^{\circ}$ ) reverse faults within the fluvial sediments (Photograph 6) suggests that minor essentially bedding plane dislocations also influenced fluvial sedimentation.

Sedimentological evaluation of all fluvial sequences exposed in trenches suggest these channels occupy a relatively high profile position within the regional sedimentation pattern. Semi-angular clasts (rounding 3-5) appear locally derived and occur as moderately to well sorted and packed gravels in narrow high energy multiple sedimentation pulses. Individual channel width to depth ratios suggest a relative diminishing fluvial energy upward in these relatively unconsolidated clastic units. This correlates with the graded sequences seen in many locations. The grossly unsorted nature of the uppermost sediments suggests progressively less humid conditions later in the sedimentation pattern as reflected by the present arid climate.

The following detailed trench "fence" descriptions attempt to elaborate on local variances within the above generalized sedimentation pattern.

### 3-3 Southeastern Placers

This series of southwest-northwest trenches (Trenches 13, 1, 2 and 14) seen in Figure 3 represent mature fluvial systems typified by well-defined bedding outlining moderate energy systems deposited on irregular bedrock surfaces (Photographs 4, 5 and 6). Detailed channel sample mapping (Appendix I) well illustrates the transition from unsorted alluvium to broad low-moderate energy broad channel development to higher energy scour features near bedrock (Trenches 1, 2 and 14). Trench 13 represents a higher elevation or late phase system consisting of small sorted scour channels marginal to the main fluvial system in Trenches 1 and 2.

### 3-4 Southern Placers

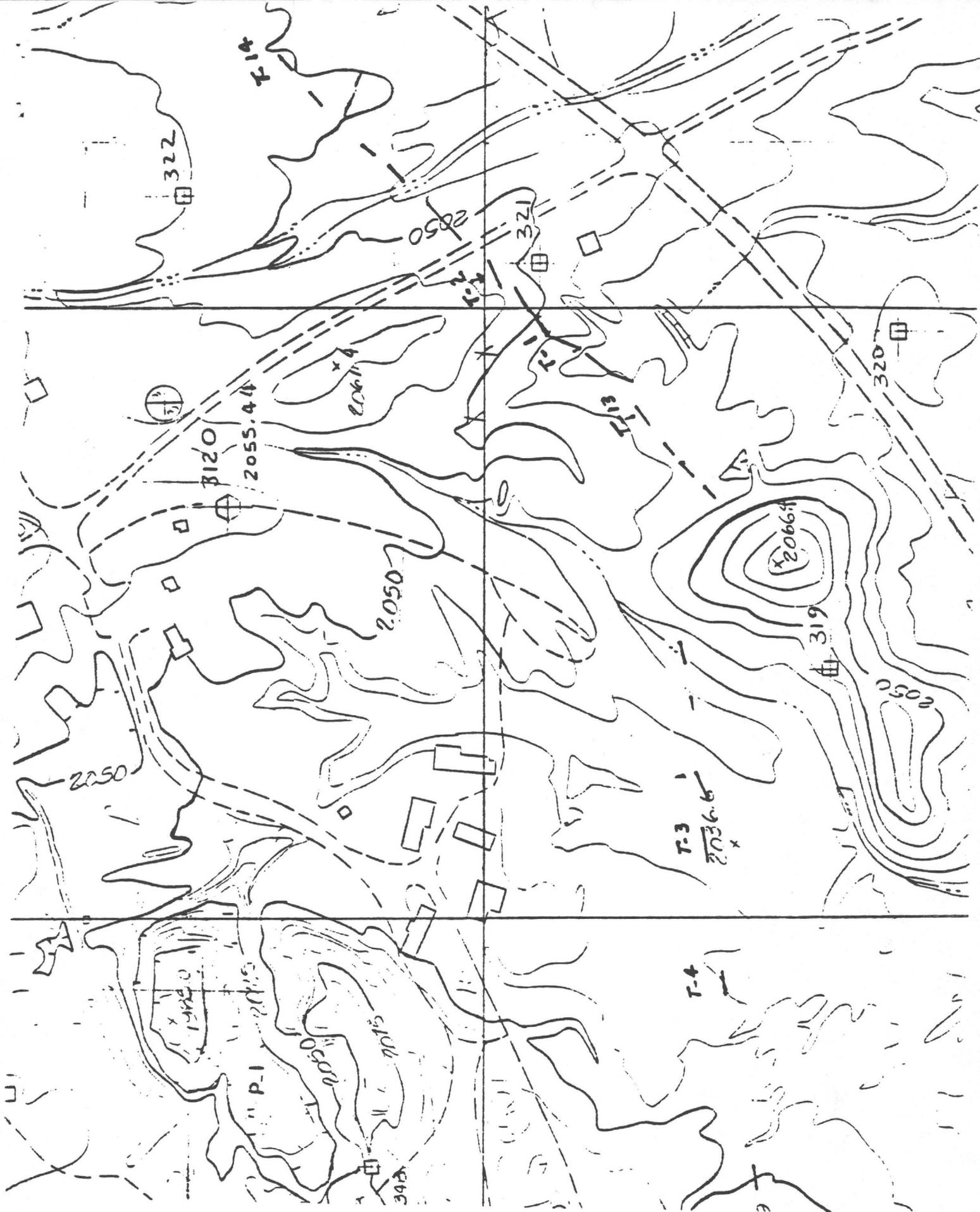


Figure 3  
 Vulture Mine Placer Project showing locations of sampled trenches  
 in Southern and Southeastern placer areas.



PHOTOGRAPH 3

Careful attention to final  
clean-up in channels



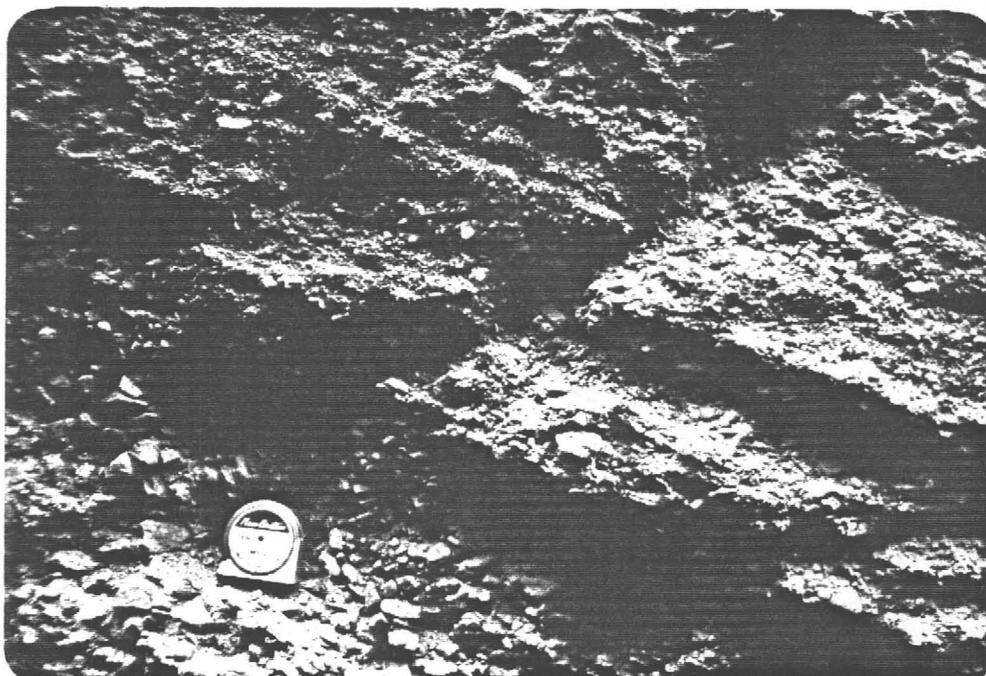
PHOTOGRAPH 4

Bedrock pinnacle within  
fluvial sediments in Trench



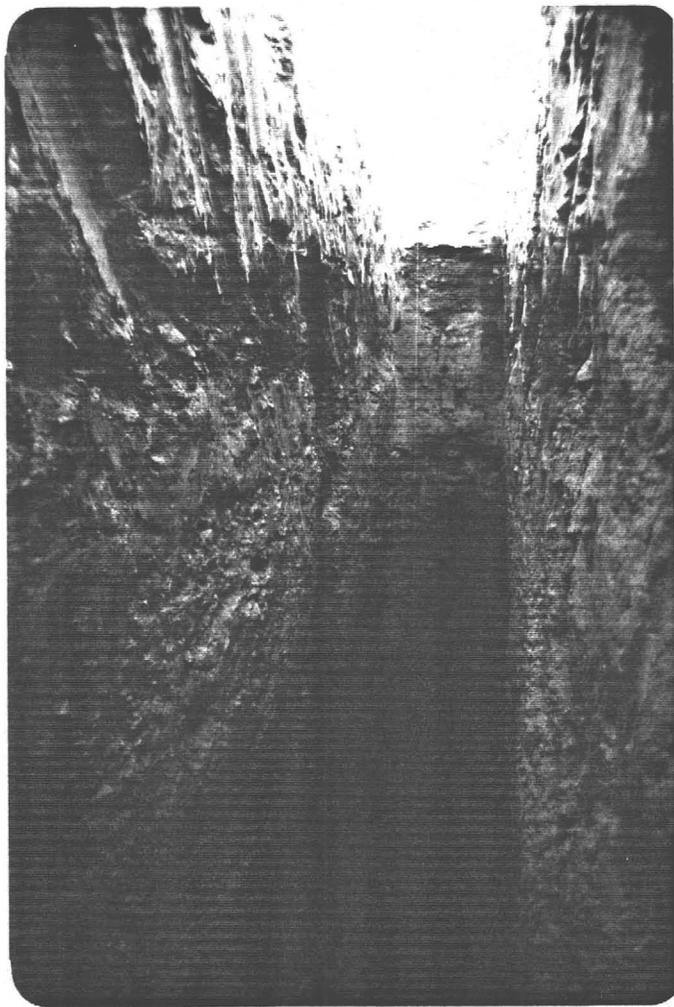
PHOTOGRAPH 5

Full wall channel in 20-foot trench. Yellow ribbons mark channel limits



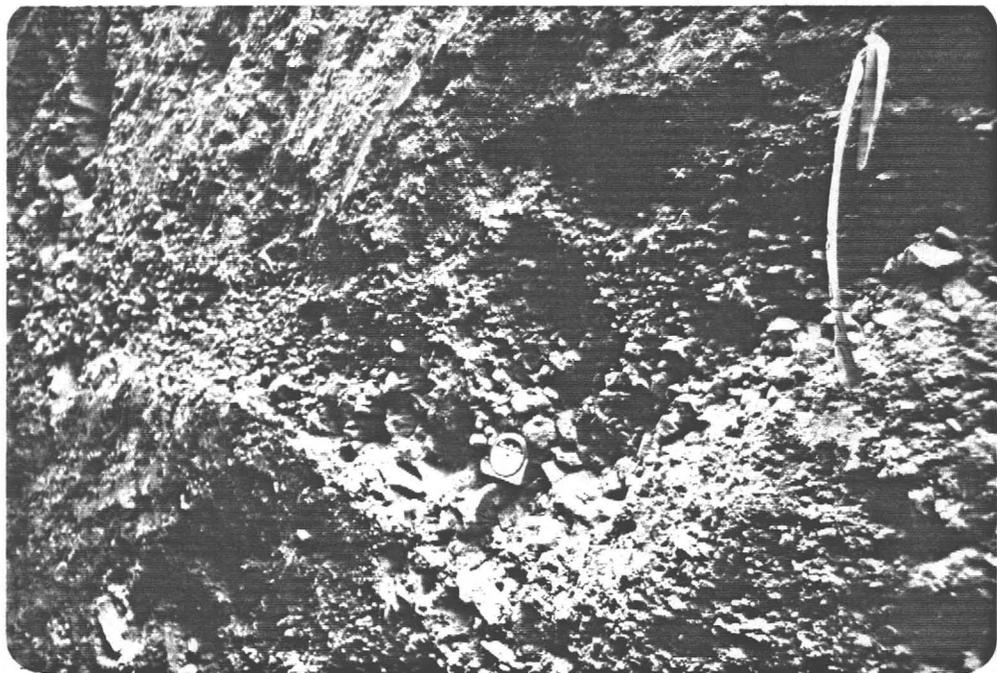
PHOTOGRAPH 6

Low angle small scale reverse faulting displacing bedded and sorted fluvial sediments in Trench 1



PHOTOGRAPH 7

Trench 4 illustrating yellow mine tailings overlying scour bedding with increasing conglomerate percentage downward



PHOTOGRAPH 8

High energy well sorted channel adjacent to sample 3-1-2

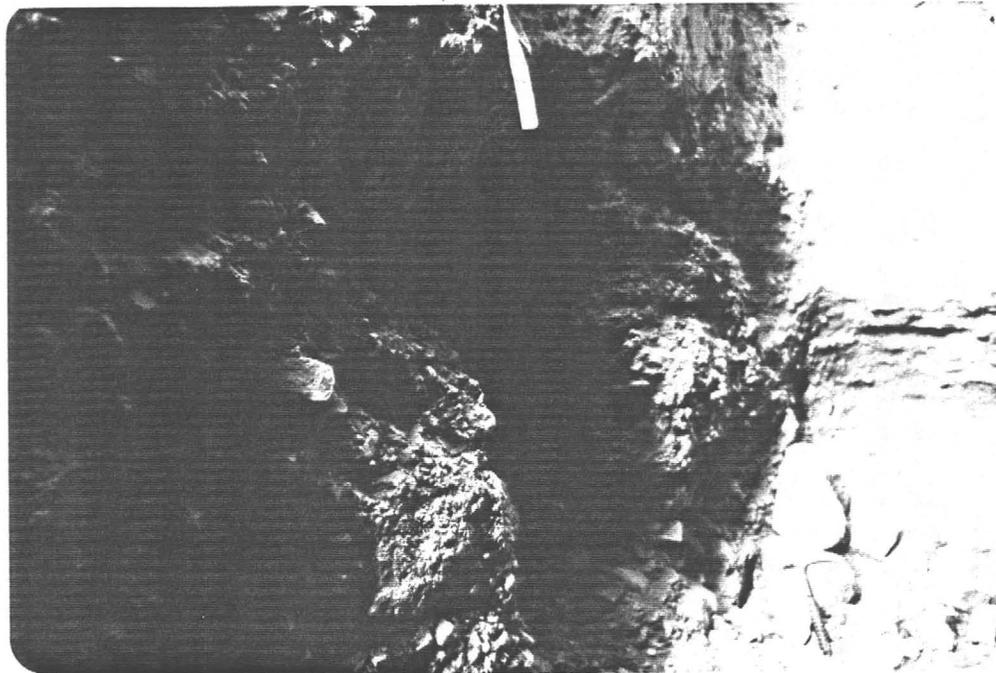


Figure 4  
 Vulture Mine Tailing Area showing tailings isopachs based on  
 drill holes and proposed pre-tailings erosion surface channel axes



PHOTOGRAPH 9

Sample 3-1-2 illustrating moderately sorted and  
and graded fluvial conglomerate overlying bedrock



PHOTOGRAPH 10

Base of Trench 7 illustrating semi-angular pebbles within  
a small pebble-grit unconsolidated fluvial sequence



A series of east-west trenches underlying existing mine tailings reveal sequences of high energy fluvial activity partially exposed in Trenches 3 and 4 (Figure 3 and Appendix I). Graded bedding is very evident in this area with moderately rounded cobbles located close to bedrock as generally poorly sorted gravels (photographs 4 and 5). Well sorted and packed scour channels occur at various levels within the basal 50% of this sequence (photograph 7). Bedrock exposed in Trench 3 (Photograph 8) would indicate irregular scouring activity probably controlled by both bedrock lithology and structure.

Contouring overlying mine tailings from drill records (Figure 4) suggests a north-south and northwest-southeast erosion surface channel network centered on the Vulture Mine outcrop system. Angular quartz pebbles in the placer gravels indicate a very local source. Trench bottom bedrock exposures reveal a westward 13:1 bedrock slope from Trench 3 to Trench 4, suggesting the main drainage axis possibly correlates with a larger paleo drainage system as indicated in Figure 4.

### 3-5 Eastern Placer

A series of east-west trenches in the Air Strip area disclose relatively deep fluvial channels which must be deeply incised into bedrock as Trenches 5, 6, and 7 (Figure 5) failed to reach bedrock, although schistose bedrock is exposed in shallow flanking trenches. Graded bedding is definitely seen in Trenches 5 and 7 where multiple well-sorted and bedded clastic sediments become progressively coarser grained at depth. The 15:1 width to depth ratio for Trench 5 reveals a moderate fluvial energy system corresponding to a well-developed rhythmic bedded

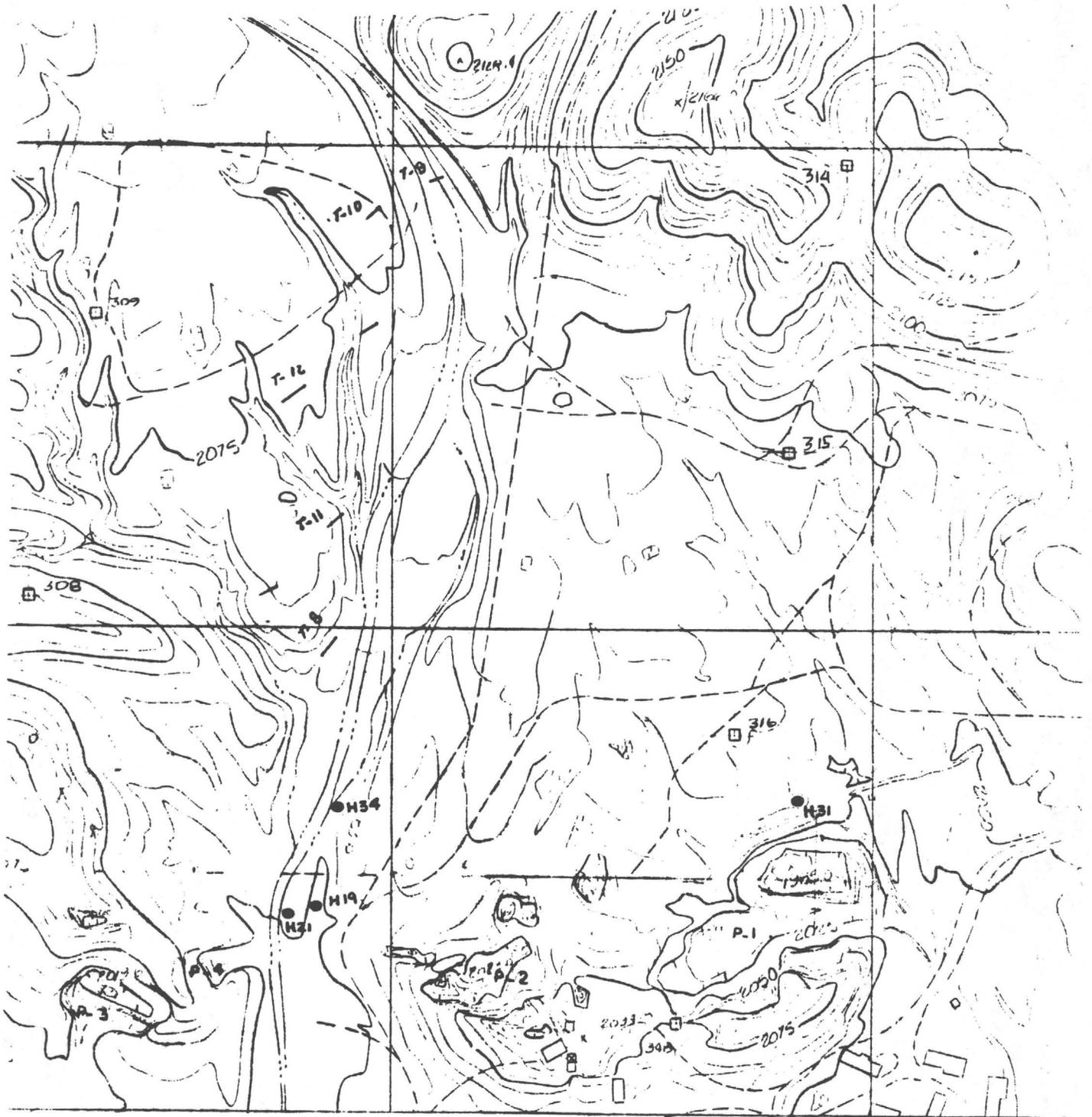
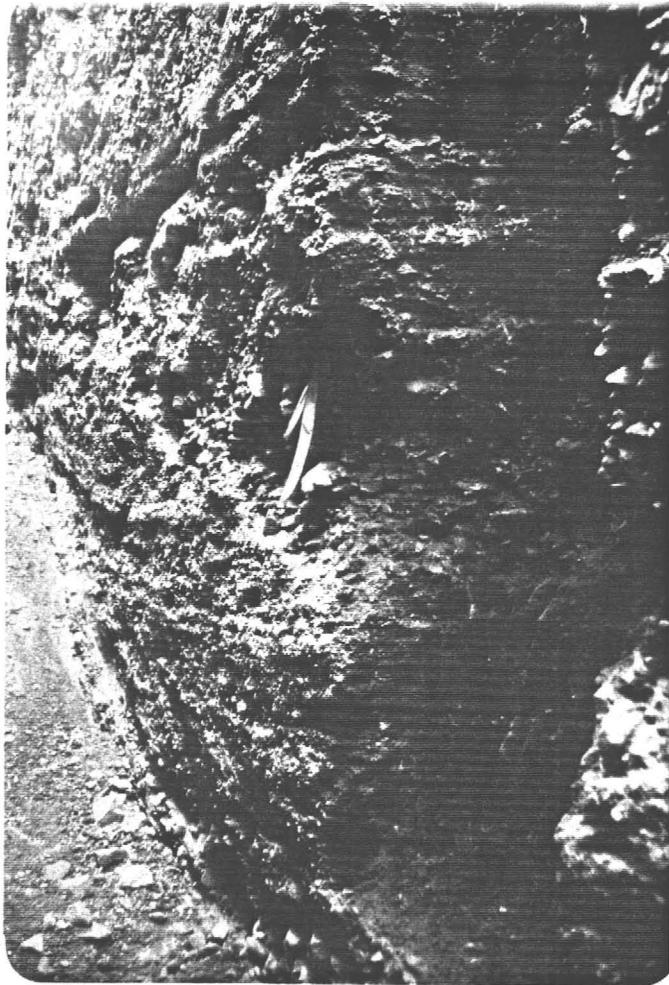


Figure 6  
 Vulture Mine Placer Project location of northern area sampled  
 trenches and drill holes, T-9 sampled trench, .H34 sampled drill hole



PHOTOGRAPH 11

Sample 11-1-4 illustrating the upper well sorted fluvial channel overlying well bedded poorer sorted small pebble conglomerate



PHOTOGRAPH 12

Samples 12-1-2 and 12-1-3 illustrating graded moderate energy fluviate channel development

sedimentation pattern containing well-packed robust gravels at the bottom. A well-sorted fine grained sand overlies well-bedded and graded coarse fluvial gravels in Trench 7 (Appendix I and Photograph 10). The exposed alluvial section in Trench 6 suggests these low energy sediments occupy a relatively high level fluvial sequence relative to the more basal sections in Trenches 5 and 7.

### 3-6 Northern Placer

A total of five (5) trenches (Figure 6) were sampled in an area of broad but dissected alluvium north of the Vulture Mine. Four (4) of these excavations reached bedrock (Appendix I) and one (Trench 9 - not mapped) was cut in a gully containing active stream wash. All mapped trenches revealed progressively increasing fluvial sedimentation with depth reflected as graded bedding, increased sorting and packing. Relatively dense caliche was encountered cementing near surface rubble.

Mapping Trench 8 revealed a bedrock relief of at least two (2) feet overlain by a well-packed poorly sorted conglomerate containing metamorphic, igneous and conglomerate clasts. Trench 9 revealed a well-packed graded sequence with sub-rounded pebbles to 6 cms lying on a schistose bedrock. A similar coarse robust clastic sequence was evident on bedrock in Trench 12 (photograph 10). However, multiple scour channels containing small pebbles and grits were evident in the middle sections suggesting a change from relatively high energy robust fluvial action to overlying lower energy pulsating sedimentation. Although Trench 11 bottomed on hard caliche (false bedrock?), graded bedding with well-packed and sorted gravel lenses are very prevalent and suggest a modest energy

fluvial system (photograph 11).

### 3-7 Southwestern Placer

Trenching in this area was severely restricted by a thick layer of near surface hard caliche cemented cobble wash. Two trenches reached maximum practical excavation depth (Figure 7 and Appendix I) and will be discussed at length.

Trench 15 intersected multiple gravel horizons depicting pulsating fluvial sedimentation depositing rather thin pebble horizons followed by low energy weakly bedded pebbly sands. The igneous (dioritic) clasts are better rounded than the metamorphics probably reflecting durability factors rather than variable transport distance. Clast rounding is markedly better in the sampled portion than in the near-surface unsorted gravels.

The fluvial section exposed in Trench 16 contrasts greatly with Trench 15, as the clasts are nearly 100% porphyritic quartz diorite and more angular. A scattering of the greenish metamorphic clasts were seen in the excavation. The very uneven bedrock is essentially this same igneous rock, suggesting a very local source for this sediment. A relatively steep paleocurrent gradient (approximately 11%) coincides with the multiple narrow cut and fill high energy channel development.

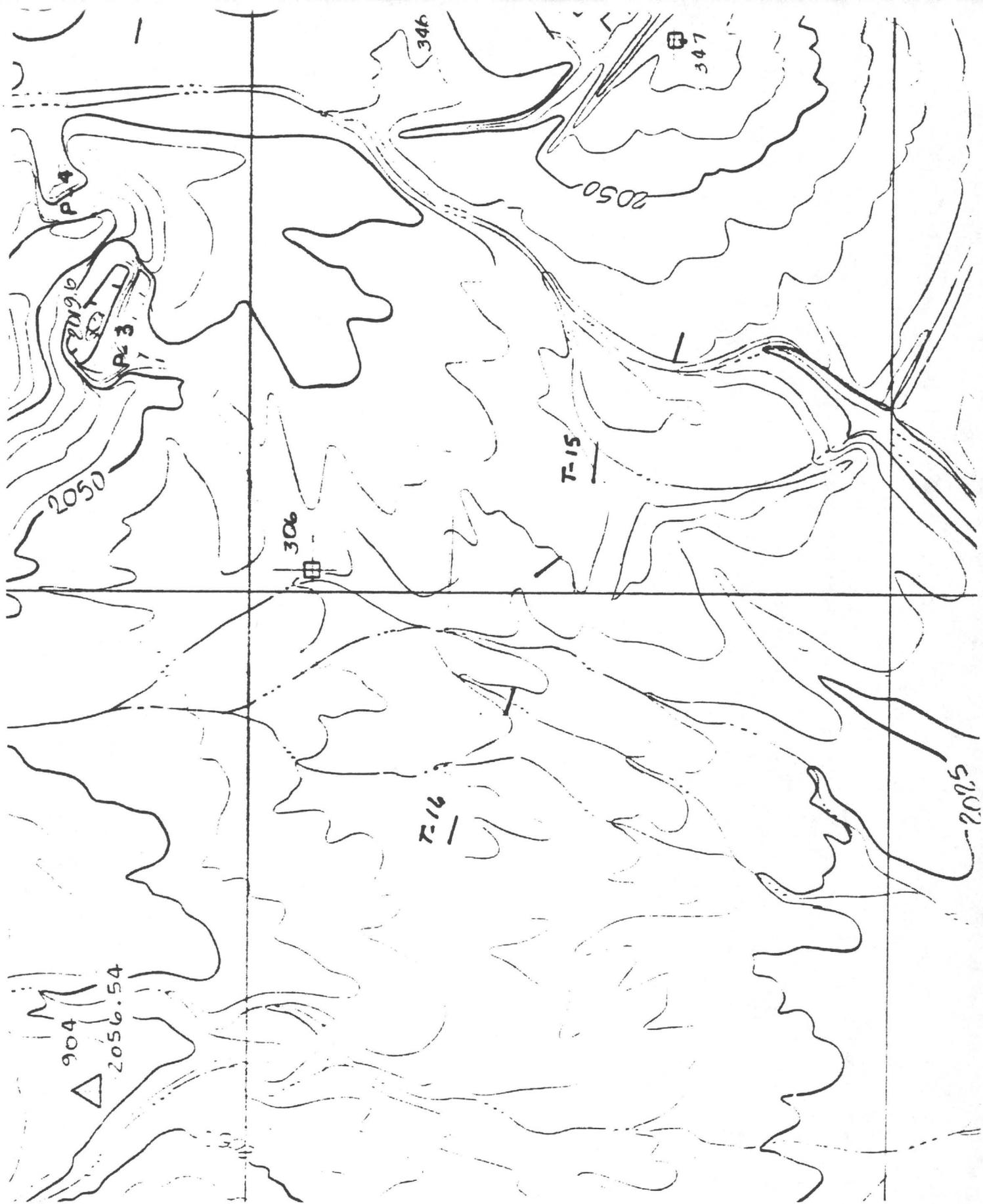


Figure 7  
Vulture Mine Placer Project  
Showing sampled trenches in southwest area.

WET DRY MINE PLACER SAMPLE DATA TABLE I

Sample No.	Depth Below Surface	Sample Wt. (lb.)	Sample Vol. (ft <sup>3</sup> )	Con. Wt. (g)	T. F. lb/cu.ft	Gold Nugget	Particle #1	Size Distribution			Amalgamation		Plant Tails +10# Au	Plant Tails -10# Au	Placer Grade mg/cu.yd	
								#2	#3	Fines	Au mg.	Tails OPT				
1-1-1	1.5'-7.5'	909	12.00	927	75.75						6.734	.005	.009	.001	15.15	
1-1-2	7.5'-11.5'	730	8.00	673	91.25											
1-1-3	11.5'-16.0'	1431	9.00	4635	159.00					1	2.780	.007	.002	.002	9.36	
1-2-1	3.0'-7.5'	805	9.00	503	89.44						14	13.145	.002	.001	.001	39.44
1-2-2	7.5'-12.0'	718	8.00	399	89.75						6	8.835	.010	.003	.002	2.51
2-1-1	2.0'-6.5'	973	6.75	722	89.75						11	3.210	.014	.002	.001	18.83
2-1-2	6.5'-12.5'	1897	9.00	1126	144.15						3	0.765	.002	.003	.002	3.06
3-1-1	6.0'-11.5'	1082	8.75	1643	123.66					2	9.220	.004	.001	.002	27.66	
3-1-2	11.5'-16.5'	1059	6.50	553	164.46						3	1.990	.013	Tr	Tr	6.14
3-2-1	11.3'-16.5'	955	7.75	612	123.23		2	1	15		13	451.100	.023	.002	.002	1874.22 = .0276oz/t
4-1-1	2.0'-7.2'	753	7.75	424	97.16						23	107.310	.033	.005	.001	373.85
4-1-2	7.2'-11.3'	747	6.25	413	119.52						16	3.410	.045	Tr	Tr	11.88
4-2-1	7.3'-11.3'	757	6.00	460	126.17						16	20.180	.013	.002	.001	87.18
5-1-1	1.0'-4.0'	367	4.50	271	81.56						5	11.950	.050	Tr	.0020	53.78
5-1-2	4.0'-11.0'	1417	10.50	780	134.95							0.040	.010	Tr	.001	0.24
5-1-3	11.0'-17.0'	1268	9.00	931	140.89						7	0.153	.037	Tr	Tr	0.65
6-1-1	0-6.0'	840	9.00	1337	93.33							0.062	.003	.001	Tr	0.19
6-1-2	6.0'-11.0'	871	7.50	637	116.13							0.140	.010	.001	.001	0.42
7-1-1	1.0'-6.0'	283	3.75	70	75.47							0.580	.011	Tr	Tr	2.09
7-1-2	6.0'-10.25'	273	3.19	86	85.58							0.030	.508/.583R	.002	Tr	0.22
7-1-3	10.25'-15.0'	849	7.00	949	121.14							0.063	.096/.091R	.005	.002	0.53
8-1-1	0-4.0'	667	4.00	349	166.75					2		0.022	.005	.002	.002	0.88
8-1-2	4.0'-8.0'	777	4.00	755	194.25							0.026	.006	.002	.002	0.10
8-1-3	8.0'-13.0'	701	4.83	461	145.13							0.468	.006	.003	.002	3.16
9-1-1	0-4.5'	771	6.50	1124	118.62						1	14.530	.020	.001	.004	81.22
10-1-1	0-4.33'	971	6.50	824	141.88					1		18.020	.031	.001	.001	74.85
11-1-1	3.0'-6.7'	413	4.13	199	100.00							11.054	.014	.002	.000R	45.92
11-1-2	6.7'-12.0'	973	8.00	784	121.63							0.413	.006	.001	.002	2.70
11-1-3	12.0'-16.3'	874	6.50	867	134.46						6	3.180	.009	.002	.001	10.73
11-1-4	16.3'-20.3'	756	6.00	385	126.00						1	0.835	.002	Tr	.001	3.47
12-1-1	4.0'-8.0'	796	6.00	587	132.67						1	5.553	.014	.001	.004	24.99
12-1-2	8.0'-12.0'	828	6.00	569	138.00							0.434	.006	Tr	Tr	1.95
12-1-3	12.0'-15.5'	799	5.25	591	152.19						1	1.430	.002	.001	.002	6.44
13-1-1	0-4.9'	568	4.79	289	118.58							0.838	.004	.001	.001	4.31
14-1-1	9.0'-15.0'	1026	9.00	1195	114.00						2	66.650	.663/.467R	.002	.003	375.69 .008oz/t
15-1-1	8.0'-11.7'	620	5.50	2480	112.73							2.455	.003	.004	.001	7.37
15-1-2	11.7'-16.0'	990	6.50	1350	152.31							0.179	.005	.001	Tr	0.88
16-1-1	7.0'-11.0'	623	6.00	247	103.83							14.300	.002	Tr	.001	59.40
16-1-2	11.0'-17.0'	1029	9.00	204	114.33							1.800	.014	.001	.001	8.10
							2		1	20	133	74.160	1.028/1.133R	.002	Tr	222.48

8.25

.008oz/t

#### 4. RESULTS

Evaluation of placer deposits is frequently haunted by the well-known particle sparsity effect. Sample processing efficiency can be yet another critical concern in determining the economic viability of a property. Sedimentological aspects of placer geology frequently explains the seemingly random and high gold distribution found in many placers. The following discusses each aspect in some detail striving to rationalize area evaluation.

4-1 Sample processing consistency can be considered good when viewing the linear relationship between concentrate weight vrs. sample weight in Figure 8 indicating a consistent relationship in recovery efficiency. Two samples (1-1-3 and 15-1-1) deviate from this well-defined trend, both of which contained abnormally high concentrate weights but low gold values.

4-2 Bulk density calculations (Table I and Appendix I) indicate that the gravel becomes more dense with depth reflecting compaction/packing density coinciding with the general increased fluviatile sedimentation energy at depth. Minor amounts of caliche apparently only subtly effect bulk density levels, with the exception of Trench 12. The high bulk densities in Trench 8 are attributed to the well lithified nature of these sediments. It is interesting to note the sample that contained very high concentrate weights also correlates with a high bulk density (e.g. 1-1-3:4635 gms; 159.00 lb/cu. ft.) respectively.

4-3 Assay results are found in Table II and Appendix III along with general amalgamation-assaying procedures. Silver is not reported for the amalgamation step due to the pre-amalgamation (nitric acid) treatment of

4235g. ←

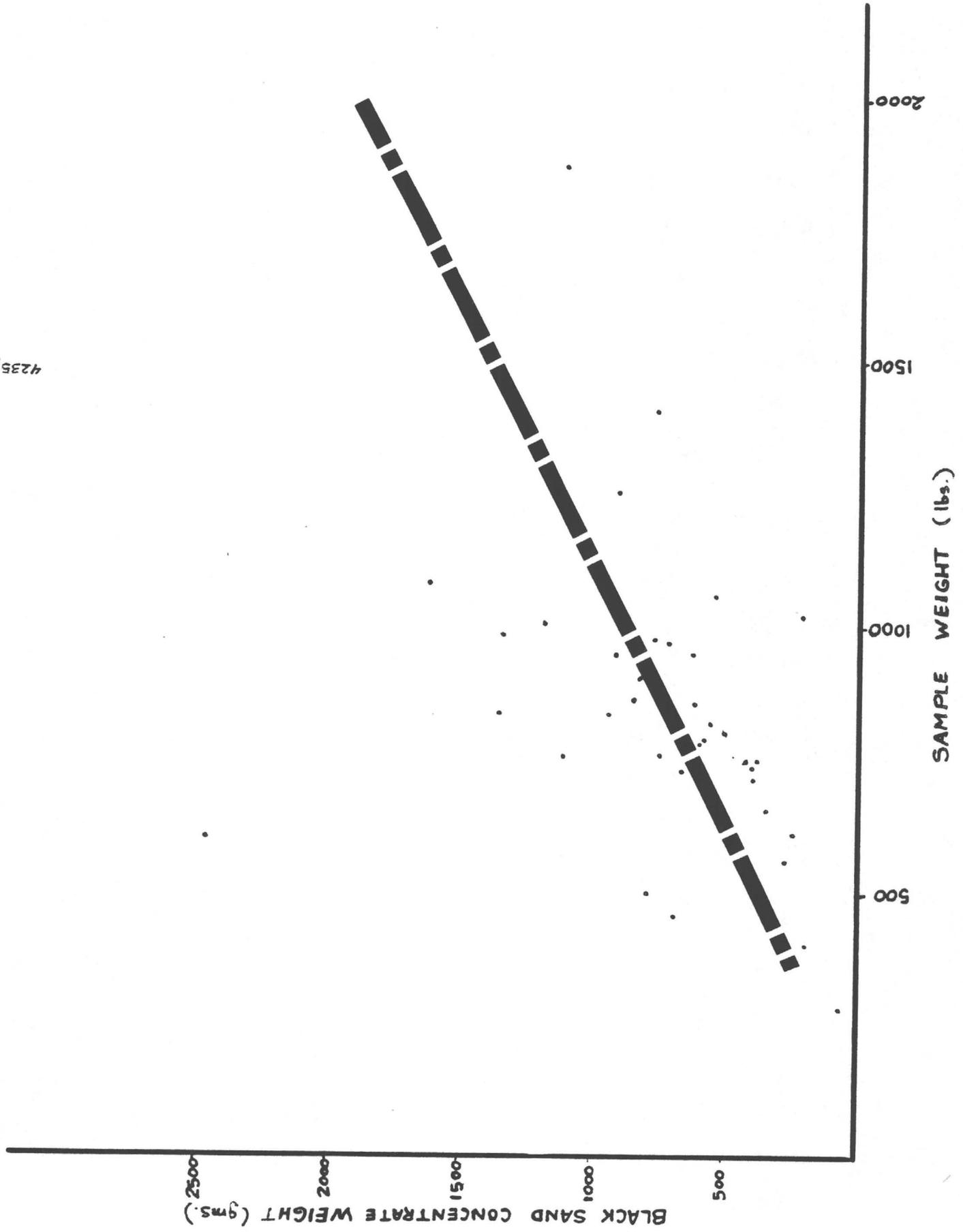


FIGURE 8

the concentrates. Silver results for all fire assays are found in Appendix III, however are not reported in Table I due to their relatively low values. Each "fence" area will be discussed individually similar to Chapter 3 striving to evaluate economic significance to the large volume essentially geochemical samples.

#### 4-3-1 Southeastern Placers

A total of four (4) channels were cut in three (3) trenches accounting for eight (8) large volume samples in this ±240-foot-wide channel. Trench 14 is considered to occur in a parallel but separate fluvial system. Geologic mapping (Appendix I) has indicated general increased fluvial energy with depth correlating with a commensurate increase in gold content. Samples 1-2-2 and 13-1-1 consist of multiple high energy fluvial channels deposited on bedrock marginal to the main channel. The disparity in gold content (1-2-2, 10.83 mg/cuyd vrs. 13-1-1, 375.69 mg/cuyd) relates partially to the probable reworking of gold in the younger (13-1-1) channel relative to the main channel. A very interesting and significant feature is the grade increase factors for 1-2 and 2-1 which should be located over this main channel axes. Should this significant multiplier continue (4.3:1 for 1-2 and 9.04:1 for 2-1). Then this channel could contain economic gold values for a significant portion of its several 1,000 foot strike length.

The one sample in Trench 14 (14-1-1) signifies that this auriferous low energy fluvial sedimentation constitutes background level values for upper profile sediments.

#### 4-3-2 Southern Placers

Underlying the existing Vulture Mine tailings is a probable network of juvenile fluvial channels at least partially derived from the Vulture Mine outcrop system. Numerous references refer to the very bold pre-mining outcrop character of the Vulture Mine vein. Calculations indicate that the 45° dipping vein would liberate 13,575 ounces per vertical foot of erosion (e.g. 1,000' long x 32' wide x sec 45° x 0.30 opt Au) a large part of which would have been transported southward in the paleo drainage system.

Two trenches penetrated the mine tailings revealing a moderate-high energy fluvial system containing very encouraging gold concentrations which correlate with sedimentation characteristics and provenance area. Values are tabulated for Trenches 3 and 4 (Table I and Appendix I) and will be discussed in detail below:

	Total	Nugget	Residual	% Total
3-1-2	1843.8 mg/cuyd	859.86 mg/cu yd	983.94 mg/cuyd	53.4
3-2-1	<u>373.85 mg/cuyd</u>	<u>314.06 mg/cuyd</u>	<u>59.79 mg/cuyd</u>	16.0
Ave.	<u>1123.83 mg/cuyd</u>	<u>586.96mg/cuyd</u>	<u>521.87 mg/cuyd</u>	46.4

It becomes apparent from the above calculations (3-2-1 is a duplicate sample from opposite side of the trench from 3-1-2) that the 521.87 mg/cuyd average without nuggets is an attractive and probable economic placer grade with an approximate 1:1 strip ratio (tails negated). Nuggets will be a significant and real contribution to grade.

Trench 4 is approximately 170 feet west and within the same fluvial system as Trench 3 (Figure 3 and 4). Sample values from adjacent duplicate

samples are compared below:

4-1-2	87.18 mg/cuyd	
4-2-1	53.78 mg/cuyd	No nuggets recovered
Ave.	70.48 mg/cuyd	

Careful inspection of geologic mapping in Appendix I will reveal that these samples did not reach bedrock. Also, a concentration ratio of 1:7.3 between 4-1-1 and 4-1-2 indicates very significant accumulation of gold with depth suggesting continuing concentration ratios downwards with 3-1-2 and 3-2-1 level values likely on bedrock.

A random bulk sample from Trench 3 spoils was processed in the existing plant (Photograph 2). The magnetic fraction was removed and the resultant concentrate submitted for a geochemical scan. This analysis (Appendix IV) confirmed the presence of unoxidized galena seen in Trench 3 and 4 concentrates. A whitish-blue fluorescent mineral, tentatively identified as scheelite, is probably barite and zircon based on these analysis. The significance of this analysis again suggests the Vulture Mine outcrop is the primary provenance area for this placer as galena was one of the prime ore minerals obtained from the Vulture Mine. This concentrate also contained significant quantities of metallic gold ranging in size from 3 mm to -150 mesh.

#### 4-3-3 Eastern Placers

Geological mapping in this area (refer to Chapter 3-5) indicates that well-incised fluvial systems of moderate energy level occur in the three sampled trenches. Channel mapping (Appendix I) reveal graded bedding culminating in well-developed gravels at the base of Trenches 5 and 7.

Values reported for these samples are the lowest for all placers

sampled in the Vulture Mine area and a concentration ratio increase with depth is not evident. The gold grains recovered are very small and dispersed.

#### 4-3-4 Northern Placer

These five (5) trenches and four (4) drill holes (Table II) effectively sampled the fluvial profile immediately north of the Vulture Mine. Significant gold increases with depth were registered for Trench 8 and to a less extent in Trench 11. Particulate gold seen in these samples (refer Gold Particle Size Distribution, Table I) reveals that the particulate gold is almost universally fine grained and very juvenile with angular flat and wire forms predominating. Some of these gold grains were sufficiently thin to overcome surface tension/specific gravity relationships and floated during the concentrate clean-up operation.

Gold recovered in Trench 9, which was excavated to bedrock in active stream wash, revealed two larger gold grains that were moderately well rounded and coated with iron and calcium. The accompanying small grains were similar to the gold recovered in the adjacent Trench 10 which was excavated in well-packed older gravels lying directly on bedrock. The conclusion from the above reveals that the coarser gold in Trench 9 was derived from a more distant source than the small angular grains which are more characteristic of this immediate area.

Select drill cuttings from previously drilled reverse circulation holes were hand panned and the black sand concentrate fire assayed. Scattered very small angular gold grains were visible in some samples (Table II). However, value levels were very low and further indicates the

TABLE II

VULTURE MINE PLACER SAMPLES  
DRILL CUTTINGS

Hole No.	Location	Conc(g)	Au (mg)Ag		Comments	
H19	0-5	26,418N/20,846E	7.0	.012	.30	1 Au grain
	5-10		2.0	Tr	.20	
	10-15		45.0	.110	.20	
	15-20		18.0	.02	.25	
H21	0-5	26,418N/20,783E	NA	.017	NA	
	5-10		NA	.058	NA	
H31	5-10	16,666N/21,840E	NA	.081	NA	1 Au grain
	10-15		5.0	.124	.35	
	15-20		1.5	.050	1.85	
H34	10-15	26,633N/20,880E	NA	.026	NA	2 Au grains
	15-20		40.0	.005	.35	

local provenance area for these sediments contained only fine-grained free gold. The seemingly high silver values in the concentrates could benefit "hard rock" geochemical prospecting.

#### 4-3-5 Southwestern Placer

The geological contrast between the two deep trenches in this area (Chapter 3-7) is further enhanced by their value distribution noted in Table I. It becomes readily apparent that the angular and platy juvenile character of the recovered gold is entirely compatible with the host semi-angular dioritic sediments. This suggests a very local source -- either the Vulture Mine workings or some other provenance location -- for these values.

Value concentration ratios with depth are impressive for both trenches and indicates a fairly active sedimentation history for these southerly trending paleo channels. The steep paleocurrent gradient and multiple robust gravel formation (Appendix I) also attests to a vigorous sedimentation environment supplied from an adjacent provenance zone. The amalgamation tail assays would indicate that very fine grained gold is still contained within some heavy mineral.

5. CONCLUSIONS

The wide range of fluvial sedimentation seen during this reconnaissance evaluation of the Vulture Mine property generally consists of well incised linear channels developed relatively high on the fluvial paleoslope. These drainage patterns were probably formed at the close of the Pliocene and reached their present state of maturity during the Pleistocene humid climatic cycle. These alluvial systems degenerated with increasing aridity to the present day narrow incised gullies that are not appreciably reworking the eroding older gravels. Gold distribution profiles adequately reflect this sedimentological pattern with the very high value concentration ratios and coarser gold distribution favoring bedrock locations. Placer gold particle distribution and related values obtained from these 39 channel samples strongly suggest the Vulture Mine outcrop system was the dominant provenance area for the resulting alluvials. The measured southerly paleocurrent direction suggests the important placer concentrations will be located south of the Vulture Mine -- which is, in fact, the case. Significant quantities of fine grained angular gold in the Northern Placer area (Chs. 3-6 and 4-3-4) indicates that a secondary provenance is very likely north of the Vulture Mine.

This geological-sedimentological evaluation combined with careful sampling has revealed a significant placer potential for the Vulture Mine measuring in the 100,000's cubic yard range within the trenched areas. Specific areas containing potential economic gold values (say +200 mg/cu yd) or important geochemical concentrations will be defined based on geological deduction, value distribution and inferred economic considerations.

## 6. RECOMMENDATIONS

Specific areas of interest lie south and adjacent to the Vulture Mine outcrop system. Each area will be discussed briefly in order of importance striving to formulate objective economic decision making goals based on reconnaissance sampling.

### 6-1 Southern Placers

Channel samples in two (2) trenches revealed very attractive economic grades on bedrock (3-1-2 and 3-2-1 avg 112.3:83 mg (cu yd) and highly anomolous values (4-1-2 and 4-2-1; ave 70.48 mg/cu yd) in mid level gravels. Figures 3 and 4 indicates a pre-tailings erosion basin containing an inferred area of 15.2 acres supplied by Vulture Mine outcrop material as indicated by geologic observations and abundant galena in plant concentrates (Appendix IV).

Approximately 46.4% of the average value from Trench 3 bedrock channels (e.g. 521.87 mg/cu yd) are contained within the -1.5 mm gold particle size. These channels were approximately five (5) feet long, indicating a 1:1 strip ratio discounting overlying potentially economic mine tails.

The inferred volume of 120,000 cubic yards combined with a conservative grade of 500 mg/cubic yard based on these preliminary sampling results, indicates this area could provide economic grade gravel to a modest size placer plant. Reconnaissance drilling would be warranted to substantiate this preliminary geologic conclusion and could expand reserves

in a southerly direction.

#### 6-2 Southwest Placer

The relatively isolated position of Trench 16 and its differing sedimentological-geological characteristics compared to other fluvial systems precludes definite grade-volume estimations. However, the approximate 2:1 overburden to "ore" strip ratio is a positive feature along with the abundance of fine gold particles facilitating probable higher confidence level grade determinations (e.g. subdued particle sparsity effect). In essence, this area must be considered a second priority but important placer drilling target.

#### 6-3 Southeastern Placer

This third priority selection is based on its southerly drainage position relative to the Vulture Mine and the potentially economic grade channel in Trench 13 indicating that economic bedrock concentrations could exist in this area. The numerous intersecting trenches suggest a channel width  $\pm 240$  feet and approximate maximum depth of 30 feet (never reached by the back hoe). Considering the basal five (5) feet could be economic (5:1 strip ratio) then this channel could produce say 45,000 cubic yards per linear 1,000 feet. Select drilling is required to confirm the above geologic prediction.

The above three (3) prioritized placer drilling targets could, in their entirety, produce an attractive modest (say 150 cuyd/hr.) placer operation. Obviously, the southern placer area has the highest probability of producing an economic placer on its own merits. The overlying possibly economic mine tailings must also be considered in the economic feasibility

study for this small area. A modest drilling program could very well expand the economic scope for this historic property to the position of a modest placer gold producer for a substantial period.

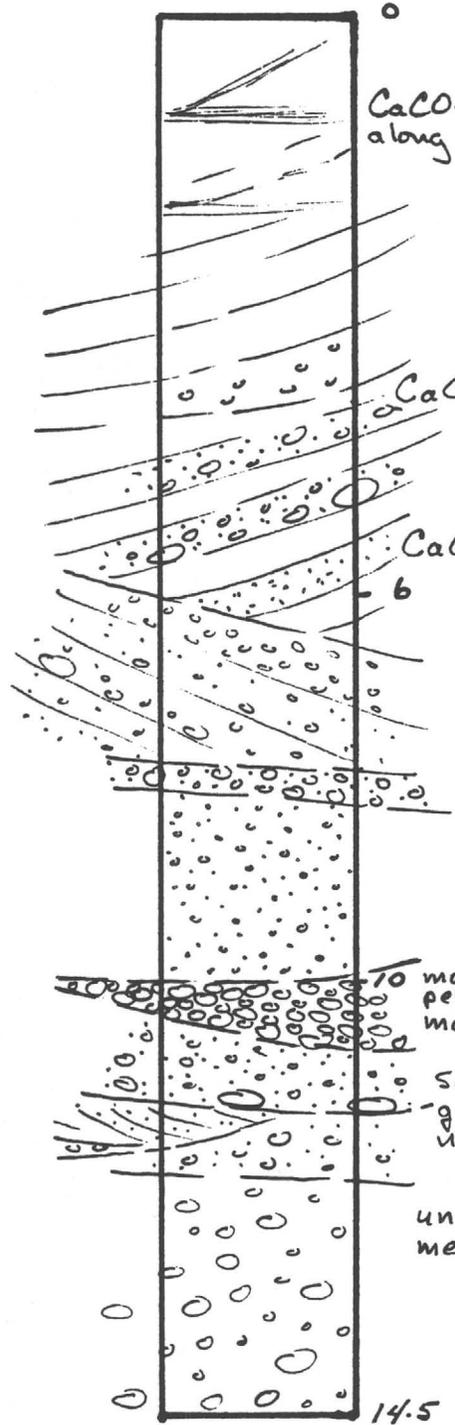
  
James M. Prudden  
Consulting Geologist  
AIPG No. 4455

APPENDIX I

VULTURE MINE  
PLACER PROJECT  
TRENCH 1  
CHANNEL 1

SURFACE

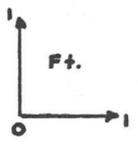
surface soil &  
angular rubble



1-1-1: 15.15 mg/cuyd  
75.75 lb/cuft

1-1-2: 9.38 mg/cuyd  
91.25 lb/cuft

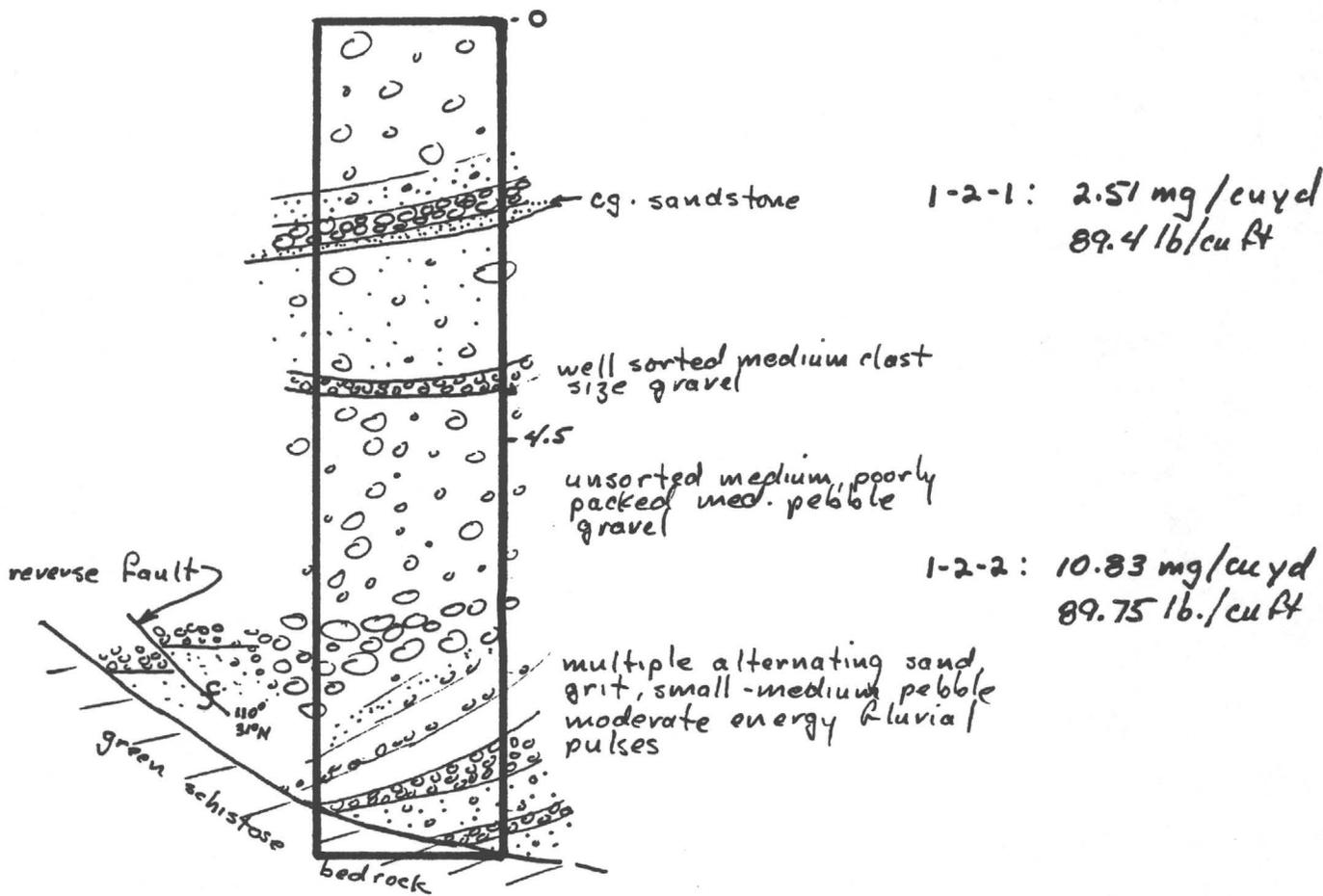
1-1-3: 39.44 mg/cuyd  
159.0 lb/cuft



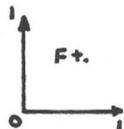
total fluvial sequence graded, most individual sed. phases mod-well sorted; clasts semi-angular, rounding 3-4; 70% clasts green schistose metamorphics to 35%us, 28% clasts igneous & 2% clasts basalt

VULTURE MINE  
PLACER PROJECT  
TRENCH 1  
CHANNEL 2

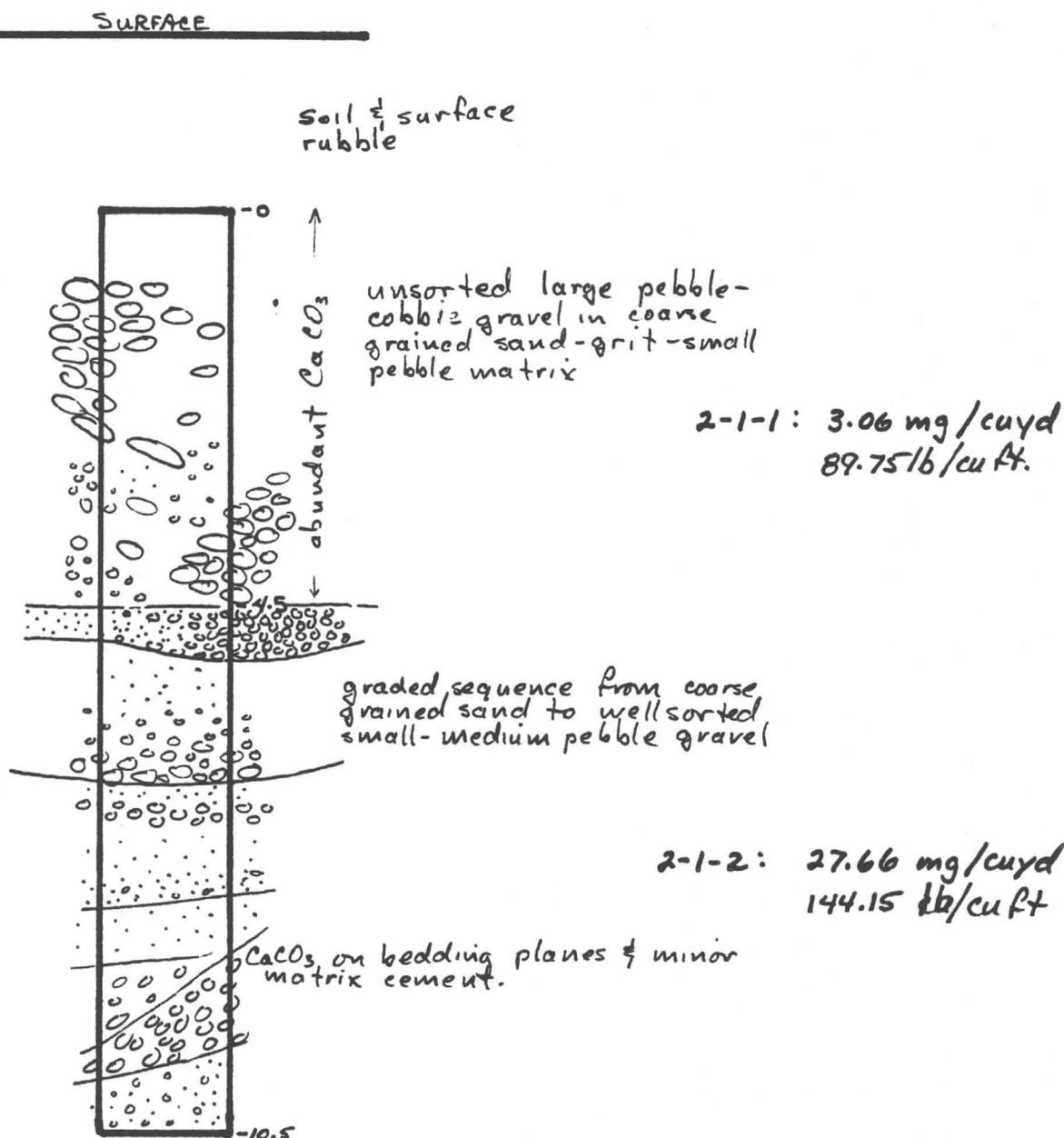
SURFACE



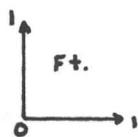
similar fluvial sequence to channel 1. bedrock influence on sedimentation very evident, clastic matrix coarse grained, semi-consolidated containing only minor clay; scour troughs 185° azm.



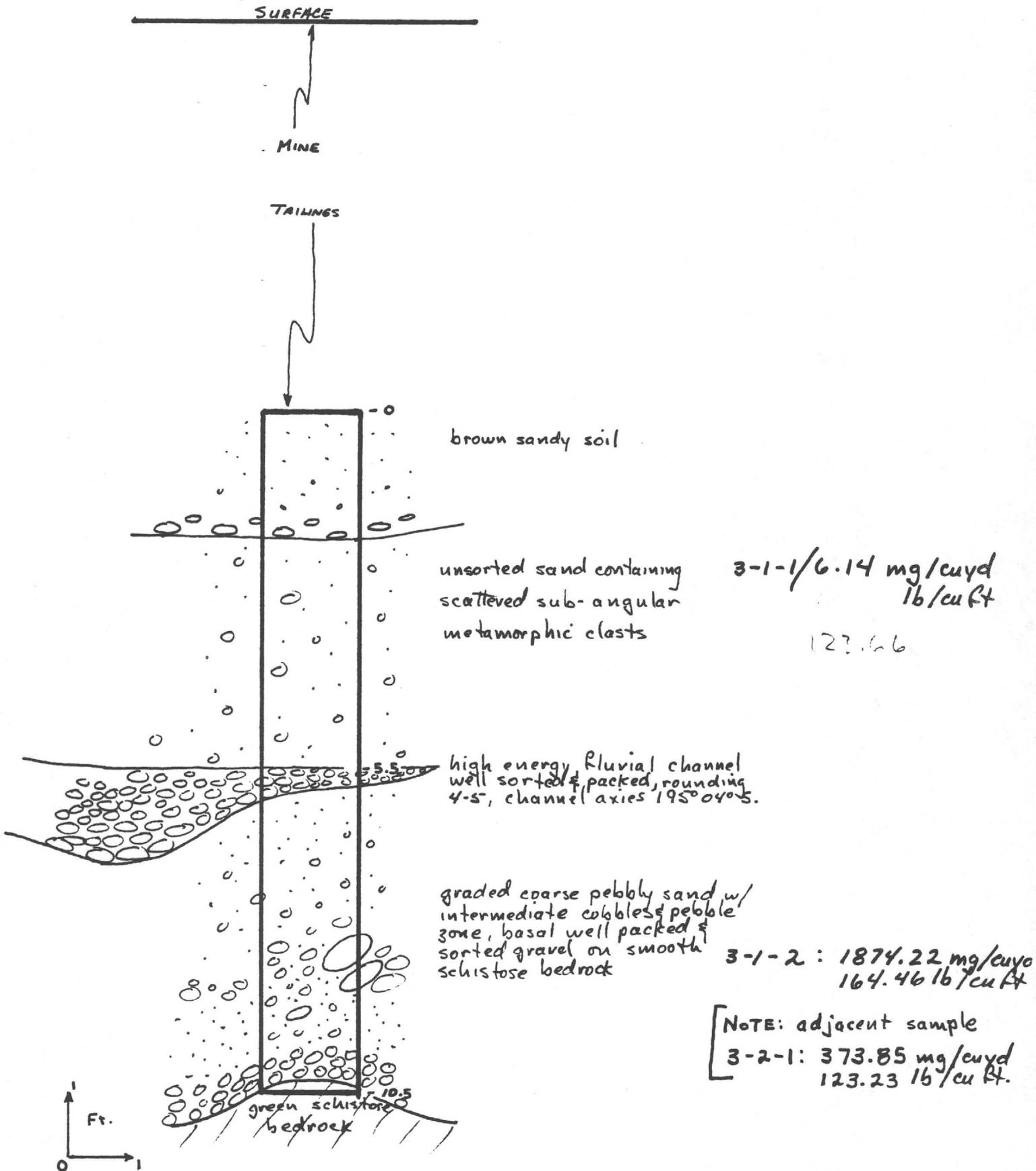
VULTURE MINE  
PLACER PROJECT  
TRENCH 2  
CHANNEL 1



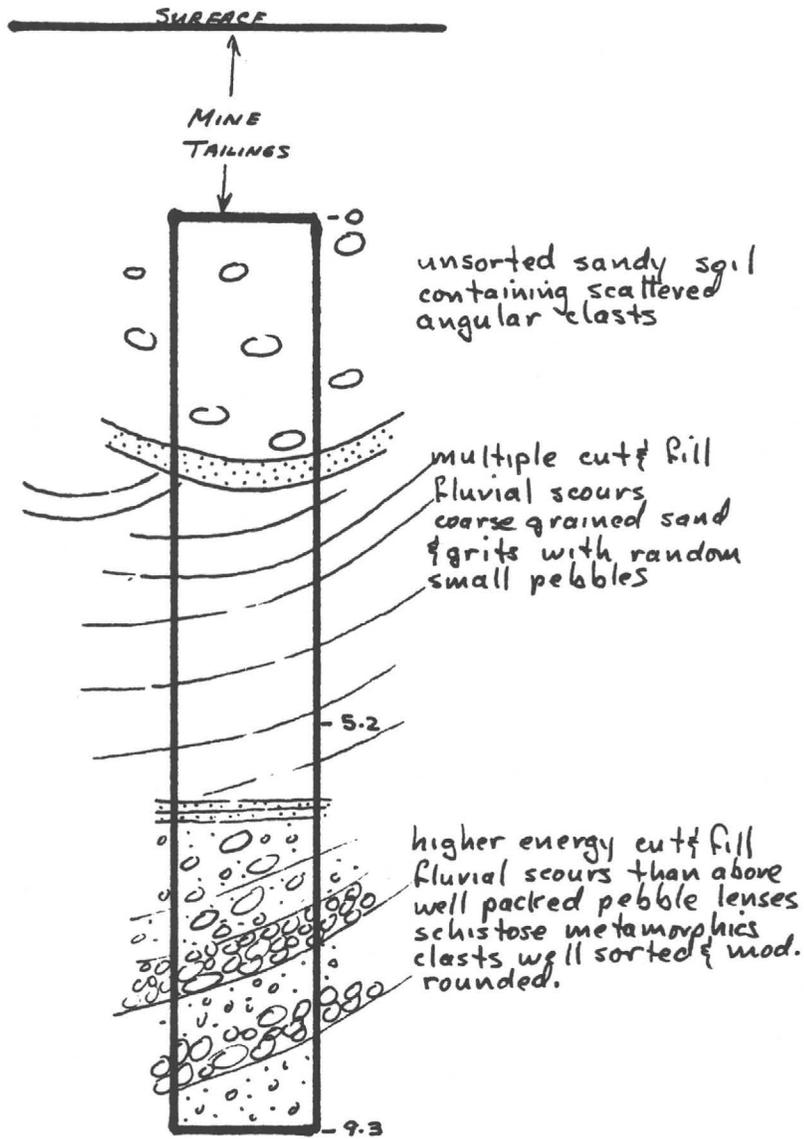
contains lower energy fluvial sedimentation than Trench 1 seen as smaller pebbles & lower angle trough scours



VULTURE MINE  
 PLACER PROJECT  
 TRENCH 3  
 CHANNEL 1



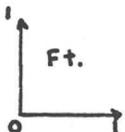
VULTURE MINE  
PLACER PROJECT  
TRENCH 4  
CHANNEL 1



4-1-1: 11.88 mg/cuyd  
 97.16 lb/cuft.

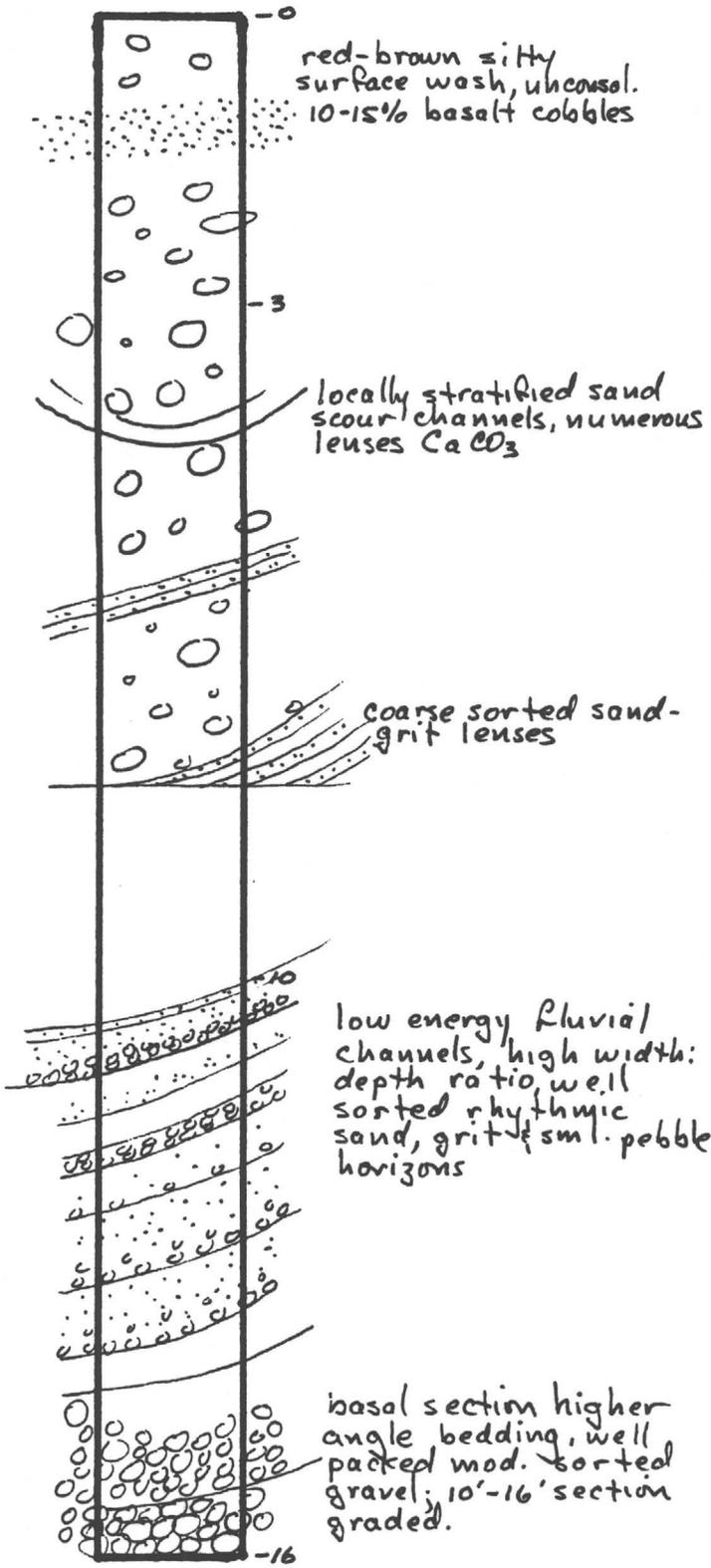
4-1-2: 87.18 mg/cuyd  
 119.52 lb/cuft

[NOTE: adjacent sample  
 4-2-1: 53.78 mg/cuyd  
 126.17 lb/cuft



VULTURE MINE  
PLACER PROJECT  
TRENCH 5  
CHANNEL 1

SURFACE



red-brown silty  
 surface wash, unconsol.  
 10-15% basalt cobbles

5-1-1: 0.24 mg/cuyd  
 81.56 lb/cu ft

locally stratified sand  
 scour channels, numerous  
 lenses CaCO<sub>3</sub>

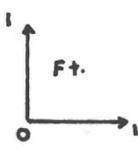
5-1-2: 0.65 mg/cuyd  
 134.95 lb/cuft

coarse sorted sand-  
 grit lenses

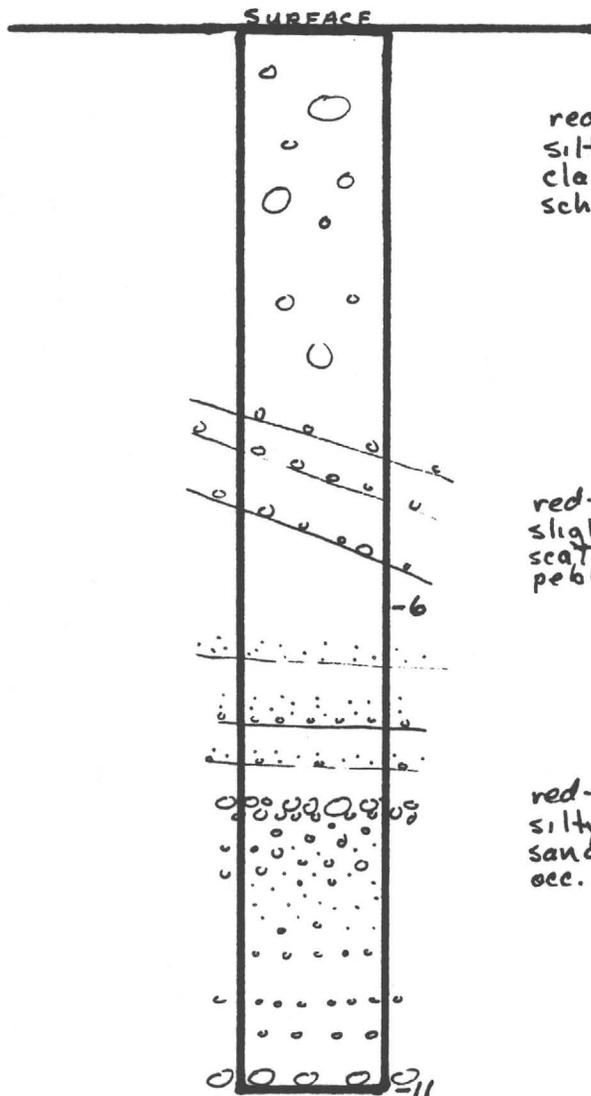
low energy fluvial  
 channels, high width:  
 depth ratio, well  
 sorted rhythmic  
 sand, grit & sm. pebble  
 horizons

5-1-3: 0.062 mg/cuyd  
 140.89 lb/cu ft.

basal section higher  
 angle bedding, well  
 packed mod. sorted  
 gravel; 10'-16' section  
 graded.



VULTURE MINE  
 PLACER PROJECT  
 TRENCH 6  
 CHANNEL 1



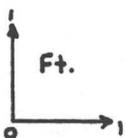
red-brown soil,  
 silt & sand scattered  
 clasts basalt, diorite &  
 schistose metamorphic

6-1-1: 0.42 mg/cuyd  
 93.3 lb/cu ft

red-brown sand  
 slightly winnowed  
 scattered clasts/  
 pebble

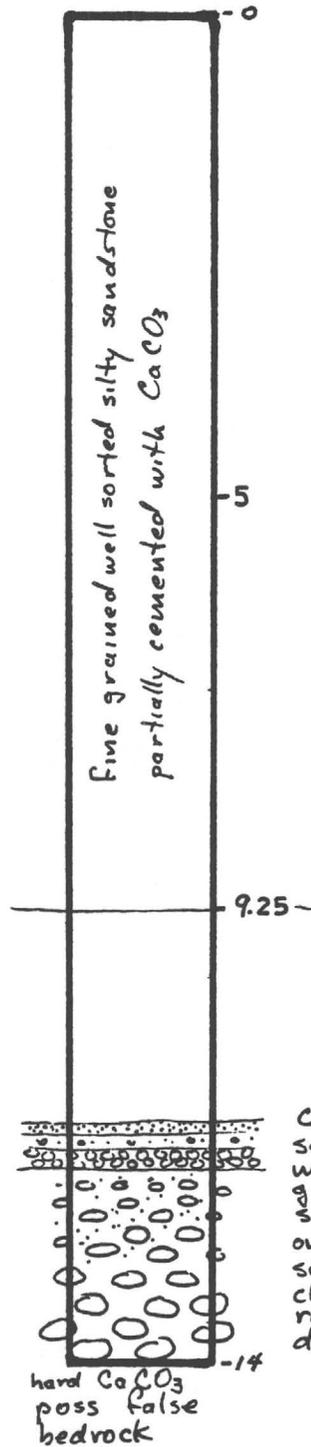
red-brown slightly  
 silty coarse grained  
 sand & grit containing  
 occ. pebble zone

6-1-2: 2.09 mg/cuyd  
 116.13 lb/cu ft.



VULTURE MINE  
PLACER PROJECT  
TRENCH 7  
CHANNEL 1

SURFACE



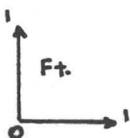
7-1-1: 0.22 mg/cuyd  
 75.47 lb/cu ft

7-1-2: 0.53 mg/cuyd  
 85.58 lb/cu ft

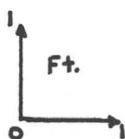
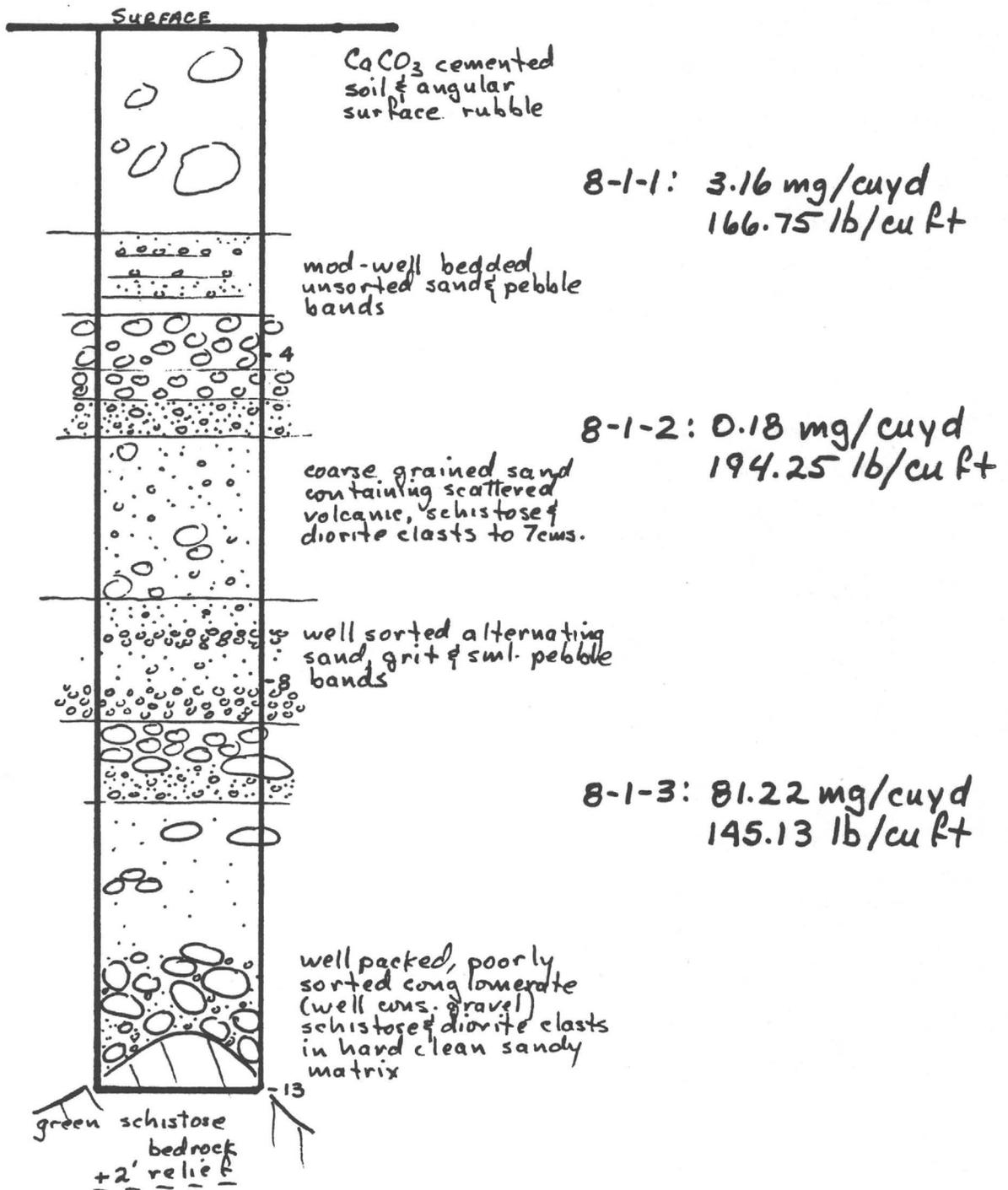
7-1-3: 0.08 mg/cuyd  
 121.14 lb/cu ft

Complete change in sedimentation pattern; well stratified coarse grained sand, grits & sm. pebble lenses overlying graded poorly sorted, packed gravel clasts to 25 cms. & mod-rounded (4-5 rounding); diorite, basalt to 20 cms.

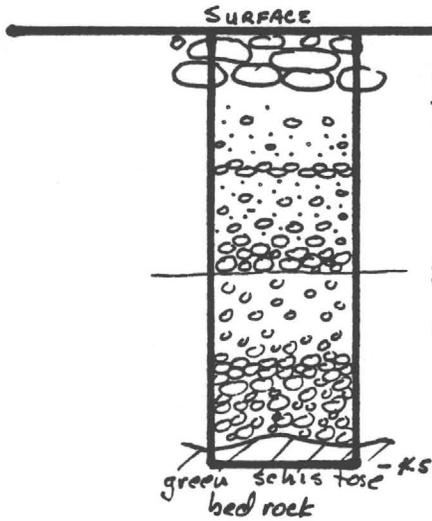
hard  $CaCO_3$   
 poss false  
 bedrock



VULTURE MINE  
PLACER PROJECT  
TRENCH 8  
CHANNEL 1



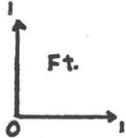
VULTURE MINE  
PLACER PROJECT  
TRENCH 10  
CHANNEL 1



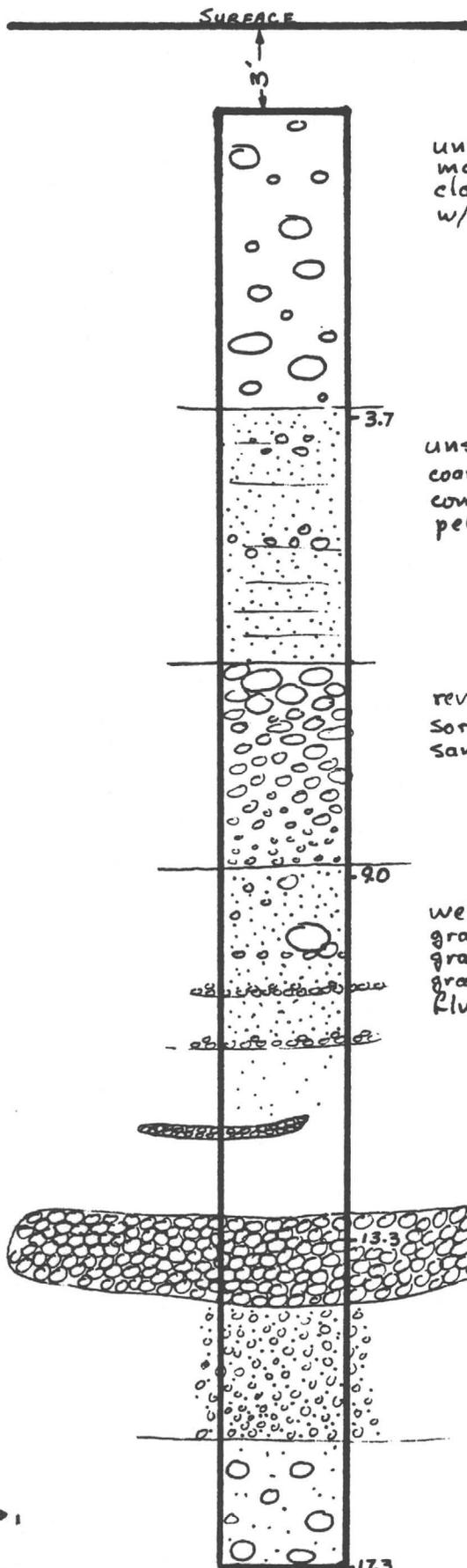
surface sandy; diorite, basalt,  
schistose cobbles to 20 cms, mod  
well rounded

10-1-1: 45.92 mg/cuyd  
141.08 lb/cuft

graded sequence containing  
progressively higher % gravel  
mod. sorted & packed at base  
pebbles to 6 cm; schistose  
metamorphic pebbles semi-  
angular (Rounding 3-4) to  
10 cms. at base.



VULTURE MINE  
PLACER PROJECT  
TRENCH 11  
CHANNEL 1



unsorted sand matrix, unsorted clasts; cemented w/  $CaCO_3$

11-1-1: 2.70 mg/cuyd  
 100.0 lb/cuft

unsorted, mod-bedded coarse grained sand & grit containing scattered small pebbles

11-1-2: 10.73 mg/cuyd  
 121.63 lb/cuft

reverse grading, poorly sorted coarse grained sand-grit matrix

well bedded series coarse grained sand, small pebble gravel; rhythmic sedimentation & graded bedding in low energy fluvial environment

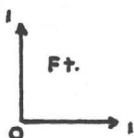
11-1-3: 3.47 mg/cuyd  
 134.46 lb/cuft

very well packed & sorted high energy fluvial channel; clasts to 8 cms, semi-angular (Rounding 3)

11-1-4:  
 24.99 mg/cuyd  
 126.0 lb/cuft

mod. sorted sand-grit - sm. pebble sediment, loosely cons.

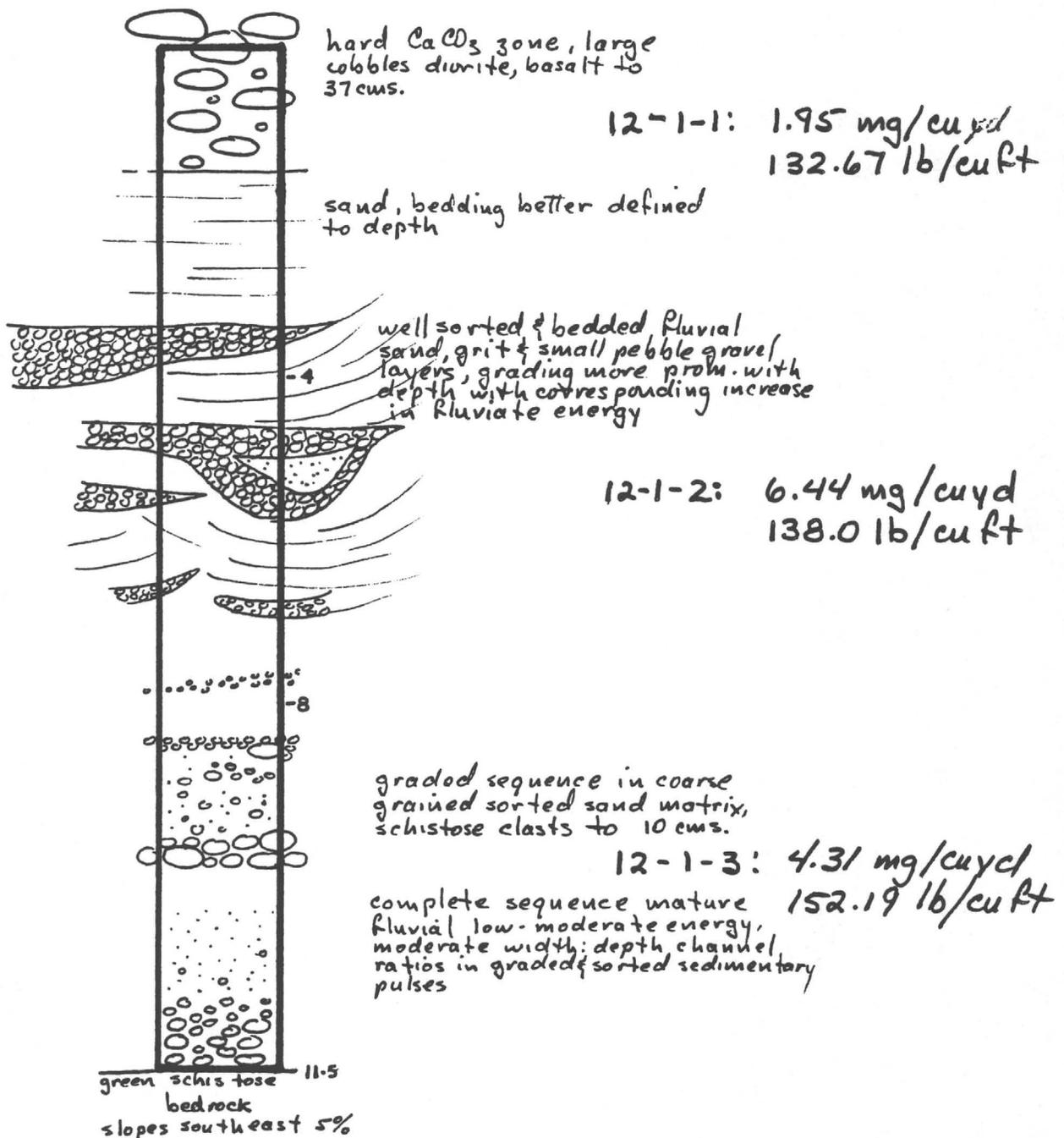
poorly packed & sorted sandy gravel; highly  $CaCO_3$  cemented.



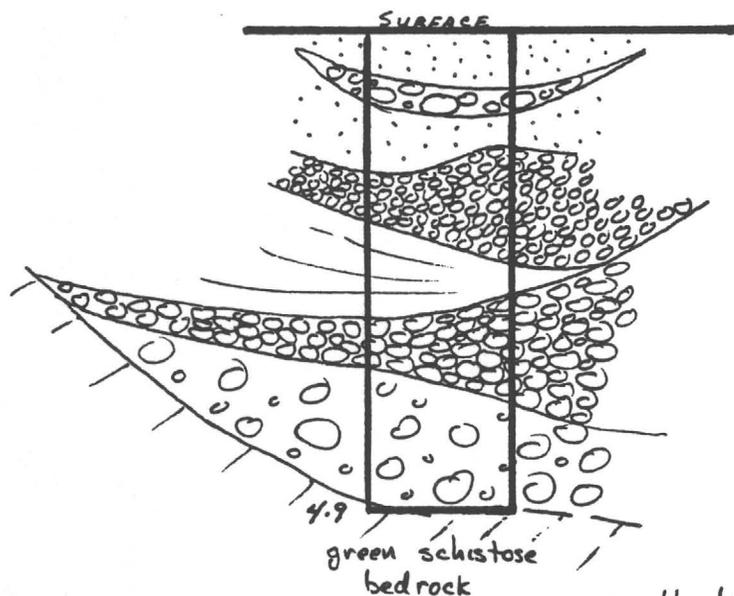
VULTURE MINE  
PLACER PROJECT  
TRENCH 12  
CHANNEL 1

SURFACE

surface red-brown soil, scattered cobbles in  $CaCO_3$  cemented sandy-loam matrix



VULTURE MINE  
PLACER PROJECT  
TRENCH 13  
CHANNEL 1



minor  $\text{CaCO}_3$  cement  
in sand matrix

13-1-1:

well packed & sorted  
small pebble gravel, high  
energy scour channel.  
clasts semi-angular (Rounding 3-4)

375.69 mg/cuy.

118.58 lb/cu ft

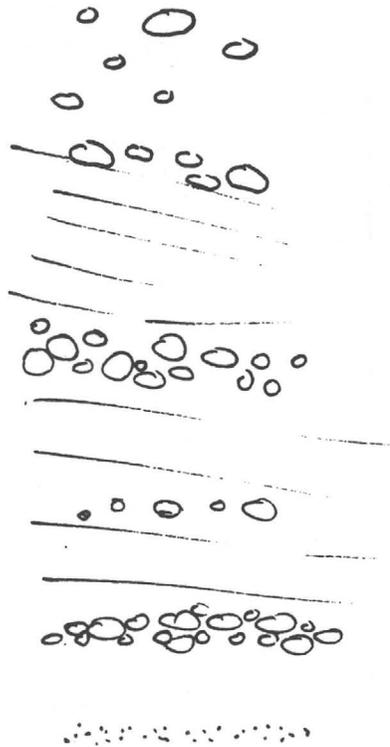
moderately sorted, well  
packed small pebble  
gravel (2cm. avg.)

poorly packed & sorted  
coarse sand containing  
10cm schistose clasts

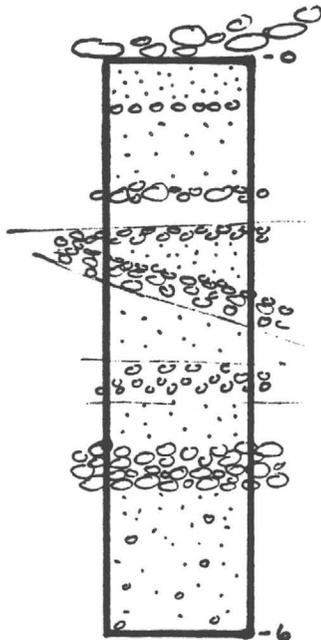
multiple fluvial pulses high  
energy and lap onto well  
incised bedrock channel contour

VULTURE MINE  
PLACER PROJECT  
TRENCH 14  
CHANNEL 1

SURFACE

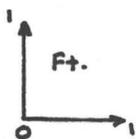


Sequence of poorly bedded & sorted coarse grained sand, grit & pebbly sand units



cyclic fluvial low-moderate energy sed. pulses in wide channel environment

14-1-1: 7.37 mg/cuyd  
 114.0 Yb/cu ft  
 gravel lenses mod. packed & sorted, clasts semi-angular (Rounding 3) in gritty sand matrix; sequence largely unconsolidated.

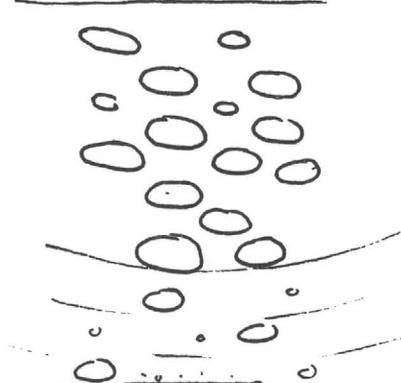


VULTURE MINE  
PLACER PROJECT  
TRENCH 15  
CHANNEL 1

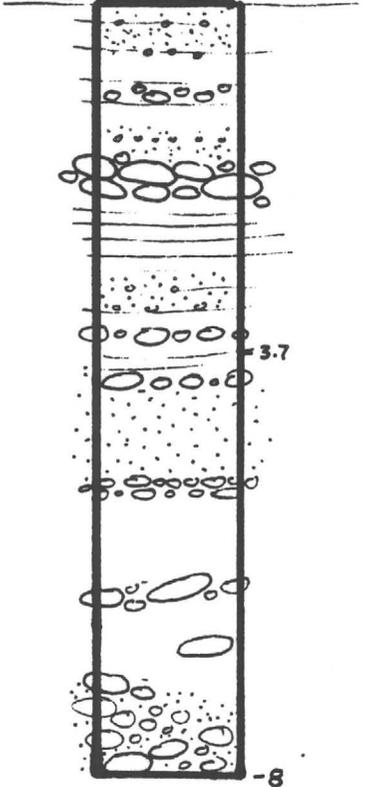
SURFACE



fine grained sands containing lenses grits & small pebbles; highly cemented with  $CaCO_3$



unsorted unconsolidated weak bedded cobble unit; schistose metamorphics to 15cms. semi-angular (Rounding 3)



zone of rhythmic graded low energy fluvial sediments, basal gravel mod-well packed diorite (Rounding 5) schistose metamorphic (Rounding 4)

15-1-1:

0.88 mg/cuyd  
 112.73 lb/cuft

moderately sorted coarse grained sand-grit

15-1-2:

59.4 mg/cuyd  
 152.31 lb/cuft.

cobble-pebble clasts to 15cms, semi-rounded (Rounding 5-6) in coarse grained sand matrix suggesting low-moderate level fluvial energy



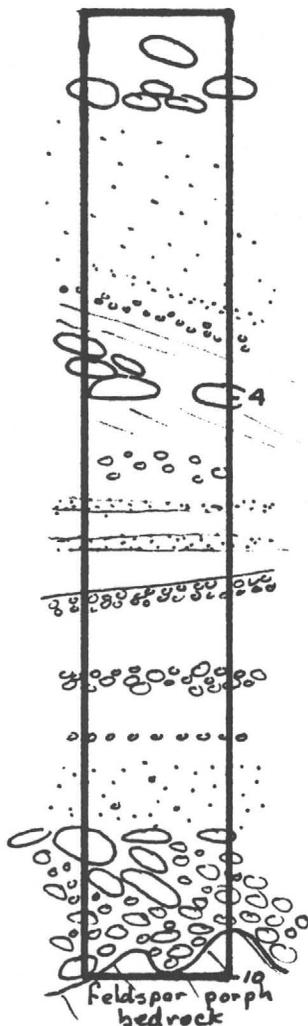
VULTURE MINE  
PLACER PROJECT  
TRENCH 16  
CHANNEL 1

SURFACE

reddish sandy soil



highly  $CaCO_3$  cemented unsorted coarse grained sand containing highly weathered clonitic elasts to 23 cms.

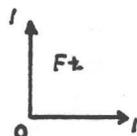


16-1-1: 8.10 mg/cuyd  
 103.83 lb/cu ft

graded sequence, several fluvial cycles of increasing grain size; alternating coarse grained sand bodies with grit and small pebble lenses  
 clasts 100% clonite

16-1-2: 222.48 mg/cuyd  
 114.33 lb/cu ft.

basal section unsorted pebble-cobble gravel composed 100% clonitic identical to bedrock; very local source for the semi-angular (Rounding 4) clasts; bedding gradients 11% suggests high energy environment.



APPENDIX II

APPENDIX II

INDIVIDUAL NUGGET WEIGHTS

Sample No.	Mg. Weight	Size	Shape
3-1-2	277.0	{ 5 mm 2.5 mm 1.5 mm	Elliptical spongy Elliptical spongy "X" moderately round
	Total-----		
3-2-1	79.05 6.99 4.297	4x2 mm	Sub-rounded, spongy
13-1-1	37.06 mg 19.326 mg 4.756 2.306 1.960	4x3 mm 1x4 mm	Irregular spongy & wire Wire-Irregular #1 Color equal dimensional & flat #1 color equal dimensional and flat #1 color equal dimensional and flat

APPENDIX III

**JACOBS ASSAY OFFICE**

REGISTERED ASSAYERS

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TUCSON, ARIZONA 85713

James M. Prudden  
Consulting Geologist  
4809 Quail Point Rd.  
Salt Lake City, Utah 84124

1/11/85

"Sample Processing Procedures"  
DMEA PLACER PROJECT

Dear Jim:

As-per to our phone conversation yesterday concerning our procedures to our processing the DMEA'S placer project.

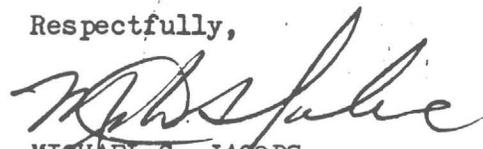
(1) Blacks and Concentrates, will be dried, weighed and submitted to a 4 hour ball mill type grind, any visable gold will first be extracted and weighed prior to milling. An equal amount of water will be added and a slight amount of conc. nitric acid, to help remove any Fe, Ca, and native Hg amalgam (pH checked). After 4 hours have passed, sample is removed and Sodium Hydroxide is added to neutralize pH. Sample is then bottle rolled with Hg (1 gram Hg to 5 grams ore) at approx. 30 RPM for a period of 8 hours. Amalgam is then removed, and the residue is dried and Fire Assayed for Gold & Silver reported Au & Ag oz./ton. Amalgamated material is then subjected to a nitric acid digestion until dissolved, remaining gold is cupelled, weighed and saved.

(2) Black sand concentrates whrn designated will, be first dried, weighed, and the entire sample fire assayed for gold & silver. Results reported in total mg. of gold and total mg of silver.

(3) Tailing samples whrn designated, will be fire assayed, using a two (2) assay ton charge (58.33 grams). Results will be reported in troy oz/2000 lb.ton.

We hope this procedure meets with your approval.

Respectfully,



MICHAEL G. JACOBS  
REGISTERED ASSAYER-OWNER

JACOBS ASSAY OFFICE  
 1435 So. 10<sup>th</sup> Avenue  
 Tucson, Arizona 85713  
 602-622-0813

DMEA LTD.

PRELIMINARY TESTS

SAMPLE NO. 1/1/0-6 conc as received.  
 Weight as received 927 gr. ~~lbs~~; Size, all minus 3/8 inches  
 HEAD ASSAY: Gold 0.217 (calc) oz/T, Silver N/A oz/T  
 GOLD/200 grams XXX mg; SILVER/200 grams XXX

AMALGAMATION  
 200 grams - 100 Mesh

800 cc water  
 40 grams mercury  
 1 gram sodium hydroxide  
 Agitate 3 hours

AMALGAM

CYANIDATION  
 200 grams - 100 Mesh

800 cc water  
 2 grams sodium cyanide  
 1,2 grams lime  
 Agitate 24 hours

SOLUTION

TAILS

METALLICS  
 200 grams - 100 Mesh

10 minute screening time

Iron

mg

METALLICS

PULP

GOLD oz/T XXXXXXXX

0.005

Wt. g \_\_\_\_\_

SILVER oz/T XXXXXXXX

<0.05

Oz/T gold \_\_\_\_\_

TOTAL mg Gold 6.734

0.1589

Oz/T

TOTAL mg

silver \_\_\_\_\_

silver XXX

N/A

Wt. Gold mg \_\_\_\_\_

Wt. Gold mg \_\_\_\_\_

Percent recovery

Free sodium cyanide  
 lb/Ton

Wt. silver mg \_\_\_\_\_

Wt. silver mg \_\_\_\_\_

gold = 97.69

Solution = \_\_\_\_\_

silver = N/A

Ore = \_\_\_\_\_

927/29.166 = 31.78 A.T.

Lime lb/Ton

6.8929/31.78 = .2169 OZ/TON Au

Solution = \_\_\_\_\_

927 grams milled 4 hours

Ore = \_\_\_\_\_

8 hours agitated w/195 gr. Hg.

Percent recovery

gold = \_\_\_\_\_

silver = \_\_\_\_\_

PH \_\_\_\_\_



Registered Assayer  
 Michael G. Jacobs

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PRELIMINARY TESTS

SAMPLE NO. 1/1/6-10 conc. as received.  
 Weight as received 673 gr. lbs.; Size, all minus 3/8 inches  
 HEAD ASSAY: Gold 0.127 (calc) oz/T, Silver N/A oz/T  
 GOLD/200 grams XXX mg; SILVER/200 grams XXX

AMALGAMATION  
 200 grams - 100 Mesh

800 cc water  
 40 grams mercury  
 1 gram sodium hydroxide  
 Agitate 3 hours

AMALGAM

CYANIDATION  
 200 grams - 100 Mesh

800 cc water  
 2 grams sodium cyanide  
 1,2 grams lime  
 Agitate 24 hours

TAILS

SOLUTION

TAILS

METALLICS  
 200 grams - 100 Mesh

10 minute screening  
 time

Iron

mg

METALLICS

PULP

GOLD oz/T XXXXXXX

0.007

Wt. g \_\_\_\_\_

SILVER oz/T XXXXXXX

0.05

Oz/T gold \_\_\_\_\_

TOTAL mg Gold 2.780

0.161

Oz/T silver \_\_\_\_\_

TOTAL mg silver N/A

1.15

Wt. Gold \_\_\_\_\_

Wt. Gold \_\_\_\_\_

mg \_\_\_\_\_

mg \_\_\_\_\_

Percent recovery

gold = 94.53

silver = N/A

Free sodium cyanide  
 lb/Ton  
 Solution = \_\_\_\_\_

Ore = \_\_\_\_\_

Wt. silver \_\_\_\_\_

Wt. silver \_\_\_\_\_

mg \_\_\_\_\_

mg \_\_\_\_\_

$673/29.166 = 23.07$  A.T.  
 $2.941/23.07 = .127$

Lime lb/Ton  
 Solution = \_\_\_\_\_

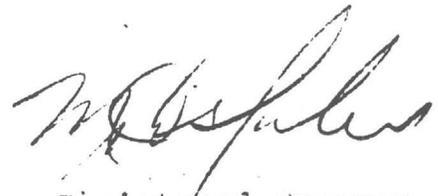
Ore = \_\_\_\_\_

673 grams milled 4 hours  
 8 hours agitated w/135 gr.Hg. Percent recovery

gold = \_\_\_\_\_

silver = \_\_\_\_\_

pH \_\_\_\_\_



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 602-622-0813

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PRELIMINARY TESTS

SAMPLE NO. 1/1/10<sup>o</sup>-14.5" conc<sup>s</sup> as received.  
 Weight as received 4635 gr. ~~1 lb~~ ; Size, all minus 3/8 inches  
 HEAD ASSAY: Gold 0.085 (calc) oz/T, Silver N/A oz/T  
 GOLD/200 grams xxx mg; SILVER/200 grams xxx

AMALGAMATION  
 200 grams - 100 Mesh

800 cc water  
 40 grams mercury  
 1 gram sodium hydroxide  
 Agitate 9 hours

AMALGAM      TAILS

GOLD oz/T XXXXXXXX      0.002

SILVER oz/T XXXXXXXX      0.05

TOTAL mg Gold 13.145      0.318

TOTAL mg silver N/A      7.95

Percent recovery  
 gold = 97.64  
 silver = N/A

CYANIDATION  
 200 grams - 100 Mesh

800 cc water  
 2 grams sodium cyanide  
 1,2 grams lime  
 Agitate 24 hours

SOLUTION      TAILS

Free sodium cyanide  
 lb/Ton      Solution = \_\_\_\_\_

Ore = \_\_\_\_\_

Lime lb/Ton  
 Solution = \_\_\_\_\_

Ore = \_\_\_\_\_

Percent recovery  
 gold = \_\_\_\_\_  
 silver = \_\_\_\_\_

METALLICS  
 200 grams - 100 Mesh

10 minute screening time

Iron \_\_\_\_\_ mg

METALLICS      PULP

Wt. g \_\_\_\_\_

Oz/T gold \_\_\_\_\_

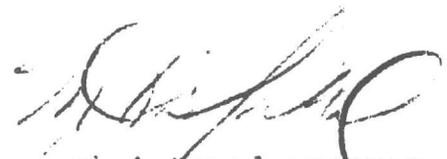
Oz/T silver \_\_\_\_\_

Wt. Gold mg      Wt. Gold mg

Wt. silver mg      Wt. silver mg

$4635/29.166 = 158.92$   
 $13.463/158.92 = 0.085$   
 4635 grams milled 4 hours  
 8 hour agitated w/930 gr.Hg.

PH \_\_\_\_\_

  
 Registered Assayer  
 Michael G. Jacobs

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PRELIMINARY TESTS

SAMPLE NO. 1/2/1 (4'-8') as received.  
 Weight as received 503 gr. ~~lbs~~; Size, all minus 3/8 inches  
 HEAD ASSAY: Gold 0.058 (calc) oz/T, Silver N/A oz/T  
 GOLD/200 grams XXX mg; SILVER/200 grams XXX

**AMALGAMATION**  
 200 grams - 100 Mesh  
 800 cc water  
 40 grams mercury  
 1 gram sodium hydroxide  
 Agitate 3 hours

**CYANIDATION**  
 200 grams - 100 Mesh  
 800 cc water  
 2 grams sodium cyanide  
 1,2 grams lime  
 Agitate 24 hours

**METALLICS**  
 200 grams - 100 Mesh  
 10 minute screening time

	AMALGAM	TAILS	SOLUTION	TAILS	METALLICS	PULP	
GOLD oz/T <u>XXXXXXX</u>		<u>0.010</u>			Wt. g _____		
SILVER oz/T <u>XXXXXXX</u>		<u>0.05</u>			Oz/T gold _____		
TOTAL mg Gold <u>0.835</u>		<u>0.173</u>			Oz/T silver _____		
TOTAL mg silver <u>N/A</u>					Wt. Gold mg _____	Wt. Gold mg _____	
Percent recovery gold = <u>82.84</u>			Free sodium cyanide lb/Ton Solution = _____		Wt. silver mg _____	Wt. silver mg _____	
Percent recovery silver = <u>N/A</u>			Ore = _____				
$503/29.166 = 17.25$			Lime lb/Ton Solution = _____				
$1.008/17.25 = 0.058$			Ore = _____				
503 grams milled 4 hours 8 hours agitated w/100 gr.Hg.			Percent recovery gold = _____				
			Percent recovery silver = _____				
			PH _____				

*Michael G. Jacobs*  
 Registered Assayer  
 Michael G. Jacobs

DMEA LTT.

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Tucson, Arizona 85713  
602-622-0813

PRELIMINARY TESTS

SAMPLE NO. 1/2/2 conc. as received.  
Weight as received 399 gr. ~~lb~~; Size, all minus 3/8 inches  
HEAD ASSAY: Gold 0.249 (cal) oz/T, Silver N/A oz/T  
GOLD/200 grams XXXX mg; SILVER/200 grams XXXX

AMALGAMATION  
200 grams - 100 Mesh

800 cc water  
40 grams mercury  
1 gram sodium hydroxide  
Agitate 3 hours

AMALGAM      TAILS

GOLD oz/T XXXXXXXX      0.014  
SILVER oz/T XXXXXXXX      0.05  
TOTAL mg Gold 3.210      0.192  
TOTAL mg silver N/A      0.68

Percent recovery  
gold = \_\_\_\_\_

silver = N/A

$399/29.166 = 13.68$  A.T.

$3.402/13.68 = 0.249$

399 grams milled 4 hours  
8 hours agitated w/80 gr.Hg.

CYANIDATION  
200 grams - 100 Mesh

800 cc water  
2 grams sodium cyanide  
1,2 grams lime  
Agitate 24 hours

SOLUTION      TAILS

Free sodium cyanide  
lb/Ton  
Solution = \_\_\_\_\_

Ore = \_\_\_\_\_

Lime lb/Ton  
Solution = \_\_\_\_\_

Ore = \_\_\_\_\_

Percent recovery

gold = \_\_\_\_\_

silver = \_\_\_\_\_

pH \_\_\_\_\_

METALLICS  
200 grams - 100 Mesh

10 minute screening time

Iron mg  
METALLICS      PULP

Wt. g \_\_\_\_\_  
Oz/T gold \_\_\_\_\_  
Oz/T silver \_\_\_\_\_  
Wt. Gold mg      Wt. Gold mg  
Wt. silver mg      Wt. silver mg

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PRELIMINARY TESTS

SAMPLE NO. 2/1/1 conc. as received.  
 Weight as received 722 gr. lbs; Size, all minus 3/8 inches  
 HEAD ASSAY: Gold 0.033 (cal) oz/T, Silver N/A oz/T  
 GOLD/200 grams XXX mg; SILVER/200 grams XXX

AMALGAMATION  
 200 grams - 100 Mesh

800 cc water  
 40 grams mercury  
 1 gram sodium hydroxide  
 Agitate 3 hours

AMALGAM      TAILS

GOLD oz/T XXXXXXXX      0.002  
 SILVER oz/T XXXXXXXX      0.05  
 TOTAL mg Gold 0.765      0.050  
 TOTAL mg silver N/A      1.24

Percent recovery  
 gold = \_\_\_\_\_  
 silver = \_\_\_\_\_

$722/29.166 = 24.75$   
 $.815/24.75 = .033$   
 722 grams milled 4 hours  
 8 hours agitated w/145 grams Hg.

CYANIDATION  
 200 grams - 100 Mesh

800 cc water  
 2 grams sodium cyanide  
 1,2 grams lime  
 Agitate 24 hours

SOLUTION      TAILS

\_\_\_\_\_      \_\_\_\_\_  
 \_\_\_\_\_      \_\_\_\_\_  
 \_\_\_\_\_      \_\_\_\_\_  
 \_\_\_\_\_      \_\_\_\_\_

Free sodium cyanide  
 lb/Ton      Solution = \_\_\_\_\_  
 Ore = \_\_\_\_\_

Lime lb/Ton      Solution = \_\_\_\_\_  
 Ore = \_\_\_\_\_

Percent recovery  
 gold = \_\_\_\_\_  
 silver = \_\_\_\_\_

pH \_\_\_\_\_

METALLICS  
 200 grams - 100 Mesh

10 minute screening  
 time

Iron \_\_\_\_\_ mg  
 METALLICS      PULP

Wt. g \_\_\_\_\_  
 Oz/T gold \_\_\_\_\_  
 Oz/T silver \_\_\_\_\_  
 Wt. Gold mg      Wt. Gold mg  
 Wt. silver mg      Wt. silver mg



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PRELIMINARY TESTS

SAMPLE NO. 2/1/2 conc. as received.  
 Weight as received 1126 gr. lbs; Size, all minus 3/8 inches  
 HEAD ASSAY: Gold 0.243 (calc) oz/T, Silver N/A oz/T  
 GOLD/200 grams xxx mg; SILVER/200 grams xxx

AMALGAMATION  
 200 grams - 100 Mesh

800 cc water  
 40 grams mercury  
 1 gram sodium hydroxide  
 Agitate 3 hours

AMALGAM      TAILS

GOLD oz/T XXXXXXXX      0.004  
 SILVER oz/T XXXXXXXX      0.05  
 TOTAL mg Gold 9.22      0.154  
 TOTAL mg silver N/A      1.93

Percent recovery  
 gold = 98.36  
 silver = N/A

$1126/29.166 = 38.61$  A.T.  
 $9.374/38.61 = 0.243$   
 1126 grams milled 4 hours  
 8 hours agitated w/225 gr.Hg.

CYANIDATION  
 200 grams - 100 Mesh

800 cc water  
 2 grams sodium cyanide  
 1,2 grams lime  
 Agitate 24 hours

SOLUTION      TAILS

Free sodium cyanide  
 lb/Ton  
 Solution = \_\_\_\_\_  
 Ore = \_\_\_\_\_

Lime lb/Ton  
 Solution = \_\_\_\_\_  
 Ore = \_\_\_\_\_

Percent recovery  
 gold = \_\_\_\_\_  
 silver = \_\_\_\_\_

PH \_\_\_\_\_

METALLICS  
 200 grams - 100 Mesh

10 minute screening  
 time

Iron \_\_\_\_\_ mg  
 METALLICS      PULP

Wt. g \_\_\_\_\_  
 Oz/T gold \_\_\_\_\_  
 Oz/T silver \_\_\_\_\_  
 Wt. Gold mg      Wt. Gold mg  
 Wt. silver mg      Wt. silver mg

  
 Registered Assayer  
 Michael G. Jacobs

DMEA LTD.

PRELIMINARY TESTS

SAMPLE NO. 3/1/1 conc as received.  
 Weight as received 1643 gr. lbs ; Size, all minus 3/8 inches  
 HEAD ASSAY: Gold 0.048 (calc) oz/T, Silver N/A oz/T  
 GOLD/200 grams XXX mg; SILVER/200 grams XXX

AMALGAMATION  
 200 grams - 100 Mesh

800 cc water  
 40 grams mercury  
 1 gram sodium hydroxide  
 Agitate 3 hours

AMALGAM

TAILS

GOLD oz/T XXXXXXXX  
 SILVER oz/T XXXXXXXX  
 TOTAL mg Gold 1.990  
 TOTAL mg silver N/A

0.013  
<0.05  
0.732  
N/A

Percent recovery  
 gold = 73.11  
 silver = N/A

$1643/29.166 = 56.33$   
 $2.722/56.33 = 0.048$   
 1643 grams milled 4 hours  
 8 hours agitated w/330 gr.Hg.

CYANIDATION  
 200 grams - 100 Mesh

800 cc water  
 2 grams sodium cyanide  
 1,2 grams lime  
 Agitate 24 hours

SOLUTION

TAILS

Free sodium cyanide  
 lb/Ton  
 Solution = \_\_\_\_\_  
 Ore = \_\_\_\_\_  
 Lime lb/Ton  
 Solution = \_\_\_\_\_  
 Ore = \_\_\_\_\_

Percent recovery

gold = \_\_\_\_\_  
 silver = \_\_\_\_\_

PH \_\_\_\_\_

METALLICS  
 200 grams - 100 Mesh

10 minute screening  
 time

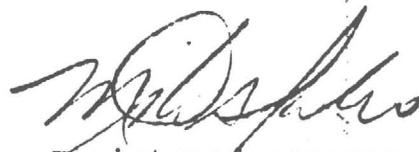
Iron

mg

METALLICS

PULP

Wt. g \_\_\_\_\_  
 Oz/T gold \_\_\_\_\_  
 Oz/T silver \_\_\_\_\_  
 Wt. Gold mg \_\_\_\_\_  
 Wt. Gold mg \_\_\_\_\_  
 Wt. silver mg \_\_\_\_\_  
 Wt. silver mg \_\_\_\_\_



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PRELIMINARY TESTS

SAMPLE NO. 3/1/2 conc as received.  
Weight as received 553 gr. XXX ; Size, all minus 3/8 inches  
HEAD ASSAY: Gold 12.897<sup>(calc)</sup> oz/T, Silver N/A oz/T  
GOLD/200 grams XXX mg; SILVER/200 grams XXX

AMALGAMATION  
200 grams - 100 Mesh

800 cc water  
40 grams mercury  
1 gram sodium hydroxide  
Agitate 3 hours

AMALGAM      TAILS

GOLD oz/T XXXXXXXX      0.023  
SILVER oz/T XXXXXXXX      <0.05  
TOTAL mg Gold 244.10      0.436  
TOTAL mg silver N/A      N/A

Percent recovery  
gold = 99.82  
silver = N/A

$553/29.166 = 18.96$  A.T.  
 $244.536/18.96 = 12.897$  OZ/TON Au

553 grams milled 4 hours  
8 hours agitated w/110 gr.Hg.

Note:  
207.0 Mg free gold weighed  
prior to amalgamating.

244.10  
207.00  
451.10

CYANIDATION  
200 grams - 100 Mesh

800 cc water  
2 grams sodium cyanide  
1,2 grams lime  
Agitate 24 hours

SOLUTION      TAILS

Free sodium cyanide  
lb/Ton  
Solution = \_\_\_\_\_  
Ore = \_\_\_\_\_

Lime lb/Ton  
Solution = \_\_\_\_\_  
Ore = \_\_\_\_\_

Percent recovery  
gold = \_\_\_\_\_  
silver = \_\_\_\_\_

pH \_\_\_\_\_

METALLICS  
200 grams - 100 Mesh

10 minute screening  
time

Iron \_\_\_\_\_ mg  
METALLICS      PULP

Wt. g \_\_\_\_\_  
Oz/T gold \_\_\_\_\_  
Oz/T silver \_\_\_\_\_  
Wt. Gold mg      Wt. Gold mg  
Wt. silver mg      Wt. silver mg

  
Registered Assayer  
Michael G. Jacobs

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Tucson, Arizona 85713  
602-622-0813

PRELIMINARY TESTS

SAMPLE NO. 3/2/1 conc. as received.  
Weight as received 612 gr. x125; Size, all minus 3/8 inches  
HEAD ASSAY: Gold 5.15 (calc) oz/T, Silver N/A oz/T  
GOLD/200 grams XXX mg; SILVER/200 grams XXX

AMALGAMATION  
200 grams - 100 Mesh

800 cc water  
40 grams mercury  
1 gram sodium hydroxide  
Agitate 3 hours

AMALGAM

CYANIDATION  
200 grams - 100 Mesh

800 cc water  
2 grams sodium cyanide  
1,2 grams lime  
Agitate 24 hours

SOLUTION

TAILS

METALLICS  
200 grams - 100 Mesh

10 minute screening time

METALLICS

PULP

GOLD oz/T XXXXXXX

0.033

Wt. g \_\_\_\_\_

SILVER oz/T XXXXXXX

0.05

Oz/T gold \_\_\_\_\_

TOTAL mg Gold 107.31

0.692

Oz/T \_\_\_\_\_

TOTAL mg silver \_\_\_\_\_

1.05

silver \_\_\_\_\_

\_\_\_\_\_ N/A

Wt. Gold \_\_\_\_\_

Wt. Gold \_\_\_\_\_

Percent recovery

gold = 99.36

silver = N/A

Free sodium cyanide  
lb/Ton

Solution = \_\_\_\_\_

Ore = \_\_\_\_\_

Lime lb/Ton

Solution = \_\_\_\_\_

Ore = \_\_\_\_\_

Percent recovery

gold = \_\_\_\_\_

silver = \_\_\_\_\_

$612/29.166 = 20.98$  A.T.

$108.00/20.98 = 5.15$

612 grams milled 4 hours

8 hours agitated w/125 gr.Hg.

Note:

Mg. of free gold wts. 79.05

6.799

4.297

90.146

pH \_\_\_\_\_

Registered Assayer  
Michael G. Jacobs

DMEA LTD.

PRELIMINARY TESTS

SAMPLE NO. 4/1/1 conc. as received.  
 Weight as received 424 gr. lbs; Size, all minus 3/8 inches  
 HEAD ASSAY: Gold 0.279 (calc) oz/T, Silver N/A oz/T  
 GOLD/200 grams xxx mg; SILVER/200 grams xxx

AMALGAMATION

200 grams - 100 Mesh

800 cc water  
 40 grams mercury  
 1 gram sodium hydroxide  
 Agitate 3 hours

AMALGAM

CYANIDATION

200 grams - 100 Mesh

800 cc water  
 2 grams sodium cyanide  
 1,2 grams lime  
 Agitate 24 hours

SOLUTION

TAILS

METALLICS

200 grams - 100 Mesh

10 minute screening time

Iron

mg

METALLICS

PULP

GOLD oz/T XXXXXXXX  
 SILVER oz/T XXXXXXXX  
 TOTAL mg Gold 3.410  
 TOTAL mg silver N/A

0.045  
<0.05  
0.654  
N/A

\_\_\_\_\_  
 \_\_\_\_\_  
 \_\_\_\_\_  
 \_\_\_\_\_

Wt. g \_\_\_\_\_  
 Oz/T gold \_\_\_\_\_  
 Oz/T silver \_\_\_\_\_  
 Wt. Gold \_\_\_\_\_  
 mg \_\_\_\_\_

Wt. Gold \_\_\_\_\_  
 mg \_\_\_\_\_  
 Wt. silver \_\_\_\_\_  
 mg \_\_\_\_\_

Percent recovery  
 gold = 83.91  
 silver = N/A

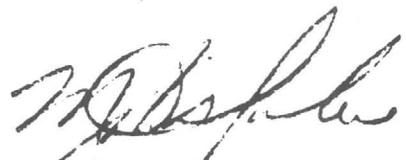
Free sodium cyanide  
 lb/Ton  
 Solution = \_\_\_\_\_  
 Ore = \_\_\_\_\_

$424/29.166 = 14.54$   
 $4.064/14.54 = .279$  OZ/TON Au  
 429 grams milled 4 hours  
 8 hours agitated w/85 gr.Hg.

Lime lb/Ton  
 Solution = \_\_\_\_\_  
 Ore = \_\_\_\_\_

Percent recovery  
 gold = \_\_\_\_\_  
 silver = \_\_\_\_\_

pH \_\_\_\_\_

  
 Registered Assayer  
 Michael G. Jacobs

DMEA LTD.

PRELIMINARY TESTS

SAMPLE NO. 4/1/2 conc. as received.  
 Weight as received 413 gr. lbs; Size, all minus 3/8 inches  
 HEAD ASSAY: Gold 1.438 (calc) oz/T, Silver N/A oz/T  
 GOLD/200 grams xxx mg; SILVER/200 grams xxx

AMALGAMATION  
 200 grams - 100 Mesh

800 cc water  
 40 grams mercury  
 1 gram sodium hydroxide  
 Agitate 3 hours

AMALGAM

CYANIDATION  
 200 grams - 100 Mesh

800 cc water  
 2 grams sodium cyanide  
 1,2 grams lime  
 Agitate 24 hours

TAILS

SOLUTION

TAILS

METALLICS  
 200 grams - 100 Mesh

10 minute screening time

Iron  
 mg

METALLICS

PULP

GOLD oz/T XXXXXXXX

0.013

Wt. g \_\_\_\_\_

SILVER oz/T XXXXXXXX

<0.05

Oz/T gold \_\_\_\_\_

Oz/T

silver \_\_\_\_\_

TOTAL mg Gold 20.180

0.184

Wt. Gold \_\_\_\_\_

Wt. Gold \_\_\_\_\_

TOTAL mg

mg \_\_\_\_\_

mg \_\_\_\_\_

silver N/A

N/A

Wt. silver \_\_\_\_\_

Wt. silver \_\_\_\_\_

mg \_\_\_\_\_

mg \_\_\_\_\_

Percent recovery

Free sodium cyanide  
 lb/Ton

gold = 99.09

Solution = \_\_\_\_\_

silver = N/A

Ore = \_\_\_\_\_

$413/29.166 = 14.16$  A.T.

Lime lb/Ton

$20.364/14.16 = 1.438$  OZ/TON Au

Solution = \_\_\_\_\_

413 grams milled 4 hours

Ore = \_\_\_\_\_

8 hours agitated w/85 gr.Hg.

Percent recovery

gold = \_\_\_\_\_

silver = \_\_\_\_\_

PH \_\_\_\_\_

*Michael G. Jacobs*  
 Registered Assayer  
 Michael G. Jacobs

PRELIMINARY TESTS

SAMPLE NO. 4/2/1 conc. as received.  
 Weight as received 468 gr. XXX; Size, all minus 3/8 inches  
 HEAD ASSAY: Gold 0.795 (cal) oz/T, Silver N/A oz/T  
 GOLD/200 grams XXX mg; SILVER/200 grams XXX

AMALGAMATION  
 200 grams - 100 Mesh

800 cc water  
 40 grams mercury  
 1 gram sodium hydroxide  
 Agitate 3 hours

AMALGAM      TAILS

GOLD oz/T XXXXXXXX      0.050  
 SILVER oz/T XXXXXXXX      <.05  
 TOTAL mg Gold 11.95      0.803  
 TOTAL mg silver N/A      N/A

Percent recovery  
 gold = 93.70  
 silver = N/A

$468/29.166 = 16.05$  A.T.  
 $12.753/16.05 = .795$  oz/ton

468 gr. milled 4 hours  
 8 hours agitated w/95 gr.Hg.

CYANIDATION  
 200 grams - 100 Mesh

800 cc water  
 2 grams sodium cyanide  
 1,2 grams lime  
 Agitate 24 hours

SOLUTION      TAILS

Free sodium cyanide  
 lb/Ton  
 Solution = \_\_\_\_\_  
 Ore = \_\_\_\_\_

Lime lb/Ton  
 Solution = \_\_\_\_\_  
 Ore = \_\_\_\_\_

Percent recovery  
 gold = \_\_\_\_\_  
 silver = \_\_\_\_\_

PH \_\_\_\_\_

METALLICS  
 200 grams - 100 Mesh

10 minute screening time

Iron \_\_\_\_\_ mg  
 METALLICS      PULP

Wt. g \_\_\_\_\_  
 Oz/T gold \_\_\_\_\_  
 Oz/T silver \_\_\_\_\_  
 Wt. Gold mg      Wt. Gold mg  
 Wt. silver mg      Wt. silver mg

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 Registered Assayer  
 Michael G. Jacobs

DMEA LTD.

JACOBS ASSAY OFFICE  
1435 So. 10<sup>th</sup> Avenue  
Tucson, Arizona 85713  
602-622-0813

PRELIMINARY TESTS

SAMPLE NO. 5/1/1 conc. as received.  
Weight as received 271 gr. ~~lbs~~; Size, all minus 3/8 inches  
HEAD ASSAY: Gold 0.014 (calc) oz/T, Silver N/A oz/T  
GOLD/200 grams XXX mg; SILVER/200 grams XXX

AMALGAMATION  
200 grams - 100 Mesh

800 cc water  
40 grams mercury  
1 gram sodium hydroxide  
Agitate 3 hours

AMALGAM

CYANIDATION  
200 grams - 100 Mesh

800 cc water  
2 grams sodium cyanide  
1,2 grams lime  
Agitate 24 hours

TAILS

SOLUTION

TAILS

METALLICS  
200 grams - 100 Mesh

10 minute screening time

Iron

mg

METALLICS

PULP

GOLD oz/T XXXXXXX

0.010

Wt. g \_\_\_\_\_

SILVER oz/T XXXXXXX

0.10

Oz/T gold \_\_\_\_\_

TOTAL mg Gold 0.040

0.093

Oz/T silver \_\_\_\_\_

TOTAL mg silver N/A

0.93

Wt. Gold mg \_\_\_\_\_

Wt. Gold mg \_\_\_\_\_

Percent recovery

Free sodium cyanide

Wt. silver mg \_\_\_\_\_

Wt. silver mg \_\_\_\_\_

gold = 30.08 %

lb/Ton Solution = \_\_\_\_\_

silver = N/A

Ore = \_\_\_\_\_

$271/29.166 = 9.29$

Lime lb/Ton

$0.133/9.29 = 0.014$  OZ/TON Au

Solution = \_\_\_\_\_

271 grams milled 4 hours

Ore = \_\_\_\_\_

8 hours agitated w/55 gr.Hg.

Percent recovery

gold = \_\_\_\_\_

silver = \_\_\_\_\_

pH \_\_\_\_\_

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PRELIMINARY TESTS

SAMPLE NO. 5/1/2 conc. as received.  
 Weight as received 780 gr. lbs; Size, all minus 3/8 inches  
 HEAD ASSAY: Gold 0.013 (cal) oz/T, Silver N/A oz/T  
 GOLD/200 grams XXX mg; SILVER/200 grams XXX

AMALGAMATION

200 grams - 100 Mesh

800 cc water  
 40 grams mercury  
 1 gram sodium hydroxide  
 Agitate 3 hours

AMALGAM

CYANIDATION

200 grams - 100 Mesh

800 cc water  
 2 grams sodium cyanide  
 1,2 grams lime  
 Agitate 24 hours

TAILS

SOLUTION

TAILS

METALLICS

200 grams - 100 Mesh

10 minute screening time

→ Iron

mg

METALLICS

PULP

GOLD oz/T XXXXXXXX

SILVER oz/T XXXXXXXX

TOTAL mg Gold 0.153

TOTAL mg silver N/A

Percent recovery

gold = 45.00%

silver = N/A

780/29.166 26.74

.340/26.74 .013

780 grams milled 4 hours

8 hours agitated w/155 gr.Hg.

.007

0.10

0.187

2.67

Free sodium cyanide  
 lb/Ton

Solution = \_\_\_\_\_

Ore = \_\_\_\_\_

Lime lb/Ton

Solution = \_\_\_\_\_

Ore = \_\_\_\_\_

Percent recovery

gold = \_\_\_\_\_

silver = \_\_\_\_\_

PH \_\_\_\_\_

Wt. g \_\_\_\_\_

Oz/T gold \_\_\_\_\_

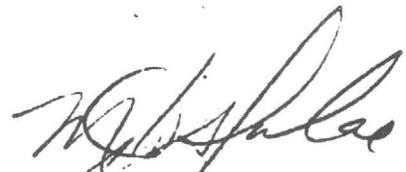
Oz/T silver \_\_\_\_\_

Wt. Gold mg \_\_\_\_\_

Wt. Gold mg \_\_\_\_\_

Wt. silver mg \_\_\_\_\_

Wt. silver mg \_\_\_\_\_



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PRELIMINARY TESTS

SAMPLE NO. 5/1/3 conc. as received.  
 Weight as received 931 gr. lbs; Size, all minus 3/8 inches  
 HEAD ASSAY: Gold 0.005 (calc) oz/T, Silver N/A oz/T  
 GOLD/200 grams XXX mg; SILVER/200 grams XXX

AMALGAMATION  
 200 grams - 100 Mesh

800 cc water  
 40 grams mercury  
 1 gram sodium hydroxide  
 Agitate 3 hours

AMALGAM      TAILS

GOLD oz/T XXXXXXX      0.003  
 SILVER oz/T XXXXXXX      <0.05  
 TOTAL mg Gold 0.062      0.096  
 TOTAL mg silver N/A      N/A

Percent recovery  
 gold = 39.24  
 silver = N/A

$931/29.166 = 31.92$   
 $0.158/31.92 = .005$  OZ/TON Au  
 931 grams milled 4 hours  
 8 hours agitated w/185 gr.Hg.

CYANIDATION  
 200 grams - 100 Mesh

800 cc water  
 2 grams sodium cyanide  
 1,2 grams lime  
 Agitate 24 hours

SOLUTION      TAILS

Free sodium cyanide  
 lb/Ton Solution = \_\_\_\_\_  
 Ore = \_\_\_\_\_

Lime lb/Ton  
 Solution = \_\_\_\_\_  
 Ore = \_\_\_\_\_

Percent recovery  
 gold = \_\_\_\_\_  
 silver = \_\_\_\_\_

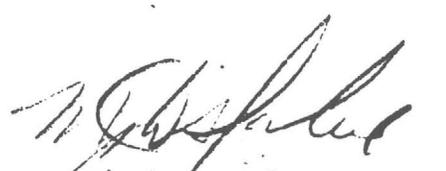
pH \_\_\_\_\_

METALLICS  
 200 grams - 100 Mesh

10 minute screening time

Iron mg  
 METALLICS      PULP

Wt. g \_\_\_\_\_  
 Oz/T gold \_\_\_\_\_  
 Oz/T silver \_\_\_\_\_  
 Wt. Gold mg      Wt. Gold mg  
 Wt. silver mg      Wt. silver mg

  
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PRELIMINARY TESTS

SAMPLE NO. 6/1/1 conc. as received.  
 Weight as received 1337 gr. ~~xxx~~ ; Size, all minus 3/8 inches  
 HEAD ASSAY: Gold 0.013<sup>(calc)</sup> oz/T, Silver N/A oz/T  
 GOLD/200 grams XXX mg; SILVER/200 grams XXX

AMALGAMATION  
 200 grams - 100 Mesh

800 cc water  
 40 grams mercury  
 1 gram sodium hydroxide  
 Agitate 3 hours

AMALGAM      TAILS

GOLD oz/T XXXXXXXX      0.010  
 SILVER oz/T XXXXXXXX      0.05  
 TOTAL mg Gold 0.140      0.458  
 TOTAL mg silver N/A      2.292

Percent recovery  
 gold = 23.41  
 silver = N/A

$1337/29.166 = 45.84$   
 $.598/45.84 = 0.013$  OZ/TON Au  
 1337 grams milled 4 hours  
 8 hours agitated w/270 gr.Hg.

CYANIDATION  
 200 grams - 100 Mesh

800 cc water  
 2 grams sodium cyanide  
 1,2 grams lime  
 Agitate 24 hours

SOLUTION      TAILS

Free sodium cyanide  
 lb/Ton Solution = \_\_\_\_\_  
 Ore = \_\_\_\_\_  
 Lime lb/Ton  
 Solution = \_\_\_\_\_  
 Ore = \_\_\_\_\_

Percent recovery  
 gold = \_\_\_\_\_  
 silver = \_\_\_\_\_

pH \_\_\_\_\_

METALLICS  
 200 grams - 100 Mesh

10 minute screening  
 time

Iron \_\_\_\_\_ mg  
 METALLICS      PULP

Wt. g \_\_\_\_\_  
 Oz/T gold \_\_\_\_\_  
 Oz/T silver \_\_\_\_\_  
 Wt. Gold mg \_\_\_\_\_      Wt. Gold mg \_\_\_\_\_  
 Wt. silver mg \_\_\_\_\_      Wt. silver mg \_\_\_\_\_

  
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PRELIMINARY TESTS

SAMPLE NO. 6/1/2 conc. as received.  
 Weight as received 637 gr. ~~XXX~~; Size, all minus 3/8 inches  
 HEAD ASSAY: Gold 0.038<sup>(calc)</sup> oz/T, Silver N/A oz/T  
 GOLD/200 grams XXX mg; SILVER/200 grams XXX

AMALGAMATION  
 200 grams - 100 Mesh

800 cc water  
 40 grams mercury  
 1 gram sodium hydroxide  
 Agitate 3 hours

AMALGAM      TAILS

GOLD oz/T XXXXXXXX      0.011  
 SILVER oz/T XXXXXXXX      0.05  
 TOTAL mg Gold 0.580      0.240  
 TOTAL mg silver N/A      1.09

Percent recovery  
 gold = 70.73  
 silver = N/A

637/29.166 = 21.84 A.T.  
 0.820/21.84 = 0.038 oz/ton  
 637 gr. milled 4 hours  
 8 hours agitated w/130 gr.Hg.

CYANIDATION  
 200 grams - 100 Mesh

800 cc water  
 2 grams sodium cyanide  
 1,2 grams lime  
 Agitate 24 hours

SOLUTION      TAILS

Free sodium cyanide  
 lb/Ton Solution = \_\_\_\_\_  
 Ore = \_\_\_\_\_

Lime lb/Ton  
 Solution = \_\_\_\_\_  
 Ore = \_\_\_\_\_

Percent recovery  
 gold = \_\_\_\_\_  
 silver = \_\_\_\_\_

PH \_\_\_\_\_

METALLICS  
 200 grams - 100 Mesh

10 minute screening time

Iron \_\_\_\_\_ mg  
 METALLICS      PULP

Wt. g \_\_\_\_\_  
 Oz/T gold \_\_\_\_\_  
 Oz/T silver \_\_\_\_\_  
 Wt. Gold mg      Wt. Gold mg  
 Wt. silver mg      Wt. silver mg

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PRELIMINARY TESTS

SAMPLE NO. 7/1/1 conc. as received.  
 Weight as received 70 grams XXX; Size, all minus 3/8 inches  
 HEAD ASSAY: Gold 0.540 (calc) oz/T, Silver N/A oz/T  
 GOLD/200 grams XXX mg; SILVER/200 grams XXX

**AMALGAMATION**  
 200 grams - 100 Mesh  
 800 cc water  
 40 grams mercury  
 1 gram sodium hydroxide  
 Agitate 3 hours

**CYANIDATION**  
 200 grams - 100 Mesh  
 800 cc water  
 2 grams sodium cyanide  
 1,2 grams lime  
 Agitate 24 hours

**METALLICS**  
 200 grams - 100 Mesh  
 10 minute screening time

↓  
 AMALGAM      TAILS  
 GOLD oz/T XXXXXXX      0.528  
 SILVER oz/T XXXXXXX      <.05  
 TOTAL mg Gold 0.030      1.267  
 TOTAL mg silver N/A      N/A

↓  
 SOLUTION      TAILS  
 \_\_\_\_\_  
 \_\_\_\_\_

↓  
 METALLICS      PULP  
 Wt. g \_\_\_\_\_  
 Oz/T gold \_\_\_\_\_  
 Oz/T silver \_\_\_\_\_  
 Wt. Gold mg \_\_\_\_\_      Wt. Gold mg \_\_\_\_\_

Percent recovery  
 gold = 2.31  
 silver = N/A

Free sodium cyanide  
 lb/Ton  
 Solution = \_\_\_\_\_  
 Ore = \_\_\_\_\_

Wt. silver mg \_\_\_\_\_      Wt. silver mg \_\_\_\_\_

$70/29.166 = 2.40$  A.T.  
 $1.297/2.40 = 0.540$  oz/ton  
 70 grams milled 4 hours  
 8 hours agitated w/15 gr.Hg.

Lime lb/Ton  
 Solution = \_\_\_\_\_  
 Ore = \_\_\_\_\_

Percent recovery  
 gold = \_\_\_\_\_  
 silver = \_\_\_\_\_

Percent recovery  
 gold = \_\_\_\_\_  
 silver = \_\_\_\_\_

pH \_\_\_\_\_

  
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PRELIMINARY TESTS

SAMPLE NO. 7/1/2 5'-9'-3"concas received.  
 Weight as received 86 grams ~~lbs~~; Size, all minus 3/8 inches  
 HEAD ASSAY: Gold 0.117 (calc) oz/T, Silver N/A oz/T  
 GOLD/200 grams XXX mg; SILVER/200 grams XXX

AMALGAMATION  
 200 grams - 100 Mesh

800 cc water  
 40 grams mercury  
 1 gram sodium hydroxide  
 Agitate 3 hours

↓  
 AMALGAM

CYANIDATION  
 200 grams - 100 Mesh

800 cc water  
 2 grams sodium cyanide  
 1,2 grams lime  
 Agitate 24 hours

↓      ↓  
 SOLUTION      TAILS

METALLICS  
 200 grams - 100 Mesh

10 minute screening time

↓      ↓      → Iron mg  
 METALLICS      PULP

GOLD oz/T XXXXXXXX      0.096  
 SILVER oz/T XXXXXXXX      0.05  
 TOTAL mg Gold 0.063      0.283  
 TOTAL mg silver N/A      N/A

Wt. g \_\_\_\_\_  
 Oz/T gold \_\_\_\_\_  
 Oz/T silver \_\_\_\_\_  
 Wt. Gold \_\_\_\_\_      Wt. Gold \_\_\_\_\_  
 mg \_\_\_\_\_      mg \_\_\_\_\_

Percent recovery  
 gold = 11.73  
 silver = N/A

Free sodium cyanide  
 lb/Ton      Solution = \_\_\_\_\_  
 Ore = \_\_\_\_\_

Wt. silver \_\_\_\_\_      Wt. silver \_\_\_\_\_  
 mg \_\_\_\_\_      mg \_\_\_\_\_

86/29.166 = 2.949 A.T.  
 0.346/2.949 = 0.117 oz/ton  
 86 grams milled 4 hours  
 8 hours agitated w/20 gr.Hg.

Lime lb/Ton      Solution = \_\_\_\_\_  
 Ore = \_\_\_\_\_

Percent recovery  
 gold = \_\_\_\_\_  
 silver = \_\_\_\_\_

pH \_\_\_\_\_

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602-622-0813

PRELIMINARY TESTS

SAMPLE NO. 7/1/3 9'-3"-14'-3" conc received.  
Weight as received 949 grams ~~XXX~~; Size, all minus 3/8 inches  
HEAD ASSAY: Gold 0.006 (cal) oz/T, Silver N/A oz/T  
GOLD/200 grams XXX mg; SILVER/200 grams XXX

AMALGAMATION  
200 grams - 100 Mesh

800 cc water  
40 grams mercury  
1 gram sodium hydroxide  
Agitate 3 hours

AMALGAM      TAILS

GOLD oz/T XXXXXXX      0.005  
SILVER oz/T XXXXXXX      0.05  
TOTAL mg Gold 0.022      0.163  
TOTAL mg silver N/A      N/A

Percent recovery  
gold = 11.89  
silver = N/A

$949/29.166 = 32.53$  A.T.  
 $0.185/32.53 = 0.006$  oz/ton  
949 grams milled 4 hours  
8 hours agitated w/190 gr.Hg.

CYANIDATION  
200 grams - 100 Mesh

800 cc water  
2 grams sodium cyanide  
1,2 grams lime  
Agitate 24 hours

SOLUTION      TAILS

Free sodium cyanide  
lb/Ton Solution = \_\_\_\_\_  
Ore = \_\_\_\_\_

Lime lb/Ton  
Solution = \_\_\_\_\_  
Ore = \_\_\_\_\_

Percent recovery  
gold = \_\_\_\_\_  
silver = \_\_\_\_\_

pH \_\_\_\_\_

METALLICS  
200 grams - 100 Mesh

10 minute screening  
time

Iron \_\_\_\_\_ mg  
METALLICS      PULP

Wt. g \_\_\_\_\_  
Oz/T gold \_\_\_\_\_  
Oz/T silver \_\_\_\_\_  
Wt. Gold \_\_\_\_\_ Wt. Gold \_\_\_\_\_  
mg \_\_\_\_\_ mg \_\_\_\_\_  
Wt. silver \_\_\_\_\_ Wt. silver \_\_\_\_\_  
mg \_\_\_\_\_ mg \_\_\_\_\_

  
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PRELIMINARY TESTS

SAMPLE NO. 8/1/10-4' conc. as received.  
Weight as received 349 grams XXX; Size, all minus 3/8 inches  
HEAD ASSAY: Gold 0.008 (calc) oz/T, Silver N/A oz/T  
GOLD/200 grams XXX mg; SILVER/200 grams XXX

AMALGAMATION  
200 grams - 100 Mesh

800 cc water  
40 grams mercury  
1 gram sodium hydroxide  
Agitate 3 hours

AMALGAM

CYANIDATION  
200 grams - 100 Mesh

800 cc water  
2 grams sodium cyanide  
1,2 grams lime  
Agitate 24 hours

TAILS

SOLUTION

TAILS

METALLICS  
200 grams - 100 Mesh

10 minute screening time

Iron

mg

METALLICS

PULP

GOLD oz/T XXXXXXXX 0.006  
SILVER oz/T XXXXXXXX <.05  
TOTAL mg Gold 0.026 0.072  
TOTAL mg silver N/A N/A

Wt. g \_\_\_\_\_  
Oz/T gold \_\_\_\_\_  
Oz/T silver \_\_\_\_\_  
Wt. Gold \_\_\_\_\_ Wt. Gold \_\_\_\_\_  
mg \_\_\_\_\_ mg \_\_\_\_\_

Percent recovery  
gold = 26.53  
silver = N/A

Free sodium cyanide  
lb/Ton Solution = \_\_\_\_\_  
Ore = \_\_\_\_\_

Wt. silver \_\_\_\_\_ Wt. silver \_\_\_\_\_  
mg \_\_\_\_\_ mg \_\_\_\_\_

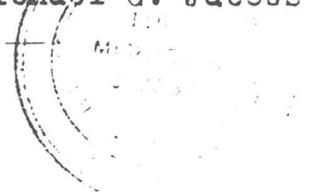
349 gr/29.166 = 11.97 A.T.  
0.098/11.97 = 0.008 oz./ton  
349 grams milled 4 hours  
8 hours agitated w/70 gr.Hg.

Lime lb/Ton Solution = \_\_\_\_\_  
Ore = \_\_\_\_\_

Percent recovery  
gold = \_\_\_\_\_  
silver = \_\_\_\_\_

pH \_\_\_\_\_

  
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Tucson, Arizona 85713  
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PRELIMINARY TESTS

SAMPLE NO. 8/1/2 4'-8' conc. as received.  
Weight as received 755 grams ~~XXXX~~; Size, all minus 3/8 inches  
HEAD ASSAY: Gold 0.024 (cal)oz/T, Silver N/A oz/T  
GOLD/200 grams XXX mg; SILVER/200 grams XXX

AMALGAMATION  
200 grams - 100 Mesh

CYANIDATION  
200 grams - 100 Mesh

METALLICS  
200 grams - 100 Mesh

800 cc water  
40 grams mercury  
1 gram sodium hydroxide  
Agitate 3 hours

800 cc water  
2 grams sodium cyanide  
1,2 grams lime  
Agitate 24 hours

10 minute screening time

AMALGAM

TAILS

SOLUTION

TAILS

METALLICS

PULP

GOLD oz/T XXXXXXXX

0.006

Wt. g \_\_\_\_\_

SILVER oz/T XXXXXXXX

<.05

Oz/T gold \_\_\_\_\_

TOTAL mg Gold 0.468

0.155

Oz/T \_\_\_\_\_

TOTAL mg silver N/A

N/A

silver \_\_\_\_\_

Wt. Gold mg \_\_\_\_\_

Wt. Gold mg \_\_\_\_\_

Percent recovery

gold = 75.12

silver = N/A

Free sodium cyanide lb/Ton  
Solution = \_\_\_\_\_

Ore = \_\_\_\_\_

Wt. silver mg \_\_\_\_\_

Wt. silver mg \_\_\_\_\_

$755/29.166 = 25.89$  A.T.

$0.623/25.89 = 0.024$  oz/ton

Lime lb/Ton  
Solution = \_\_\_\_\_

Ore = \_\_\_\_\_

755 grams milled 4 hours  
8 hours agitated w/150 gr.Hg.

Percent recovery

gold = \_\_\_\_\_

silver = \_\_\_\_\_

pH \_\_\_\_\_

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PRELIMINARY TESTS

SAMPLE NO. 8/1/3 8'-12'-10"<sup>conc.</sup> as received.  
 Weight as received 461 grams ~~XXX~~; Size, all minus 3/8 inches  
 HEAD ASSAY: Gold 0.939<sup>calc.</sup> oz/T, Silver N/A oz/T  
 GOLD/200 grams XXX mg; SILVER/200 grams XXX

AMALGAMATION  
 200 grams - 100 Mesh

800 cc water  
 40 grams mercury  
 1 gram sodium hydroxide  
 Agitate 3 hours

AMALGAM

CYANIDATION  
 200 grams - 100 Mesh

800 cc water  
 2 grams sodium cyanide  
 1,2 grams lime  
 Agitate 24 hours

TAILS

SOLUTION

TAILS

METALLICS  
 200 grams - 100 Mesh

10 minute screening time

Iron

mg

METALLICS

PULP

GOLD oz/T XXXXXXXX  
 SILVER oz/T XXXXXXXX  
 TOTAL mg Gold 14.530  
 TOTAL mg silver N/A

0.020  
<.05  
0.316  
N/A

Wt. g \_\_\_\_\_  
 Oz/T gold \_\_\_\_\_  
 Oz/T silver \_\_\_\_\_  
 Wt. Gold \_\_\_\_\_  
 mg \_\_\_\_\_

Wt. Gold \_\_\_\_\_  
 mg \_\_\_\_\_

Percent recovery  
 gold = 97.87  
 silver = N/A

Free sodium cyanide  
 lb/Ton Solution = \_\_\_\_\_  
 Ore = \_\_\_\_\_

Wt. silver \_\_\_\_\_  
 mg \_\_\_\_\_

Wt. silver \_\_\_\_\_  
 mg \_\_\_\_\_

$461/29.166 = 15.81$  A.T.  
 $14.846/15.81 = 0.939$  oz/ton  
 461 grams milled 4 hours  
 8 hours agitated w/95 gr.Hg.

Lime lb/Ton  
 Solution = \_\_\_\_\_  
 Ore = \_\_\_\_\_

Percent recovery

gold = \_\_\_\_\_  
 silver = \_\_\_\_\_

PH \_\_\_\_\_

  
 Registered Assayer  
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PRELIMINARY TESTS

SAMPLE NO. 9/1/1 0-4'-4" conc. as received.  
 Weight as received 1124 grams ~~XXX~~ ; Size, all minus 3/8 inches  
 HEAD ASSAY: Gold 0.499 (calc) oz/T, Silver N/A oz/T  
 GOLD/200 grams XXX mg; SILVER/200 grams XXX

AMALGAMATION  
 200 grams - 100 Mesh

800 cc water  
 40 grams mercury  
 1 gram sodium hydroxide  
 Agitate 3 hours

AMALGAM      TAILS

GOLD oz/T XXXXXXX      0.031  
 SILVER oz/T XXXXXXX      <.05  
 TOTAL mg Gold 18.020      1.194  
 TOTAL mg silver N/A      N/A

Percent recovery  
 gold = 93.79  
 silver = N/A

$1124/29.166 = 38.54$  A.T.  
 $19.214/38.54 = 0.499$  oz/ton

1124 grams milled 4 hours  
 8 hours agitated w/225 gr.Hg.

CYANIDATION  
 200 grams - 100 Mesh

800 cc water  
 2 grams sodium cyanide  
 1,2 grams lime  
 Agitate 24 hours

SOLUTION      TAILS

Free sodium cyanide  
 lb/Ton Solution = \_\_\_\_\_

Ore = \_\_\_\_\_

Lime lb/Ton Solution = \_\_\_\_\_

Ore = \_\_\_\_\_

Percent recovery

gold = \_\_\_\_\_

silver = \_\_\_\_\_

pH \_\_\_\_\_

METALLICS  
 200 grams - 100 Mesh

10 minute screening time

Iron mg  
 METALLICS      PULP

Wt. g \_\_\_\_\_  
 Oz/T gold \_\_\_\_\_  
 Oz/T silver \_\_\_\_\_  
 Wt. Gold mg      Wt. Gold mg  
 Wt. silver mg      Wt. silver mg

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PRELIMINARY TESTS

SAMPLE NO. 10/1/1 conc. as received.  
Weight as received 824 grams ~~XXX~~; Size, all minus 3/8 inches  
HEAD ASSAY: Gold 0.398 (cal) oz/T, Silver N/A oz/T  
GOLD/200 grams XXX mg; SILVER/200 grams XXX

AMALGAMATION  
200 grams - 100 Mesh

800 cc water  
40 grams mercury  
1 gram sodium hydroxide  
Agitate 3 hours

AMALGAM      TAILS

GOLD oz/T XXXXXXXX      0.014  
SILVER oz/T XXXXXXXX      <.05  
TOTAL mg Gold 11.054      0.396  
TOTAL mg silver N/A      N/A

Percent recovery

gold = 96.54

silver = N/A

824/29.166 = 28.25 A.T.  
11.45/28.25 = 0.398 oz/ton  
824 grams milled 4 hours  
8 hours agitated w/165gr.Hg.

CYANIDATION  
200 grams - 100 Mesh

800 cc water  
2 grams sodium cyanide  
1,2 grams lime  
Agitate 24 hours

SOLUTION      TAILS

Free sodium cyanide  
lb/Ton  
Solution = \_\_\_\_\_

Ore = \_\_\_\_\_

Lime lb/Ton  
Solution = \_\_\_\_\_

Ore = \_\_\_\_\_

Percent recovery

gold = \_\_\_\_\_

silver = \_\_\_\_\_

pH \_\_\_\_\_

METALLICS  
200 grams - 100 Mesh

10 minute screening  
time

METALLICS      PULP

Wt. g \_\_\_\_\_  
Oz/T gold \_\_\_\_\_  
Oz/T silver \_\_\_\_\_  
Wt. Gold mg \_\_\_\_\_      Wt. Gold mg \_\_\_\_\_  
Wt. silver mg \_\_\_\_\_      Wt. silver mg \_\_\_\_\_

  
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PRELIMINARY TESTS

SAMPLE NO. 11/1/1 conc as received.  
 Weight as received 199 grams ~~XXX~~; Size, all minus 3/8 inches  
 HEAD ASSAY: Gold 0.068 (calc) oz/T, Silver N/A oz/T  
 GOLD/200 grams XXX mg; SILVER/200 grams XXX

AMALGAMATION  
 200 grams - 100 Mesh

800 cc water  
 40 grams mercury  
 1 gram sodium hydroxide  
 Agitate 3 hours

AMALGAM      TAILS

GOLD oz/T XXXXXXX      0.008  
 SILVER oz/T XXXXXXX      0.05  
 TOTAL mg Gold 0.413      0.054  
 TOTAL mg silver N/A      N/A

Percent recovery  
 gold = 88.44  
 silver = N/A

199/29.166 = 6.82 A.T.  
 0.467/6.82 = 0.068 oz/ton  
 199 grams milled 4 hours  
 8 hours agitated w/40 gr.Hg.

CYANIDATION  
 200 grams - 100 Mesh

800 cc water  
 2 grams sodium cyanide  
 1,2 grams lime  
 Agitate 24 hours

SOLUTION      TAILS

Free sodium cyanide  
 lb/Ton Solution = \_\_\_\_\_  
 Ore = \_\_\_\_\_

Lime lb/Ton  
 Solution = \_\_\_\_\_  
 Ore = \_\_\_\_\_

Percent recovery  
 gold = \_\_\_\_\_  
 silver = \_\_\_\_\_

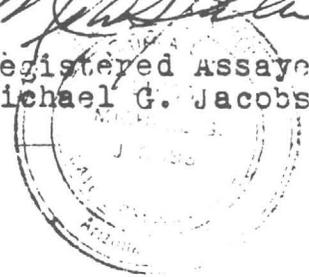
pH \_\_\_\_\_

METALLICS  
 200 grams - 100 Mesh

10 minute screening time

Iron \_\_\_\_\_ mg  
 METALLICS      PULP

Wt. g \_\_\_\_\_  
 Oz/T gold \_\_\_\_\_  
 Oz/T silver \_\_\_\_\_  
 Wt. Gold mg      Wt. Gold mg  
 Wt. silver mg      Wt. silver mg

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PRELIMINARY TESTS

SAMPLE NO. 11/1/2 conc. as received.  
Weight as received 784 grams LOS; Size, all minus 3/8 inches  
HEAD ASSAY: Gold 0.133 (cal) oz/T, Silver N/A oz/T  
GOLD/200 grams XXX mg; SILVER/200 grams XXX

AMALGAMATION  
200 grams - 100 Mesh

800 cc water  
40 grams mercury  
1 gram sodium hydroxide  
Agitate 3 hours

AMALGAM

CYANIDATION  
200 grams - 100 Mesh

800 cc water  
2 grams sodium cyanide  
1,2 grams lime  
Agitate 24 hours

SOLUTION

TAILS

METALLICS  
200 grams - 100 Mesh

10 minute screening time

METALLICS

PULP

GOLD oz/T XXXXXXXX 0.009  
SILVER oz/T XXXXXXXX 0.05  
TOTAL mg Gold 3.180 0.231  
TOTAL mg silver N/A N/A

Wt. g \_\_\_\_\_  
Oz/T gold \_\_\_\_\_  
Oz/T silver \_\_\_\_\_  
Wt. Gold \_\_\_\_\_ Wt. Gold \_\_\_\_\_  
mg \_\_\_\_\_ mg \_\_\_\_\_  
Wt. silver \_\_\_\_\_ Wt. silver \_\_\_\_\_  
mg \_\_\_\_\_ mg \_\_\_\_\_

Percent recovery  
gold = 93.23  
silver = N/A

Free sodium cyanide  
lb/Ton \_\_\_\_\_  
Solution = \_\_\_\_\_  
Ore = \_\_\_\_\_

$784/29.166 = 25.65$  A.T.  
 $3.411/25.65 = 0.133$  oz/ton  
784 grams milled 4 hours  
8 hours agitated w/155 gr.Hg.

Lime lb/Ton \_\_\_\_\_  
Solution = \_\_\_\_\_  
Ore = \_\_\_\_\_

Percent recovery  
gold = \_\_\_\_\_  
silver = \_\_\_\_\_

pH \_\_\_\_\_

  
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PRELIMINARY TESTS

SAMPLE NO. 11/1/3 conc. as received.  
Weight as received 867 grams ~~XXX~~; Size, all minus 3/8 inches  
HEAD ASSAY: Gold 0.030 (cal) oz/T, Silver N/A oz/T  
GOLD/200 grams XXX mg; SILVER/200 grams XXX

AMALGAMATION  
200 grams - 100 Mesh

800 cc water  
40 grams mercury  
1 gram sodium hydroxide  
Agitate 3 hours

AMALGAM      TAILS

GOLD oz/T XXXXXXX      0.002  
SILVER oz/T XXXXXXX      0.05  
TOTAL mg Gold 0.835      0.059  
TOTAL mg silver N/A      N/A

Percent recovery  
gold = 93.40  
silver = N/A

867/29.166 = 29/73 A.T.  
0.894/29.73 = 0.030 oz/ton

867 grams milled 4 hours  
8 hours agitated w/175 gr.Hg.

CYANIDATION  
200 grams - 100 Mesh

800 cc water  
2 grams sodium cyanide  
1.2 grams lime  
Agitate 24 hours

SOLUTION      TAILS

Free sodium cyanide  
lb/Ton  
Solution = \_\_\_\_\_

Ore = \_\_\_\_\_

Lime lb/Ton  
Solution = \_\_\_\_\_

Ore = \_\_\_\_\_

Percent recovery

gold = \_\_\_\_\_

silver = \_\_\_\_\_

pH \_\_\_\_\_

METALLICS  
200 grams - 100 Mesh

10 minute screening  
time

Iron  
mg  
METALLICS      PULP

Wt. g \_\_\_\_\_

Oz/T gold \_\_\_\_\_

Oz/T silver \_\_\_\_\_

Wt. Gold mg \_\_\_\_\_      Wt. Gold mg \_\_\_\_\_

Wt. silver mg \_\_\_\_\_      Wt. silver mg \_\_\_\_\_

  
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PRELIMINARY TESTS

SAMPLE NO. 11/1/4 conc. as received.  
 Weight as received 385 grams ~~XXX~~; Size, all minus 3/8 inches  
 HEAD ASSAY: Gold 0.433 (calc) oz/T, Silver N/A oz/T  
 GOLD/200 grams XXX mg; SILVER/200 grams XXX

AMALGAMATION  
 200 grams - 100 Mesh

800 cc water  
 40 grams mercury  
 1 gram sodium hydroxide  
 Agitate 3 hours

AMALGAM

CYANIDATION  
 200 grams - 100 Mesh

800 cc water  
 2 grams sodium cyanide  
 1,2 grams lime  
 Agitate 24 hours

TAILS

SOLUTION

TAILS

METALLICS  
 200 grams - 100 Mesh

10 minute screening  
 time

Iron

mg

METALLICS

PULP

GOLD oz/T XXXXXXX

0.012

Wt. g \_\_\_\_\_

SILVER oz/T XXXXXXX

0.05

Oz/T gold \_\_\_\_\_

Oz/T

silver \_\_\_\_\_

TOTAL mg Gold 5,553

0.158

TOTAL mg

silver N/A

N/A

Wt. Gold \_\_\_\_\_

Wt. Gold \_\_\_\_\_

mg \_\_\_\_\_

mg \_\_\_\_\_

Percent recovery

gold = 97.23

silver = N/A

Free sodium cyanide  
 lb/Ton

Solution = \_\_\_\_\_

Ore = \_\_\_\_\_

Wt. silver \_\_\_\_\_

mg \_\_\_\_\_

Wt. silver \_\_\_\_\_

mg \_\_\_\_\_

$385/29.166 \approx 13.20$  A.T.

$5.711/13.20 \approx 0.433$  oz/ton

Lime lb/Ton

Solution = \_\_\_\_\_

Ore = \_\_\_\_\_

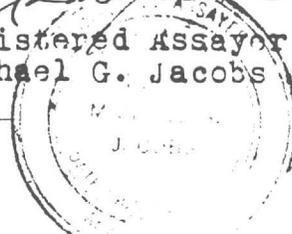
385 grams milled 4 hours  
 8 hours agitated w/80 gr.Hg.

Percent recovery

gold = \_\_\_\_\_

silver = \_\_\_\_\_

pH \_\_\_\_\_

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PRELIMINARY TESTS

SAMPLE NO. 12/1/1 conc. \_\_\_\_\_ as received.  
 Weight as received 587 grams KMS; Size, all minus 3/8 inches  
 HEAD ASSAY: Gold 0.028 (calc) oz/T, Silver N/A oz/T  
 GOLD/200 grams xxx mg; SILVER/200 grams xxx

AMALGAMATION  
 200 grams - 100 Mesh

800 cc water  
 40 grams mercury  
 1 gram sodium hydroxide  
 Agitate 3 hours

AMALGAM      TAILS

GOLD oz/T XXXXXXXX      0.006  
 SILVER oz/T XXXXXXXX      0.05  
 TOTAL mg Gold 0.434      0.120  
 TOTAL mg silver N/A      N/A

Percent recovery  
 gold = 78.34  
 silver = N/A

$587/29.166 = 20.13$  A.T.  
 $0.554/20.13 = 0.028$  oz/ton  
 587 grams milled 4 hours  
 8 hours agitated w/120gr.Hg.

CYANIDATION  
 200 grams - 100 Mesh

800 cc water  
 2 grams sodium cyanide  
 1,2 grams lime  
 Agitate 24 hours

SOLUTION      TAILS

Free sodium cyanide  
 lb/Ton  
 Solution = \_\_\_\_\_

Lime lb/Ton  
 Solution = \_\_\_\_\_  
 Ore = \_\_\_\_\_

Percent recovery  
 gold = \_\_\_\_\_  
 silver = \_\_\_\_\_

PH \_\_\_\_\_

METALLICS  
 200 grams - 100 Mesh

10 minute screening  
 time

Iron \_\_\_\_\_ mg  
 METALLICS      PULP

Wt. g \_\_\_\_\_  
 Oz/T gold \_\_\_\_\_  
 Oz/T silver \_\_\_\_\_  
 Wt. Gold mg      Wt. Gold mg  
 Wt. silver mg      Wt. silver mg

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PRELIMINARY TESTS

SAMPLE NO. 12/1/2 conc. as received.  
Weight as received 569 grams ~~105~~; Size, all minus 3/8 inches  
HEAD ASSAY: Gold 0.075 (calc) oz/T, Silver N/A oz/T  
GOLD/200 grams XXX mg; SILVER/200 grams XXX

AMALGAMATION  
200 grams - 100 Mesh

800 cc water  
40 grams mercury  
1 gram sodium hydroxide  
Agitate 3 hours

	↓	↓
	AMALGAM	TAILS
GOLD oz/T	<u>XXXXXXXX</u>	<u>0.002</u>
SILVER oz/T	<u>XXXXXXXX</u>	<u>0.05</u>
TOTAL mg Gold	<u>1.430</u>	<u>0.039</u>
TOTAL mg silver	<u>N/A</u>	<u>N/A</u>

Percent recovery  
gold = 97.35  
silver = N/A

569/29.166 = 19.51 A.T.  
1.460/19.51 = 0.075 oz/ton  
569 grams milled 4 hours  
8 hours agitated w/115 gr.Hg.

CYANIDATION  
200 grams - 100 Mesh

800 cc water  
2 grams sodium cyanide  
1,2 grams lime  
Agitate 24 hours

	↓	↓
	SOLUTION	TAILS
	_____	_____

Free sodium cyanide  
lb/Ton  
Solution = \_\_\_\_\_  
Ore = \_\_\_\_\_

Lime lb/Ton  
Solution = \_\_\_\_\_  
Ore = \_\_\_\_\_

Percent recovery  
gold = \_\_\_\_\_  
silver = \_\_\_\_\_

pH \_\_\_\_\_

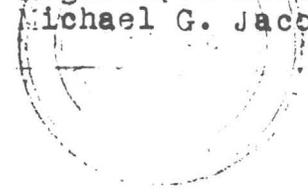
METALLICS  
200 grams - 100 Mesh

10 minute screening  
time

	↓	↓	↓
	METALLICS	PULP	Iron mg

Wt. g	_____	_____
Oz/T gold	_____	_____
Oz/T silver	_____	_____
Wt. Gold mg	_____	Wt. Gold mg _____
Wt. silver mg	_____	Wt. silver mg _____

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PRELIMINARY TESTS

SAMPLE NO. 12/1/3 conc. as received.  
Weight as received 591 grams XXX ; Size, all minus 3/8 inches  
HEAD ASSAY: Gold 0.045 (calc)/T, Silver N/A oz/T  
GOLD/200 grams XXX mg; SILVER/200 grams XXX

AMALGAMATION  
200 grams - 100 Mesh

800 cc water  
40 grams mercury  
1 gram sodium hydroxide  
Agitate 3 hours

AMALGAM      TAILS

GOLD oz/T XXXXXXXX      0.004  
SILVER oz/T XXXXXXXX      0.05  
TOTAL mg Gold 0.838      0.081  
TOTAL mg silver N/A      N/A

Percent recovery  
gold = 91.19  
silver = N/A

CYANIDATION  
200 grams - 100 Mesh

800 cc water  
2 grams sodium cyanide  
1,2 grams lime  
Agitate 24 hours

SOLUTION      TAILS

Free sodium cyanide  
lb/Ton  
Solution = \_\_\_\_\_  
Ore = \_\_\_\_\_

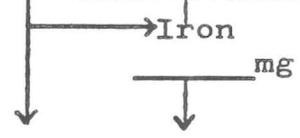
Lime lb/Ton  
Solution = \_\_\_\_\_  
Ore = \_\_\_\_\_

Percent recovery  
gold = \_\_\_\_\_  
silver = \_\_\_\_\_

pH \_\_\_\_\_

METALLICS  
200 grams - 100 Mesh

10 minute screening time



METALLICS      PULP

Wt. g \_\_\_\_\_  
Oz/T gold \_\_\_\_\_  
Oz/T silver \_\_\_\_\_  
Wt. Gold mg      Wt. Gold mg  
Wt. silver mg      Wt. silver mg

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11/13  
Registered Assayer  
Michael G. Jacobs  
DAILY SIGNATURE

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PRELIMINARY TESTS

SAMPLE NO. 13/1/1 conc. as received.  
 Weight as received 289 grams LXX; Size, all minus 3/8 inches  
 HEAD ASSAY: Gold 7.39 (calc) oz/T, Silver N/A oz/T  
 GOLD/200 grams XXX mg; SILVER/200 grams XXX

AMALGAMATION  
 200 grams - 100 Mesh

800 cc water  
 40 grams mercury  
 1 gram sodium hydroxide  
 Agitate 3 hours

CYANIDATION  
 200 grams - 100 Mesh

800 cc water  
 2 grams sodium cyanide  
 1,2 grams lime  
 Agitate 24 hours

METALLICS  
 200 grams - 100 Mesh

10 minute screening time

	↓	↓	↓	↓	↓	↓	↓
	AMALGAM	TAILS	SOLUTION	TAILS	METALLICS	PULP	Iron mg
GOLD oz/T <u>XXXXXXXX</u>		<u>0.663</u>	_____	_____	Wt. g _____	_____	
SILVER oz/T <u>XXXXXXXX</u>		<u>&lt;0.05</u>	_____	_____	Oz/T gold _____	_____	
TOTAL mg Gold <u>66.650</u>		<u>6.570</u>	_____	_____	Oz/T silver _____	_____	
TOTAL mg silver <u>N/A</u>		<u>N/A</u>	_____	_____	Wt. Gold mg _____	Wt. Gold mg _____	
Percent recovery gold = <u>91.02</u>			Free sodium cyanide lb/Ton Solution = _____	Ore = _____	Wt. silver mg _____	Wt. silver mg _____	
Percent recovery silver = <u>N/A</u>			Lime lb/Ton Solution = _____	Ore = _____			

289/29.166 = 9.91 A.T.  
 73.22/9.91 = 7.39 oz/ton  
 289 grams milled 4 hours  
 8 hours agitated w/60 gr.Hg.

Note: Sample wts. of small nuggetts.  
 #1--37.060 Mg.  
 #2--19.326 "  
 #3--4.756 "  
 #4--2.306 "  
 #5--1.960 "

Percent recovery  
 gold = \_\_\_\_\_  
 silver = \_\_\_\_\_

pH \_\_\_\_\_

  
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PRELIMINARY TESTS

SAMPLE NO. 14/1/1 conc as received.  
 Weight as received 1195 grams ~~XXX~~; Size, all minus 3/8 inches  
 HEAD ASSAY: Gold 0.063 (calc) oz/T, Silver N/A oz/T  
 GOLD/200 grams XXX mg; SILVER/200 grams XXX

AMALGAMATION  
 200 grams - 100 Mesh

800 cc water  
 40 grams mercury  
 1 gram sodium hydroxide  
 Agitate 3 hours

AMALGAM

CYANIDATION  
 200 grams - 100 Mesh

800 cc water  
 2 grams sodium cyanide  
 1,2 grams lime  
 Agitate 24 hours

SOLUTION

TAILS

METALLICS  
 200 grams - 100 Mesh

10 minute screening time

→ Iron

mg

METALLICS

PULP

GOLD oz/T XXXXXXXX

0.003

Wt. g \_\_\_\_\_

SILVER oz/T XXXXXXXX

<.05

Oz/T gold \_\_\_\_\_

TOTAL mg Gold 2.455

0.123

Oz/T silver \_\_\_\_\_

TOTAL mg silver N/A

N/A

Wt. Gold \_\_\_\_\_

Wt. Gold \_\_\_\_\_

mg \_\_\_\_\_

mg \_\_\_\_\_

Percent recovery

gold = 95.23

silver = N/A

Free sodium cyanide  
 lb/Ton  
 Solution = \_\_\_\_\_

Ore = \_\_\_\_\_

Wt. silver \_\_\_\_\_

Wt. silver \_\_\_\_\_

mg \_\_\_\_\_

mg \_\_\_\_\_

Lime lb/Ton  
 Solution = \_\_\_\_\_

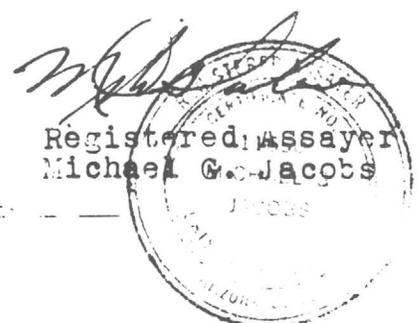
Ore = \_\_\_\_\_

Percent recovery

gold = \_\_\_\_\_

silver = \_\_\_\_\_

pH \_\_\_\_\_



1195/29.166 = 40.97 A.T.  
 2.578/40.97 = 0.063 oz/ton  
 1195 grams milled 4 hours  
 8 hours agitated w/240 gr.Hg.

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PRELIMINARY TESTS

SAMPLE NO. 15/1/1 conc. as received.  
Weight as received 2480 grams XXX; Size, all minus 3/8 inches  
HEAD ASSAY: Gold 0.007 (calc) oz/T, Silver N/A oz/T  
GOLD/200 grams XXX mg; SILVER/200 grams XXX

AMALGAMATION  
200 grams - 100 Mesh

800 cc water  
40 grams mercury  
1 gram sodium hydroxide  
Agitate 3 hours

AMALGAM

CYANIDATION  
200 grams - 100 Mesh

800 cc water  
2 grams sodium cyanide  
1,2 grams lime  
Agitate 24 hours

TAILS

SOLUTION

TAILS

METALLICS  
200 grams - 100 Mesh

10 minute screening  
time

Iron

mg

METALLICS

PULP

GOLD oz/T XXXXXXX

0.005

Wt. g \_\_\_\_\_

SILVER oz/T XXXXXXX

<.05

Oz/T gold \_\_\_\_\_

Oz/T

silver \_\_\_\_\_

TOTAL mg Gold 0.179

0.425

Wt. Gold \_\_\_\_\_

Wt. Gold \_\_\_\_\_

TOTAL mg

silver N/A

N/A

mg \_\_\_\_\_

mg \_\_\_\_\_

Percent recovery

Free sodium cyanide

Wt. silver \_\_\_\_\_

Wt. silver \_\_\_\_\_

gold = 42.11

lb/Ton

mg \_\_\_\_\_

mg \_\_\_\_\_

silver = N/A

Solution = \_\_\_\_\_

Ore = \_\_\_\_\_

$2480/29.166 = 85.03$  A.T.

Lime lb/Ton

$0.604/85.03 = 0.007$  oz/ton

Solution = \_\_\_\_\_

2480 grams milled 4 hours

Ore = \_\_\_\_\_

8 hours agitated w/500 grams Hg.

Percent recovery

gold = \_\_\_\_\_

silver = \_\_\_\_\_

pH \_\_\_\_\_

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MICHAEL G. JACOBS

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PRELIMINARY TESTS

SAMPLE NO. 15/1/2 conc. as received.  
 Weight as received 1350 grams; Size, all minus 3/8 inches  
 HEAD ASSAY: Gold 0.310 (calc) oz/T, Silver N/A oz/T  
 GOLD/200 grams xxx mg; SILVER/200 grams XXX

AMALGAMATION  
 200 grams - 100 Mesh

800 cc water  
 40 grams mercury  
 1 gram sodium hydroxide  
 Agitate 3 hours

AMALGAM      TAILS

GOLD oz/T XXXXXXXX      0.002  
 SILVER oz/T XXXXXXXX      <.05  
 TOTAL mg Gold 14.300      0.092  
 TOTAL mg silver N/A      N/A

Percent recovery  
 gold = 99.36  
 silver = N/A

$1350/29,166 = 46.29$  A.T.  
 $14.392/46.29 = 0.310$   
 1350 grams milled 4 hours  
 8 hours agitated w/270 gr.Hg.

CYANIDATION  
 200 grams - 100 Mesh

800 cc water  
 2 grams sodium cyanide  
 1,2 grams lime  
 Agitate 24 hours

SOLUTION      TAILS

Free sodium cyanide  
 lb/Ton Solution = \_\_\_\_\_  
 Ore = \_\_\_\_\_  
 Lime lb/Ton  
 Solution = \_\_\_\_\_  
 Ore = \_\_\_\_\_

Percent recovery  
 gold = \_\_\_\_\_  
 silver = \_\_\_\_\_

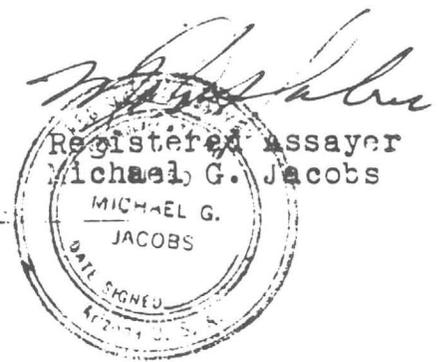
pH \_\_\_\_\_

METALLICS  
 200 grams - 100 Mesh

10 minute screening time

Iron \_\_\_\_\_ mg  
 METALLICS      PULP

Wt. g \_\_\_\_\_  
 Oz/T gold \_\_\_\_\_  
 Oz/T silver \_\_\_\_\_  
 Wt. Gold \_\_\_\_\_      Wt. Gold \_\_\_\_\_  
 mg \_\_\_\_\_      mg \_\_\_\_\_  
 Wt. silver \_\_\_\_\_      Wt. silver \_\_\_\_\_  
 mg \_\_\_\_\_      mg \_\_\_\_\_



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PRELIMINARY TESTS

SAMPLE NO. 16/1/1 conc. as received.  
Weight as received 247 grams XXX ; Size, all minus 3/8 inches  
HEAD ASSAY: Gold 0.226 (cal) oz/T, Silver N/A oz/T  
GOLD/200 grams XXX mg; SILVER/200 grams XXX

AMALGAMATION  
200 grams - 100 Mesh

800 cc water  
40 grams mercury  
1 gram sodium hydroxide  
Agitate 3 hours

AMALGAM

CYANIDATION  
200 grams - 100 Mesh

800 cc water  
2 grams sodium cyanide  
1,2 grams lime  
Agitate 24 hours

TAILS

SOLUTION

TAILS

METALLICS  
200 grams - 100 Mesh

10 minute screening  
time

Iron

mg

METALLICS

PULP

GOLD oz/T XXXXXXXX

0.014

Wt. g \_\_\_\_\_

SILVER oz/T XXXXXXXX

0.05

Oz/T gold \_\_\_\_\_

Oz/T

silver \_\_\_\_\_

TOTAL mg Gold 1.800

0.119

Wt. Gold \_\_\_\_\_

Wt. Gold \_\_\_\_\_

TOTAL mg

silver N/A

N/A

mg \_\_\_\_\_

mg \_\_\_\_\_

Percent recovery

Free sodium cyanide  
lb/Ton

Wt. silver \_\_\_\_\_

Wt. silver \_\_\_\_\_

gold = 93.80

Solution = \_\_\_\_\_

mg \_\_\_\_\_

mg \_\_\_\_\_

silver = N/A

Ore = \_\_\_\_\_

$247/29.166 = 8.47$  A.T.

Lime lb/Ton

$1.919/8.47 = 0.226$  ox/ton

Solution = \_\_\_\_\_

247 grams milled 4 hours

8 hours agitated w/50 gr.Hg.

Ore = \_\_\_\_\_

Percent recovery

gold = \_\_\_\_\_

silver = \_\_\_\_\_

PH \_\_\_\_\_

Registered Assayer  
Michael G. Jacobs



JACOBS ASSAY OFFICE  
 1435 So. 10<sup>th</sup> Avenue  
 Tucson, Arizona 85713  
 602-622-0813

DMEA LTD.

PRELIMINARY TESTS

SAMPLE NO. 16/1/2 conc. as received.  
 Weight as received 204 grams ~~156~~; Size, all minus 3/8 inches  
 HEAD ASSAY: Gold 11.64 (caloz)/T, Silver N/A oz/T  
 GOLD/200 grams XXX mg; SILVER/200 grams XXX

AMALGAMATION  
 200 grams - 100 Mesh

800 cc water  
 40 grams mercury  
 1 gram sodium hydroxide  
 Agitate 3 hours

AMALGAM      TAILS

GOLD oz/T XXXXXXX      1.028  
 SILVER oz/T XXXXXXX      0.10  
 TOTAL mg Gold 74.160      7.185  
 TOTAL mg silver N/A      N/A

Percent recovery  
 gold = 91.17  
 silver = N/A

$204/29.166 = 6.99$  A.T.  
 $81.345/6.99 = 11.64$  oz/ton

204 grams milled 4 hours  
 8 hours agitated w/40 gr.Hg.

CYANIDATION  
 200 grams - 100 Mesh

800 cc water  
 2 grams sodium cyanide  
 1,2 grams lime  
 Agitate 24 hours

SOLUTION      TAILS

Free sodium cyanide  
 lb/Ton Solution = \_\_\_\_\_  
 Ore = \_\_\_\_\_

Lime lb/Ton  
 Solution = \_\_\_\_\_  
 Ore = \_\_\_\_\_

Percent recovery  
 gold = \_\_\_\_\_  
 silver = \_\_\_\_\_

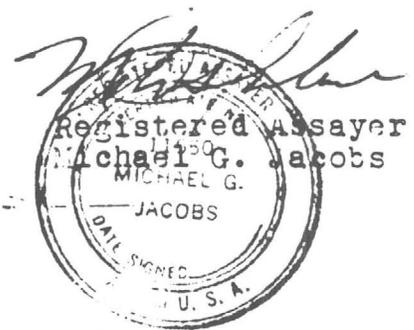
pH \_\_\_\_\_

METALLICS  
 200 grams - 100 Mesh

10 minute screening time

Iron \_\_\_\_\_ mg  
 METALLICS      PULP

Wt. g \_\_\_\_\_  
 Oz/T gold \_\_\_\_\_  
 Oz/T silver \_\_\_\_\_  
 Wt. Gold mg      Wt. Gold mg  
 Wt. silver mg      Wt. silver mg



1435 S. 10th AVE.

# Jacobs Assay Office

Registered Assayers



PHONE 622-0813

Certificate No. 64278

TUCSON, ARIZONA 85713

12/28 1984

Sample Submitted By Mr. PRUDDEN

SAMPLE MARKED	GOLD Ozs. per ton ore	<del>GOLD Value per ton ore</del>	SILVER Ozs. per ton ore	<del>LEAD Per cent Wet Assay</del>	<del>COPPER Per cent Wet Assay</del>	<del>Per cent Wet Assay</del>	<del>Per cent Wet Assay</del>
TAILS 3/2/1 -10M	0.0015		< 0.05				
" " +10M	0.005		< 0.05				
" 4/2/1 -10M	0.012		< 0.05				
" " +10M	TRACE		< 0.05				
" 11/1/1 -10M	0.002		< 0.05				
" " +10M	0.009		< 0.05				
" 11/1/2 -10M	0.001		< 0.05				
" " +10M	0.002		< 0.05				
" 11/1/3 -10M	0.001		< 0.05				
" " +10M	TRACE		< 0.05				
" 11/1/4 -10M	0.004		< 0.05				
" " +10M	0.001		< 0.05				
" 12/1/1 -10M	TRACE		< 0.05				
" " +10M	TRACE		< 0.05				
" 12/1/2 -10M	0.002		< 0.05				
" " +10M	0.001		< 0.05				
" 12/1/3 -10M	0.001		< 0.05				
" " +10M	0.001		< 0.05				
" 13/1/1 -10M	0.003		< 0.05				
" " +10M	0.002		< 0.05				
" 14/1/1 -10M	0.001		< 0.05				
" " +10M	0.004		< 0.05				
" 15/1/1 -10M	TRACE		< 0.05				
" " +10M	0.001		< 0.05				
" 15/1/2 -10M	0.001		< 0.05				
" " +10M	TRACE		< 0.05				
" 16/1/1 -10M	0.001		< 0.05				
" 16/1/1 +10M	0.001		< 0.05				
" 16/1/2 -10M	TRACE		< 0.05				
" " +10M	0.002		< 0.05				

*[Handwritten signature]*

FIRE ASSAY  
2 ASSAY TON GAS SAMPLE  
WET SAMPLES

Very respectfully,

*[Handwritten signature]*

Charges \$ 3/5<sup>00</sup>

1435 S. 10th AVE.

# Jacobs Assay Office

Registered Assayers



PHONE 622-0813

Certificate No. **64258**

TUCSON, ARIZONA 85713

**12/27 1984**

Sample Submitted By Mr. **PRUDDEN**

SAMPLE MARKED	GOLD		X	SILVER		SAMPLE MARKED	GOLD		X	SILVER	
	OZS PER TON			OZS PER TON			OZS PER TON			OZS PER TON	
① tails 1/16 -10M	0.001			< 0.05		tails 8/1/1 -10M	0.002			< 0.05	⑩
② " 1/16 +10M	0.009			< 0.05		" 8/1/1 +10M	0.002			0.05	⑪
③ " 1/46 -10M	0.002			< 0.05		" 8/1/2 -10M	0.002			0.05	⑫
④ tails 1/46 +10M	0.002			< 0.05		" 8/1/2 +10M	0.003			0.05	⑬
⑤ " 1/110 -10M	0.001			< 0.05		" 8/1/3 -10M	0.004			< 0.05	⑭
⑥ " 1/110 +10M	0.001			0.05		" 8/1/3 +10M	0.001			< 0.05	⑮
⑦ " 1/2/2 -10M	0.001			< 0.05		" 9/1/1 -10M	0.001			0.05	⑯
⑧ " 1/2/2 +10M	0.002			0.05		" 9/1/1 +10M	0.001			0.05	⑰
⑨ " 1/2/4 -10M	0.002			< 0.05		" 10/1/1 -10M	0.018			0.05	⑱
⑩ " 1/2/4 +10M	0.003			< 0.05		" 10/1/1 +10M	0.002			0.05	⑲
⑪ " 2/1/1 -10M	0.002			0.05							
⑫ " 2/1/1 +10M	0.003			0.05							
⑬ " 2/1/2 -10M	0.002			0.05							
⑭ " 2/1/2 +10M	0.001			< 0.05							
⑮ " 3/1/1 -10M	TRACE			0.05							
⑯ tails 3/1/1 +10M	TRACE			< 0.05							
⑰ " 3/1/2 -10M	0.002			0.05							
⑱ " 3/1/2 +10M	0.002			0.05							
⑲ " 4/1/1 -10M	TRACE			0.05							
⑳ tails 4/1/1 +10M	TRACE			0.05							
㉑ " 4/1/2 -10M	0.001			< 0.05							
㉒ " 4/1/2 +10M	0.002			< 0.05							
㉓ " 5/1/1 -10M	0.001			< 0.05							
㉔ " 5/1/1 +10M	TRACE			< 0.05							
㉕ " 5/1/2 -10M	TRACE			< 0.05							
㉖ " 5/1/2 +10M	TRACE			< 0.05							
㉗ " 5/1/3 -10M	TRACE			< 0.05							
㉘ " 5/1/3 +10M	0.001			0.05							
㉙ " 6/1/1 -10M	0.001			0.05							
㉚ " 6/1/1 +10M	0.001			0.05							
㉛ " 6/1/2 -10M	TRACE			< 0.05							
㉜ " 6/1/2 +10M	TRACE			< 0.05							
㉝ " 7/1/1 -10M	TRACE			< 0.05							
㉞ " 7/1/1 +10M	0.002			0.05							
㉟ " 7/1/2 -10M	0.002			0.05							
㊱ " 7/1/2 +10M	0.005			< 0.05							
㊲ " 7/1/3 -10M	0.002			< 0.05							
㊳ " 7/1/3 +10M	0.002			0.05							

FIRE ASSAY  
2 ASSAY TUBES SAMPLE  
SCREENING

Very respectfully,

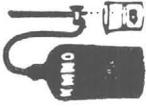
Charges \$ **504.00**

1435 SOUTH 10TH AVENUE  
TUCSON ARIZONA 85713

# Дарбия Аянуу Office

Registered Аянуучу

Cert. # 64309



PHONE 622-0813

1985

17 JAN

Tucson, Arizona

DMEA LTD. c/o JAMES PRUDEN

Sample Submitted by Mr

Sample Marked	GOLD OZS. per ton ore	GOLD Value per ton ore	SILVER OZS. per ton ore	COPPER Percent Wet Assay	LEAD Percent Wet Assay	ZINC Percent Wet Assay	Other Percent Wet Assay
"Grainy Trails"	0.016	~	2.50	X	X	X	X
Amalgamation TRAILS	0.071	~	5.15				
Special Bulk sample - Starting wt as rec - 5,675 grams							
Entire sample crushed to mesh - Gravity concentrated							
Cone wt - 6 grams - Ball milled 4 hours, agitated							
Blowed with 3 grams Hg.							
Total by Gold Standard = Nil							

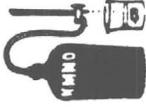
Charges \$ 90.00

Very respectfully

1435 SOUTH 10TH AVENUE  
TUCSON ARIZONA 85713

# Jacobs Assay Office

## Registered Assayers



PHONE 622-0813

12/20 19 84

64250

Tucson, Arizona

Sample Submitted by Mr.

**JAMES M. PRUDDEN**

Sample Marked	GOLD Oz. per ton ore	GOLD Value per ton ore	SILVER Oz. per ton ore	COPPER Per Cent Wet Assay	LEAD Per Cent Wet Assay	Per Cent Wet Assay	Per Cent Wet Assay
H-210-S	0.017	Mg Au					
H-21							
5-105-345	0.058	Mg Au					
5-105-400							
H-21							
0-5-5-95	0.081	Mg Au					
5-105-410							
H-34							
10-15	0.026	Mg Au					
ENTIRE SAMPLE FINE ASSAYED							

Very Respectfully

39 00

Charges \$

1435 SOUTH 10TH AVENUE  
TUCSON ARIZONA 85713

**Дарби Авиану Office**  
**Registered Assayers**



PHONE 622-0813

64279 **PRUDDEN**

Tucson, Arizona.

1/4 19 55  
CONC.

Sample Submitted by Mr.

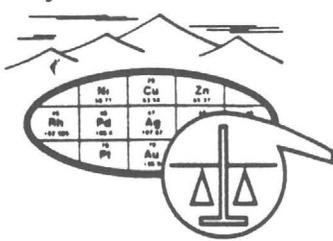
Sample Marked	GOLD Ozs. per ton ore	GOLD Value per ton ore	SILVER Ozs. per ton ore	COPPER Per cent Wet Assay	LEAD Per cent Wet Assay	Per Cent Wet Assay	Per Cent Wet Assay	Per Cent Wet Assay
H-19	0.012 mg		0.30 mg					
5-10	0.110 mg		0.20 mg					
10-15	0.020 mg		0.25 mg					
15-20	0.124 mg		0.35 mg					
H-31	0.050 mg		1.85 mg					
15-30	0.005 mg		0.35 mg					
H-34								
15-30								
Entire Sample Fire Assayed								

Very respectfully,

Charges \$

70.00

APPENDIX IV



# SKYLINE LABS, INC.

1775 W. Sahuaro Dr. • P.O. Box 50106

Tucson, Arizona 85703

(602) 622-4836

## REPORT OF SPECTROGRAPHIC ANALYSIS

JOB NO. UQX 023

January 10, 1985

BLACK SAND CONCENTRATE

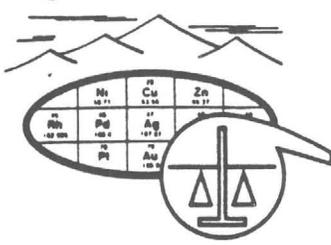
A.F. BUDGE (MINING) LIMITED  
Attn: Ms. Carole A. O'Brien  
DMEA Ltd.  
4203 North Brown Avenue, Suite F  
Scottsdale, Arizona 85251

### Analysis of 1 Black Sand Concentrate

The attached pages comprise this report of analysis. Values are reported in parts per million (ppm), except where otherwise noted, to the nearest number in the series 1, 1.5, 2, 3, 5, 7, 10, etc. within each order of magnitude. These numbers represent the approximate boundaries and midpoints of arbitrary ranges of concentration differing by the reciprocal of the cube root of ten. The 'accepted' value is considered to be within + or - 1 step of the range reported at the 68 % confidence level and within + or - 2 steps at the 95 % confidence level.

-----  
William L. Lehmbeck  
Manager

cc: Jim Prudden ✓  
Frank Millsaps



# SKYLINE LABS, INC.

1775 W. Sahuaro Dr. • P.O. Box 50106

Tucson, Arizona 85703

(602) 622-4836

JOB NO. UQX 023

PAGE 2

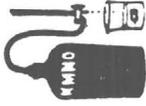
ITEM NO.      SAMPLE NO.  
1 = BLACK SAND CONCENTRATE

ITEM	1
ELEMENT	
Fe	>20%
Ca	1.5%
Mg	.3%
Ag	150
As	<500
B	10
Ba	2000
Be	<2
Bi	10
Cd	<50
Co	100
Cr	500
Cu	300
Ga	<10
Ge	<20
La	1000
Mn	700
Mo	2000
Nb	<20
Ni	200
Pb	>10000
Sb	<100
Sc	10
Sn	<10
Sr	<100
Ti	10000
V	500
W	50
Y	300
Zn	700
Zr	5000

1435 SOUTH 10TH AVENUE  
TUCSON ARIZONA 85713

# Jacobs Assay Office

Registered Assayers



PHONE 622-0813

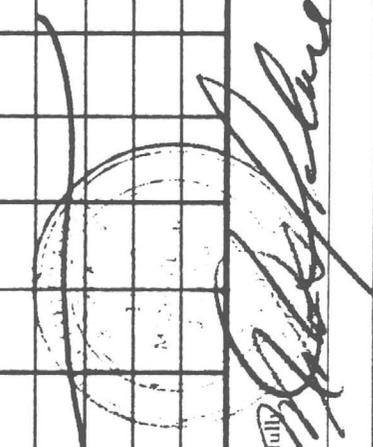
64308

1/24 85

PRUDEN  
Tucson, Arizona  
DMEA

Sample Submitted by Mr.

Sample Marked	<del>GOLD</del> Oz. per ton	<del>SILVER</del> Oz. per ton	<del>COPPER</del> Per cent Wet Assay	LEAD Per cent Wet Assay	<del>PERCENT</del> Per cent Wet Assay	<del>PERCENT</del> Per cent Wet Assay
12/1/85				0.55		
12/1/2.00				0.08		
12/1/2 conc.				0.06		



Charges \$ 7.50

Very respectfully

*[Handwritten Signature]*

Scanned  
7/18/11  
mc