60001792

Mining District File Summary Sheet

DISTRICT	Rosebud
DIST_NO	4010
COUNTY If different from written on document	Pershing
TITLE If not obvious	Rosebud - Memorandum, October Monthly Report, October 31, 1998
AUTHOR	Vance R; Mitchell P; Liste, R; Allen K; Longstaff, G; Rogowski P; Groves D; McLaughlin, H
DATE OF DOC(S)	1998
MULTI_DIST Y / [✓ N?] Additional Dist_Nos:	
QUAD_NAME	Sulphur 7½'
P_M_C_NAME (mine, claim & company names)	Rosebud Mine; Newmont Gold Co.; White Alps; Short Shot; South Ridge; Vertex prospect
COMMODITY If not obvious	gold; silver
NOTES	Property summary; correspondence; geology handwritten notes; geologic map; cross sections 8p.

Keep docs at about 250 pages if no oversized maps attached
(for every 1 oversized page (>11x17) with text reduce
the amount of pages by ~25)

SS: DP 7/30/08
Initials Date

DB:
Initials Date

SCANNED:
Initials Date

Revised: 1/22/08

Rosebud Trailer

66001792 4010

NEWMONT
GOLD
COMPANY

GEOLOGY DEPARTMENT
WINNEMUCCA EXPLORATION

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MEMORANDUM

October 31, 1998

TO: RANDY VANCE

FROM: PETER MITCHELL

SUBJECT: OCTOBER MONTHLY REPORT

cc: Rick Lisle, Kurt Allen, George Langstaff, Pete Rogowski, File

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ROSEBUD

Prospect Development

White Alps and Short Shot

Surface mapping in the White Alps-Short Shot area is nearly complete, but only the southwest trench has been mapped. The remaining two trenches, the road cut between the White Alps-Brown Palace saddle and drill site RS-446, and the surface between RS-446, -447, 456 and Rosebud Peak will be mapped during November. An alteration overlay will be completed in December after thin section, PIMA and x-ray diffraction data are collected.

Figures 1 and 2 show the trends and down-dip projections of the major geologic units exposed on the surface. Areas of intense silicification (jasperoid) and those with strong to intense argillization are shown on the cross section. Figure 3 is a schematic rendition of the geology exposed in the road cut ~400 feet south of the line of section. The geology shown in figures 1 and 2 is an interpretation of the details in Figure 3 combined with the geology of the southwestern trench (Fig. 4). The occurrence of welded(?) ignimbrite horizons within the "epiclastic" sequence and the basal contact of the sequence with "planar laminated" to "fine-grained, massive" trachytic lava(?), the White Alps-Short Shot geology is probably correlative with the western South Ridge section (Table 1).

The most significant difference between my interpretation of the White Alps-Short Shot geology and that of the previous workers is the recognition of one major and several minor dikes of Rosebud Quartz Latite, and the lack of significant faulting. There appears to be one major fault (White Alps) in the area, although no single fault plane exists to connect the northeast-trending jasperoid bodies

(Fig. 1). It is likely that the large Rosebud Quartz Latite dike occupies a deep-seated structural zone, and that the well developed jointing north of the White Alps reflects the lateral extent of this zone. The timing between the White Alps fault zone and the easterly-trending fracture system is not clear and warrants additional evaluation.

South Ridge

In September, Peter Rogowski and I collected several rock-chip samples during a reconnaissance traverse through the *South Kamma*. The most notable feature of the prospect is the intensity and extent of silicification, which is most intense immediately north of the Rosebud Canyon road. The intensity of silicification progressively decreases from the jasperoid outcrops in the south to millimeter-scale replacement along bedding planes more than 3,000 feet to the north. Argillization is present, but is less intense than in the western portions of South Ridge and north of the Rosebud mine. Detectible gold was present in only two samples, with a maximum of 400 ppb, but all of the samples contained detectable As and Sb, and all but one contained detectable Se. Mercury and molybdenum were also present in several of the samples.

The rocks exposed on the south-central portion of South Ridge (*Rosebud Canyon*) are intensely argillized over large areas, and rock-chip assays contained anomalously trace elements (As, Sb, Se, Hg) and at least one contained detectible (350 ppb) gold. Favorable host (LBT- and Dozer-like) rocks are present, as are minor through going(?) faults and fracture zones. Previous exploration in this area was apparently limited to reconnaissance-style geologic mapping, minimal rock-chip sampling, and minor soil sampling. The exploration potential of the area is excellent, but additional geologic mapping and geochemical sampling are needed to identify drilling targets.

At the *Vertex* prospect on the Western end of South Ridge, Peter Rogowski has found the geology to be much more complicated than previously mapped. He has identified several dike-like intrusions, multiple "Dozer" units separated by erosional surfaces, and auriferous(?), black-matrix (pyritic) hydrothermal breccias. Where drill hole 96-395 intersected one of these black-matrix breccias, the interval assayed 0.04 ounce per ton gold. Hydrothermal alteration is less intense on the western end of South Ridge than in the central and southwestern portions, but most of the rocks are weakly argillized, and there are small silicified zones on the northern side.

The results of preliminary geologic mapping and geochemical sampling in the South Kamma, "North Rosebud Canyon" and Vertex prospects have bolstered my enthusiasm for ardently prospecting South Ridge. As discussed in our meeting with Dave Groves, it is important that we augment the soil and rock-chip sampling programs completed during previous exploration programs. It is important that we sample all of South Ridge as soon as possible. I would like to use Holly McLaughlin (*Geotemps*) to help Peter Rogowski and me sample and map South Ridge, and will contact her to see if she is available in November and December.

District Evaluation

Stratigraphy

The Rosebud stratigraphy is complex in detail, but on a district-scale it appears to be a relatively simple repetition of effusive volcanism followed by erosion, lacustrine and subaerial sedimentation, and pyroclastic eruption (Table 1). Following the guidelines set out by Dr. Mahood during her visit earlier this month, Peter Rogowski and I are compiling a district-wide stratigraphy for the Rosebud area. A few individual units, particularly the ignimbrites, may occur throughout the district, but many lithologies have a more limited distribution. To circumvent correlation problems between the less extensive units, our revised stratigraphy is based on packages of rocks that represent spatially extensive geologic environments. We plan to have a preliminary version of the revised stratigraphy completed before the end of the year. The preliminary stratigraphy for South Ridge is shown in Table 1.

Structural Geology

Our understanding of the interrelationship between faults, joint swarms, hydrothermal alteration and precious metal mineralization within the Rosebud district is the weakest aspect of our exploration program, and one that needs to be improved so that we can delineate drilling targets more effectively. Discontinuous "fault" planes with well developed slickensides are common throughout the district, but with the exception of the South Ridge, Cave and White Alps structures, there is little evidence to support the existence of many of the faults shown on the existing geologic maps. We need to increase our understanding of the structural geology of the Rosebud district as quickly as possible. To do this I would like to contract Dr. Tom Westervelt for two to three weeks. This should be enough time for Dr. Westervelt to review the structural setting of the Rosebud mine, evaluate specific structural problems already identified, and develop the rudiments of a structural exploration model.

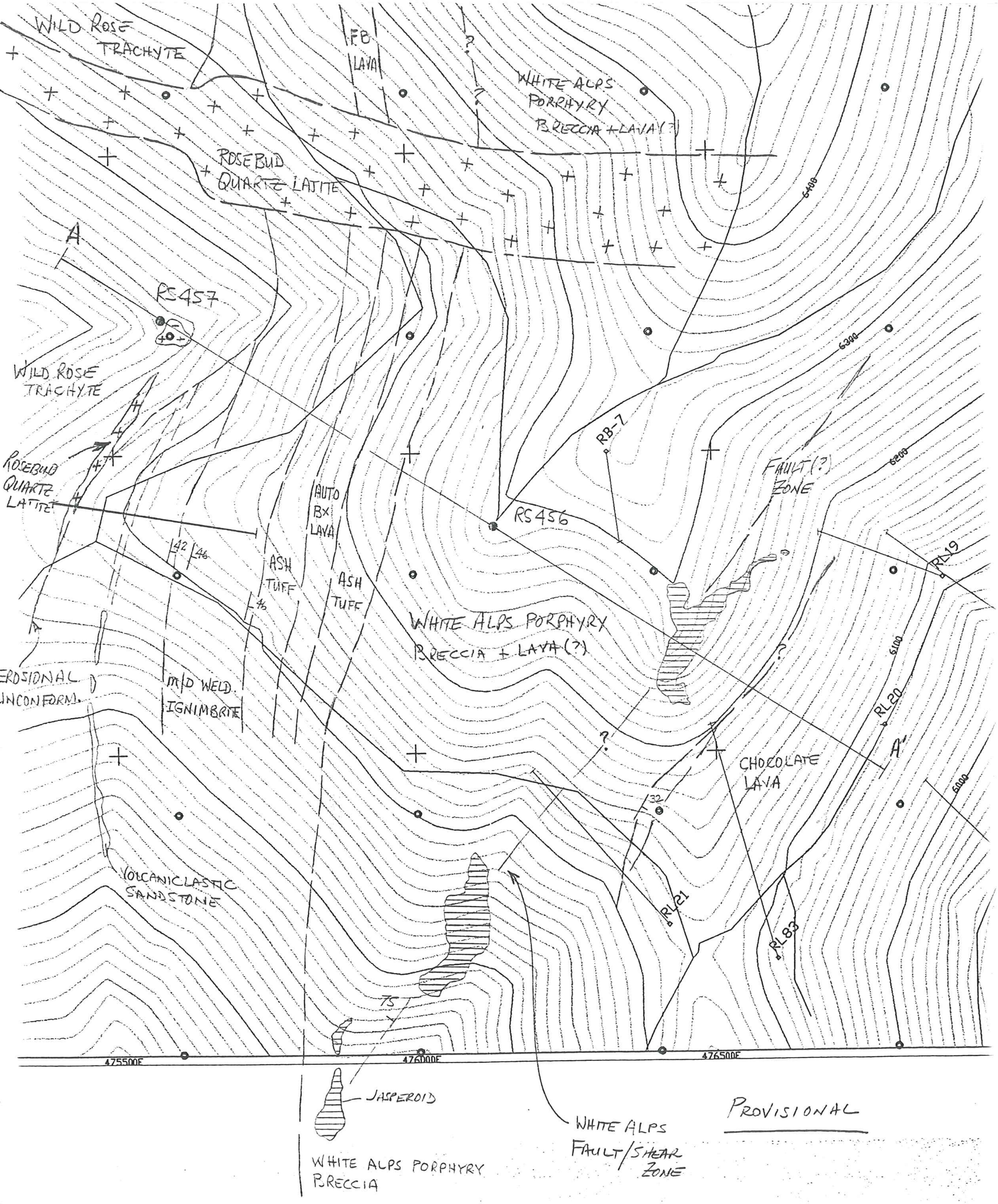
MISCELLANEOUS

Time Distribution

During October my time was divided between field work (59%), Winnemucca office (16%), staff meetings (6%), Newmont administration (6%) and Mill Canyon (3%). Days off accounted for 16% of the month. Field work included geologic mapping at Short Shot (6 days), White Alps (6 days) and South Kamma (1 day), and district stratigraphic evaluation (5 days).

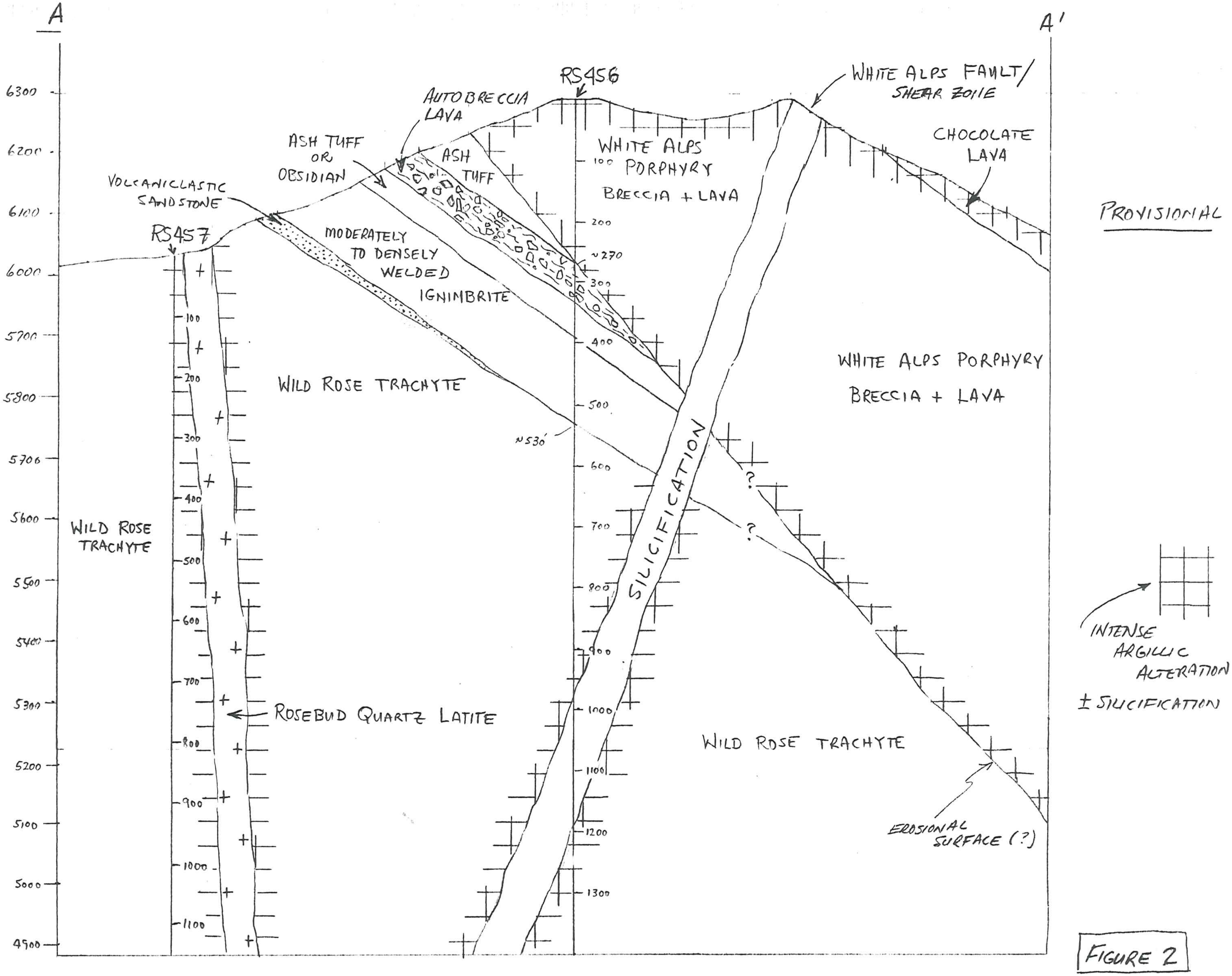
Fuel Usage

I took 157.3 gallons of unleaded gasoline from the Rosebud fueling station during October.



PROVISIONAL

FIGURE 1


A
A'
PROVISIONAL
6300
6200
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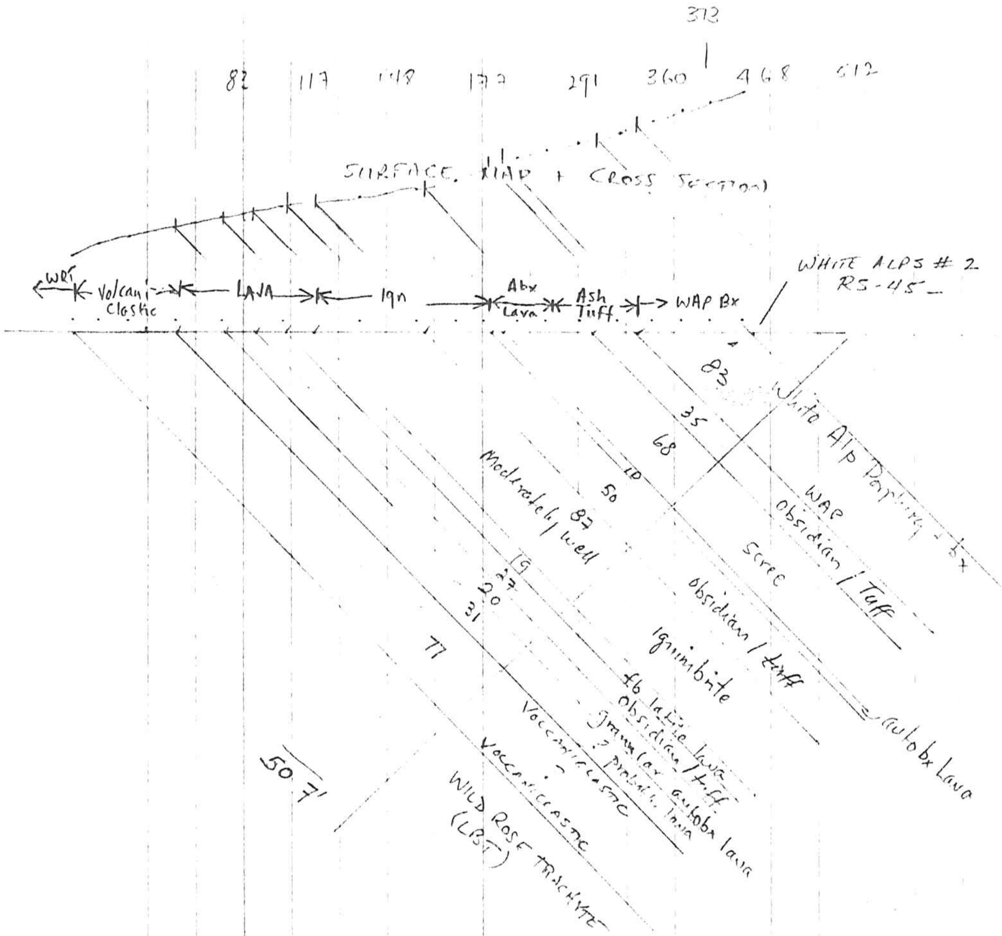
RS456
RS457
WHITE ALPS FAULT/ SHEAR ZONE
AUTOBRECCIA LAVA
ASH TUFF OR OBSIDIAN
ASH TUFF
VOLCANICLASTIC SANDSTONE
WHITE ALPS PORPHYRY BRECCIA + LAVA
CHOCOLATE LAVA
MODERATELY TO DENSELY WELDED IGNIMBRITE
WILD ROSE TRACHYTE
WILD ROSE TRACHYTE
ROSEBUD QUARTZ LATITE
SILICIFICATION
WHITE ALPS PORPHYRY BRECCIA + LAVA
WILD ROSE TRACHYTE
~270
~530'
?
?
100
200
300
400
500
600
700
800
900
1000
1100
1200
1300
EROSIONAL SURFACE (?)
INTENSE ARGILLIC ALTERATION ± SILICIFICATION

FIGURE 2

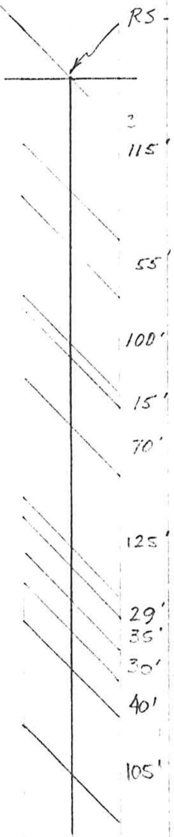
FIGURE 3



* TRUE THICKNESS ≅ 510' feet for pyroclastic, lava and volcaniclastic sequence

* DRILL THICKNESS ≅ 720' feet for above sequence

PREDICTED DRILL HOLE INTERCEPT



?

115' = WHITE ALPS PORPHYRY - BX = good Host

55' = OBSIDIAN / Tuff

100' = UNKNOWN

15' = AUTOBRECCIA LAVA

70' = OBSIDIAN / Tuff

125' = IGNIMBRITE

29' = flow-banded latite lava

35' = OBSIDIAN / Tuff

30' = GRANULAR AUTOBRECCIA LAVA

40' = ? probably lava

VARIABLE QUALITY Host Rock

719'

105' = Volcaniclastic sequence + ?

= WILD ROSE TRACHYTE / LBT = good Host

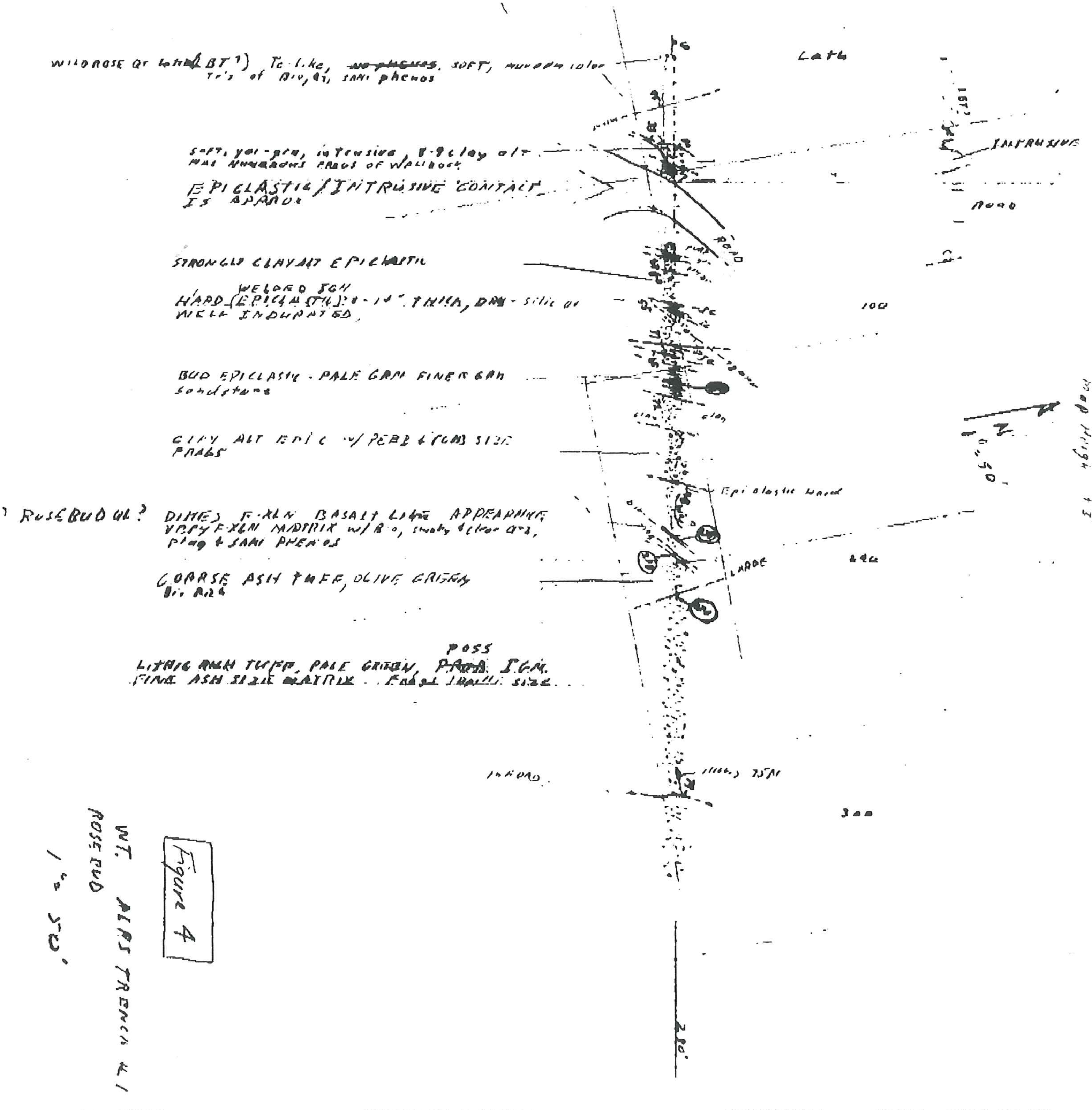


Figure 4

WT. ALPS TRENCH #1
ROSEBUD
1" = 50'

Table 1. South Ridge stratigraphy.

Formation	Unit	Composition	Mode of Emplacement
		Alkali Granite	Dome
Chocolate	Badger		Lacustrine and terrestrial volcaniclastic deposits
	Chocolate Peak Alkali Granite	Alkali Rhyolite	Lava flow
	Rosebud Quartz Latite	Quartz Latite	Lava flow and intrusion
			Volcaniclastic and pyroclastic deposits
		Obsidian to cryptocrystalline trachyte Trachyte	Lava flow
		Spherulitic trachyte	Lava flow
			Lacustrine volcaniclastic deposits
			Lahar
		Alkali Granite	Talus breccia
		Alkali Granite	Dome
		Trachyte	Lava flow
			Lacustrine volcaniclastic deposits
		Trachyte	Lava flow
		Lithic-rich, crystal- and pumice-poor trachyte ignimbrite	Ash flow
			Collapse breccia
		Moderately welded trachyte ignimbrite	Ash flow
			Volcaniclastic deposits
		Moderately welded trachyte ignimbrite	Ash flow
			Volcaniclasic deposits
	Wild Rose Trachyte	Spherulitic trachyte Weakly porphyritic trachyte	Lava flow
		Tuffaceous sandstone and siltstone	Tuffaceous siltstone Coarse-grained tuffaceous sandstone
		Aphyric alkali granite	Lacustrine(?) Talus breccia
Dozer		Aphyric alkali granite	Auto breccia
	Dozer	Aphyric alkali granite	Dome
Oscar	Oscar Andesite	Trachyte	Lava flow
TCS			Lahar

WESTERN
SOUTH
RIDGE
SECTION