

File # 115
82E/3E

REPORT ON THE

823312

CAMP MCKINNEY PROPERTY

Rock Creek Area
Greenwood Mining Division

Latitude 49°07'N; Longitude 119°11'W
NTS 82E/3E

For

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By

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TABLE OF CONTENTS

	Page
Summary and Conclusions	1
Introduction	2
Location, Access, Physiography	2
Claims	4
History	4
Summary of Exploration	5
Regional Geology	7
Property Geology	8
Lithologies	10
Mineralization	11
Alteration/Metamorphism	12
Structure	12
Exploration Potential	13
Recommendations	17

LIST OF FIGURES

	Page
Figure 1 Location Map	3
Figure 2 Surface Geology of Camp McKinney showing claim boundaries (from B.C. Dept. of Mines, Bull. #6) - (1:7500)	9
Figure 3 Geology (1984) showing shaft, trench and drill locations - (1:1200)	in pocket
Figure 4 Plan View and Vertical Projection of the Underground Workings - (1:1200)	in pocket
Figure 5 Longitudinal Section of Old Workings showing Bralorne gold assay results - (1" = 40)	in pocket
Figure 6 Plan, Level 2 - (1" = 40)	in pocket
Figure 7 Plan, Level 3 - (1" = 40)	in pocket
Figure 8 Plan, Level 4 - (1" = 40)	in pocket
Figure 9 Plan, Level 5 (old) - (1" = 40)	in pocket
Figure 10 Plan, Level 6 (old) - (1" = 40)	in pocket
Figure 11 Geological Plan, 5 Level (new) - (1" = 40)	in pocket
Figure 12 Geological Plan, 6 Level (new) - (1" = 40)	in pocket
Figure 13 EW Longitudinal Geological Section - Footwall Geology, 5 & 6 Levels - (1" = 40)	in pocket
Figure 14 Section through DDH-D3 and Levels 5, 6 looking NW - (1" = 40)	15
Figure 15 Assay Plan of a portion of Level 6 - (1" = 100)	16

APPENDICES

- A. Estimated Cost of Recommended Program
- B. List of Available References
- C. Writer's Certificate
- D. Summary of McKinney Drill Holes (located in 1984)
- E. Summary of 1984 Trenching (Zuni)
- F. Summary of Proposed Diamond Drill Holes

SUMMARY AND CONCLUSIONS

The Camp McKinney property comprises a total of eight Crown-granted mineral claims in the Similkameen Land District, located approximately 14 miles northeast of Osoyoos in south-central British Columbia. Camp McKinney was an important gold producer during the period 1894 to 1903 when more than 69,500 ounces of gold were produced at an average recovered grade of 0.56 oz/ton gold. A further 13,000 ounces have been produced since that time, mainly during the early 1960's (2000 tons at 0.65 oz/ton gold; 11,292 tons at 1.06 oz/ton gold). 82,500 oz Au

The principal mine workings and potential extensions are on the Cariboo vein, developed by the Cariboo-Amelia Mine, which is centered on the Crown-grants.

A series of northwest trending interbanded and intergrading greenstones, quartzites and limestones of the Permian and/or Triassic Anarchist Group has been intruded by Cretaceous rocks of the Nelson batholith to the south and west of the claims. Deformation and hydrothermal alteration, principally silicification and recrystallization, has occurred in the older rocks. Triassic(?) dykes intrude both stratified and granitic rocks.

Gold production has been mainly from the Cariboo vein which is a narrow quartz-filled fissure mineralized with pyrite, sphalerite, galena and chalcopyrite. Gold occurs with the pyrite and in the free form. The vein trends east-west with a general steep dip to the south, commonly cutting the host rocks at a large angle. The known strike length of the vein exceeds 2500 feet, the vertical extent is more than 500 feet but this may be misleading due to fault displacement. Series of east and west dipping faults and flat thrusts have offset the quartz vein by as much as 300 feet.

The results of the 1984 geophysical, geochemical and trenching program emphasized the east-west trend of the veining and revealed a number of major north by northwest trending faults but failed to locate any vein segments or to indicate any gold enrichment in the country rock.

Excellent potential exists to locate other faulted-off vein segments similar to the east zone which was mined during 1960 to 1962 (about 11,000 tons grading 1.06 oz/ton gold). An exploration program is warranted to test for the existence of possibly six segments within the known 2500 feet of strike length of the vein. Allowing for an average width of 2.0 feet, the potential for locating an easily accessible reserve of at least 50,000 tons with an inferred grade of 0.5 oz/ton gold, is considered to be excellent. A three-phase success-contingent program is recommended.

INTRODUCTION

This report has been written at the request of Mr. H.L. Williams, President of Ark Energy Ltd. It describes the history, geology and mineralization of the Camp McKinney gold deposit and discusses the potential for locating further faulted-off vein segments. The property is comprised of eight Crown-granted mineral claims in the Similkameen Land District, B.C. which are controlled by Mr. W.E. McArthur Jr. of Greenwood and Mr. S.L. Sandner of Christina Lake.

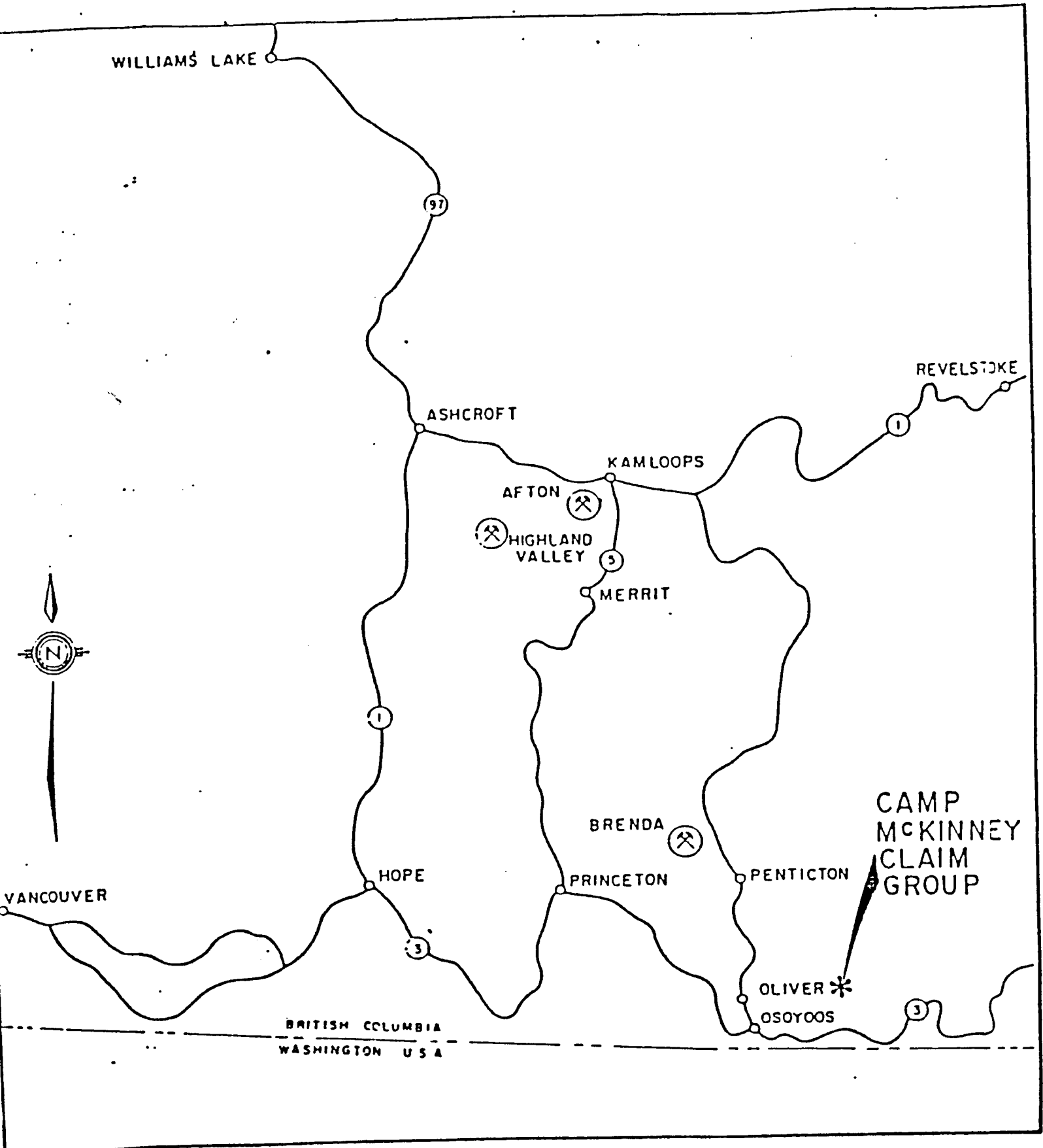
Significant gold production from 1884 to 1962 has been reported from ore grading better than 0.5 oz/ton gold.

A phased, success-contingent work program, totalling \$385,000 is recommended for 1986.

LOCATION, ACCESS, PHYSIOGRAPHY (Figure 1)

Camp McKinney is located in south-central British Columbia approximately 22.5 km (14 miles) northeast of Osoyoos, 14.5 km (9 miles) northwest of Rock Creek and 9.3 km (5.8 miles) due north of Bridesville. This is at approximately $49^{\circ}07'N$ and $119^{\circ}11'W$ on NTS map sheet 82E/3E.

Access from B.C. Highway #3 is on the Mt. Baldy ski road, 3 km (1.9 miles) east of Bridesville. Camp McKinney is approximately 11 km (6.8 miles) along this well-maintained gravel road which crosses the centre of the property in an east-west direction. The claims are situated on a gently sloping bench with elevations increasing



ARK ENERGY LTD.
 CAMP MCKINNEY CLAIM GROUP
 LOCATION MAP

Scale: 1" = 30 miles

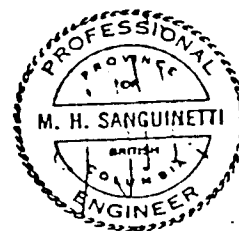


FIGURE 1

from the southeast to the northwest; the terrain is moderate to gentle over most of the property. Topographic relief is low with a range in elevations from about 1275 metres above sea level (4185 feet) on the southern boundary at the powerline to slightly more than 1375 metres (4500 feet) on the northwestern property boundary.

CLAIMS (Figure 2)

The property consists of eight Crown-granted mineral claims in the Similkameen Land District. One adjoining Crown-granted mineral claim, the Waterloo (L.2814) is also available. These claims are shown on Figure 2 and are listed as follows:

<u>Claim</u>	<u>Lot No.</u>	<u>Title</u>
Emma	L 270	W.E. McArthur, Jr.
Alice	L 271	"
Cariboo	L 272	"
Amelia	L 273	"
Okanagan	L 274	"
Maple Leaf	L 613	"
Wiar ton	L 856	"
Sawtooth	L 952	"
Waterloo	L 2814	Paul C. Healey

Title to these claims was researched in June, 1986; all claims were in good standing; taxes were paid up to July, 1986. Many of the surveyed corners of these claims were observed and tied-in to the new grid by the writer during the 1984 field program.

HISTORY

The history of Camp McKinney began with the discovery of placer gold in Rock Creek in 1860. Lode gold was discovered on upper Jolly Creek in 1884 and, in 1887, the Cariboo vein was discovered. During the period 1894 to 1903 production from the Cariboo-Amelia Mine was 123,457 tons of ore containing 69,581 ounces of gold and 5,359 ounces of silver. The average recovered grade exceeded 0.56 oz/ton of gold. During this time workings were developed on 6 levels along a strike length of approximately 2000 feet.

dip extension of the vein, south of the main shaft. Seven holes were drilled on the projected eastern extension of the vein; two reportedly intersected a part of it with values of greater than 2 oz/ton gold at a depth of 75 feet. These intersections were subsequently explored by the "Warton Shaft" to a depth of 100 feet but the vein segment was faulted off. Some underground drilling in addition to extensive underground sampling (see Figure 5) were carried out on the main vein segment.

During the late 1950's, Mr. W.E. McArthur drilled to test for the southward-displaced eastern segment of the vein. On receiving favourable intersections in 1959, H & W Mining Co. Ltd. raised the new shaft (-85°) from the No. 4 level to surface. In 1960 McKinney Gold Mines Ltd. extended levels 5 and 6 to the newly located ore segment.

This segment appears faulted off on the east. A cutoff grade of 0.5 oz/ton gold was followed with the result that vein material of this grade was left both above and below the No. 6 level. The underground workings were allowed to flood in 1962.

At least eight surface diamond drill holes (2600 feet) were completed in 1962 to explore for further vein extensions. No intersections were reported; drill core was dumped at three drill sites. A list of located drill sites is appended (Appendix D). This data is incomplete due to lack of records.

From 1983 to 1986 the property was under option to Zuni Energy Corp. In 1984 they conducted a program of geochemical and geophysical surveys, backhoe trenching and rock sampling, the results of which are summarized as follows:

Magnetic Survey

- a) Sedimentary bedrock decreases in thickness towards the west,
- * b) Greenstones are probably volcanic rather than sedimentary in origin,
- c) Three fault systems, striking northeasterly, northwesterly and east-west are present but these cannot be correlated directly with the main vein system. The interpretation of these faults is from lineations marked by series of magnetic lows.

VLF-EM Survey

Several conductors are indicated which may be directly related to, or indirectly reflect, the presence of mineralized quartz veins. The complexity of these anomalies is suggestive of the faulting systems. There is little correlation between magnetic and VLF-EM survey results.

Geochemical Survey

The results of soil sampling revealed a band of zinc, copper and arsenic anomalies extending across the property in a west-northwesterly and westerly direction. Two parallel sets of anomalies suggest parallel mineralized veins which correlate with the known gold-quartz veins. There is apparent metal zoning with arsenic enrichment on the eastern side. Correlation with VLF-EM conductors is poor, and there is no real correlation with magnetic highs or lows.

Trenching and Sampling

Eighteen trenches were excavated to test geochemical and geophysical anomalies and trends. Bedrock in these trenches was channel sampled and assayed for gold. No major mineralized quartz veins were exposed. No significant gold mineralization was noted within the metavolanic and metasedimentary country rock. Major northwest and northeast trending faults were mapped, however, no correlation was made either with the geophysical targets or with structures mapped in the underground workings.

REGIONAL GEOLOGY

Regional geological mapping covering the Camp McKinney area was published by the B.C. Department of Mines and the Geological Survey of Canada during the 1930's, 1940 and in the early 1950's (M.S. Hedley, W.E. Cockfield and H.W. Little). The oldest rocks of the area are Permian and/or Triassic Anarchist Group metamorphosed sediments and volcanics. The primary component of the group is sedimentary consisting of altered quartzites, greywacke, limestone and local micaceous quartzite and schist(?).

The volcanic component is possibly minor and is described as an altered greenstone with altered andesitic and more basic flows.

Granite and granodiorite of the Cretaceous Nelson Plutonic rocks have intruded the older Anarchist Group to the west and south of Camp McKinney as small stocks and plugs. Along the contacts of these intrusions the older rocks have been deformed and hydrothermally altered. Younger dykes of felsic and basic composition may have been associated with later tectonic events related to these granitic intrusions. Quartz veining and related mineralization (gold, silver, galena, sphalerite, pyrite) occurred later in the sequence of events, probably in late Tertiary(?) times. Widespread glacial deposits of unconsolidated sand, gravel and loam were laid down over the entire district during Pleistocene and Recent times. Outcrop is limited to about 20% of the surface area.

A significant structural feature in the Camp McKinney region, apart from the effects of the Cretaceous intrusions, is a major northeast-southwest trending fault which has been mapped along upper Conkle Creek, through Conkle Lake and along Jolly Creek (Little, H.W., 1961). This structure lies only 3 to 4 miles to the northeast of Camp McKinney.

PROPERTY GEOLOGY

Cursory geological mapping was conducted by the writer over the central part of Camp McKinney in July and August, 1984 on behalf of Zuni Energy Corp. (Figure 3). Previously published mapping by M.S. Hedley of the B.C. Department of Mines (B.C. Bulletin No. 6, 1940) examined in detail the geology and mineralization of the Camp McKinney area. Surface outcrops were mapped by planetable, underground workings of the Cariboo-Amelia were examined and compiled with the aid of company surveys; a copy of his map (Figure 2) is included in this report. Much of the older workings and outcrop have since become overgrown although more recent trenching has exposed outcrop not available during Hedley's time.

The claims examined are underlain by a series of interbanded and intergrading greenstones, quartzites and minor limestone of the Anarchist Group which have been intruded by basic porphyritic dykes. The overall structural trend of the bedded rocks

is to the northwest with dips to the northeast. Considerable faulting is reported in the underground workings but little of this is expressed on surface. This mapping is plotted on Figure 3, however, only a preliminary attempt has been made to define the contacts between lithologies.

Lithologies

Of the five major lithologic groups exposed on surface and in underground workings, only the medium-grained, grey granodiorite of the Nelson Batholith does not occur on the property.

1. Greenstone:

This group of rocks is predominant over much of the western and central area of the claims. Four distinct varieties of greenstone are recognized which are interbanded with each other and with limestone, argillaceous quartzite and quartzite. These varieties are siliceous greenstone, calcareous greenstone, massive greenstone and amphibolite. Both the siliceous and calcareous varieties are typically dark green, finely banded (3 - 5 mm) rocks with dark bands containing chloritic or hornblende material and lighter coloured to white bands containing calcite or silica. The calcareous greenstones may have originally been a calcareous tuffaceous sediment (M.S. Hedley, p. 7), while the siliceous greenstone may have been a derivative of the quartzite and argillite with which it is frequently interbanded. Massive greenstone, which was observed on mine dumps and in trenches, appears in hand specimen as a fine-grained, dark green andesite. The origin of this is speculated to be volcanic from results of the 1984 magnetometer survey (D.G. Mark, p. ii). The fourth variety of greenstone is composed largely of amphibole and, on the eastern side of the property (Warton and Waterloo), has been mapped as amphibolite by Hedley. These are finely layered rocks which may have originally been calcareous sediments.

2. Quartzite:

Following the outline used by Hedley, the category of "quartzite" has been broadened to include quartzite, banded argillaceous quartzite, quartz

biotite schists, interlayered limestone and quartzite (calcareous quartzite) and siliceous argillite. These rock types have not been differentiated on the map. In outcrop, these are most common in the south-central and eastern sections of the property. The types are interstratified and are all finely banded. Quartzites are fine-grained with thin bandings of argillite or biotite-rich layers emphasizing the bands. Alteration near quartz veins or dykes has resulted in the development of a quartz-biotite, schistose appearing rock. Interlayering of quartzite with limestone has resulted in a banded rock which, on the surface, shows a distinctive differential weathering. Siliceous argillite occurs as a very fine grained, banded rock, usually in close proximity to areas of quartz veining.

3. Limestone:

Two occurrences of thinly banded (1 - 2 cm), black and white, finely recrystallized limestone were noted (7E - 4 + 50S; 0 + 50E - 17S) neither of which appear on Figure 2. A prominent band of limestone was mapped by Hedley (Figure 2) on the eastern side of the Amelia C.G. and projected to extend to the southeast. Minor limestone layers occur within bands of quartzite and greenstone but these do not appear to be continuous along strike. The identification of a unique limestone bed or marker would be extremely important in defining structure and stratigraphy.

4. Dyke Rocks:

A major basic (andesitic?), porphyritic dyke occurs along Rice Creek to the south and west of the Cariboo-Amelia mine. In addition, outcrop and subcrop of narrower hornblende porphyry and fine-grained feldspar porphyry dykes were noted. Some of these dykes are reportedly later than, and cut, the quartz vein. A porphyritic intrusive (dyke?) was encountered on levels 5 and 6.

Mineralization

The economic mineralization of Camp McKinney consists of free gold and auriferous pyrite in white quartz veins. Minor amounts of sphalerite, galena and chalcopyrite were noted in quartz samples on the mine dumps. Major veins strike east-west (080°

to 105°) with a steep dip, generally to the south. Most of these cut the host rock bedding at a large angle but some follow bedding. The veins are quartz-filled fissures, usually with free walls and which vary in width from a few inches to more than 10 feet (Hedley, p. 11). The known strike length is approximately 2500 feet but, allowing for possible extensions to the Maple Leaf C.G. on the west, a potential for more than 4000 feet exists. In areas where major vein segments have been stoped to surface the walls appear solid; however, the character of the wall-rock in the Cariboo workings appears to have a direct influence on the regularity of the vein. The vertical extent of the vein is more than 500 feet, however, significant fault displacement suggests this figure is misleading. The quartz veins reportedly cut all principal rock types with the exception of uncommon dioritic Tertiary dykes. During the early production years, the grade was 0.564 oz/ton gold based on at least a 12% loss in milling. During the leasing period in the 1940's the reported grade was 0.653 oz/ton gold and in the early 1960's the average grade was 1.063 oz/ton gold. During this latter period, intersections of up to 2.1 oz/ton gold over 2.5 feet and 4.32 oz/ton gold over 2.8 feet were reported (Hill and Starck, p. 4).

Alteration/Metamorphism

Primary alteration noted on the Camp McKinney property is a pervasive hydrothermal alteration consisting of silicification and recrystallization. In several places the development of sericite (secondary biotite?) near veins or areas of intense silicification was observed which produced a schistose appearing rock (especially in the argillaceous quartzite).

Structure

The overall general strike of all the sediments and interlayered greenstones is to the northwest, with dips to the northeast. This general structure is disrupted by two areas of "flexure" which were mapped by Hedley. The disruption of bedding was observed only to the north of the Cariboo claim.

Faulting is widespread, however, the effects are now seen mainly on the mine dumps as slickensides, gouge and breccias. Several sets of east and west dipping faults and flat thrusts which offset the veins have been recognized by Hedley and others. A

detailed analysis of the underground structure is noted in Bulletin 6 by Hedley. The result of the faulting on the quartz veining is the most serious economic problem as may be observed on the vertical projection of the vein (Figure 4) and on the accompanying level plans and sections (Figures 5 - 13). At the east end where the vein extension was located by McArthur, the southward offset below level 4 is in the order of 300 feet. The Bralco drill holes (#1 - #5) for the lower faulted off central and western segments would appear to go over the vein if this order of magnitude of movement was applied.

EXPLORATION POTENTIAL

Excellent potential exists for the location of possibly six faulted-off (missing) segments of the Cariboo vein within the known 2500 foot strike length of the vein. Evidence from previous drilling shows that the projected southward movement of the lower (in elevation) segments was in the order of 150 to 200 feet. Work by McArthur and by McKinney Gold Mines Ltd. showed that the movement was in fact more in the order of 300 feet at the eastern end.

Applying this scale of movement to the central and western sections it can be shown that the previous drilling would have passed above the missing lower segments. A series of surface diamond drill holes, from 600 to 700 feet each, would be required to test the lower extension of the vein in these sections, assuming the same relative southward movement as occurs on the eastern section.

On the eastern section of the vein, segments possibly exist both above the No. 4 and 5 levels (above faults) and below the No. 6 level. Mapping (1962) along the No. 6 level indicates the vein is present on the same plane but has not been tested below this level. Sample results from 1962 show a 25 foot vein segment averaging 1.7 oz/ton gold across a width of 1.9 feet remaining along the floor of the drift (Figure 15). A cross-section through DDH-D3, drilled in 1982 (Figure 14), indicates that this hole stopped at least 200 feet short of the projected down-dip extension of the vein. Above the No. 4 and 5 levels and lying above two flat faults, two missing segments may exist. Older work by Pioneer located part of one segment through diamond drilling and in the Wiarion Shaft. There does not appear to be any exploration work below surface between the plane of the vein in the old workings - Wiarion area (2+00S) and the plane of the vein at the 1962 levels 5 and 6 workings (5+00S).

The possible reserves (order of magnitude only) and the proposed surface drilling which could be suggested in each segment are as follows (assuming an average width of 2.0 feet; tonnage factor of 12.2 cu. ft. per ton).

West Zone

Segment A

Proposed drill holes P-3, 3A		1200 feet
Tonnage	$\frac{250' \times 600' \times 2.0'}{12.2}$	= 24,500 tons

Central Zone

Segment B

Proposed drill holes P-1, 4, 5		2000 feet
Tonnage	$\frac{250' \times 550' \times 2.0'}{12.2}$	= 22,500 tons

Segment C

Proposed drill hole P-2		400 feet
Tonnage	$\frac{100' \times 200' \times 2.0'}{12.2}$	= 3200 tons
Sub-total		25,700 tons

East Zone

Segment D

Proposed drill holes P-10, 11, 12, 14, 15		1400 feet
Tonnage		= 14,700 tons

Segment E

Proposed drill holes P-6, 7, 7A		1200 feet
Tonnage		= 10,600 tons

Segment F

Proposed drill holes P-8, 9, 13		2100 feet
Tonnage		= 26,200 tons
Sub-total		51,500 tons

Overall Total

101,700 tons

Assuming a success factor of 50%, excellent potential exists for locating an easily accessible reserve of at least 50,000 tons of vein material, with an average thickness of 2.0 feet and an average estimated grade of 0.5 oz/ton gold, within the Cariboo vein system.

SW

NE

4400

4300 DDH-D3

035, -65, 800'

4200

4100

4000

3900

3800

3700

3600

stope 5-02

Level 5

stope

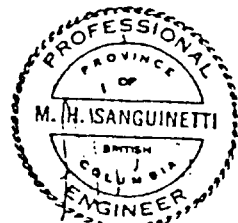
6-02

Level 6

800'

stope projected at 90°

stope projected at 10°

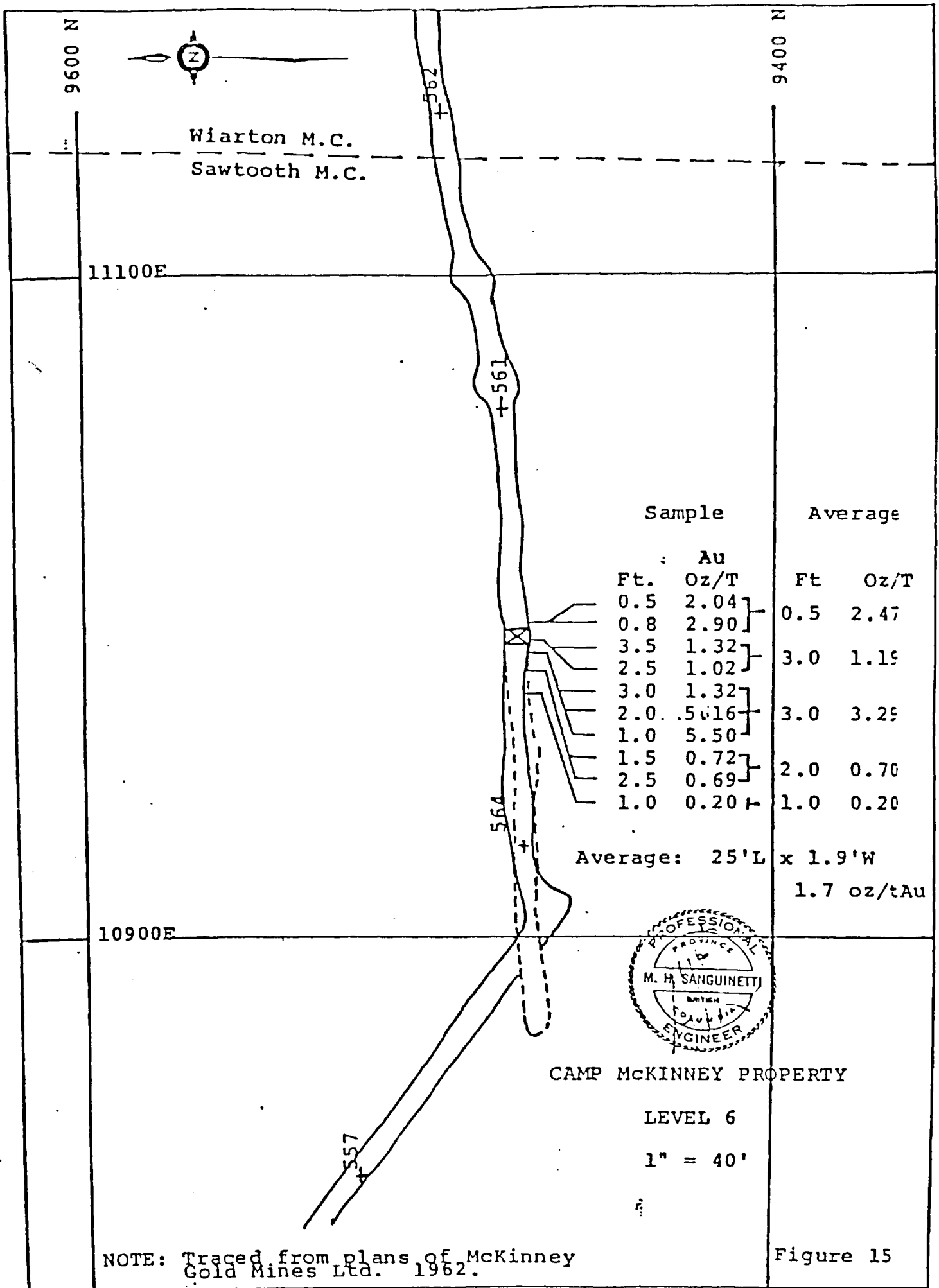


Camp McKinney Property

Section Through DDH-D3 & Levels 5,6 looking NW

1" = 100' May, 1986

Figure 14



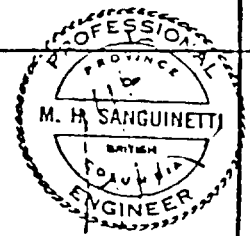
Wiaraton M.C.
Sawtooth M.C.

11100E

10900E

Sample		Average	
Ft.	Au Oz/T	Ft	Oz/T
0.5	2.04	0.5	2.47
0.8	2.90		
3.5	1.32	3.0	1.19
2.5	1.02		
3.0	1.32	3.0	3.29
2.0	5.16		
1.0	5.50	2.0	0.70
1.5	0.72		
2.5	0.69	1.0	0.20
1.0	0.20		

Average: 25' L x 1.9' W
1.7 oz/t Au



CAMP MCKINNEY PROPERTY

LEVEL 6

1" = 40'

NOTE: Traced from plans of McKinney Gold Mines Ltd. 1962.

Figure 15

RECOMMENDATIONS

A three phase program of surface diamond drilling (8500 feet), mine dewatering, rehabilitation and underground sampling, combined with structural compilation and interpretation is recommended to define further gold (and silver) reserves on the Camp McKinney property. This recommended program is as follows:

Phase I

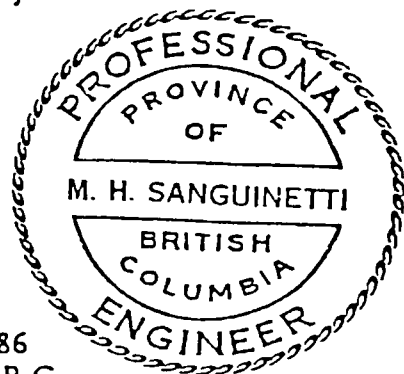
1. Compilation, interpretation and evaluation of all previous geological data, primarily structural.
2. Diamond drilling: initial testing of the West and the East zones should be carried out; allow 3500 feet of BQWL drilling.

Phase II

Contingent upon favourable structural interpretations and encouraging drill results in Phase I, further diamond drilling would be warranted. Allow 5000 feet of BQWL drilling.

Phase III

Contingent upon the results of Phases I and II, a program of mine dewatering, rehabilitation and sampling should be undertaken. Depending on the results of Phase I, this work may be carried out simultaneously with the Phase II drilling.



June 30, 1986
Vancouver, B.C.

Respectfully submitted,
SANGUINETTI ENGINEERING LTD.

M. H. Sanguinetti
M.H. Sanguinetti, P.Eng.

**ESTIMATED COST OF RECOMMENDED PROGRAM
CAMP MCKINNEY, BRITISH COLUMBIA**

Phase I (estimated time: 2 months)

1) Compilation, interpretation	\$ 5,000
2) Diamond drilling: allow 3500 feet of BQWL at \$20/ft including mob/demob, consumables and camp	70,000
3) Sample preparation, assays, analyses	7,500
4) Geology, core logging, project supervision	10,000
5) Living expenses, transportation	2,500
6) Control survey	<u>5,000</u>
Total Phase I	<u>\$ 100,000</u>

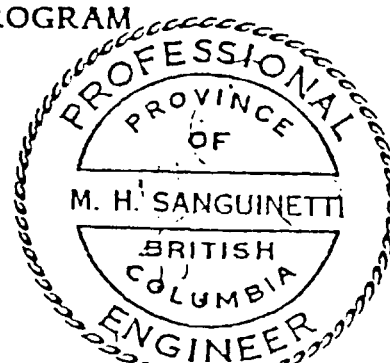
Phase II (estimated time: 3 months)

1) Diamond drilling: allow 5000 feet of BQWL at \$20/ft including mob/demob, consumables and camp	\$ 100,000
2) Sample preparation, assays, analyses	11,000
3) Geology, core logging, project supervision, surveying	14,000
4) Living expenses, transportation	<u>10,000</u>
Total Phase II	<u>\$ 135,000</u>

Phase III (estimated time: 5 months)

1) Mine dewatering (estimated 15 million gallons)	\$ 75,000
2) Rehabilitation allowance for short term sampling: shaft, ladders, small pipe, etc.	30,000
3) Channel sampling (200 samples), preparation, assays, analyses	10,000
4) Geology, survey control, project supervision	15,000
5) Living expenses, transportation	10,000
6) Preliminary metallurgical tests, shipments	<u>10,000</u>
Total Phase III	<u>\$ 150,000</u>

TOTAL COST OF RECOMMENDED PROGRAM **\$ 385,000**



REFERENCES

- best list found.

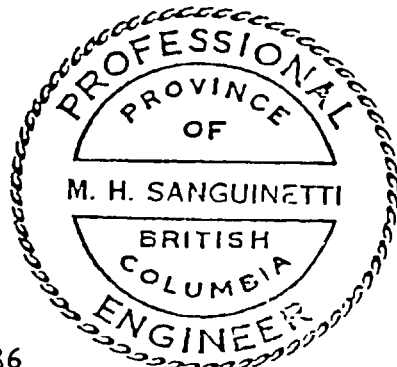
- Bird, H.H. 1984: Camp McKinney Property, Comments on Initial Geochemical Results, Private Letter.
- Bralco(?) 1960: 3 pages of sample results from 5 and 6 level stopes, Au + Ag values.
- British Columbia Minister of Mines and Petroleum Resources Annual Reports: 1894-754, 1897-605, 1898-116, 1899-773, 1900-879, 1901-1149, 1903-168, 1918-211, 1932-133, 1940-62, 1941-24, 1943-63, 1944-59, 1945-95, 1946-132, 1958-33, 1959-56, 1960-62, 1961-63, A47, 1962-A47, 66.
- Cockfield, W.E. 1935: Lode Gold Deposits of Fairview Camp, Camp McKinney, and Vidette Lake Area, and the Dividend Lakeview Property near Osoyoos, B.C., Geol. Surv. Can., Mem. 179.
- Harris, J.F. 1984: Petrographic Report on 8 Rock Samples from Camp McKinney, Private Report.
- Hedley, M.S. 1940: Report on Camp McKinney, B.C. Dept. of Mines., Bull. 6.
- Hill, H.L. and Starck, L.P. 1960: The Camp McKinney Gold Mine, N.W. Mining Assoc., 66th Ann. Convention.
- Little, H.W. 1961: Geology, Kettle River (West Half), Geol. Surv. Can., Map 15-1961.
- Mark, D.G. 1984: Geophysical Report on Magnetic and VLF-EM Surveys over the Camp McKinney Property, Rock Creek Area, Greenwood M.D., British Columbia, Private Report for Zuni Energy Corp.
- 1984: Geochemical Report on a soil sampling survey over the Camp McKinney Property, Rock Creek Area, Greenwood M.D., British Columbia, Private Report for Zuni Energy Corp.
- Roberts, A.F. 1982: Report on the Camp McKinney Property, Greenwood M.D. for McKinney Resources Inc., Private Report.
- Sandner, S.L. 1984 to 1986: Personal Communication.
- Sanguinetti, M.H. 1984: Preliminary Geological Report on the Camp McKinney Property, for Zuni Energy Corp., Private Report.
- 1984: Results of a Trenching Program on the Camp McKinney Property for Zuni Energy Corp.

- Sawyer, J.P.B. and Yacoub, F.F. 1981: Summary Report on Preliminary Geochemical and Geological Work on the Camp McKinney Claim Holdings of Jan Resources Ltd., Private Report.
- Sookochoff, L. 1984: Geological Evaluation Report for Zuni Energy Corp. on the Camp McKinney Property, Private Report.
- Tully, D.W. 1979: Progress letter on a Program of Mineral Exploration, Minnie-Ha-Ha, Teaser, Alma and Pandre Mineral Claims, Camp McKinney, Private Letter for Jan Resources Ltd.
- 1981: Report on the Minnie-Ha-Ha, Teaser, Alma, Pandre Reverted Crown Grant Mineral Claims, Camp McKinney - Bridesville Area, Greenwood Mining Division, with Addendum, April 12, 1982, Private Report for Jan Resources Ltd.

WRITER'S CERTIFICATE

I, Michael H. Sanguinetti of Vancouver, British Columbia hereby certify that:

1. I am a geologist residing at 2208 West 35th Avenue, and employed by Sanguinetti Engineering Ltd. of #422 - 470 Granville Street, Vancouver, British Columbia.
2. I am a graduate of the University of British Columbia, B.Sc., in 1965, and have practiced my profession since that time.
3. I am a member of the Association of Professional Engineers of the Province of British Columbia.
4. I am the writer of this report which is based on private and published reports, and on my personal experience at Camp McKinney during July to October, 1984 when I was involved in a program of geological mapping, backhoe trenching and sampling.
5. I own no direct or indirect interest in the above property, or in the shares or securities of Ark Energy Ltd., nor do I expect to receive such interest.
6. I hereby consent to the publication of this report in a prospectus or a statement of material facts.



June 30, 1986
Vancouver, B.C., Canada

SANGUINETTI ENGINEERING LTD.

Michael H. Sanguinetti
Michael H. Sanguinetti, B.Sc., P. Eng.
Geologist

SUMMARY OF MCKINNEY DRILL HOLES
(located in 1984)

Recent Drilling (1960 +)

<u>Hole No.</u>	<u>Old Coordinates</u>		<u>Azimuth</u>	<u>Dip</u>	<u>Depth</u>	
D1	2+00S	2+00E	035°	-58°		
D2	2+00S	2+50E				
D3	8+70S	8+45E	035°	-65°	800'	core dumped
D4	6+45S	10+25E				core dumped
D5	6+95S	11+95E				
D6	7+10S	17+05E	025°	-49°		
D7	13+35S	17+45E	000°	-35°	660'	
D8	13+30S	19+80E	005°	-40°	450'	

McArthur Drilling (1957 - 59)

McA-1	7+40S	8+35E
McA-2	7+30S	9+75E
McA-3	7+50S	11+70E

Older Drilling (Questionable)

-	4+00S	18+30E
-	5+95S	17+80E
-	2+60N	9+65E

Bralorne?

SUMMARY OF 1984 TRENCHING (ZUNI)

	<u>Designations</u>	<u>Depth to Bedrock (ft)</u>	<u>Coordinates (new)</u>			<u>Length (ft)</u>
			<u>Line</u>	<u>From</u>	<u>To</u>	
1	17E - 1	0 - 4	17+00E	0	1+55S	155
2	17E - 2	4 - 6	17+00E	3+00S	3+95S	95
3	17E - 3	0 - 8	17+00E	6+75S	9+55S	280
4	11E - 1	4 - 8	11+00E	5+50S	7+00S	150
5	11E - 2	8 - 15	11+00E	8+00S	9+75S	175
6	10E - 1	2 - 6	10+00E	3+50S	5+30S	180
7	10E - 2	4 - 6	10+00E	5+50S	6+60S	110
8*	10E - 3	6 - 15	10+00E	7+50S	9+85S	245
9	6E - 1	5	6+00E	2+70S	3+55S	85
10**	5E - 1	4 - 15	5+00E	5+50S	6+60S	110
11**	5E - 1A	6 - 15	5+00E	5+80S	6+10S	30
12*	4E - 1	18 (no br.)	4+00E	5+30S	5+90S	60
13	3E - 1	0 - 8	2+70E	5+30S	7+55S	175
14	3E - 2	6	3+25E	1+50S	2+60S	110
15*	17W - 1	22	16+90W	3+40S	4+10S	70
16	19W - 1	0 - 6	19+00W	3+60S	4+50S	90
17*	23W - 1	18 (no br.)	23+00W	3+40S	4+00S	60
18*	pit 22+50W	6	22+30W	3+35S	3+60S	60

* filled in

** partly filled in

Note: New coordinates are 1+50 North and 6+20 East of old grid.

CAMP MCKINNEY
PROPOSED DIAMOND DRILL HOLES
(Old Coordinates)

West Zone

P-3	9+00S	4+00W	-60°	600'	Faulted segment S and below level 4.
P-3A	9+00S	7+00W	-60°	<u>600</u>	Faulted segment S and below level 4.
		Sub-total		1200	

Central Zone

P-1	8+00S	2+00E	-60°	700	Intersect below 5 level, S movement.
P-2	4+00S	2+00E	-65°	400	Segment between levels 3, 4.
P-4	7+00S	1+00W	-55°	700	Faulted segment S and below level 4.
P-5	9+00S	0+00	-69°	<u>600</u>	Test south and below level.
		Sub-total		2400	

East Zone

P-6	5+00S	13+00E	-60°	400	Missing segment above 5, S of Wiar ton shaft.
P-7	4+00S	13+00E	-60°	400	Missing segment above 5, S of Wiar ton shaft.
P-7a	4+00S	15+00E	-60°	400	Missing segment above 5, S of Wiar ton shaft.
P-8	8+00S	13+00E	-60°	700	Test below level 6 (by 75').
P-9	8+50S	10+00E	-60°	700	Test below level 6 (by 100').
P-10	5+00S	10+00E	-60°	250	Missing segment above level 5.
P-11	3+50S	10+00E	-60°	250	Missing segment above level 5.
P-12	2+00S	10+00E	-60°	300	Missing segment above level 5.
P-13	9+00S	8+00E	-55°	700	Test W of & below workings, below #11 fault.
P-14	5+60S	8+00E	-60°	300	Missing segment above #11 fault.
P-15	4+00S	8+00E	-60°	<u>300</u>	Missing segment above #11 fault.
		Sub-total		4900	

Total 8500