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## MEMORANDUM

TO: John Stephens, Grover Heinrichs,      DATE: May 5, 1981  
Bill Daffron and Dave Smith

FROM: Paul Eimon

RE: Progress Report with Alternatives for Action  
Pearce Project, Arizona

This memorandum describes the history of and current exploration on the Pearce Project, now being explored by the Stephens Mineral Group (SMG). Integral to the report are a planning chart already transmitted and maps and sections being completed in Tucson. All parts of the report will be reviewed in Tucson the end of this week. After that project review, a selected set of maps and sections will be attached to this memorandum as requested.

### SUMMARY

Mining, exploration and geologic work during the past 87 years have shown the area including and surrounding the Commonwealth Mine and Six Mile Hill to be an extensive hydrothermal (epithermal) system, related to volcanic caldera activity and containing silver and gold. An understanding of the epithermal precious metal model and compilation of data on the Pearce Project area have indicated several promising target areas.

A controlling property position of approximately 14,000 acres has been obtained for the Stephens Mineral Group (SMG) by Grover Heinrichs. Two holes have been drilled on the north end of Six Mile Hill by SMG. These diamond drill holes confirm the Six Mile Hill as an epithermal mineralization center.

Prior exploration in the project area and SMG current results are the basis for recommending continuing exploration, as graphed on the attached project planning chart.

Dependent upon project financing and the results of the exploration work, the following alternatives are proposed (and will be reviewed this week):

Alternative #1. Full implementation by SMG of the program as shown on the chart. The cost will be 1.24 million dollars including operating costs as shown, salaries and personnel fees, and expenses of

the Galyen option on December 31, 1981. Of this total amount, immediate commitment to the \$130,000.00 assessment work mandated by Arizona state regulations is necessary to hold the Arizona State Leases.

Alternative #2. Full implementation with a partner. This will require active and immediate solicitation to obtain joint venture capital, needed to assume or share project costs when desired.

Alternative #3. Reduction of project to 4,500 acres and reduced drilling expenditures. Payment of \$650,000 to exercise the Galyen option would depend on drilling results from the smaller area and the more limited scope of the drilling.

Alternative #4. Reduction of project to 3,000 acres, with a minimal exploration program but commitment to exercise the Galyen and other options as they come due.

The implications of each of these alternatives will be discussed in the review. My recommendation is full implementation (Alternatives #1 or #2) if final development potential, marketing potential and benefit from funds already expended by SMG are to be maximized.

## HISTORY

The Commonwealth Mine, discovered in 1895 by John Pearce, was the last silver bonanza mining camp in Arizona. Active mining lasted about 25 years, and the Commonwealth generated profits that financed the Bingham Canyon Mine in Utah (Kennecott) and the Broadmore Hotel in Colorado Springs (Penrose-Brockman). Historic records and early assay reports have recently been located in the possession of Major Tiger Wolanin, Tucson, and will be researched and copied during the coming months. This data is expected to be helpful in unraveling the geology of the Commonwealth Hill.

Commonwealth was relatively inactive from the last production date, in 1927, until early 1975, when Platoro Mines, Inc. optioned the Commonwealth claims and staked the surrounding ground, including Six Mile Hill. Platoro did extensive exploration, including sampling and drilling of the immediate area of the Commonwealth Mine. Five rotary drill holes extended the Ag-Au mineralization under cover to the east of the mine.

In 1976, Bethlehem Copper Corporation initiated a program of diamond drilling, rotary drilling, and mapping of the Platoro holdings. This exploration extended the known mineralization but did not find the high grade ore body for which Bethlehem was searching.

In 1978, S. J. Groves Company, a highway contractor from Minneapolis, optioned the same ground that had been controlled by Platoro. The Groves group explored the ground under the name, Western States Mineral Corporation. They initiated an extensive program of rotary drilling but the program suffered when several key staff members of Western States Mineral Corporation were killed in an airplane accident. An inexperienced and uninitiated geologist was employed to complete the Western States program to fulfill option requirements and then to drop the option. Two of the last holes showed ore intercepts south of the Commonwealth vein system. Two other holes indicated increasing gold and silver at the bottom of the holes. They terminated their activities in 1979.

This prior work represents an expenditure of roughly one million dollars. Unfortunately, following the expiration of various exploration programs, some samples have been mishandled. An attempt is now being made by SMG to collect, save and study these samples and data.

The work done by Platoro, Bethlehem Copper, and Western States Minerals is currently being assimilated with SMG findings and data to hypothesize the geologic model and to develop high potential gold-silver targets.

The Stephens Minerals Group initiated work in the Pearce area in mid-1980 after John Stephens signed an option with L. A. Galyen (June 20, 1980). The area covered Six Mile Hill and other acreage contiguous to the Commonwealth Mine. Application for extensive Arizona State lands was made by Grover Heinrichs (June 27, 1980), and approximately 13,750 acres were granted. During the last half of 1980 and the first four months of 1981, geophysical surveys, geochemical sampling, and geological mapping efforts have been conducted by parties or geologists under the direction of Bill Daffron, Dave Smith and Paul Eimon. Grover Heinrichs has handled the operational management of the project as well as the land work during this period.

Diamond drilling was initiated on January 19, 1981, on the north end of Six Mile Hill. The first hole (PP-1) was bottomed at 807 feet on March 31, 1981. The second hole (PP-2) was at 385 feet on April 30th.

Paul Eimon became the active Project Manager on May 1, 1981. He will spend a minimum of one-half time on the project for the remainder of the year. The immediate thrust of the project is to complete the necessary Arizona State Lease assessment work, collect and study all previous drill core and cuttings, continue diamond drilling, complete the geologic mapping on a 1"=100' scale, and compile this and other obtainable pertinent data in one set of maps and sections.



## RESULTS

Work to date has shown the Pearce Project Area to contain an extensive, very complex mineralized system or series of systems, related to tertiary volcanic events in the Sulfur Springs Valley along the general Pearce - Sulfur Hills volcanic ridge. Geologic mapping by Art Ona and Paul Eimon, plus current drilling by the Stephens Mineral Group, has indicated volcanic caldera margin megablock slumping or "rafting" with associated structural complexities and post depositional mineralization and post depositional rhyolite intrusions and flows. These mineralized systems and their partial post and pre-mineral cover create precious metal exploration targets throughout the area controlled by Stephens.

Continued geologic mapping, drilling, geochemical sampling and compilation are necessary to unravel the mineralization history of the Pearce Area. This work should produce a series of specific exploration targets, to be tested by lower cost rotary drilling. A suggested work program is shown on the attached planning chart. A report defining targets will be submitted by Eimon and Ona at the end of June. Current geologic data will be reviewed in the meeting immediately scheduled for the end of this week.

## PROGRAM ALTERNATIVES

The program for the remainder of 1981 is outlined on the attached chart and is geared to efficient exploration and the time constraints of the agreements, necessary assessment work, weather, and logistical considerations.

Alternative #1. Full program as explained on the chart.  
Cost: \$1.24 million dollars.

This program will test Six Mile Hill, the Commonwealth Hill, and reconnaissance drill the 14,000 acre tract now under control. Each of the several target areas evolving from current work will be tested with a drill hole. Data, samples and property will be secured for future development or joint venture participation. The program must have adequate financing on a month to month basis to move ahead efficiently.

Alternative #2. Full implementation along the lines of Alternative #1 but with joint venture participation. The Pearce Project at this time is moving from the high risk target identification stage to the lower risk higher cost target testing phase. Due to the complex and somewhat obscure nature of the Pearce Project targets, target testing could be very expensive and lengthy. For this reason a joint venture partner

such as CoCa Mines or Texasgulf could be brought in to free high risk initial exploration funds to targets like the Elephant Group in New Mexico. Such an alternative is suggested for discussion.

Alternative #3. Moderate reduction of the Project. (4,500 acres, reduced drilling, possible write-off if results are not favorable.) This is the lowest cost approach that I consider feasible, and considers the possibility of not exercising the Galyen option. We would concentrate on an immediate discovery.

Alternative #4. Reduction of project to 3,000 acres with a minimal exploration program but commitment to exercise Galyen option.

Under this alternative, SMG would purchase Six Mile Hill and the area surrounding the Commonwealth Mine. This provides a long-range mineral ownership position with the value of the land, as real estate, backing up the exploration position. The holding costs will be minimal and assessment costs and continued work will improve the exploration position.

I recommend Alternative #1. Alternatives 2, 3 and 4 are not costed in this report. These are presented for discussion of what I think are logical positions. The latter alternatives should not be construed as negative positions.

The Pearce Project is one of the significant gold-silver exploration prospects in the United States and is viewed so by experienced exploration companies and geologists.

A handwritten signature in black ink, appearing to read "Paul Eimer". The signature is fluid and cursive, with a long horizontal stroke at the end.

PE:vh

# ESTIMATED SCHEDULE OF EXPLORATION EXPENDITURES

Administration & Management by Eimon & Heinrichs &  
Expenditures Not Included

Period of May thru December 1981

Initial	ACTIVITY	MAY	JUNE	JULY	AUGUST	SEPT.	OCT.	NOV.	DEC.	Estimated Expenditure Per Activity	Personal Responsibility
		1st MONTH	2nd MONTH	3rd MONTH	4th MONTH	5th MONTH	6th MONTH	7th MONTH	8th MONTH		
	Rotary Drilling AZ St. Leases	60,000	60,000	17,600						137,600	Heinrichs Brown
	Diamond Drilling	15,000	15,000	15,000	15,000	30,000	30,000			120,000	Eimon, Ona Brown
	Rotary Drilling Target Test					50,000	50,000			100,000	Brown
	Drill Site Prep. & Access	2,000	2,000	1,000		3,000	2,000			10,000	Heinrichs Brown
	Geology	1,500	1,500	1,500	500	500	500			6,000	Eimon/Ona
	Photo Geology	300	Detailed by P.E.							300	Eimon Heinrichs
	Rock Chip Geochemistry FL Inklus.	1,800	500	1,200	1,000	1,500				6,000	Eimon/Ona
	Assaying	800	800	800	800	1,500	1,500			6,200	Brown
	Sample Storage & Handling	8,500	6,500	500	500	500	500	500		17,500	Heinrichs Brown
	Property Payments	2,700	2,700	2,700	2,700	2,700	3,800	3,800	3,800	24,900	Heinrichs
	Assessment Unpat. Claims			1,700	1,700					3400	Heinrichs
	Claim improvements & survey	500	1,000	1,000	500	500	500	500	500	5000	Heinrichs
	New Claims										
	New State Leases										
	Busenbark										
	Thetford										
	Legal, bonding, permits, etc.	500	1,000	500	1,700	500	500	500	500	5,700	Heinrichs
	Personnel Bill Brown					2,000	2,000	1,000		5,000	
	Stu McLaren		2,000	2,000	1,000					5,000	
	Larry Segerstrom		1,000	1,000	1,000	500	500			4000	
	Casual Labor										
	Off., Housing, Supplies, Phone	3,000	3,000	3,000	3,000	3,000	3,000	2,000	2,000	22,000	Heinrichs
	Contingencies	5,000	5,000	5,000	5,000	5,000	5,000	5,000	3,000	38,000	
	TOTAL DIRECT COSTS	101,600	102,000	54,500	34,400	101,200	97,800	13,300	9,800	516,600	

Interim Final  
REPORTS

Compiled by P. Eimon & E. G. Heinrichs 4-25-81

Note:  
Galyen Payment  
due 12-31-81  
\$650,000  
  
Not included on  
this schedule

# COMMONWEALTH INTERNATIONAL INC.

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GEOSCIENCE CONCEPTS • MINERAL TARGETS • U.S.A. AND WORLDWIDE

PAUL I. EIMON, PRESIDENT  
4955 HALE PARKWAY, DENVER, CO 80220  
DENVER 303-393-8536  
TUCSON 602-323-0884  
NEW YORK 212-724-2537

August 11, 1981

## M E M O R A N D U M

TO: John Stephens  
Bill Daffron  
Dave Smith

FROM: Paul Eimon

A review of the Pearce Project last week shows the following...

### GEOLOGY

Art Ona's report of July 28 is attached. It demonstrates our increasing understanding of the Pearce District geology. This latest information is being added to the total geologic picture. Art will do some further geologic mapping and geochemical sampling in the eastern portion of the area; log current drilling; and compile all the data when the final drill hole assays and geochemical values are received.

### DRILLING

The rotary drilling proposed and approved on July 9 to maintain State leases south and east of Six Mile Hill, on Sections 15, 16, 20, 21, and 22; T18S, R25E has been completed.

### PROPERTY

Grover has prepared the necessary papers for maintenance of the State leases and will see that all unpatented claim assessment paper work is completed for the current year.

### CORE AND SAMPLE STORAGE

The sample storage building and racks are essentially complete and samples are catalogued and arranged on the racks.

### FUTURE PLANNING

Art, Grover and I will review the data the last week of August. We anticipate having all current assays, geologic, geochemical and property data complete and plotted by mid-September. We will then plan a one or two-day concentrated study of the com-

pleted data which will produce alternate choices for your review and decisions.

GENERAL

Stu McLaren will terminate on August 20, 1981.

Grover Heinrichs is on vacation this week (August 9 - 15).

Energy Reserves is reviewing Bill Daffron's copy of the Pearce Project Report, July 1981, prepared by Eimon, Heinrichs, and Ona.

Carl Thetford appears increasingly willing to negotiate for an agreement on the Commonwealth Mine.

Paul I. Eimon

cc: G. Heinrichs ✓  
PIE/mf

Attachments

PAUL I. EIMON  
4955 HALE PARKWAY  
DENVER, COLORADO 80220, U.S.A.

MEMORANDUM GO-144

TO: MR. Grover Tucson May 15 1981  
FROM: MR. Paul Eimon Denver  
SUBJECT: Itinerary - Paul Eimon (& Pan) 5/15/81 to 6/15/81 OUR FILE:

YOUR FILE:

May 16 - May 21, Taxco, Mexico - First International  
Symposium on Small Mine Economics and  
Expansion, Holiday Inn - Taxco

May 22 - May 25, Denver, Colorado  
(303)-399-2020 or (303)-393-8536

May 26 - June 4, Tucson & Pearce, Arizona  
(602)-624-7421 or (602)-323-0884

June 5 - June 6, Tucson to Denver - Surface transp.

June 7 - June 15, Denver, Colorado  
(303) 399-2020 or (303)-399-8536

I will be mailing an announcement  
of my new corporation - Commonwealth  
International, Inc and my professional  
plans on June 1<sup>st</sup>. Pan and I will maintain  
our residence in Denver and Commonwealth  
International will have offices in Denver,  
Tucson and New York.

Grover:

I plan to call you tomorrow  
night morning. Hope all is going  
well.

Paul

EGH  
Copy

MEMORANDUM

TO: Paul I. Eimon

DATE: July 28, 1981

FROM: A. A. Ona

SUBJECT: Pearce Project  
Progress Report

INTRODUCTION

This report will cover the results and interpretation on the following:

- (1) State lease drilling program, Phase I.
- (2) Gravity data.

Phase I of the state lease drilling program was completed in late May, 1981. Fourteen (14) holes were finished to varying depths, generally below 500 ft. Enclosed are the drill logs of the drill holes and corresponding results from assays.

Data from a gravity survey done by Lowell and Associates has been acquired which covers the general area of the Stephens Pearce Project.

Additional results of the regional geochemical sampling program are now available and being evaluated covering the whole area of interest in Pearce. The results of a semi-detailed grab sampling program at Township Butte North are enclosed.

RESULTS AND DISCUSSION

A map (1"=1 Mile) is enclosed showing our state lease drill holes together with other drill holes where we have information available. Four (4) geologic sections are also enclosed. The geologic sections showed two (2) deep troughs: one centered approximately between SL-24 and SL-30 or NNW of Six Mile Hill, and the other approximately centered between SL-5 and SL-6. Sections BB' and CC' show shallow alluvial cover which is within normal rotary depth ranges.

Initial assay results showed abnormally high values for gold and/or silver in holes SL-24, SL-3, SL-5, SL-6 and SL-1E, mostly in gravel except for SL-1E (see assay tabulation). A re-assay check of the pulps and composites showed that certain high values could be due to laboratory error, but some remain as legitimate Au/Ag highs. SL-24 showed 30 ft. of gravel with an average of 0.16 oz/T Ag and 0.004 oz/T Au; SL-5 showed gravel with 20 ft. (120'-140') averaging 0.13 oz/T Ag. Although the values above do not constitute probable ore grade, the occurrence suggests these horizons are a physical dispersion train of an eroding/eroded hydrothermal Ag/Au system. This may eventually

be useful if additional dispersion trains can be located to give a vector on the possible source of these anomalous horizons. One possibility that can be done to accentuate contrasts on the different gravel horizons is by grinding and panning the cuttings and assaying the concentrate for Au and Ag geochemically.

The gravity data recently acquired showed the following features:

1. Four NW trending faults.
2. Shallow alluvial/gravel cover in the areas SW of Six Mile Hill and toward the NE direction from Township Butte.
3. The existence of a high density material at shallow depths (below the Tertiary Rhyolites). This high density material can be caused by the following:
  - (a) High density skarn/hornfel mineralization of Paleozoic sediments.
  - (b) A root (source?) system of the Tertiary volcanics vein seen around the area.
  - (c) An intrusive at moderate depths.

AAO:vh  
enclosures





Vi - Please change Arts 7/28/81  
memo with these words

\* certain high values could be  
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some remain as legitimate  
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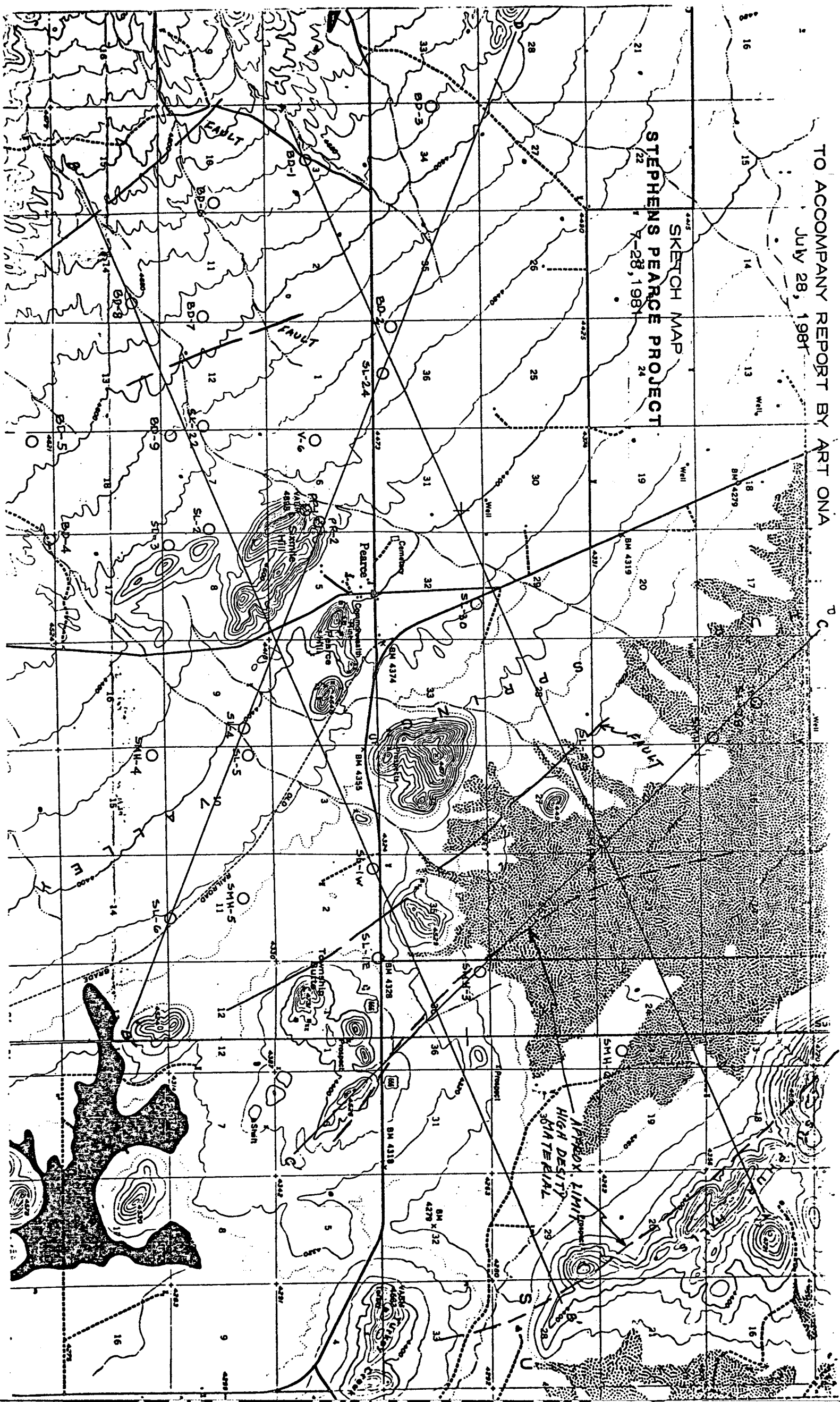
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  - (b) A root (source?) system of the Tertiary volcanics vein seen around the area.
  - (c) An intrusive at moderate depths.

AAO:vh  
enclosures



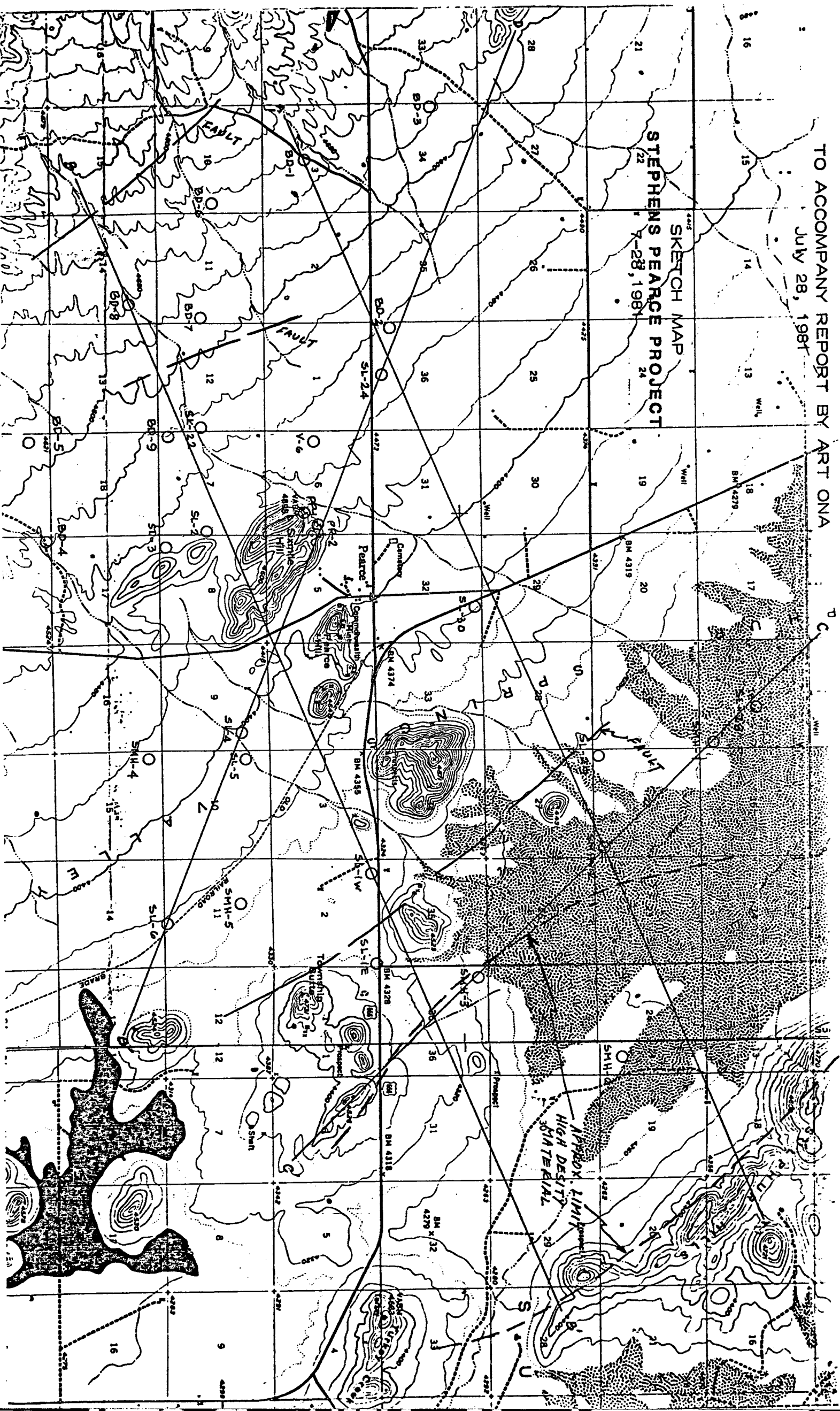
July 28, 1981

~~7-28, 1981~~



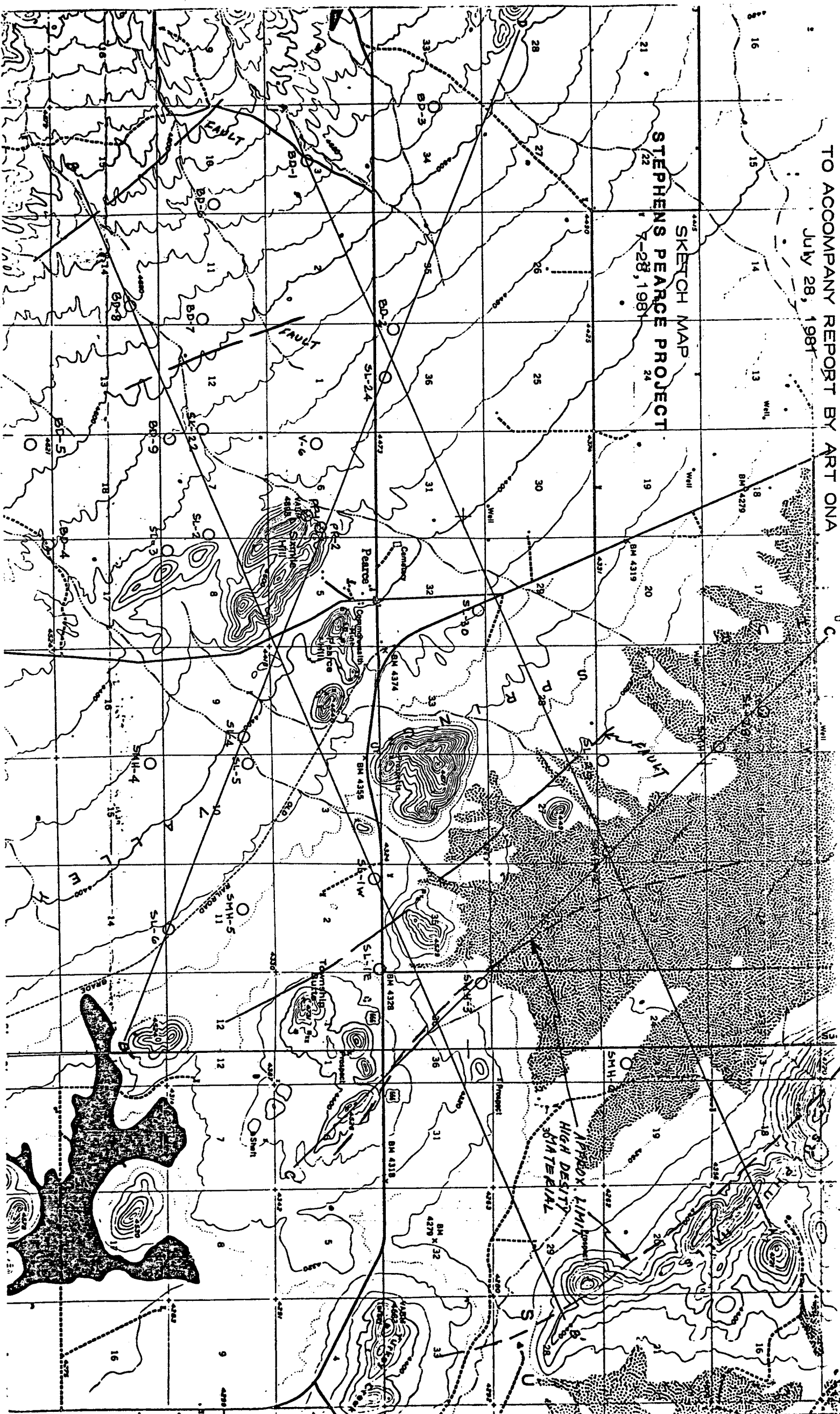
July 28, 1984

✓-23, 198



July 28, 1984

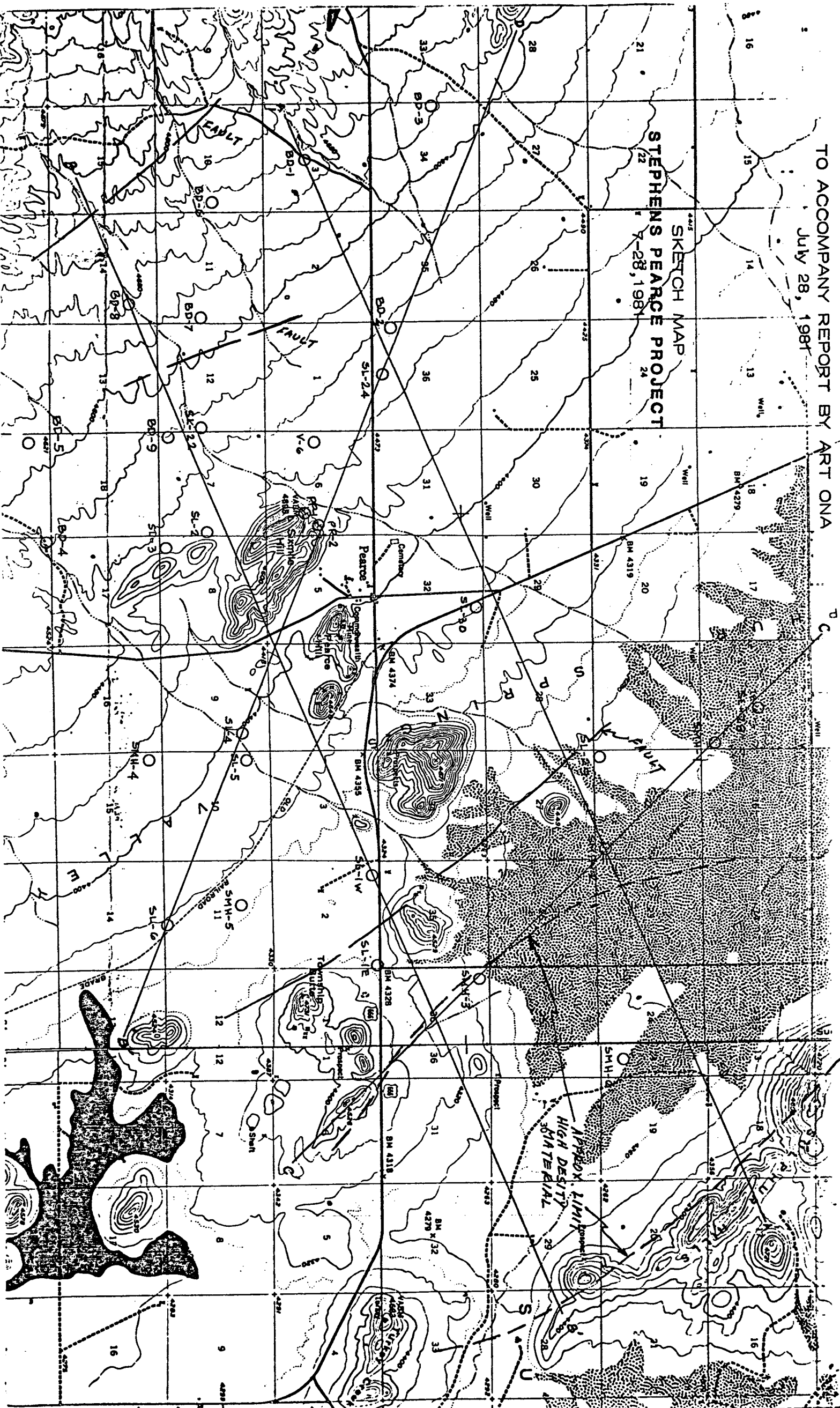
~~7-23, 1981~~

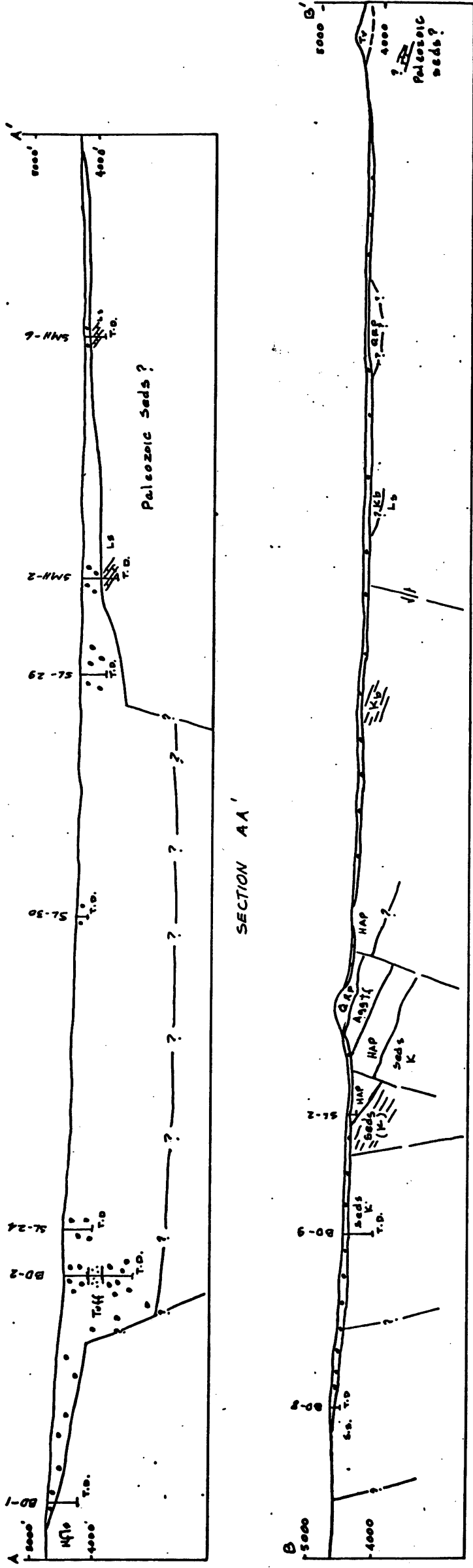




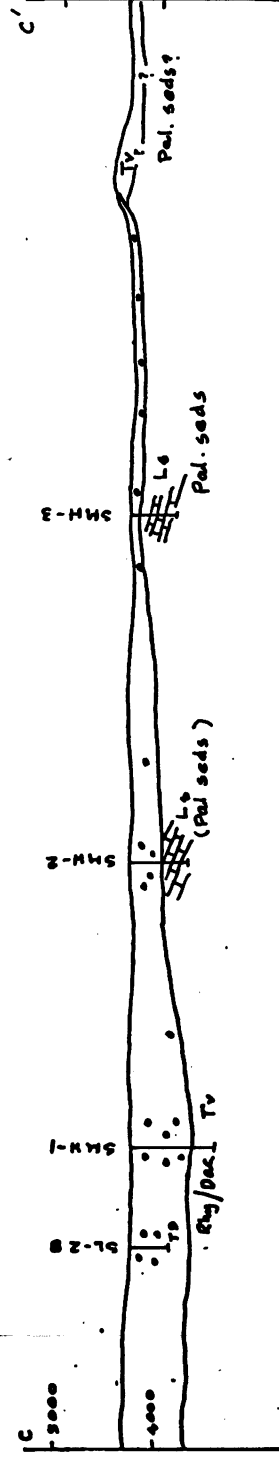
TO ACCOMPANY REPORT BY ART ONA  
July 28, 1981

SKETCH MAP  
STEPHENS PEARCE PROJECT  
7-28, 1981

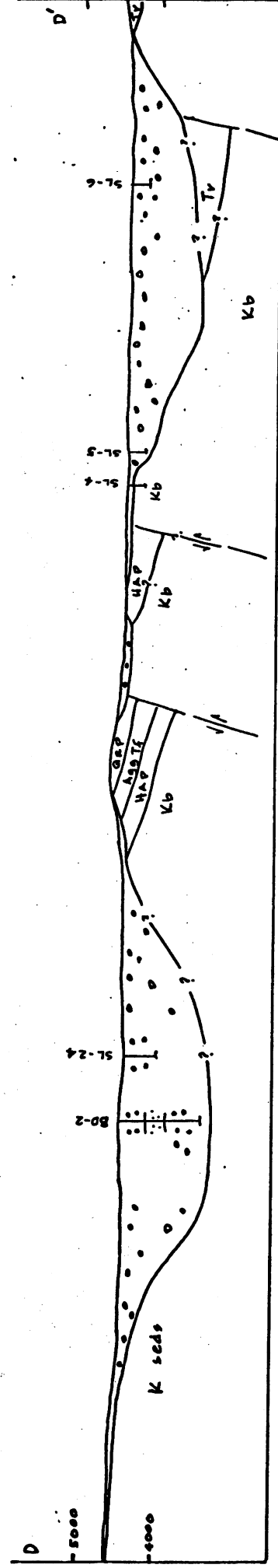




SECTION BB'



SECTION DD'



HORIZ. SCALE : 1" = 1 MILE  
VERT. " : 1" = 2000'

STEPHENS PEARCE PROJECT



L6-1007

## MEMORANDUM

TO: E. Grover Heinrichs

DATE: November 15, 1982

FROM: A. A. Ona

SUBJECT: Pearce Project  
Township Butte Area  
Geology & Mineralization

### INTRODUCTION

Township Butte Area is located in the Pearce Mining District in Cochise County, Arizona. Specifically, it occupies almost all of Section 1, Township 18 South, Range 25 East, and is 3½ miles east of the Commonwealth Mine. Land ownership and existing claims are shown on the enclosed map.

Three (3) shafts and a large number of pits are located in the area. Among these, it appears that two (2) shafts were at one time in production, judging from the presence of machinery (hoists?), foundations and relatively abundant rock dump near two (2) shafts. Most of the pits are 4 to 5 feet deep and were apparently dug following structures or alteration zones.

### GEOLOGY

Township Butte is located in the Pearce pediment area. The area is characterized by low hills of Tertiary age rocks resting on Cretaceous rocks in the flat areas.

The Tertiary rocks in Township Butte, in increasing age, are as follows:

Rhyolite: Two types are distinguished.

1. Feldspar Quartz Rhyolite
2. Quartz Rhyolite

Both of them are normally intensely silicified and occur on top of hills and ridges; normally light flesh in color, occasionally light brown; quartz and/or feldspar phenocrysts common; occasional thin quartz vein observed; feldspars partly cloudy; normally occurs above an older andesite, but occasionally is directly above an agglomeratic tuff unit or even above Cretaceous sediments, as is shown in the NE quarter of Section 1; estimated maximum thickness in the Township Butte Area is 200 feet.

### Agglomeratic Tuff

Occurs as the highest hill at the SW part of the area; in fault contact and also above the hornblende andesite porphyry; maximum thickness estimated at 300 feet in the Township Butte Area; color is normally light gray with occasional variation to light brown or very light pink; texture is conglomeratic with very coarse angular fragments; occasional sandy portions seen; strikes northwesterly and dips steeply to the SW; quartz calcite vein seen to occur in this rock type; fragment composition varies from rhyolite/andesite to carbonate rocks; weak argillic alteration is pervasive in this rock.

### Hornblende Andesite Porphyry

Most abundant rock unit in Township Butte; occurring at the central part of the area; abundant prospecting pits seen and sampled; appears to be directly above Cretaceous rocks; maximum estimated thickness is 400 feet at Township Butte Area; contains 20% to 30% hornblende phenocrysts; weak pervasive argillic alteration is noted; occasional silicified zones also present.

The Cretaceous rocks in Township Butte consist of thinly interbedded sandstone and siltstones. The sandstones vary from calcareous to argillaceous types, whereas the siltstones vary from silty to calcareous claystone. Pyrite is known to be present in these rocks in the immediate surrounding areas, although none is found in the limited exposures at Township Butte. The Cretaceous sediments strike generally northerly and dip steeply both to the East and to the West.

A very strong northeasterly fault system appears to be the dominant structure in the area. At the northern part of the area, this system of faulting has down-dropped the portion now occupied by rhyolite and has been mapped as a lithological/structural contact. At the southern part of the area, this fault system cuts through both the agglomeratic tuff and the hornblende andesite porphyry, and probably helps localize a silica-carbonate vein in the agglomeratic tuff. A northeasterly carbonate vein is also located at the central western part of the area.

A weaker and probably older northwesterly fault system has separated the agglomeratic tuff unit to the south from the hornblende andesite porphyry to the north and has also localized the most actively prospected/mined vein systems in the central part of Township Butte.

Weak pervasive argillic alteration of the hornblende andesite porphyry and strong silicification of the rhyolite are the dominant alteration in the area. Silification of the rhyolite at the northern Township Butte is easily noticeable, and appears similar in intensity to the silica cap of the Commonwealth Mine at Pearce. Weak argillic alteration at the edge of the rhyolite outcrops suggests

some weak epithermal alteration very close to the hornblende andesite-rhyolite contact.

Strong silifications are noted in the hornblende andesite porphyry at several places:

1. At the vicinity of sample sites TB-62 and TB-48, where a few pyrite grains ( $< 0.5\%$  by volume) were seen. Ag at TB-48 is 36 ppm.
2. Along shear/fault zones near sample sites TB-16, TB-11, TB-13, TB-15 and TB-37 where copper oxides (chrysocolla?) is normally seen along fracture surfaces. Two workings were developed in these zones by previous workers. Geochemistry showed anomalous Ag and Au values in these zones (see Geochem Map).

Strong argillic alteration was noted in the andesite porphyry at the following locations:

1. At areas near sample sites TB-4, TB-5 and TB-6, where Ag is anomalous (1.2 ppm).
2. At sample sites TB-49, TB-60 and TB-7. These appear to be related to nearby faulting and shearing.

The geochemical characteristics of the Township Butte Area are as follows (see Geochem Map):

- A. Anomalous Ag (1.2 to 100 ppm) clustered in three different places:
  1. One cluster is an area at the western edge of the property, and is represented by sample sites TB-2, TB-4, TB-5 and TB-6.
  2. Another cluster located at the central part of the property, and is represented by sample sites TB-12, 13, 15, 16, 17, 18, 20, 21 and 25 through 29.
  3. A third weak cluster is represented by TB-8, TB-47 and TB-48.
- B. A mercury zone with values ranging from 0.08 ppm to 0.13 ppm, which roughly coincides with the silver zone.
- C. A copper zone with values from 215 ppm to 16,000 ppm, which also roughly coincides with the silver zone.

- D. A random distribution of very low gold values (0.02 to 0.18 ppm) only in the hornblende andesite porphyry.
- E. A random distribution of arsenic values, although a high assay (80 ppm As) coincides with the high copper and gold at TB-15.

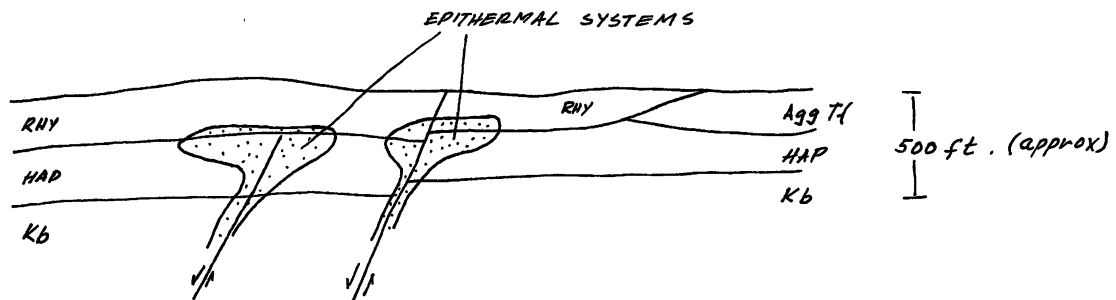
### CONCLUSIONS

1. The age relation of the different lithologic units (in increasing age) are as follows:
  - A. Rhyolite
  - B. Agglomeratic Tuff
  - C. Hornblende Andesite Porphyry
  - D. Cretaceous Bisbee Sediments
2. The northwesterly fault system has more effect in localizing alteration and mineralization as shown by the abundance of prospects/workings in this system.
3. The northeasterly fault system has less effect in localizing alteration and mineralization as shown by only two (2) prospect pits.
4. Random joint attitudes suggest multi-directional stresses possibly related with both the northwesterly and northeasterly fault system.
5. Alteration effects are noted in all lithologic units: silicification and minor argillization of the rhyolites; argillization and minor silicification of the hornblende andesite porphyry; argillization and limited carbonate veining in the agglomeratic tuff; and carbonate veining (and some pyrite development in nearby areas) of the Cretaceous Bisbee sediments.
6. A higher degree of geochemical activity (Ag, Hg and Cu) is noted in the hornblende andesite porphyry than in other rock types.
7. The degree of alteration is directly related to presence or absence of structures.
8. Faulting has uplifted the Cretaceous sediments at the northern part of the area.

9. Surface alteration and geochemical signature suggests leakage from epithermal systems in the lower stratigraphic elevations. A diagrammatic illustration of the possible locations of epithermal systems are:

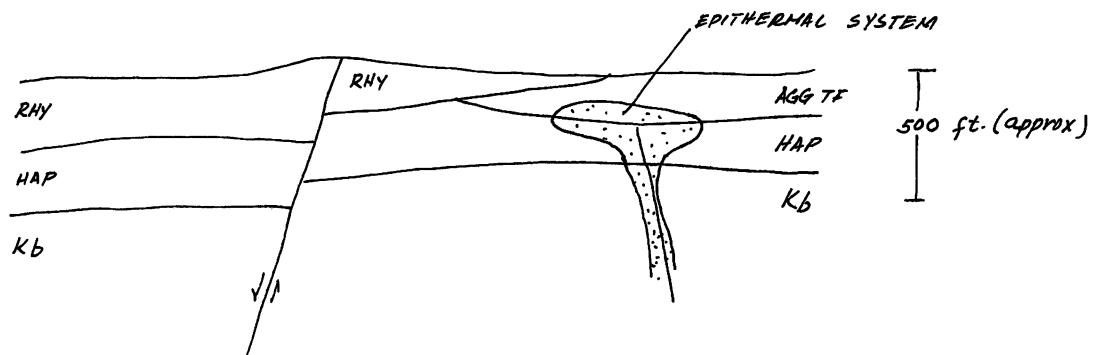
A. At the rhyolite-hornblende andesite porphyry contact.

A. RHY/HAP CONTACT



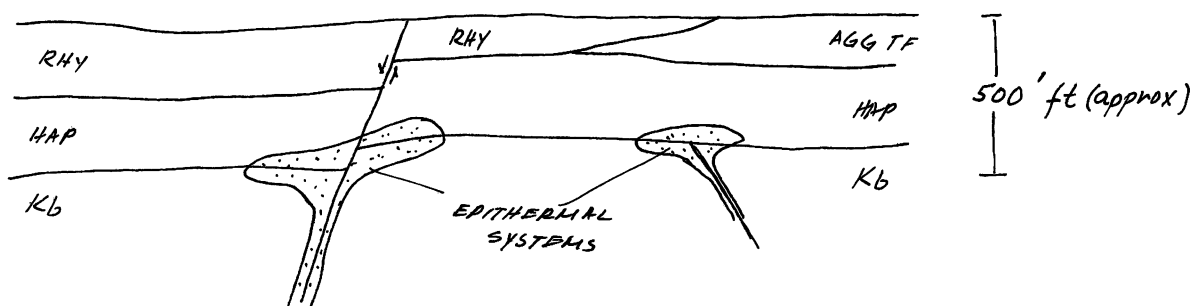
B. At the agglomeratic tuff - hornblende andesite horizons.

B. AGG TF/HAP CONTACT



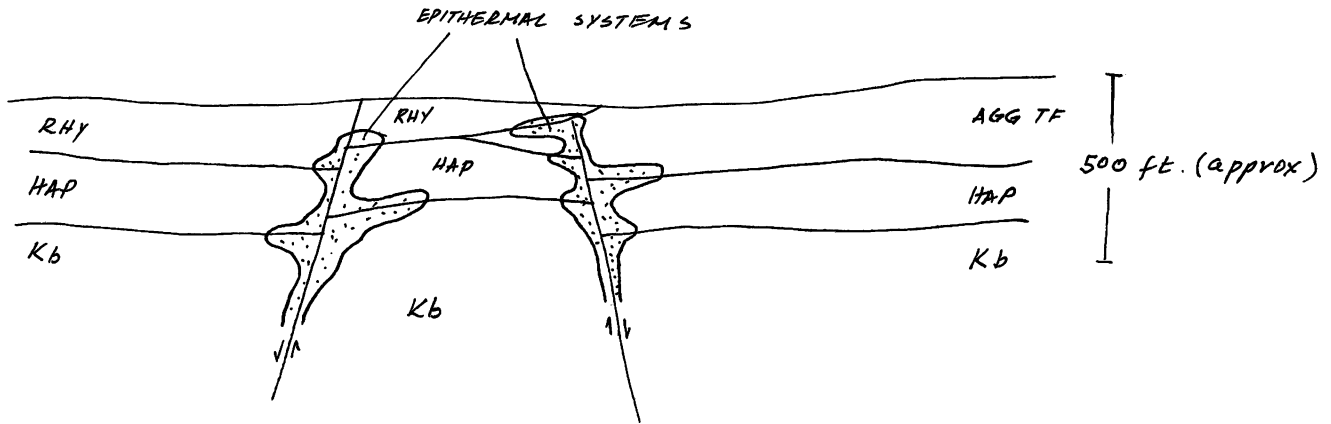
C. At the hornblende andesite - Cretaceous sediments interface.

C. HAP/Kb CONTACT



D. A combination of the above.

D. COMBINATION



10. A large percentage of the altered area is covered by patented mining claims.

RECOMMENDATIONS

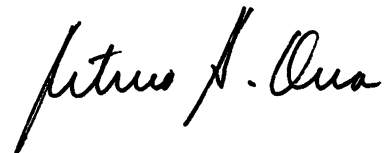
Based on the geochemical response, the presence of alteration and occurrence of weak mineralization on surface rocks, drilling is recommended to test for the existence of epithermal systems. (See enclosed Drill Hole Location Map.) A cost estimate of such a program is as follows:

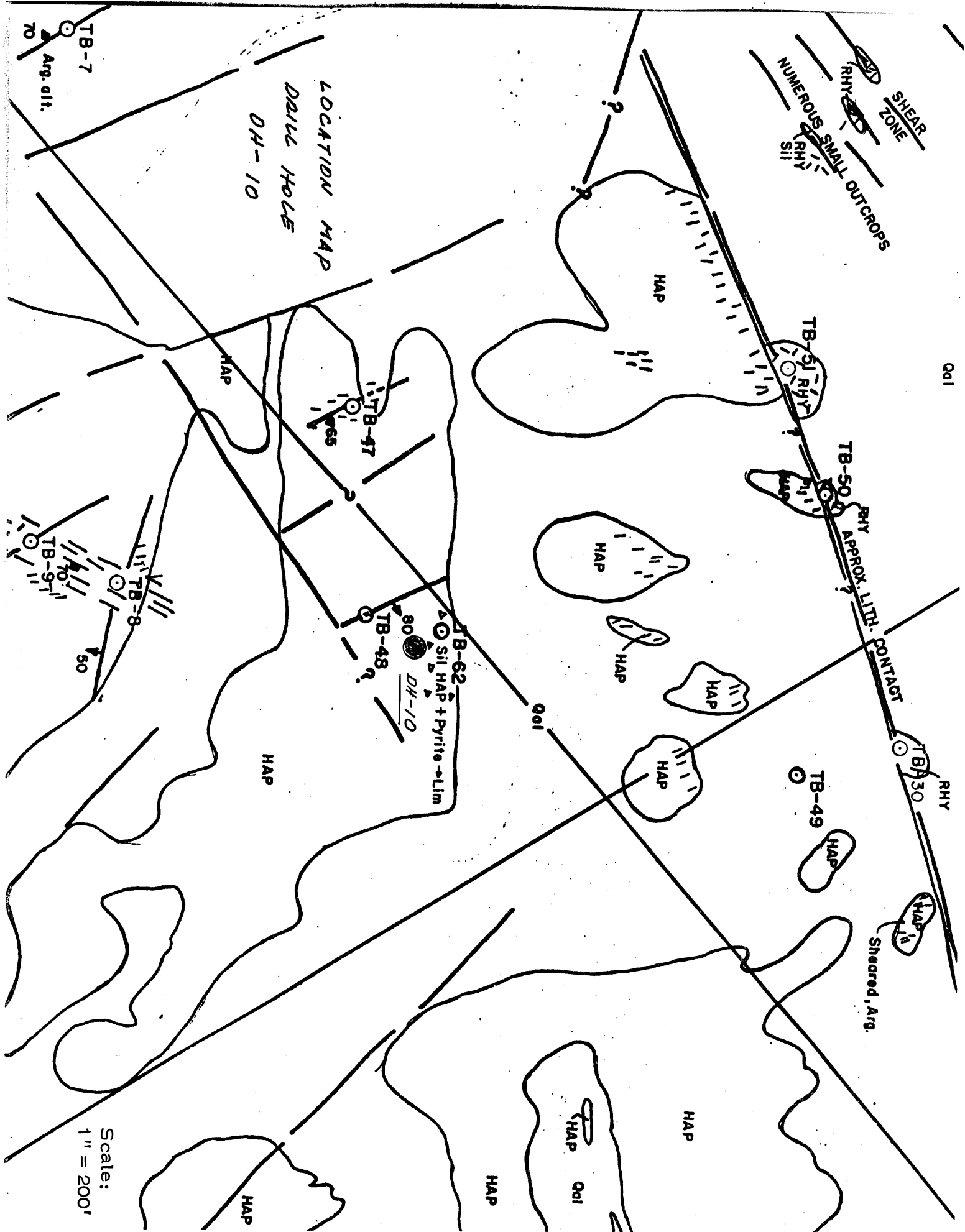
- A. Drilling:  
 10 rotary drill holes, average depth  
 500 ft. @\$12.00/ft. ----- \$60,000.00
- B. Assaying:  
 300 samples assayed for Au and Ag  
 @\$7.00/sample ----- 2,100.00
- C. Drill supervision and sampling (Field  
 geologic aide), 20 days @\$100.00/day ----- 2,000.00

D. Drill cutting and core logging, geological interpretation and report, 10 days	
@\$200.00/day - - - - -	2,000.00
E. Others: Meals, lodging, transportation, etc. - -	<u>2,000.00</u>
TOTAL	\$68,100.00

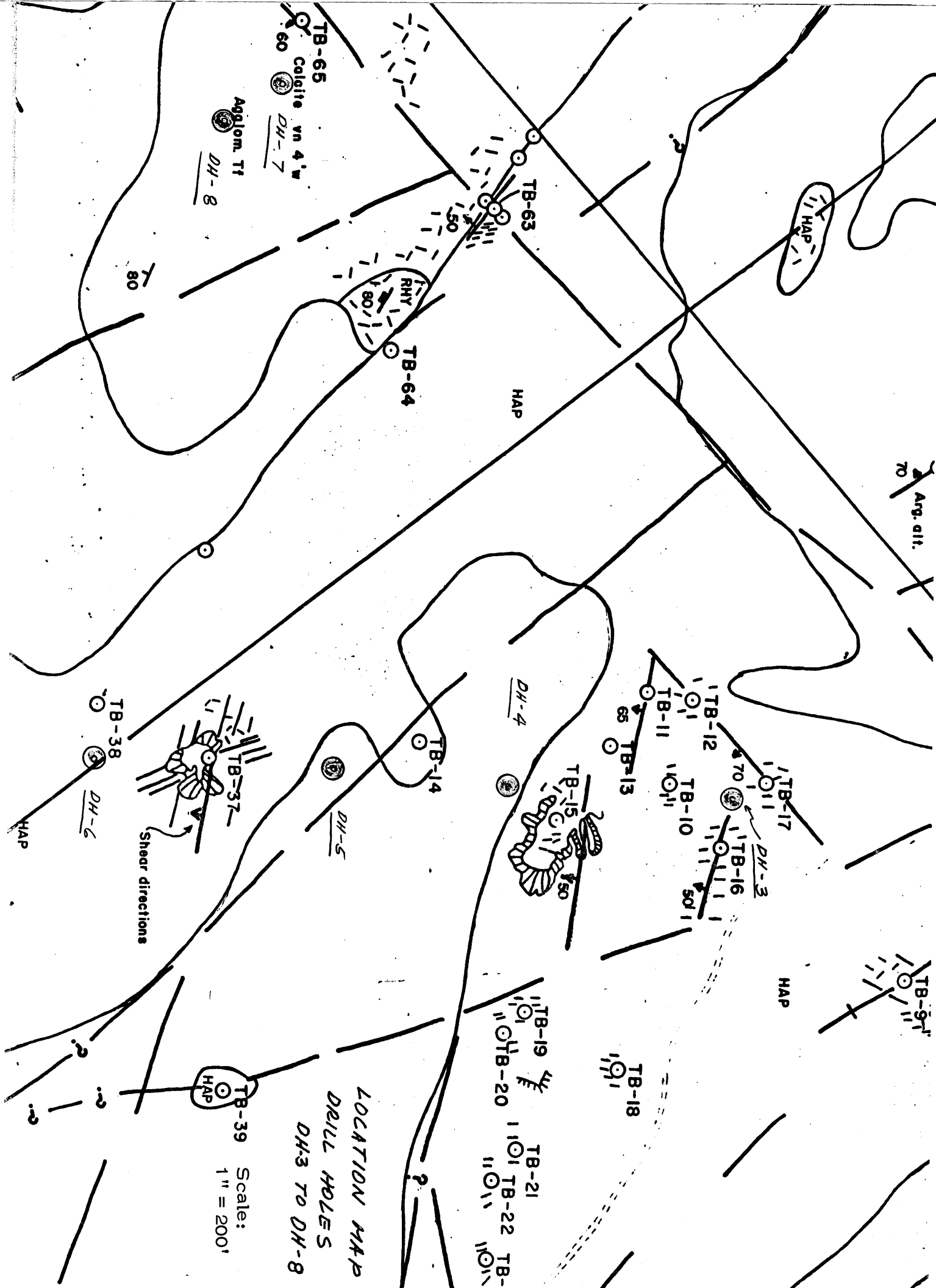
AAO:vh  
enclosures

cc with enclosures:  
J. A. Stephens  
W. J. Daffron





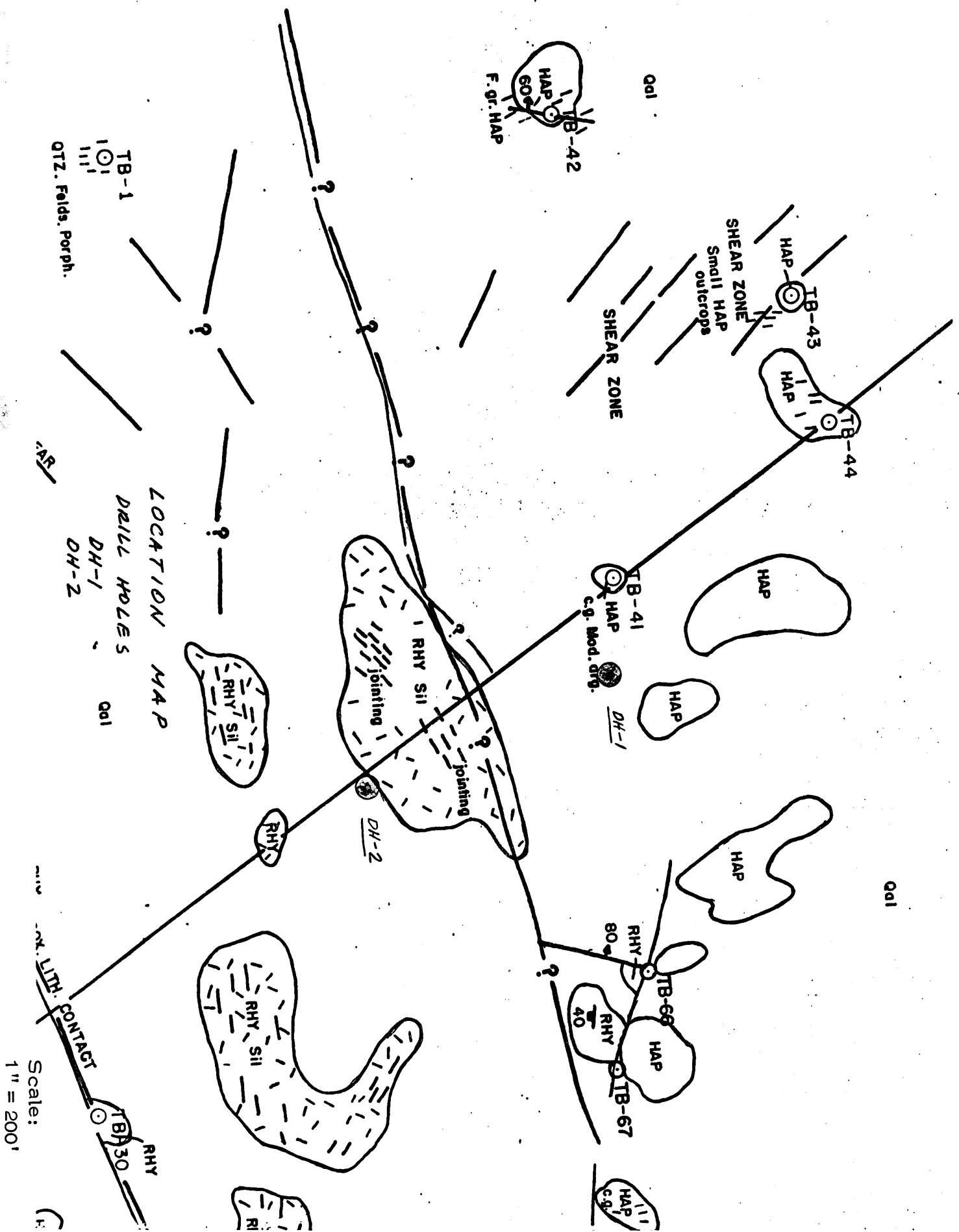




Arg. alt.  
70

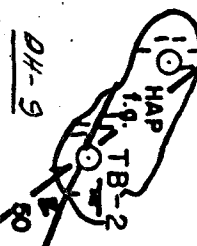
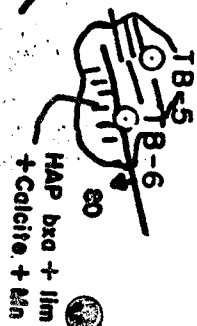
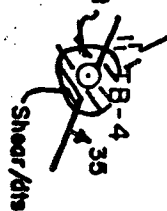
LOCATION MAP  
DRILL HOLES  
DH-3 TO DH-8

Scale:  
1" = 200'



Scale:  
1" = 200'

Sheared, arg. HAP  
+ Calcite along fault



LOCATION MAP  
DELL HOLE

DH-9  
Scale:  
1" = 200'

Red RHY  
TALUS

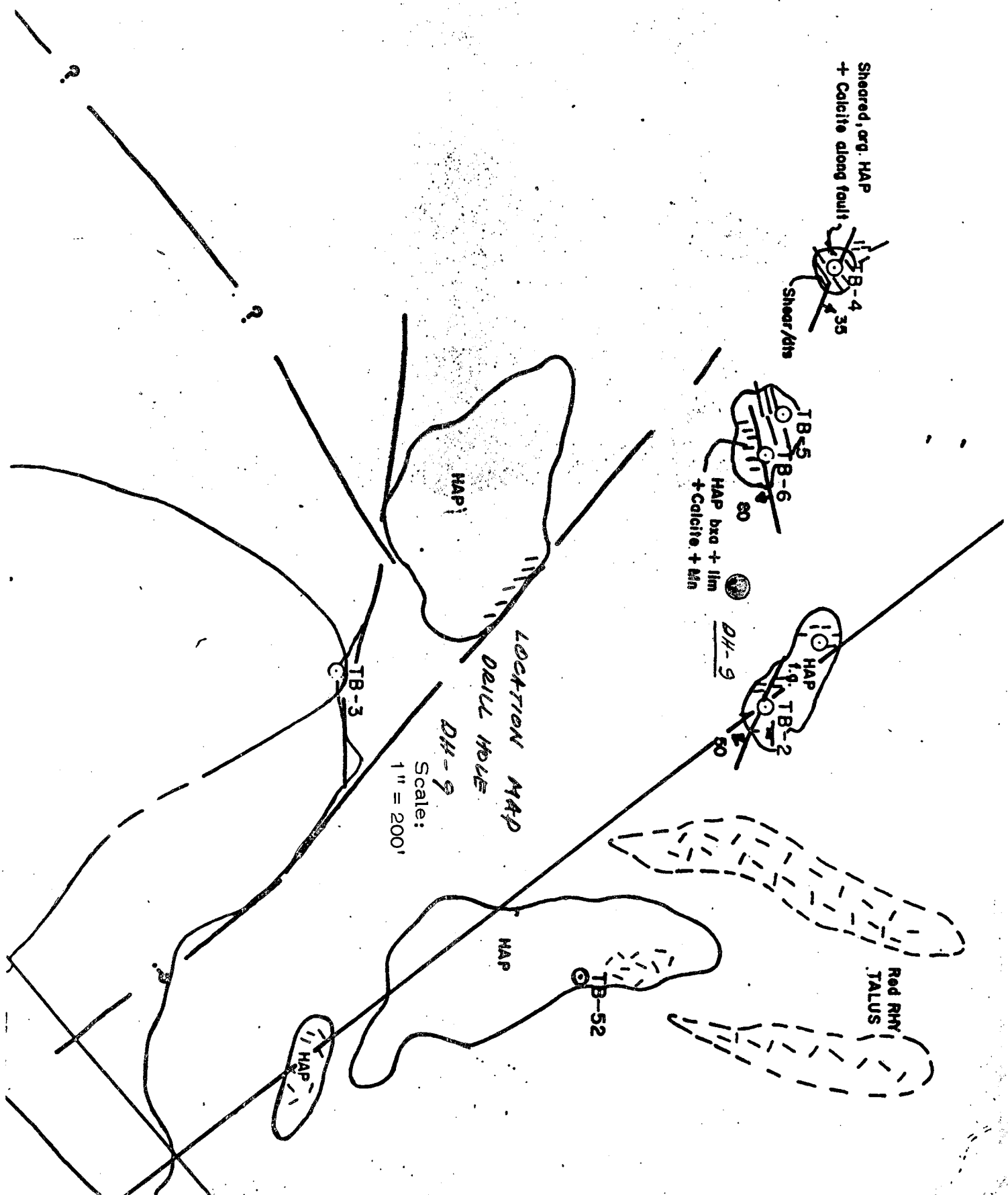
TB-52

HAP

HAP

TB-3

HAP



MEMORANDUM

TO: John Stephens, David Smith,  
Bill Daffron and Grover Heinrichs ✓

DATE: January 29, 1982

FROM: Paul Eimon  
Commonwealth International

RE: Pearce Project, Cochise County,  
Arizona, and Future Exploration  
Plans

During this week, I have had an opportunity to review (comprehensively) the Pearce Project, have had discussions with Grover Heinrichs and Art Ona, and have made a brief visit to the project.

The December 1981 Pearce Project Report provides a comprehensive exploration picture of the Pearce District. It encompasses information that makes an ideal data base, something seldom produced for the first stages of an exploration project.

New target areas are identified and the most attractive exploration potential of the district, based on present data, is shown in that December report. I strongly recommend that those targets be explored by the Stephens Group. If this is to be done, a meeting should be held with Stephens, Smith, Daffron, Heinrichs, Ona, and Eimon to plan the course of that exploration.

On the basis of findings to date, the Galyen properties still have some exploration potential but should be held only if Galyen is willing to extend the option without payments other than holding costs. If Galyen will not agree to this, an arrangement of mutual benefit should be attempted -- leaving open the development of the Commonwealth Mine until a period when Ag-Au prices are favorable and Thetford is reasonable. Such an agreement should include provisions for permanent core and other sample storage -- for all parties, including Galyen and Thetford.

If, for any reason, the Stephens Group does not opt to continue exploration alone, efforts should be promptly undertaken to find a joint venture partner. Possible partners: Getty Oil, Oxymin, Phelps Dodge, Bear Creek, Marathon Oil, and Pioneer Nuclear, Inc.

As I have mentioned to all of you previously, I am taking the position of Vice President, Exploration, for Pioneer Nuclear, Inc., Amarillo, Texas, on February 1st.

I will continue to maintain Commonwealth International and its data base, dedicated to exploration target research, seminars, and advisory work in minerals exploration. Commonwealth will utilize the skills of various geologists and other mining professionals for such work. Grover and I have made arrangements which will continue to make possible my input for your mineral exploration and development plans.

I look forward to maintaining our relationships within a Commonwealth International Inc., letter agreement.

PIE:vh

*Paul Eimon*

TO: William Daffron and David Smith

DATE: February 2, 1981

FROM: E. Grover Heinrichs ✓

SUBJECT: Monthly Report for  
January, 1981

### PEARCE PROJECT

Because of the many different activities now taking place in regard to the Pearce Project, it was thought that a monthly summary report be initiated to mark the progress of these activities and as a reference aid for all concerned parties.

#### Drilling:

Joy Manufacturing Co. moved to the site of PP-1 on January 19, 1981. Driller/Foreman is Ray Owen. On Jan. 23rd, completed set up of rig and drilled 19 feet. On Jan. 30th in the p.m., the drill had completed 111' of core and used 5 bits. Core recovery has virtually been 100% after the initial 0 to 6 feet of hole was drilled. Richard Guthrie helped supervise the drillers during the period of Jan. 19th thru Jan. 23rd. Joe Janco visited rig on Jan. 21st to check on drilling.

#### Airphotos:

Cooper Aerial Survey Company of Tucson has contracted to supply the project with aerial color photos at a scale of 1"=500'. Certain areas of critical interest (such as Six Mile Hill) will be enlarged to 1"=100' for a base control map to plot geology. Considerable difficulty has been encountered by the weather conditions, which has delayed this part of the project for three weeks.

Panels for identifying horizontal control on the photos have been placed on the ground by the Cartmell brothers, supervised by E. G. H., and further surveying control may be required to rectify the photos for future possible detailed topographic mapping of the important areas.

#### Land Negotiations:

The month of January was spent trying to nudge Mrs. Hermine Summer into an agreement to lease with option to purchase her 10% interest in the Pearce Hill Mining and Development Corporation. The terms have been agreed on. The delay now is her attorney and our attorney formulating an agreement that satisfies both parties. Her associates, Mrs. Jessup and Mrs. Reed, will also sign similar but separate agreements upon execution by Ms. Summer. If all goes well, we should have an agreement before the end of February.

Contact with Thetford continues intermittently, but no real progress is being made, although the last meeting with him found him expressing a desire to discuss the whole agreement.

Map Preparation:

Vellum and mylar maps at a scale of 1"=2000', 1"=500', 1"=200' and 1"=100', have been prepared. A mylar 1"=2000' aerial magnetic map has been completed, and a similar scale gravity map is in progress.

Sampling:

E. G. H. and helper cut a random grab chip sample of the "Lower Tunnel". This sampling indicated a zone of 40', averaging 0.0475 Au and 0.68 Ag.

Claim Staking:

The SW¼ of Section 6 and the NW¼ of Section 7, T18S, R25E, have been located and the claim posts along the end lines of the location monuments have been set. A total of 15 claims have been located and form a contiguous group with the West side of the Pan claims.

cc: J. A. Stephens

*See: P. 2 E.*

*David Hinnichs*

TO: William Daffron and David Smith

DATE: March 3, 1981

FROM: E. Grover Heinrichs

SUBJECT: Monthly Report for  
February, 1981

PEARCE PROJECT

Drilling:

Drilling has progressed from 111.0' at the end of January to 337.5' as of p.m. 2-27-81. Core recovery has been excellent up until 2-21-81 at a depth of 324.0 ft., at which point the hole encountered a caving condition. This condition has continued and progress for the week ending 2-28-81 has been very slow. This caving condition likely is an expression of a fault zone.

At my request Joe Janco, our private drill consultant, visited the drill rig last Thursday and Friday (Feb. 26 and 27) to assist the driller, Bob Johnson, to get through the caved zone. Mr. Janco reports the driller is progressing about as good as can be expected under the circumstances, suggesting the driller rotate the bit a little faster and use a "down discharge" type bit.

Geology:

Steve Markusen, a geological consultant, has been brought in to produce a geological map of Six Mile Hill and the Commonwealth Mine area. The purpose of this is to determine their geologic relationship and as a guide to locate additional geological drill targets.

Art Ona, a geological consultant experienced in precious metal mineralization from the staff of Pillar, Lowell & Associates, has logged the core to 324.0'.

The geological consensus on PP-1 to date, to a depth of 337.5', indicates a large and very important epithermal system above the "boiling zone", the zone where precious metals are generally encountered.

Assays - PP-1:

The most significant gold assay to date occurs at a			
depth of 115.7' - 120'	0.014' Au	Ag	.10
145.0' - 146'	0.12 Au	Ag	4.05

The most significant silver assay to date occurs at a  
depth of 109.5' - 112.0      0.31 Ag

Airphotos:

A total of 105 color 9"x9" contact prints at a scale of 1"=500', have been received from Cooper Aerial Survey and are now being used in the field for geologic mapping. Certain selected photos in important areas will be enlarged to 1"=100' for base map control.

Land Acquisition and Negotiations:

Ms. Hermine Summer and her son, John Breitner, have now agreed in principal to terms similar to the original agreement presented to Ms. Summer several months ago: i.e., \$7500 down payment, \$200/month one year hence from effective date of the agreement, and \$300/month in two years, \$400/month in three years and for next succeeding 23 months, and then \$5000/year on date five (5) years hence and each year thereafter through expiration of term (7 years).

Changes in the agreement from the original document include the following:

1. Term changed from 10 years to 7 years.
2. Option to purchase. The amount stays the same \$400,000.00, unless Thetford et al are paid more than the purchase price previously offered to Thetford, i.e., \$3,520,000.00. If he is paid more, Ms. Summer's payment will increase in a proportionate amount.
3. Surrender of Possession and Removal of Equipment. This section was modified to more clearly define what engineering data would be turned over to them upon termination of the agreement.
4. Assignment. This section was modified to reflect right of owner to assign all or part to other parties. Owner also wanted to condition assignment only upon written consent by Lessee to other parties.
5. John Breitner, Ms. Summer's son, is to receive notices as well as Ms. Summer. Thetford was contacted once this month, and upon obtaining Ms. Summer's 10%, a strategy will be developed to use on Thetford in order to increase the ownership in the Commonwealth Mine.

Map Preparation:

1. A geologic map at a scale of 1"=100' of North portion of Six Mile Hill and a section through the drill, has been prepared in



March 3, 1981

preliminary form.

2. A geologic map at a scale of 1"=200' that includes Six Mile Hill and the Commonwealth, is in preparation.
3. A planetable contour map of the North portion of Six Mile Hill at a scale of 1"=100' and 1"=200', has been prepared to aid in preparation of the geologic map and sections.

cc: J. A. Stephens

*David P. Eimer*

*Garrett Hinnich*

MEMORANDUM

TO: W. Daffron, D. Smith, P. Eimon      DATE: April 14, 1981  
FROM: E. Grover Heinrichs      SUBJECT: Monthly Report for  
March, 1981

PEARCE PROJECT

Drilling:

Drilling has progressed from 337.5 feet as of 2-27-81 to 807.0 feet as of 3-31-81.

Drilling production has improved considerably as of the beginning of March thru the month, with most shifts getting about 20' of core.

PP-1 was terminated at a depth of 807.0' and PP-2 was located in the NE corner of Pan 71 and NE approx. 760' from PP-1. The drill pad has been prepared and drilling will commence as soon as the drill can break down on PP-1 and move to the new location.

Geology:

Steve Markusen, a geological consultant, has completed his map of the Six Mile Hill and Commonwealth Mine Area. Art Ona, a geological consultant with precious metal experience, who has been logging the core, has now been retained to check and modify Markusen's work where necessary and construct geological sections in the area of Six Mile Hill and Commonwealth Mine Areas.

No significant precious metal values have been encountered to date, though the drilling to date continues to indicate and define a very important and complex epithermal system.

Land Acquisition and Negotiations:

1. The Summer Agreement will likely be completely executed during the 1st week in April on the terms of \$7,500 down payment, \$200/month one year hence, \$300/month two years hence, \$400/month three years hence and for the next succeeding 23 months, and then \$5,000/year on date 5 years from effective date of the Agreement and each year thereafter for the term of 7 years. The purchase price is \$400,000.

2. The Jessup and Reed Agreements are identical to the Summer Agreement except for payments which will all be reduced from 10% to 1% each, or a down payment of \$750 each, \$20/month each one year hence, \$30/month each two years hence, \$40/month each three years hence and for the next succeeding 23 months, and then \$5000/year on date five years from effective date of the Agreement and each year thereafter for the full term of 7 years. The purchase price is \$40,000 each.

3. Carl Thetford has expressed substantial interest in coming to an agreement, and two meetings have been held with him discussing the original agreement that we offered him last September. My position has been to suggest to him that we now have modified our thinking on the Commonwealth and would only commit to \$50,000 down and a purchase price of \$2,000,000.

He stated that \$50,000 was unacceptable but the \$2,000,000 purchase might be okay depending on the time. A 10 year term was too long for him.

I think he will modify his position over the next few months, and contact will be maintained with him to discern any changes in his present position.

#### Map Preparation:

1. As information has been developed a geologic map at a scale of 1"=100' and a map at a scale of 1"=200' have been updated.

2. Photo maps have now been prepared at a 1"=100' scale which are scale ratio controlled and will be used as a geologic base map of the area.

cc: J. A. Stephens

## MEMORANDUM

TO: John Stephens, Grover Heinrichs, DATE: May 5, 1981  
Bill Daffron and Dave Smith

FROM: Paul Eimon

RE: Progress Report with Alternatives for Action  
Pearce Project, Arizona

This memorandum describes the history of and current exploration on the Pearce Project, now being explored by the Stephens Mineral Group (SMG). Integral to the report are a planning chart already transmitted and maps and sections being completed in Tucson. All parts of the report will be reviewed in Tucson the end of this week. After that project review, a selected set of maps and sections will be attached to this memorandum as requested.

### SUMMARY

Mining, exploration and geologic work during the past 87 years have shown the area including and surrounding the Commonwealth Mine and Six Mile Hill to be an extensive hydrothermal (epithermal) system, related to volcanic caldera activity and containing silver and gold. An understanding of the epithermal precious metal model and compilation of data on the Pearce Project area have indicated several promising target areas.

A controlling property position of approximately 14,000 acres has been obtained for the Stephens Mineral Group (SMG) by Grover Heinrichs. Two holes have been drilled on the north end of Six Mile Hill by SMG. These diamond drill holes confirm the Six Mile Hill as an epithermal mineralization center.

Prior exploration in the project area and SMG current results are the basis for recommending continuing exploration, as graphed on the attached project planning chart.

Dependent upon project financing and the results of the exploration work, the following alternatives are proposed (and will be reviewed this week):

Alternative #1. Full implementation by SMG of the program as shown on the chart. The cost will be 1.24 million dollars including operating costs as shown, salaries and personnel fees, and expenses of

the Galyen option on December 31, 1981. Of this total amount, immediate commitment to the \$130,000.00 assessment work mandated by Arizona state regulations is necessary to hold the Arizona State Leases.

Alternative #2. Full implementation with a partner. This will require active and immediate solicitation to obtain joint venture capital, needed to assume or share project costs when desired.

Alternative #3. Reduction of project to 4,500 acres and reduced drilling expenditures. Payment of \$650,000 to exercise the Galyen option would depend on drilling results from the smaller area and the more limited scope of the drilling.

Alternative #4. Reduction of project to 3,000 acres, with a minimal exploration program but commitment to exercise the Galyen and other options as they come due.

The implications of each of these alternatives will be discussed in the review. My recommendation is full implementation (Alternatives #1 or #2) if final development potential, marketing potential and benefit from funds already expended by SMG are to be maximized.

## HISTORY

The Commonwealth Mine, discovered in 1895 by John Pearce, was the last silver bonanza mining camp in Arizona. Active mining lasted about 25 years, and the Commonwealth generated profits that financed the Bingham Canyon Mine in Utah (Kennecott) and the Broadmore Hotel in Colorado Springs (Penrose-Brockman). Historic records and early assay reports have recently been located in the possession of Major Tiger Wolanin, Tucson, and will be researched and copied during the coming months. This data is expected to be helpful in unraveling the geology of the Commonwealth Hill.

Commonwealth was relatively inactive from the last production date, in 1927, until early 1975, when Platoro Mines, Inc. optioned the Commonwealth claims and staked the surrounding ground, including Six Mile Hill. Platoro did extensive exploration, including sampling and drilling of the immediate area of the Commonwealth Mine. Five rotary drill holes extended the Ag-Au mineralization under cover to the east of the mine.

In 1976, Bethlehem Copper Corporation initiated a program of diamond drilling, rotary drilling, and mapping of the Platoro holdings. This exploration extended the known mineralization but did not find the high grade ore body for which Bethlehem was searching.

In 1978, S. J. Groves Company, a highway contractor from Minneapolis, optioned the same ground that had been controlled by Platoro. The Groves group explored the ground under the name, Western States Mineral Corporation. They initiated an extensive program of rotary drilling but the program suffered when several key staff members of Western States Mineral Corporation were killed in an airplane accident. An inexperienced and uninitiated geologist was employed to complete the Western States program to fulfill option requirements and then to drop the option. Two of the last holes showed ore intercepts south of the Commonwealth vein system. Two other holes indicated increasing gold and silver at the bottom of the holes. They terminated their activities in 1979.

This prior work represents an expenditure of roughly one million dollars. Unfortunately, following the expiration of various exploration programs, some samples have been mishandled. An attempt is now being made by SMG to collect, save and study these samples and data.

The work done by Platoro, Bethlehem Copper, and Western States Minerals is currently being assimilated with SMG findings and data to hypothesize the geologic model and to develop high potential gold-silver targets.

The Stephens Minerals Group initiated work in the Pearce area in mid-1980 after John Stephens signed an option with L. A. Galyen (June 20, 1980). The area covered Six Mile Hill and other acreage contiguous to the Commonwealth Mine. Application for extensive Arizona State lands was made by Grover Heinrichs (June 27, 1980), and approximately 13,750 acres were granted. During the last half of 1980 and the first four months of 1981, geophysical surveys, geochemical sampling, and geological mapping efforts have been conducted by parties or geologists under the direction of Bill Daffron, Dave Smith and Paul Eimon. Grover Heinrichs has handled the operational management of the project as well as the land work during this period.

Diamond drilling was initiated on January 19, 1981, on the north end of Six Mile Hill. The first hole (PP-1) was bottomed at 807 feet on March 31, 1981. The second hole (PP-2) was at 385 feet on April 30th.

Paul Eimon became the active Project Manager on May 1, 1981. He will spend a minimum of one-half time on the project for the remainder of the year. The immediate thrust of the project is to complete the necessary Arizona State Lease assessment work, collect and study all previous drill core and cuttings, continue diamond drilling, complete the geologic mapping on a 1"=100' scale, and compile this and other obtainable pertinent data in one set of maps and sections.

## RESULTS

Work to date has shown the Pearce Project Area to contain an extensive, very complex mineralized system or series of systems, related to tertiary volcanic events in the Sulfur Springs Valley along the general Pearce - Sulfur Hills volcanic ridge. Geologic mapping by Art Ona and Paul Eimon, plus current drilling by the Stephens Mineral Group, has indicated volcanic caldera margin megablock slumping or "rafting" with associated structural complexities and post depositional mineralization and post depositional rhyolite intrusions and flows. These mineralized systems and their partial post and pre-mineral cover create precious metal exploration targets throughout the area controlled by Stephens.

Continued geologic mapping, drilling, geochemical sampling and compilation are necessary to unravel the mineralization history of the Pearce Area. This work should produce a series of specific exploration targets, to be tested by lower cost rotary drilling. A suggested work program is shown on the attached planning chart. A report defining targets will be submitted by Eimon and Ona at the end of June. Current geologic data will be reviewed in the meeting immediately scheduled for the end of this week.

## PROGRAM ALTERNATIVES

The program for the remainder of 1981 is outlined on the attached chart and is geared to efficient exploration and the time constraints of the agreements, necessary assessment work, weather, and logistical considerations.

Alternative #1. Full program as explained on the chart.  
Cost: \$1.24 million dollars.

This program will test Six Mile Hill, the Commonwealth Hill, and reconnaissance drill the 14,000 acre tract now under control. Each of the several target areas evolving from current work will be tested with a drill hole. Data, samples and property will be secured for future development or joint venture participation. The program must have adequate financing on a month to month basis to move ahead efficiently.

Alternative #2. Full implementation along the lines of Alternative #1 but with joint venture participation. The Pearce Project at this time is moving from the high risk target identification stage to the lower risk higher cost target testing phase. Due to the complex and somewhat obscure nature of the Pearce Project targets, target testing could be very expensive and lengthy. For this reason a joint venture partner

such as CoCa Mines or Texasgulf could be brought in to free high risk initial exploration funds to targets like the Elephant Group in New Mexico. Such an alternative is suggested for discussion.

Alternative #3. Moderate reduction of the Project. (4,500 acres, reduced drilling, possible write-off if results are not favorable.) This is the lowest cost approach that I consider feasible, and considers the possibility of not exercising the Galyen option. We would concentrate on an immediate discovery.

Alternative #4. Reduction of project to 3,000 acres with a minimal exploration program but commitment to exercise Galyen option.

Under this alternative, SMG would purchase Six Mile Hill and the area surrounding the Commonwealth Mine. This provides a long-range mineral ownership position with the value of the land, as real estate, backing up the exploration position. The holding costs will be minimal and assessment costs and continued work will improve the exploration position.

I recommend Alternative #1. Alternatives 2, 3 and 4 are not costed in this report. These are presented for discussion of what I think are logical positions. The latter alternatives should not be construed as negative positions.

The Pearce Project is one of the significant gold-silver exploration prospects in the United States and is viewed so by experienced exploration companies and geologists.



PE:vh



MEMORANDUM

TO: Grover Heinrichs

DATE: May 10, 1981

FROM: Paul Eimon

SUBJECT: Pearce Project Review -  
May 9th

Since I am going on to Denver tonight and will be in Mexico next week, this will be an informal report on the review of the Pearce Project with John Stephens in Santa Barbara yesterday.

First, my appreciation to you, Art, Bill and Buzz, for the extra hours in helping put all the current data together to be able to give John Stephens a good and rapid over view of the Pearce Project. Even though I waved a lot of maps and sections in front of John in a few short hours, I feel he has a better appreciation of the status of the project and the direction we are going. John approved the plans we have laid out but with some restrictions to make the project (1) very responsive to exploration results, and (2) flexible to be able to joint venture the project or bring in other capital if he chooses to do so.

Budget Planning

Planning changes are reflected in red ink on the attached planning chart. Our Arizona State lease assessment work will be reduced and will start with those leases closest to the prime target areas. If results from this rotary drilling indicate any exploration potential expanding out from the prime target area, we will expand our state lease drilling expenditures to cover favorable areas. If results do not point to such expanded target areas we will drop those areas that are not colored solid on the 1"=2000' property map. Bill Brown is to be in charge of field operations of the Arizona State Lease drilling program, and his contract fees are to be consolidated with drilling and sample collection costs to get maximum lease requirement benefits.

I feel that the field sample storage building with Grumble's bid of \$8,700.00 should be started immediately. With Platoro, Bethlehem, Western States and our samples needing storage and study, this cost seems minor compared to the over \$1,000,000.00 already spent by various parties in acquiring the samples and associated data. There should be some additional costs in storage racks, lights, water, and a rough work table. I suggest a letter agreement with Grumble with an advance before construction starts, and final payment after the building is completed.

We will proceed with the responsibilities as shown on the planning chart. It is not necessary to have anyone sign the chart, but everyone should know that

they should inform me if the schedules and budgets are not being met. Working under budget is not a sin if the work is being done well and on schedule.

### Maps

As soon as possible would you prepare general planning maps on 1"=2000' and 1"=500' scales showing property (with obligations, costs and priorities), drill holes, general features and target areas. These should be sent to John Stephens, Dave Smith and Bill Daffron. You and I should each have copies, too, as these will be the maps we have when we are discussing priorities or actions over the telephone.

Next on the agenda for maps and sections is the drafting of geological, geochemical and geophysical maps and sections on 1"=2000', 1"=500', 1"=200' and 1"=100' scales. It is important that we combine and plot all information on a single total data base so that we can sharpen our exploration base. These should be very professional as we will use them for reports and possibly for attracting a joint venture partner or capital.

### Finances

Finally, billing should be rapidly processed as time spent finding an invoice is wasted time. Our reputation for paying bills is not too good right now, and we should work to improve that.

*Paul Eimon/oh*

Dictated by Paul Eimon

PE:vh

enc. (1)

cc: With enclosure:

Dave Smith

Bill Daffron

Art Ona

Bill Brown

Buzz Downs

5/10/3

FROM THE DESK OF Paul E. Emmon

to E. Grover Heinrichs

GROVER

Please edit &  
have this typed  
& mailed. Send  
a blind copy to John  
Stephens with  
a note that I  
asked you to  
send it to him.

Paul

Tucson, Arizona  
May 10, 1981

MEMORANDUM

TO: Grover Heinrichs - copies to Art Ona,  
Bill Brown, Dave Smith and Bill Daffron  
FROM: Paul Eimon  
RE: ~~Commonwealth~~ <sup>Pearce Project</sup> Review - May 9<sup>th</sup>

Since I am going on to Denver tonight and will be in Mexico next week, this will be an informal report on the review of the ~~Commonwealth~~ <sup>Pearce</sup> Project with John Stephens in Santa Barbara yesterday.

First, my appreciation to you, Art, Bill and Buzz, for the extra hours in ~~getting~~ the helping put all the current data together to be able to give John Stephens a <sup>good and</sup> rapid overview of ~~the Commonwealth~~ <sup>the Pearce Project</sup> ~~project~~. Even though I waved a lot of maps and sections in front of John in a few short hours, I feel he has a better appreciation of the status of the project and the direction we are going. John approved ~~direction~~ <sup>the</sup> plans we have laid out but with some restrictions to make ~~the~~ the project (1) very resposive to exploration results and (2) flexible to be able to joint venture ~~Commonwealth~~

blind copy  
to Stephens  
by not  
indented  
as blind  
copy



~~with a Major Company~~  
~~commencing the project~~ or bring in  
other capital if he choses  
to do so.

## Budget Planning

Planning changes are reflected in red ink on the attached planning chart. Our Arizona State lease assessment work will ~~start~~ be reduced and will start with those leases closest to the prime target areas. If results from this rotary drilling indicate any exploration potential expanding out from the prime target area, we will expand our state lease drilling expenditures to cover favorable areas. If results ~~are not favorable~~ do not point to such ~~an~~ expanded target areas we will drop those areas that are not colored solid on the 1" = 2000' property map. Bill Brown is to ~~have~~ be in charge of field operations of the Arizona State lease drilling program and his contract fees are to be consolidated with drilling and sample collection.



costs to get maximum  
lease requirement benefits.

I feel that the field ~~sample~~  
storage building with Grumbles  
~~bid~~ of \$8,700<sup>00</sup> should be  
started immediately. With Platoro,  
Bethlehem, Western States and  
our samples needing storage  
~~and~~ and study, this cost  
seems minor compared to  
the over 1<sup>1</sup> million dollars  
already spent by various parties  
in acquiring the samples  
and associated data. There ~~will~~ <sup>should</sup>  
be some additional costs  
in storage racks, <sup>lights, water</sup> and a  
rough work table. I suggest  
a letter agreement with Grumble  
with an advance before construction  
starts and final payment  
after the building is completed.

We will proceed with the  
responsibilities as shown on  
the planning chart. It is  
not necessary to have anyone  
sign the chart but everyone  
should know that they should  
inform me if the schedules  
and budgets are not being  
met. Working under budget is  
not a sin if the work is  
being done well and on schedule.



## Maps

As soon as possible would you prepare general planning maps on  $1" = 2000'$  and  $1" = 500'$  showing property (with ~~requirements~~ <sup>obligations</sup>, ~~and~~ costs, and priorities), drill holes, general features and target areas. These should be sent to John Stephens, Dave Smith and Bill Daffron. ~~and me~~ You & I <sup>each</sup> should have ~~a~~ <sup>copies</sup> too, as these will be the maps we have when we are discussing priorities or actions over the telephone.

Next on <sup>the</sup> ~~and sections~~ agenda for maps, is the drafting of geological, ~~geochemical~~ <sup>and sections</sup> and geophysical ~~maps~~ <sup>and sections</sup> on  $1" = 2000'$ ,  $1" = 500'$ ,  $1" = 200'$  and  $1" = 100'$  scale. It is important that we ~~plot~~ combine and plot all information on a single ~~set of~~ total data base so that we can sharpen our exploration base. These should be ~~pro~~ very professional as we ~~will~~ use them for reports and possibly for attracting a joint venture partner or capital.

## Finances

Finally, billing should be rapidly processed as time spent finding an invoice is wasted time. Our reputation for paying bills is not too good right now and we should work to improve that.



File

MEMORANDUM

TO: W. Daffron, P. Eimon, D. Smith, DATE: June 11, 1981  
J. Stephens

FROM: E. Grover Heinrichs SUBJECT: Pearce Project  
Monthly Report for  
May, 1981

The Memorandums of May 5 and 10, 1981, by Paul Eimon were intended to summarize activities up to that time and suffice for the monthly report for April, 1981. Some additional detail is necessary to complete a continuous report of activity through May 31, 1981.

Drilling:

Drilling on P.P.1 was terminated on April 1, 1981, at 807', and the rig commenced breakdown and move to P.P.2. P.P.2 commenced drilling on April 3, 1981, and hole was terminated at 556' on May 7, 1981.

Manuel Hernandez prepared a drill pad on the Arthur patented mining claim for drill hole location P.P.3 and the drilling commenced on May 11th. Drilling progressed to a depth of 463' on May 29, 1981.

A drill pad for P.P.4 has been prepared by M. Hernandez on Six Mile Hill at approx. 15,450 N. and 26,220 E.

The Arizona State P.P. drill program is scheduled to start on June 8th and may be completed by July 15th.

Geology:

Art Ona completed a geological and drill hole map at a scale of 1"=500' and 1"=2000' and these are presently being drafted for a formalized geologic report that is being prepared and will be completed the latter part of June or early July.

The majority of geologic work done in May involved core logging and correlating core geology to surface geology as will be indicated on the finalized geologic maps.

Land Acquisition and Negotiations:

The Summer Agreement has been executed with the effective date being April 1, 1981. Mrs. Jessup has declined to execute her portion of the agreement,

but Mrs. Reed executed her agreement on April 30, 1981. Therefore, the John A. Stephens Group now has 11% of the Commonwealth under option to purchase.

Contact and a continuing dialogue has been maintained with Carl Thetford and his position seems to be softening. We have discovered that Thetford has acquired a good many bagged drill cuttings from the drilling of previous companies such as Platoro, Bethlehem and Western States Minerals. Most of these samples are well identified and a study of these will prove most useful in our understanding of the geology of the area.

#### Map Preparation:

A scale ratioed photo mosaic has been completed (at 1"=500') from the color photos and rephotographed on Mylar. Blue line prints can now be economically used for field location, for plotting photo geologic linears and other purposes where a handy field i.d. is needed.

A Land Status and topography at 1"=500' map has been completed using patterned symbols for ownership.

Other 1"=500' maps in various stages of preparation are:

1. Geochemistry map
2. Alteration map
3. Target map

Other 1"=2000' maps being prepared are:

1. Property - Land Status map
  2. Aero Magnetics map
  3. Geology - Drilling - Prospects - Geochem targets combined map
- and geologic sections are being prepared at 1"=100' scale

#### Assay Result Summary:

##### P.P.1

<u>0' - 350' Depth:</u>	Avg. Au 0.0035 oz/T with max. Au 0.009 oz/T Avg. Ag 0.04 oz/T with max. Ag 0.31 oz/T
<u>350' - 807' Depth:</u>	Avg. Au 0.001 Avg. Ag 0.08 oz/T with max. Ag 0.12 oz/T

##### P.P.2

<u>0' - 556' Depth:</u>	Avg. Au 0.002 with max. Au 0.043 Avg. Ag 0.06
-------------------------	--

W. Daffron, P. Eimon, D. Smith, J. Stephens

June 11, 1981

Other Activities:

The portable core storage building is scheduled to be completed by July 15, 1981.

To aid in following the project I am enclosing a photo mosaic at a scale of 1"=500'.

*Steve Heimrich*

EGH:vh  
enc. (1)

## MEMORANDUM

TO: W. Daffron, P. Eimon, D. Smith, DATE: September 4, 1981  
J. Stephens

FROM: E. Grover Heinrichs

SUBJECT: Pearce Project  
Monthly Report for  
August, 1981

### Drilling:

The rotary drilling program to hold certain State Prospecting Permits was terminated on August 6, 1981, and a total of 4,925' was drilled by the rotary method and an additional 8' of spot core was taken. The final invoice has not been received, but it is estimated that the cost will approximate a total of \$59,000.00 (\$36,000.00 has already been paid), or an approximate cost of \$11.96/ft.

This program has revealed two specific areas of further interest, described as follows:

Area 1. May represent a buried dispersion train of mineralized fragments from an eroding covered epithermal system located in Sec. 36, T.17S, R.25E. A total of four (4) holes varying from 75' to 470' have been drilled within a radius of 500' of each other in this section, and more work is recommended here.

Area 2. Is a broader arcuate area of one to two miles wide and eight (8) miles long, described as a pediment area of shallow alluvium 100' to 300' in depth and flanking a possible volcanic center, the neck of which appears to be in Sec. 11, T.18S, R.25E. This zone was developed as a direct result of plotting the depth to bedrock from all drilling results available.

### Geology and Geochemistry:

Art Ona has completed a detailed set of geological and geochemical maps based on his field work in the following areas:

#### 1. San Ignacio Claims.

The geological field work on the San Ignacio has revealed a strong E-W shear zone of approx. 10' wide and about one (1) mile long at the surface containing two quartz veins, and a large zone of argillic alteration occurs on the east end of the shear zone.

Geochemical results indicate a high mercury zone terminated on the south by "the shear zone" and covering most of the topo high to the valley floor on the north.

The eastern edge of the San Ignacio and western edge of the Blue Jeep had some minor anomalous silver, mercury and arsenic indications.

September 4, 1981

2. Blue Jeep.

Geologically and geochemically, little of significance was observed or indicated except on the western edge as mentioned above.

3. Township Butte.

Considerable alteration is centered around the three major peaks. A significant gold and silver anomaly has been indicated in the NW  $\frac{1}{4}$  of Sec. 1, T.18S, R.25E in an area of very shallow (5' to 10') alluvium. The samples were from bedrock.

4. Township Butte North.

Significant alteration has been observed in this area and anomalous gold and silver from surface rock chip samples has been found.

Land Acquisition and Negotiations:

AZ State Prospecting Permits.

The following parcels have been renewed by assessment work drilling ( recently completed ) for the year ending August 13, 1982 thru September 3, 1982:

Parcels 1 thru 6, 10, 11, 13, 14, 15, 22, 24, 28, 29, 30 and 31.

Parcel 32 expired and has been applied for again.

Parcels 19 & 20 expired and were applied for again, however, Oxymin (Occidental Minerals Inc.) has also applied for permits on the same parcels. The applications have been deemed by the Az Land Dept. to be simultaneous filings. Unless complications develop a drawing will be held to determine who receives the permits.

Oxy 's continuing interest in the area could be linked to the possibility that they also may be aware of "The Volcanic Neck", as exemplified by their interest in parcels 19 & 20.

Carl Thetford:

Mr. Thetford has responded to my letter of last week by forwarding a check in the amount of \$ 234.81 to John A. Stephens. Our attorney Leo Smith suggests we hold the check until the following has been resolved:

- 1) John Breitner disputes ( on legal advice) our right to receive funds from Thetford until such time as we exercise our option . Leo Smith disagrees with this, but the issue is muddy.
- 2) Neither Breitner or ourselves have any agreement with anyone with

Memorandum to  
W. Daffron, P. Eimon, D. Smith, J. Stephens

September 4, 1981

regard to the removal and sale of the tailings . Therefore we may wish to reserve the option of insisting on our percentage coming from the gross receipts. Or use this as the basis to pressure Thetford into a reasonable agreement.

Map Preparation:

Several maps are in the preparation phase and will reflect the findings as reported in the geological and geochemical portion of this report.

Miscellaneous:

The core storage building has been completed (except for one personnel door awaiting delivery) and all the core and samples have been moved to the facility .

EGH:egh

Sketch map.

Revised summary of Az PP holdings.

## MEMORANDUM

TO: John A. Stephens

DATE: October 8, 1981

FROM: E. Grover Heinrichs

SUBJECT: Pearce Project  
Monthly Report for  
September, 1981

### DRILLING, GEOLOGY & GEOCHEMISTRY

A program has been established to geochem sample and then test drill certain areas as indicated on the enclosed sketch map and identified as Areas A, B, C and Zones I, II, III, IV and V. Bidding proposals have been requested from four (4) drilling contractors for 58 shallow drill holes varying in depth from 100' to 200' deep with the footage totaling 6800'. Geological mapping and sampling have been completed in all areas except Area B, which is in progress.

#### Area A - San Ignacio Claim Group

The San Ignacio Claims now are the area of major interest based on the encouraging geology and geochemical results. The geological and geochemical work has been completed by Art Ona and an operational plan for road work and drilling has been submitted to the U.S.B.L.M. Work in the Blue Jeep area has revealed little of significance and no work is planned in this area for the immediate future.

#### Area B - Six Mile Hill South

This topographic high NW-SE trending ridge south of Six Mile Hill is in the process of being geologically mapped. A geochem sampling program has been completed by Bill Brown, assisted by the Cartmell Brothers. A grid system was established by transit and 87 rock chip samples were taken on stations established on 11 E-W lines, 500' apart, with random measured distances between stations being dependent upon observed outcrop located on the line. The samples are being analyzed for Au-Ag-As-Mo, and results are pending. Claims in this area have been repapered to hold the area for another 90 days while we are evaluating it.

#### Area C - Township Butte

No work for September has been done in this area, and none is planned for the immediate future.

#### Area D - Township Butte North

No work for September has been done in this area, and none is planned for the immediate future.

AZ State Prospecting Permits

The following parcels have been approved for renewal by the Arizona State Land Department:

Parcels 10, 11, 13, 14 and 15 of Group 1.

The following parcels of Group 2 are pending while paper work is completed on a blanket increase in the bonding requirements of the Arizona State Land Department from \$2,000.00 >160 acres to \$5,000.00, and from \$1,000.00 <160 acres to \$2,000.00:

Parcels 24, 28, 29, 30 and 31.

This additional bonding requirement will cost an added \$20.00 per parcel in insurance premiums, plus an increase in the letter of credit from \$33,000.00 to \$62,000.00.

Group 1 parcels were approved before the increase and therefore avoided the increase in bonding cost.

Negotiations

It has been reported that Dr. Corgill (Thetford's partner) recently died. What this will do to the ongoing negotiations with Thetford is not clear at the moment. One scenario of speculation is that it may make matters easier with us if Thetford's dealings with Corgill's heirs are messy and complicated, with the result that he may want to make a reasonable agreement with us. I am attempting to determine what is happening in this area.

EGH:vh

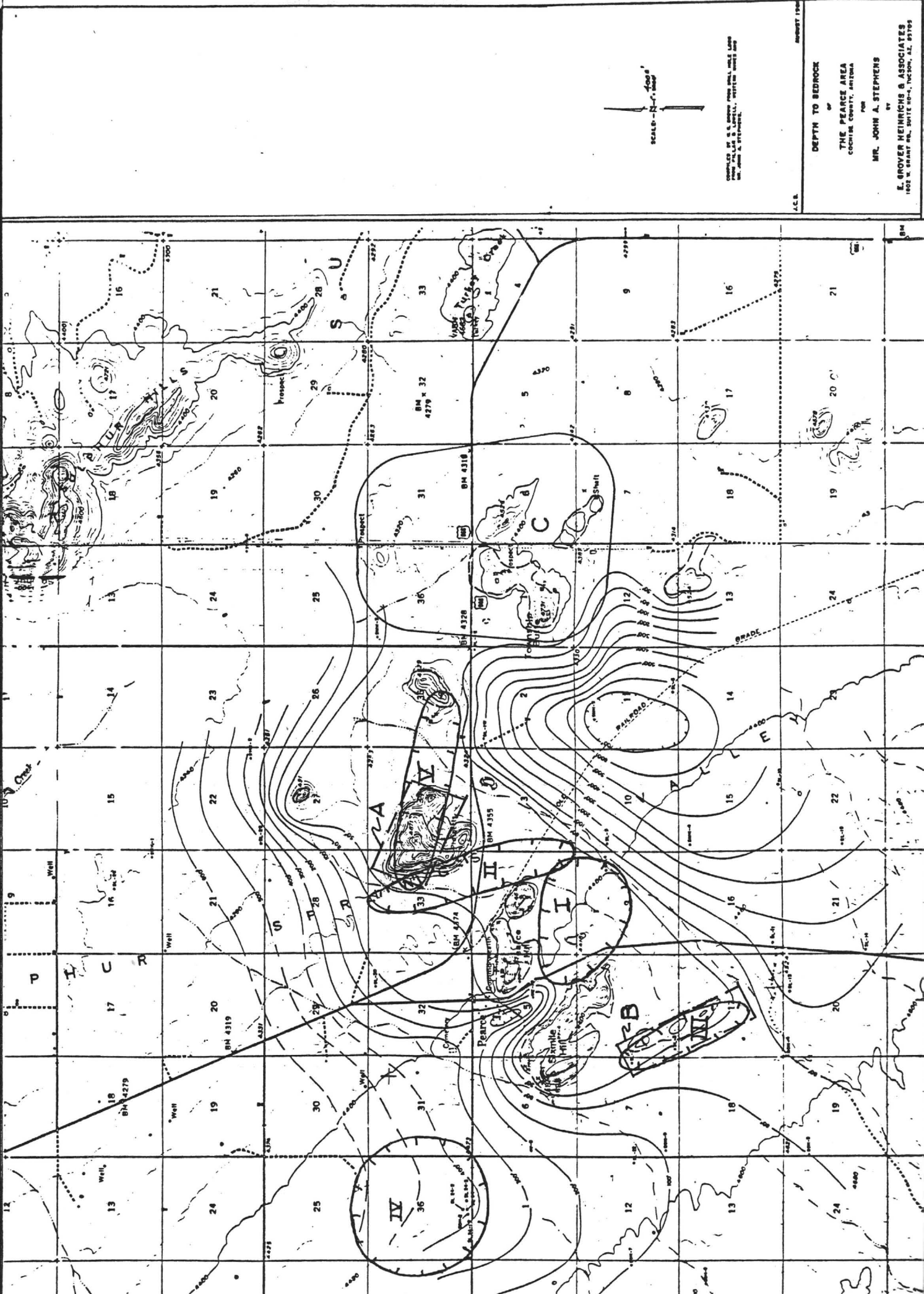
enc. (1)

cc: W. Daffron (with enclosure)

P. Eimon       "       "

D. Smith       "       "





REPRODUCED BY THE ARIZONA GEOLOGICAL SURVEY FROM A MAP BY MR. JOHN A. STEPHENS.

1900

DEPTH TO BEDROCK

THE PEARCE AREA  
COCHISE COUNTY, ARIZONA

MR. JOHN A. STEPHENS

E. GROVER HEINRICH & ASSOCIATES  
1802 W. GRANT RD., SUITE 104, TUCSON, AZ 85705

ARIZONA STATE LAND DEPARTMENT

1624 West Adams - 4th Floor  
Phoenix, Arizona 85007

1624 West Adams - 4th Floor  
Phoenix, Arizona 85007

Parcel No.	Surety Bond No.	Sec.	Twp.	Range	P. P. No.	GROUP #3	Acres	Cost	Bonding in thousands \$
22 ✓	7502738	12	18S	24E	79609	GROUP #3	320.00	\$ 640.00	2
23	7502739	13	18S	24E	79610		640.00	\$1,280.00	2
-----									
24 ✓	7502725 ✓	36	17S	24E	79643 ✓	GROUP #2	640.00	\$1,280.00	2
25	7502726	2	17S	25E	79644		117.96	\$ 235.92	1
26	7502727	3	17S	25E	79645		159.87	\$ 319.74	1
27	7502728	10	17S	25E	79646		320.00	\$ 640.00	2
28 ✓	7502729 ✓	16	17S	25E	79647 ✓		640.00	\$1,280.00	2
29 ✓	7502730 ✓	22	17S	25E	79648 ✓		560.00	\$1,120.00	2
30 ✓	7502731 ✓	32	17S	25E	79649 ✓		150.00	\$ 300.00	1
31 —	7502732	36	17S	25E	79650		640.00	\$1,280.00	2
* 32 —	7502733	31	17S	26E	79651	618.48	\$1,236.96	2	
33	7502734	26	16S	25E	79641	160.00	\$ 320.00	1	
34	7502735	34	16S	25E	79642	160.00	\$ 320.00	1	

cc: Mr. John A. Stephens  
Mr. W. J. Daffron

Paul H. Jones & Co. Insurance, Inc.

File

○ Excluded

\* Lapsed & Reapplied



R. 25E.

R. 26E.

EXPLANATION

- Pediment Zone
- Volcanic Neck
- Az PPs
- Parcels
- Simultaneous filing with Oxy.

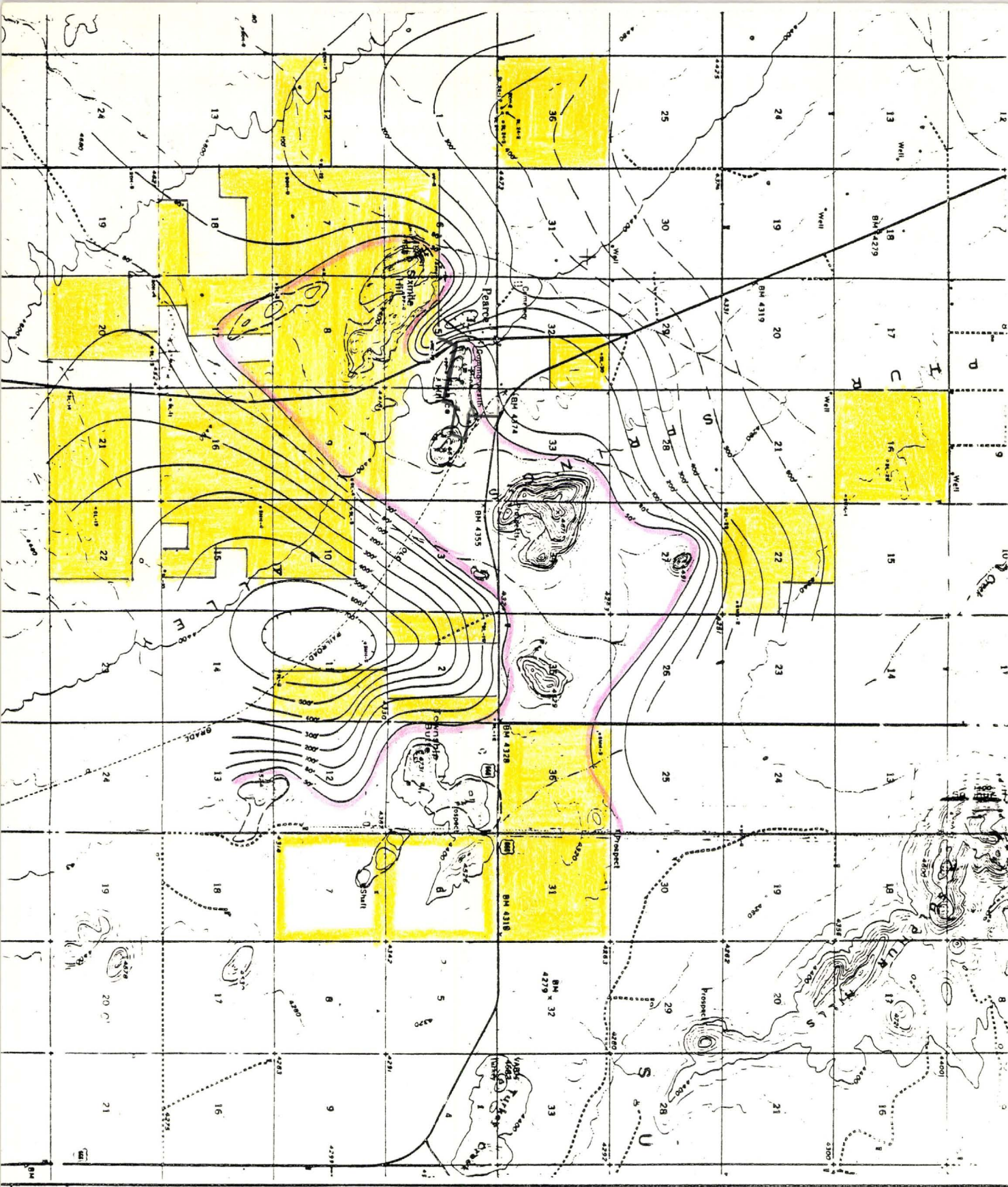


COMPILED BY E. GROVER HEINRICHS FROM AERIAL PHOTOGRAPHS TAKEN BY THE U.S. ARMY AIR CORPS, 1945-1946

DEPTH TO BEDROCK

AUGUST 1981

THE PEARCE AREA  
COCHISE COUNTY, ARIZONA  
FOR  
MR. JOHN A. STEPHENS  
BY  
E. GROVER HEINRICHS & ASSOCIATES  
1802 W. GRANT RD., SUITE 100-A, TUCSON, AZ 85705



PEARCE PROJECT

MAP INVENTORY

- A-1      LAND STATUS - Property - 1980  
1 Orig. Mylar, Scale A.I.  
1 Orig. Tracing      Scale 1"=2000'  
1 Orig. Tracing,      "      1"=4000'
- A-2      VLF & MAGNETICS - Geophysics - 1980  
Mylar, Scale 1"=1000'
- A-3      PEARCE PROJECT -  
1. Photo Interpretation by P.I.E.  
2. Geologic Map by A. Ona  
3. Geologic Map by S.M. (Reduced from 1"=200')  
Mylar, Tracing and Blackline, Scale 1"=500'
- A-4      CLAIMS, PAN & VI - Property & Contour - 1981  
Mylar, Scale 1"=500'  
Blackline, Scale 1"=500'  
(Original Mylar by B.B. with update by EGH)
- A-5      SIX MILE HILL - BASE & CLAIMS - 1981  
Mylar, Scale 1"=500'  
Aero Photo Neg. (1975)  
Blackline Aero Photo (1975)
- A-6      SIX MILE HILL - GEOLOGIC MAP BY S.M. 1981  
Mylar, Scale 1"=200'      (Sketch)  
Blackline      "      "
- A-7      SIX MILE HILL - Base & Claim - 1981  
Mylar, Scale 1"=100'
- A-8      SURFACE SAMPLING - COMMONWEALTH - PLATORO - 1975  
Tracing, Other, Scale 1"=50'
- A-9      COMMONWEALTH - BETHLEHEM DRILL HOLE PLAN & ASSAYS - 1975  
Blueline, Combination, Scale 1"=50'

ORIGINAL MAPS & SECTIONS FOR REPORT  
JULY, 1981

1"=2000' Scale Maps:

A-10	Appendix B	Land Status with Attachment No. 1 showing name And address of owners of record (Sepia)
	Appendix C	Aerial Magnetics (Sepia)
	Appendix D-1	<del>Regional Geologic Map (Mylar)</del> See C-3
	Appendix D-2	Regional Geochemical Sample Location Map (Sepia)

ORIGINAL MAPS & SECTIONS FOR REPORT  
JULY, 1981

1"=500' Scale Maps:

A-11	Appendix E	Land Status & Topography without Vi Claims (Sepia) E-1 (Vi Claims separate sepia not part of report)
	Appendix F	Photo Mosaic (Mylar)
	Appendix G	Photo Interpretation Overlay (Mylar)
	Appendix H	Geology & Drill Hole Location
	Appendix I	Geologic Sections (Mylar) A - A'                               " B - B'                               " C - C'                               " D - D'                               " E - E'                               "
	Appendix K	Generalized Surface Alteration (Sepia)

ORIGINAL MAPS & SECTIONS FOR REPORT  
JULY, 1981

1"=500' Scale Maps:

A-12	Appendix J	Geochemical Maps - Master Map Sample Location (Mylar) a) Silver - Mercury (Sepia) b) Copper - Strontium       " c) Nickel - Vanadium       " d) Titanium - Zirconium - Lathanum (Sepia) e) Barium - Manganese (Sepia)
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PEARCE PROJECT

MAP INVENTORY

- B-1 PEARCE AREA - LAND STATUS (COLORED) - 1980 & 1981  
Blackline, Property, Scale 1"=2000'
- B-2 LAND STATUS - MYLAR BASE (1-81)
- B-3 BASE FOR HORIZONTAL CONTROL AND CLAIM MAP  
Mylar, 1"=500'
- B-4 PLATORO - BASE & CLAIM - PAN GROUP - 1974  
Blackline, Scale 1"=500'
- B-5 PEARCE/SIX MILE HILL - AERO PHOTO PORTION - 1970 & 1981  
Airphoto NASA, Scale 1"=200'
- B-6 PEARCE/N. SIX MILE HILL - BASE - 1981  
Blackline, Scale 1"=200'
- B-7 AERO PHOTO BLOW-UPS  
Mylar Neg., 1"=100'
- B-8 COMMONWEALTH - GEOLOGIC MAP - 1974  
Tracing, Geology, Color, Scale 1"=100'
- B-9 PEARCE/COMMONWEALTH - BETHLEHEM GEOLOGICAL PLAN - 1975  
Blueline, Geology, Scale 1"=50'
- B-10 DEPTH TO BEDROCK - PEARCE AREA  
1 Work Sheet            Scale, 1"=2000'  
1 Mylar                        "                "  
1 Reverse Sepia            "                "  
1 Blackline, Scale 1"=4000'

Gravity Survey Map, by Mining Geophysical Surveys  
Vellum, Nov. 1981, 1"=2000'



PEARCE PROJECT

MAP INVENTORY

- C-1 PEARCE - LAND STATUS - 1980  
Tracing, Blackline, Property, Colored, Scale 1"=4000'
- C-2 PEARCE AREA - AERO MAGNETICS - EIMON - CONFIDENTIAL - 1981  
Negative, Geophysics, Scale 1"=2000'
- C-3 REGIONAL GEOLOGIC MAP SHOWING DRILL/LOCATION & LITHOLOGY  
HOLE  
Mylar (1) 1"=2000' (Geology by Art Ona)  
Blacklines (2) 1"=2000' (Geology by Art Ona)
- C-4 PEARCE/SIX MILE HILL - VLF & MAGNETICS- 1980  
Mylar, Geophysics, Geochem, Scale 1"=500'
- C-5 HORIZONTAL CONTROL PLAT  
1"=200', Mylar
- C-6 PEARCE/SOUTH SIX MILE HILL - GEOLOGY (DRAFTED) - 1981  
Blackline, Scale 1"=200'  
Mylar
- C-7 AERO PHOTO BLOW UP (OFFICE)  
Blackline, Scale 1"=100'
- C-8 PEARCE-BETHLEHEM COPPER-GEOLOGIC SECTIONS-COMMONWEALTH-1975  
Blueline, Scale 1"=50'
- C-9 PEARCE - AERO PHOTO & UNDERGROUND WORKINGS-COMMONWEALTH-1975  
Blackline, Scale 1"=50'
- C-10 PEARCE-SIX MILE HILL SOUTH AREA-KAREN CLAIM GROUP-Work Map-7-81  
Mylars (2), Scale 1"=500'  
Blacklines (2), Scale 1"=500'

PEARCE PROJECT

MAP INVENTORY

- C-11      SAN IGNACIO CLAIM GROUP AND BLUE JEEP CLAIM GROUP  
1 Mylar, 1 Blackline of claims, 1 Blackline of Geology, 1"=500'  
1 Mylar, Geology of Underground Workings of San Ignacio Claim Group  
1 Photo Negative from Topo of Area with Photo Vellum  
1 Mylar, Geologic 1"=500', 1 Blackline, Geologic, 1"=500' (Art Ona)
- C-12      TOWNSHIP BUTTE AND TOWNSHIP BUTTE NORTH AREA  
1 Mylar, Geologic, showing Geochem anomalies-Township Butte(Sec.1)1"=500'  
1 Mylar, Geologic, showing Sample Location-Township Butte North, 1"=1000'  
1 Mylar, Geologic Work Map - Township Butte, 1"=500'  
1 Sepia, Reverse, Township Butte, 1"=500'  
1 Blackline, Geologic Work Map - 1 Blackline, Blank-Township Butte, 1"=500'  
1 Blackline of Geologic Map showing Sample Location-Township Butte N., 1"=1000'
- D-1      PEARCE - BLM LAND & MINERAL TITLE - 1980  
Blackline, Property, Scale 1"=2000'
- D-2      PEARCE - P.I.E. GEO. INTERPRETATION - 1981  
Blackline, Color, Scale 1"=2000'
- D-3      BASE AND CLAIM - September, 1980  
Tracing, Scale 1"=1000'
- D-4      PEARCE - PLATORO CLAIM LOCATION - 1975  
Mylar, Blackline, Property, Scale 1"=500'  
Tracings, Sepias
- D-5      WORLD COPPER MAP
- D-6      PEARCE - PHOTO NEGATIVES - BLOW UPS FROM 1:6000 PHOTOS  
Negatives, Blackline Photos, Scale 1"=200'



PEARCE PROJECT

MAP INVENTORY

- D-7      PEARCE - AERO PHOTO BLOWUP (FOR FIELD GEOLOGY)  
Blackline, Scale 1"=100'
- D-8      PEARCE - GEOLOGIC MAP & SECTIONS ON GRID BY A. ONA  
Scale, 1"=100'
- D-9      PEARCE - GEOLOGY OF TUNNELS OF SIX MILE HILL - 1981  
Original, Scale 1"=5'
- D-10     PEARCE - USGS PHOTO NEGATIVE  
Photo Negative - Cochise County  
Photo Negative - USGS 15' Topo - Cochise County
- D-11     GEOCHEMICAL, STRUCTURAL COMPOSITE SUMMARY (OVERLAY OF PEARCE AREA)  
4 Reverse Sepias, 1"=2000', 1 Mylar (Original) 1"=2000', 1 Blackline (Colored), 1"=2000'  
Regional Geochemical Sample Location Map  
4 Reverse Sepias, 1"=2000'
- D-12     PEARCE - DEC. 1981 REPORT - MASTER MAPS AND SEPIAS  
  
1"=500'  
Geological Map of Six Mile and Pearce Hills (with cross section lines), Mylar  
Geological Map of San Ignacio and Blue Jeep Claims, Mylar  
Geologic Map of Township Butte Area, Mylar  
Photo Interpretation Overlay, Mylar  
Geochem Survey, Six Mile Hill South, Mylar  
Cross Sections - AA' thru HH'  
  
1"=1000'  
Geologic and Sample Location Map - Township Butte North, Mylar  
  
1"=2000'  
Land Status Map, Mylar  
Geochemical, Structural Composite Overlay, Mylar  
Regional Geologic Map, Mylar  
Depth to Bedrock, Mylar  
Regional Geochemical Sample Location Map, Reverse Sepia  
Silver Anomaly Map, Reverse Sepia

PEARCE PROJECT

MAP INVENTORY

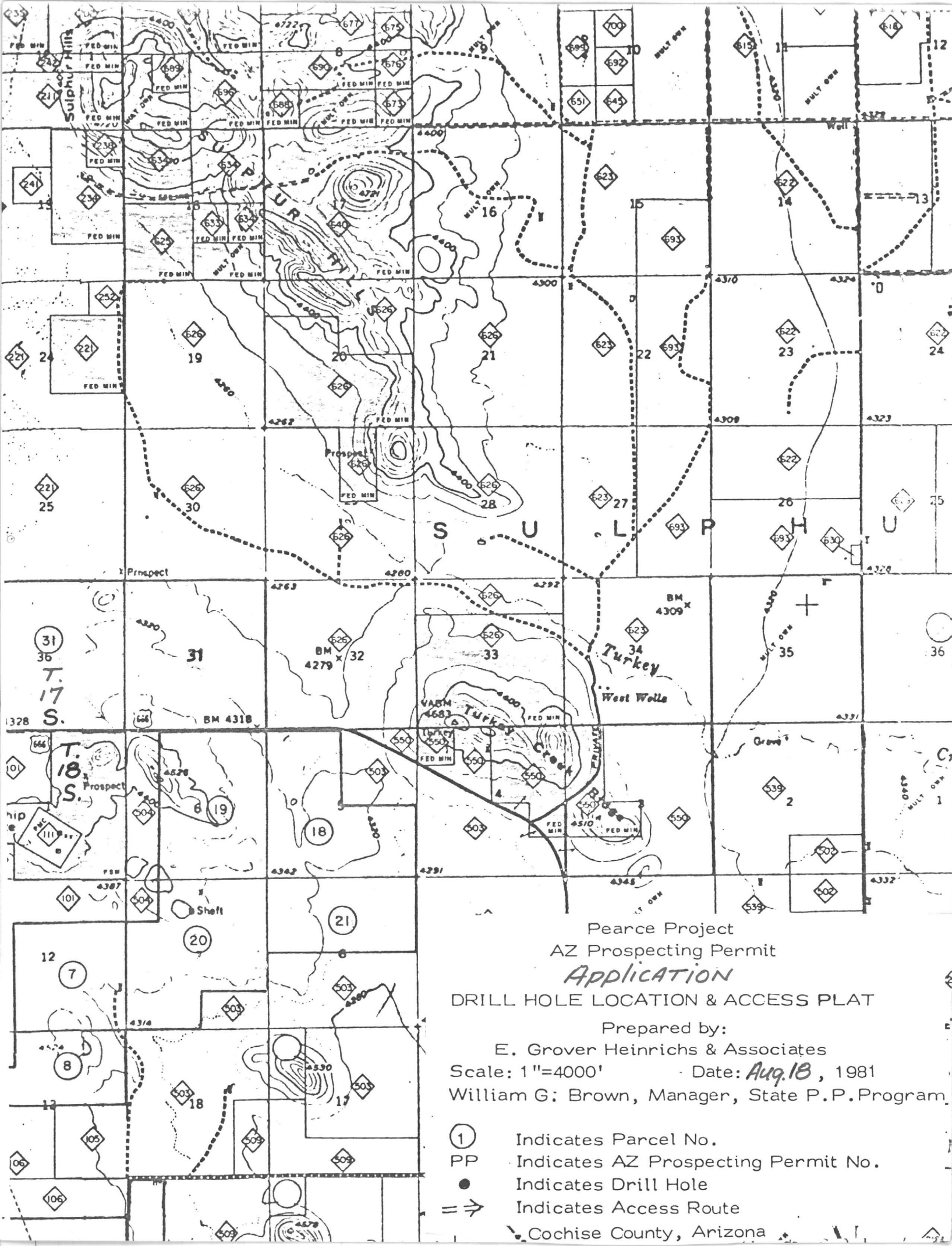
D-12 (Continued)

1"=2000' (Continued)

Mercury Anomaly Map

Gold Anomaly Map, Reverse Sepia

Arsenic Anomaly Map, Reverse Sepia



Pearce Project  
AZ Prospecting Permit  
**Application**  
DRILL HOLE LOCATION & ACCESS PLAT

Prepared by:  
E. Grover Heinrichs & Associates  
Scale: 1"=4000' Date: *Aug. 18*, 1981  
William G. Brown, Manager, State P.P. Program.

- ① Indicates Parcel No.
- PP Indicates AZ Prospecting Permit No.
- Indicates Drill Hole
- ⇒ Indicates Access Route
- ✓ Cochise County, Arizona

REPORT

PEARCE PROJECT  
PEARCE MINING DISTRICT  
COCHISE COUNTY, ARIZONA

Prepared For John A. Stephens

By: Paul I. Eimon  
Arturo A. Ona  
E. Grover Heinrichs

July 9, 1981

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## SUMMARY

After signing an initial option on properties at Pearce, Arizona in June, 1980, the Stephens Mineral Group has explored and compiled data on a 17,050-acre property surrounding the town of Pearce. The goal has been to find a silver - gold deposit similar to or larger than the Commonwealth Mine (one million tons production at 12.5 oz. Ag and .03 oz. Au) or extensions to the Commonwealth Mine.

Exploration during the past year has consisted of: aerial photography, geologic mapping, photogeology, geochemical and geophysical surveys, data compilation, four diamond drill holes (2,494 feet), and fourteen rotary drill holes (3,060 feet), totaling 5,554 feet of drilling. In addition to this, earlier drill data and geophysical information has been uncovered and made available to the Stephens Mineral Group. Combined with results of the above-described work and previous reports, an impressive body of data has been assembled.

The coordination and interpretation of this data has clarified the geology and mineralization patterns of the Pearce Mining District. The geology is detailed on the attached plan maps and sections and is described in the text of this report.

The geologic picture is one of volcanic blocks, lying above the Cretaceous Bisbee formation with complex post depositional faulting. Epithermal mineralization is related to strong structural features and is widespread over many square miles. Zoning of epithermal mineralization has been determined by fluid inclusion studies, geologic observations, and geochemical sampling.

Three exploration targets or target areas have emerged from this work. They are:

1. The Commonwealth Mine in which the Stephens Mineral Group has a crucial 11% ownership - has significant exploration-development potential. Our restudy of all drill data gives the Commonwealth Hill a possible open-pittable tonnage of 3 to 5 million tons of  $2\frac{1}{2}$  ounces or greater of silver and .03 ounces of gold per ton. When the majority owners are amenable to reasonable exploration-development terms, this should be further studied and explored.
2. Six Mile Hill. Mapping, sampling and geophysical surveys have shown Six Mile Hill to have strong epithermal mineralization intensifying at the north end of the hill. Three drill



holes confirmed this pattern of mineralization. These holes cut strong quartz (amethyst)- calcite mineralization to the north but did not have significant gold - silver values.

3. Other Buried Targets. The more complete geologic picture, improved structural knowledge, and geochemical indications reaffirm that other ore deposits - such as the Commonwealth - could lie under Quaternary alluvium or exposed volcanics in the Stephens-controlled blocks.

It is recommended that a series of reconnaissance rotary holes be drilled to search for another epithermal system on the Stephens' ground. Re-assaying of previous drilling should be continued and more detailed gravity, plus magnetic data, could be acquired and interpreted.

## RECOMMENDATIONS

1. Rotary Drilling for Another Epithermal System.

A program of continued data study, geochemical sampling of shallow rotary holes, possible geophysical surveys, and 300 to 400-foot rotary holes should be planned and executed to test for silver – gold systems on the Stephens' Pearce Properties.

2. Renegotiation of Platoro Option.

An attempt should be made to renegotiate the Platoro option to give time to logically explore the entire Project area.

3. Evaluation and Exploration of Commonwealth Mine Hill.

If reasonable option terms can be obtained from Carl Thetford et al, a restudy of the potential of the Commonwealth Mine Hill is warranted.

## INTRODUCTION

The Pearce Project area lies in the central western part of the Sulfur Springs Valley in Cochise County, Arizona. The ghost mining town of Pearce is 50 miles north of Douglas, Arizona and 30 miles south of Willcox, Arizona. The area is shown on the Pearce, Arizona, USGS topographic quadrangle.

Pearce is one-half mile west of Highway 666 and is connected with Highway 666 by both a paved and a gravel road. The town of Pearce now consists of a few houses, the old Pearce store, and a school.

Elevations range from 4400 feet to 4900 feet in the Pearce Project area. The closest accommodations are at Sunsites, one mile north of Pearce.

The Stephens Mineral Group initiated work in the Pearce area in mid-1980 after John Stephens signed an option with L. A. Galyen (June 20, 1980) covering Six Mile Hill and other acreage contiguous to the Commonwealth Mine. Since that time an exploration program has been carried out to expand the property holdings, map the area, perform geochemical surveys, complete an initial group of diamond and rotary drill holes, and locate old and develop and compile new information.

A storage building has been built on the property to preserve, and have available for study, the drill and other samples that have been acquired from the Pearce area in the last few years.

This report is produced to summarize all the results and data produced and/or compiled by the Stephens Mineral Group on the Pearce area. For a complete review, it is necessary to examine the back up file and work sheet information in the Heinrichs Tucson office and the sample and drill core material stored in Pearce, Arizona. The project and this report is a joint effort directed by Paul Eimon. Most of the geologic mapping, logging, and writing of the geologic and geochemical part of this report has been done by Art Ona of Lowell & Pillar. Grover Heinrichs has done all of the property work on the project and has authored the property portion of this report. Bill Brown has directed the rotary drilling program.

## HISTORY - PEARCE MINING DISTRICT

- Pre-1895 Early prospecting on the north end of Six Mile Hill on quartz veining failed to find commercial Au-Ag values.
- 1895 Discovery of high grade float on Commonwealth Hill by John Pearce lead to development of the Pearce Mining District.
- 1895 - 1927 Productive period of the Commonwealth Mine. Early developers R. F. Penrose, D. F. Barringer, and John Brockman used profits to fund development of the Bingham Canyon Mine in Utah and the Broadmore Hotel in Colorado.
- 1927 - 1975 Dormant period with intermittent attempts to leach the tailings and mine the upper workings by lessees.
- 1975 - 1976 Examination and sampling of Commonwealth Mine by Platoro Mines with five (5) rotary holes drilled immediately southwest of Commonwealth workings.
- 1976 - 1977 Option and exploration of the Commonwealth Hill by Bethlehem Copper Corporation, including diamond drilling and rotary drilling.
- 1978 - 1979 Exploration of the Commonwealth Mine area by Western States Minerals with thirteen (13) rotary drill holes.
- 1980 - 1981 Acquisition of (1) rights on property surrounding the Commonwealth claims, (2) claims covering Six Mile Hill, and (3) Arizona State Mineral Leases covering several thousand acres surrounding the Commonwealth Mine by the Stephens Mineral Group. Mapping, sampling, and drilling are currently underway on this project.

## PROPERTY

As of July 1, 1981, the Stephens Mineral Group controlled approximately 17,295 acres in the Pearce Mining District. Of these, 17,050 acres were 100% controlled and 245 acres are partially controlled.

The land controlled by the Stephens Mineral Group is divided into seven (7) categories. Each category is keyed to the property maps in this report at scales of one inch equals 500 feet and one inch equals 2000 feet. The seven categories are as follows:

### I.

Patented Mining Claims, Galyen - Platoro  
100% under option to purchase by Stephens Mineral Group  
Arthur, Hornspoon, Silver Thread, Rainbow  
65 Acres

### II.

Patented Surface and Mineral Title  
100% under option to purchase by Stephens Mineral Group  
Galyen - Platoro lease option  
680 Acres

### III.

Unpatented Mining Claims  
100% under option to purchase by Stephens Mineral Group  
Galyen - Platoro lease option  
Pan Claim Group: Pan 1 thru 7  
Pan 16 thru 78  
1010 Acres

### IV.

Unpatented Mining Claims - Located and staked July, 1981  
100% controlled by Stephens Mineral Group  
Vi 1 thru Vi 15  
220 Acres

In process of location:  
Karen 1 thru 43  
660 Acres

V.

Unpatented Mining Claims

100% under lease option by Stephens Mineral Group

San Ramon Group )

San Ignacio Group ) Hernandez & Cartmell Brothers et al

Blue Jeep Group )

660 Acres

VI.

State Prospecting Permits

100% controlled by Stephens Mineral Group

Group 1 - Due date for renewal: August 13, 1981  
12 Parcels - 5,603.5 Acres

Group 2 - Due date for renewal: August 20, 1981  
11 Parcels - 4,165.83 Acres

Group 3 - Due date for renewal: September 3, 1981  
11 Parcels - 3,935.86 Acres

Total: 13,705.19 Acres

As of July 1, 1981, the rotary drilling program has secured for renewal permits, 11 parcels, totaling 4,215.86 acres. These parcels are numbered as follows: 1, 2, 3, 4, 5, 6, 22, 24, 28, 29 and 30.

VII.

Patented and Unpatented Mining Claims

11% under option to purchase by Stephens Mineral Group

Thetford - Corgill Commonwealth Mine Area:

105 acres patented - less surface land to school district patented mining claims

140 acres unpatented

## BACKGROUND DATA ON THE PEARCE MINING DISTRICT

As part of current investigations, previous reports, old drill core, sample cuttings, assay reports, maps, photos, remote sensing imagery, geochemical survey data, geophysical data, historic records and other data have been collected and assimilated. These are stored in the Heinrichs Tucson office and in a core - sample storage building being constructed in Pearce. These represent years of work and large expenditures, and should be maintained for continued exploration. They are of considerable value.

This report summarizes results of current work and a restudy of the older reports. For further information the reader is referred to the data base in Tucson and Pearce. Principal reports include:

Smith, L. A., 1927, The Geology of the Commonwealth Mine: MS Thesis, University of Arizona, 73 pages.

Eimon, P. I., May 1975, Report on the Commonwealth Mine, 9 pages, unpublished report.

Eimon, P. I., December, 1975, Commonwealth Silver Project Report, 10 pages, unpublished report.

Jorgensen, N. B., 1976, Summer 1976 Program, Commonwealth Mine Property, Au Ag, Sulfur Springs Valley, Arizona: Unpublished report for Bethlehem Copper Corporation, 116 pages (Note: Maps and sections from this report are in Tucson and the text is being requested.).

Bryant, D. G., 1979, Post Mortem -- 1978-1979 Exploration of the Commonwealth Mine, Pearce Mining District, Cochise County, Arizona, 6 pages plus machine copies of maps and notes.

Drewes, H., 1980, Tectonic Map of Southeast Arizona, USGS Map 1-1109.

## GEOLOGY - REGIONAL

Regionally the Pearce area consists of tertiary volcanic rocks resting on Cretaceous sediments. The volcanic rocks are mostly extrusive rhyolite and andesite occurring as hills in the Sulfur Springs Valley. The extrusives are lava flows, andesites, and tuff. The Cretaceous sediments consist of fine to coarse grain sandstone, often intercalated with thin silty beds. Attitudes of flow layers in the extrusives suggest a regional NW to NNW strike and moderate northeasterly dip ranging from  $45^{\circ}$  to  $30^{\circ}$ . The Cretaceous sediments exhibit variable attitudes although the strike is fairly consistent. The limestone at the northern slopes of Township Butte strikes NE and dips  $45^{\circ}$  to the SE. The sandstone/siltstone beds also on the slopes of Township Butte, show a northerly strike but dip gently ( $15^{\circ}$  -  $25^{\circ}$ ) to the SE. The same is true of sandstone/siltstone attitudes taken from prospect pits between Township Butte and Pearce Hill.

## GEOLOGY - DETAIL

The Six Mile Hill and Pearce Hill area consists of a sequence of tertiary volcanic rocks resting unconformably on Cretaceous Bisbee sediments. The individual members appear to be thicker in this area than in the Township Butte area toward the east. The tertiary rocks are feldspar quartz rhyolite porphyry, quartz rhyolite porphyry, andesite, agglomeratic tuff, and hornblende andesite porphyry.

The feldspar quartz rhyolite porphyry is a dense, fresh, light gray rock, with feldspar (15 - 20%) and quartz (5 - 10%) phenocrysts: occasional thin quartz veinlets cut through the rock in general, except at the northern end of Six Mile Hill where thicker quartz-calcite veins are exposed. Alteration in this rock type is very limited. At best, the observed alteration consists of "clouding" of feldspar phenocrysts and restricted argillization on both sides of quartz-calcite veinlets. This rock appears to be a capping over some of the older volcanic rocks at Six Mile Hill and Pearce Hill.

Quartz rhyolite porphyry is light gray, fine grained volcanic rock, which contains 10% to 15% quartz phenocrysts. Quartz-calcite veins are very rare in this rock type. This rock is slightly to moderately argillized especially at Six Mile Hill where it crops out extensively. A thin vitrophyre zone 2 to 5 feet in thickness appears to be at the base of quartz rhyolite porphyry. A common characteristic of this rock is the spherulitic texture where concentric bands of quartz and radiating fibrous feldspar predominate. Occasionally, agglomeratic texture is exhibited.



The andesite appears to be a thin member (15 to 40 feet) of the volcanic sequence and occurs conformably on top of a rock unit described below as the agglomeratic tuff unit. The andesite is generally dark gray, occasionally light green and light brown. This unit outcrops at the center of the two northwesterly ridges at Six Mile Hill and can be traced for a strike length of approximately a mile. The texture is generally fine grained but occasionally a vesicular texture is exhibited. The rock is generally weakly prophyllitized.

Agglomeratic tuff is the thickest unit mapped in the area, probably more than 700 feet thick as observed in drill hole PP-1. The color is normally light gray but light brown and light pink are seen in drill hole core and in shaft dumps in the area. The texture is predominantly conglomeratic to sandy, with angular coarse fragments in a sandy matrix. Bedding is observed in the sandy portion. Surface attitudes show a strike generally NW and dipping  $30^{\circ}$  to  $42^{\circ}$  to the northeast. Dips in core appear to be in the same range. The fragments are mainly rhyolite, andesite, and quartz vein material. Rarely some fragments are carbonate rocks, wherein the cementing matrix is also slightly calcareous. Abundant quartz-calcite veins cut through this rock unit. A large portion of the silver mineralization in the Commonwealth Mine at Pearce Hill occurs in quartz-calcite veins in agglomeratic tuff. Alteration in this unit is predominantly argillic and silicified. This unit occurs at Six Mile Hill and at Pearce Hill apparently with younger rhyolite capping.

Hornblende andesite porphyry occurs as a unit below the agglomeratic tuff and appears to be the oldest of the tertiary volcanic rocks. Outcrops are found immediately south of Six Mile Hill and in two low hills  $3/4$  mile SE from Commonwealth Mine. This unit is generally dark gray with abundant hornblende phenocrysts. This unit is normally unaltered except for the destruction of the hornblende to clay and limonite.

The Cretaceous sediments are predominantly coarse sandstone interbedded with thin layers of siltstone. Normally there is no visible alteration or mineralization except abundant calcite veinlets sometimes forming stockworks in the thicker siltstone. Iron staining is noticeable in limited sections where destruction of hematite, sulfides (?), and ferro-magnesian minerals has occurred.

## MINERALIZATION AND ALTERATION

Argillic alteration is probably the only mappable alteration at a scale of 1"=500' in the Six Mile Hill and Pearce Hill area. A generalized alteration map is included in this report, based on megascopic examination of unmineralized (without quartz-calcite veins or veinlets) hand specimens. The most intense argillic alteration occurs in two main parallel zones at the Commonwealth Mine - Pearce Hill area, one of which roughly overlies the mined silver deposit at Commonwealth. The other parallel zone is elongated in a north-south direction, located approximately 2000 feet east of Commonwealth Mine.

Minor silicification is observed mainly in core samples in PP-1 and at areas immediately adjacent to quartz veins.

Limonite is commonly found in almost all of the rocks at the Pearce Project area. They are primarily the secondary products of the alteration and oxidation of ferro-magnesium-like hornblende and biotite. Possibly a few of the occurrences are related to minor sulfide mineralization.

## DRILLING

Three diamond drill holes (PP-1, PP-2 and PP-3) were completed in the Pearce Project area, and one diamond drill hole (PP-4) is in progress. Enclosed in this report are the summary logs which are self explanatory. The drill holes intersected quartz-calcite vein systems which appear to be part of an epithermal system. Although the gold - silver mineralization intercepts are low in values, the accumulated data suggests targets north-west of Six Mile Hill along the regional northwesterly strike of the vein system. The drilling data also confirmed the stratigraphic sequence originally postulated from surface geology.

Twelve shallow rotary holes are programmed to satisfy state lease requirements. These programs are in areas around Six Mile Hill and Pearce Hill in the alluvium covered valley. The program is almost completed and data are presently being assembled and correlated. Initial results show some interesting silver and gold intercepts which suggests the possible existence of blind epithermal systems under shallow alluvial cover.

In the early 1960's to early 1970, other companies conducted rotary drilling programs around the Pearce Project area. Pillar, Lowell & Associates drilled fifteen (15) rotary holes around Pearce, Bear Creek

(Kennecott) drilled nine (9) holes to the east around the Turkey Creek Ridge area, and Occidental Minerals drilled two (2) to three (3) holes in Section 3, east of Commonwealth Mine (exact location uncertain, but local residents confirm drilling in the general area). All of these drill holes are probably related to porphyry copper exploration. Results of most of these drill holes are now available to us and are presently being correlated with other geologic information which was obtained during the later phase of the Pearce Project.

## GEOCHEMISTRY

In mid-1980 a geochemical program was completed at Six Mile Hill. Samples were collected at 100 ft. intervals along lines 300 feet apart. Several elements were analyzed. The following are the general interpretations of results:

### Silver:

Most of the values are below 0.5 PPM Ag; only one sample showed 2.0 PPM; no pattern is apparent.

### Gold:

Most values below 0.02 PPM; few isolated spots showed 0.04 PPM Au; no pattern or trend observed.

### Mercury:

Two zones containing 100 to 200 PPM, occurring north and southeastern end of Six Mile Hill, separated by areas with less than 100 PPM Hg.

### Arsenic and Antimony:

A few isolated zones of greater than 50 PPM As and 10 PPM; most values less than 10 PPM As and 2 PPM Sb; a definite east-west zone at middle of Six Mile Hill containing greater than 20 PPM As and 5 PPM Sb.

### Other Elements:

Other elements show no contrast that may be used to guide exploration.

In 1981, a random geochemical sampling program was carried out at the Pearce Project area. The program was designed to calibrate the distribution of mercury and 31 other elements in unmineralized rock. Samples were taken from outcrops and cover all rock types. The analysis was done by Skyline Laboratory, mercury by a geochemical method, and the 31-element scan by an emission spectrographic method. Only the results from Six Mile Hill and Pearce Hill are available at the present time. Maps of the different elements that showed sufficient contrast are part of this report. The result of this program is as follows:

#### Mercury:

Most of values at Six Mile Hill are in the 0.05 – 0.10 PPM Hg range. At Commonwealth (Pearce Hill) area, an anomalous zone of greater than 0.20 PPM occurs between Commonwealth Mine and Metat Hill. A narrow zone of greater than 0.20 PPM is also observed immediately south of Commonwealth Mine and north of our drill hole PP-3.

#### Silver:

Only a few silver values exceeding 5 PPM Ag are found at the Commonwealth area. It probably reflects the presence of the major silver-bearing quartz-calcite vein system.

#### Barium and Manganese:

An area between Commonwealth Mine and Metat Hill showed high barium concentration in the 2000 to 3000 PPM range, and high manganese values in the 500 to 800 PPM range.

#### Nickel:

An anomalous zone is also located between Commonwealth Mine and Metat Hill and showed values greater than 40 PPM Ni. Andesite rocks at Six Mile Hill exhibit higher Ni values ranging from 100 to 150 PPM Ni.

#### Vanadium:

An anomalous zone exists east of the Commonwealth Mine with values greater than 80 PPM Ni and a moderately high zone with Ni values in the 40 – 50 PPM vanadium is found at the northern end of Six Mile Hill.

#### Titanium:

Titanium values reflect the occurrence of an andesite flow at

Six Mile Hill. A broad zone of greater than 2000 PPM is found east of Pearce Hill.

Strontium and Copper:

Strontium and copper values reflect lithologic differences: higher in andesites and lower in rhyolites.

## GEOPHYSICS

The Sulfur Springs Valley has been surveyed magnetically and gravimetrically by various organizations during the past twenty (20) years. Some of those surveys have been acquired and are in the Pearce Project files. More of this data is being sought. A 1" = 2000' magnetic overlay is included as part of this report.

The gravity surveys acquired to date have been spotty. Detailed surveys with elaborate computer processing do exist and reportedly show strong structural features.

VLF, IP and MaxMin surveys have been run in the Six Mile Hill area by Excel-Minerals crews. Results from these surveys have been inconclusive but further interpretation and recommendations are to be done.

The data presented in this report is to be reviewed by David Smith of the Stephens Mineral Group.

It is to be noted that, based on present Pearce Project Target Concepts, the prime exploration potential outside of the Commonwealth Mine is for a epithermal Ag - Au system under alluvial cover within 300 - 400 feet of the surface that is non magnetic, with limited electrical conductivity contrast or rock density contrast, that is related to strong faulting or fracture zones.

## FLUID INCLUSION STUDY

A number of Pearce Mining District samples of quartz and calcite were collected by R. Robinson in August, 1980, for fluid inclusion analysis.

These samples were prepared for fluid inclusion analysis at the New Mexico Institute of Technology and analyzed in their laboratories.

The results of this work showed temperatures of homogenization in three groups. The lowest homogenization temperatures were found in the calcite temperatures from Six Mile Hill. These temperatures ranged from 132° C. to 177° C. with a mean of 150° C. The calcite appeared to be the last mineral deposited in the vein structures.