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ROBT A MINDTG
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THUM BUM

URANIUM PROJECT

THUM BUM
PROJECT
BIG BEAR LAKE, CA.

FEBRUARY 1979

QUIT CLAIMED BACK TO
ROBT. A. MINDTG 7/15/81

PORTLAND GENERAL ELECTRIC COMPANY
121 S.W. SALMON STREET
PORTLAND, OREGON 97204

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THUM BUM URANIUM PROJECT

I. Summary

The Thum Bum uranium project consists of one hundred and twenty-six (126) unpatented lode claims in Sections 3, 4, 5, T1N - Sections 27, 28, 29, 32, 33, 34, T2N, R2E. S.B.B.M. of San Bernardino County, California.

A local prospector, Robert Mindte, originally located the property in the early fifties. The first shipment of uranium ore from California consisted of about 2,000 pounds of ore reported to be 0.2 percent U_3O_8 from the Thum Bum claim. PGE became interested in the property during a regional reconnaissance program during the summer of 1977. After initial geologic investigations PGE staked around Mr. Mindte and negotiated a lease agreement for his 10 unpatented claims. A small amount of surface drilling was conducted in the fall of 1978.

The Thum Bum prospect contains a cluster of uraniferous dike-like bodies intruding Precambrian X metasedimentary rocks.

The potential for uranium deposits exists in three geologic environments: (1) As disseminations of primary uranium minerals associated with magnetite-biotite lenses in granitic porphyry dikes similar to the pegmatites of the Bancroft area, Ontario; (2) As zones of supergene enrichment in Precambrian X metasedimentary terrains in contacts with ore dikes, complex structural zones, and unconformities; (3) As a roof pendant - contact-type deposit related to a feeder chamber at the roots of the mineralized dikes at the Thum Bum intrusive cluster.

The geological potential of these targets is believed to have potential for 3 million pounds at a grade of 0.1 percent U_3O_8.

II. Location and Access

The Thum Bum Mine area is located approximately 8 miles southeast of Big Bear Lake, California, principally in Section ~~23~~ 33, T2N, R2E of San Bernardino County.

Access to the property is excellent and is made by traveling 3 miles on USFS gravel roads from U.S. Highway 38 (see location maps).

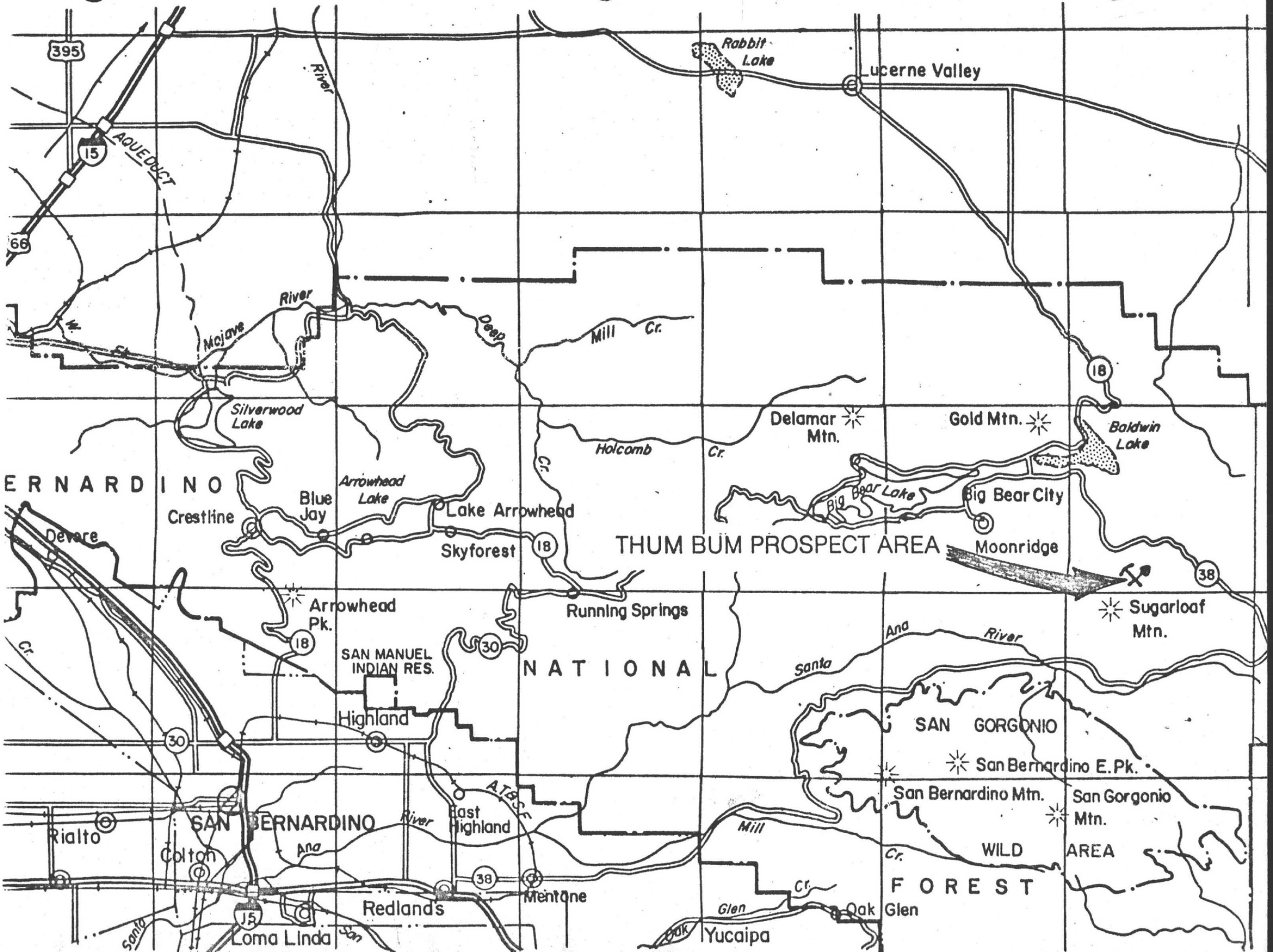
III. Land Ownership and Agreements

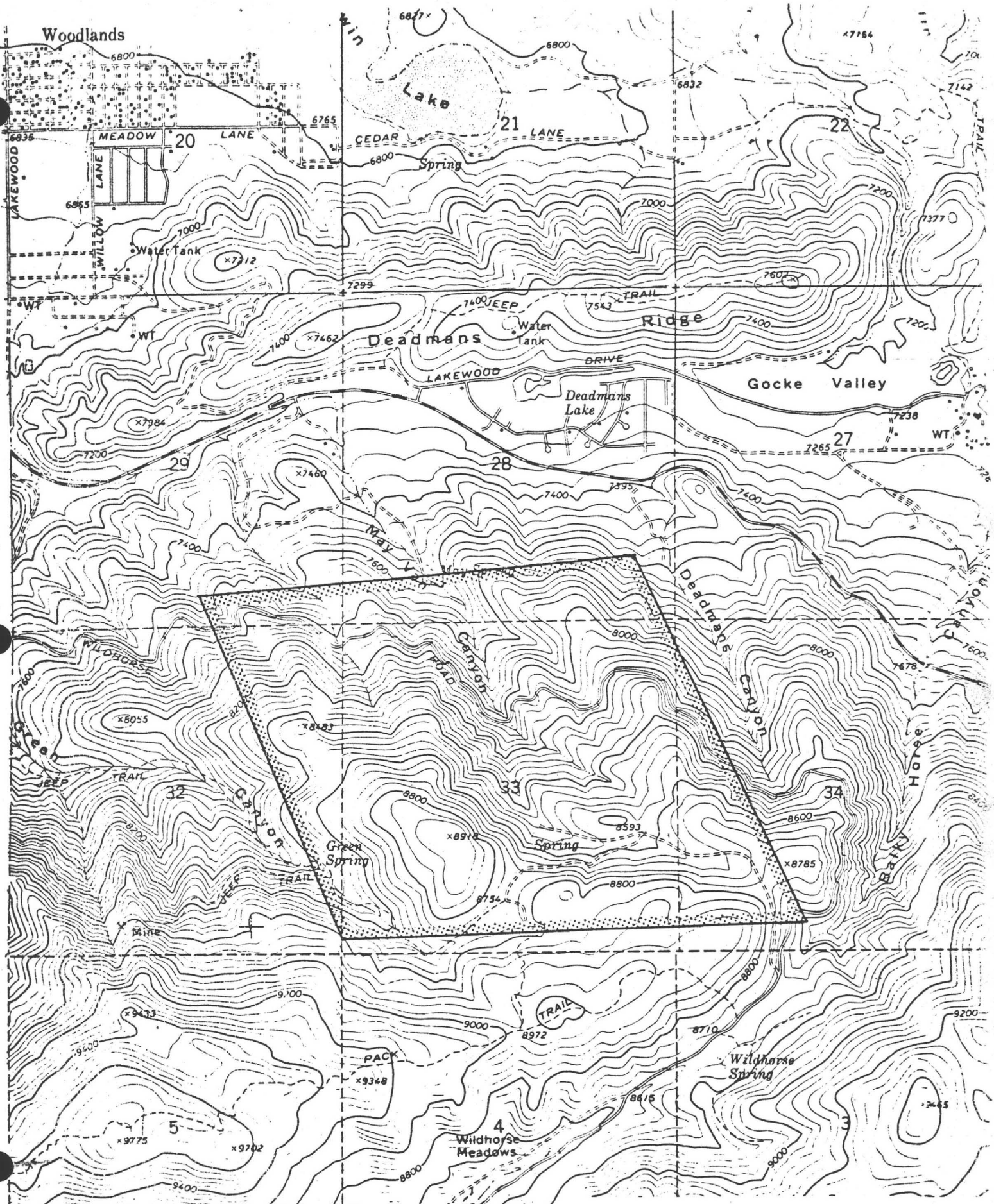
The entire Thum Bum property is within the San Bernardino National Forest. PGE has 126 unpatented mining claims. In addition, PGE has obtained a 10 year renewable lease on 10 claims located by Robert Mindte. The Mindte leased claims carry a five percent (5%) royalty. In addition, Mr. Mindte has a five percent (5%) royalty on Section 33, the Southern one-half (S 1/2) of Section 28, the Southern one-half (S 1/2) of Section 29, Township 2 N, Range 2 East.

IV. Geology

Regional Setting

The San Bernardino Mountains are a highland area 70 miles east of Los Angeles. The range trends east-west, measuring 60 miles by 25 miles. The highest topographic peak, San Gorgonio, attains 11,100 feet in altitude. Basin floors to the north and south of the mountains are situated at 3,000 feet and 1,000 feet respectively. The upland region is a crenulated surface of alternating, east-trending ridges and valleys. Local relief ranges to 2,500 feet. The Thum Bum prospect is at about 8,000 feet in altitude.


395
15
66
AQUEDUCT
River
Rabbit Lake
Lucerne Valley
Mojave
River
Deep
Mill Cr.
Silverwood Lake
Holcomb
Cr.
Delamar Mtn.
Gold Mtn.
Baldwin Lake
18
ERNARDINO
Arrowhead Lake
Blue Jay
Crestline
Lake Arrowhead
Big Bear Lake
Big Bear City
Devore
Skyforest
THUM BUM PROSPECT AREA
Moonridge
38
Arrowhead Pk.
Running Springs
Sugarloaf Mtn.
Cr.
SAN MANUEL INDIAN RES.
30
NATIONAL
Santa
Ana
River
Highland
SAN GORGONIO
San Bernardino E. Pk.
San Bernardino Mtn.
San Gorgonio Mtn.
ATSF
East Highland
Rialto
SAN BERNARDINO
River
Ana
Mill
Cr.
WILD
AREA
Colton
Mentone
Redlands
Glen
Oak Glen
FOREST
Loma Linda
Santa
San
Oak
Yucaipa



THUM BUM PROSPECT AREA

Moonridge Quadrangle

Scale 1" = 2000'

10 MINDTE CLAIMS — 126 PGE CLAIMS (SURVEYED)

The San Bernardino Mountains are a part of the California Transverse Ranges province which trends obliquely to the dominantly northwest tectonic fabric in the rest of the state. The range is bounded by the San Andreas fault along the southern margin and by sets of southward-dipping thrust and high-angle faults along the northern flank. The eastern margin is a down-warped hinge overlapped to the west by Neogene continental sedimentary and volcanic rocks. Displacement along the San Andreas fault is right-lateral strike slip. The northeast block has shifted southeastward relative to the southwest block. Simultaneously, these two blocks have been colliding against each other. As a result, basement terrain has been compressed up and out to the north on the thrust faults. The Mio-Pliocene thrust faults have been modified by Pleistocene-age high-angle faults. Both sets were cut during and after their growth by branches of the regional system of northwest trending faults in the Mojave Desert. This structural tectonic setting reflects a long history of compressive stress from the west and southwest.

Description of Rock Units

Introduction

Four distinct rock groups are recognized in the San Bernardino Mountains: (1) Precambrian X - Terrain consisting of migmatites, gneisses and schist; (2) Paleozoic metasedimentary rocks; (3) Plutonic rocks and related hypabyssal volcanic rocks; (4) Post-batholithic continental sedimentary rocks.

Precambrian Rocks

The oldest rocks are migmatites, mylonites, gneisses and schist of Precambrian X - terrain age (see page 8). These basement rocks, originally volcanic and pelitic sedimentary units are believed to be deposited 1680-1750 M.Y. ago. The Thum Bum intrusive cluster is an example of an alkalic igneous event syntectonic with the final stages of regional metamorphism. The high-grade metamorphic rocks are exposed in a narrow band along the southern range margin and as the basement rock in a 5 to 15 mile northeast-trending belt of roof pendants. This region is referred to in the literature as the Santa Ana Dome. It effectively separates the San Bernardino batholith into an eastern and western plutonic complex.

Paleozoic Rocks

The Paleozoic metasedimentary rocks unconformably overlie exposures of Precambrian rock on the Santa Ana Dome. Outliers along the northern margin on the range are intruded by younger granitic rocks. Two formations of late Paleozoic age are present: (1) The Chicopee Canyon formation; and (2) The Furnace Creek formation.

The Chicopee Canyon formation is carboniferous in age and is composed of predominantly quartzites. Minimum stratigraphic thickness is 1,300 feet.

The Furnace Creek formation is Permian (?) and total up to 5,000 feet of calcitic and dolomitic marble.

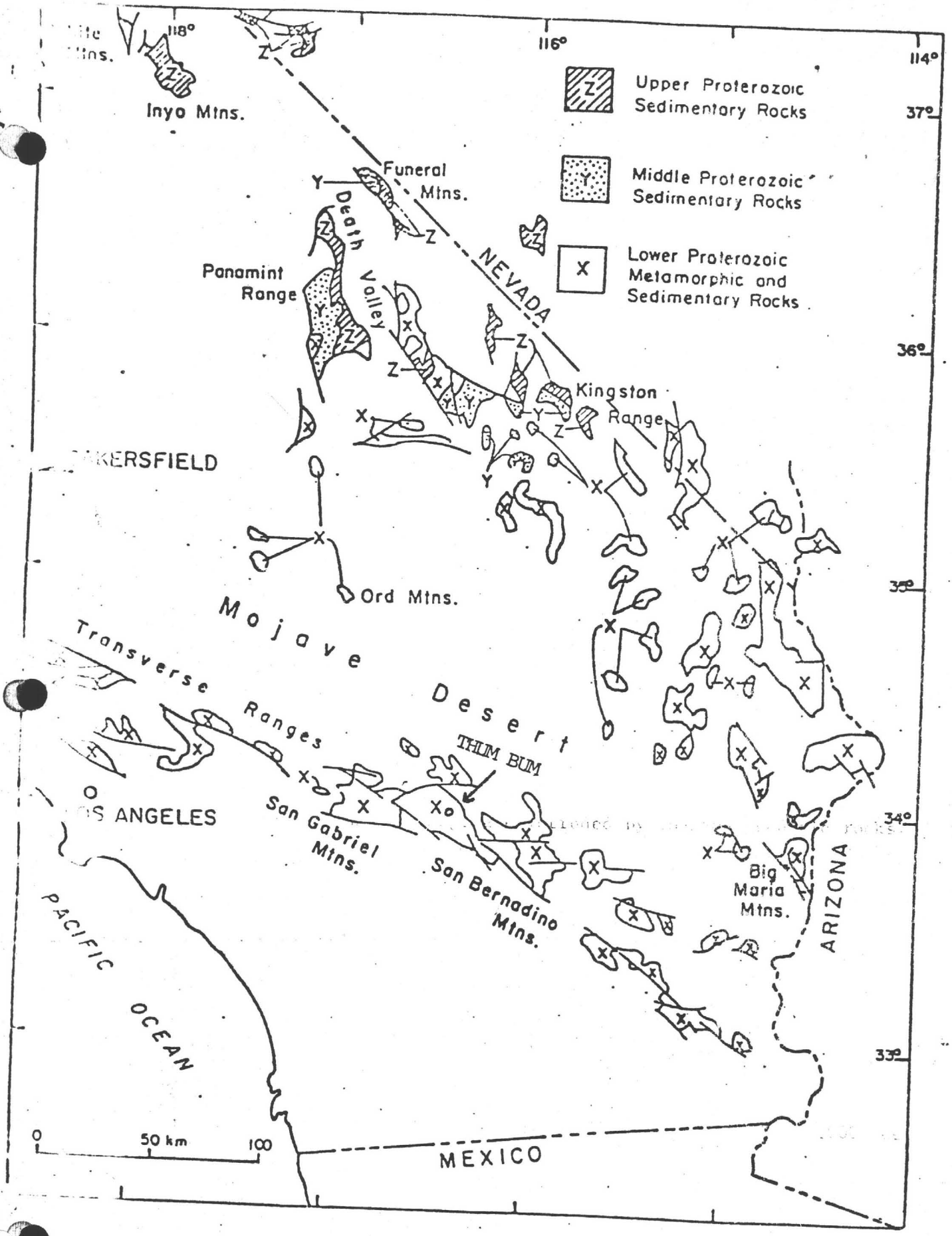


Figure 5-4: Selected features of Precambrian geology, California.

Both the Chicopee Canyon and Furnace Creek formations have been folded and locally silicified and dolomitized prior to intrusive activity related to the Nevada Orogeny. Igneous activity resulted in regional metamorphism.

Plutonic and Volcanic Rocks

Rocks comprising the composite batholith have an exposed thickness of over 10,000 feet. The batholith is divided into an eastern and a western intrusive complex separated by the Santa Ana Dome. Each complex consists of a mosaic of individual plutons which include small bodies of gabbro, diorite, and tonalite porhyry as well as larger masses of hornblende quartz monzonite, biotite quartz monzonite, and granite porphyry. For the most part, the intrusive rocks were implaced by stoping and regional dilation.

A hypabyssal complex in Holcomb Valley is a volcanic superstructure cogenetic with the San Bernardino composite batholith. Emplacement of the volcanics preceded and accompanied the intrusion of the plutonic series in Cretaceous and later time.

Quartz latite porphyry and trachy-andesite are preserved in carboniferous metasediments and as micaceous migmatites formed by assimilation and reaction with the rising magma.

Tertiary Continental Deposits

Post batholithic rocks include continental sandstones, conglomerates, terrace deposits, tallus, breccias, glacial fill and alluvium of Mio-Pliocene and Pleistocene ages. Pliocene basalt flows cap a portion of the eastern margin of the range. Mio-Pliocene thrust faulting

initiated higher relief which led to the accumulation of the terrace deposits and landslide breccias. Subsequently, these deposits were uplifted along high-angle reverse and normal faults.

Prospect Geology

THE THUM BUM INTRUSIVE CLUSTER

In the Thum Bum area, approximately 30 radioactive dike-like bodies are exposed, intruding Precambrian metasediments (see pages 11 and geologic map in pocket). Intrusive relationships are both concordant and discordant with the foliation of the schist.

Characteristically, the dike-like bodies are small and irregular. Dikes that are 5 to 10 feet thick and 100 feet long are commmon. A few of the dikes are as much as 20 feet thick and discontinuously exposed for 1,000 feet.

The pegmatite dikes consist of an assemblage of quartz, feldspar, magnetite, and biotite. All of the intrusive bodies show moderate to strong radioactivity. Any one dike may contain uranium, thorium, or rare-earths and/or a combination of these elements.

Structure

The pegmatite on the Thum Bum claim (see page 12) is offset by the May Van Canyon fault. The May Van Canyon fault is thought to have approximately 200 feet of offset with the southwest block lifted up and to the northwest. Evidence for this is found where the fault cuts the Precambrian-upper Paleozoic unconformity. The upper Paleozoic sediments are preserved on the northeast block where they have been down faulted.

The May Spring fault is a major structure that cuts the May Van Canyon fault to the northwest of the ore show on the Thum Bum claim. The area between the May Van Canyon fault and the May Spring fault represents a horst block (see page 21).

Mapping of the Precambrian-Paleozoic unconformity has shown the Thum Bum intrusive cluster to be located along a broad anticline. The Precambrian rocks represent a window of exposed rock on the crest of this structure.

Uranium Mineralization

Surface uranium mineralization is spotty and irregular. The grades of surface samples vary greatly (see pages 16 & 17). Most of the intrusive bodies containing magnetite lenses and the biotite schist metasediments directly above the magnetite bearing dikes run between 0.05 percent to 0.2 percent cU. This agrees with the ore shipment made in the fifties. One select sample of pitchblende replacement breccia submitted by Robert Mindte from the Pink Jewel Claim contained 2.3 percent eU_3O_8 and essentially no thorium. Textural observations and the chemical distribution of U and Th strongly suggest three periods of mineralization. These are: (1) An early primary uranothorite phase; (2) A later hydrothermal uraninite phase; 3.) At least one period of supergene enrichment.

Polished thin section examination of the dikes reveals distinct euhedral uranothorite grains surrounded by magnetite. Disseminated throughout the pegmatites is a later uraninite-biotite phase of

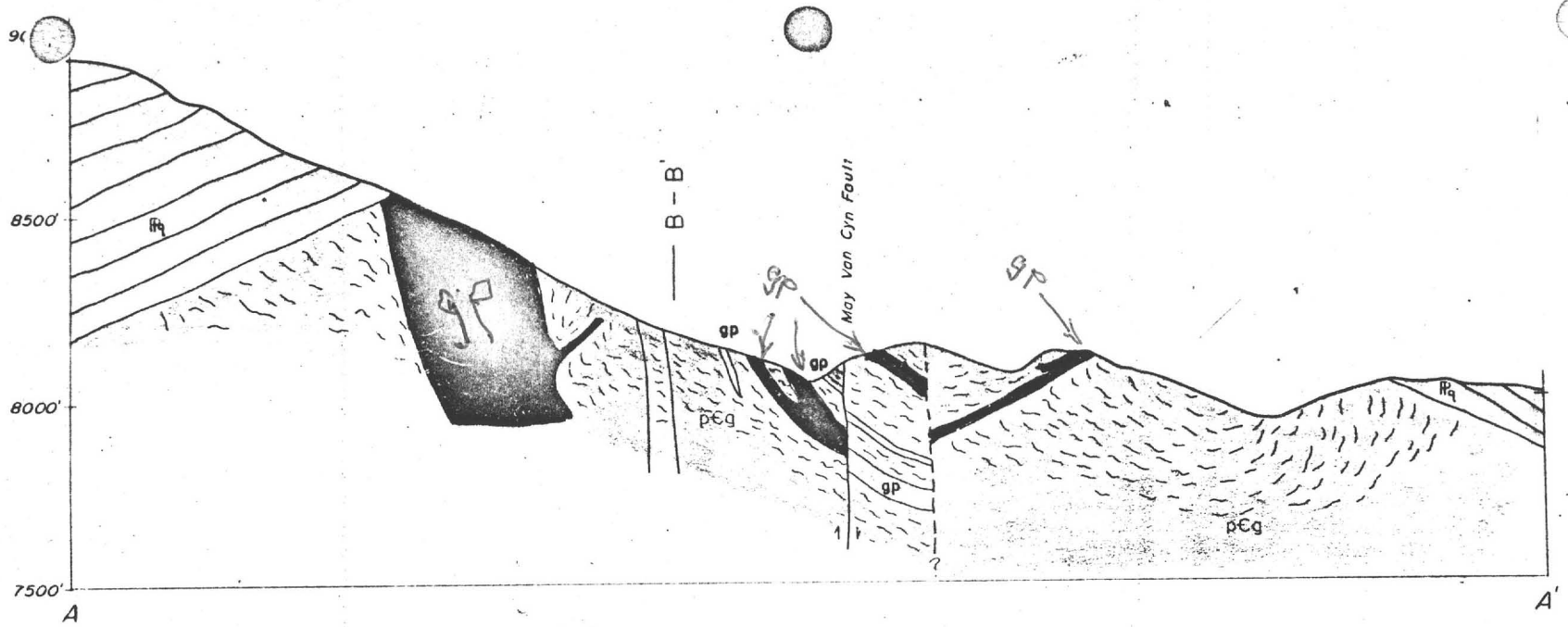
mineralization. Gummite and yellow uranium oxides generally fill fractures and coat surfaces of ore samples.

Chemically, the ore dikes contain uranium and thorium with erratic U:Th ratios (see pages 16 & 17). The uranium in the dikes is in favor of equivalent uranium. Selective samples of biotite schist directly above ore pods in the dikes contain only uranium and are strongly in favor of chemical uranium (see diagram on p. 15). This is interpreted as an initial hydrothermal uranium-thorium mineralization which has been partially redistributed by supergene processes.

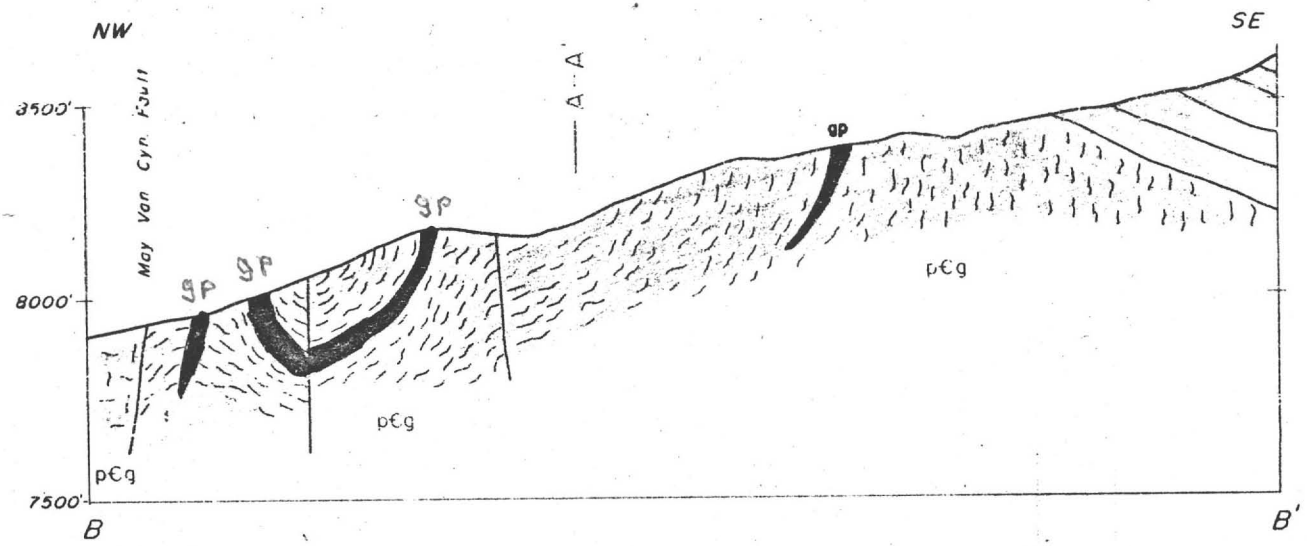
The background radioactivity of the Precambrian metasediments is quite low. However, any place within the intrusive cluster, the radioactivity of the metasediments is two or three times background. This is interpreted to represent an enrichment of the metasediments by supergene processes from the primary source rocks (pegmatites).

Age of the Intrusive Cluster and Initial Mineralization

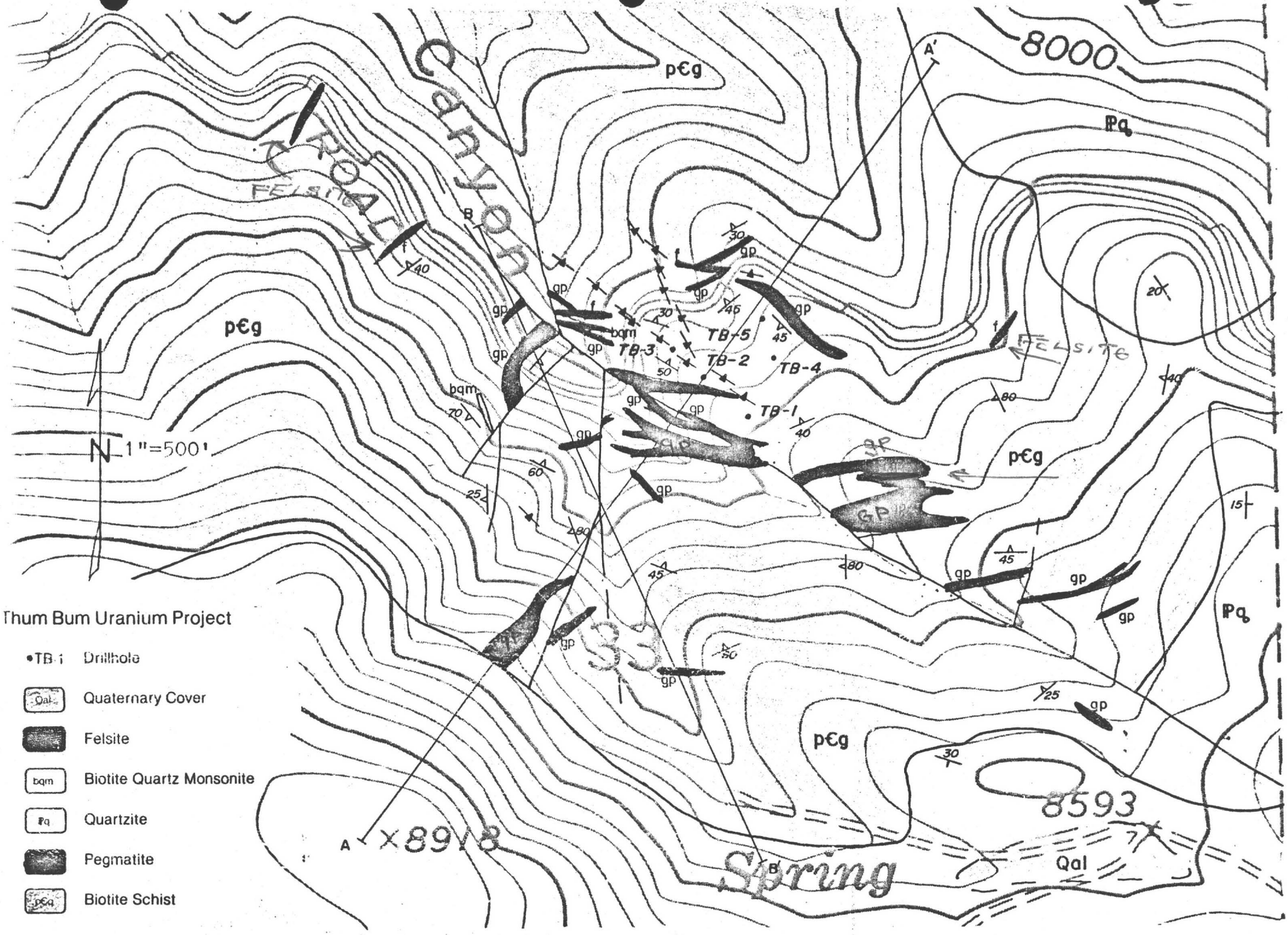
At Thum Bum, the field evidence favors a Precambrian age for the formation of the dikes. Primary uranium and thorium minerals were initially deposited during pegmatite syntexis and were concentrated in the dikes and along foliation planes and shear zones in the biotite schist. In large part, the age of the dikes is based on an observed truncation of a radioactive pegmatite dike by the precarboniferous unconformity. In addition, the main ore bearing dike on the Thum Bum claim is cut by a small tertiary diabase dike.



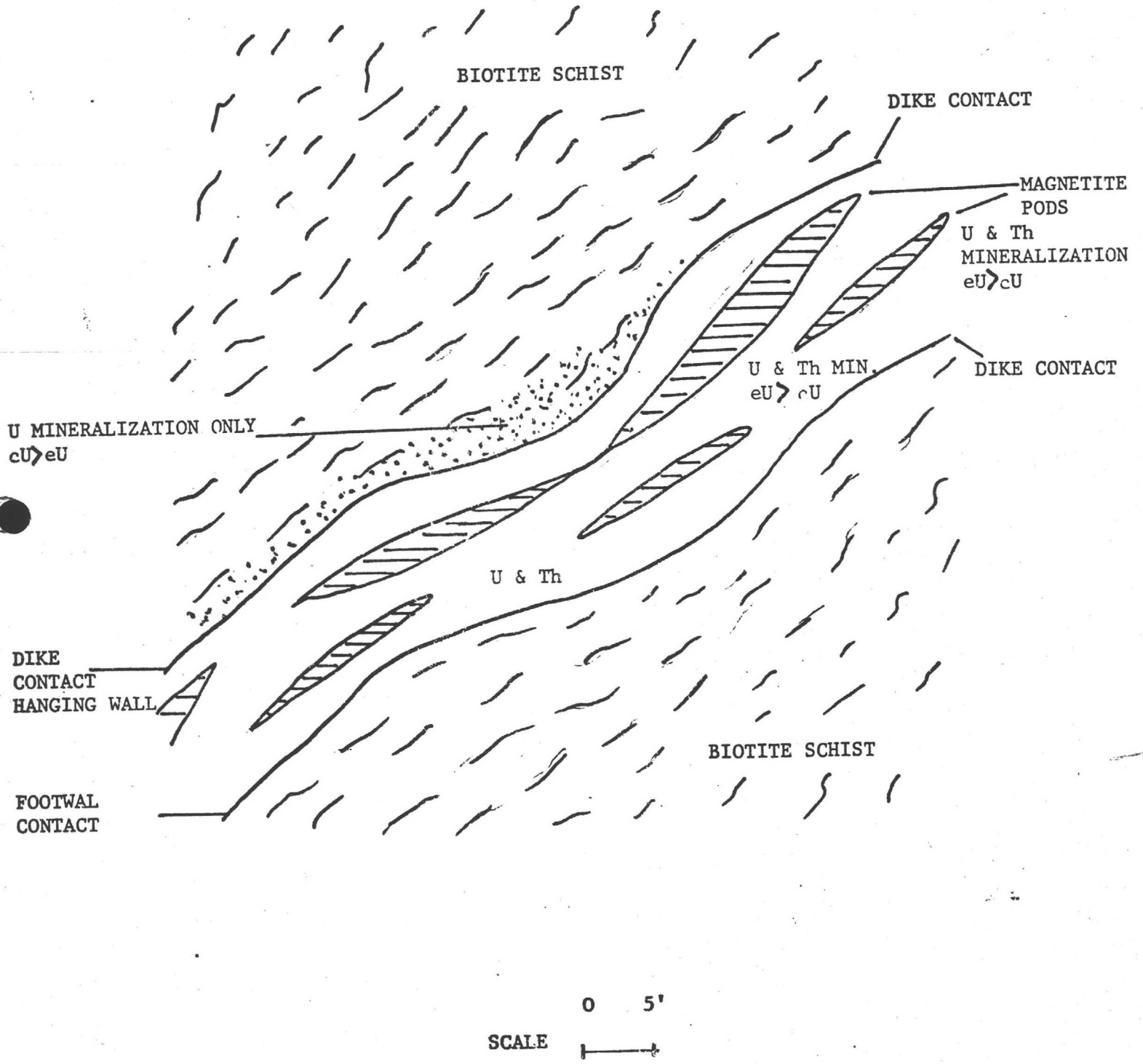
SCALE — Vert. 1" = 500'
Horz 1" = 500'

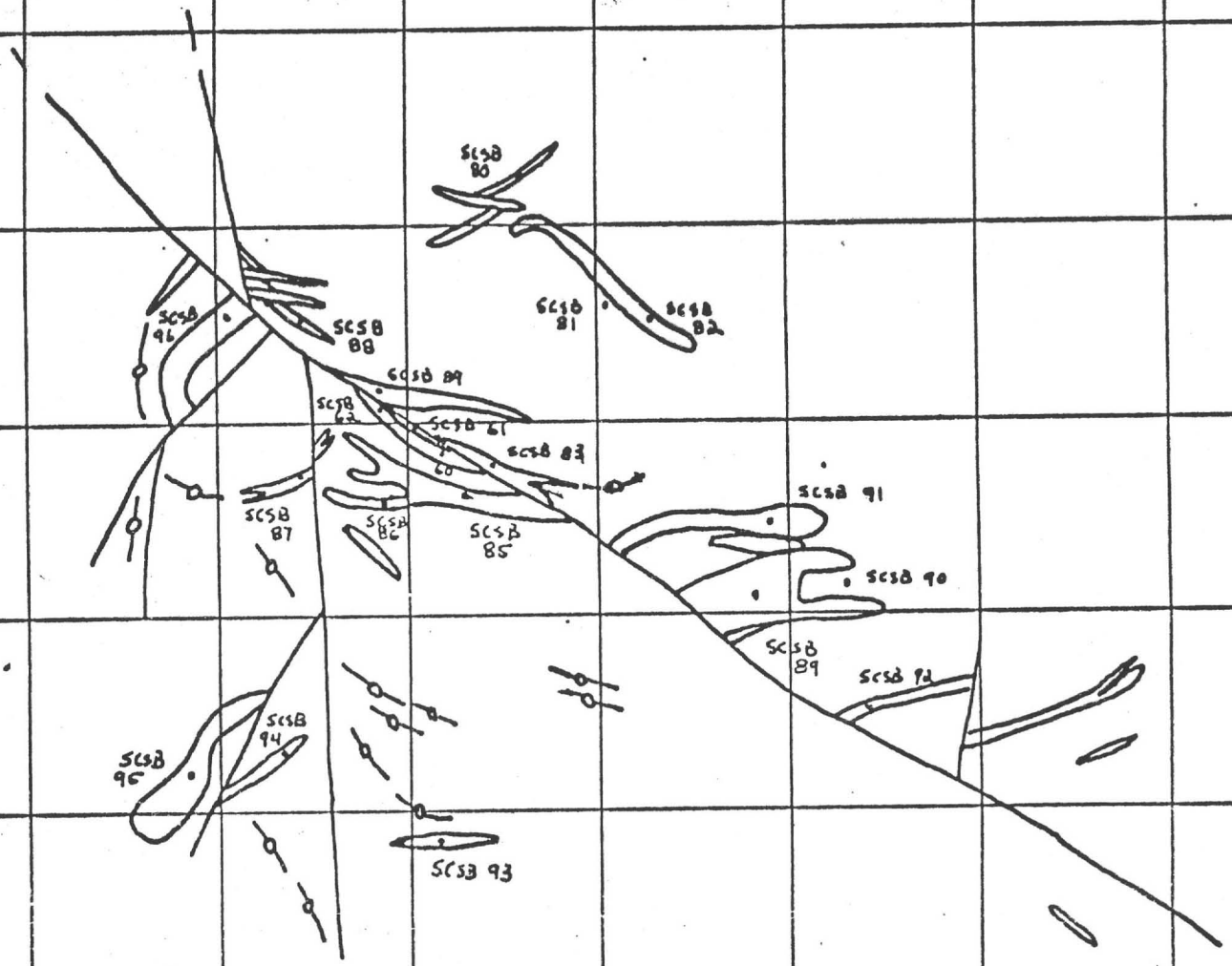


GEO – GRAPHICS


Canyon
Spring
ROAD
FELSITE
FELSITE
8000
8593
8918
p€g
p€g
p€g
p€g
Pq
Pq
Qal
A
A'
B
B'
TB-1
TB-2
TB-3
TB-4
TB-5
gp
bqm
N
1"=500'
Thum Bum Uranium Project
TB-1 Drillhole
Qal Quaternary Cover
Felsite
bqm Biotite Quartz Monsonite
Pq Quartzite
Pegmatite
p€g Biotite Schist

Diagramatic Cross Section Of a Dike Showing The U-Th distribution and U Equalibrium Differences.





Sample Location Overlay

Thumbum Property

1" = 500'

N

W.R. Rohtert

ROCK CHIP GEOCHEMISTRY OF
THE THUM BUM AREA
(Sample Location Plotted On Following Page)

SAMPLE #	U,ppm	eU,ppm	eTh,ppm	Mo,ppm	V,ppm	Hg,ppb	Rock Type
SCSB-60	24	23	82	<2	10	<10	Intrusive
SCSB-61	2	1	3	<2	330	10	Biotite Schist
SCSB-62	680	350	260	<2	60	<10	Biotite Schist
SCSB-63	570	430	590	<2	70	10	Intrusive
SCSB-80	14	16	19	<2	<10	<10	Intrusive
SCSB-81	550	185	5	<2	20	<10	Biotite Schist
SCSB-82	43	55	93	<2	10	<10	Intrusive
SCSB-83	8	6	31	<2	<10	<10	Intrusive
SCSB-84	9	5	12	<2	10	<10	Biotite Schist
SCSB-85	39	25	145	<2	<10	<10	Intrusive
SCSB-86	8	8	62	<2	<10	10	Intrusive
SCSB-87	58	25	360	<2	<10	10	Intrusive
SCSB-88	9	11	35	<2	<10	<10	Intrusive
SCSB-89	13	15	175	<2	<10	10	Intrusive
SCSB-90	32	20	85	<2	<10	<10	Biotite Schist
SCSB-91	4	5	105	<2	<10	<10	Intrusive
SCSB-92	<2	2	27	<2	<10	<10	Intrusive
SCSB-93	10	13	31	<2	<10	<10	Intrusive
SCSB-94	30	45	130	<2	<10	<10	Intrusive
SCSB-95	10	7	24	<2	<10	<10	Intrusive
SCSB-96	10	11	3	<2	10	<10	Intrusive

CHEMICAL COMPOSITION OF THE PEGMATITES

SAMPLE ROCK	Na_2O,%	K_2O,%	CaO,%	MgO,%	SiO_2,%	Fe_2O_3,%	Al_2O3,%
SCSB-60	2.9	3.7	0.30	0.60	78.5	0.8	11.3
SCSB-61	1.3	2.0	4.5	5.5	47.5	22.	13.6
SCK -62	3.2	1.4	1.8	0.70	72.5	5.2	12.7
SBSC-63	2.5	1.3	2.0	0.10	69.0	15.	10.8
SCSB-80	1.5	5.2	0.05	1.5	76.0	2.8	13.6
SCSB-81	2.0	4.4	0.30	3.0	69.5	6.3	11.3
SCSB-82	2.2	5.9	1.8	0.80	67.5	2.4	13.0
SCSB-82A	2.0	6.6	0.05	0.35	77.0	0.8	13.2
SCSB-83	3.1	6.6	0.05	0.30	74.0	0.3	13.2
SCSB-84	2.7	2.3	0.10	2.1	73.5	1.9	10.6
SCSB-85	2.7	6.1	0.20	0.30	74.5	0.7	13.4
SCSB-86	3.0	4.3	0.90	0.20	75.0	1.4	13.4
SCSB-87	3.4	5.7	0.25	0.35	75.0	0.9	14.0
SCSB-88	2.5	6.2	0.35	0.65	67.0	0.6	13.2
SCSB-89	1.6	7.1	0.05	1.9	73.0	1.4	13.2
SCSB-90	0.75	5.8	0.05	0.50	74.5	2.3	12.5
SCSB-91	1.5	7.1	0.10	0.70	75.0	0.8	13.2
SCSB-92	2.2	6.0	0.50	0.35	73.0	1.6	12.8
SCSB-93	2.5	7.0	0.10	0.65	74.5	0.5	13.8
SCSB-94	2.1	6.0	0.20	0.45	71.0	0.9	12.2
SCSB-95	2.5	6.4	0.05	0.40	65.5	0.4	13.2
SCSB-96	2.2	7.1	0.25	0.80	70.5	0.7	12.8
SCSB-97	2.2	5.2	0.35	5.4	70.5	0.9	12.7

V. Exploration Model

The geologic history of the Thum Bum project started with the deposition of a thick sequence of marine sediments which were subsequently metamorphosed and eroded during the Precambrian. Evidence for this is represented by the Precambrian X biotite schist in unconformable contact with the less metamorphosed Paleozoic sediments.

The first episode of mineralization occurred when uranium and thorium minerals were deposited during pegmatite syntexis during the Precambrian metamorphism as uranothorite in the magnetite lenses of the pegmatites. As syntexis of the pegmatites progressed, uraninite was deposited in pegmatites and along foliation planes and shear zones in the biotite schist. Field relationships of the pegmatites, textural and mineralogical relationships, and chemical distribution of U-Th document this early Precambrian stage of mineralization.

The erosional period represented by the Precambrian basement-late Paleozoic sediment unconformity is the first opportunity for remobilization and supergene enrichment of the uranium. The Thum Bum intrusive cluster and the paleo-erosional surface was covered by sandstone which is now represented by the Chicopee formation.

After deposition of the Paleozoic sediments, the area underwent a period of Mesozoic intrusive activity. It is unclear if this event had any significant effect on uranium mineralization. Tertiary dikes are present in the prospect area and larger intrusive bodies are nearby.

The Thum Bum area was then subject to various amounts of faulting throughout the Tertiary. Faults of approximately 200 feet apparent displacement cut the intrusive cluster and offset the mineralized dikes.

Two more opportunities for supergene enrichment or remobilization are represented by the miocene high-level erosional surface in the San Bernardino Mountains and the recent erosion which has brought the dikes and the unconformity to the surface. Evidence for supergene concentrations of uranium is found in the relative distribution U and Th and variations of equalibrium in the ore.

Based on this model, the potential for uranium deposits exist in three geologic environments: (1) As disseminations of primary uranium minerals associated with the magnetite-biotite lenses in the pegmatite dike similar to the pegmatites of the Bancroft area, Ontario; (2) As zones of supergene enrichment in Precambrian metasedimentary rocks in contact with ore dikes, complex structural zones, and unconformities; (3) A roof pendant-contact-type deposit related to a hypothesized feeder chamber at the roots of the mineralized dikes at the Thum Bum intrusive cluster.

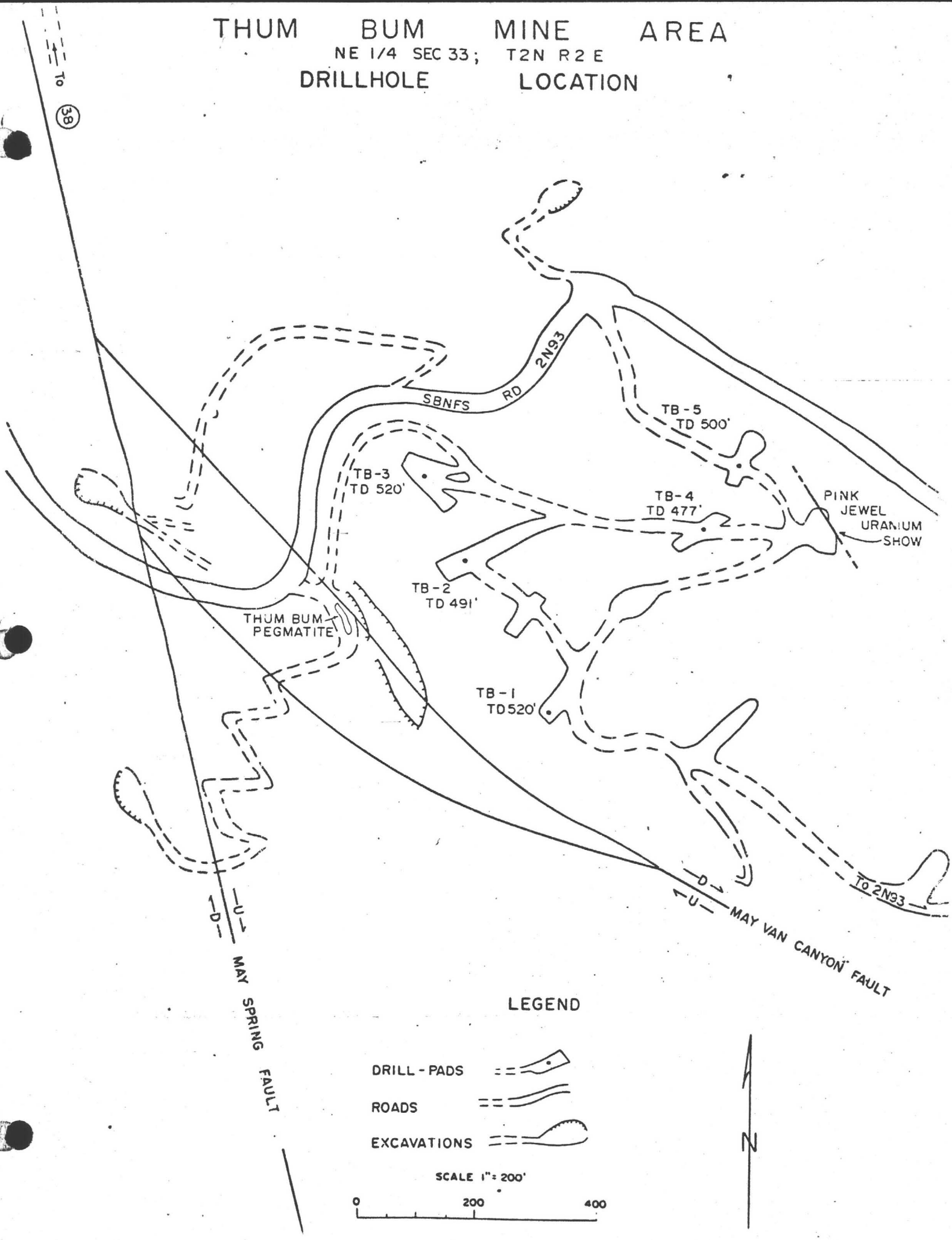
Drilling

Five shallow, vertical rotary holes were drilled near the center of the intrusive cluster. The location and depth of these holes are shown on the following page. Drill logs are in the appendix.

THUM BUM MINE AREA

NE 1/4 SEC 33; T2N R2E

DRILLHOLE LOCATION



Holes TB-1 through TB-3 were drilled on the downdropped northeast side of the May Van Canyon fault to test for the offset portion of the mineralized pegmatite that outcrops on the Thum Bum claim.

TB-1 intersected anomalous mineralization between 80 and 180 feet. This 100-foot zone contained numerous anomalies up to 0.015 percent eU_3O_8. Several other anomalies above and below this zone were encountered.

Drill chips indicated a monotonous succession of pegmatites and biotite schist. Chemical assay of drill chips (see appendix) indicates a high value of 17 PPM U, 10 PPM eU and 77 PPM eTh. Drill chips are believed to be mixed (diluted) and thoroughly washed, loosing much of the fracture-controlled mineralization. Under these circumstances, chemical analysis may not indicate the actual uranium grade intercepted but may be indicative of the cU vs eU and eTh ratios. If this is the case, much of the radioactivity in the drill logs is probably due to Th. However, most of the samples are weakly to strongly in favor of chemical uranium.

Holes TB-2 and TB-3 were geologically very similar to TB-1. The drill log from TB-3 shows fewer anomalies than TB-2 which shows fewer anomalies than TB-1. This indicates an increasing amount of radioactivity in a southeast direction on the north side of the May Van Canyon fault.

Electric logs were run on TB-3. These logs indicated the water table to be at 256 feet. Most of the gamma peaks are above the water table in TB-3. The peaks above the water table are inter-

preted to represent remobilized supergene uranium deposited in an oxidized surface environment. This is also suggested by the high cU to eU ratios of the drill chips in TB-1 which demonstrate that uranium is in the system and is being redistributed.

Drill holes TB-4 and 5 were drilled to test for uranium mineralization at depth in the vicinity of the Pink Jewel uranium show. Both drill logs contained anomalous gamma peaks.

Additional Untested Targets

Five 500-foot close-spaced holes only tested a very small part of the Thum Bum prospect. Many targets remain to be tested.

A comparison of drill logs TB-1 through TB-3 indicate increasing mineralization in a southeast direction on the north side of the May Van Canyon fault. The 200-foot displacement on the May Van Canyon fault may have been greatly underestimated. If this is the case, the offset portion of the Thum Bum dike would be farther to the southeast as indicated by the increase of radioactivity in TB-1 as compared to TB-3. There are a number of very large pegmatite bodies southeast of TB-1. Additional holes to the southeast of TB-1 are definitely warranted.

The large pegmatite that is truncated by the unconformity produced some uranium in the fifties. This area deserves some drilling. In testing this area, the Precambrian-Paleozoic unconformity could be drilled and tested for mineralization.

Lastly, the concept of a deep feeder chamber and/or large roof pendant contact deposits has not been tested. A good place for testing this concept would be to drill a deep hole on the horst between the May Van Canyon and May Spring faults.

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February 13, 1979
Job: 8M16
P.O.: 2511

William R. Rohtert
Portland General Electric
Department of Fuels Supply
121 S. W. Salmon Street
Portland, Oregon 97204

REPORT OF ANALYSES

Sample Rock	U ppm	eU ppm	eTh ppm	V ppm	Na_2O %	K_2O %	CaO %	MgO %	SiO_2 %
PINK JEWEL CLAIM — SCSB-234	20000	23200	—	20	1.1	4.4	0.11	5.8	67.5
235	860	890	190	30	5.6	2.4	3.9	1.1	55.5

Sample Rock	Fe_2O_3* %	FeO** %	Al_2O_3 %	TiO_2 %	H_2O %	MnO ppm	P_2O_5 %	CO_2 %
SCSB-234	2.6	0.56	10.6	0.11	0.10	65	0.40	0.5
235	5.9	2.1	16.6	0.35	0.10	400	1.6	1.5

A 35-element emission-spectrographic scan was run on samples 234 and 235.

An X-ray fluorescence scan was run on samples 234 and 235.

* Total Fe as Fe_2O_3.

** Fe^{+2} as FeO.

Ronald L. Keil

Copy: William Rohtert

Lakewood, Colorado
Phone (303) 233-8155

GEOLABS

Edgemont Branch
Golden, Colorado 8040

December 27, 1978
Job: 8106
P.O. # 2511

A DIVISION OF

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Glen Kirkpatrick
Portland General Electric
Department of Fuels Supply
121 S.W. Salmon Street
Portland, Oregon 97204

DRILL CHIP GEOCHEMISTRY TB-1

REPORT OF ANALYSES

Sample Rock Footage	U, ppm	eU, ppm	eTh, ppm	V, ppm
80- 85	2	3	12	200
85- 90	5	7	10	140
90- 95	8	7	41	60
110-115	8	5	54	50
115-120	8	4	54	40
120-125	14	8	46	20
150-155	2	3	22	10
155-160	9	7	51	<10
160-165	17	10	77	<10
165-170	16	13	74	<10
170-175	11	10	52	60
175-180	3	5	10	190
180-185	<2	<3	7	90

All of the above samples were analyzed by standare XRF scan (to be sent under seperate cover).

Ronald L. Keil

Ronald L. Keil

ANALYTICAL SERVICES AND RESEARCH

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ANALYTICAL REPORT

TO:

GEOLABS

Job Number 23954
Page 1 of 13 Pages
Date 26 Dec 1978

SAMPLE: 8L06 80-85

Copper	80	Iron	44000	Lanthanum	
Silver		Cobalt		Cerium	
Gold		Nickel	21	Praseodymium	
Zinc	160	Cesium		Neodymium	
Cadmium		Rubidium	150	Samarium	
Mercury		Barium	480	Europium	
Gallium		Strontium	140	Gadolinium	
Indium		Titanium	1900	Terbium	
Thallium		Zirconium	100	Dysprosium	
Germanium		Hafnium		Holmium	
Tin		Thorium		Erbium	
Lead	78	Vanadium		Thulium	
Arsenic		Columbium		Ytterbium	
Antimony		Tantalum		Lutetium	
Bismuth		Chromium		Yttrium	42
Selenium		Molybdenum			
Tellurium		Tungsten			
Bromine		Uranium			
Iodine		Manganese	770		

The values above are estimated elemental concentrations in:
_____ per cent XXXX parts per million _____ grams per liter

No check was made for elements with atomic numbers less than 22.

By Merlyn L. Salmon

NOTE: A PORTION OF THE REPORTED SAMPLES WILL BE RETAINED ON FILE FOR A PERIOD OF TWO YEARS FROM THE ABOVE DATE. THE REMAINDER OF THE SAMPLE WILL BE RETAINED FOR THIRTY DAYS PENDING RECEIPT OF WRITTEN INSTRUCTIONS FOR DISPOSAL FROM THE ADDRESSEE ABOVE.

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ANALYTICAL REPORT

Job Number 23954
Page 2 of 13 Pages
Date 26 Dec 1978

TO:

GEOLABS

SAMPLE: 8L06 85-90

Copper	110	Iron	37000	Lanthanum	
Silver		Cobalt		Cerium	
Gold		Nickel	50	Praseodymium	
Zinc	130	Cesium		Neodymium	
Cadmium		Rubidium	130	Samarium	
Mercury		Barium	550	Europium	
Gallium		Strontium	140	Gadolinium	
Indium		Titanium	1100	Terbium	
Thallium		Zirconium	120	Dysprosium	
Germanium		Hafnium		Holmium	
Tin		Thorium		Erbium	
Lead	93	Vanadium		Thulium	
Arsenic		Columbium		Ytterbium	
Antimony		Tantalum		Lutetium	
Bismuth		Chromium		Yttrium	74
Selenium		Molybdenum			
Tellurium		Tungsten			
Bromine		Uranium			
Iodine		Manganese	460		

The values above are estimated elemental concentrations in:
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ANALYTICAL REPORT

Job Number 23954
Page 3 of 13 Pages
Date 26 Dec 1978

TO:

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SAMPLE: 8L06 90-95

Copper	96	Iron	19000	Lanthanum	
Silver		Cobalt		Cerium	
Gold		Nickel	10	Praseodymium	
Zinc	63	Cesium		Neodymium	
Cadmium		Rubidium	200	Samarium	
Mercury		Barium	500	Europium	
Gallium		Strontium	120	Gadolinium	
Indium		Titanium	970	Terbium	
Thallium		Zirconium	90	Dysprosium	
Germanium		Hafnium		Holmium	
Tin		Thorium	62	Erbium	
Lead		Vanadium		Thulium	
Arsenic		Columbium		Ytterbium	
Antimony		Tantalum		Lutetium	
Bismuth		Chromium		Yttrium	30
Selenium		Molybdenum			
Tellurium		Tungsten			
Bromine		Uranium			
Iodine		Manganese	400		

The values above are estimated elemental concentrations in:
_____ per cent XXXX parts per million _____ grams per liter

No check was made for elements with atomic numbers less than 22.

By Merlyn L. Salmon

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ANALYTICAL REPORT

Job Number 23954
Page 4 of 13 Pages
Date 26 Dec 1978

...D: GEOLABS

...: 8L06 110-115

...pper	72	Iron	15000	Lanthanum	
...ver		Cobalt		Cerium	
...old		Nickel		Praseodymium	
...inc	54	Cesium		Neodymium	
...ium		Rubidium	250	Samarium	
...ury		Barium	570	Europium	
...m		Strontium	62	Gadolinium	
...n		Titanium	1100	Terbium	
...um		Zirconium	130	Dysprosium	
...ium		Hafnium		Holmium	
...in		Thorium		Erbium	
...d	92	Vanadium		Thulium	
...ic		Columbium		Ytterbium	
...ony		Tantalum		Lutetium	
...th		Chromium		Yttrium	73
...m		Molybdenum			
...ium		Tungsten			
...ine		Uranium	54		
...ine		Manganese	230		

The values above are estimated elemental concentrations in:
____ per cent XXXX parts per million ____ grams per liter

No check was made for elements with atomic numbers less than 22.

By Merlyn L. Salmon

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ANALYTICAL REPORT

Job Number 23954
Page 5 of 13 Pages
Date 26 Dec 1978

TO: GEOLABS

SAMPLE: 8L06 115-120

Copper	36	Iron	14000	Lanthanum	
Silver		Cobalt		Cerium	
Gold		Nickel		Praseodymium	
Zinc	81	Cesium		Neodymium	
Cadmium		Rubidium	180	Samarium	
Mercury		Barium	650	Europium	
Gallium		Strontium	110	Gadolinium	
Indium		Titanium	1100	Terbium	
Thallium		Zirconium	110	Dysprosium	
Germanium		Hafnium		Holmium	
Tin		Thorium	93	Erbium	
Lead	81	Vanadium		Thulium	
Arsenic	26	Columbium		Ytterbium	
Antimony		Tantalum		Lutetium	
Bismuth		Chromium		Yttrium	50
Selenium		Molybdenum			
Tellurium		Tungsten			
Bromine		Uranium			
Iodine		Manganese	260		

The values above are estimated elemental concentrations in:
_____ per cent XXXX parts per million _____ grams per liter

No check was made for elements with atomic numbers less than 22.

By: Merlyn L. Salmon

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ANALYTICAL REPORT

TO: GEOLABS

Job Number 23954
Page 6 of 13 Pages
Date 26 Dec 1978

SAMPLE: 8L06 120-125

Copper	75	Iron	11000	Lanthanum	
Silver		Cobalt		Cerium	
Gold		Nickel		Praseodymium	
Zinc	46	Cesium		Neodymium	
Cadmium		Rubidium	270	Samarium	
Mercury		Barium	390	Europium	
Gallium		Strontium	130	Gadolinium	
Indium		Titanium		Terbium	
Thallium		Zirconium	80	Dysprosium	
Germanium		Hafnium		Holmium	
Tin		Thorium		Erbium	
Lead	100	Vanadium		Thulium	
Arsenic	19	Columbium		Ytterbium	
Antimony		Tantalum		Lutetium	
Bismuth		Chromium		Yttrium	36
Selenium		Molybdenum			
Tellurium		Tungsten			
Bromine		Uranium			
Iodine		Manganese	180		

The values above are estimated elemental concentrations in:
_____ per cent XXXX parts per million _____ grams per liter

No check was made for elements with atomic numbers less than 22.

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ANALYTICAL REPORT

Job Number 23954
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Date 26 Dec 1978

TO: GEOLABS

SAMPLE: 8L06 150-155

Copper	63	Iron	9400	Lanthanum	
Silver		Cobalt		Cerium	
Gold		Nickel		Praseodymium	
Zinc	86	Cesium		Neodymium	
Cadmium		Rubidium	80	Samarium	
Mercury		Barium	1100	Europium	
Gallium		Strontium	190	Gadolinium	
Indium		Titanium	480	Terbium	
Thallium		Zirconium	210	Dysprosium	
Germanium		Hafnium		Holmium	
Tin		Thorium		Erbium	
Lead	57	Vanadium		Thulium	
Arsenic		Columbium		Ytterbium	
Antimony		Tantalum		Lutetium	
Bismuth		Chromium		Yttrium	25
Selenium		Molybdenum			
Tellurium		Tungsten			
Bromine		Uranium			
Iodine		Manganese	240		

The values above are estimated elemental concentrations in:
____ per cent XXXX parts per million ____ grams per liter

No check was made for elements with atomic numbers less than 22.

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ANALYTICAL REPORT

Job Number 23954
Page 8 of 13 Pages
Date 26 Dec 1978

TO:

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SAMPLE: 8L06 155-160

Copper	69	Iron	7200	Lanthanum	
Silver		Cobalt		Cerium	
Gold		Nickel		Praseodymium	
Zinc	38	Cesium		Neodymium	
Cadmium		Rubidium	220	Samarium	
Mercury		Barium	720	Europium	
Gallium		Strontium	130	Gadolinium	
Indium		Titanium	160	Terbium	
Thallium		Zirconium	63	Dysprosium	
Germanium		Hafnium		Holmium	
Tin		Thorium	54	Erbium	
Lead	72	Vanadium		Thulium	
Arsenic		Columbium		Ytterbium	
Antimony		Tantalum		Lutetium	
Bismuth		Chromium		Yttrium	18
Selenium		Molybdenum			
Tellurium		Tungsten			
Bromine		Uranium			
Iodine		Manganese	130		

The values above are estimated elemental concentrations in:
_____ per cent XXXX parts per million _____ grams per liter

No check was made for elements with atomic numbers less than 22.

By Merlyn L. Salmon

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ANALYTICAL REPORT

Job Number 23954
Page 9 of 13 Pages
Date 26 Dec 1978

TO: GEOLABS

SAMPLE: 8L06 160-165

Copper	53	Iron	5900	Lanthanum	
Silver		Cobalt		Cerium	
Gold		Nickel	10	Praseodymium	
Zinc	63	Cesium		Neodymium	
Cadmium		Rubidium	210	Samarium	
Mercury		Barium	650	Europium	
Gallium		Strontium	120	Gadolinium	
Indium		Titanium		Terbium	
Thallium		Zirconium	110	Dysprosium	
Germanium		Hafnium		Holmium	
Tin		Thorium	130	Erbium	
Lead	63	Vanadium		Thulium	
Arsenic		Columbium		Ytterbium	
Antimony		Tantalum		Lutetium	
Bismuth		Chromium		Yttrium	59
Selenium		Molybdenum			
Tellurium		Tungsten			
Bromine		Uranium			
Iodine		Manganese	190		

The values above are estimated elemental concentrations in:
_____ per cent XXXX parts per million _____ grams per liter

No check was made for elements with atomic numbers less than 22.

By Merlyn L. Salmon

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ANALYTICAL REPORT

Job Number 23954
Page 10 of 13 Pages
Date 26 Dec 1978

TO:

GEOLABS

SAMPLE: 8L06 165-170

Copper	30	Iron	4700	Lanthanum	38
Silver		Cobalt		Cerium	88
Gold		Nickel		Praseodymium	
Zinc	86	Cesium		Neodymium	
Cadmium		Rubidium	210	Samarium	
Mercury		Barium	690	Europium	
Gallium		Strontium	81	Gadolinium	
Indium		Titanium		Terbium	
Thallium		Zirconium	79	Dysprosium	
Germanium		Hafnium		Holmium	
Tin		Thorium	48	Erbium	
Lead	32	Vanadium		Thulium	
Arsenic		Columbium		Ytterbium	
Antimony		Tantalum		Lutetium	
Bismuth		Chromium		Yttrium	51
Selenium		Molybdenum			
Tellurium		Tungsten			
Bromine		Uranium			
Iodine		Manganese	63		

The values above are estimated elemental concentrations in:
____ per cent XXXX parts per million ____ grams per liter

No check was made for elements with atomic numbers less than 22.

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ANALYTICAL REPORT

Job Number 23954
Page 11 of 13 Pages
Date 26 Dec 1978

TO:

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SAMPLE: 8L06 170-175

Copper	63	Iron	10000	Lanthanum	80
Silver		Cobalt		Cerium	190
Gold		Nickel		Praseodymium	
Zinc	66	Cesium		Neodymium	
Cadmium		Rubidium	170	Samarium	
Mercury		Barium	620	Europium	
Gallium		Strontium	160	Gadolinium	
Indium		Titanium		Terbium	
Thallium		Zirconium	110	Dysprosium	
Germanium		Hafnium		Holmium	
Tin		Thorium		Erbium	
Lead	88	Vanadium		Thulium	
Arsenic		Columbium		Ytterbium	
Antimony		Tantalum		Lutetium	
Bismuth		Chromium		Yttrium	38
Selenium		Molybdenum			
Tellurium		Tungsten			
Bromine		Uranium			
Iodine		Manganese	260		

The values above are estimated elemental concentrations in:
_____ per cent XXXX parts per million _____ grams per liter

No check was made for elements with atomic numbers less than 22.

By Merlyn L. Salmon

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Job Number 23954
Page 12 of 13 Pages
Date 26 Dec 1978

TO:

GEOLABS

SAMPLE: 8L06 175-180

Copper	110	Iron	44000	Lanthanum	
Silver		Cobalt		Cerium	
Gold		Nickel	74	Praseodymium	
Zinc	190	Cesium		Neodymium	
Cadmium		Rubidium	150	Samarium	
Mercury		Barium	490	Europium	
Gallium		Strontium	280	Gadolinium	
Indium		Titanium	2000	Terbium	
Thallium		Zirconium	88	Dysprosium	
Germanium		Hafnium		Holmium	
Tin		Thorium		Erbium	
Lead	110	Vanadium		Thulium	
Arsenic		Columbium	25	Ytterbium	
Antimony		Tantalum		Lutetium	
Bismuth		Chromium		Yttrium	
Selenium		Molybdenum			
Tellurium		Tungsten			
Bromine		Uranium			
Iodine		Manganese	680		

The values above are estimated elemental concentrations in:
____ per cent XXXX parts per million ____ grams per liter

No check was made for elements with atomic numbers less than 22.

By Merlyn Salmon

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Job Number 23954
Page 13 of 13 Pages
Date 26 Dec 1978

TO:
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SAMPLE: 8L06 180-185

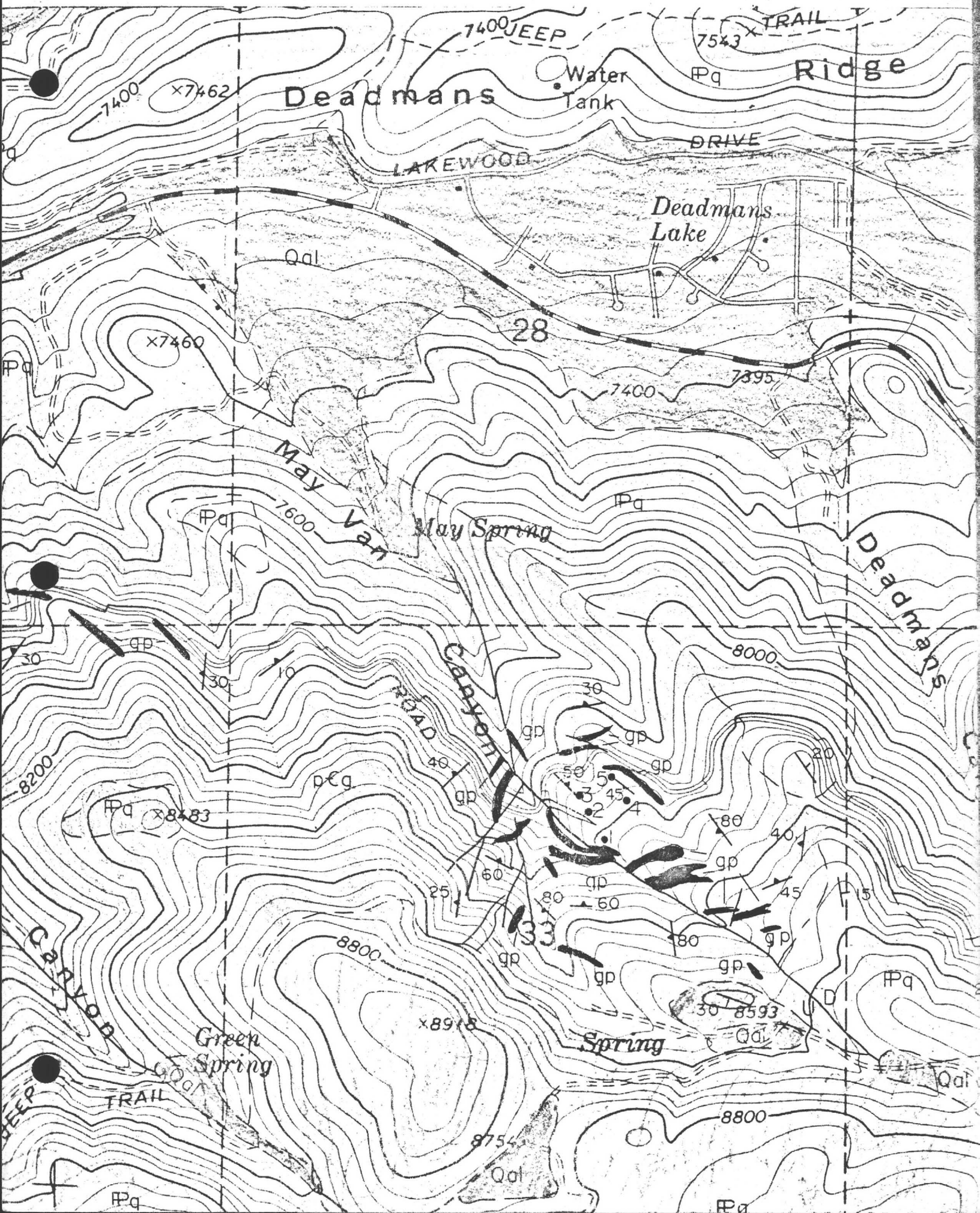
Copper	96	Iron	42000	Lanthanum	110
Silver		Cobalt		Cerium	250
Gold		Nickel	170	Praseodymium	
Zinc	240	Cesium		Neodymium	
Cadmium		Rubidium	110	Samarium	
Mercury		Barium	310	Europium	
Gallium		Strontium	270	Gadolinium	
Indium		Titanium	1600	Terbium	
Thallium		Zirconium	68	Dysprosium	
Germanium		Hafnium		Holmium	
Tin		Thorium		Erbium	
Lead		Vanadium		Thulium	
Arsenic		Columbium		Ytterbium	
Antimony		Tantalum		Lutetium	
Bismuth		Chromium		Yttrium	
Selenium		Molybdenum			
Tellurium		Tungsten			
Bromine		Uranium			
Iodine		Manganese	1400		

The values above are estimated elemental concentrations in:
_____ per cent XXXX parts per million _____ grams per liter

No check was made for elements with atomic numbers less than 22.

By Merlyn L. Salmon

NOTE: A PORTION OF THE REPORTED SAMPLES WILL BE RETAINED ON FILE FOR A PERIOD OF TWO YEARS FROM THE ABOVE DATE. THE REMAINDER OF THE SAMPLE WILL BE RETAINED FOR THIRTY DAYS PENDING RECEIPT OF WRITTEN INSTRUCTIONS FOR DISPOSAL FROM THE ADDRESSEE ABOVE.

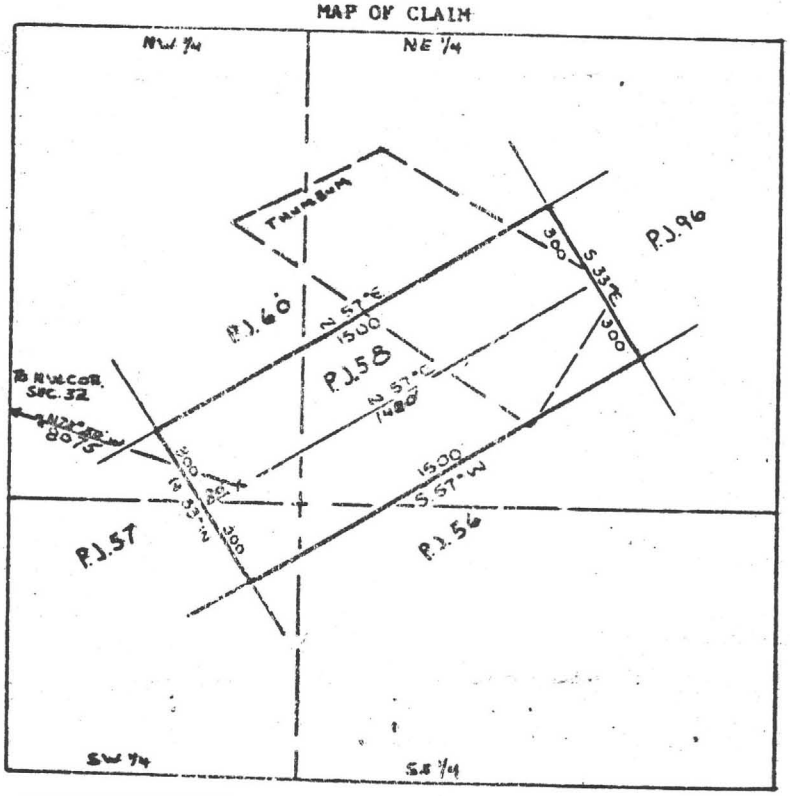

7400
JEEP
TRAIL
7543
Ridge
Water Tank
Deadmans
7400
×7462
DRIVE
LAKEWOOD
Deadmans Lake
Qal
28
×7460
7395
7400
May Van
May Spring
7600
Deadmans
8000
Canyon
ROAD
8200
×8483
33
8800
Green Spring
Spring
×8918
8593
Qal
TRAIL
8754
8800

STATE OF CALIFORNIA
LOCATION CERTIFICATE
Lode Claim on Public Domain

KNOWN ALL MEN BY THESE PRESENTS, That Glen Kirkpatrick, Agent for PORTLAND GENERAL ELECTRIC COMPANY has located P.J. 58 Lode Mining Claim situated on land belonging to the United States of America located in NW 1/4, Section 33, T. 2N, R. 2E, SBM, Big Bear Mining District, San Bernardino County, California and by this certificate along with the right of discovery and location claim 1500 feet, linear and horizontal measurement along the vein thereof, with all its dips and angles and variations as allowed by law, together with 300 feet on each side of the middle of said vein at the surface, and all veins, lodes, ledges, deposits and surface ground within the lines of said claim with the discovery being 20 feet NE of the West End Center, the general course of this claim being N57°E described by metes and bounds as follows:

Beginning at the Discovery
Thence North 57° East 20 feet to the East End Center;
Thence South 33° East 300 feet to the Southeast Corner;
Thence South 57° West 1500 feet to the Southwest Corner;
Thence North 33° West 300 feet to the West End Center;
Thence North 33° West 300 feet to the Northwest Corner;
Thence North 57° East 1500 feet to the Northeast Corner;
Thence South 33° East 300 feet to the East End Center.

MAP OF CLAIM



Scale: 1" = 500'
Prepared from an actual fied survey

Said Lode Discovered on July 26, 1979
Said Lode Located on July 26, 1979
Dated on July 26, 1979

Recorded at request of and mail to:
Robert W. Haines
Suite 310
610 S.W. Broadway
Portland, Oregon 97205

Glen Kirkpatrick
Agent for
Portland General Electric Co.
121 S.W. Salmon Street
Portland, Oregon 97204

Sr. Valanco
F-8

5721 Ruthelen St,.
Los Angeles, California
Subject: VALLADARES MINING CLAIMS
My reason for going to Valladares:
During the month of february 1936, I had atalk with J.W. Wihite of Los Angeles inregard to the Valladares mining properties located about 30 miles southwest of San Telmo in Baja Calif, it was at this time I asked Mr White if it was in the vicinity of some property owned at one time by Mr. Goldbaum, Mr. White then adviced that, that was the same property. R
Remembering that I read the Geologist's report about seven years ago which Mr, Goldboum was kind enough to discuss with me, I was unsuably pleased with wath I faund thein. All of which lead up to my being able to go to Valladares at the suggection of Mr, White during the month of june for the specific purpose of making a complete personal abservation and survey of everything there of commercial value.
What I found there.
Upon my arrival, I found at the property a litle gold saving machine for the purpose of testing the dirt being used by the group of men on the property. This maching was not operating succesfuly beacuse many reasons, I would describe this maching as fallows: A trombel screen ,6 riffles with wirw race, in the reefles pans there were five balls weighing from 5 to 10 lbs. each. This maching operated with a back and forwar movement with the balls resting on 5 U rods made of 1/8 steel. After inspecting and running this maching I concluded that it was not adapted for that particular class of dirton accommercial basis beceise it wo would serve not more than 1 to 2 yards per hour inasmuch as this particular dirt has to be broken down and dissolved more consistentlt than this maching would do.
I was atrettedby one part of this property wich I afterwards found out was GOLDEN HILL.
On thuroday july 25, I decided to make a thorough test of this particular hill. My first intention was to have two of the men shoot the lower end with dynamite at 4:00 A.M.
After much consultation at that hour we found out that the structure was too aft to drill successfully for shooting purposes, it was only necessary to use pick and shovel for this purpose of tearing down that portion of the hill. We toock about 10 to 15 yards of dirt from the side of that portion of the hill and ran some through the Morry gold saving machine for the purpose of determining commercial values therein. Althrogh the machine did not function 100% neverthe less in measuring and weighing that savings that came out of the maching, the total recovery was 4.1/2 penny weights of free gold for 4 hours, 45 minutes, total number of hours the machine actualy operated. Yardage:7.1/2 or 1.68 yards per hour. all of this totaled about $7.85 or $ 1.04 per yard.This does not make in consideration the gold which was lost in the waste dirt which went over the top through the machine which subsequently proved equally as rich in gold. For that reason I had the men pan the same kind of dirt that was goin through the machine and by measurments worked 60 feet of dirt resulting in a recovery of $3.67 per yard of free gold, then I formed my final conclusion that this gold saving machine would not hndle this particular kind of dirt. The dirt mentio ned included surfase to a depth of aproximately 10 ft, into the side of the hill. I next de decided toexamined more of the hill with the ultimated aim of testing it in entirely near as my time would allow. I then proceeded to examined the top of the hill, the surface and open cuts. this open cuts incidentally were made by indians who highgraded various parts of this over a period of time, so many of the cuts were as deep as 20 to 30 ft, the result showed 100% in fine gold and coarse and in some instances nugets weighing from 1/2 to 8.1/2 pennyweights,My ultimated experience and findings were the dirt concerned, on all sides of the hill, in the open cuts made by the indians, in yhe tunnels made by others people over a period of time and by the group of men which I found upon my arrival, showed 100% in rich concentrates and free gold. I personaly washed and supervised the washing of more than 150 pans of this placer from various parts of GOLDEN HILL. I had no way at that time of determining the exact value of the concentrates but from all aperances I knew that they were very rich in values to be determined lated. Consequently those concentrates were kept until such time as we could reach the united states for the purpose of assaying. Where Golden Hillis concerned, I can safely say that of the shale, serpentine and loose dirt matter without-gri grinding,will run all the way from 50 cents, up to as much as 12.00 dollares for cubic yard in free gold. I might say according to my estimate I figure that there is aproximately only 1/3 free dirt which ultimately goes through the washing machine. Upon this amount of we must base our assays and subsequently have based aour values from from assays accordingly I estimate in this particullr GOLDEN HILL that there is aproximately 4,600.000 cubic yards of placer, vein matter and serpentine shale. I arrived at the above estimate by measuring the height, width, and lenght of Golden Hill and by reason of my general survel in many tunnels and open cuts I was able to determine the consistency of the structure as herein descri bed . Coring ddown into yhe cayon on the north side of Golden Hill I had several tests made from surface and also found commercial values thru out. Had a 6'x 8' hole dug, the surface of which I was washed sand and a packed layer of dirt from aproximately 4 ft. which had very litle value but did find colors in some panning. However, we always found the black con contrtes of some character. That hole was dug ti a depht aproximately of 12ft. at which we encountered sand after going through the layer of packed dirt, then beginig to get into the black sand, as my time was limited, did not urge further diggins.

Subecuently made several tests from the botton of the water well on the property and also found coarse gold and heavy concentrates. Naturarely the gold would be coarse because it wa: in the water. I believe that in going below the water level one would continue to find gold in great value. I am of the opinion that the entire cayon which consist of the river bed. will run to a depht of 30 to 60 ft. to bed rock throghout. the width of the canyon varies from about 100 to 800 ft. and is aproximately 1/2 mile in langh. all surface testings show colrs and fine gold, this is not part of Golden Hill proper, aside from the placer there is in Golden Hill vein formation and ore. there are workings know as the SIMPSON tunnel, a cro: cut of aproximately 70 ft. which came into contac with an ore vein of an aproximately 40ft, which in my opinion by sinking a shft of this particular ore vein, I am sure that ore culd be developed in a very short period to warrant a pilot mill of aproximately 25 tons or more This particular cross cut mentioned is aproximately 75 to 100 ft. below surface and has no indications of out cropping on surface.

In examining these varifus tunnels on the property I come across some workings known as Valladares no. I and Victoria tunnels having been dug by the men whom I found on the property at the present time . In throughly examining the vein matter therein I found a formation which apparently was coming from the out side of the tunnel , therefore in sinking aproximately 25 ft. at a point of 8 or 10 ft. outside of the tunnel I found that the blanket formation had straightened itself and had widened to aproximately 6 ft. and indications show that it will widen considerably more . Whis particular work was personally superviced by me, and when I left the mine, We were aproximately 7 to 10 ft. above water level.
It is my belief that we aby sinking down on this particular ore vein there is no question in my mind but that we are on the main Ledge. I further believe that aproximately from 20 to 50 ft. below water level that we will be in ore of high commercial value. The reason for the richness in this Hill in general is in my opinion simply this : That it was fed from blanket veins from this Major Ledge, by coming above water level it has deposited its b. blnket fomation and ore shoots throughout the hill, backing up my contention I would say that all of these little stringrs and blnket fomation lead back to this main body, very easyly traced at the present time by reason of the fact that we have connected the shaft with the tunnel and it is plainly visible.
Parallel to Golden Hill : Runing in an easterly and westerly direction, but on the north side is a dike of huge proportions, which in my opinion is the cause of this ledge being prominent in that particular position.
This upheaval at some time dipping from south, naturaly contacted the dike herein mentioned upward to surface the receded itself, therefore, the most logical conclusion would be that the deeper we go, the richer and more permanent would we find this ledge to be.
During my stay at Valladares , MR, C.E. Rachal visited the property for personal inspection and while there working under his supervision we made 32 pan tests, all registering free gold and black concentrates wiht the exception of two, namely , two pans of dirt which had previosly washed, and it showed concentrates which in my opnion carried gold not visible to naked eye. In company of Mr. Rachal wewent over my previos findings on the property inspected before his arrival including tunnel and every thing else mentioned herein and he corroborated my opinion of findings down to date of departure at which time we both agreed that it would be a good idea to bring out with us as much dirt as posible, picket from various parts of the hill for a machine test. he then asked my idea of a suitable placer machine. My past experience wiht various types of placer and placer machines caused me to suggest a bowl machine. The Linco Engineering Co. making the best type of bowl today in my opinion I decided to take this dirt ti theirs plant, it was agreed.
Upon arrival we found by weight we had 545 lbs. after a test of 2 days the bowl machine showed 100% recovery. on the first day, July 14th, Mr Clark of the Linco Co. in my presence ran 313 lbs. through his bowl machine, at which time eminently satisfactory results wre had. On july 15th, I supervised the runing of the 232 lbs. remainning, in the presence of Mr. Rachal and upon completion carried the savings to the Wako assaying Co. Subway terminal bldg. los Angeles, for report on values. The result on the savings on the second day was was just as rich in values as on previous running of the 313 lbs., and the recobery by the maching still registred 100% .
The final result from assayer's report on savings from the 545 lbs. was as Fallows:

Free Gold ———————— ~~$ 295~~ ——— $ 3.95 per ton
Concentrated ———————— $ 35. 70 per ton

Which I belived can be considered very good indeed, incintally some of the larger nuggts failed to amalgam by reason of the fact that some grease os foreing matter covered same because of previous handling by us in examining the gold, but noticed after assay was completed. It would not be fair to confine yourself to $ 35.70 per ton of concetrates as ascertained from the runing of the 545 lbs. because that was just from the leavingss of of the bowl without a concetration table, it does not make any difference whether you run 5 minutes or 24 hours, you would have the same amount of concentrates remaining in the bowl hence the need of a concentrated table to catch all your concentrates.
The weigh of this dirt is aproximately 3300 lbs. per cubic yard, concquently for every yard handled by the Linco bowl machine, your values would be better than 1/3 more. Further information pertaining to the concentrates can be had by Louis R. Rovney, E/M this test was made as a result of 3 days atay by him on the property in question.
Sample submited by: J. L. White.
Sample: 9.722 grams . or 1/3 at.

10208 PARK
BELLFLOWER CA 90706
SEPT 30, 1981

GROVER D. HEINRICHS & ASSOCIATES
1802 W. GRANT RD.
TUSCON, ARIZ. 85705

RE: THOMBUM

DEAR MR HEINRICHS:

HERE'S AN ASSAY SUMMARY THAT SHOULD BE WITH THE P.G.E.-THOMBUM PROJECT FOLDER.

THESE WERE ALL TAKEN BEFORE PGE LEASED THE CLAIMS AND WERE NOT WITH THEIR MATERIAL.

BOB MINDTE

THUMBUM GROUP ASSAYS

Sept. 10, 1953	Eisenhauer Labs. L.A.	0.02%	ORIGINAL DISCOVERY (Lost Rattler)
Oct. 15, 1953	Keldon Spectrograph L.A.	0.05 to 0.10	Pink granite (Float)
Oct. 31, 1953	Eisenhauer Labs. L.A.	0.40	ORIGINAL THUMBUM DISC. (Float)
Nov. 2, 1953	AEC Grand Junction	0.10 0.09 0.42	Thumbum Disc.(in place) " " " " Thumbum (float)
Nov. 9, 1953	U.S. Bureau of Mines Salt Lake City	0.12 0.07 0.71	These 3 assays are duplicates of above 3 AEC assays.
Dec. 30, 1953	AEC Grand Junction	0.04 0.62	Thumbum leach seam Thumbum spot
Jan. 28, 1954	Keldon Spectrograph	0.2 to 2.0	Thumbum
June 22, 1954	U.S. Bureau of Mines Salt Lake City	0.31	Cross sampling Thumbum
July 15, 1954	Vitro Uranium Salt Lake	0.20	1350 lbs. Thumbum
Oct. 12, 1954	AEC Grand Junction	0.65	25 lbs from Thumbum shipment
Jan. 7, 1957	Keldon Research L.A.	0.034	200 lbs cross sampling Pink Jewell, Puente
Sept. 5, 1957	Eisenhauer Labs. L.A.	0.049	Quartered from above (Same sample)
Sept. 11, 1957	Vitro Uranium Salt Lake	21.65	100 lbs. high grade Este - CONFIRMED VITRO CHEMICAL 3/15/60
Oct. 25, 1957	Eisenhauer Labs. L.A.	0.29	35 lbs cross sampling Pink Lady
June 30, 1958	Rare Metals, Tuba City	0.10	6 tons Pink Lady
,1959	Eisenhauer Labs. L.A.	0.044	Calif. Zeta Disc. vein
Feb. 1960	Eisenhauer Labs. L.A.	0.061	Calif. [illegible]