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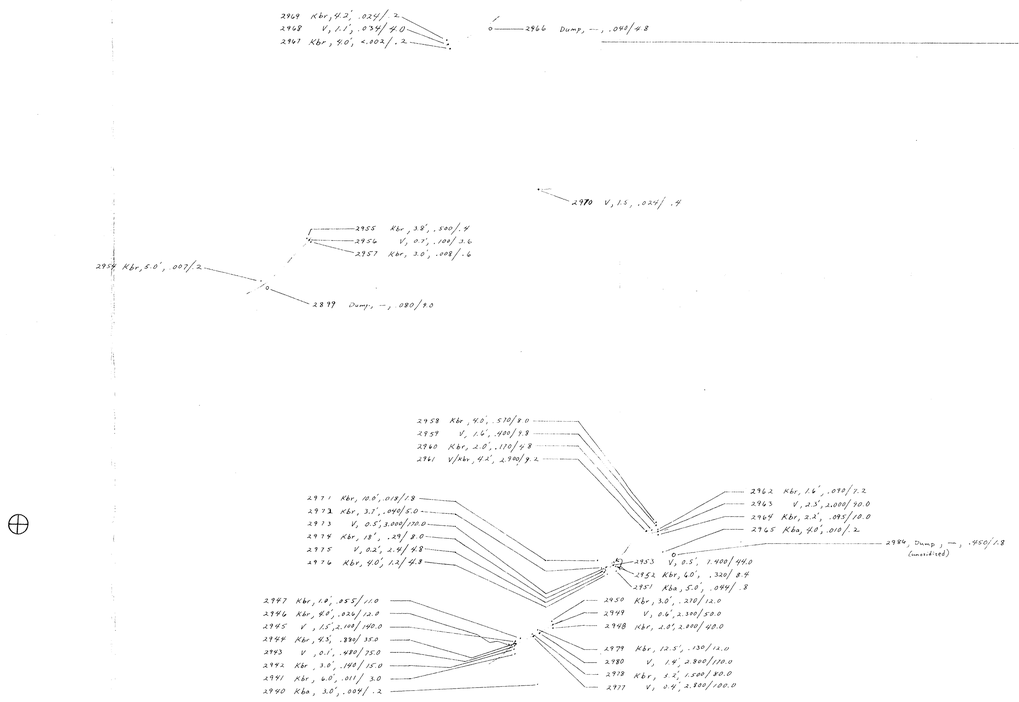
T. 20 S.

T. 21 S.



EXPLANATION

Vein

• or ⊢ Rock chip sample

○ Mine dump sample

Sample No. Rock Unit, Sample Length, Au(ppm)/Ag(ppm)

2990 Kbr, 7.7', .010/ 28.0

Note: Sample numbers have been abbreviated by dropping the prefix "LBO-DE-" and the suffix "-82"

V Vein

Kbr Bronco Rhyolite

Kba Bronco Andesite

Kha Hornblende - Andesite Dikes

200 100 0 400 200 400 600 800
SCALE IN FEET

R. 21 E. | R. 22 E.

PLATE 2

HOUSTON INTERNATIONAL MINERALS CORPORATION
A Subsidiary of Houston Oil & Minerals Corporation

COMPILED	DATE	DRAFTED	DATE
[illegible]	8-82	JAS	10-12-82
REVISED	DATE	REVISED	DATE

COCHISE COUNTY ARIZONA
T21S - R21E

LITTLE BOQUILLAS RANCH
CHARLESTON VEIN SYSTEM
ROCK-CHIP & DUMP SAMPLES
WITH Ag & Au ASSAYS
(COLLECTED IN 1982)

DATE 10-12-82 SCALE 1"=200' DWG. NO.

SCALE IN FEET

200 100 0 200 400 600 800

San Pedro River

CHARLESTON ROAD

TAILINGS POND 2
W/TAILINGS

Register Mark

MANILA SHAFT
reported depth 430
water at 68
in 1948

FERN SHAFT
air rhyolite

TUNNEL

DUMP

FOOTWALL VEIN

HOWDOTCH VEIN

JOSEPHINE VEIN

MANGANESE VEIN

RATTLER VEIN

DEAN RICHMOND pat. No. 5386

No. Mapped

shear zone

flow banded

sheeting & silicification w/MnO2

zone w/ MnO2 on fractures

MnO2 on fractures

epidote on fractures

bleached Kba

Ppl cont.

propylitic

gran (prop tuff)

flow lineation

sporty

gyalena qtz

4' wk qtz str zone
Hot Spring silica ?

wk prop

w/qtz cobbles

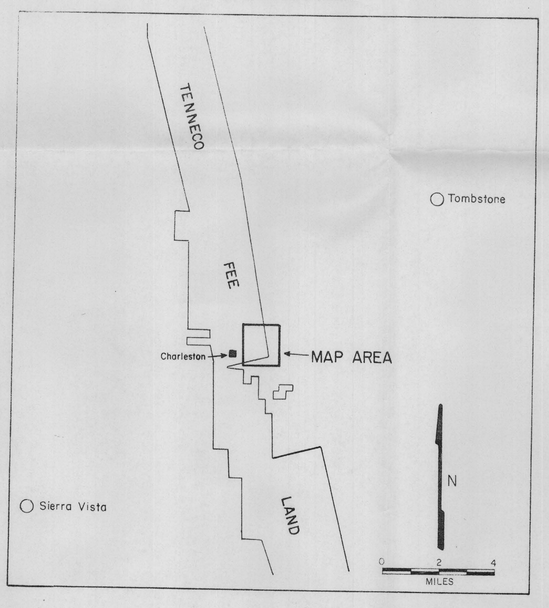
Qal
Qoa
Qoa/Kba
Kba
Kbr
Kbal
Kha
Khal
Khb
Khc
Khd
Kup
Q1
Tol
bf
p
d
u
v

A
A'
B
B'
B-B'
80-85 B

0588 0589 0563 0584 0539 0543 0614 0618 0560 0570 0569 0444 0496 0450 0449 0442 0443 0401 0508 0512 0535 0537 0533 0532 0613 0614

A'CD-3 90'78

LOCATION MAP



ROCK UNITS

CENOZOIC Quarternary	Qal	Alluvium
	Qoa, Ql	Older alluvium, colluvium, and pediment gravels. Ql = lake beds
	Qt	River terrace deposits
	UNCONFORMITY	
MESOZOIC Cretaceous UPPER	Kha	Hornblende – Andesite plug and associated dikes.
	Kup	Uncle Sam Porphyry (Tuff), 71.9 – 73.5 m.y., quartz latite ash flow tuff.
	Ksc	Schieffelin Granodiorite, 72 — 76 m.y., granodiorite to quartz monzonite. (not exposed in map area)
	UNCONFORMITY	
	Kbr	BRONCO VOLCANICS: Kbr – Rhyolite Member, tuffaceous flows, flow domes(?), and volcaniclastic rocks.
	Kba	Kba – Andesite Member, flows and intrususions, with some volcaniclastic rocks.
	UNCONFORMITY	
LOWER	Kb	Bisbee Formation sedimentary and metamorphosed sedimentary rocks: sandstone, siltstone, shale, and limestone.

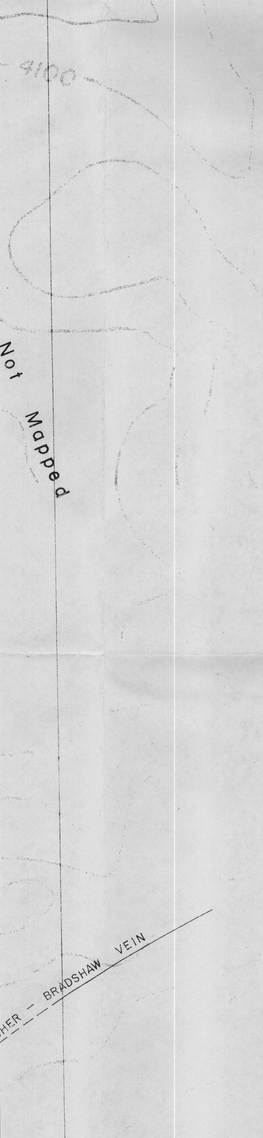
ROCK ALTERATION

- Phyllic/Argillic: seriticitization, argillization silicification with bleaching. Minor alunite. Limonite, hematite, jarosite after pyrite.
- Propylitic: epidote & chlorite.
- Quartz Vein, showing dip. Also: qtz str = quartz stringers.
- "Bleached" Fracture: phyllic/argillic alteration adjacent to fracture or joint.
- Stockwork Fracture Zone: with Fe and Mn oxides (hematite and manganese staining) and locally quartz veinlets.

- CONTACT: dashed where approximated, dotted where concealed, queried where uncertain.
- FAULT: dashed where approximated, dotted where concealed, queried where uncertain. Arrows indicate strike separation, U = upthrown, D = downthrown.
- STRIKE & DIP of BEDDING.
- STRIKE & DIP of FOLIATION in flow banded rhyolite.
- STRIKE & DIP of JOINTING = sheeting
- Breccia
- Zone with quartzite clasts in Kbr.
- Thickness in feet of thin dikes.
- Mine shaft
- Mine workings open at the surface: shafts, stopes, cuts, pits.
- Prospect pit
- Mine dump
- Rock chip sample from ranch reconnaissance program 1978–1982; LBO series.
- Tenneco Fee Land Boundary.

MN 12.5°

NOTE: Topographic base is an enlargement of the topographic map (1"=400', C.I.=5') for the Charleston dam site, mapped by the U.S. Dept. of the Interior, Bureau of Reclamation, 1966, for the San Pedro, Santa Cruz Project – Arizona and the U.S.G.S. 7½ Fairbank quadrangle (1"=2000' C.I. 25') 1952. Topographic base is locally inacurate.



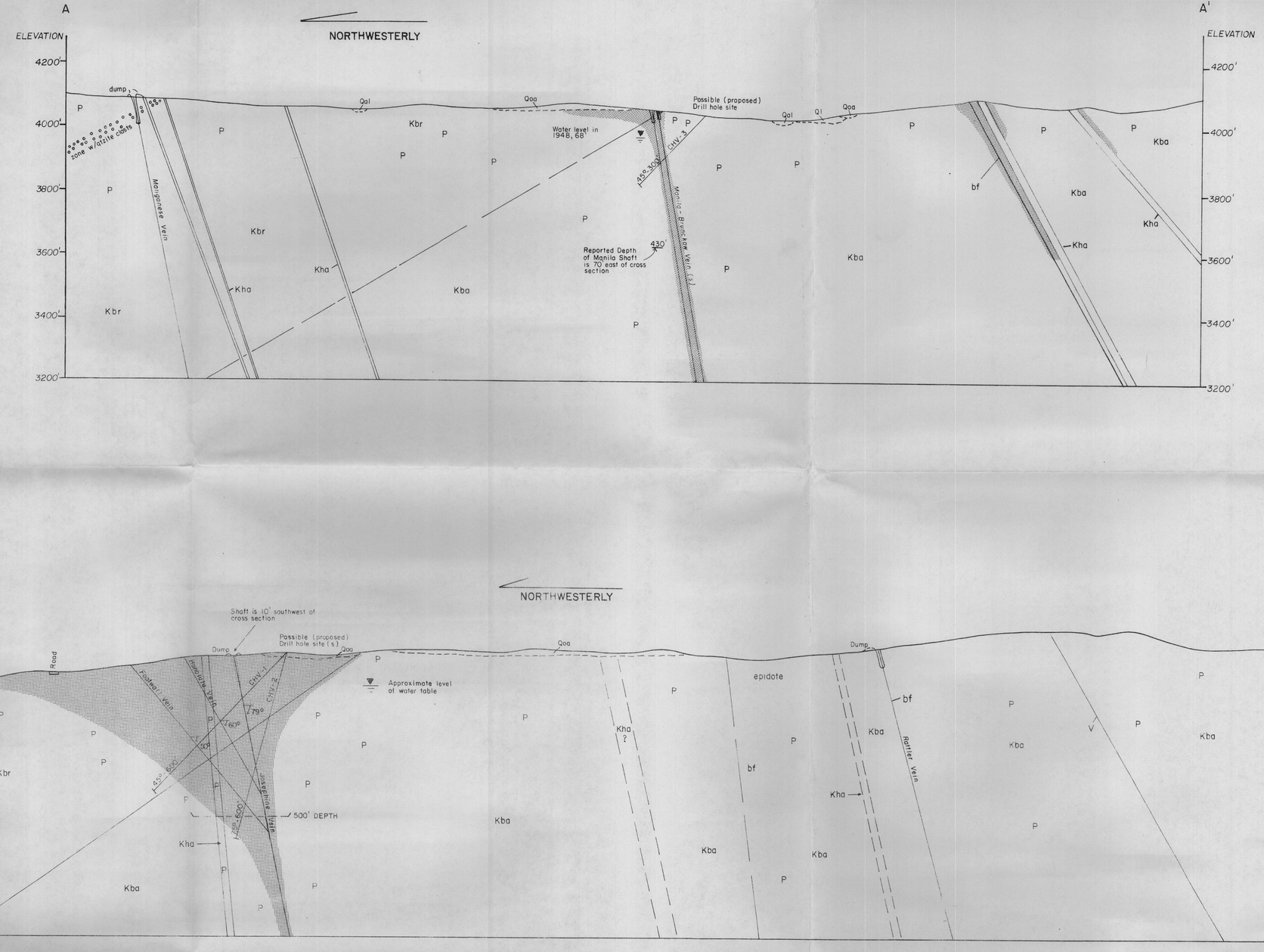


PLATE I

HOUSTON INTERNATIONAL MINERALS CORPORATION
A Subsidiary of Houston Oil & Minerals Corporation

COMPILED	DATE	DRAFTED	DATE
D EMMONS	8/82	J BROOKHOUSER	
REVISED	DATE	REVISED	DATE

COCHISE COUNTY, ARIZONA
T 21 S – R 21 E

LITTLE BOQUILLAS RANCH
CHARLESTON VEIN SYSTEM
GEOLOGY & ALTERATION

DATE 10/18/82 SCALE 1" = 200' DWG. NO.