



IRAN

IRAN

MA 9 207 E. Diehl "Beitrag zur Kenntnis der
Erzfundstellen Iran". Schweiz Min. Petr.

Mitt. (1944), 24, 333-371 1 pl. [map, $1:4 \times 10^6$]

Ca 200 mineral occs. containing Au Pb
Cu Zn Sn Mg As Ni Co Cr Sb Fe Mn or Mo
briefly descr. & locs numbered on a map.

AMAR, E. Azerbaijan, Iran

Copper Abst. 5/68 Cu deposit near Ahar,
E. Azerbaijan, Iran.

ALAM-F-KALL MINE, Anarak, Iran.
ANARAK

PB

Fe mine

ANARAK

BAQHERCQ MINE, Anarak, Iran.

PB Dumps: Minerals similar to
TALMESSI MINE (!!!) [qv]. Lavendulan,
niccolite, etc.

PB, JF Poulten, Min Rec (1980) 295

Talmessi ores smelted here
before foundry at Talmessi installed.

ANARAK

KALI KAFI MINE, Anarak, Iran

PB.

Wulfenite, tetrag prisms; boleite,
xls; & masses to several hundred gm.!
Pseudoboleite xls; diaboleite xls;
some moltramite.

PT, GH, & GW. / 71 Wulfenite, rich small
orange to yellow bipyram. xls
~~encrusting~~ limonite gozzan, with
minor bright green "anarakite"
(IR, RSWB)

ANARAK

MESKANI MINE

Iran

RSWB coll: Lavendulan, micro xls with
azurite etc. (Ex H Conke, Ex Guillemin)

~~ANARAK~~
SEBARZ MINE, Anarak, Iran (I)

PB

Little supergene, BUT:

cerussite, occas. covered w. massicot;
atacamite; rarer diaboleite in small
x/s. Some veins rich in diopase

(~~mm~~ mm x/s), assoc w. chrysocolla, willemit.

Phoenicochroite* galena; blende;

chalcocite.

Fornacite* olive green x/s

on diopase. Iranite* well x/lised in

saffron yellow x/s, "widespread" (!!)

Ph₂As₂ Ph₂S carmine-red x/s (< 0.1 mm) with

* see
(II)



ANARAK

SEBARZ M., Anarak, Iran (II)

PB. & JF Poulsen, Min. Rec. (1980) 295.

Conclude that the iranite
& ph'chroite from Sebarz M
dumps came from Chah-Khuni
Ores from other mines stocked
& treated at Sebarz ~ 1930.

TALMESSI MINE, Anarak, Iran. (I)

PB

Algodonite; α - & β -domeykite;
chalcocite, xls to 1cm; pitchblende; native
copper, masses to several hundred Kg, &
small dendrites, partly converted to cuprite.
Nickelite; sammelsbergite; safflorite; massive
Cuprite, small octah xls, & reticulated
chalcotrichite; heterogenite, bright
botry. masses. Pyrite; marcasite;
galena; blende; bornite; covellite.
Aragonite fine xls in geodes. | Cont'd II

TALMESSI MINE, Anarak, Iran. (II)

(aragonite)
assoc. with talmessite & other arsenates, also
in pale green spherulites. Baryte,
sometimes covered with fine goethite
needles. Calcite abundant, mostly
scalenohedra. Dolomite, small rhombs;
gypsum, small fibrous xls; quartz, small
xls (few mm), often with chalcedony.
Lavendulan, $\text{Na}(\text{Cu}, \text{Ca})_6(\text{AsO}_4)_4 \cdot 4-5 \text{H}_2\text{O}$. very
abundant(!) - small ($\leq 1 \text{mm}$) globs, rarely 1 mm
plates, in Cu carbonates - assoc. with lindackerite,
conichalcite, erythrite, metazeunerite, uranospinitite.
Cont III

TALMESSI MINE, Anarak, Iran. (III)

Conichalcite, abundant, apple green brilliant glob.

Tyrolite, much less abundant, small aggloms with lavendulan,

annakergite & connellite. Lindackerite, pale green to blue satiny mamill aggloms w. lavendulan.

Mixite, small hexag. needles not bigger than 2-3 mm, w. talmessite & cabrerite.

Malachite, rare - mamill. Azurite, rare small xls.

Connellite, 1-3 mm needles with tyrolite & chalcocite.

Atacamite, rare masses with lavendulan & annakergite in calcite.

Annakergite, very abundant!!!

(CONT (IV))

TALMESSI MINE, Anarak, Iran. (IV)

(Annabergite), 5-8 mm well formed xls (!) and powdery massive, with nickelite.

Cabrerite, similar to annab. Garnierite, rare, scaly masses. Zaratite, bright green masses resembling the conichalcite.

Erythrite, always as delicate striated xls in Co. wad. B-Roselite, a few xls in

calcite geodes in Co wad rich in erythrite & sphaerocobaltite in rare globs. Autunite, rare, small xls.

Uranospinitite, v. abund (!!) square plates, up to 10-20 mm !!!, with metazeunerite, lavendulan, annabergite.

Cont (V)

TALMESSI MINE, Anarak, Iran (V)

Metazeunerite, quite abundant, with
uranospinite, often oriented, & tabular,
5-8 mm, with lavendulan. Talmessite*

small ($< \frac{1}{4}$ mm) xls, usually w. conical calcite or lavend;
colourless to pale green; fluor. lemon-yellow in
UV. U, Mg arsenate, v. rare, pale yellow plates
and needles < 1 mm.

*
AM 51 1825 Talmessite - name dropped.

ANARAK

TCHAM CHOUREH MINE, Anarak, Iran

PB

Dumps: Nickelite, smaltite, cobaltite.

Kg of annabergite in masses, also
in fine xls in carbonate.

Vv rare lavendulan & erythrite

PT et al /71 No secondaries other than
crumbly annabergite seen. Nothing
collected

TCHAH KHARBOZE MINE, Anarak, Iran.

PB Wulfenite, blood red xls to 5 cm !!!!!



(I) CHAM KHOUNI MINE, Anarak, Iran.
(I)

PB

Dumps: cupriferous hemimorphite,

rarely as 1 mm xls; willemit, massive;

phosgenite, massive; boelite, $\frac{1}{2}$ mm cubes;

pseudoboelite, often in 1st growth with
boelite. Diaboelite xls; atacamite,

small xls but quite abundant, assoc

with tetrag xls of wulfenite.

Some descloizite. Large masses of

murchisonite, also in xls - several mm.

TEHAH KHOUNI MINE, Anarak, Iran (II)PT, GH, & GW, /71.Phoenicochroite(IR, RSWB), blood-red xls in limonitegozzan in a tunnel with crocoite
small red xls; (hemihedrite ^{= iranite}) (IR, RSWB)small brownish-orange xls wulfenite,
yellow plates. Plattnerite xls onspongy matrix. Murdochite small
brilliant black xls of octahedral
habit, ~~with~~ on hemimorphite some
cupriferous, with minor hemihedrite,

sharp orange xls; traces fornacite,
small green xls, diabolite, light
blue massive $\rightarrow$ x-line; willemite, sheaves
of colourless xls. In an adit
sprinklings of brilliant, sharp little
brownish hemihedrite xls with
diabolite, willemite and green tiny
clusters "anarakite" (?) (IR - no oxy anions,
but on present: - chem: - Pb, Cl, Cu)

PB & JF Poulsen Min Rec (1980) 295. Found the
chromates descr. by Adib et al (1972)
undergr'd in 1973.

ANATOLIA
(T) CHAH KHOUNI M., Anarak, Iran (III)

Adib De Olkeman J (1970) Min Deposita 5 86-93

Adib, Olkeman, B. Nubar (1972) Neu-Jahrb. Min. Mon
328-335

ANARAK
TEHRAN MILLÉ MINE, Anarak, Iran (I)



PB

Dumps: Caledonite, to 2cm!!!!

with small plates leadhillite

Mine: Plattnerite large amounts!!

wulfenite, plates & tetrag prisms, with
mineralite & willemitite.

Hemimorphite, superb xls, to 5cm!!!!

Mimetite xls (1-2 mm) & glob masses to
several cm.

Aragonite

10 cm xls,

Hydrozincite

Hemim!!

ANARAK

(T) CHAH MILLÉ MINE, Anarak, Iran. (II)

PT, GH, eGW. /71

Hemimorphite good,
long crystals ($\rightarrow$ several cm) clustered on
matrix (BWS 71-235); Plattnerite, crusts of tiny
brilliant black needles on calcite, flat
rhombohedra, or on baryte plates or
massive, with minium ~~streak~~ in
geode in sloping tunnel. Mimetite
orange to yellowish botryoidal, with
calcite, baryte, minium, plattnerite, or as
bright orange hex. prisms on blue

chrysocola.

orange bevelled
minium mimetite,
or with crusts
colourless hexag
chalcopysite.

Wulfenite transparent
plates → ss 1 cm, with
cerussite galena,
of willémite,
xls. Altering

(T)CHAH SEFID MINE, Anarak, Iran.

PB Haematite; locally
chalcocite veinlets; some lavendulan
xls; rarely, globs of conichalcite.

PT, GH & G.W. /71 Atacamite (ident. RSWB), v.g.
~~and~~ rich crusts of blades, also
chrysocolla, in a veinlet cut by
an adit.

ASTERABAD

Iran

MA 3 125

Ruby & emerald "near Asterabad"

CHAH KOUH MINE, Isfahan, Iran.

PT, GH, & GW /71 Large, working mine,
co-operative manager showed them to
a dump & allowed them to collect—
limonite goossan, with excellent
aurichalcite, hydrozincite blades,
rosasite, micro-botry; calcite, cl'ers
rhombohedra, minor hemimorphite

PB

Massive galena; blende; rarely
chalcopyrite. Plattnerite, "very

abundant" (!!!) - areas to several sq. metres
covered (!!!). xls to 1.5 cm !!, often twinned to
give cyclic structures. Assoc. with

stalactit. hydrozincite; aurichalcite;
rosasite; cerussite. Cerussite, large

amounts, mostly massive, occas xlied,
twinned; occas to 10 cm, often covered

with hydrozincite, willerite & plattnerite.

cont'd (II)

Pyromorphite, acic. yellow xls on hydrozincite, with hemimorphite & plattnerite. Mimetite, ditto.

Hydrozincite, v. abundant, massive & veinlike, & small delicate xls in limonite

Smithsonite, usually in large green or white sphenulites. Small rhombs w. hemi. in limonite.

Adamite: green xls in cavs in limonite, occas. elong xls to 10 mm.

Willemite, small needles. Aurichalcite, rosasite; limonite, rare, small needles;

hemimorphite, small but perfect xls

Masses of aurichalcite & rosasite, covered with twins (110) of cerussite, the whole sprinkled with 10-15mm xls of plattnerite!!!

The KARA-DAGH

Iran

MA 3 125

Cu ones, at several places

KASHAN

Iran

MA 3 125

Cobaltiferous Ni ore

KERMAN,

Iran

Copper Abstr. 5/68

Cu deposit SW of Kerman

MASHAD,

Khorassan,

Iran

Copper Abstr 5/68

Cu deposit nr Mashad,
Khorassan

MOLKABADE M. Dasht-e-Kavir, Iran

Forghani, A-H, & Mamdarian, F. Rocks & Min (1973)

48 82-84.

Euhed to anhed celestine in sed rocks ca
210 km SE of Tehran, nr. village of Mobarakie.
Xls 2-5cm across, transp, cless, tab^l (001).

NISHAPUR

Iran

MA 3 125

Turquoise - "near Nishapur"

SAR CHESMEH, , Rafsanjan, SE Iran.

Copper Abstract, 5/68, Financ. Times 11/12/67, p.7

Selection Trust → a "mountain of copper", at Sar
Chesmeh, 60 km NW of Rafsanjan, SE Iran.
Very rich deposit indeed.

SEH-CHANGI M., Khorassan, Iran.

~~NE~~ E Iran ~ 250 km NNE of Kerman.

P Bariande J F Poulsen Min Rec (1980) 293-7

207 km desert track to SE of Tabas, in desert, nearest settlements Nayband (55 km) & Dehuk (90 km). Aband 1973.

galena, sphal, cupy, born, pyr, tet/hed-tenn,
chalcocite in qtz & calcite. Interesting
oxid zone minis, incl. chromates, but xls
rarely exceed 2 mm: - iranite-hemihedrite;
fornacite; ph'chroite; ceruss; phosg (small clear xls)
h'ceruss (yell. pdr); wulfenite, mimetite; willemite
(clear prisms); diabol (1-2 mm plates); hemim. descloiz
small xls small xls

Coatings
chrysocolla

TREATISE ON ANALYTICAL CHEMISTRY Part 2 Analytical Chemistry of Inorganic and Organic Compounds Vol. 10

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B-duplicate, massicot,

SOGHAN MINE, Esfandaque, Kerman, Iran.

BM Spec.

Ex P. Bariand.

[RSWB 71-324 is off this)

Hydromagnesite large ^(to 2") colourless blades
rich on matrix. Soghan mine, near
Abdasht mine, Esfandaque, Kerman, Iran

10/7/71

Dear Richard,

We have returned to Tehran after collecting in the Dufshan / Anarak areas, however on account of the long range desert patrol's activities and findings.

1. General Situation Our original intention of basing ourselves at Anarak was thwarted for most of the time by climatic conditions. The day temperature in the desert is around 50°C and a wind like an open furnace, therefore we dehydrated very quickly and consumed over a gallon of water each day, so we based ourselves in Dufshan and commuted for 2 day periods driving at night and collecting in the open between 4 and 9-00 AM. All these mines have been well visited by gemmologists and Barion's report is very misleading both as to locations and minerals.

2. Locations visited

Tchak Hill mine and dump thoroughly searched, collected large amount of small red wulfenite, larger pale wulfenite, a few large hemimorphite, a goodly number of micro - photomorphite crystals on quartz and wulfenite (very fragile material), wulfenite with leadhillite, small specimens of blood red mimetite 1-2 mm on a blue matrix and longer botryoidal orange mimetite.

Tchak Chavak no secondary other than brownly malachite, nothing collected.

Tchak Safid Thoroughly examined, collected, a fair amount of a blue mineral with the appearance of turquoise (is it Barion's ~~then~~ Lavenderstone?) and a large amount of a well crystallized green mineral looking like Brochantite but probably malachite (or atacamite - Tuff) both minerals occur richly but localized.

Cf. Barion's Lavenderstone and conichalcite.

Chak Kach very large working mine, excellent exception, collected a large amount of excellent conichalcite, cf. Barion's (some looking like respite).

Chak Khorani very difficult to find, thoroughly examined, no obvious sign of bolide minerals, collected some atacamite, a few small wulfenite and a lot of blue crystalline material which may reveal something on examination.

Kali Kafi as per Chak Khorani, 120 foot shaft descended, no obvious sign of bolide or azurite, matrix is atacamite and hypopyramidal wulfenite some pleasant stuff collected.

Moushon-de-Gereshk group unable to locate

Tahmouzi mine closed down, but maintained - no access, all dump stuff, smallest slag.

Nafshak access forbidden - large working mine.

3. Future Plans From Tehran we intend to visit the Oghment locality north of Takab, then make our way gently back through Turkey visit some Pb, Zn, Cu, mines we have heard about with open dumps, and have a rest somewhere in Greece or Yugoslavia, it has been very hard work in this heat, with the long desert drives, often across boulders or soft sand. Tuff is now nearly broke, ~~more~~ mileage to - lots 6300.

Have a good holiday,

Pete,