

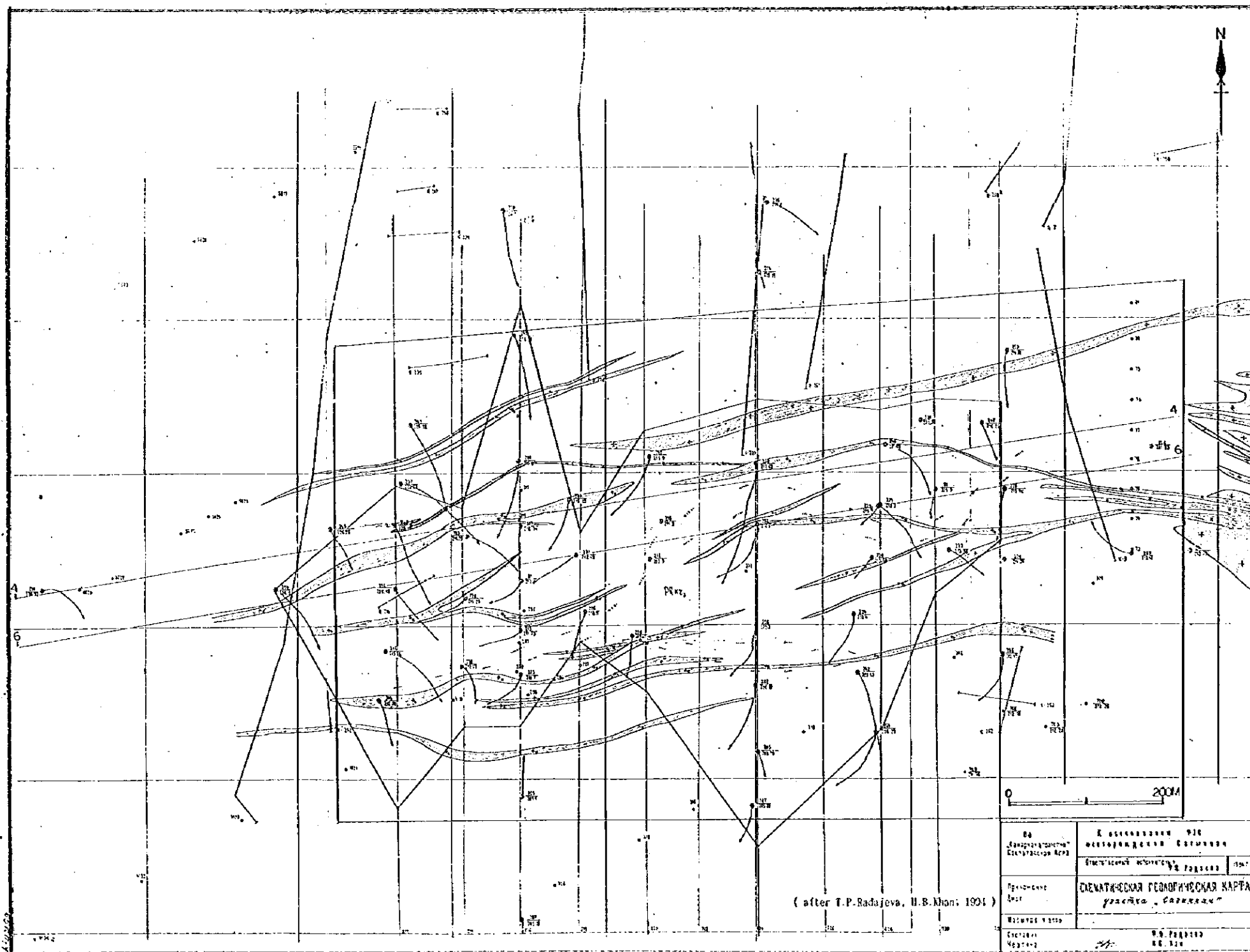
	Quaternary deposits		Slans
	Cretaceous, Permian stage green clays, sandstones, conglomerates		Fracture geologic boundary
	Ekpatan formation metaporphosed siliceous rocks, limonites, bitumens, boraxite, source schists		Disjunctive geologic boundary
	Karashih formation meta-volcanics, hornfels, schists, limonites, bitumens, alluvium		Faults (entranced, S-informed)
	Layers of carbonic rocks favorable for tungsten mineralization		Tectonic breccias
	Late Permian intrusive rocks, Diorites, dykes, diorites, diorite porphyries		Bedding
	Korantites		Subclinal axis
	Early Permian intrusive rocks, bitumens, bitumens, boraxite, microdiarites		Structural axis
	Aplites, apfittic granites		Ore bodies (the International 83/81)
	Grandiorites		Prospecting line
	Late Carboniferous intrusive rocks, lamprophyres		Trenches and steeping
	Cherts, quartzites		Trench profile
	Limestones		Shaft and the water
	Dolomites		Drill holes (core, S - iron core for mapping)
	Carbonaceous siliceous schists		Drill holes (core, S - iron core for mapping)
	Carbonaceous iron quartz schists		Projection of drill holes
	chlorite sericite quartz schists		Boundary of reserves of category C1
	Biotite (feldspar) quartz hornfels, cherts, quartzites, boraxite, boraxite hornfels		Boundary of reserves of category C2
	Late silicate hornfels		Boundary of reserves of category P1
	Amphibole feldspar hornfels		Data for reserve calculation
	Diorites, dykes, diorites, diorite porphyries		S: area of the ore body, C: grade (%)
	Korantites		Q: ore reserves (tours)
	Lamprophyres, microdiarites		P: metal content (tours in 1000 t)
	Aplites, apfittic granites		C: grade (%)
	Grandiorites		Open pit boundary
	Drill collar location (International 83/81 number of the hole)		

Pl. II-1-4(4)

**THE MINERAL EXPLORATION
IN
THE EASTERN BUKANTAU AREA
THE REPUBLIC OF UZBEKISTAN
(PHASE I)**

**GEOLOGICAL CROSS SECTION (LINE 62-62)
OF THE SAUTBAY ORE DEPOSITS**

JAPAN INTERNATIONAL COOPERATION AGENCY
METAL MINING AGENCY OF JAPAN
FEBRUARY 1995
Prepared by MINDECO



(after T.P. Radajeva, H.B. Khon: 1991)

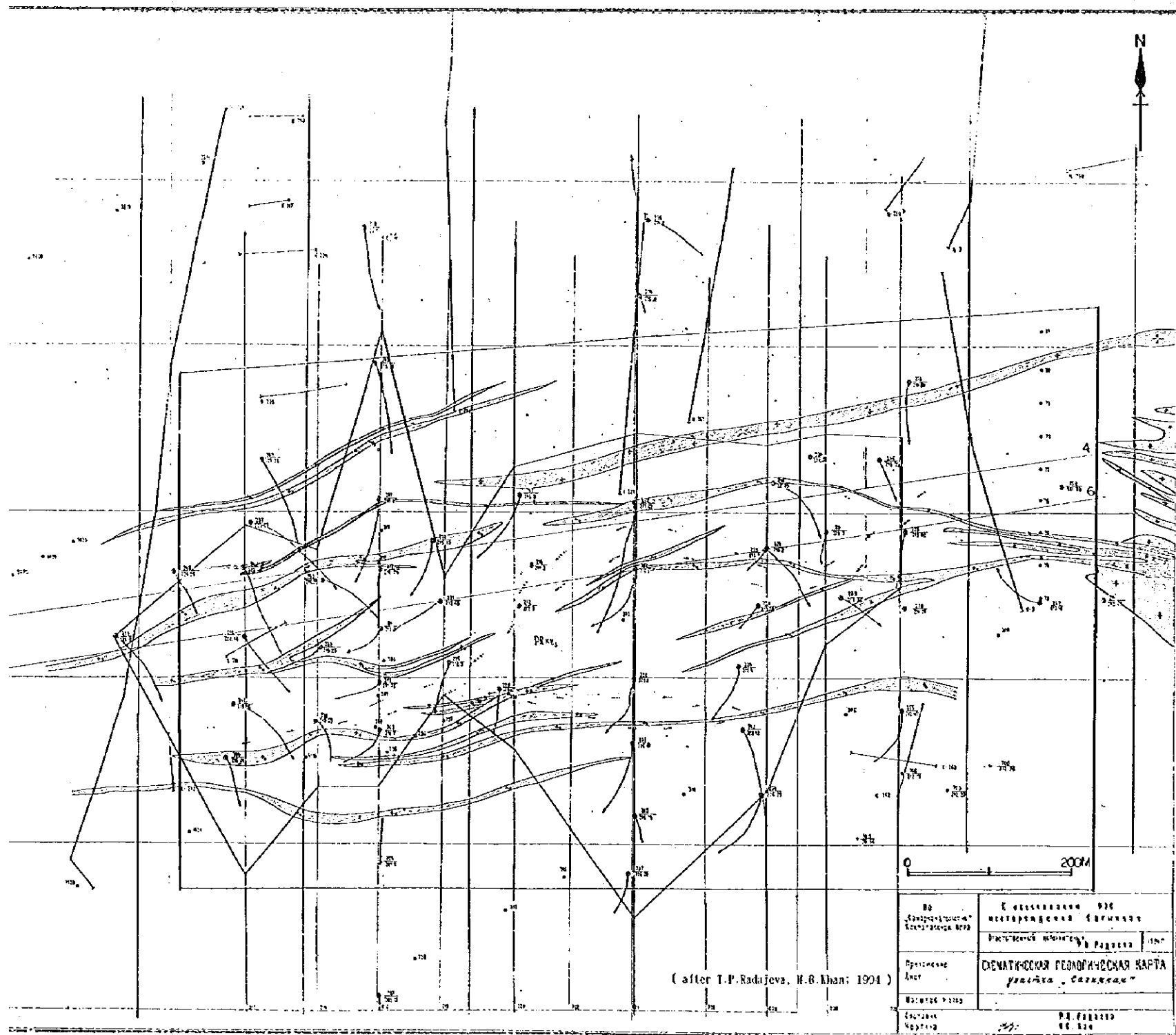
№	И. РАДАЖЕВА И И. Б. ХОН
Исполнитель	И. РАДАЖЕВА
Проверено	И. РАДАЖЕВА
Масштаб	1:200
Содержание	Геологическая карта участка «Сагинкан»
Масштаб	1:200

	Quaternary Deposits		Spectral axis
	Cretaceous-Tertiary stage (Green clay, Sandstone, Conglomerate)		Drill holes (see International Code)
	Cretaceous-Tertiary stage (Limestone, Shales, Dolomite)		Mineralized zones with grade of 0.5 < 0.1%
	Granodiorites		Projecting line
	Diorites, Granite diorites		Trenches and strappings
	Diorite perthites		Trench profile
	Gabbroites		Drill holes (to core, 8 coreless, 4 coreless for mapping)
	Skarns		Projection of drill holes
	Proven geologic boundary		Boundaries of reserves of category C2
	Discrepant geologic boundary		Data for resource estimation: S1 - area of the ore body, C1 - grade (0.5-1.0%)
	Fractures & approved, 6 - inferred		Reserves (A, B, C) (see reserves (A, B, C) in I.M.S. 1-74)
	Tectonic breccia		Boundary for reserves of category P1
	Ridding		Boundary of reserves of category C1
	National axis		
	Quartz schistite stockwork		

THE MINERAL RESOURCES OF THE EASTERN REPUBLIC OF PRIMORYE

SCHEMATIC GEOLOGICAL MAP OF THE SAGHINKAN DEPOSIT

JAPAN INTERNATIONAL METAL MINING FEBF
Prepared



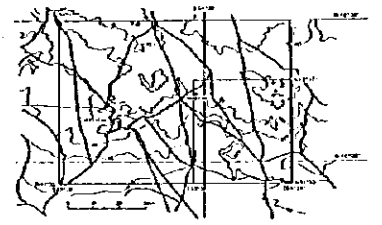
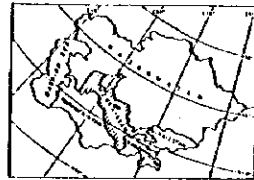
(after T.P. Radujeva, N.B. Khan: 1904)

№	С. П. РАДУЖЕВА И Н. Б. ХАН
С. П. РАДУЖЕВА И Н. Б. ХАН	ИСТОРИКО-ГЕОГРАФИЧЕСКАЯ КАРТА
Проектирование	Д. И. РАДУЖЕВА
Издание	СХЕМАТИЧЕСКАЯ ГЕОЛОГИЧЕСКАЯ КАРТА
Составитель	УЗБЕКИСТАН
Название	С. П. РАДУЖЕВА

Quaternary Deposits	Structural axis
Cretaceous, Turonian stage / Grouveliss Sandstones, Engelm. shales	Ore bodies (on intervals) M, N, S
E-Opatov formation, B. talavaynes, L. talavaynes, shales, Dolomites	Mineralized zones with grade of 90% < 0.01
Granulites	Prospecting line
Biotites, Spessite diorites, Diorite porphyries	Trenches and stripings
Gneissites	Trench profile
Aplites	Drill holes (core, 6 coresless, 6 coresless for mapping)
Granulites	Drill holes (core, 6 coresless, 6 coresless for mapping)
Shams	Projection of drill holes
Proton geologic boundary	Section of reserves of category C2
Discordant geologic boundary	Rate for reserve calculation
Fractures (improved, 6:infected)	S1 zone of the ore body, 6: grade (M, S)
Tectonic breccia	Drill holes (core, 6: coresless, 6: coresless for mapping)
Bedding	Boundary for reserves of category P1
Anticlinal axis	Boundary of reserves of category C2
Short schistite stockwork	

THE MINERAL EXPLORATION
IN
THE EASTERN BUKANTAU AREA
THE REPUBLIC OF UZBEKISTAN
(PHASE I)

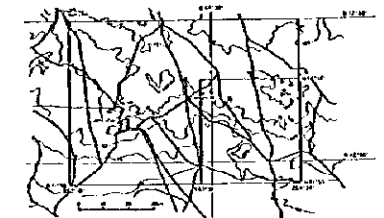
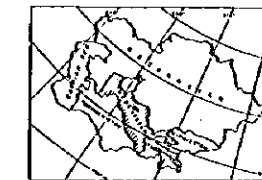
SCHEMATIC GEOLOGICAL MAP OF THE
SAGHINKAN DEPOSITS



JAPAN INTERNATIONAL COOPERATION AGENCY
METAL MINING AGENCY OF JAPAN
FEBRUARY 1995
Prepared by MINDECO

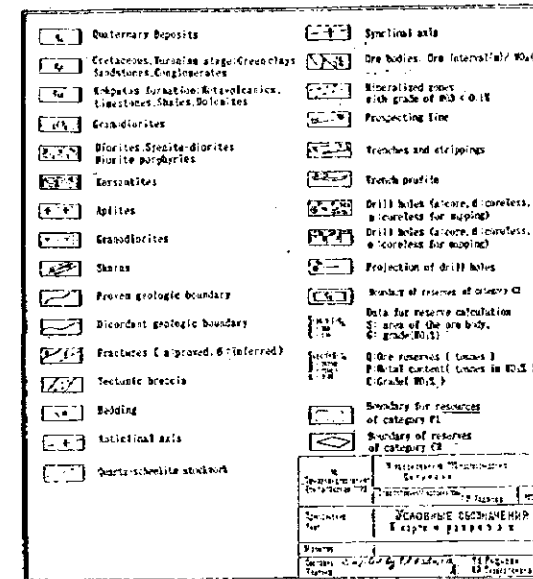
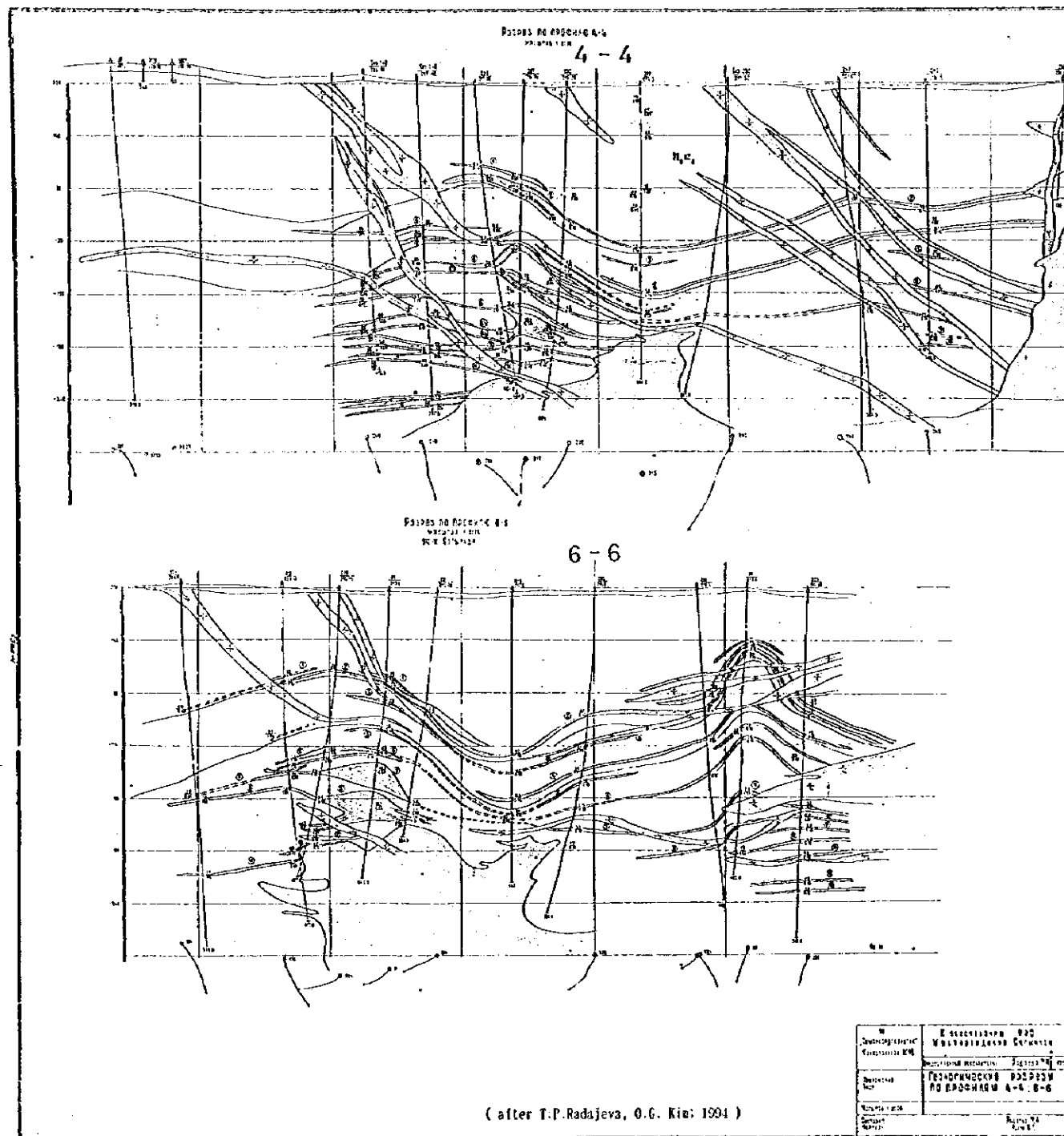
THE MINERAL EXPLORATION
IN
THE EASTERN BUKANTAU AREA
THE REPUBLIC OF UZBEKISTAN
(PHASE I)

GEOLOGICAL CROSS SECTIONS OF THE
SAGHINKAN DEPOSITS



JAPAN INTERNATIONAL COOPERATION AGENCY
METAL MINING AGENCY OF JAPAN
FEBRUARY 1995

Prepared by MINDECO

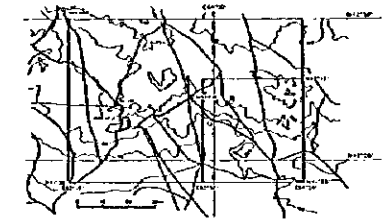
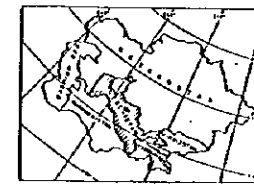


(after T.P. Radajeva, O.G. Kim: 1994)

№	Исследовательский институт	№	Исследовательский институт
1	Институт геологии и разведки полезных ископаемых	2	Институт геологии и разведки полезных ископаемых
3	Институт геологии и разведки полезных ископаемых	4	Институт геологии и разведки полезных ископаемых
5	Институт геологии и разведки полезных ископаемых	6	Институт геологии и разведки полезных ископаемых
7	Институт геологии и разведки полезных ископаемых	8	Институт геологии и разведки полезных ископаемых
9	Институт геологии и разведки полезных ископаемых	10	Институт геологии и разведки полезных ископаемых

THE MINERAL EXPLORATION
IN
THE EASTERN BUKANTAU AREA
THE REPUBLIC OF UZBEKISTAN
(PHASE I)

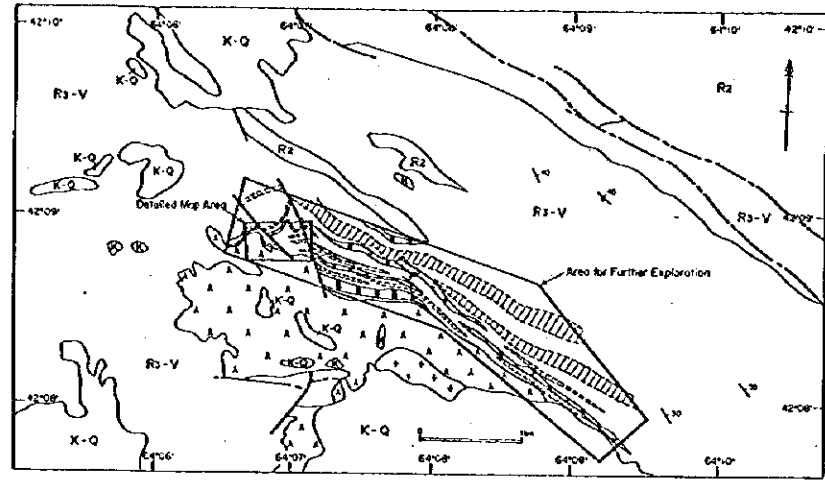
SCHEMATIC GEOLOGICAL MAP AND CROSS SECTION OF THE BULUTKAN ORE SHOWING



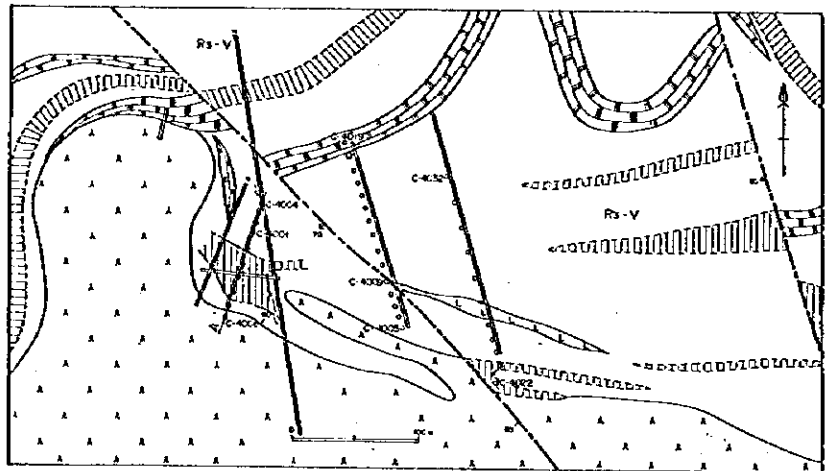
JAPAN INTERNATIONAL COOPERATION AGENCY
METAL MINING AGENCY OF JAPAN
FEBRUARY 1995
Prepared by MINDECO

LEGEND

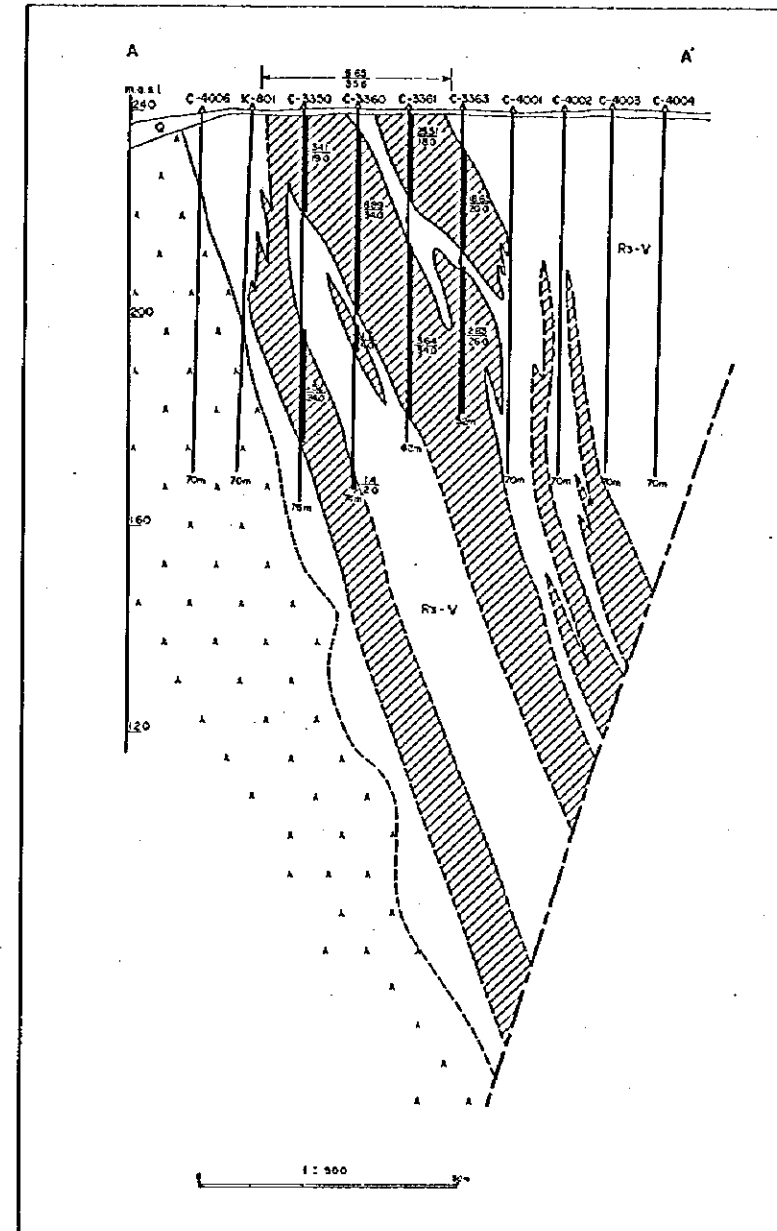
	Cretaceous or Quaternary sediments
	Subpre-Cambrian, andrievskii, and granitic gneiss
	gabbro, granite
	Karabakh formation, white, metamorphic
	hornfels
	gneiss
	granite
	gold ore zone
	Au grade/sample interval
	fault
	bedding
	trench
	drill hole core drilling
	cross section line



a: Index Map of Bulutkan Prospect



b: Detail Map of Bulutkan Prospect

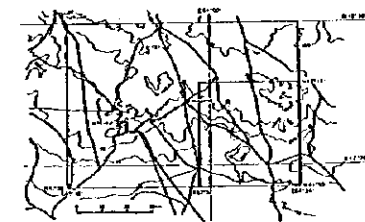
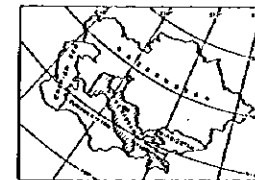


c: Cross Section of A - A'

(after V.F. Chechulin: 1994)

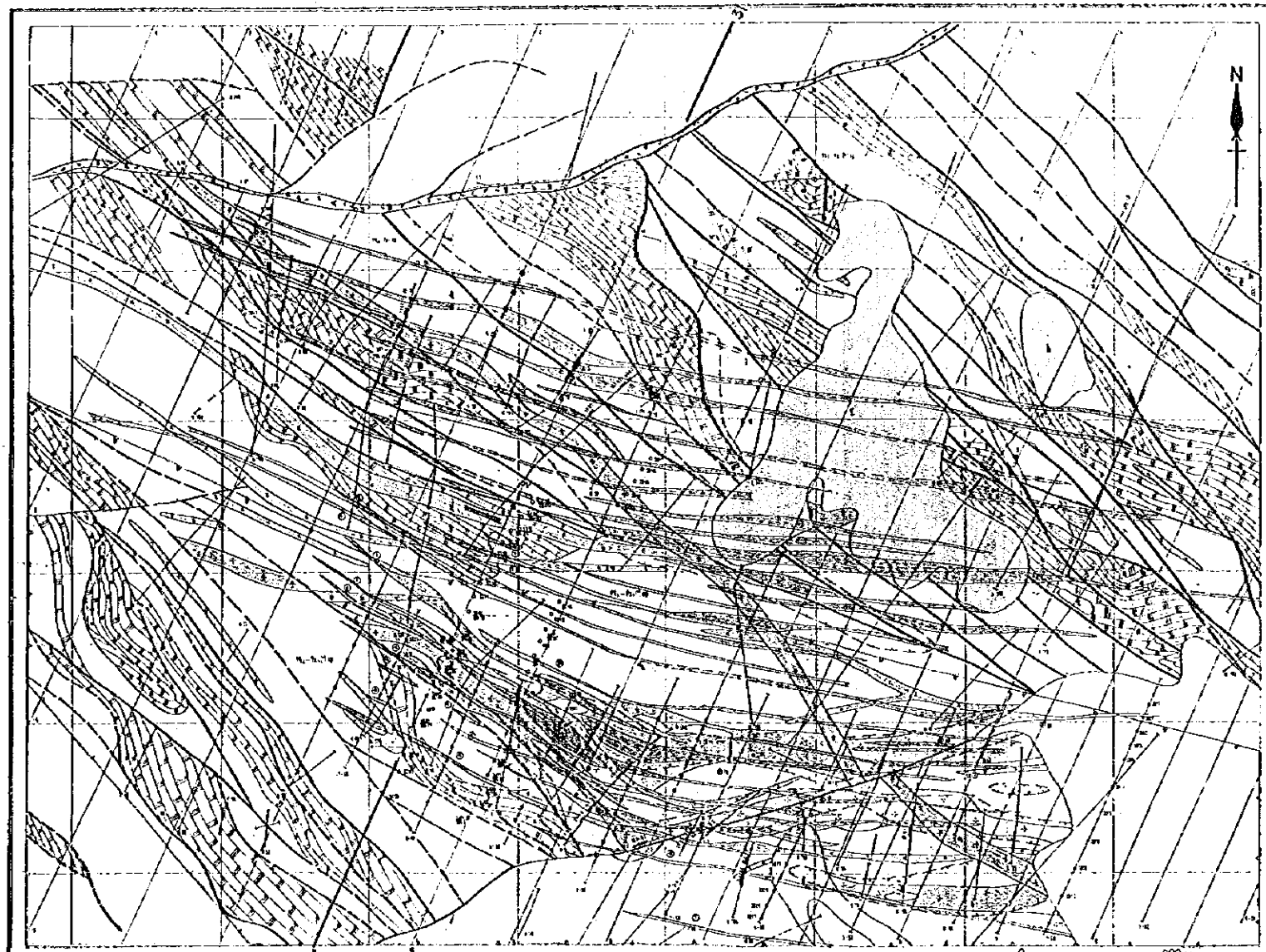
THE MINERAL EXPLORATION
IN
THE EASTERN BUKANTAU AREA
THE REPUBLIC OF UZBEKISTAN
(PHASE I)

GEOLOGICAL MAP OF THE TURBAY ORE DEPOSITS



JAPAN INTERNATIONAL COOPERATION AGENCY
METAL MINING AGENCY OF JAPAN
FEBRUARY 1995

Prepared by MINDECO

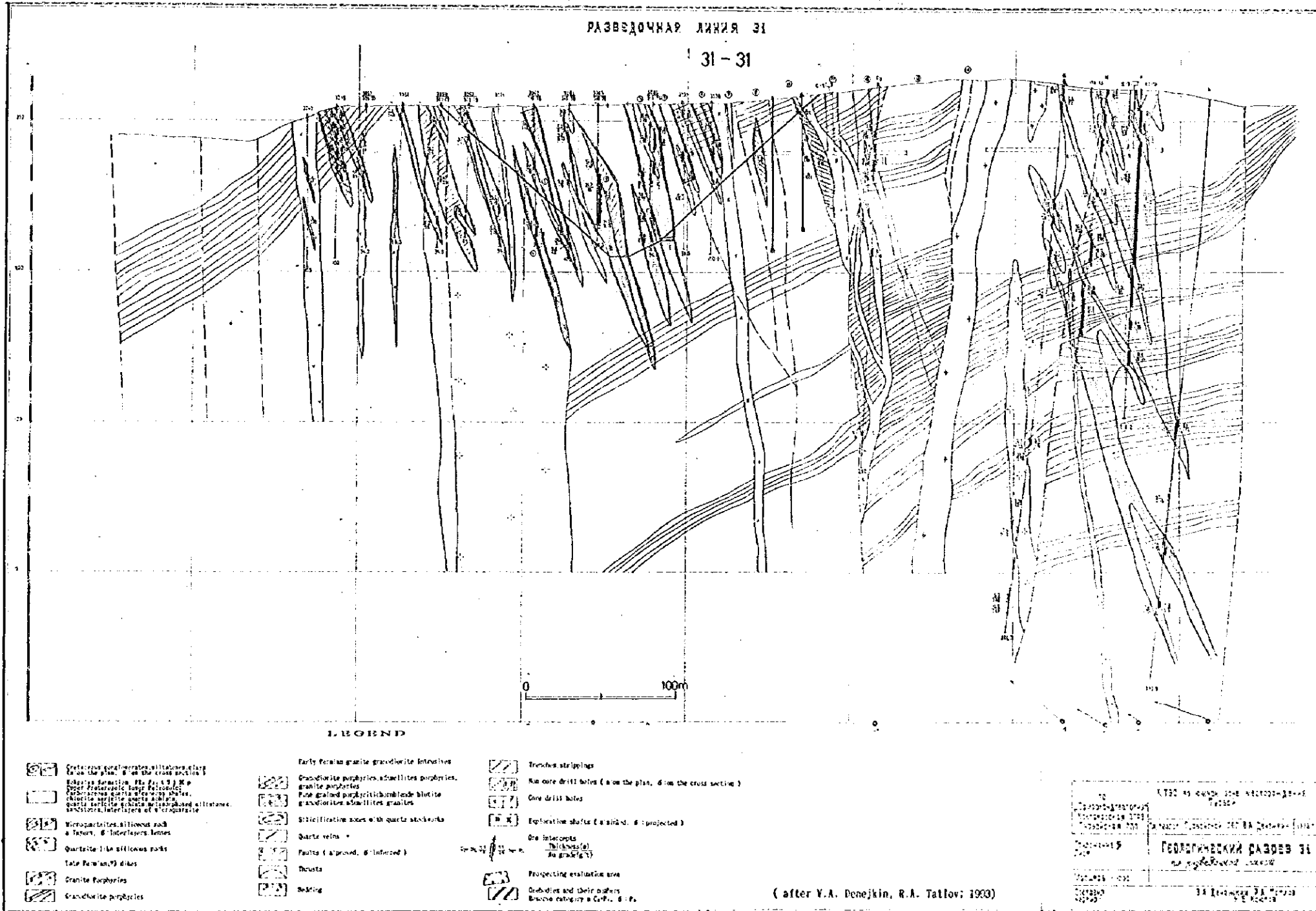


LEGEND

	Cretaceous sandstones, siltstones, clay (a on the plan, b on the cross section)		Early Permian granite, granodiorite intrusives		Trenches, stripings
	Devonian formation (M, P, S, D, K, P) Dol. F. Permo-carboniferous facies		Granodiorite porphyries, adiolites, porphyries, granite porphyries		No core drill holes (a on the plan, b from the cross section)
	Carbonaceous quartz, siliceous shales, chert, etc. (a on the plan, b on the cross section)		Fine grained porphyry, rhyolite, basalt, biotite, granodiorite, adiolites, granite		Core drill holes
	Quartzite, siltstone, sandstone, siltstone, sandstone, interlayers of microphyllite		Silicification zones with quartz stockworks		Exploration shafts (a - solid, b - projected)
	Microquartzites, siliceous rock, layers, interlayers, lenses		Quartz veins		Ore interconcs (thickness) (a - grading)
	Quartzite like siliceous rocks		Faults (a - proved, b - inferred)		Prospecting evaluation area
	Late Permian(?) dikes		Thrusts		Breccias and their matrices
	Granite Porphyries		Breccias and their matrices		Breccia category A, B, C, D, E, F
	Granodiorite porphyries		Breccias and their matrices		

(after A.A. Rubanov:1901)

Project name	Geological map of the Turbay ore deposits
Scale	1:50,000
Author	MINDECO
Editor	MINDECO
Reviewer	MINDECO
Printer	MINDECO
Year	1995

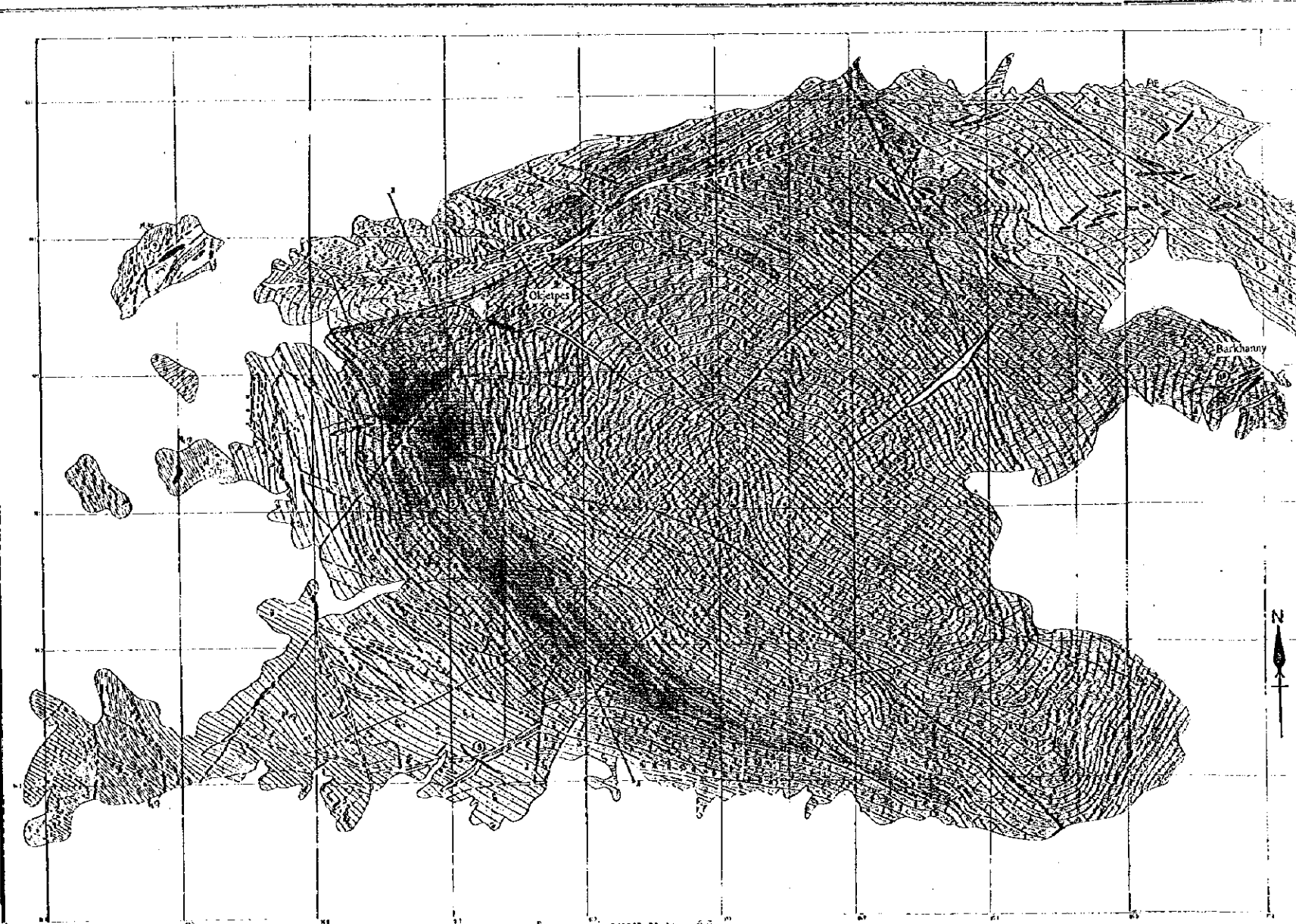


Pl. II-1-9

**THE MINERAL EXPLORATION
IN
THE EASTERN BUKANTAU AREA
THE REPUBLIC OF UZBEKISTAN
(PHASE I)**

**GEOLOGICAL CROSS SECTION OF THE
TURBAY DEPOSITS**

JAPAN INTERNATIONAL COOPERATION AGENCY
METAL MINING AGENCY OF JAPAN
FEBRUARY 1995
Prepared by MINDECO



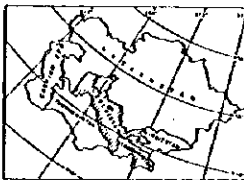
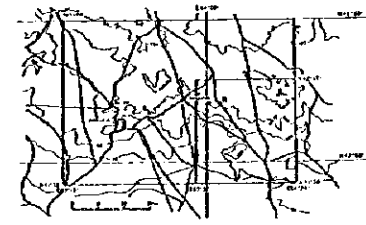
LEGEND

- Middle upper members undivided sandstones, conglomerates, gritstones, interlayers of siliceous rocks and limestone
- Upper member undivided sandstones, siltstones, argillites, interlayers of limestone
- Rhythically stage, lower Rhynchily substage: limestones with chert lenses
- Lower member of undivided massive-medium bedded, fine grained limestones
- Depolarized upper members, undivided medium bedded, fine grained limestones with interlayers of marbles and dolomitized limestones
- Upper Proterozoic, Kaptanov formation siliceous rocks, also quartzites, sandstones, siltstones, graphite quartz, sericite-chlorite quartz schists, etc.
- Spessartites
- Kersantites
- Granodiorite porphyries
- Syeno-granodiorite porphyries
- Diorites (Syeno-diorites)
- Diotitic porphyries, quartz dioritic porphyries
- Basalts (Listvenites, Birberites)
- Quartz
- Fractured and hydrothermally altered life zones
- Faults a-traced, G-inferred
- Okjetpes anticlinal axis
- Bedding
- Mineralized Zone
- Silver Ore Bodies
- Gold Ore Bodies

Pl. II-1-10

**THE MINERAL EXPLORATION
IN
THE EASTERN BUKANTAU AREA
THE REPUBLIC OF UZBEKISTAN
(PHASE I)**

SCHEMATIC GEOLOGICAL MAP OF THE
OKJETPES ORE FIELD

JAPAN INTERNATIONAL COOPERATION AGENCY
METAL MINING AGENCY OF JAPAN
FEBRUARY 1995
Prepared by MINDECO

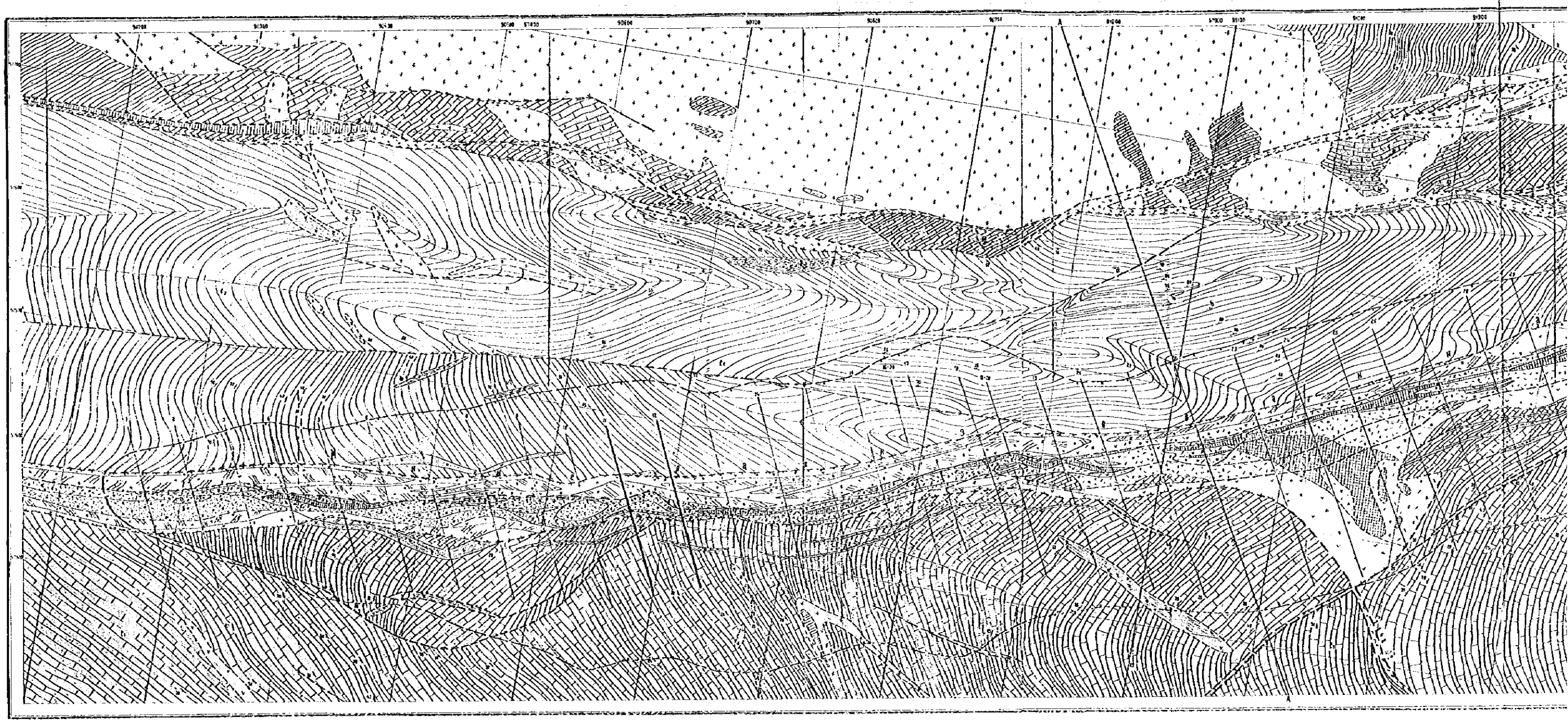
(after A.S.Aristov, 1982)

1:100,000

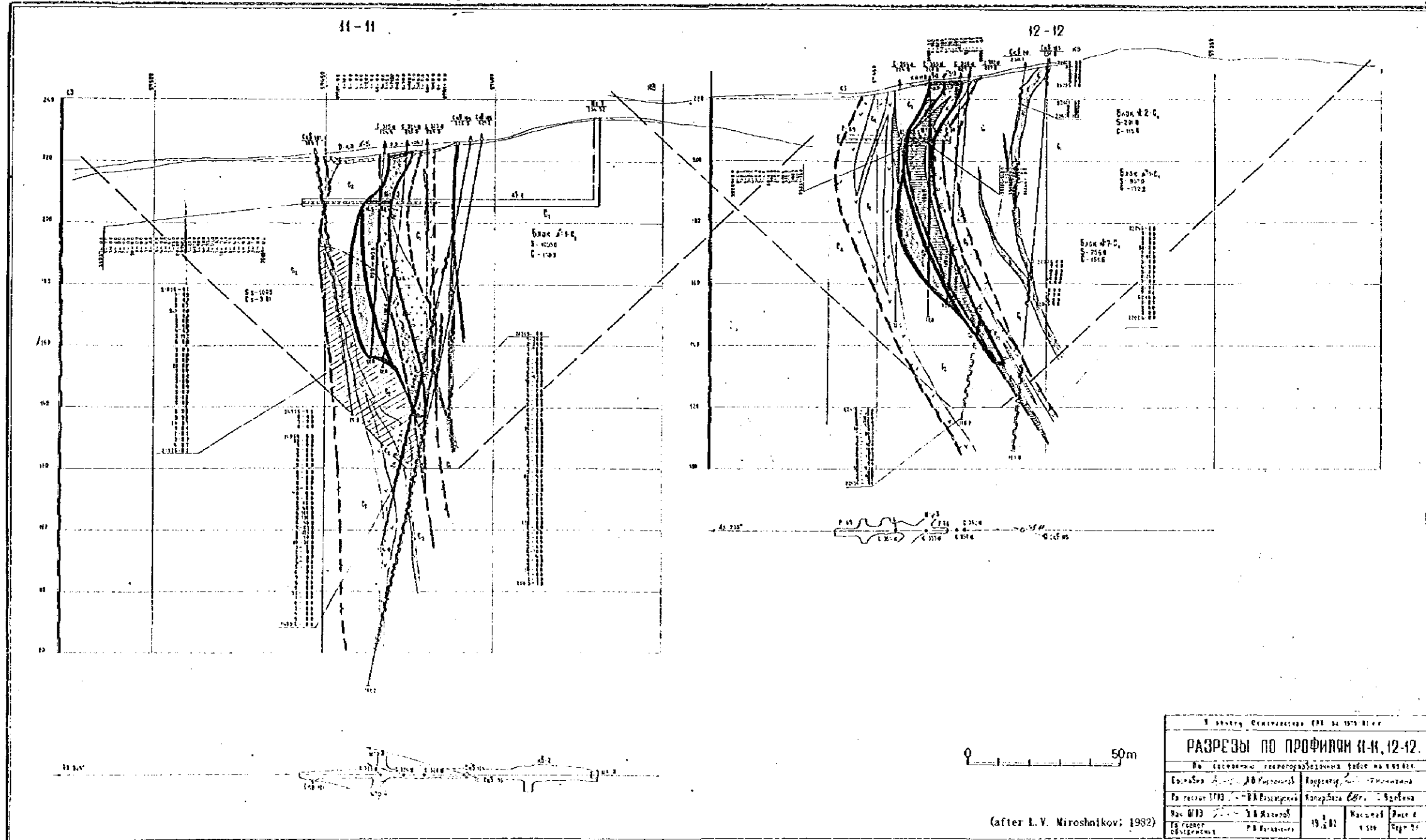
(after A.S. Aristov, 1982)

Geological Survey of Uzbekistan

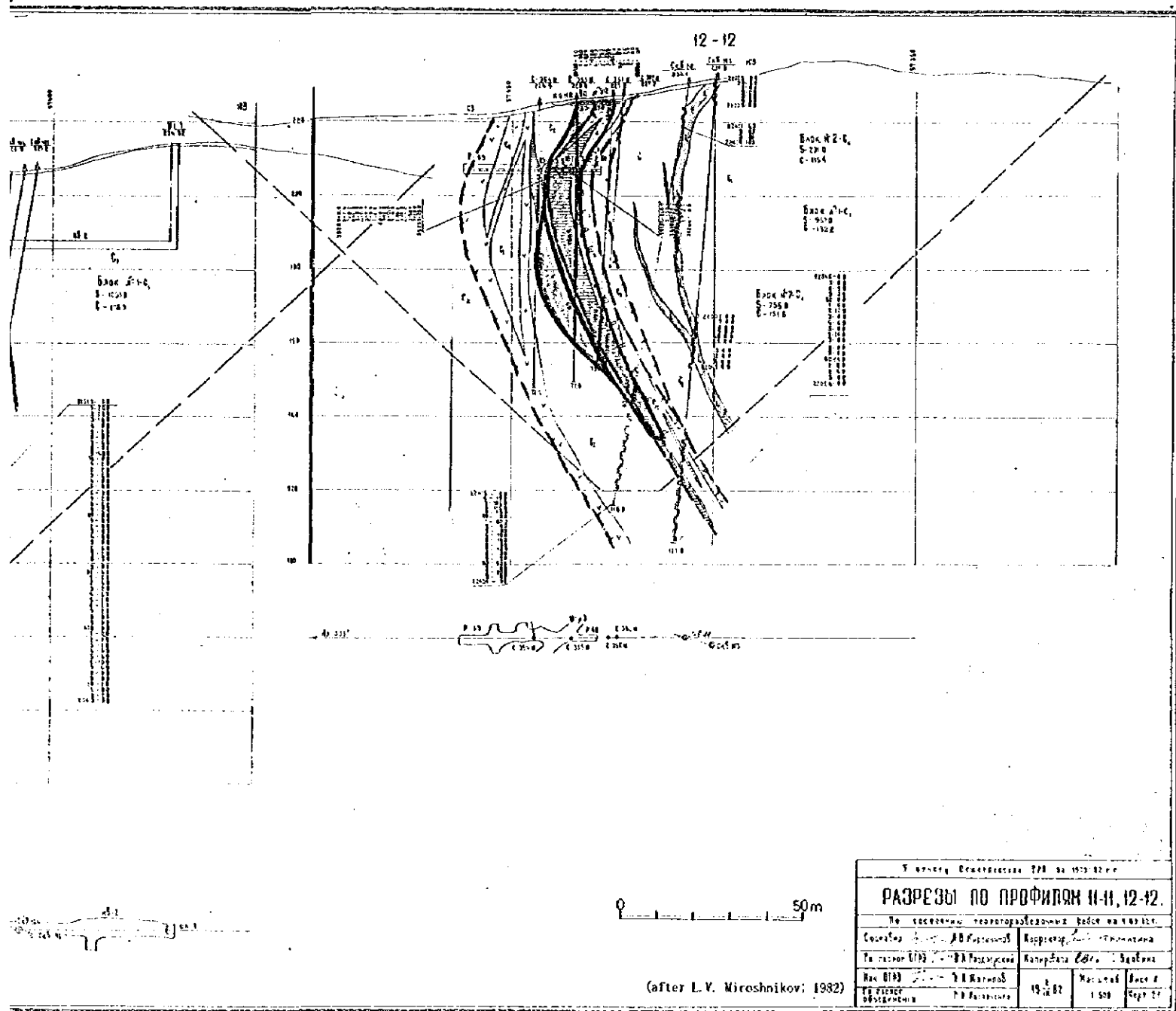
Директор: Ю.А.Мухоморов	
Заместитель: А.А.Мухоморова	
Научный руководитель: А.А.Мухоморова	
Выполнил: Ю.А.Мухоморов	
Проверил: А.А.Мухоморова	
Утвердил: Ю.А.Мухоморов	
Дата: 1995 г.	Лист: 1
Масштаб: 1:100,000	Масштаб: 1:100,000



47 258-10 206



LEGEND



LEGEND

	Geological formation		Fault		Borehole
	Ore deposit		Shaft		Pit
	Rock type		Drift		Road
	Boundary		Contour		Scale

Pl. 1-12

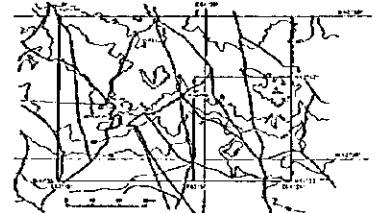
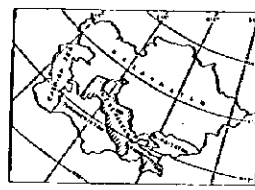
THE MINERAL EXPLORATION IN THE EASTERN BUKANTAU AREA THE REPUBLIC OF UZBEKISTAN (PHASE I)

GEOLOGICAL CROSS SECTION OF THE OKJETPES ORE DEPOSITS

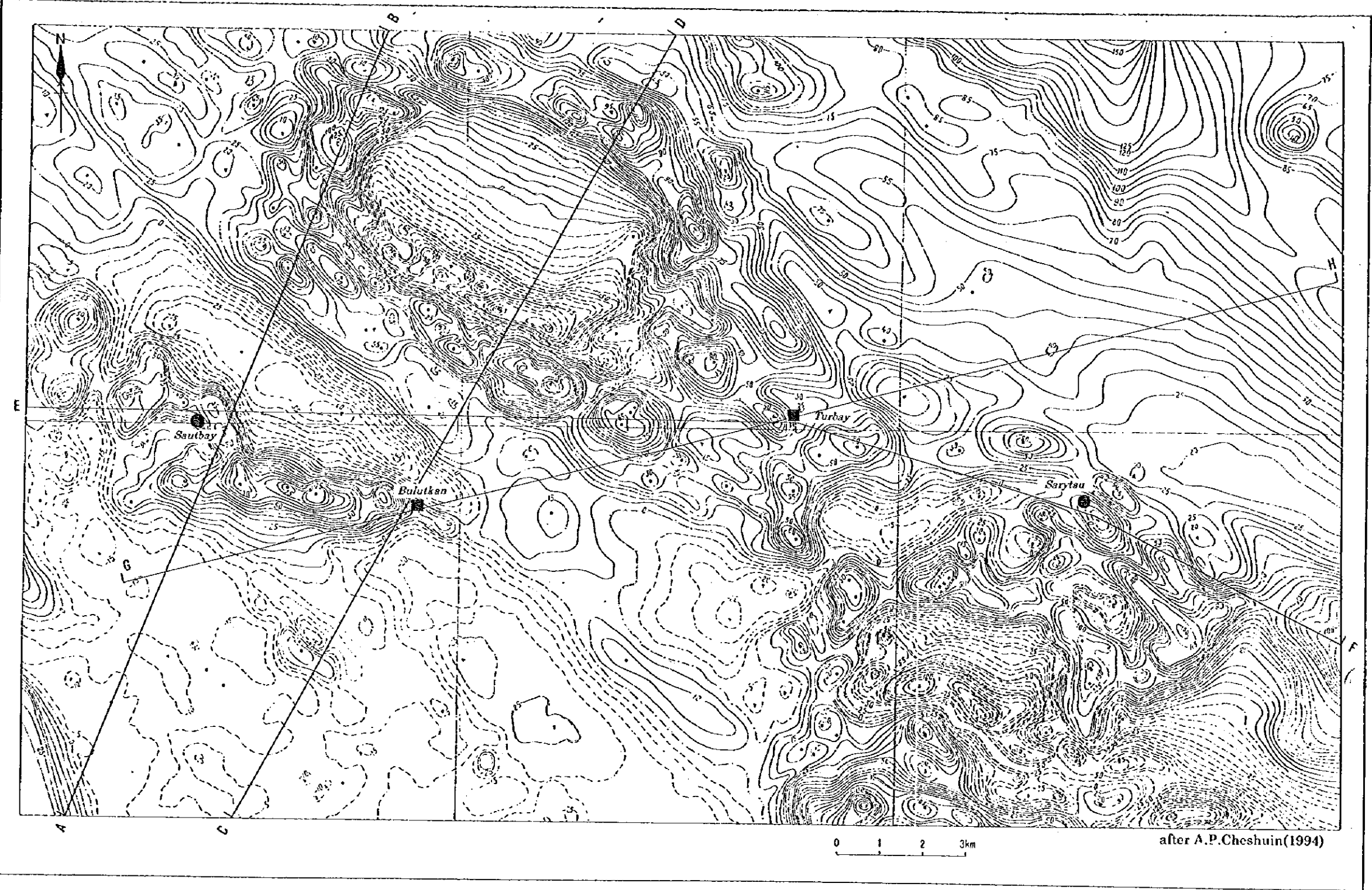
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METAL MINING AGENCY OF JAPAN
FEBRUARY 1995
Prepared by MINDECO

THE MINERAL EXPLORATION
IN
THE EASTERN BUKANTAU AREA
THE REPUBLIC OF UZBEKISTAN
(PHASE I)

TOTAL MAGNETIC ANOMALY MAP



JAPAN INTERNATIONAL COOPERATION AGENCY
METAL MINING AGENCY OF JAPAN
FEBRUARY 1995
Prepared by MINDECO

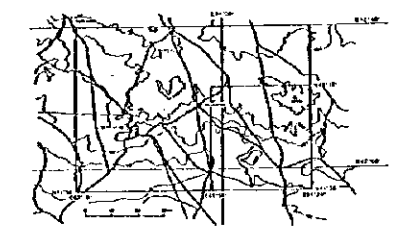
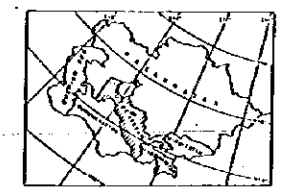


Legend

- 100— solid line : positive anomaly
- -100- - dashed line : negative anomaly
- unit : nT
- A B geophysical-geological section
- , ■ ore deposits and ore showing

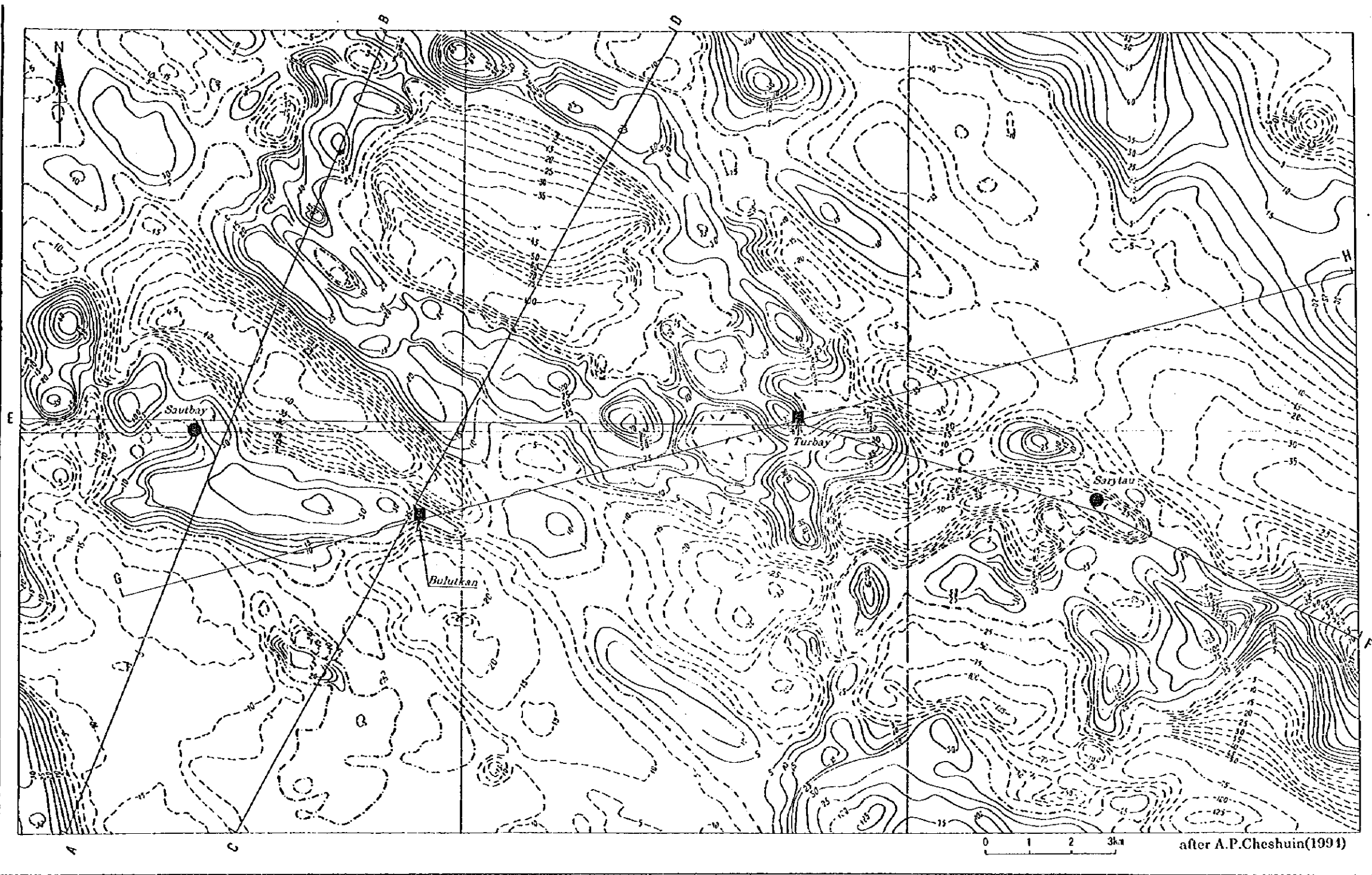
THE MINERAL EXPLORATION
IN
THE EASTERN BUKANTAU AREA
THE REPUBLIC OF UZBEKISTAN
(PHASE I)

LOCAL MAGNETIC ANOMALY MAP



JAPAN INTERNATIONAL COOPERATION AGENCY
METAL MINING AGENCY OF JAPAN
FEBRUARY 1995

Prepared by MINDECO



Legend

- 100 — solid line : positive anomaly
- - - 100 - - - dashed line : negative anomaly
- unit : nT

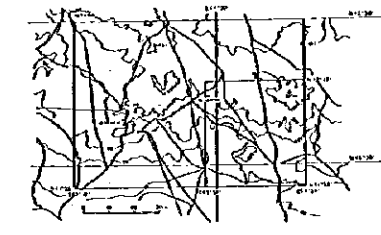
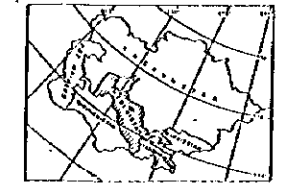
(filtered wavelength 10,000m)

A B geophysical-geological section

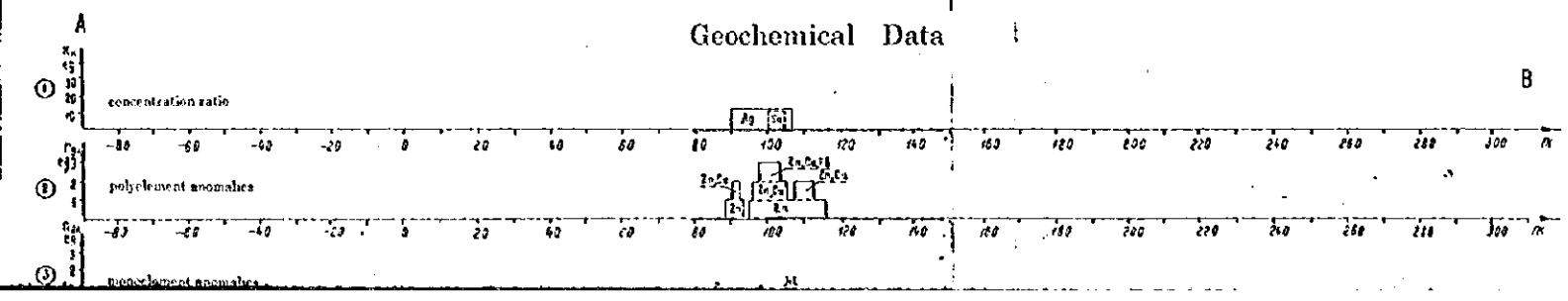
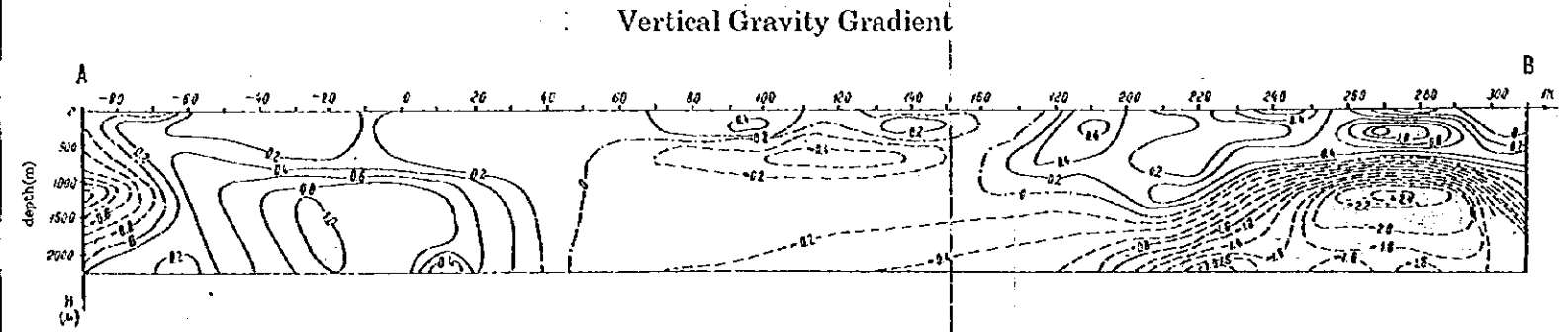
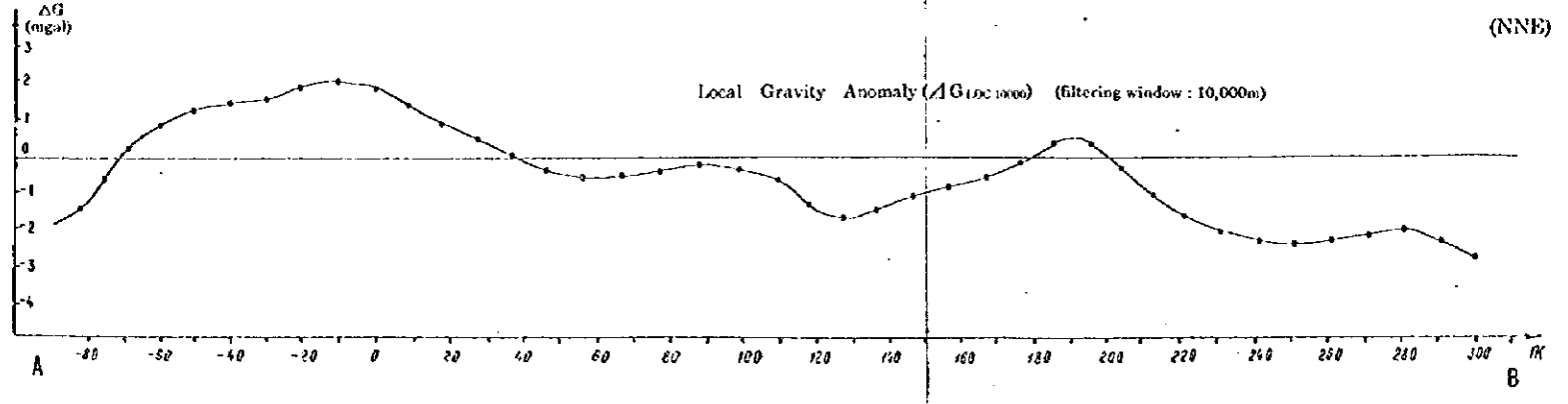
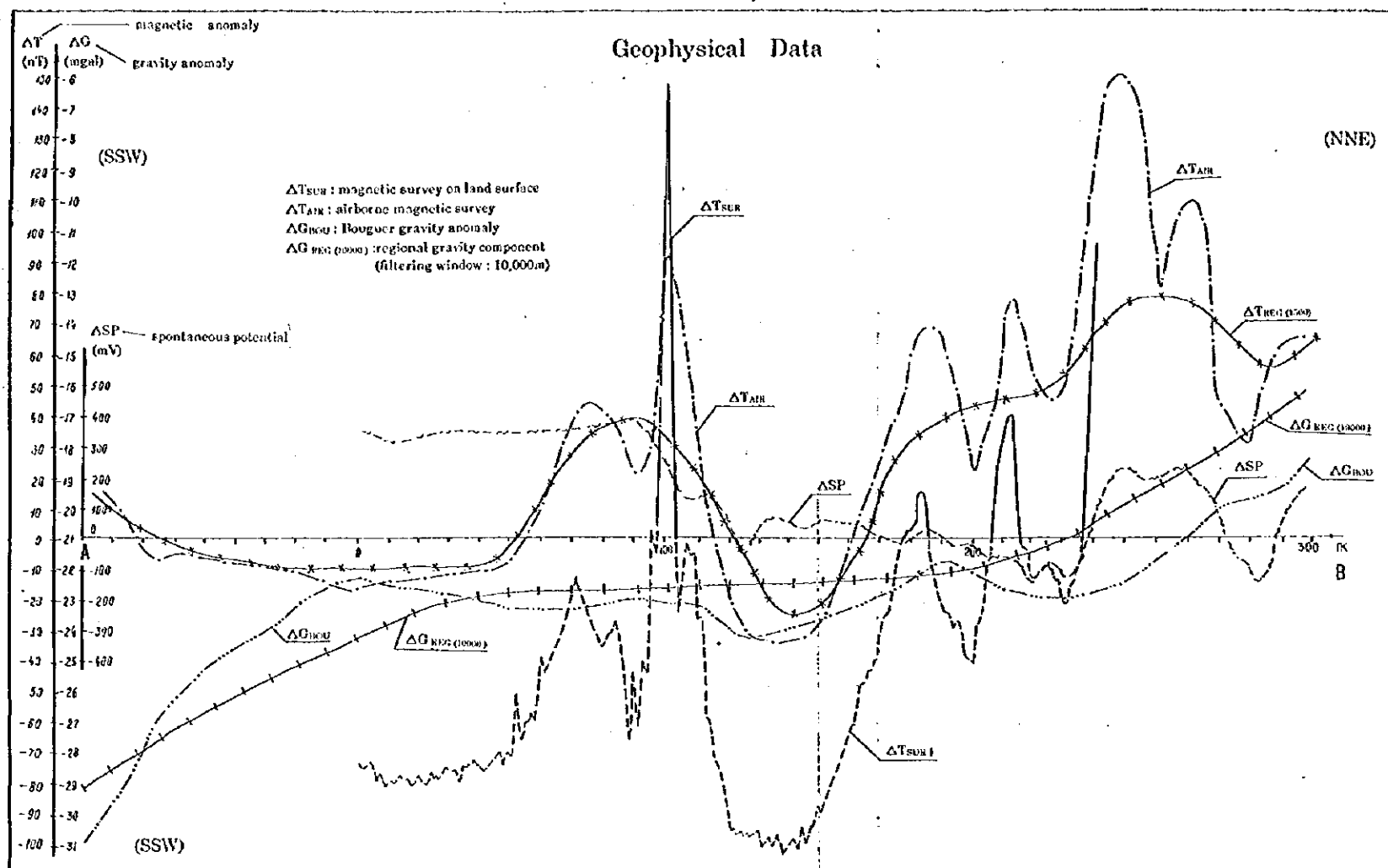
●, ■ ore deposits and ore showing

THE MINERAL EXPLORATION
IN
THE EASTERN BUKANTAU AREA
THE REPUBLIC OF UZBEKISTAN
(PHASE I)

GEOPHYSICAL - GEOLOGICAL
SECTION A - B

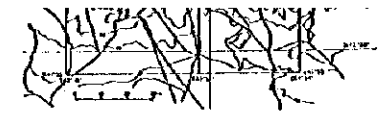


JAPAN INTERNATIONAL COOPERATION AGENCY
METAL MINING AGENCY OF JAPAN
FEBRUARY 1995
Prepared by MINDECO

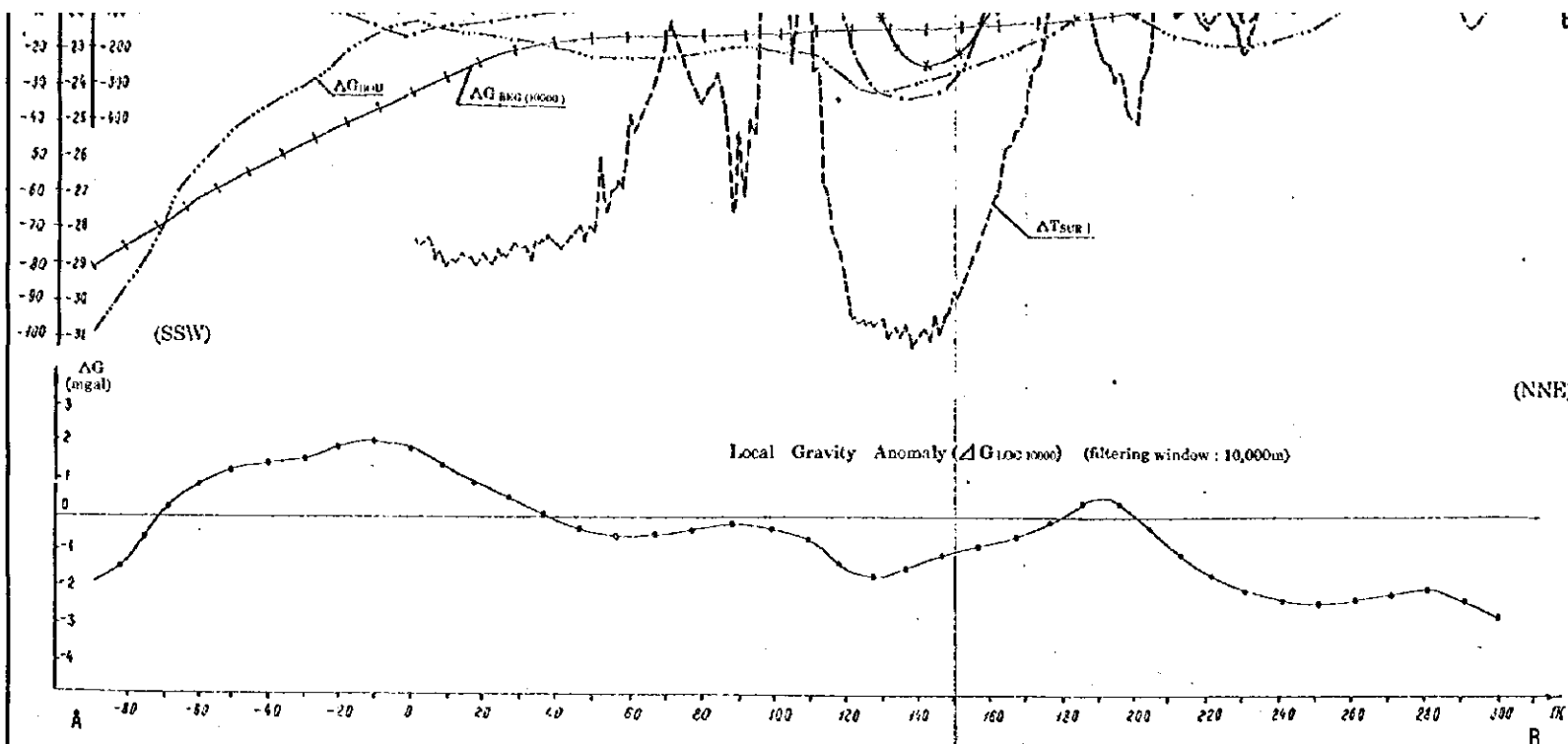


Legend

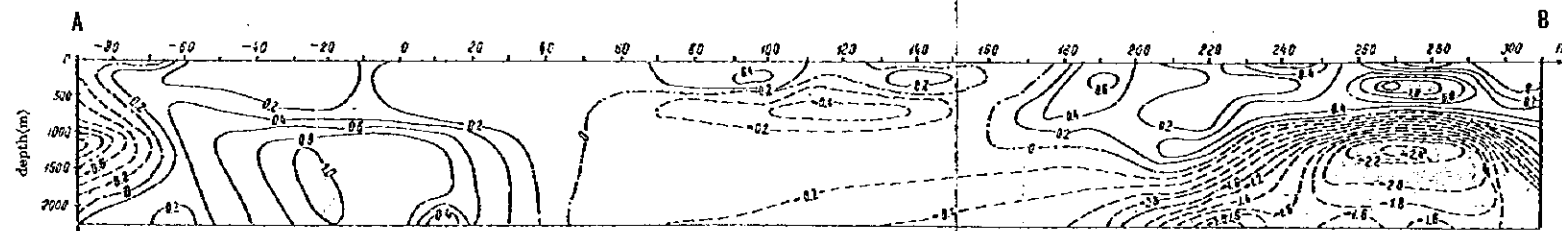
- granitoid intrusive rock
 - solid line: inferred from gravity modeling
 - dashed line: prospective border
 - 0.1, 0.05: density contrast in g/cm³ against to country rock (2.67g/cm³)
- km: Kumbulak formation
 kr: Karashakh formation
 kp: Kukpatas formation
 ka: Khodjakhmet formation
 ks: Koksai formation
- contact with granitoid intrusive rock (according to geophysical data, and hydrothermal metamorphic changes of rocks)
 a: close contact b: middle contact
 δ: with mineral associations including sulfide
- dislocations with break in continuity
 a: known (solid line) inferred (dashed line)
 δ, β: enriched zone of magnetic minerals (δ: including sulfide)
- location of ore field and prospective area
- drilling data
 drill hole and its No.
 density (g/cm³)
 magnetic susceptibility ($\times 10^4$ SI)
- longitudinal wave velocity (km/sec) according to seismic prospecting
- magnetic susceptibility ($\times 10^4$ ga/cm³) derived from magnetic modeling



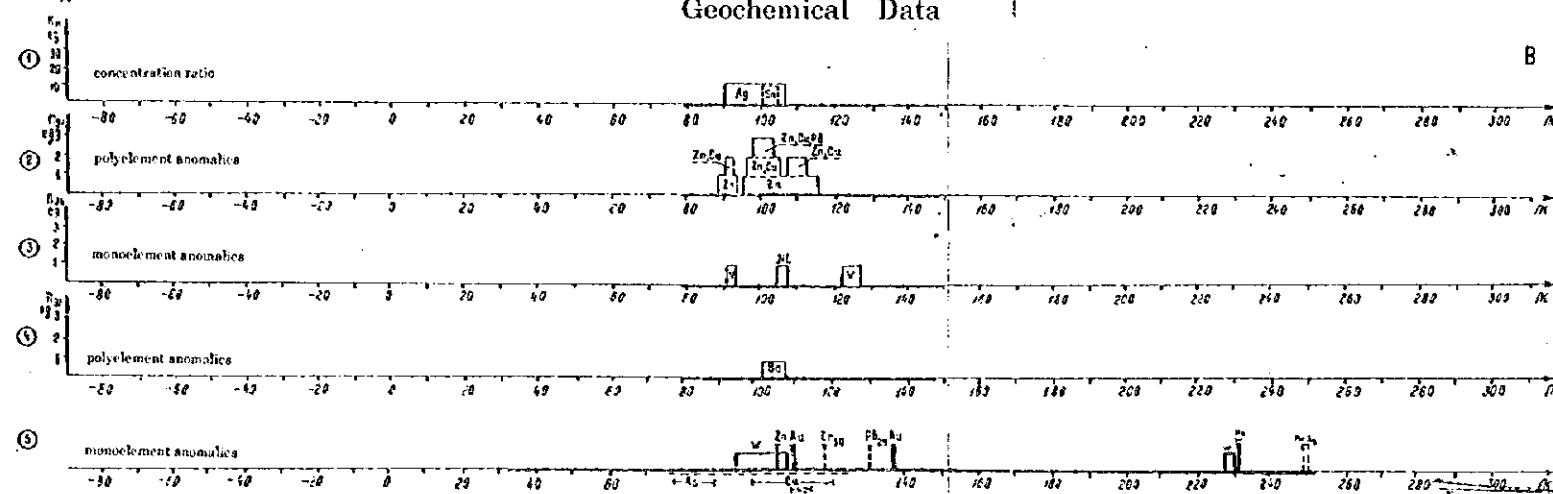
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 METAL MINING AGENCY OF JAPAN
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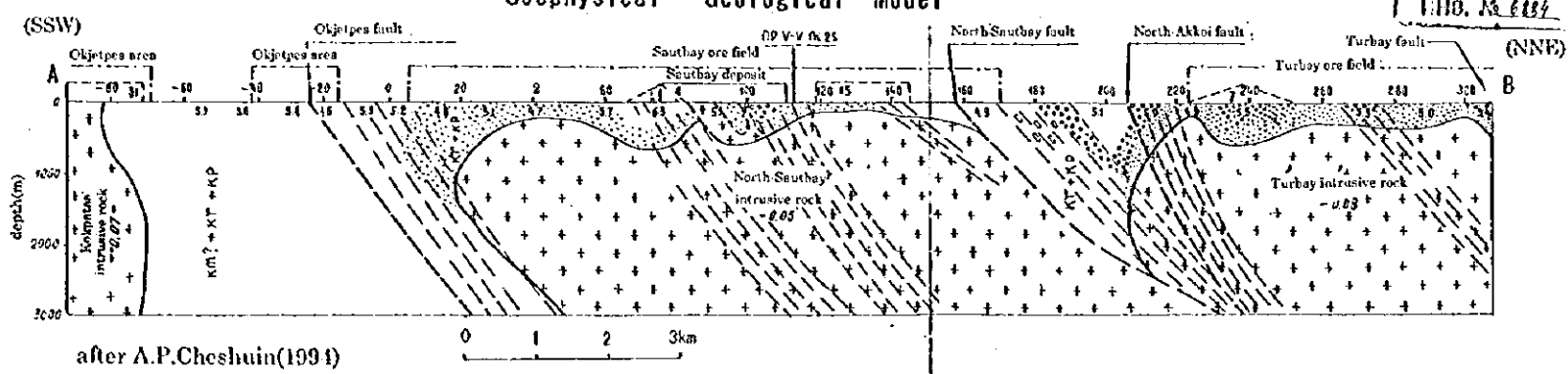
Vertical Gravity Gradient



Geochemical Data



Geophysical - Geological Model

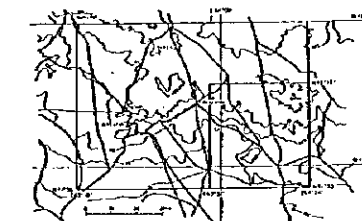
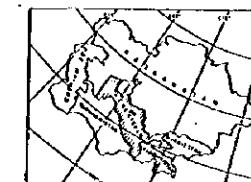


Legend

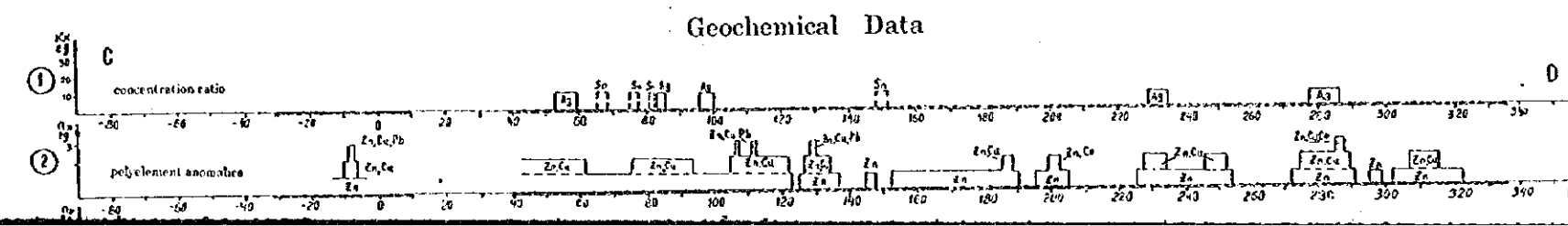
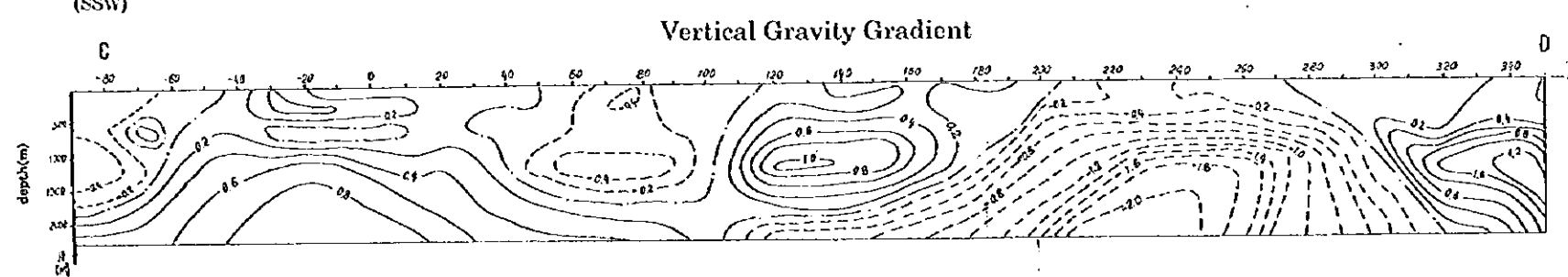
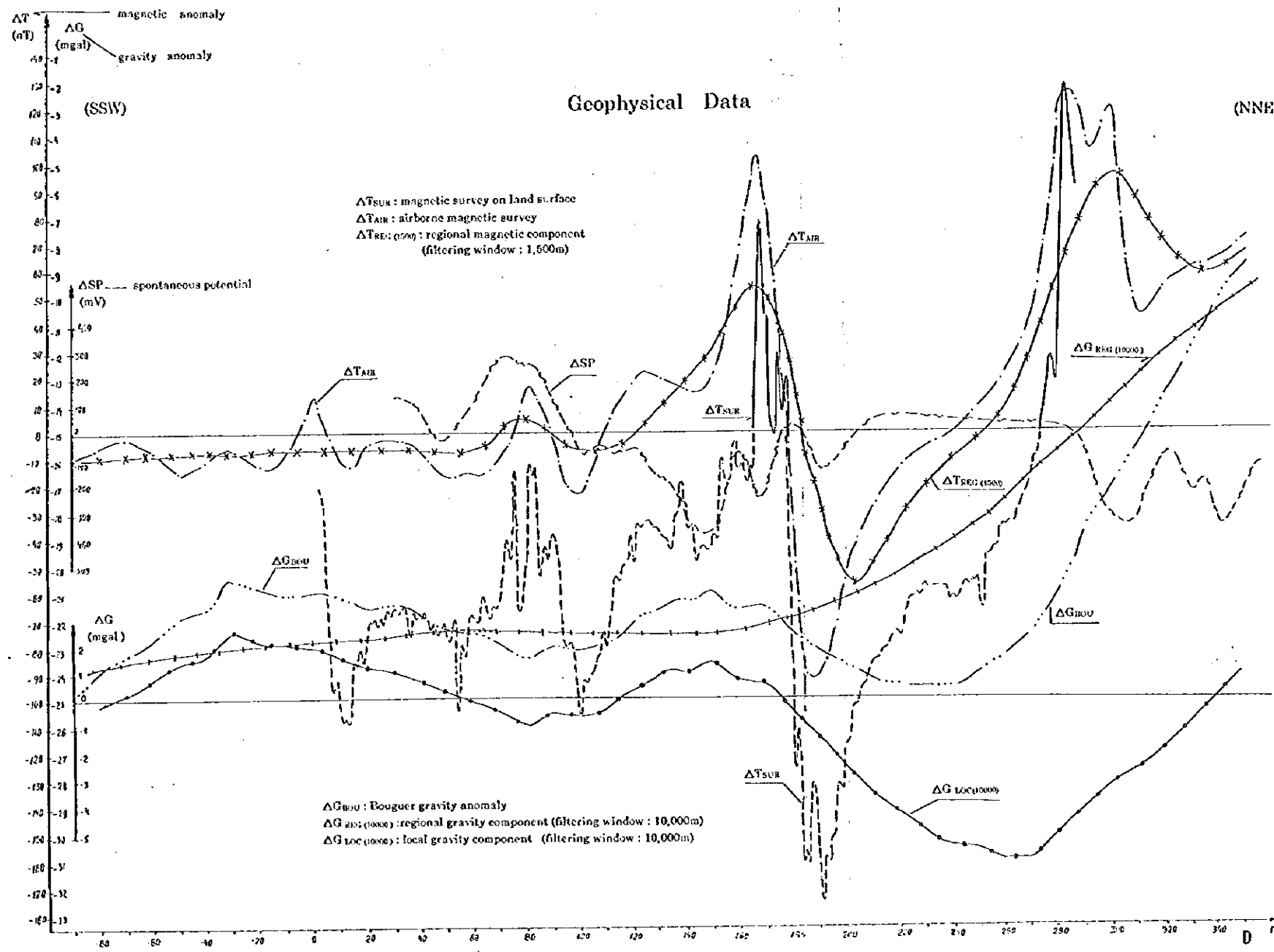
- granitoid intrusive rock
 - solid line : inferred from gravity modeling
 - dashed line : prospective border
 - 0.1, 0.05 : density contrast in g/cm³, against to country rock (2.67g/cm³)
- km: Kumbulak formation
 - kr: Karashakh formation
 - kp: Kokpatas formation
 - kh: Khodpakhet formation
 - ka: Kekasi formation
- contact with granitoid intrusive rock (according to geophysical data, and hydrothermal metamorphic changes of rocks)
 - a: close contact b: middle contact
 - δ: with mineral associations including sulfide
- dislocations with break in continuity
 - α: known (solid line) inferred (dashed line)
 - δ, β: enriched zone of magnetic minerals (β: including sulfide)
- location of ore field and prospective area
- drilling data
 - drill hole and its No.
 - density (g/cm³)
 - magnetic susceptibility (x10⁴ SI)
- longitudinal wave velocity (km/sec) according to seismic prospecting
- magnetic susceptibility (x10⁴ cgs/cm³) derived from magnetic modeling

THE MINERAL EXPLORATION
IN
THE EASTERN BUKANTAU AREA
THE REPUBLIC OF UZBEKISTAN
(PHASE I)

GEOPHYSICAL - GEOLOGICAL
SECTION C - D



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Legend

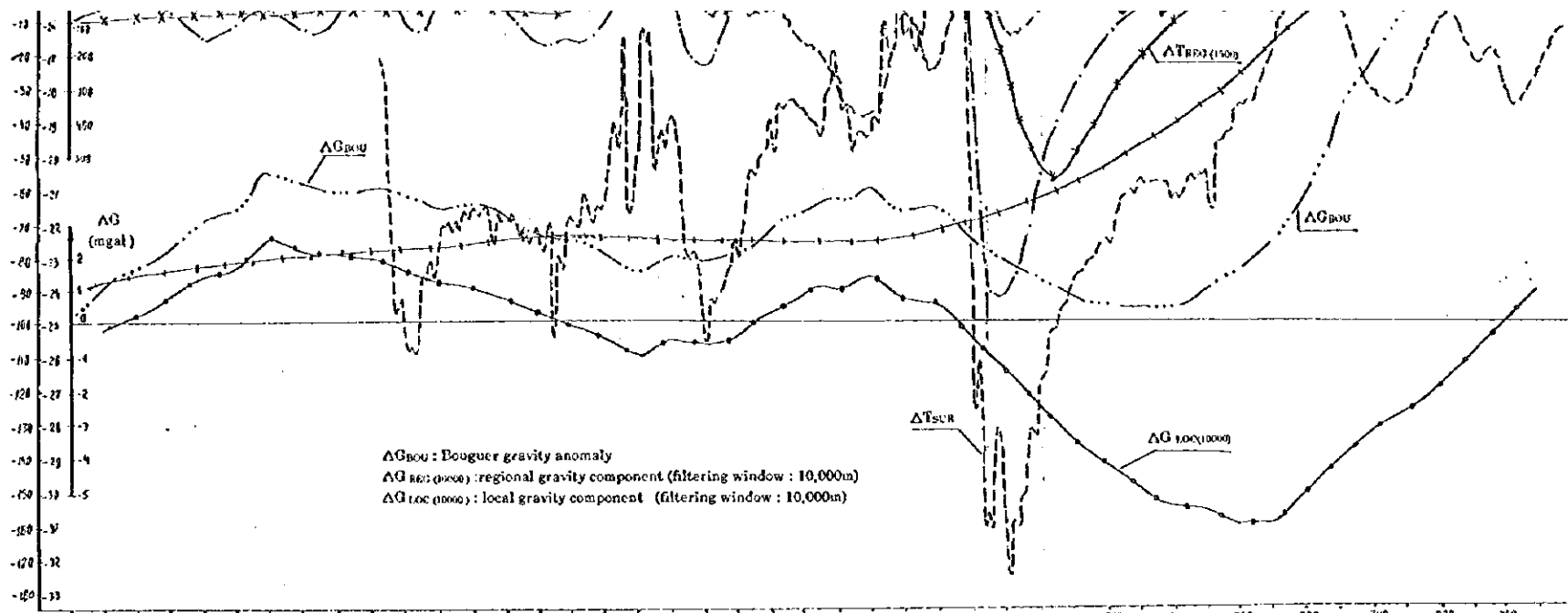
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ks: Koksal formation
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drill hole and its No.
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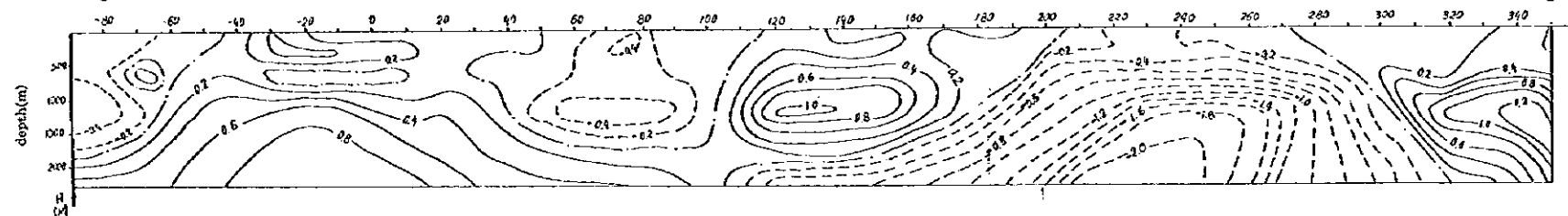
Legend

- granitoid intrusive rock
- solid line : inferred from gravity modeling
- dashed line : prospective border
- 0.1, 0.05 : density contrast in g/cm^3 against to country rock ($2.67g/cm^3$)
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- ks: Khodjakhmet formation
- ka: Kekani formation
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- a: close contact b: middle contact
- δ : with mineral associations including sulfide
- dislocations with break in continuity
- a: known (solid line) inferred (dashed line)
- δ, β : enriched zone of magnetic minerals
- (β : including sulfide)
- location of ore field and prospective area
- drilling data
- drill hole and its No.
- density (g/cm^3)
- magnetic susceptibility ($\times 10^3 SI$)
- longitudinal wave velocity (km/sec) according to seismic prospecting
- magnetic susceptibility ($\times 10^4 cgs/cm^3$) derived from magnetic modeling

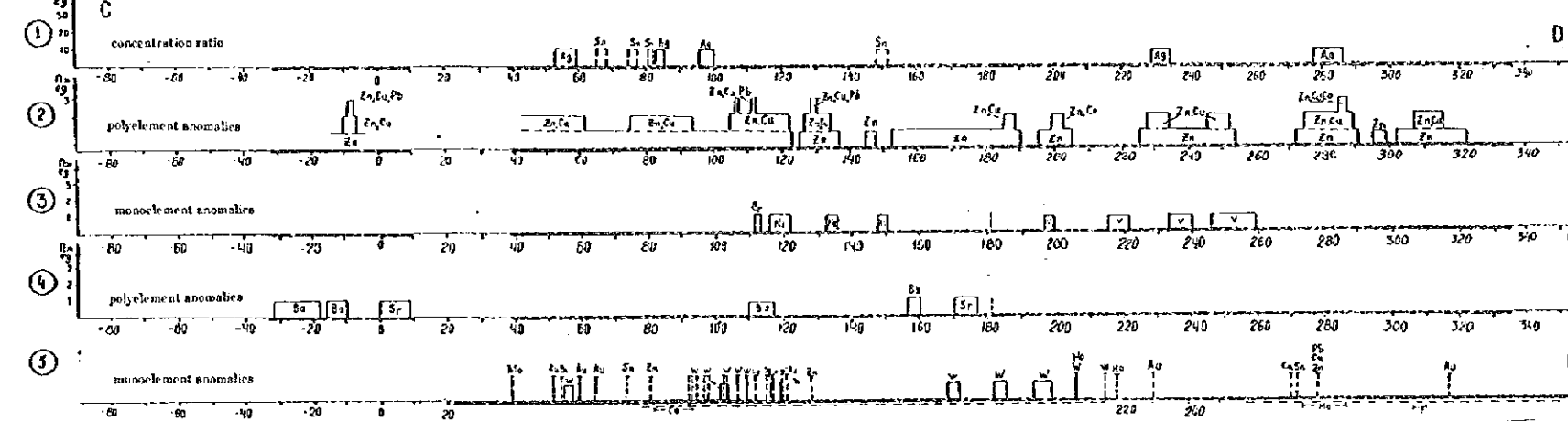


ΔG_{BOU} : Bouguer gravity anomaly
 $\Delta G_{100(1000)}$: regional gravity component (filtering window: 10,000m)
 $\Delta G_{loc(1000)}$: local gravity component (filtering window: 10,000m)

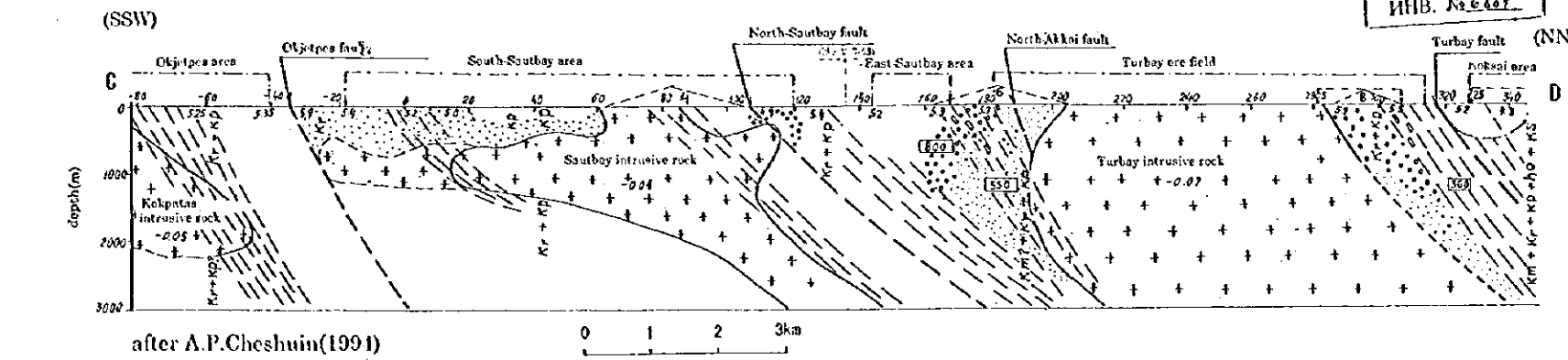
Vertical Gravity Gradient



Geochemical Data



Geophysical - Geological Model

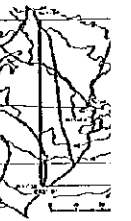
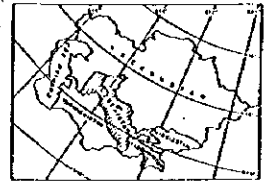


after A.P.Cheshuin(1994)

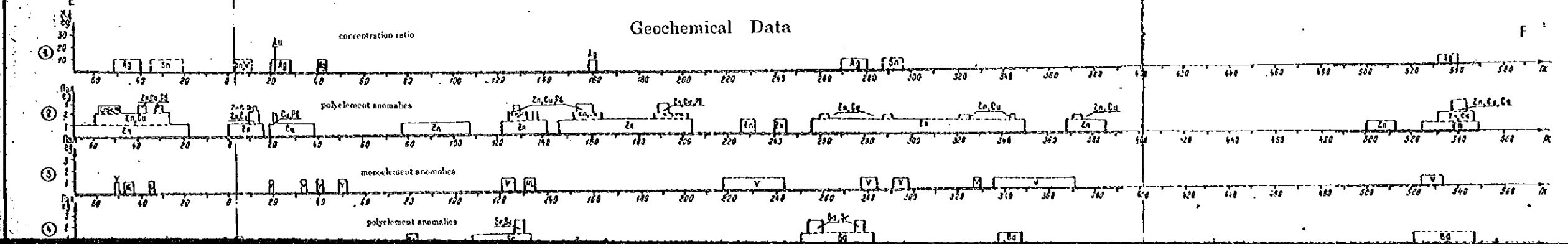
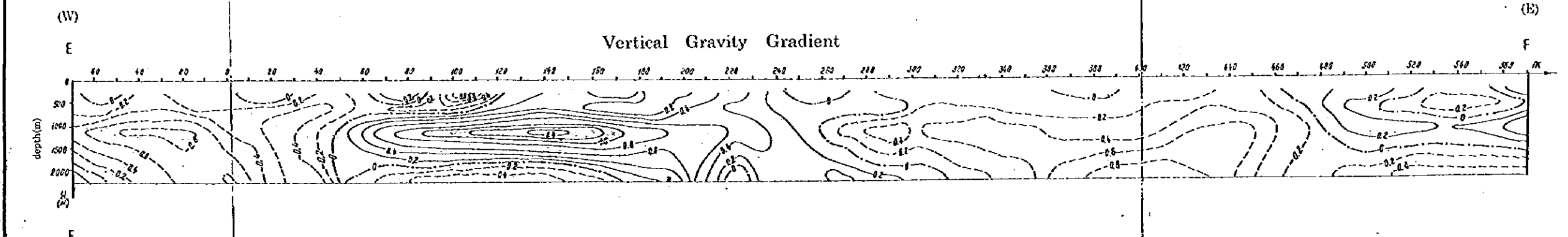
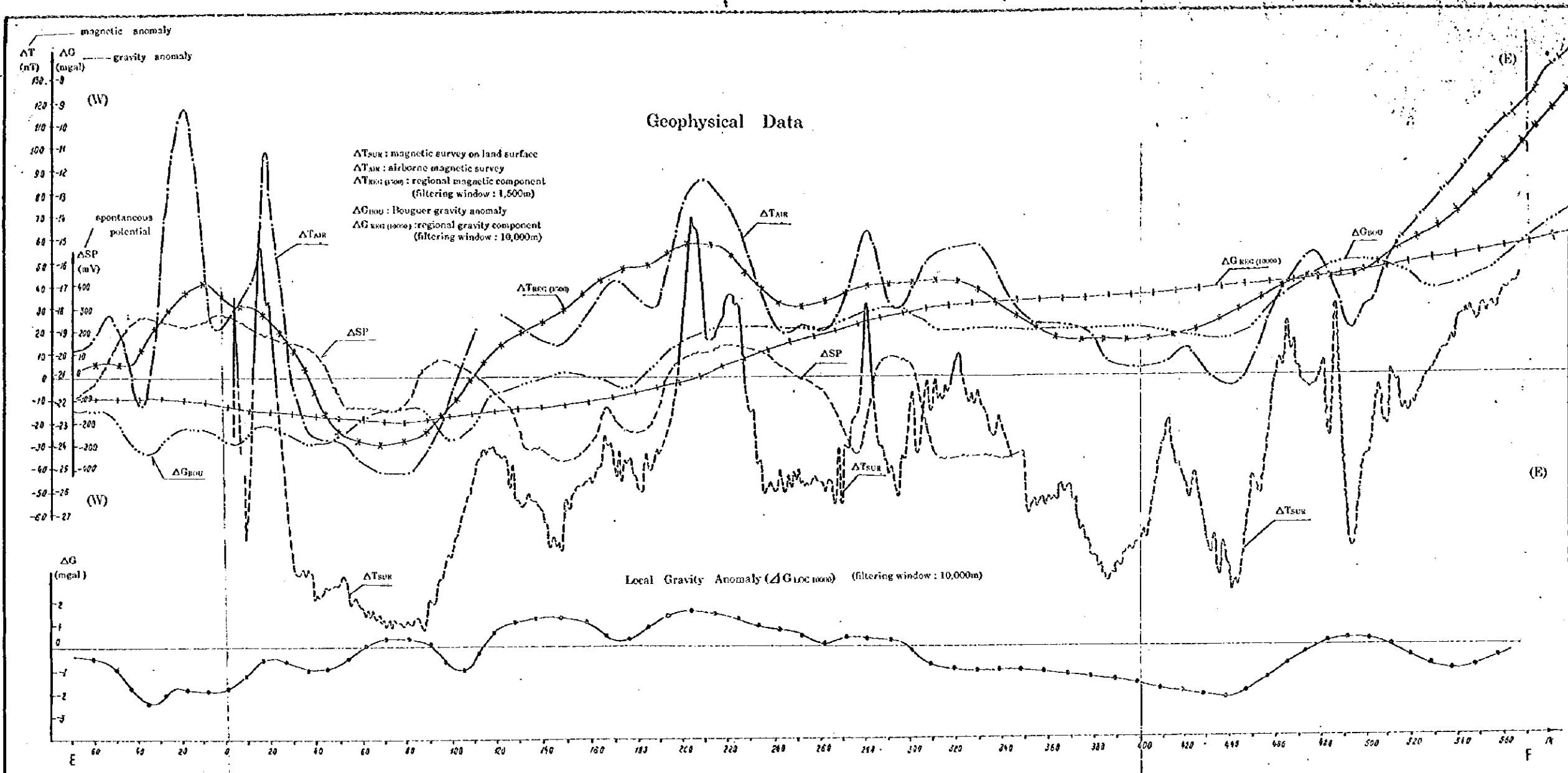
Муниципалитет Фергана РУССТ
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 ИИБ. № 6884

THE MINERAL EX
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GEOPHYSICAL - GE
SECTION E -



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METAL MINING AGE
FEBRUARY
Prepared by

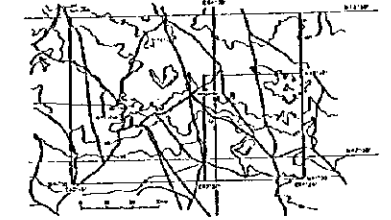
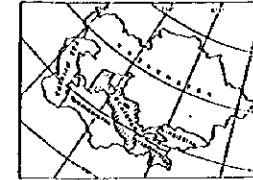


Legend

- granitoid intrusives
- solid line: inferred
- dashed line: projected
- 0.1, -0.05: density against to core
- km: Kumbulak formation
kr: Karashakh formation
kp: Kokpatas formation
ka: Khodjaakmet
ka: Kokpai formation
- contact with granite (according to geophysical metamorphic characteristics)
- dislocations with:
a: known (solid line)
b, b: enriched zone
b: including sulfide
- location of ore field
- drilling data (drill hole and its depth)
- density (g/cm³)
- magnetic susceptibility
- longitudinal wave velocity according to section
- magnetic susceptibility derived from magnetometry

THE MINERAL EXPLORATION
IN
THE EASTERN BUKANTAU AREA
THE REPUBLIC OF UZBEKISTAN
(PHASE I)

GEOPHYSICAL - GEOLOGICAL
SECTION E - F

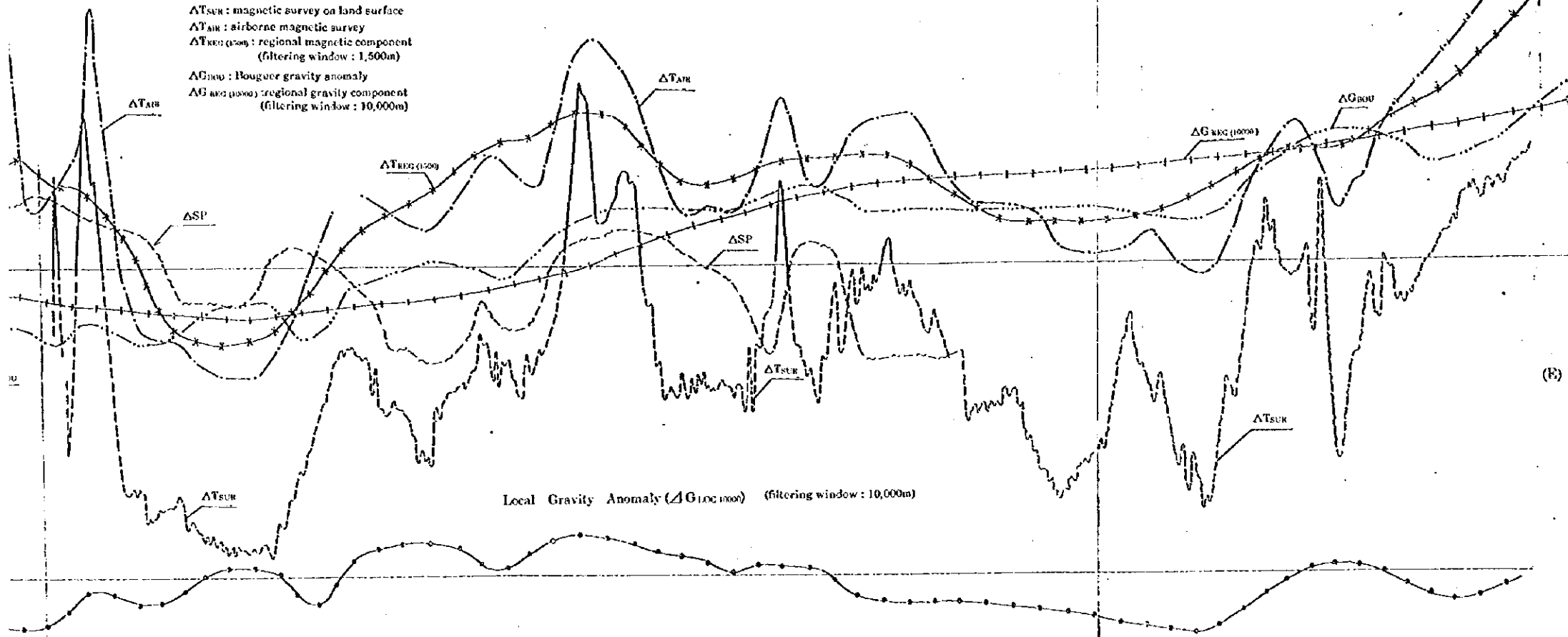


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Geophysical Data

ΔT_{SUR} : magnetic survey on land surface
 ΔT_{AIR} : airborne magnetic survey
 $\Delta T_{REG}(1500)$: regional magnetic component
(filtering window: 1,500m)
 ΔG_{1000} : Bouguer gravity anomaly
 ΔG_{10000} : regional gravity component
(filtering window: 10,000m)

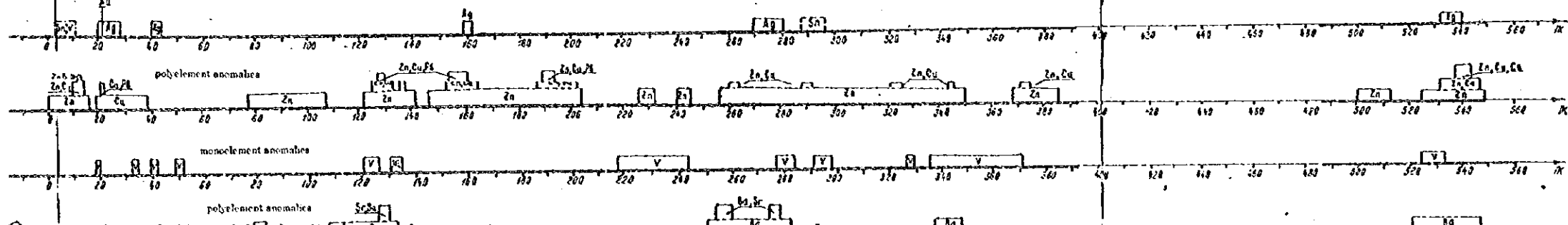


Local Gravity Anomaly (ΔG_{1000}) (filtering window: 10,000m)

Vertical Gravity Gradient



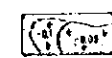
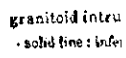
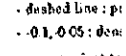
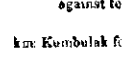
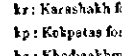
Geochemical Data

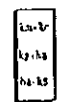


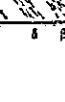
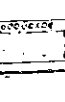



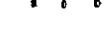

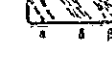

Legend

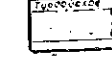
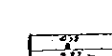


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drill hole and its No
- density (g/cm³)
- magnetic susceptibility ($\times 10^{-5}$ SI)
- longitudinal wave velocity (km/sec) according to seismic prospecting
- magnetic susceptibility ($\times 10^{-5}$ gauss/cm³) derived from magnetic modeling


Legen





-  granitoid intru
-  solid line: info
-  dashed line: pt
-  -0.1, 0.05: den
-  against to



-  km: Kumbulak f
-  kr: Karashakh f
-  kp: Kokpatas for
-  ka: Khodjakhm
-  ks: Koksai form



-  contact with gr
-  (according to geop
-  metasediment
-  a: close contact
-  b: with mineral

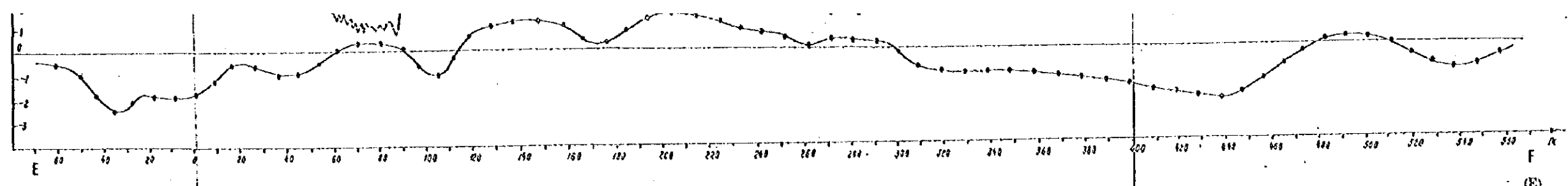
-  dislocations with
-  a: known/solid
-  b: enriched sz
-  (beta: including sul

-  location of ore f

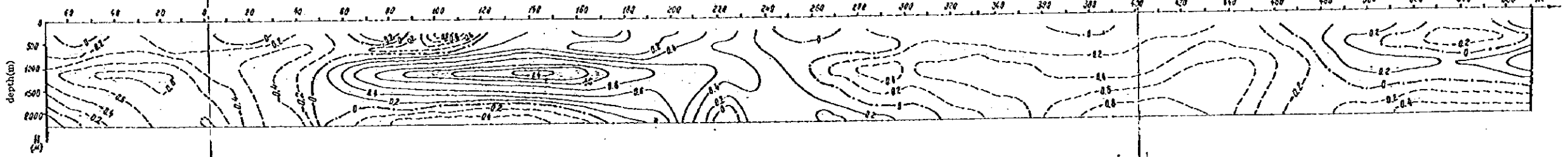
-  drilling data
-  drill hole and its
-  density (g/cm³)
-  magnetic suscep

-  longitudinal wa
-  according to se

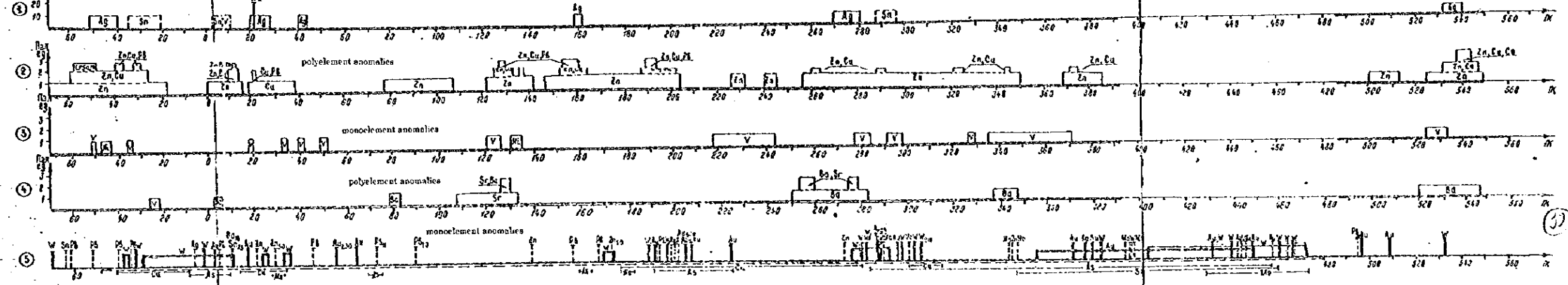
-  magnetic suscep
-  derived from



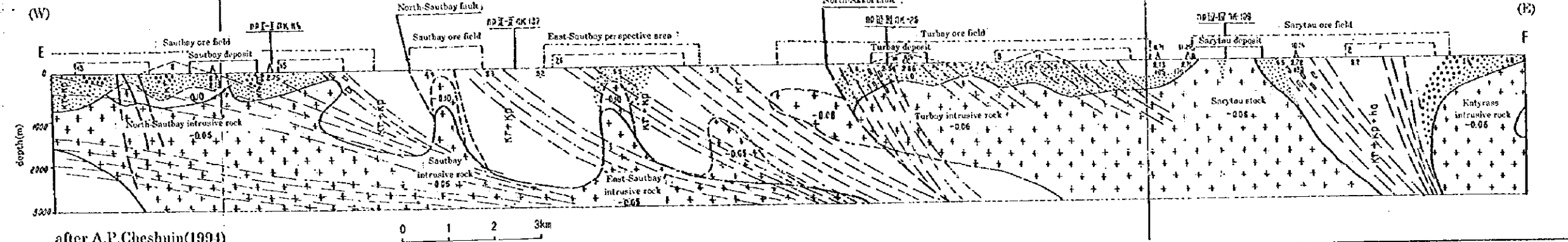
Vertical Gravity Gradient



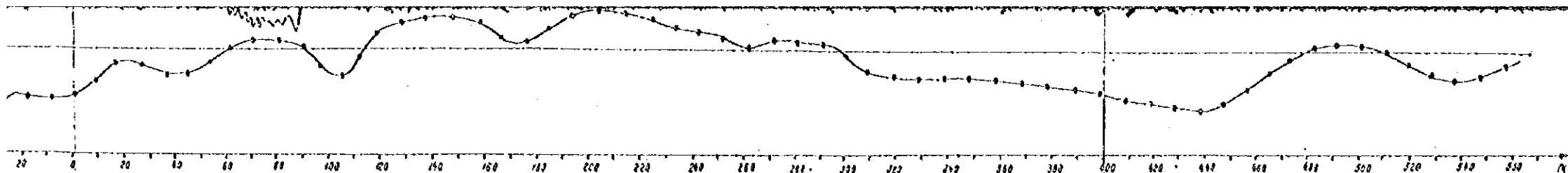
Geochemical Data



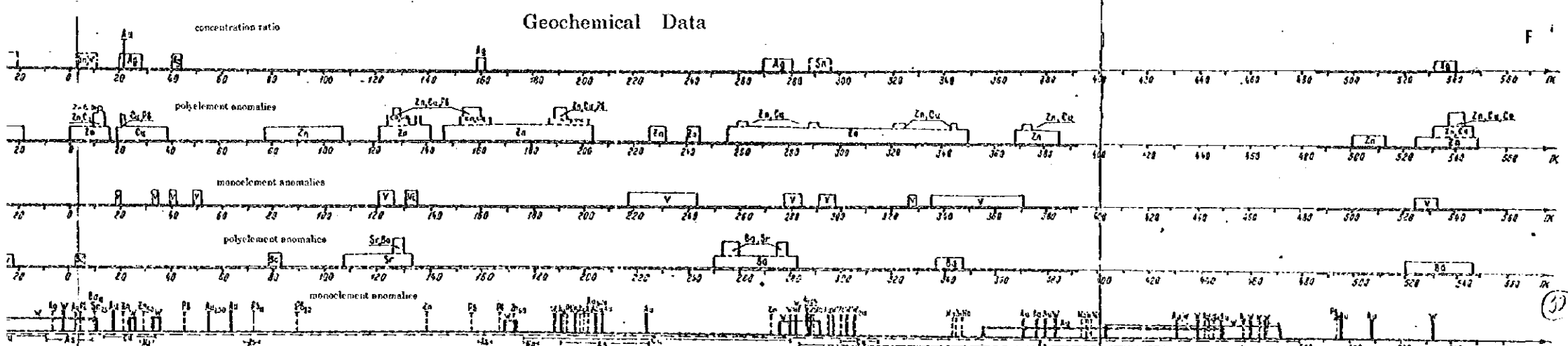
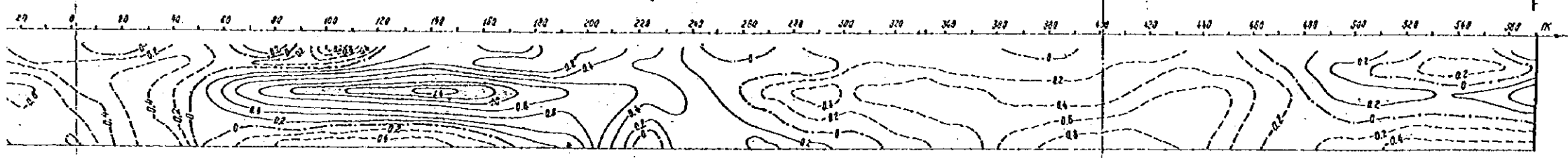
Geophysical - Geological Model



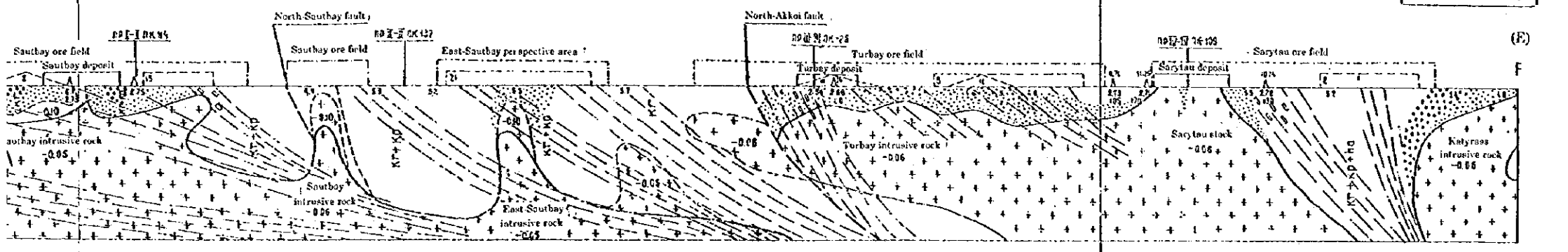
after A.P.Cheshuin(1994)



Vertical Gravity Gradient



Geophysical - Geological Model



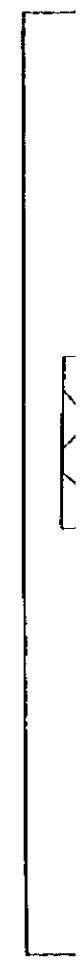
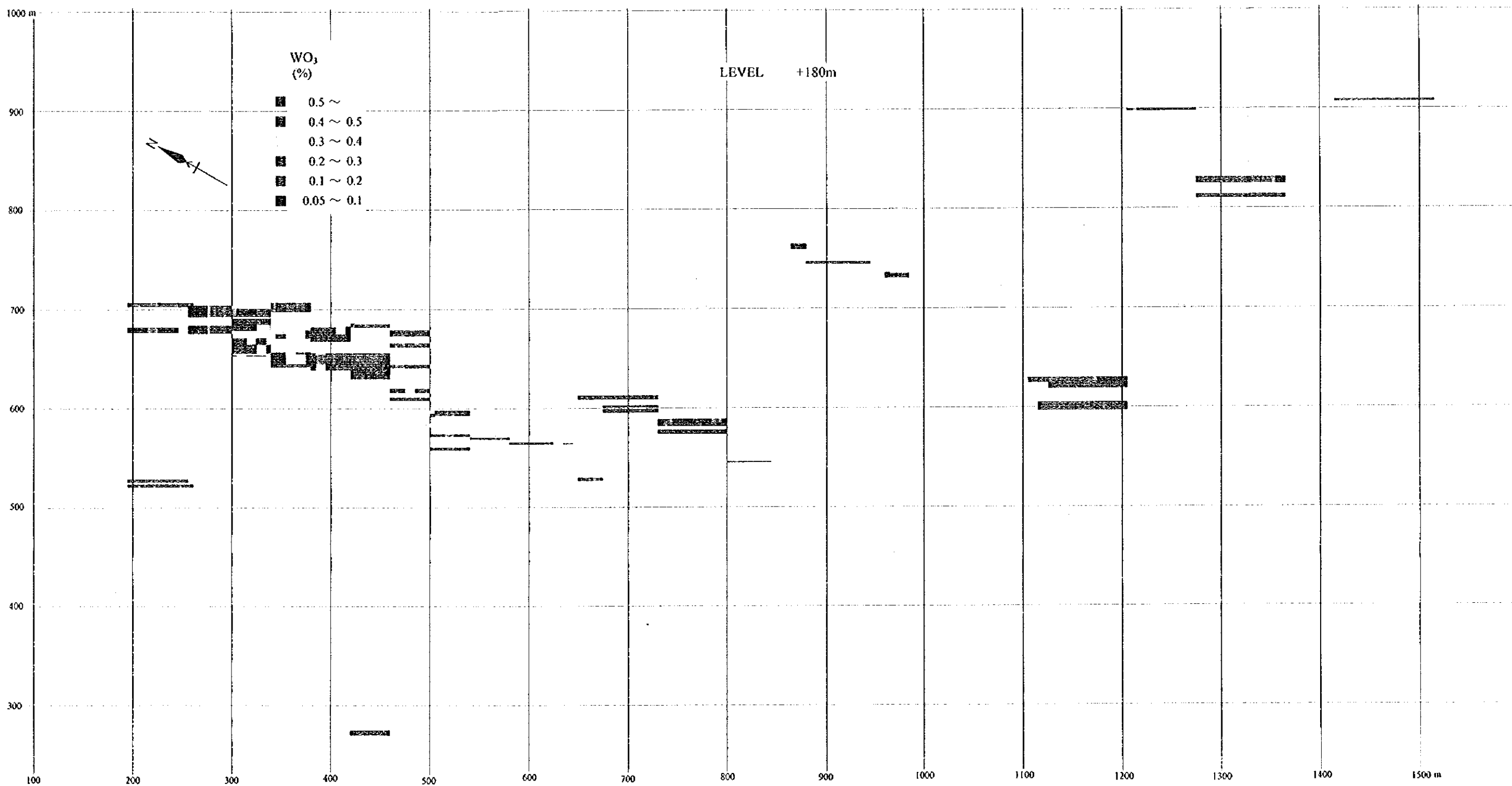
Legend

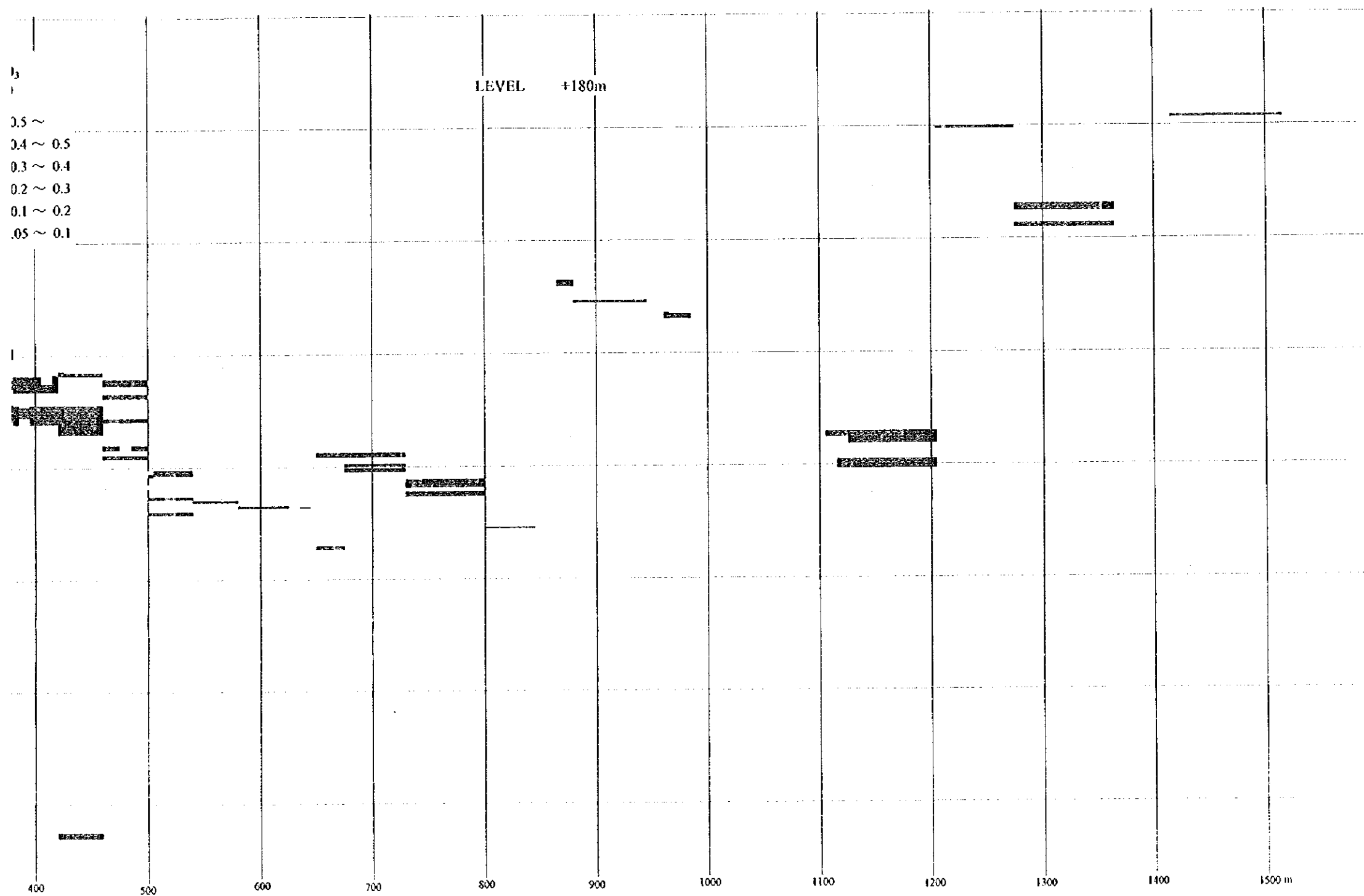
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 - a: known (solid line)
 - b: inferred (dashed line)
 - δ, θ: enriched zone of magnetic minerals (δ: including sulfide)
- location of ore field and prospective area
- drilling data
- drill hole and its density (g/cm³)
- magnetic susceptibility (x10⁻³ SD)
- longitudinal wave velocity (km/sec) according to seismic prospecting
- magnetic susceptibility (x10⁻³ cgs/cm³) derived from magnetic modeling

Конт. геолог. карт СССР
1:100,000
1:100,000

min(1994)



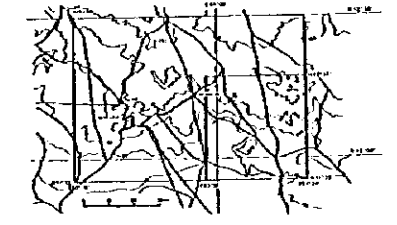
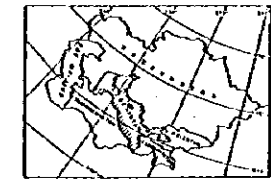




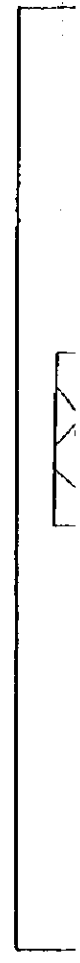
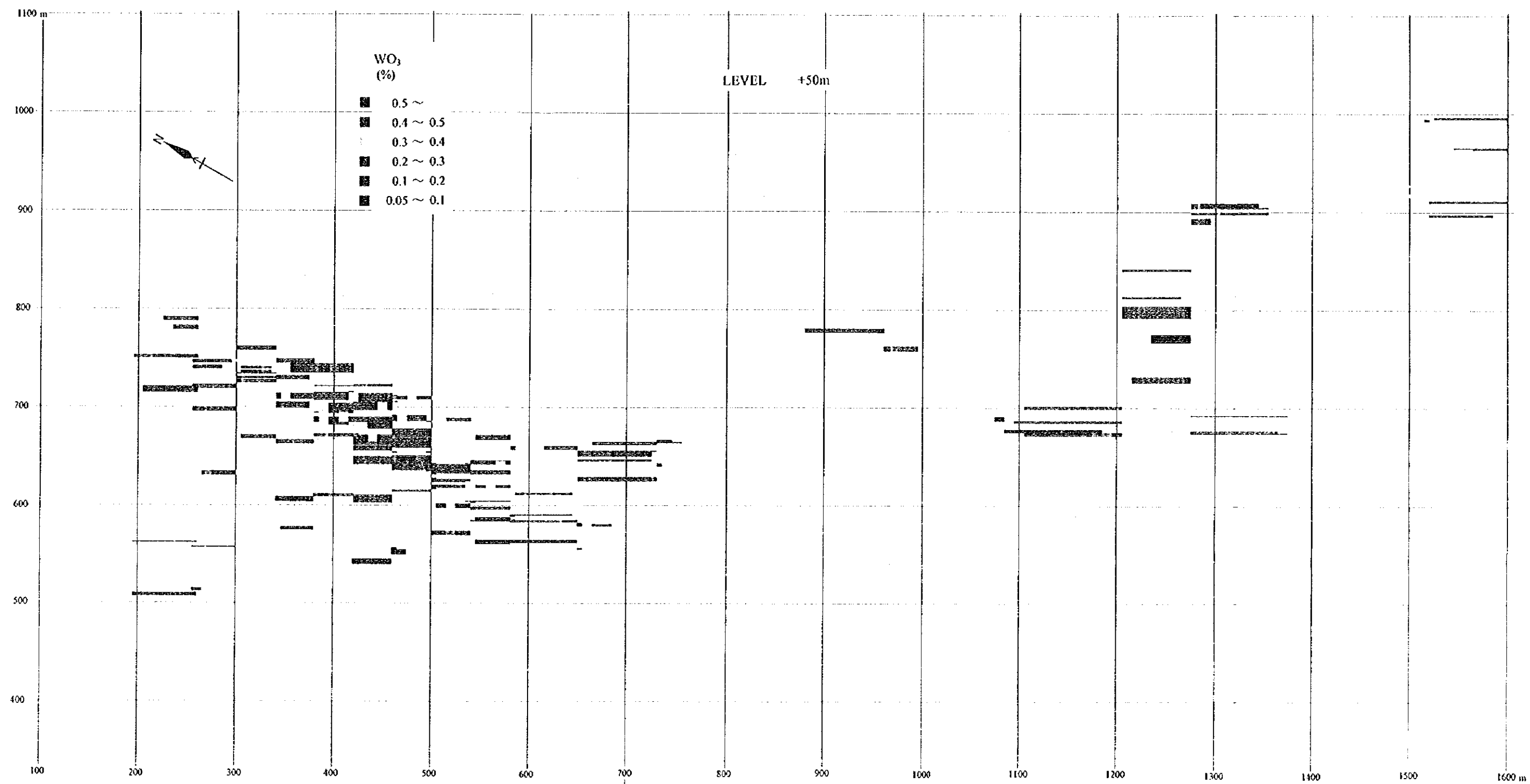
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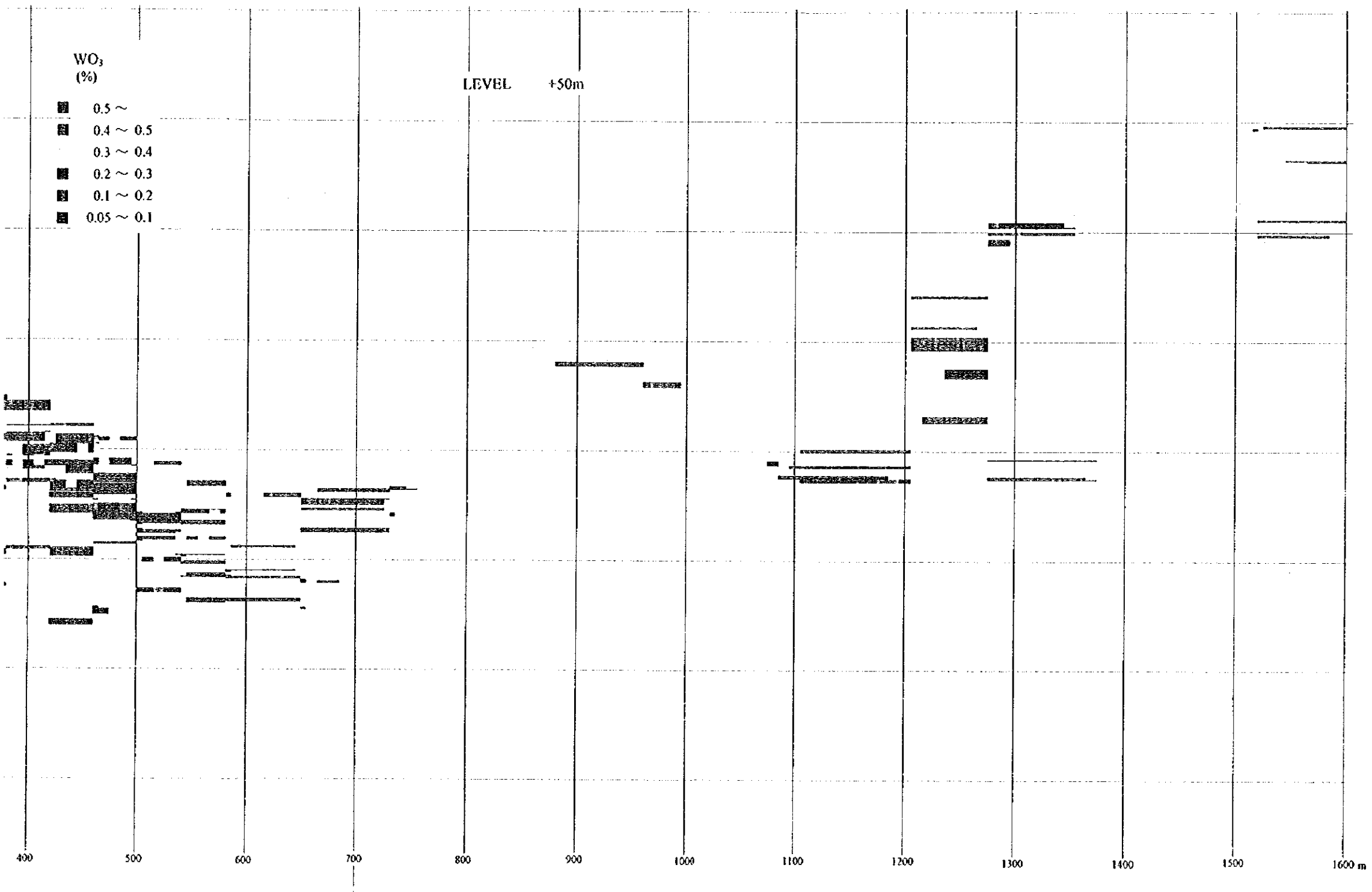
THE MINERAL EXPLORATION
IN
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ESTIMATED GRADES OF WO₃ AT THE
LEVEL OF +180m



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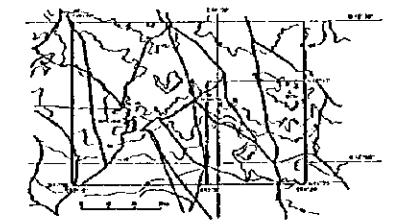
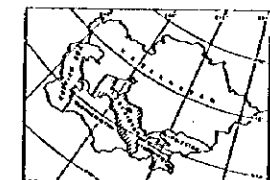




PI. II-3-1(2)

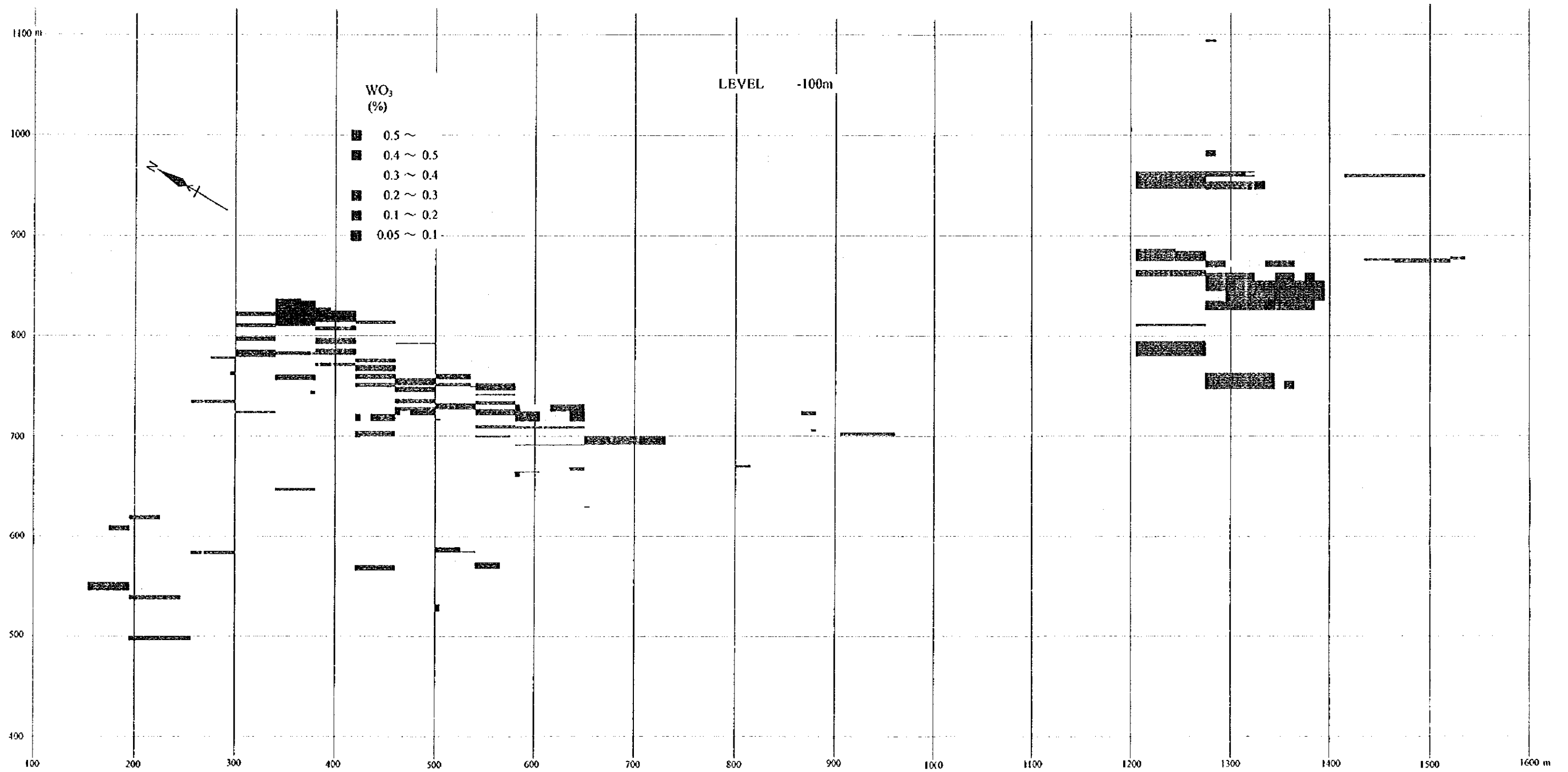
THE MINERAL EXPLORATION
IN
THE EASTERN BUKANTAU AREA
THE REPUBLIC OF UZBEKISTAN
(PHASE I)

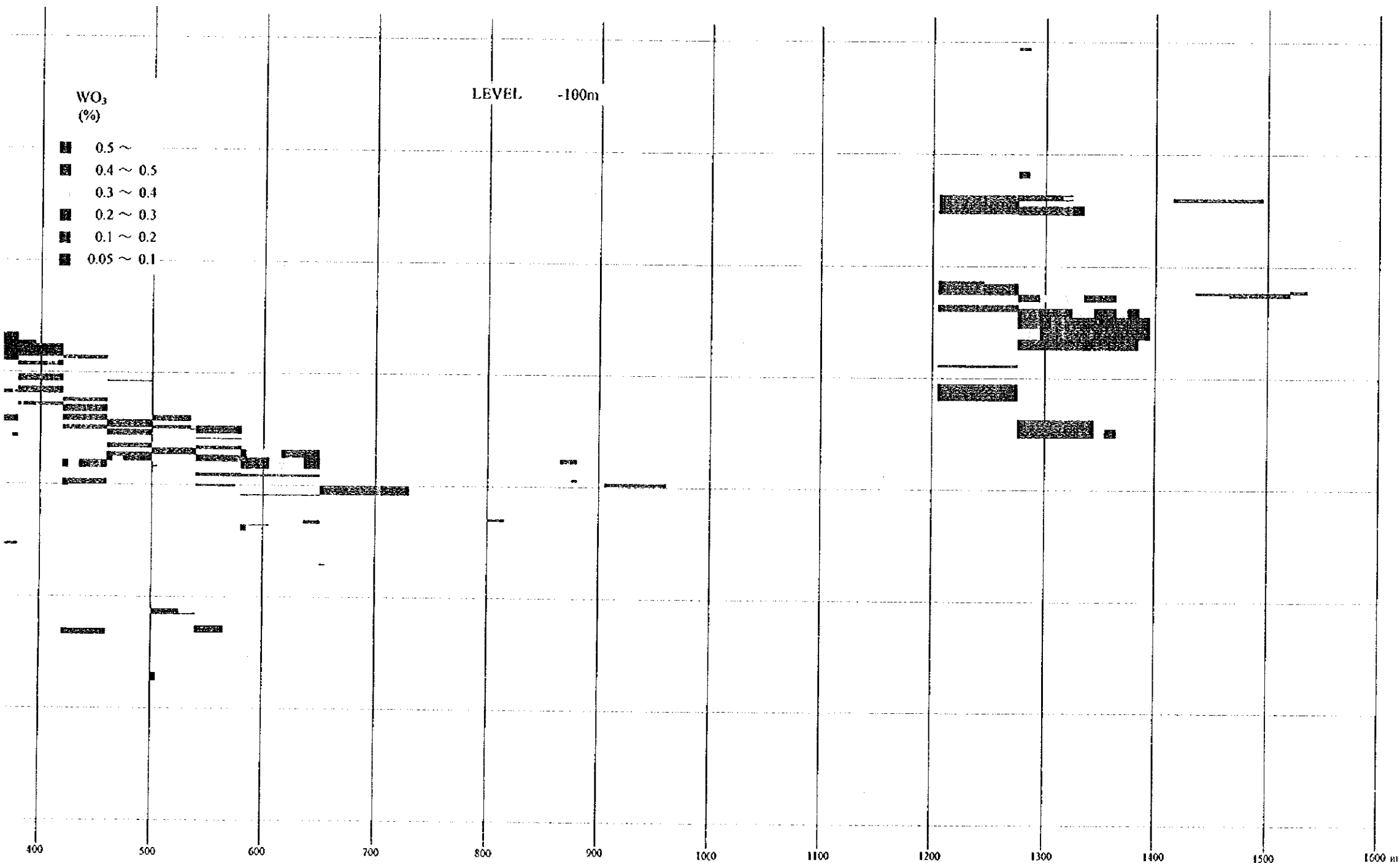
ESTIMATED GRADES OF WO₃ AT THE
LEVEL OF + 50m



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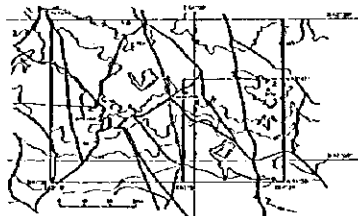




PI. II-3-1(3)

**THE MINERAL EXPLORATION
IN
THE EASTERN BUKANTAU AREA
THE REPUBLIC OF UZBEKISTAN
(PHASE I)**

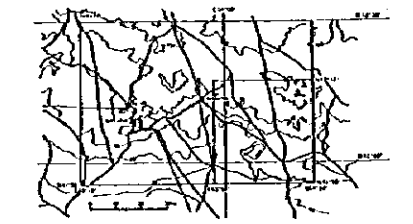
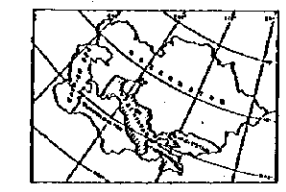
**ESTIMATED GRADES OF WO₃ AT THE
LEVEL OF -100m**

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 FEBRUARY 1995
 Prepared by MINDECO

THE MINERAL EXPLORATION
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THE REPUBLIC OF UZBEKISTAN
(PHASE I)

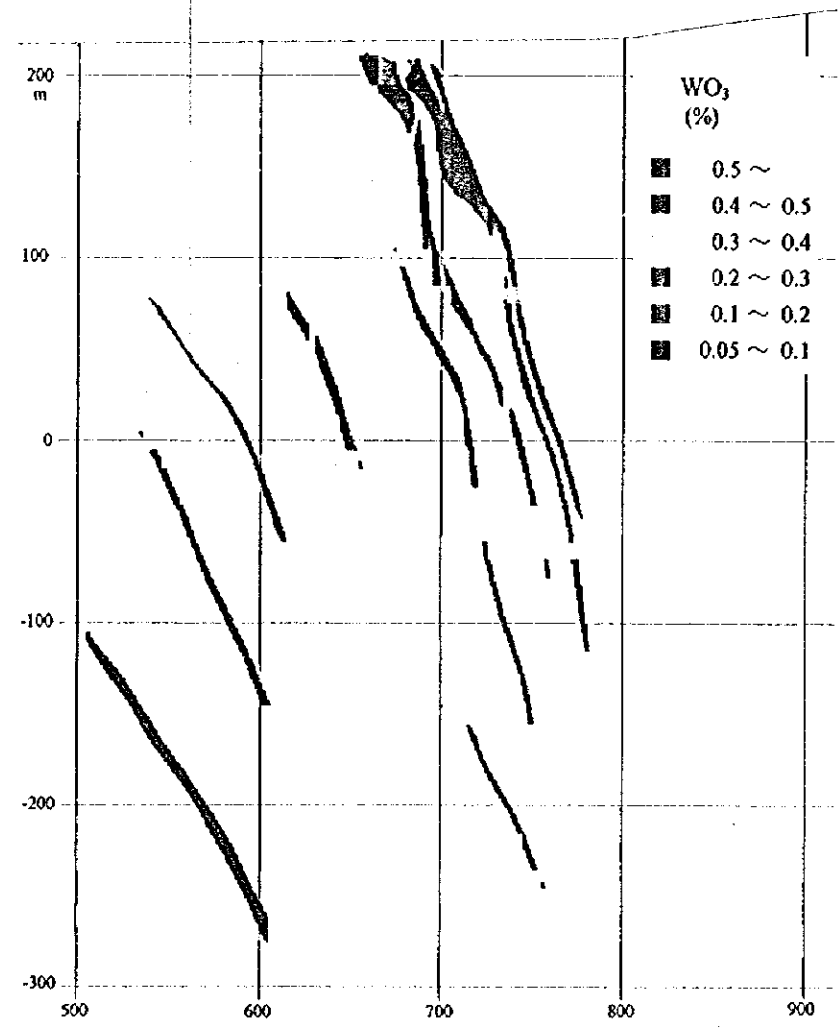
ESTIMATED GRADES OF WO₃ ALONG
LINE 36-36, 40-40, 58-58, 62-62



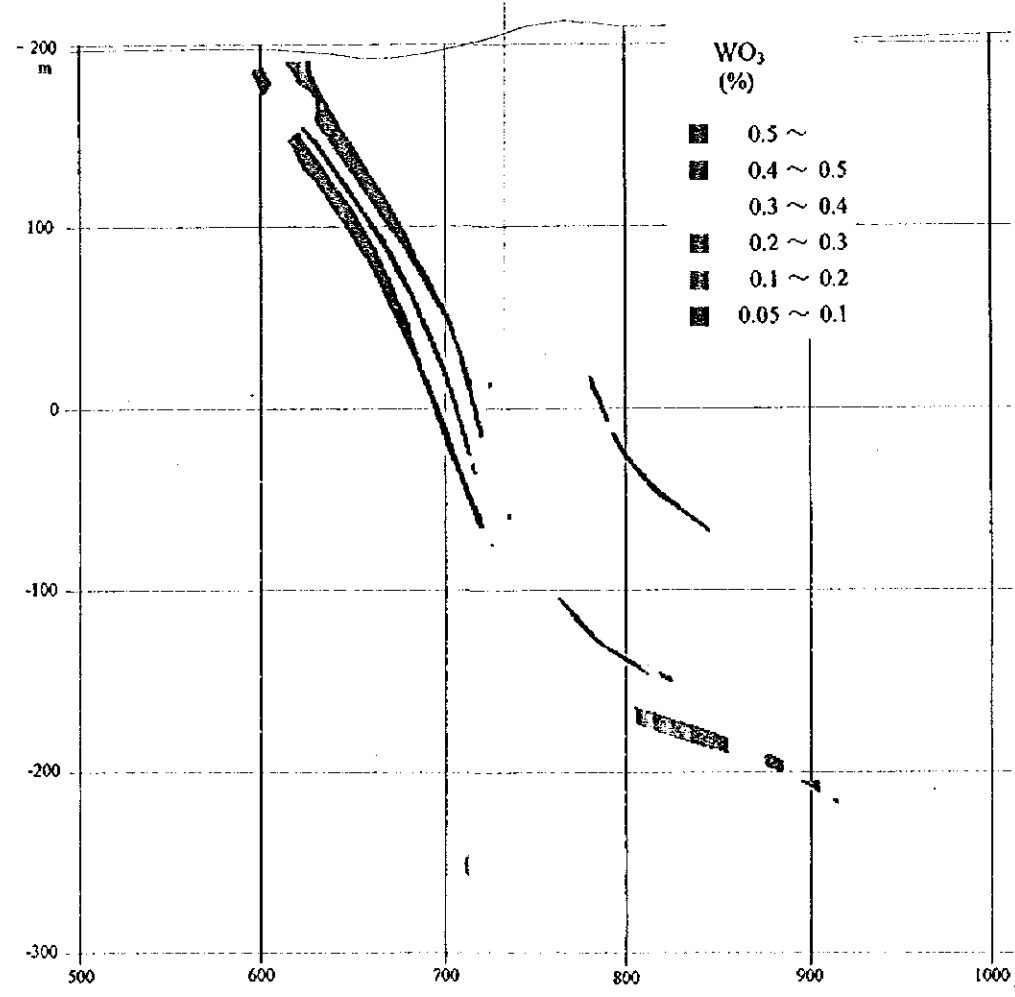
JAPAN INTERNATIONAL COOPERATION AGENCY
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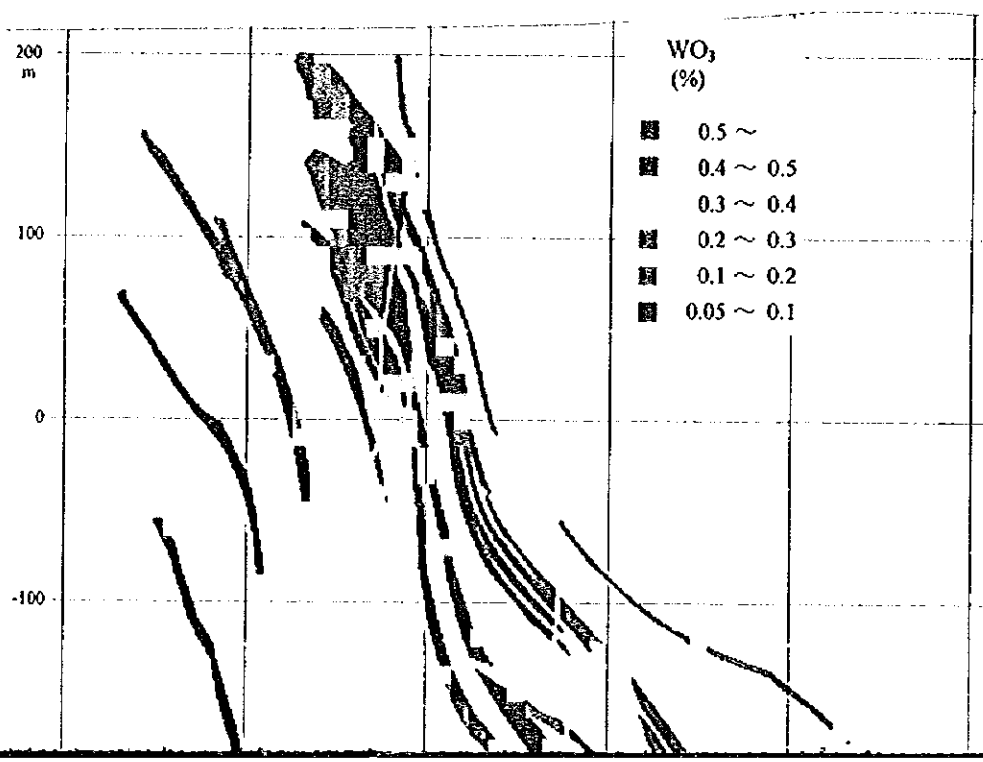
LINE 36 - 36



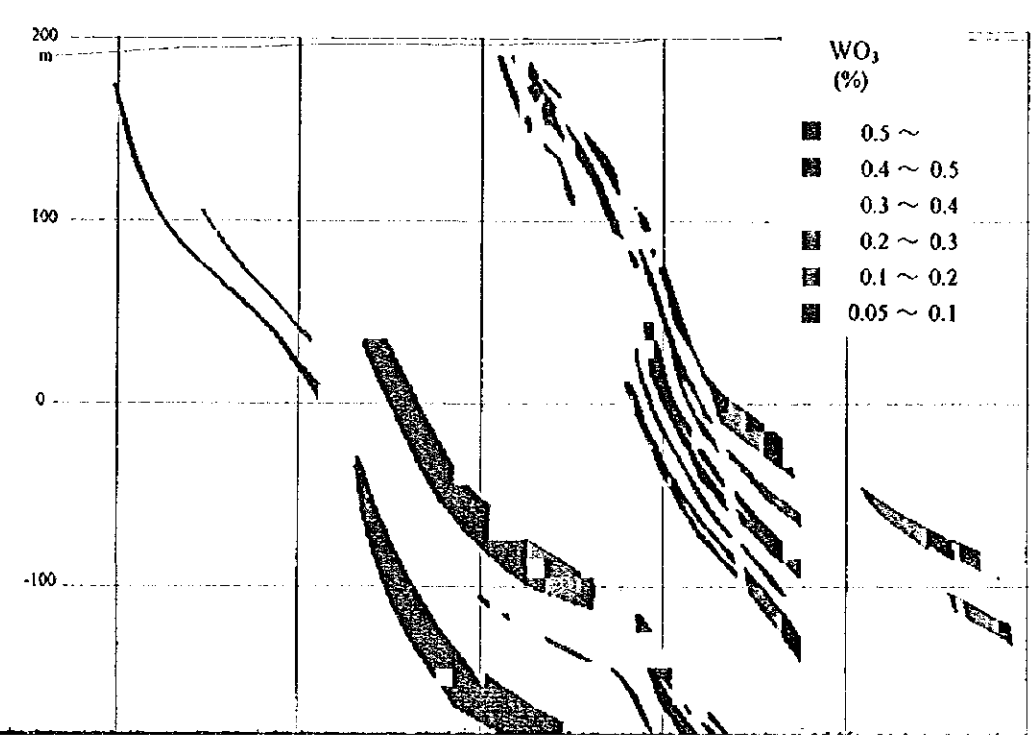
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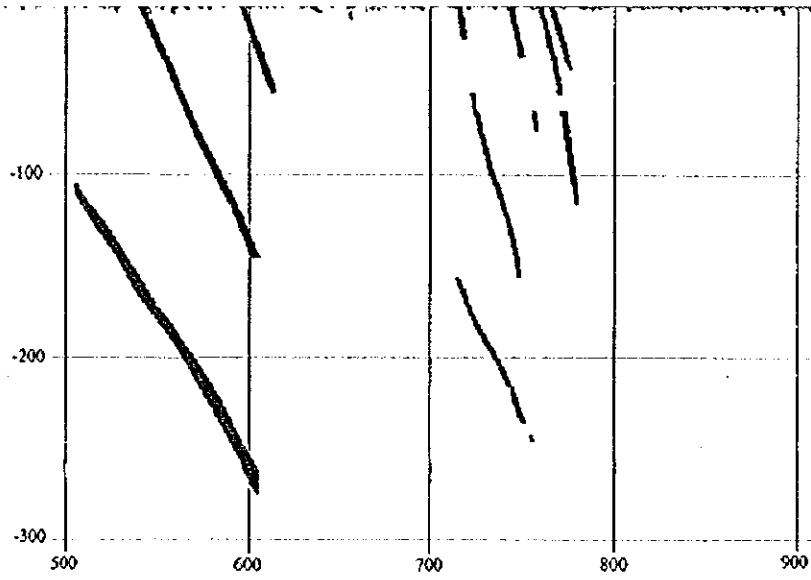


LINE 40 - 40

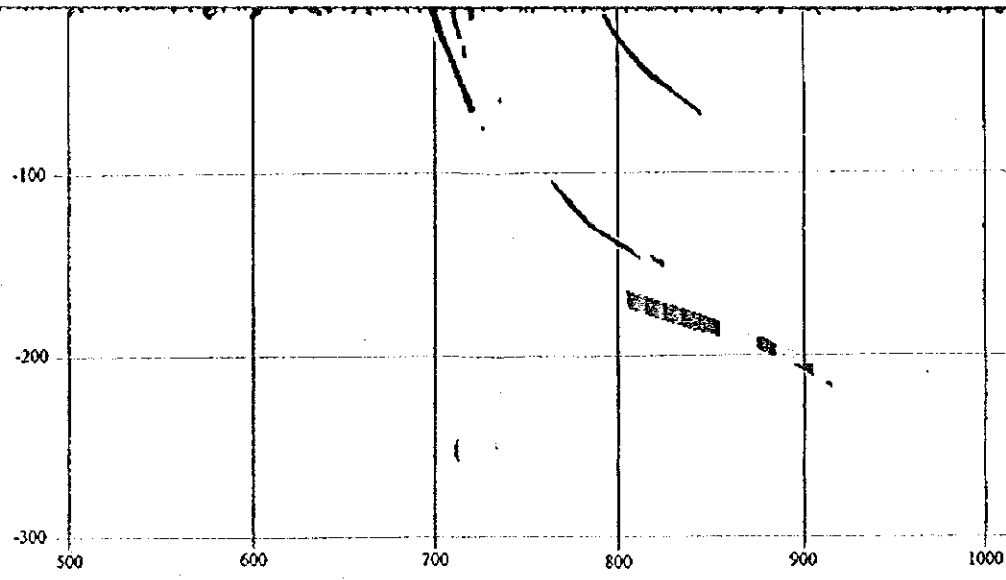


LINE 62 - 62

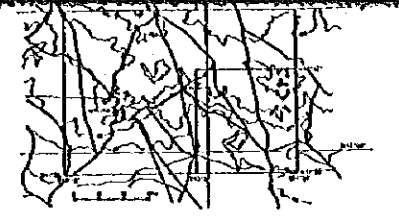




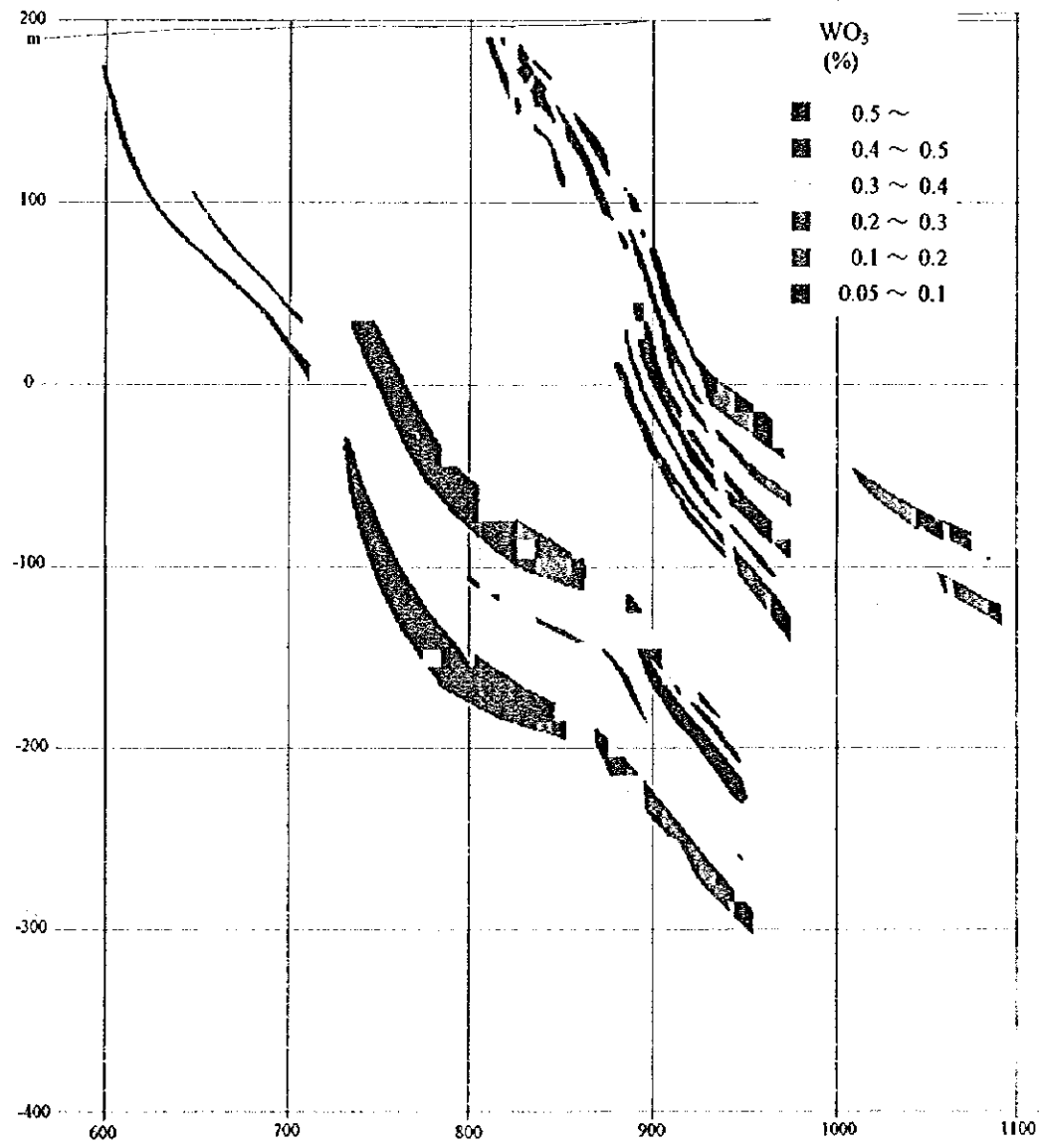
LINE 40 - 40

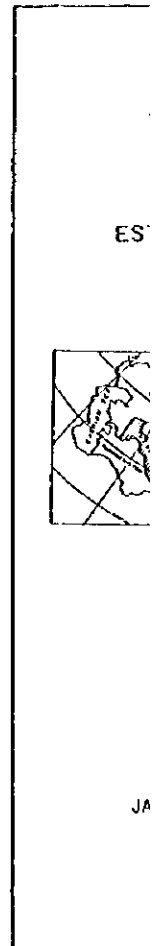
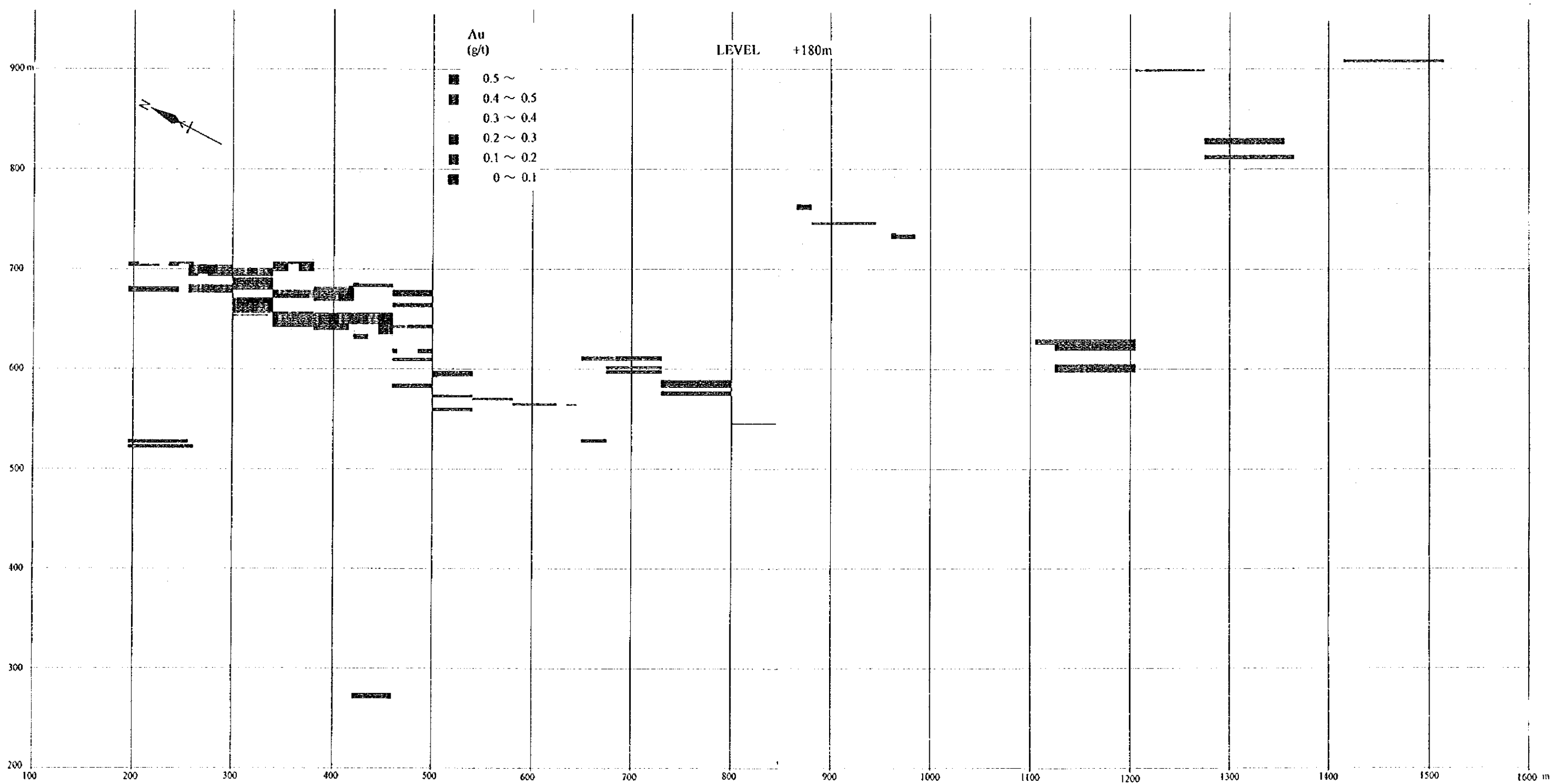


LINE 62 - 62



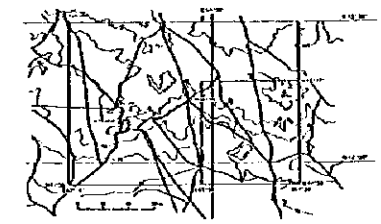
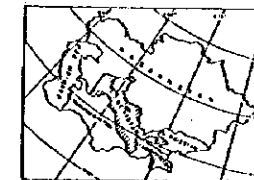
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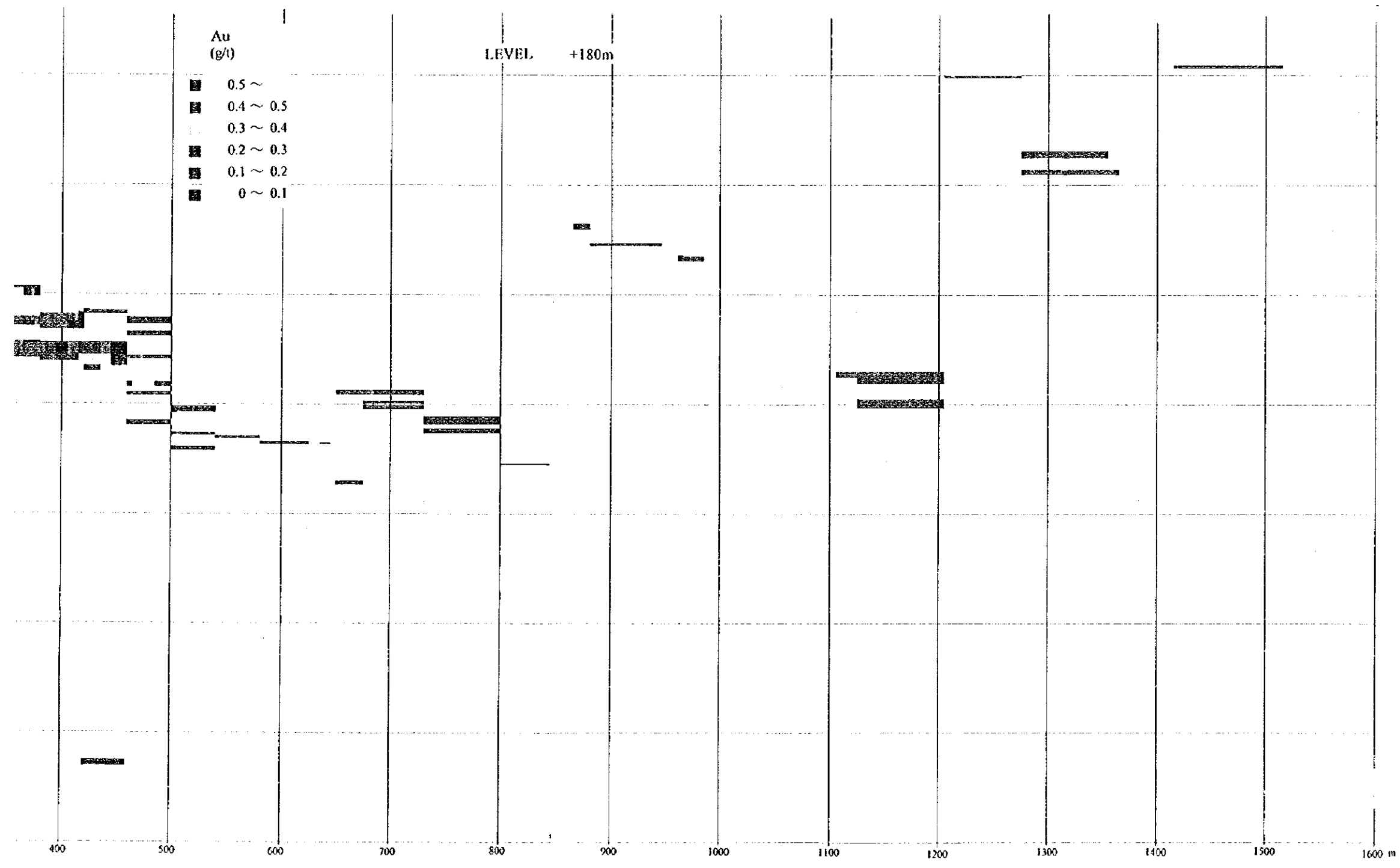
THE MINERAL EXPLORATION
IN
THE EASTERN BUKANTAU AREA
THE REPUBLIC OF UZBEKISTAN
(PHASE D)

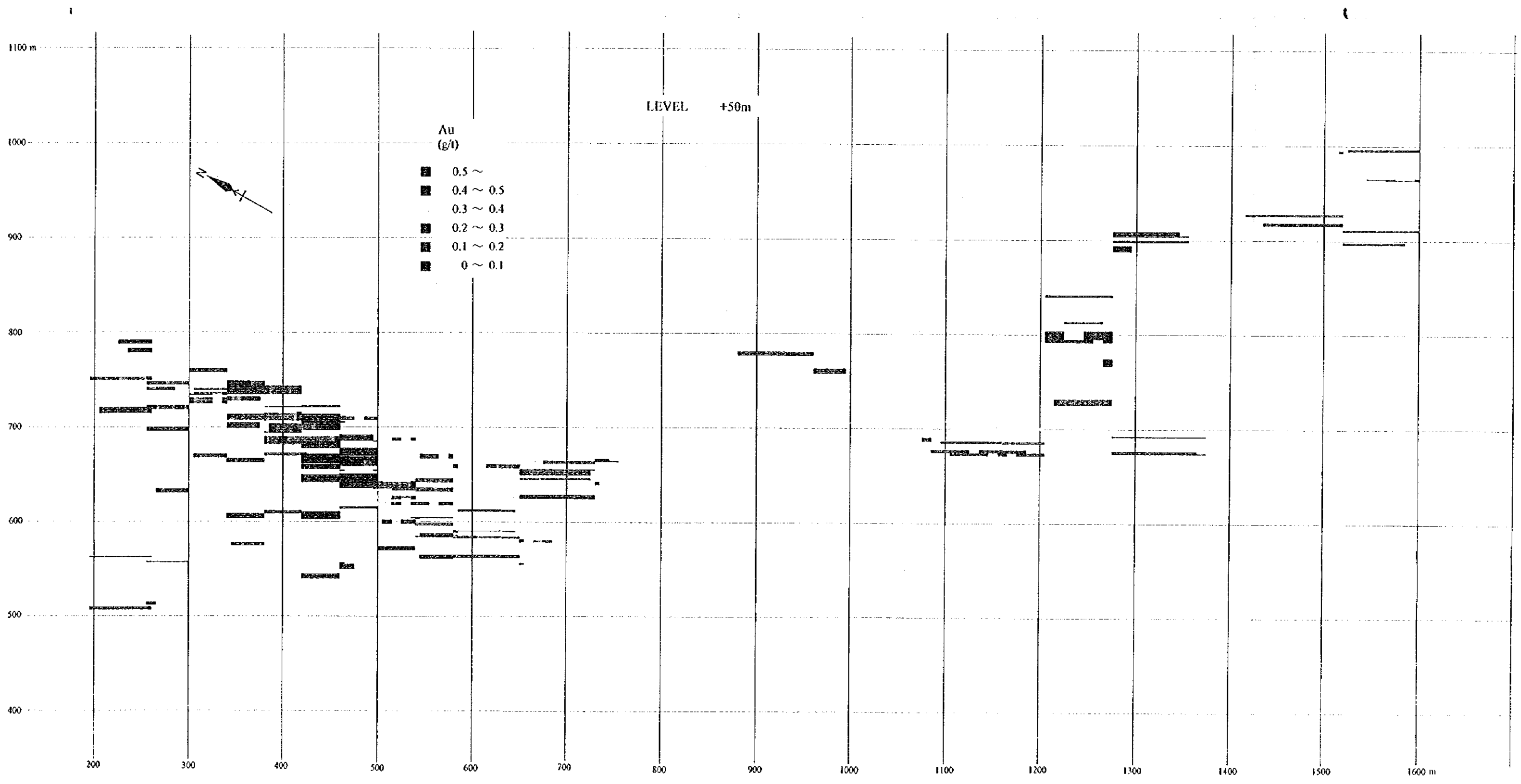
ESTIMATED GRADES OF Au AT THE
LEVEL OF +180m

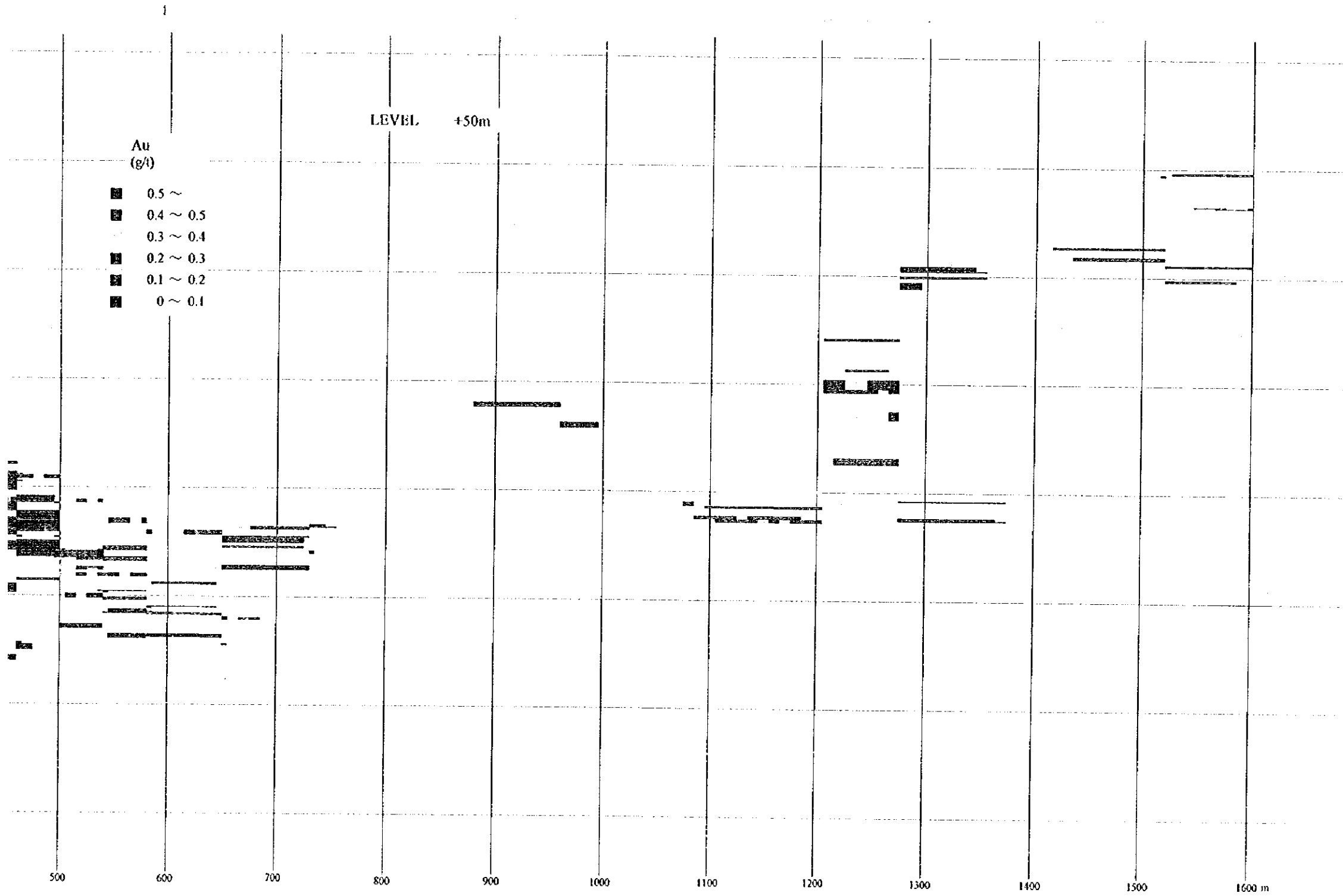


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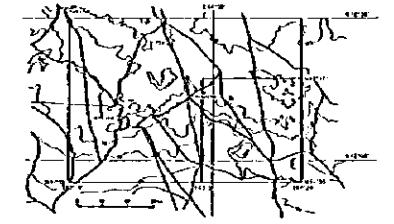
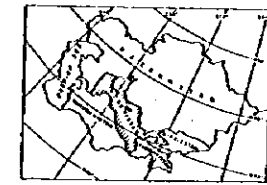




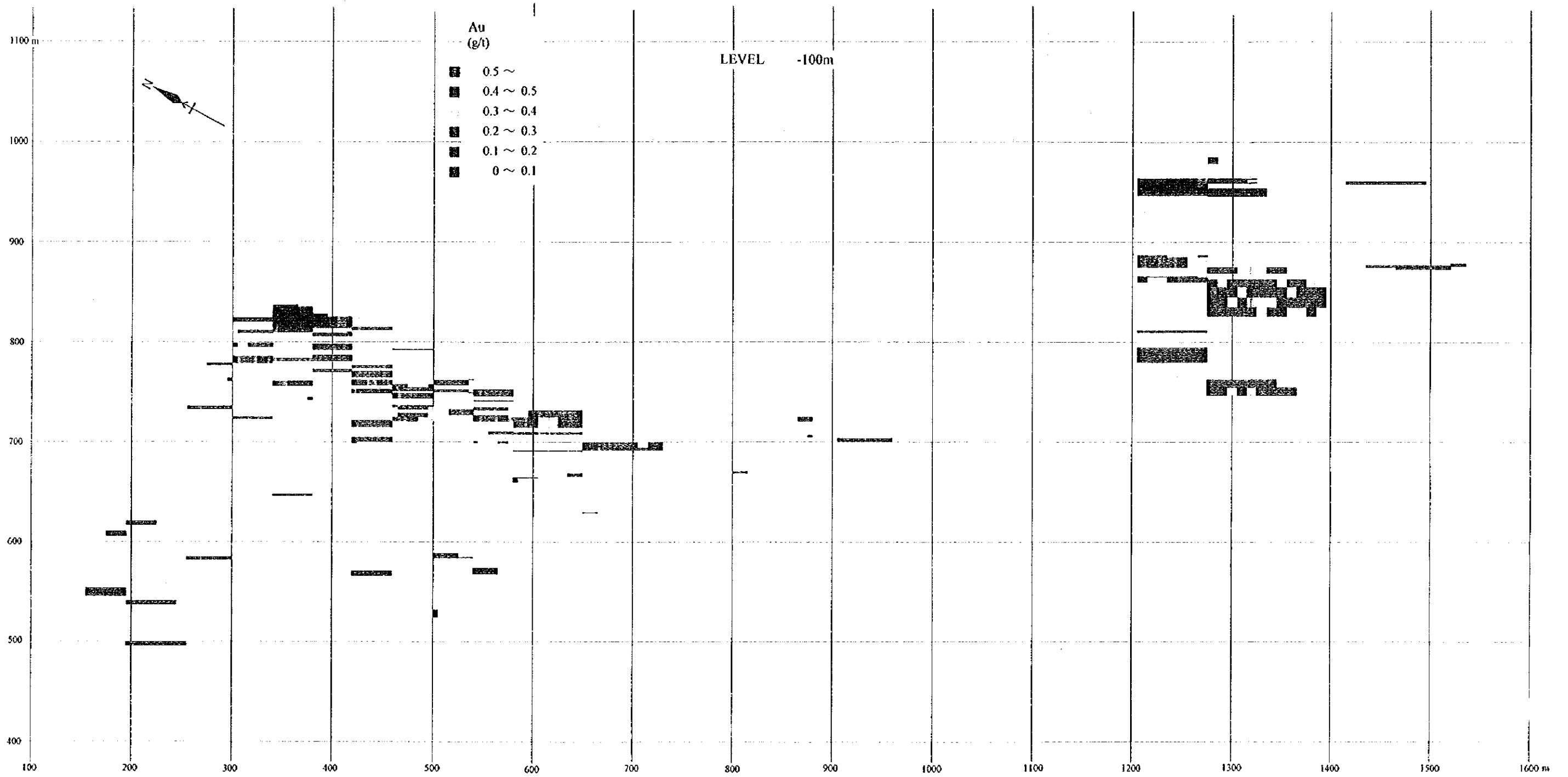
PL.H-3-3(2)

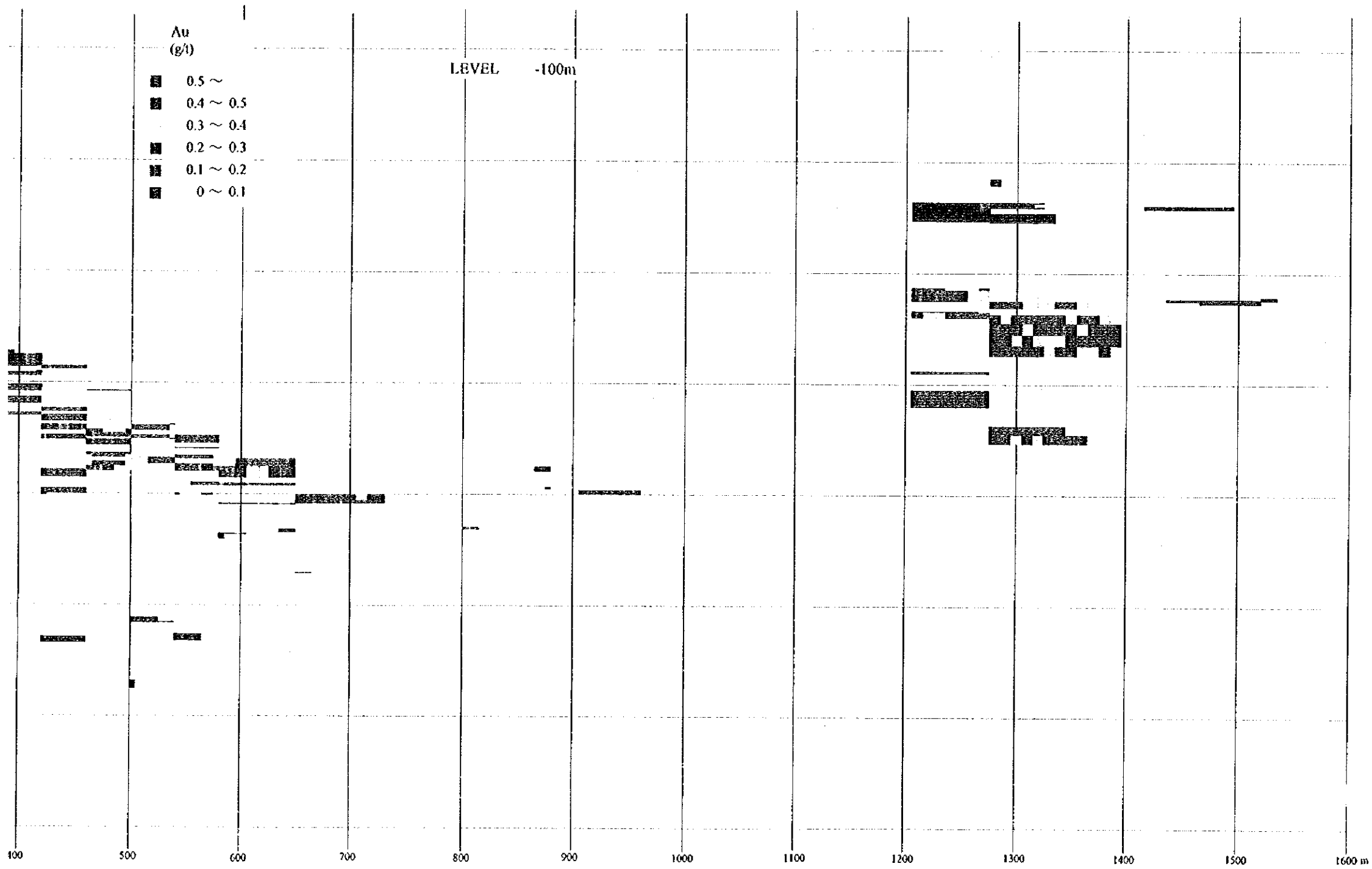
THE MINERAL EXPLORATION
IN
THE EASTERN BUKANTAU AREA
THE REPUBLIC OF UZBEKISTAN
(PHASE I)

ESTIMATED GRADES OF Au AT THE
LEVEL OF + 50m



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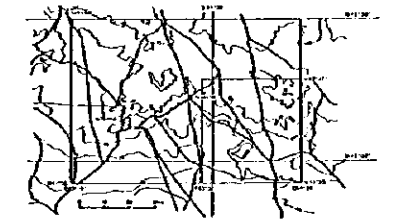
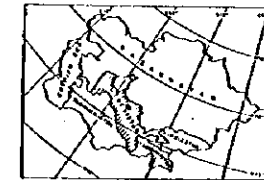




PL. II-3-3(3)

THE MINERAL EXPLORATION
IN
THE EASTERN BUKANTAU AREA
THE REPUBLIC OF UZBEKISTAN
(PHASE I)

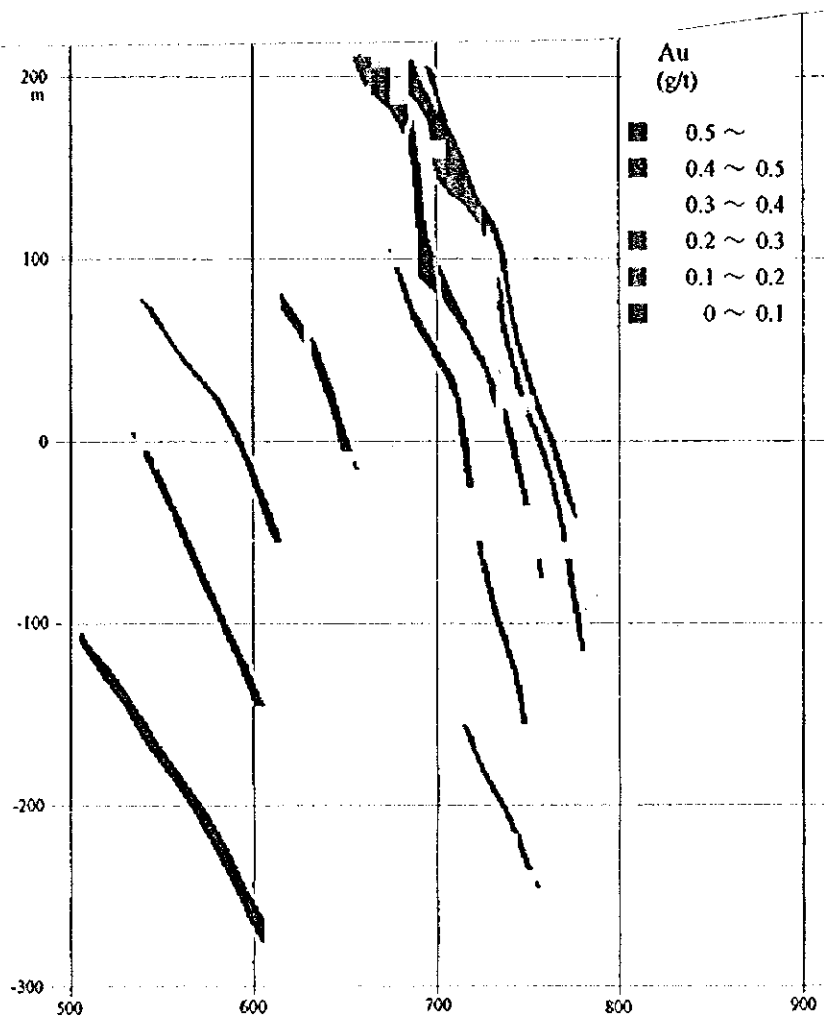
ESTIMATED GRADES OF Au AT THE
LEVEL OF - 100m



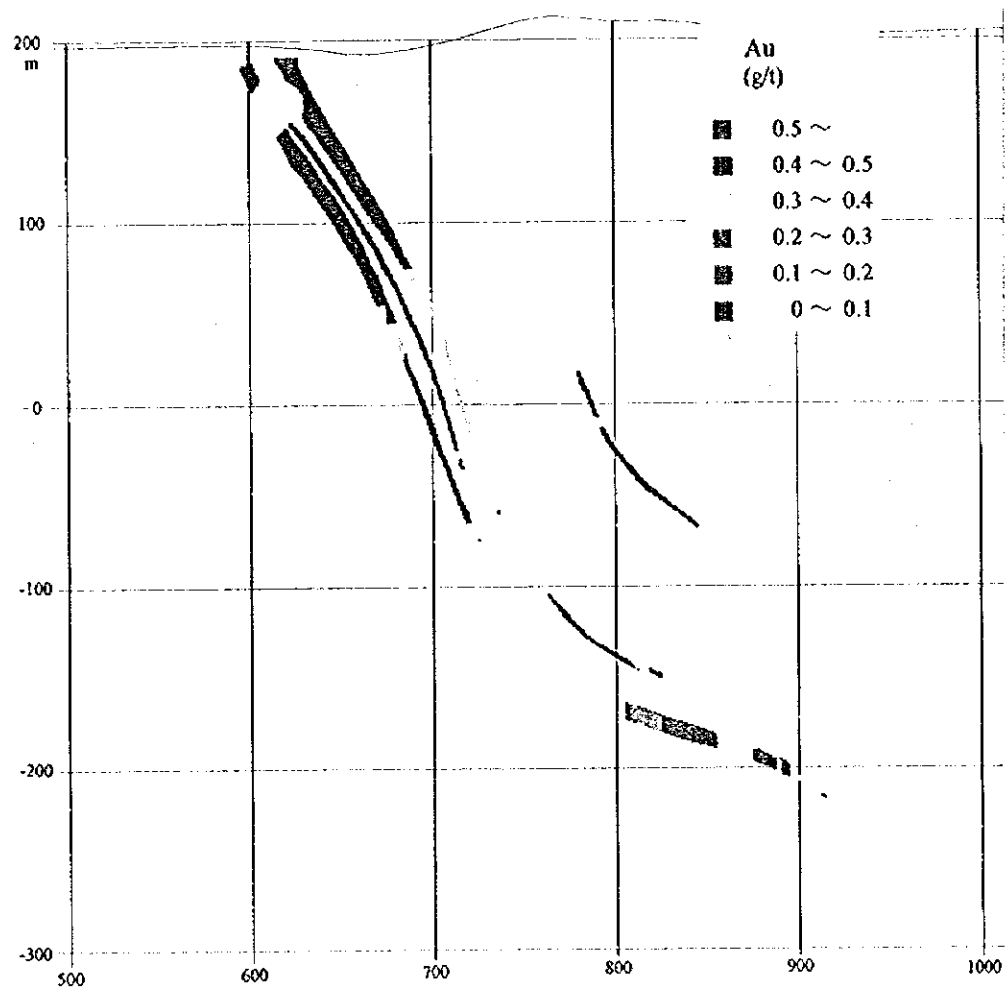
JAPAN INTERNATIONAL COOPERATION AGENCY
METAL MINING AGENCY OF JAPAN
FEBRUARY 1995

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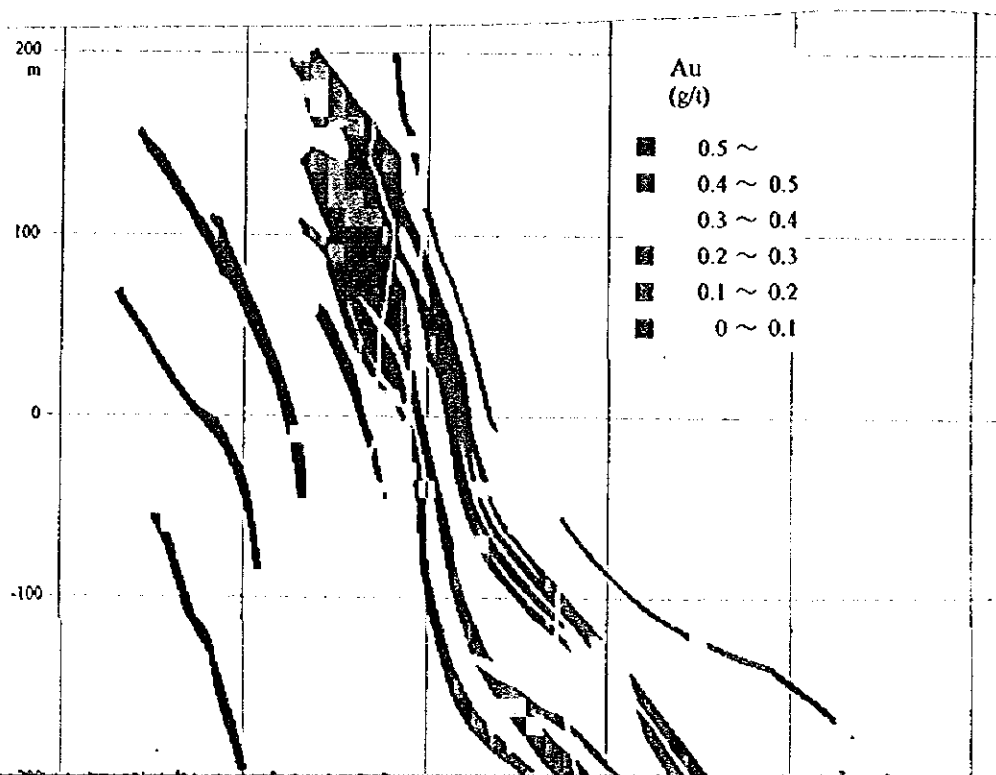
LINE 36 - 36



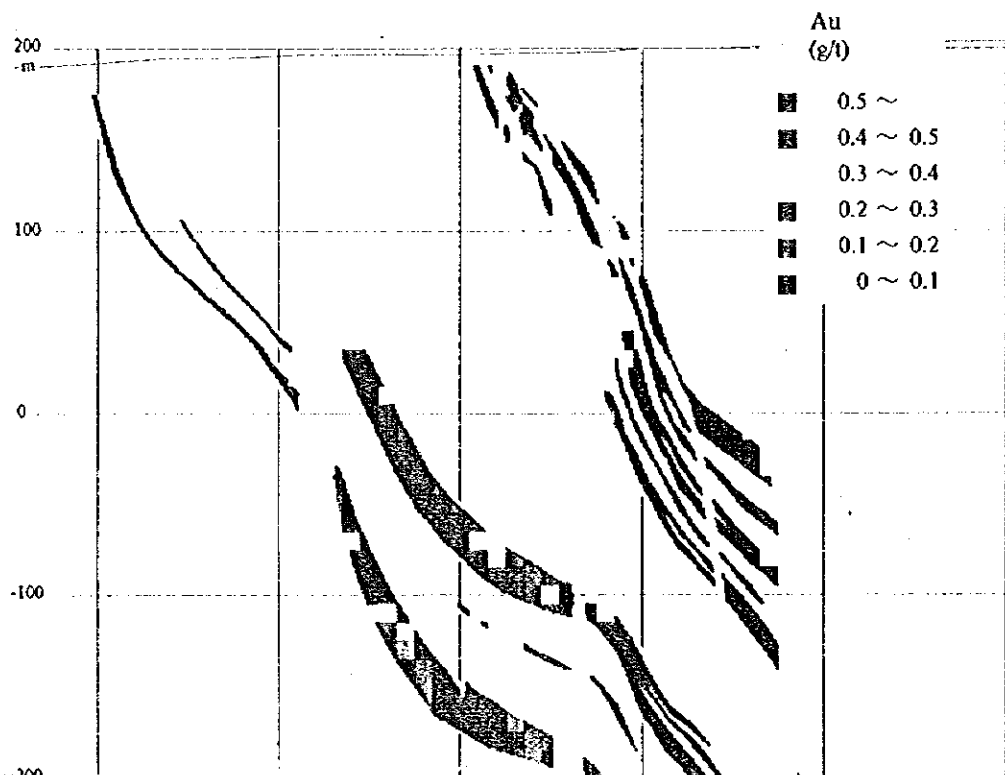
LINE 58 - 58



LINE 40 - 40

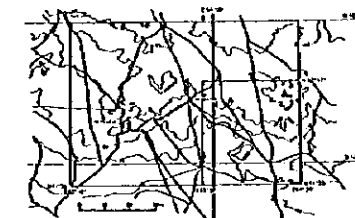


LINE 62 - 62



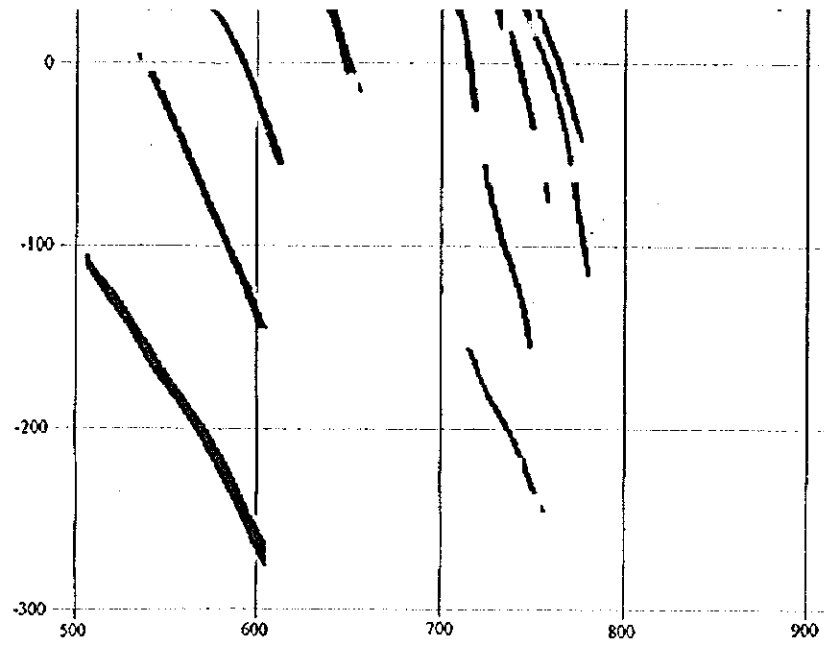
THE MINERAL EXPLORATION
IN
THE EASTERN BUKANTAU AREA
THE REPUBLIC OF UZBEKISTAN
(PHASE I)

ESTIMATED GRADES OF Au ALONG
LINE 36-36, 40-40, 58-58, 62-62

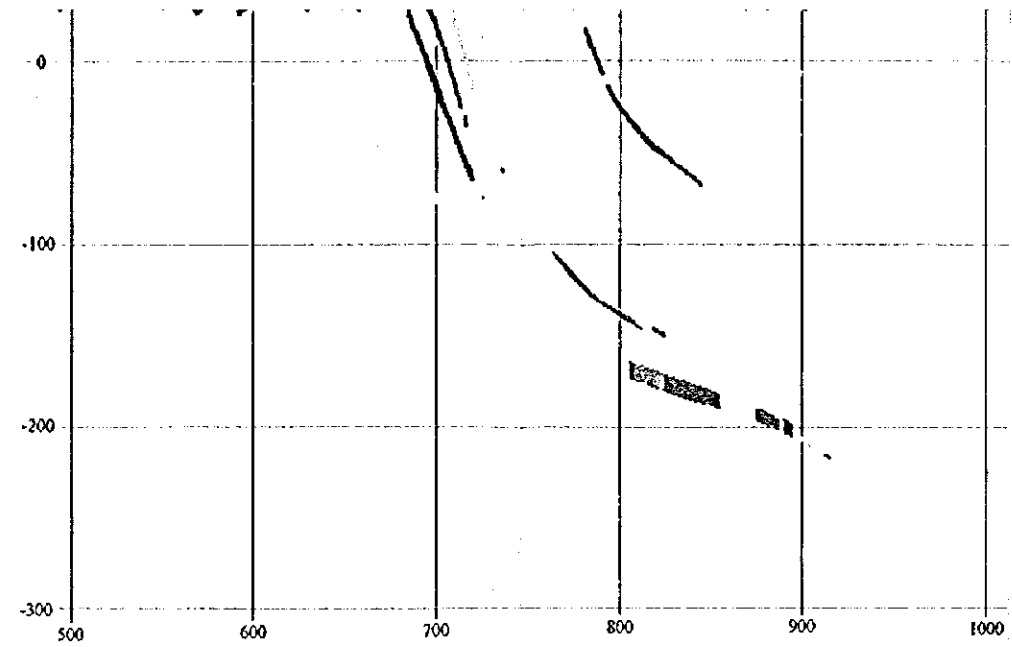


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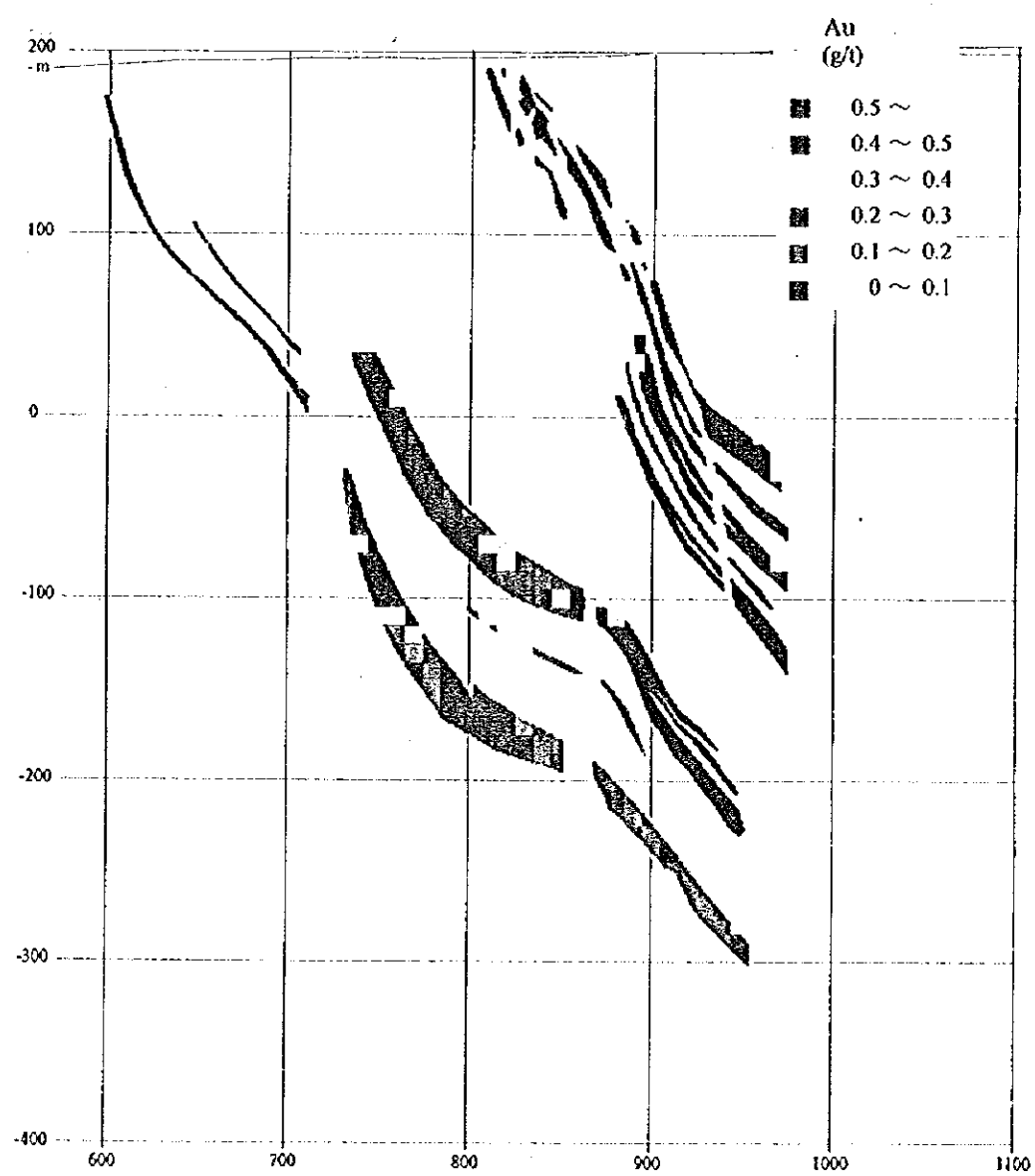
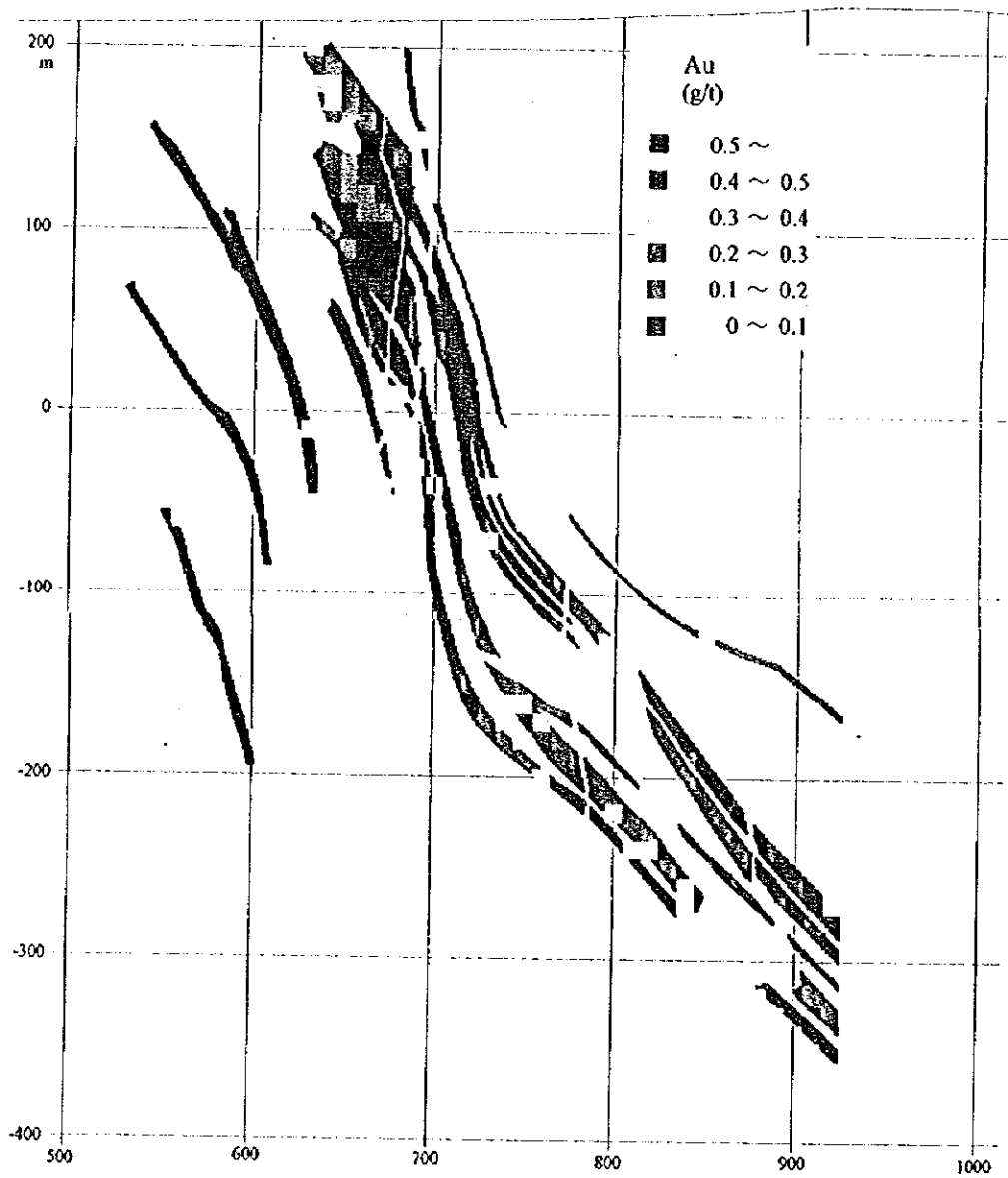


LINE 40 - 40

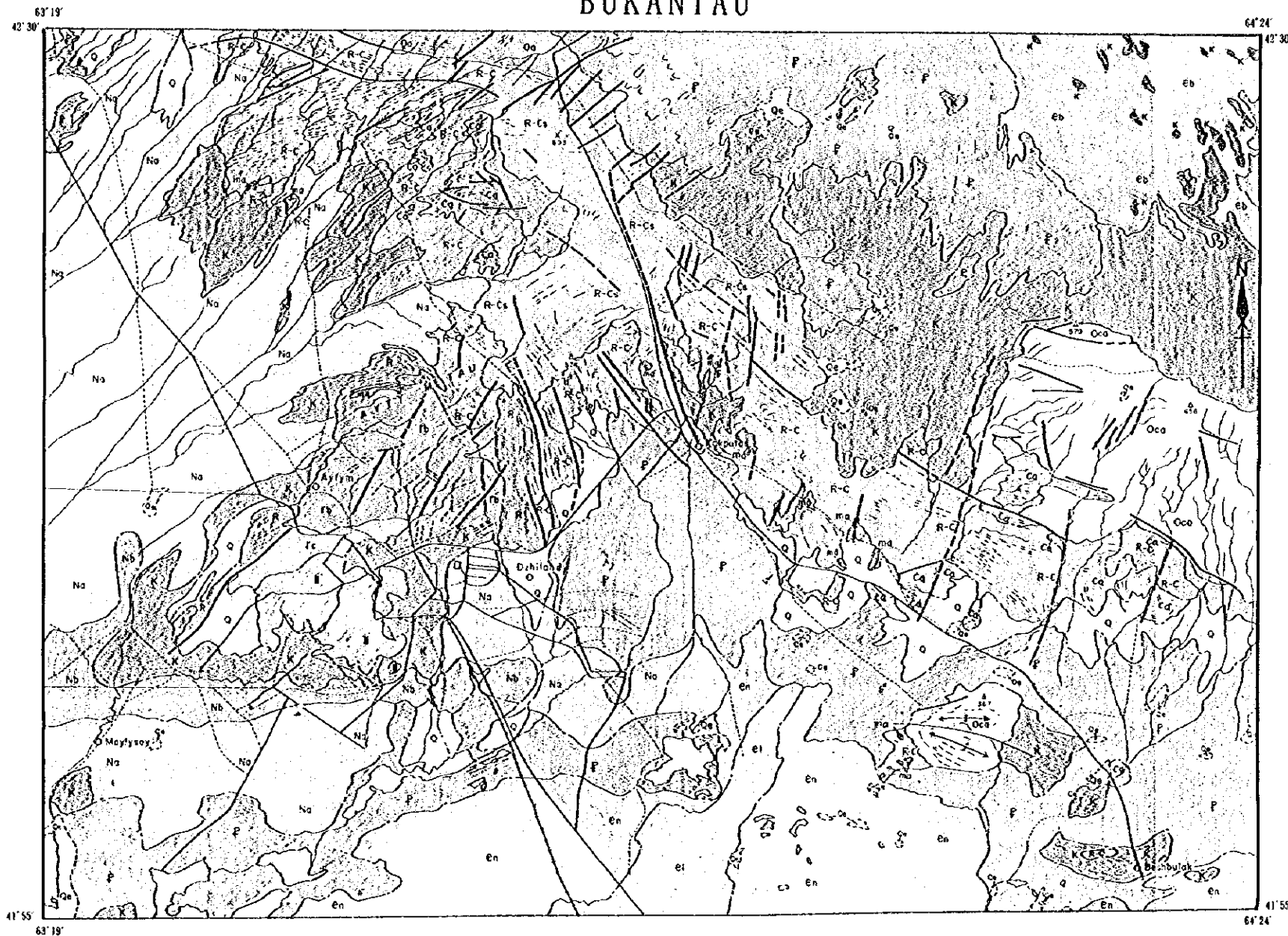


LINE 62 - 62

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FEBRUARY 1995
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BUKANTAU



LEGEND

Unit	Photographic Feature		Topographic Feature			Development of Bedding	Lithology interpreted from Petrology
	Color	Texture	Drainage Pattern	Density	Resistivity		
I	Dark blue/black	fine	sub parallel	moderate	high	well	very dark fine grained sedimentary-sedimentary rocks
R-C	Grayish blue/white	medium	dolomitic, trellis	high	moderate	well	alteration of light and dark colored rocks
R-C	Brown	medium	dolomitic, trellis	high	moderate	well	similar to R-C, thicker molten sand cover
Na	Dark green/Dark blue	fine	dolomitic	high	high	well	dark colored fine-medium grained sedimentary rocks
Oo	Pale pinkish gray	medium	dolomitic, parallel	moderate	high	partially well	light colored sedimentary rocks
Co	Dark grayish blue	fine	pinuate, parallel	high	high	very well	dark colored fine grained sedimentary rocks
V	Pale reddish purplish	medium	parallel	low	low	partially well	fine-medium grained sediments (loosely consolidated)
P	Pale pinkish ocher	medium-coarse	parallel	low	low	partially well	fine-medium grained sediments
Na	Grayish blue	fine	parallel	moderate	low	partially well	medium grained sediments (unconsolidated)
Nb	Dark blue	medium	sub parallel	moderate	low	partially well	fine grained sediments (unconsolidated)
Q	Gray, reddish brown, dark blue	fine	parallel	moderate	very low	-	alluvial, talus deposits
Qc	Whitish	fine	-	-	low	poor	salt lake (evaporate)
eb	Yellow/ocher	coarse	-	-	low	-	molten deposits (includes bar/horn)
ef	Whitish/Pale yellow	medium	-	-	low	-	molten deposits (includes linear dunes)
eo	Whitish/Pale yellow/Reddish brown	fine	-	-	very low	-	molten deposits (thinner than 'ef' and 'ef')
jb	Grayish purple	medium	pinuate	very high	high	poor/massive	granitic intrusive
rc	Pale pink	medium	parallel	moderate	moderate	poor/massive	granitic intrusive
ll	Pale yellow, white	fine	-	-	-	-	mine site (open pit and waste dump)

(m)	Alteration zone or mineralized zone
+	Anticlinal axis
///	Bedding trace
---	Joints
---	Lineament (topographically clear)
---	Lineament (topographically rather clear)
---	Principal road
---	rough road
o	Village or town
50	Elevation in meter
o	lake/salt lake
---	Airport/Air strip

T
T

PHOT



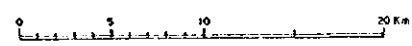
JAF

BUKANTAU



64°24'

41°55'



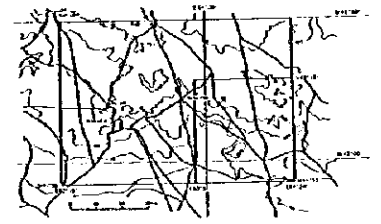
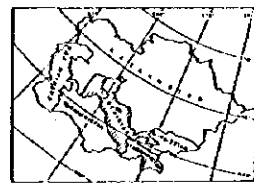
LEGEND

Unit	Photographic Feature		Topographic Feature			Development of Bedding	Lithology interpreted from Photogeology
	Color	Texture	Drainage Pattern	Density	Resistivity		
1	Dark blue, black	fine	sub parallel	adequate	high	well	very dark, fine grained sedimentary/metasedimentary rocks
1-C	Grayish blue, white	medium	debitic, trellis	high	adequate	well	alteration of light and dark colored rocks
1-C5	Brown	medium	debitic, trellis	high	adequate	well	similar to 1-C, thicker and/or sand cover
2	Dark green, dark blue	fine	debitic	high	high	well	dark colored, fine-medium grained sedimentary rocks
2a	Pale pink, gray	medium	debitic, parallel	adequate	high	partially well	light colored sedimentary rocks
2b	Dark grayish blue	fine	pinate parallel	high	high	very well	dark colored, fine grained sedimentary rocks
2c	Pale reddish purplish	medium	parallel	low	low	partially well	fine-medium grained sediments (loosely consolidated)
2d	Pale pink, ochre	medium-coarse	parallel	low	low	partially well	fine-medium grained sediments
3a	Grayish blue	fine	parallel	adequate	low	partially well	medium grained sediments (unconsolidated)
3b	Dark blue	medium	sub parallel	adequate	low	partially well	fine grained sediments (unconsolidated)
4	Gray, reddish brown, dark blue	fine	parallel	adequate	very low	-	alluvium, talus deposits
5e	Whitish	fine	-	-	low	rare	salt lake (evaporates)
5f	Yellow, ochre	coarse	-	-	low	-	aeolian deposits (includes berberis)
5f	Whitish, pale yellow	medium	-	-	low	-	aeolian deposits (includes linear dunes)
5g	Whitish, pale yellow, reddish brown	fine	-	-	very low	-	aeolian deposits (thinner than '5f' and '5f')
6b	Grayish purple	medium	pinate	very high	high	poor/missing	granitic intrusive
7c	Pale pink	medium	parallel	adequate	adequate	poor/missing	granitic intrusive
8	Pale yellow, white	fine	-	-	-	-	mine site (open pit and waste dumps)

- (m) Alteration zone or mineralized zone
- + Anticlinal axis
- Bedding trace
- Joints
- Elevation (topographically clear)
- Elevation (topographically rather clear)
- Principal road
- rough road
- o Village or town
- m Elevation in meter
- o lake/salt lake
- Airport/ air strip

THE MINERAL EXPLORATION IN THE EASTERN BUKANTAU AREA THE REPUBLIC OF UZBEKISTAN (PHASE I)

PHOTOGEOLOGICAL INTERPRETATION MAP

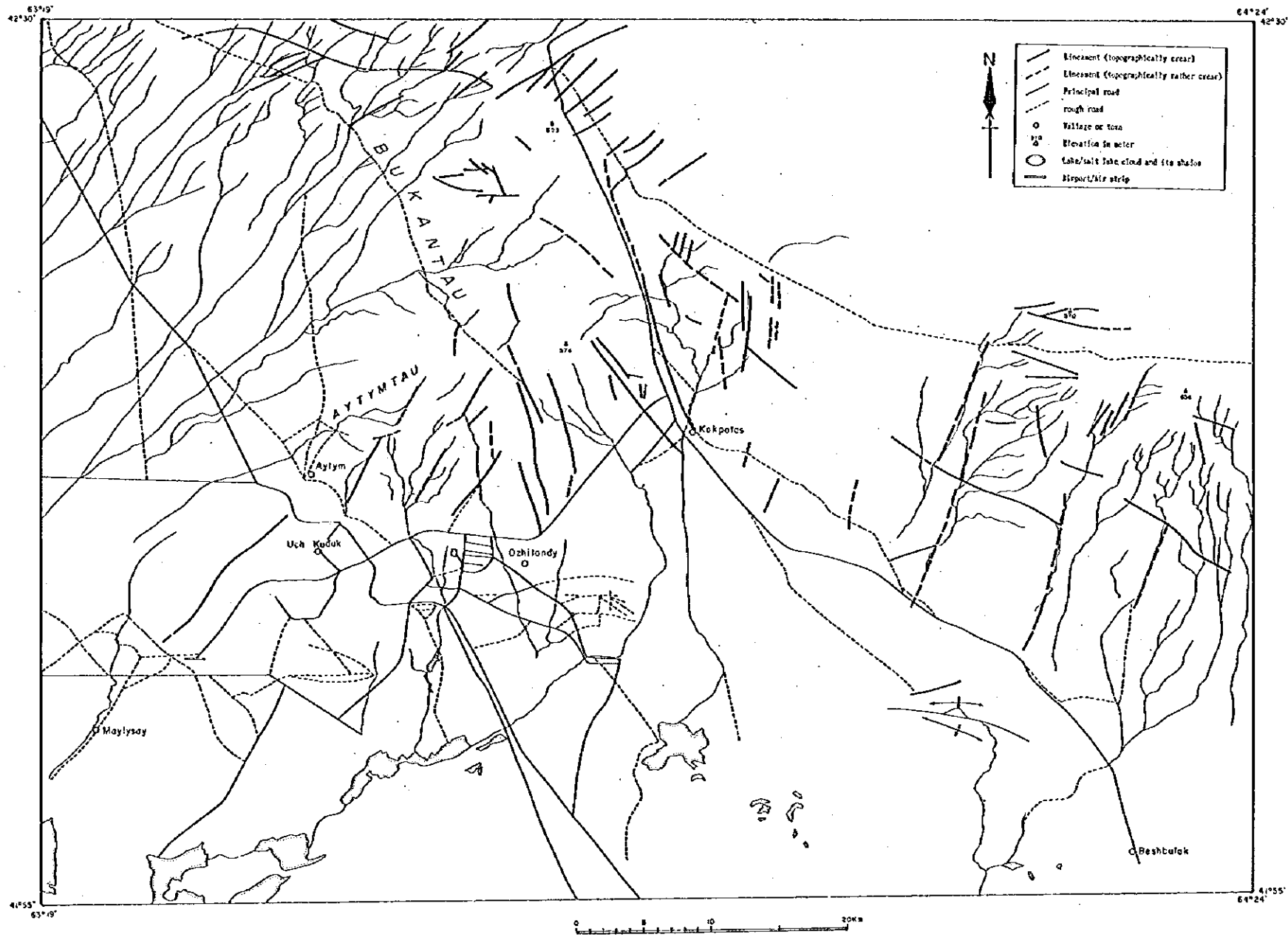


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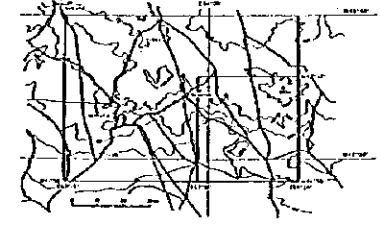
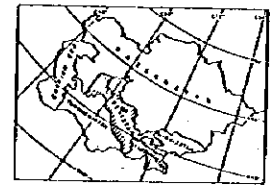


- | | |
|--|---|
| | Lineament (topographically crease) |
| | Lineament (topographically rather crease) |
| | Principal road |
| | rough road |
| | Village or town |
| | Elevation in meter |
| | Lake/salt lake cloud and its shade |
| | Airport/air strip |

PL. H-4-2

THE MINERAL EXPLORATION IN THE EASTERN BUKANTAU AREA THE REPUBLIC OF UZBEKISTAN (PHASE I)

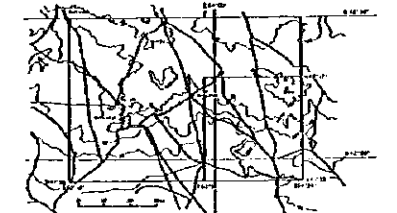
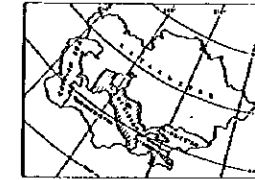
LINEAMENTS EXTRACTION MAP



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FEBRUARY 1995
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THE MINERAL EXPLORATION
IN
THE EASTERN BUKANTAU AREA
THE REPUBLIC OF UZBEKISTAN
(PHASE I)

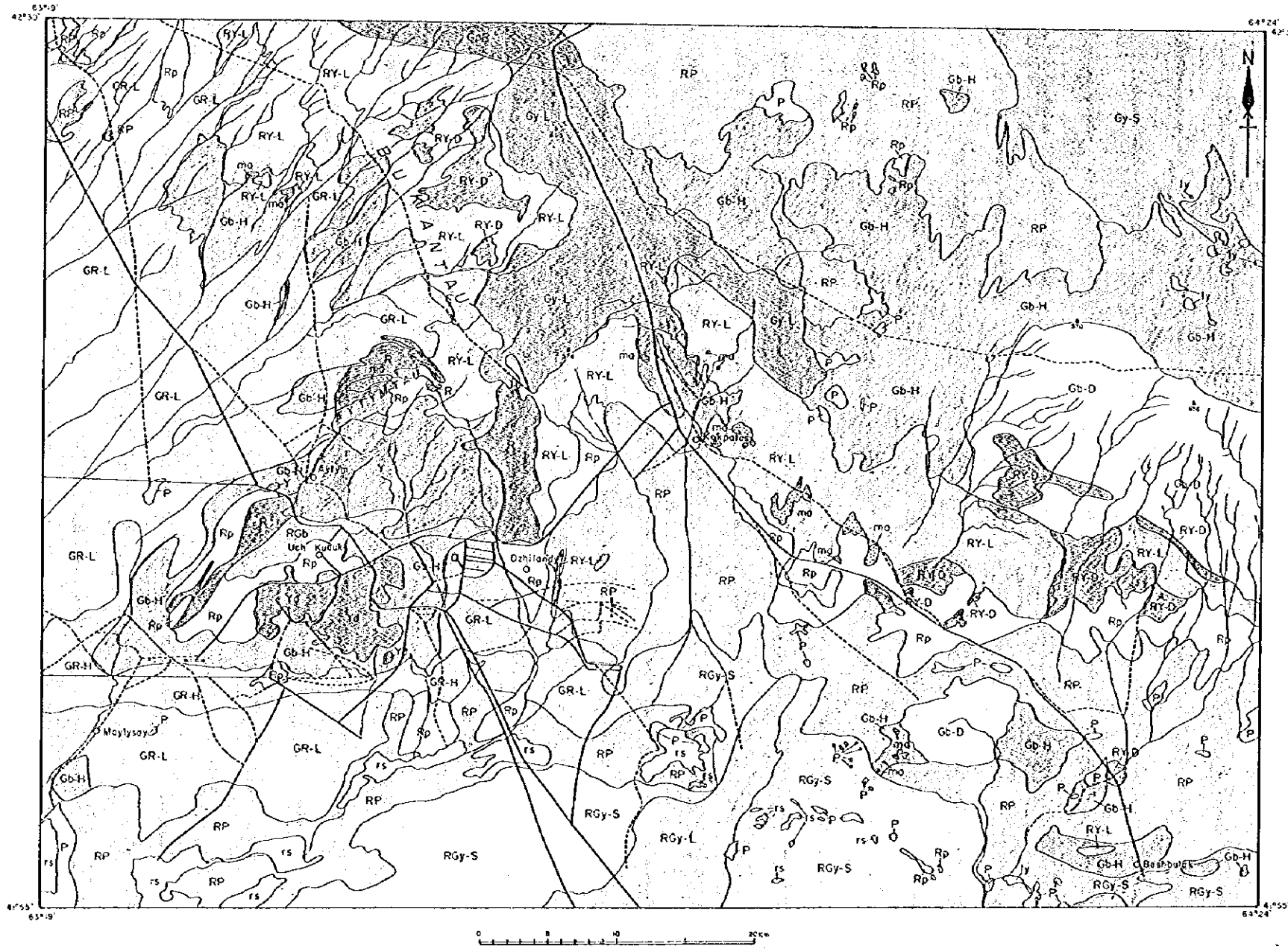
RESULTS OF SPECTRAL ANALYSIS SHOWING
ALTERATION ZONES EXTRACTED BY
RATIIONING



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FEBRUARY 1995

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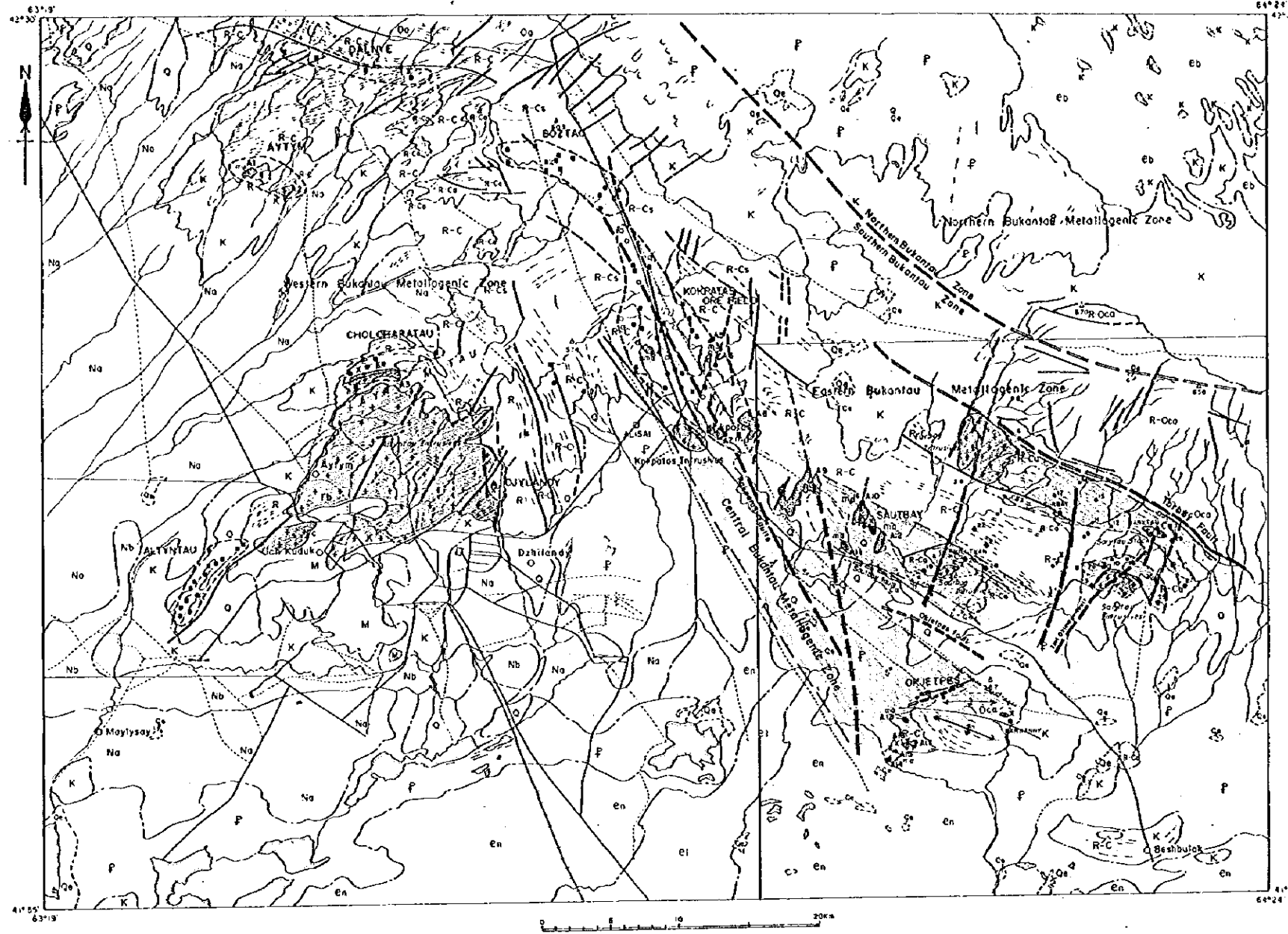


LEGEND

Unit	Color	Texture	Correlation*
SR	Reddish	Dotted	R
KY-L	Red/Yellow	Linear	R-C
Gy-L	Yellowish green	Linear	R-Cs
GR-L	Pale green/Red	Linear	Oa
Gb-D	Bluish green	Dotted	O Ca
RY-D	Red/Yellow	Dotted	Ca
Gb-H	Bluish green	Hazy	K
RP	Red/Purple	Hazy	P
GR-L	Green/Red	Rather Linear	Na
GR-H	Green/Red	Hazy	Nb
RP	Pale red	Smooth	Q
P	Purplish	Smooth	Qe
Gy-S	Yellowish green	Sandy	e b
RGy-L	Red/Yellowish green	Sandy, Linear	c l
RGy-S	Red/Yellowish green	Sandy	e n
Y	Yellowish	Dotted	r b
RGb	Red-Bluish green	Dotted	r c
Y-L	Dark yellow	Dotted	M
rs, Y	Red, light yellow	smooth	Isn, holi lake Cloud and its shadow
ms	Pale green	Smooth	Alteration zone

* Correlated with Photogeological Interpretation Unit

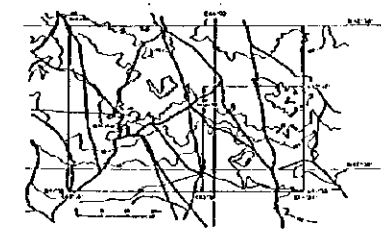
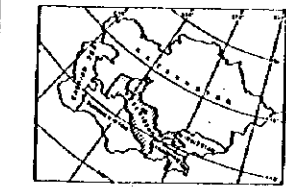
BUKANTAU



PI. II-5-1

THE MINERAL EXPLORATION IN THE EASTERN BUKANTAU AREA THE REPUBLIC OF UZBEKISTAN (PHASE I)

INTEGRATED INTERPRETATION MAP



JAPAN INTERNATIONAL COOPERATION AGENCY
METAL MINING AGENCY OF JAPAN
FEBRUARY 1995

Prepared by MINDECO

- A. Ore Deposits and Showings**
- (1) **Main Ore Deposits** showings within Ground Truth Survey Area
- SAUBRAY** : Saubray, Saghinkan, Burput deposits (W)
 - SARYTAU** : Sarytau deposit (W, Au)
 - TURRAY** : Turbay deposit (Au)
 - ORJETSAY** : Orjetsay deposit (Ag, Au, Au)
 - BARHASSAY** : Barhassay deposit (Au)
 - BULUTKAY** : Bulutkay showings (Au)
- (2) **Other showings** within Ground Truth Survey Area
- 81** : Au-Ag showings
 - 81-A125A1** : Mn deposits
- (3) **Other Ore Deposits or Showings** outside Ground Truth Survey Area
- a) **Zones (Ore Field or Zone of Showings)**
- 82** : Zone boundary
 - 82-1** : [SOKPATASAY, BOZTAU(A), DALNEYE(A), AYTAY(A), CHOLCHARATAU(W, Au), ALTYNTAU(A), DAVLANDY(W)]
- b) **Individual Ore Deposits and Showings** including single outcrop
- 83** : Au-Ag
 - 84** : W
 - 85** : Mn (ALISAJ)
- B. Metallogenic Zone**
- 86** : Metallogenic zone boundary (by Mr. Ushakov)
 - 87** : Ore zone boundary (customarily defined by the Survey)
- C. Geologic Features**
- (1) **Intrusive Rocks**
- 88** : granite-diorite
 - 89** : syenite-syenodiorite
- (2) **Main Geologic Structures**
- 90** : faults or fracture zone
 - 91** : Anticline axis
- D. Ground Truth Survey**
- 92** : Ground Truth Survey Area
 - 93** : Main check point
- E. Ore Deposits and Showings**
- 94** : Au showings [30 NORTH SARYTAU]

Age	Symbol	Lithology (acks Confirmed by Ground Survey)
Quaternary	Q	alluvial, talus deposits (sand gravel)
	Qa	evaporites (salt)
	qb	soil-like deposits (includes loess and dunes)
	qd	soil-like deposits (includes linear sand dunes)
Pliocene	Kb	fine grained sediments (microconsolidated)
	Ka	soil-like grained sediments (microconsolidated)
Pleistocene-Miocene	P	fine-medium grained sediments (conglomeratic, sandstone)
	K	fine-medium grained sediments (loose consolidated)
Cretaceous	BCa	light colored sediments (sandstones, limestones, siliceous shales)
	OB	dark colored, fine-medium grained sediments (sandstones)
Paleocene (Tarkhanovian)	RCa	dark colored, fine grained sediments (dark colored siliceous shales)
	RCb	light colored sediments (shales)
Proterozoic (Highland)	RCa	alternation of light colored and dark colored rocks (siliceous shales, quartzites, schists, hornfels, mica-schists)
	R	very dark, fine grained sediments and metamorphosed rocks (hornfels, black shales, dolomites)
Intrusive	g	granite (two sites granite)
	gc	granodioritic, syenitic granite
	M	one site (open pit, 1000 m depth)

- 95** : Alteration zone
- 96** : Anticline axis
- 97** : Bedding trace
- 98** : Joints
- 99** : Lineament (topographically crease)
- 100** : Lineament (topographically rather crease)
- 101** : Principal road
- 102** : rough road
- 103** : Village or town
- 104** : Elevation in meter
- 105** : Lake/sea lake, cloud and sea shale
- 106** : Airport (this strip)

JICA