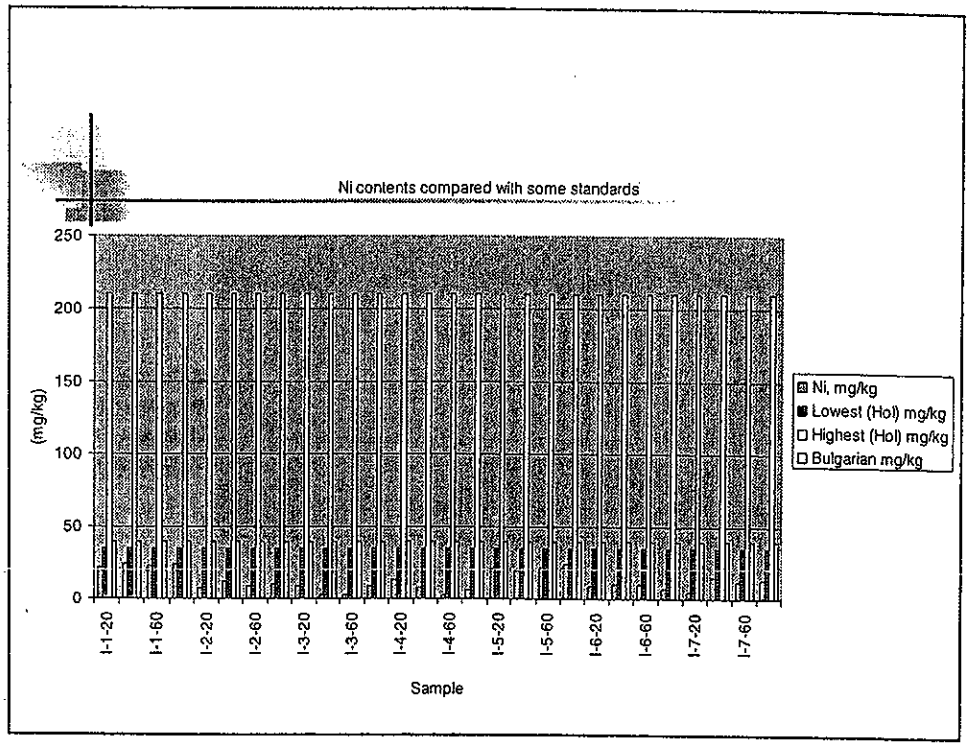
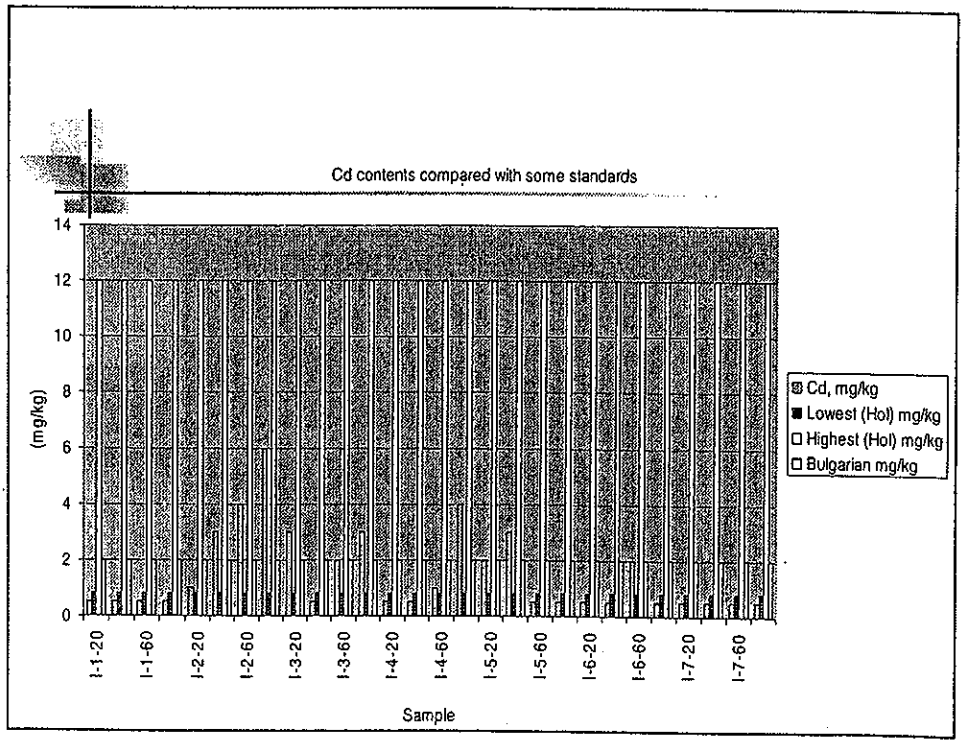
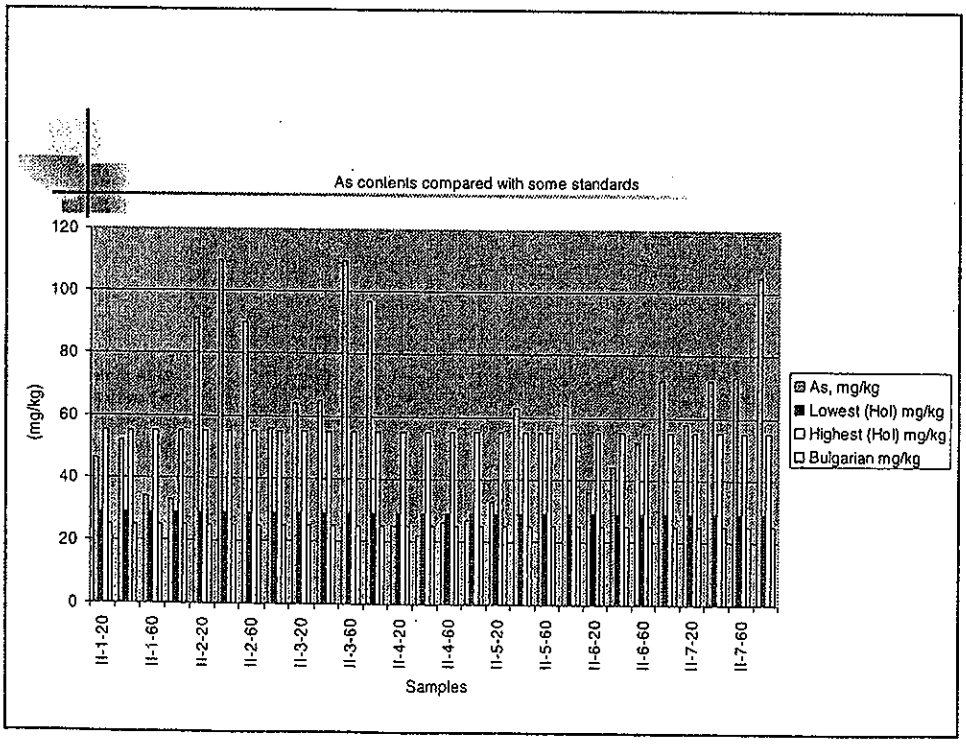
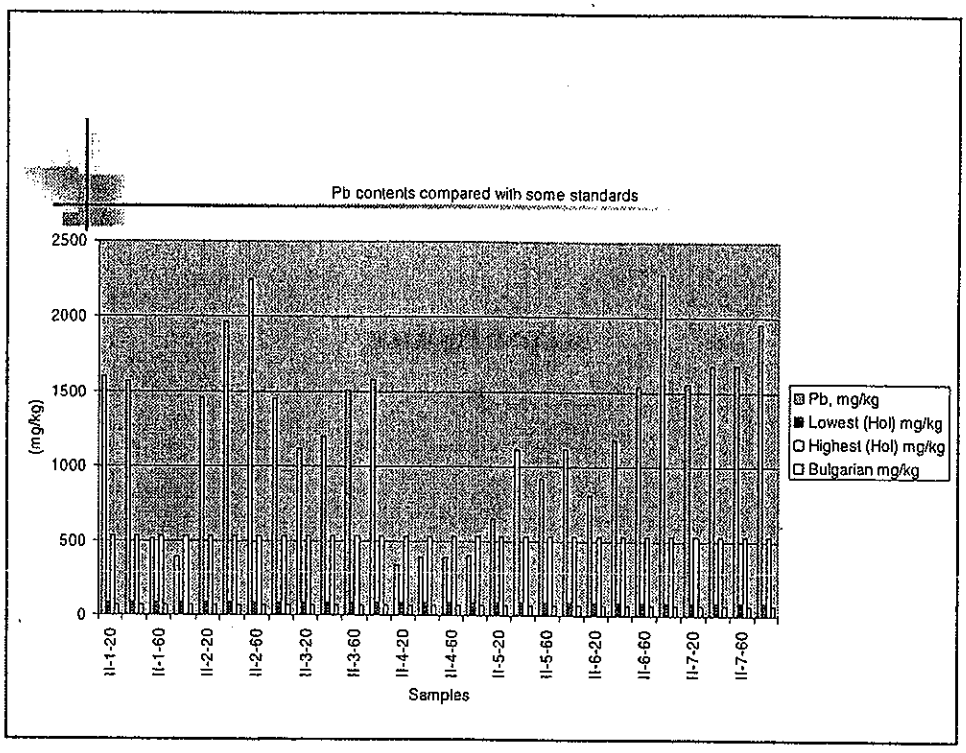

Ni contents compared with some standards
250
200
150
100
50
0
(mg/kg)
I-1-20
I-1-60
I-2-20
I-2-60
I-3-20
I-3-60
I-4-20
I-4-60
I-5-20
I-5-60
I-6-20
I-6-60
I-7-20
I-7-60
Sample
Ni, mg/kg
Lowest (Hol) mg/kg
Highest (Hol) mg/kg
Bulgarian mg/kg

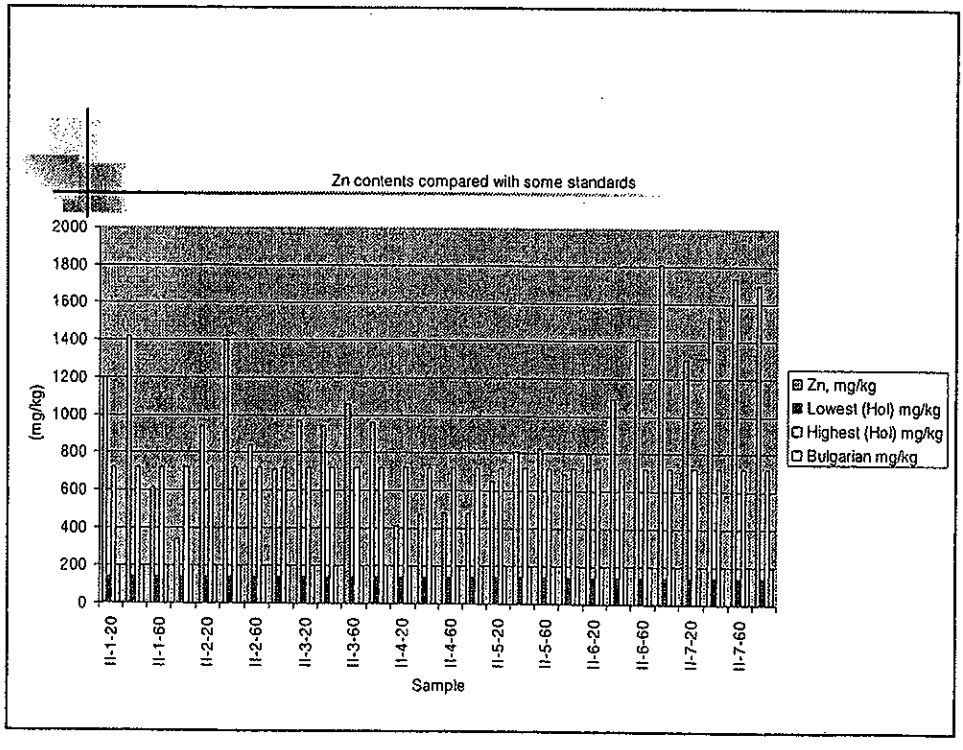

Cd contents compared with some standards
14
12
10
8
6
4
2
0
(mg/kg)
I-1-20
I-1-60
I-2-20
I-2-60
I-3-20
I-3-60
I-4-20
I-4-60
I-5-20
I-5-60
I-6-20
I-6-60
I-7-20
I-7-60
Sample
Cd, mg/kg
Lowest (Hol) mg/kg
Highest (Hol) mg/kg
Bulgarian mg/kg

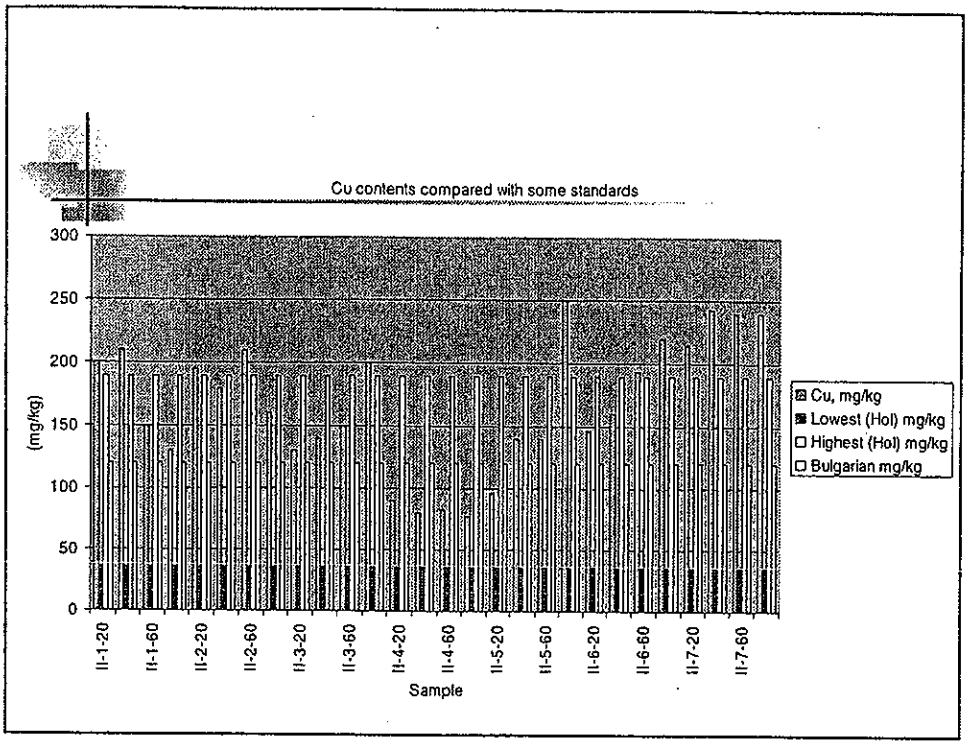
SECOND PROFILE

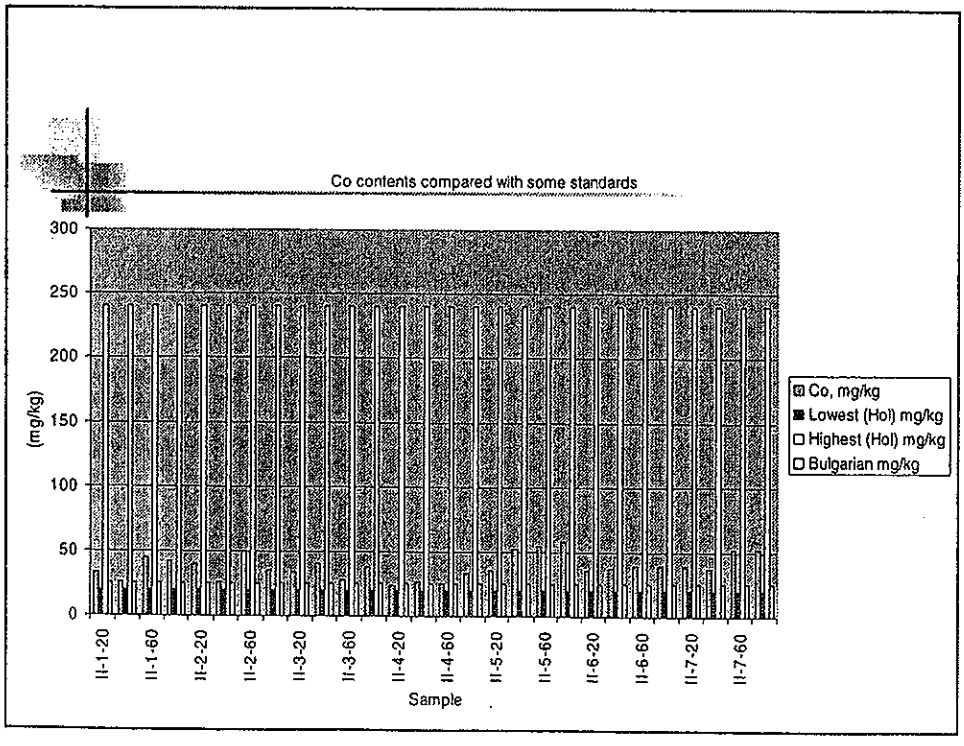
II

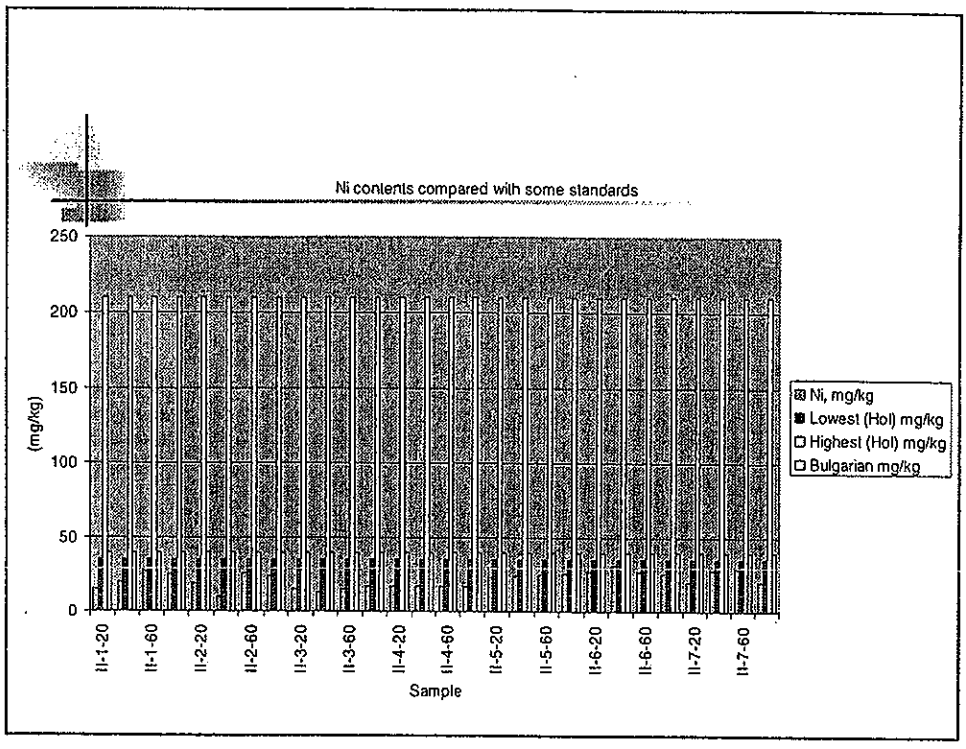


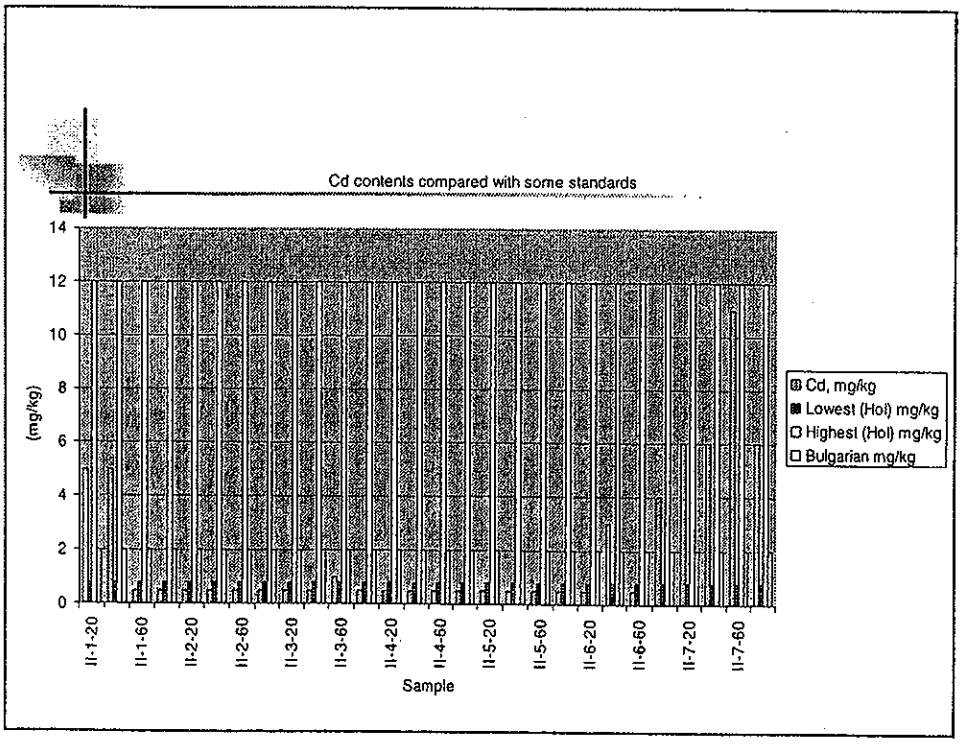

Pb contents compared with some standards
2500
2000
1500
1000
500
0
(mg/kg)
II-1-20
II-1-60
II-2-20
II-2-60
II-3-20
II-3-60
II-4-20
II-4-60
II-5-20
II-5-60
II-6-20
II-6-60
II-7-20
II-7-60
Samples
Pb, mg/kg
Lowest (Hol) mg/kg
Highest (Hol) mg/kg
Bulgarian mg/kg

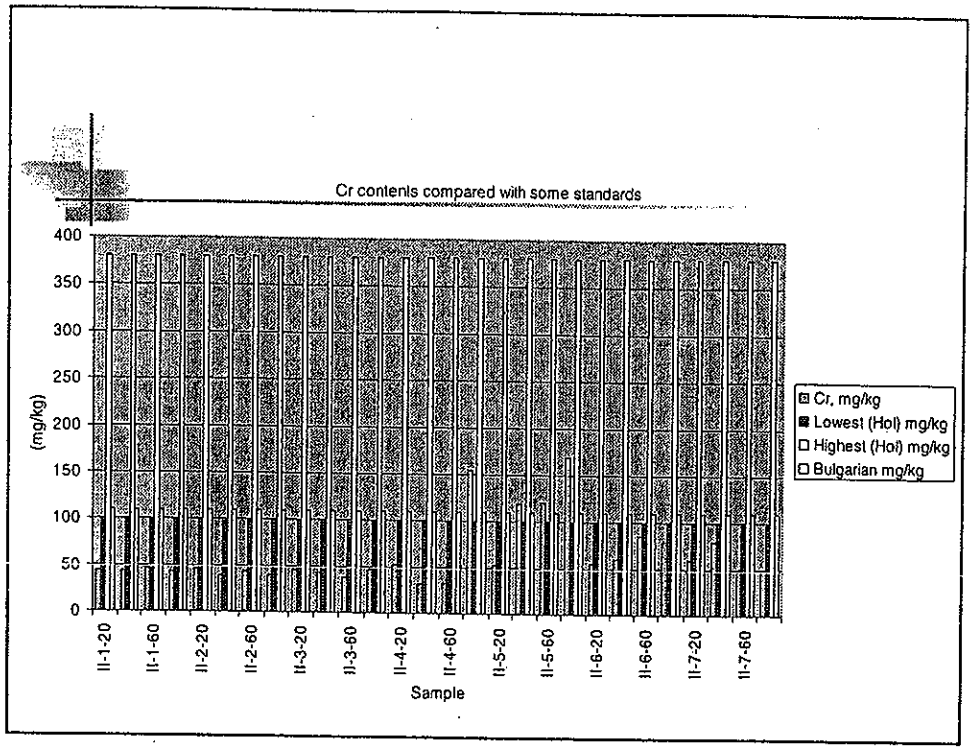

Zn contents compared with some standards
2000
1800
1600
1400
1200
1000
800
600
400
200
0
(mg/kg)
II-1-20
II-1-60
II-2-20
II-2-60
II-3-20
II-3-60
II-4-20
II-4-60
II-5-20
II-5-60
II-6-20
II-6-60
II-7-20
II-7-60
Sample
Zn, mg/kg
Lowest (Hol) mg/kg
Highest (Hol) mg/kg
Bulgarian mg/kg

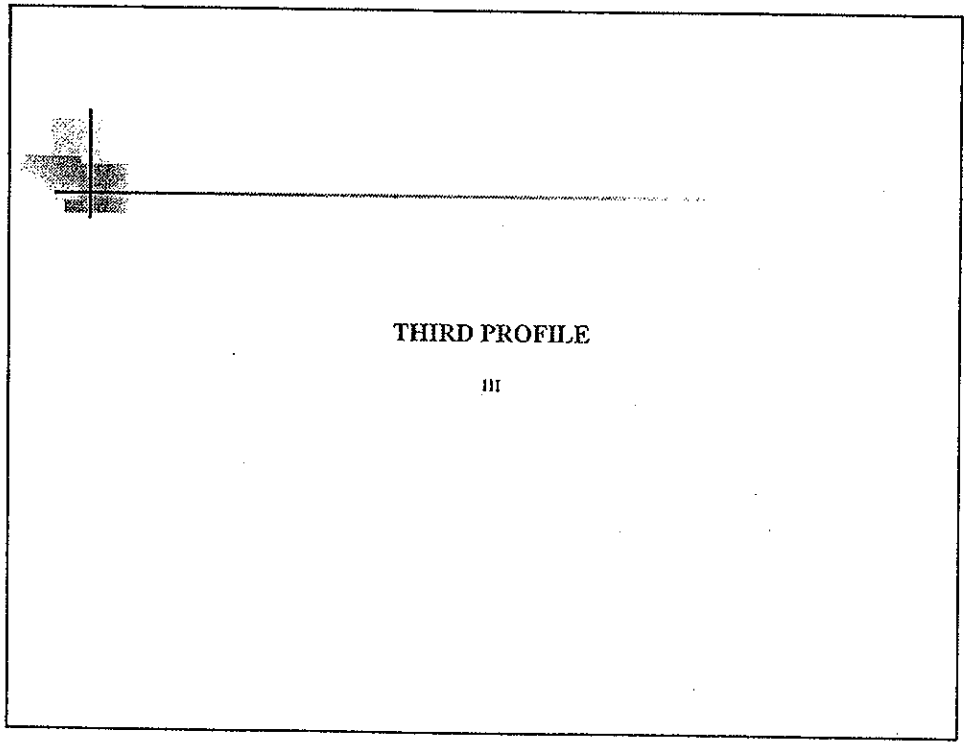

Cu contents compared with some standards
300
250
200
150
100
50
0
(mg/kg)
II-1-20
II-1-60
II-2-20
II-2-60
II-3-20
II-3-60
II-4-20
II-4-60
II-5-20
II-5-60
II-6-20
II-6-60
II-7-20
II-7-60
Sample
Cu, mg/kg
Lowest (Hol) mg/kg
Highest (Hol) mg/kg
Bulgarian mg/kg

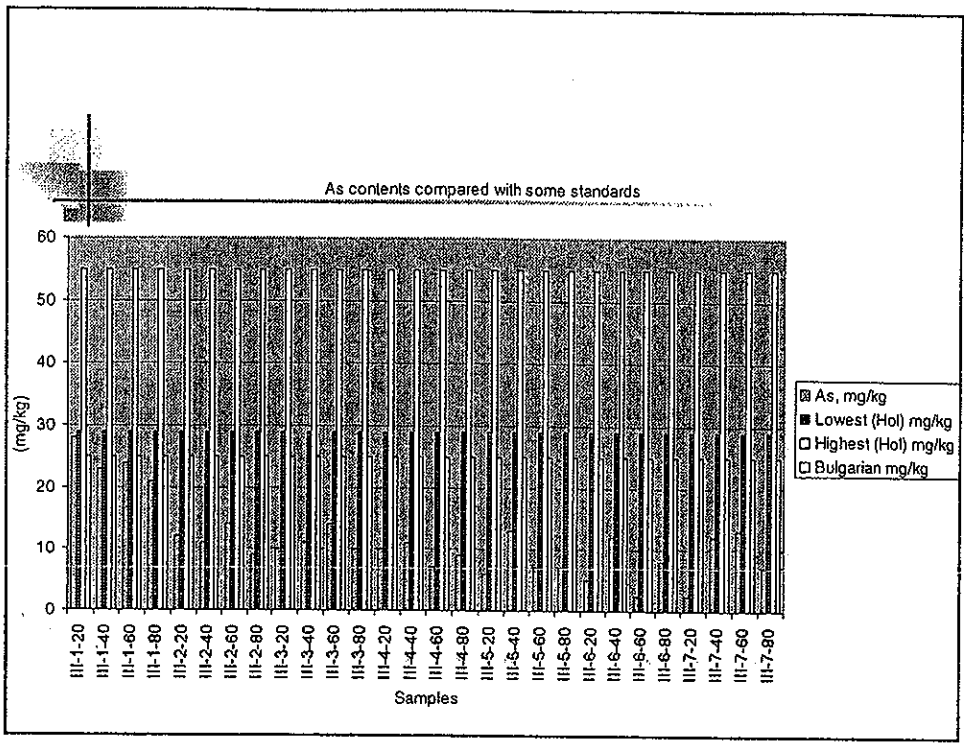

Co contents compared with some standards
300
250
200
150
100
50
0
(mg/kg)
II-1-20
II-1-60
II-2-20
II-2-60
II-3-20
II-3-60
II-4-20
II-4-60
II-5-20
II-5-60
II-6-20
II-6-60
II-7-20
II-7-60
Sample
Co, mg/kg
Lowest (Hol) mg/kg
Highest (Hol) mg/kg
Bulgarian mg/kg

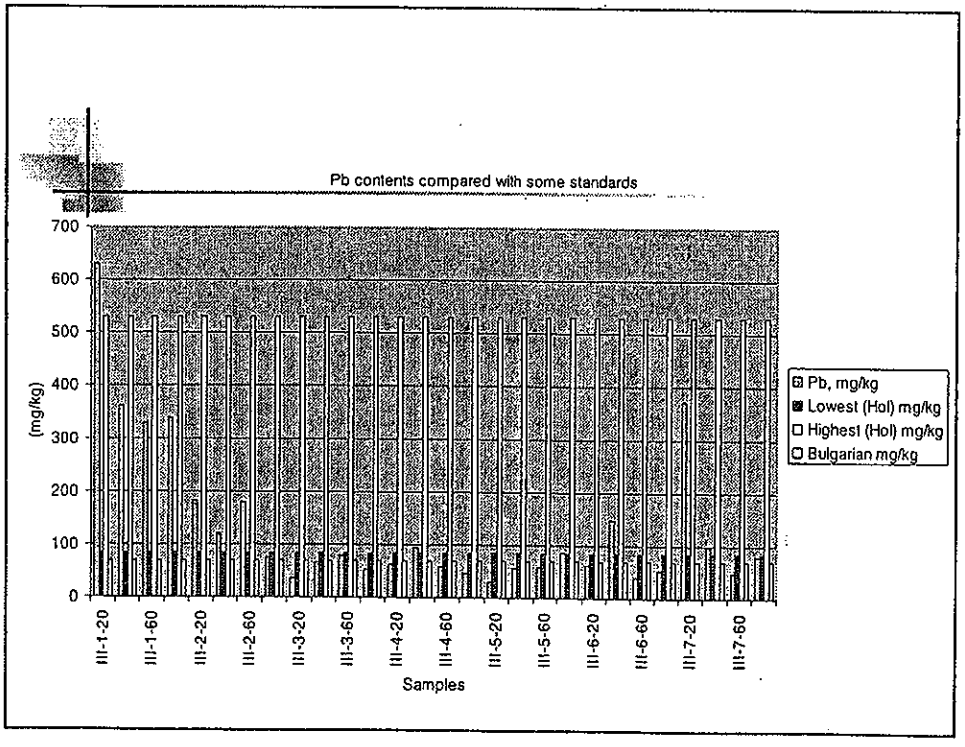

Ni contents compared with some standards
250
200
150
100
50
0
(mg/kg)
II-1-20
II-1-60
II-2-20
II-2-60
II-3-20
II-3-60
II-4-20
II-4-60
II-5-20
II-5-60
II-6-20
II-6-60
II-7-20
II-7-60
Sample
Ni, mg/kg
Lowest (Hol) mg/kg
Highest (Hol) mg/kg
Bulgarian mg/kg

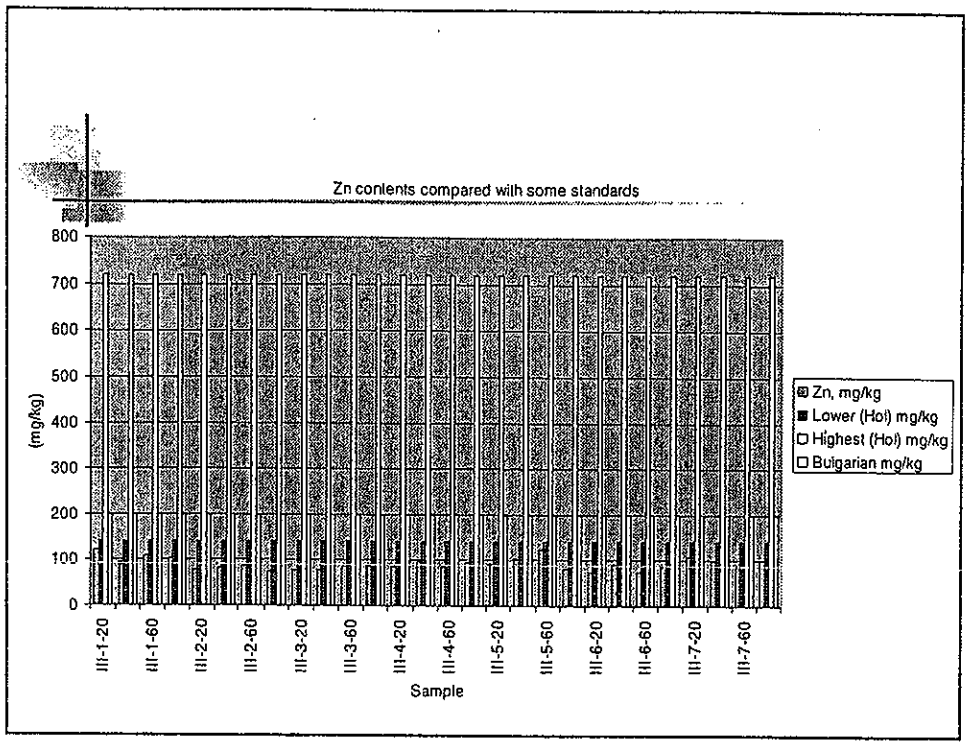

Cd contents compared with some standards
14
12
10
8
6
4
2
0
(mg/kg)
II-1-20
II-1-60
II-2-20
II-2-60
II-3-20
II-3-60
II-4-20
II-4-60
II-5-20
II-5-60
II-6-20
II-6-60
II-7-20
II-7-60
Sample
Cd, mg/kg
Lowest (Hol) mg/kg
Highest (Hol) mg/kg
Bulgarian mg/kg

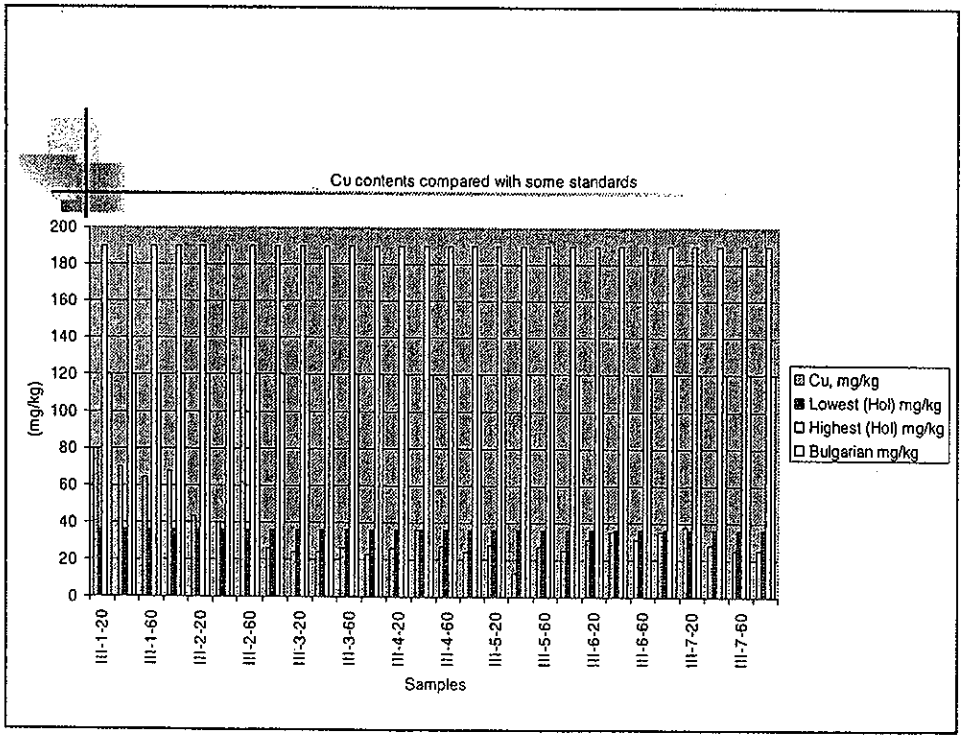

Cr contents compared with some standards
400
350
300
250
200
150
100
50
0
(mg/kg)
II-1-20
II-1-60
II-2-20
II-2-60
II-3-20
II-3-60
II-4-20
II-4-60
II-5-20
II-5-60
II-6-20
II-6-60
II-7-20
II-7-60
Sample
Cr, mg/kg
Lowest (Hol) mg/kg
Highest (Hol) mg/kg
Bulgarian mg/kg

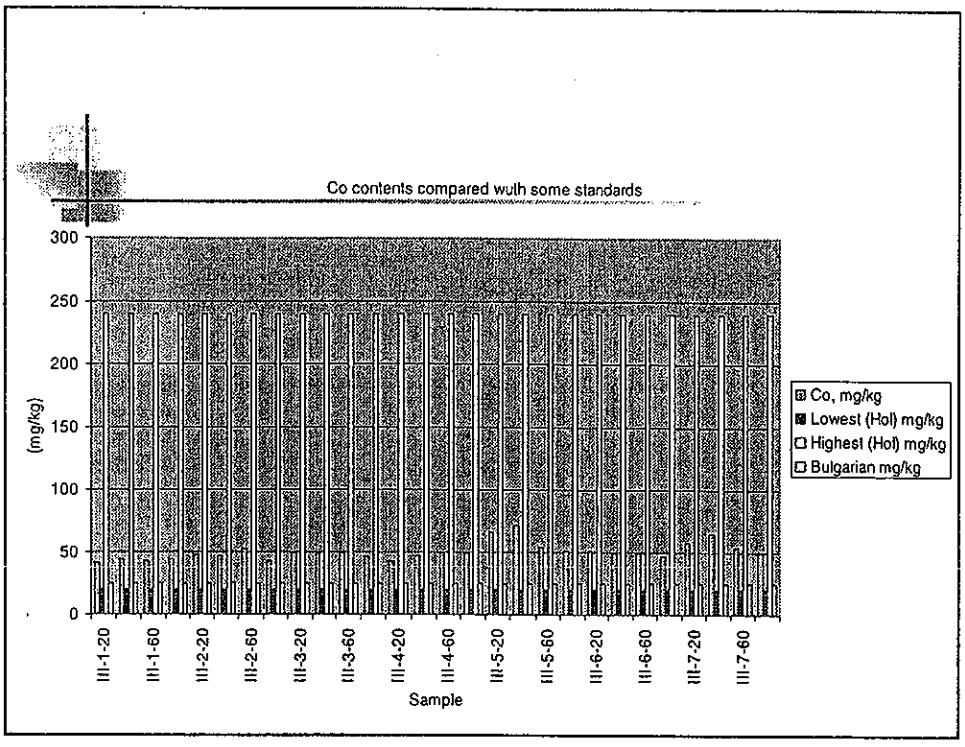

THIRD PROFILE
III

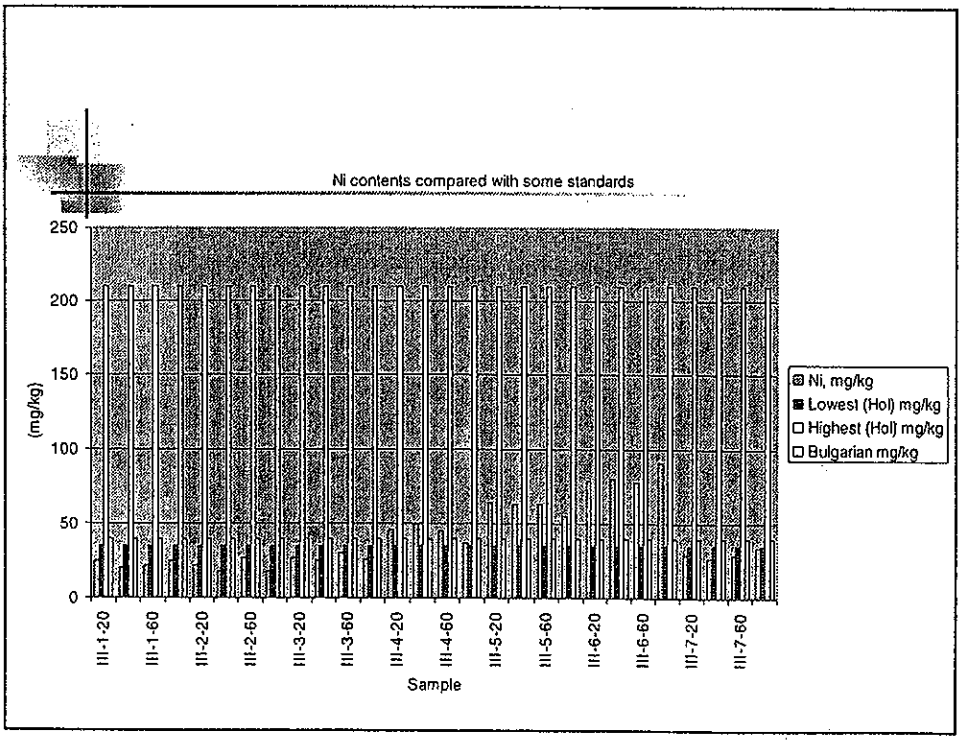

As contents compared with some standards
60
50
40
30
20
10
0
(mg/kg)
III-1-20
III-1-40
III-1-60
III-1-80
III-2-20
III-2-40
III-2-60
III-2-80
III-3-20
III-3-40
III-3-60
III-3-80
III-4-20
III-4-40
III-4-60
III-4-80
III-5-20
III-5-40
III-5-60
III-5-80
III-6-20
III-6-40
III-6-60
III-6-80
III-7-20
III-7-40
III-7-60
III-7-80
Samples
As, mg/kg
Lowest (Hol) mg/kg
Highest (Hol) mg/kg
Bulgarian mg/kg

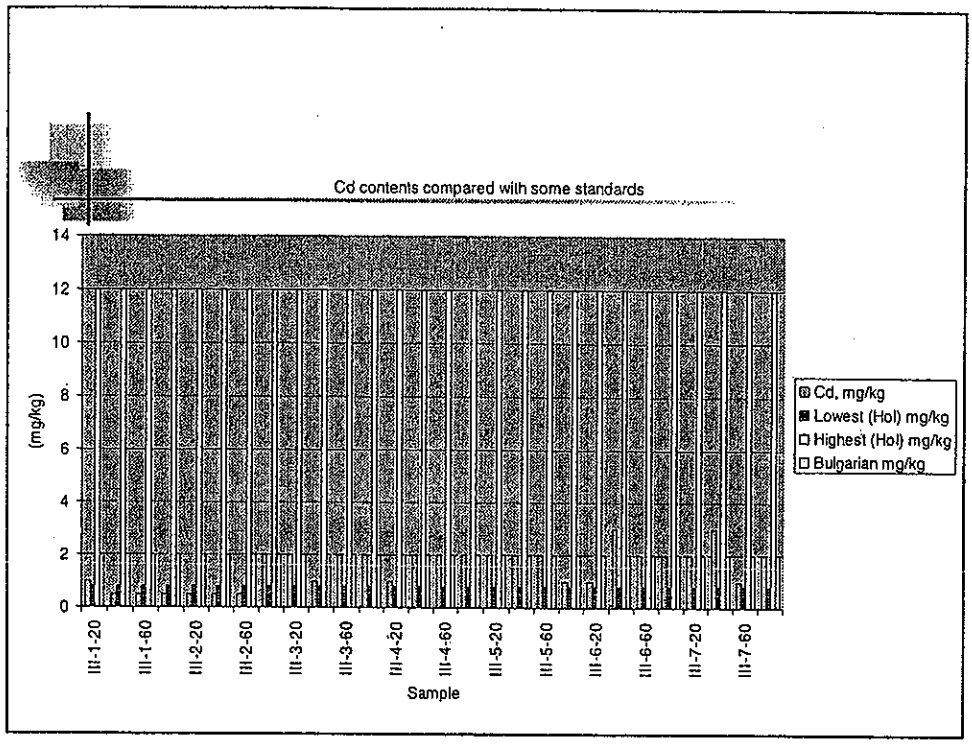

Pb contents compared with some standards
700
600
500
400
300
200
100
0
(mg/kg)
III-1-20
III-1-60
III-2-20
III-2-60
III-3-20
III-3-60
III-4-20
III-4-60
III-5-20
III-5-60
III-6-20
III-6-60
III-7-20
III-7-60
Samples
Pb, mg/kg
Lowest (Hol) mg/kg
Highest (Hol) mg/kg
Bulgarian mg/kg

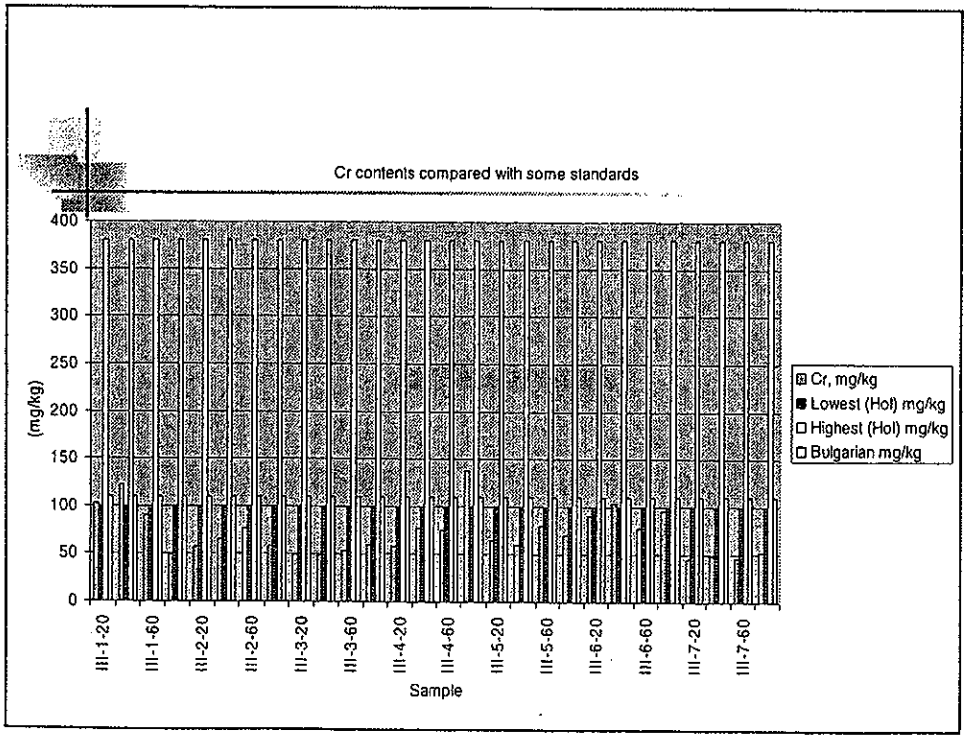

Zn contents compared with some standards
800
700
600
500
400
300
200
100
0
(mg/kg)
III-1-20
III-1-60
III-2-20
III-2-60
III-3-20
III-3-60
III-4-20
III-4-60
III-5-20
III-5-60
III-6-20
III-6-60
III-7-20
III-7-60
Sample
Zn, mg/kg
Lower (Hol) mg/kg
Highest (Hol) mg/kg
Bulgarian mg/kg

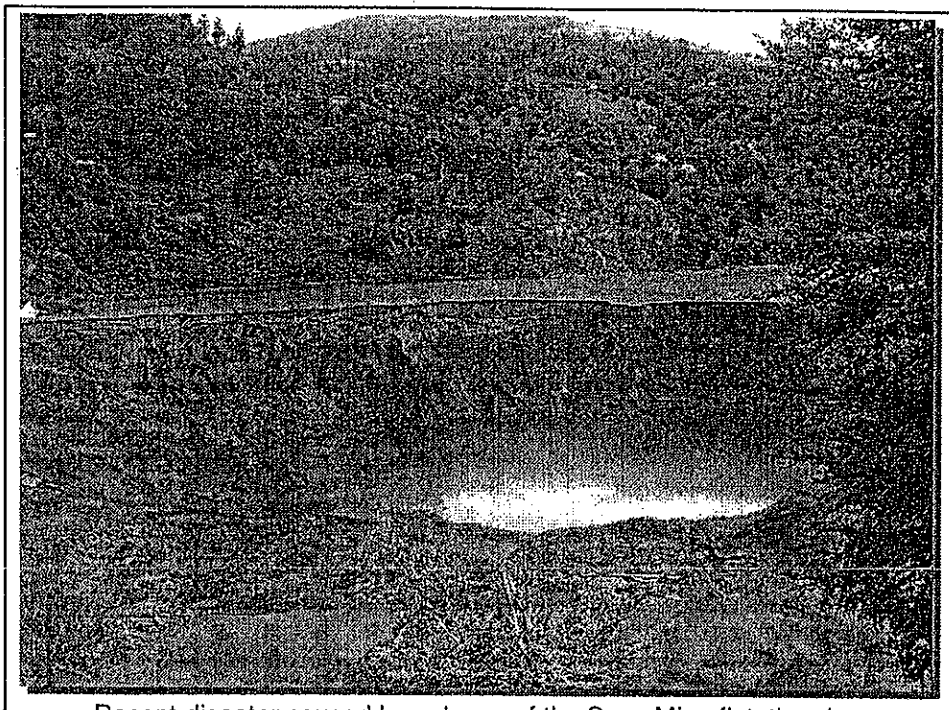

Cu contents compared with some standards
200
180
160
140
120
100
80
60
40
20
0
(mg/kg)
III-1-20
III-1-60
III-2-20
III-2-60
III-3-20
III-3-60
III-4-20
III-4-60
III-5-20
III-5-60
III-6-20
III-6-60
III-7-20
III-7-60
Samples
Cu, mg/kg
Lowest (Hol) mg/kg
Highest (Hol) mg/kg
Bulgarian mg/kg


Co contents compared wuth some standards
300
250
200
150
100
50
0
(mg/kg)
III-1-20
III-1-60
III-2-20
III-2-60
III-3-20
III-3-60
III-4-20
III-4-60
III-5-20
III-5-60
III-6-20
III-6-60
III-7-20
III-7-60
Sample
Co, mg/kg
Lowest (Hol) mg/kg
Highest (Hol) mg/kg
Bulgarian mg/kg


Ni contents compared with some standards
250
200
150
100
50
0
(mg/kg)
III-1-20
III-1-60
III-2-20
III-2-60
III-3-20
III-3-60
III-4-20
III-4-60
III-5-20
III-5-60
III-6-20
III-6-60
III-7-20
III-7-60
Sample
Ni, mg/kg
Lowest (Hol) mg/kg
Highest (Hol) mg/kg
Bulgarian mg/kg

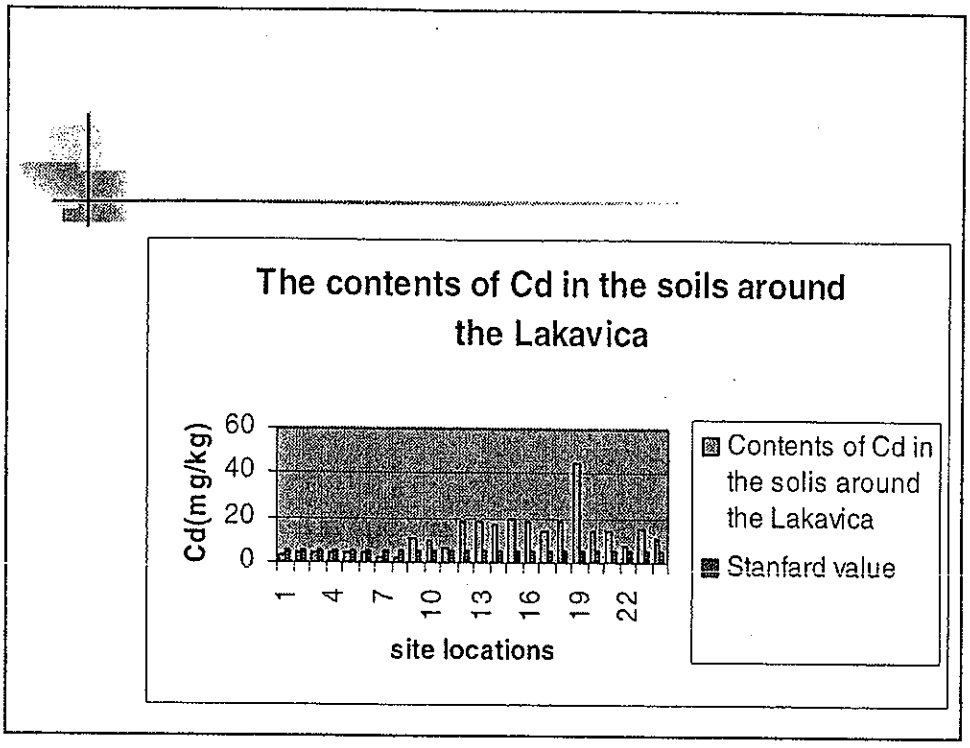

Cd contents compared with some standards
(mg/kg)
14
12
10
8
6
4
2
0
III-1-20
III-1-60
III-2-20
III-2-60
III-3-20
III-3-60
III-4-20
III-4-60
III-5-20
III-5-60
III-6-20
III-6-60
III-7-20
III-7-60
Sample
Cd, mg/kg
Lowest (Hol) mg/kg
Highest (Hol) mg/kg
Bulgarian mg/kg

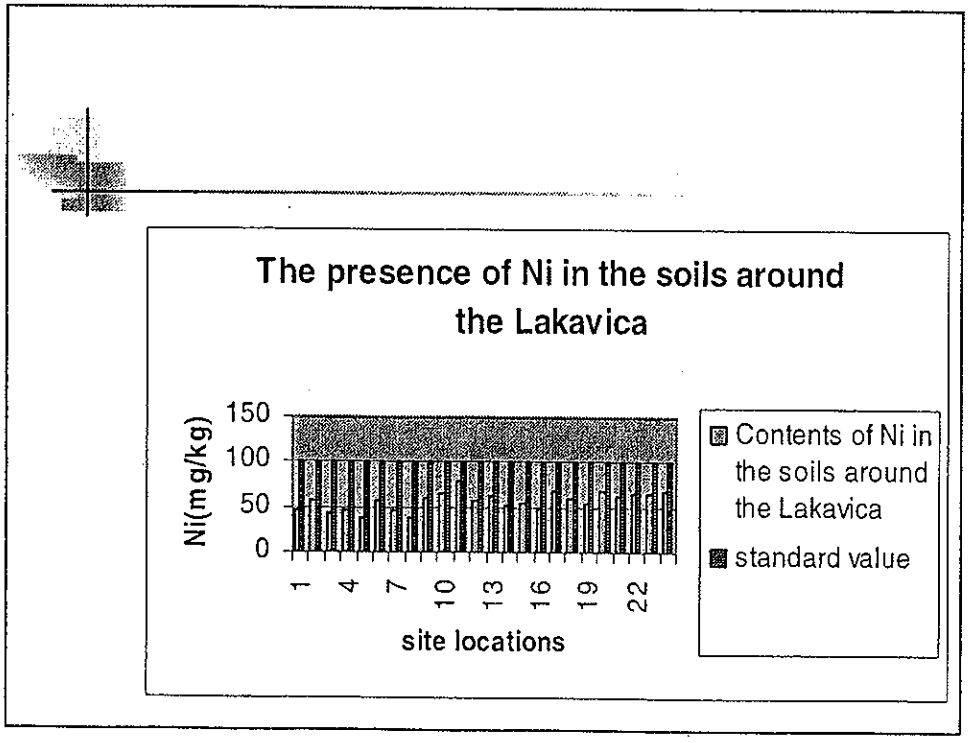

Cr contents compared with some standards
(mg/kg)
400
350
300
250
200
150
100
50
0
III-1-20
III-1-60
III-2-20
III-2-60
III-3-20
III-3-60
III-4-20
III-4-60
III-5-20
III-5-60
III-6-20
III-6-60
III-7-20
III-7-60
Sample
Cr, mg/kg
Lowest (Hol) mg/kg
Highest (Hol) mg/kg
Bulgarian mg/kg

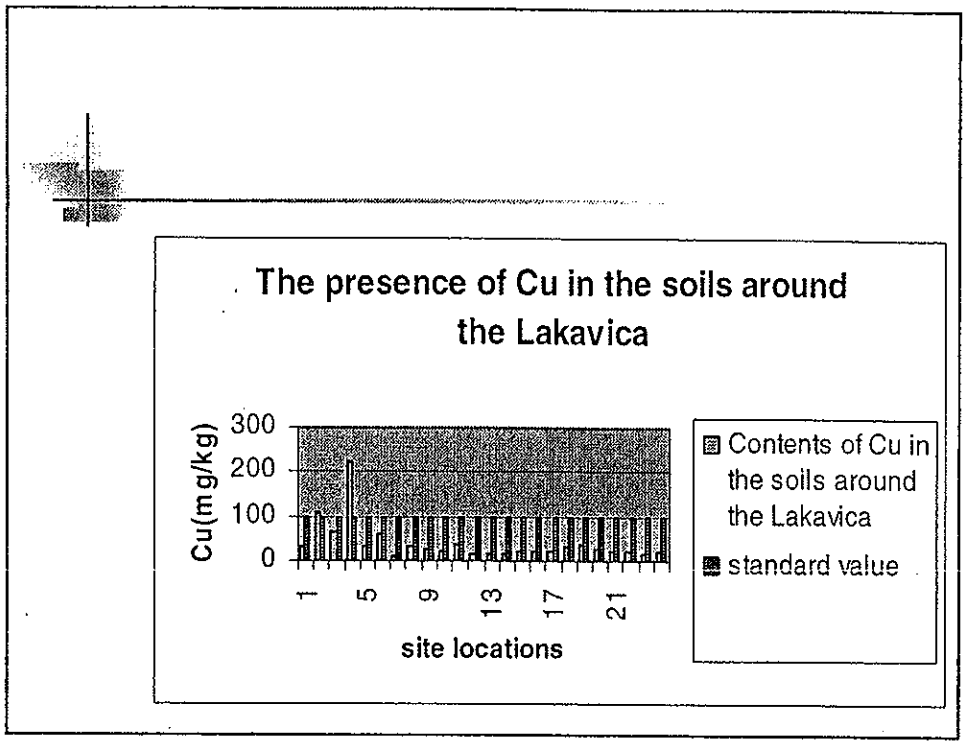


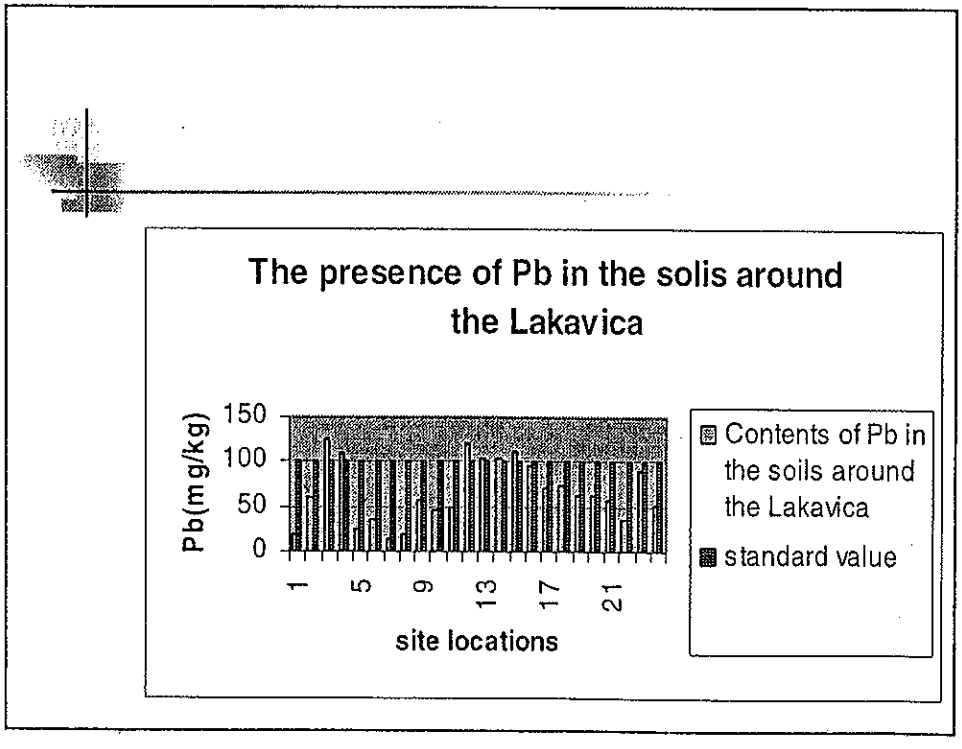
Recent disaster caused by colapse of the Sasa Mine flotation dam

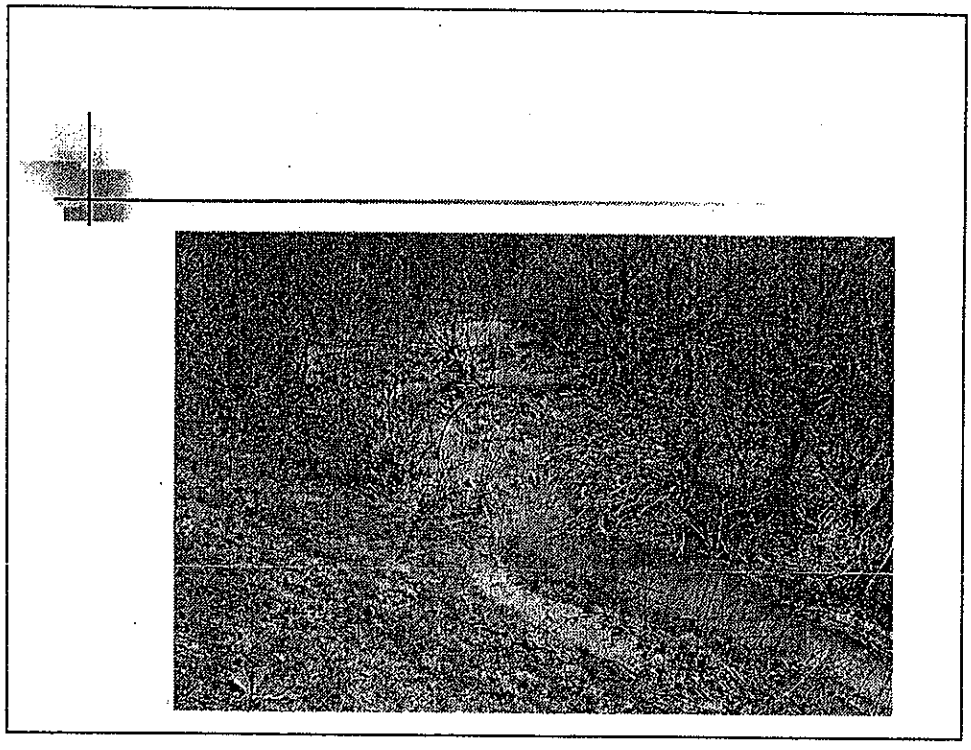
Lakavica River

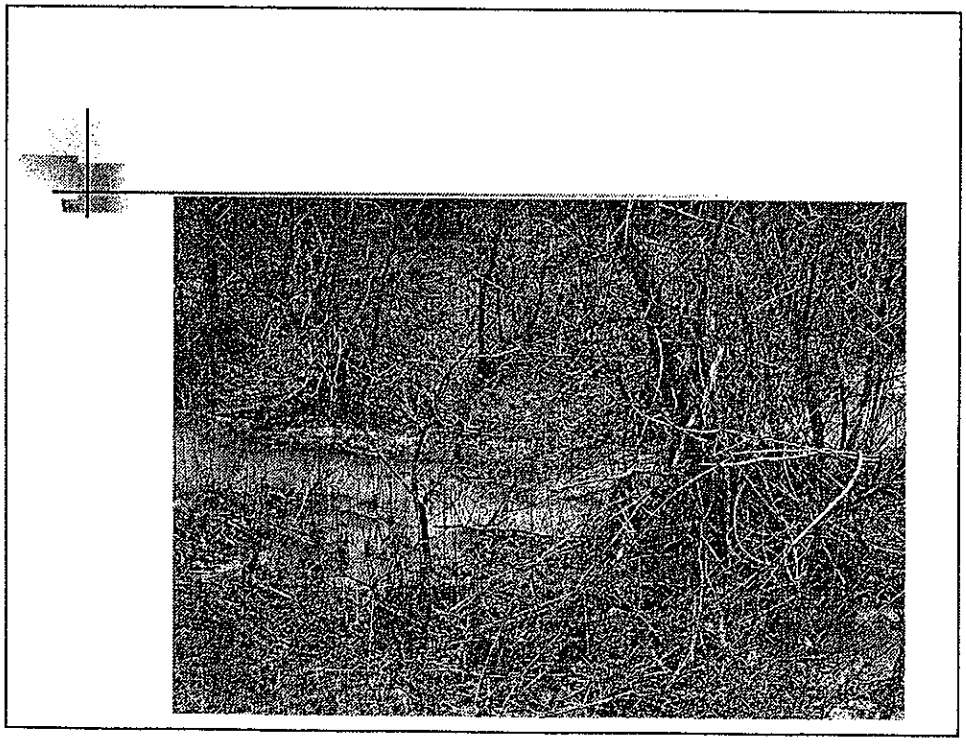

The contents of Cd in the soils around the Lakavica
Cd(mg/kg)
60
40
20
0
1
4
7
10
13
16
19
22
site locations
Contents of Cd in the solis around the Lakavica
Stanfard value


The presence of Ni in the soils around the Lakavica
Ni(mg/kg)
150
100
50
0
1
4
7
10
13
16
19
22
site locations
Contents of Ni in the soils around the Lakavica
standard value

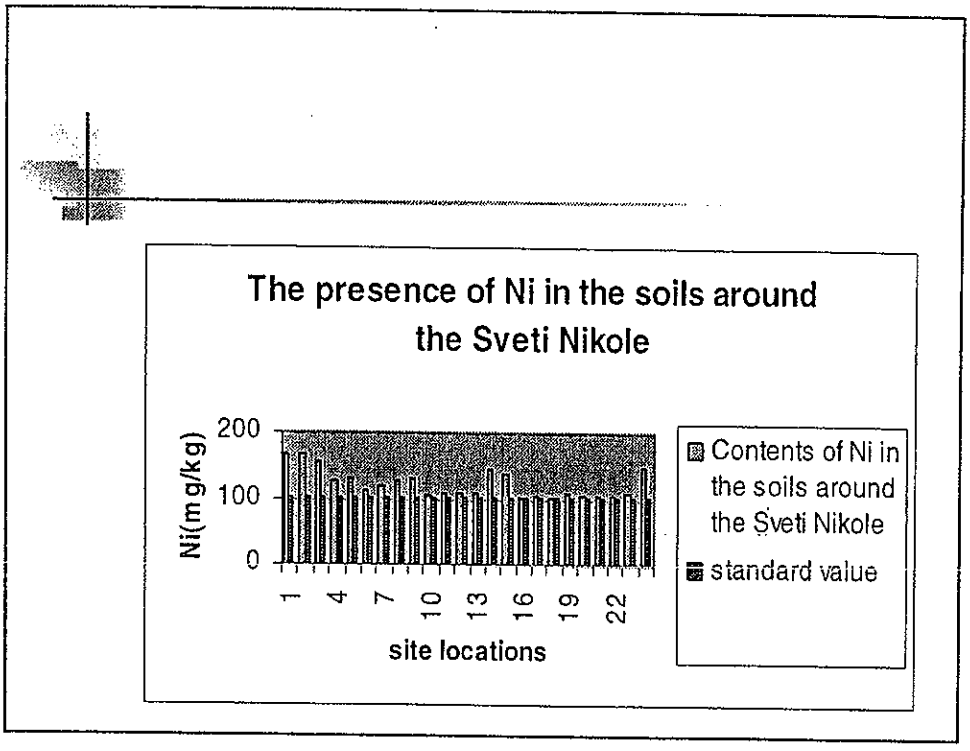

The presence of Cu in the soils around the Lakavica
Cu(mg/kg)
300
200
100
0
1
5
9
13
17
21
site locations
Contents of Cu in the soils around the Lakavica
standard value

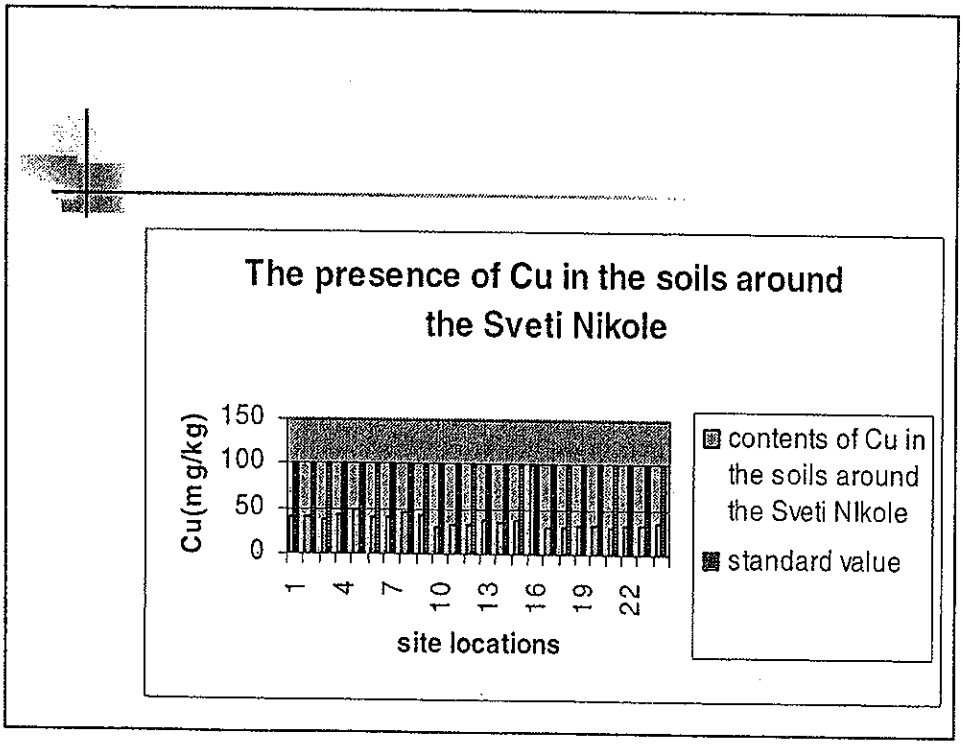

The presence of Pb in the solis around the Lakavica
Pb(mg/kg)
150
100
50
0
1
5
9
13
17
21
site locations
Contents of Pb in the soils around the Lakavica
standard value

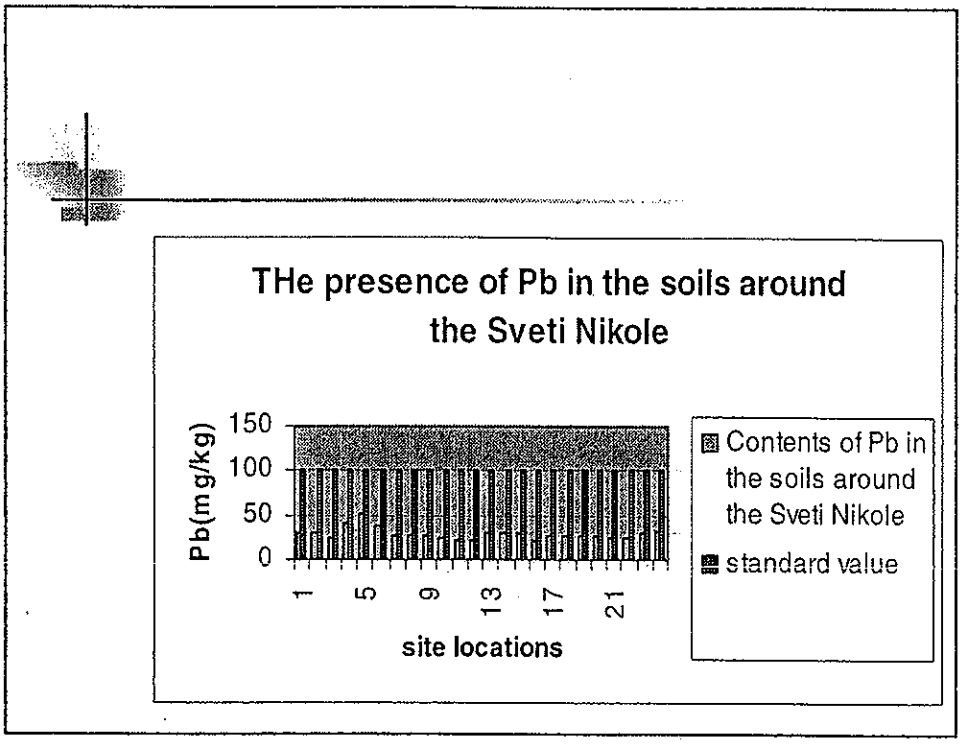


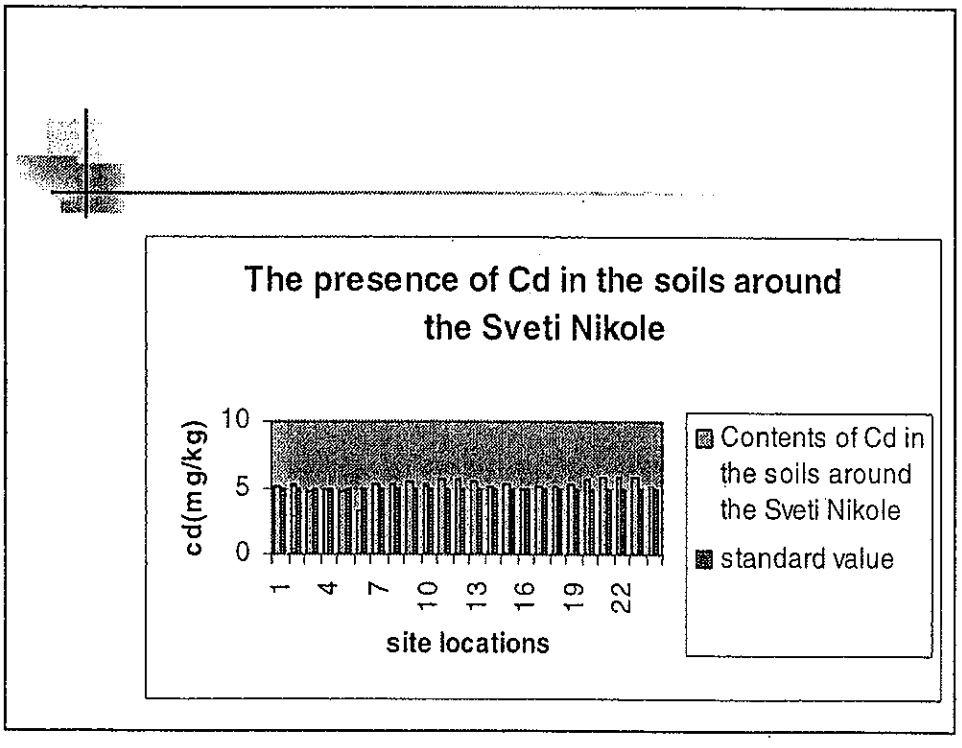


Sveti Nikole


The presence of Ni in the soils around the Sveti Nikole
Ni(mg/kg)
200
100
0
1
4
7
10
13
16
19
22
site locations
Contents of Ni in the soils around the Sveti Nikole
standard value


The presence of Cu in the soils around the Sveti Nikole
Cu(mg/kg)
150
100
50
0
1
4
7
10
13
16
19
22
site locations
contents of Cu in the soils around the Sveti NIkole
standard value


THe presence of Pb in the soils around the Sveti Nikole
Pb(mg/kg)
150
100
50
0
1
5
9
13
17
21
site locations
Contents of Pb in the soils around the Sveti Nikole
standard value

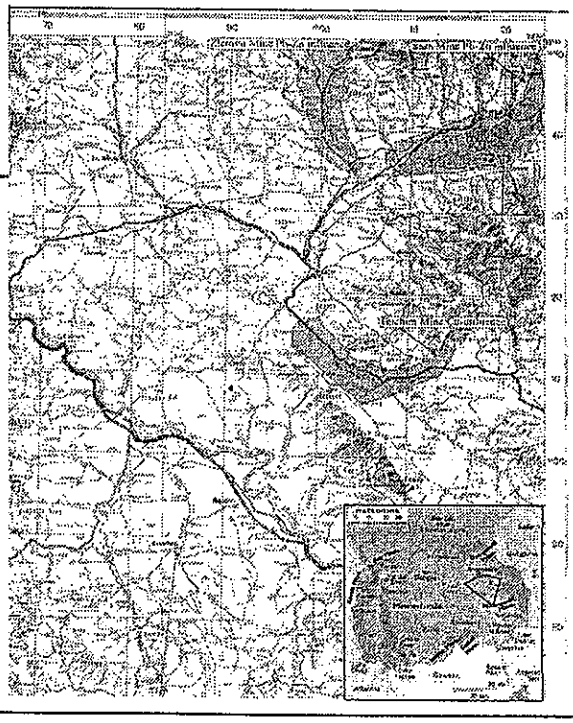

The presence of Cd in the soils around the Sveti Nikole
cd(mg/kg)
10
5
0
1
4
7
10
13
16
19
22
site locations
Contents of Cd in the soils around the Sveti Nikole
standard value

Conclusion

- The investigations carried out on the presence of trace elements in the soils in certain regions of the Republic of Macedonia indicated that some regions (Kocani, the vicinity of the River Zletovica and Lakavica) are characterized by increased anthropogenic impacts.

- Investigations revealed increased concentrations of Pb, Zn, Cu and Cd in the soils.

- The concentrations of other rare elements are within the allowed limits and the values reported for such types of soils.



Знаеш ли колку си зелен?

ENVIRONMENT

LEGAL APPROXIMATION OF ENVIRONMENTAL ACQUIS COMMUNITAIRE

BILJANA PULESKA

Sector for regulation and standardization

MINISTRY OF ENVIRONMENT AND PHYSICAL PLANNING

ENVIRONMENTAL LEGISLATION

- LAW ON ENVIRONMENT
- LAW ON AIR QUALITY
- LAW ON WASTE MANAGEMENT
- LAW ON NATURE PROTECTION
- DRAFT- LAW ON WATERS

Знаеш ли колку си зелен?

LAW ON ENVIRONMENT

- ✓ Council Directive 85/337/EEC as amended by Directive 97/11 on the assessment of the effects of certain public and private projects on the environment;
- ✓ Directive 2001/42/EC of the European Parliament and of the Council on the assessment of the effects of certain plans and programmes on the environment;
- ✓ Directive 96/61/EC of the European Parliament and the Council on integrated pollution prevention and control;
- ✓ Directive 2003/4/EC of the European Parliament and of the Council on public access to environmental information and repealing Council Directive 90/313/EEC;
- ✓ Directive 2003/35/EC of the European Parliament and of the Council for public participation in respect of the drawing up of certain plans and programmes relating to the environment and amending with regard to public participation and access to justice;
- ✓ Council Directive 96/82/EC on the control of major accident hazards involving dangerous substances;
- ✓ Proposal for a Directive of the European Parliament and of the Council on environmental liability in regard to the prevention and remedying of environmental damage (Brussels, 23.1.2002, 2002/0021 COD);
- ✓ Council Directive 91/692/EEC of 23 December 1991 standardizing and rationalizing reports on the implementation of certain Directives relating to the environment.
- ✓ The European Commission's proposal for a directive of the European Parliament and of the Council on Access to Justice in Environmental Matters (COM (2003)624 final, 2003/0246 (COD))

Знаеш ли колку си зелен?

LAW ON ENVIRONMENT

- ***SECONDARY LEGISLATION*** prepared and are under final stage of consultation :
- ✓ Decree on determining the projects falling under EIA
- ✓ Ordinance on procedural matters, EIA
- ✓ Decree determining the installations falling under A or B integrated environmental permits
- ✓ Ordinance on procedural matters, A and B permits
- ✓ Decree setting the schedule for application for A integrated environmental permits

Знаеш ли колку си зелен?

LAW ON AMBIENT AIR

- ***Law on Ambient Air Quality***
- ✓ "Official Gazette of RM" No. 67/04
- ✓ Framework Air Quality Directive 96/62/EC, as well as with parts of Directives 99/30/EC, 80/779/EEC, 85/203/EEC, 82/884/EC, 92/72/EEC, 2002/3/EC and 2000/69/EC.
- ***Secondary legislation***
- ✓ Rulebook on preliminary ambient air quality assessment and establishment of ambient air quality zones and agglomerations,- ENACTED
- ✓ Rulebook on air pollution monitoring and reporting
- ✓ The Approximation of the secondary legislation in the area of air is carried out in accordance with the National Programme for Approximation of the Legislation, according to which their adoption is scheduled in 2005 and 2006

Знаеш ли колку си зелен?

LAW ON WASTE MANAGEMENT

- ***LAW ON WASTE MANAGEMENT***
- ✓ Official Gazette of RM" No. 67/04 68/2004; 71/2004
- ***TRANSPOSITION OF THE FOLLOWING EU DIRECTIVES:***
- ✓ Council Directive 75/442/EEC on Waste as amended by Council Directive 91/156/EC)
- ✓ Council Directive 91/689/EEC on Hazardous Waste
- ✓ Council Directive 1999/31/EEC on the Landfill of waste
- ✓ Council Directive 75/439/EEC on the disposal of Waste Oils
- ✓ Council Directive 96/69/EC on the disposal of polychlorinated biphenyls and polychlorinated terphenyls (PCB/PCT)
- ✓ Directive 2000/76/EC of the European Parliament and of the Council on Incineration of Waste
- ✓ Council Directive 94/67/EC on the Incineration of Hazardous Waste
- ✓ Council Directive 91/157/EEC on batteries and accumulators containing certain dangerous substances as amended by Commission Directive 93/86/EEC adapting to technical progress Council Directive 91/157/EEC on batteries and accumulators containing certain dangerous substances
- ✓ Directive 94/62/EC of the European Parliament on Packaging and Packaging Waste

Знаеш ли колку си зелен?

WASTE MANAGEMENT ACQUIS

- ***INTERNATIONAL AGREEMENTS:***

✓ BASEL CONVENTION on the Control of Transboundary Movements of Hazardous Wastes and Their Disposal ("Official Gazette of RM" No. 49/97);

✓ Amendment to the BASEL CONVENTION on the Control of Transboundary Movements of Hazardous Wastes and Their Disposal, Amendment to Annex I, Annex VIII and Annex IX ("Official Gazette of RM" No. 49/2004)..

- ***DRAFT WASTE MANAGEMENT SUBSIDIARY LEGISLATION:***

✓ Draft Regulation on Hazardous Waste Management

✓ Draft Regulation on Waste Management Identification, Transportation and Reporting

✓ Draft regulation on Waste Oils

✓ Draft regulation PCB/PCT

LAW ON NATURE PROTECTION

- ***LAW ON NATURE PROTECTION***

✓ Official Journal of Republic of Macedonia N. 67/2004

- ***EU LEGISLATION TRANSPOSED:***

✓ Council Directive 79/409/EEC on the protection of wild birds **(the Birds Directive)**

✓ Directive 92/43/EC of the European Parliament and the Council on the protection of wild flora, fauna and habitats **(the Habitats Directive)**.

✓ In addition, Council Regulation 338/97 on the control of trade in endangered species of wild plants and animals by regulating trade therein (implementation of CITES) has been taken into account.

WATER MANAGEMENT ACQUIS

- ***DRAFT LAW ON WATERS:***

✓ Directive of the European Parliament and of the Council 2000/60/EC on the **Community policy framework in the area of waters;**

✓ Directive of the European Parliament and of the Council 98/83/EEC on the **quality of water intended for human consumption;**

✓ Directive of the European Parliament and of the Council 76/160/EEC on the **quality of bathing water;**

✓ Directive of the European Parliament and of the Council 1/271/EEC on the **urban waste water treatment;**

✓ Directive of the European Parliament and of the Council 86/278/EEC on environmental protection, especially of soil when **sludge** is used in agriculture;

✓ Directive of the European Parliament and of the Council 91/676/EEC **on water protection against pollution caused by nitrates from agricultural sources.**

WATER MANAGEMENT ACQUIS

- ***Secondary legislation prepared and enacted***

✓ Rulebook (Ordinance) on **Drinking Water Safety** ("Official Journal of RM" No. 57/2004).

- ***Transposing requirements*** stipulated in the Directive of the European Parliament and of the Council 2000/60/EC on the Community policy framework in the area of waters; and particularly the requirements of the Directive of the European Parliament and of the Council 98/83/EEC on the quality of water intended for human consumption.

CURRENT APPROXIMATION ACTIVITIES

- WORKING VERSION: DRAFT LAW ON **GENETIC MODYFIED ORGANISMS:** Transposing Directives 2001/18/EC; 90/22/EEC; 90/219/EEC; 98/81/EC
- WORKING VERSION: DRAFT LAW ON **NOISE- until 2006:** Transposing 2002/49; 92/14/EEC; ; 2001/16/EC; 70/157/EEC
- WORKING VERSION: DRAFT LAW ON **CHEMICALS- until 2007.** Prepared GAP analysis

Ministry of Agriculture, Forestry and Water Economy

"STUDY FOR CAPACITY DEVELOPMENT FOR SOIL CONTAMINATION IN REPUBLIC OF MACEDONIA"

June 2005

Legal regulative:

direct
- Law for agricultural land;

indirect
- Law for artificial fertilizers;
- Law for plant protection ;
- Law for waters;
- Law for organic production;
- Law for wine;
- Law for cattle-breeding;
- Law for pasture;
- Law for agricultural inspection ;

Law for agricultural land

✓Utilization

✓Availability

✓Protection

Protection of agricultural land

✓ Classification;
✓ Humification;
✓ Ameliorative fertilizing;
✓ Salination;
✓ Gipsation - Plasterisation;
✓ Erosion;

Law for waters

✓ Conditions and way of utilization and exploitation of waters ;

✓ Exhaustion and pollution;

Ministry of Agriculture, Forestry and Water Economy

"STUDY FOR CAPACITY DEVELOPMENT FOR SOIL CONTAMINATION IN REPUBLIC OF MACEDONIA"

Japanese International Cooperation Agency (JICA)

July 2005

TARGET OF THE STUDY:

- ❑ CAPACITY DEVELOPMENT FOR SOIL CONTAMINATION MONITORING;
- ❑ CAPACITY DEVELOPMENT FOR SOIL CONTAMINATION MANAGEMENT;
- ❑ HEALTHCARE PROTECTION OF THE POPULATION;
- ❑ PRODUCTION OF QUALITY FOOD;

Capacity development for soil contamination monitoring

- legal regulative, standards and institutions;
- monitoring, organization and human resources development;
- overview, analysis and interpretation;
- training for administrational strengthening of inspection
- risk assessment;
- undertaking appropriate measures;

Capacity development for soil contamination management

- legal regulative, environmental standards for polluted soil;
- management systems, organization and human resources;
- Risk assessment, risk analysis and risk management;
- undertaking appropriate measures for polluted soils;

HEALTHCARE PROTECTION OF THE POPULATION

- ✓ Sustainable social and economic development in rural area
- ✓ Natural resources protection from pollution

PRODUCTION OF QUALITY FOOD

- ✓ Securing production of food with certified value;
- ✓ Consumers protection;
- ✓ Obtaining products with certified quality;
- ✓ Prevention from usage of protective means in plant and animal production;

❖ STUDY AREA

❖ PILOT PROJECT

IMPLEMENTATION OF PILOT PROJECT

- Target area;
- Overview of soil samples;
- Hydro-geologic overview;
- Chemical analysis for heavy metals in obtained samples (soil, sediment, water and plantation);
- Chemical analysis for other toxic elements in obtained samples (soil, sediment, water and plantation);
- Interpretation of pollution;
- Migration mechanism;
- Risk assessment;
- Analysis of economic influence;
- Population education for risks;

ASSOCIATES

✓Ministry of Environment and Physical Planning
✓Ministry of Economy
✓Local Municipalities
✓Faculties
✓Institutes
✓Laboratories
✓NGO and other.

THANK YOU

資料リスト（■収集資料／□専門家作成試料）

		プロジェクト ID		調査団番号			
地域	中東・欧州	調査団名 又は専門家氏名	土壌汚染管理能力向上計画事前調査（S/W 協議）	調査の種類又は指導科目	事前調査	担当部課	地球環境部
国名	マケドニア	配属機関名		現地調査期間	2005 年 6 月 26 日から 2005 年 7 月 23 日まで	担当者氏名	

番号	資料の名称	形態（図書、ビデオ、地図、写真等）	収集資料	専門家作成資料	JICA 作成資料	テキスト	発行機関	取扱区分	図書館記入欄
1	Statistical Year Book of the Republic of Macedonia 2004	PDF	*				State statistical office	JR CR( ) ・ SC	
2	Law on agricultural land	M/S Word	*				農業森林水経済省		
3	Law on Environment（新法）	M/S Word	*				環境都市計画省		
4	Vision2008, The Roadmap of the Ministry of Environment and Physical Planning	M/S Word	*				環境都市計画省		
5	Regulation for categorization of watercourses and lakes	M/S Word	*				マケドニア政府		
6	Proposal law on waters	M/S Word	*				環境都市計画省		
7	Functional analysis and institutional development plan administrative capacities	PDF	*				環境都市計画省		
8	Water quality yearbook 2002	PDF	*				水利気象研究所		
9	Law on execution of hydrometeorological operations	M/S Word	*				マケドニア政府		

番号	資料の名称	形態（図書、ビデオ、地図、写真等）	収集資料	専門家作成資料	JICA 作成資料	テキスト	発行機関	取扱区分	図書館記入欄
10	Regulation for classification of water	M/S Word	*				マケドニア政府		
11	Action plan for European partnership (March 2005)	M/S Word	*				環境都市計画省		
12	Environmental audit (general report)	M/S Word	*				Adam Smith Institute		
13	Environmental Audit Goce Delcev (Godel) Company Final Report	M/S Word	*				Adam Smith Institute		
14	Environmental Audit Sasa Mine Final Report	M/S Word	*				Adam Smith Institute		
15	Environmental Audit Tranica Mine Final Report	M/S Word	*				Adam Smith Institute		
16	Environmental Audit Veles smelter and fertilizer Final Report	M/S Word	*				Adam Smith Institute		
17	Environmental Audit Zletovo Mining	M/S Word	*				Adam Smith Institute		
18	Analysis of water and sediment samples from Zletovo and Sasa and Tranica regions	M/S Word	*				環境都市計画省中央分析室		
19	Macedonia Agriculture Facts and Figures	印刷物	*				農業森林水経済省		
20	ユーゴスラビア連邦 Official Gazette 53/1983（農畜産物中の重金属基準）	コピー	*						
21	Civil Engineering Institute 案内	印刷物、CD	*				Civil Engineering Institute		
22	Hydrosystem "Zletovica"	印刷物	*				Hydrosystem "Zletovica"		

番号	資料の名称	形態（図書、ビデオ、地図、写真等）	収集資料	専門家作成資料	JICA 作成資料	テキスト	発行機関	取扱区分	
23	Appraising levels of soil contamination and pollution with heavy metals	コピー	*				European Soil Bureau Research Report No.4, Research Institute for Soil Science and Agrochemistry, Romania	JR CR( ) · SC	
24	European soil sampling guidelines for soil pollution studies	コピー	*				The Science of the Total Environment 51,264 (2001)		
25	TCLP and SPLP Leaching Procedure SOP No.CORP-IP-0004 Revision No.1 02/01/00	コピー	*				EPA		
26	質問票に対する回答 農業森林水経済省予算（2000 年～2005 年）	口上書	*				農業森林水経済省		
27	農業森林水経済省組織図	コピー	*				農業森林水経済省		
28	金属成分分析用土壌標準物質分析結果	印刷物	*				環境都市計画省中央分析室		
29	金属成分分析用土壌標準物質分析結果	印刷物	*				Sts. Cynil and Methodius University 理学部化学研究所		
30	金属成分分析用土壌標準物質分析結果	印刷物	*				Sts. Cynil and Methodius University 農業研究所		
31	金属成分分析用土壌標準物質分析結果	印刷物	*				Sts. Cynil and Methodius University 鉱山地質学部		

番号	資料の名称	形態（図書、ビデオ、地図、写真等）	収集資料	専門家作成資料	JICA作成資料	テキスト	発行機関	取扱区分	
32	土壌試料採取、地下水採取用井戸掘削、ボーリング調査見積書	印刷物	*				Civil Engineering Institute		
33	土壌、地下水、河川水分析費用見積書	印刷物	*				Sts. Cynil and Methodius University 理学部化学研究所		
34	土壌、地下水、河川水、穀物分析費用見積書	印刷物	*				Sts. Cynil and Methodius University 農業研究所		
35	土壌、地下水、河川水分析費用見積書	印刷物	*				Sts. Cynil and Methodius University 鉱山地質学部		
36	土壌、地下水、河川水分析費用見積書	印刷物	*				環境都市計画省中央分析室		
37	灌漑予定地域	地図	*				Hydrosistem "Zletovica"		
38	National Human Development Report 2004 FYR Macedonia Decentralization for human development	印刷物	*				UNDP		
39	セミナー資料（農業森林水経済省）	PPT	*				農業森林水経済省		
40	セミナー参加者リスト	M/S Excel	*				農業森林水経済省		

JICA
ジャイカ