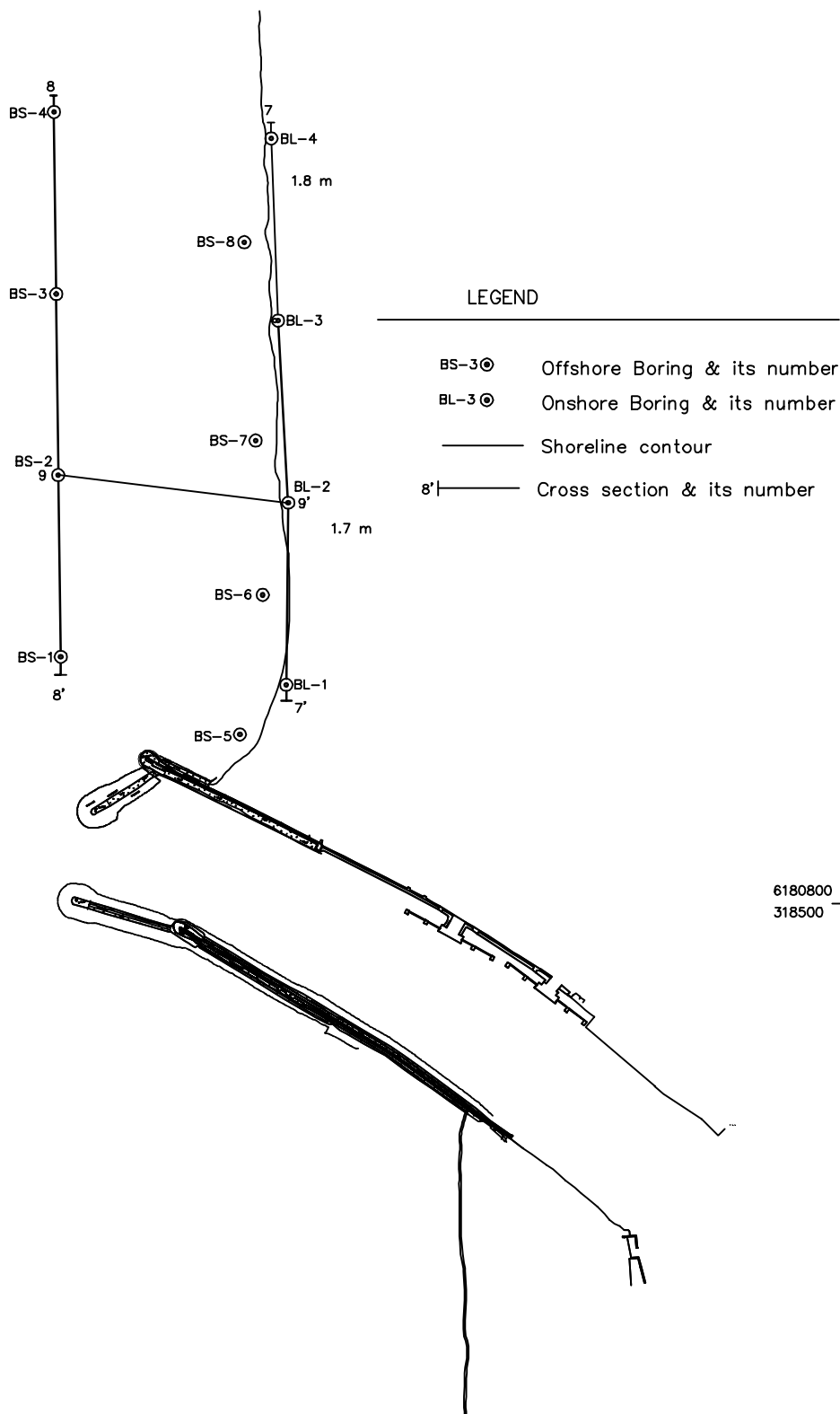
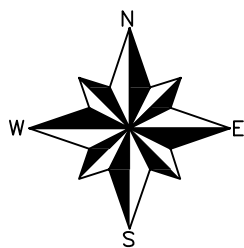
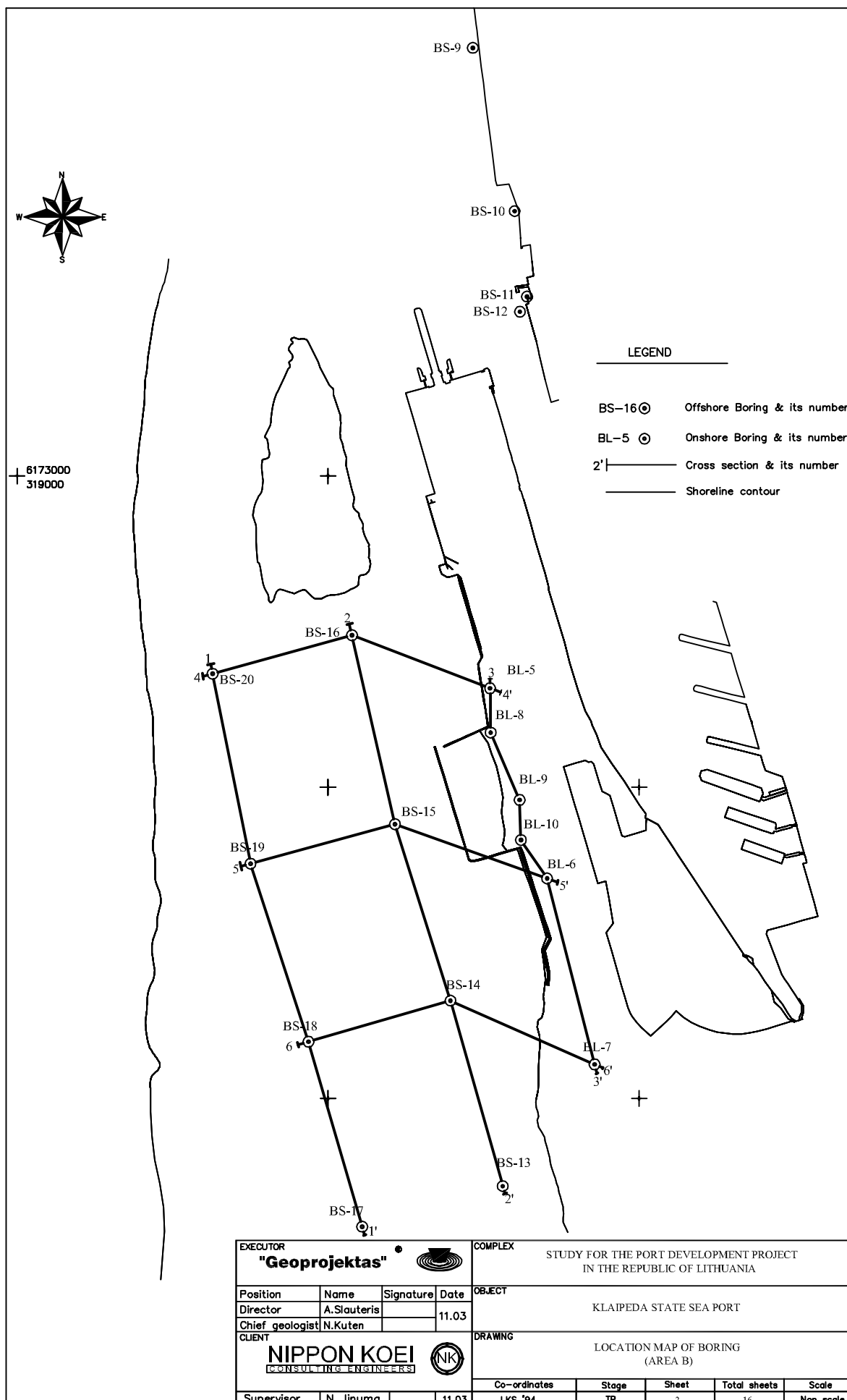


#### **E 4    Boring Results**

The geotechnical investigation has been carried out around the planned outer port area and the inner port area by the JICA Study Team. The results are shown in the followings.

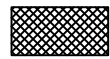


EXECUTOR <b>"Geoprojektas"</b>				COMPLEX STUDY FOR THE PORT DEVELOPMENT PROJECT IN THE REPUBLIC OF LITHUANIA				
Position	Name	Signature	Date	OBJECT KLAIPEDA STATE SEA PORT				
Director	A. Slauteris		11.03	DRAWING LOCATION MAP OF BORING (AREA A)				
Chief geologist	N. Kuten							
CLIENT <b>NIPPON KOEI</b> CONSULTING ENGINEERS				Co-ordinates	Stage	Sheet	Total sheets	Scale
Supervisor	N. Iinuma		11.03	LKS '94	TP	1	16	Non

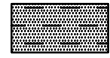


## EXPLANATION IN ACCORDANCE WITH BS 5930:1981

## A. LITHOLOGY



1. Fill: Slightly silty SAND, SPu: lightly grey, wet-saturated



2. Clayey SILT, MCO: dark brown - black with organic matter, plant detritus, very soft



3. 4. Sandy SILT, MSO: brown with organic matter, loose - medium dense, saturated



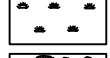
5. Very silty SAND, SWM: grey, uniform, very dense, saturated



6. 7. 8. 9. 10. Slightly silty SAND, SPu-SPM: from black, brown grey to light grey, clayey, polyimictic - oligomictic with organic matter, plant &amp; shell detritus, rare gravel, enclosures of GYTTJA, from very loose to very dense, saturated



11. 12. 13. Gravelly SAND, SWG: brown grey, from medium dense to very dense, saturated



14. GYTTJA, Pt: brown, compacted with plant remains, saturated



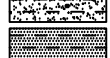
15. COBBLES &amp; BOULDERS



16. Sandy SILT, MS: greenish grey - grey, uniform, hard, compacted with rare interlayers (some cm in thickness) of CLAY, grey, hard.



17.18. Sandy CLAY, CLS: grey - brown grey, homogenous, stiff - hard



19.20. Sandy CLAY, CLSG: grey - brown grey, morainic, firm, hard with gravel &amp; cobbles, from 5-7 up to 10 %



21.22.23. Silty CLAY, CLM-MHC: grey brown, firm-hard with rare gravel, up to 2-3 %

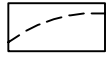
## B. BORDERS:



Stratigraphic



Lithological



Between soil layers

## C. SHEAR STRENGTH &amp; SOIL RELATIVE DENSITY:



- firm



- very soft



- stiff



- very stiff



- hard



- very loose



- loose



- medium dense



- dense



- very dense

## D. STRATIGRAPHY:



Holocene, marine sandy complex



Upper Pleistocene limnic sediments of Nemuno suite



Upper Pleistocene glacial clayey complex

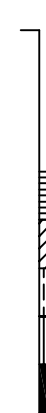


Medium Pleistocene limnic sediments of Pamario suite



Medium Pleistocene glacial clayey complex

## E. OTHERS:



Borehole mouth

Samples:

- - disturbed structure
- - undisturbed structure

▽20.23 Layer bottom altitude, m BSL

SHEAR STRENGTH:

- Very soft

- Firm

- Stiff



- Hard

- Saturated

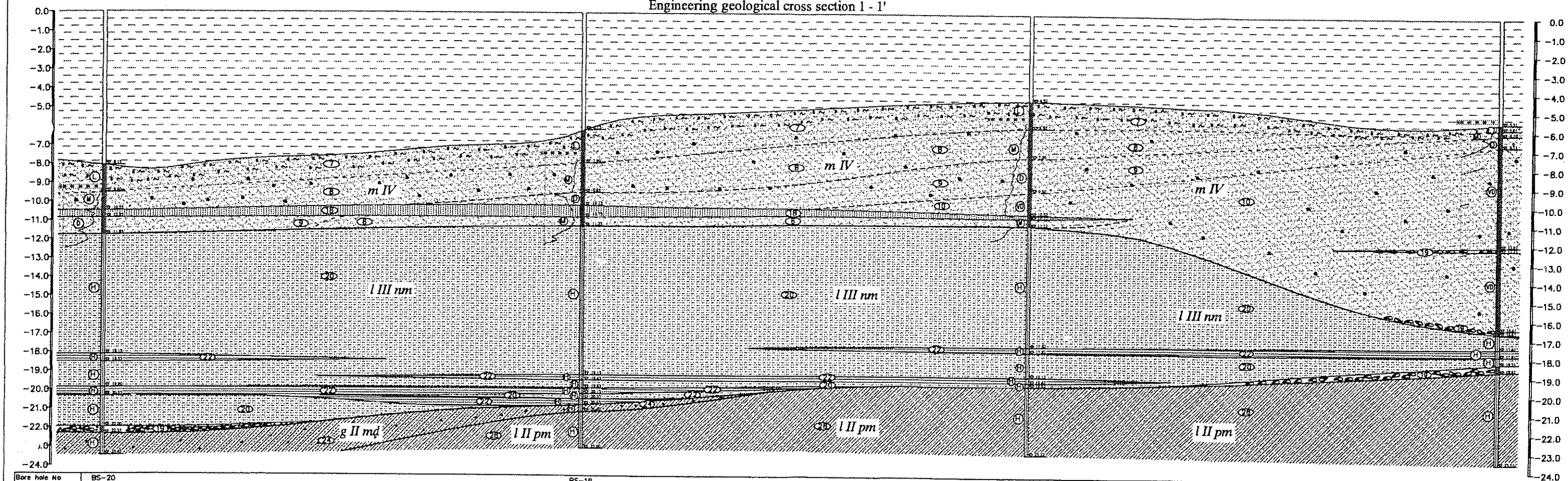


Number of soil layer

--- Ground water level altitude, m

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Position	Name	Signature	Date	OBJECT  KLAIPEDA STATE SEA PORT				
Director	A. Slauteris		11.03					
Chief geologist	N. Kuten							
CLIENT				DRAWING  EXPLANATION				
<b>NIPPON KOEI</b>  <b>CONSULTING ENGINEERS</b>								
Supervisor	N. Iinuma		11.03	Co-ordinates	Stage	Sheet	Total sheets	Scale
				LKS 94	TP	5	16	

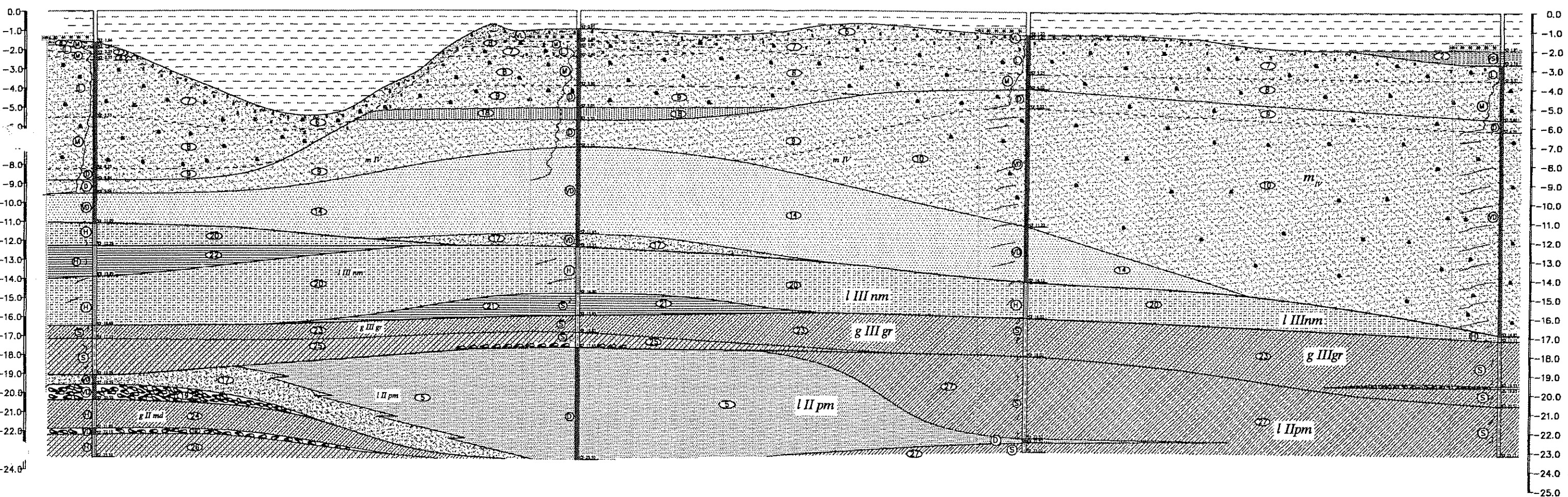
Engineering geological cross section 1 - 1'



Explanation, see sheet 1

<b>EXECUTION</b> <b>"Geoprojektas"</b>				<b>COMPLEX</b> STUDY FOR THE PORT DEVELOPMENT PROJECT IN THE REPUBLIC OF LITHUANIA			
Position	Name	Signature	Date	<b>OBJECT</b> KLAIPEDA STATE SEA PORT			
Director	A. Sladavicius		01.03				
Chief geologist	N. Kuteika						
<b>CLIENT</b> <b>NIPPON KOEI</b>				<b>DRAWING</b> ENGINEERING GEOLOGICAL CROSS SECTION 1 - 1' DRAFT			
Supervisor	N. Hume		07.03	Co-ordinator	Step	Sheet	Total sheets
				1:25 94	77	2	22
				Scale: 1:100, 1:200			

Engineering geological cross section 2 - 2'

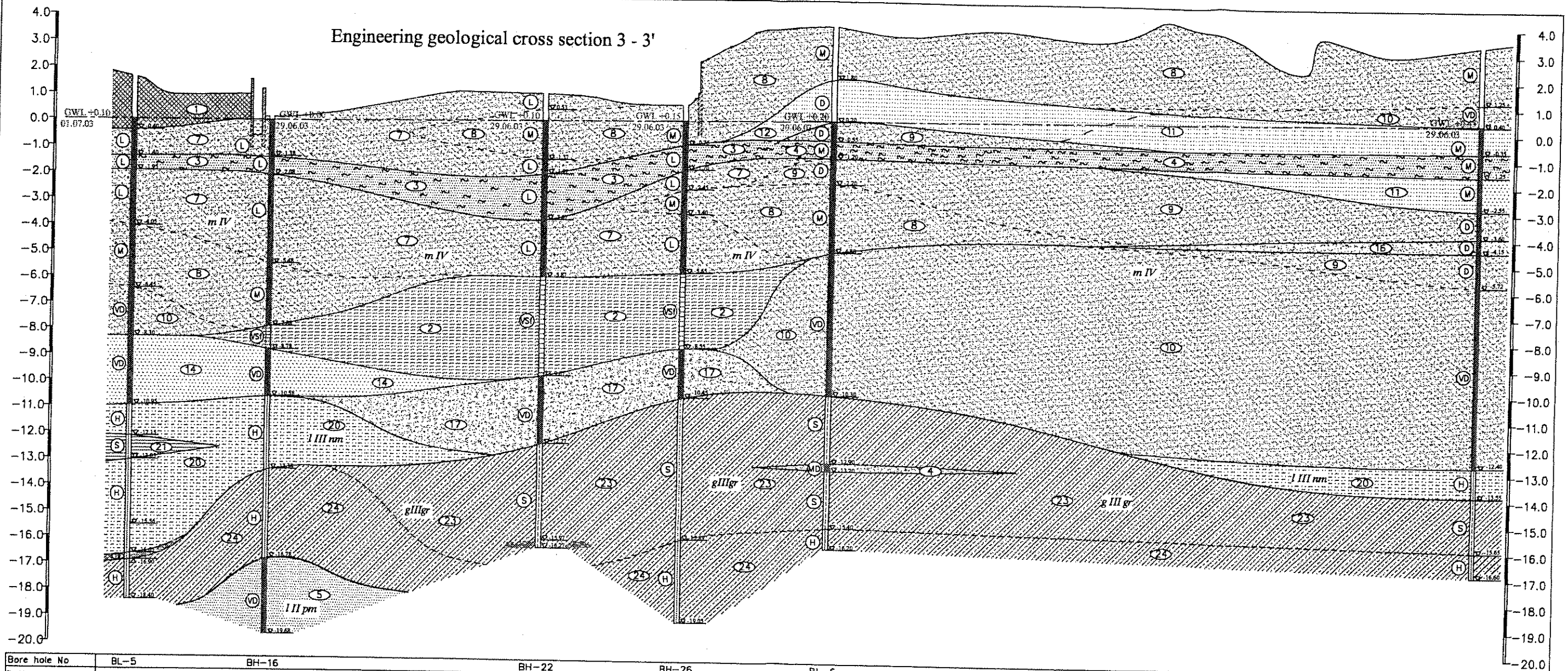


Explanation, see sheet 1

EXECUTOR <b>"Geoprojektas"</b>				COMPLEX STUDY FOR THE PORT DEVELOPMENT PROJECT IN THE REPUBLIC OF LITHUANIA			
Position	Name	Signature	Date	OBJECT KLAIPEDA STATE SEA PORT			
Director	A. Stankis		07.03	DRAWING ENGINEERING GEOLOGICAL CROSS SECTION 2 - 2' DRAFT			
Chief geologist	N. Kistenis						
CLIENT <b>NIPPON KOEI</b>				Co-ordinates	Stage	Sheet	Total sheets
Supervisor	N. Imanishi		07.03	LKS 94	TP	3	22
				Scale 1:100, 1:500			



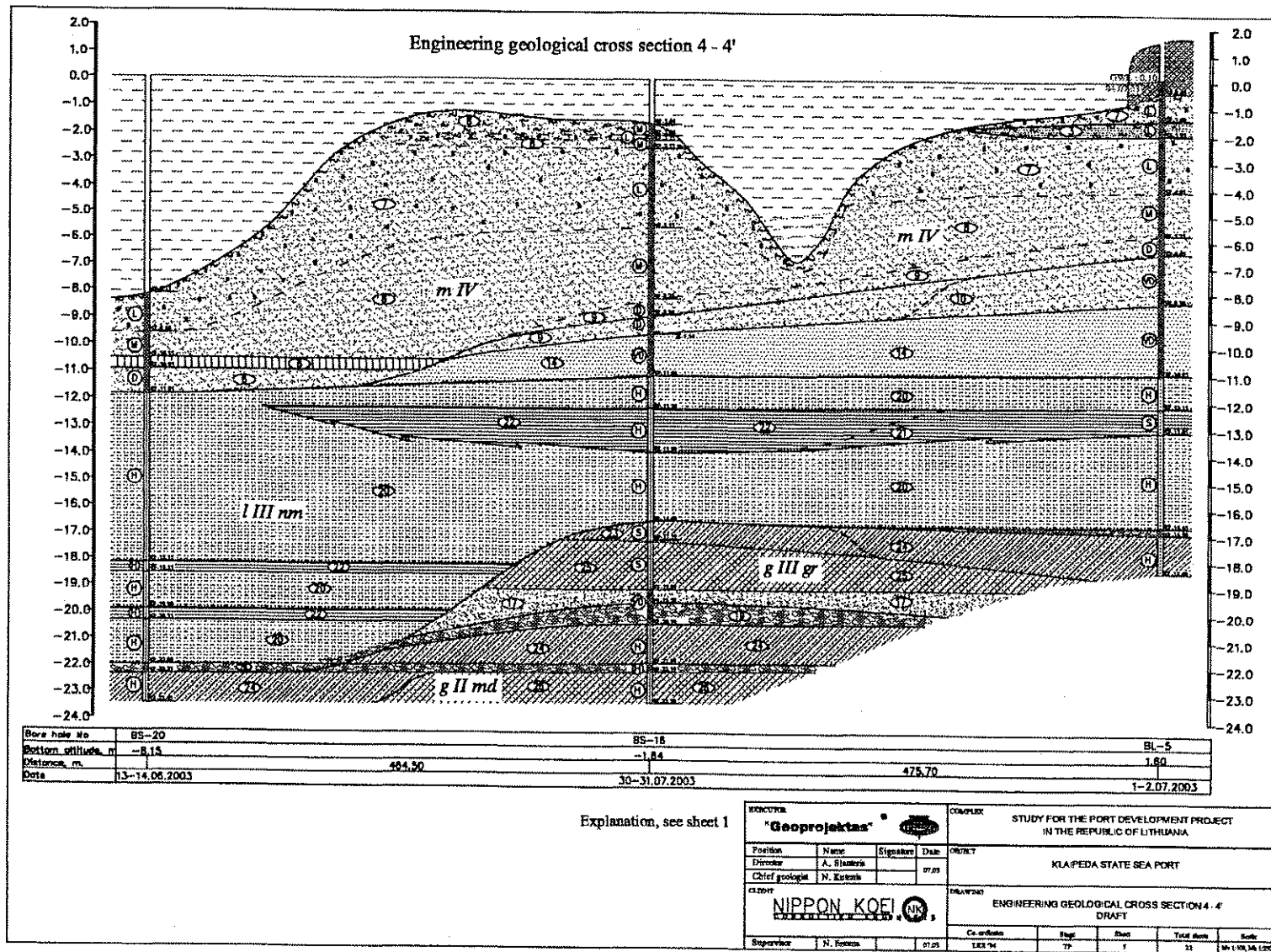
Engineering geological cross section 3 - 3'



Bore hole No	BL-5	BH-16	BH-22	BH-26	BL-6	BL-7
Bottom altitude, m	1.60	0.12	1.13	0.75	3.80	3.40
Distance, m	133.00	252.20	135.00	141.60	616.00	3.40
Date	1-2.07.2003	26.11.2002	26.11.2002	26.11.2002	9-10.07.2003	29-30.06.2003

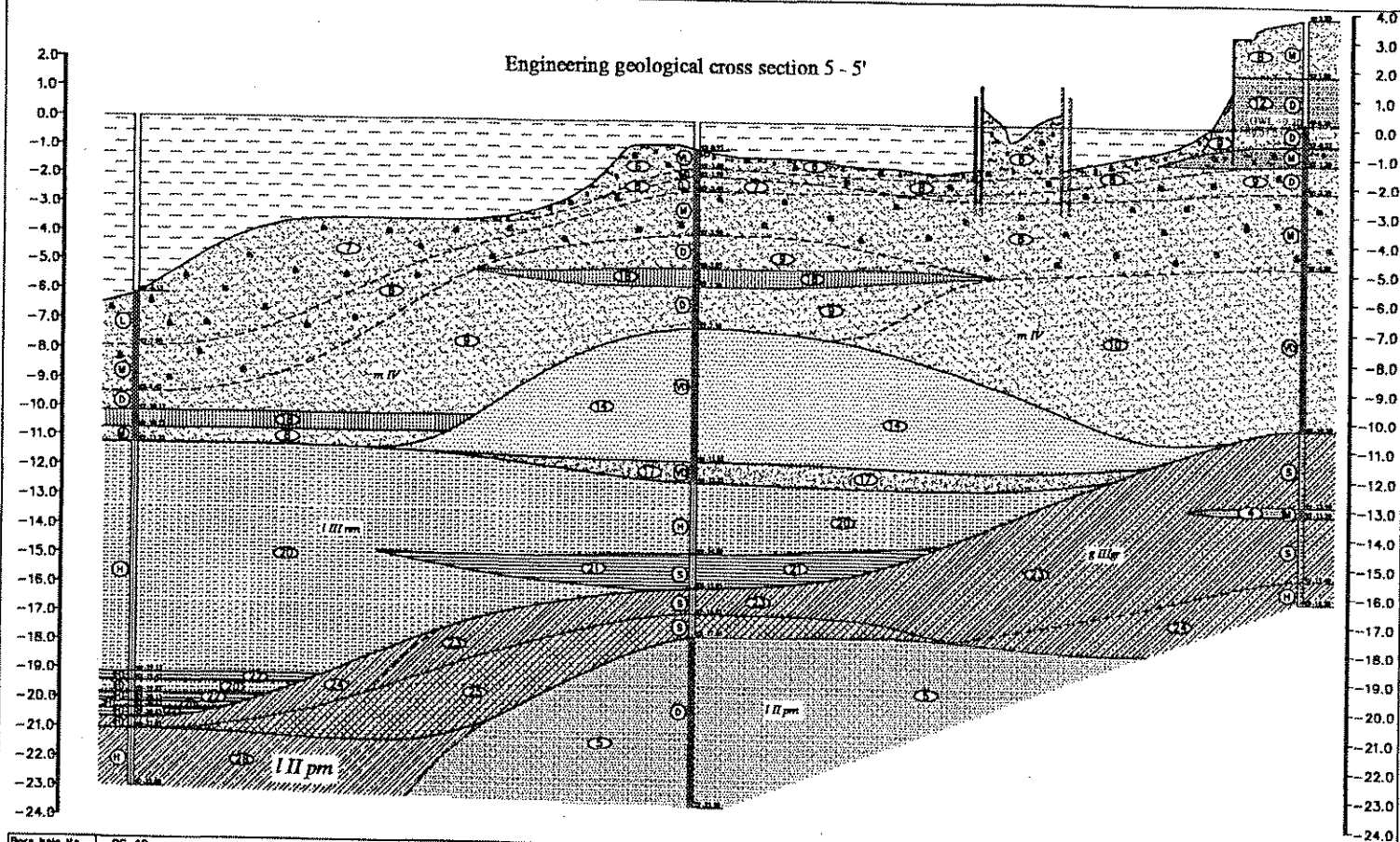
Explanation, see sheet 1

EXECUTOR <b>"Geoprojektas"</b>				COMPLEX STUDY FOR THE PORT DEVELOPMENT PROJECT IN THE REPUBLIC OF LITHUANIA			
Position	Name	Signature	Date	OBJECT KLAIPEDA STATE SEA PORT			
Director	A. Slauteris		07.03				
Chief geologist	N. Kutenis						
CLIENT <b>NIPPON KOEI</b>				DRAWING ENGINEERING GEOLOGICAL CROSS SECTION 3 - 3' DRAFT			
Supervisor	N. Iinuma		07.03	Co-ordinates	Stage	Sheet	Total sheets
				LKS 94	TP	4	22
				Scale Mv 1:100, M6 1:2500			





Engineering geological cross section 5 - 5'

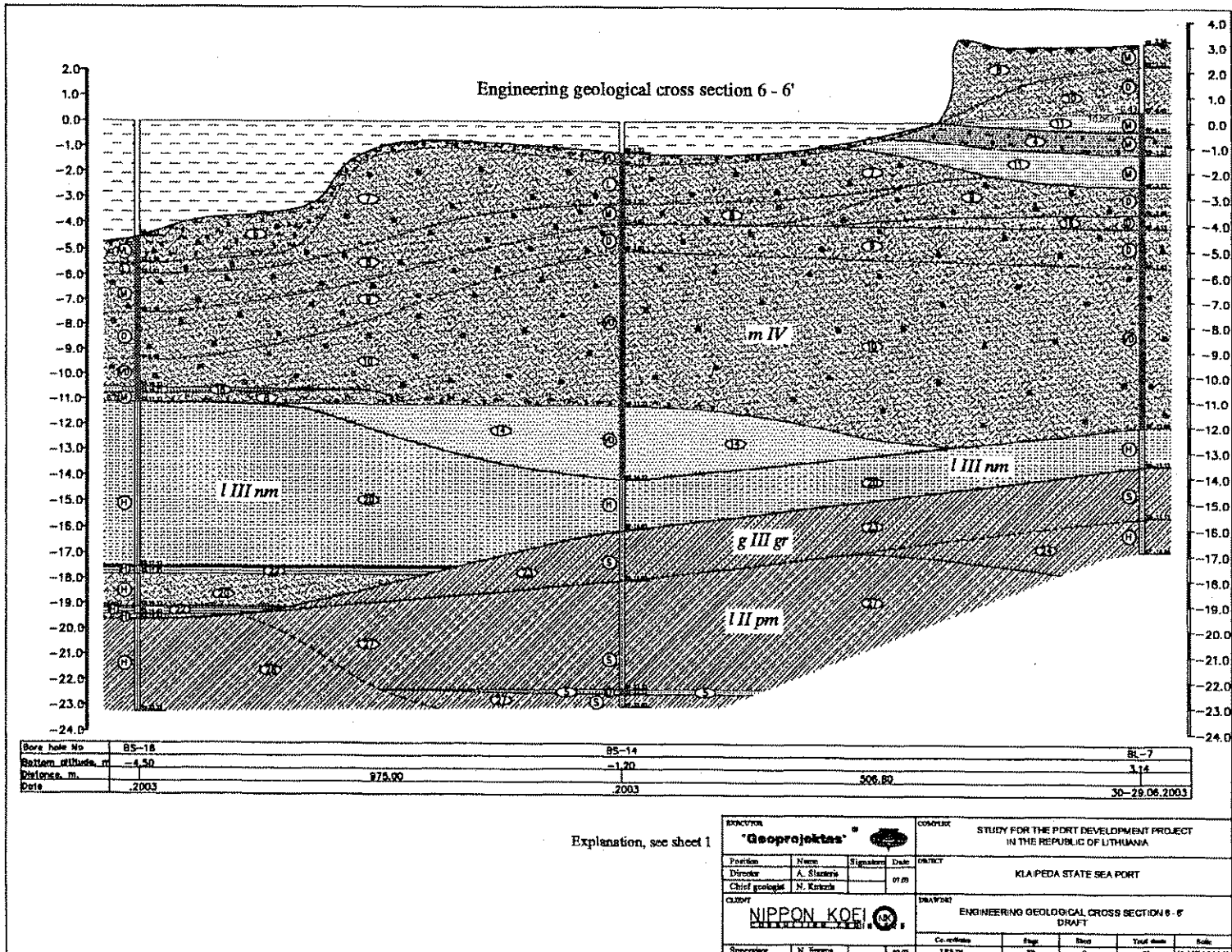


Bore hole No	85-19	85-15	81-8
Bottom altitude, m	-6.13	-0.35	3.00
Distance, m	480.50	520.00	
Date	14-16.06.2003	24-26.07.2003	9-10.07.2003

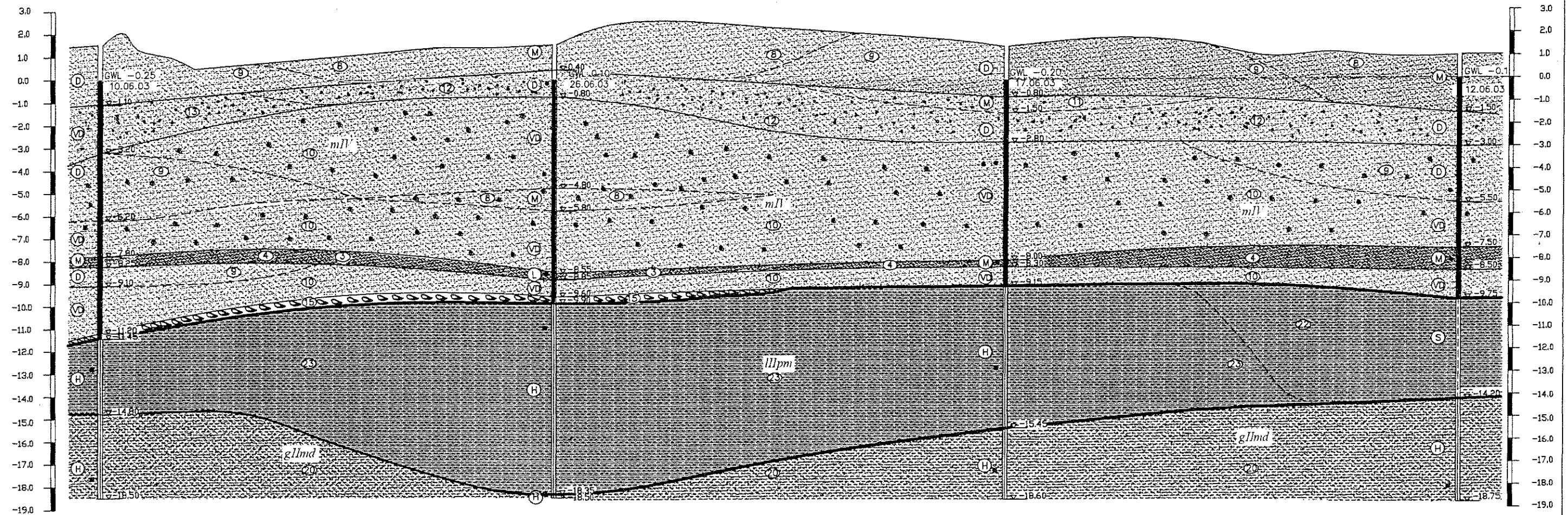
Explanation, see sheet 1

<b>SECTOR</b> <b>"Geoprojektas"</b>		<b>COMPLEX</b> STUDY FOR THE PORT DEVELOPMENT PROJECT IN THE REPUBLIC OF LITHUANIA	
Position	Name	Signature	Date
Director	A. Stackeris		07.05
Chief geologist	N. Kavalia		
<b>CLIENT</b> <b>NIPPON KOEI</b>		<b>DRAWING</b> ENGINEERING GEOLOGICAL CROSS SECTION 5 - 5' DRAFT	
Supervisor	N. Sineva	07.05	1.02 '04
Page	TP	Sheet	6
Total sheet	33	Scale	1:1000, 1:2000

Engineering geological cross section 6 - 6'



Engineering geological cross section 7-7'



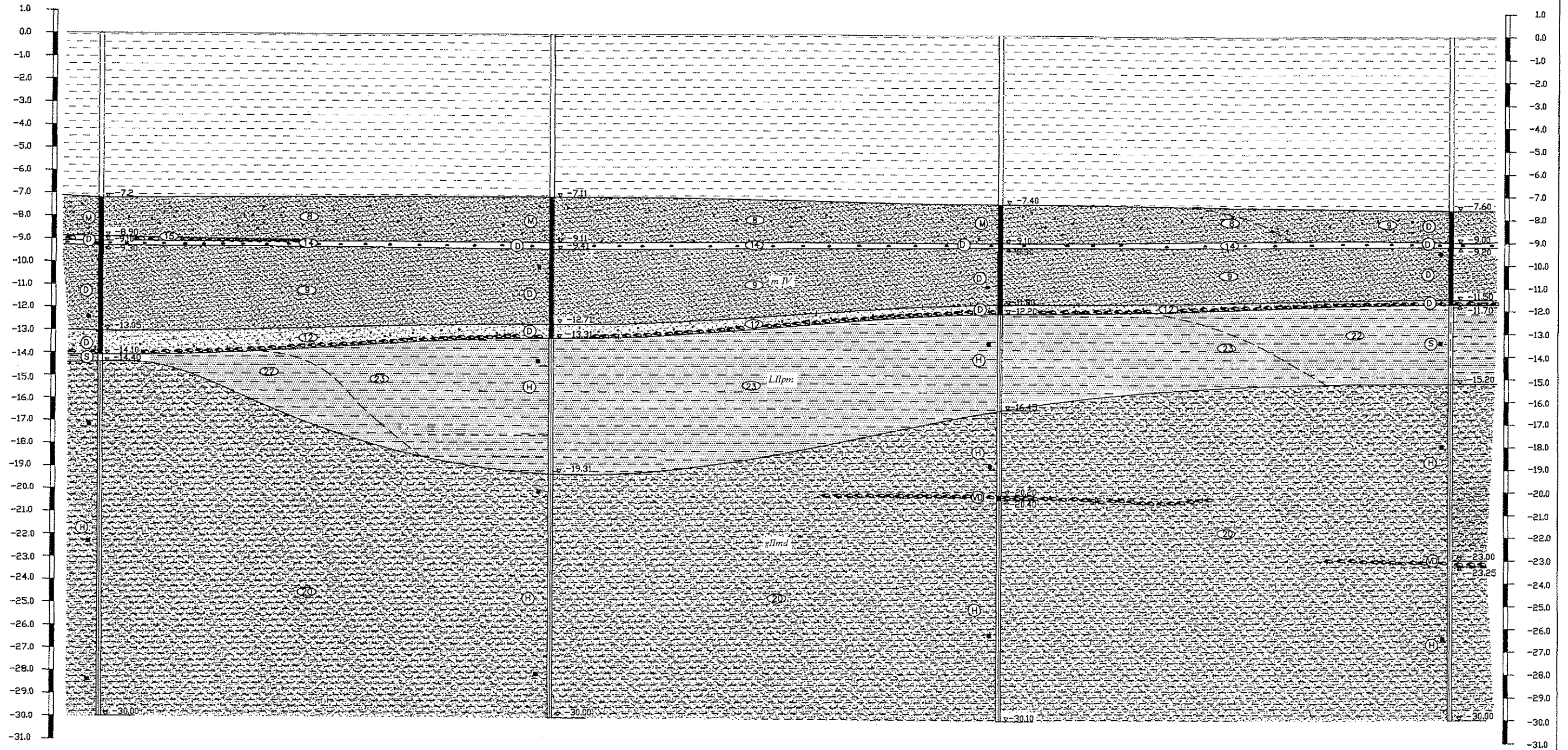
Bore hole No	BL-1	BL-2	BL-3	BL-4
Well mouth altitude, m	1.50	1.50	1.40	1.00
Distance, m	500.0	500.8	500.3	
Date	10-11.06.2003	26-28.06.2003	17-19.06.2003	12.15-16.06.2003

Explanation, see sheet 1



EXECUTOR "Geoprojektas"				COMPLEX STUDY FOR THE PORT DEVELOPMENT PROJECT IN THE REPUBLIC OF LITHUANIA			
Position	Name	Signature	Date	OBJECT KLAIPEDA SEA PORT			
Director	A. Slauteris		10.03				
Chief geologist	N. Kuten						
CLIENT NIPPON KOEI CONSULTING ENGINEERS				DRAWING ENGINEERING GEOLOGICAL CROSS SECTION 7-7'			
Supervisor	N. Inuma		10.03	Coordinate	Stage	Sheet	Total sheets
				LKS 94	77	12	15
							Scale: 1:100, 1:500



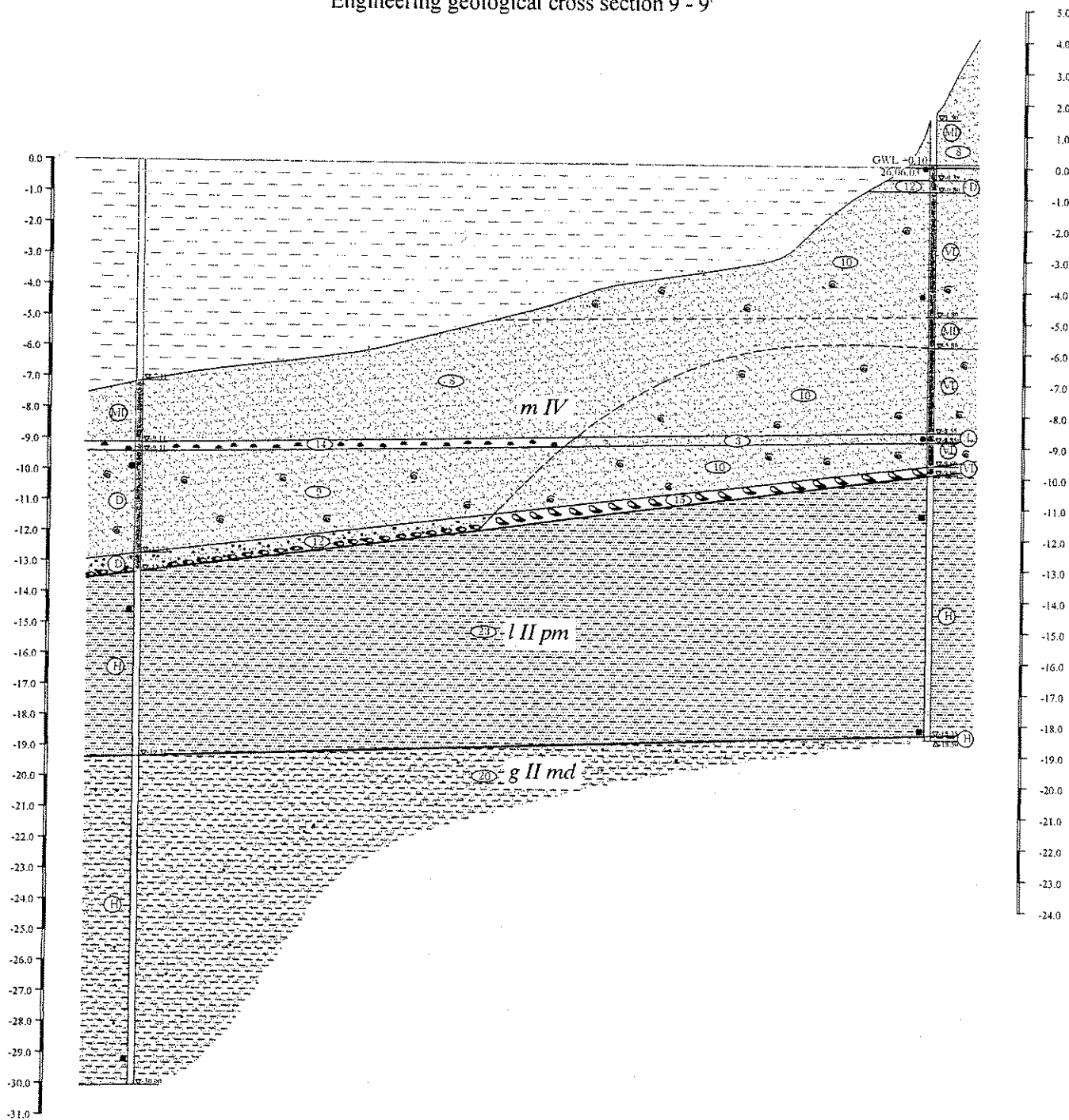
Engineering geological cross section 8-8'



Bore hole No	BS-1	BS-2	BS-3	BS-4
Bottom altitude, m	-7.20	-7.11	-7.40	-7.60
Distance, m	499.7	497.4	499.3	
Date	27-28.06.03	30.07.03	04-06.09.03	17-19.09.03

EXECUTOR		COMPLEX		STUDY FOR THE PORT DEVELOPMENT PROJECT IN THE REPUBLIC OF LITHUANIA	
"Geoprojektas"					
Position	Name	Signature	Date	OBJECT	
Director	A. Slauteris		10.03	KLAIPEDA STATE SEA PORT	
Chief geologist	N. Kuten				
CLIENT		DRAWING		ENGINEERING GEOLOGICAL CROSS SECTION 8-8'	
NIPPOON KOEI CONSULTING ENGINEERS					
Supervisor	N. lituina	10.03	Co-ordinates	Stage	Sheet
			LKS 94	TP	13
					Total sheets
					15
					Scale
					M 1:100, Sh 1:2500

# Engineering geological cross section 9 - 9'



Bore hole No	BS-2		
Bottom altitude, m	-7.11		Bl.-2
Distance, m		635.9	1.50
Date	30.07.2003		26-28.06.2003

Explanation, see sheet 5

EXECUTOR <b>"Geoprojektas"</b>				COMPLEX STUDY FOR THE PORT DEVELOPMENT PROJECT IN THE REPUBLIC OF LITHUANIA			
Position	Name	Signature	Date	OBJECT KLAIPEDA STATE SEA PORT			
Director	A. Slauteris		1003				
Chief geologist	N. Katen						
CLIENT <b>NIPPON KOEI</b> CONSULTING ENGINEERS				DRAWING ENGINEERING GEOLOGICAL CROSS SECTION 9 - 9'			
Supervisor	N. Inuma		1003	Coordinates	Slope	Sheet	Total sheets
				LKS 94	TP		Scale
							Nov 1990, 1:2500



# Bore hole BL-1

X = 6181400.65  
Y = 316973.40  
Altitude, m = 1.50

Date: 05,10-11,06.03

Drilling method: percussion Ø 108 mm & SPT-TD

Depth from the earth surface, m	Thickness of layer, m	Altitudes, m		Lithologic log	Soil classification according to BS 5930: 1981	Samples	SPT-TD test					Soil layer number	Geologic index
		Bottom of layer	Gr. water accured				10	20	36	40	50		
					Slightly silty SAND, SPu-SPM: from black, brown grey to light grey, plant & shell detritus, from dense to very dense, saturated. From -1.10 to -3.20 gravelly SAND, SWG layer, medium dense.		1.00	1.45	2.00	2.45	3.00	9	
			-0.25				3.45	4.20	4.65	5.00	5.45	13	
							6.00	6.45	7.10	7.55	8.00	9	
							8.45	9.30	9.60	10.45	11.00	10	
9.30	9.30	-7.80					11.45	12.00	12.45	13.60	14.05	10	
9.75	0.45	-8.25			Sandy SILT, MSO: brown with organic matter, medium dense, saturated.		14.90	15.35	15.90	16.35	17.00	4	
					Slightly silty SAND, SPu-SPM: from black, brown grey to light grey, plant & shell detritus, rare gravel, very dense, saturated.		17.45	18.00	18.45	19.55	20.00	9	
12.70	2.95	-11.20										10	
12.95	0.25	-11.45										15	
					Cobbles and boulders								
					Silty CLAY CIM-MIC, grey brown, hard with rare gravel, up to 2-3 %							23	IIIpm
16.30	3.35	-14.80											
					Sandy CLAY, CLSG: grey - brown grey, morainic, hard with gravel & cobbles, from 5-7 up to 10 %							20	gIIgr
20.0	3.70	-18.50											

EXECUTOR				COMPLEX				
<b>"Geoprojektas"</b> 				STUDY FOR THE PORT DEVELOPMENT PROJECT IN THE REPUBLIC OF LITHUANIA				
Position	Name	Signature	Date	OBJECT  KLAIPEDA STATE SEA PORT				
Director	A. Slauteris		12.03					
Chief geologist	N. Kuten							
CLIENT				DRAWING				
<b>NIPPON KOEI</b> CONSULTING ENGINEERS 				BORE HOLE BL-1 LOG				
Co-ordinates		Stage		Sheet		Total sheets		Scale
Supervisor		N. Iinuma		LKS '94		TP		21
								30



# Bore hole BL-2

X = 6181900.65  
Y = 316978.45  
Altitude, m = 1.50

Date: 26-28.06.03

Drilling method: percussion Ø 108 mm & SPT-TD

Depth from the earth surface, m	Thickness of layer, m	Altitudes, m		Lithologic log	Soil classification according to BS 5930: 1981	Samples	SPT-TD test	Soil layer number	Geologic index
		Bottom of layer	Gr. water accured						
			0.10		Slightly silty SAND, SPu-SPM: from black, brown grey to light grey with plant & shell detritus, rare gravel, enclosures of GYTIIJA, from very loose to very dense, saturated, with interlayer of gravelly SAND, SWG from 0.40 to -0.80 m.		10 20 36 40 50	8	mIV
								12	
								10	
								8	
								10	
								3	
								10	
								15	
								23	
								20	
10.05	10.05	-8.55							
10.35	0.30	-8.85			Sandy SILT, MSO: brown, with organic matter and PEAT, loose.				
11.10	0.75	-9.60			Slightly silty SAND, SPu-SPM, very dense, saturated.				
11.40	0.30	-9.90			Cobbles and boulders				
					Silty CLAY, CLM-MHC: grey, hard				
19.85	8.45	-18.35			Sandy CLAY, CLSG: grey, hard, with gravel and pebbles up to 10 %				
20.00	0.15	-18.50							

EXECUTOR

**"Geoprojektas"**



COMPLEX

STUDY FOR THE PORT DEVELOPMENT PROJECT  
IN THE REPUBLIC OF LITHUANIA

Position

Name

Signature

Date

Director

A. Slauteris

12.03

Chief geologist

N. Kuten

OBJECT

KLAIPEDA STATE SEA PORT

CLIENT

**NIPPON KOEI**  
CONSULTING ENGINEERS



DRAWING

BORE HOLE BL-2 LOG

Co-ordinates

Stage

Sheet

Total sheets

Scale

Supervisor

N. Iinuma

12.03

LKS '94

TP

22

30



# Bore hole BL-3

X = 6182400.65  
Y = 316950.50  
Altitude, m = 1.40

Date: 17-19.06.03

Drilling method: percussion Ø 108 mm & SPT-TD

Depth from the earth surface, m	Thickness of layer, m	Altitudes, m		Lithologic log	Soil classification according to BS 5930: 1981	Samples	SPT-TD test	Soil layer number	Geologic index
		Bottom of layer	Gr. water accured						
			-0.20		Slightly silty SAND, SPu-SPM: from black, brown grey to light grey with plant & shell detritus, rare gravel, from medium dense to very dense, saturated, with interlayer of gravelly SAND, SWG from -0.80 m to -2.80 m.		0.55 1.00 1.55 2.00 2.55 3.00 3.55 4.00 4.55 5.00 5.55 6.00 6.55 7.00 7.55 8.00 8.60 9.05 9.55 10.00	9 11 12 10 4 10	<i>mIV</i>
9.40	9.40	-8.00							
9.70	0.30	-8.30			Sandy SILT, MSO: brown, with organic matter, medium dense				
10.55	0.85	-9.15			Slightly silty SAND, SPu-SPM: very dense, saturated				
					Silty CLAY, CLM-MHC: grey, hard.		11.30 11.75 12.40 12.85 13.45 13.90 14.60 15.05 15.40 15.85 16.55 17.00 17.70 18.15 18.70 19.15 19.55 20.00	23	
16.85	6.30	-15.45							
					Sandy CLAY, CLSG: grey, hard, morainic, with gravel and pebbles up to 10 %				<i>gIIImd</i>
20.00	0.70	-18.60							
























EXECUTOR				COMPLEX				
<b>"Geoprojektas"</b> 				STUDY FOR THE PORT DEVELOPMENT PROJECT IN THE REPUBLIC OF LITHUANIA				
Position	Name	Signature	Date	OBJECT  KLAIPEDA STATE SEA PORT				
Director	A. Slauteris		12.03					
Chief geologist	N. Kuten							
CLIENT				DRAWING				
<b>NIPPON KOEI</b> CONSULTING ENGINEERS 				BORE HOLE BL-3 LOG				
Co-ordinates		Stage	Sheet	Total sheets	Scale			
Supervisor		N. Iinuma	12.03	LKS '94	TP	23	30	

# Bore hole BL-4

X = 6182900.65  
Y = 316932.40  
Altitude, m = 1.00

Date: 12,15-16.06.03

Drilling method: percussion Ø 108 mm & SPT-TD

Depth from the earth surface, m	Thickness of layer, m	Altitudes, m		Lithologic log	Soil classification according to BS 5930: 1981	Samples	SPT-TD test					Soil layer number	Geologic index
		Bottom of layer	Gr. water accured				10	20	36	40	50		
			-0.10		Slightly silty SAND, SPu-SPM: from black, brown grey to light grey with plant & shell detritus, rare gravel, from medium dense to very dense, saturated, with interlayer of gravelly SAND, SWG from -0.80 m to -2.80 m.		1.00	1.13				8	mIV
							1.45						
							2.00						
							2.45						
							3.00						
							3.45						
							4.00						
							4.45						
							5.00						
							5.45						
							6.00						mIV
							6.45						
							7.00						
							7.45						
							8.00						
							8.45						
8.50	8.50	-7.50			Sandy SILT, MSO: brown, with organic matter, saturated		9.00						
9.50	1.00	-8.50			Slightly silty SAND, SPu-SPM: very dense, saturated		9.45						
							10.00						
10.75	1.25	-9.75			Silty CLAY, CLM-MHC: grey, stiff.		10.45						IIIpm
							11.00						
							11.45						
							12.00						
							12.45						
							13.00						
							13.45						
							14.00						
							14.45						
15.20	4.45	-14.20			Sandy CLAY, CLSG: grey, morainic, hard, with gravel and pebbles up to 10 %		15.00						gIImd
							15.45						
							16.00						
							16.45						
							17.00						
							17.45						
							18.00						
							18.45						
							19.00						
19.75	4.55	-18.75					19.45						

EXECUTOR

**"Geoprojektas"**



COMPLEX

STUDY FOR THE PORT DEVELOPMENT PROJECT  
IN THE REPUBLIC OF LITHUANIA

Position

Name

Signature

Date

OBJECT

KLAIPEDA STATE SEA PORT

CLIENT

**NIPPON KOEI**  
CONSULTING ENGINEERS



DRAWING

BORE HOLE BL-4 LOG

Co-ordinates

Stage

Sheet

Total sheets

Scale

Supervisor

N. Iinuma

12.03

LKS '94

TP

24

30

## Bore hole BL-5

X = 6172318.41

Y = 320520.87

Date: 01-02.07.03

Drilling method: percussion Ø 108 mm &amp; SPT-TD

Altitude, m = 1.60

Depth from the earth surface, m	Thickness of layer, m	Altitudes, m		Lithologic log	Soil classification according to BS 5930: 1981	Samples	SPT-TD test					Soil layer number	Geologic index
		Bottom of layer	Gr. water accured				10	20	36	40	50		
2.00	2.00	-0.40	0.10		Fill: slightly silty SAND, SPu: lightly grey, wet - saturated		0.55	1.00	1.55	2.00	2.55	1	<i>t IV</i>
3.00	1.00	-1.40			Slightly silty SAND, SPu-SPM: darkly grey, clayey, polyimictic, with organic matter, loose, saturated	●	2.55	3.00	3.55	4.00	4.60	7	
4.05	1.05	-2.45			Sandy SILT, MSO: brown, with organic matter, loose, saturated		4.00	4.60	5.05	5.65	6.10	3	
5.65	1.05	-4.05			Slightly silty SAND, SPu-SPM: darkly grey, clayey with organic matter, plant & shell detritus, loose, saturated		5.65	6.10	6.70	7.15	7.75	7	
8.05	2.40	-6.45			Slightly silty SAND, SPu-SPM: greenish grey with plant & shell detritus, medium dense, saturated, from -5.75 m-dense	●	6.70	7.15	7.75	8.20	8.45	8	<i>mIV</i>
9.90	1.85	-8.30			Slightly silty SAND, SPu-SPM: lightly grey with rare shell detritus, very dense, saturated	●	8.20	8.45	8.90	9.45	9.90	9	
11.75	1.85	-10.10			Gravelly SAND, SWG: lightly grey, very dense, saturated	●	9.90	10.50	10.95	11.60	12.05	10	
13.75	1.20	-12.15			Sandy SILT, MS: grey, hard	●	10.95	11.60	12.05	12.55	13.00	13	
14.65	0.90	-13.05			Sandy CLAY, CLS: brown, firm.	●	12.05	12.55	13.00	13.75	14.20	16	
18.25	1.09	-16.65			Sandy SILT, MS: grey, hard	●	14.20	14.50	14.95	15.55	16.00	17	
18.50	0.25	-16.90			Pebbles and boulders	●	15.55	16.00	16.55	17.00	17.50	16	<i>l III m</i>
20.00	1.50	-18.40			Sandy CLAY, CLSG: grey, morainic, hard with gravel and cobbles up to 5-7 %	●	16.00	16.55	17.00	17.50	17.95	15	
					Pebbles and boulders	●	17.50	17.95	18.50	18.95	19.55	20	<i>gIIIgr</i>
					Pebbles and boulders	●	18.50	18.95	19.55	20.00			

EXECUTOR

**"Geoprojektas"**

COMPLEX

STUDY FOR THE PORT DEVELOPMENT PROJECT  
IN THE REPUBLIC OF LITHUANIA

Position	Name	Signature	Date
Director	A. Slauteris		12.03
Chief geologist	N. Kuten		

OBJECT

KLAIPEDA STATE SEA PORT

CLIENT

**NIPPON KOEI**  
CONSULTING ENGINEERS

DRAWING

BORE HOLE BL-5 LOG

Supervisor	N. Iinuma		12.03	Co-ordinates	Stage	Sheet	Total sheets	Scale
				LKS '94	TP	25	30	

# Bore hole BL-6

X = 6171706.90  
Y = 320703.80  
Altitude, m = 3.80

Date: 09-10.07.03

Drilling method: percussion Ø 108 mm & SPT-TD

Depth from the earth surface, m	Thickness of layer, m	Altitudes, m		Lithologic log	Soil classification according to BS 5930: 1981	Samples	SPT-TD test					Soil layer number	Geologic index
		Bottom of layer	Gr. water accured				10	20	36	40	50		
2.00	2.00	1.80	1.60		Fill: Slightly silty SAND, SPu: lightly grey, wet-saturated		0.55					1	<i>t IV</i>
4.35	2.35	-0.55			Slightly silty SAND, SPu-SPM: from black, brown grey to light grey, clayey, polimictic - oligomictic with organic matter, plant & shell detritus, rare gravel, enclosures of GYTIIJA, dense, saturated		2.65					9	<i>m IV</i>
5.00	0.65	-1.20			Sandy SILT, MSO: brown, with organic matter, saturated		3.10					4	
6.00	1.00	-2.20			Slightly silty SAND, SPu-SPM: dense, saturated.		4.55					9	
8.60	2.60	-4.80			Slightly silty SAND, SPu-SPM: from black, brown grey to light grey, clayey, polimictic - oligomictic with plant & shell detritus, rare gravel, dense, saturated		5.55					8	
14.10	5.50	-10.30			Slightly silty SAND, SPu-SPM: from black, brown grey to light grey, clayey, polimictic - oligomictic with plant & shell detritus, rare gravel, very dense, saturated		6.00					10	<i>gIIIgr</i>
16.70	2.60	-12.90			Sandy CLAY, CLSG: grey - brown grey, morainic, firm, with gravel & cobbles, from 5-7 up to 10 %		6.75					19	
17.00	0.30	-13.20			Slightly silty SAND, SPu-SPM: medium dense, saturated.		7.20					8	
19.20	2.20	-15.40			Sandy CLAY, CLSG: grey - brown grey, morainic, firm with gravel & cobbles, from 5-7 up to 10 %		7.60					19	
20.00	0.80	-16.20			Sandy CLAY, CLSG: grey - brown grey, morainic, hard with gravel & cobbles, from 5-7 up to 10 %		8.05					20	

EXECUTOR

**"Geoprojektas"**



COMPLEX

STUDY FOR THE PORT DEVELOPMENT PROJECT  
IN THE REPUBLIC OF LITHUANIA

Position

Name

Signature

Date

Director

A. Slauteris

12.03

Chief geologist

N. Kuten

OBJECT

KLAIPEDA STATE SEA PORT

CLIENT

**NIPPON KOEI**  
CONSULTING ENGINEERS



DRAWING

BORE HOLE BL-6 LOG

Co-ordinates

Stage

Sheet

Total sheets

Scale

Supervisor

N. Iinuma

12.03

LKS '94

TP

26

30

## Bore hole BL-7

X = 6171109.36

Y = 320856.55

Altitude, m = 3.40

Date: 29-30.06.03

Drilling method: percussion Ø 108 mm &amp; SPT-TD

Depth from the earth surface, m	Thickness of layer, m	Altitudes, m		Lithologic log	Soil classification according to BS 5930: 1981	Samples	SPT-TD test					Soil layer number	Geologic index
		Bottom of layer	Gr. water accured				10	20	30	40	50		
					Fill: slightly silty SAND, SPu: lightly grey, wet - saturated		0.55					1	<i>t IV</i>
2.15	2.15	1.25					1.00						
							1.55						
							2.00						
3.00	0.85	0.40	0.43		Slightly silty SAND, SPu-SPM: darkly grey, clayey, polyimictic with organic matter, very dense, saturated		2.55					10	
3.75	0.75	-0.35			Slightly silty SAND, SPu-SPM: darkly grey, clayey, polyimictic with organic matter, medium dense, saturated		3.00					8	
4.65	0.90	-1.25			Sandy SILT, MSO: brown with organic matter, medium dense, saturated		3.75					4	
							4.20						
5.95	1.30	-2.55			Slightly silty SAND, SPu-SPM: darkly grey, clayey, polyimictic with organic matter, medium dense, saturated		4.65					8	<i>m IV</i>
							4.90						
7.00	1.05	-3.60			Slightly silty SAND, SPu-SPM: darkly grey, clayey, polyimictic with organic matter, dense, saturated		5.25					9	
7.55	0.55	-4.15			Gravelly SAND, SWG: brown grey, dense, saturated		5.95						
							6.40						
							6.65						
							6.90						
							7.00					12	
							7.65						
							8.10					9	
							8.45						
							8.90						
							9.60						
							10.05						
							10.40						
							10.85						
							11.55						
							12.00						
							12.80						
							13.25						
							14.10						
							14.55						
							15.00						
							15.65						
16.95	1.15	-13.55			Sandy SILT, MS: greenish grey - grey, uniform, hard, compacted with rare interlayers (some cm in thickness) of CLAY, grey, hard		16.10					16	<i>l III m</i>
							16.50						
							16.95						
							17.60						
							18.05					19	<i>g III gr</i>
19.05	2.10	-15.65			Sandy CLAY, CLSG: grey, morainic, firm with gravel and cobbles up to 5-7 %		18.90						
							19.35						
							19.55						
20.00	0.95	-16.60			Sandy CLAY, CLSG: grey, morainic, hard with gravel and cobbles up to 5-7 %		20.00					20	

EXECUTOR

**"Geoprojektas"**

COMPLEX

STUDY FOR THE PORT DEVELOPMENT PROJECT  
IN THE REPUBLIC OF LITHUANIA

Position	Name	Signature	Date
Director	A. Slauteris		12.03
Chief geologist	N. Kuten		

OBJECT

KLAIPEDA STATE SEA PORT

CLIENT

**NIPPON KOEI**  
CONSULTING ENGINEERS

DRAWING

BORE HOLE BL-7 LOG

Supervisor	N. Iinuma		12.03	Co-ordinates	Stage	Sheet	Total sheets	Scale
				LKS '94	TP	27	30	





# Bore hole BL-8

X = 6175644.19  
Y = 322019.17  
Altitude, m = 0.12 m

Date: 8-9.07.03

Drilling method:  
percussion Ø 108 mm & SPT-TD

Depth from the earth surface, m	Thickness of layer, m	Altitudes, m		Lithologic log	Soil classification according to BS 5930: 1981	Samples	SPT-TD test	Soil layer number	Geologic index
		Bottom of layer	Gr. water accured						
			+0.00		Fill: slightly silty SAND, SPu: lightly grey, wet - saturated			1	<i>t IV'</i>
0.74	7.40	-0.62			Slightly silty SAND, SPu-SPM: darkly grey, clayey, polymictic with organic matter, loose, saturated	●		7	
1.50	0.76	-1.38			Sandy SILT, MSO: brown with organic matter, loose, saturated			3	
3.42	1.92	-3.30			Slightly silty SAND, SPu-SPM: darkly grey, clayey, polymictic with organic matter, loose, saturated	●		7	
5.60	2.18	-5.48			Slightly silty SAND, SPu-SPM: darkly grey, clayey, polymictic with organic matter, medium dense, saturated	●		8	<i>m IV'</i>
8.40	2.80	-8.28			Sandy SILT, MSO: brown with organic matter, loose, saturated			3	
8.90	0.50	-8.78			Gravelly SAND, SWG: brown grey, very dense, saturated	●		13	
10.70	1.80	-10.58			Sandy SILT, MS: grey, uniform, hard	●		16	<i>IIIInm</i>
13.50	2.80	-13.38			Sandy CLAY, CLSG: grey, morainic, firm with gravel and cobbles up to 5-7 %	●		19	<i>g III gr</i>
16.90	3.40	-16.78			Very silty SAND, SWM: grey, uniform, very dense.	●		5	<i>IIIpm</i>
19.80	2.90	-19.68							

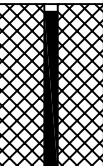


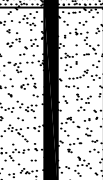

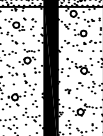
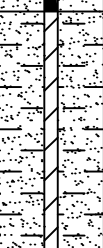

EXECUTOR				COMPLEX				
<b>"Geoprojektas"</b> 				STUDY FOR THE PORT DEVELOPMENT PROJECT IN THE REPUBLIC OF LITHUANIA				
Position	Name	Signature	Date	OBJECT				
Director	A. Slauteris		12.03					
Chief geologist	N. Kuten							
CLIENT				DRAWING				
<b>NIPPON KOEI</b>  CONSULTING ENGINEERS				BORE HOLE BL-8 LOG				
Co-ordinates		Stage		Sheet		Total sheets		Scale
Supervisor		N. Iinuma		LKS '94		TP		28 30



# Bore hole BL-9

Date: 16-17.07.03

Drilling method:  
percussion Ø 108 mm & SPT-TD

X = 6175622.52  
Y = 320228.47  
Altitude, m = 1.13 m

Depth from the earth surface, m	Thickness of layer, m	Altitudes, m		Lithologic log	Soil classification according to BS 5930: 1981	Samples	SPT-TD test	Soil layer number	Geologic index
		Bottom of layer	Gr. water accured						
			+0.00		Fill: slightly silty SAND, SPu: lightly grey, wet - saturated	●		1	<i>t IV</i>
2.50	2.50	-1.37							
3.05	0.55	-1.92			Slightly silty SAND, SPu-SPM: darkly grey, clayey, polyimetic, with organic matter, loose, saturated	●		7	
					Sandy SILT, MSO: brown, with organic matter, loose	●		3	
4.90	1.85	-3.77							
					Slightly silty SAND, SPu-SPM: darkly grey, clayey, polyimetic, with organic matter, loose, saturated	●		7	<i>m IV</i>
7.60	2.70	-6.47							
					Sandy SILT, MSO: brown, with organic matter, loose.	●		3	
11.30	3.70	-10.17							
					Gravelly SAND, SWG: brown grey, very dense	●		13	
13.40	2.10	-12.27							
					Sandy CLAY, CLSG: grey, morainic, firm with gravel and cobbles up to 5-7 %	●		19	<i>g III gr</i>
17.10	3.70	-15.97							
17.40	0.30	-16.27			Cobbles & boulders			15	

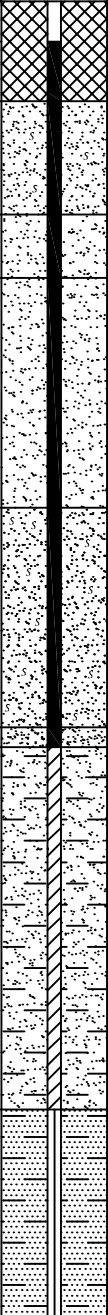
EXECUTOR <b>"Geoprojektas"</b> 				COMPLEX STUDY FOR THE PORT DEVELOPMENT PROJECT IN THE REPUBLIC OF LITHUANIA					
Position	Name	Signature	Date	OBJECT KLAIPEDA STATE SEA PORT					
Director	A. Slauteris		12.03						
Chief geologist	N. Kuten								
CLIENT <b>NIPPON KOEI</b> <u>CONSULTING ENGINEERS</u> 				DRAWING BORE HOLE BL-9 LOG					
Supervisor		N. Iinuma		12.03	Co-ordinates	Stage	Sheet	Total sheets	Scale
					LKS '94	TP	29	30	



# Bore hole BL-10

Date: 24-25.07.03

Drilling method:  
percussion Ø 108 mm & SPT-TD

X = 6175609.63  
Y = 322028.90  
Altitude, m = 0.75 m

Depth from the earth surface, m	Thickness of layer, m	Altitudes, m		Lithologic log	Soil classification according to BS 5930: 1981	Samples	SPT-TD test	Soil layer number	Geologic index
		Bottom of layer	Gr. water accured						
			+0.15		Fill: slightly silty SAND, SPu: lightly grey, wet - saturated			1	<i>t IV</i>
1.50	1.50	-0.75			Sandy SILT, MSO: brown with organic matter, loose	●		3	<i>m IV</i>
3.20	1.70	-2.45			Slightly silty SAND, SPu-SPM: darkly grey, clayey, polyimictic with organic matter, medium dense, saturated			8	
4.15	0.95	-3.40			Slightly silty SAND, SPu-SPM: darkly grey, clayey, polyimictic with organic matter, loose, saturated	●		7	
7.60	3.45	-6.85			Sandy SILT, MSO: brown with organic matter, loose	●		3	
10.90	3.30	-10.15			Gravelly SAND, SWG: brown grey, very dense			13	
11.20	0.30	-10.45			Sandy CLAY, CLSG: grey, morainic, firm with gravel and cobbles up to 5-7 %			19	<i>g III gr</i>
16.64	5.44	-15.89			Sandy CLAY, CLSG: grey, morainic, hard with gravel and cobbles up to 5-7 %	●		20	
19.80	3.16	-19.05							

EXECUTOR				COMPLEX				
<b>"Geoprojektas"</b> 				STUDY FOR THE PORT DEVELOPMENT PROJECT IN THE REPUBLIC OF LITHUANIA				
Position	Name	Signature	Date	OBJECT				
Director	A. Slauteris		12.03					
Chief geologist	N. Kuten							
CLIENT				DRAWING				
<b>NIPPON KOEI</b> CONSULTING ENGINEERS 				BORE HOLE BL-10 LOG				
Co-ordinates		Stage		Sheet		Total sheets		Scale
Supervisor		N. Iinuma		LKS '94		TP		30
								30