
**IZOK PROJECT FEASIBILITY STUDY
MINE SITE GEOTECHNICAL INVESTIGATION**

SUBMITTED TO:

**Metall Mining Corp.
Edmonton, Alberta
and
Bechtel/CESL Joint Venture
Vancouver, B.C.**

PREPARED BY:

**EBA Engineering Consultants Ltd.
Edmonton, Alberta**

0101-11157

November, 1993



1006629



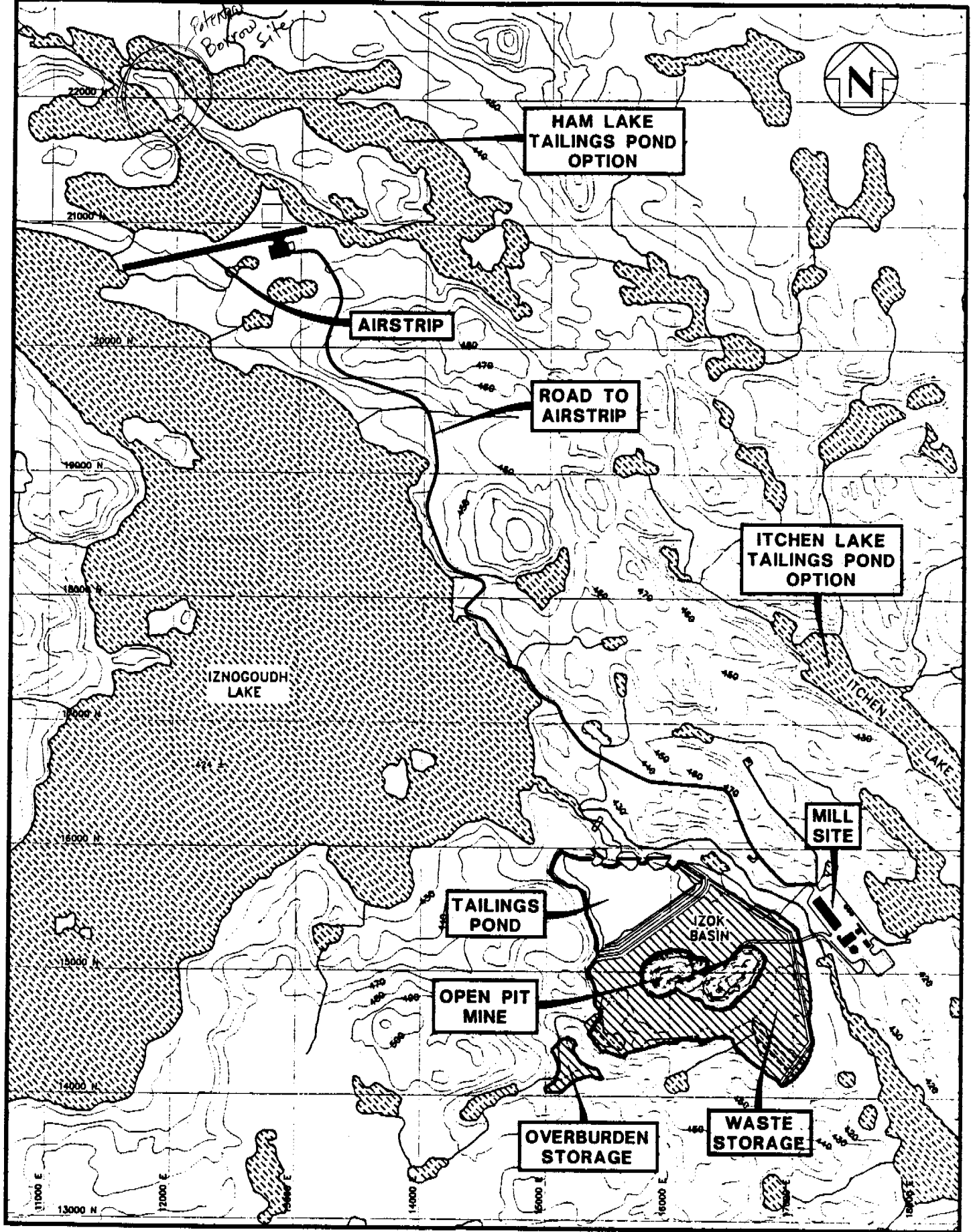


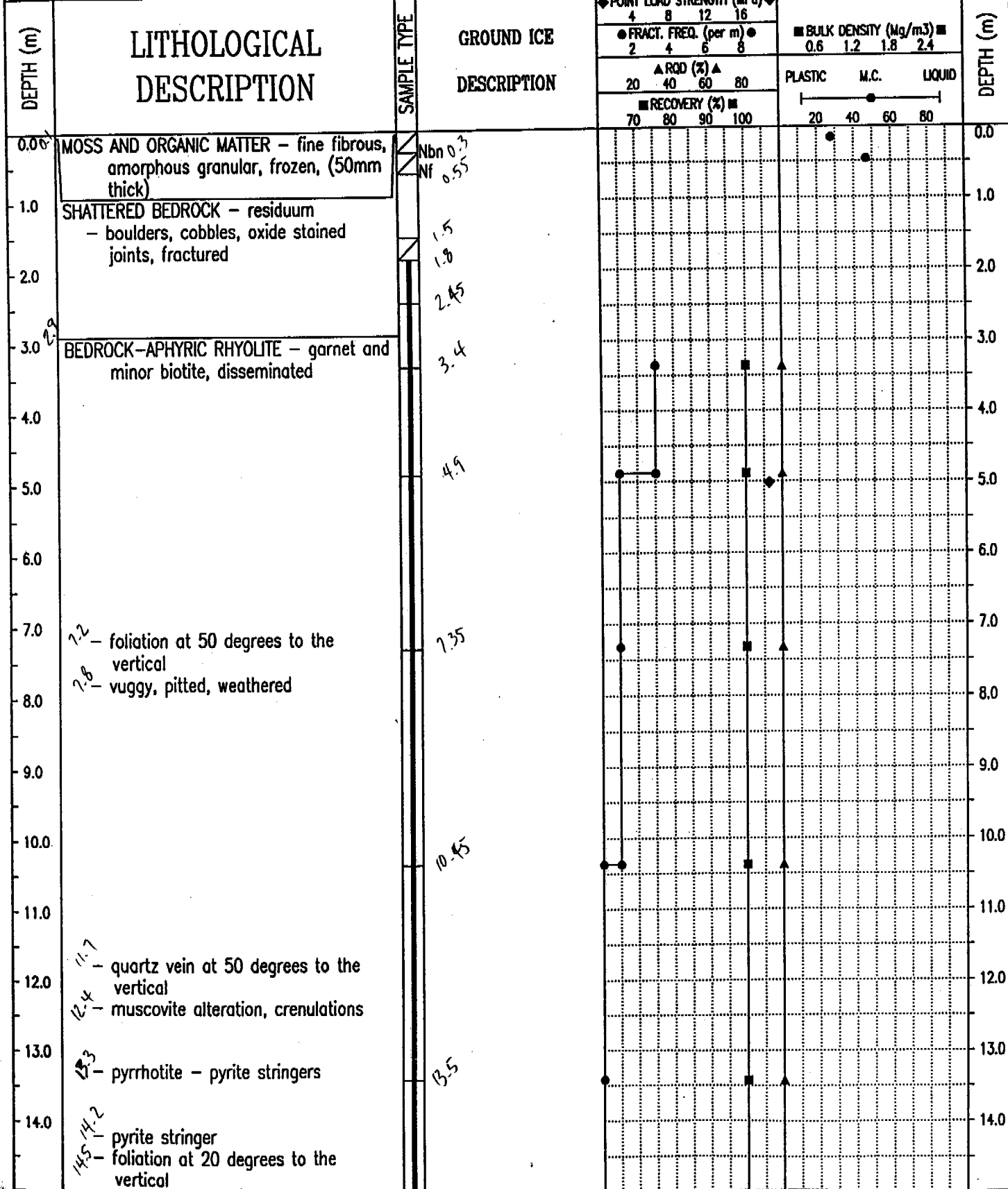
FIGURE 3

METALL MINING CORPORATION
 IZOK PROJECT
 PLANT SITE - AIRSTRIP

APPENDIX B
BOREHOLE LOGS

29 logs

PROJECT: IZOK PROJECT FEASIBILITY STUDY	CLIENT: MINNOVA INC.	BOREHOLE No: 11157-01
MINE/PLANT/TAILINGS SITE INVESTIGATION	DRILL: LONGYEAR 38 DIAMOND DRILL	Project No: 0101-11157
CSB-SOUTH END	UMA COORDINATES: E17500.592; N15200.429	ELEVATION: 427.800 (m)



EBA ENGINEERING CONSULTANTS LTD.
EDMONTON, ALBERTA

LOGGED BY: RJM	COMPLETION DEPTH: 20.0 m
REVIEWED BY: DWH	COMPLETE: 93/03/24
Fig. No: 11157-01	Page 1 of 2

PROJECT: IZOK PROJECT FEASIBILITY STUDY	CLIENT: MINNOVA INC.	BOREHOLE No: 11157-01
MINE/PLANT/TAILINGS SITE INVESTIGATION	DRILL: LONGYEAR 38 DIAMOND DRILL	Project No: 0101-11157
CSB-SOUTH END	UMA COORDINATES: E17500.592; N15200.429	ELEVATION: 427.800 (m)

SAMPLE TYPE SHELBY TUBE DISTURBED SPT NO RECOVERY CORE

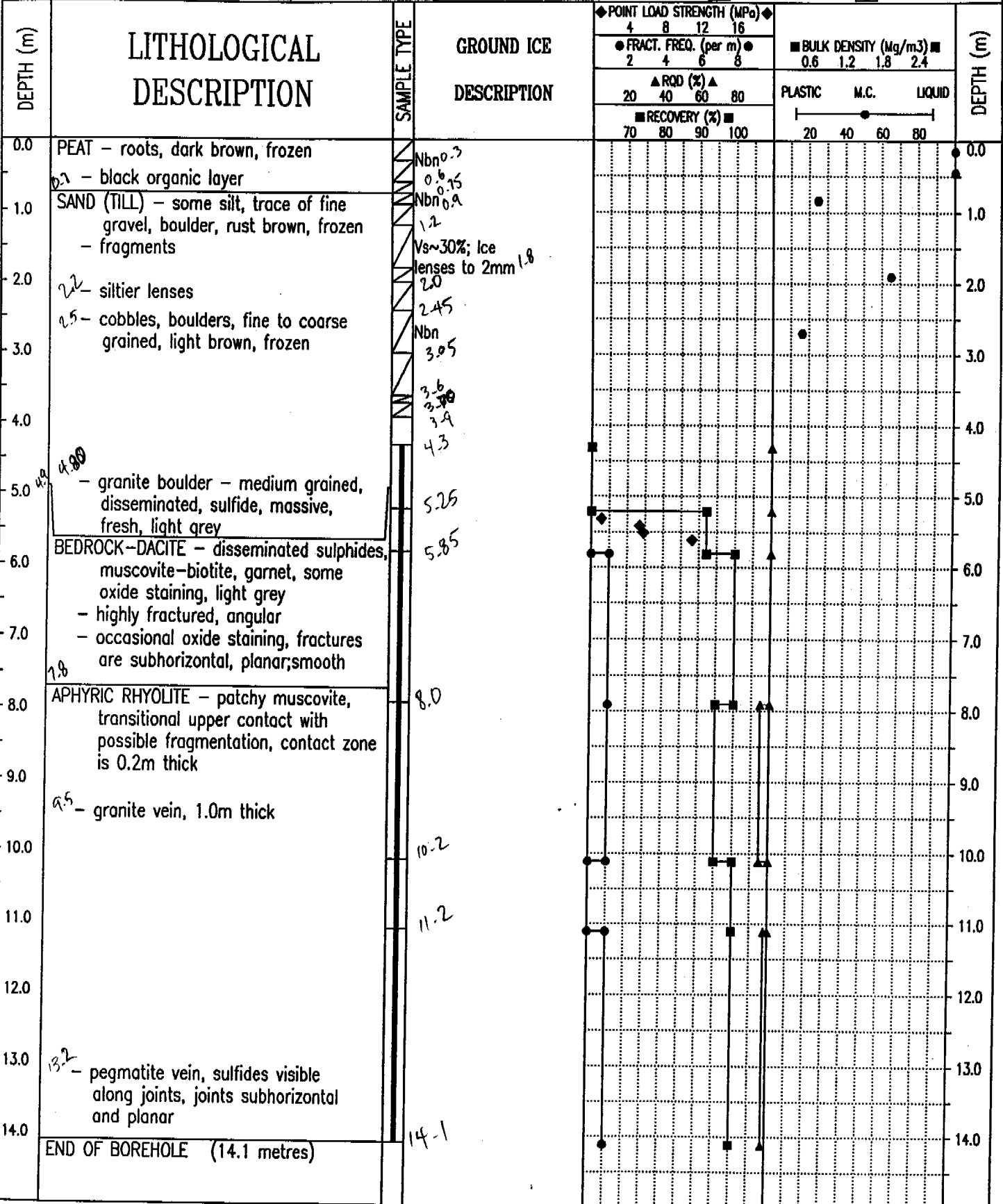
DEPTH (m)	LITHOLOGICAL DESCRIPTION	SAMPLE TYPE	GROUND ICE DESCRIPTION	POINT LOAD STRENGTH (MPa)		BULK DENSITY (Mg/m ³)		DEPTH (m)	
				4 8 12 16	2 4 6 8	0.6 1.2 1.8 2.4			
				▲ ROD (%) ▲		PLASTIC M.C. LIQUID			
				■ RECOVERY (%) ■		20 40 60 80			
				70 80 90 100					
15.0	BEDROCK-APHYRIC RHYOLITE - (continued)								15.0
16.0	15.9 - foliation is vertical								16.0
17.0									17.0
18.0	17.5 - granite, 0.1m thick, contacts at 20 degrees to the vertical								18.0
18.0	18.2 - pyrrhotite stringers								18.0
18.0	18.4 - quartz stringers, muscovite alterations								18.0
19.0	19.1 - pyrrhotite - pyrite stringers								19.0
20.0	19.8 - spherulitic texture and amygdules								20.0
20.0	END OF BOREHOLE (20.0 metres) Thermistor #905 installed at completion								20.0
21.0									21.0
22.0									22.0
23.0									23.0
24.0									24.0
25.0									25.0
26.0									26.0
27.0									27.0
28.0									28.0
29.0									29.0

EBA ENGINEERING CONSULTANTS LTD.
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LOGGED BY: RJM	COMPLETION DEPTH: 20.0 m
REVIEWED BY: DWH	COMPLETE: 93/03/24
Fig. No: 11157-01	Page 2 of 2

PROJECT: IZOK PROJECT FEASIBILITY STUDY	CLIENT: MINNOVA INC.	BOREHOLE No: 11157-02
MINE/PLANT/TAILINGS SITE INVESTIGATION	DRILL: LONGYEAR 38 DIAMOND DRILL	Project No: 0101-11157
CSB-NORTH END	UMA COORDINATES: E17350.583; N15349.985	ELEVATION: 427.100 (m)

SAMPLE TYPE SHELBY TUBE DISTURBED SPT NO RECOVERY CORE

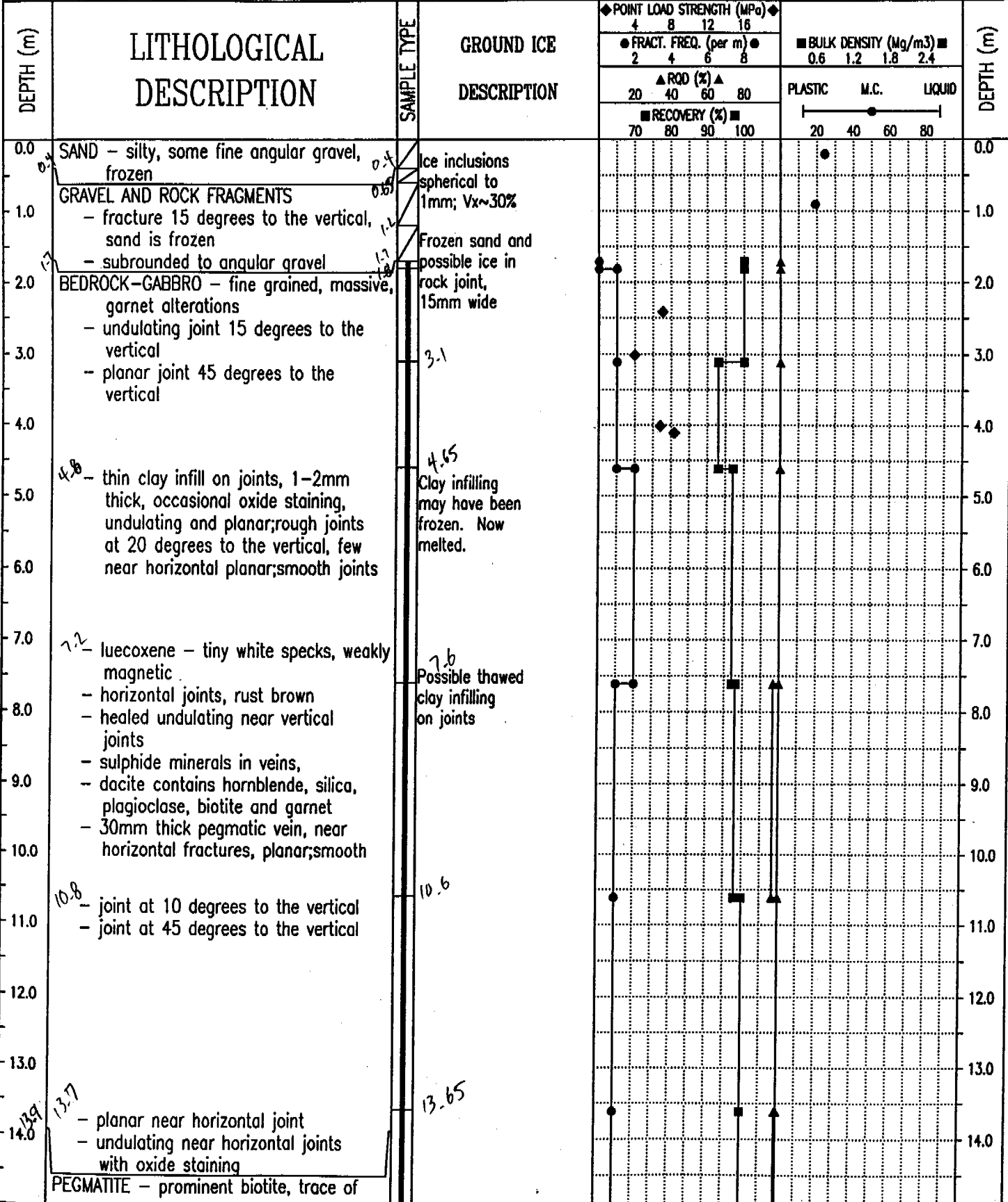


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LOGGED BY: JWC	COMPLETION DEPTH: 14.1 m
REVIEWED BY: DWH	COMPLETE: 93/03/26
Fig. No: 11157-02	Page 1 of 1

PROJECT: IZOK PROJECT FEASIBILITY STUDY	CLIENT: MINNOVA INC.	BOREHOLE No: 11157-03
MINE/PLANT/TAILINGS SITE INVESTIGATION	DRILL: LONGYEAR 38 DIAMOND DRILL	Project No: 0101-11157
CSB-CENTER	UMA COORDINATES: E17436.865; N15294.875	ELEVATION: 431.000 (m)

SAMPLE TYPE SHELBY TUBE DISTURBED SPT NO RECOVERY CORE



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LOGGED BY: JWC
REVIEWED BY: DWH
Fig. No: 11157-03

COMPLETION DEPTH: 15.1 m
COMPLETE: 93/03/27

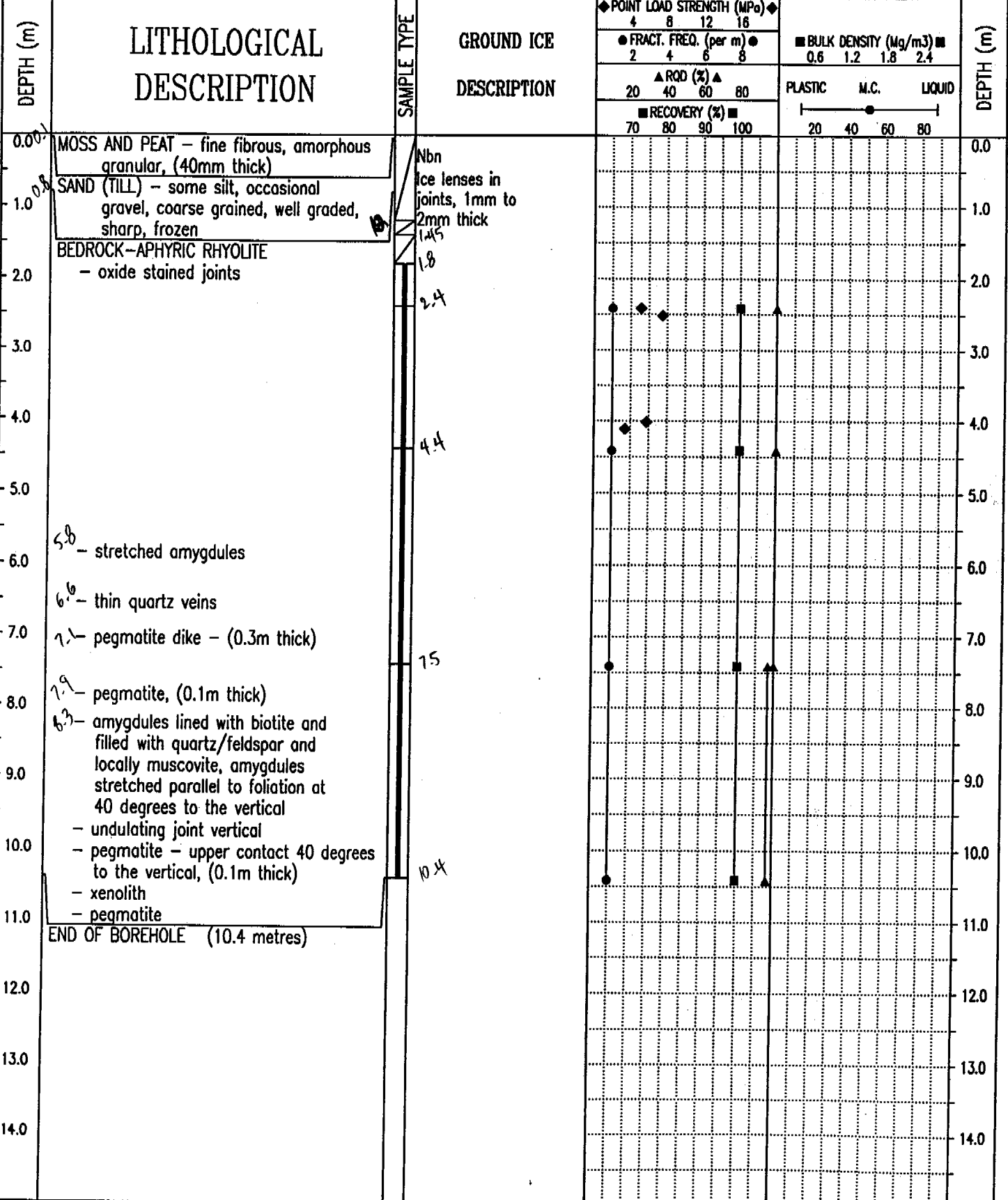
PROJECT: IZOK PROJECT FEASIBILITY STUDY	CLIENT: MINNOVA INC.	BOREHOLE No: 11157-03
MINE/PLANT/TAILINGS SITE INVESTIGATION	DRILL: LONGYEAR 38 DIAMOND DRILL	Project No: 0101-11157
CSB-CENTER	UMA COORDINATES: E17436.865; N15294.875	ELEVATION: 431.000 (m)
SAMPLE TYPE	<input type="checkbox"/> SHELBY TUBE <input checked="" type="checkbox"/> DISTURBED <input checked="" type="checkbox"/> SPT	<input type="checkbox"/> NO RECOVERY <input type="checkbox"/> CORE

DEPTH (m)	LITHOLOGICAL DESCRIPTION	SAMPLE TYPE	GROUND ICE DESCRIPTION	POINT LOAD STRENGTH (MPa)		BULK DENSITY (Mg/m ³)		PLASTIC	M.C.	LIQUID	DEPTH (m)	
				4	8	0.6	1.2					
15.0	sulfides, sharp upper contact at 30 degrees to the vertical, extremely coarse grained, mottled white to light grey END OF BOREHOLE (15.1 metres)			● FRACT. FREQ. (per m) ●		▲ ROD (%) ▲		■ RECOVERY (%) ■				
16.0				2	4	6	8	20	40	60	80	70
17.0												
18.0												
19.0												
20.0												
21.0												
22.0												
23.0												
24.0												
25.0												
26.0												
27.0												
28.0												
29.0												

EBA ENGINEERING CONSULTANTS LTD. EDMONTON, ALBERTA	LOGGED BY: JWC	COMPLETION DEPTH: 15.1 m
	REVIEWED BY: DWH	COMPLETE: 93/03/27
	Fig. No: 11157-03	Page 2 of 2

PROJECT: IZOK PROJECT FEASIBILITY STUDY	CLIENT: MINNOVA INC.	BOREHOLE No: 11157-04
MINE/PLANT/TAILINGS SITE INVESTIGATION	DRILL: LONGYEAR 38 DIAMOND DRILL	Project No: 0101-11157
MILL BUILDING	UMA COORDINATES: E17270.638; N15535.909	ELEVATION: 428.100 (m)

SAMPLE TYPE SHELBY TUBE DISTURBED SPT NO RECOVERY CORE

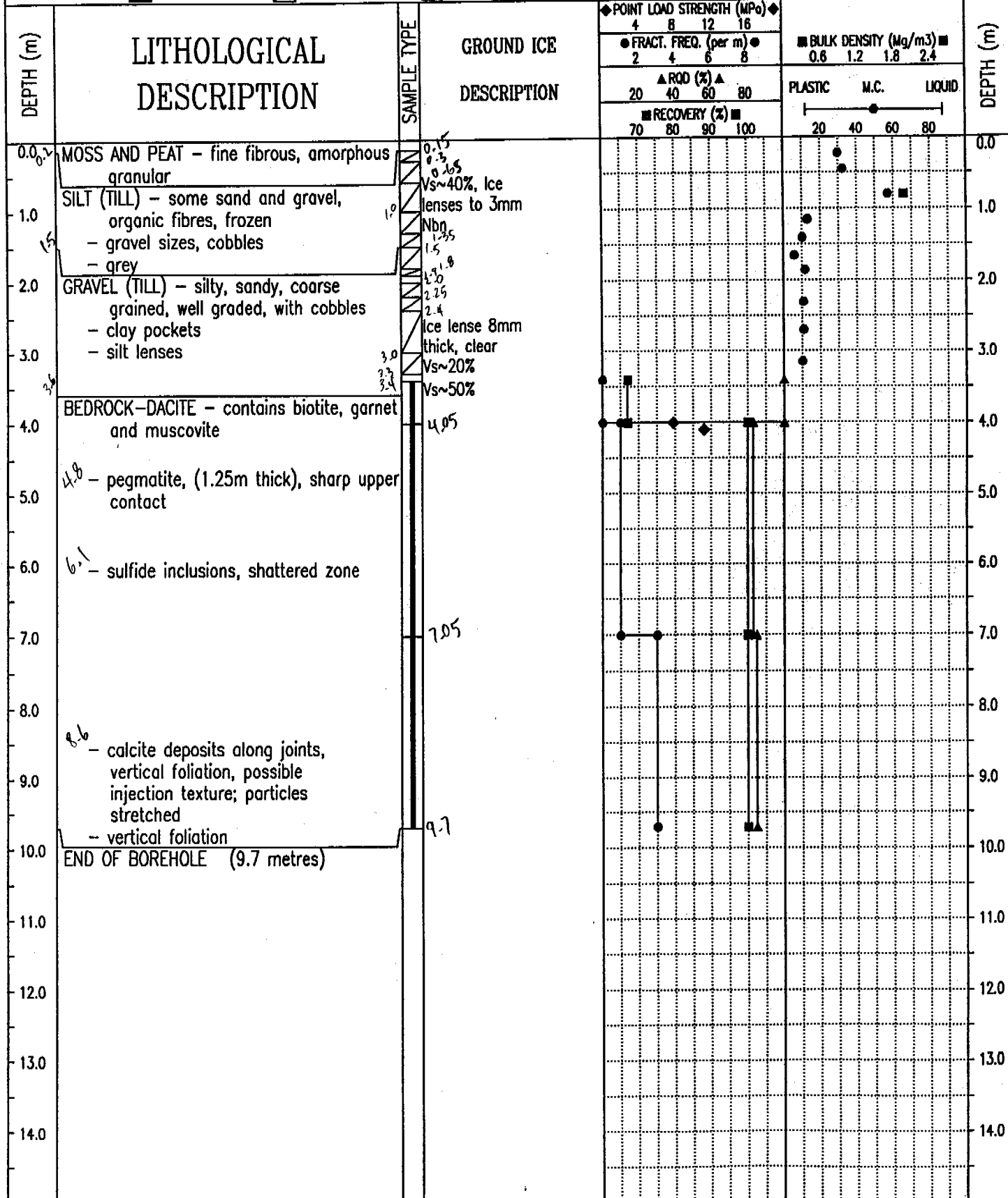


EBA ENGINEERING CONSULTANTS LTD.
EDMONTON, ALBERTA

LOGGED BY: RJM	COMPLETION DEPTH: 10.4 m
REVIEWED BY: DWH	COMPLETE: 93/03/25
Fig. No: 11157-04	Page 1 of 1

PROJECT: IZOK PROJECT FEASIBILITY STUDY	CLIENT: MINNOVA INC.	BOREHOLE NO: 11157-05
MINE/PLANT/TAILINGS SITE INVESTIGATION	DRILL: LONGYEAR 38 DIAMOND DRILL	Project No: 0101-11157
SOUTH OF ACCOMODATIONS	UMA COORDINATES: E17365.029; N15572.896	ELEVATION: 430.900 (m)

SAMPLE TYPE SHELBY TUBE DISTURBED SPT NO RECOVERY CORE

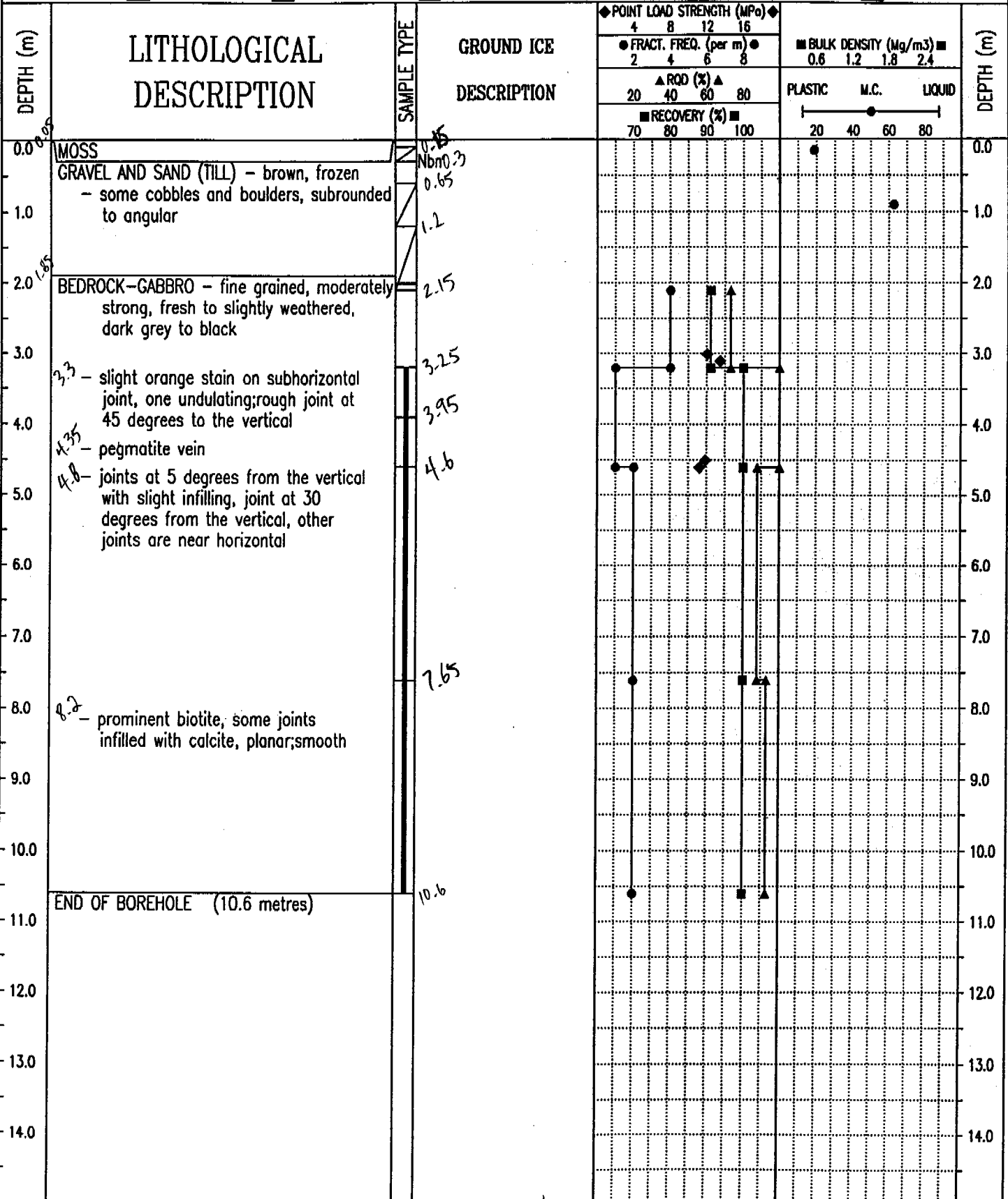


EBA ENGINEERING CONSULTANTS LTD.
EDMONTON, ALBERTA

LOGGED BY: RJM	COMPLETION DEPTH: 9.7 m
REVIEWED BY: DWH	COMPLETE: 93/03/27
Fig. No: 11157-05	Page 1 of 1

PROJECT: IZOK PROJECT FEASIBILITY STUDY	CLIENT: MINNOVA INC.	BOREHOLE NO: 11157-06
MINE/PLANT/TAILINGS SITE INVESTIGATION	DRILL: LONGYEAR 38 DIAMOND DRILL	Project No: 0101-11157
WAREHOUSE AND OFFICE	UMA COORDINATES: E17150.043; N15620.753	ELEVATION: 425.000 (m)

SAMPLE TYPE SHELBY TUBE DISTURBED SPT NO RECOVERY CORE

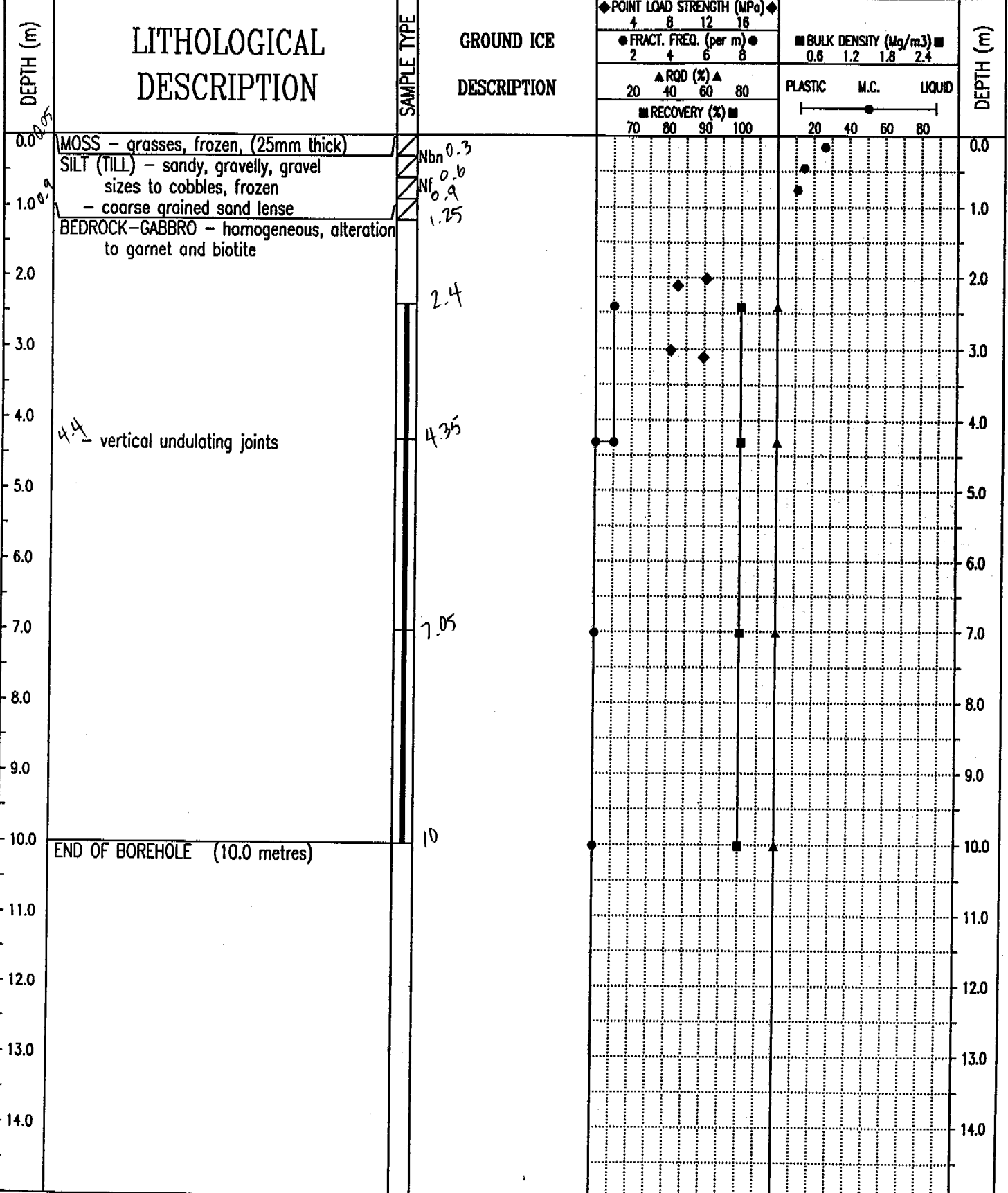


EBA ENGINEERING CONSULTANTS LTD.
EDMONTON, ALBERTA

LOGGED BY: JWC	COMPLETION DEPTH: 10.6 m
REVIEWED BY: DWH	COMPLETE: 93/03/25
Fig. No: 11157-06	Page 1 of 1

PROJECT: IZOK PROJECT FEASIBILITY STUDY	CLIENT: MINNOVA INC.	BOREHOLE No: 11157-07
MINE/PLANT/TAILINGS SITE INVESTIGATION	DRILL: LONGYEAR 38 DIAMOND DRILL	Project No: 0101-11157
SOUTHWEST OF MILL BUILDING	UMA COORDINATES: E17250.879; N15426.088	ELEVATION: 426.700 (m)

SAMPLE TYPE SHELBY TUBE DISTURBED SPT NO RECOVERY CORE



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EDMONTON, ALBERTA

LOGGED BY: RJM	COMPLETION DEPTH: 10.0 m
REVIEWED BY: DWH	COMPLETE: 93/03/26
Fig. No: 11157-07	Page 1 of 1

PROJECT: IZOK PROJECT FEASIBILITY STUDY	CLIENT: MINNOVA INC.	BOREHOLE No: 11157-08
MINE/PLANT/TAILINGS SITE INVESTIGATION	DRILL: LONGYEAR 38 DIAMOND DRILL	Project No: 0101-11157
TANK FARM	UMA COORDINATES: E17415.453; N15471.268	ELEVATION: 430.500 (m)

SAMPLE TYPE SHELBY TUBE DISTURBED SPT NO RECOVERY CORE

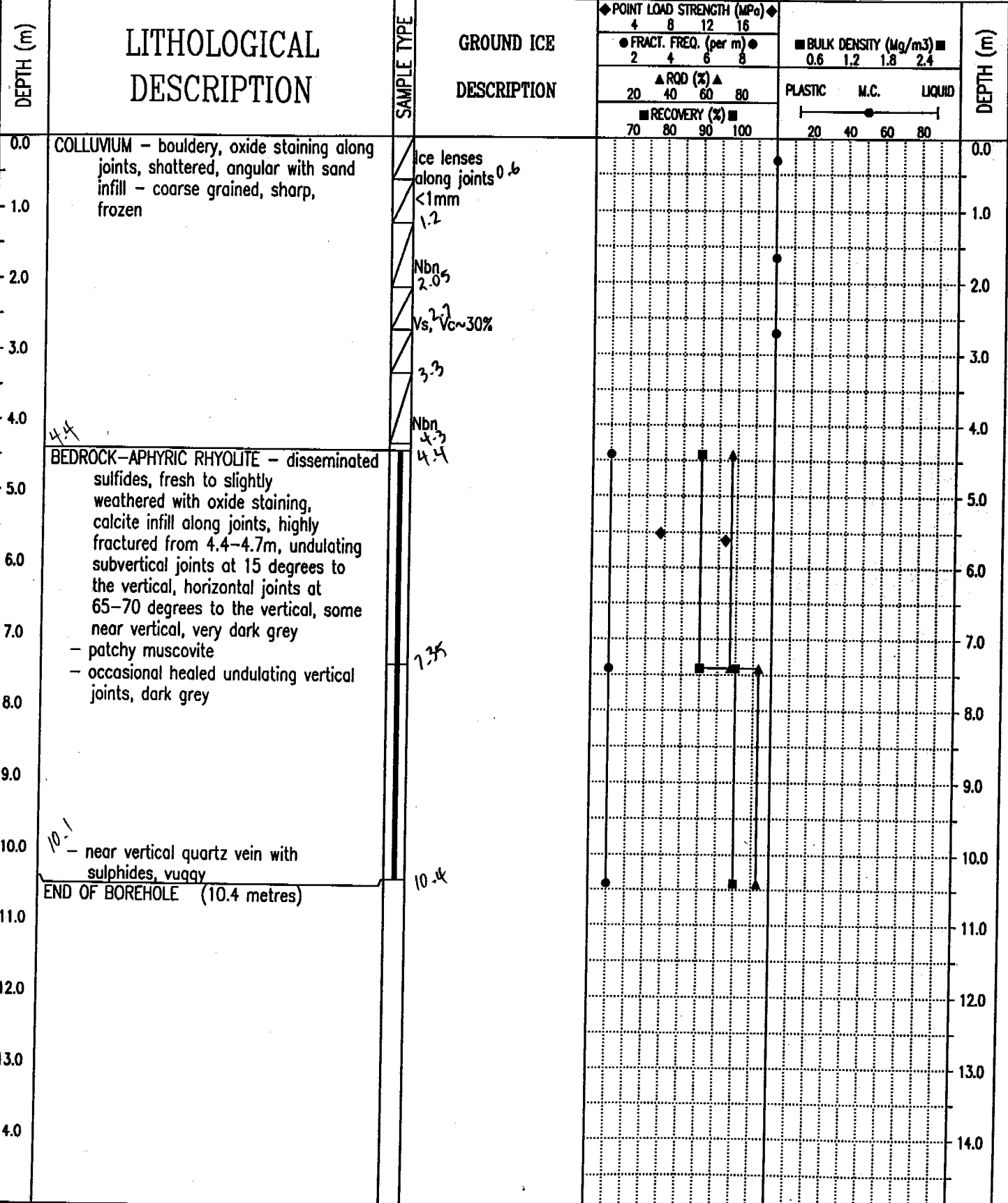
DEPTH (m)	LITHOLOGICAL DESCRIPTION	SAMPLE TYPE	GROUND ICE DESCRIPTION	POINT LOAD STRENGTH (MPa)		BULK DENSITY (Mg/m ³)				DEPTH (m)		
				FRACT. FREQ. (per m)		RECOVERY (%)						
				RQD (%)		PLASTIC		M.C.			LIQUID	
				RECOVERY (%)								
0.0	COLLUVIUM - gravel, cobbles and boulders, subrounded to angular, loose - stratified with coarse grained sands, angular to rounded									0.0		
1.0										1.0		
2.0	stratified layers to 500mm		2.0								2.0	
3.0			3.0								3.0	
4.0	sand layers		4.0								4.0	
5.0	BEDROCK	5.5								5.0		
5.5	END OF BOREHOLE (5.5 metres)									5.5		
6.0										6.0		
7.0										7.0		
8.0										8.0		
9.0										9.0		
10.0										10.0		
11.0										11.0		
12.0										12.0		
13.0										13.0		
14.0										14.0		

EBA ENGINEERING CONSULTANTS LTD.
EDMONTON, ALBERTA

LOGGED BY: RJM	COMPLETION DEPTH: 5.5 m
REVIEWED BY: DWH	COMPLETE: 93/03/25
Fig. No: 11157-08	Page 1 of 1

PROJECT: IZOK PROJECT FEASIBILITY STUDY	CLIENT: MINNOVA INC.	BOREHOLE No: 11157-09
MINE/PLANT/TAILINGS SITE INVESTIGATION	DRILL: LONGYEAR 38 DIAMOND DRILL	Project No: 0101-11157
ACCOMODATIONS BUILDING	UMA COORDINATES: E17340.176; N15645.565	ELEVATION: 432.100 (m)

SAMPLE TYPE SHELBY TUBE DISTURBED SPT NO RECOVERY CORE

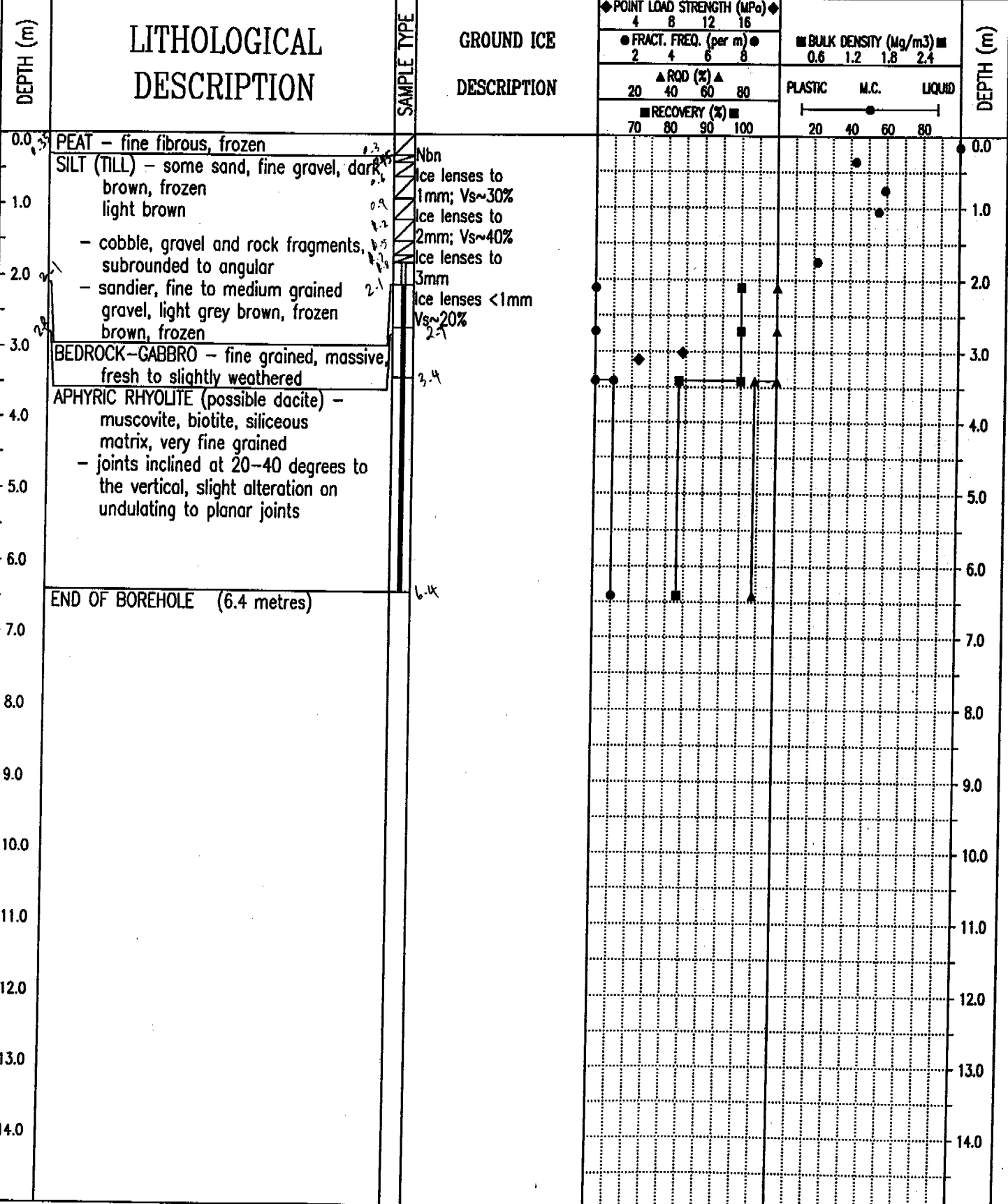


EBA ENGINEERING CONSULTANTS LTD.
EDMONTON, ALBERTA

LOGGED BY: RJM JWC	COMPLETION DEPTH: 10.4 m
REVIEWED BY: DWH	COMPLETE: 93/03/25
Fig. No: 11157-09	Page 1 of 1

PROJECT: IZOK PROJECT FEASIBILITY STUDY	CLIENT: MINNOVA INC.	BOREHOLE No: 11157-10
MINE/PLANT/TAILINGS SITE INVESTIGATION	DRILL: LONGYEAR 38 DIAMOND DRILL	Project No: 0101-11157
LAYDOWN YARD	UMA COORDINATES: E17574.263; N15295.788	ELEVATION: 430.600 (m)

SAMPLE TYPE SHELBY TUBE DISTURBED SPT NO RECOVERY CORE

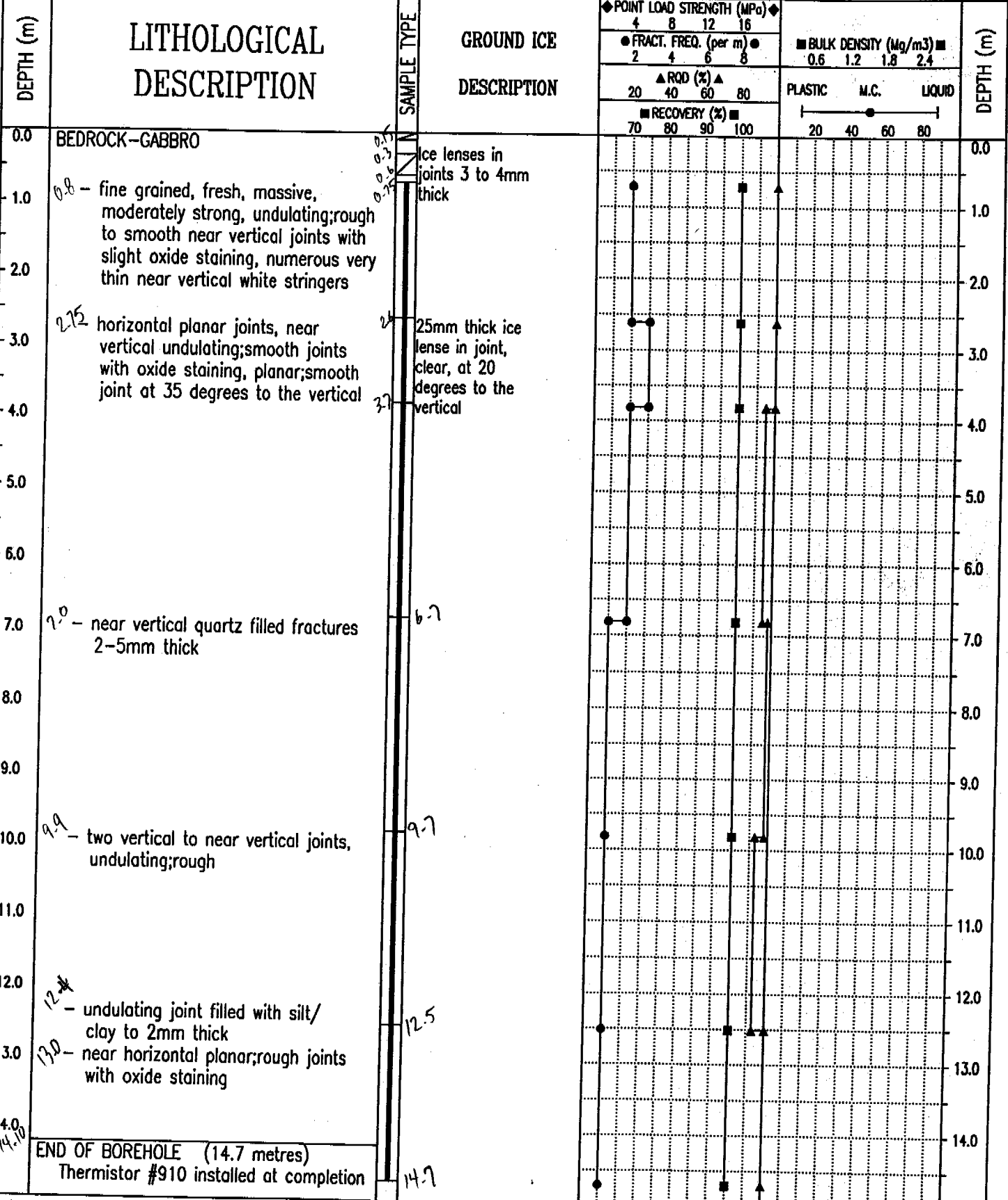


EBA ENGINEERING CONSULTANTS LTD.
EDMONTON, ALBERTA

LOGGED BY: JWC	COMPLETION DEPTH: 6.4 m
REVIEWED BY: DWH	COMPLETE: 93/03/27
Fig. No: 11157-10	Page 1 of 1

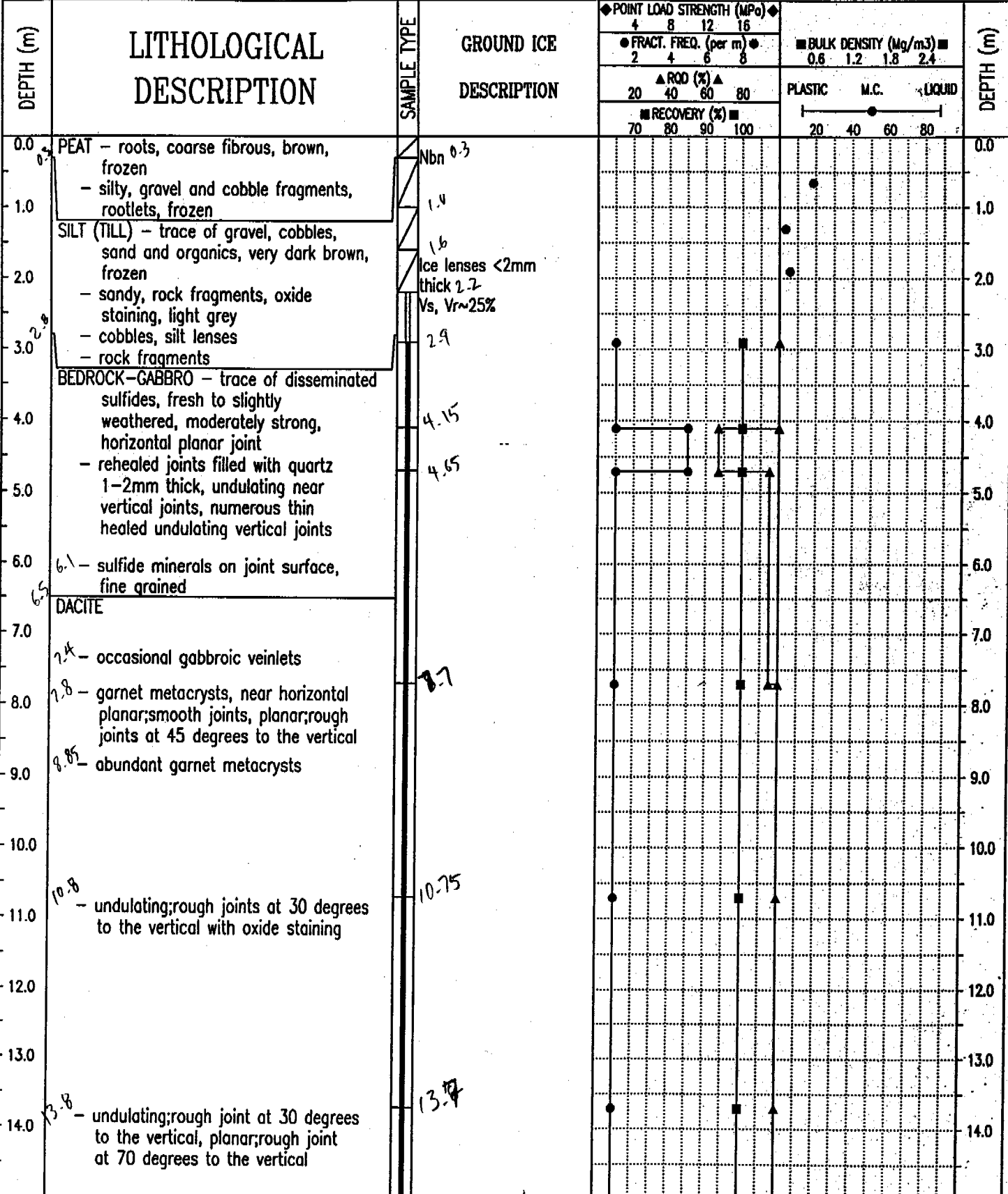
PROJECT: IZOK PROJECT FEASIBILITY STUDY	CLIENT: MINNOVA INC.	BOREHOLE No: 11157-11
MINE/PLANT/TAILINGS SITE INVESTIGATION	DRILL: LONGYEAR 38 DIAMOND DRILL	Project No: 0101-11157
DIVERSION CHANNEL-DAM	UMA COORDINATES: E15343.926; N16157.765	ELEVATION: 422.200 (m)

SAMPLE TYPE SHELBY TUBE DISTURBED SPT NO RECOVERY CORE



PROJECT: IZOK PROJECT FEASIBILITY STUDY	CLIENT: MINNOVA INC.	BOREHOLE NO: 11157-12
MINE/PLANT/TAILINGS SITE INVESTIGATION	DRILL: LONGYEAR 38 DIAMOND DRILL	Project No: 0101-11157
DIVERSION CHANNEL-EAST END	UMA COORDINATES: E17249.299; N15779.392	ELEVATION: 429.700 (m)

SAMPLE TYPE SHELBY TUBE DISTURBED SPT NO RECOVERY CORE

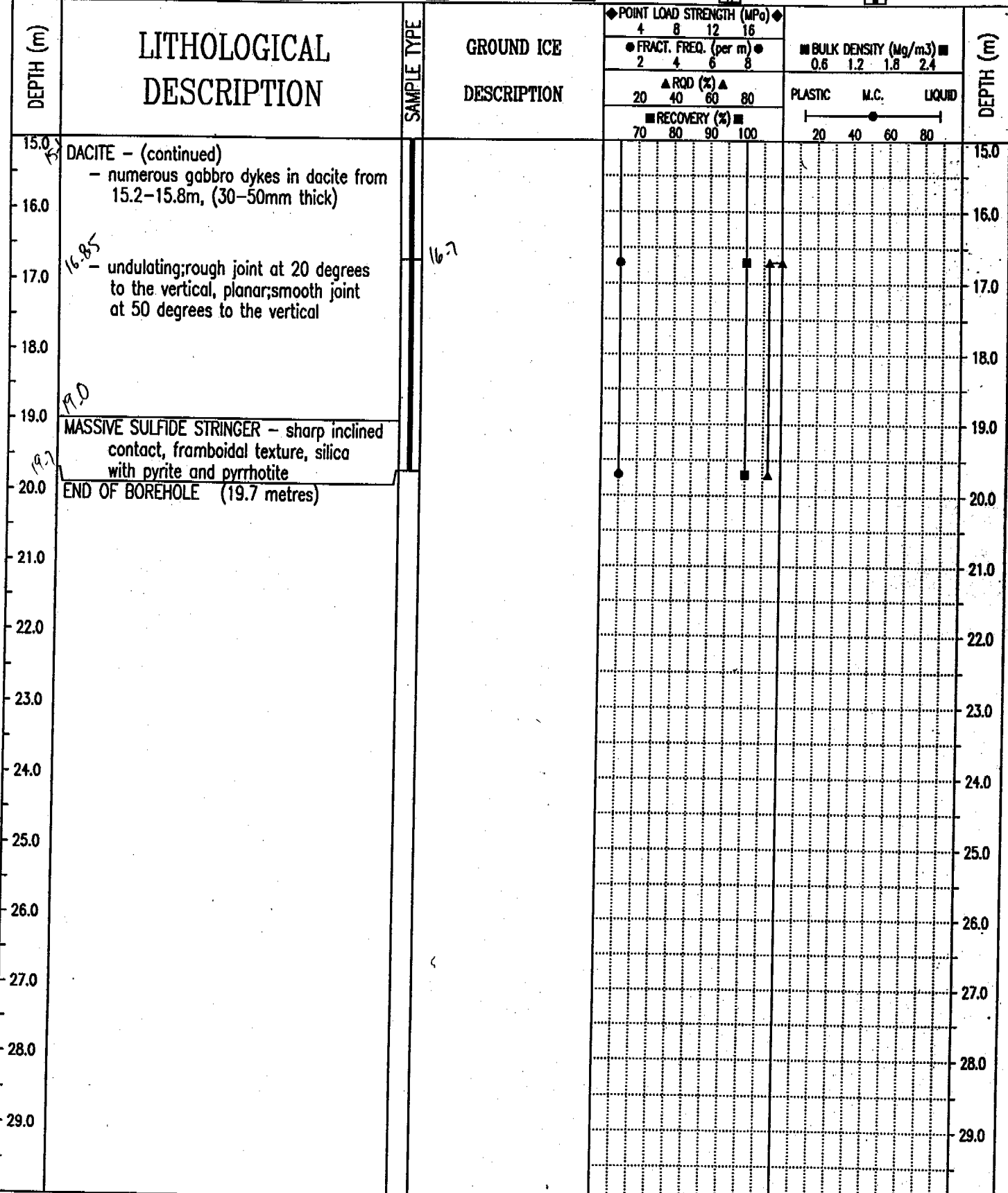


EBA ENGINEERING CONSULTANTS LTD.
EDMONTON, ALBERTA

LOGGED BY: JWC	COMPLETION DEPTH: 19.7 m
REVIEWED BY: DWH	COMPLETE: 93/04/07
Fig. No: 11157-12	Page 1 of 2

PROJECT: IZOK PROJECT FEASIBILITY STUDY	CLIENT: MINNOVA INC.	BOREHOLE NO: 11157-12
MINE/PLANT/TAILINGS SITE INVESTIGATION	DRILL: LONGYEAR 38 DIAMOND DRILL	Project No: 0101-11157
DIVERSION CHANNEL-EAST END	UMA COORDINATES: E17249.299; N15779.392	ELEVATION: 429.700 (m)

SAMPLE TYPE SHELBY TUBE DISTURBED SPT NO RECOVERY CORE



EBA ENGINEERING CONSULTANTS LTD.
EDMONTON, ALBERTA

LOGGED BY: JWC

REVIEWED BY: DWI

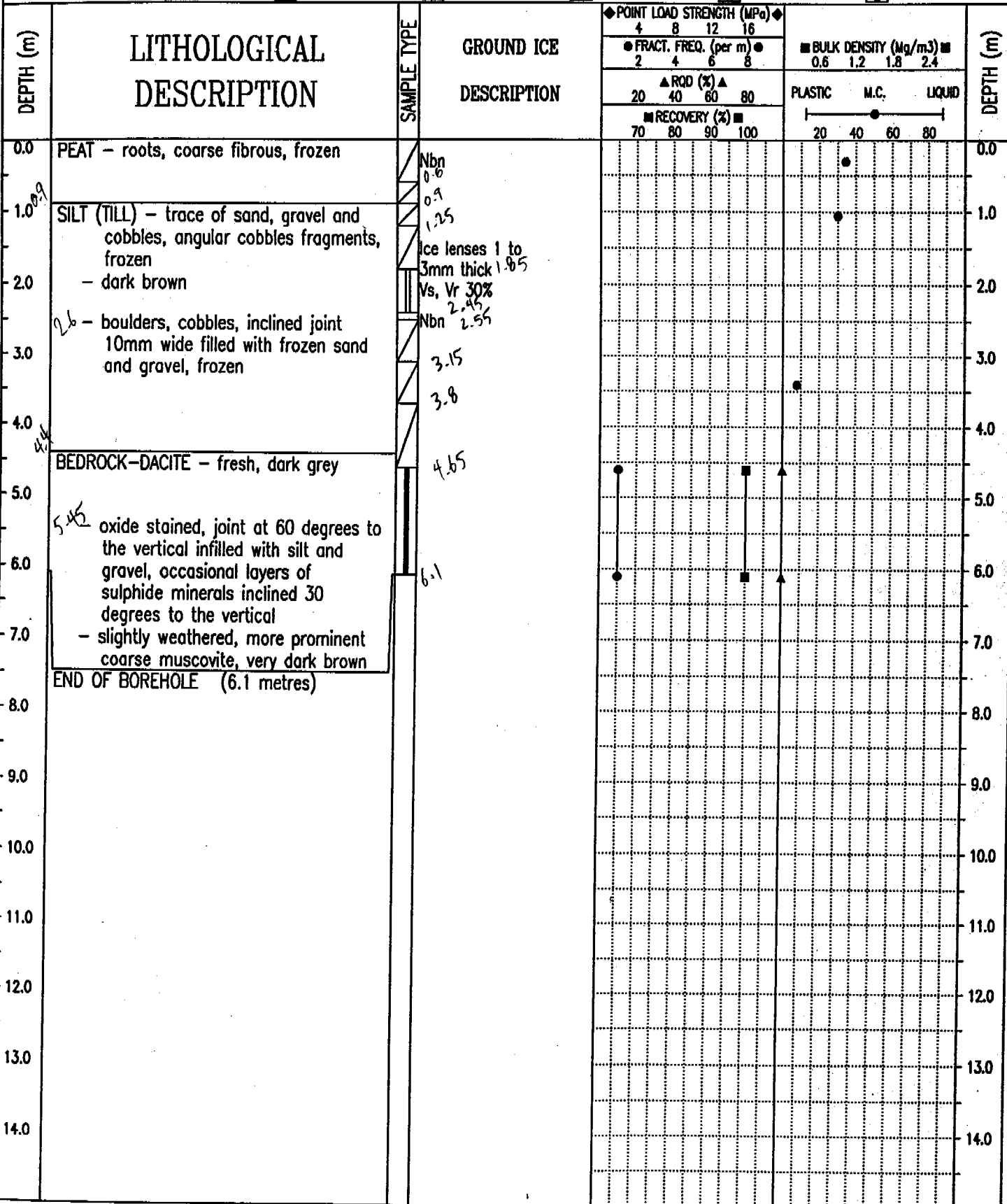
Fig. No: 11157-12

COMPLETION DEPTH: 19.7 m

COMPLETE: 93/04/07

PROJECT: IZOK PROJECT FEASIBILITY STUDY	CLIENT: MINNOVA INC.	BOREHOLE NO: 11157-13
MINE/PLANT/TAILINGS SITE INVESTIGATION	DRILL: LONGYEAR 38 DIAMOND DRILL	Project No: 0101-11157
DIVERSION CHANNEL-WEST END	UMA COORDINATES: E15600.000; N16150.000	ELEVATION: 425.500 (m)

SAMPLE TYPE SHELBY TUBE DISTURBED SPT NO RECOVERY CORE



EBA ENGINEERING CONSULTANTS LTD.
EDMONTON, ALBERTA

LOGGED BY: JWC	COMPLETION DEPTH: 6.1 m
REVIEWED BY: DWH	COMPLETE: 93/04/06
Fig. No: 11157-13	Page 1 of 1

PROJECT: IZOK PROJECT FEASIBILITY STUDY	CLIENT: MINNOVA INC.	BOREHOLE No: 11157-14
MINE/PLANT/TAILINGS SITE INVESTIGATION	DRILL: LONGYEAR 38 DIAMOND DRILL	Project No: 0101-11157
OPEN PIT	UMA COORDINATES: E16018.570; N14945.909	ELEVATION: 417.000 (m)

SAMPLE TYPE SHELBY TUBE DISTURBED SPT NO RECOVERY CORE

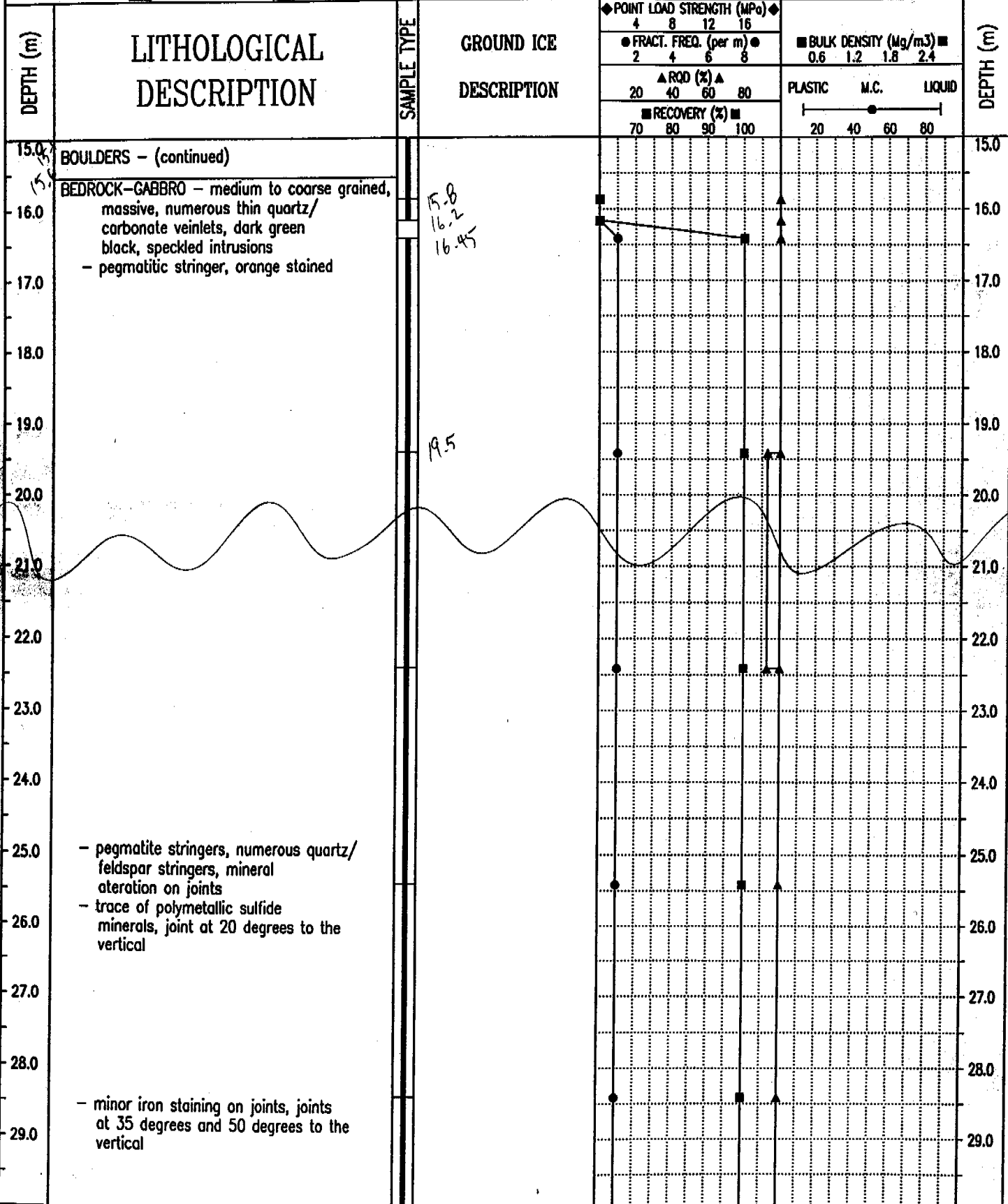
DEPTH (m)	LITHOLOGICAL DESCRIPTION	SAMPLE TYPE	GROUND ICE DESCRIPTION	POINT LOAD STRENGTH (MPa)		BULK DENSITY (Mg/m ³)				DEPTH (m)
				4	8	0.6	1.2	1.8	2.4	
0.0	ICE									0.0
1.0	WATER									1.0
2.0										2.0
3.0										3.0
4.0										4.0
5.0										5.0
6.0										6.0
7.0										7.0
8.0										8.0
9.0										9.0
10.0										10.0
10.4										10.4
11.0	SILT - trace fine grained sand and clay, well consolidated, sensitive, grey to brown		Not Frozen							11.0
11.6	gravel									11.6
12.0	- some clay, trace of fine grained sand, dense, non plastic									12.0
12.4										12.4
12.5	BOULDERS - plagioclase crystals, sulfide minerals									12.5
13.0										13.0
13.4	soft drilling for 150 to 200mm rounded, weathered									13.4
14.0										14.0
14.45	sand or silt layer, very soft									14.45

EBA ENGINEERING CONSULTANTS LTD. EDMONTON, ALBERTA	LOGGED BY: RJM JWC	COMPLETION DEPTH: 174.4 m *
	REVIEWED BY: DWH	COMPLETE: 93/03/21
	Fig. No: 11157-14	Page 1 of 12

* Deep Mineral Exploration hole

PROJECT: IZOK PROJECT FEASIBILITY STUDY	CLIENT: MINNOVA INC.	BOREHOLE No: 11157-14
MINE/PLANT/TAILINGS SITE INVESTIGATION	DRILL: LONGYEAR 38 DIAMOND DRILL	Project No: 0101-11157
OPEN PIT	UMA COORDINATES: E16018.570; N14945.909	ELEVATION: 417.000 (m)

SAMPLE TYPE SHELBY TUBE DISTURBED SPT NO RECOVERY CORE

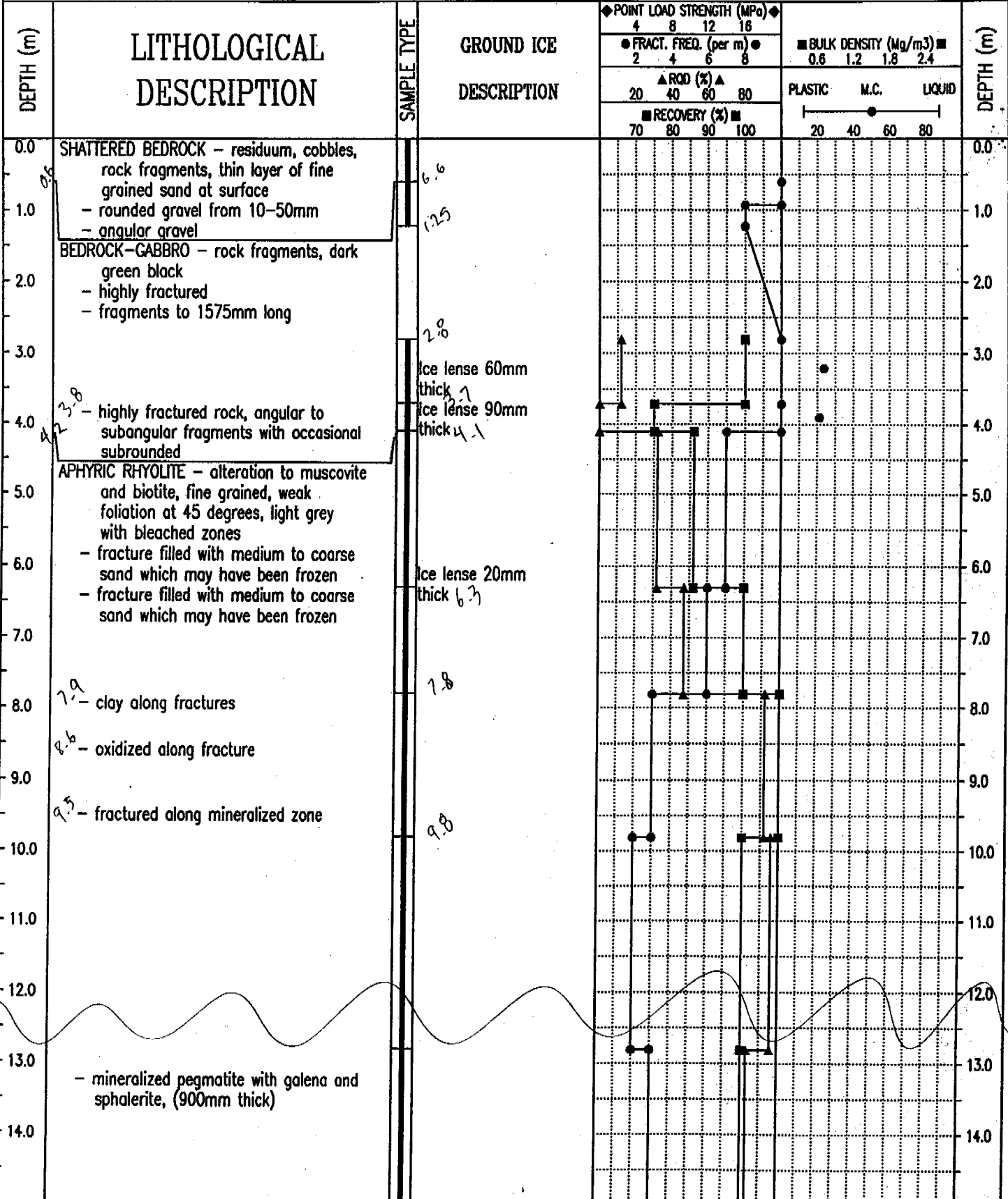


EBA ENGINEERING CONSULTANTS LTD.
EDMONTON, ALBERTA

LOGGED BY: RJM JWC	COMPLETION DEPTH: 174.4 m
REVIEWED BY: DWH	COMPLETE: 93/03/21
Fig. No: 11157-14	Page 2 of 12

PROJECT: IZOK PROJECT FEASIBILITY STUDY	CLIENT: MINNOVA INC.	BOREHOLE NO: 11157-15
MINE/PLANT/TAILINGS SITE INVESTIGATION	DRILL: LONGYEAR 38 DIAMOND DRILL	Project No: 0101-11157
OPEN PIT	UMA COORDINATES: E16391.015; N14865.495	ELEVATION: 419.000 (m)

SAMPLE TYPE SHELBY TUBE DISTURBED SPT NO RECOVERY CORE



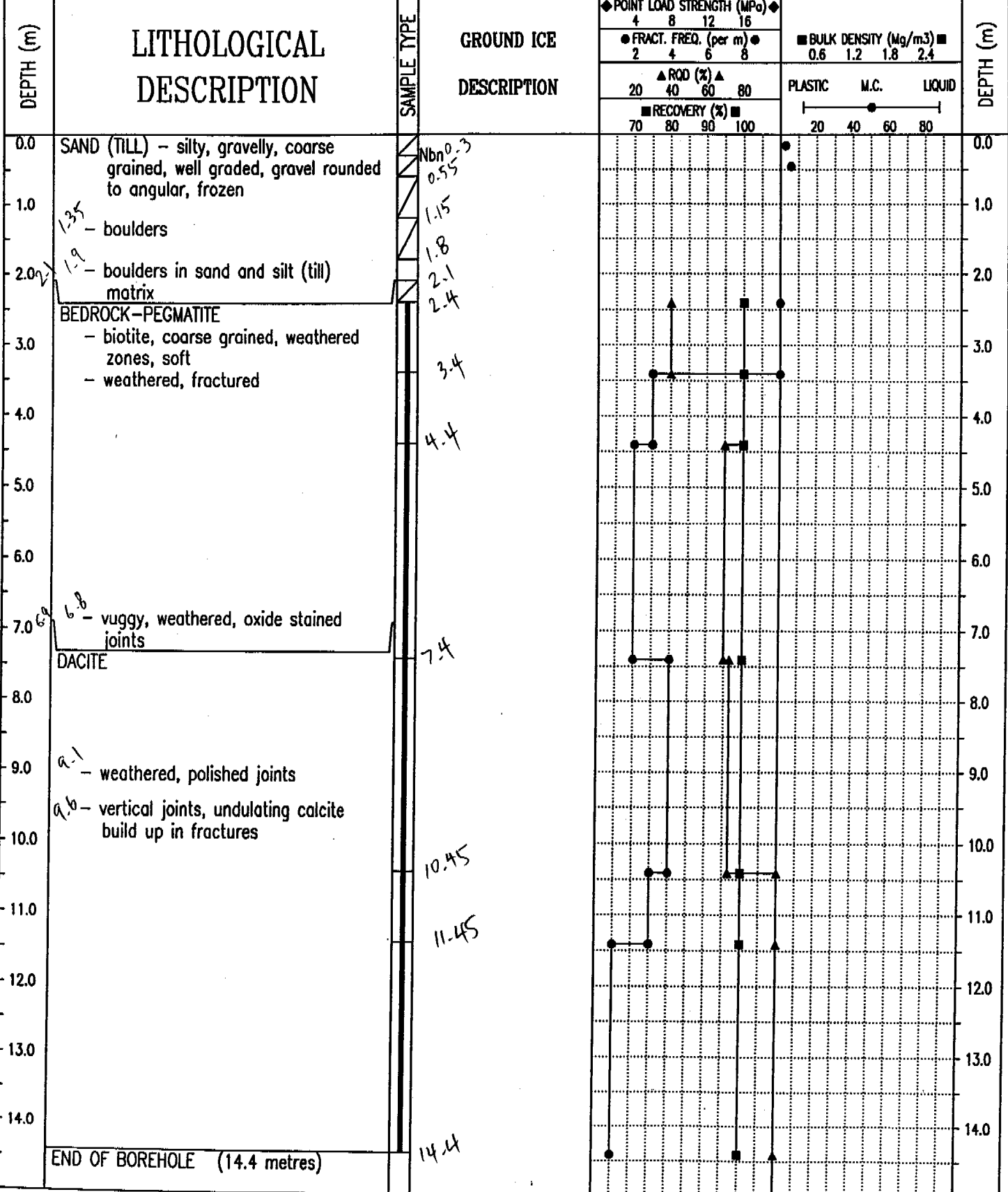
EBA ENGINEERING CONSULTANTS LTD.
EDMONTON, ALBERTA

LOGGED BY: JWC R/JM
REVIEWED BY: DWH
Fig. No: 11157-15

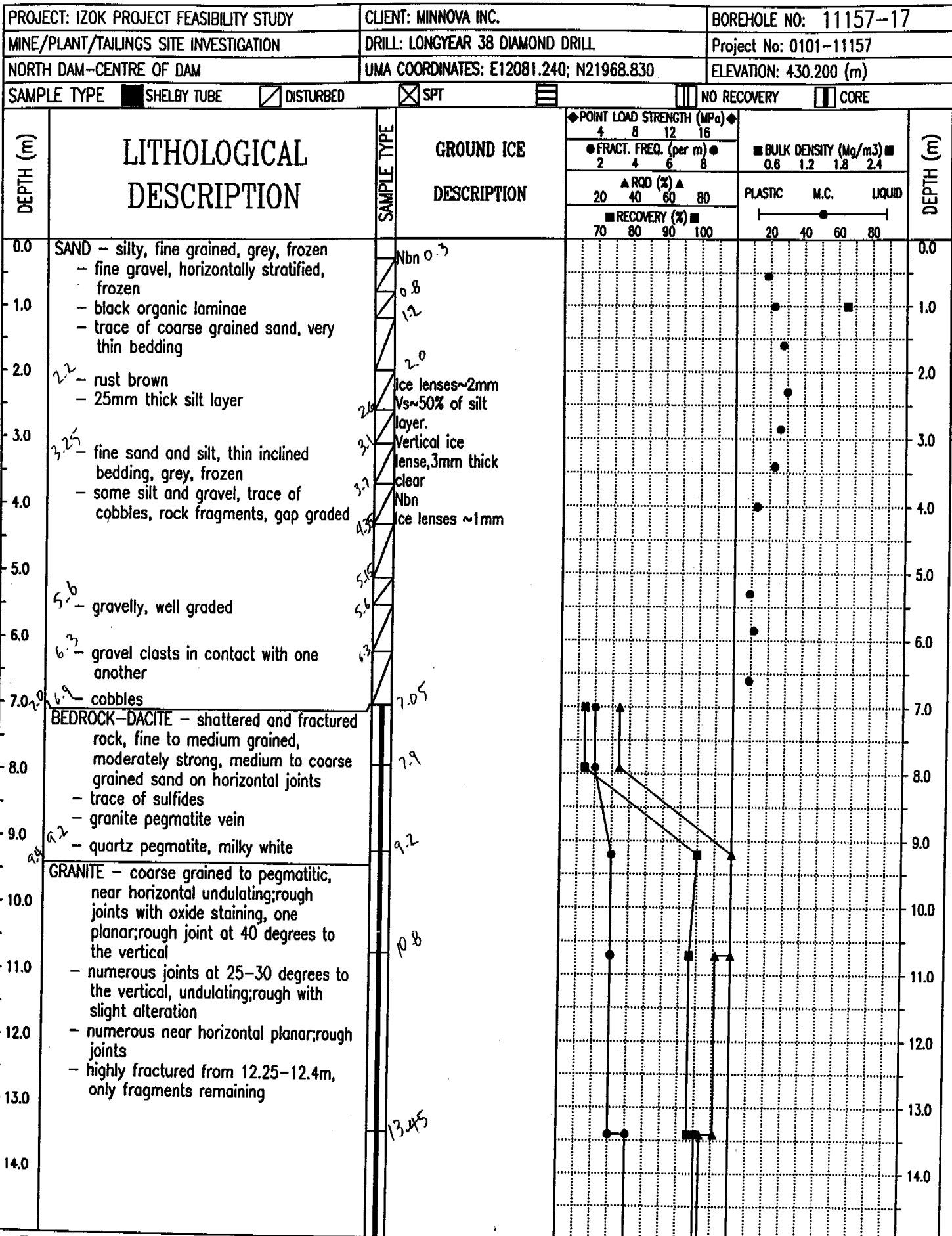
COMPLETION DEPTH: 179.8 m
COMPLETE: 93/03/19
Page 1 of 12

PROJECT: IZOK PROJECT FEASIBILITY STUDY	CLIENT: MINNOVA INC.	BOREHOLE NO: 11157-16
MINE/PLANT/TAILINGS SITE INVESTIGATION	DRILL: LONGYEAR 38 DIAMOND DRILL	Project No: 0101-11157
NORTH DAM-NORTH ABUTMENT	UMA COORDINATES: E12327.243; N22361.178	ELEVATION: 434.600 (m)

SAMPLE TYPE SHELBY TUBE DISTURBED SPT NO RECOVERY CORE



EBA ENGINEERING CONSULTANTS LTD. EDMONTON, ALBERTA	LOGGED BY: RJM REVIEWED BY: DWH Fig. No: 11157-16	COMPLETION DEPTH: 14.4 m COMPLETE: 93/03/30
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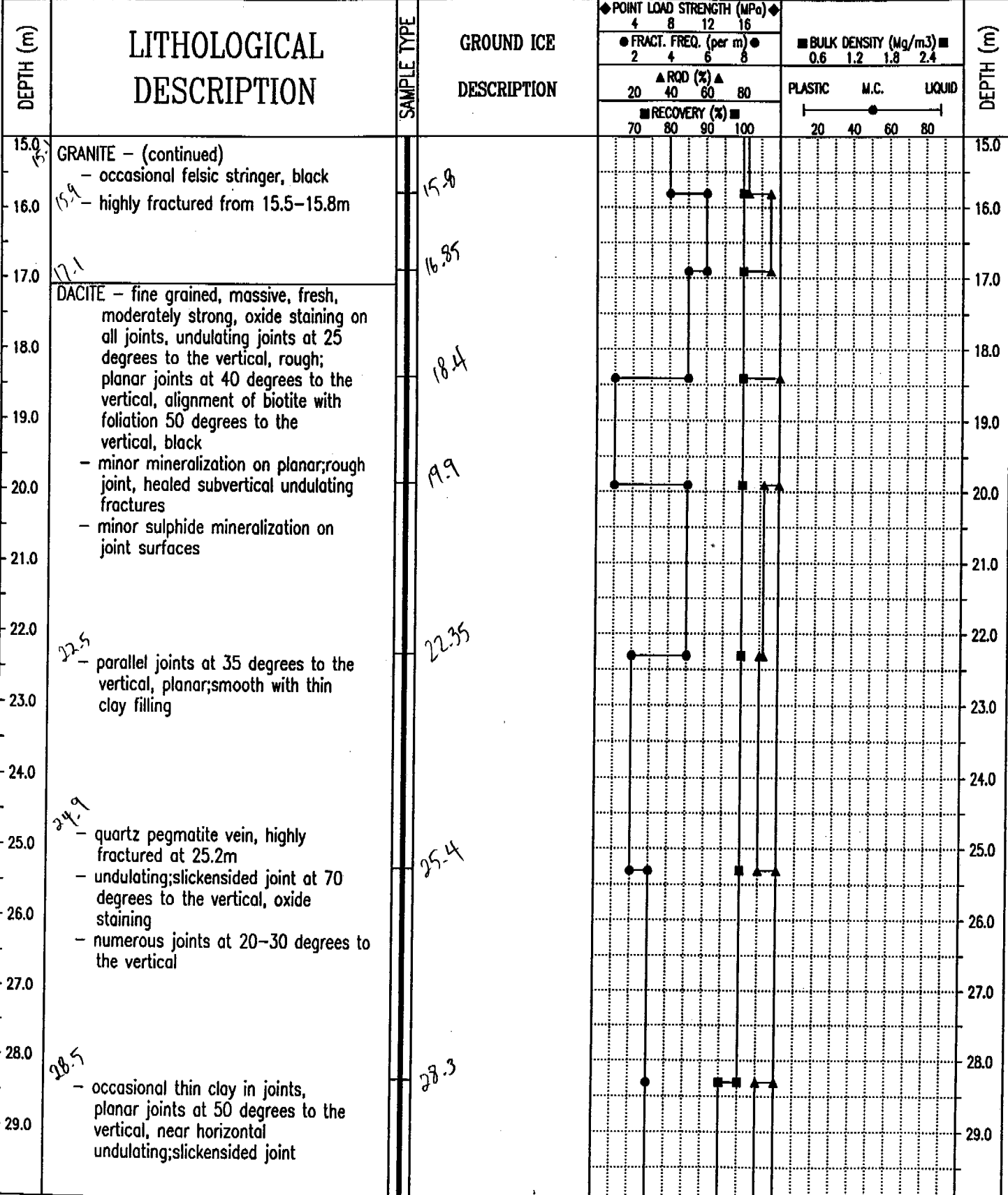
EBA ENGINEERING CONSULTANTS LTD.
EDMONTON, ALBERTA

LOGGED BY: JWC
REVIEWED BY: DWH
Fig. No: 11157-17

COMPLETION DEPTH: 30.3 m
COMPLETE: 93/03/30

PROJECT: IZOK PROJECT FEASIBILITY STUDY	CLIENT: MINNOVA INC.	BOREHOLE NO: 11157-17
MINE/PLANT/TAILINGS SITE INVESTIGATION	DRILL: LONGYEAR 38 DIAMOND DRILL	Project No: 0101-11157
NORTH DAM-CENTRE OF DAM	UMA COORDINATES: E12081.240; N21968.830	ELEVATION: 430.200 (m)

SAMPLE TYPE SHELBY TUBE DISTURBED SPT NO RECOVERY CORE



EBA ENGINEERING CONSULTANTS LTD.
EDMONTON, ALBERTA

LOGGED BY: JWC	COMPLETION DEPTH: 30.3 m
REVIEWED BY: DWB	COMPLETE: 93/03/30
Fig. No: 11157-17	Page 2 of 3

PROJECT: IZOK PROJECT FEASIBILITY STUDY	CLIENT: MINNOVA INC.	BOREHOLE NO: 11157-17
MINE/PLANT/TAILINGS SITE INVESTIGATION	DRILL: LONGYEAR 38 DIAMOND DRILL	Project No: 0101-11157
NORTH DAM-CENTRE OF DAM	UMA COORDINATES: E12081.240; N21968.830	ELEVATION: 430.200 (m)

SAMPLE TYPE SHELBY TUBE DISTURBED SPT NO RECOVERY CORE

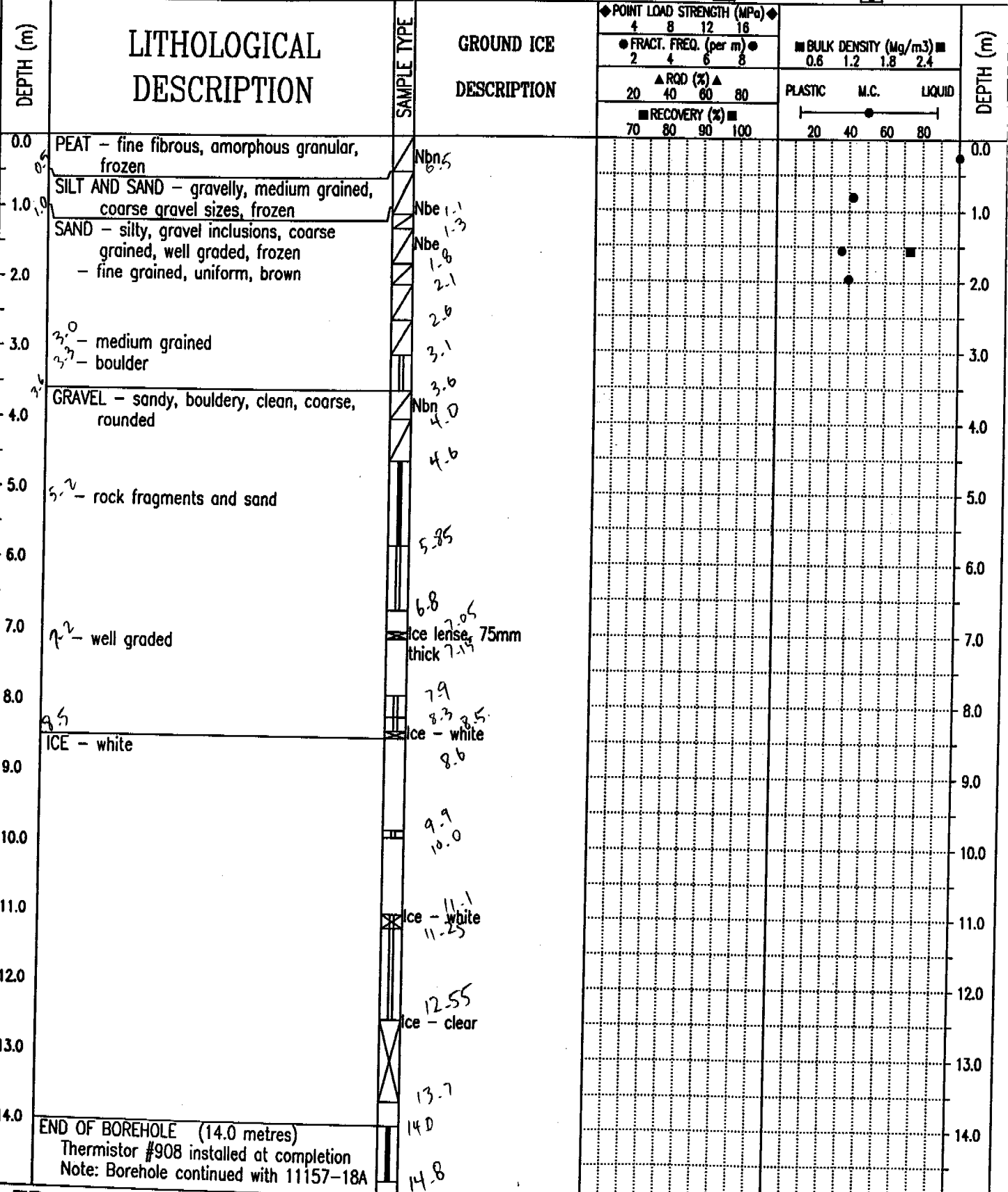
DEPTH (m)	LITHOLOGICAL DESCRIPTION	SAMPLE TYPE	GROUND ICE DESCRIPTION	POINT LOAD STRENGTH (MPa)		BULK DENSITY (Mg/m ³)		DEPTH (m)
				4	8	0.6	1.2	
				FRACT. FREQ. (per m)		PLASTIC M.C. LIQUID		
				RECOVERY (%)				
30.0	DACITE - (continued) END OF BOREHOLE (30.3 metres) Thermistor #907 installed at completion		30.3	70	80	80	80	30.0
31.0								31.0
32.0								32.0
33.0								33.0
34.0								34.0
35.0								35.0
36.0								36.0
37.0								37.0
38.0								38.0
39.0								39.0
40.0								40.0
41.0								41.0
42.0								42.0
43.0								43.0
44.0								44.0

EBA ENGINEERING CONSULTANTS LTD.
EDMONTON, ALBERTA

LOGGED BY: JWC	COMPLETION DEPTH: 30.3 m
REVIEWED BY: DWH	COMPLETE: 93/03/30
Fig. No: 11157-17	Page 3 of 3

PROJECT: IZOK PROJECT FEASIBILITY STUDY	CLIENT: MINNOVA INC.	BOREHOLE NO: 11157-18
MINE/PLANT/TAILINGS SITE INVESTIGATION	DRILL: LONGYEAR 38 DIAMOND DRILL	Project No: 0101-11157
NORTH DAM-SOUTH ABUTMENT	UMA COORDINATES: E11924.399; N21751.781	ELEVATION: 437.500 (m)

SAMPLE TYPE SHELBY TUBE DISTURBED SPT NO RECOVERY CORE



EBA ENGINEERING CONSULTANTS LTD.
EDMONTON, ALBERTA

LOGGED BY: RJM JWC
REVIEWED BY: DWH
Fig. No: 11157-18

COMPLETION DEPTH: 14.0 m
COMPLETE: 93/03/31
Page 1 of 1

PROJECT: IZOK PROJECT FEASIBILITY STUDY	CLIENT: MINNOVA INC.	BOREHOLE No: 11157-18A
MINE/PLANT/TAILINGS SITE INVESTIGATION	DRILL: LONGYEAR 38 DIAMOND DRILL	Project No: 0101-11157
NORTH DAM-SOUTH ABUTMENT	UMA COORDINATES: E11926.399; N21747.244	ELEVATION: 437.700 (m)

SAMPLE TYPE SHELBY TUBE DISTURBED SPT NO RECOVERY CORE

DEPTH (m)	LITHOLOGICAL DESCRIPTION	SAMPLE TYPE	GROUND ICE DESCRIPTION	POINT LOAD STRENGTH (MPa)		BULK DENSITY (Mg/m ³)		DEPTH (m)	
				4 8 12 16	2 4 6 8	0.6 1.2 1.8 2.4			
				▲ ROD (%) ▲		PLASTIC M.C. LIQUID			
				■ RECOVERY (%) ■		-----●-----			
				20 40 60 80		70 80 90 100		20 40 60 80	
0.0	Not logged - borehole drilled as a continuation for borehole #11157-18								0.0
1.0									1.0
2.0									2.0
3.0									3.0
4.0									4.0
5.0									5.0
6.0									6.0
7.0									7.0
8.0									8.0
9.0									9.0
10.0									10.0
11.0									11.0
12.0									12.0
13.0									13.0
14.0	14.0 ICE - clear		ICE 14.6						14.0

EBA ENGINEERING CONSULTANTS LTD.
EDMONTON, ALBERTA

LOGGED BY: RJM JWC	COMPLETION DEPTH: 22.3 m
REVIEWED BY: DWH	COMPLETE: 93/04/02
Fig. No: 11157-19	Page 1 of 2

PROJECT: IZOK PROJECT FEASIBILITY STUDY	CLIENT: MINNOVA INC.	BOREHOLE No: 11157-18A
MINE/PLANT/TAILINGS SITE INVESTIGATION	DRILL: LONGYEAR 38 DIAMOND DRILL	Project No: 0101-11157
NORTH DAM-SOUTH ABUTMENT	UMA COORDINATES: E11926.399; N21747.244	ELEVATION: 437.700 (m)

SAMPLE TYPE SHELBY TUBE DISTURBED SPT NO RECOVERY CORE

DEPTH (m)	LITHOLOGICAL DESCRIPTION	SAMPLE TYPE	GROUND ICE DESCRIPTION	POINT LOAD STRENGTH (MPa)		BULK DENSITY (Mg/m ³)		PLASTIC	M.C.	LIQUID	DEPTH (m)
				4	8	0.6	1.2				
15.0	ICE - (continued)										15.0
16.0											16.0
16.2											16.2
16.8	SAND - trace of gravel and silt, medium to coarse grained, brown, frozen										16.8
17.0											17.0
17.4											17.4
18.0	SILT - trace of fine grained sand in thin horizontal beds, light grey, frozen										18.0
18.0	ICE - clear										18.0
18.6											18.6
19.0											19.0
19.2	SAND - gravelly, medium to coarse grained, gravel is angular, frozen										19.2
19.2	- boulders, granite, steep inclined contact with sand, ice and sand frozen in 15mm wide joint										19.2
19.2	- rock fragments, gravel, frozen										19.2
19.35											19.35
20.0											20.0
20.45											20.45
21.0											21.0
21.4	BEDROCK-GRANITE - medium to coarse grained, fresh, strong										21.4
21.6											21.6
22.0	ANDESITE - massive, fresh, disseminated sulfides, mottled dark grey to black										22.0
22.3	END OF BOREHOLE (22.3 metres)										22.3
23.0											23.0
24.0											24.0
25.0											25.0
26.0											26.0
27.0											27.0
28.0											28.0
29.0											29.0

EBA ENGINEERING CONSULTANTS LTD.
EDMONTON, ALBERTA

LOGGED BY: RJM JWC	COMPLETION DEPTH: 22.3 m
REVIEWED BY: DWH	COMPLETE: 93/04/02
Fig. No: 11157-19	Page 2 of 2

PROJECT: IZOK PROJECT FEASIBILITY STUDY	CLIENT: MINNOVA INC.	BOREHOLE No: 11157-19
MINE/PLANT/TAILINGS SITE INVESTIGATION	DRILL: LONGYEAR 38 DIAMOND DRILL	Project No: 0101-11157
ESKER NORTH OF SEEPAGE DAM	UMA COORDINATES: E12541.833; N21359.063	ELEVATION: 456.500 (m)
SAMPLE TYPE	<input type="checkbox"/> SHELBY TUBE <input checked="" type="checkbox"/> DISTURBED <input checked="" type="checkbox"/> SPT <input type="checkbox"/> NO RECOVERY <input type="checkbox"/> CORE	

DEPTH (m)	LITHOLOGICAL DESCRIPTION	SAMPLE TYPE	GROUND ICE DESCRIPTION	POINT LOAD STRENGTH (MPa)				BULK DENSITY (Mg/m ³)				DEPTH (m)
				4	8	12	16	0.6	1.2	1.8	2.4	
0.0	GRAVEL AND SAND (FILL) - cobbles, rounded to angular, well graded Note: Fill placed for drill pad.											0.0
1.4												1.0
2.0	GRAVEL - sandy, cobbles, silt stringers, clean, coarse, rounded and subangular, frozen											2.0
2.7												3.0
3.0	GRAVEL AND SAND - clean, coarse grained, well graded, frozen											3.0
4.0												4.0
5.0	3.9 - boulders											5.0
6.0	6.3 - boulders											6.0
7.0												7.0
8.0												8.0
9.0												9.0
9.5	9.5 - rounded to angular cobbles											10.0
10.0												10.0
10.7	10.7 - rock fragments intermixed with medium grained sand											11.0
12.0												12.0
13.0												13.0
14.0												14.0

EBA ENGINEERING CONSULTANTS LTD.
EDMONTON, ALBERTA

LOGGED BY: RJM

REVIEWED BY: DWH

Fig. No: 11157-20

COMPLETION DEPTH: 15.3 m

COMPLETE: 93/04/01

Page 1 of 2

PROJECT: IZOK PROJECT FEASIBILITY STUDY	CLIENT: MINNOVA INC.	BOREHOLE No: 11157-19
MINE/PLANT/TAILINGS SITE INVESTIGATION	DRILL: LONGYEAR 38 DIAMOND DRILL	Project No: 0101-11157
ESKER NORTH OF SEEPAGE DAM	UMA COORDINATES: E12541.833; N21359.063	ELEVATION: 456.500 (m)
SAMPLE TYPE <input type="checkbox"/> SHELBY TUBE <input checked="" type="checkbox"/> DISTURBED <input checked="" type="checkbox"/> SPT <input type="checkbox"/> NO RECOVERY <input type="checkbox"/> CORE		

DEPTH (m)	LITHOLOGICAL DESCRIPTION	SAMPLE TYPE	GROUND ICE DESCRIPTION	POINT LOAD STRENGTH (MPa)				BULK DENSITY (Mg/m ³)				DEPTH (m)
				4	8	12	16	0.6	1.2	1.8	2.4	
				● FRACT. FREQ. (per m) ●				PLASTIC M.C. LIQUID				
				2	4	6	8	-----●-----				
				▲ ROD (%) ▲								
				20	40	60	80					
				■ RECOVERY (%) ■								
				70	80	90	100	20	40	60	80	
15.0	GRAVEL AND SAND - (continued) END OF BOREHOLE (15.3 metres)		15.2									15.0
16.0												16.0
17.0												17.0
18.0												18.0
19.0												19.0
20.0												20.0
21.0												21.0
22.0												22.0
23.0												23.0
24.0												24.0
25.0												25.0
26.0												26.0
27.0												27.0
28.0												28.0
29.0												29.0

EBA ENGINEERING CONSULTANTS LTD.
EDMONTON, ALBERTA

LOGGED BY: RJM	COMPLETION DEPTH: 15.3 m
REVIEWED BY: DWH	COMPLETE: 93/04/01
Fig. No: 11157-20	Page 2 of 2

PROJECT: IZOK PROJECT FEASIBILITY STUDY	CLIENT: MINNOVA INC.	BOREHOLE NO: 11157-20
MINE/PLANT/TAILINGS SITE INVESTIGATION	DRILL: LONGYEAR 38 DIAMOND DRILL	Project No: 0101-11157
SOUTH DAM-CENTRE OF DAM	UMA COORDINATES: E13138.103; N20902.628	ELEVATION: 429.800 (m)

SAMPLE TYPE SHELBY TUBE DISTURBED SPT NO RECOVERY CORE

DEPTH (m)	LITHOLOGICAL DESCRIPTION	SAMPLE TYPE	GROUND ICE DESCRIPTION	◆ POINT LOAD STRENGTH (MPa) ◆			■ BULK DENSITY (Mg/m ³) ■				DEPTH (m)					
				4	8	12	16	0.6 1.2 1.8 2.4								
				● FRACT. FREQ. (per m) ●				▲ RQD (%) ▲				PLASTIC M.C. LIQUID				
				2	4	6	8	20	40	60		80	70 80 90 100			
0.0	ICE											0.0				
1.0	WATER											1.0				
2.0												2.0				
3.0												3.0				
4.0												4.0				
5.0												5.0				
5.5	SILT AND ORGANICS - trace of clay, fine grained sand, very soft, rust brown		Not frozen	5-2								5.5				
6.0				6.8								6.0				
7.0	7.0 - boulders			7.0								7.0				
8.0				7.5								8.0				
9.0	8.2 - rock fragments			8.0								9.0				
9.5				8.6								9.5				
10.0	GRAVEL - coarse grained, rounded, angular			9.0								10.0				
10.5				9.8								10.5				
11.0	11.2 - cobbles with sand infill, well graded			10.45								11.0				
11.5				11.0								11.5				
12.0				11.6								12.0				
13.0												13.0				
14.0				13.4								14.0				
14.9	END OF BOREHOLE (14.9 metres) Note: Borehole continued with 11157-20A			14.9								14.9				

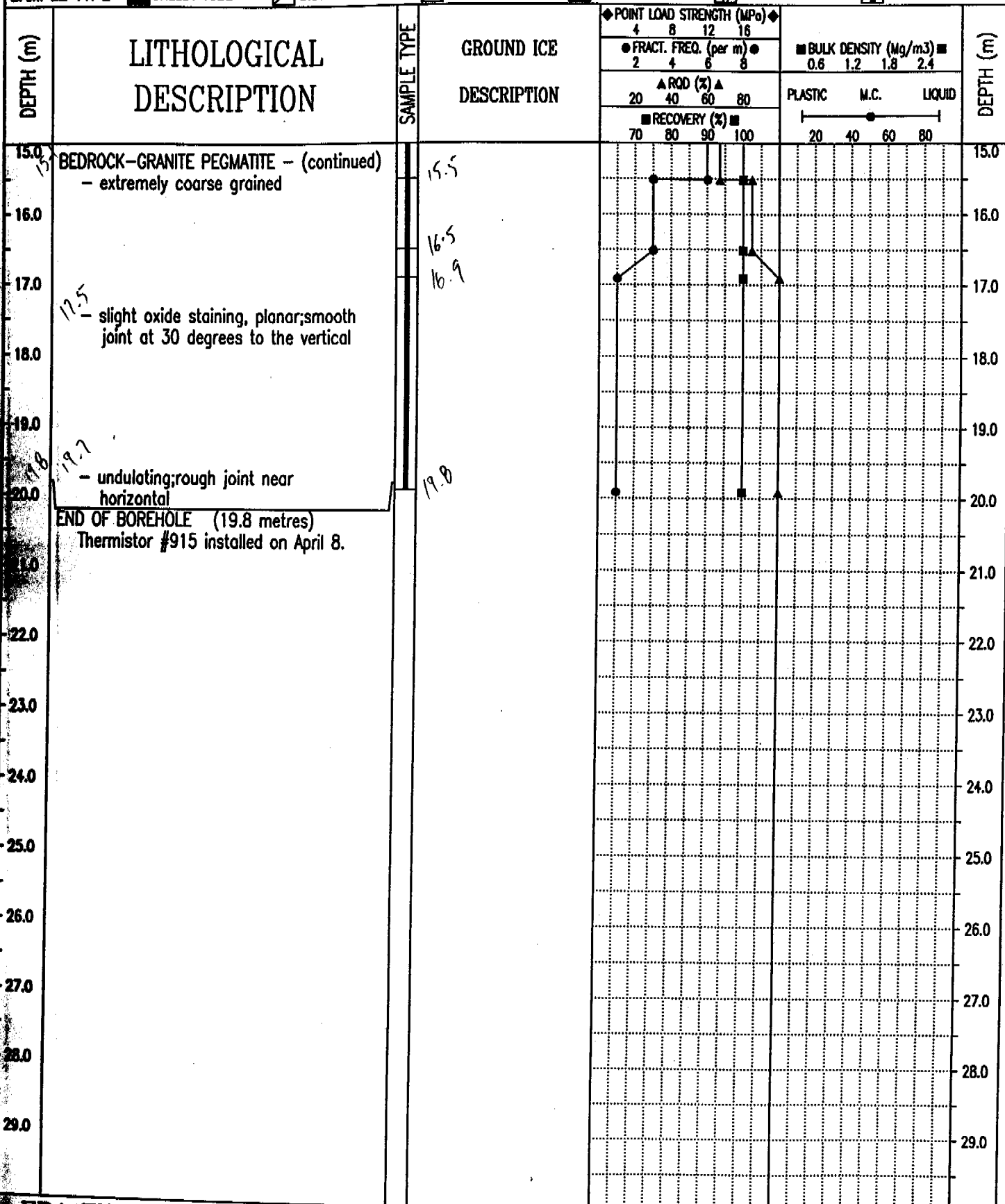
PROJECT: IZOK PROJECT FEASIBILITY STUDY	CLIENT: MINNOVA INC.	BOREHOLE No: 11157-20A
MINE/PLANT/TAILINGS SITE INVESTIGATION	DRILL: LONGYEAR 38 DIAMOND DRILL	Project No: 0101-11157
SOUTH DAM-CENTRE OF DAM	UMA COORDINATES: E13134.892; N20911.351	ELEVATION: 429.600 (m)

DEPTH (m)	LITHOLOGICAL DESCRIPTION	SAMPLE TYPE	GROUND ICE DESCRIPTION	POINT LOAD STRENGTH (MPa)		BULK DENSITY (Mg/m ³)		DEPTH (m)																							
				4	8	12	16		0.6	1.2	1.8	2.4																			
				FRACT. FREQ. (per m)					ROD (%)																						
				2	4	6	8		20	40	60	80																			
RECOVERY (%)				PLASTIC M.C. LIQUID																											
70				80				90				100				20				40				60				80			
0.0	ICE Note: Borehole is a continuation of borehole 11157-20								0.0																						
1.0	WATER								1.0																						
6.5	SILT - sandy, some clay, organic, grey		Not frozen						6.5																						
8.35	GRAVEL - boulders, sand infilled								8.35																						
11.9	- boulders, cobbles, shattered rock, oxide staining on planar joints								11.9																						
13.5	- highly fractured								13.5																						
14.3	- fractured rock, quartz pegmatite								14.3																						
14.5	BEDROCK-GRANITE PEGMATITE								14.5																						

EBA ENGINEERING CONSULTANTS LTD.
EDMONTON, ALBERTA

LOGGED BY: JWC RJM	COMPLETION DEPTH: 19.9 m
REVIEWED BY: DWH	COMPLETE: 93/04/05
Fig. No: 11157-22	Page 1 of 2

PROJECT: IZOK PROJECT FEASIBILITY STUDY	CLIENT: MINNOVA INC.	BOREHOLE No: 11157-20A
MINE/PLANT/TAILINGS SITE INVESTIGATION	DRILL: LONGYEAR 38 DIAMOND DRILL	Project No: 0101-11157
SOUTH DAM-CENTRE OF DAM	UMA COORDINATES: E13134.892; N20911.351	ELEVATION: 429.600 (m)
SAMPLE TYPE	<input type="checkbox"/> SHELBY TUBE <input checked="" type="checkbox"/> DISTURBED <input checked="" type="checkbox"/> SPT <input type="checkbox"/> NO RECOVERY <input type="checkbox"/> CORE	

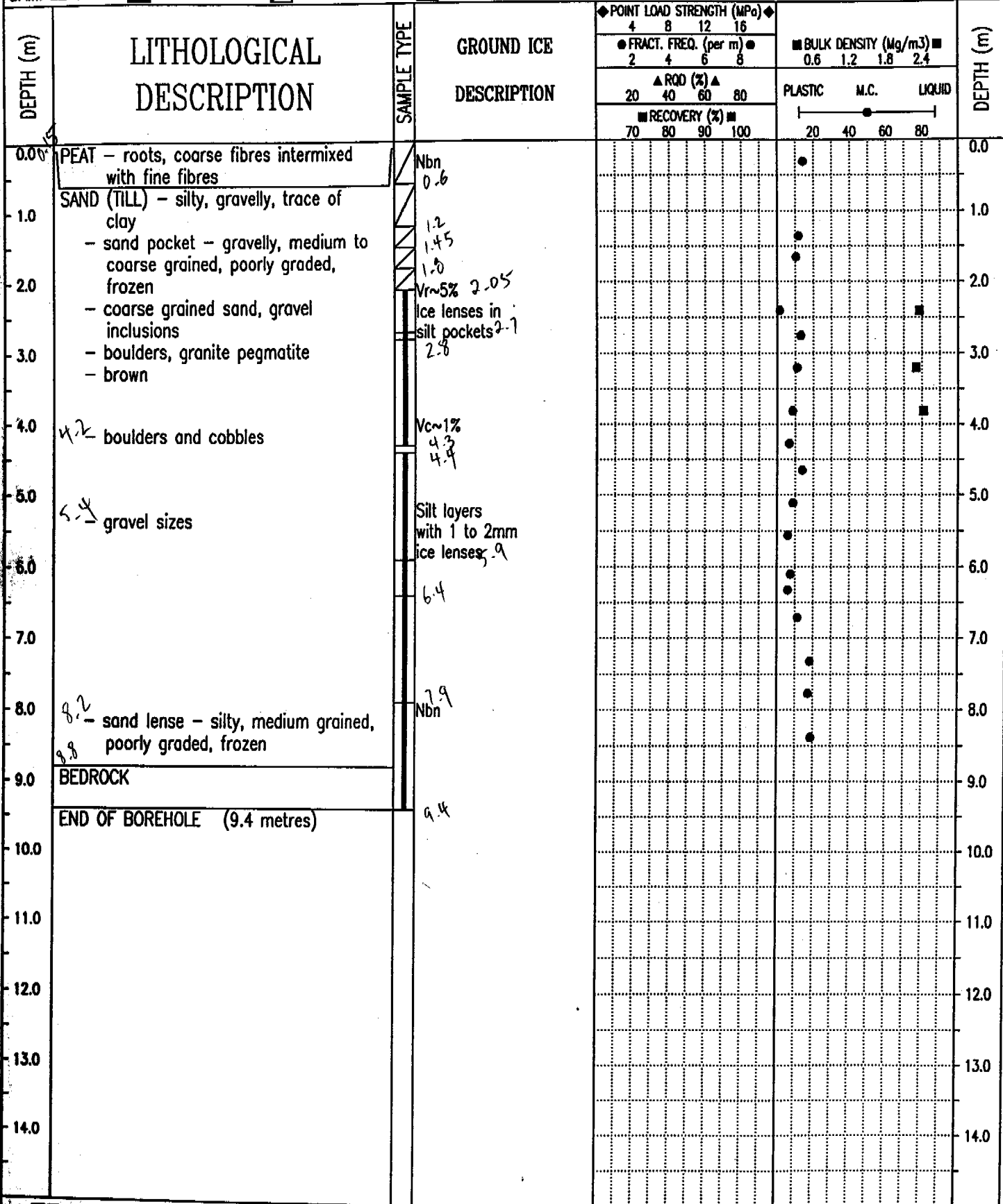


EBA ENGINEERING CONSULTANTS LTD.
EDMONTON, ALBERTA

LOGGED BY: JWC RJM	COMPLETION DEPTH: 19.9 m
REVIEWED BY: DWH	COMPLETE: 93/04/05
Fig. No: 11157-22	Page 2 of 2

PROJECT: IZOK PROJECT FEASIBILITY STUDY	CLIENT: MINNOVA INC.	BOREHOLE No: 11157-21
MINE/PLANT/TAILINGS SITE INVESTIGATION	DRILL: LONGYEAR 38 DIAMOND DRILL	Project No: 0101-11157
AIRSTrip-WEST END	UMA COORDINATES: E11739.045; N20730.167	ELEVATION: 439.100 (m)

SAMPLE TYPE SHELBY TUBE DISTURBED SPT NO RECOVERY CORE

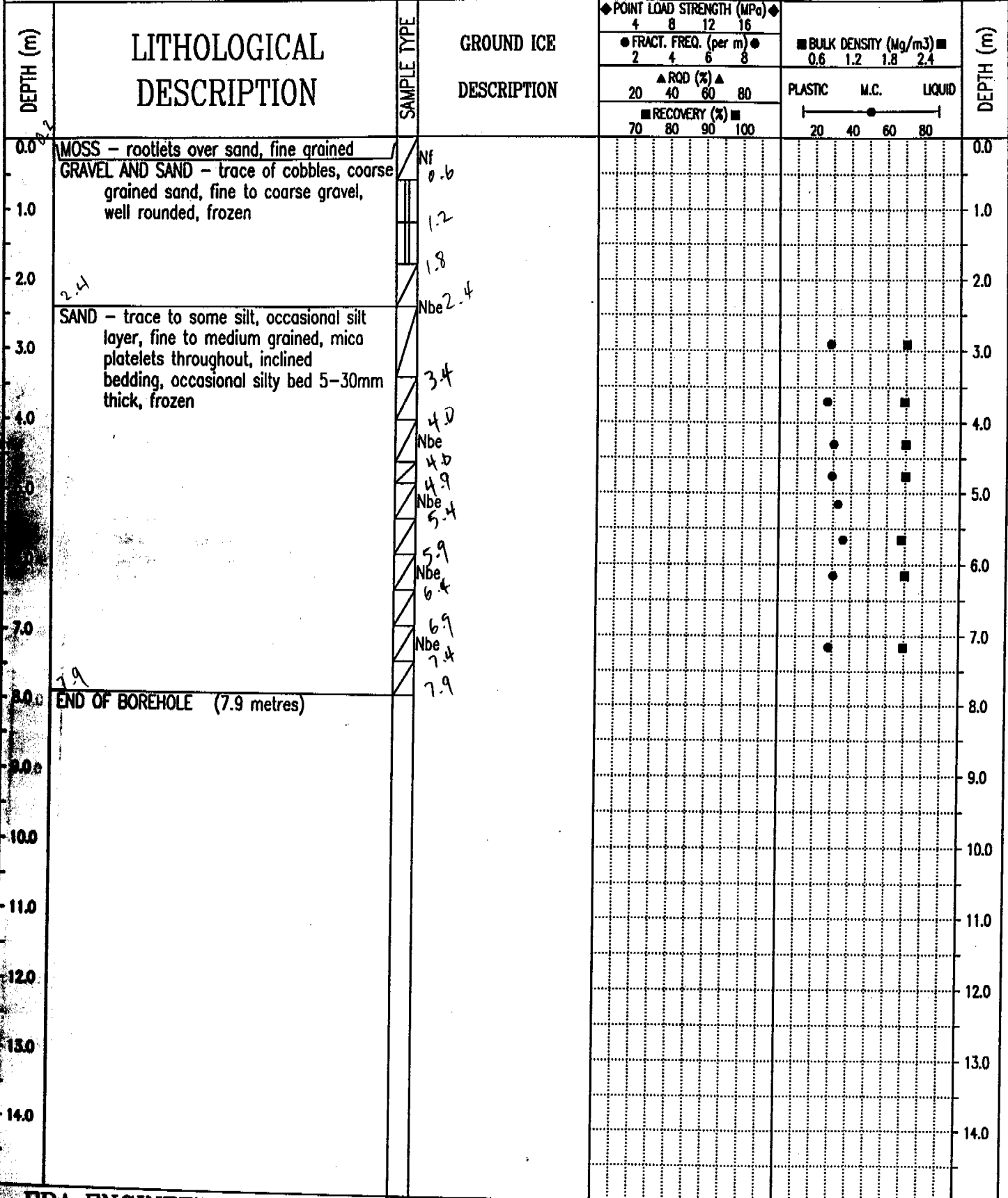


EBA ENGINEERING CONSULTANTS LTD.
EDMONTON, ALBERTA

LOGGED BY: RJM	COMPLETION DEPTH: 9.4 m
REVIEWED BY: DWH	COMPLETE: 93/04/05
Fig. No: 11157-23	Page 1 of 1

PROJECT: IZOK PROJECT FEASIBILITY STUDY	CLIENT: MINNOVA INC.	BOREHOLE NO: 11157-22
MINE/PLANT/TAILINGS SITE INVESTIGATION	DRILL: LONGYEAR 38 DIAMOND DRILL	Project No: 0101-11157
AIRSTRIIP-EAST END	UMA COORDINATES: E12759.641; N20700.091	ELEVATION: 439.400 (m)

SAMPLE TYPE SHELBY TUBE DISTURBED SPT NO RECOVERY CORE

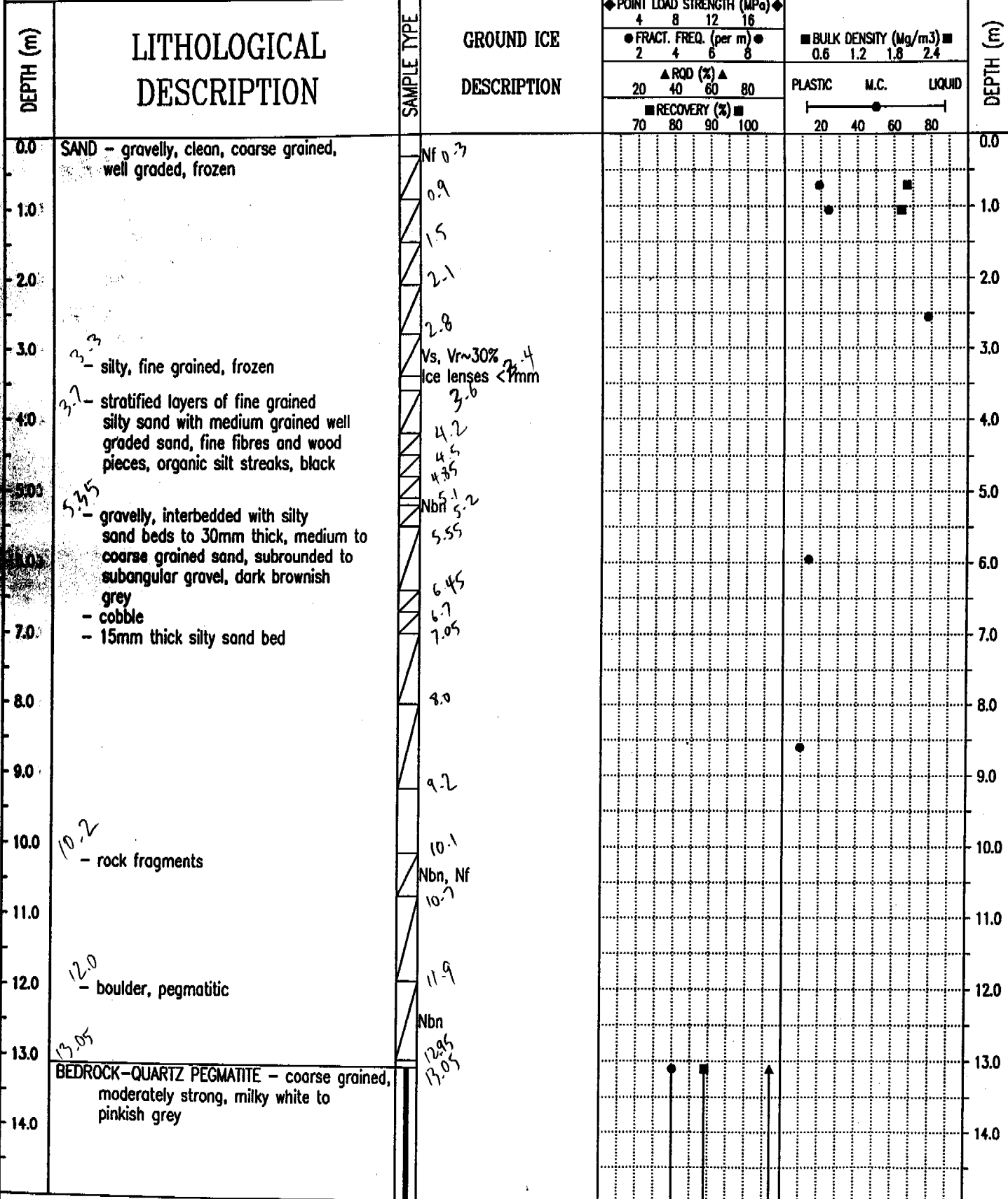


EBA ENGINEERING CONSULTANTS LTD.
EDMONTON, ALBERTA

LOGGED BY: RJM	COMPLETION DEPTH: 7.9 m
REVIEWED BY: DWH	COMPLETE: 93/04/05
Fig. No: 11157-24	Page 1 of 1

PROJECT: IZOK PROJECT FEASIBILITY STUDY	CLIENT: MINNOVA INC.	BOREHOLE NO: 11157-23
MINE/PLANT/TAILINGS SITE INVESTIGATION	DRILL: LONGYEAR 38 DIAMOND DRILL	Project No: 0101-11157
SEEPAGE DAM-SOUTH SIDE	UMA COORDINATES: E12539.640; N21244.694	ELEVATION: 430.300 (m)

SAMPLE TYPE SHELBY TUBE DISTURBED SPT NO RECOVERY CORE



EBA ENGINEERING CONSULTANTS LTD.
EDMONTON, ALBERTA

LOGGED BY: RJM JWC	COMPLETION DEPTH: 17.4 m
REVIEWED BY: DWH	COMPLETE: 93/03/28
Fig. No: 11157-25	Page 1 of 2

PROJECT: IZOK PROJECT FEASIBILITY STUDY	CLIENT: MINNOVA INC.	BOREHOLE NO: 11157-23
MINE/PLANT/TAILINGS SITE INVESTIGATION	DRILL: LONGYEAR 38 DIAMOND DRILL	Project No: 0101-11157
SEEPAGE DAM-SOUTH SIDE	UMA COORDINATES: E12539.640; N21244.694	ELEVATION: 430.300 (m)
SAMPLE TYPE	<input type="checkbox"/> SHELBY TUBE <input checked="" type="checkbox"/> DISTURBED <input checked="" type="checkbox"/> SPT <input type="checkbox"/> NO RECOVERY <input type="checkbox"/> CORE	

DEPTH (m)	LITHOLOGICAL DESCRIPTION	SAMPLE TYPE	GROUND ICE DESCRIPTION	POINT LOAD STRENGTH (MPa)		BULK DENSITY (Mg/m ³)		DEPTH (m)
				4 8 12 16	2 4 6 8	0.6 1.2 1.8 2.4		
				ROD (%)		PLASTIC M.C. LIQUID		
				70 80 90 100		20 40 60 80		
				RECOVERY (%)				
15.0	BEDROCK-QUARTZ PEGMATITE - (continued)							15.0
16.0	DIORITE - fine to medium grained, weakly foliated at 55 degrees to the vertical, slickensides visible, mottled black/white, planar; slickensided joints at 55 degrees to the vertical		168					16.0
17.0								17.0
17.4	END OF BOREHOLE (17.4 metres) Thermistor #909 installed at completion							17.4
18.0								18.0
19.0								19.0
20.0								20.0
21.0								21.0
22.0								22.0
23.0								23.0
24.0								24.0
25.0								25.0
26.0								26.0
27.0								27.0
28.0								28.0
29.0								29.0

EBA ENGINEERING CONSULTANTS LTD.
EDMONTON, ALBERTA

LOGGED BY: RJM JWC	COMPLETION DEPTH: 17.4 m
REVIEWED BY: DWH	COMPLETE: 93/03/28
Fig. No: 11157-25	Page 2 of 2

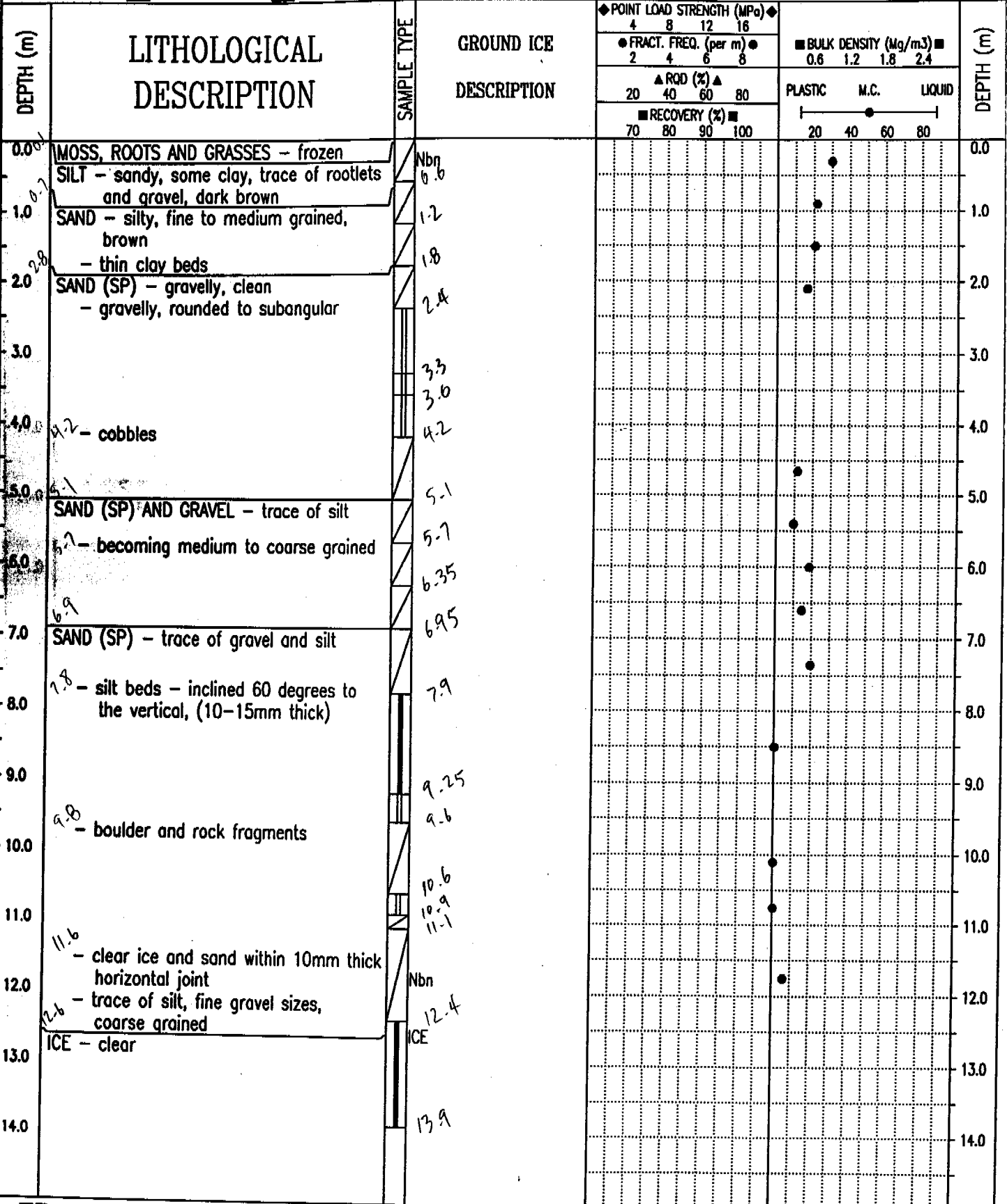
EDMONTON PROJECT FEASIBILITY STUDY	CLIENT: MINNOVA INC.	BOREHOLE No: 11157-24
MINE/PLANT/TAILINGS SITE INVESTIGATION	DRILL: LONGYEAR 38 DIAMOND DRILL	Project No: 0101-11157
SEEPAGE DAM-CENTRE OF DAM	UMA COORDINATES: E12544.585; N21252.536	ELEVATION: 429.400 (m)

SAMPLE TYPE: SHELBY TUBE DISTURBED SPT NO RECOVERY CORE

DEPTH (m)	LITHOLOGICAL DESCRIPTION	SAMPLE TYPE	GROUND ICE DESCRIPTION	POINT LOAD STRENGTH (MPa)		BULK DENSITY (Mg/m ³)				DEPTH (m)
				FRACT. FREQ. (per m)		M.C.				
				ROD (%)		PLASTIC	M.C.		LIQUID	
				RECOVERY (%)						
0.0	ICE									0.0
1.0	SAND - some silt, trace of fine gravel, organics, fine fibres, dark grey, frozen									1.0
2.0	- gravelly, grey to rust brown - trace of fine gravel									2.0
	END OF BOREHOLE - (1.2 metres)									
3.0										3.0
4.0										4.0
5.0										5.0
6.0										6.0
7.0										7.0
8.0										8.0
9.0										9.0
10.0										10.0
11.0										11.0
12.0										12.0
13.0										13.0
14.0										14.0

Nbn 0.6
1.2

PROJECT: IZOK PROJECT FEASIBILITY STUDY	CLIENT: MINNOVA INC.	BOREHOLE No: 11157-25
MINE/PLANT/TAILINGS SITE INVESTIGATION	DRILL: LONGYEAR 38 DIAMOND DRILL	Project No: 0101-11157
POTENTIAL BORROW ON ESKER	UMA COORDINATES: E11697.873; N21927.680	ELEVATION: 440.100 (m)
SAMPLE TYPE <input checked="" type="checkbox"/> SHELBY TUBE <input checked="" type="checkbox"/> DISTURBED <input checked="" type="checkbox"/> SPT <input type="checkbox"/> NO RECOVERY <input type="checkbox"/> CORE		

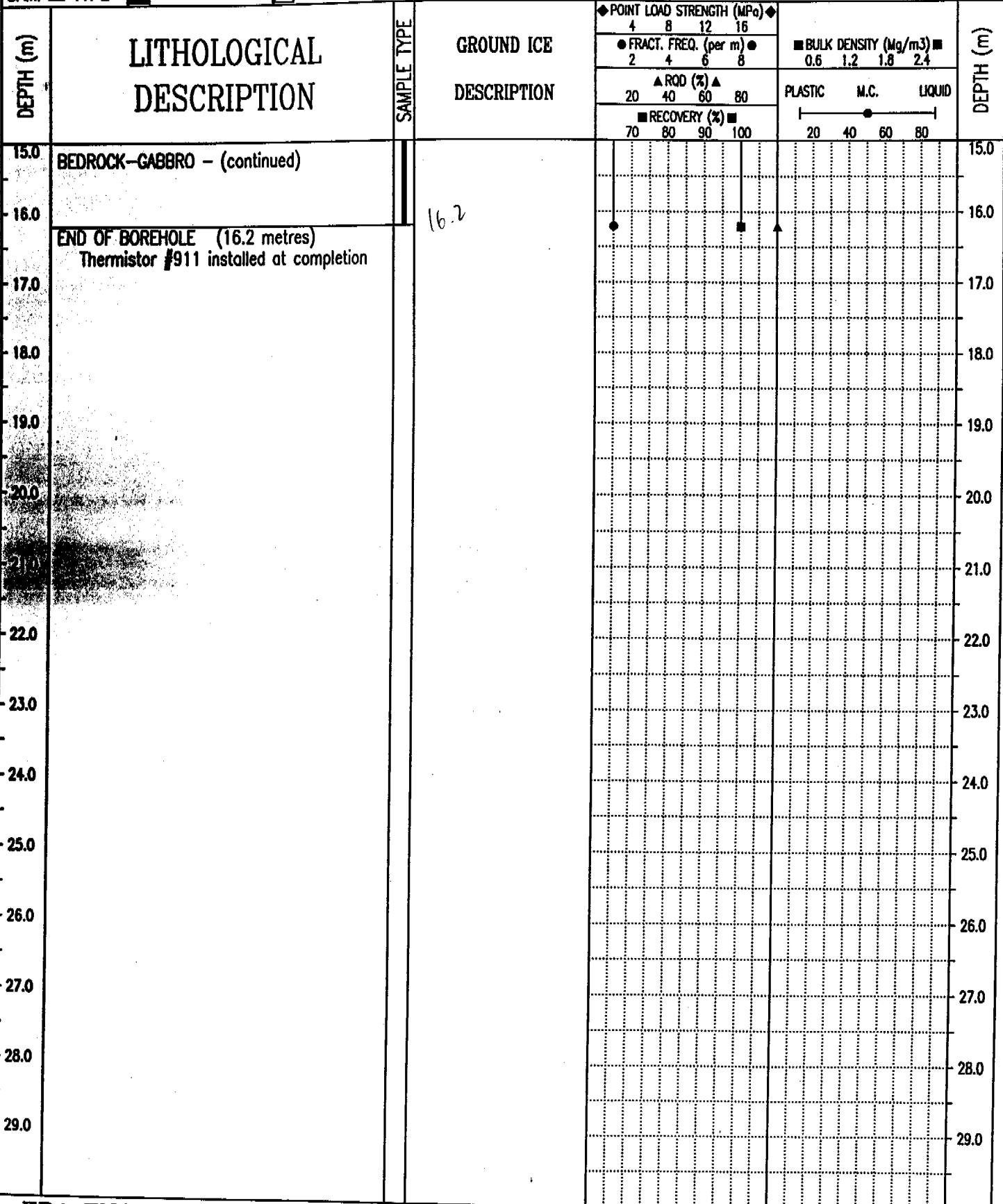


PROJECT: IZOK PROJECT FEASIBILITY STUDY	CLIENT: MINNOVA INC.	BOREHOLE No: 11157-25
MINE/PLANT/TAILINGS SITE INVESTIGATION	DRILL: LONGYEAR 38 DIAMOND DRILL	Project No: 0101-11157
POTENTIAL BORROW ON ESKER	UMA COORDINATES: E11697.873; N21927.680	ELEVATION: 440.100 (m)
SAMPLE TYPE	<input type="checkbox"/> SHELBY TUBE <input checked="" type="checkbox"/> DISTURBED <input checked="" type="checkbox"/> SPT <input type="checkbox"/> NO RECOVERY <input type="checkbox"/> CORE	

DEPTH (m)	LITHOLOGICAL DESCRIPTION	SAMPLE TYPE	GROUND ICE DESCRIPTION	POINT LOAD STRENGTH (MPa)		BULK DENSITY (Mg/m ³)		DEPTH (m)			
				4	8	0.6	1.2				
				FRACT. FREQ. (per m)		RECOVERY (%)			PLASTIC	M.C.	LIQUID
				2	4	6	8		20	40	60
15.0	ICE - (continued)								15.0		
16.0									16.0		
16.7	rock fragments, gravel sizes		16-b						17.0		
17.0									17.0		
17.9	ice and silt								18.0		
18.0									18.0		
18.3	SAND - coarse grained		Nbn						19.0		
19.0	boulders								19.0		
19.0			19-b						19.0		
20.0	gravel is rounded to subangular, well graded, frozen								20.0		
21.0									21.0		
22.0									22.0		
22.6			22-b						22.0		
23.0	BEDROCK - GRANITE PEGMATITE								23.0		
23.0	END OF BOREHOLE (23.1 metres)		23+1						23.0		
24.0									24.0		
25.0									25.0		
26.0									26.0		
27.0									27.0		
28.0									28.0		
29.0									29.0		

PROJECT: IZOK PROJECT FEASIBILITY STUDY	CLIENT: MINNOVA INC.	BOREHOLE No: 11157-26
MINE/PLANT/TAILINGS SITE INVESTIGATION	DRILL: LONGYEAR 38 DIAMOND DRILL	Project No: 0101-11157
EAST OF MILL BUILDING	UMA COORDINATES: E17283.474; N15587.167	ELEVATION: 427.900 (m)

SAMPLE TYPE SHELBY TUBE DISTURBED SPT NO RECOVERY CORE



EBA ENGINEERING CONSULTANTS LTD.
EDMONTON, ALBERTA

LOGGED BY: JWC RJM	COMPLETION DEPTH: 16.2 m
REVIEWED BY: DWH	COMPLETE: 93/04/07
Fig. No: 11157-28	Page 2 of 2

10000

BOREHOLE 11157-27

DELETED FROM DRILLING PROGRAM

PROJECT: IZOK PROJECT FEASIBILITY STUDY	CLIENT: MINNOVA INC.	BOREHOLE No: 11157-28
MINE/PLANT/TAILINGS SITE INVESTIGATION	DRILL: LONGYEAR 38 DIAMOND DRILL	Project No: 0101-11157
OPEN PIT-WASTE ROCK DUMP	UMA COORDINATES: E15755.982; N15243.451	ELEVATION: 417.000 (m)

SAMPLE TYPE SHELBY TUBE DISTURBED SPT NO RECOVERY CORE

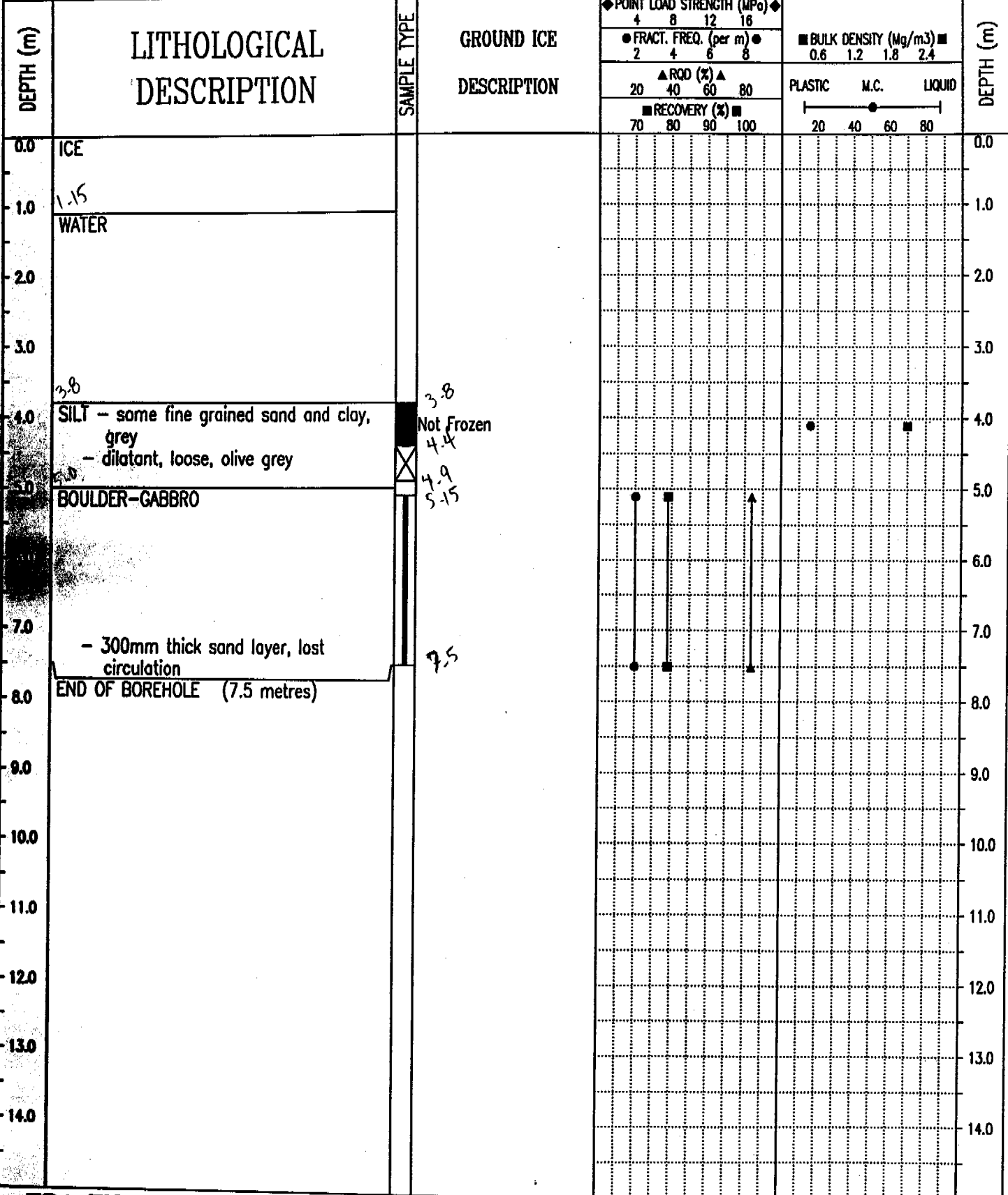
DEPTH (m)	LITHOLOGICAL DESCRIPTION	SAMPLE TYPE	GROUND ICE DESCRIPTION	POINT LOAD STRENGTH (MPa)				BULK DENSITY (Mg/m ³)				DEPTH (m)
				4	8	12	15	■				
				● FRACT. FREQ. (per m) ●				PLASTIC M.C. LIQUID				
				2	4	6	8	—				
0.0	ICE											0.0
1.0	WATER											1.0
2.0												2.0
3.0												3.0
4.0												4.0
5.0												5.0
5.5	SILT - some sand and clay, organic silt, loose		Not Frozen									5.5
6.0												6.0
6.7	sandy, dilatant, compact											6.7
7.0												7.0
7.6												7.6
8.0	GRAVEL - coarse grained											8.0
8.4	cobbles											8.4
9.0												9.0
9.35	boulder											9.35
9.8												9.8
10.0	SHATTERED BEDROCK-GABBRO - broken, shattered											10.0
10.4												10.4
11.0												11.0
12.0	- more competent END OF BOREHOLE (12.0 metres)											12.0
13.0												13.0
14.0												14.0

EBA ENGINEERING CONSULTANTS LTD.
EDMONTON, ALBERTA

LOGGED BY: RJM	COMPLETION DEPTH: 12.0 m
REVIEWED BY: DWH	COMPLETE: 93/04/07
Fig. No: 11157-29	Page 1 of 1

PROJECT: IZOK PROJECT FEASIBILITY STUDY	CLIENT: MINNOVA INC.	BOREHOLE NO: 11157-29
MINE/PLANT/TAILINGS SITE INVESTIGATION	DRILL: LONGYEAR 38 DIAMOND DRILL	Project No: 0101-11157
OPEN PIT-WASTE ROCK DUMP	UMA COORDINATES: E15924.137; N15357.068	ELEVATION: 416.900 (m)

SAMPLE TYPE SHELBY TUBE DISTURBED SPT NO RECOVERY CORE

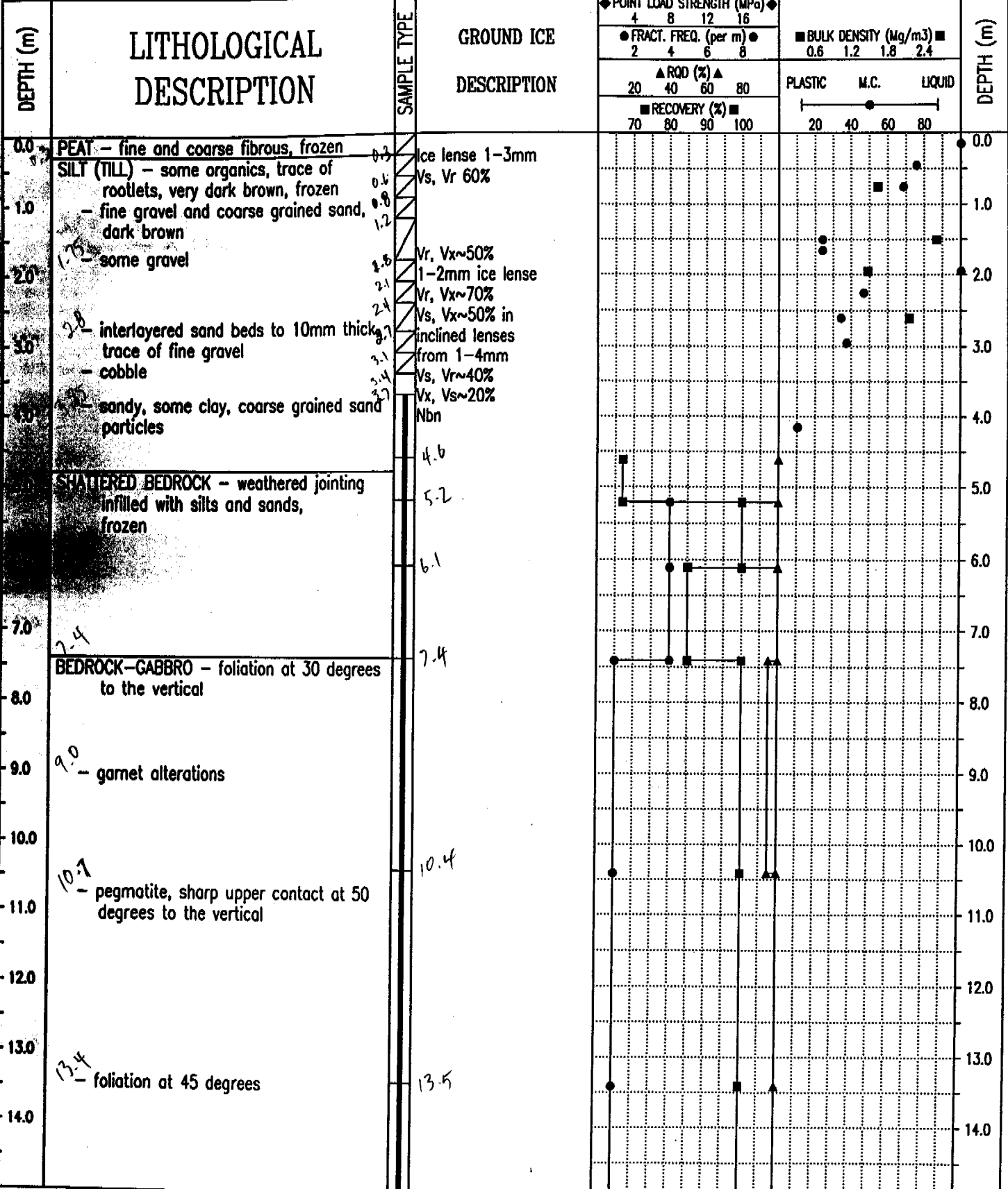


EBA ENGINEERING CONSULTANTS LTD.
EDMONTON, ALBERTA

LOGGED BY: RJM	COMPLETION DEPTH: 7.5 m
REVIEWED BY: DWH	COMPLETE: 93/04/06
Fig. No: 11157-30	Page 1 of 1

PROJECT: IZOK PROJECT FEASIBILITY STUDY	CLIENT: MINNOVA INC.	BOREHOLE No: 11157-26
MINE/PLANT/TAILINGS SITE INVESTIGATION	DRILL: LONGYEAR 38 DIAMOND DRILL	Project No: 0101-11157
EAST OF MILL BUILDING	UMA COORDINATES: E17283.474; N15587.167	ELEVATION: 427.900 (m)

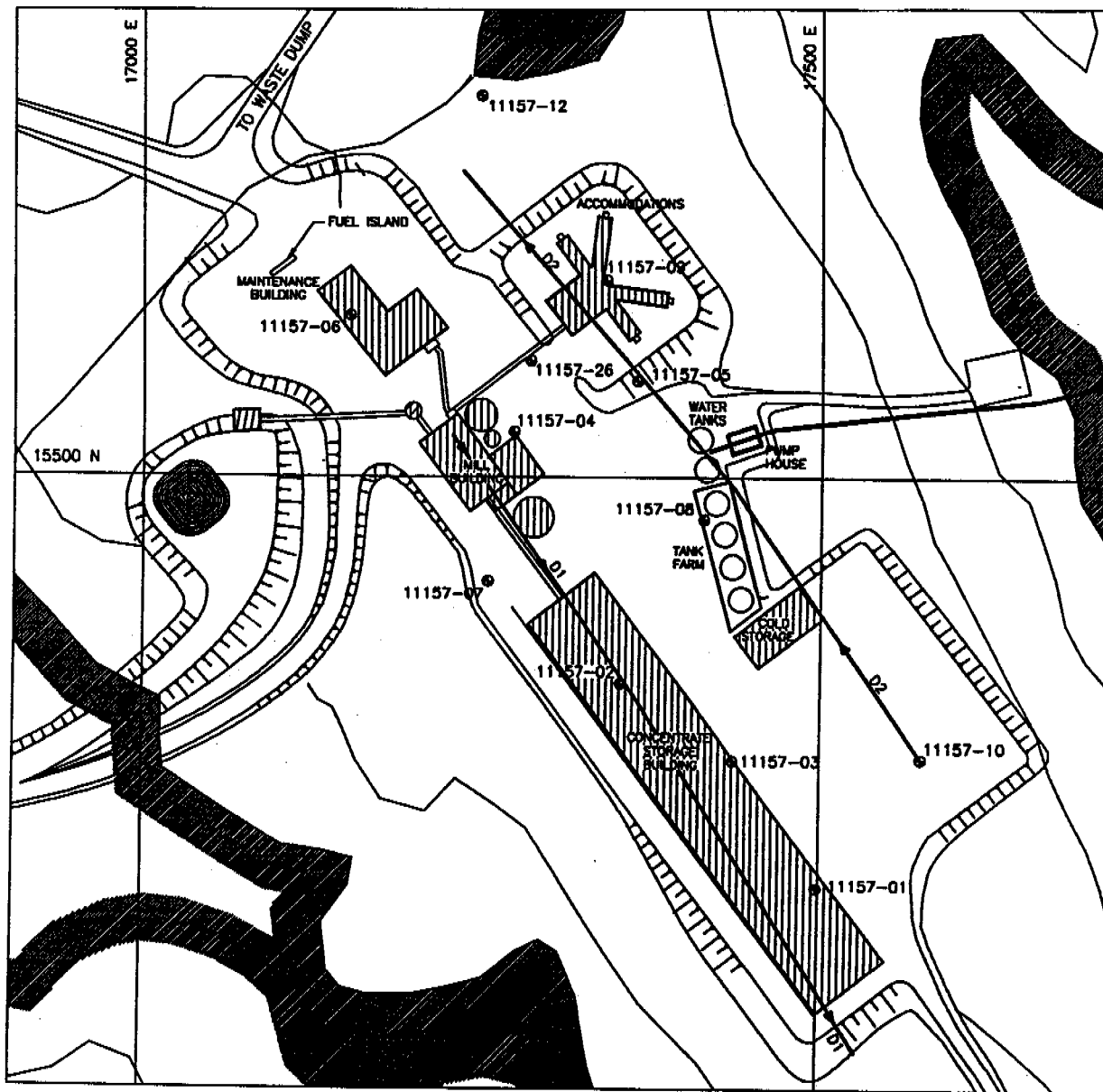
SAMPLE TYPE SHELBY TUBE DISTURBED SPT NO RECOVERY CORE



EBA ENGINEERING CONSULTANTS LTD.
EDMONTON, ALBERTA

LOGGED BY: JWC RJM	COMPLETION DEPTH: 16.2 m
REVIEWED BY: DWH	COMPLETE: 93/04/07
Fig. No: 11157-28	Page 1 of 2

APPENDIX D
EM31 GEOPHYSICAL RESULTS

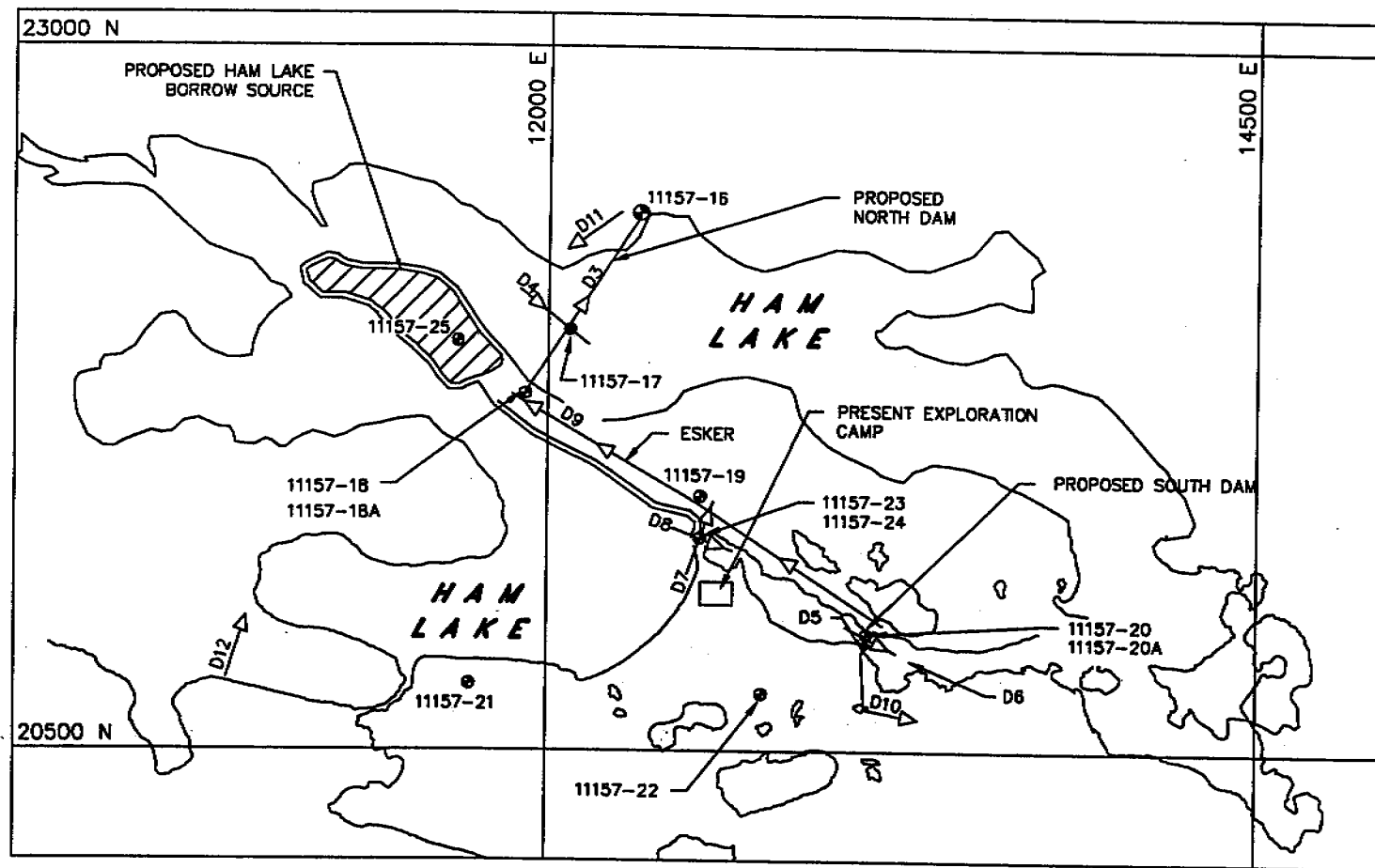


NOTE: BASED ON DIGITAL MAP PROVIDED BY BECHTEL/CESL. (1993-05-11)

LEGEND
 ● - BOREHOLE LOCATION
 → - EM-31 PROFILE

11157-01

FIGURE D.1 PLANT AREA SITE PLAN SHOWING BOREHOLE AND EM-31 PROFILE LOCATIONS



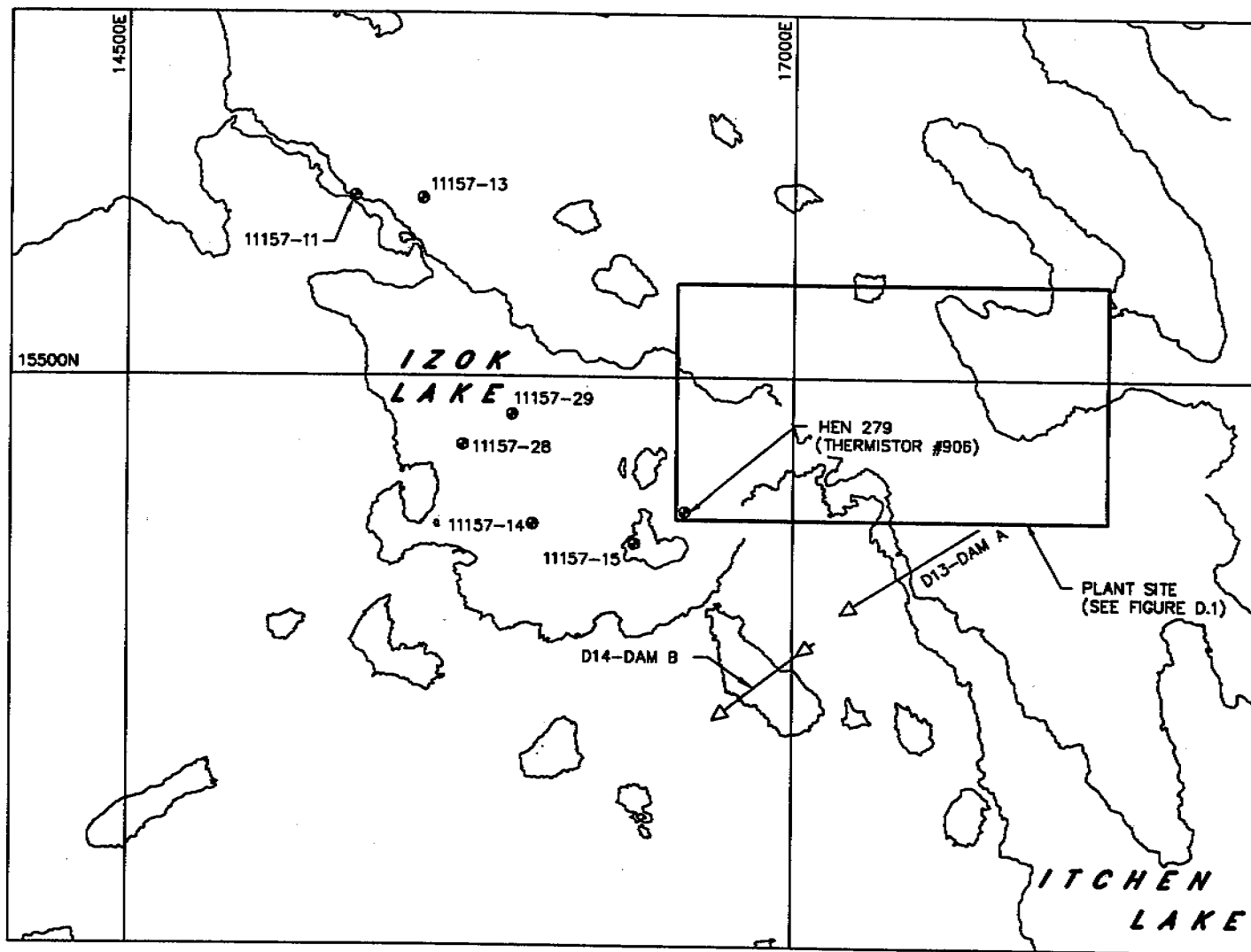
NOTES: 1. BASED ON DIGITAL MAP PROVIDED BY METALL MINING CORPORATION.
 2. GRID SYSTEM BASED ON COORDINATE GRID FROM ORTHOPHOTOS AS SUPPLIED BY METALL MINING CORPORATION.

LEGEND

- - BOREHOLE LOCATIONS
- ▽ - EM-31 PROFILE LINE

11157-02

FIGURE D.2 HAM LAKE SITE PLAN, BOREHOLE AND EM-31 PROFILE LOCATIONS



NOTES: 1. BASED ON DIGITAL MAP PROVIDED BY METALL MINING CORPORATION.
 2. GRID SYSTEM BASED ON COORDINATE GRID FROM ORTHOPHOTOS AS SUPPLIED BY METALL MINING CORPORATION.

LEGEND

- - BOREHOLE LOCATIONS
- ▷ - EM-31 PROFILE LINE

FIGURE D.3 IZOK LAKE SITE PLAN, BOREHOLE AND EM-31 PROFILE LOCATIONS

APPENDIX E
LABORATORY TEST RESULTS

**GRAIN SIZE CURVES FOR SOIL SAMPLES OBTAINED FROM
DRILLING**

EBA Engineering Consultants Ltd.

PARTICLE - SIZE ANALYSIS OF SOILS

Project: Izok Project, Feasibility Study
Plant Site

Project Number: 0101-11157

Date Tested: April 29, 1993

Borehole Number: BH-2

Depth: 2.4 - 3.0 m

Soil Description: GRAVEL, sandy, silty

Cu: _____

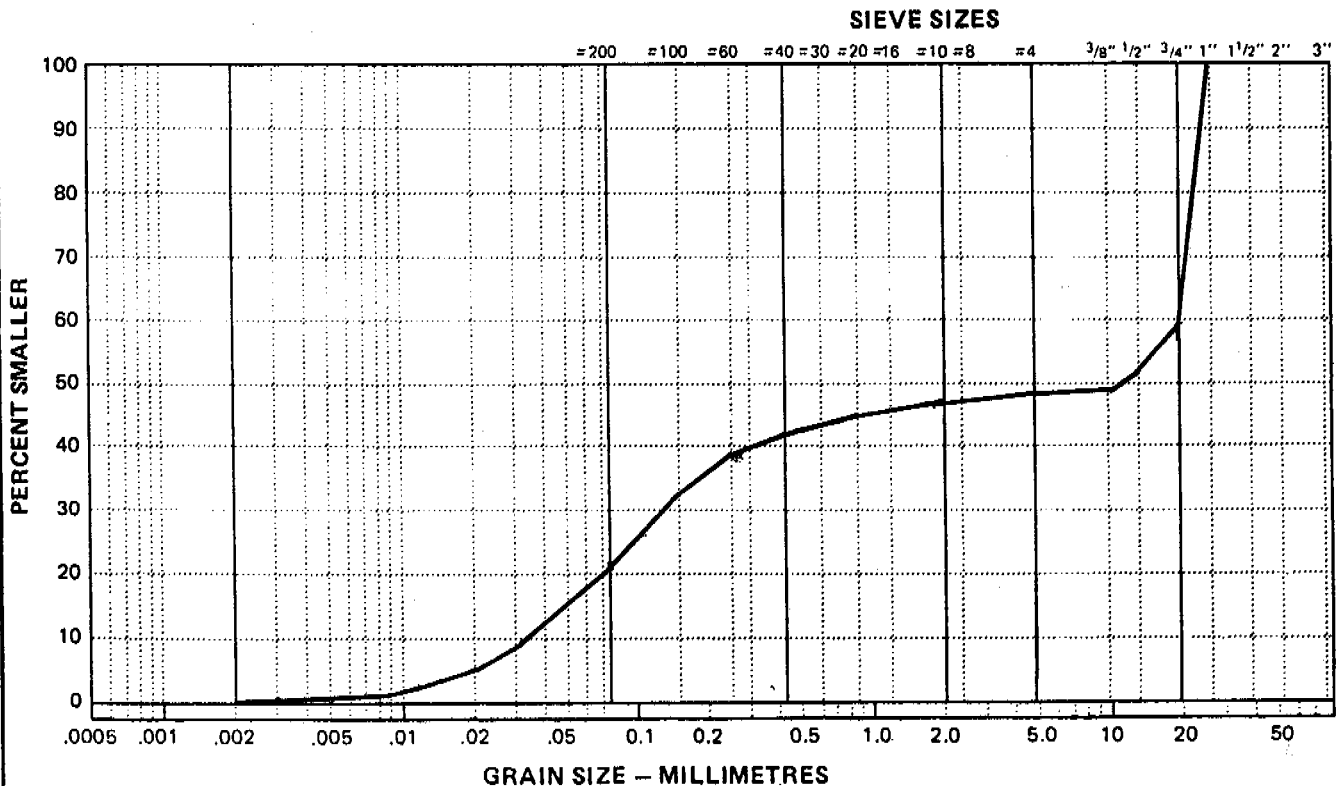
Cc: _____

Natural Moisture Content: 16.2 %

Remarks: _____

SIEVE	PERCENTAGE PASSING
3"	
2"	
1 1/2"	
1"	100.0
3/4"	58.9
3/8"	49.2
No. 4	48.0
No. 10	46.7
No. 20	44.9
No. 40	42.1
No. 60	37.7
No. 100	31.5
No. 200	21.0

CLAY	SILT	SAND			GRAVEL	
		FINE	MEDIUM	COARSE	FINE	COARSE



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PARTICLE - SIZE ANALYSIS OF SOILS

Project: Izok Project, Feasibility Study
Plant Site

Project Number: 0101-11157
 Date Tested: April 29, 1993

Borehole Number: BH-5
 Depth: 0.6 - 0.9 m

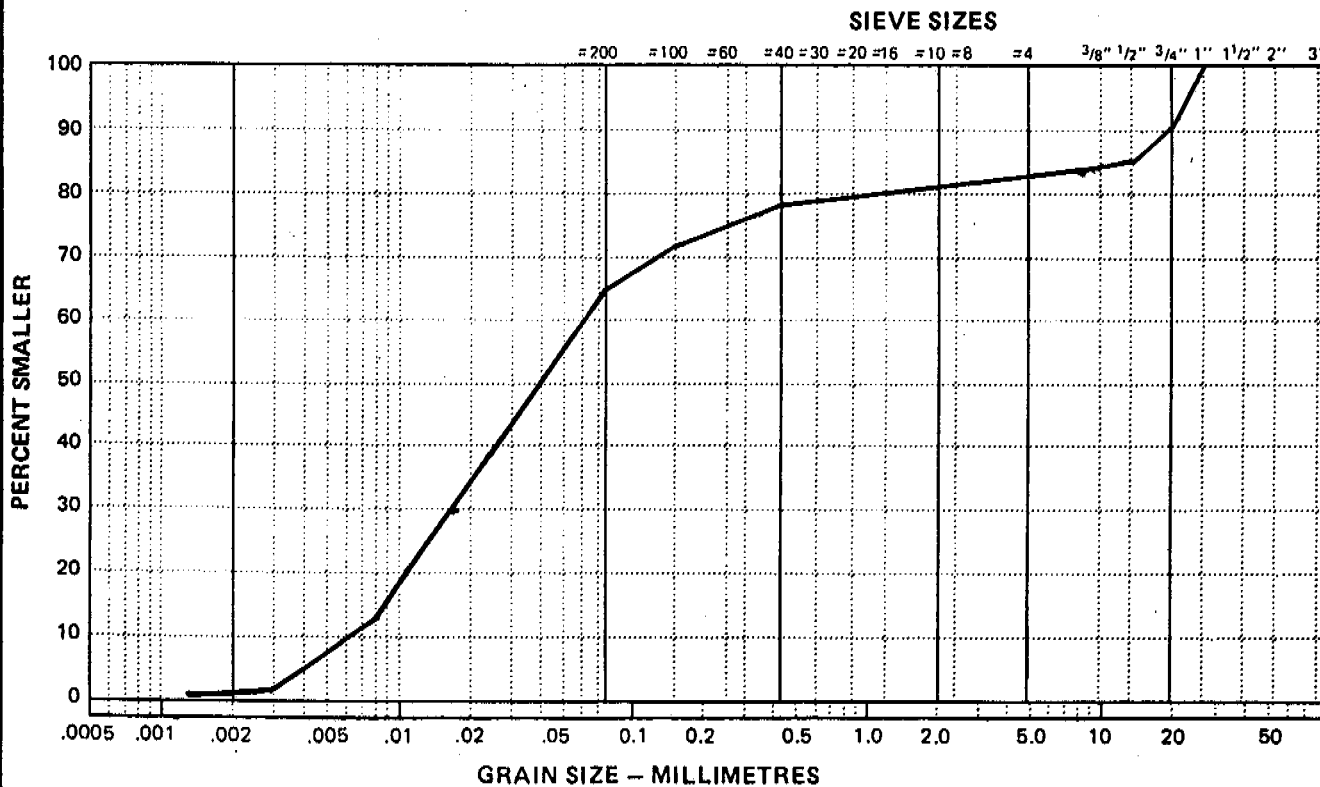
Soil Description: SILT, some sand, some gravel
 Cu: _____
 Cc: _____

Natural Moisture Content: 56.9 %

Remarks: _____

SIEVE	PERCENTAGE PASSING
3"	
2"	
1 1/2"	
1"	100.0
3/4"	90.1
3/8"	84.6
No. 4	83.1
No. 10	81.3
No. 20	79.4
No. 40	77.5
No. 60	75.3
No. 100	72.4
No. 200	65.4

CLAY	SILT	SAND			GRAVEL	
		FINE	MEDIUM	COARSE	FINE	COARSE



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EBA Engineering Consultants Ltd.

PARTICLE - SIZE ANALYSIS OF SOILS

Project: Izok Project, Feasibility Study
Plant Site

Project Number: 0101-11157

Date Tested: April 29, 1993

Borehole Number: BH-5

Depth: 1.3 - 1.5 m

Soil Description: GRAVEL, silty, sandy

Cu: _____

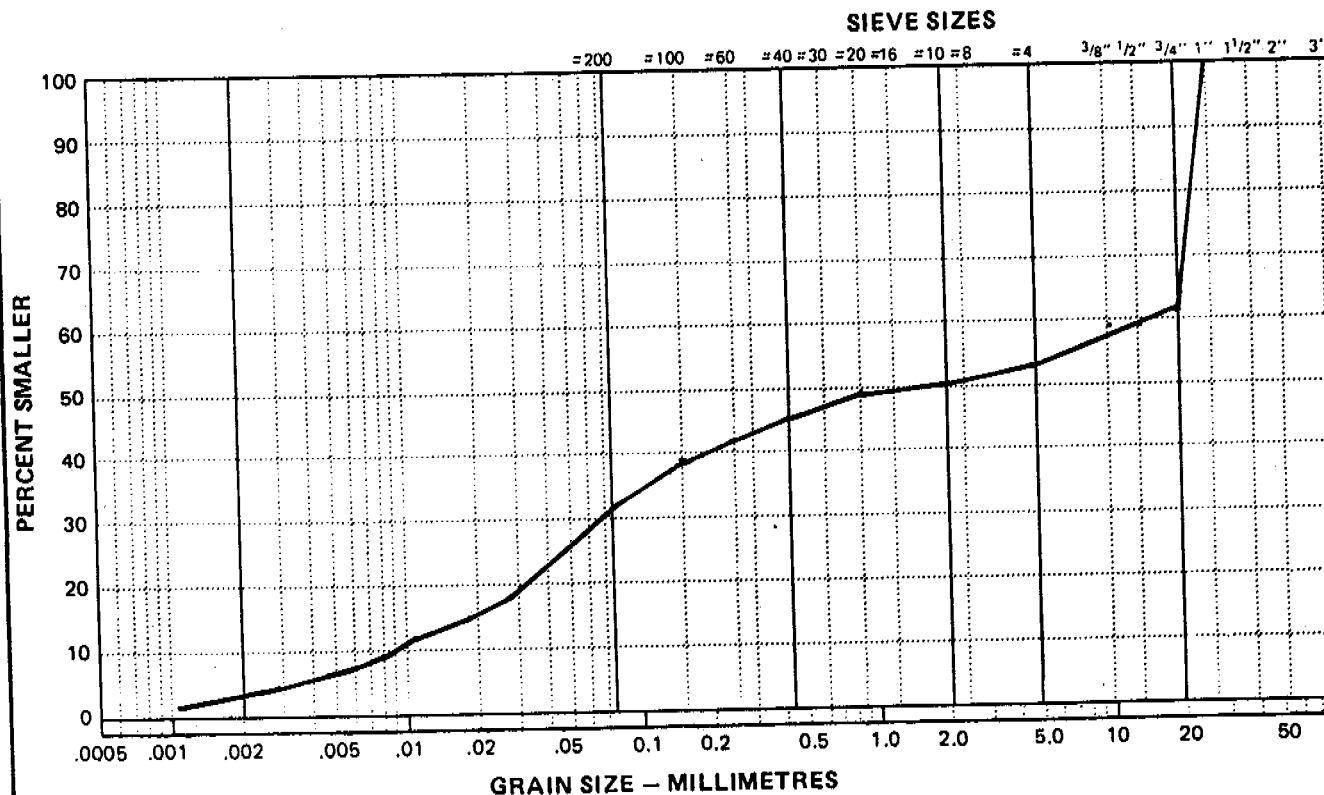
Cc: _____

Natural Moisture Content: 10.2 %

Remarks: _____

SIEVE	PERCENTAGE PASSING
3"	
2"	
1 1/2"	
1"	100.0
3/4"	61.0
3/8"	58.9
No. 4	52.6
No. 10	50.2
No. 20	48.7
No. 40	44.7
No. 60	41.7
No. 100	38.1
No. 200	31.2

CLAY	SILT	SAND			GRAVEL	
		FINE	MEDIUM	COARSE	FINE	COARSE



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EBA Engineering Consultants Ltd.

PARTICLE - SIZE ANALYSIS OF SOILS

Project: Izok Project, Feasibility Study
Plant Site

Project Number: 0101-11157

Date Tested: April 29, 1993

Borehole Number: BH-7

Depth: 0.3 - 0.6 m

Soil Description: SILT, sandy, gravelly

Cu: _____

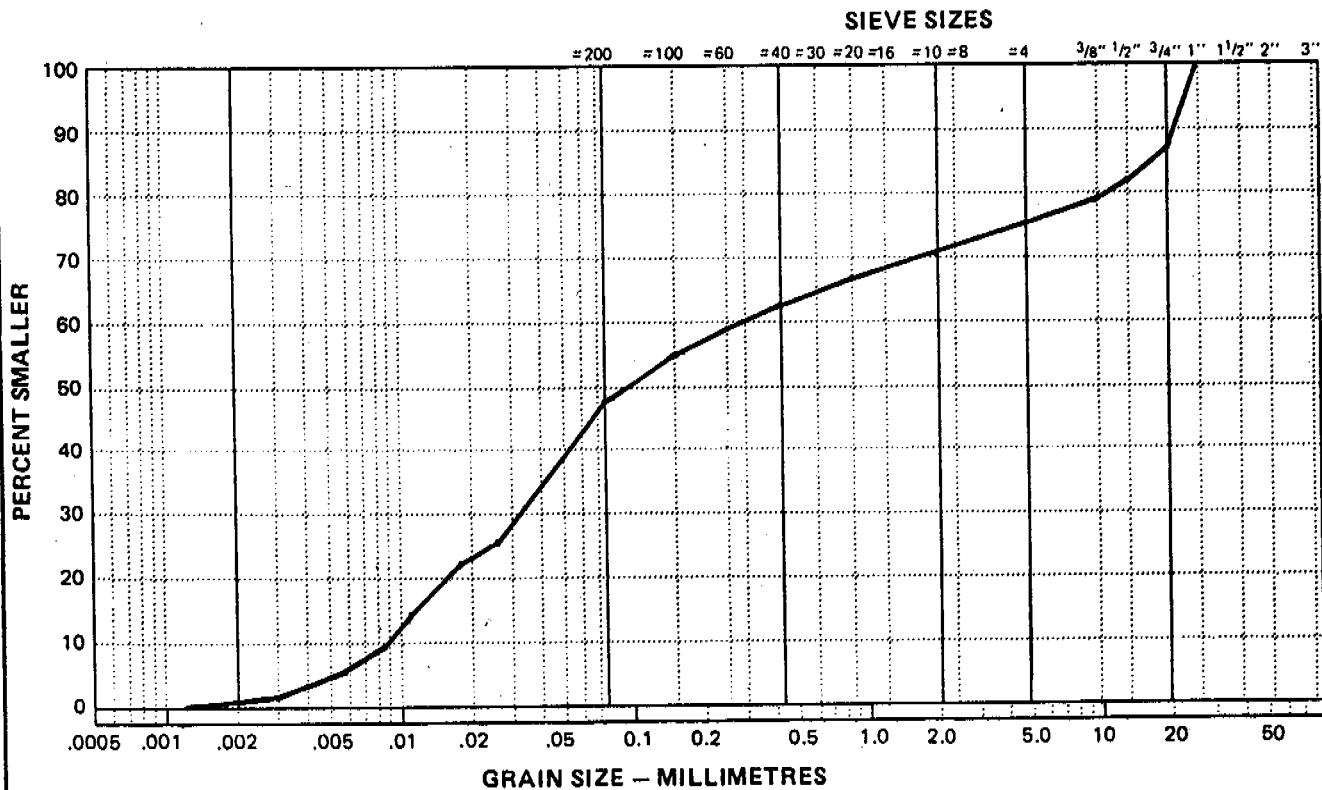
Cc: _____

Natural Moisture Content: 14.6 %

Remarks: _____

SIEVE	PERCENTAGE PASSING
3"	
2"	
1 1/2"	
1"	100.0
3/4"	86.5
3/8"	79.3
No. 4	75.1
No. 10	70.3
No. 20	66.6
No. 40	63.1
No. 60	59.3
No. 100	54.8
No. 200	47.6

CLAY	SILT	SAND			GRAVEL	
		FINE	MEDIUM	COARSE	FINE	COARSE



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EBA Engineering Consultants Ltd.

PARTICLE - SIZE ANALYSIS OF SOILS

Project: IZOK PROJ. FEASIBILITY STUDY
PLANT SITE INVESTIGATION

Project Number: 101 -11157

Date Tested: 93-06-15

Borehole Number: 13

Depth: .60 - .90 M

Soil Description: SILT. SANDY. TRACE GRAVEL. TRACE CLAY

Cu: 5.90

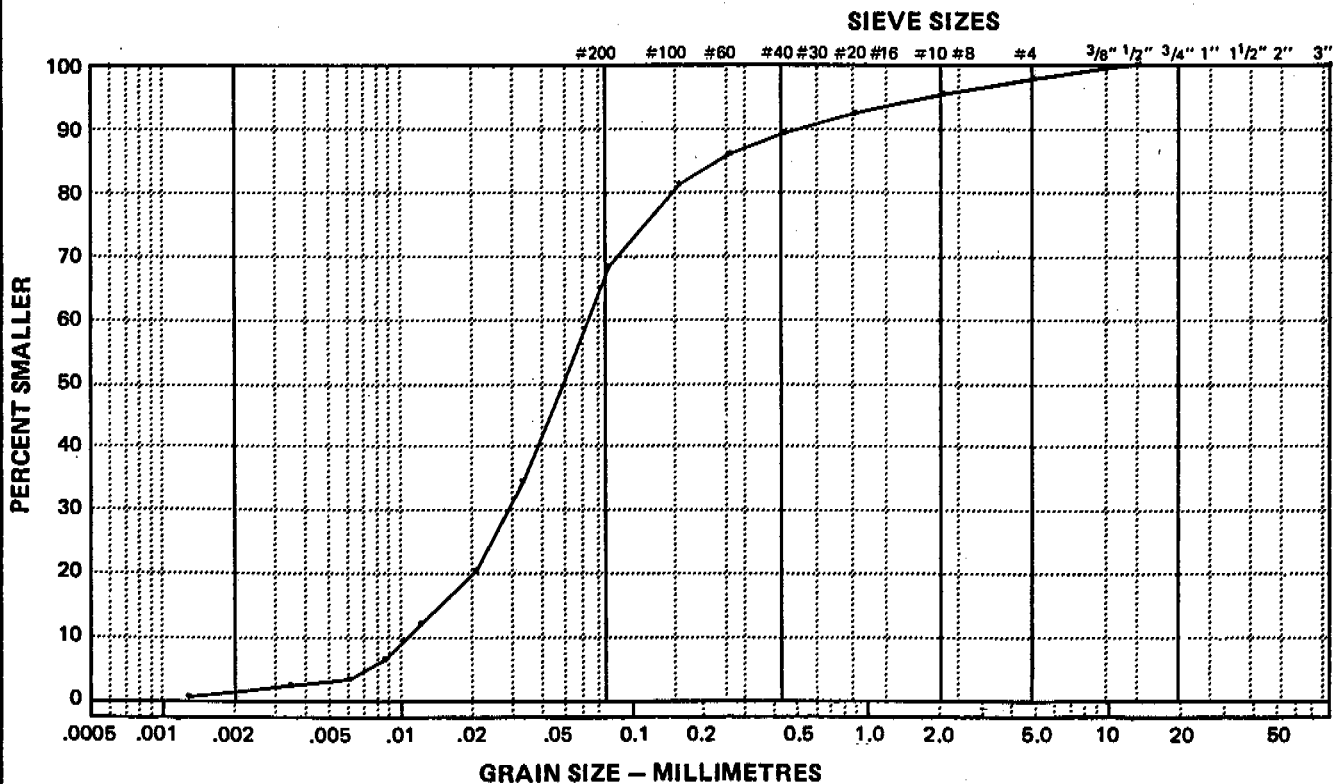
Cc: 1.21

Natural Moisture Content: _____ %

Remarks: _____

SIEVE	PERCENTAGE PASSING
3"	
2"	
1 1/2"	
1"	
3/4"	100.0
3/8"	99.5
No. 4	97.8
No. 10	95.4
No. 20	92.3
No. 40	89.1
No. 60	85.9
No. 100	81.1
No. 200	67.9

CLAY	SILT	SAND			GRAVEL	
		FINE	MEDIUM	COARSE	FINE	COARSE



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EBA Engineering Consultants Ltd.

PARTICLE - SIZE ANALYSIS OF SOILS

Project: Izok Project, Feasibility Study
Plant Site

Project Number: 0101-11157

Date Tested: April 29, 1993

Borehole Number: BH-14

Depth: 10.7 - 11.1 m

Soil Description: SILT, trace sand

Cu: _____

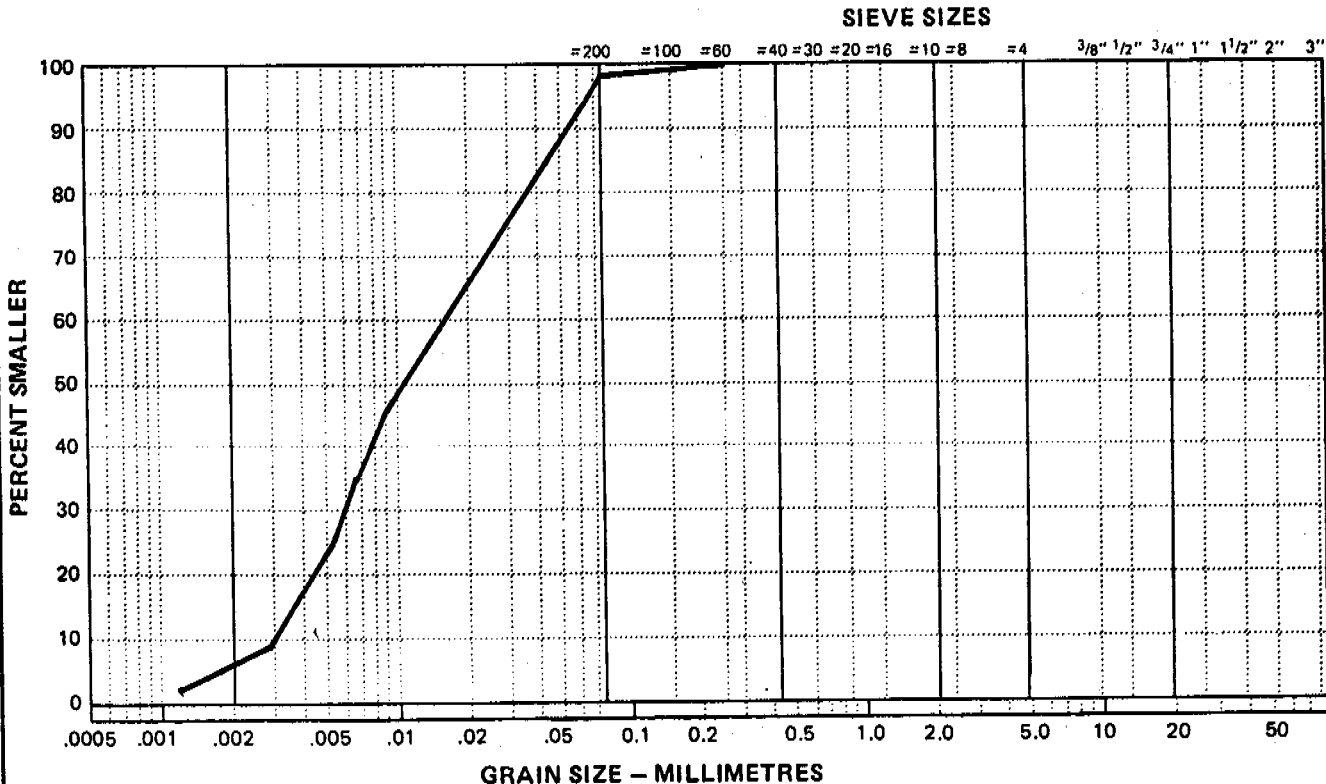
Cc: _____

Natural Moisture Content: 30.2 %

Remarks: _____

SIEVE	PERCENTAGE PASSING
3"	
2"	
1 1/2"	
1"	
3/4"	
3/8"	
No. 4	
No. 10	
No. 20	
No. 40	
No. 60	100.0
No. 100	99.5
No. 200	98.5

CLAY	SILT	SAND			GRAVEL	
		FINE	MEDIUM	COARSE	FINE	COARSE



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EBA Engineering Consultants Ltd.

PARTICLE - SIZE ANALYSIS OF SOILS

Project: IZOK PROJ. FEASIBILITY STUDY
PLANT SITE INVESTIGATION

Project Number: 101 -11157

Date Tested: 93-06-14

Borehole Number: 16

Depth: 0.00 - .30 M

Soil Description: SAND- GRAVEL, TRACE SILT

Cu: 36.41

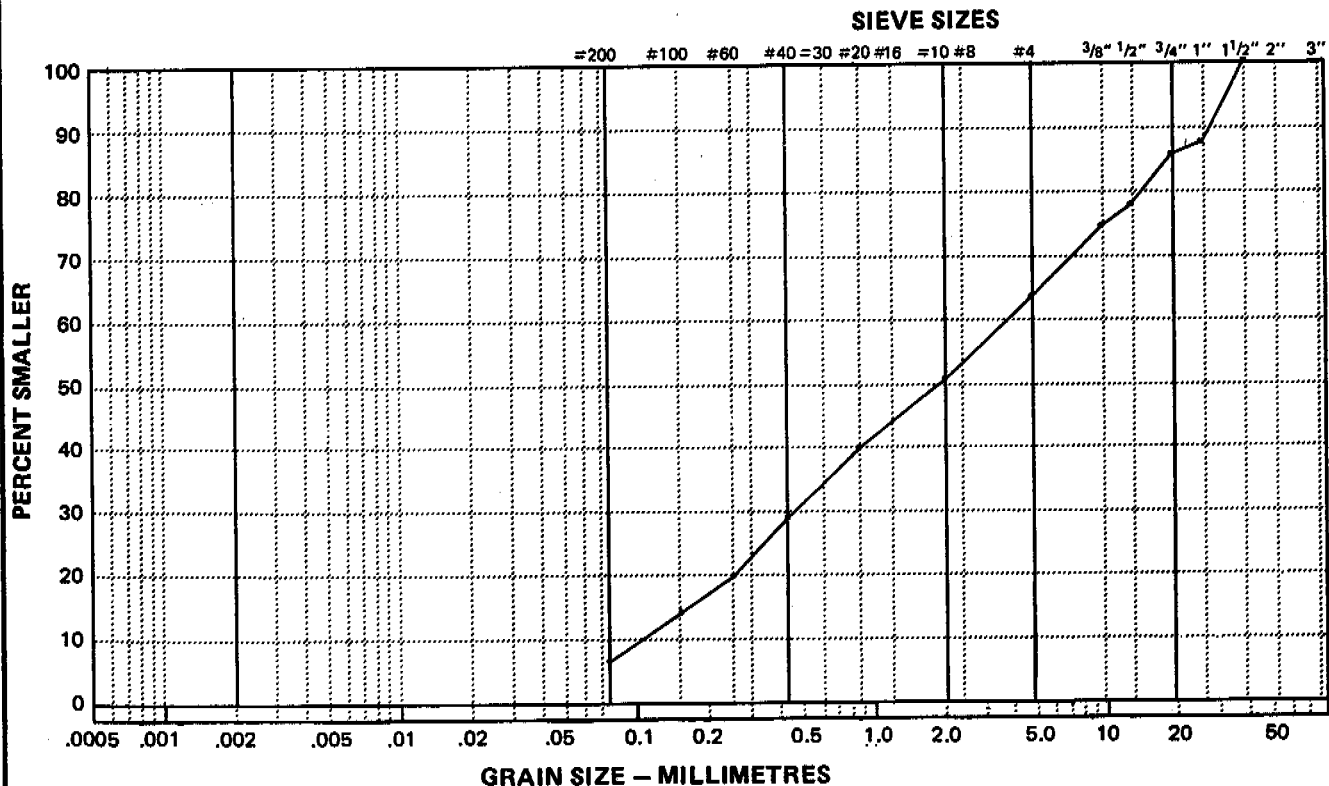
Cc: .53

Natural Moisture Content: 2.8 %

Remarks: _____

SIEVE	PERCENTAGE PASSING
3"	
2"	
1 1/2"	100.0
1"	87.1
3/4"	85.2
3/8"	73.9
No. 4	63.0
No. 10	50.2
No. 20	39.5
No. 40	28.5
No. 60	19.4
No. 100	13.7
No. 200	6.0

CLAY	SILT	SAND			GRAVEL	
		FINE	MEDIUM	COARSE	FINE	COARSE



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EBA Engineering Consultants Ltd.

PARTICLE - SIZE ANALYSIS OF SOILS

Project: IZDK PROJ. FEASIBILITY STUDY
PLANT SITE INVESTIGATION

Project Number: 101 -11157

Date Tested: 93-06-15

Borehole Number: 17

Depth: .30 - .80 M

Soil Description: SAND, TRACE GRAVEL, TRACE SILT

Cu: 4.33

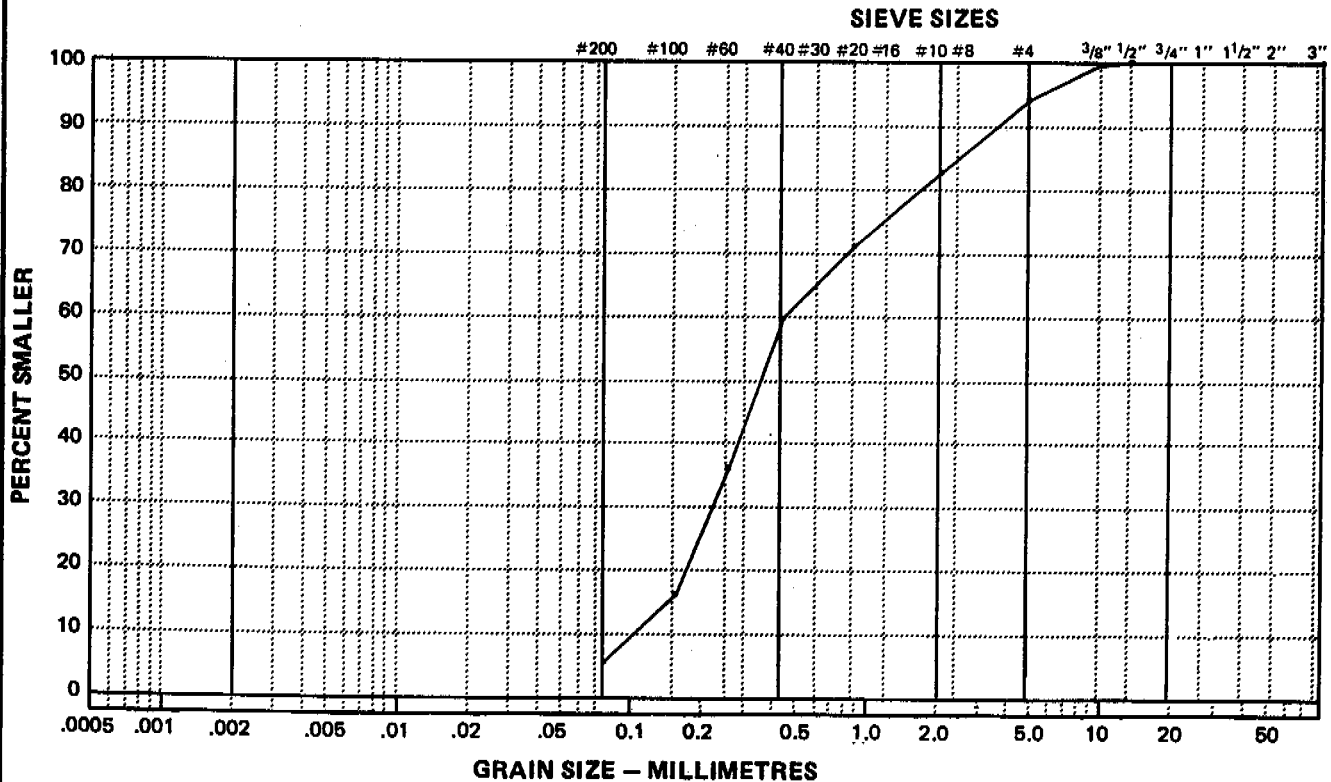
Cc: 1.03

Natural Moisture Content: 18.3 %

Remarks: Trace Organics < 1%

SIEVE	PERCENTAGE PASSING
3"	
2"	
1 1/2"	
1"	
3/4"	100.0
3/8"	99.5
No. 4	94.0
No. 10	82.4
No. 20	70.6
No. 40	59.3
No. 60	35.8
No. 100	15.8
No. 200	5.1

CLAY	SILT	SAND			GRAVEL	
		FINE	MEDIUM	COARSE	FINE	COARSE



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EBA Engineering Consultants Ltd.

PARTICLE - SIZE ANALYSIS OF SOILS

Project: IZDK PROJ. FEASIBILITY STUDY
PLANT SITE INVESTIGATION

Project Number: 101 -11157

Date Tested: 93-06-1

Borehole Number: 17

Depth: .80 - 1.20 M

Soil Description: SILT, SOME SAND, TRACE CLAY

Cu: 3.48

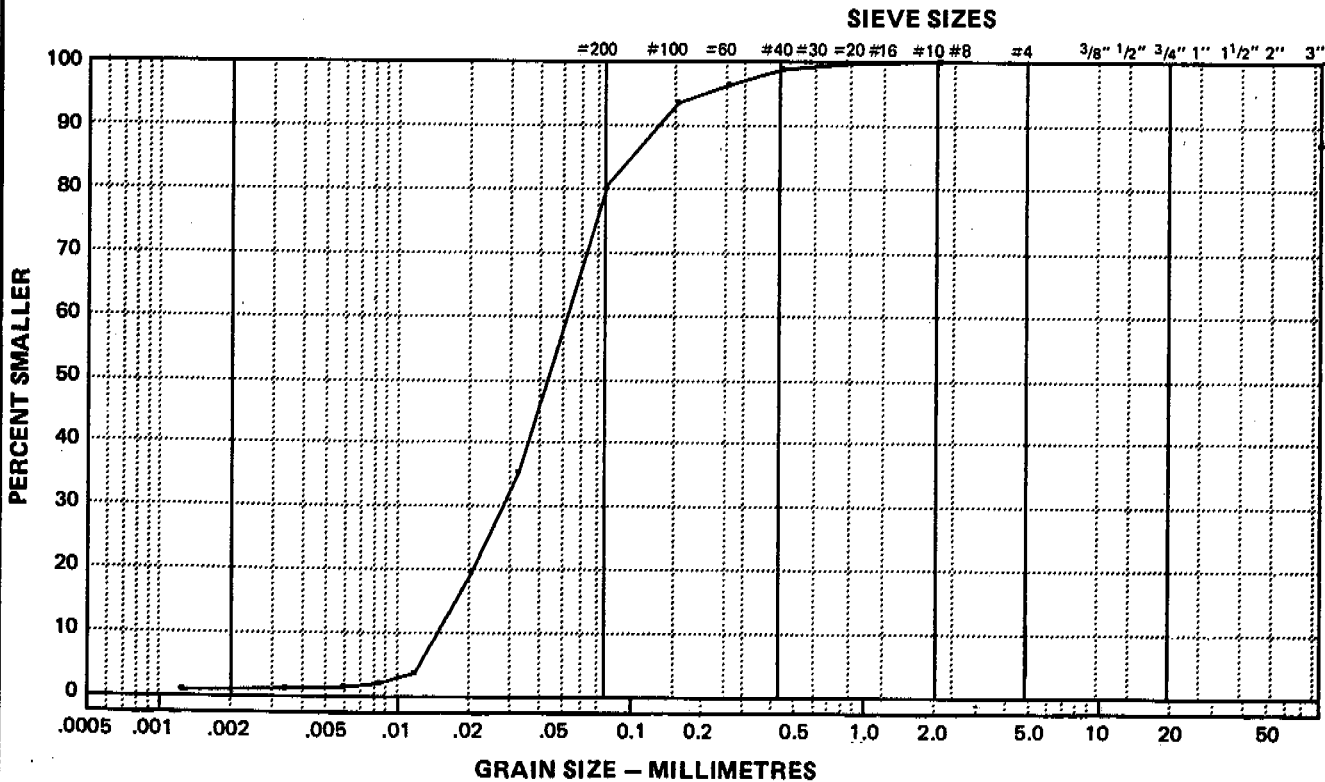
Cc: 1.01

Natural Moisture Content: _____ %

Remarks: _____

SIEVE	PERCENTAGE PASSING
3"	
2"	
1 1/2"	
1"	
3/4"	
3/8"	
No. 4	
No. 10	100.0
No. 20	99.6
No. 40	98.6
No. 60	96.2
No. 100	93.4
No. 200	80.2

CLAY	SILT	SAND			GRAVEL	
		FINE	MEDIUM	COARSE	FINE	COARSE



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EBA Engineering Consultants Ltd.

PARTICLE - SIZE ANALYSIS OF SOILS

Project: IZOK PROJ. FEASIBILITY STUDY
PLANT SITE INVESTIGATION

Project Number: 101 -11157

Date Tested: 93-06-15

Borehole Number: 17

Depth: 3.10 - 3.70 M

Soil Description: SILT- SAND, TRACE CLAY

Cu: 5.03

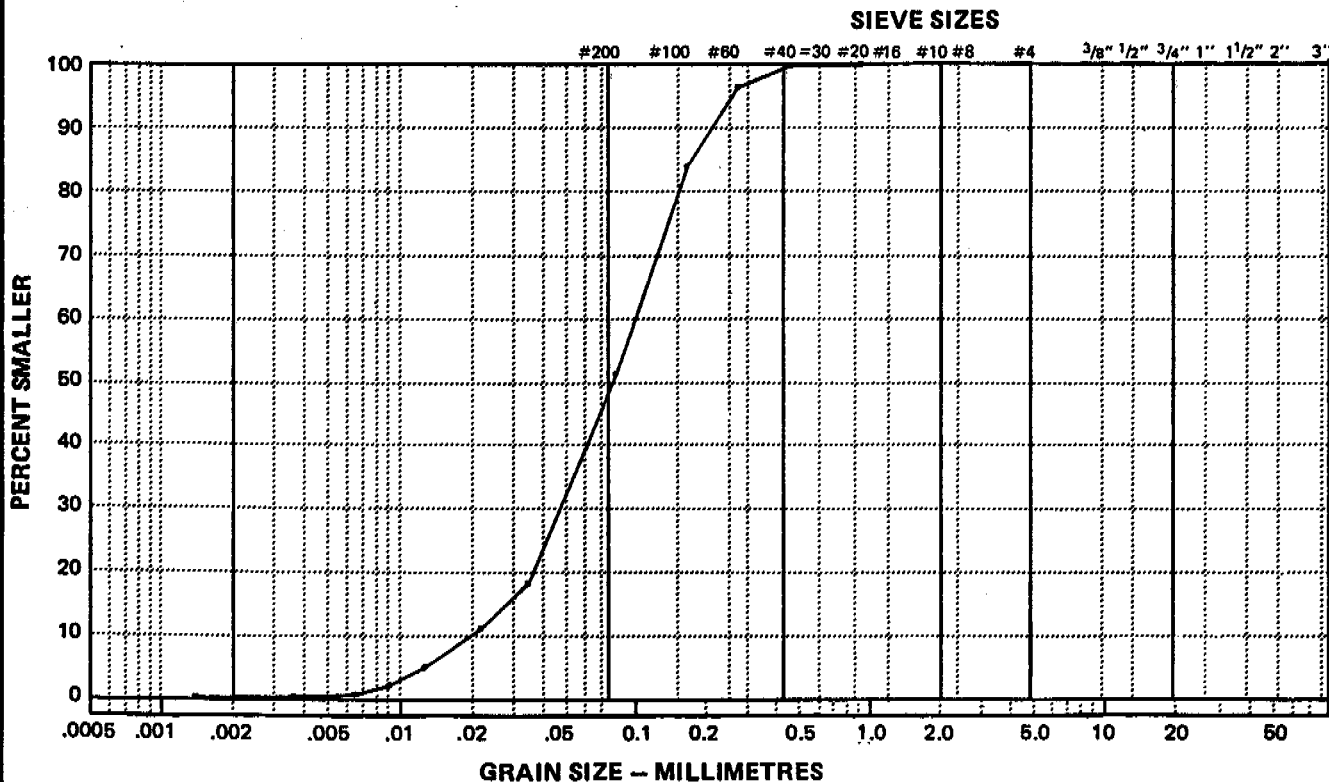
Cc: 1.13

Natural Moisture Content: _____ %

Remarks: _____

SIEVE	PERCENTAGE PASSING
3"	
2"	
1 1/2"	
1"	
3/4"	
3/8"	
No. 4	
No. 10	
No. 20	100.0
No. 40	99.8
No. 60	96.3
No. 100	83.6
No. 200	51.2

CLAY	SILT	SAND			GRAVEL	
		FINE	MEDIUM	COARSE	FINE	COARSE



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EBA Engineering Consultants Ltd.

PARTICLE - SIZE ANALYSIS OF SOILS

Project: IZDK PROJ. FEASIBILITY STUDY
PLANT SITE INVESTIGATION

Project Number: 101 -11157

Date Tested: 93-06-10

Borehole Number: 17

Depth: 5.10 - 5.40 M

Soil Description: SAND- SILT. SOME GRAVEL. TRACE CLAY

Cu: 11.18

Cc: .67

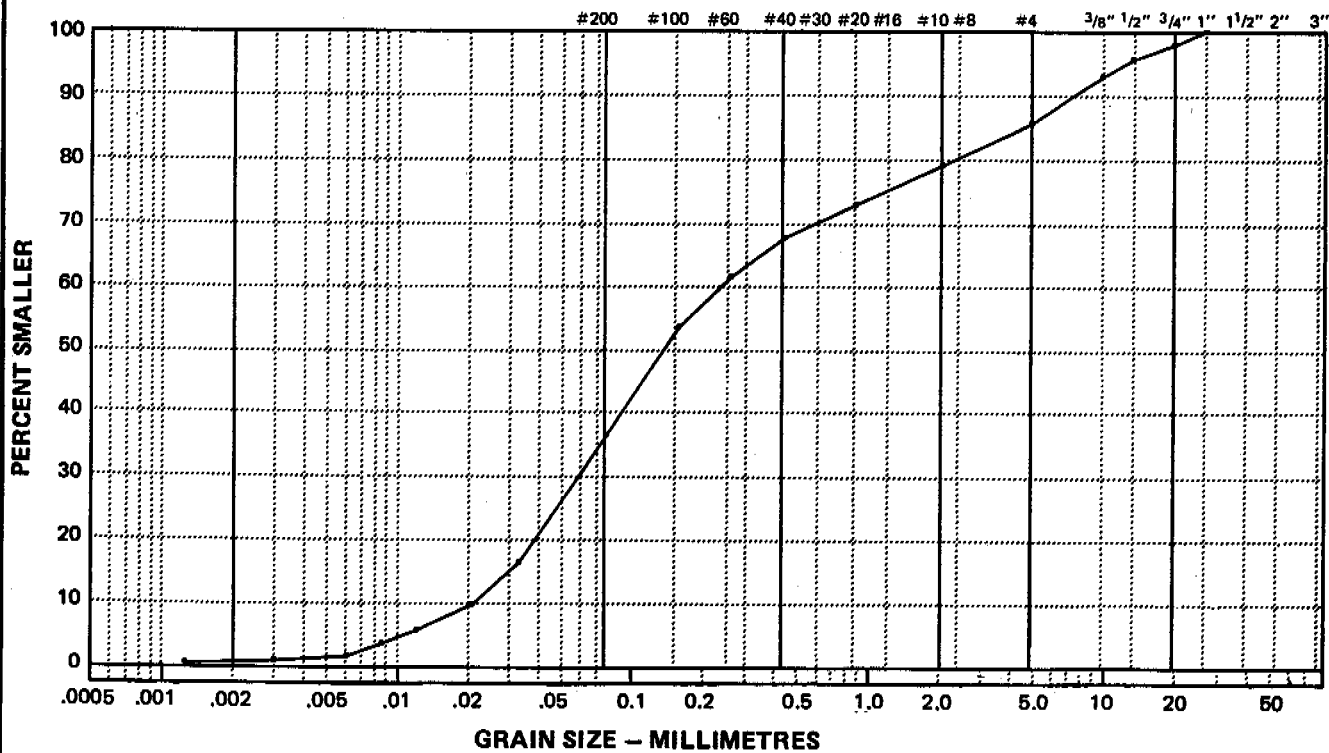
Natural Moisture Content: _____ %

Remarks: _____

SIEVE	PERCENTAGE PASSING
3"	
2"	
1 1/2"	
1"	100.0
3/4"	97.9
3/8"	92.7
No. 4	85.5
No. 10	78.8
No. 20	72.7
No. 40	67.4
No. 60	61.3
No. 100	53.3
No. 200	36.3

CLAY	SILT	SAND			GRAVEL	
		FINE	MEDIUM	COARSE	FINE	COARSE

SIEVE SIZES



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EBA Engineering Consultants Ltd.

PARTICLE - SIZE ANALYSIS OF SOILS

Project: IZOK PROJ. FEASIBILITY STUDY
PLANT SITE INVESTIGATION

Project Number: 101 -11157

Date Tested: 93-06-15

Borehole Number: 18

Depth: 1.40 - 1.80 M

Soil Description: SILT- SAND, TRACE CLAY, TRACE GRAVEL

Cu: 4.27

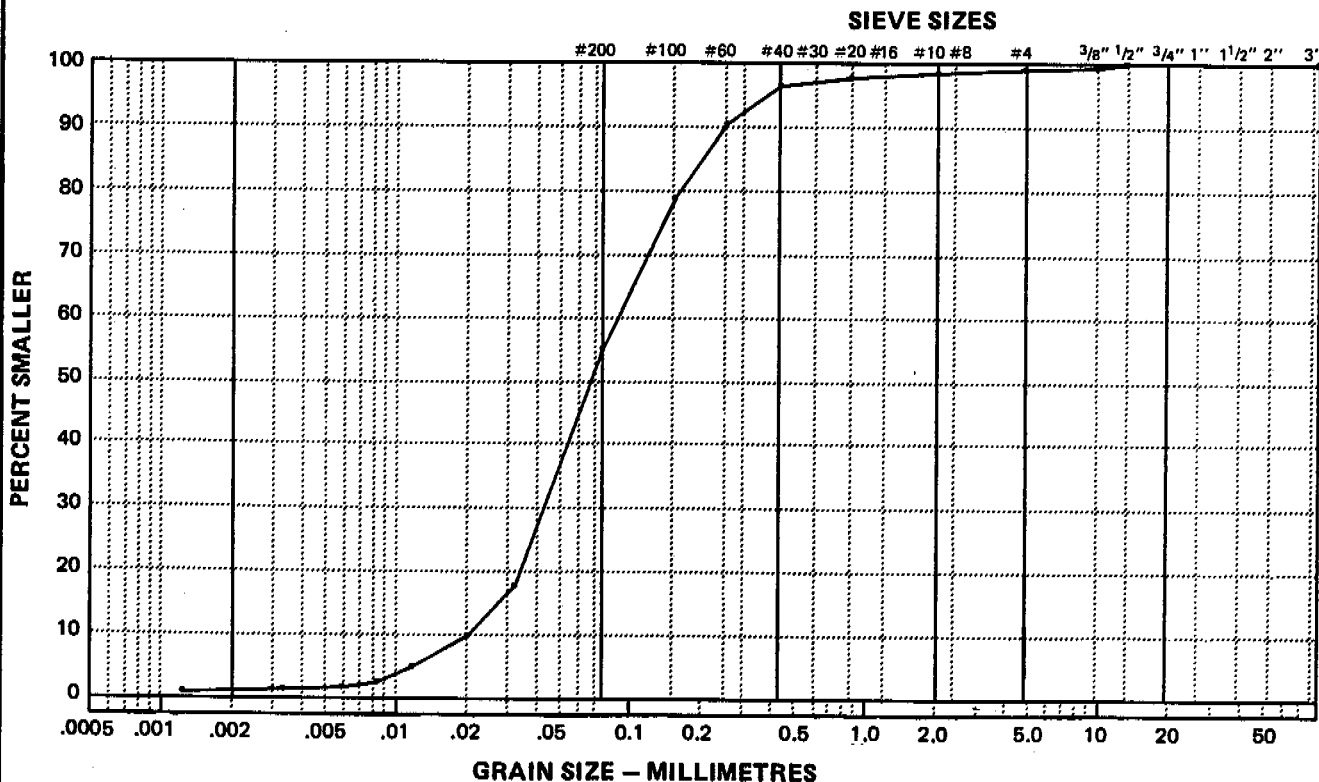
Cc: 1.00

Natural Moisture Content: _____ %

Remarks: _____

SIEVE	PERCENTAGE PASSING
3"	
2"	
1 1/2"	
1"	
3/4"	100.0
3/8"	99.4
No. 4	99.1
No. 10	98.5
No. 20	97.8
No. 40	96.4
No. 60	90.3
No. 100	78.7
No. 200	55.1

CLAY	SILT	SAND			GRAVEL	
		FINE	MEDIUM	COARSE	FINE	COARSE



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EBA Engineering Consultants Ltd.

PARTICLE - SIZE ANALYSIS OF SOILS

Project: IZOK PROJ. FEASIBILITY STUDY
PLANT SITE INVESTIGATION

Project Number: 101 -11157

Date Tested: 93-06-11

Borehole Number: 18

Depth: 4.00 - 4.60 M

Soil Description: GRAVEL, SOME SAND, TRACE SILT

Cu: 34.93

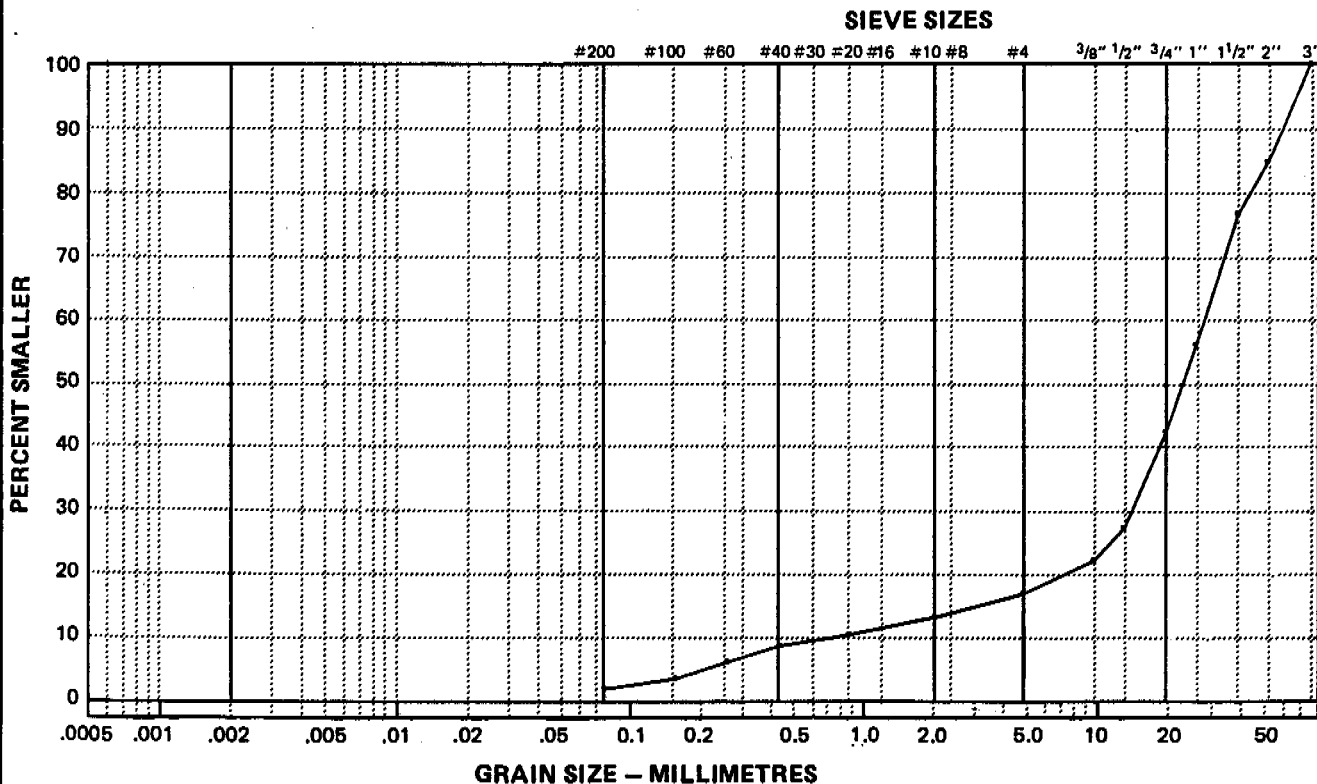
Cc: 8.76

Natural Moisture Content: _____ %

Remarks: _____

SIEVE	PERCENTAGE PASSING
3"	100.0
2"	84.6
1 1/2"	76.5
1"	55.8
3/4"	42.0
3/8"	21.7
No. 4	16.6
No. 10	12.9
No. 20	10.2
No. 40	8.3
No. 60	5.8
No. 100	3.1
No. 200	1.6

CLAY	SILT	SAND			GRAVEL	
		FINE	MEDIUM	COARSE	FINE	COARSE



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EBA Engineering Consultants Ltd.

PARTICLE - SIZE ANALYSIS OF SOILS

Project: IZOK PROJ. FEASIBILITY STUDY
PLANT SITE INVESTIGATION

Project Number: 101 -11157

Date Tested: 93-06-11

Borehole Number: 18

Depth: 16.80 - 17.40 M

Soil Description: SAND, TRACE SILT, TRACE GRAVEL

Cu: 4.64

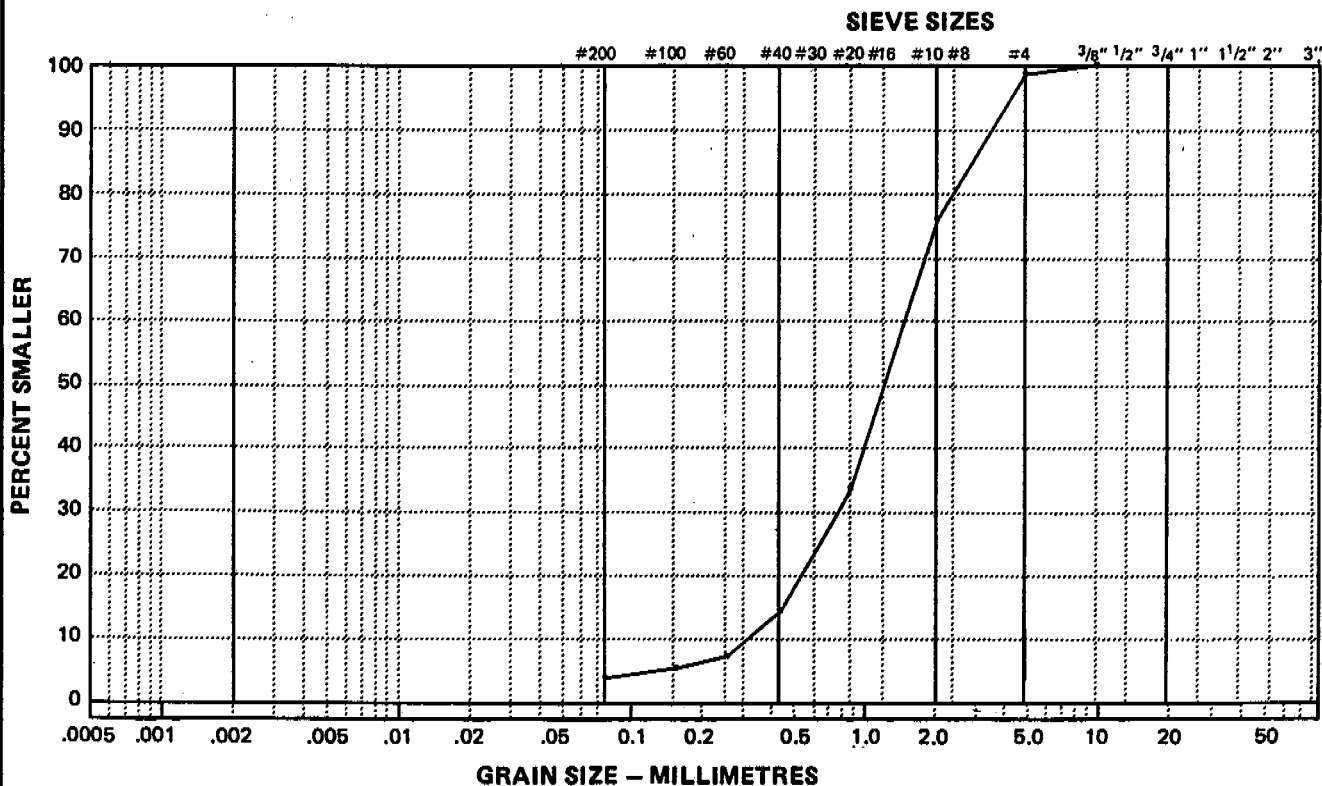
Cc: 1.24

Natural Moisture Content: 18.8 %

Remarks: _____

SIEVE	PERCENTAGE PASSING
3"	
2"	
1 1/2"	
1"	
3/4"	
3/8"	100.0
No. 4	98.5
No. 10	75.7
No. 20	33.4
No. 40	14.1
No. 60	7.0
No. 100	5.0
No. 200	3.5

CLAY	SILT	SAND			GRAVEL	
		FINE	MEDIUM	COARSE	FINE	COARSE



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EBA Engineering Consultants Ltd.

PARTICLE - SIZE ANALYSIS OF SOILS

Project: IZDK PROJ. FEASIBILITY STUDY
PLANT SITE INVESTIGATION

Project Number: 101 -11157

Date Tested: 93-06-11

Borehole Number: 20

Depth: 1.80 - 2.10 M

Soil Description: GRAVEL, TRACE SAND

Cu: 3.84

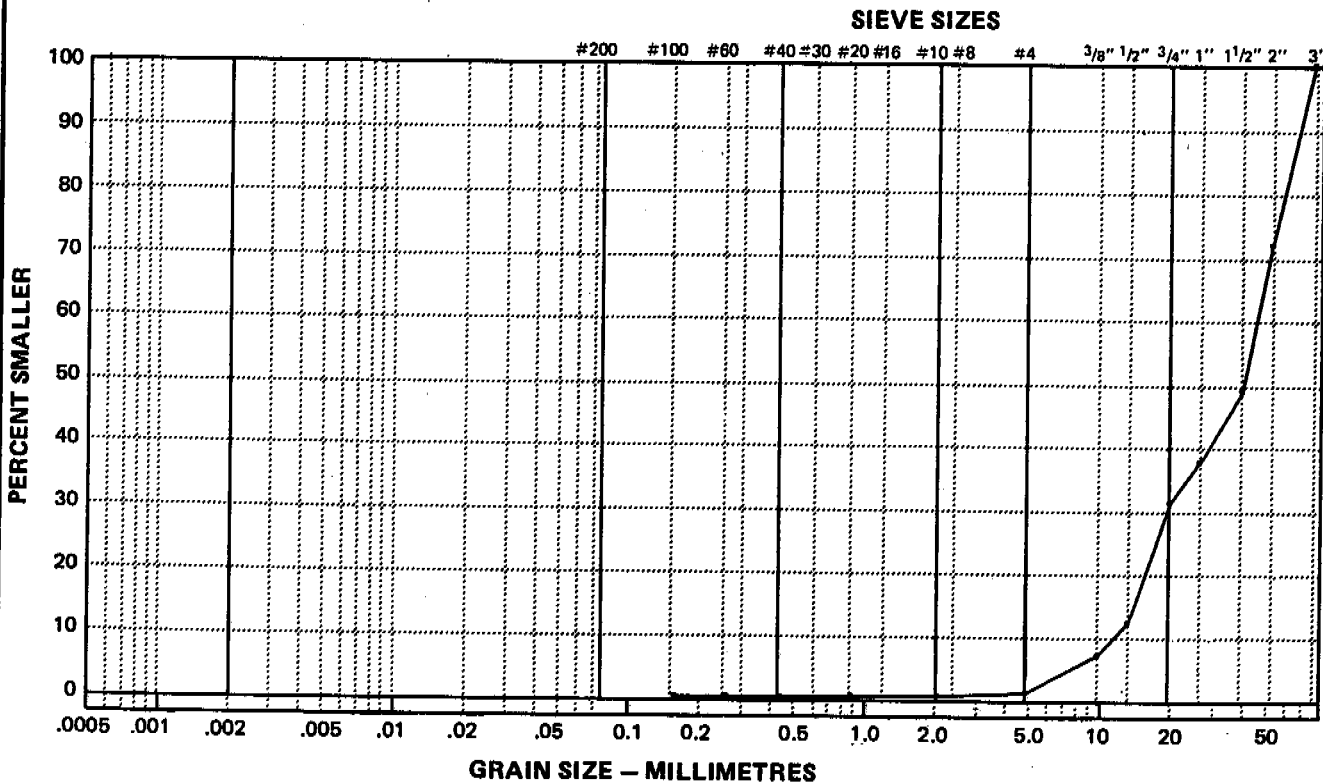
Cc: .69

Natural Moisture Content: _____ %

Remarks: _____

SIEVE	PERCENTAGE PASSING
3"	100.0
2"	71.5
1 1/2"	48.6
1"	37.5
3/4"	30.8
3/8"	6.7
No. 4	.9
No. 10	.3
No. 20	.1
No. 40	.1
No. 60	.0
No. 100	.0
No. 200	

CLAY	SILT	SAND			GRAVEL	
		FINE	MEDIUM	COARSE	FINE	COARSE



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EBA Engineering Consultants Ltd.

PARTICLE - SIZE ANALYSIS OF SOILS

Project: IZDK PROJ. FEASIBILITY STUDY
PLANT SITE INVESTIGATION

Project Number: 101 -11157

Date Tested: 93-06-07

Borehole Number: 20

Depth: 5.20 - 5.80 M

Soil Description: SILT, SANDY, SOME CLAY

Cu: 22.29

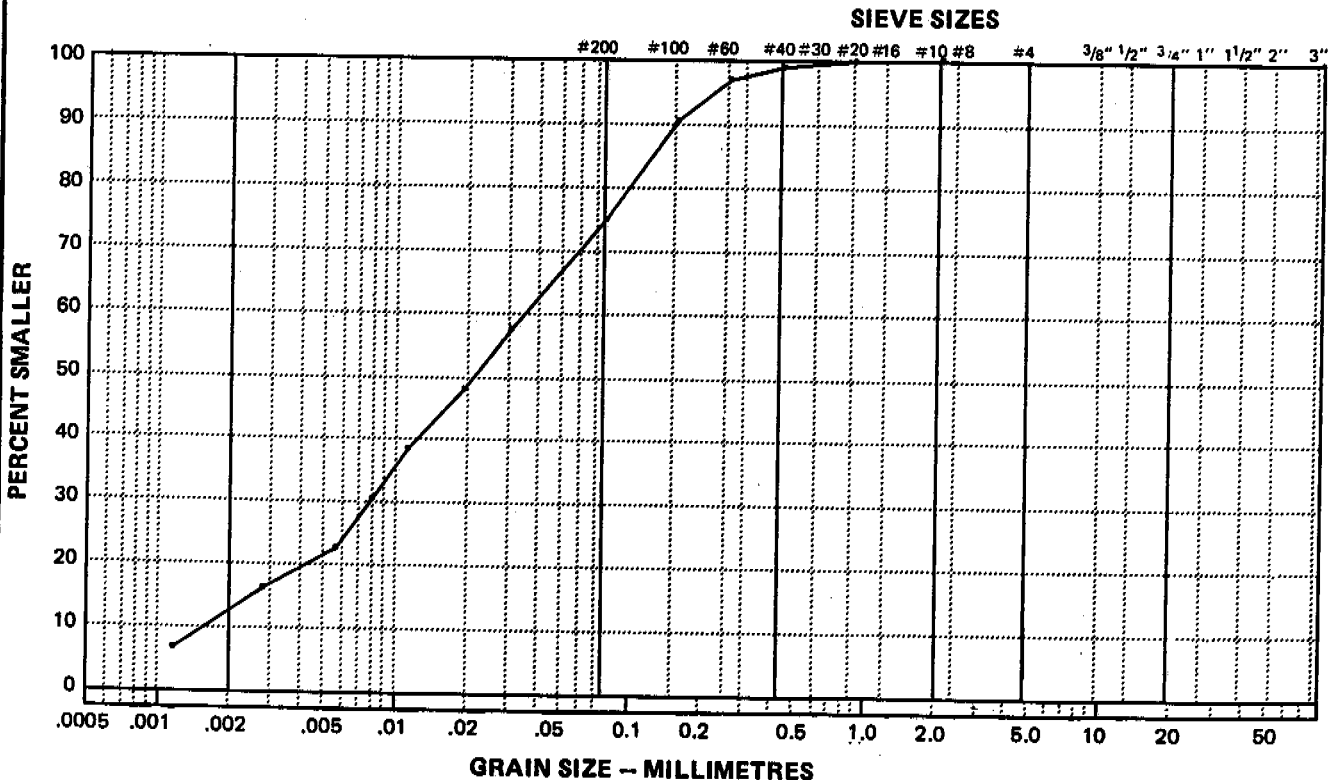
Cc: 1.08

Natural Moisture Content: _____ %

Remarks: _____

SIEVE	PERCENTAGE PASSING
3"	
2"	
1 1/2"	
1"	
3/4"	
3/8"	
No. 4	
No. 10	100.0
No. 20	99.8
No. 40	98.8
No. 60	96.8
No. 100	90.4
No. 200	74.6

CLAY	SILT	SAND			GRAVEL	
		FINE	MEDIUM	COARSE	FINE	COARSE



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PARTICLE - SIZE ANALYSIS OF SOILS

Project: IZOK PROJ. FEASIBILITY STUDY
PLANT SITE INVESTIGATION

Project Number: 101 -11157

Date Tested: 93-06-14

Borehole Number: 20

Depth: 9.10 - 9.10 M

Soil Description: SAND, SOME SILT

Cu: _____

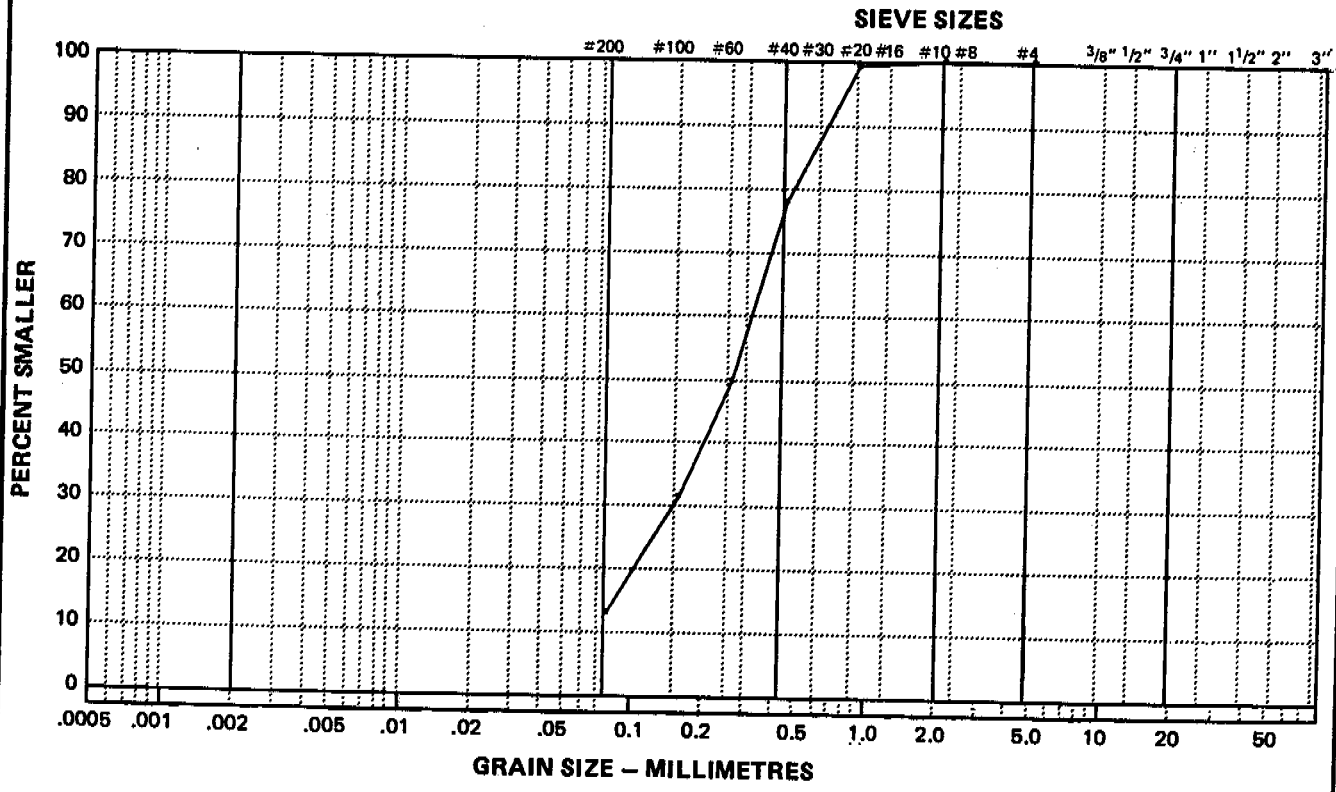
Cc: _____

Natural Moisture Content: _____ %

Remarks: Trace Rootlets < 1%

SIEVE	PERCENTAGE PASSING
3"	
2"	
1 1/2"	
1"	
3/4"	
3/8"	
No. 4	100.0
No. 10	99.9
No. 20	99.0
No. 40	77.6
No. 60	49.3
No. 100	31.0
No. 200	12.5

CLAY	SILT	SAND			GRAVEL	
		FINE	MEDIUM	COARSE	FINE	COARSE



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EBA Engineering Consultants Ltd.

PARTICLE - SIZE ANALYSIS OF SOILS

Project: IZOK PROJ. FEASIBILITY STUDY
PLANT SITE INVESTIGATION

Project Number: 101 -11157

Date Tested: 93-06-15

Borehole Number: 20

Depth: 11.00 - 11.60 M

Soil Description: GRAVEL. SOME SAND. TRACE SILT

Cu: 8.53

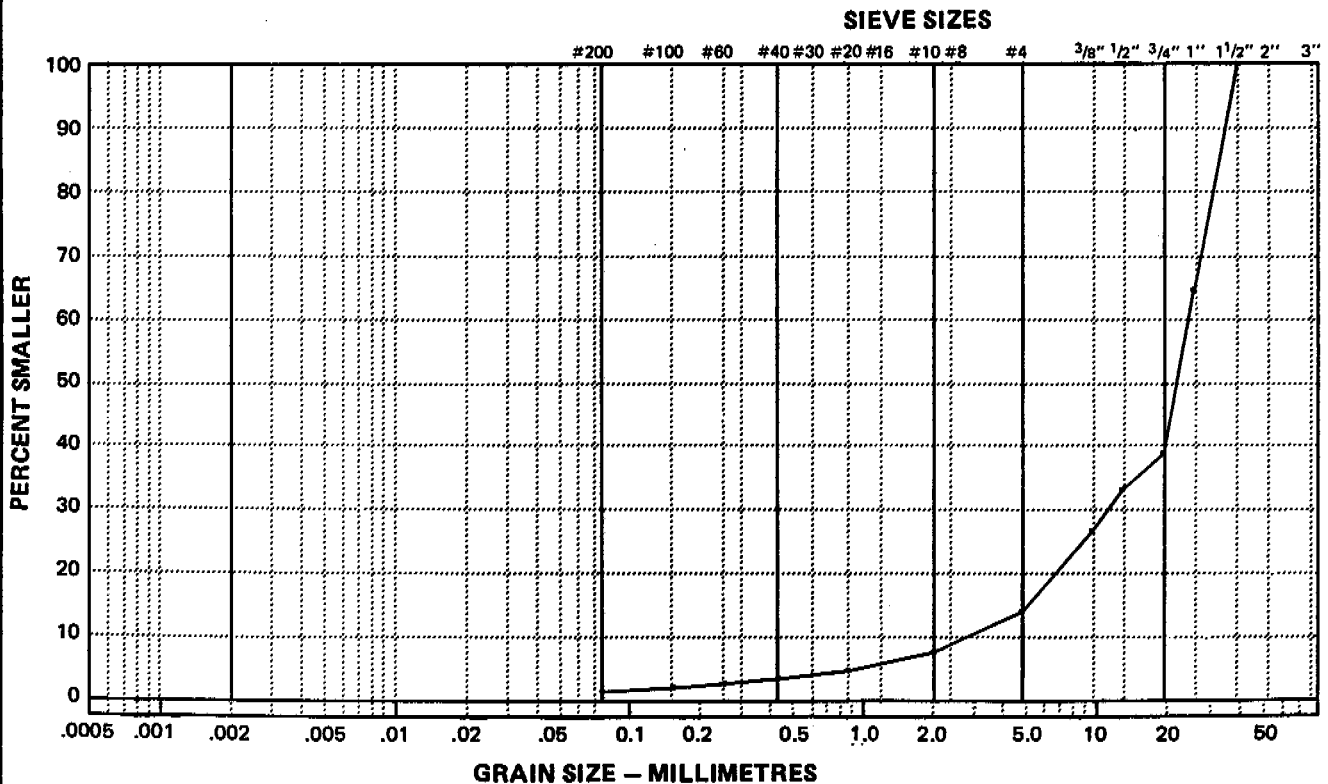
Cc: 1.82

Natural Moisture Content: _____ %

Remarks: _____

SIEVE	PERCENTAGE PASSING
3"	
2"	
1 1/2"	100.0
1"	64.3
3/4"	38.5
3/8"	26.4
No. 4	13.8
No. 10	7.4
No. 20	4.5
No. 40	3.4
No. 60	2.6
No. 100	1.9
No. 200	1.3

CLAY	SILT	SAND			GRAVEL	
		FINE	MEDIUM	COARSE	FINE	COARSE



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EBA Engineering Consultants Ltd.

PARTICLE - SIZE ANALYSIS OF SOILS

Project: Izok Project, Feasibility Study
Plant Site

Project Number: 0101-11157

Date Tested: April 29, 1993

Borehole Number: BH-21

Depth: 1.2 - 1.5 m

Soil Description: SAND, silty, gravelly

Cu: _____

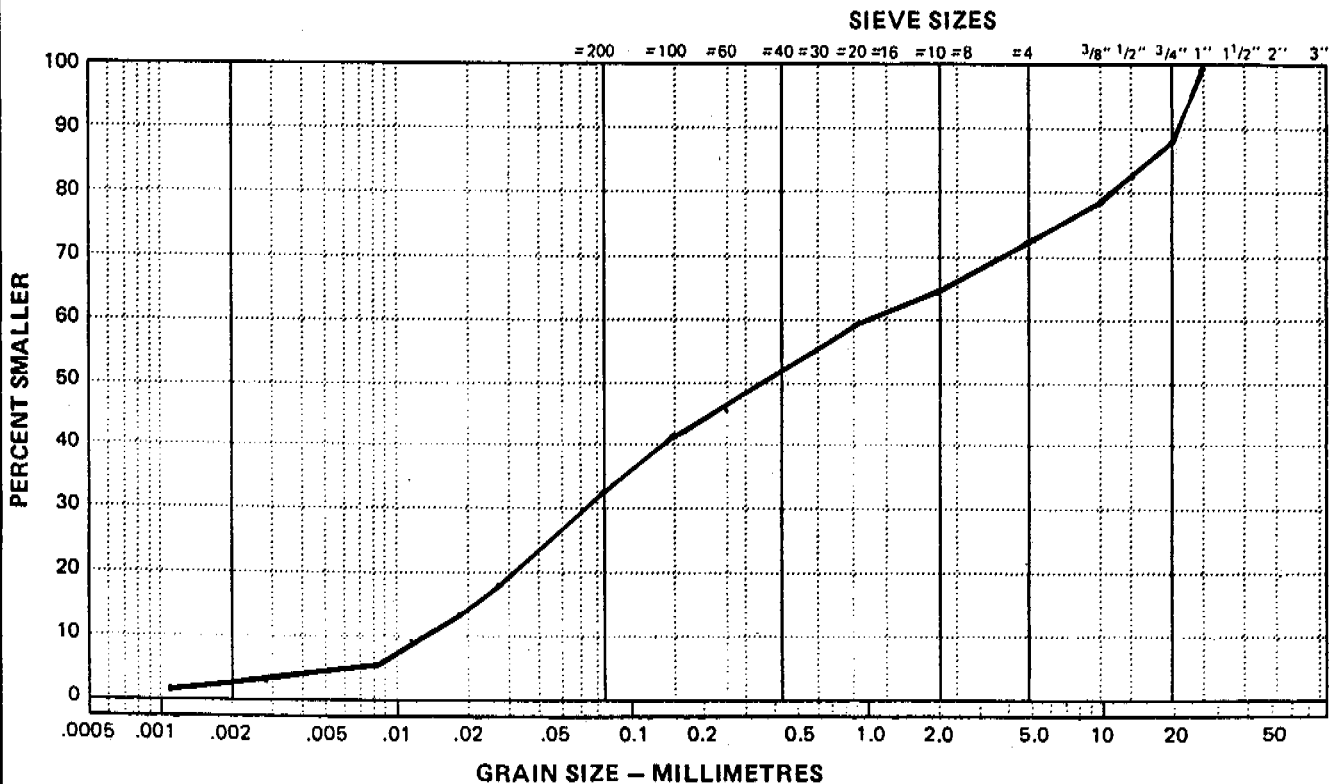
Cc: _____

Natural Moisture Content: 11.8 %

Remarks: _____

SIEVE	PERCENTAGE PASSING
3"	
2"	
1 1/2"	
1"	
3/4"	87.2
3/8"	78.8
No. 4	71.5
No. 10	64.4
No. 20	58.6
No. 40	51.2
No. 60	45.9
No. 100	40.8
No. 200	31.9

CLAY	SILT	SAND			GRAVEL	
		FINE	MEDIUM	COARSE	FINE	COARSE



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EBA Engineering Consultants Ltd.

PARTICLE - SIZE ANALYSIS OF SOILS

Project: Izok Project, Feasibility Study
Plant Site

Project Number: 0101-11157

Date Tested: April 30, 1993

Borehole Number: BH-22

Depth: 3.4 - 4.0 m

Soil Description: SAND, fine, trace silt

Cu: _____

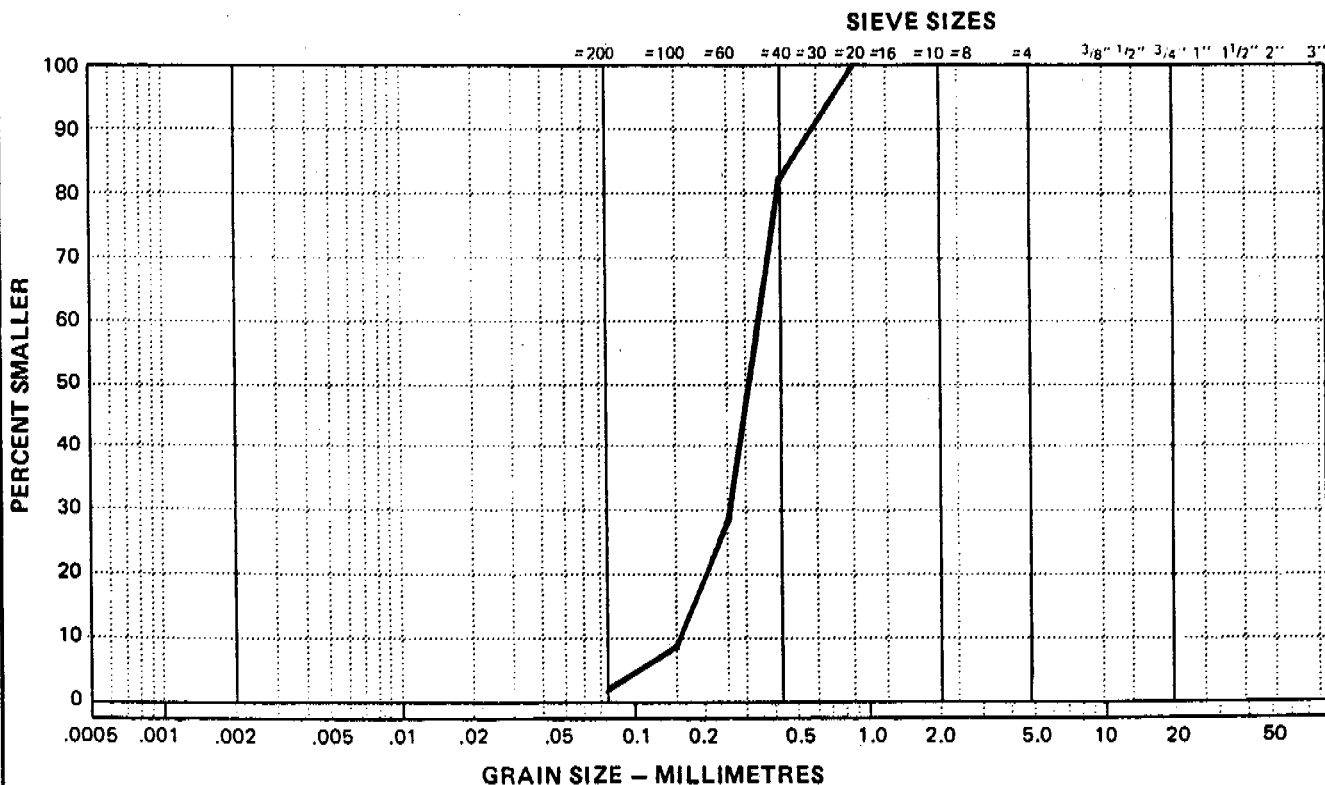
Cc: _____

Natural Moisture Content: 26.4 %

Remarks: _____

SIEVE	PERCENTAGE PASSING
3"	
2"	
1 1/2"	
1"	
3/4"	
3/8"	
No. 4	
No. 10	
No. 20	100.0
No. 40	82.6
No. 60	28.4
No. 100	8.4
No. 200	1.4

CLAY	SILT	SAND			GRAVEL	
		FINE	MEDIUM	COARSE	FINE	COARSE



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EBA Engineering Consultants Ltd.

PARTICLE - SIZE ANALYSIS OF SOILS

Project: IZDK PROJ. FEASIBILITY STUDY
PLANT SITE INVESTIGATION

Project Number: 101 -11157

Date Tested: 93-06-11

Borehole Number: 23

Depth: .60 - .80 M

Soil Description: SAND, TRACE SILT

Cu: 2.18

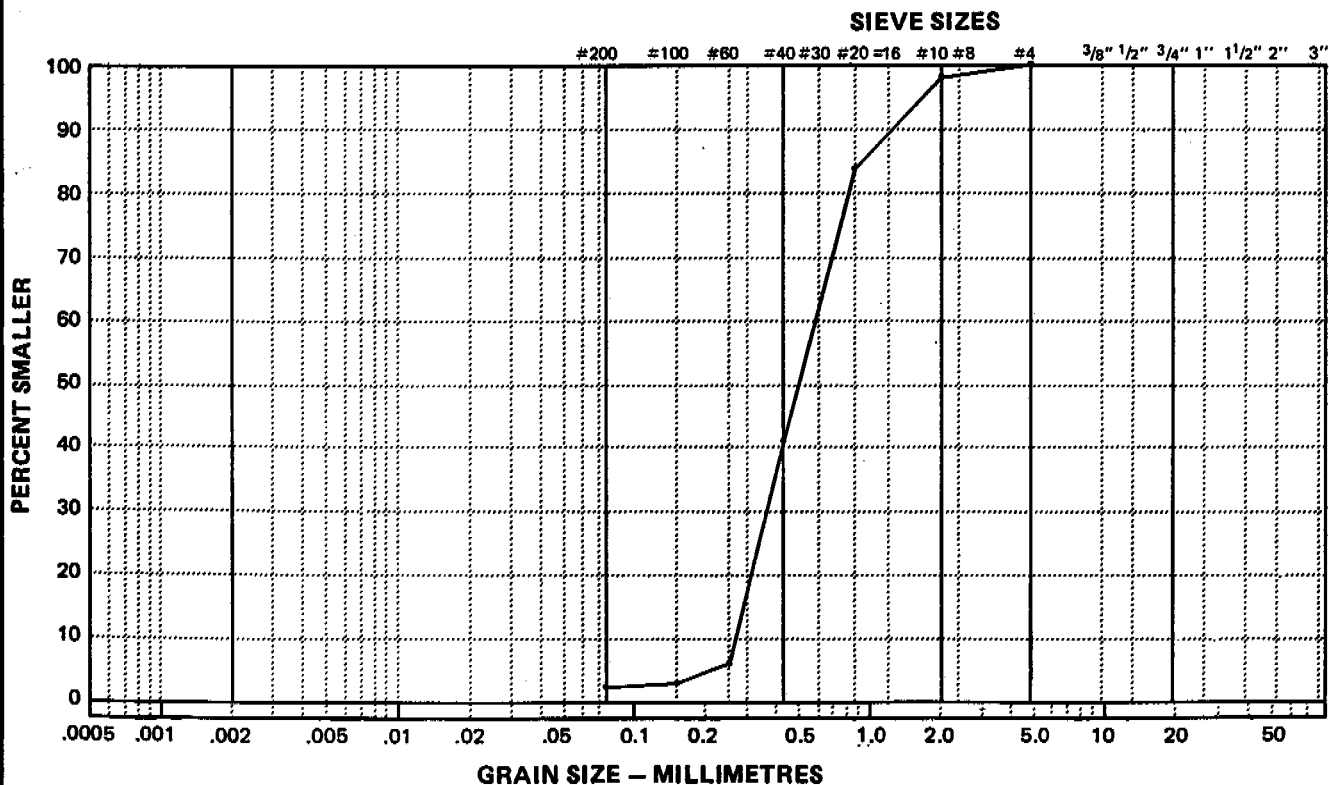
Cc: .84

Natural Moisture Content: _____ %

Remarks: _____

SIEVE	PERCENTAGE PASSING
3"	
2"	
1 1/2"	
1"	
3/4"	
3/8"	
No. 4	100.0
No. 10	97.8
No. 20	83.4
No. 40	40.6
No. 60	5.7
No. 100	2.6
No. 200	1.9

CLAY	SILT	SAND			GRAVEL	
		FINE	MEDIUM	COARSE	FINE	COARSE



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EBA Engineering Consultants Ltd.

PARTICLE - SIZE ANALYSIS OF SOILS

Project: IZOK PROJ. FEASIBILITY STUDY
PLANT SITE INVESTIGATION

Project Number: 101 -11157

Date Tested: 93-06-11

Borehole Number: 23

Depth: .90 - 1.20 M

Soil Description: SAND, TRACE SILT

Cu: 2.27

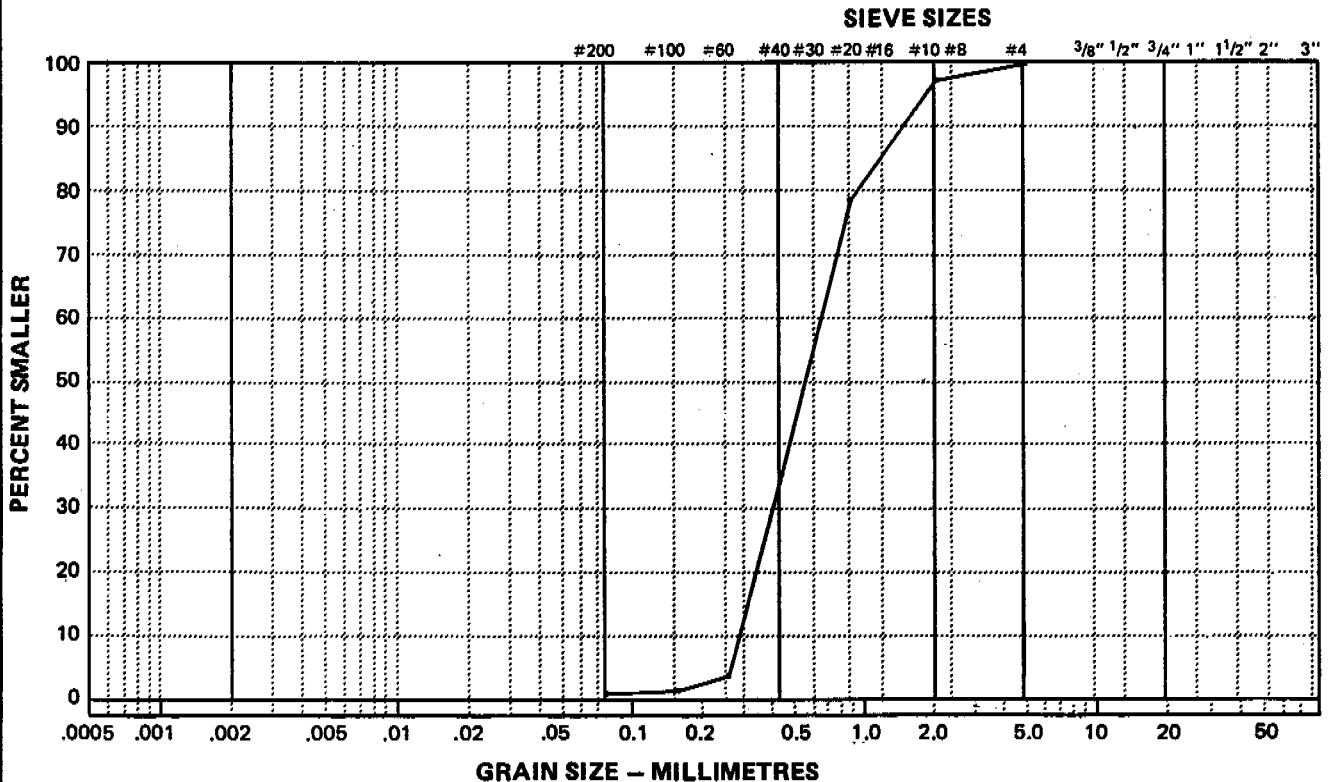
Cc: .86

Natural Moisture Content: _____ %

Remarks: _____

SIEVE	PERCENTAGE PASSING
3"	
2"	
1 1/2"	
1"	
3/4"	
3/8"	
No. 4	100.0
No. 10	97.4
No. 20	78.6
No. 40	35.3
No. 60	3.7
No. 100	1.4
No. 200	.9

CLAY	SILT	SAND			GRAVEL	
		FINE	MEDIUM	COARSE	FINE	COARSE



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EBA Engineering Consultants Ltd.

PARTICLE - SIZE ANALYSIS OF SOILS

Project: IZDK PROJ. FEASIBILITY STUDY
PLANT SITE INVESTIGATION

Project Number: 101 -11157

Date Tested: 93-06-16

Borehole Number: 23

Depth: 2.40 - 2.70 M

Soil Description: SAND- SILT

Cu: _____

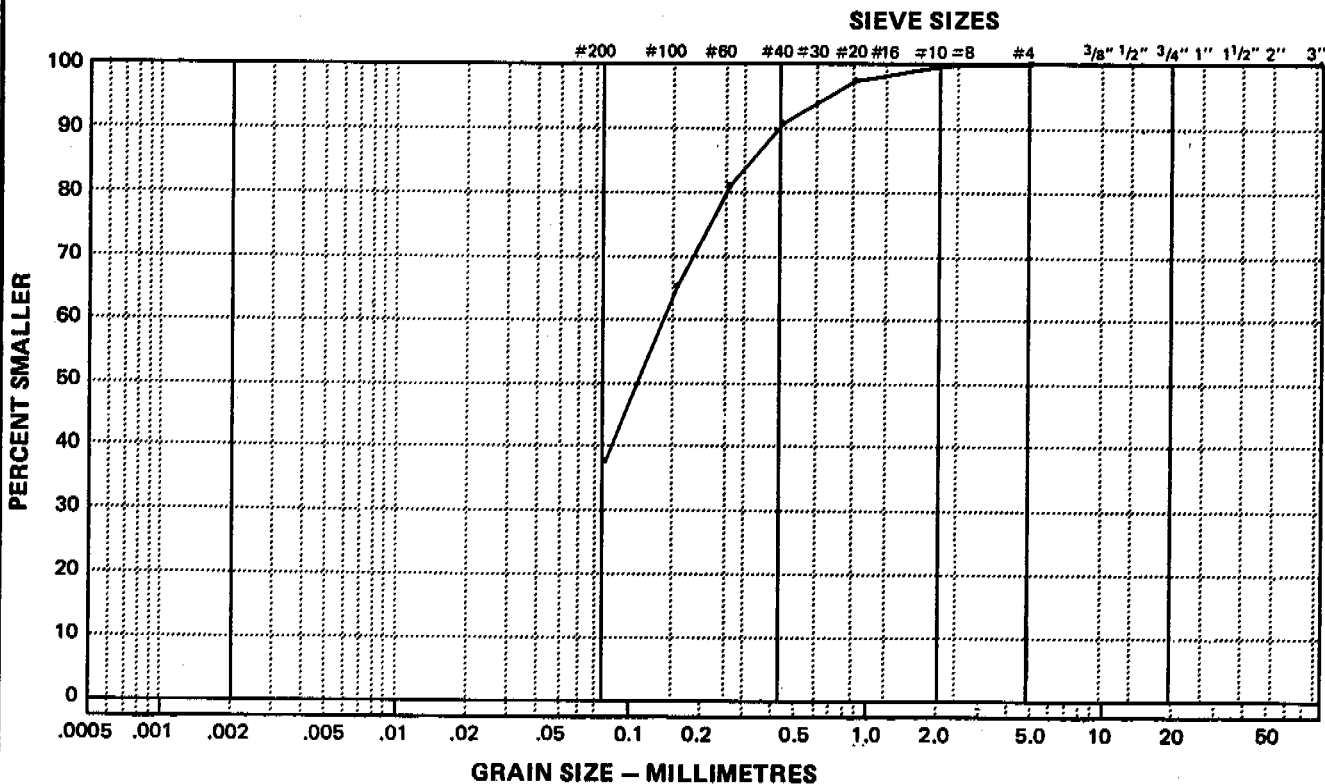
Cc: _____

Natural Moisture Content: _____ %

Remarks: Rootlets (17.5% of original
washed wt.) removed prior to test.

SIEVE	PERCENTAGE PASSING
3"	
2"	
1 1/2"	
1"	
3/4"	
3/8"	
No. 4	100.0
No. 10	99.5
No. 20	97.2
No. 40	90.6
No. 60	80.8
No. 100	65.0
No. 200	37.4

CLAY	SILT	SAND			GRAVEL	
		FINE	MEDIUM	COARSE	FINE	COARSE



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AGGREGATE ANALYSIS REPORT

Project: IZOK PROJECT FEASIBILITY STUDY

Sample Number: 25

Address: Plant Site Area Investigation

Sample Location: _____

Project Number: 101 -11157

Date Sampled: _____ By: _____

Client: Metall Mining Corporation

Time: _____ Temp.: _____ °C

Date Tested: 93-05-25

Tested By: DV

Natural Moisture Content: 16.4

Attention: _____

Crushed Faces: _____ 1 _____ 2

Soil Description: SAND (SP) - gravelly

Cu: 4.9

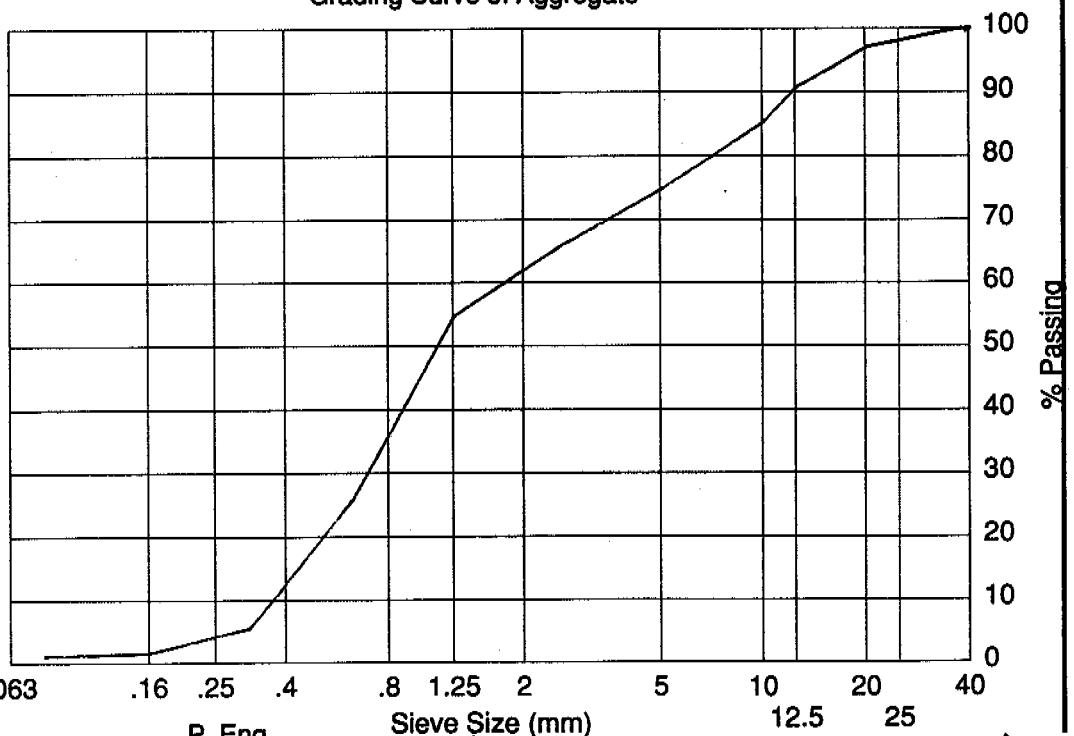
Cc: 0.8

Remarks: BH-25

1.8-2.4m

Grading Curve of Aggregate

Sieve Size	% Passing
40.0	100.0
20.0	96.6
16.0	93.6
12.5	90.4
10.0	84.9
5.00	74.3
2.50	65.1
1.25	54.3
.630	25.4
.315	4.9
.160	1.0
.080	.5



Reviewed By: _____ P. Eng.

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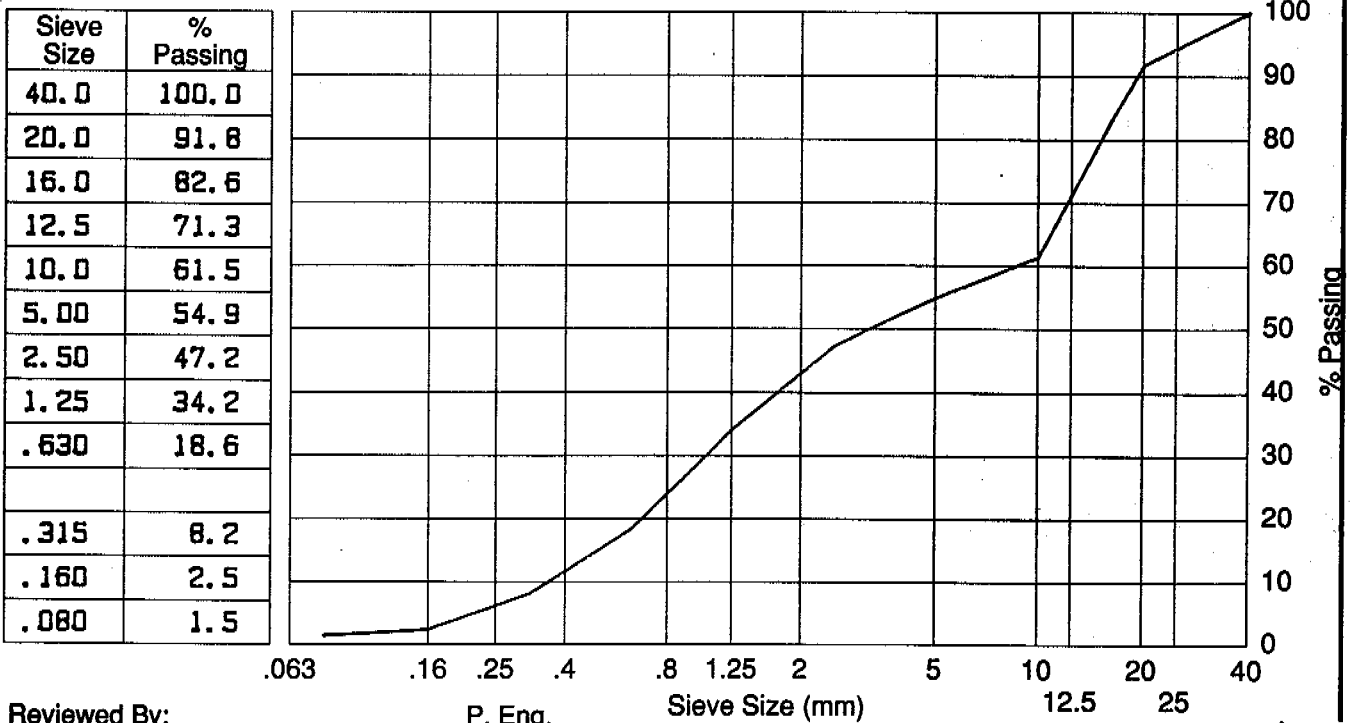


AGGREGATE ANALYSIS REPORT

Project: IZOK PROJECT FEASIBILITY STUDY Sample Number: 26
 Address: Plant Site Area Investigation Sample Location: _____
 Project Number: 101 -11157
 Date Sampled: _____ By: _____
 Client: Metall Mining Corporation Time: _____ Temp.: _____ °C
 _____ Date Tested: 93-05-25
 _____ Tested By: DV
 _____ Natural Moisture Content: 9.6
 Attention: _____ Crushed Faces: 1 2
 Soil Description: SAND (SP) and GRAVEL - trace silt

Cu: 24
 Cc: 0.35
 Remarks: BH-25
5.1-5.7 m

Grading Curve of Aggregate



Reviewed By: _____ P. Eng.

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AGGREGATE ANALYSIS REPORT

Project: IZOK PROJECT FEASIBILITY STUDY

Sample Number: 27

Address: Plant Site Area Investigation

Sample Location: _____

Project Number: 101 -11157

Date Sampled: _____ By: _____

Client: Metall Mining Corporation

Time: _____ Temp.: _____ °C

Date Tested: 93-05-25

Tested By: DV

Natural Moisture Content: 19.6

Attention: _____

Crushed Faces: 1 2

Soil Description: SAND (SP) - trace gravel, trace silt

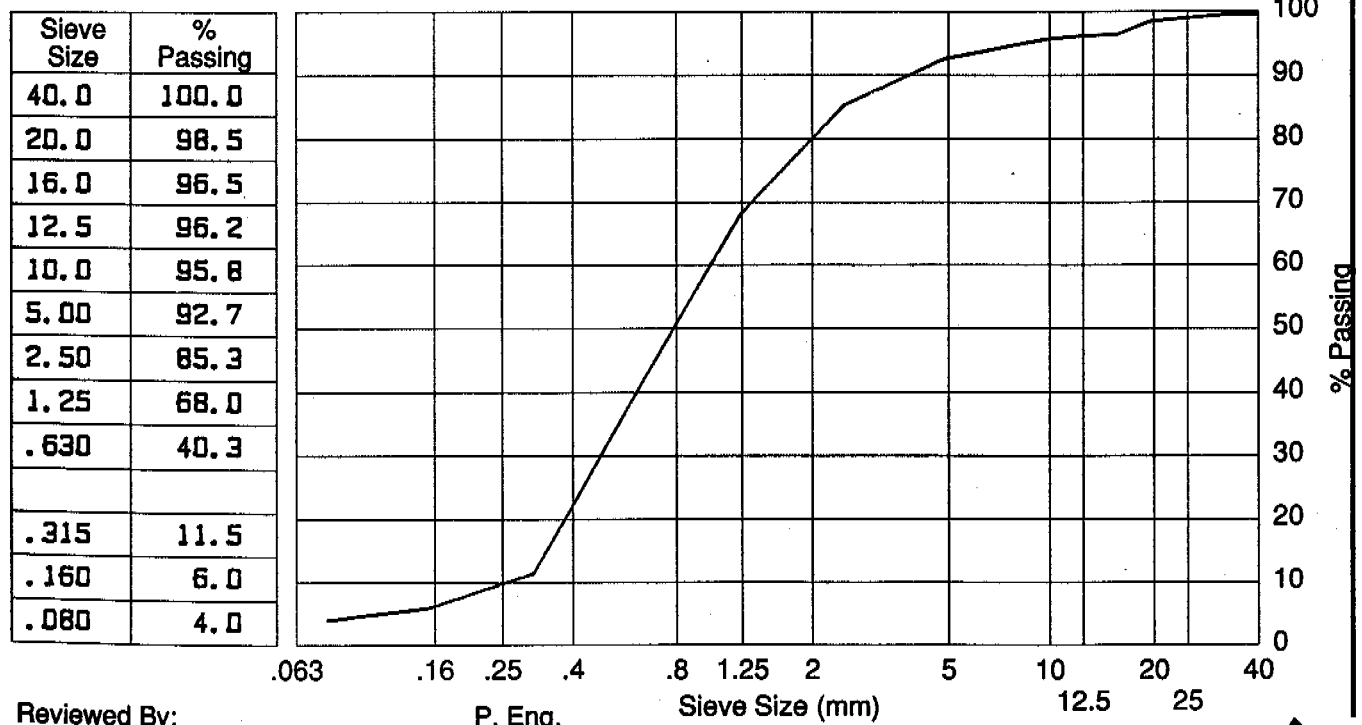
Cu: 4.0

Cc: 1.0

Remarks: BH-25

6.9-7.8m

Grading Curve of Aggregate



Reviewed By: _____ P. Eng.

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EBA Engineering Consultants Ltd.

PARTICLE - SIZE ANALYSIS OF SOILS

Project: Izok Project, Feasibility Study
Plant Site

Project Number: 0101-11157

Date Tested: April 30, 1993

Borehole Number: BH-26

Depth: 1.8 - 2.1 m

Soil Description: SILT, trace sand

Cu: _____

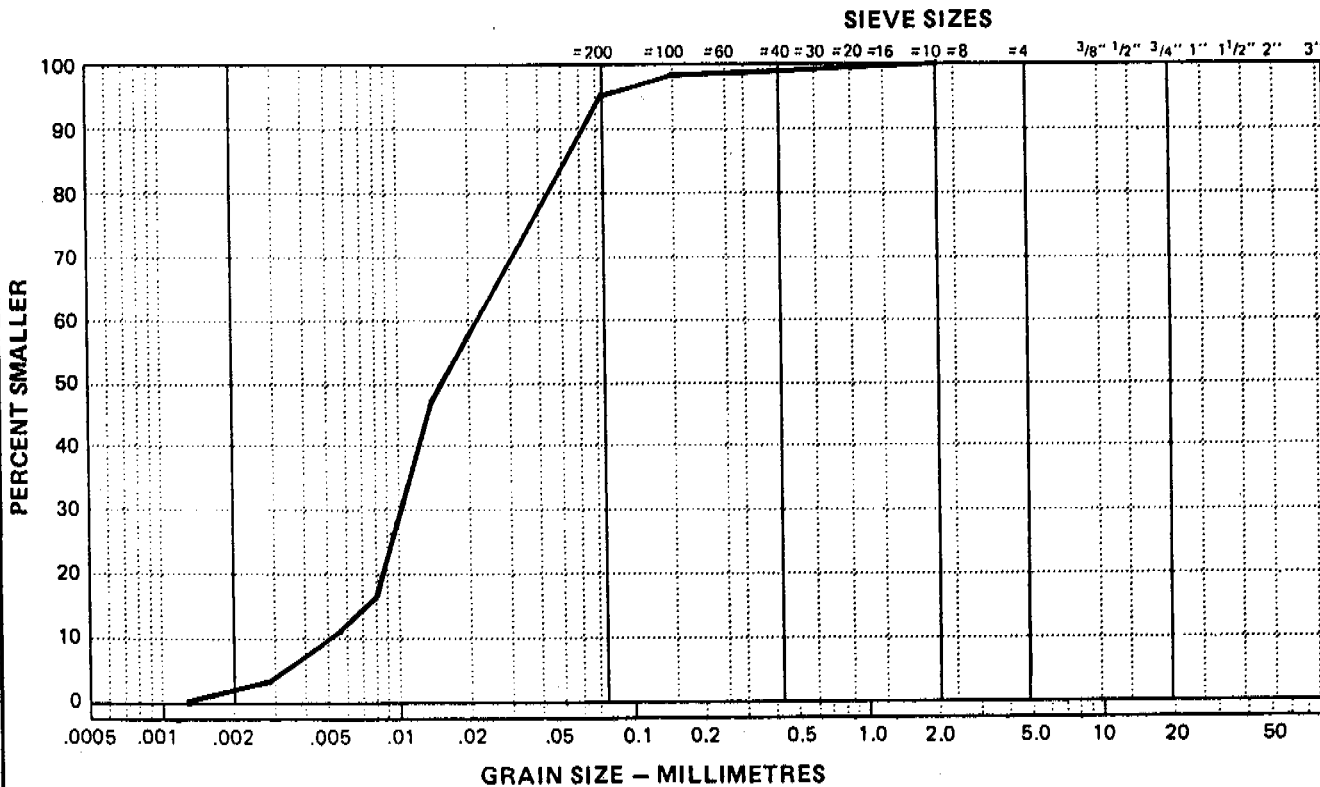
Cc: _____

Natural Moisture Content: 110.8 %

Remarks: _____

SIEVE	PERCENTAGE PASSING
3"	
2"	
1 1/2"	
1"	
3/4"	
3/8"	
No. 4	
No. 10	100.0
No. 20	99.8
No. 40	99.4
No. 60	99.1
No. 100	98.6
No. 200	96.4

CLAY	SILT	SAND			GRAVEL	
		FINE	MEDIUM	COARSE	FINE	COARSE



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EBA Engineering Consultants Ltd.

PARTICLE - SIZE ANALYSIS OF SOILS

Project: Izok Project, Feasibility Study
Plant Site

Project Number: 0101-11157

Date Tested: April 30, 1993

Borehole Number: BH-26

Depth: 2.4 - 2.8 m

Soil Description: SILT, trace sand

Cu: _____

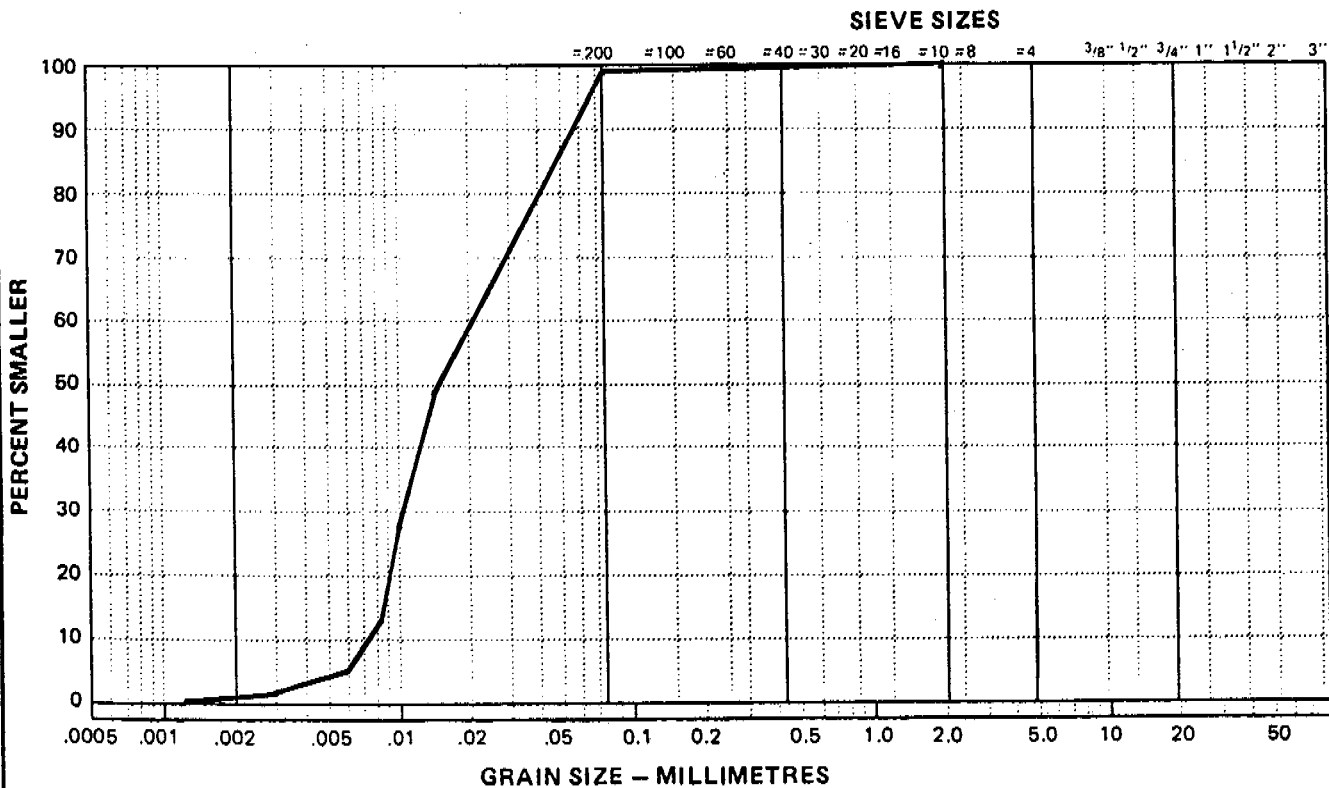
Cc: _____

Natural Moisture Content: 34.3 %

Remarks: _____

SIEVE	PERCENTAGE PASSING
3"	
2"	
1 1/2"	
1"	
3/4"	
3/8"	
No. 4	
No. 10	100.0
No. 20	99.9
No. 40	99.9
No. 60	99.8
No. 100	98.7
No. 200	99.2

CLAY	SILT	SAND			GRAVEL	
		FINE	MEDIUM	COARSE	FINE	COARSE



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EBA Engineering Consultants Ltd.

PARTICLE - SIZE ANALYSIS OF SOILS

Project: IZOK PROJ. FEASIBILITY STUDY
PLANT SITE INVESTIGATION

Project Number: 101 -11157

Date Tested: 93-06-10

Borehole Number: 29

Depth: 3.80 - 4.40 M

Soil Description: SILT. TRACE CLAY. TRACE SAND

Cu: 8.33

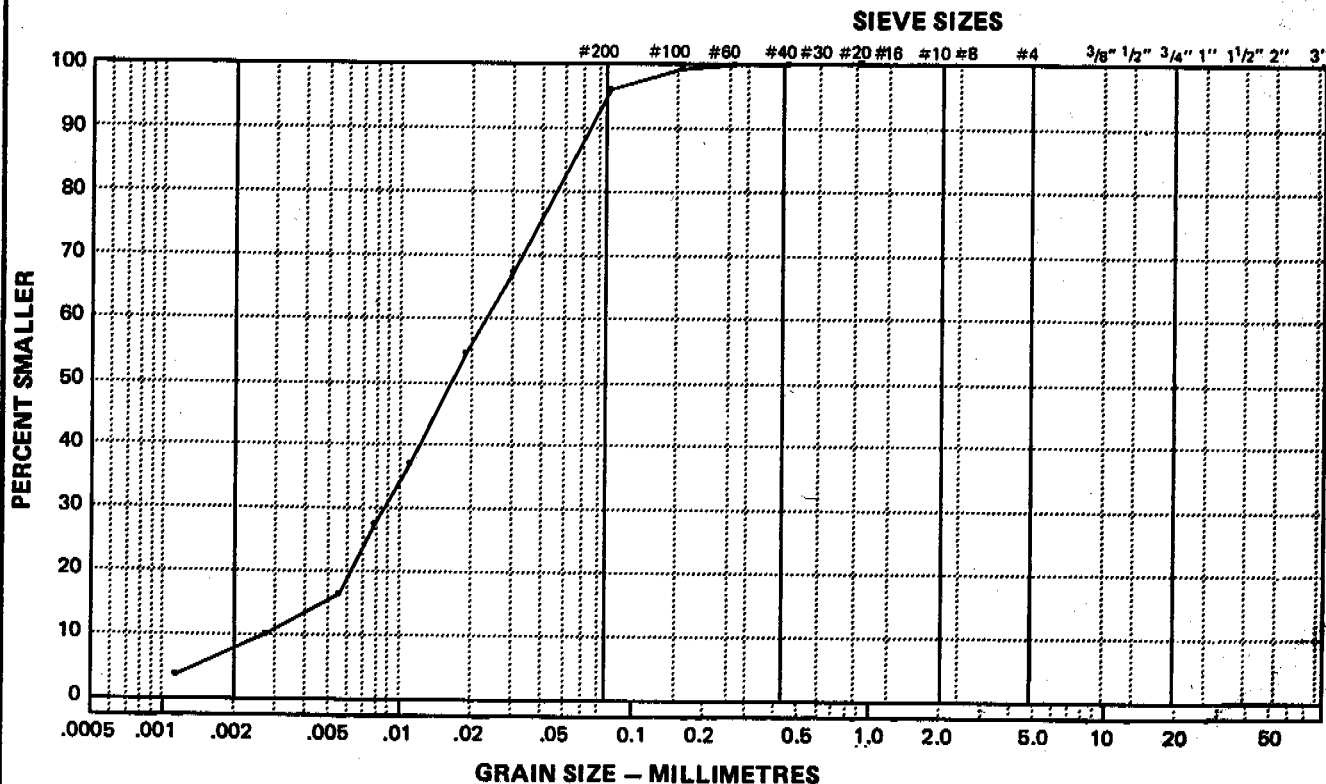
Cc: 1.12

Natural Moisture Content: _____ %

Remarks: _____

SIEVE	PERCENTAGE PASSING
3"	
2"	
1 1/2"	
1"	
3/4"	
3/8"	
No. 4	
No. 10	
No. 20	100.0
No. 40	99.8
No. 60	99.6
No. 100	99.0
No. 200	95.6

CLAY	SILT	SAND			GRAVEL	
		FINE	MEDIUM	COARSE	FINE	COARSE



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