

BEAUFORT SEA

VICTORIA ISLAND

DEPARTMENT OF PUBLIC WORKS

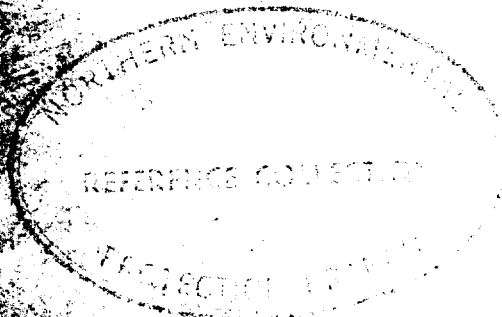
MACKENZIE HIGHWAY MILE 346 - 450

GEOTECHNICAL INVESTIGATION

MACKENZIE BAY

NORTHWEST TERRITORIES

Great Bear Lake



Yellowknife

Great Slave Lake

Fort Simpson

Enterprise

YUKON TERRITORY

BRITISH COLUMBIA

ALBERTA



D003043

VOLUME
ROADWAY AREA LABORATORY
TEST RESULTS AND EVALUATION SHEETS



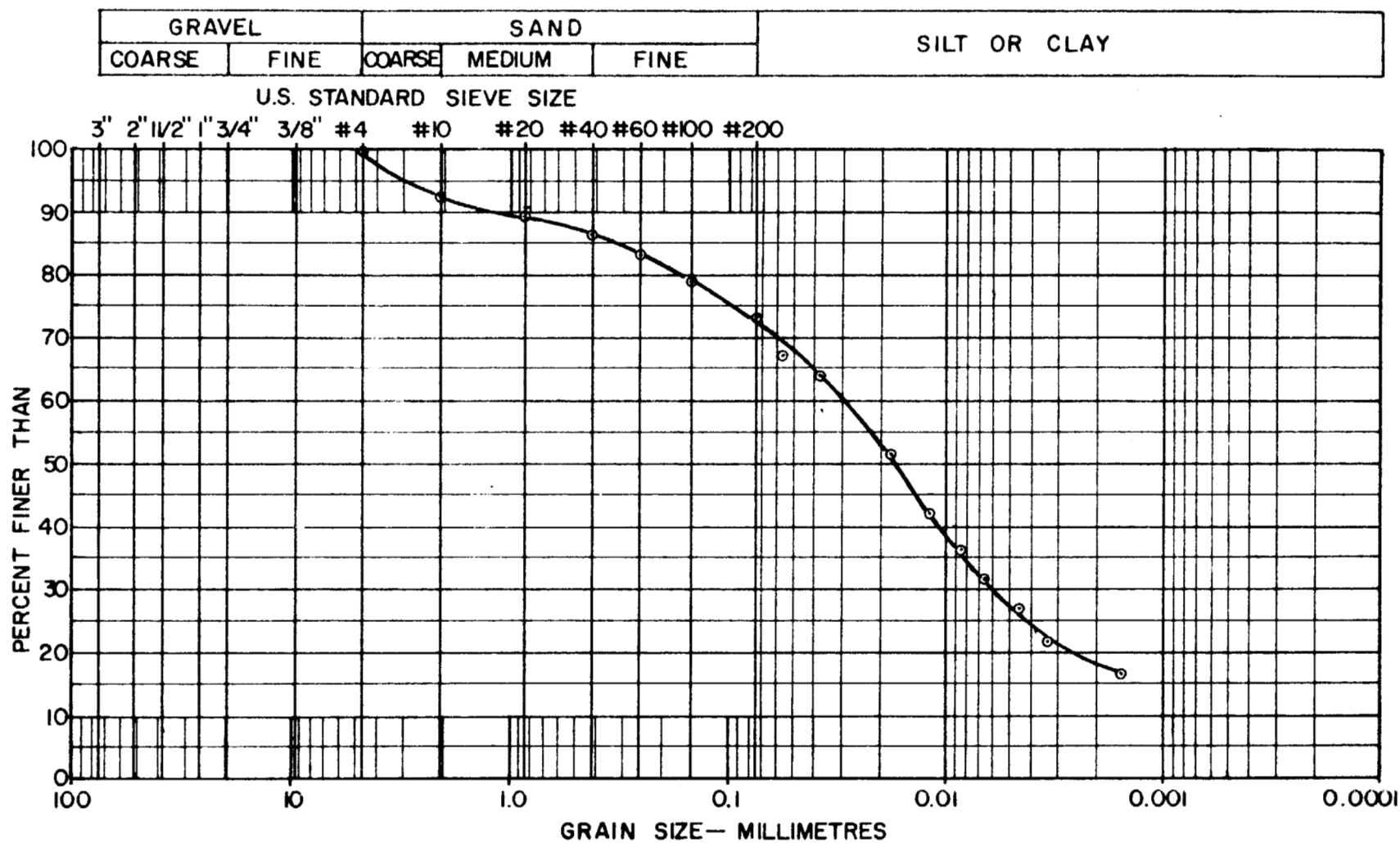
PART I

BORROW AREA LABORATORY TEST RESULTS



Ripley, Kohn & Leonoff International Ltd.
CONSULTING GEOTECHNICAL ENGINEERS

JOB No. AL0307
PROJECT
LOCATION 355-B-T-1
HOLE No.
DEPTH
DATE



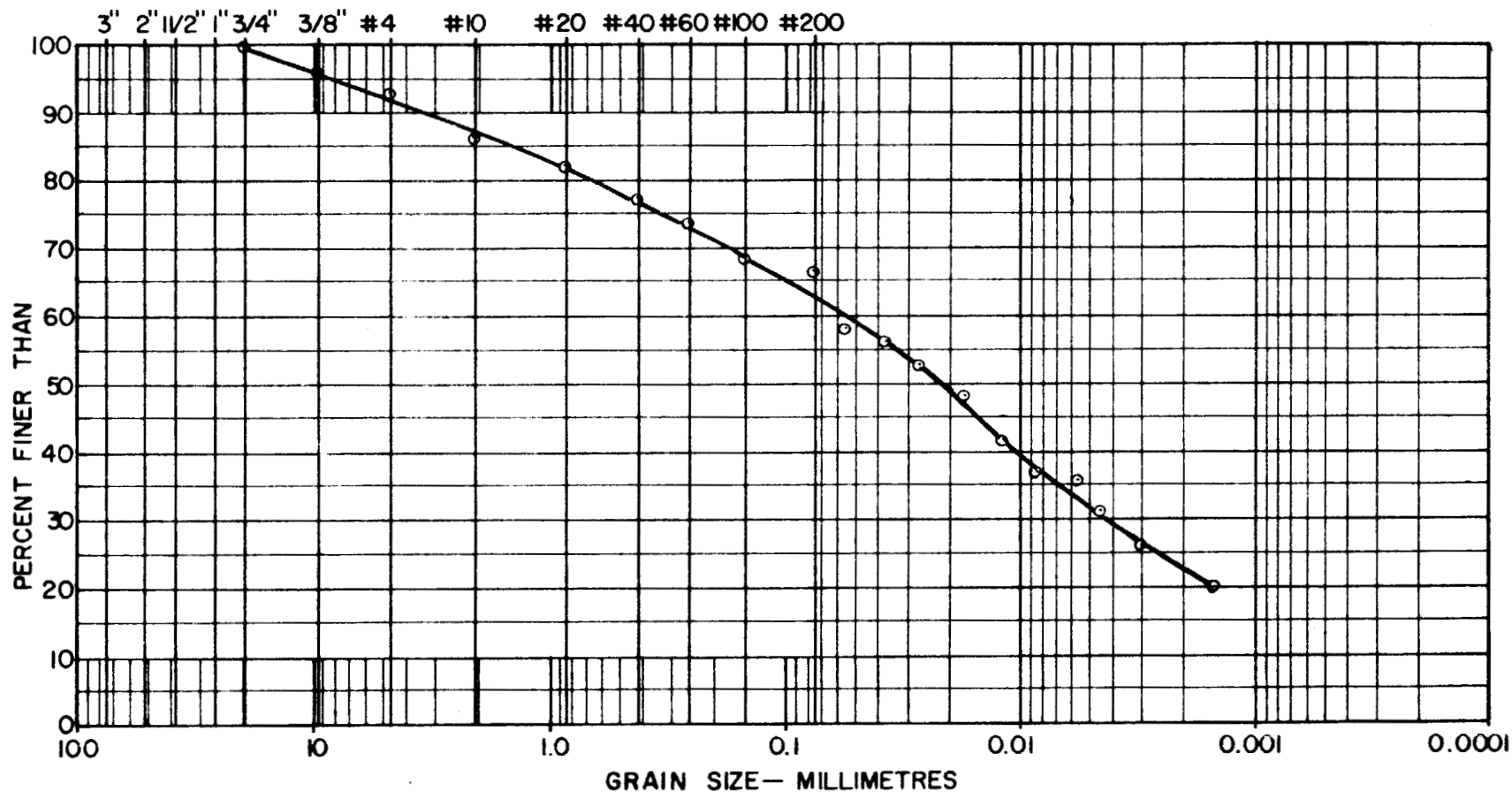
REMARKS: Sample No. 1 - 2-6 Ft.



Ripley, Kohn & Leonoff International Ltd.
CONSULTING GEOTECHNICAL ENGINEERS

GRAVEL		SAND			SILT OR CLAY
COARSE	FINE	COARSE	MEDIUM	FINE	

U.S. STANDARD SIEVE SIZE



GRAIN SIZE CURVE

REMARKS: ° Sample No. 1 - 3-5 ft.

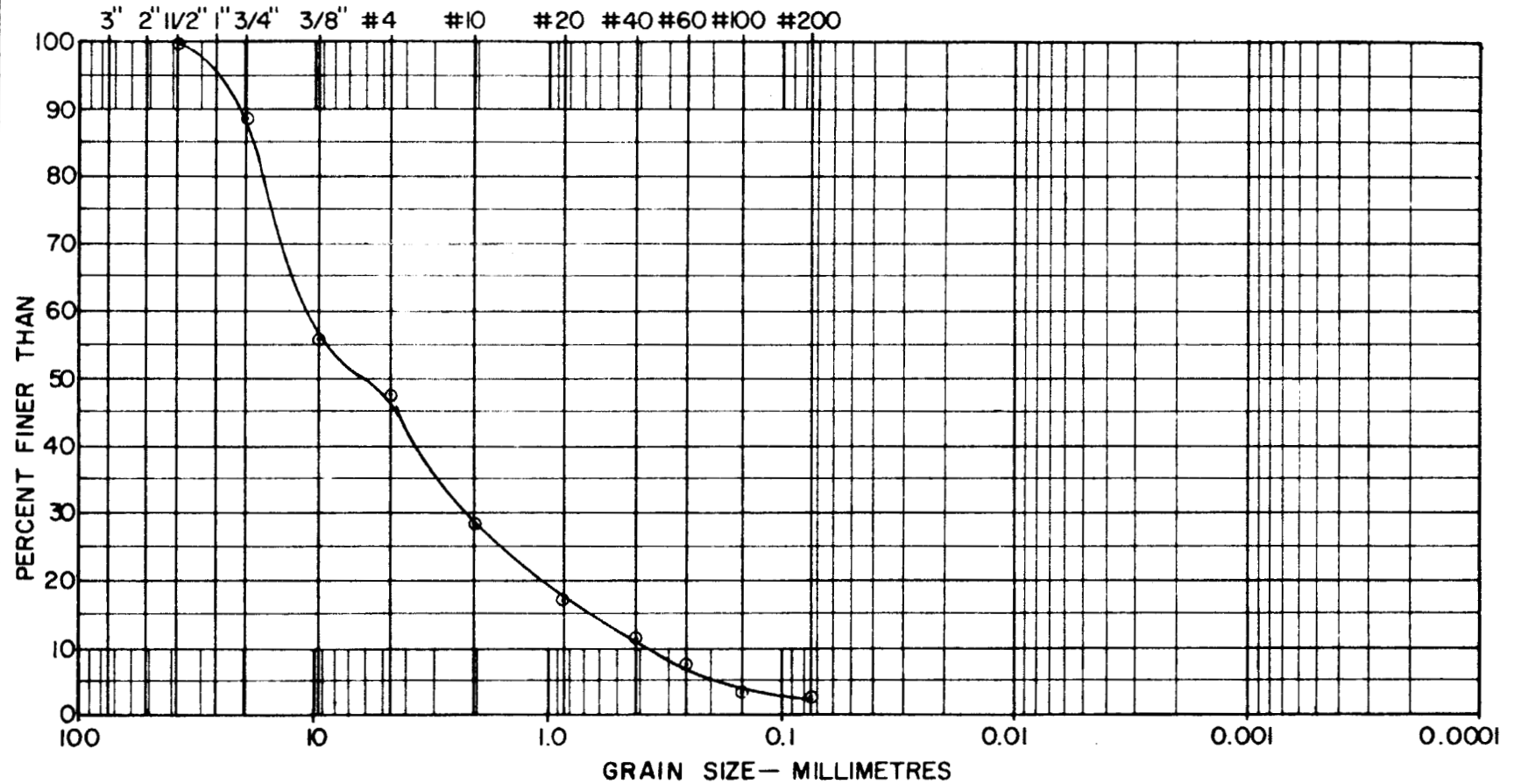
JOB No. AL0307
PROJECT
LOCATION 355-B-T-2
HOLE No. DEPTH
DATE



Ripley, Klohn & Leonoff International Ltd.
CONSULTING GEOTECHNICAL ENGINEERS

GRAVEL		SAND			SILT OR CLAY
COARSE	FINE	COARSE	MEDIUM	FINE	

U.S. STANDARD SIEVE SIZE



GRAIN SIZE CURVE

REMARKS: ○ Sample No. 2 - 3 - 8 ft.

JOB No.	AL0307
PROJECT	
LOCATION	356-B-T-2
HOLE No.	
DEPTH	
DATE	

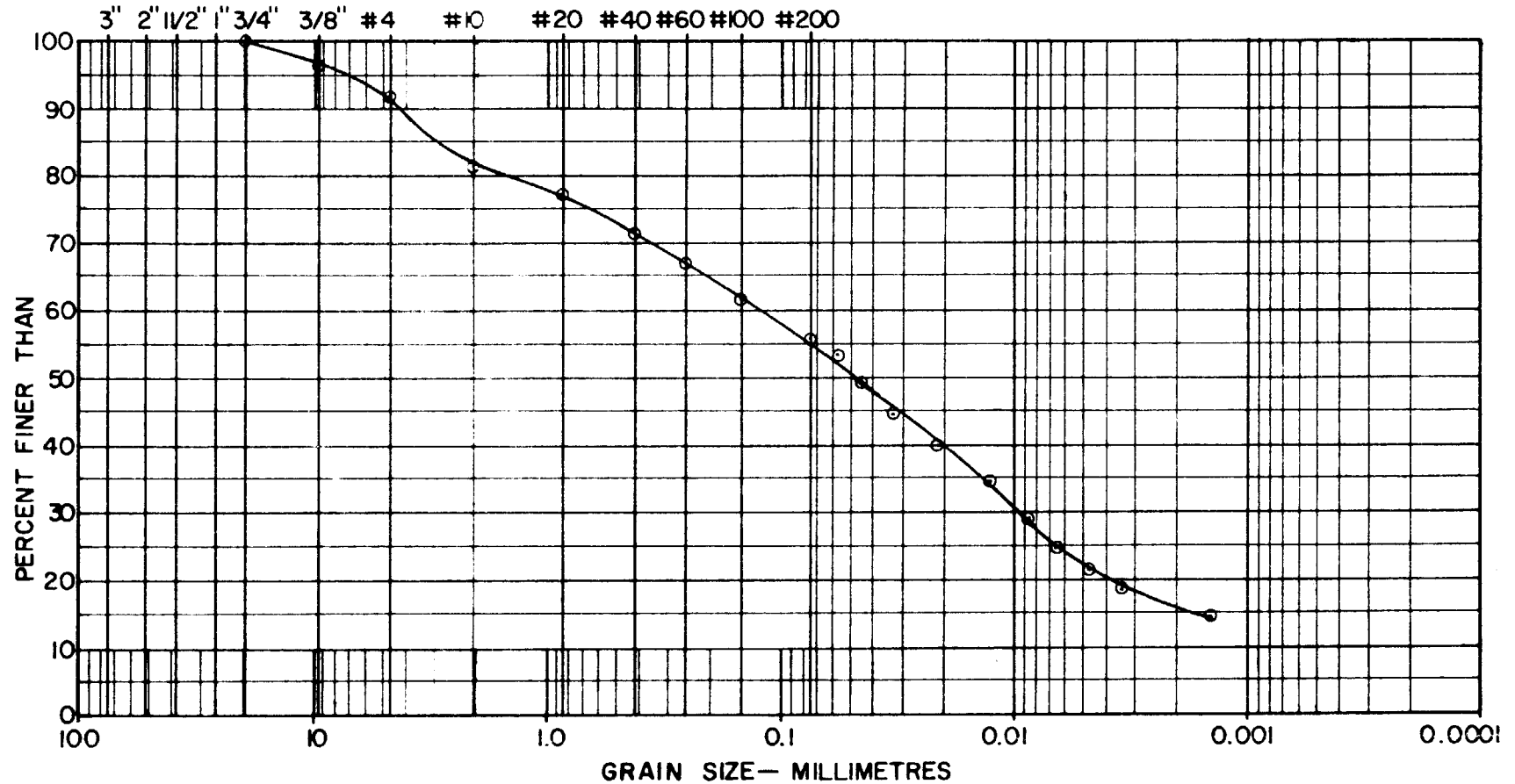


Ripley, Klohn & Leonoff International Ltd.
CONSULTING GEOTECHNICAL ENGINEERS

JOB No. AL0307
PROJECT
LOCATION 360-B-H
HOLE No.
DATE DEPTH

GRAVEL		SAND			SILT OR CLAY
COARSE	FINE	COARSE	MEDIUM	FINE	

U.S. STANDARD SIEVE SIZE



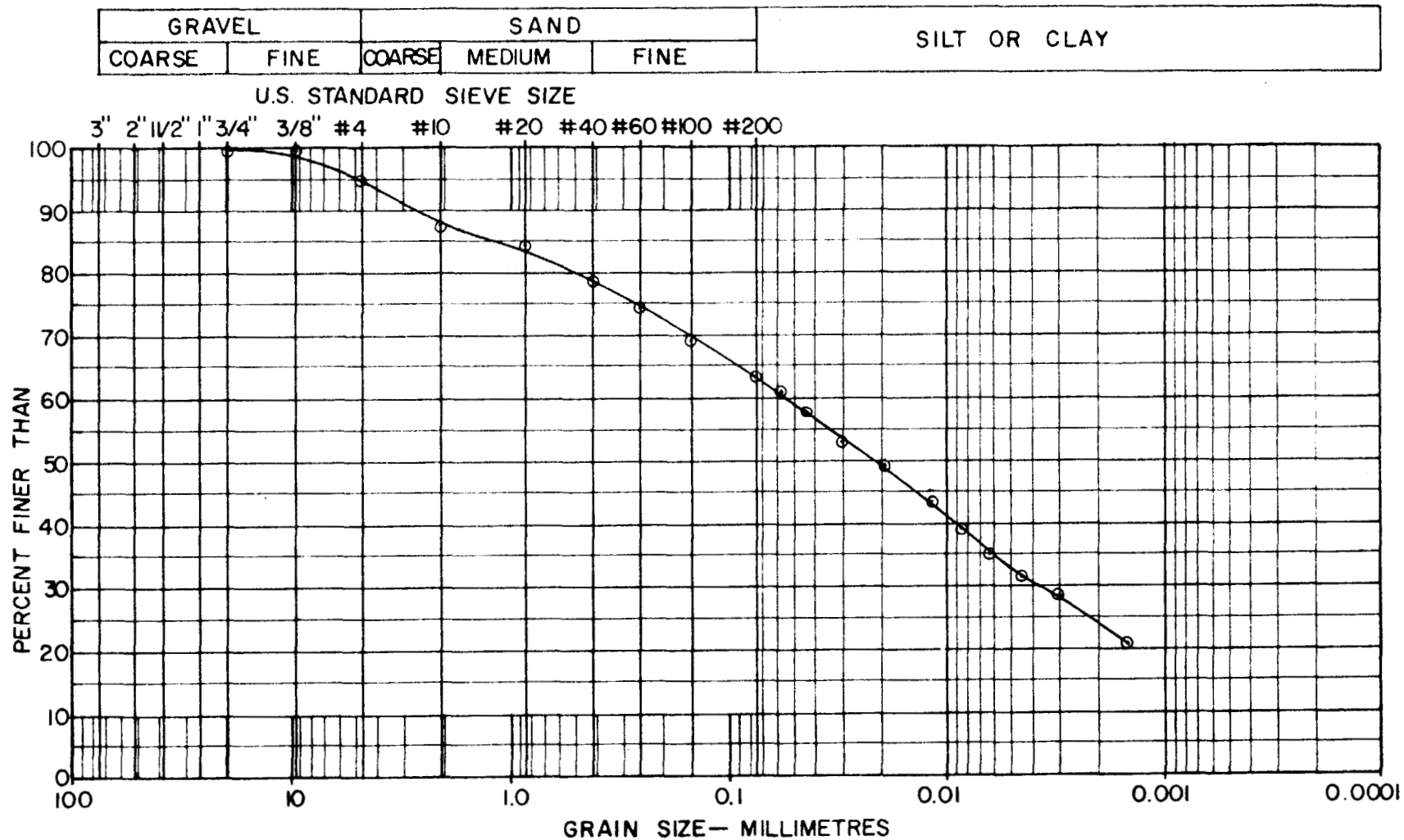
GRAIN SIZE CURVE

REMARKS: @ Sample No. 2 - 8 to 20 ft.



Ripley, Kohn & Leonoff International Ltd.
CONSULTING GEOTECHNICAL ENGINEERS

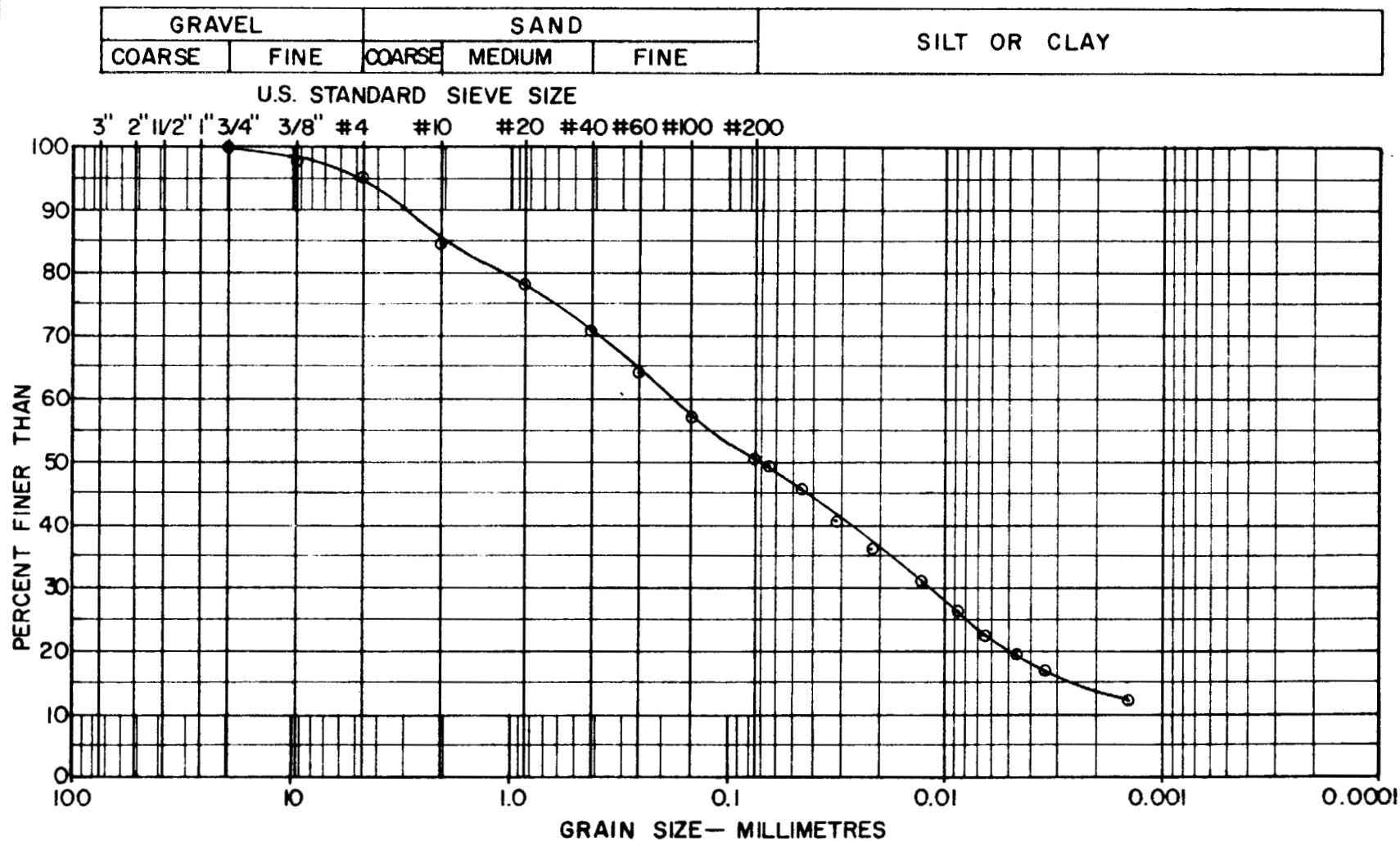
JOB No. **AL0307**
PROJECT
LOCATION **360-B-T-1**
HOLE No.
DEPTH
DATE





Ripley, Klohn & Leonoff International Ltd.
CONSULTING GEOTECHNICAL ENGINEERS

JOB No. AL0307
PROJECT
LOCATION 361-B-T
HOLE No. DEPTH
DATE



REMARKS: @ Sample No. 1 - 6 - 15 ft.



Ripley, Kohn & Leonoff International Ltd.

JOB No. AL0307

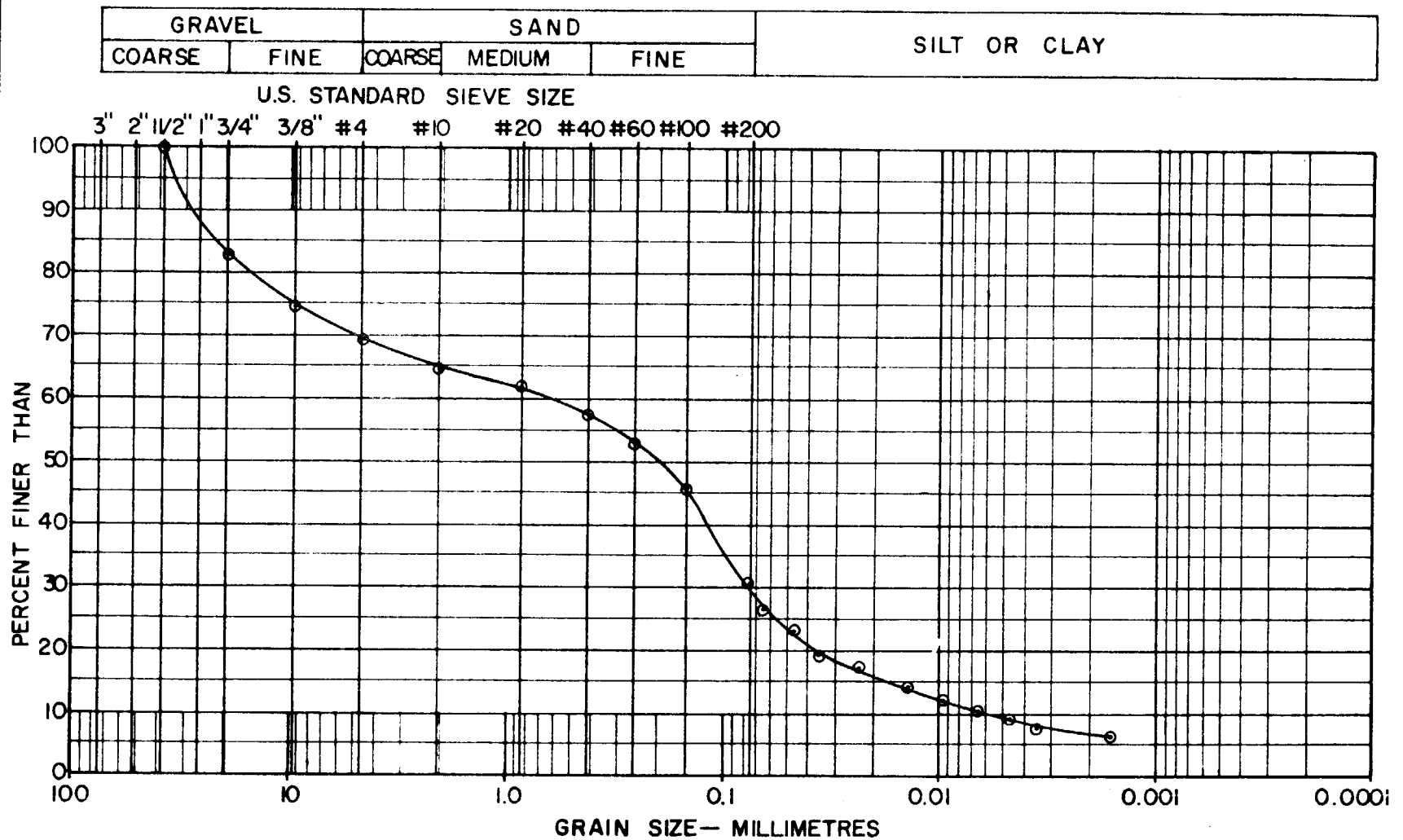
PROJECT

LOCATION 362-B-T

HOLE No

DEPTH

DATE _____

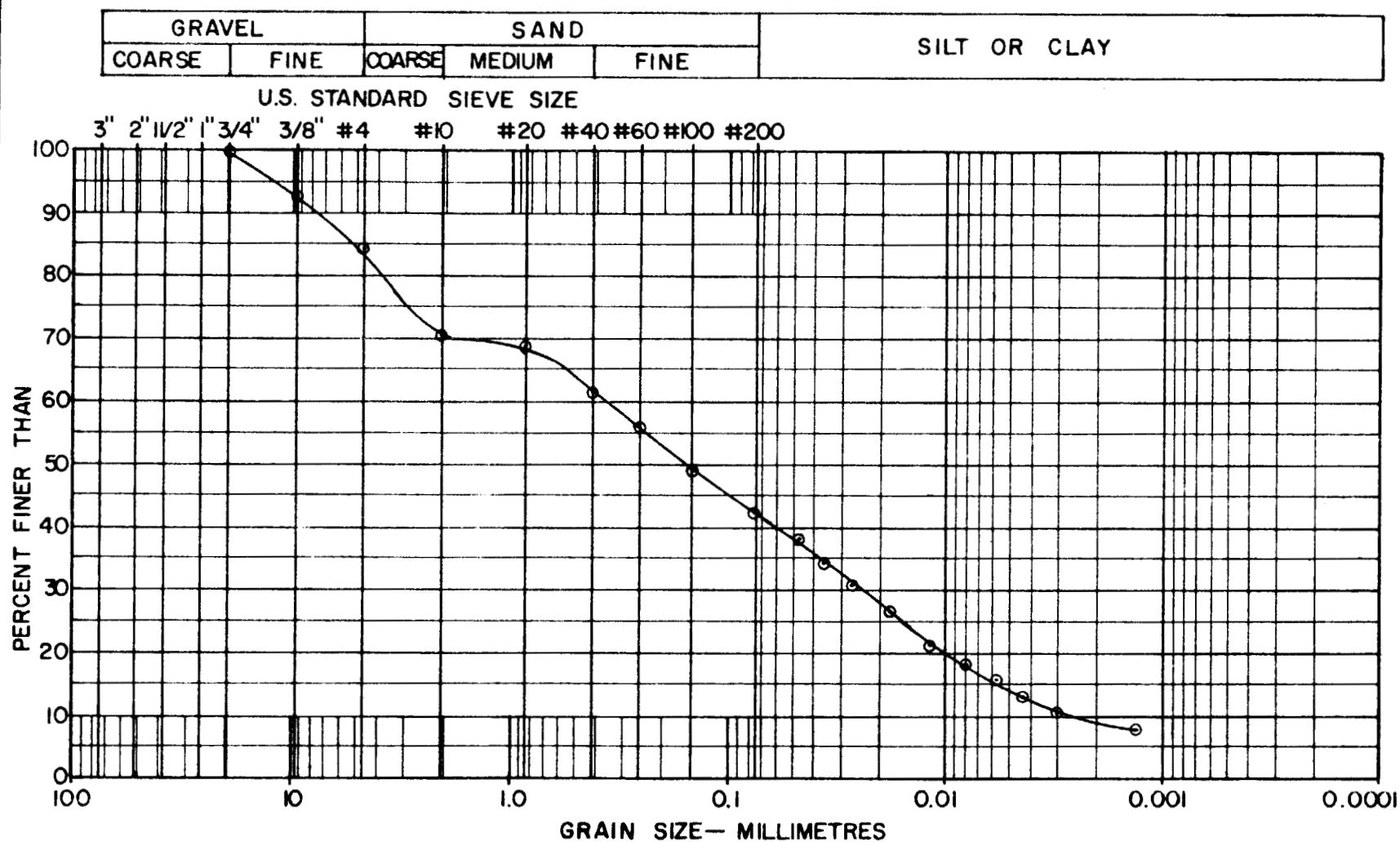
REMARKS: ● Sample No. 1 - 2 - 6.5 ft.

GRAIN SIZE CURVE



Ripley, Kohn & Leonoff International Ltd.
CONSULTING GEOTECHNICAL ENGINEERS

JOB No.	AL0307
PROJECT	
LOCATION	363-B-T
HOLE No.	
DEPTH	
DATE	



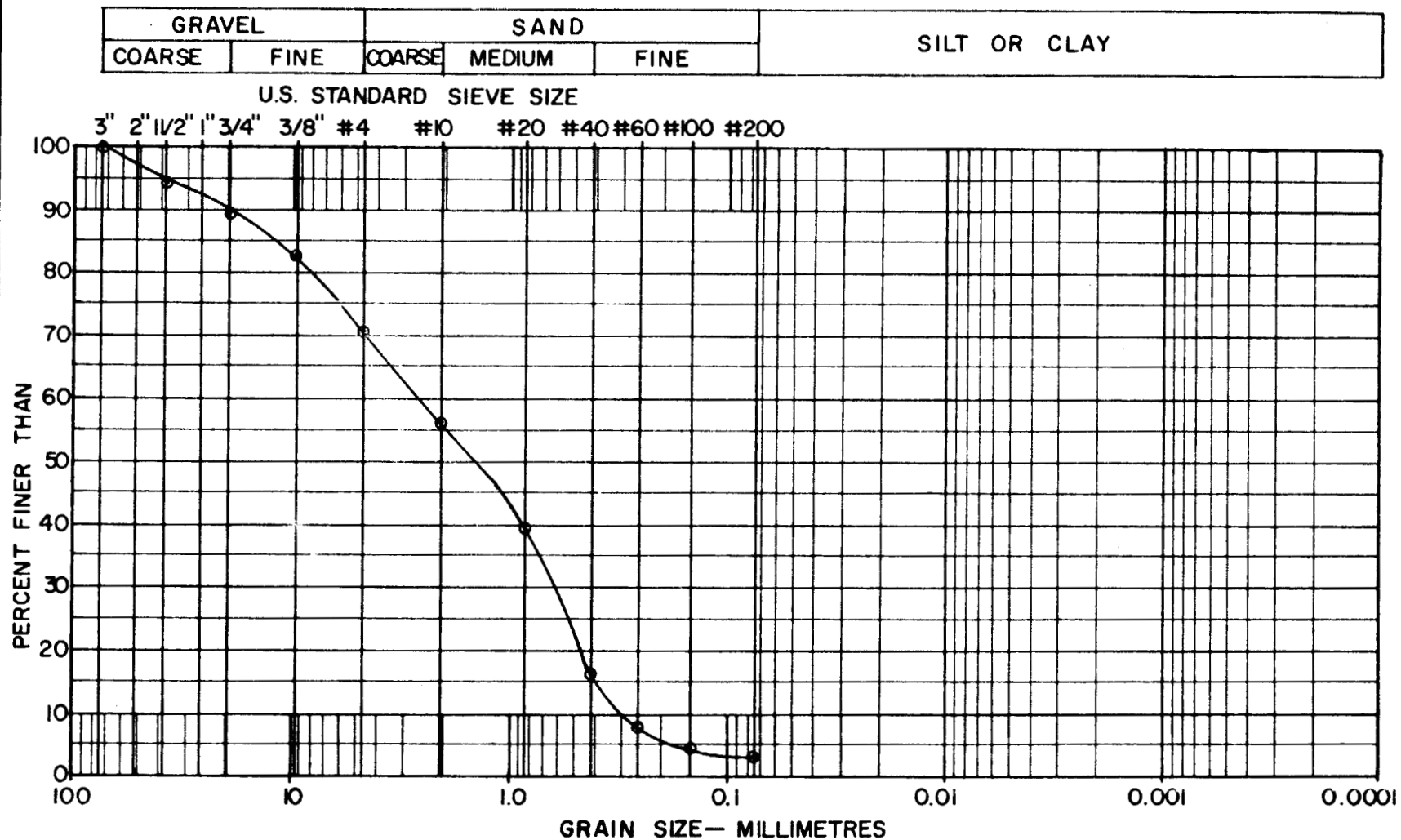
GRAIN SIZE CURVE

REMARKS: @ 2 - 6 ft.



Ripley, Kohn & Leonoff International Ltd.
CONSULTING GEOTECHNICAL ENGINEERS

JOB No. AL0307
PROJECT
LOCATION 364-BT-1
HOLE No.
DATE DEPTH



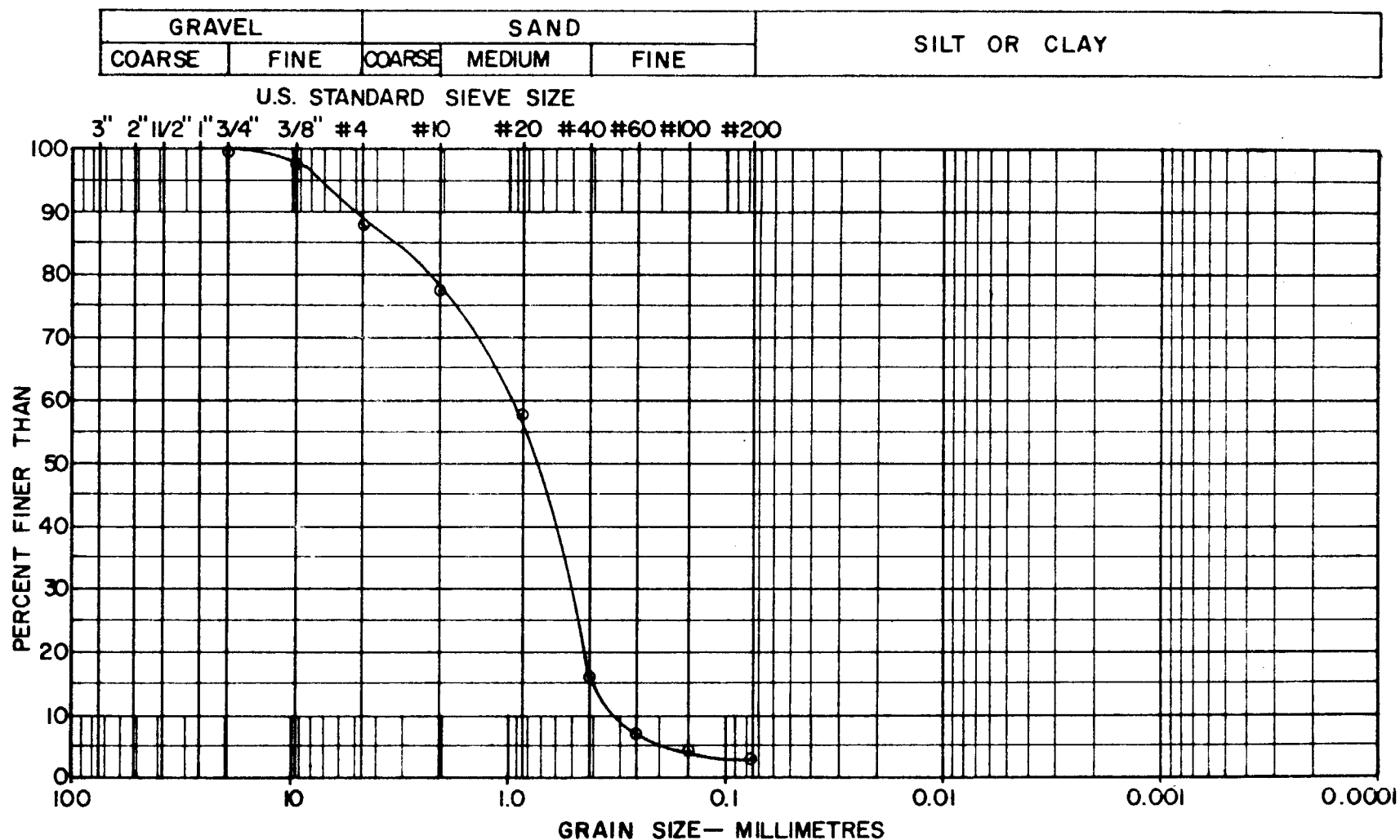
GRAIN SIZE CURVE

REMARKS: @ 2 - 6 ft. end



Ripley, Kohn & Leonoff International Ltd.
CONSULTING GEOTECHNICAL ENGINEERS

JOB No.	AL0307
PROJECT	
LOCATION	369-B-T-1
HOLE No.	
DEPTH	
DATE	



GRAIN SIZE CURVE

REMARKS: @ 3 - 5 1/2 ft.



Ripley, Kohn & Leonoff International Ltd.
CONSULTING GEOTECHNICAL ENGINEERS

JOB No. AL0307

PROJECT

LOCATION 370-B-T-1

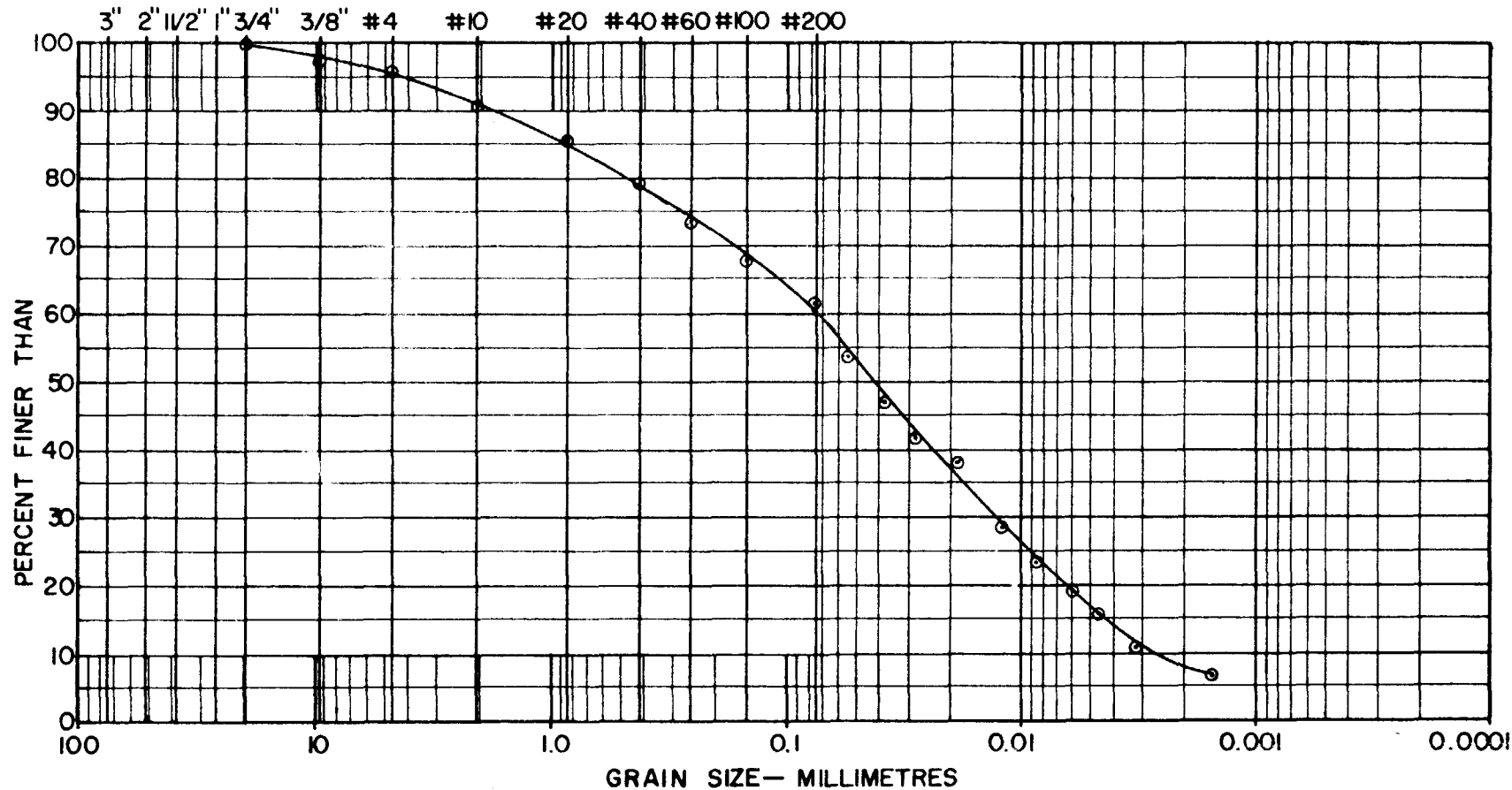
HOLE No.

DEPTH

DATE

GRAVEL		SAND			SILT OR CLAY
COARSE	FINE	COARSE	MEDIUM	FINE	

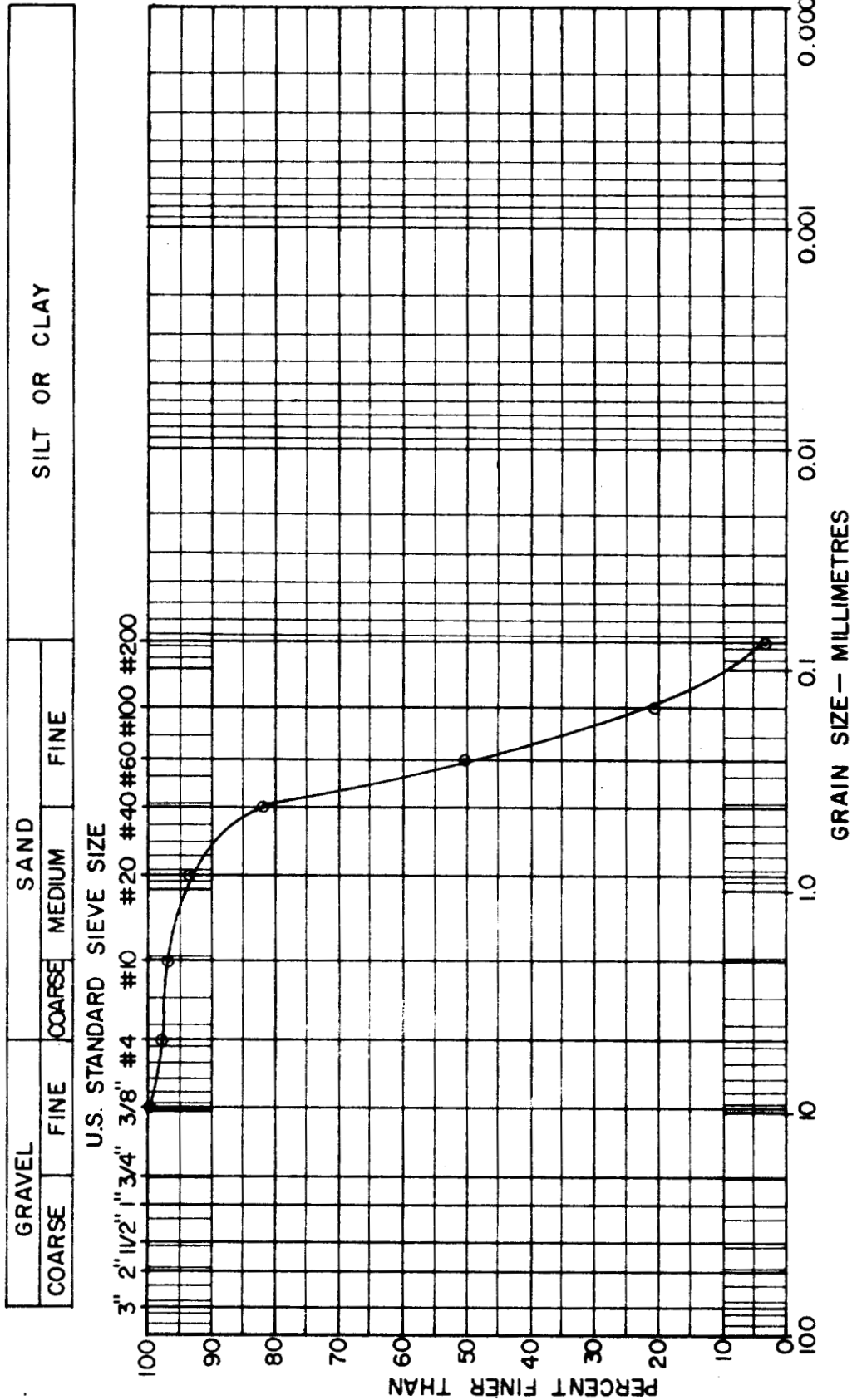
U.S. STANDARD SIEVE SIZE



REMARKS: ⊙ Sample No. 1 - 1 - 5 ft.

GRAIN SIZE CURVE

GRAIN SIZE CURVE



REMARKS: @ 1.5 - 5.5 ft.



Ripley, Kohn & Leonoff International Ltd.
CONSULTING GEOTECHNICAL ENGINEERS

JOB No. AL0307

PROJECT

LOCATION 370-B-T-2

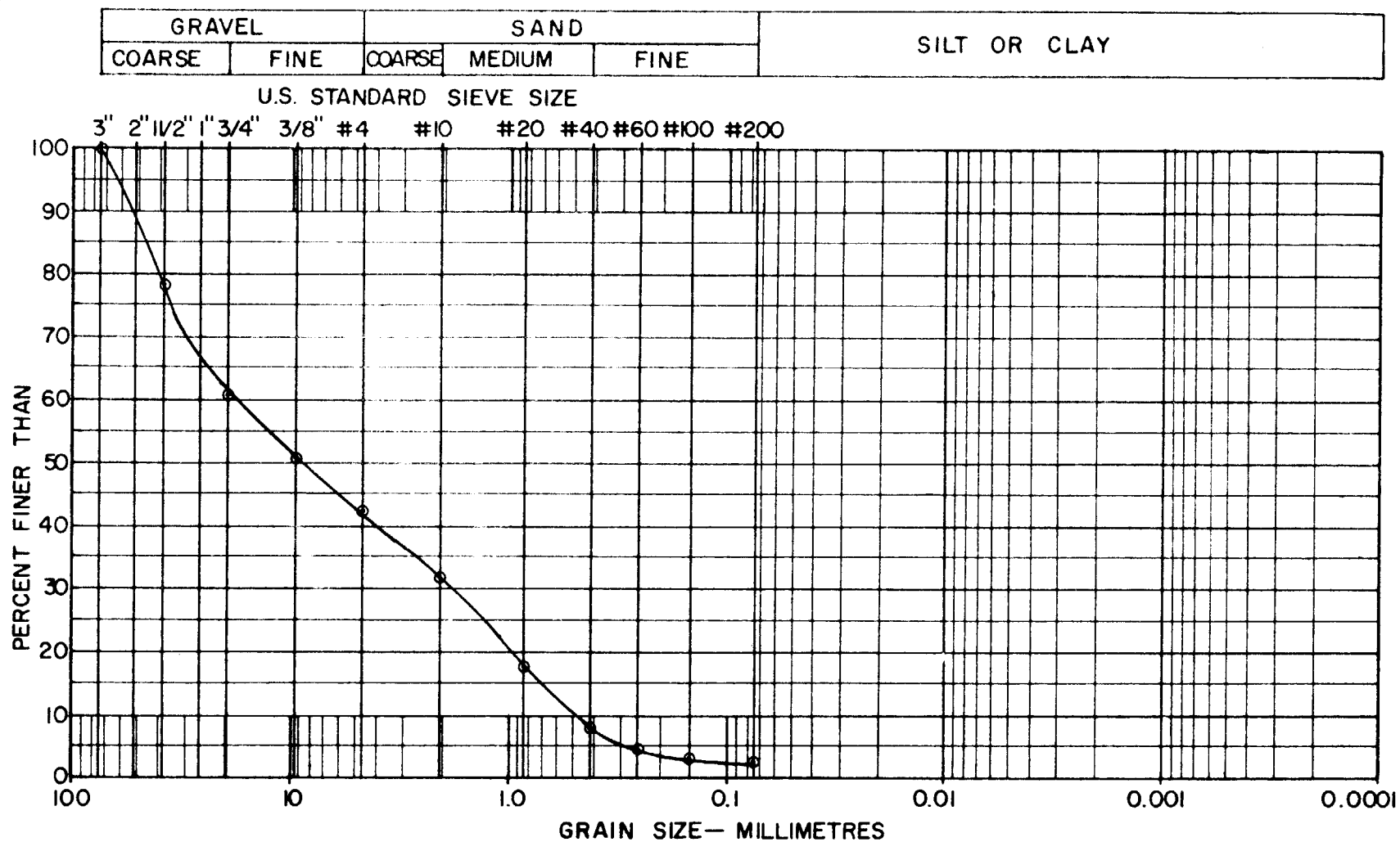
HOLE No. DEPTH

DATE



Ripley, Klohn & Leonoff International Ltd.
CONSULTING GEOTECHNICAL ENGINEERS

JOB No. AL0307
PROJECT
LOCATION 373-B-T-2
HOLE No. DEPTH
DATE

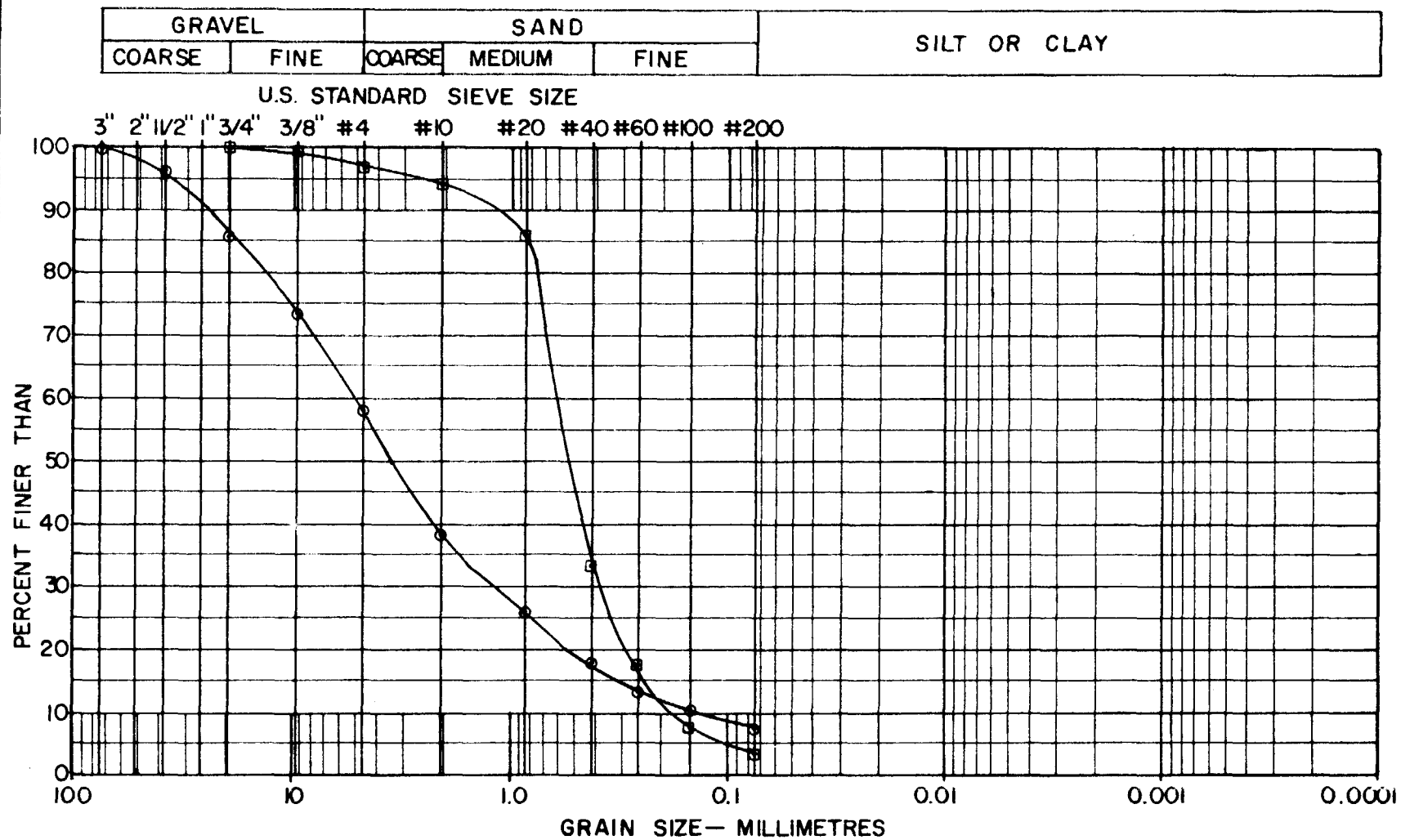


REMARKS: @ 2 ft. - 6 ft.



Ripley, Kohn & Leonoff International Ltd.
CONSULTING GEOTECHNICAL ENGINEERS

JOB No. AL0307
PROJECT
LOCATION 373-B-T-3
HOLE No.
DATE DEPTH





Ripley, Kohn & Leonoff International Ltd.
CONSULTING GEOTECHNICAL ENGINEERS

JOB No. AL0307

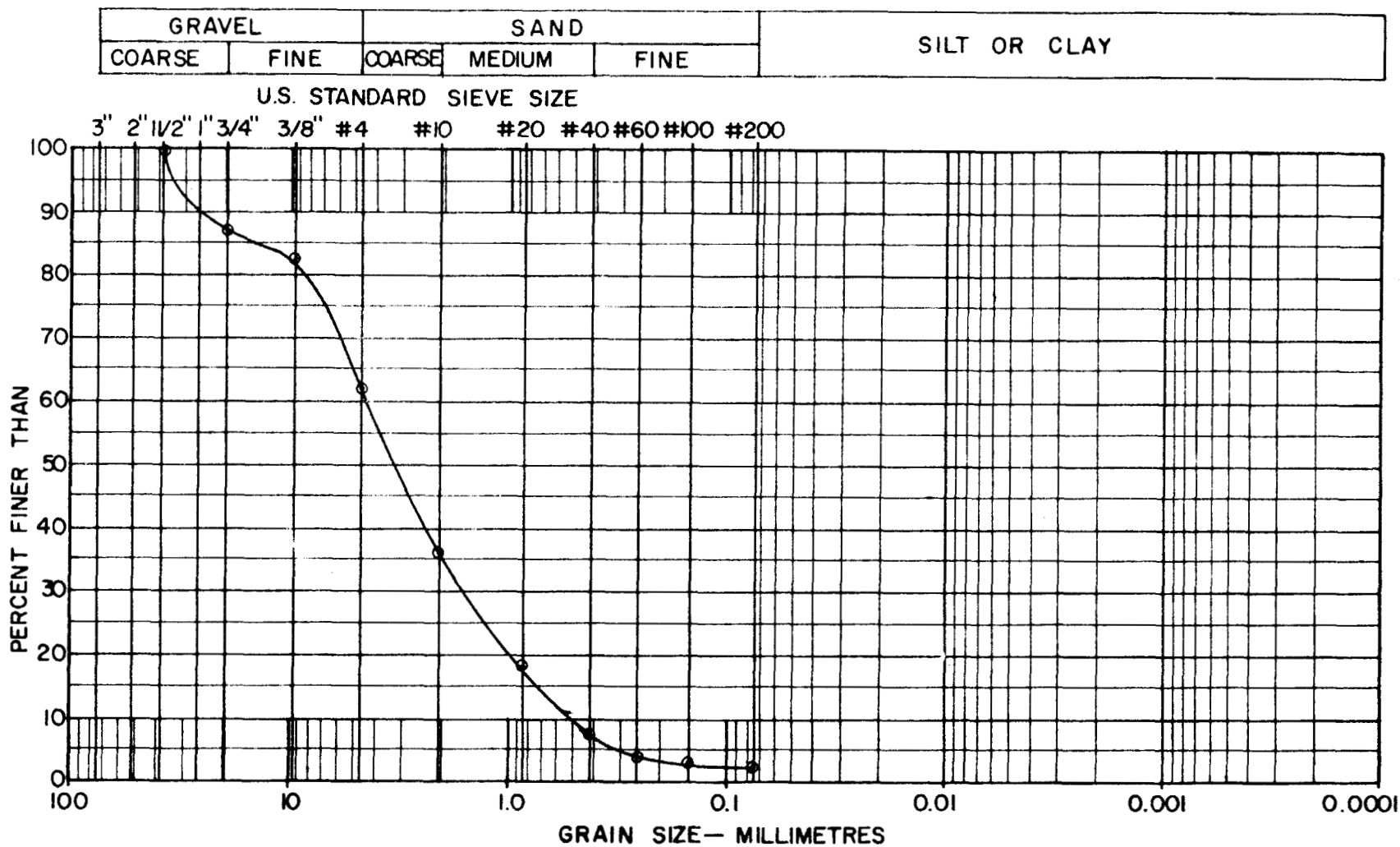
PROJECT

LOCATION 374-B-T-1

HOLE No.

DEPTH

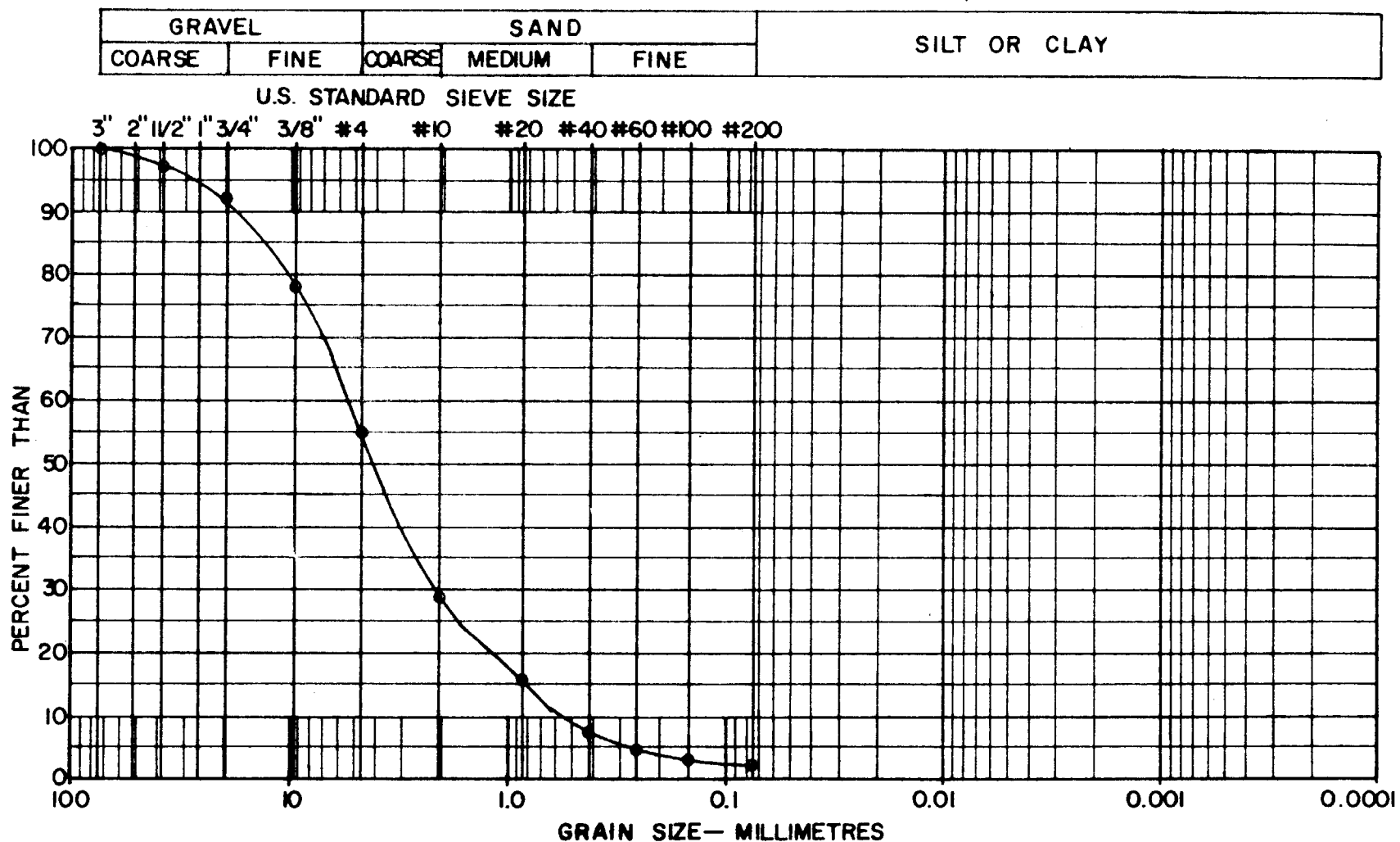
DATE





Ripley, Kohn & Leonoff International Ltd.
CONSULTING GEOTECHNICAL ENGINEERS

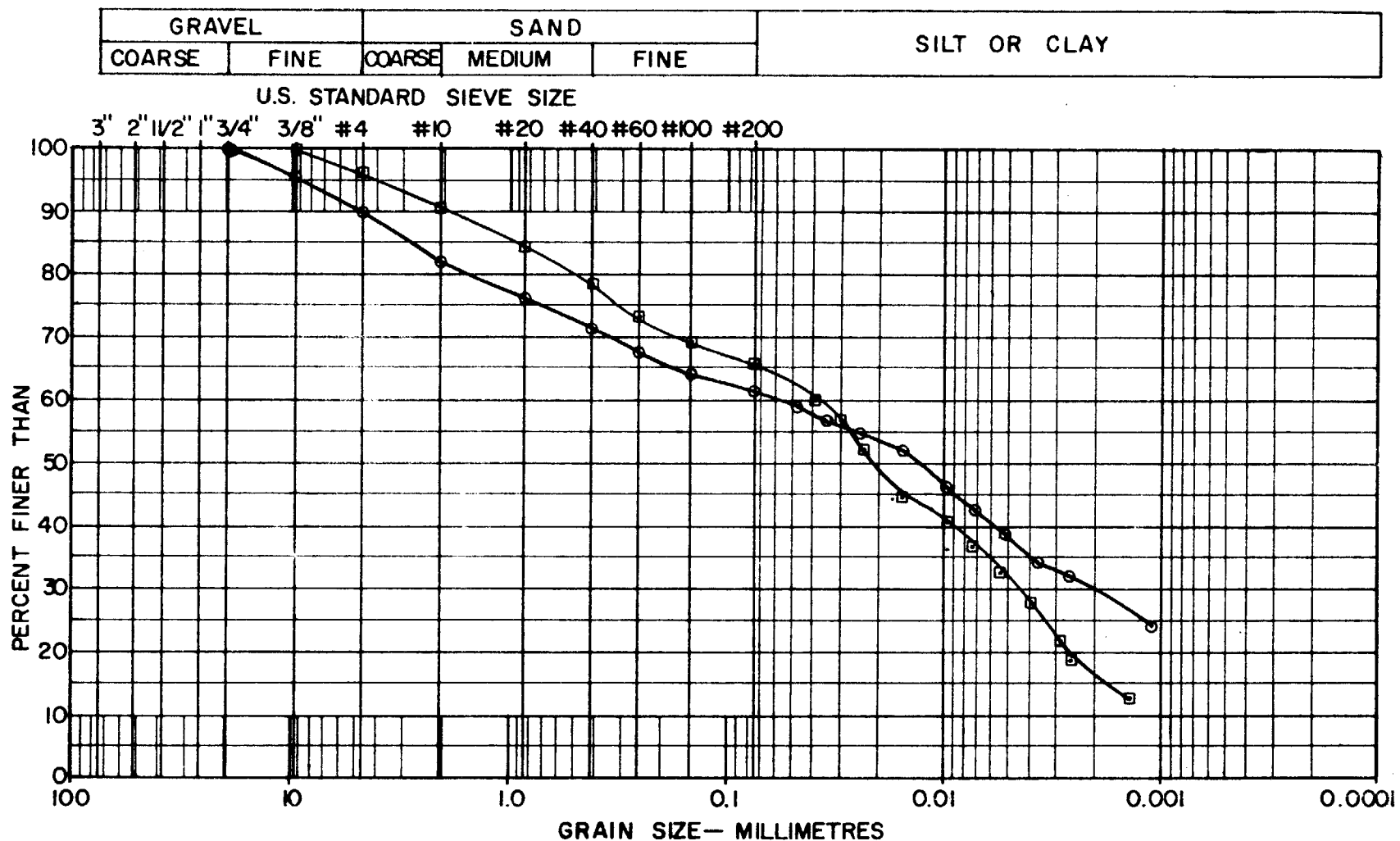
JOB No.	AL0307
PROJECT	
LOCATION	375-B-T-1
HOLE No.	
DEPTH	
DATE	





Ripley, Kohn & Leonoff International Ltd.
CONSULTING GEOTECHNICAL ENGINEERS

JOB No. AL0307
PROJECT
LOCATION 387-B-K
HOLE No.
DATE
DEPTH

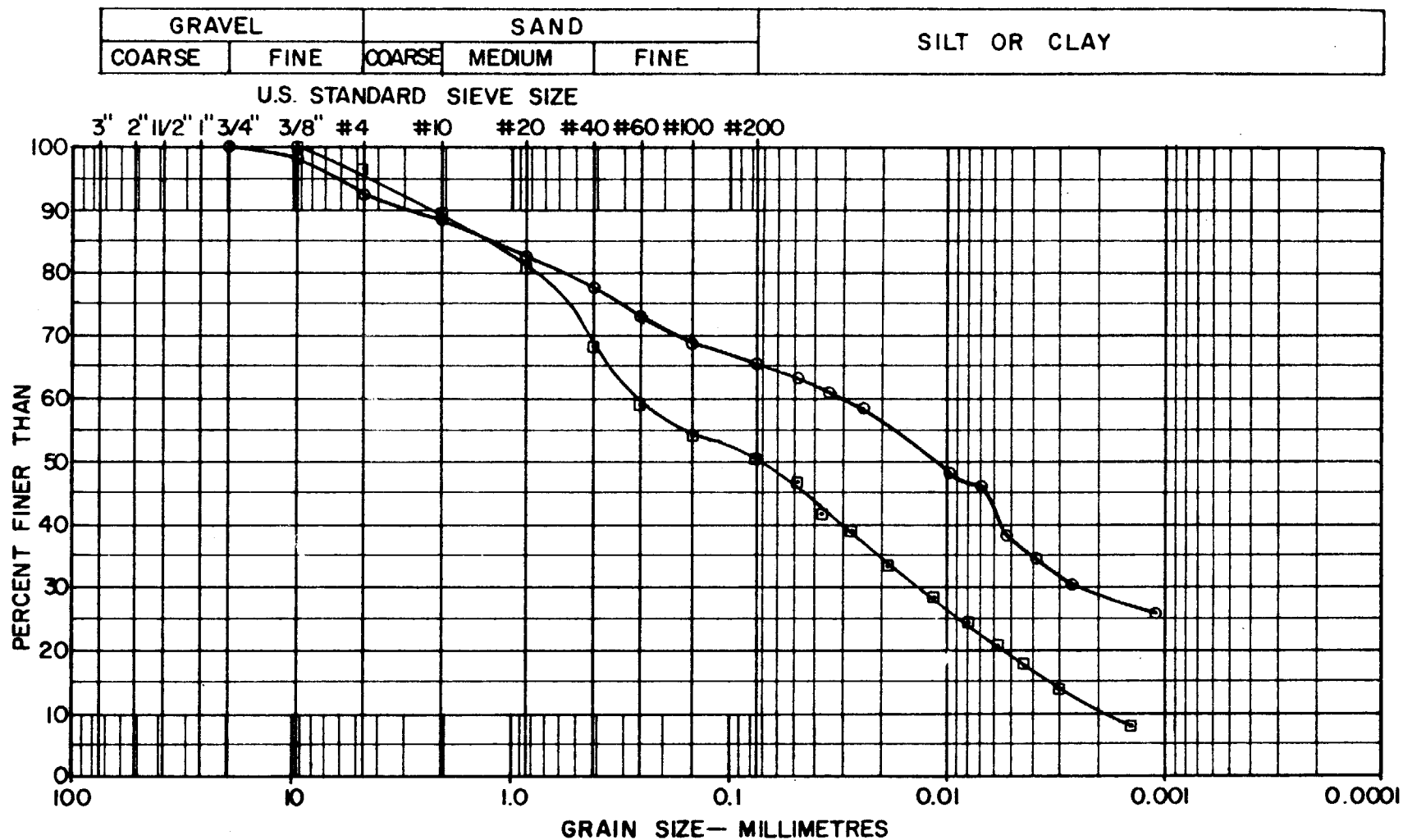


REMARKS: ☐ Sample No. 2 - 10 ft.
☐ Sample No 1- 5 ft.



Ripley, Kohn & Leonoff International Ltd.
CONSULTING GEOTECHNICAL ENGINEERS

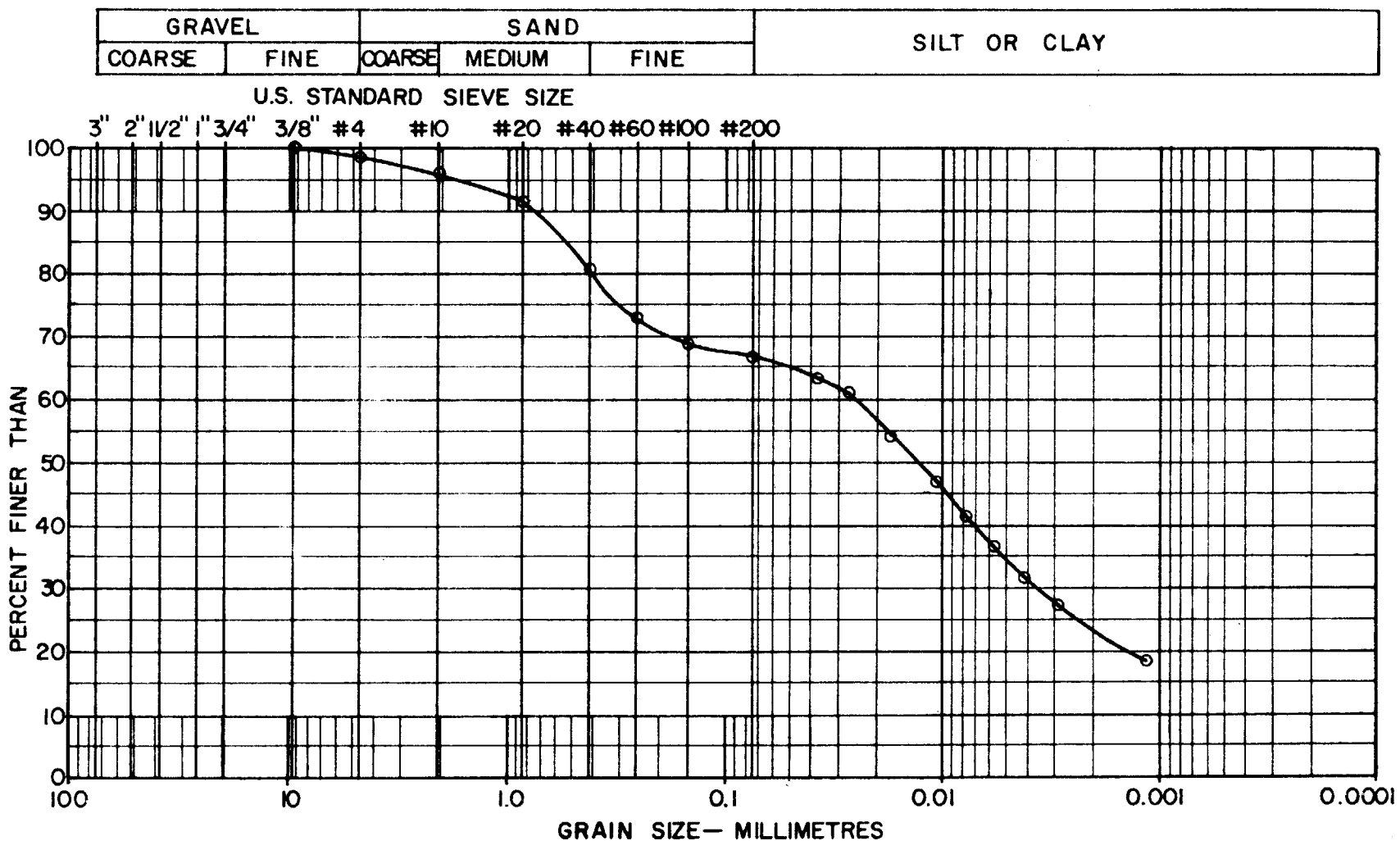
JOB No. AL0307
PROJECT
LOCATION 387-B-L
HOLE No. DEPTH
DATE





Ripley, Kohn & Leonoff International Ltd.
CONSULTING GEOTECHNICAL ENGINEERS

JOB No. **AL0307**
PROJECT
LOCATION **387-B-M**
HOLE No.
DATE
DEPTH



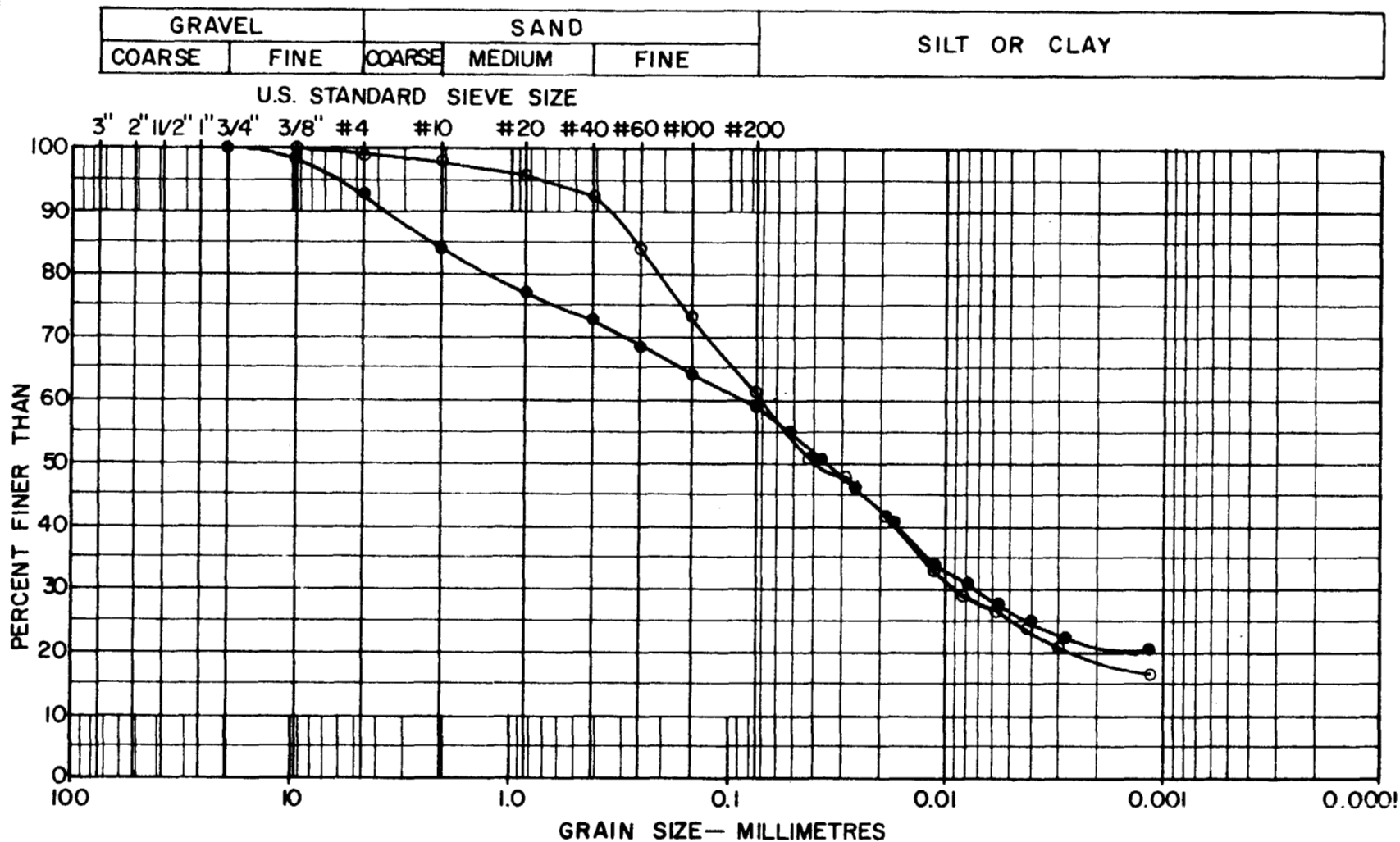
GRAIN SIZE CURVE

REMARKS: ○ Sample No. 1 - 5 ft.



Ripley, Klohn & Leonoff International Ltd.
CONSULTING GEOTECHNICAL ENGINEERS

JOB No. AL0307
PROJECT
LOCATION 389-B-H
HOLE No.
DATE
DEPTH

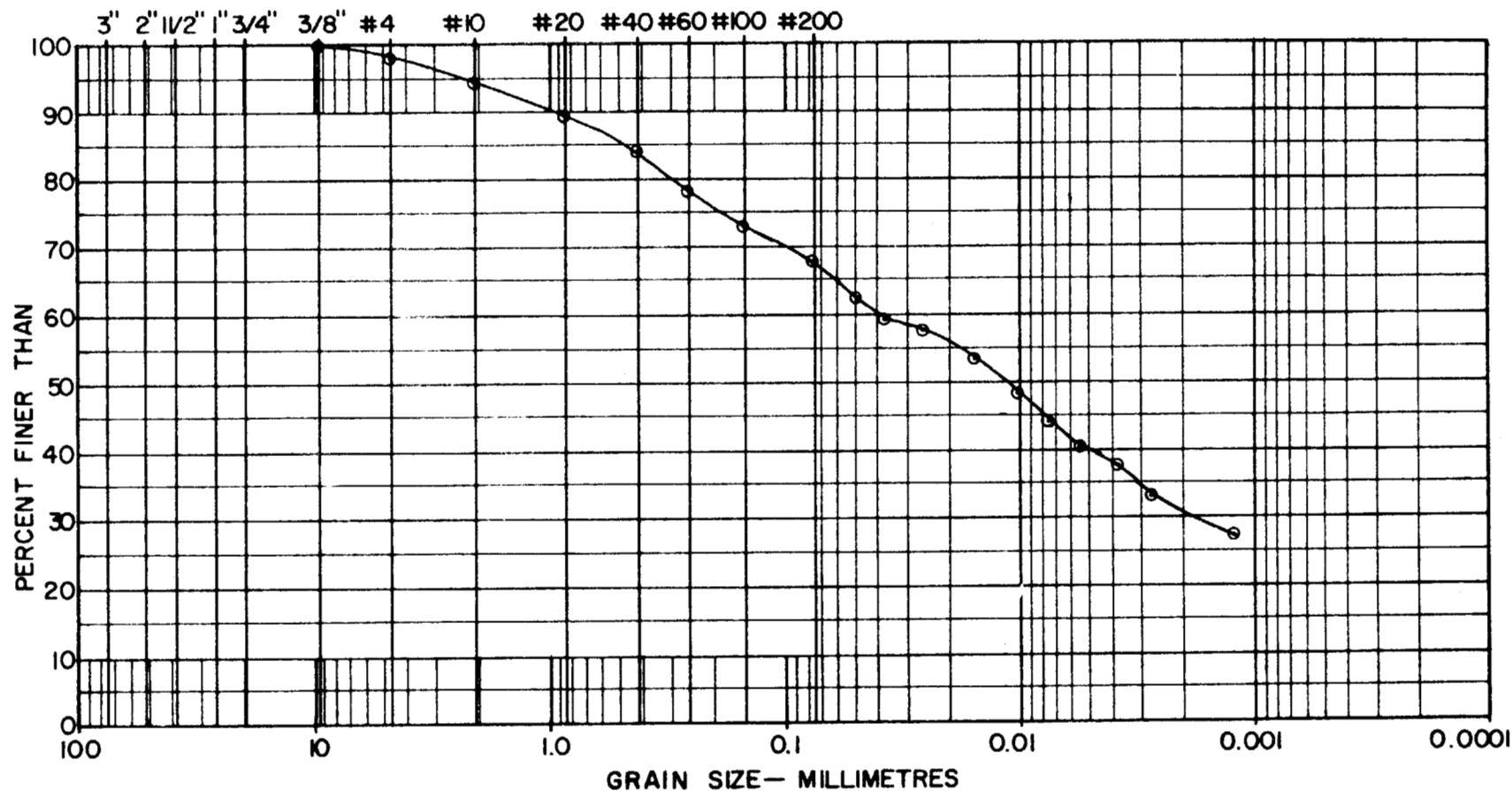




Ripley, Kohn & Leonoff International Ltd.
CONSULTING GEOTECHNICAL ENGINEERS

GRAVEL		SAND			SILT OR CLAY
COARSE	FINE	COARSE	MEDIUM	FINE	

U.S. STANDARD SIEVE SIZE



GRAIN SIZE CURVE

REMARKS: @ - 10 ft.

JOB No. AL0307

PROJECT

LOCATION 391-B-E

HOLE No.

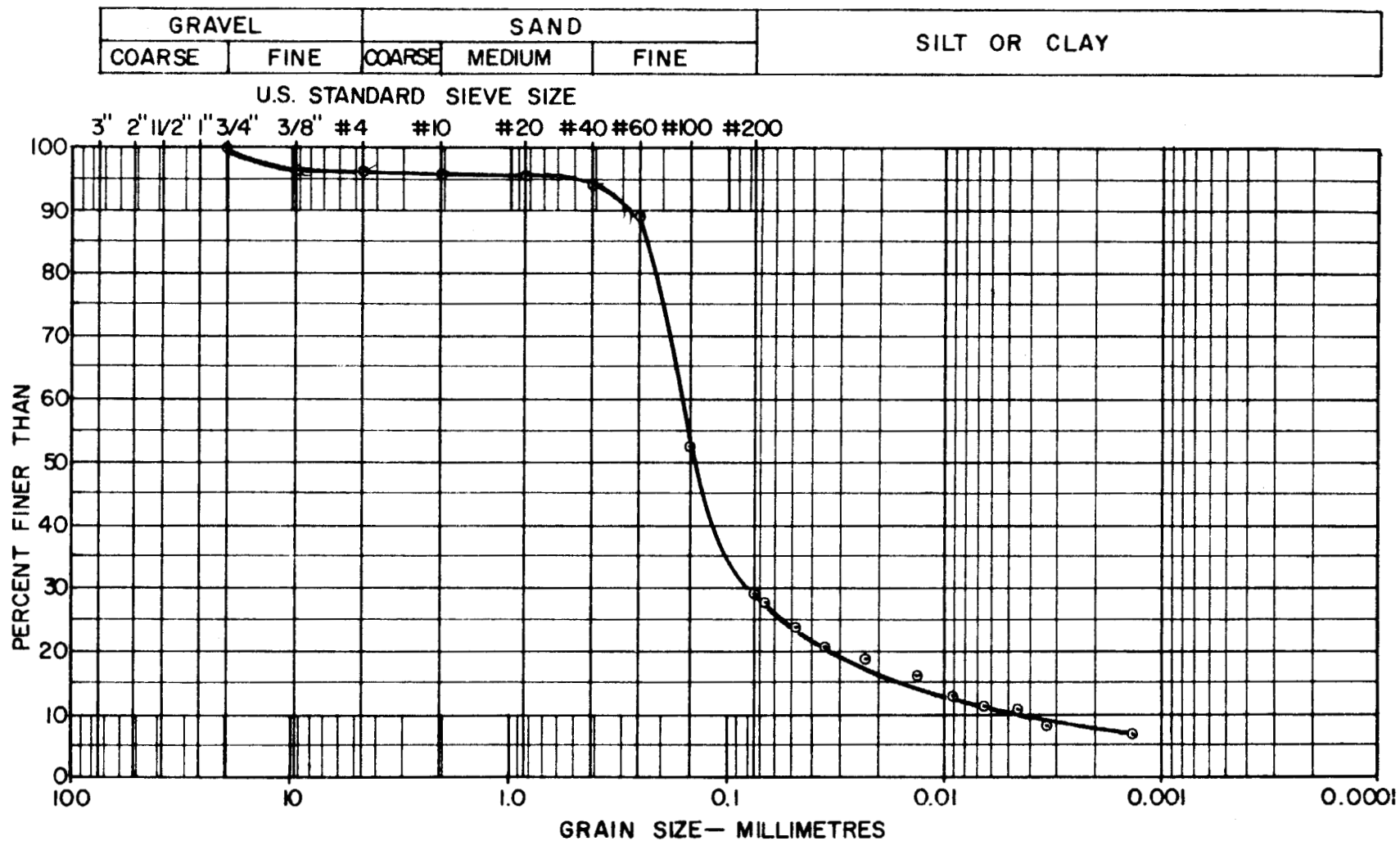
DEPTH

DATE



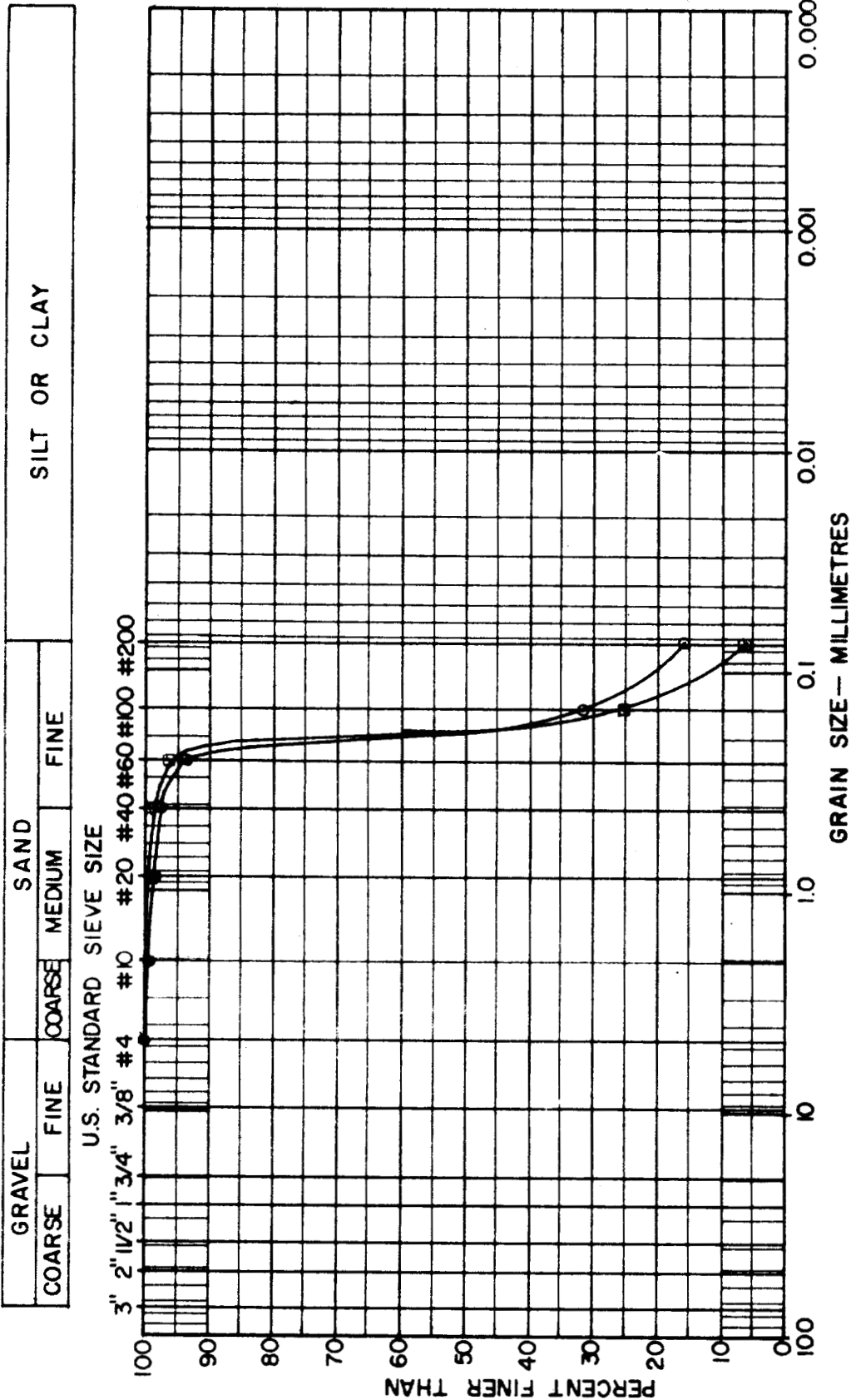
Ripley, Klonk & Leonoff International Ltd.
CONSULTING GEOTECHNICAL ENGINEERS

JOB No. AL0307
PROJECT
LOCATION 392-B-I
HOLE No. DEPTH
DATE



REMARKS: • Sample No. 1 - 0 to 5 ft.

GRAIN SIZE CURVE



REMARKS: ☐ Sample No. 1 - 0' to 5'

☐ Sample No. 2 - 10' to 15'



Ripley, Klohn & Leonoff International Ltd.
CONSULTING GEOTECHNICAL ENGINEERS

JOB No. AL0307

PROJECT

LOCATION 392-B-K

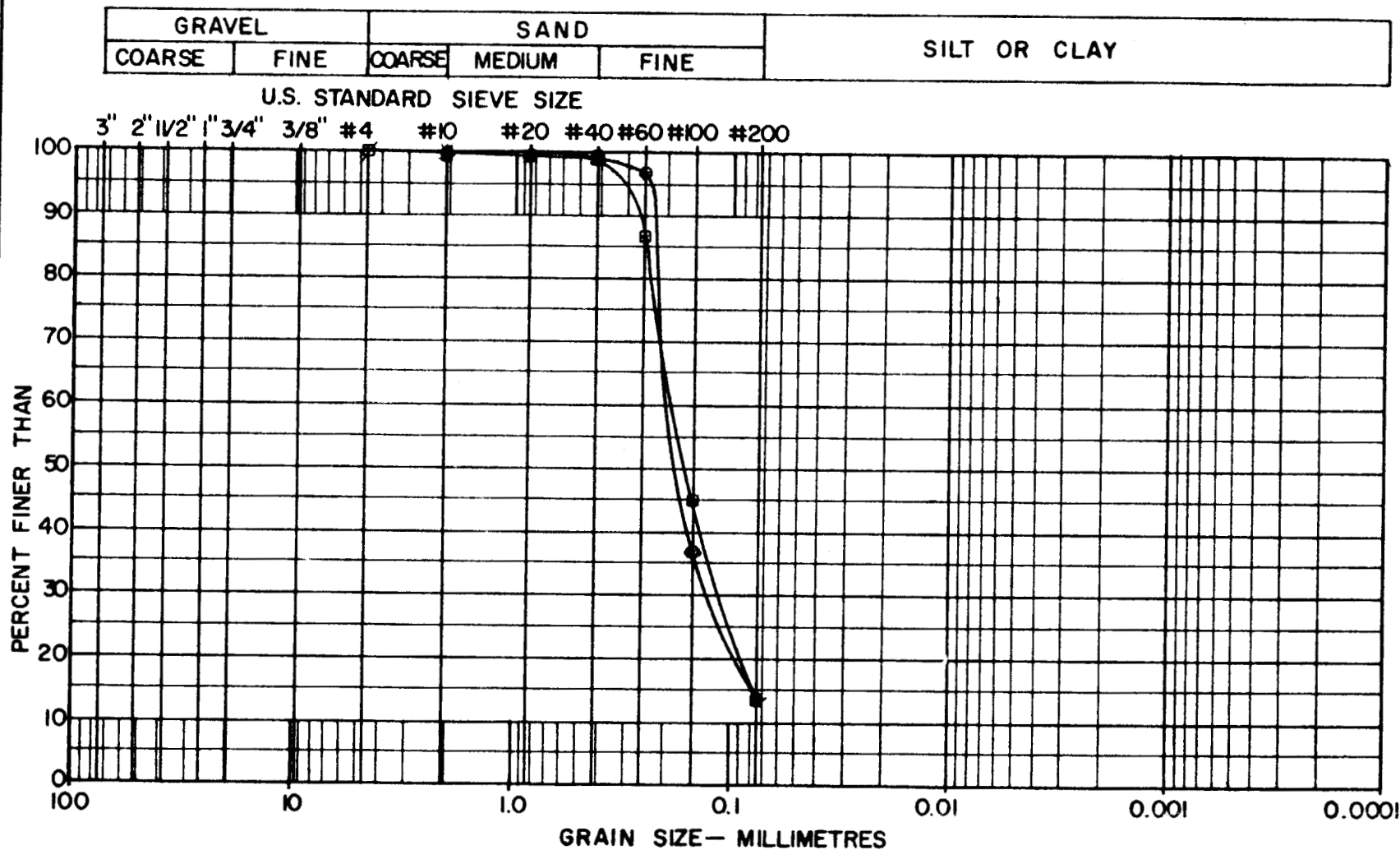
HOLE No. DEPTH

DATE

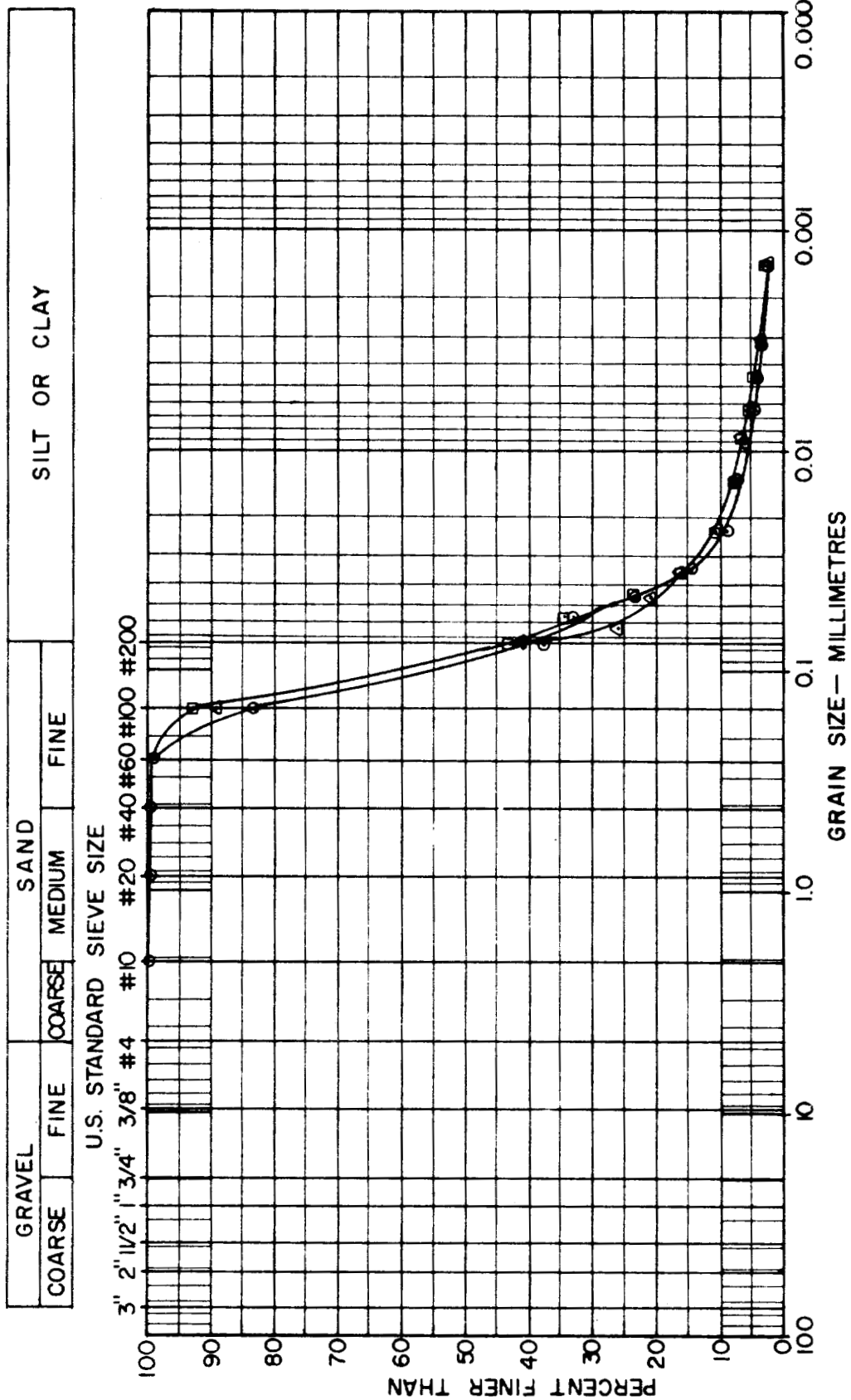


Ripley, Kiohn & Leonoff International Ltd.
CONSULTING GEOTECHNICAL ENGINEERS

JOB No. AL0307
PROJECT
LOCATION 392-B-1
HOLE No. DEPTH
DATE



GRAIN SIZE CURVE



REMARKS: @ 20 ft.

30 ft.

Δ Sample No. 5 - 25 ft.



Ripley, Klohn & Leonoff International Ltd.
CONSULTING GEOTECHNICAL ENGINEERS

JOB No. AL0307

PROJECT

LOCATION 392-B-L

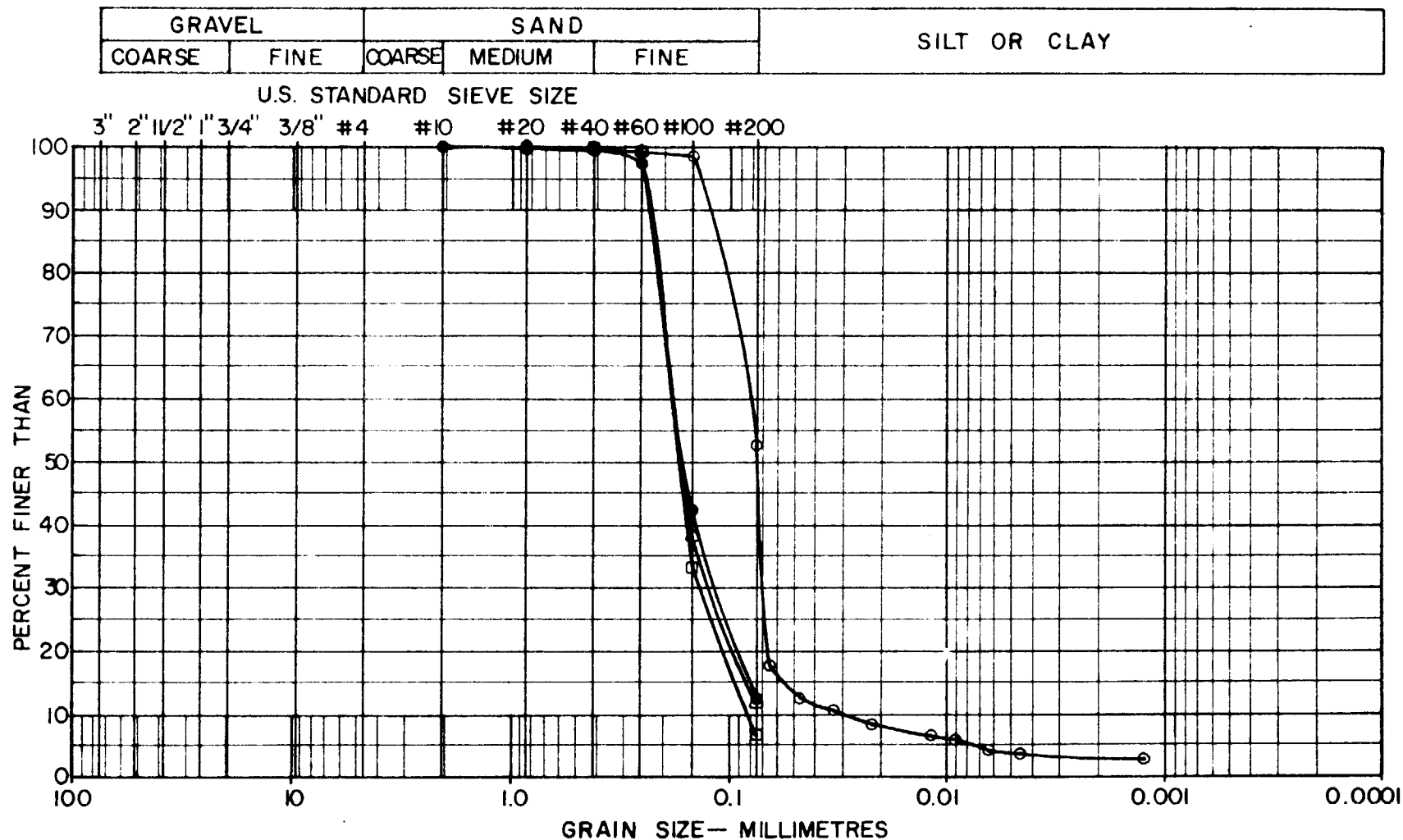
HOLE No.	DEPTH
----------	-------

DATE _____



Ripley, Klohn & Leonoff International Ltd.
CONSULTING GEOTECHNICAL ENGINEERS

JOB No. AL0307
PROJECT
LOCATION 392-B-M
HOLE No. DEPTH
DATE

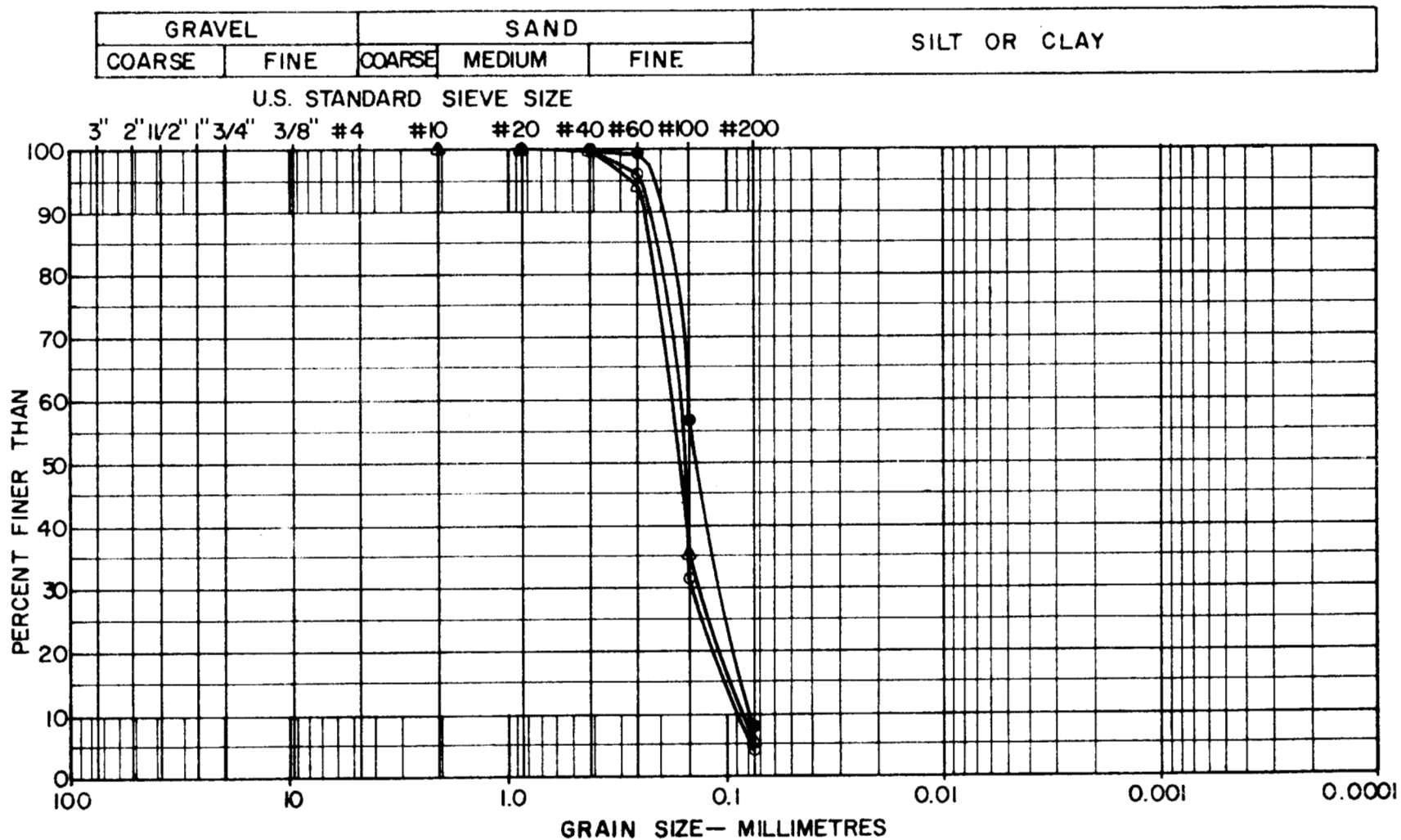


REMARKS: ● Sample No. 2 5 ft.
○ Sample No. 3 10 ft.
△ Sample No. 4 15 ft.
□ Sample No. 5 20 ft.



Ripley, Klohn & Leonoff International Ltd.
CONSULTING GEOTECHNICAL ENGINEERS

JOB No.	AL0307
PROJECT	
LOCATION	392-B-M
HOLE No.	
DATE	
DEPTH	



REMARKS: ● Sample No. 6 - 25 ft.
○ Sample No. 7 - 30 ft.
△ Sample No. 8 - 35 ft.



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CONSULTING GEOTECHNICAL ENGINEERS

JOB No. AL0307

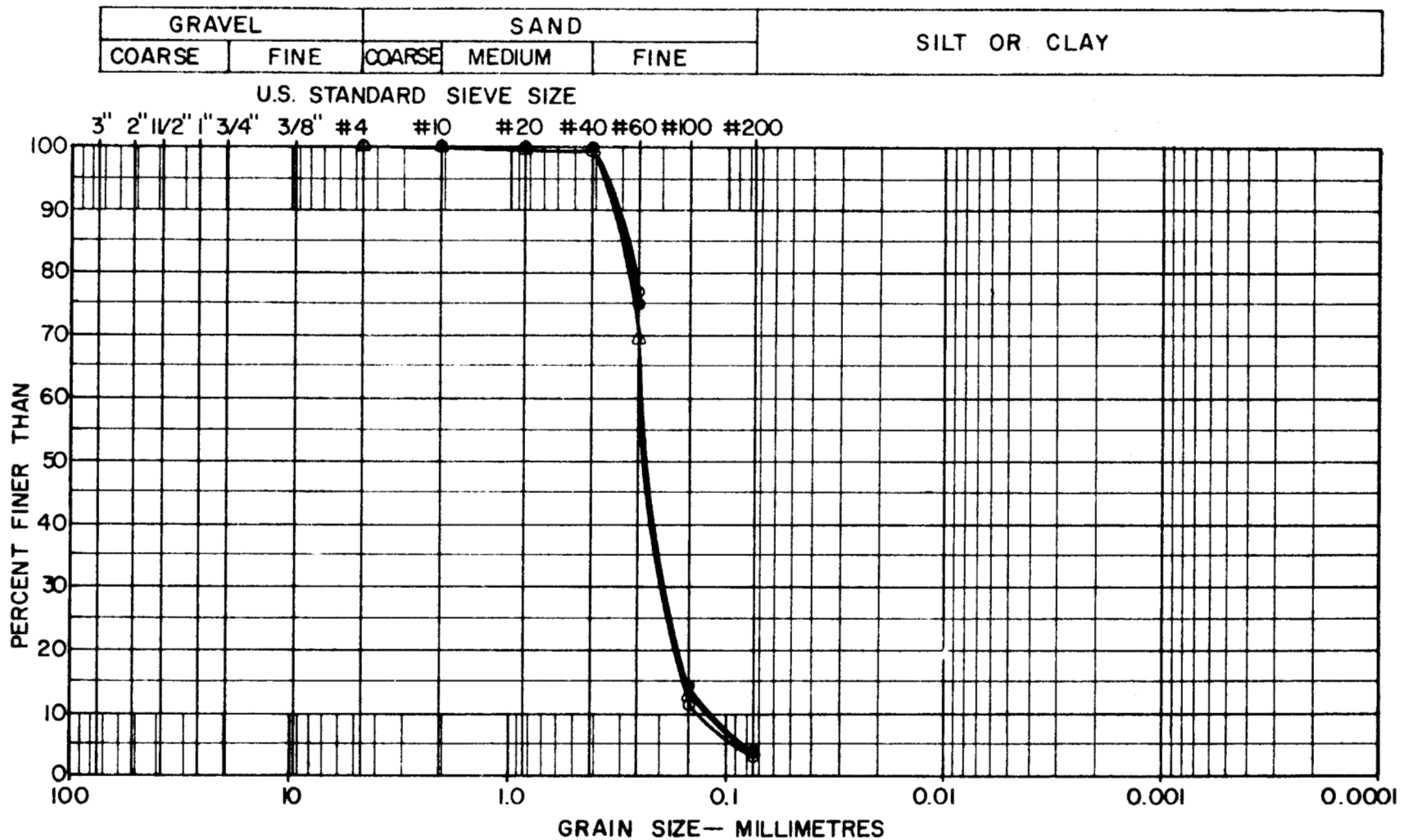
PROJECT

LOCATION 392-B-M

HOLE No.

DEPTH

DATE

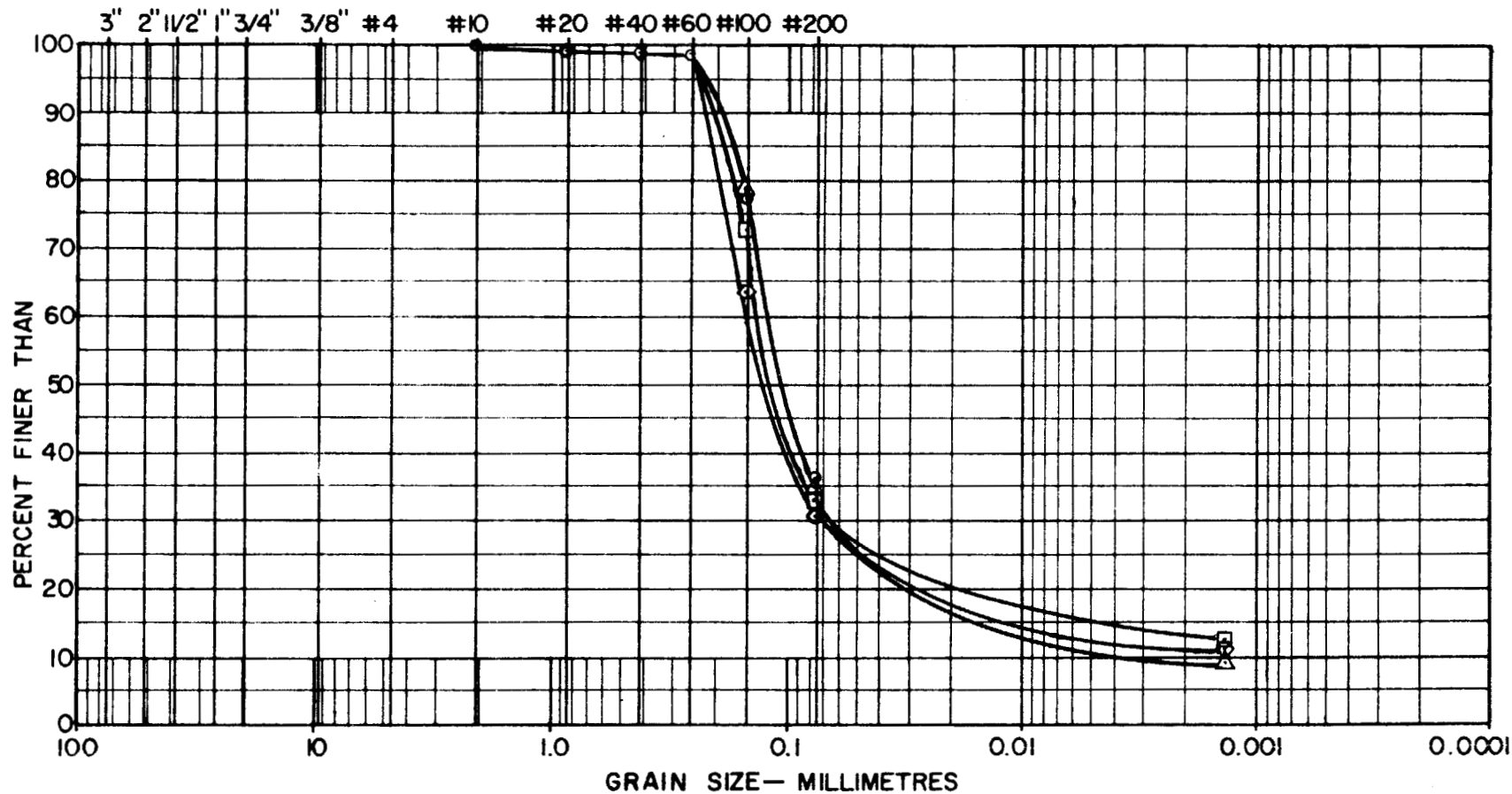




Ripley, Kiohn & Leonoff International Ltd.
CONSULTING GEOTECHNICAL ENGINEERS

GRAVEL		SAND			SILT OR CLAY
COARSE	FINE	COARSE	MEDIUM	FINE	

U.S. STANDARD SIEVE SIZE



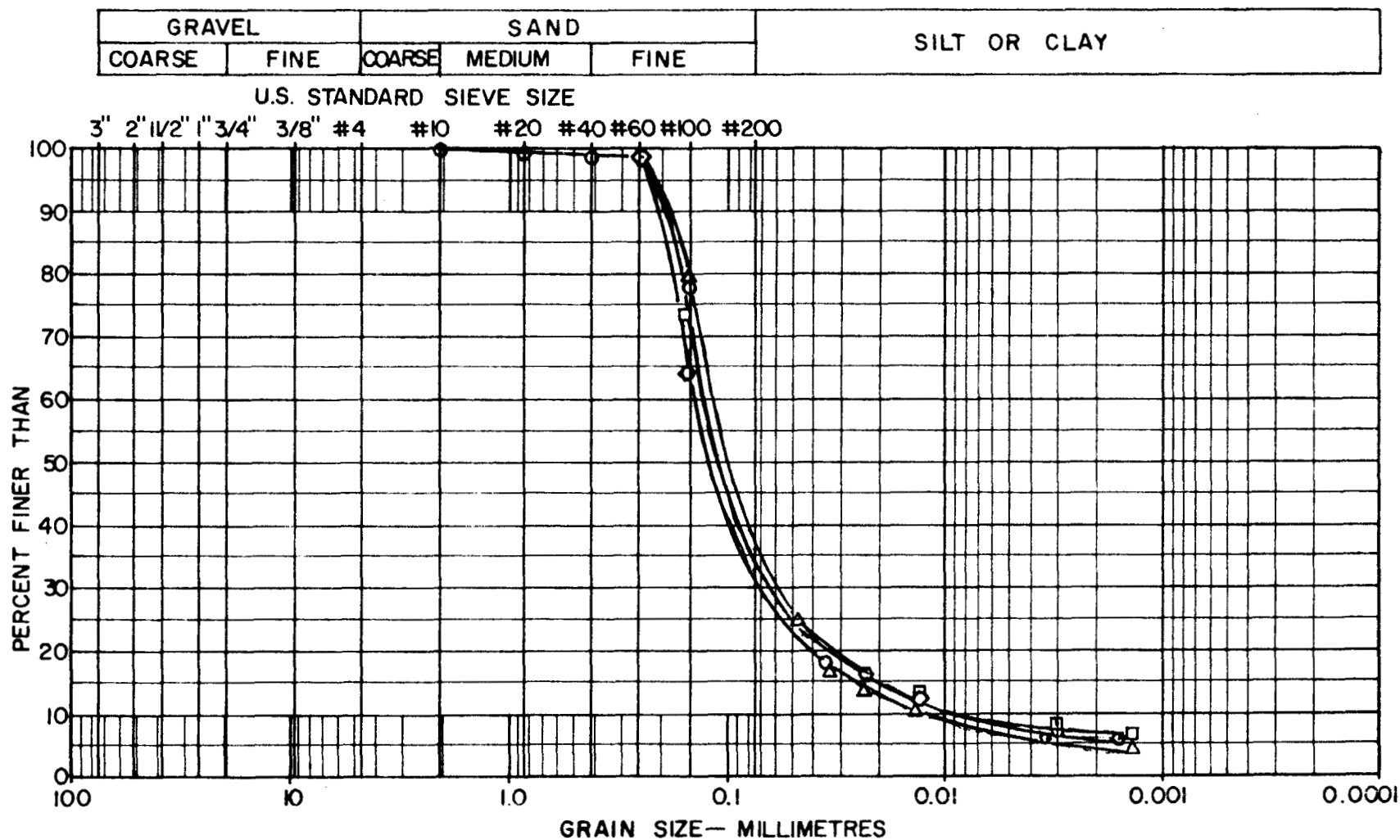
GRAIN SIZE CURVE

REMARKS: ● Sample No. 1 - 5 ft.
□ Sample No. 2 - 10 ft.
△ Sample No. 3 - 15 ft.
◇ Sample No. 4 - 20 ft.

JOB No. AL0307
PROJECT
LOCATION 392-B-P
HOLE No. DEPTH
DATE



Ripley, Kohn & Leonoff International Ltd.
CONSULTING GEOTECHNICAL ENGINEERS



REMARKS: ○ Sample No. 5 - 25'

□ Sample No. 6 - 30'

△ Sample No. 7 - 35'

◇ Sample No. 8 - 40'

JOB No. AL0307

PROJECT

LOCATION 392-B-P

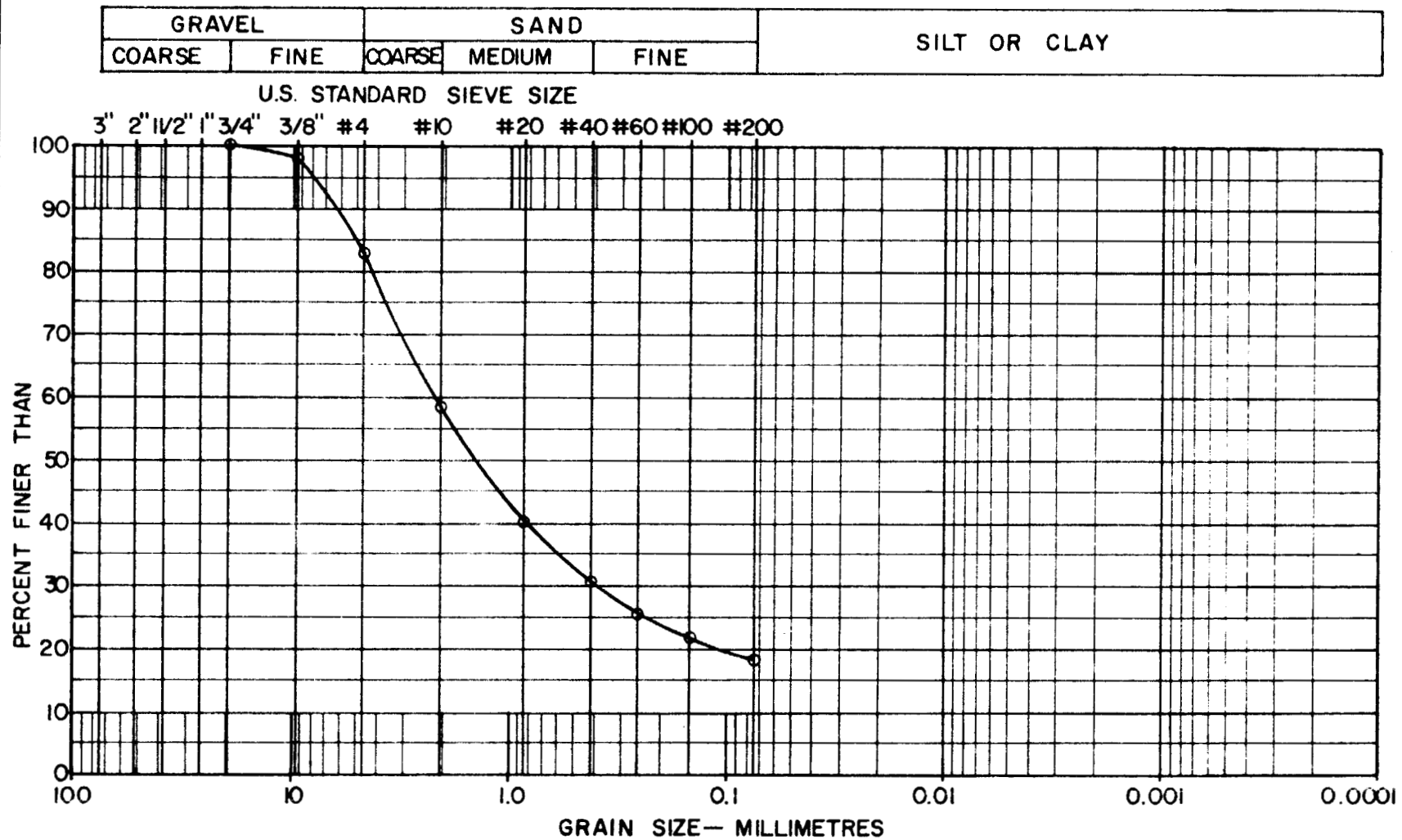
HOLE No. DEPTH

DATE



JOB No.	AL0307
PROJECT	
LOCATION	392-B-S

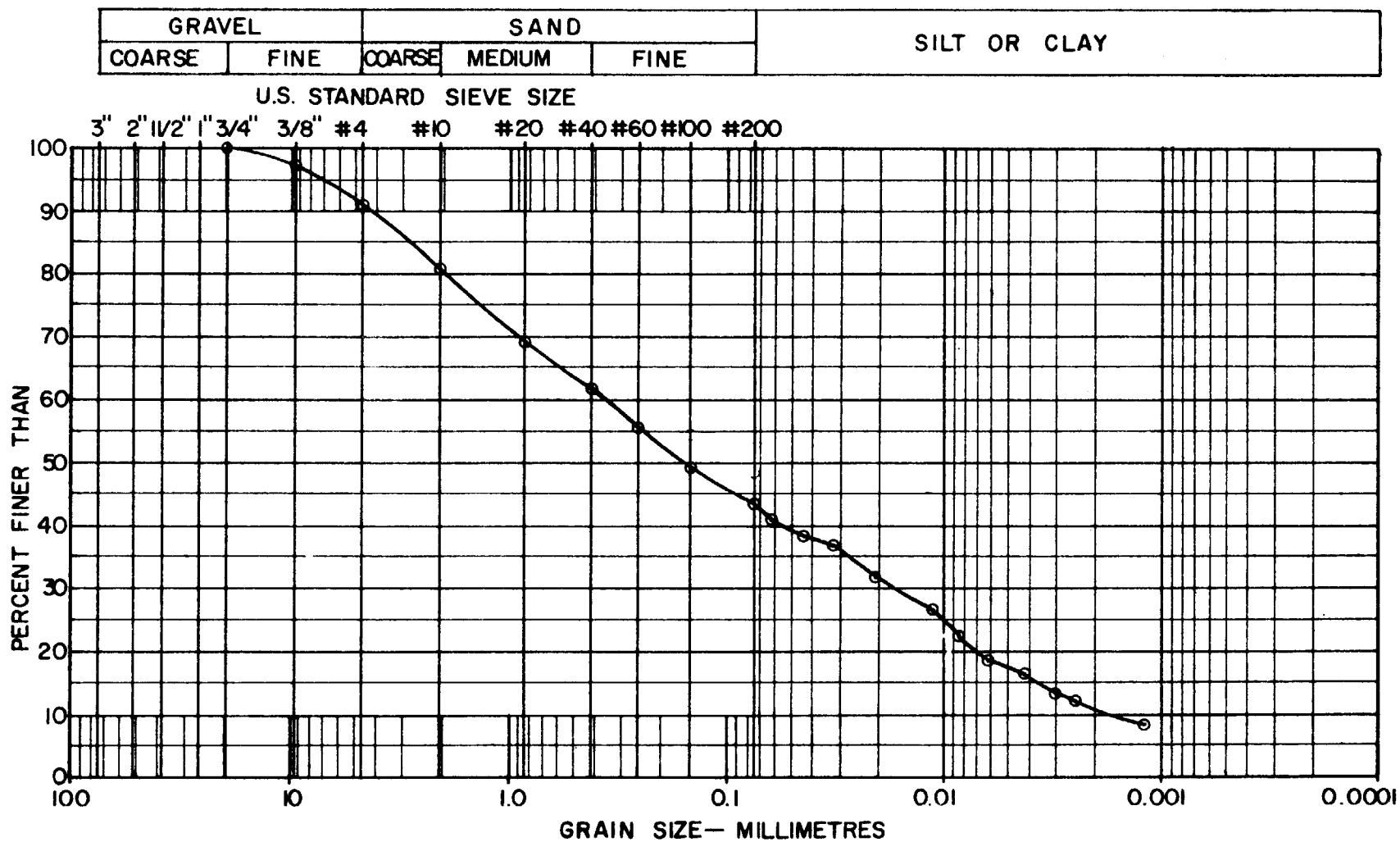
DEPTH

REMARKS: ○ - 27 feet



Ripley, Kohn & Leonoff International Ltd.
CONSULTING GEOTECHNICAL ENGINEERS

JOB No.	AL0307
PROJECT	
LOCATION	392-B-T
HOLE No.	
DEPTH	
DATE	



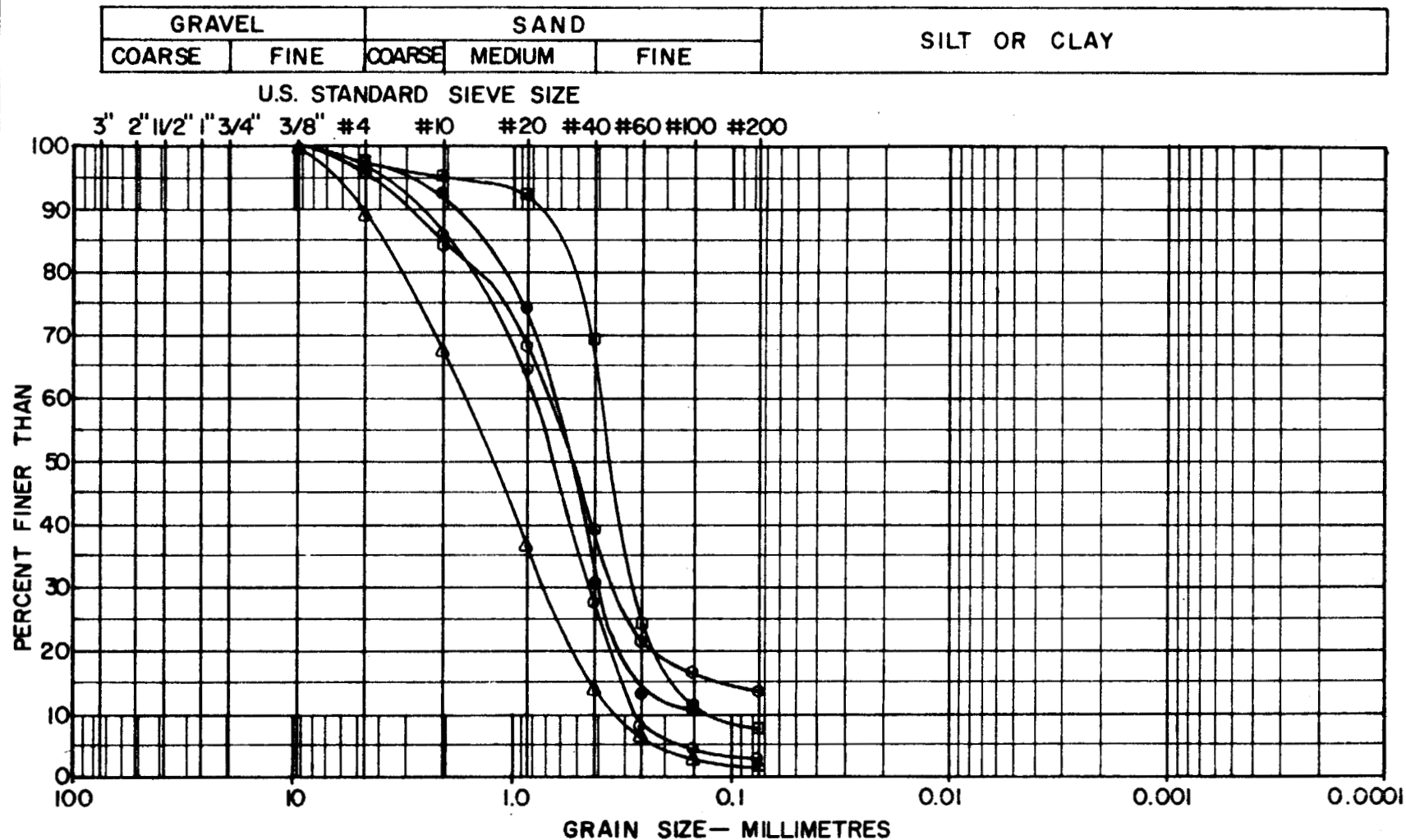
GRAIN SIZE CURVE

REMARKS: ☒ Sample No. 6 - 30 Ft.



Ripley, Kiohn & Leonoff International Ltd.
CONSULTING GEOTECHNICAL ENGINEERS

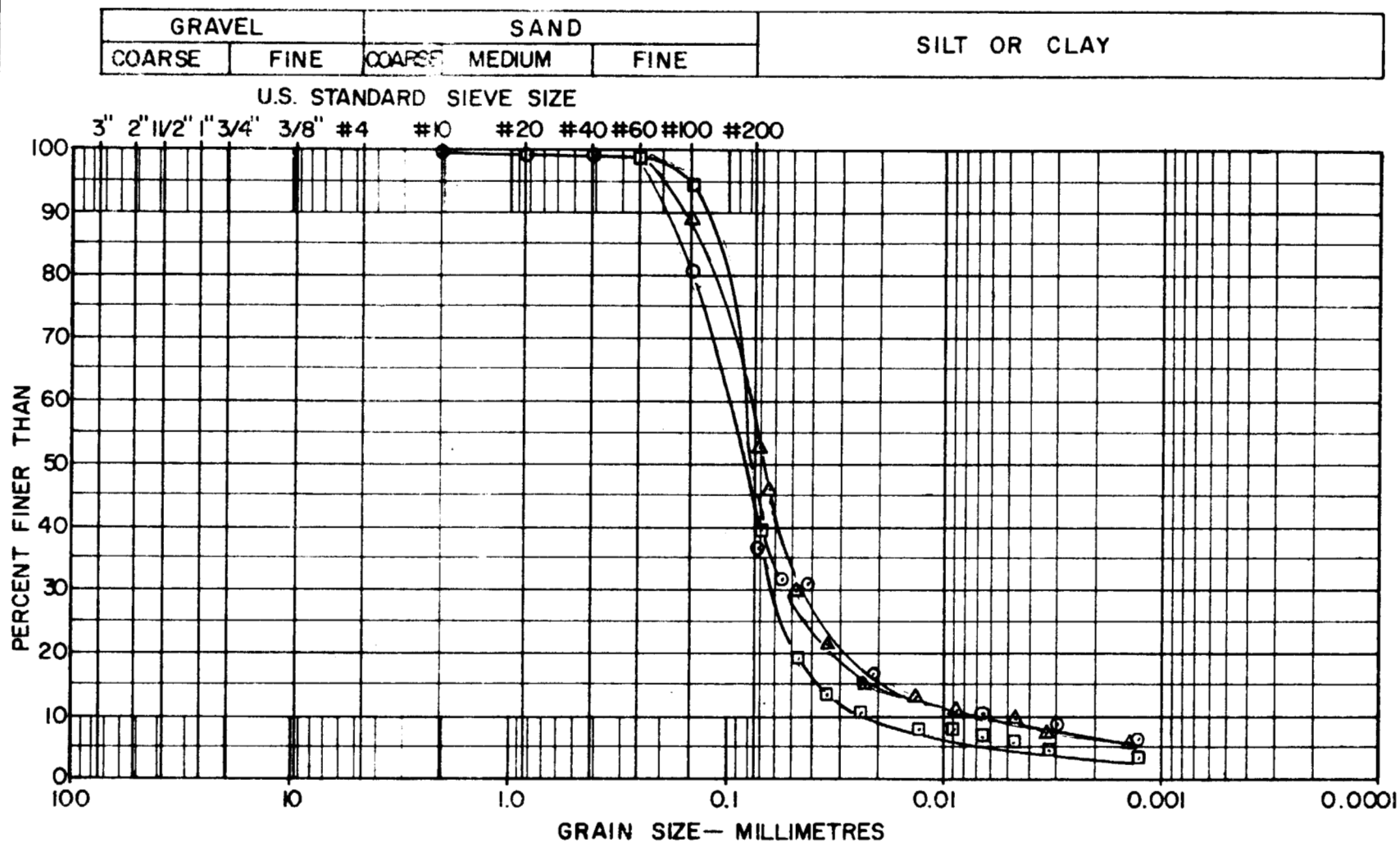
JOB No. AL0307
PROJECT
LOCATION 392-B-T
HOLE No.
DATE DEPTH



REMARKS: ● Sample No. 1 - 5 ft.
○ Sample No. 2 - 10 ft.
□ Sample No. 3 - 15 ft.
◊ Sample No. 4 - 20 ft.
△ Sample No. 5 - 25 ft.



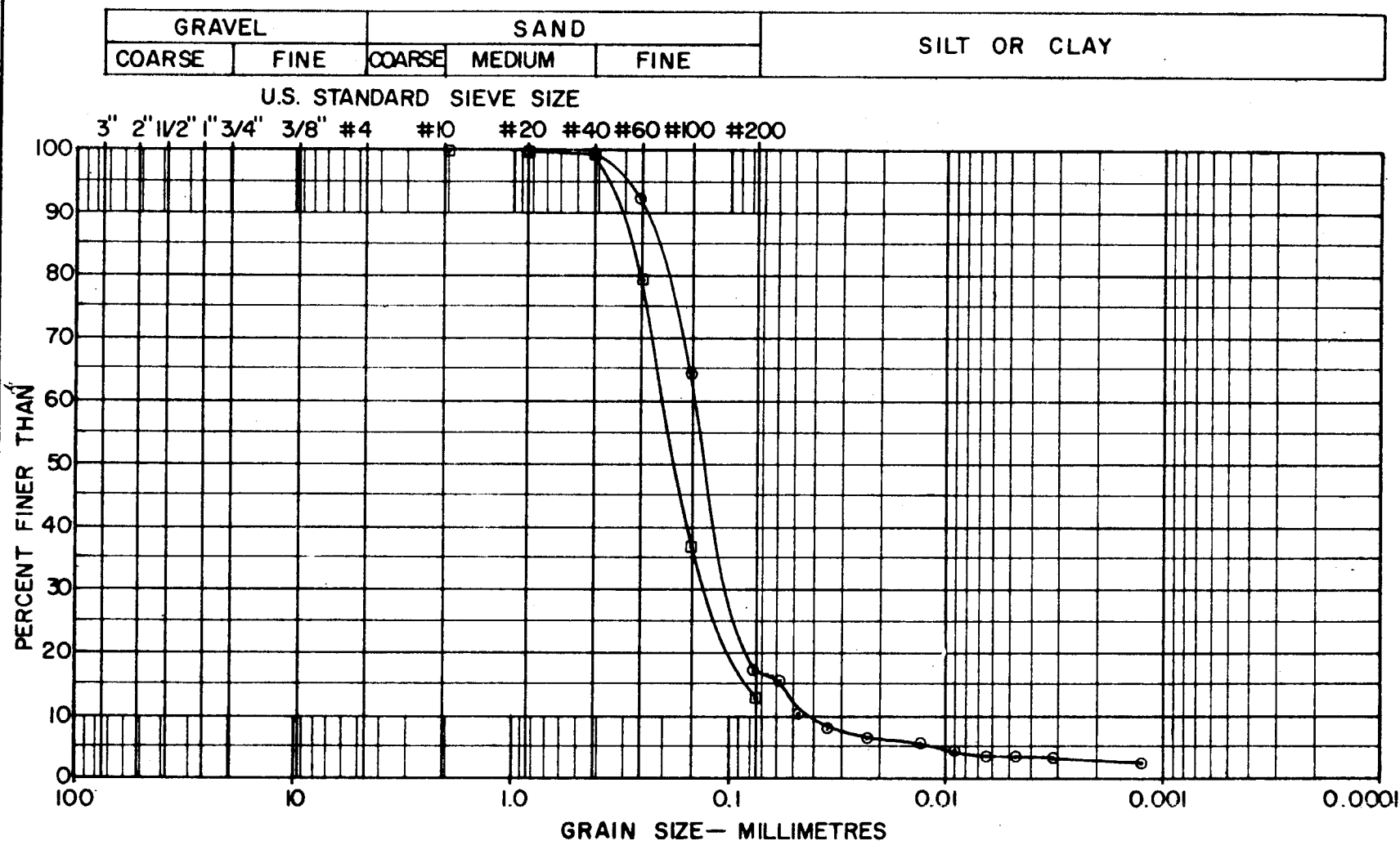
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Ripley, Kiohn & Leonoff International Ltd.
CONSULTING GEOTECHNICAL ENGINEERS

JOB No.	AL0307
PROJECT	
LOCATION	393-B-E
HOLE No.	
DEPTH	
DATE	



REMARKS: ○ Sample No. 2 - 10 ft.

□ Sample No. 3 - 15 ft.

GRAIN SIZE CURVE



Ripley, Klonh & Leonoff International Ltd.

JOB No. AL0307

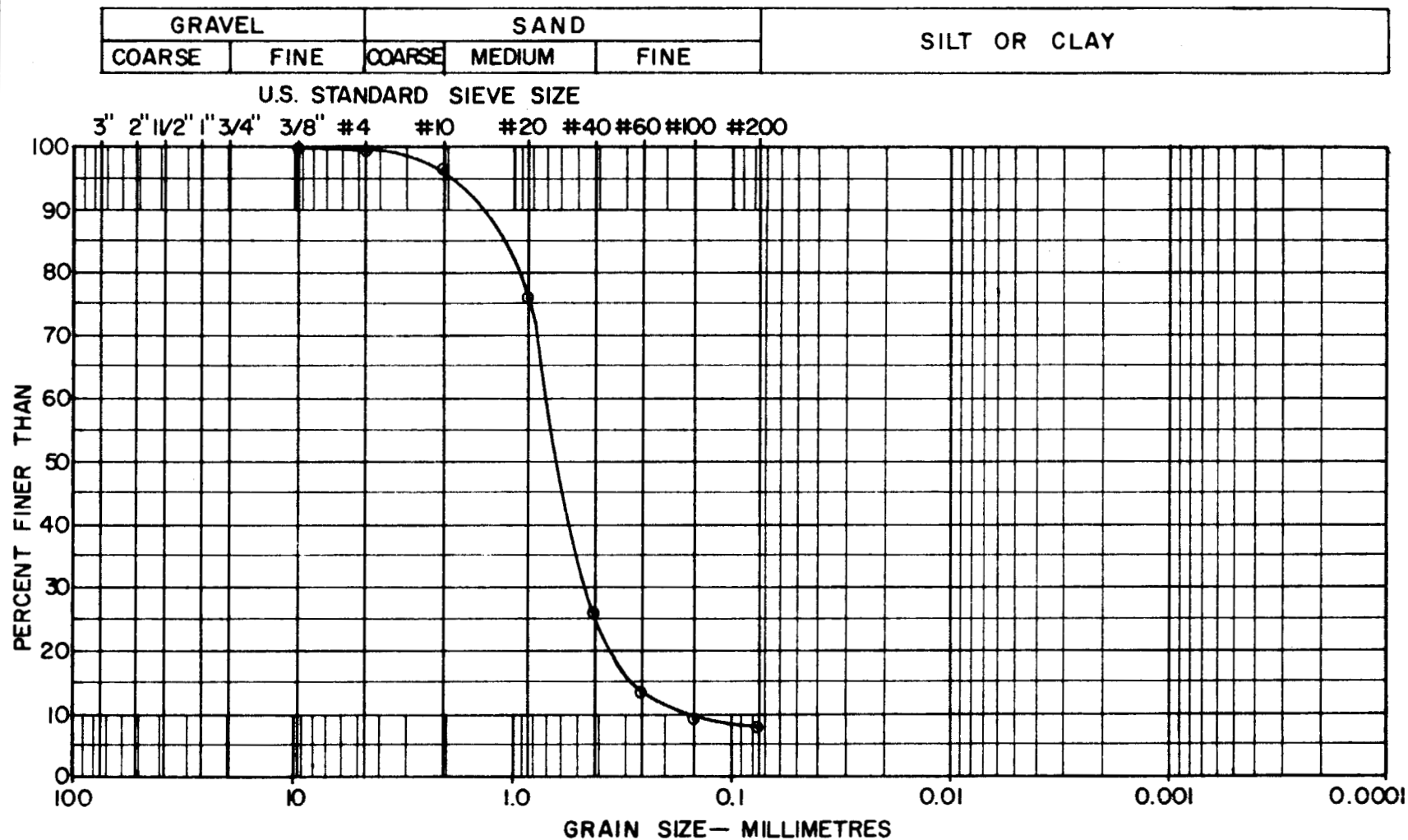
PROJECT

LOCATION 393-B-T-1

HOLE No.

DEPTH

DATE _____

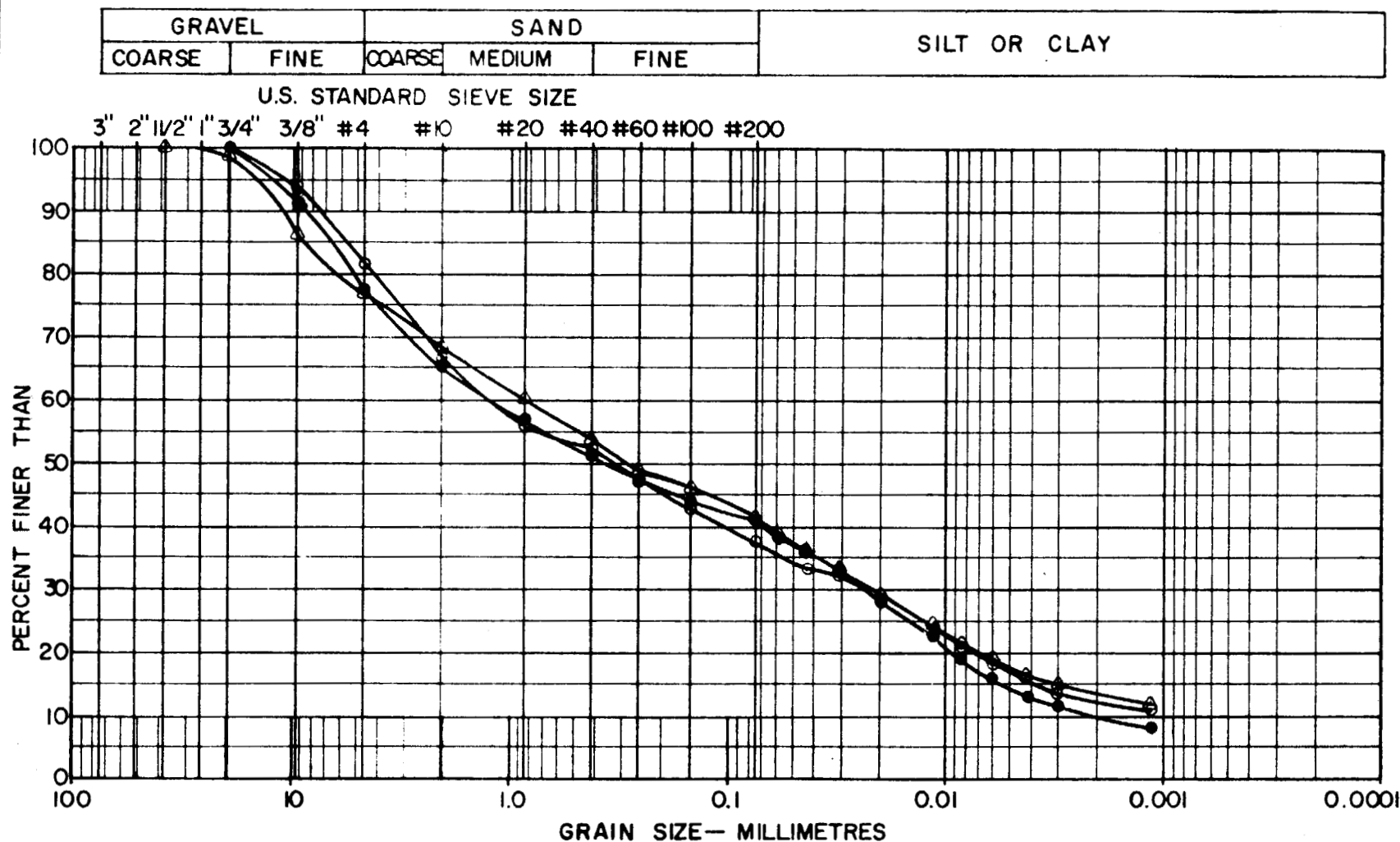
REMARKS: o Sample No. 1 - 4'

GRAIN SIZE CURVE



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CONSULTING GEOTECHNICAL ENGINEERS

JOB No. AL0307
PROJECT
LOCATION 396-B-J
HOLE No.
DATE DEPTH

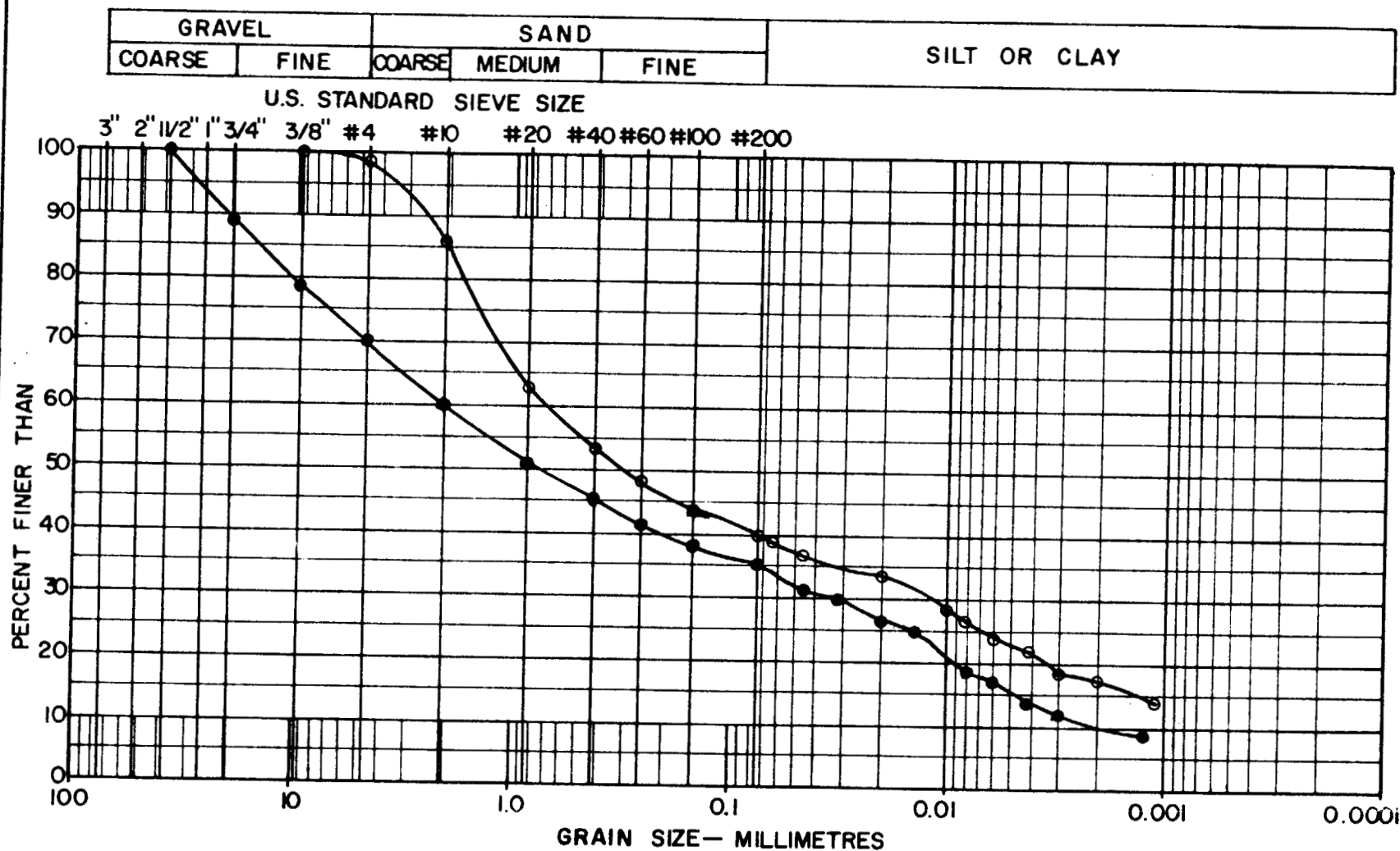


REMARKS: ● Sample No. 1 - 5 ft.
○ Sample No. 2 - 10 ft.
△ Sample No. 3 - 15 ft.



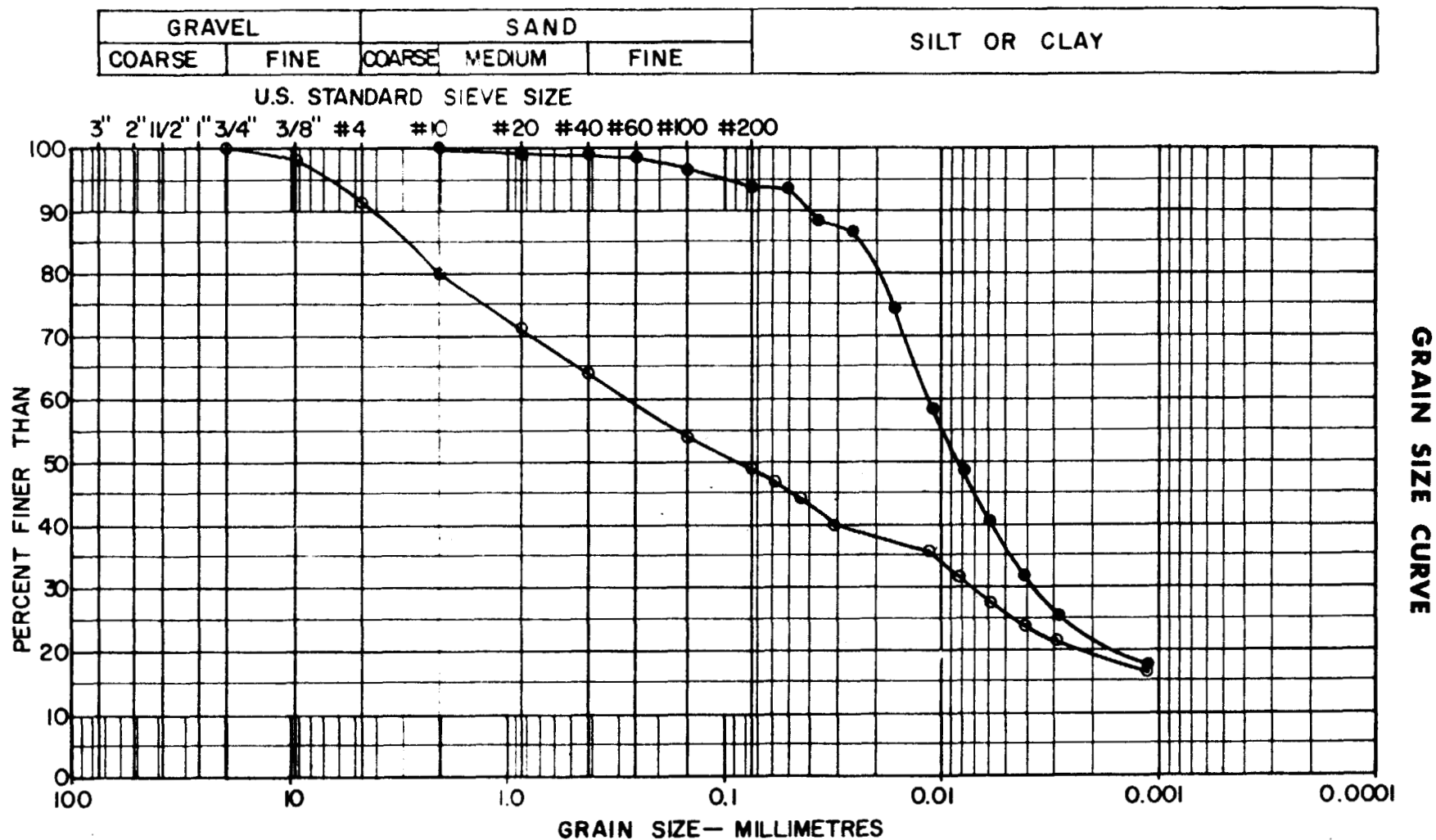
Ripley, Kohn & Leonoff International Ltd.
CONSULTING GEOTECHNICAL ENGINEERS

JOB No. AL0307
PROJECT
LOCATION 396-B-K
HOLE No. DEPTH
DATE





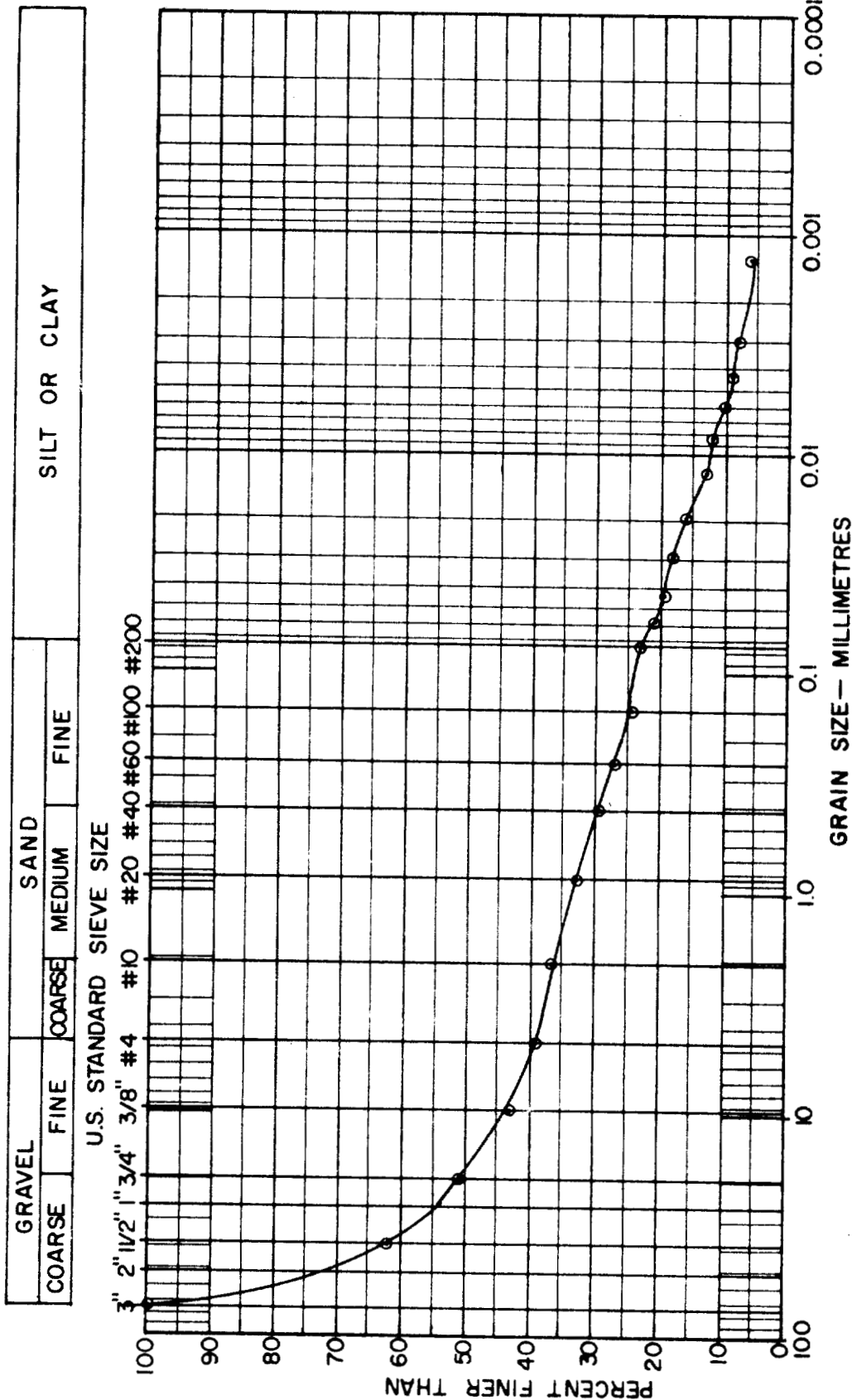
JOB No.	AL0307
PROJECT	
LOCATION	396-B-P
HOLE No.	DEPTH
DATE	



REMARKS: ● Sample No. 1 - 5'

○ Sample No. 4 - 20 ft - 25 ft.

GRAIN SIZE CURVE



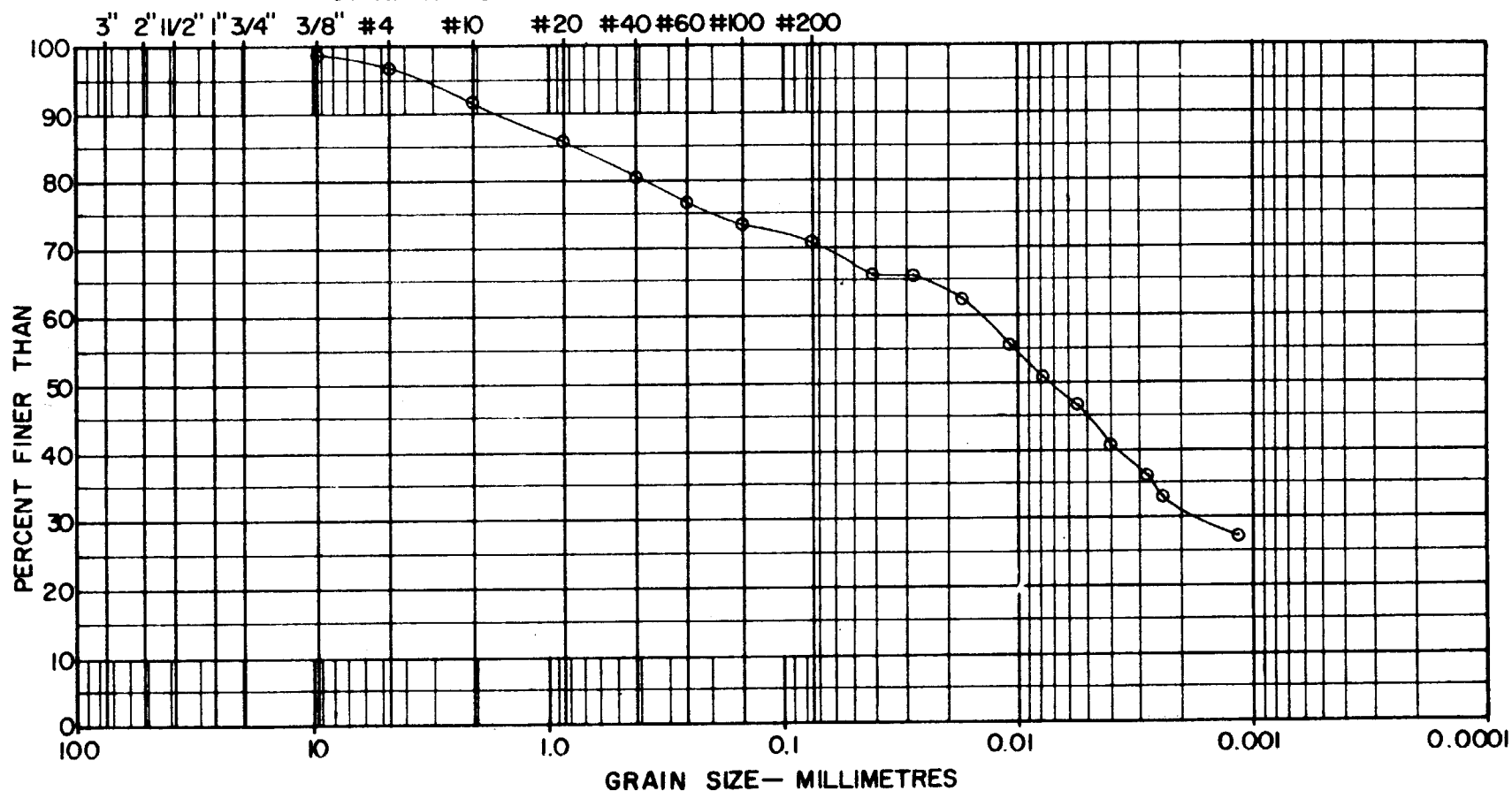


Ripley, Kohn & Leonoff International Ltd.
CONSULTING GEOTECHNICAL ENGINEERS

JOB No.	AL0307
PROJECT	
LOCATION	398-B-P
HOLE No.	
DEPTH	
DATE	

GRAVEL		SAND			SILT OR CLAY
COARSE	FINE	COARSE	MEDIUM	FINE	

U.S. STANDARD SIEVE SIZE





Ripley, Kohn & Leonoff International Ltd.
CONSULTING GEOTECHNICAL ENGINEERS

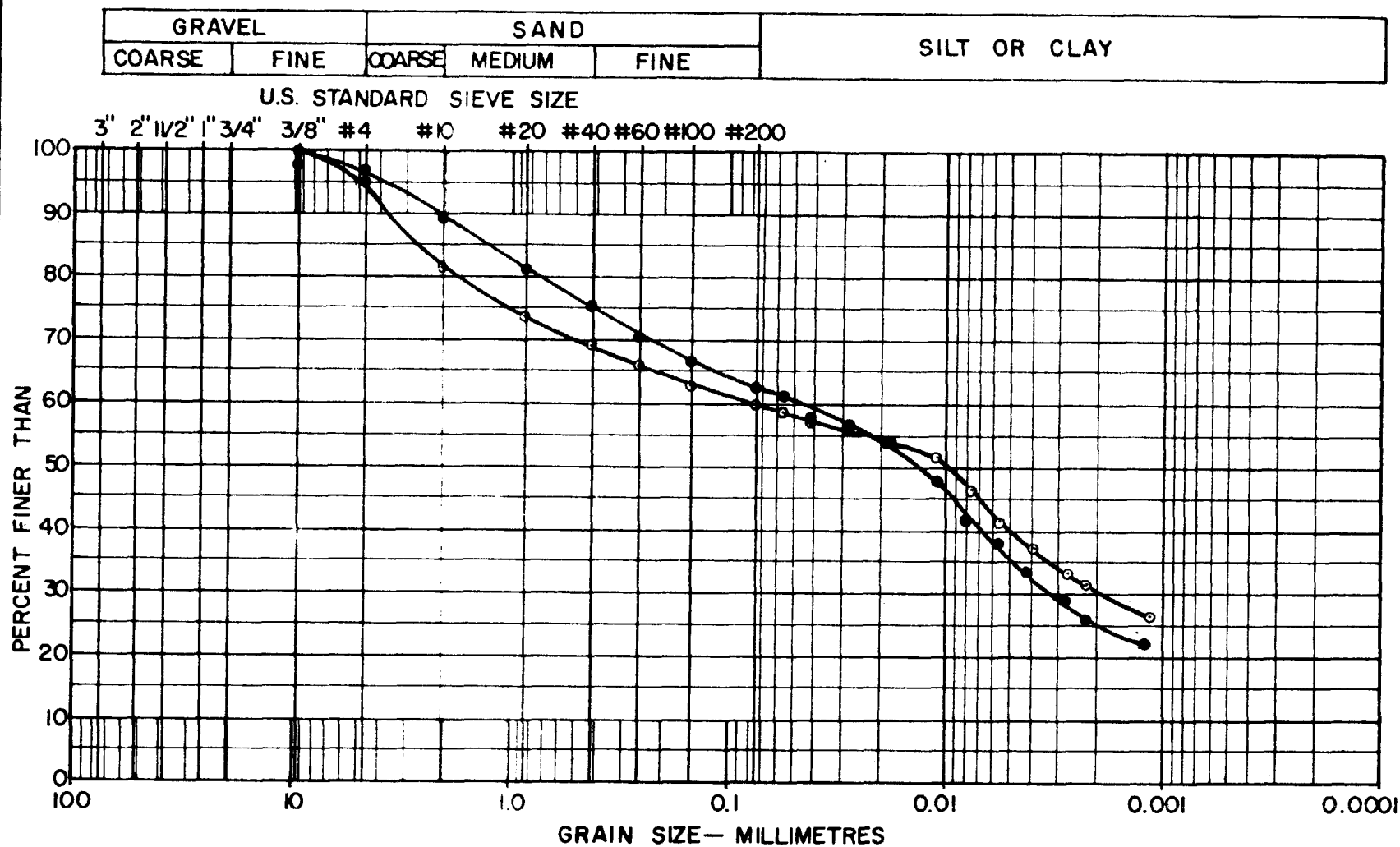
JOB No. AL0307

PROJECT

LOCATION 398-B-Q

HOLE No. DEPTH

DATE



REMARKS: • Sample No. 1 - 10 ft.

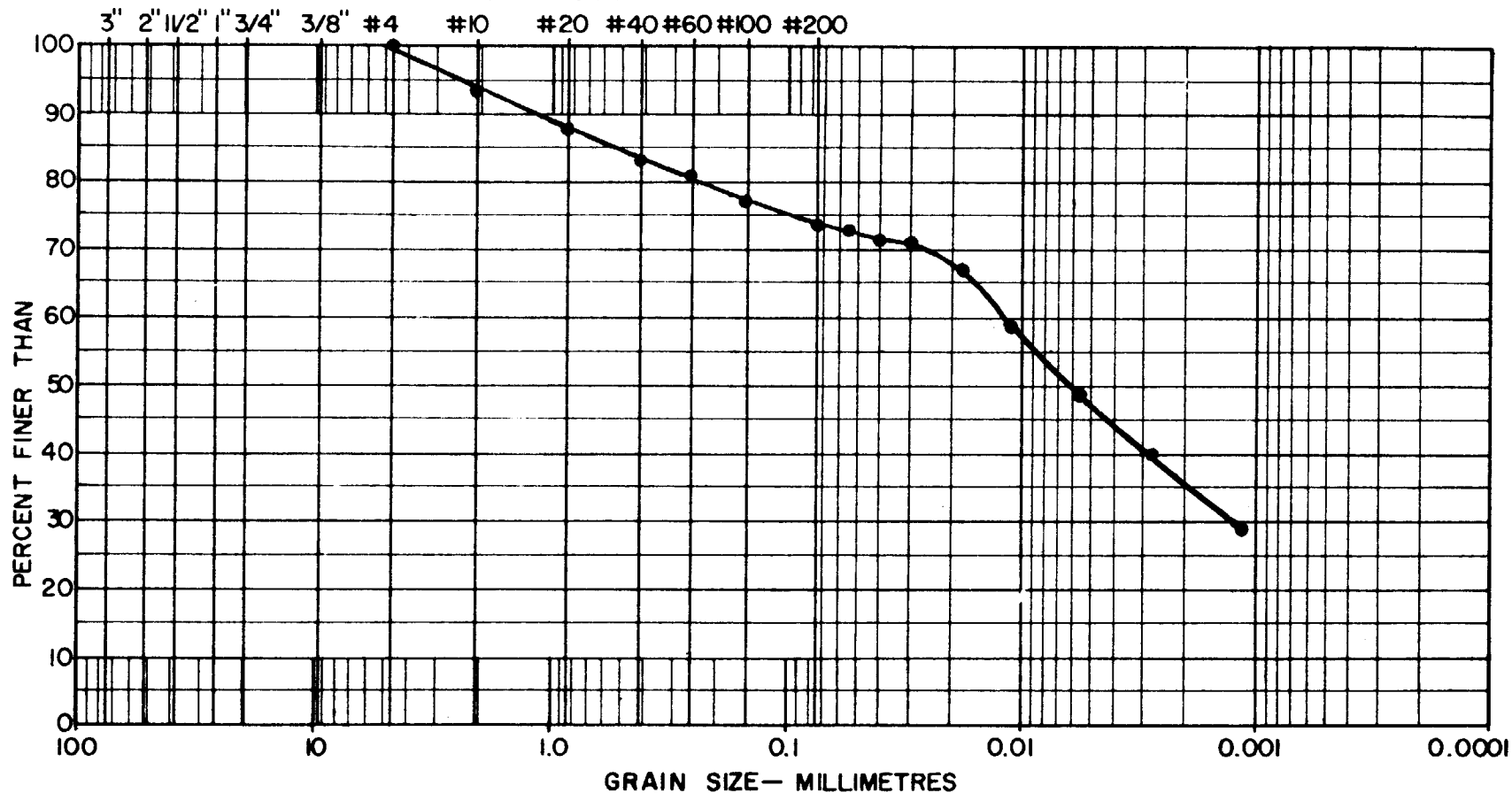
• Sample No. 2 - 17 ft.



Ripley, Klohn & Leonoff International Ltd.
CONSULTING GEOTECHNICAL ENGINEERS

GRAVEL		SAND			SILT OR CLAY
COARSE	FINE	COARSE	MEDIUM	FINE	

U.S. STANDARD SIEVE SIZE



GRAIN SIZE CURVE

REMARKS: • Sample No. 1 - 8 ft.

JOB No. AL0307

PROJECT

LOCATION 398-B-S

HOLE No.

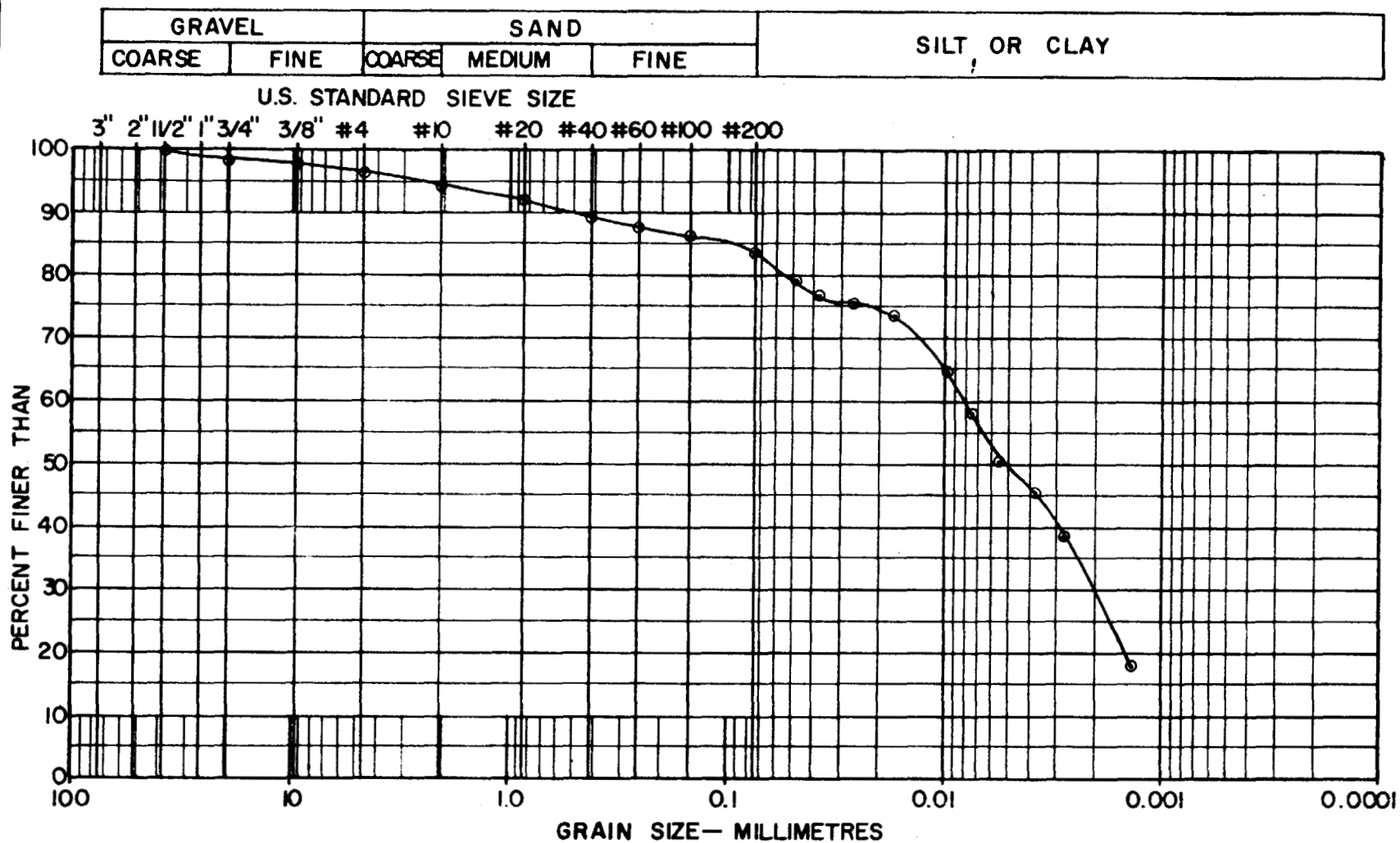
DEPTH

DATE



Ripley, Klohn & Leonoff International Ltd.
CONSULTING GEOTECHNICAL ENGINEERS

JOB No.	AL0307
PROJECT	
LOCATION	398-B-T-1
HOLE No.	
DEPTH	
DATE	



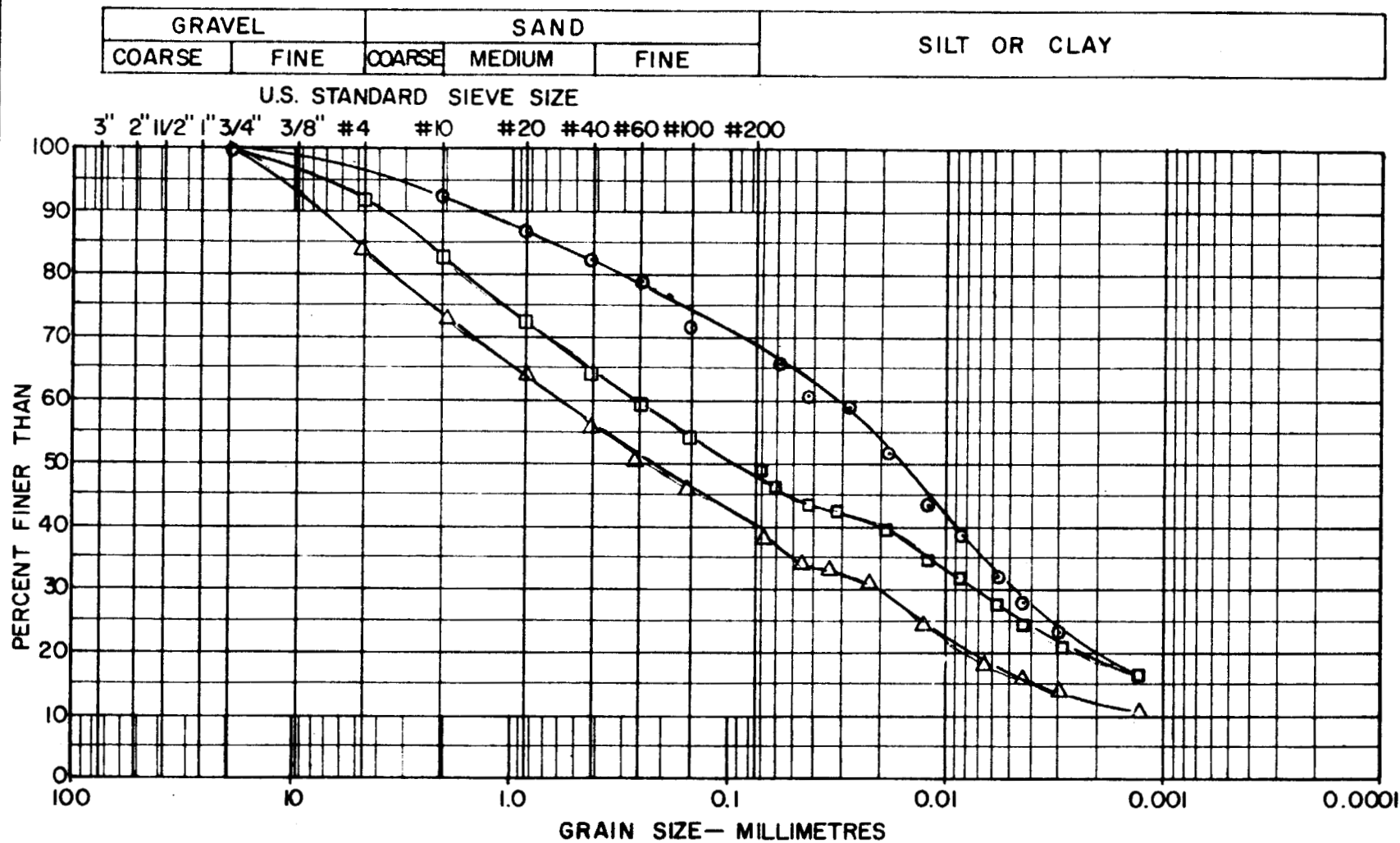
GRAIN SIZE CURVE

REMARKS: @ Sample No. 1 - 1 to 4 ft.



Ripley, Kohn & Leonoff International Ltd.
CONSULTING GEOTECHNICAL ENGINEERS

JOB No. AL0307
PROJECT
LOCATION 399-B-H
HOLE No.
DEPTH
DATE

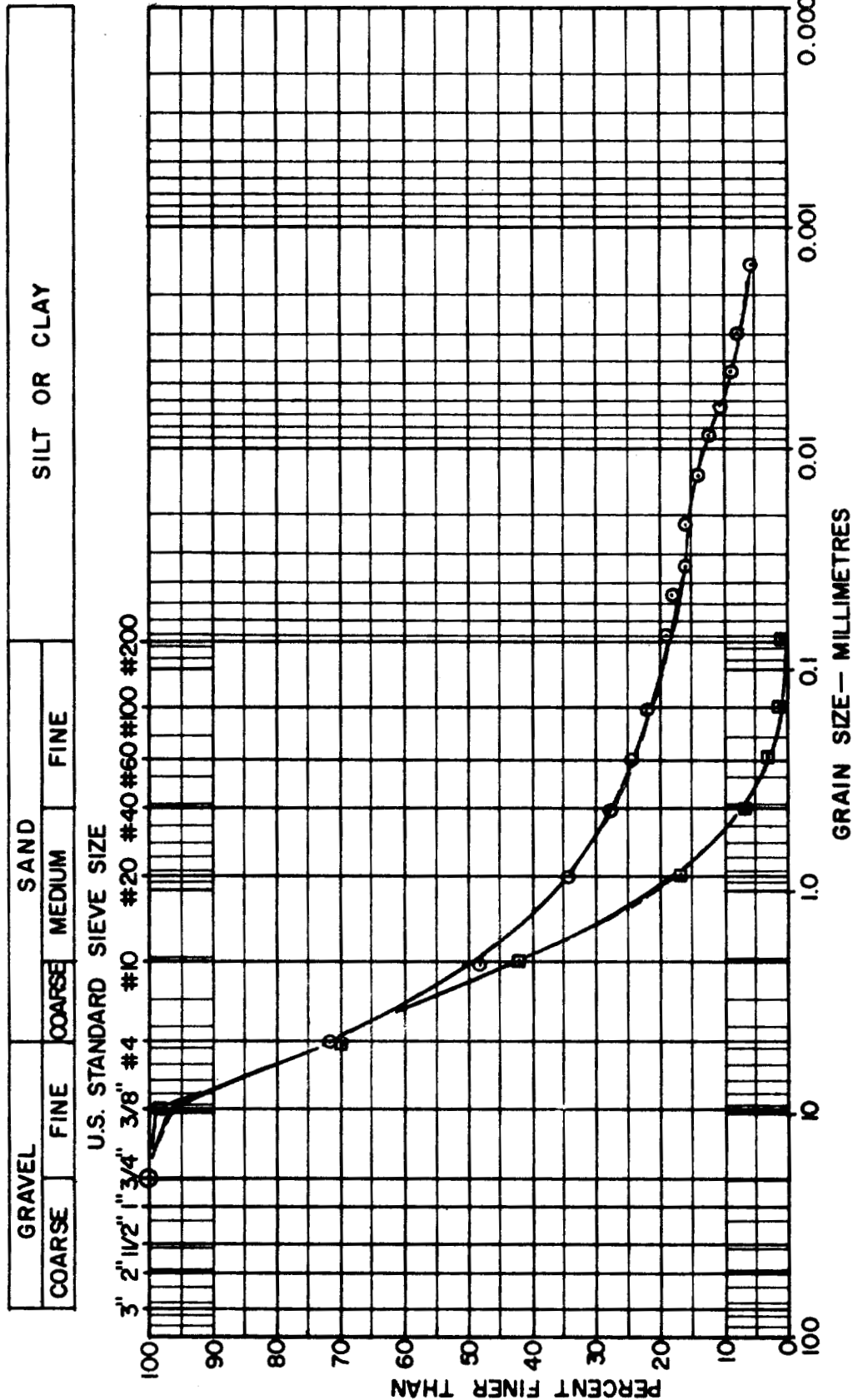


REMARKS: ○ Sample No. 1 - 10'

□ Sample No. 2 - 20'

△ Sample No. 3 - 25'

GRAIN SIZE CURVE



REMARKS: ○ Sample No. 2 - 10 to 19 ft.

□ Sample No. 3 - 19 to 27 ft.



Ripley, Kohn & Leonoff International Ltd.
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JOB No. AL097

PROJECT

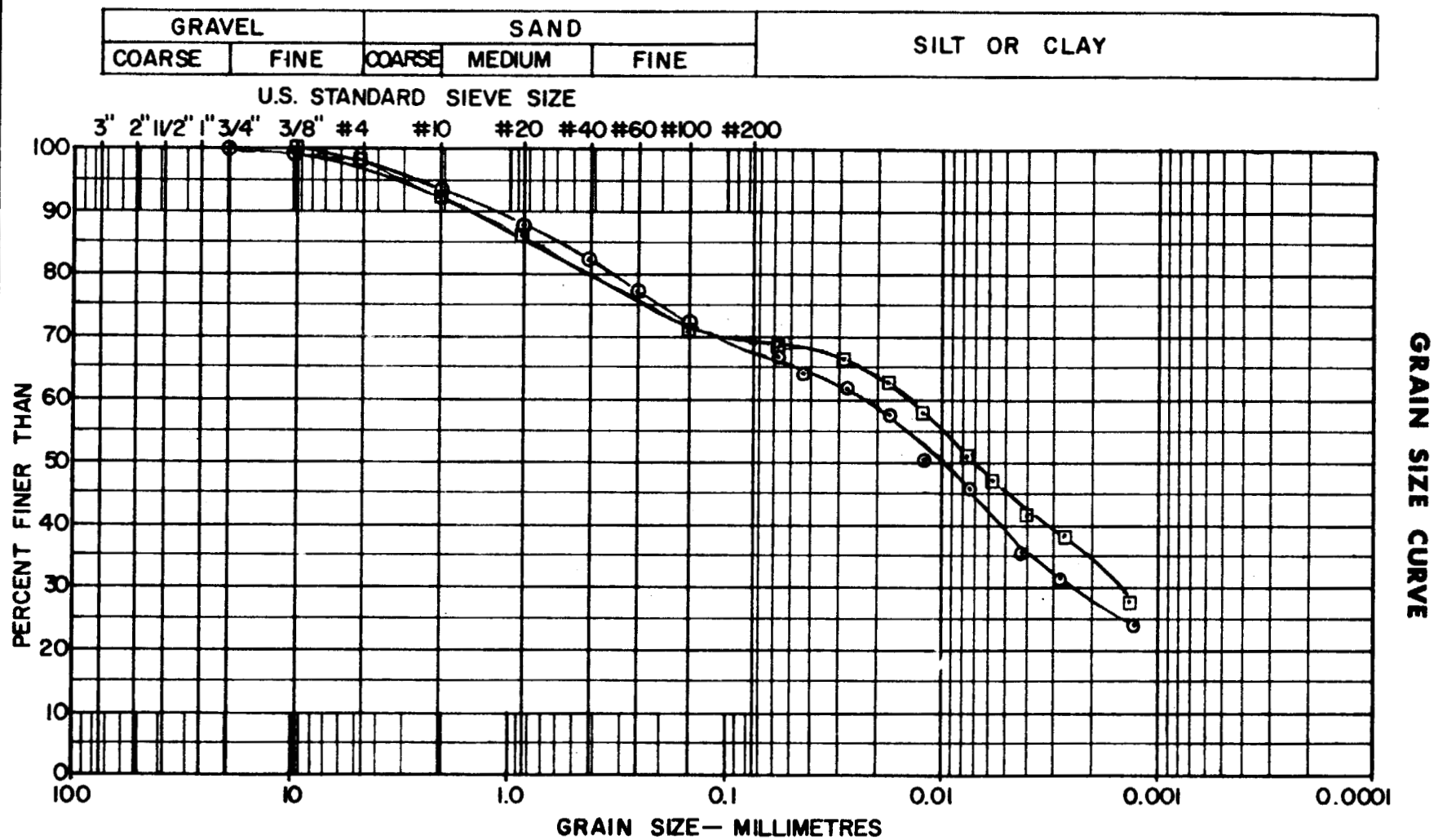
LOCATION 400-B-G

HOLE No. DEPTH

DATE



JOB No.	AL0307
PROJECT	
LOCATION	400-B-H
HOLE No.	DEPTH
DATE	

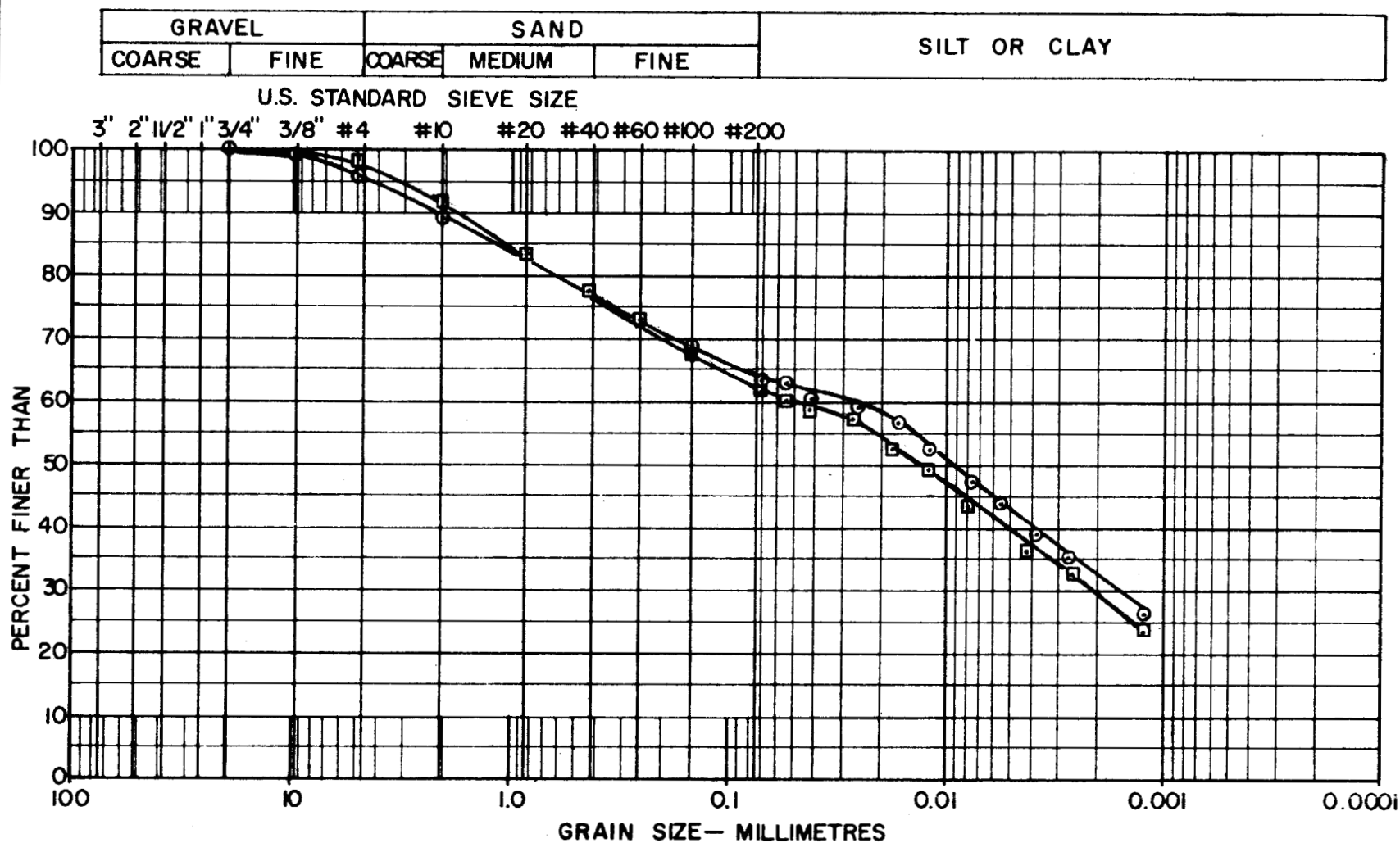


REMARKS: ⊙ Sample No. 1 - 1 to 10 ft.
⊠ Sample No. 3 - 20 to 30 ft.



Ripley, Kohn & Leonoff International Ltd.
CONSULTING GEOTECHNICAL ENGINEERS

JOB No.	AL0307
PROJECT	
LOCATION	400-B-I
HOLE No.	
DEPTH	
DATE	



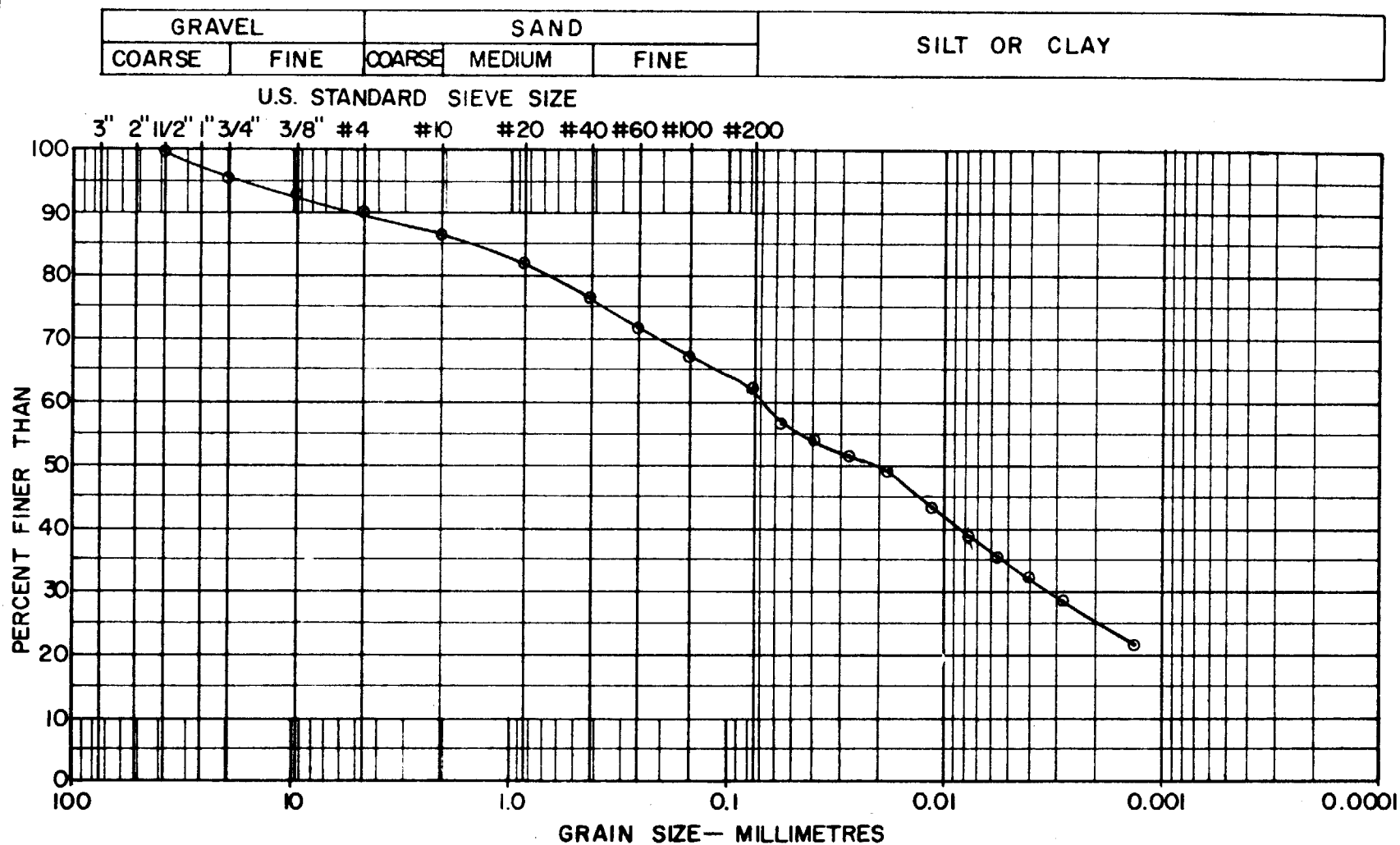
REMARKS: ☒ Sample No. 1 - 1 to 10 ft.

☐ Sample No. 2 - 10 to 20 ft.



Ripley, Kohn & Leonoff International Ltd.
CONSULTING GEOTECHNICAL ENGINEERS

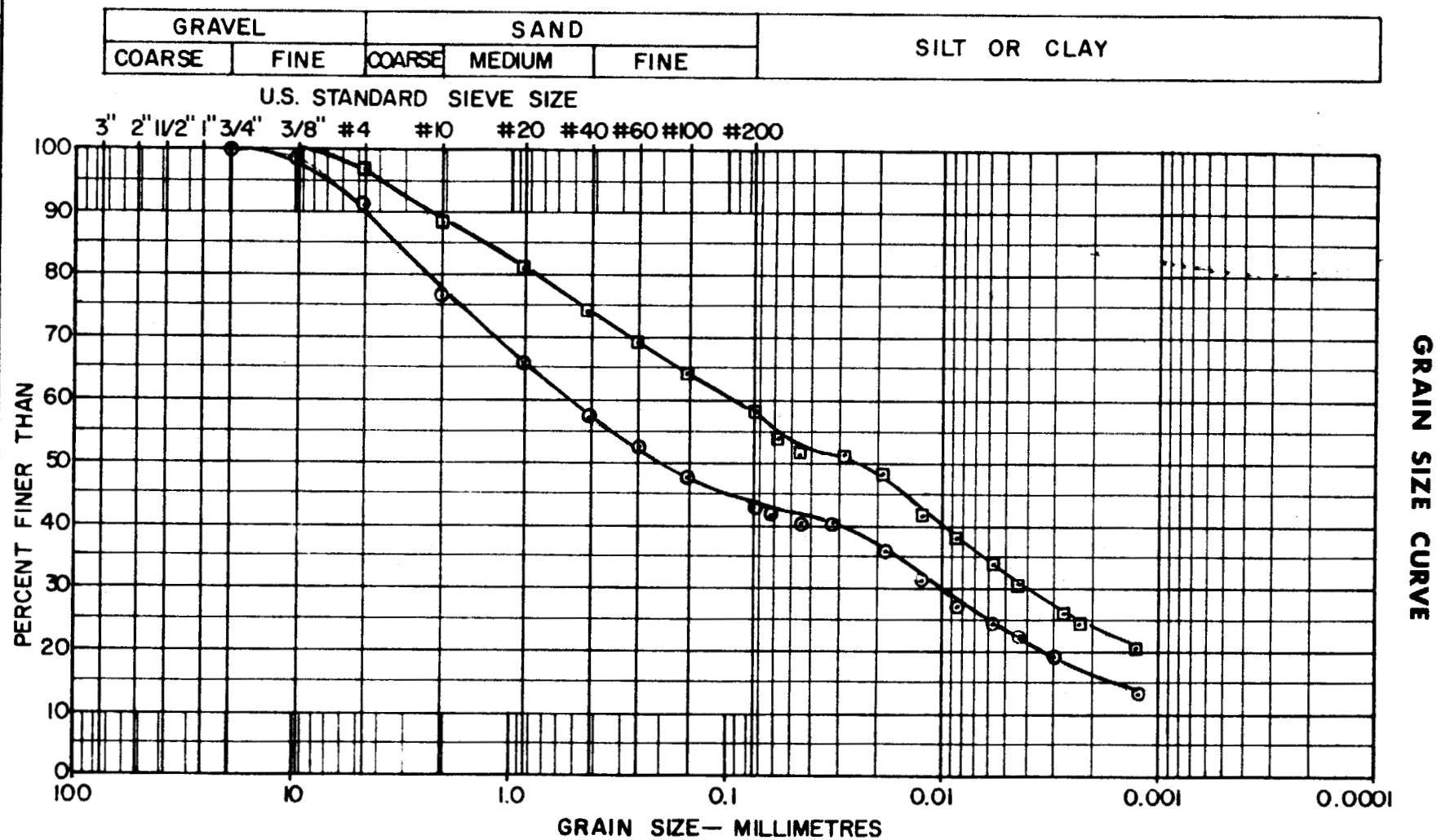
JOB No. AL0307
PROJECT
LOCATION 400-B-T-1
HOLE No. DEPTH
DATE



REMARKS: @ Sample No. 1 - 2 to 5 ft.



JOB No.	AL0307
PROJECT	
LOCATION	402-B-F
HOLE No.	DEPTH
DATE	



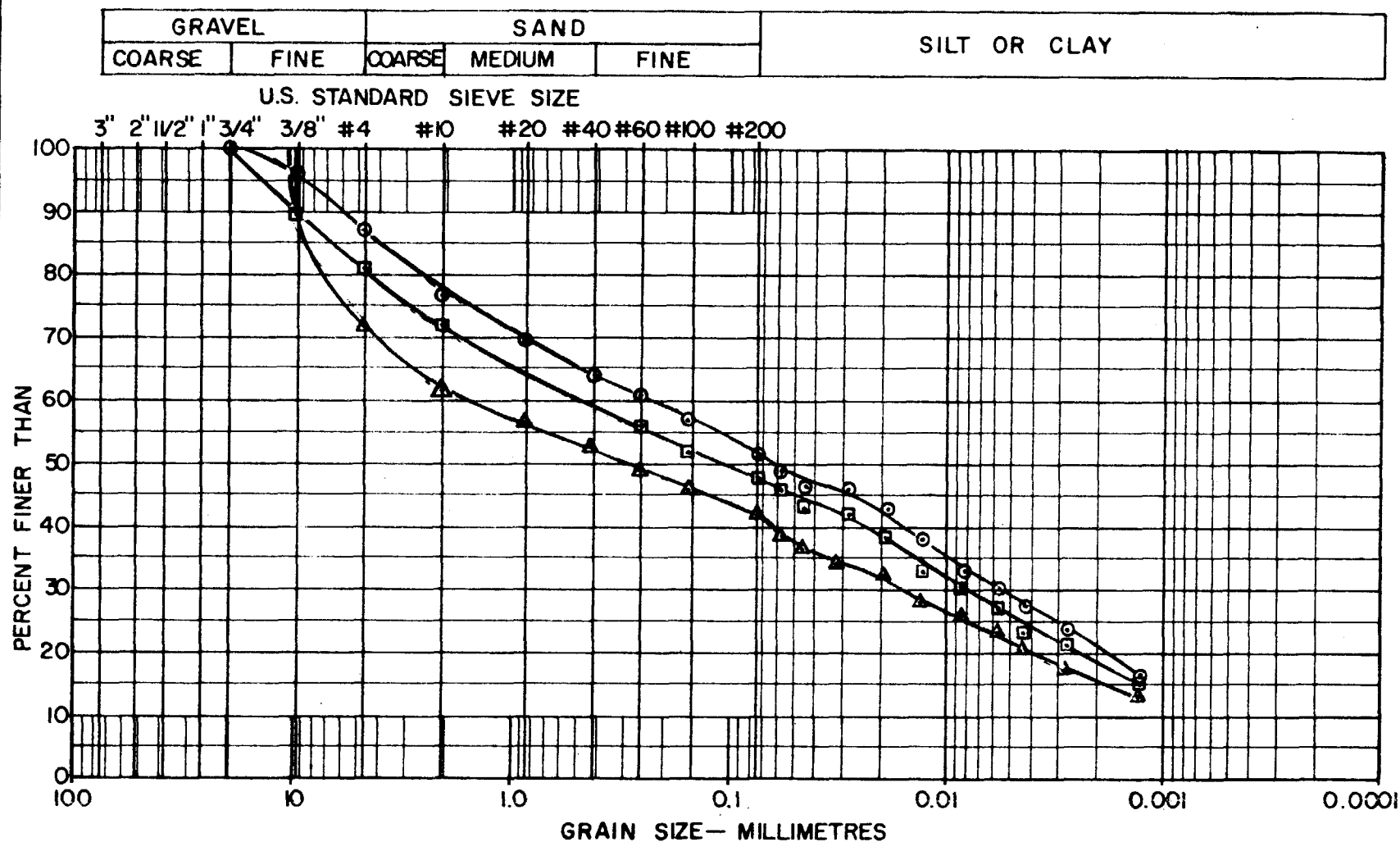
REMARKS: ① Sample No. 3 - 10 to 18 ft.

Sample No. 4 - 18 to 30 ft.



Ripley, Kohn & Leonoff International Ltd.
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JOB No.	AL0307
PROJECT	
LOCATION	402-B-C
HOLE No.	DEPTH
DATE	



REMARKS: ● Sample No. 1 - 0 to 10 ft.

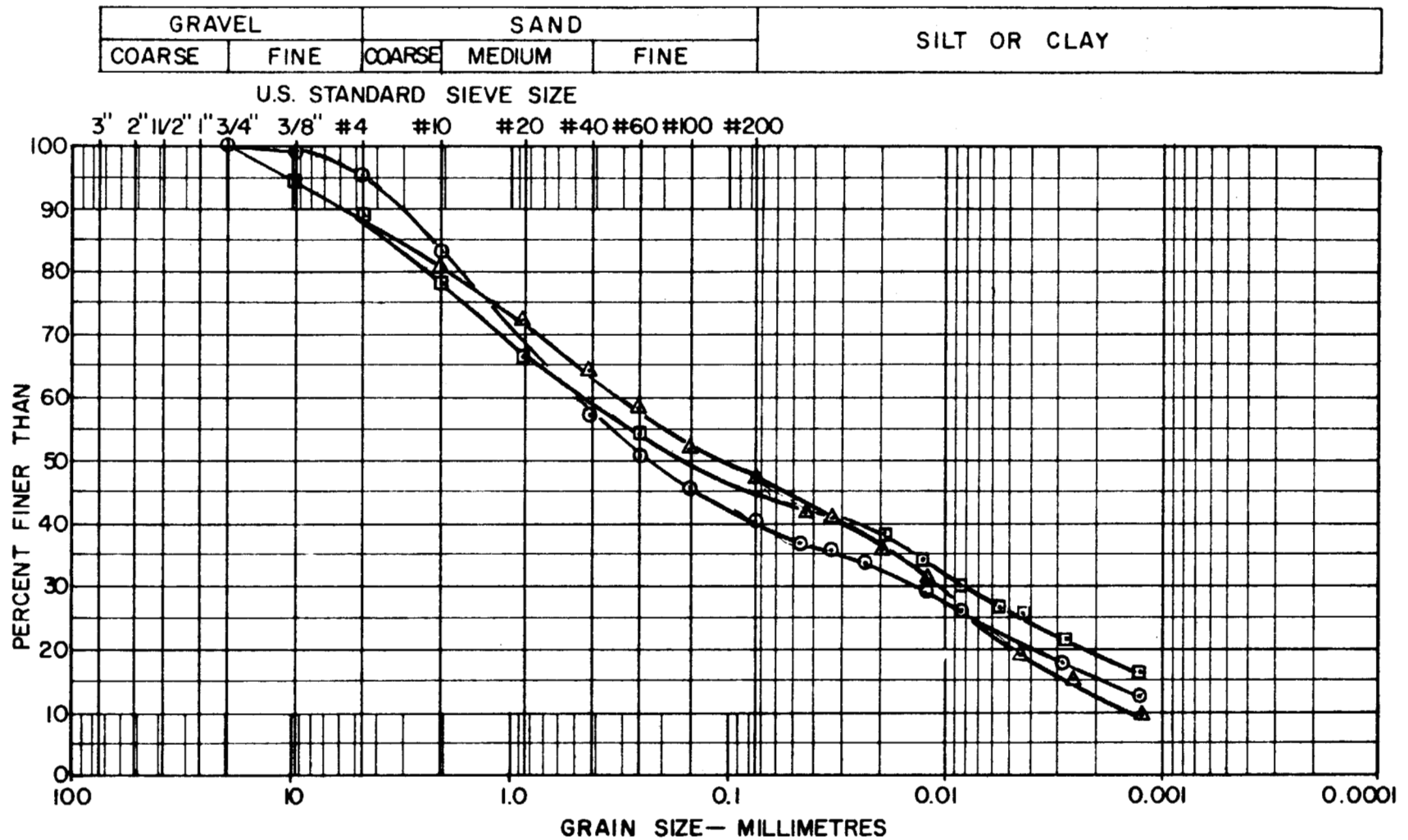
■ Sample No. 2 - 10 to 20 ft.

▲ Sample No. 4 - 25 to 30 ft.



Ripley, Klonh & Leonoff International Ltd.
CONSULTING GEOTECHNICAL ENGINEERS

JOB No. AL0307
PROJECT
LOCATION 402-B-H
HOLE No. DEPTH
DATE

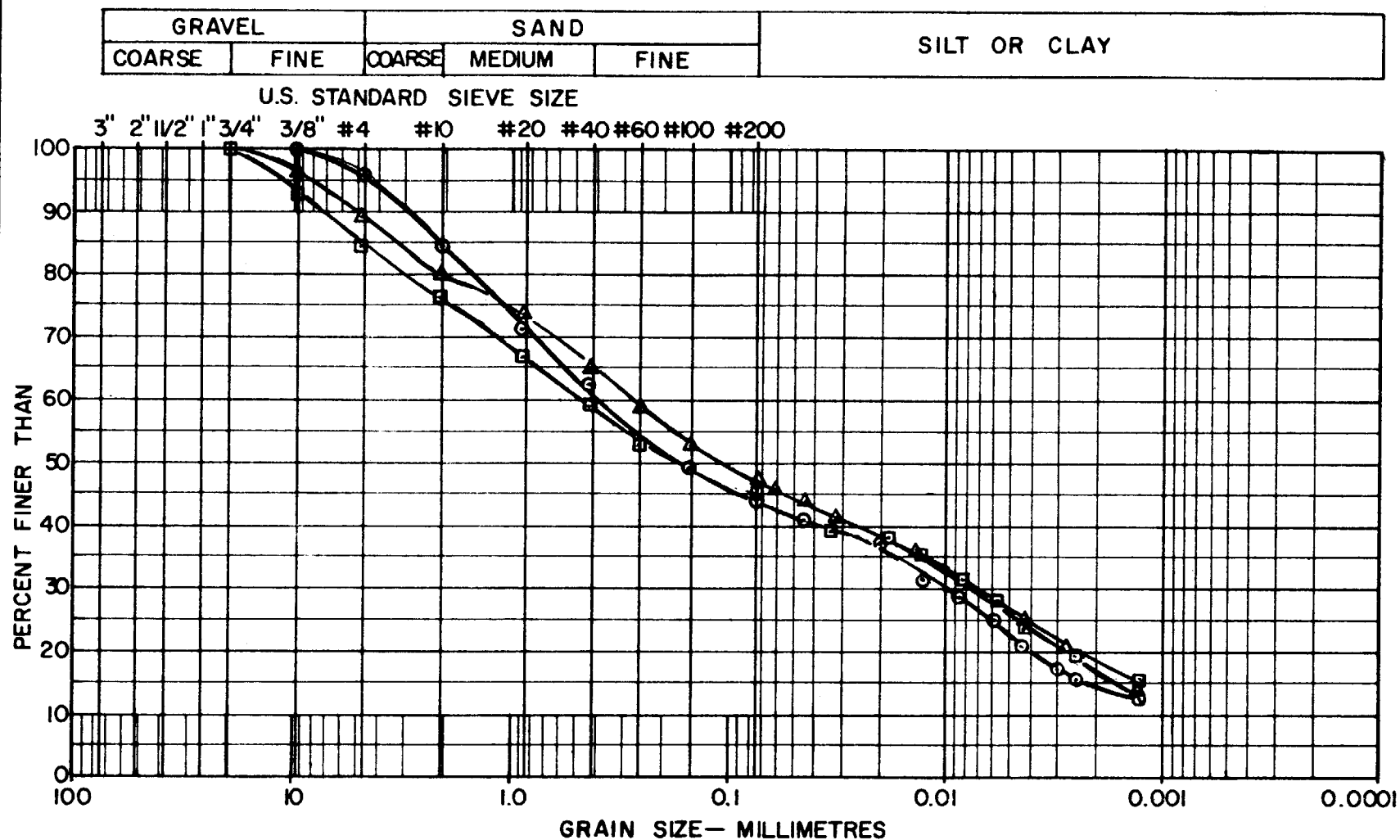


REMARKS: ○ Sample No. 1 - 0 to 10 ft.
□ Sample No. 2 - 10 to 20 ft.
△ Sample No. 3 - 20 to 30 ft.



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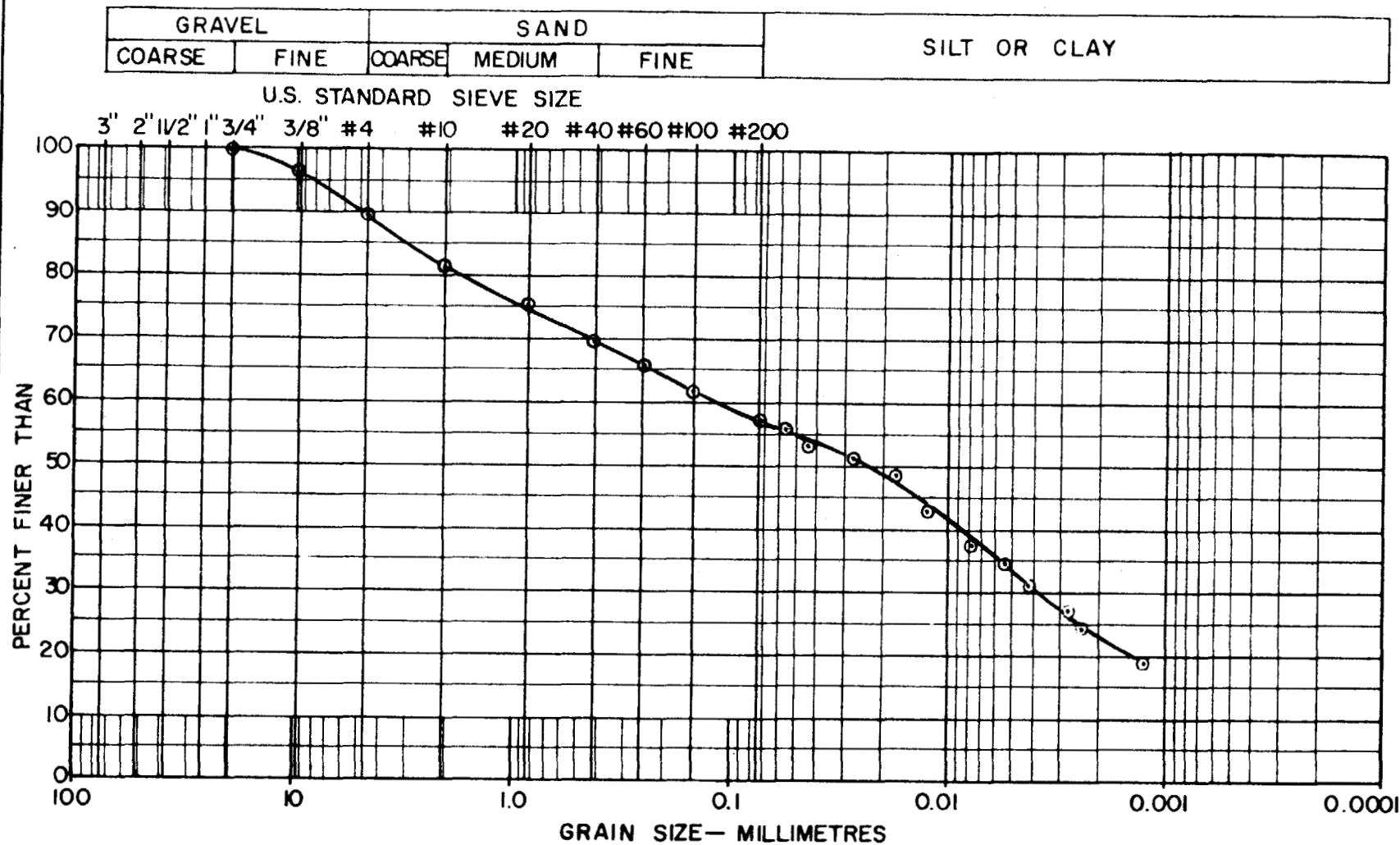
JOB No. AL0307
PROJECT
LOCATION 403-B-A
HOLE No.
DEPTH
DATE





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CONSULTING GEOTECHNICAL ENGINEERS

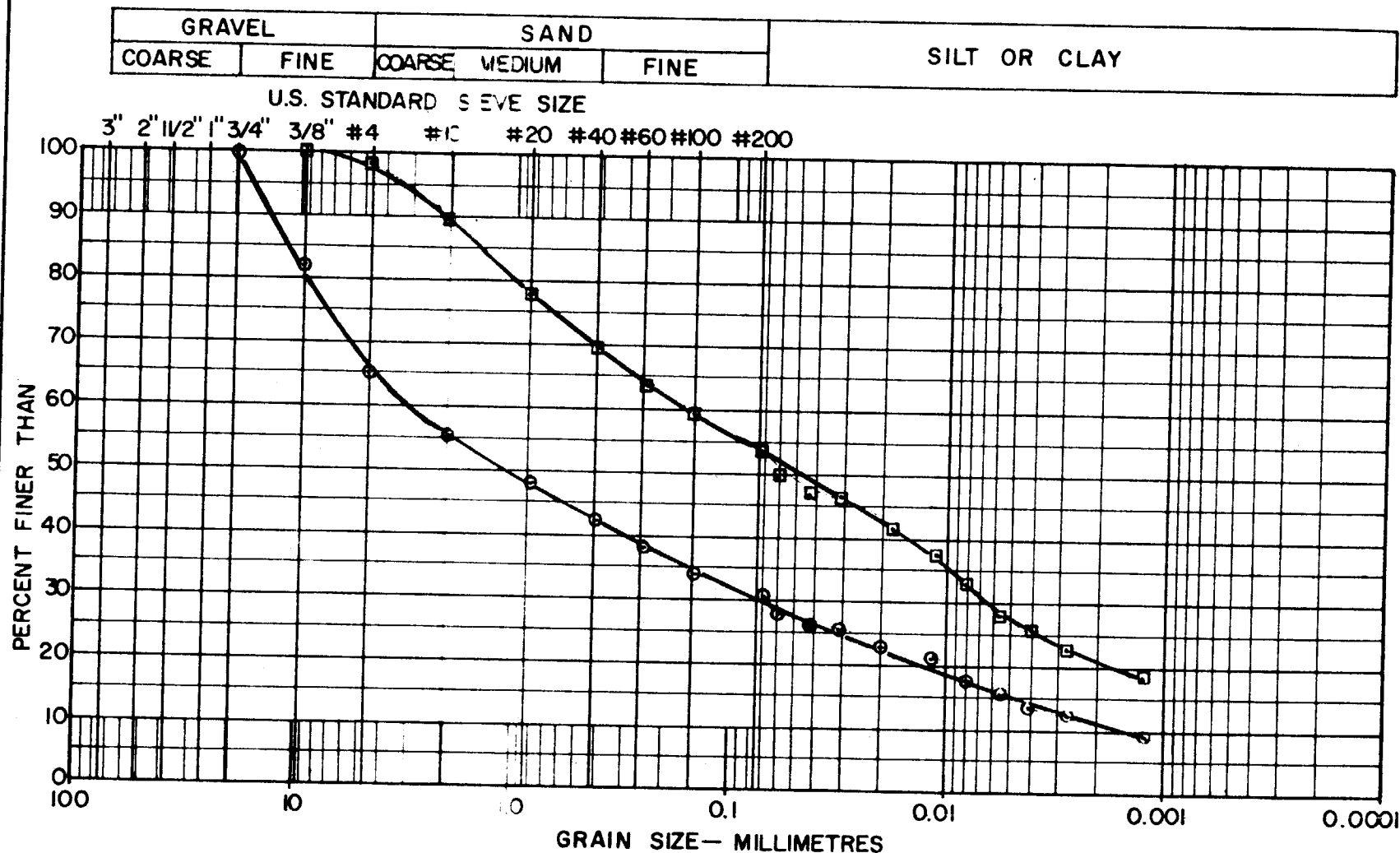
JOB No. AL0307
PROJECT
LOCATION 403-B-H
HOLE No.
DEPTH
DATE



REMARKS: ① Sample No. 1 - 0 to 5 ft.

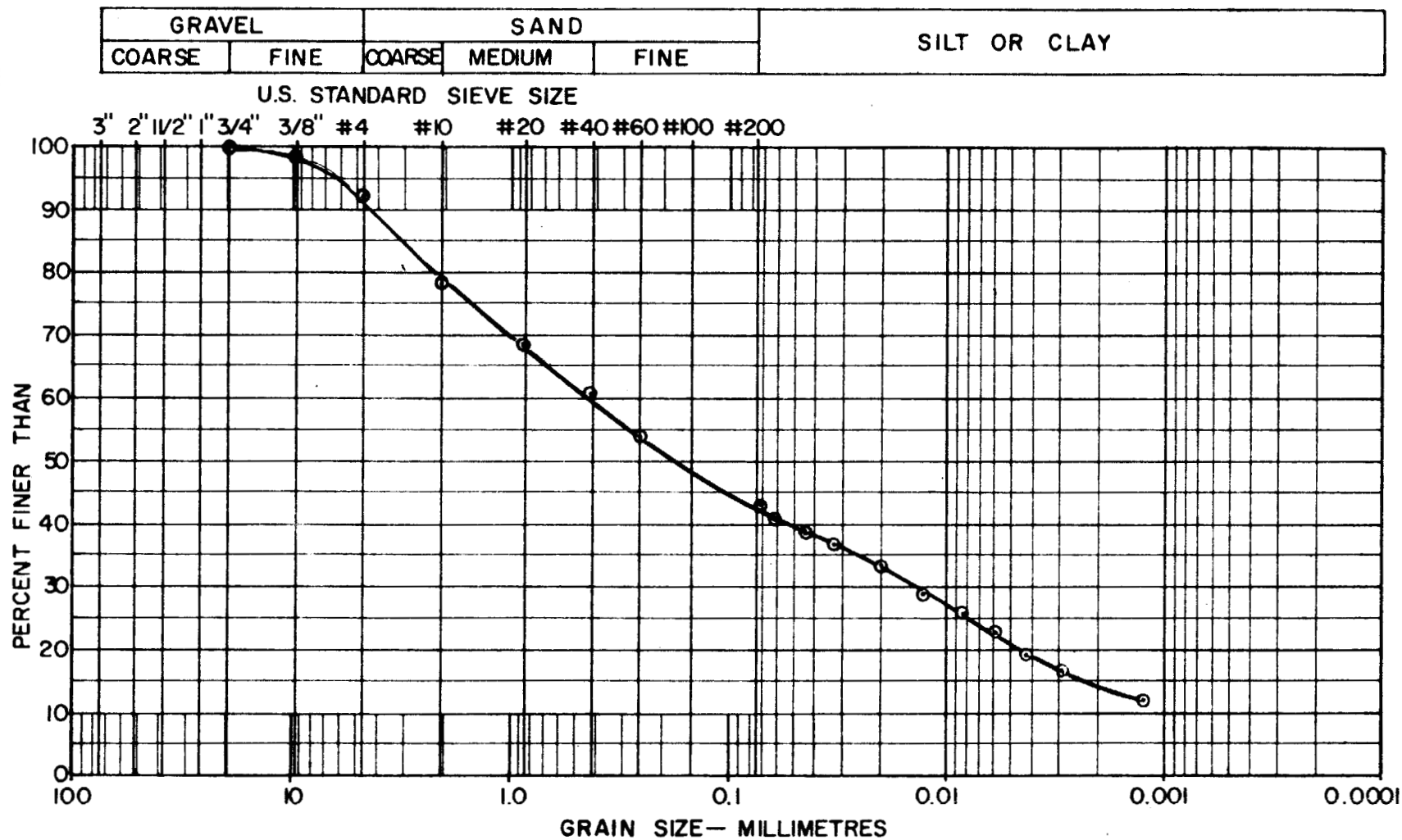


Ripley, Kohn & Leonoff International Ltd.
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GRAIN SIZE CURVE

REMARKS: ④ Sample No. 4 - 15 to 30 ft.

JOB No.

AL0307

PROJECT

LOCATION

403-B-J

HOLE No.

DEPTH

DATE



Ripley, Klonh & Leonoff International Ltd.

AL0307

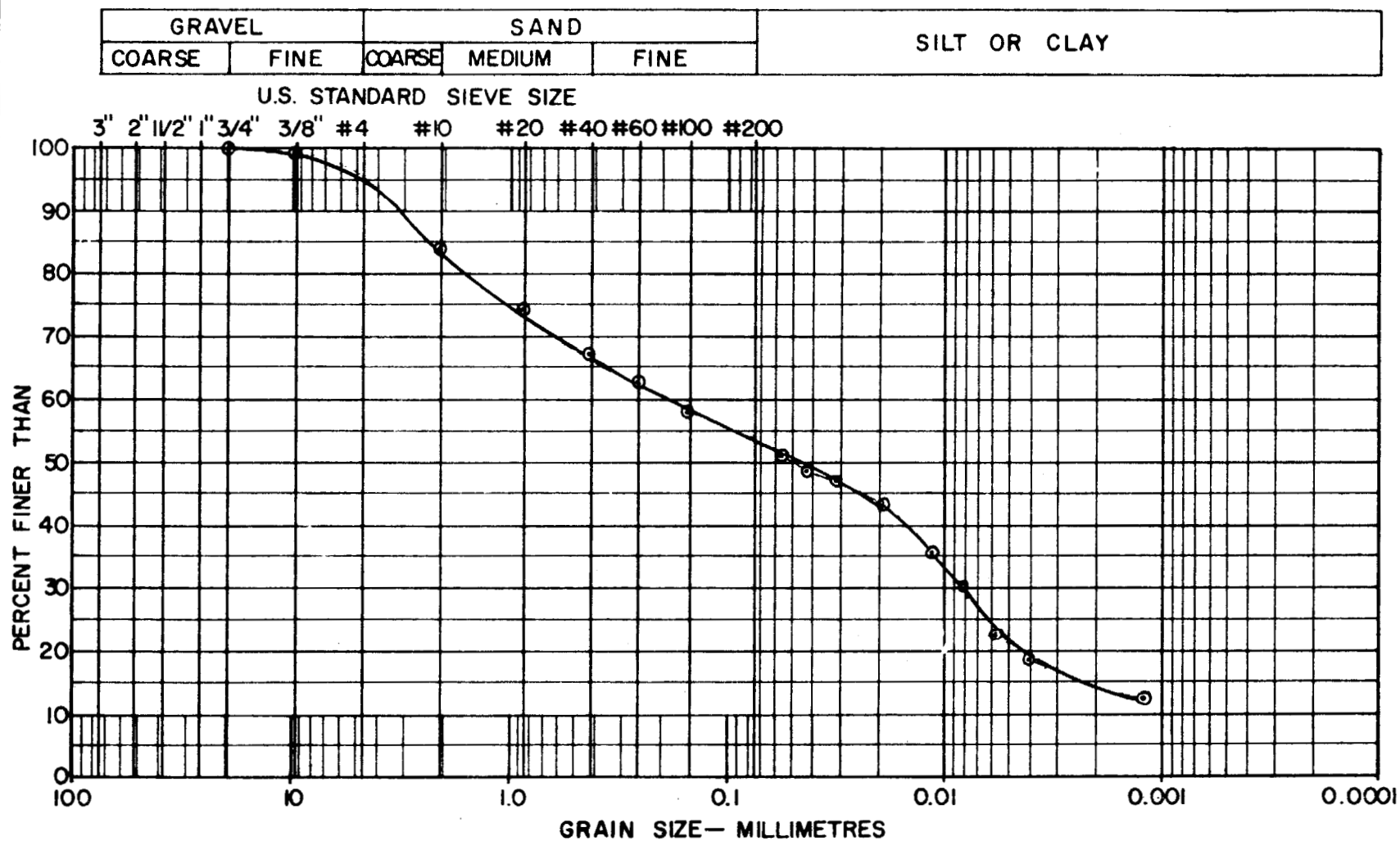
PROJECT

LOCATION

403-B-L

HOLE No.

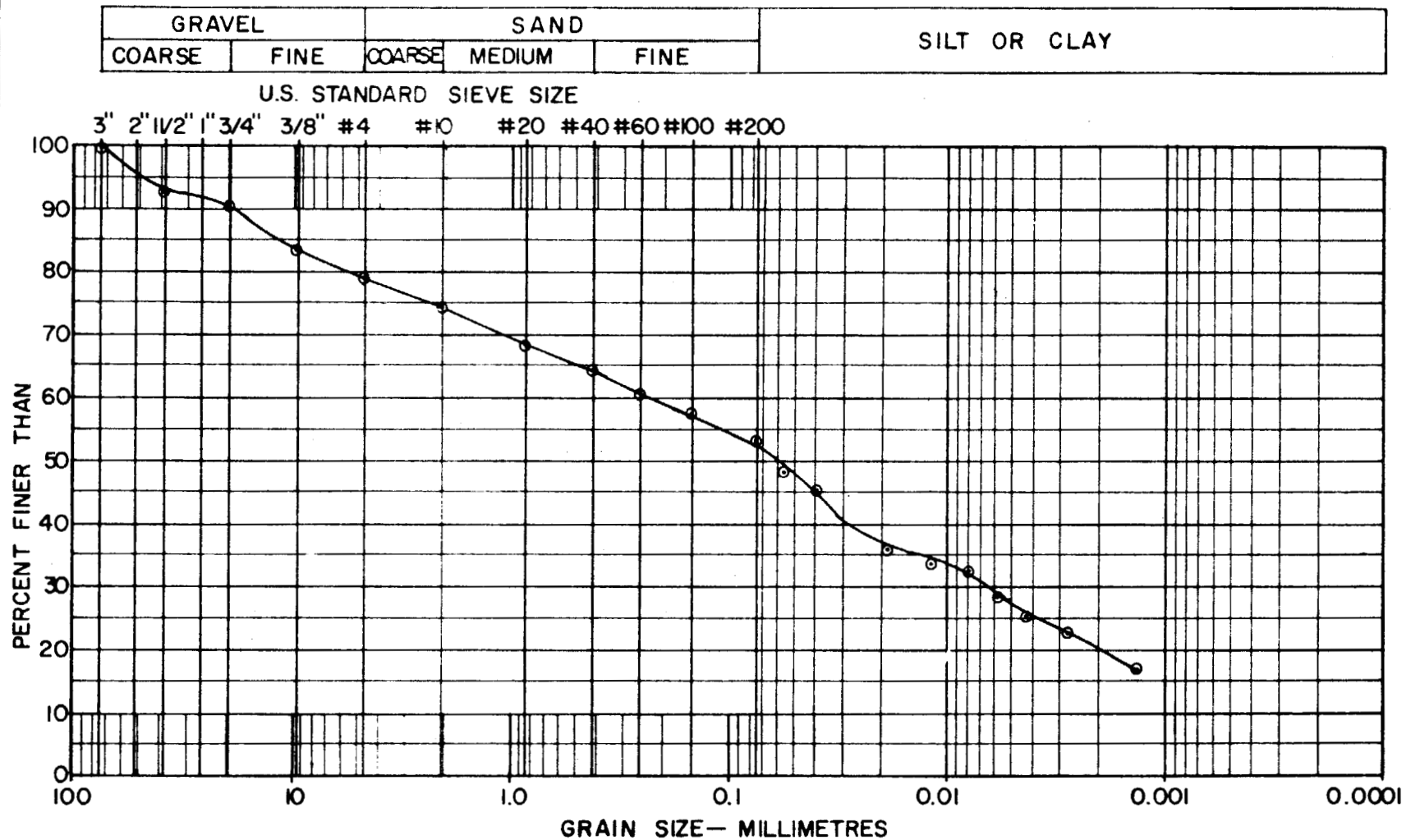
DEPTH

REMARKS: ⊙ Sample No. 2 - 10 to 15 ft.



Ripley, Klohn & Leonoff International Ltd.
CONSULTING GEOTECHNICAL ENGINEERS

JOB No.	AL0307
PROJECT	
LOCATION	403-B-T-1
HOLE No.	
DEPTH	
DATE	

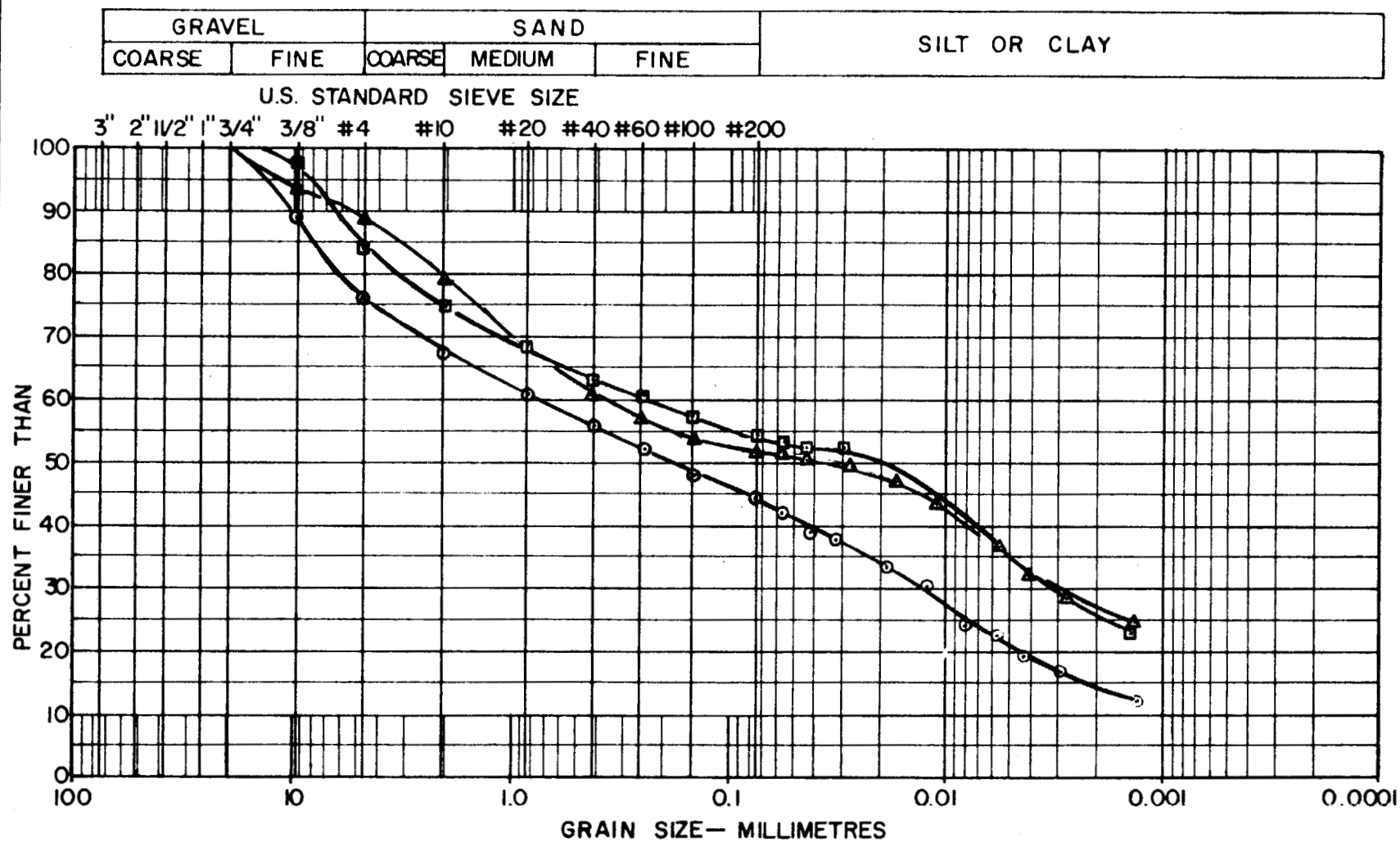


GRAIN SIZE CURVE

REMARKS: @ Sample No. 1 - 2 to 5 ft.



JOB No.	AL0307
PROJECT	
LOCATION	404-B-H
HOLE No.	DEPTH
DATE	

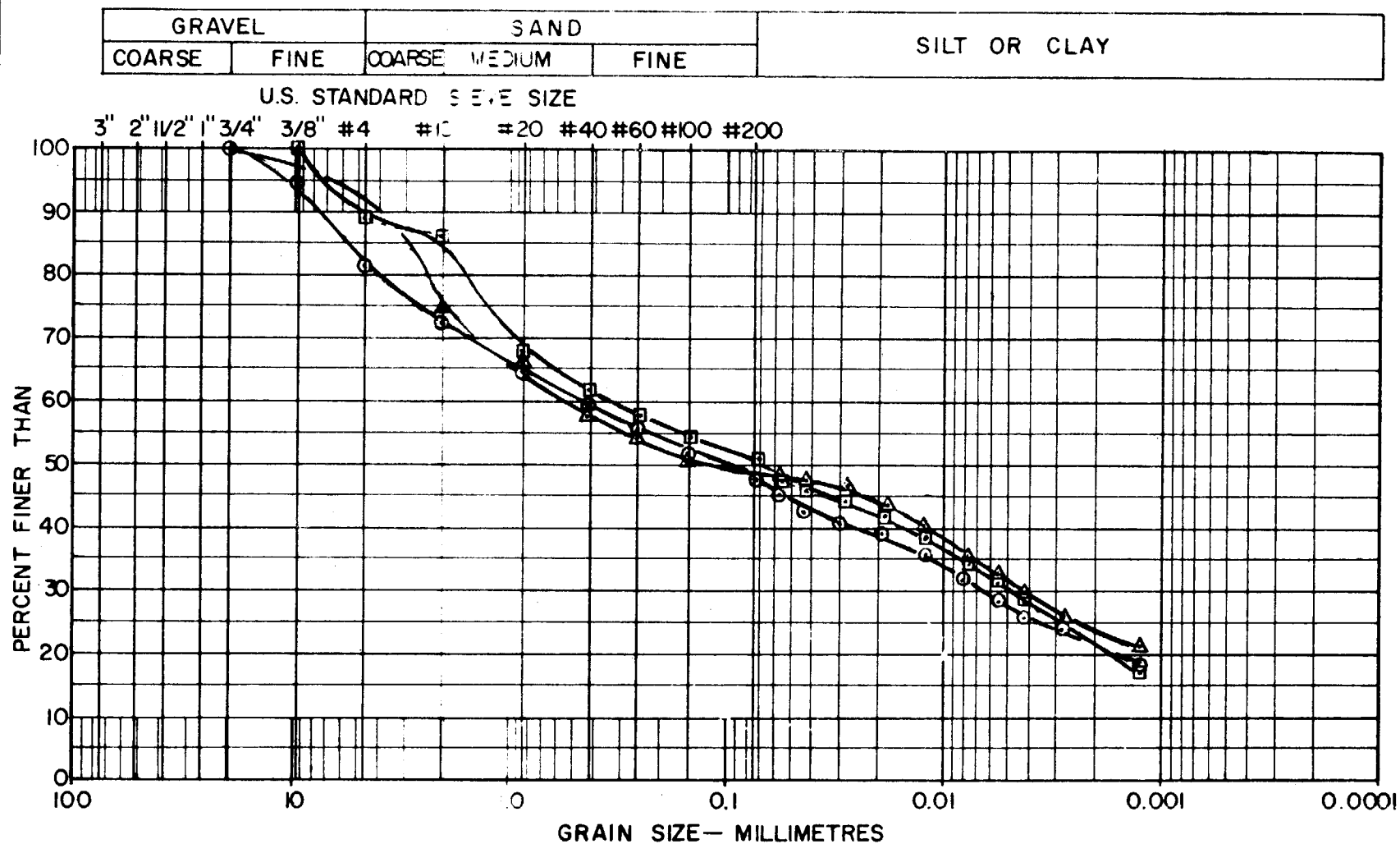


REMARKS: ⊙ Sample No. 2 - 3 to 5 ft.
⊠ Sample No. 3 - 5 to 10 ft.
⚠ Sample No. 4 - 15 to 20 ft.



Ripley, Kohn & Leonoff International Ltd.
CONSULTING GEOTECHNICAL ENGINEERS

JOB No.	AL0307
PROJECT	
LOCATION	404-B-I
HOLE No.	
DEPTH	
DATE	



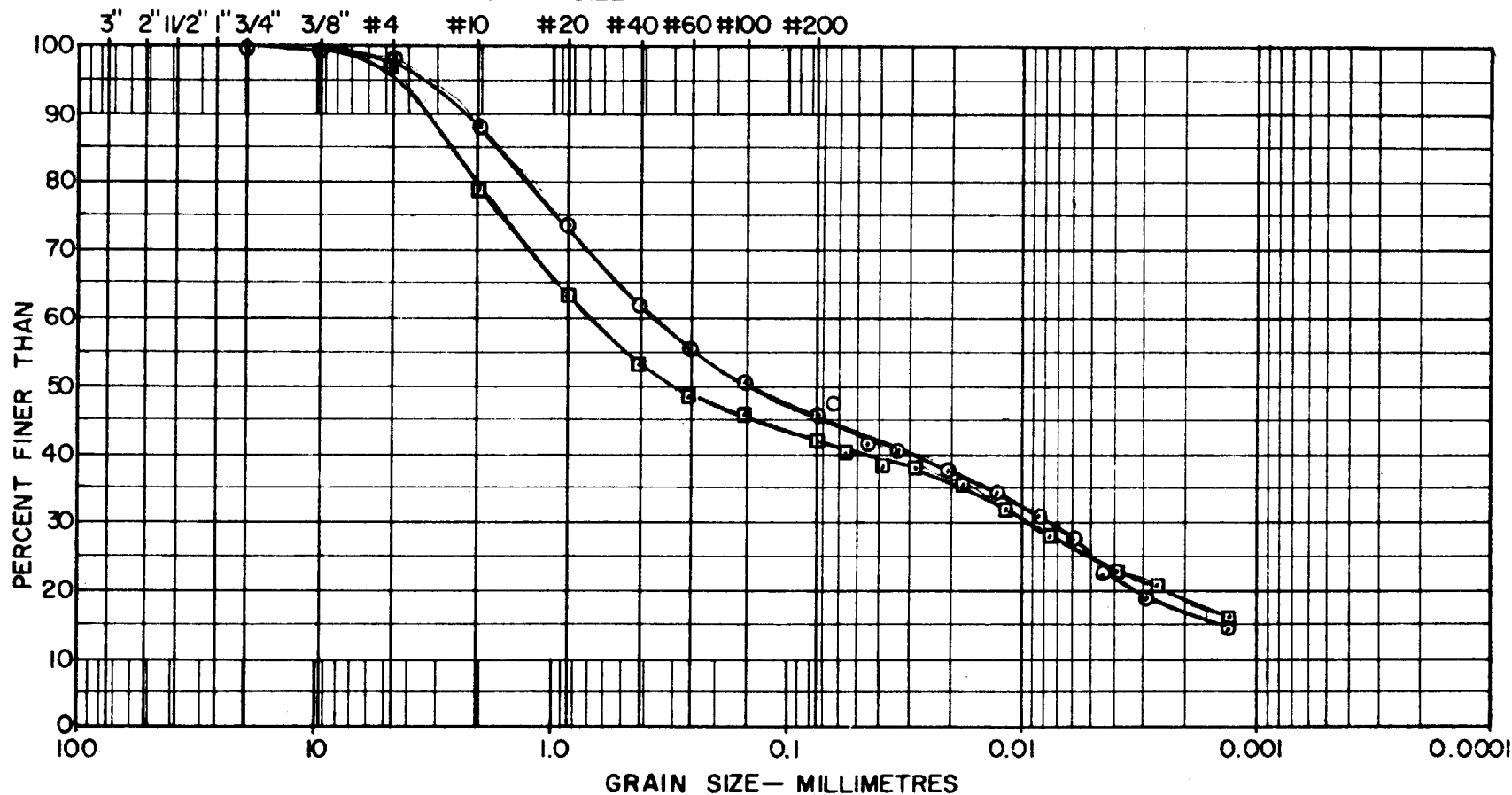
REMARKS: ● Sample No. 5 - 5 to 15 ft.
□ Sample No. 6 - 15 to 20 ft.
▲ Sample No. 7 - 20 to 30 ft.



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GRAVEL		SAND			SILT OR CLAY
COARSE	FINE	COARSE	MEDIUM	FINE	

U.S. STANDARD SIEVE SIZE



GRAIN SIZE CURVE

REMARKS: ☒ Sample No. 3 - 11 to 15 ft.
☒ Sample No. 4 - 15 to 25 ft.

JOB No.

AL0307

PROJECT

LOCATION

404-B-J

HOLE No.

DEPTH

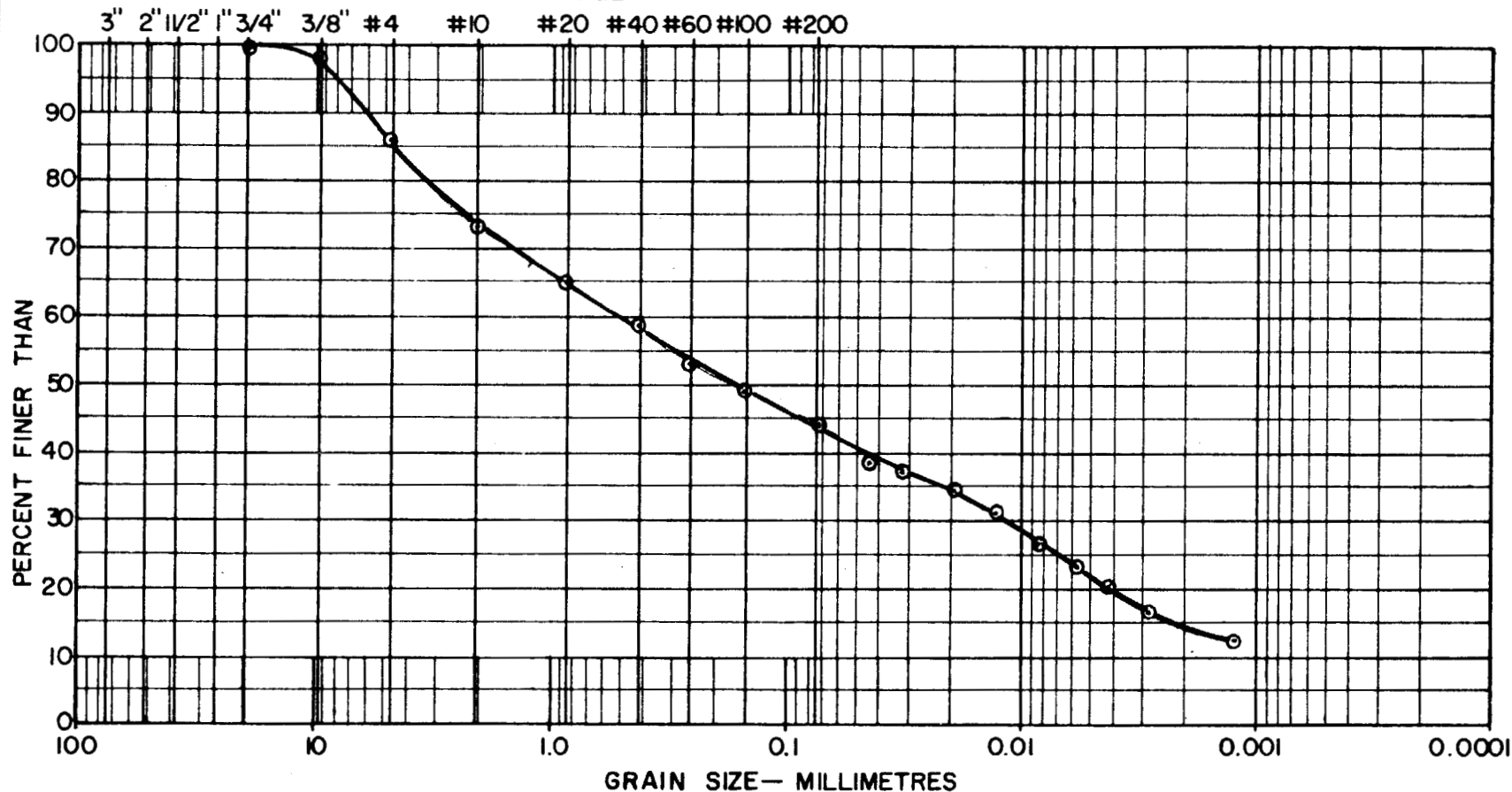
DATE



Ripley, Kohn & Leonoff International Ltd.
CONSULTING GEOTECHNICAL ENGINEERS

GRAVEL		SAND			SILT OR CLAY
COARSE	FINE	COARSE	MEDIUM	FINE	

U.S. STANDARD SIEVE SIZE



GRAIN SIZE CURVE

REMARKS: © Sample No. 2 - 5 to 15 ft.

JOB No. AL0307

PROJECT

LOCATION 405-C-G

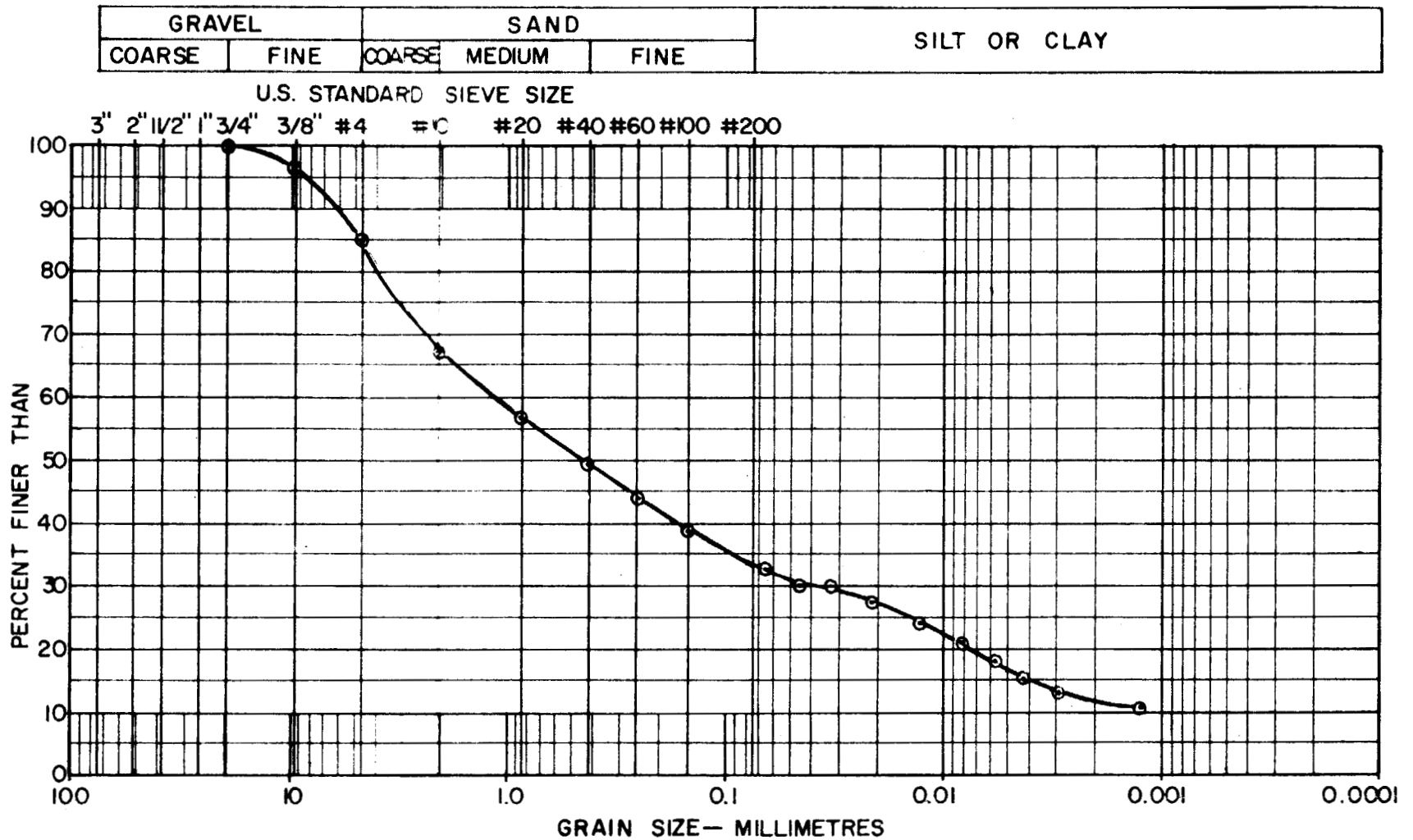
HOLE No. DEPTH

DATE



Ripley, Klohn & Leonoff International Ltd.
CONSULTING GEOTECHNICAL ENGINEERS

JOB No. **AL0307**
PROJECT
LOCATION **405-B-G**
HOLE No. **DEPTH**
DATE



GRAIN SIZE CURVE

REMARKS: ① Sample No. 3 - 15 to 25 ft.



Ripley, Klonh & Leonoff International Ltd.

JOB No. AL0307

PROJECT

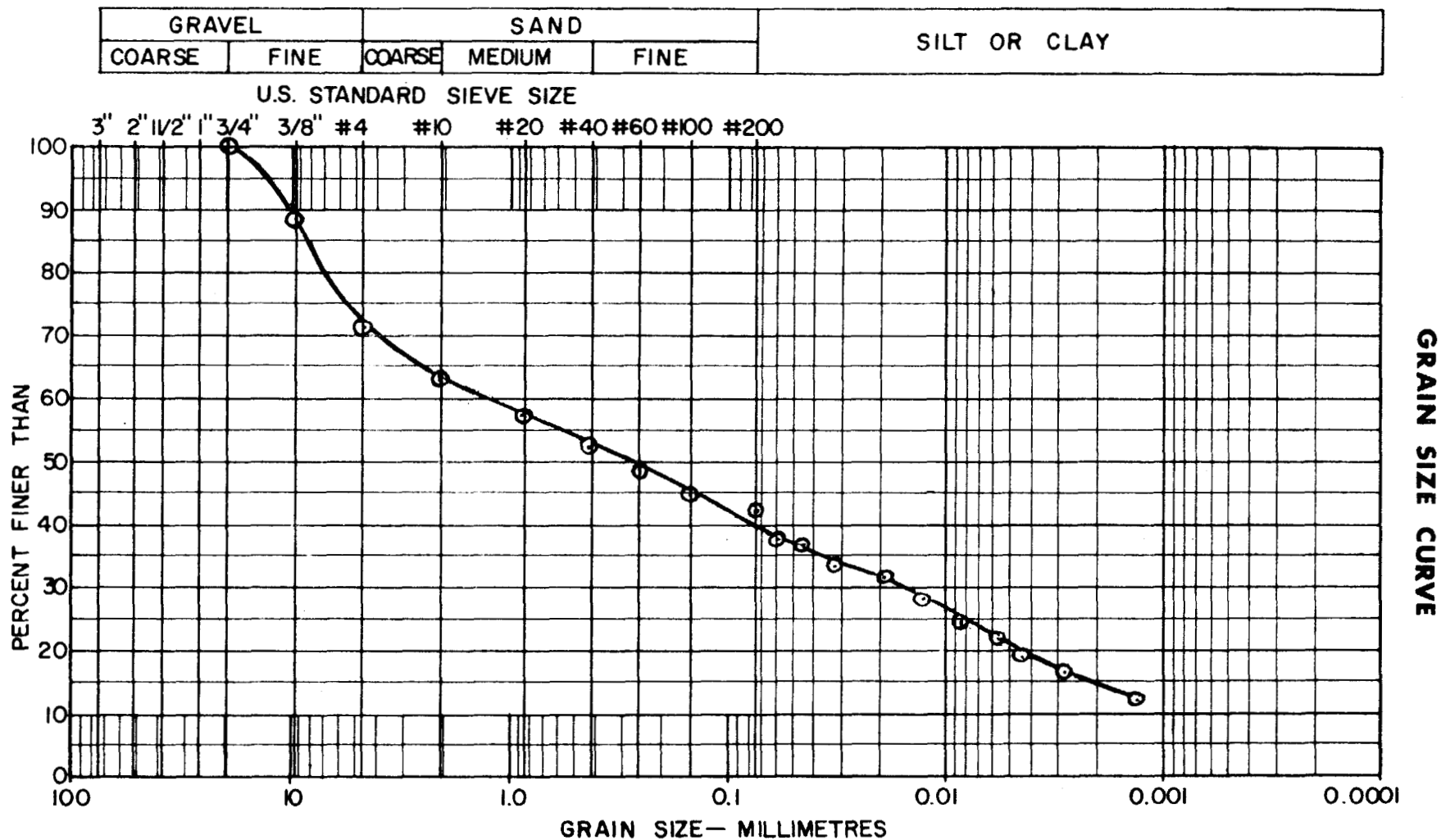
LOCATION

406-B-F

HOLE No. _____

DEPTH

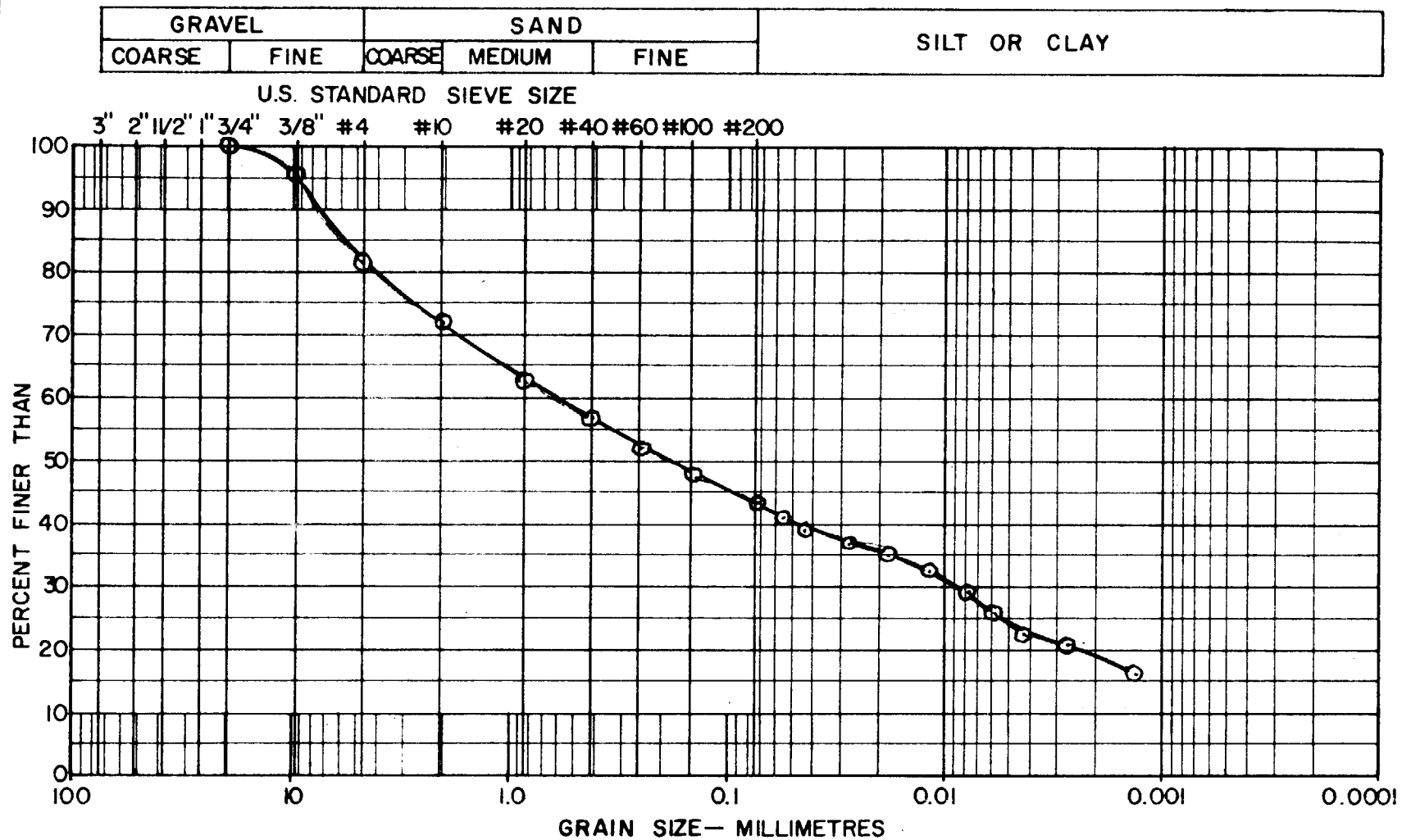
DATE _____

REMARKS: ⊙ Sample No. 2 - 10 to 20 ft.



Ripley, Kohn & Leonoff International Ltd.
CONSULTING GEOTECHNICAL ENGINEERS

JOB No. AL0307
PROJECT
LOCATION 406-B-H
HOLE No. DEPTH
DATE



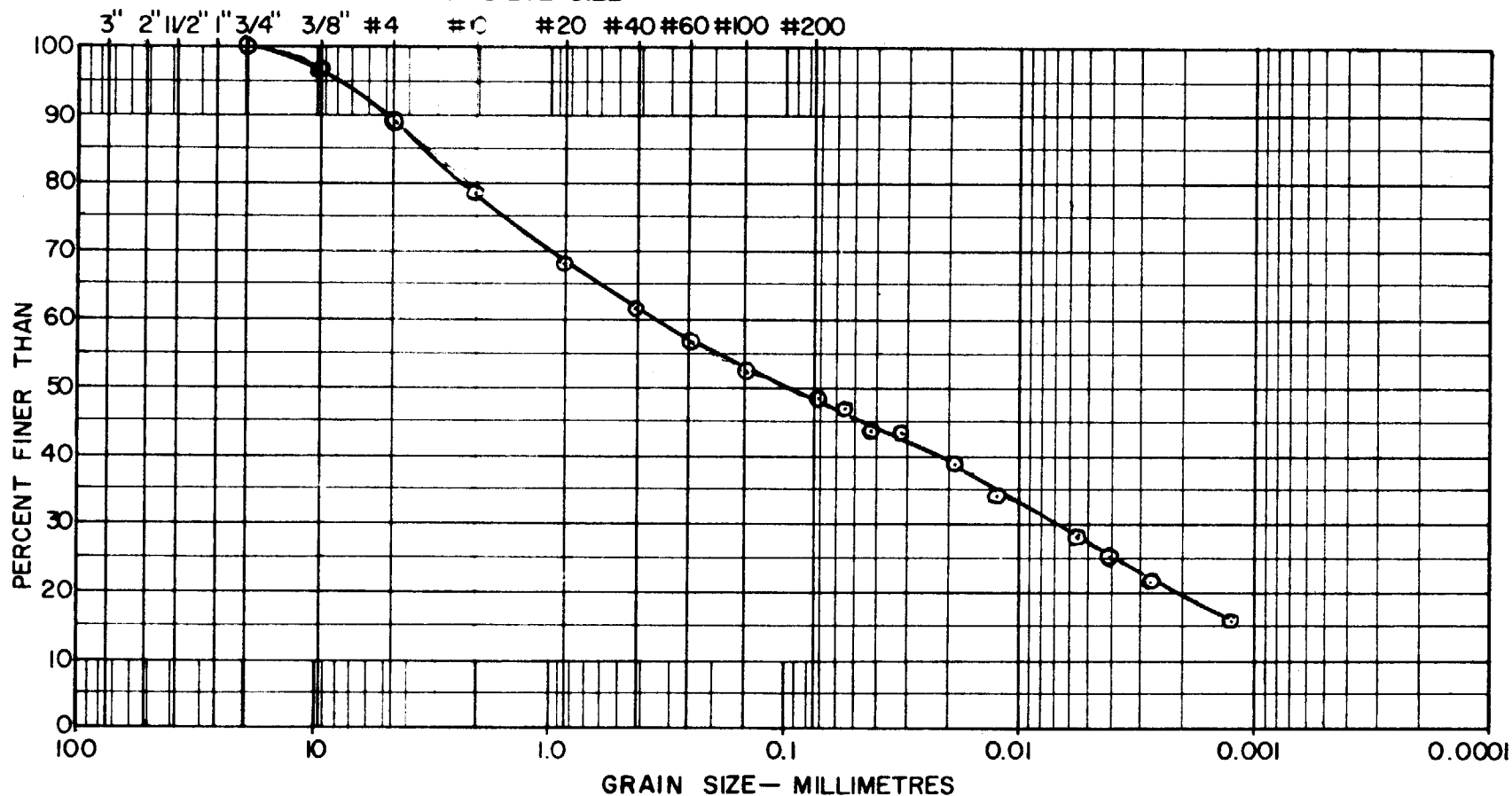
REMARKS: (C) Sample No. 2 - 10 to 20 ft.



Ripley, Kohn & Leonoff International Ltd.
CONSULTING GEOTECHNICAL ENGINEERS

GRAVEL		SAND			SILT OR CLAY
COARSE	FINE	COARSE	MEDIUM	FINE	

U.S. STANDARD SIEVE SIZE



GRAIN SIZE CURVE

REMARKS: ☒ Sample No. 1 - 10 to 20 ft.

JOB No. AL0307

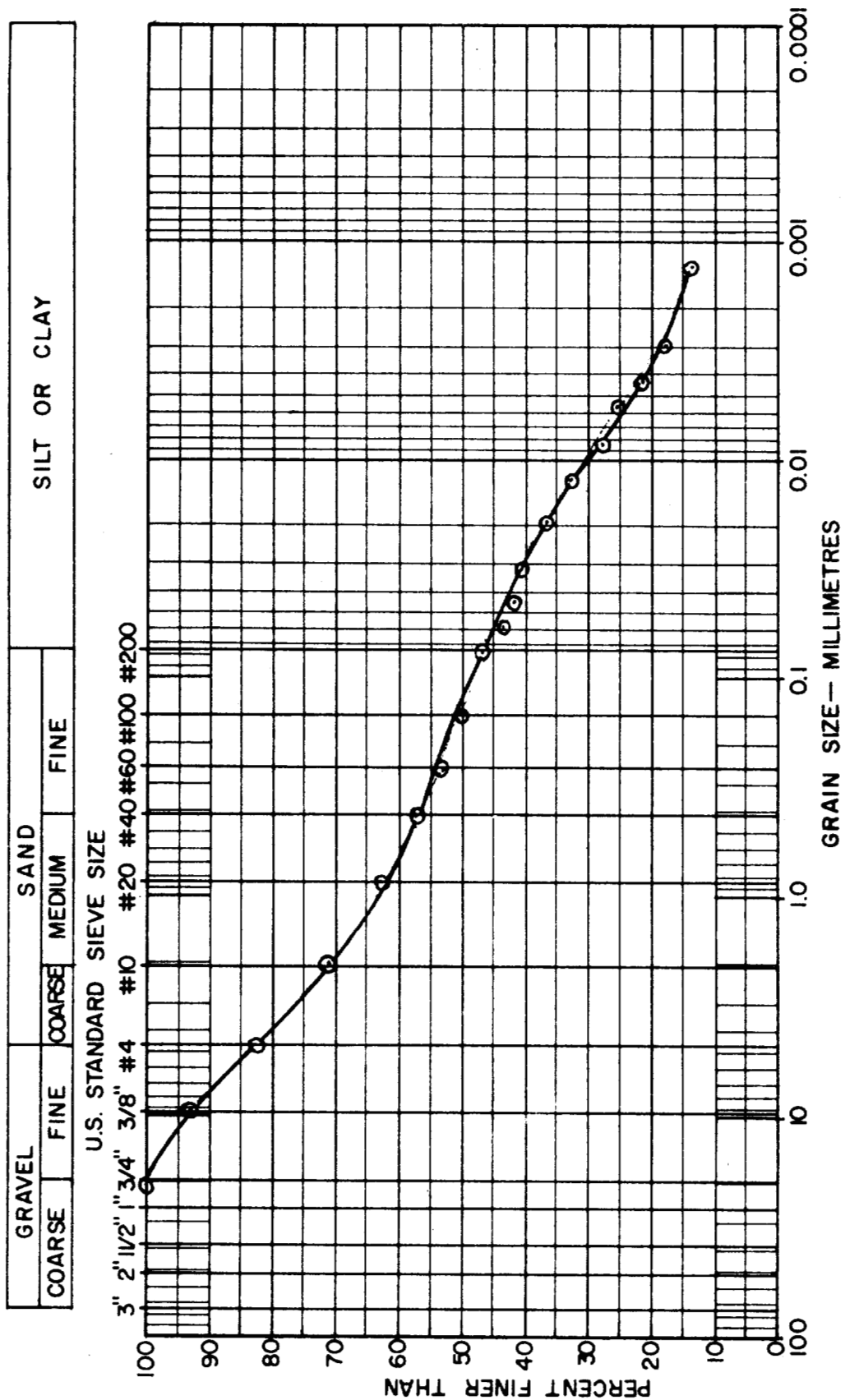
PROJECT

LOCATION 407-B-I

HOLE No. DEPTH

DATE

GRAIN SIZE CURVE

REMARKS: **⊙** Sample No. 2 - 10 to 20 ft.

JOB No.	AL0307
PROJECT	
LOCATION	407-B-J
HOLE No.	DEPTH
DATE	



Ripley, Kohn & Leonoff International Ltd.
CONSULTING GEOTECHNICAL ENGINEERS

JOB No. AL0307

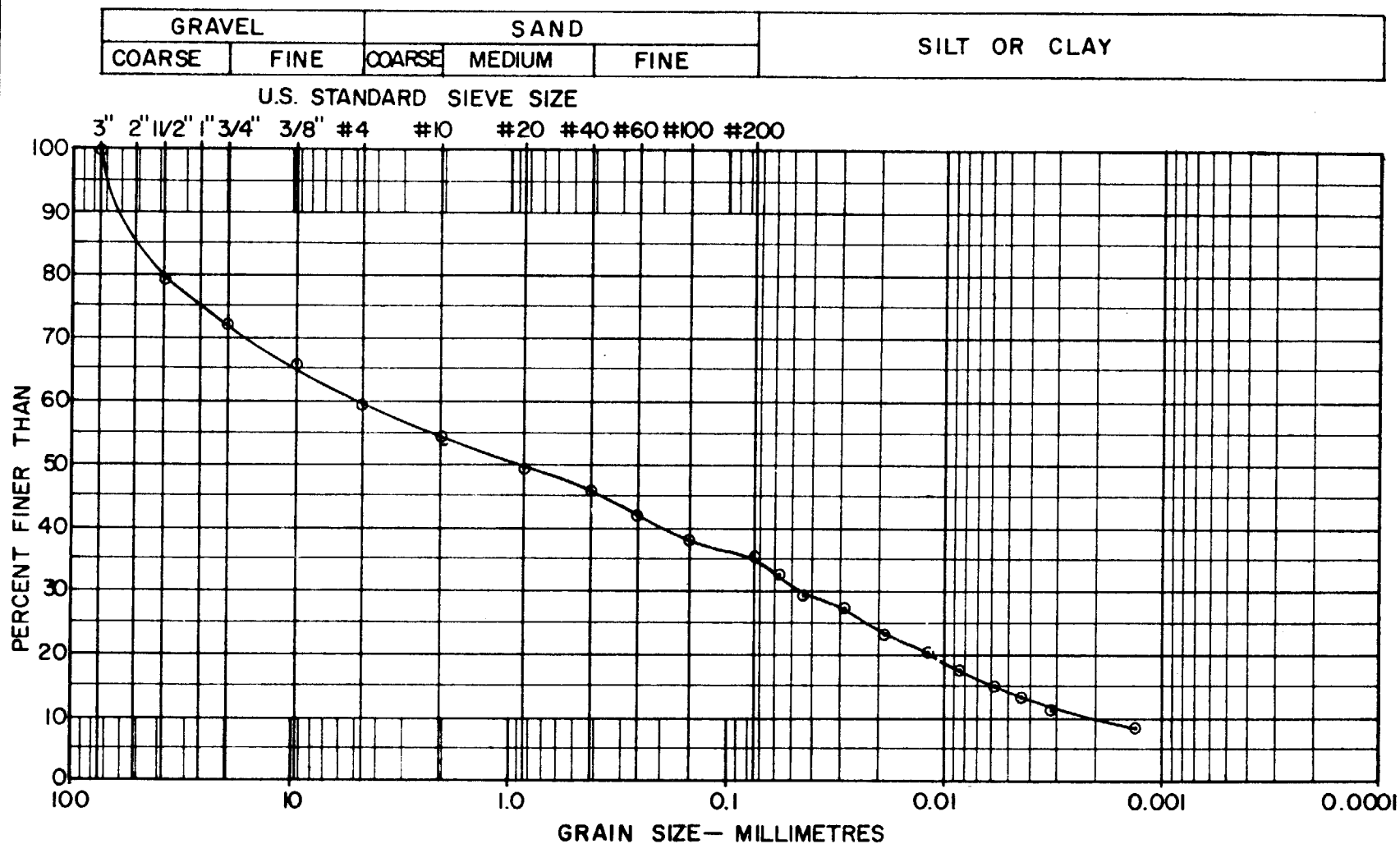
PROJECT

LOCATION 407-B-T-1

HOLE No.

DEPTH

DATE



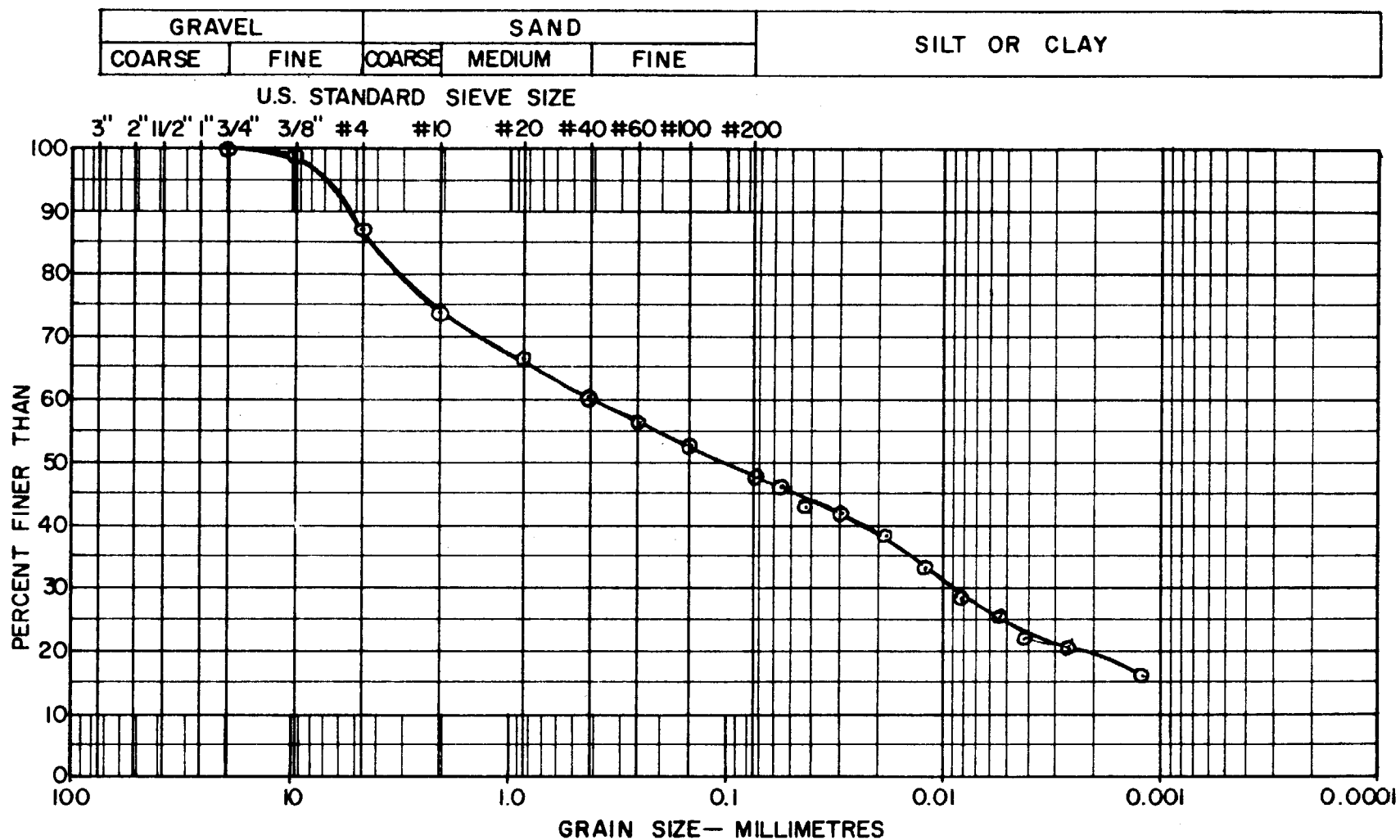
GRAIN SIZE CURVE

REMARKS: @ Sample No. 1 - 1 to 4 ft.



Ripley, Kohn & Leonoff International Ltd.
CONSULTING GEOTECHNICAL ENGINEERS

JOB No. AL0307
PROJECT
LOCATION 408-B-I
HOLE No. DEPTH
DATE



REMARKS: Sample No. 2 - 10 to 20 ft.



Ripley, Kohn & Leonoff International Ltd.
CONSULTING GEOTECHNICAL ENGINEERS

JOB No. AL0307

PROJECT

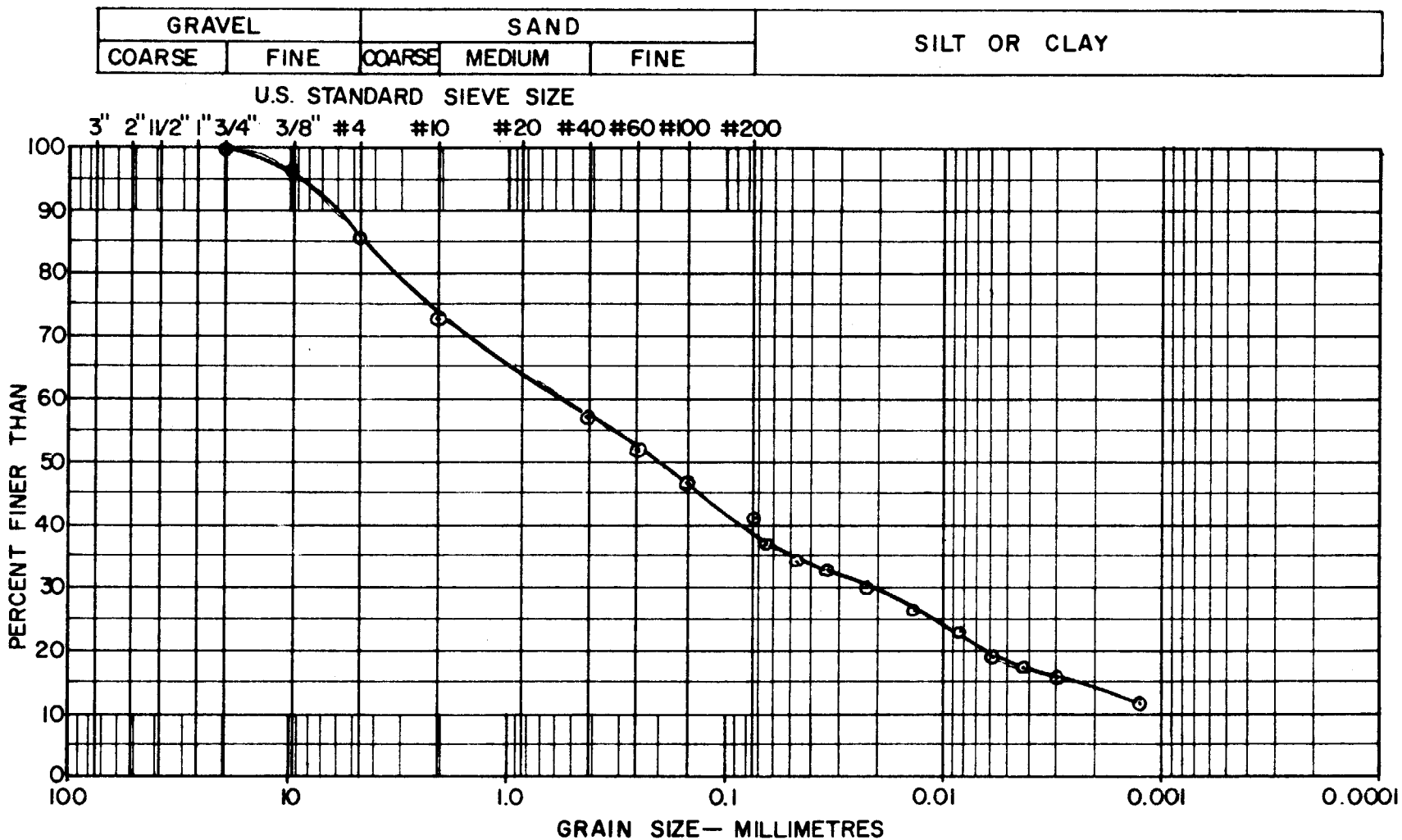
LOCATION

408-B-J

HOLE No.

DEPTH

DATE

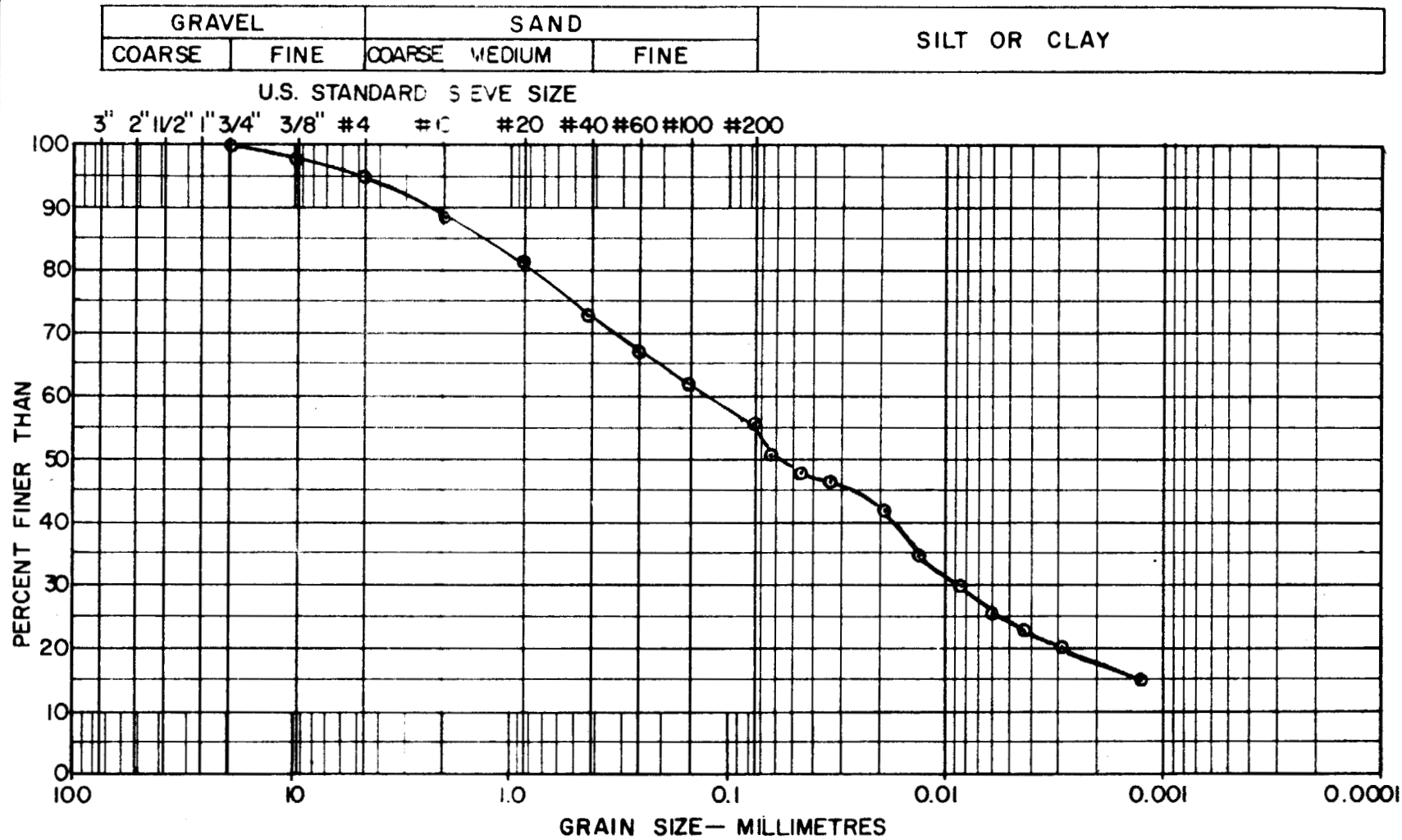


REMARKS: ① Sample No. 2 - 10 to 20 ft.



Ripley, Kohn & Leonoff International Ltd.
CONSULTING GEOTECHNICAL ENGINEERS

JOB No.	AL0307
PROJECT	
LOCATION	408-B-K
HOLE No.	
DEPTH	
DATE	



REMARKS: ⑥ Sample No. 2 - 10 to 20 ft.



Ripley, Klonh & Leonoff International Ltd.

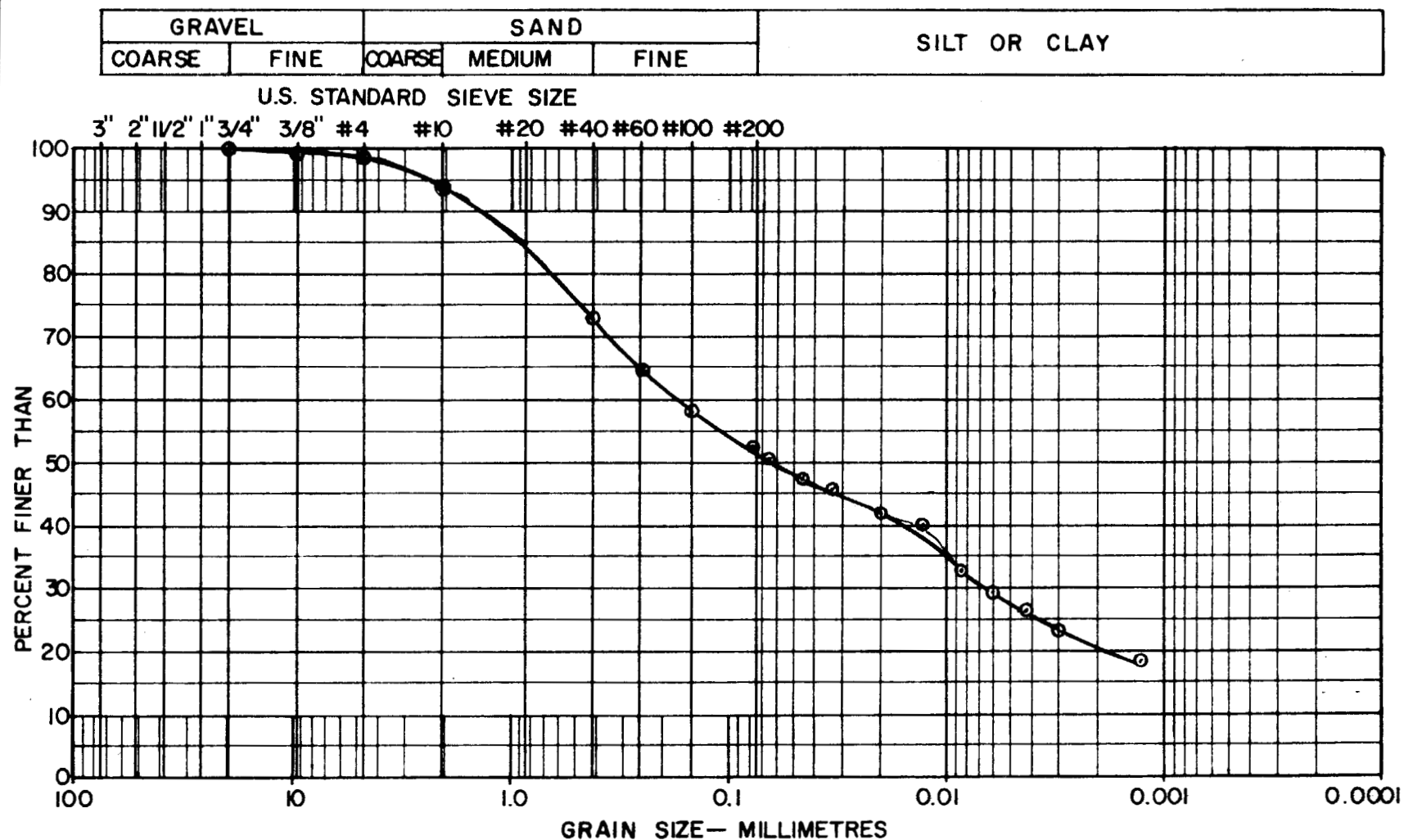
JOB No. **AL0307**

PROJECT

LOCATION

HOLE No.

DATE _____



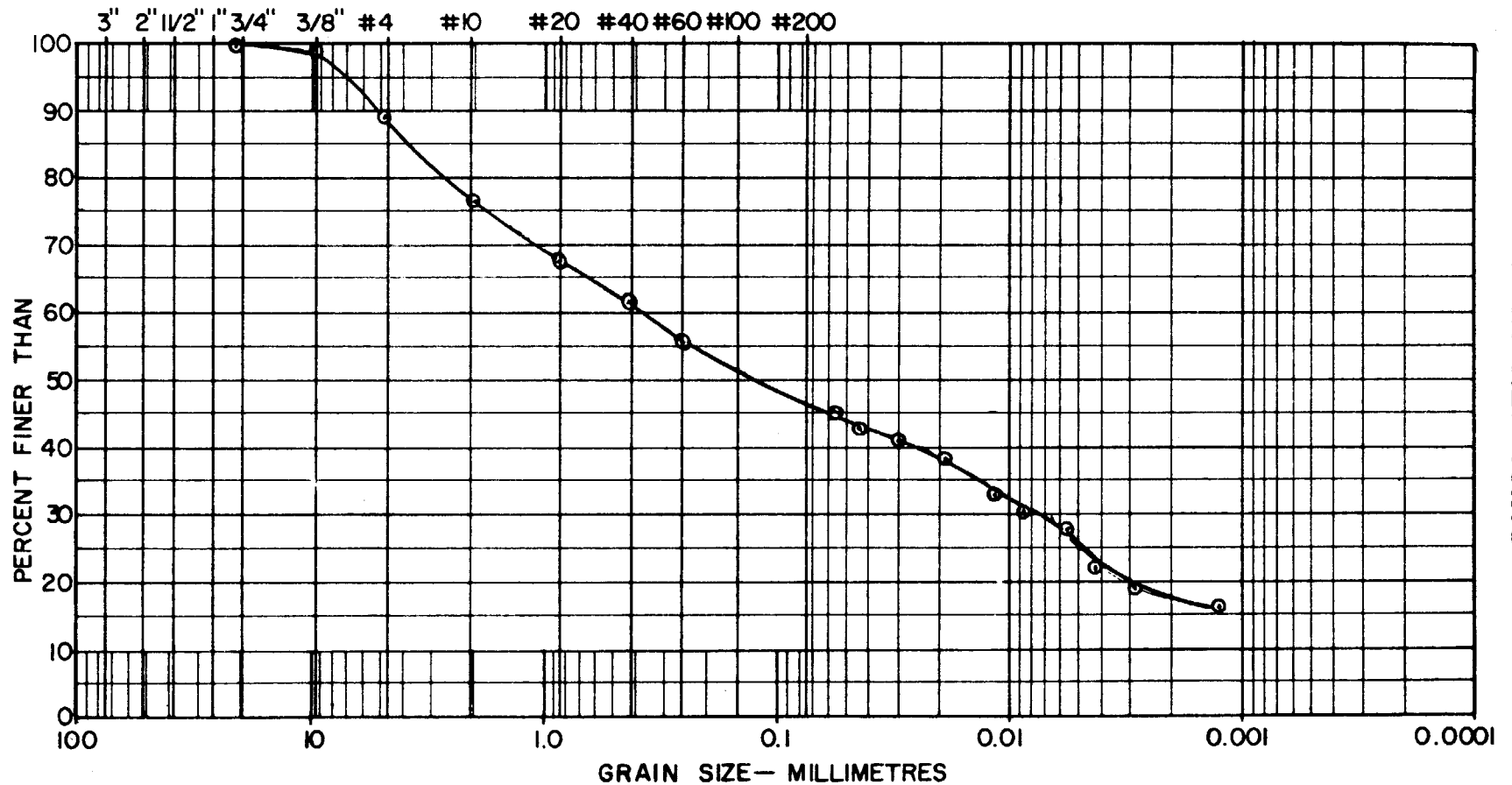
REMARKS: ① Sample No. 1 - 0 to 10 ft.



Ripley, Klohn & Leonoff International Ltd.
CONSULTING GEOTECHNICAL ENGINEERS

GRAVEL		SAND			SILT OR CLAY
COARSE	FINE	COARSE	MEDIUM	FINE	

U.S. STANDARD SIEVE SIZE



GRAIN SIZE CURVE

REMARKS: ① Sample No4 25 to 30 ft.

JOB No. AL0307
PROJECT
LOCATION 409-B-K
HOLE No. DEPTH
DATE



Ripley, Kohn & Leonoff International Ltd.
CONSULTING GEOTECHNICAL ENGINEERS

JOB No. AL0307

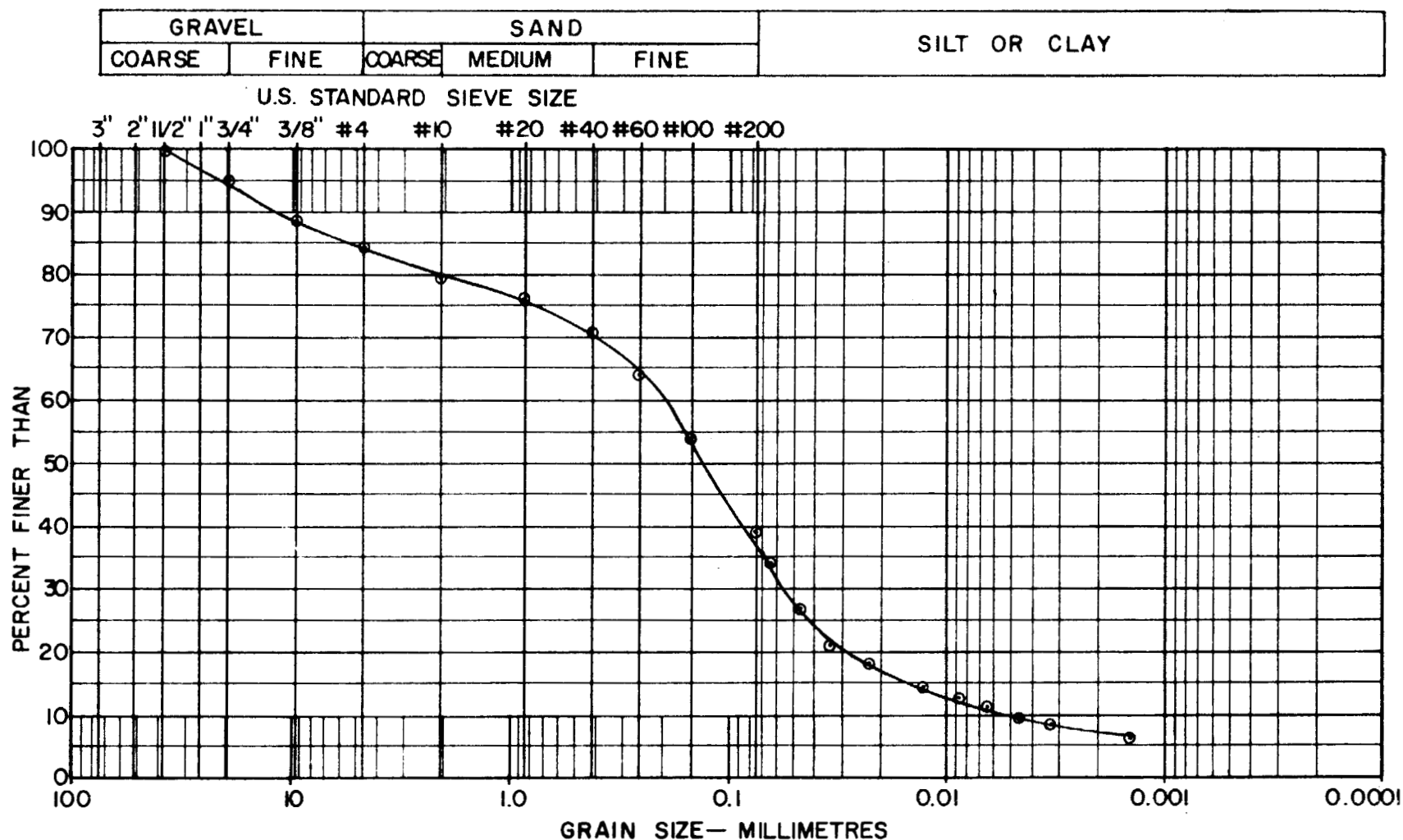
PROJECT

LOCATION 409-B-T-1

HOLE No.

DEPTH

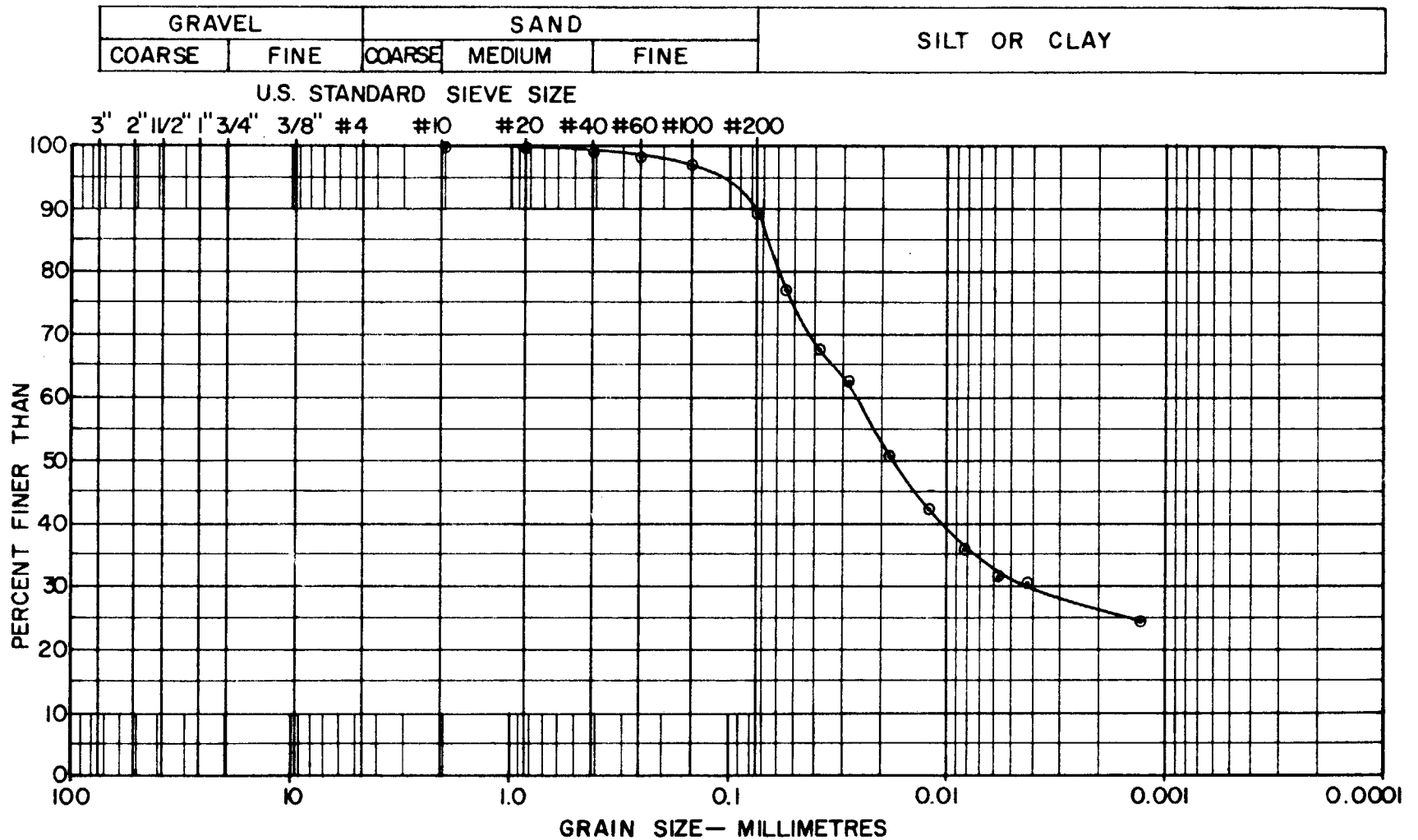
DATE





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CONSULTING GEOTECHNICAL ENGINEERS

JOB No.	AL0307
PROJECT	
LOCATION	411-B-T-1
HOLE No.	
DEPTH	
DATE	



GRAIN SIZE CURVE

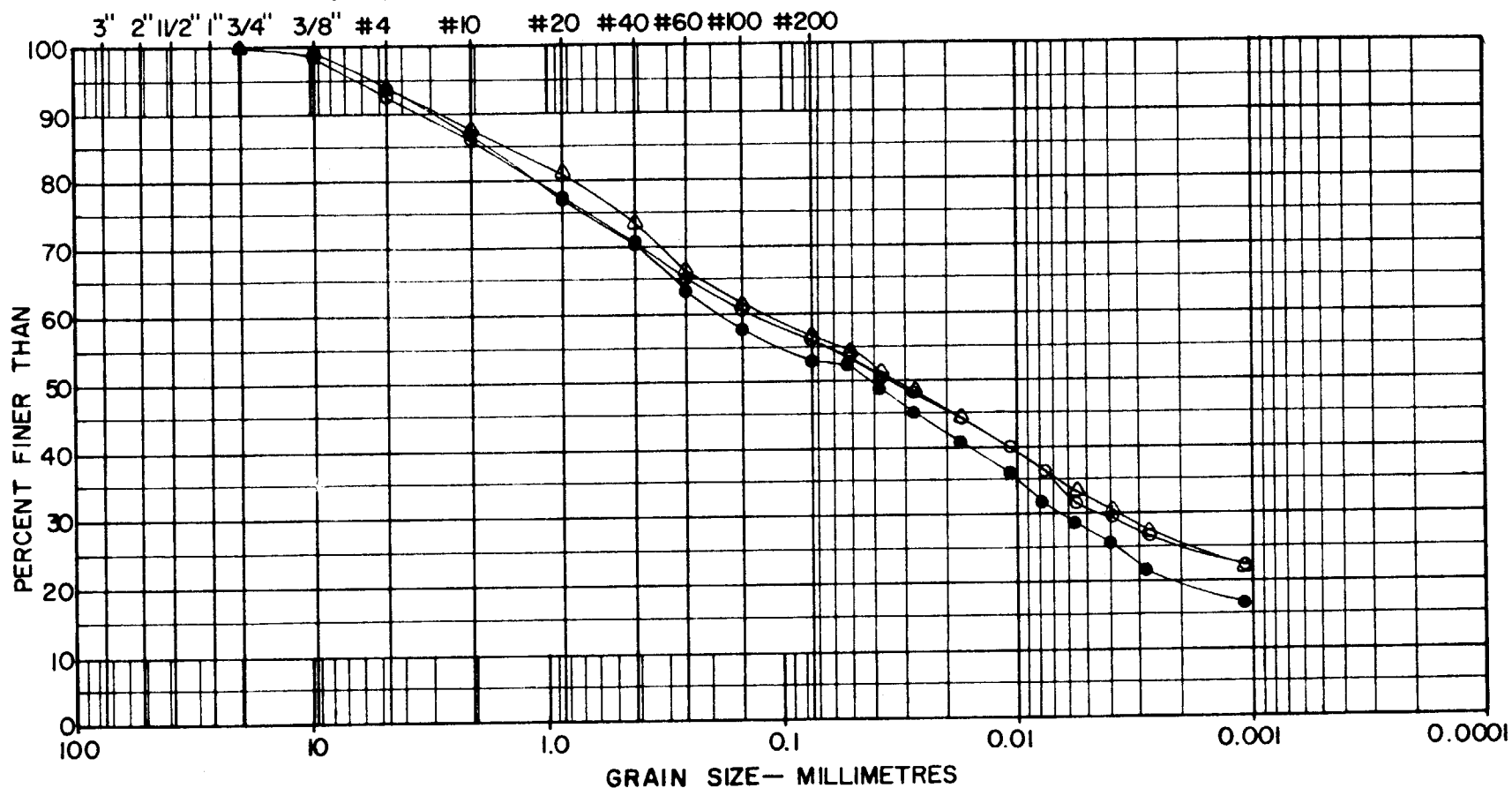
REMARKS: @ Sample No. 1 - 1 to 3.5 ft.



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CONSULTING GEOTECHNICAL ENGINEERS

GRAVEL		SAND			SILT OR CLAY
COARSE	FINE	COARSE	MEDIUM	FINE	

U.S. STANDARD SIEVE SIZE



GRAIN SIZE CURVE

REMARKS: ● Sample No. 2 - 10 ft.
○ Sample No. 3 - 15 ft.
△ Sample No. 4 - 20 ft.

JOB No. AL0307

PROJECT

LOCATION 414-B-1

HOLE No.

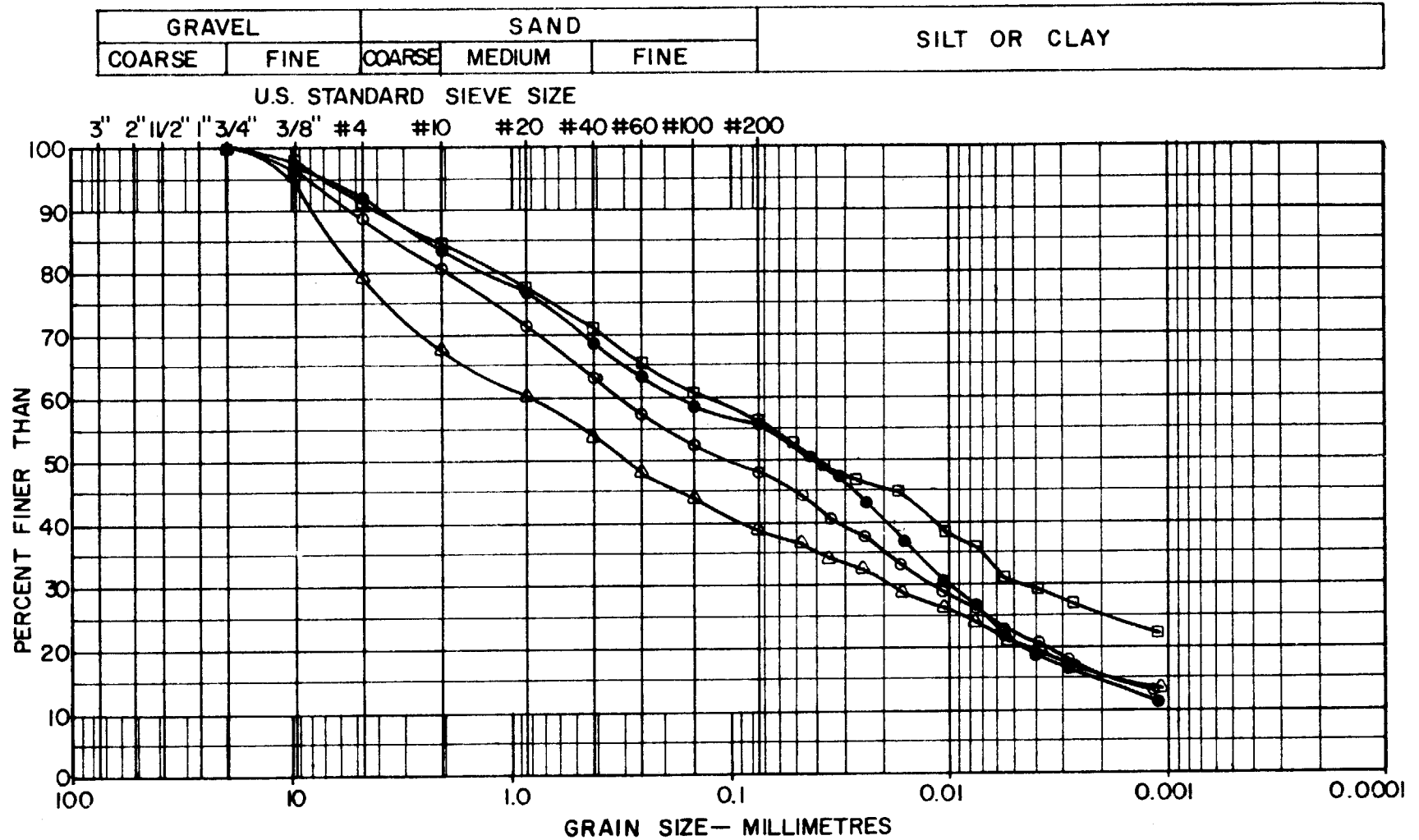
DEPTH

DATE



Ripley, Klohn & Leonoff International Ltd.
CONSULTING GEOTECHNICAL ENGINEERS

JOB No. AL0307
PROJECT
LOCATION 414-B-J
HOLE No.
DATE DEPTH

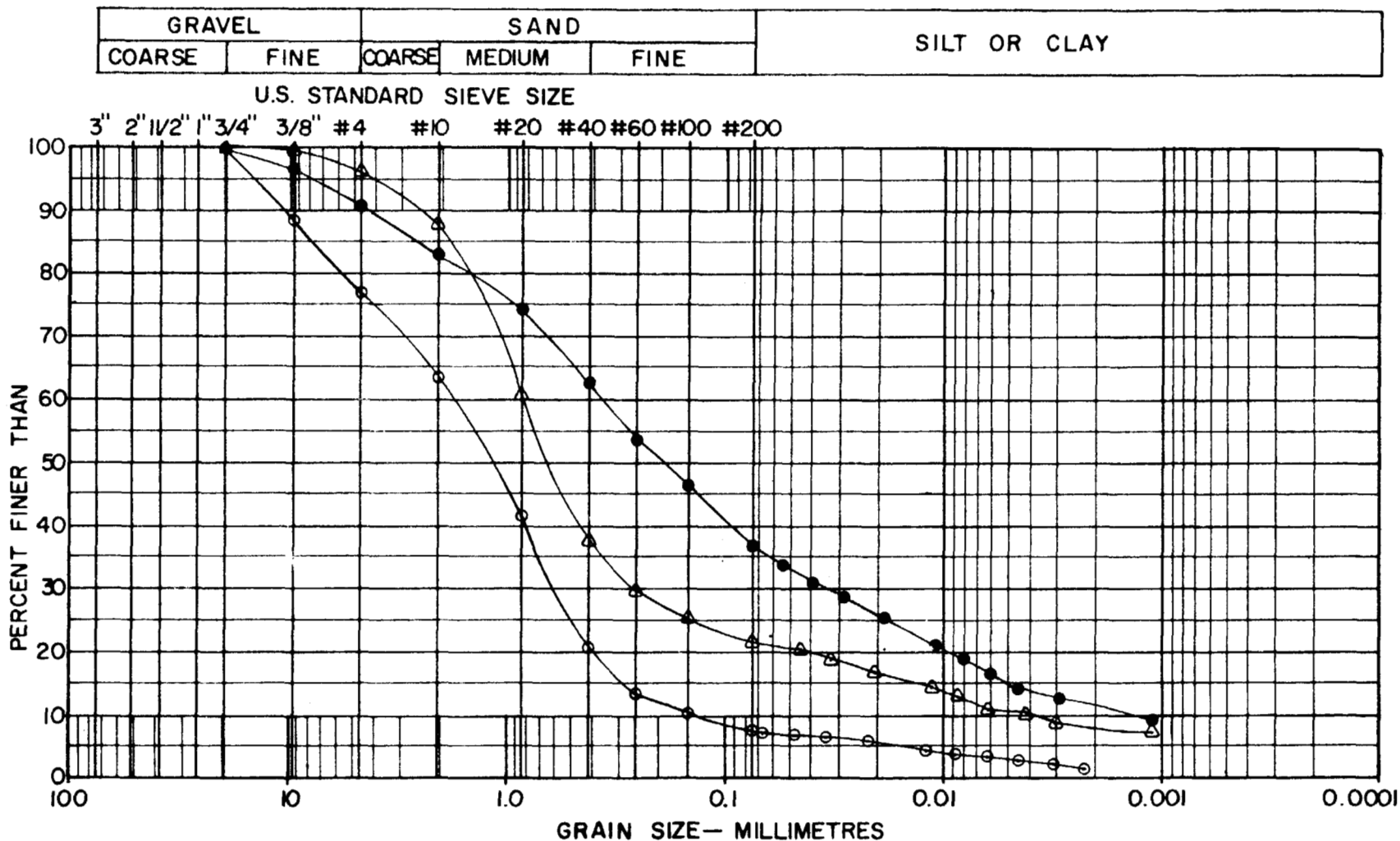


REMARKS: ● Sample No. 1 - 5 ft.
○ Sample No. 2 - 10 ft.
△ Sample No. 3 - 15 ft.
□ Sample No. 4 - 20 ft.



Ripley, Klohn & Leonoff International Ltd.
CONSULTING GEOTECHNICAL ENGINEERS

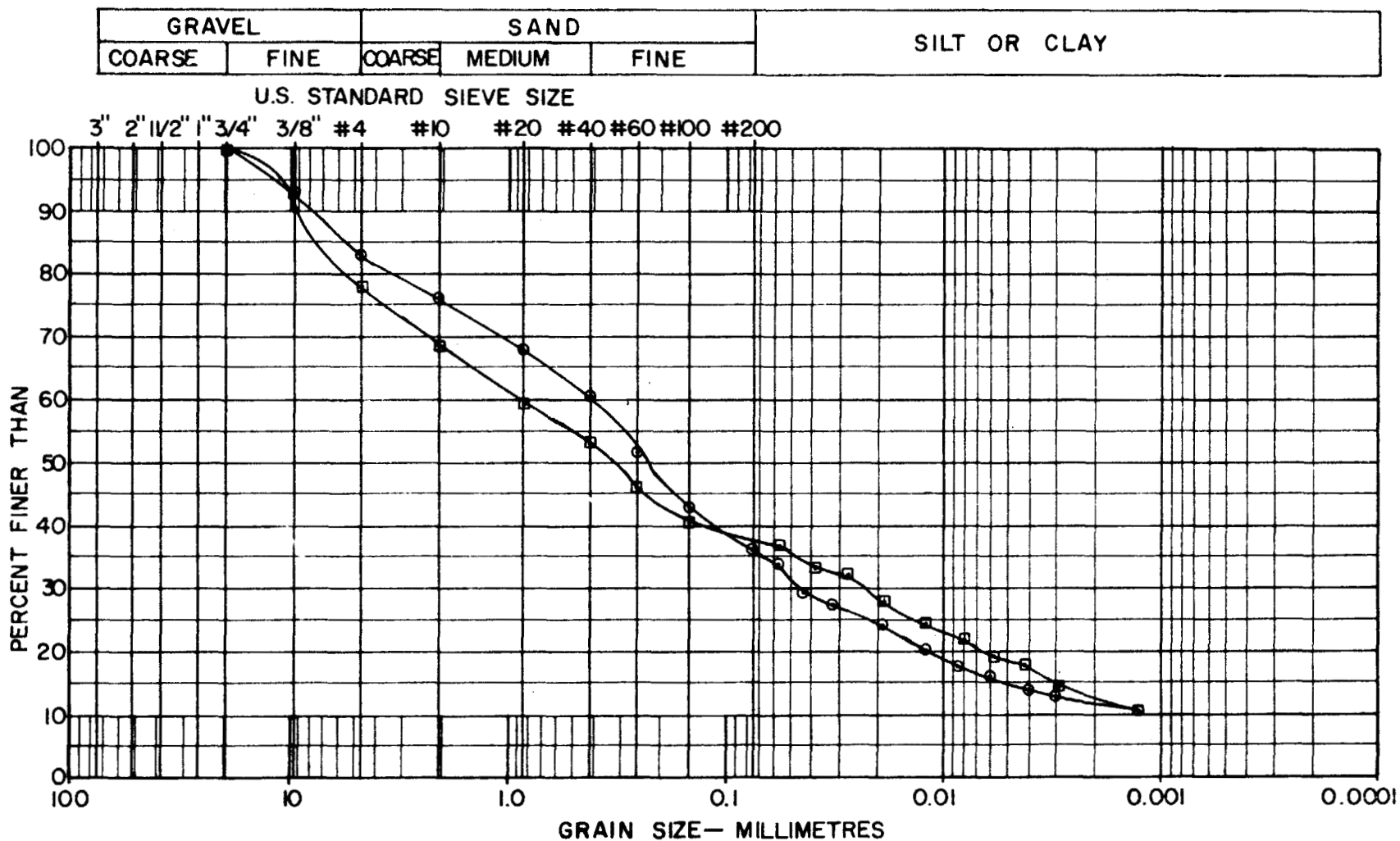
JOB No.	AL0307
PROJECT	
LOCATION	414-B-K
HOLE No.	
DATE	
DEPTH	





Ripley, Klohn & Leonoff International Ltd.
CONSULTING GEOTECHNICAL ENGINEERS

JOB No. AL0307
PROJECT
LOCATION 414-B-L
HOLE No. DEPTH
DATE



REMARKS: ● Sample No. 1 - 5 ft

□ Sample No. 4 - 20 ft.



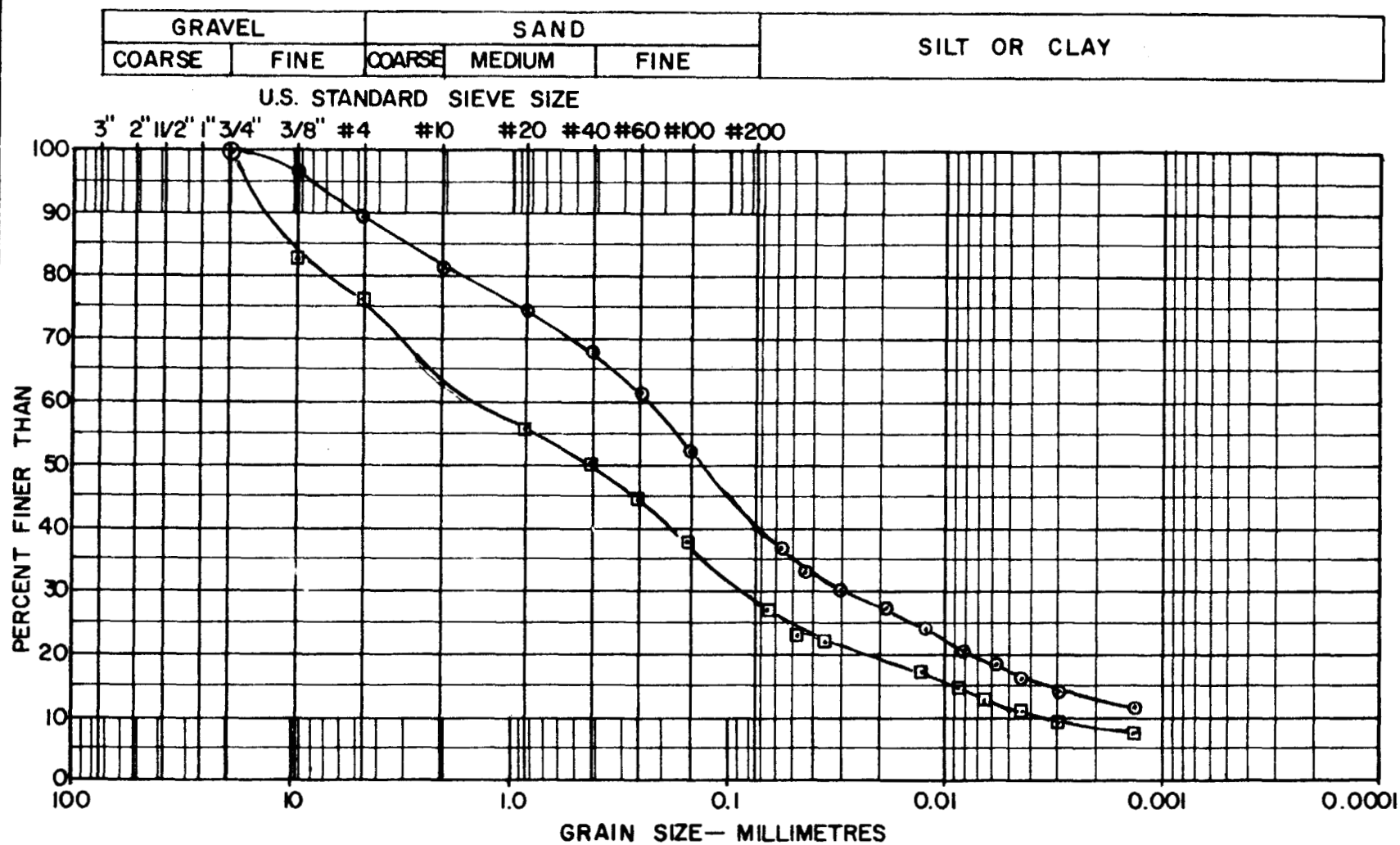
Ripley, Kohn & Leonoff International Ltd.

AL0307

414-B-L

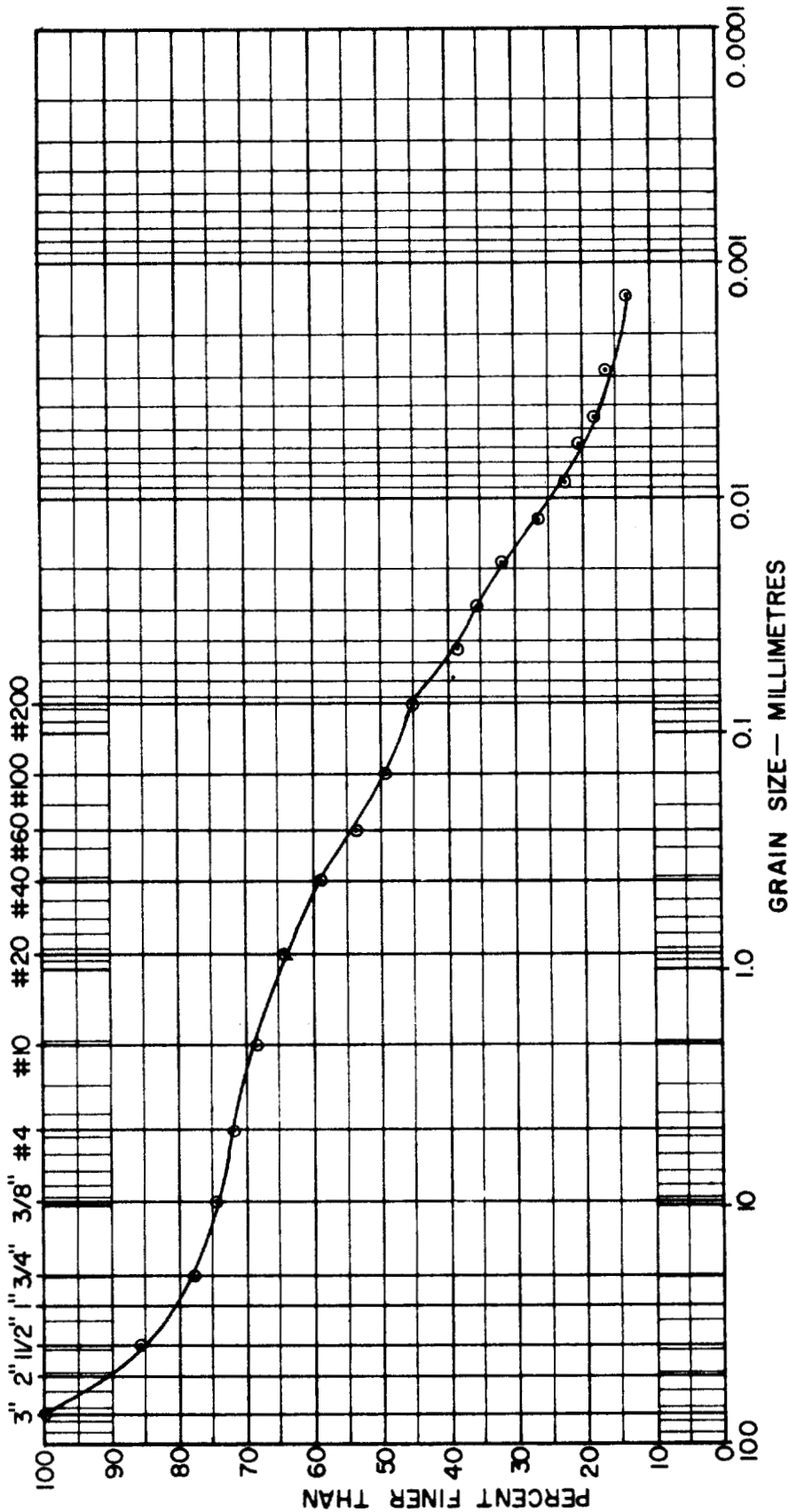
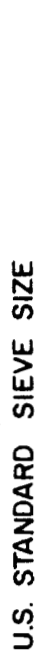
DEPTH

1

REMARKS: ⊙ Sample No. 2 - 10 ft.

Sample No. 3 - 15 ft.

GRAVEL			SAND		SILT OR CLAY
COARSE	FINE	COARSE	MEDIUM	FINE	



REMARKS: @ Sample No. 1 - 0 to 2 ft.



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CONSULTING GEOTECHNICAL ENGINEERS

PROJECT

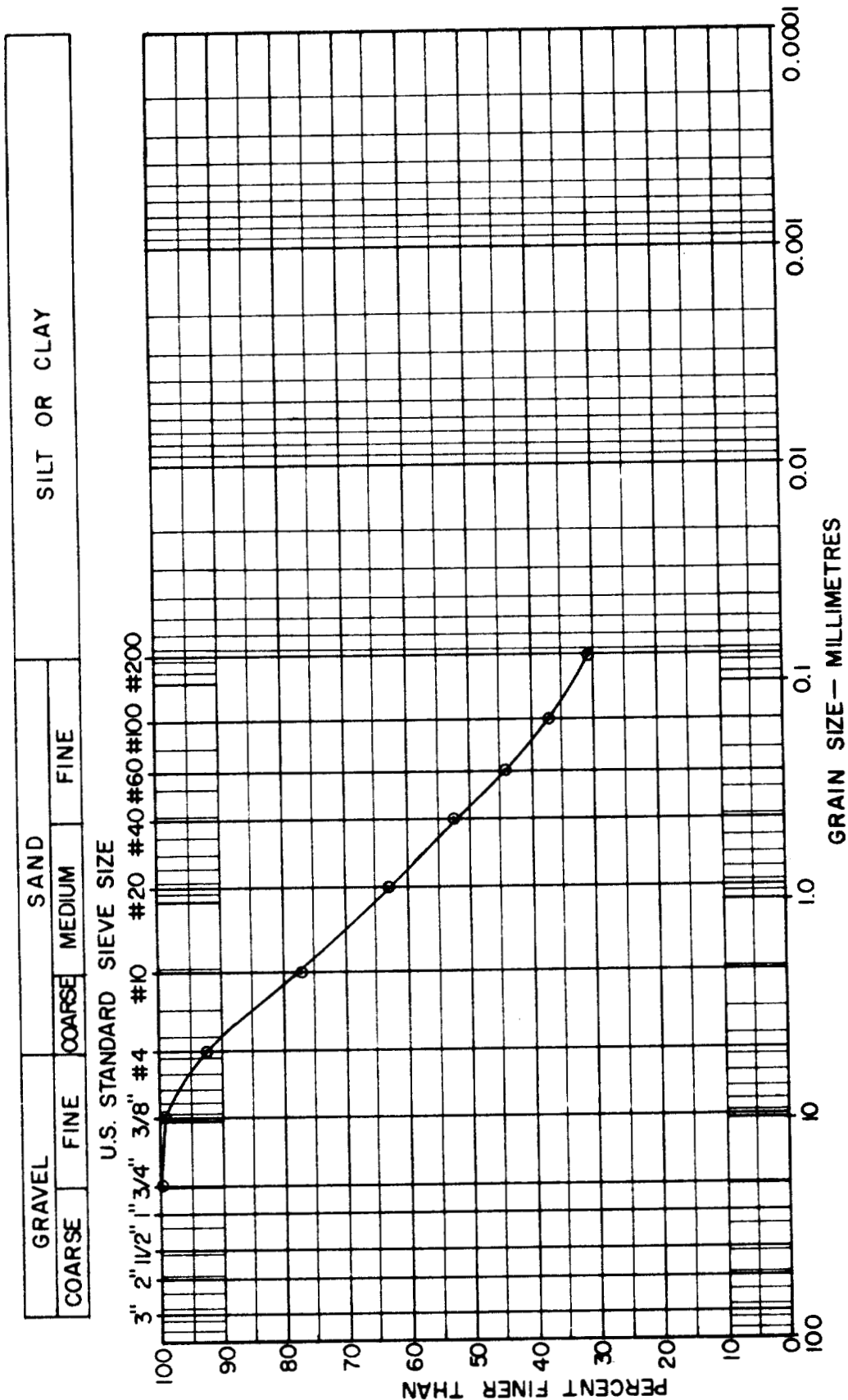
LOCATION 414-B-T-1

HOLE No.

DEPTH

DATE _____

GRAIN SIZE CURVE



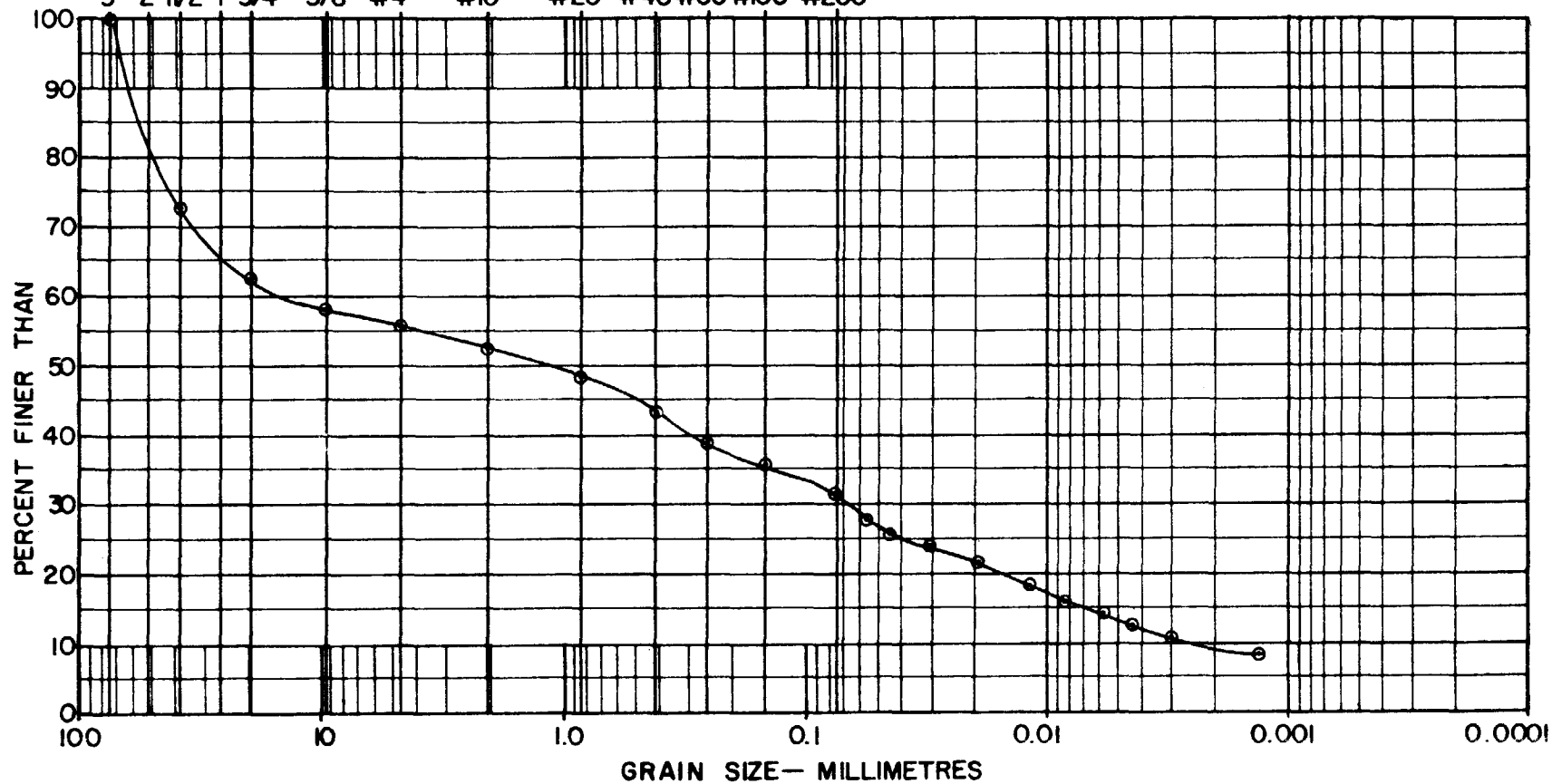


Ripley, Kohn & Leonoff International Ltd.
CONSULTING GEOTECHNICAL ENGINEERS

GRAVEL		SAND			SILT OR CLAY
COARSE	FINE	COARSE	MEDIUM	FINE	

U.S. STANDARD SIEVE SIZE

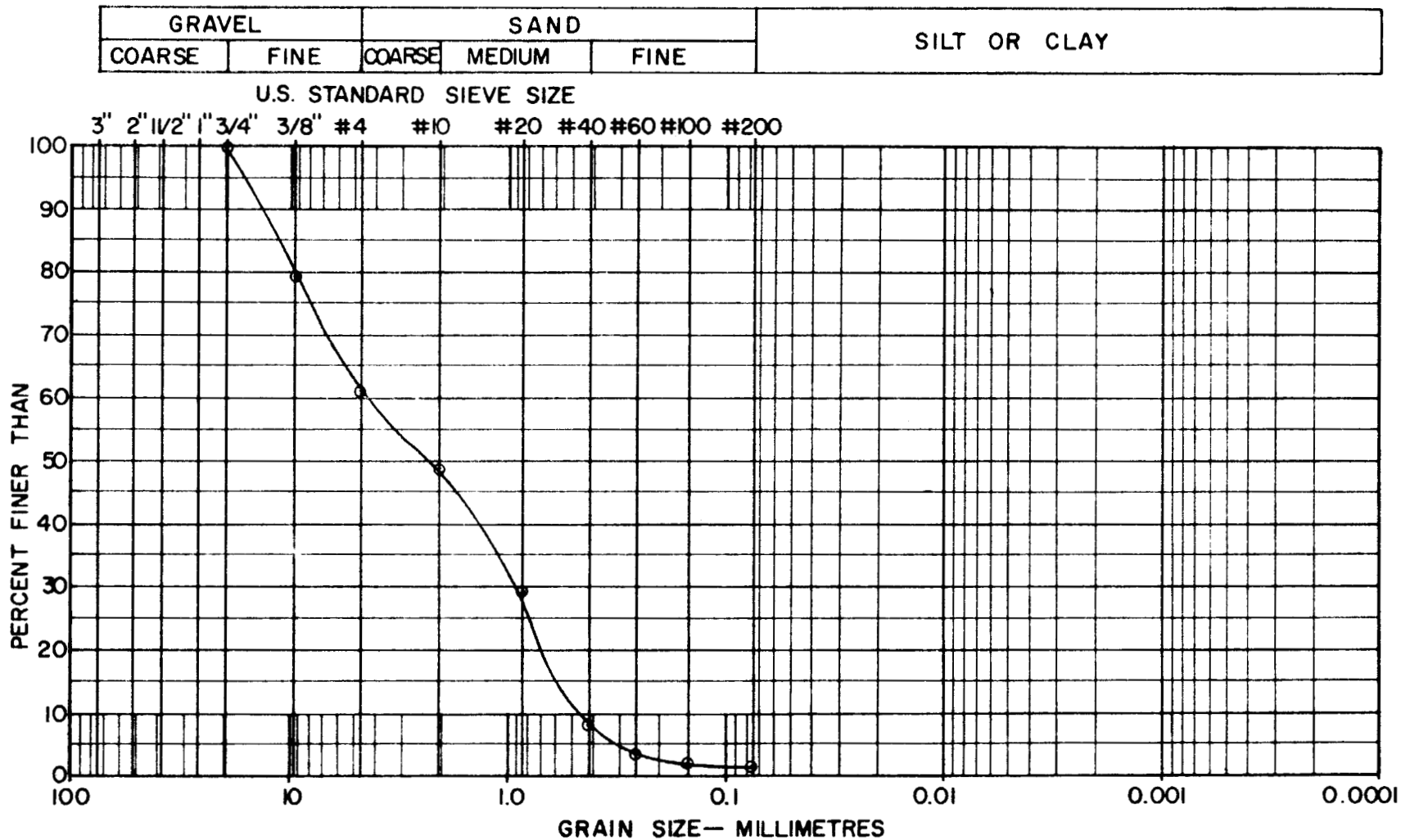
3" 2" 1 1/2" 1" 3/4" 3/8" #4 #10 #20 #40 #60 #100 #200





Ripley, Klohn & Leonoff International Ltd.
CONSULTING GEOTECHNICAL ENGINEERS

JOB No.	AL0307
PROJECT	
LOCATION	418-B-N
HOLE No.	
DEPTH	
DATE	



GRAIN SIZE CURVE

REMARKS: ⊙ Sample No. 1 - 10 ft.



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JOB No. AL0307

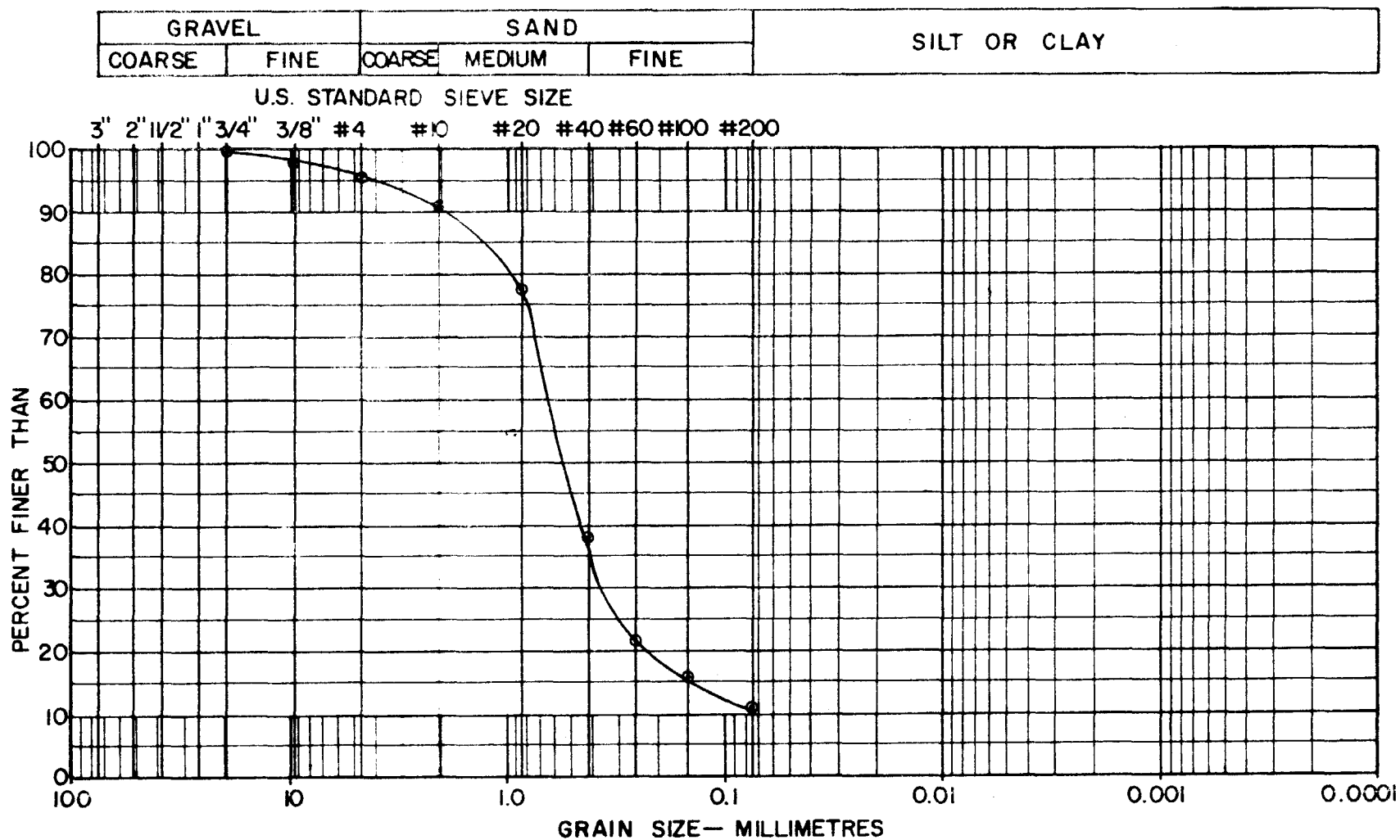
PROJECT

LOCATION	419--B-H
----------	----------

HOLE No.

DEPTH

DATE _____

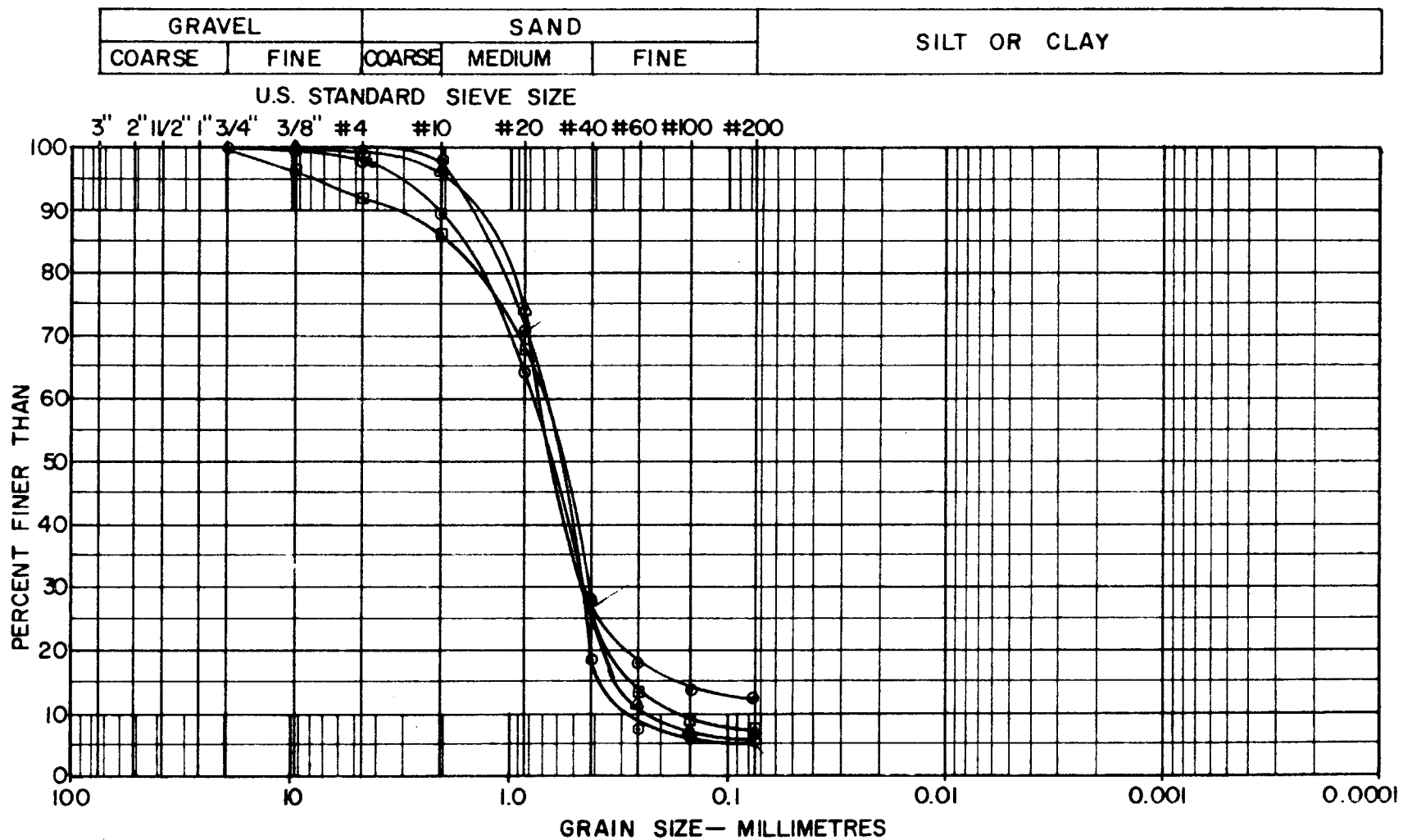
REMARKS: o Sample No. 4 - 20 ft.

GRAIN SIZE CURVE



Ripley, Kloth & Leonoff International Ltd.
CONSULTING GEOTECHNICAL ENGINEERS

JOB No.	AL0307
PROJECT	
LOCATION	419-B-1
HOLE No.	
DATE	
DEPTH	



REMARKS: Sample No. 1 - 5 ft.
Sample No. 2 - 10 ft.
Sample No. 3 - 15 ft.
Sample No. 4 - 20 ft.

GRAIN SIZE CURVE



Ripley, Kohn & Leonoff International Ltd.
CONSULTING GEOTECHNICAL ENGINEERS

JOB No. AL0307

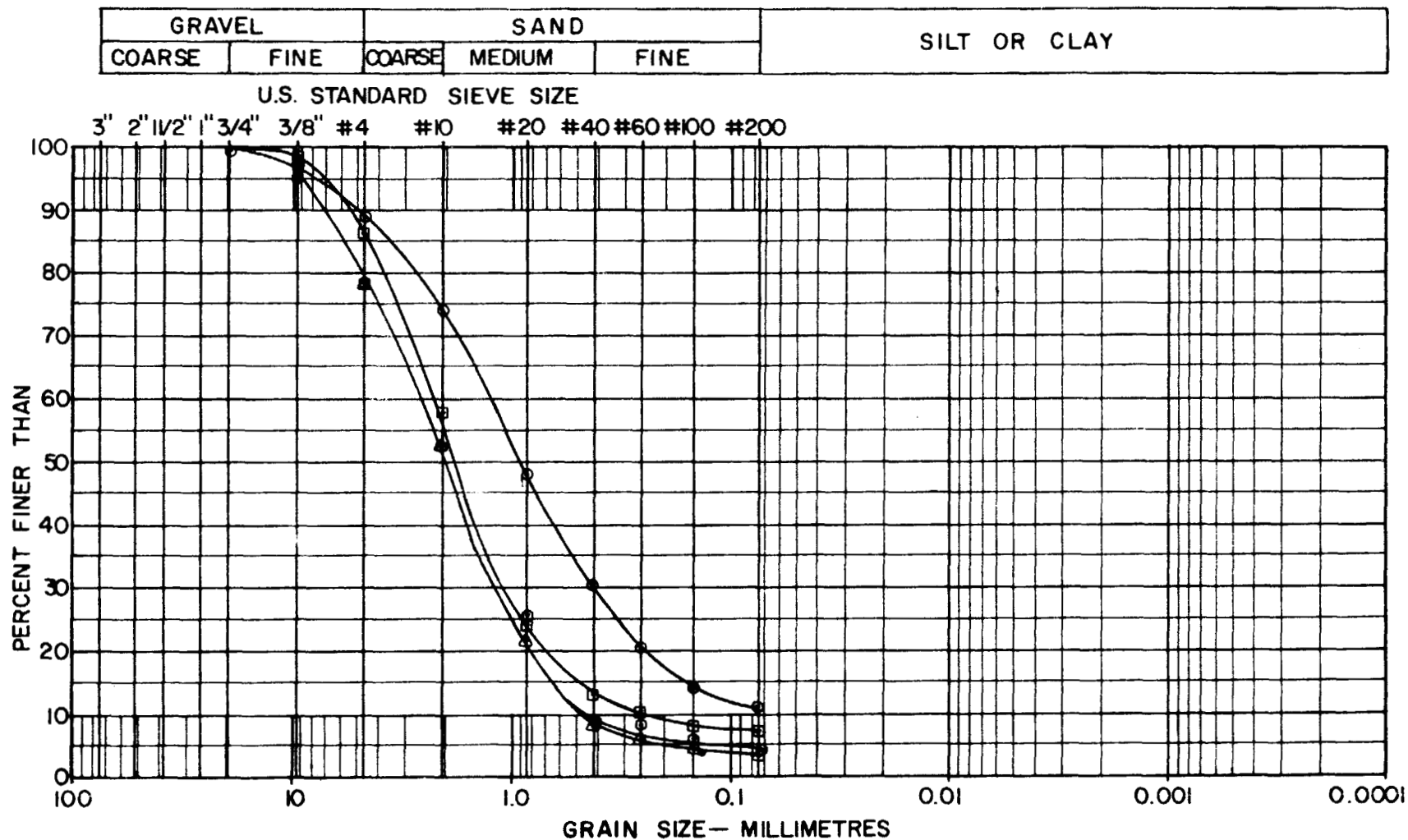
PROJECT

LOCATION 419-B-J

HOLE No.

DEPTH

DATE

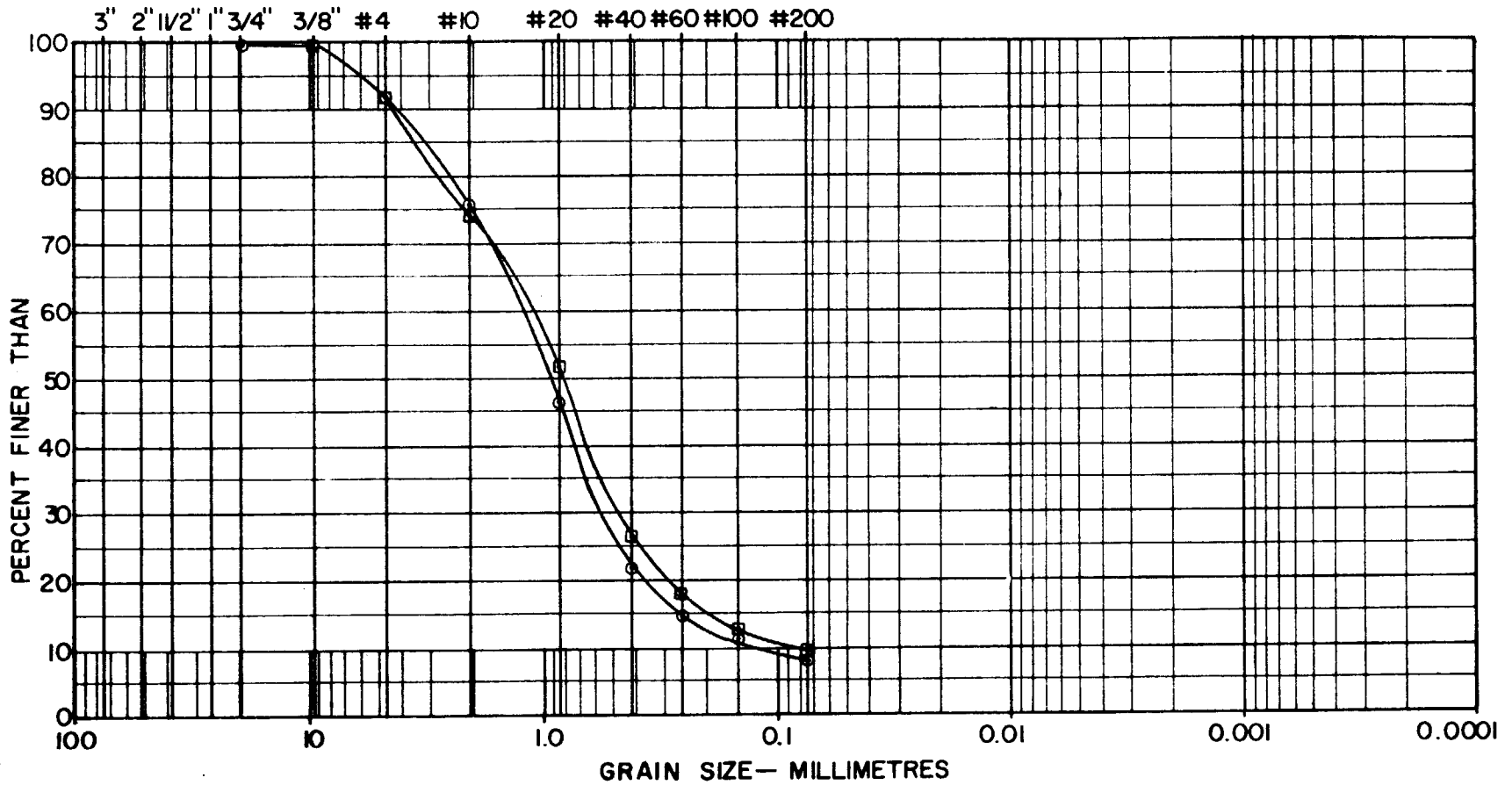




Ripley, Kohn & Leonoff International Ltd.
CONSULTING GEOTECHNICAL ENGINEERS

GRAVEL		SAND			SILT OR CLAY
COARSE	FINE	COARSE	MEDIUM	FINE	

U.S. STANDARD SIEVE SIZE



GRAIN SIZE CURVE

REMARKS: Sample No. 1 - 5 ft.
Sample No. 2 - 10 ft.

JOB No. AL0307

PROJECT

LOCATION 421-B-H

HOLE No.

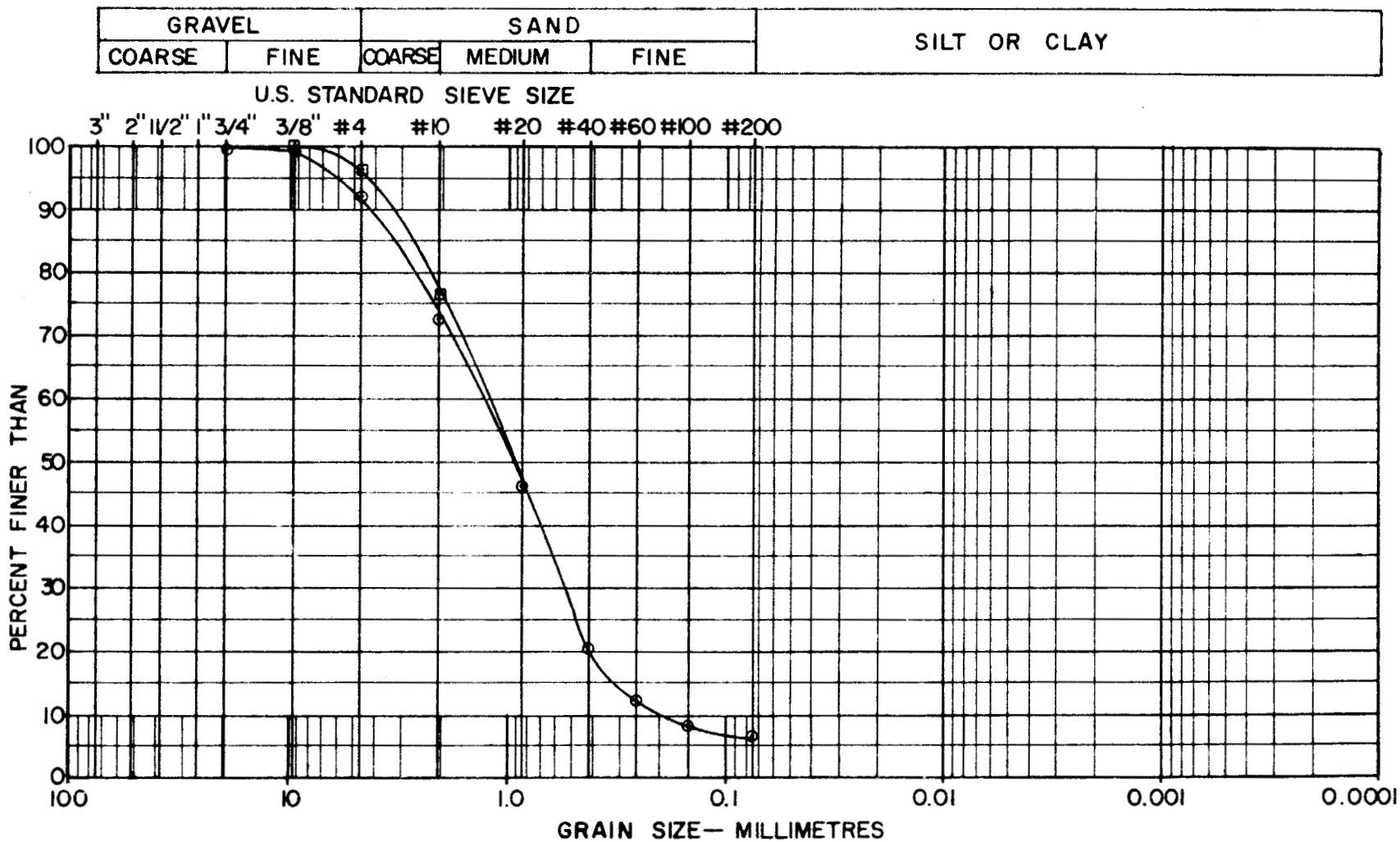
DEPTH

DATE



Ripley, Kohn & Leonoff International Ltd.
CONSULTING GEOTECHNICAL ENGINEERS

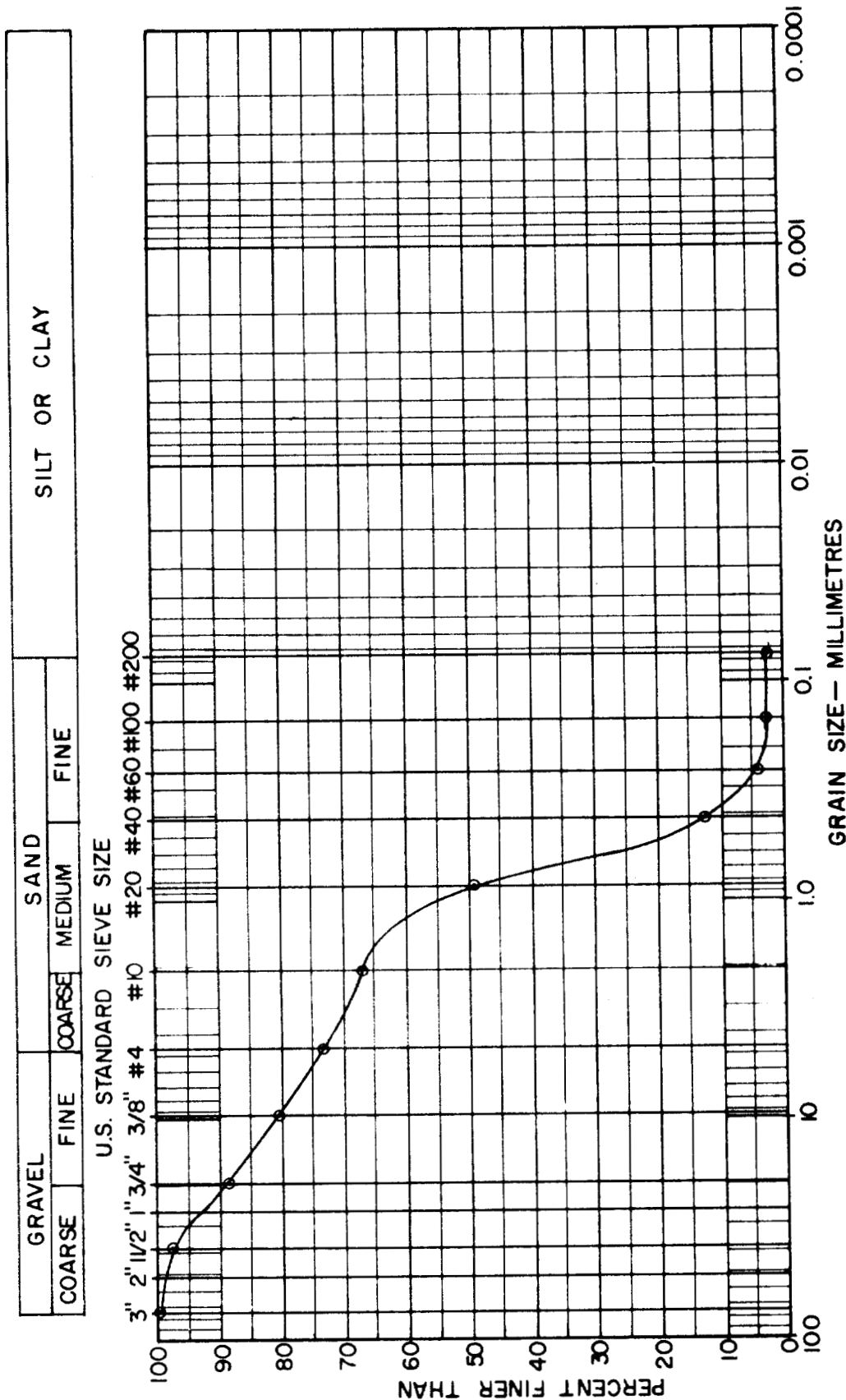
JOB No. AL0307
PROJECT
LOCATION 422-B-H
HOLE No.
DEPTH
DATE



REMARKS: ○ Sample No. 1 - 5 ft.

□ Sample No. 2 - 10 ft.

GRAIN SIZE CURVE



REMARKS: 0 Sample No. 1 - 0 to 5 ft.



Ripley, Kohn & Leonoff International Ltd.
CONSULTING GEOTECHNICAL ENGINEERS

JOB No. AL0307

PROJECT

LOCATION 423-B-T-1

HOLE No.

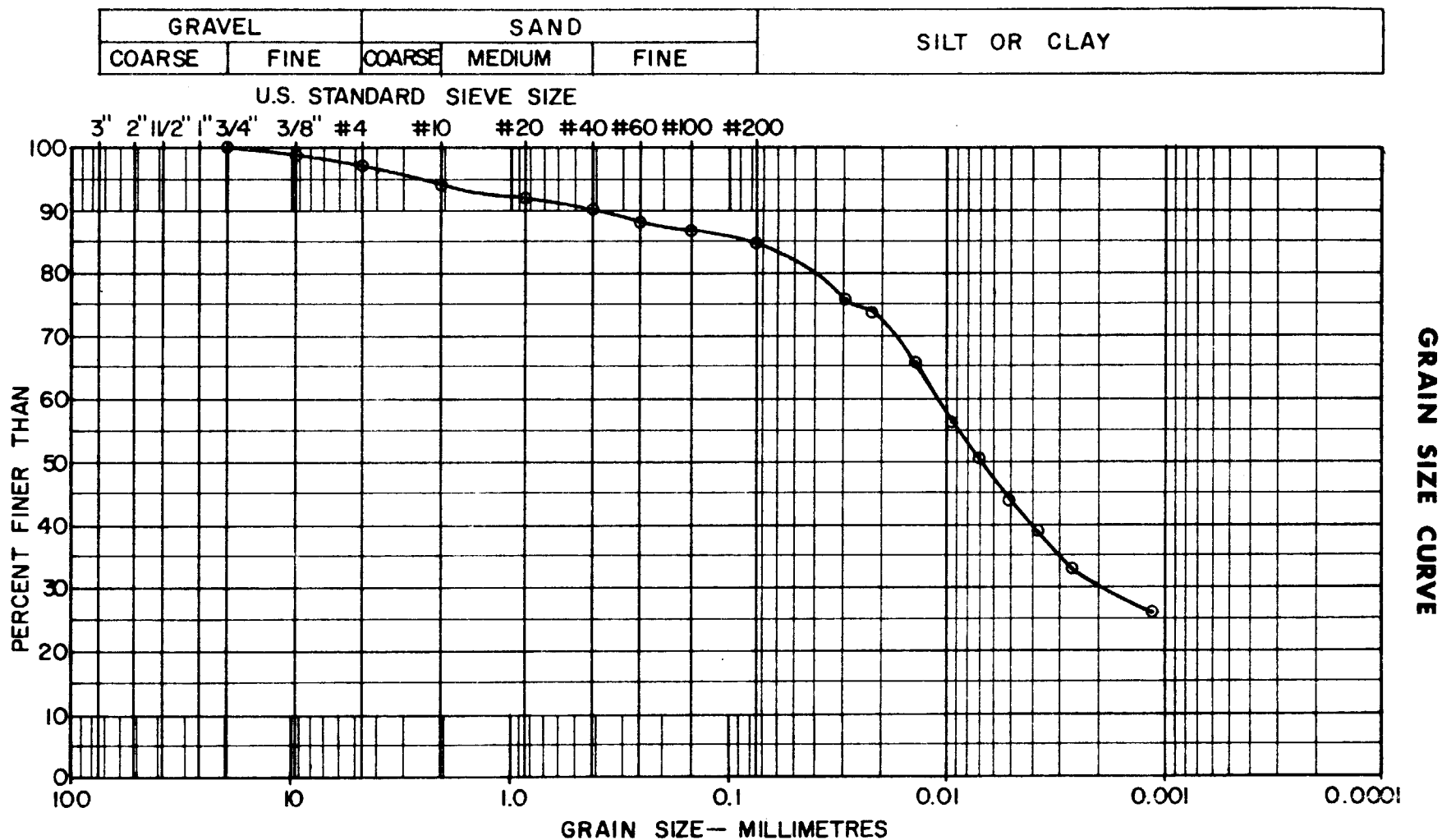
DEPTH

DATE



Ripley, Kohn & Leonoff International Ltd.
CONSULTING GEOTECHNICAL ENGINEERS

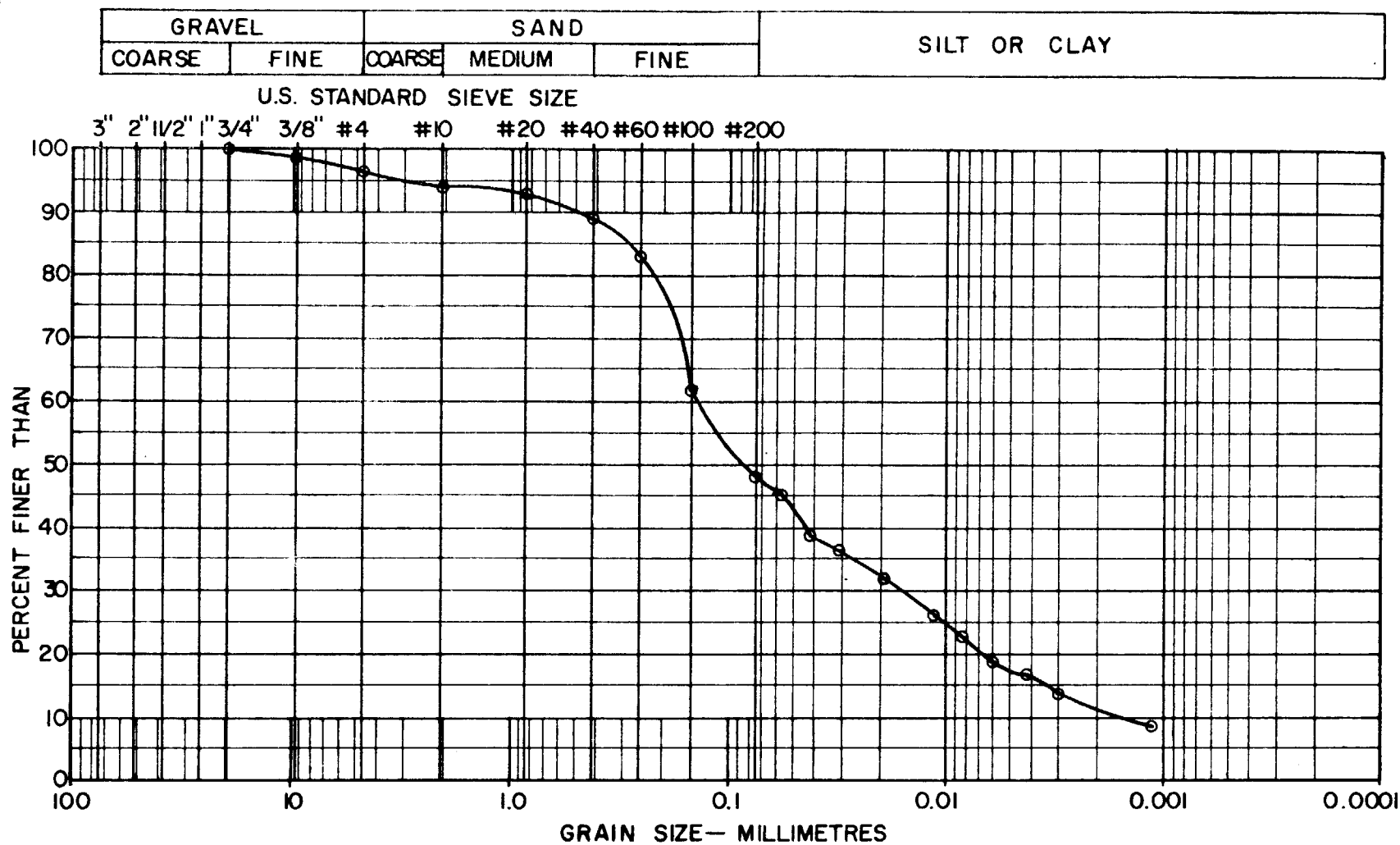
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PROJECT	
LOCATION	426-B-1
HOLE No.	
DEPTH	
DATE	



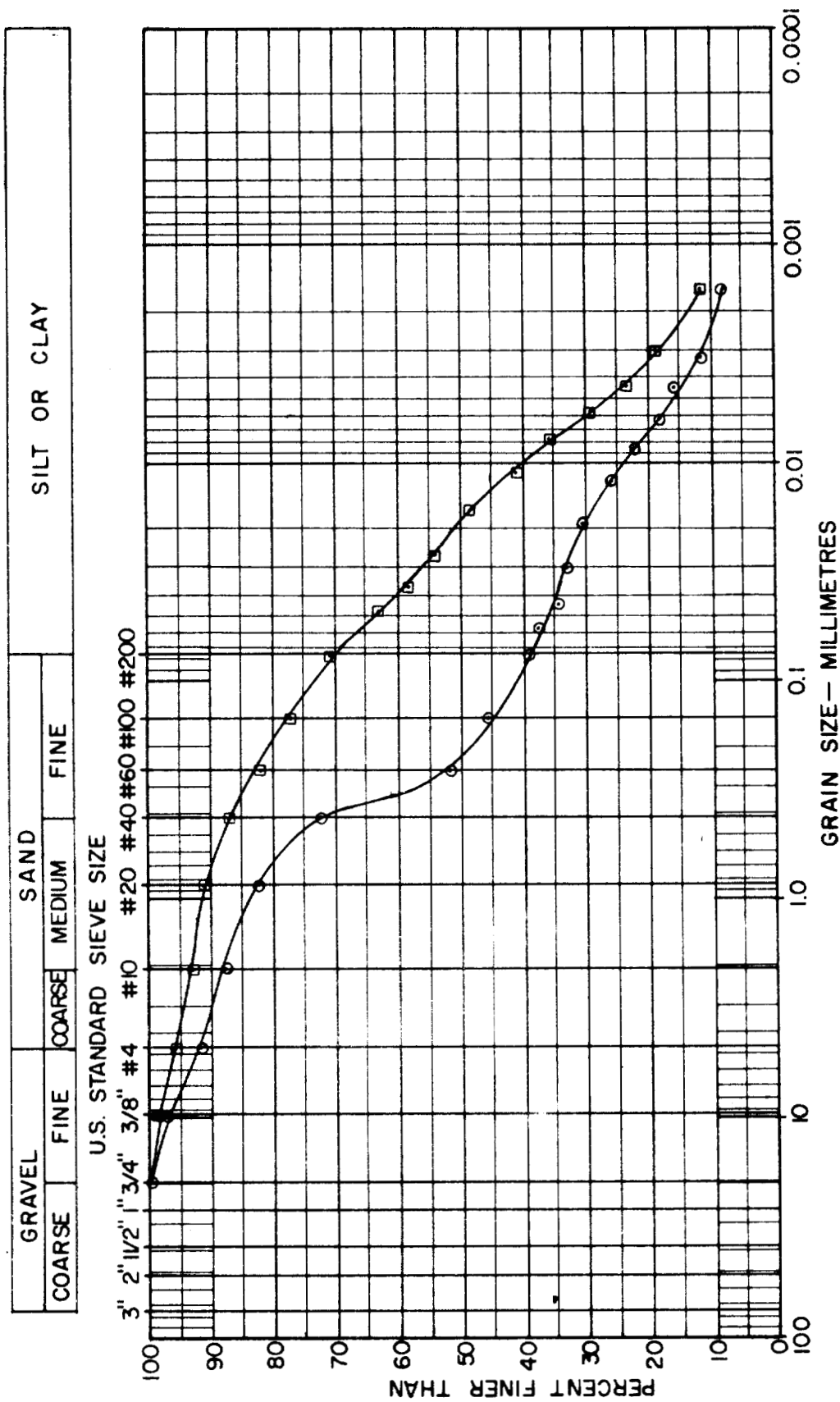


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JOB No. AL0307
PROJECT
LOCATION 426-B-J
HOLE No. DEPTH
DATE



GRAIN SIZE CURVE



REMARKS: @ 5 ft.

@ 10 ft.



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CONSULTING GEOTECHNICAL ENGINEERS

JOB No. AL0307

PROJECT

LOCATION 428-B-G

HOLE No.

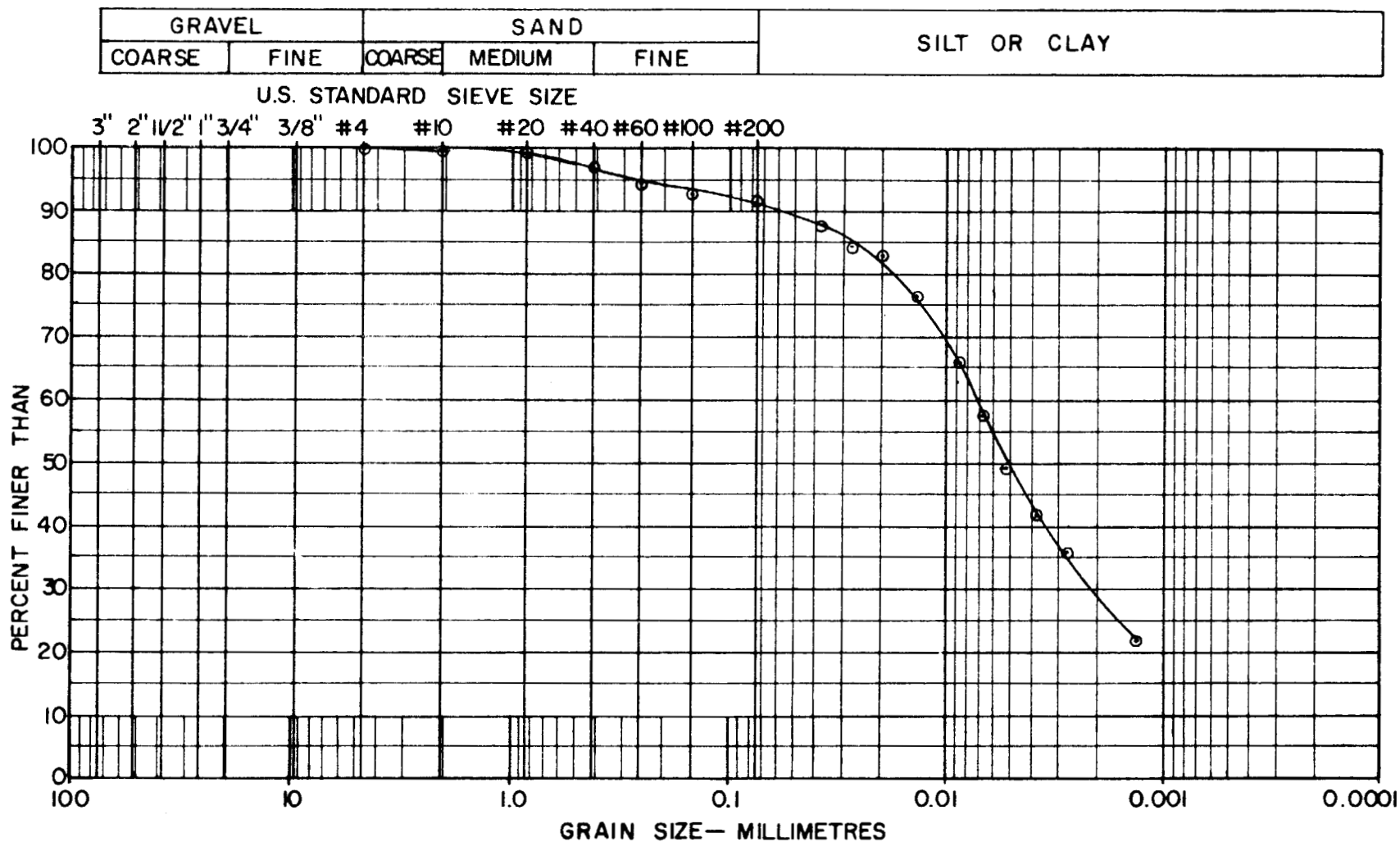
DEPTH

DATE



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CONSULTING GEOTECHNICAL ENGINEERS

JOB No. AL0307
PROJECT
LOCATION 429-B-H
HOLE No. DEPTH
DATE

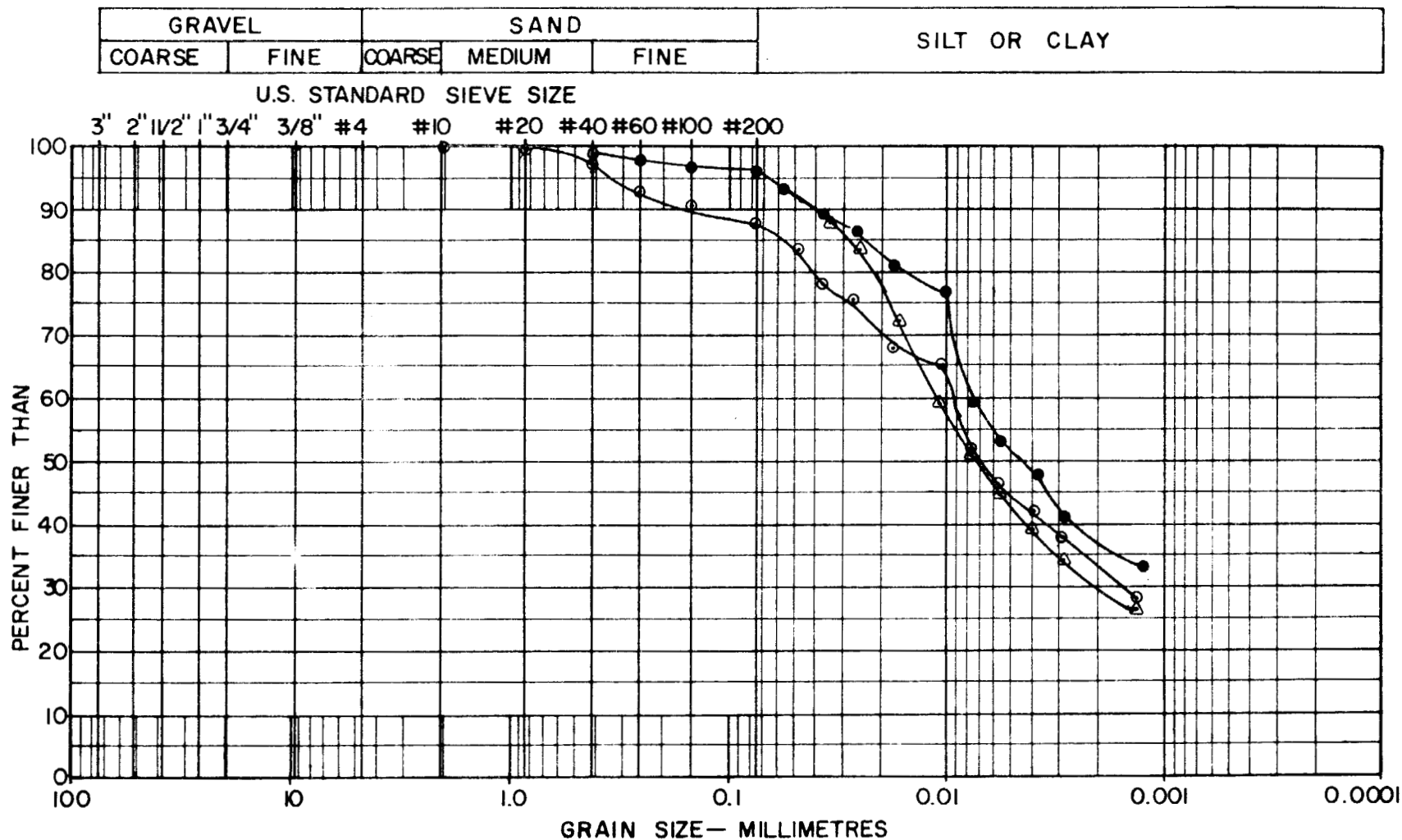


REMARKS: @ 5 ft.



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JOB No. AL0307
PROJECT
LOCATION 429-B-1
HOLE No.
DATE
DEPTH

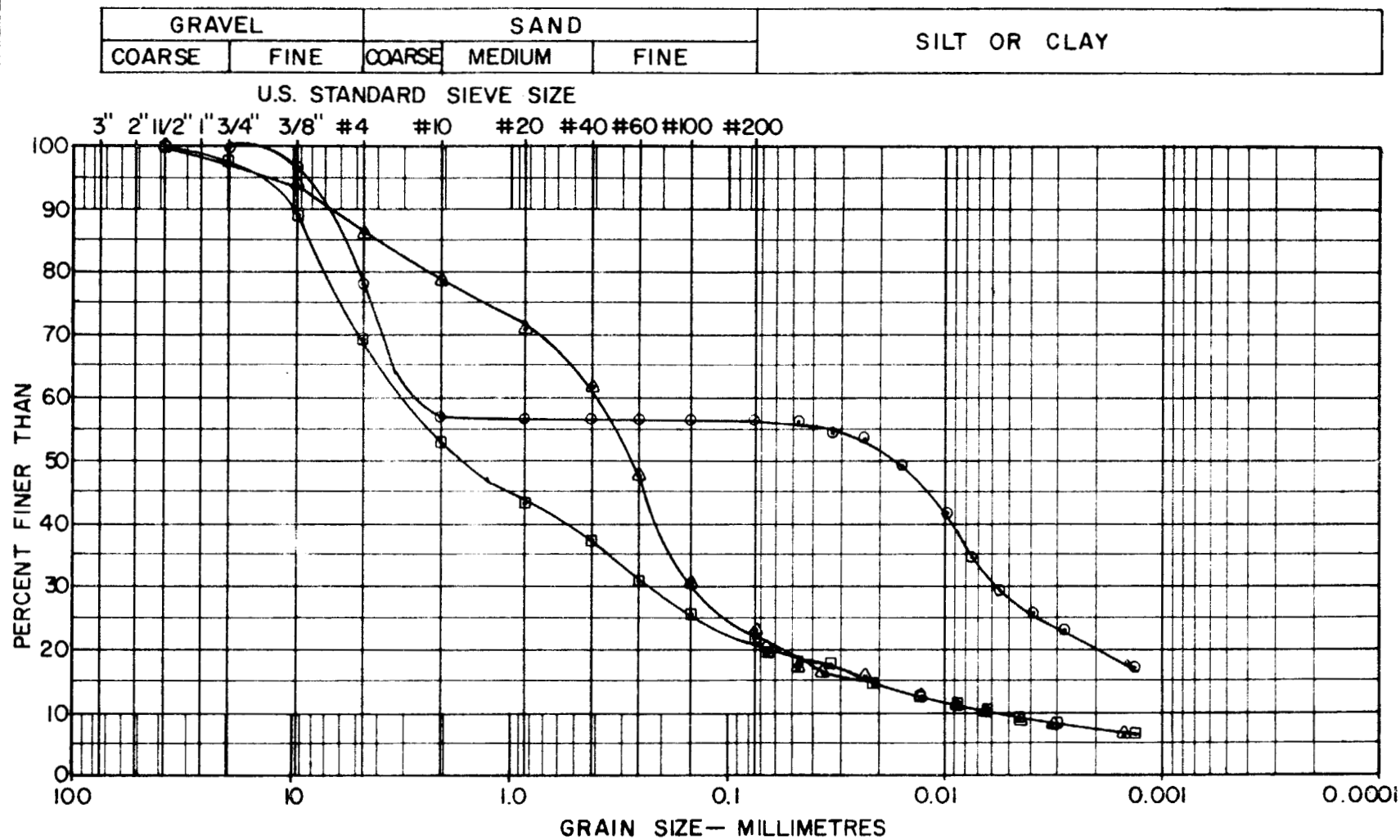




JOB No.	AL0307
PROJECT	
LOCATION	429-B-M

HOLE NO.	DEPTH
----------	-------

DATE _____



REMARKS: ⊙ Sample No. 1 - 5 ft.

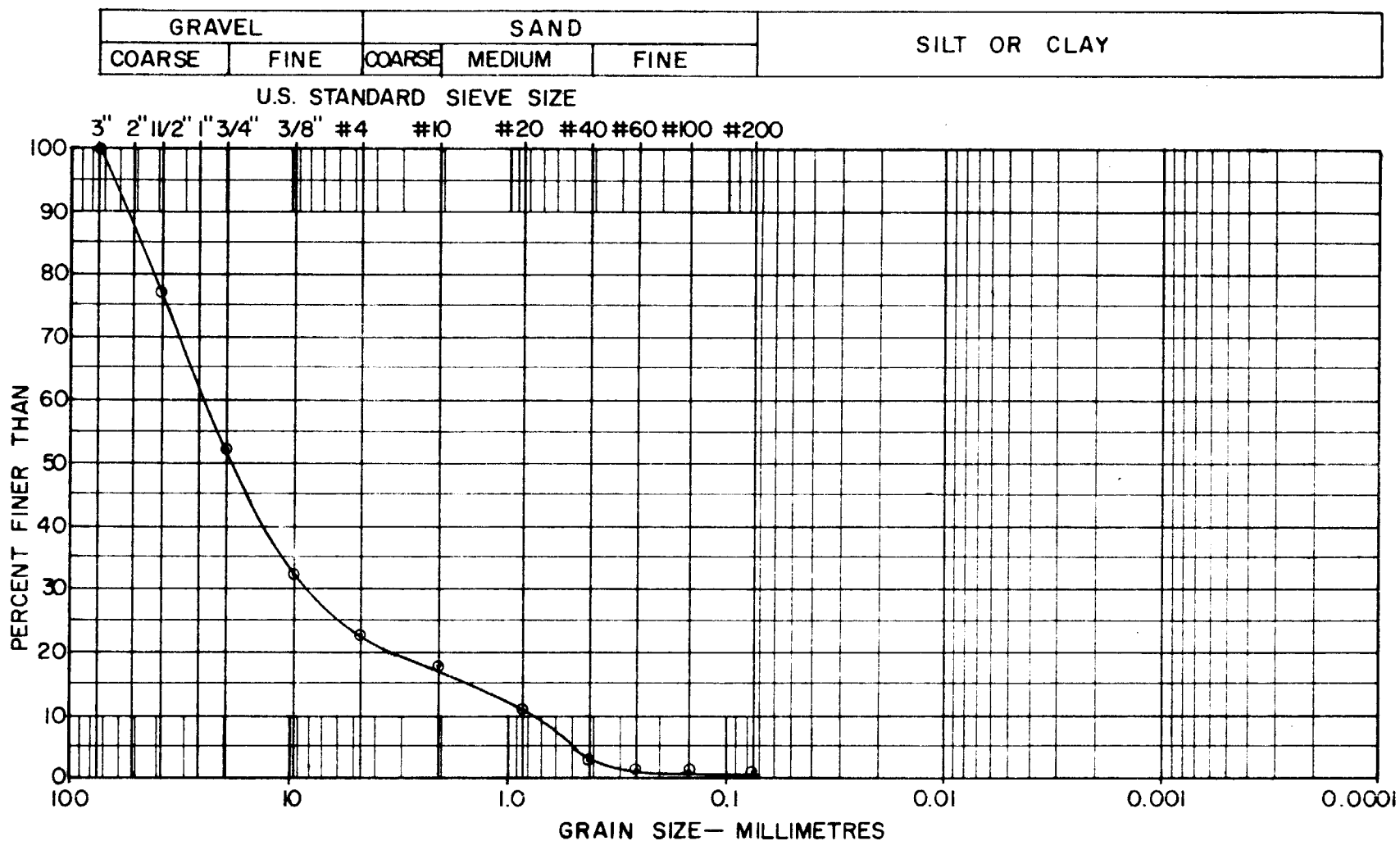
☐ Sample No. 2 - 10 ft.

△ Sample No. 3 - 15 ft.



Ripley, Klohn & Leonoff International Ltd.
CONSULTING GEOTECHNICAL ENGINEERS

JOB No. AL0307
PROJECT
LOCATION 430-B-T-1
HOLE No.
DATE
DEPTH



REMARKS: ☉ Sample No. 1 - 5 to 10 ft.

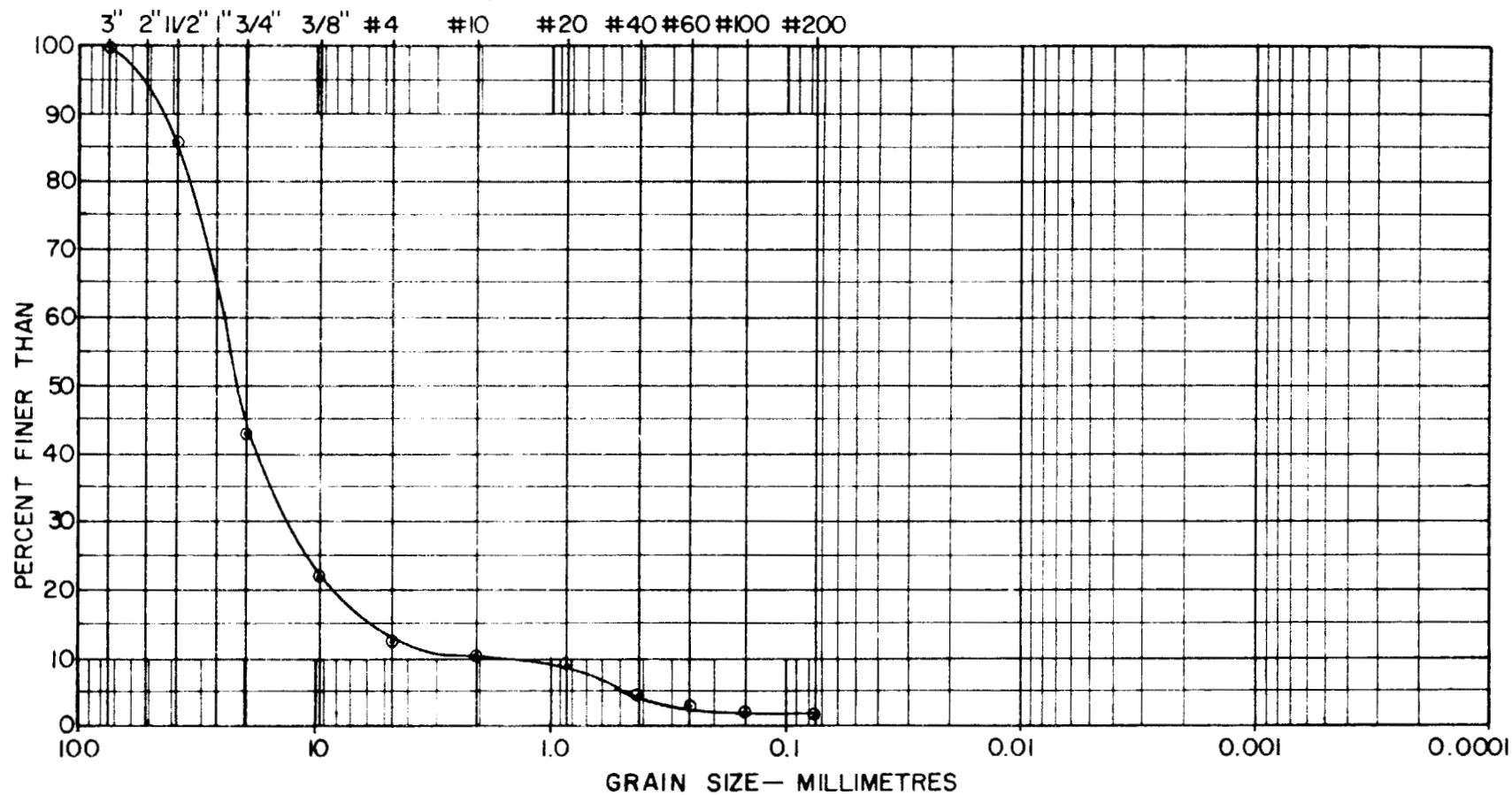
GRAIN SIZE CURVE



Ripley, Klohn & Leonoff International Ltd.
CONSULTING GEOTECHNICAL ENGINEERS

GRAVEL		SAND			SILT OR CLAY
COARSE	FINE	COARSE	MEDIUM	FINE	

U.S. STANDARD SIEVE SIZE



GRAIN SIZE CURVE

REMARKS: ☉ Sample No. 1 - 6 to 11 ft.

JOB No. AL0307

PROJECT

LOCATION 431-B-T-1

HOLE No.

DEPTH

DATE

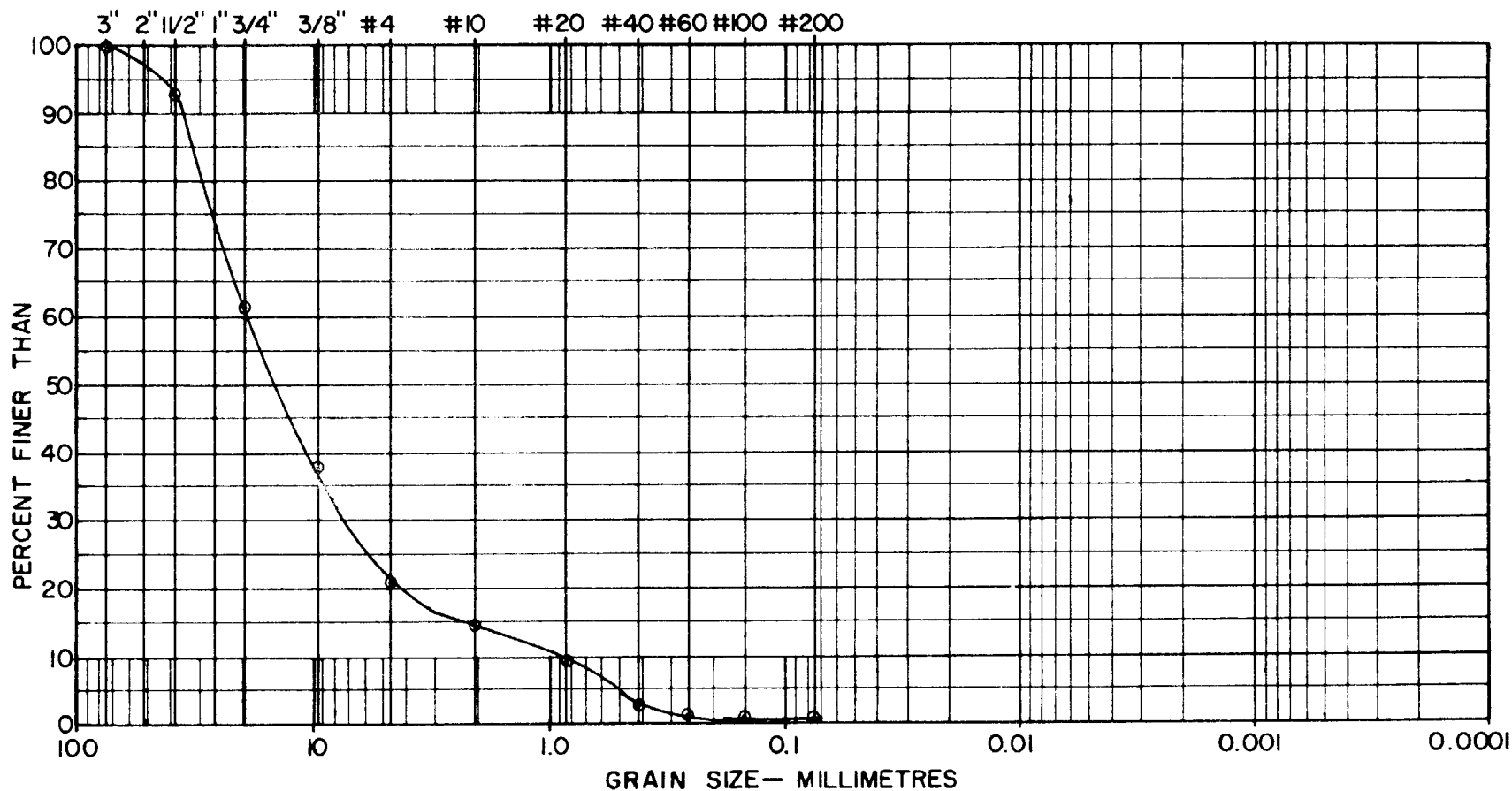


Ripley, Kohn & Leonoff International Ltd.
CONSULTING GEOTECHNICAL ENGINEERS

JOB No.	AL0307
PROJECT	
LOCATION	433-B-T-1
HOLE No.	
DEPTH	
DATE	

GRAVEL		SAND			SILT OR CLAY
COARSE	FINE	COARSE	MEDIUM	FINE	

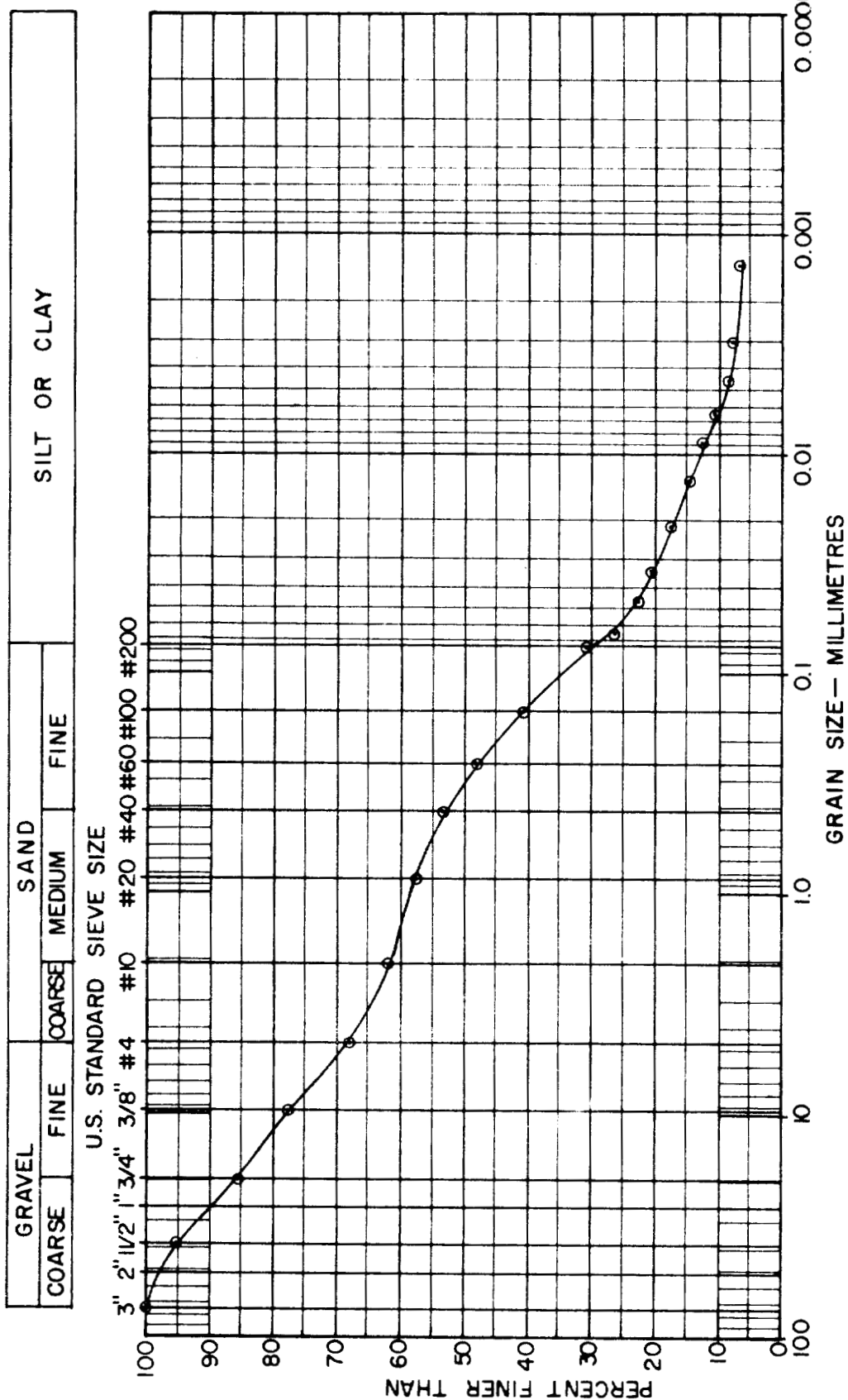
U.S. STANDARD SIEVE SIZE



REMARKS: @ - 4 ft. - 9 ft.

GRAIN SIZE CURVE

GRAIN SIZE CURVE



REMARKS: @ - 3 ft. - 7 ft.



Ripley, Kohn & Leonoff International Ltd.
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JOB No. AL0307

PROJECT

LOCATION 435-B-T-1

HOLE No. DEPTH

DATE



Ripley, Kohn & Leonoff International Ltd.
CONSULTING GEOTECHNICAL ENGINEERS

JOB No. AL0307

PROJECT

LOCATION 437-B-T-1

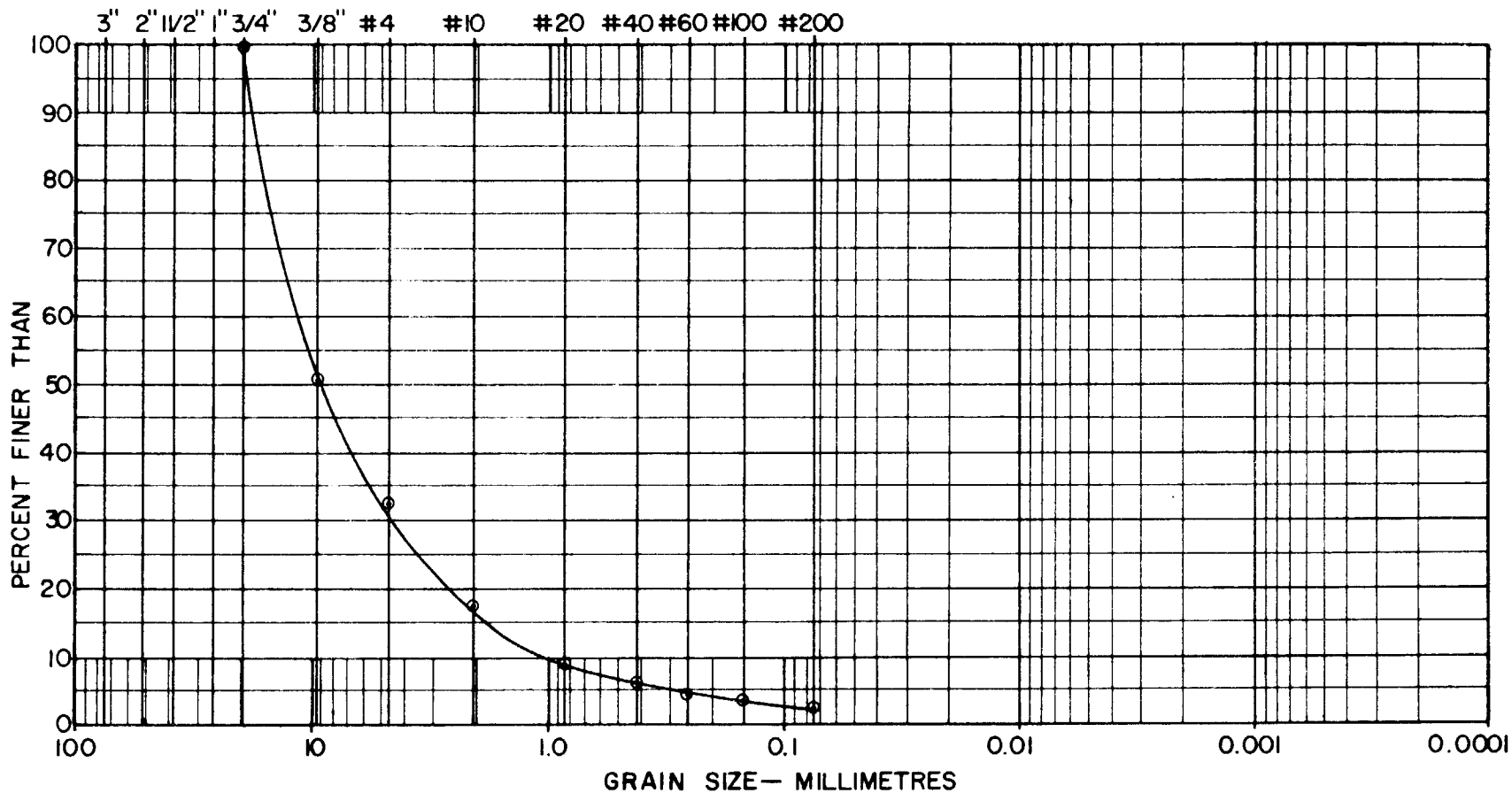
HOLE No.

DEPTH

DATE

GRAVEL		SAND			SILT OR CLAY
COARSE	FINE	COARSE	MEDIUM	FINE	

U.S. STANDARD SIEVE SIZE





Ripley, Klohn & Leonoff International Ltd.
CONSULTING GEOTECHNICAL ENGINEERS

JOB No. AL0307

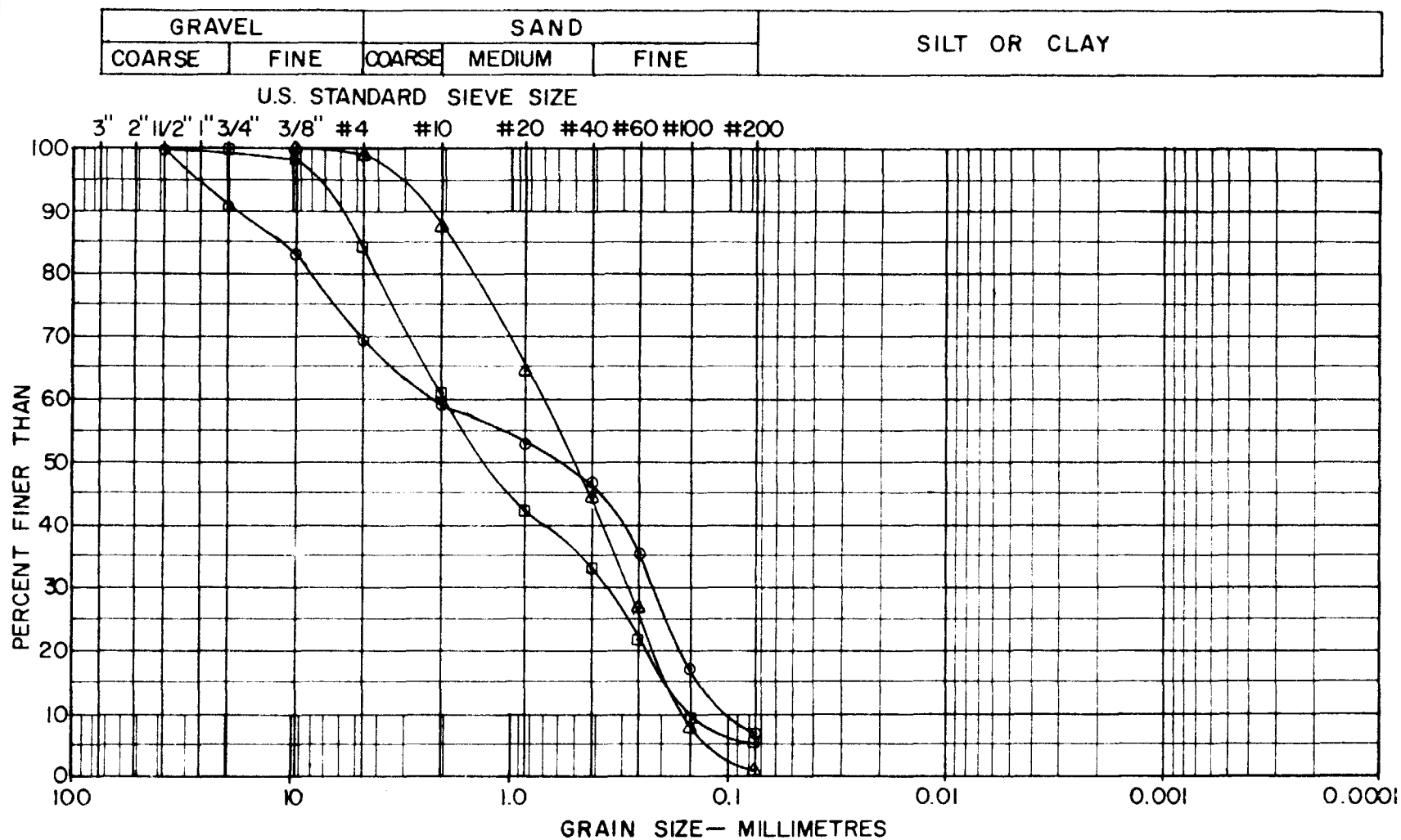
PROJECT

LOCATION 438-B-G

HOLE No.

DEPTH

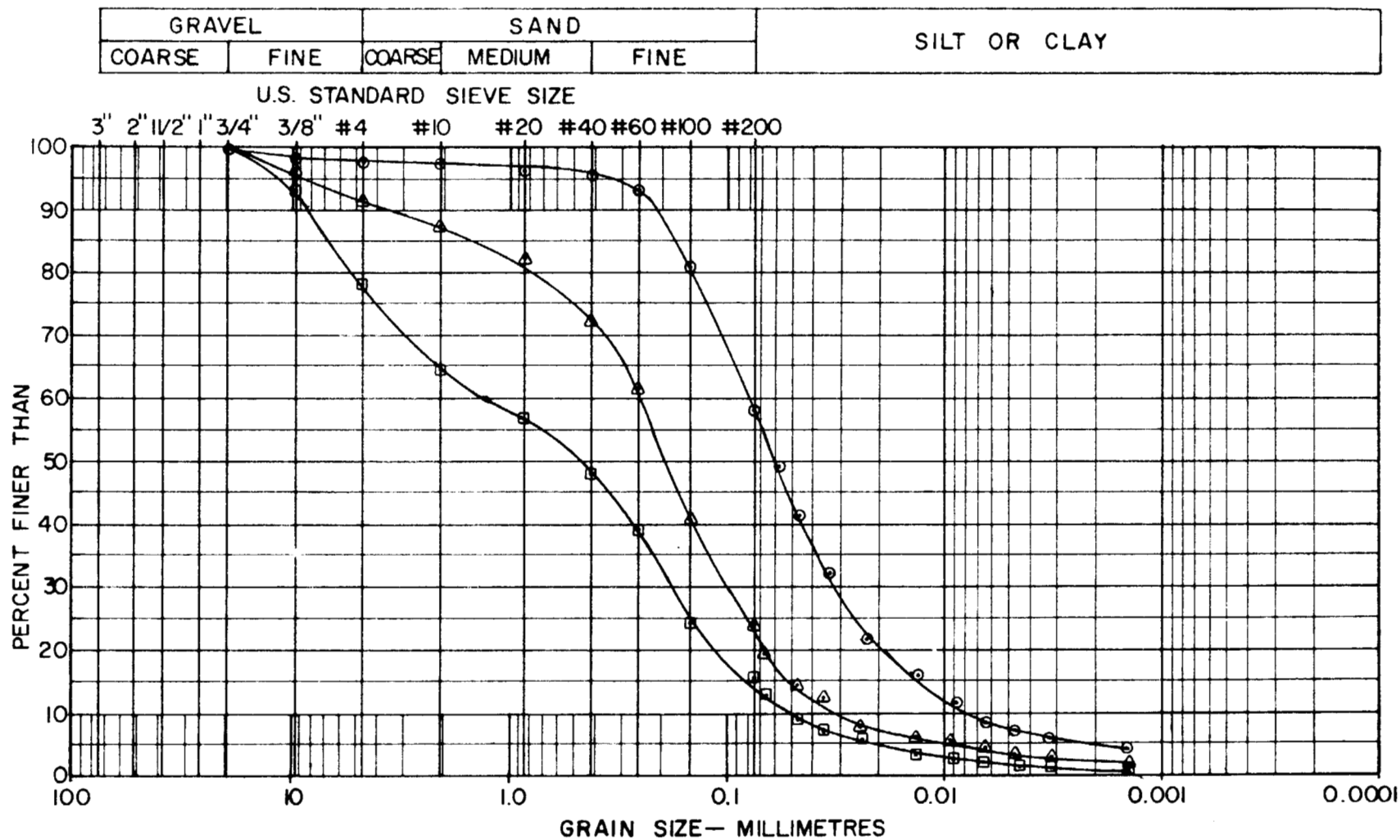
DATE



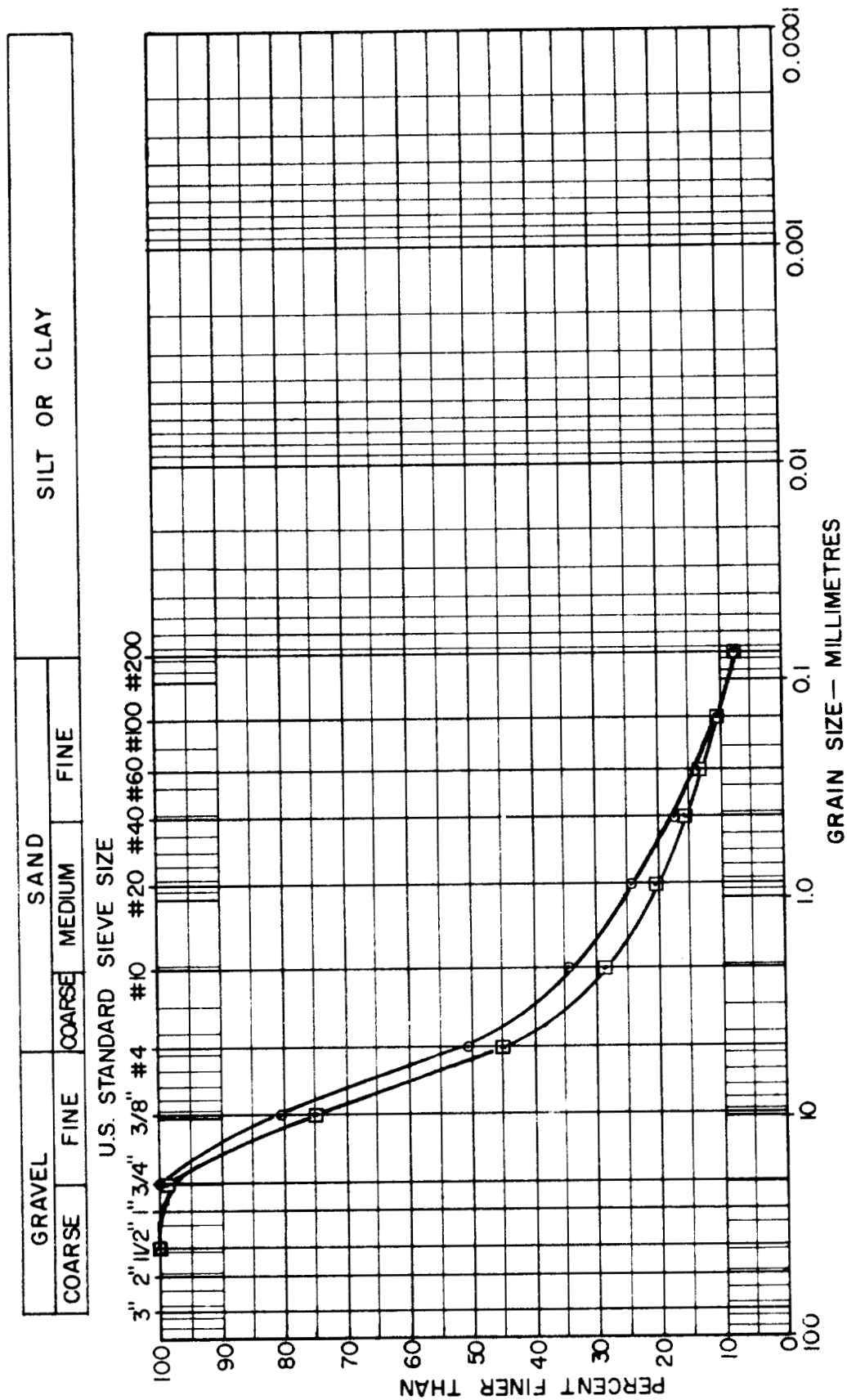


Ripley, Klohn & Leonoff International Ltd.
CONSULTING GEOTECHNICAL ENGINEERS

JOB No.	AL0307
PROJECT	
LOCATION	438-B-H
HOLE No.	
DEPTH	
DATE	



GRAIN SIZE CURVE



REMARKS: ☒ Sample No. 4 - 18 to 25 ft.

☒ Sample No. 5 - 25 to 30 ft.



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CONSULTING GEOTECHNICAL ENGINEERS

JOB No. AL0307

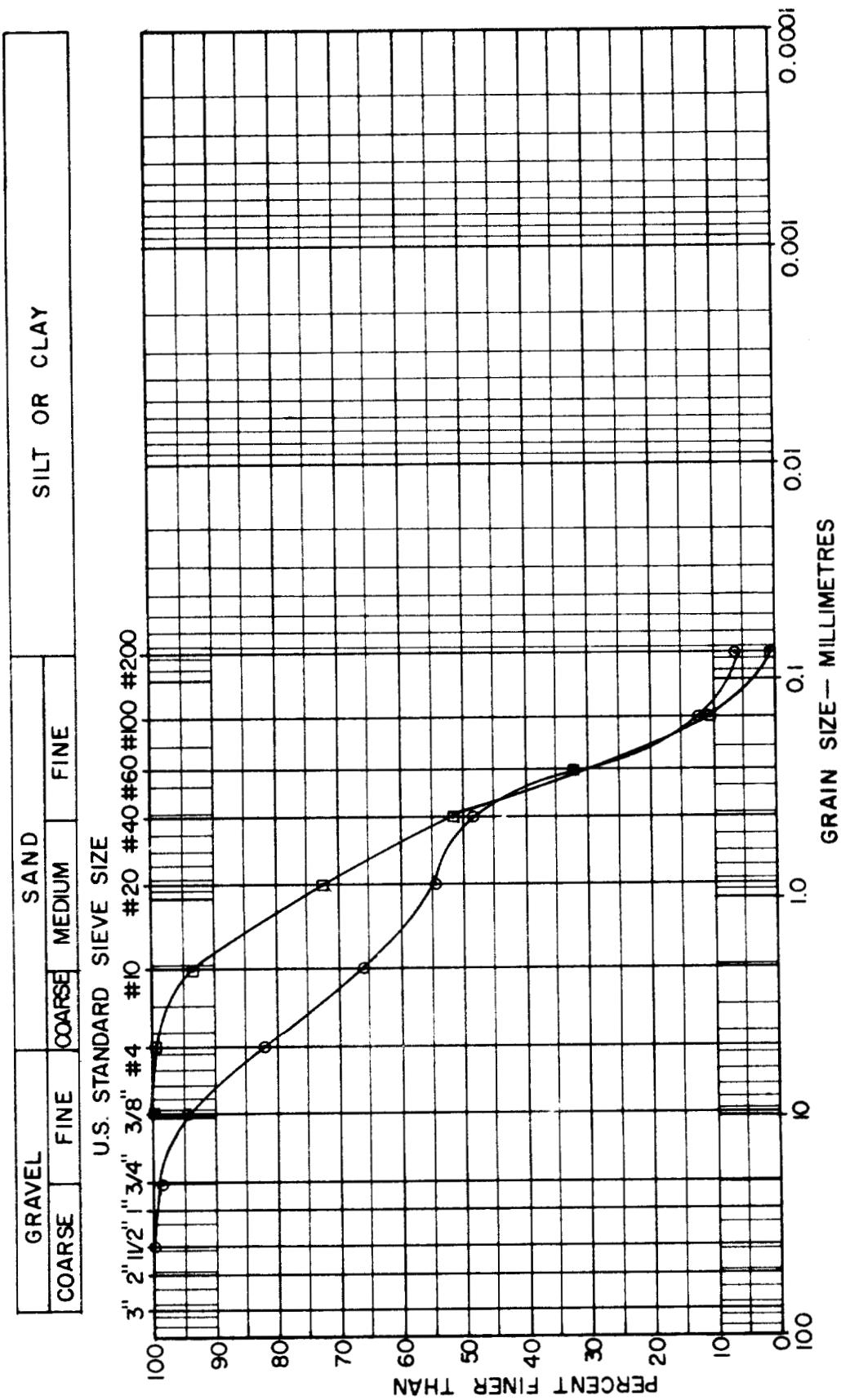
PROJECT

LOCATION 438-B-H

HOLE No. DEPTH

DATE

GRAIN SIZE CURVE



Sample No. 1 - 1 to 5 ft.

Sample No. 2 - 5 to 10 ft.

REMARKS: ©



Ripley, Klohn & Leonoff International Ltd.
CONSULTING GEOTECHNICAL ENGINEERS

JOB No. AL0307

PROJECT

LOCATION 438-B-K

HOLE No.

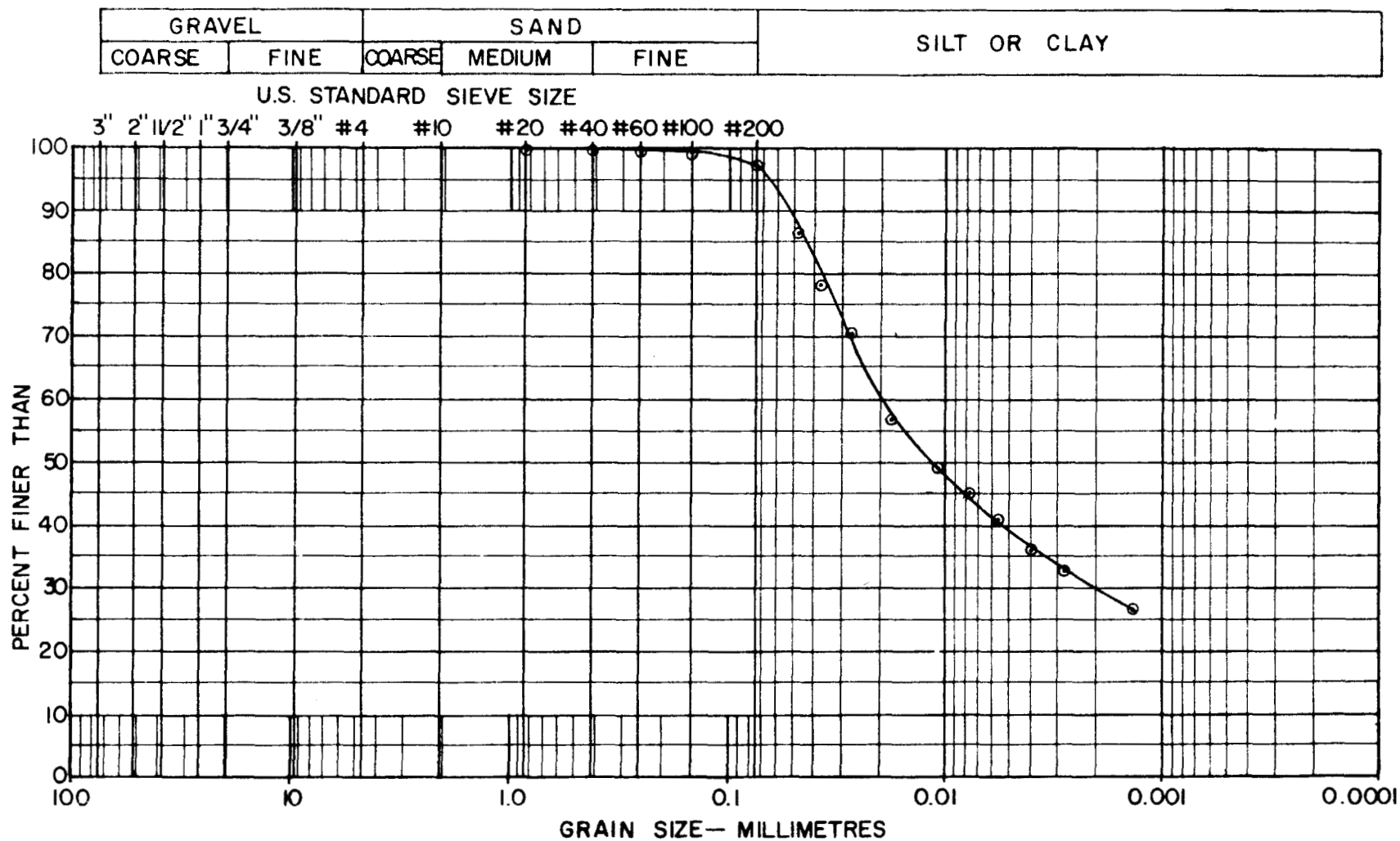
DEPTH

DATE _____



Ripley, Kohn & Leonoff International Ltd.
CONSULTING GEOTECHNICAL ENGINEERS

JOB No. AL0307
PROJECT
LOCATION 443-B-J
HOLE No.
DEPTH
DATE



REMARKS: Sample No. 1 - 1 to 5 ft.



Ripley, Kohn & Leonoff International Ltd.

JOB No. AL0307

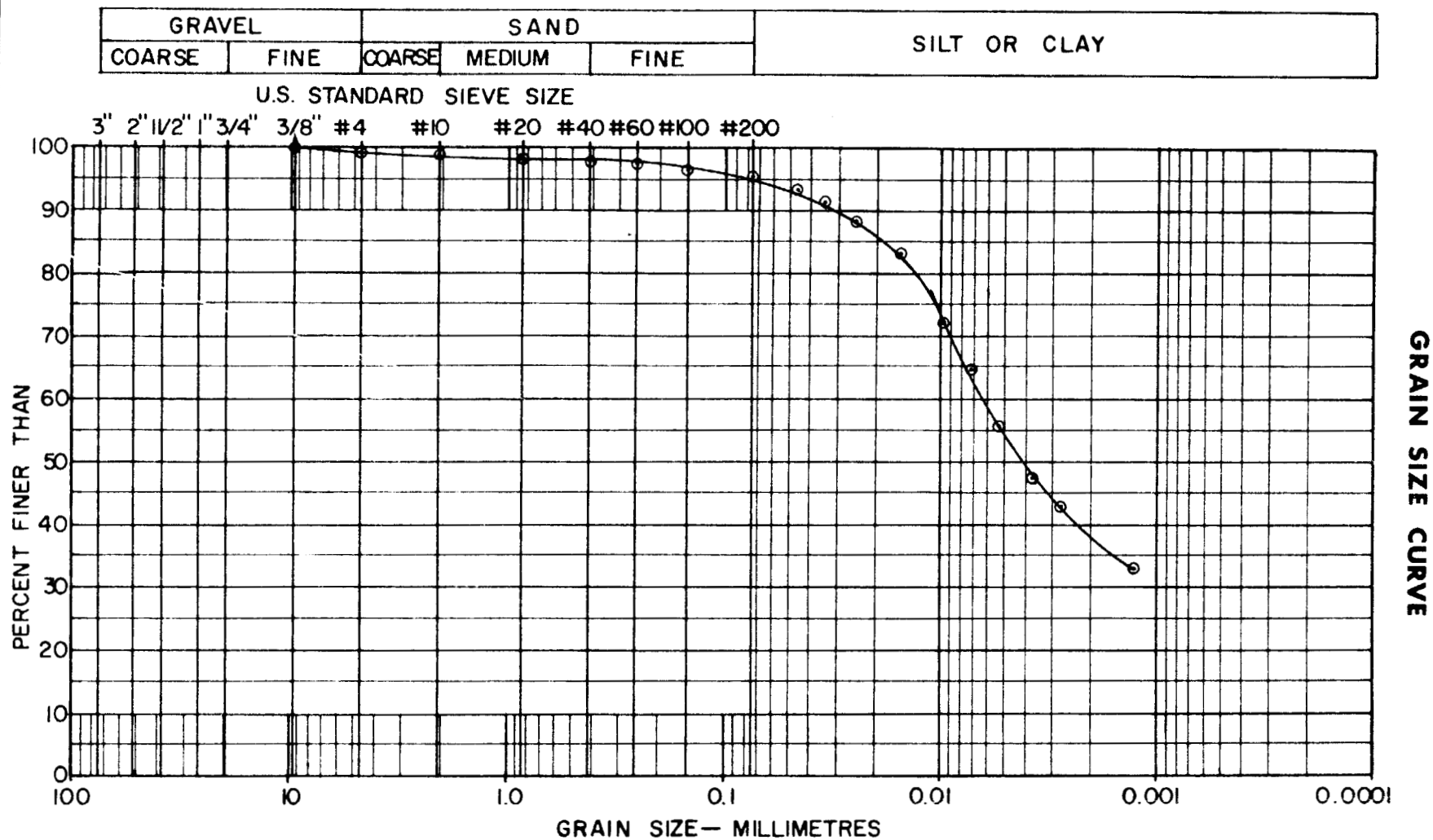
PROJECT

LOCATION 445-B-Z

HOLE No.

DEPTH

DATE _____



REMARKS: ⊙ Sample No. 2 - 5 to 10 ft.



Ripley, Klonh & Leonoff International Ltd.

JOB No. AL0307

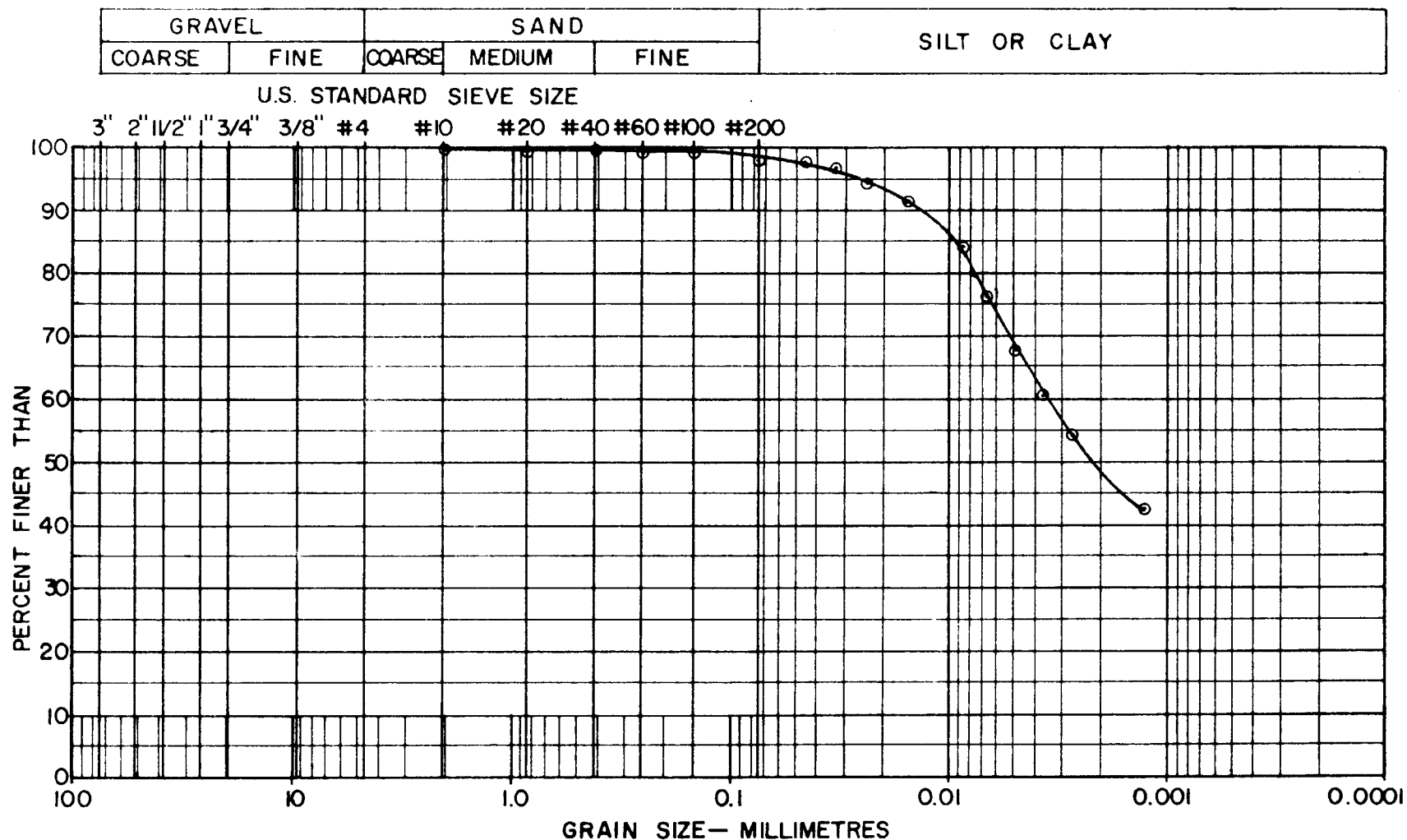
PROJECT

LOCATION 447-B-J

HOLE No.

DEPTH

DATE _____



REMARKS: o Sample No. 3 - 7 to 14 ft.

GRAIN SIZE CURVE

PART II

BORROW AREA EVALUATION SHEETS



ACRES CONSULTING SERVICES
990 PALLISER SQUARE EAST, CALGARY, ALBERTA

GEOTECHNICAL INVESTIGATIONS - MACKENZIE HIGHWAY

Borrow Area Evaluation

Borrow Area: No. 350 1
(mi.) (no.)

Location: Chainage 350-C-A Offset 2000' L L/R

Access: From chainage _____ distance _____ ft.

Approximate Area 900,000 sq yd

Hole No.	350-C-A	349-C-D	349 -C-C	349 -C-E	349 C-F	Est. cu yd
Yards strip	.25	.25	.25	.25	.66	300,000
I-Class fill	1.6		1.6	1.6		900,000
II-Class fill						
III-Class fill		1.6			1.3	530,000
Total Fill						1,430,000
Strip/Fill						

NOTE:

- I - Class Fill - Granular materials, (D₄₀ > .2mm)
Gravel Sandy till, etc.
- II - Class Fill - Clay, (Clayey till) (> 40% Clay)
- III - Class Fill - Silt, Silty Till (D₅₀ < .06 mm).

REMARKS:

Page of



ACRES CONSULTING SERVICES
990 PALLISER SQUARE EAST, CALGARY, ALBERTA

GEOTECHNICAL INVESTIGATIONS - MACKENZIE HIGHWAY

Borrow Area Evaluation

Borrow Area: No. 353 1
(mi.) (no.)

Location: Chainage 288+00 Offset 800' R L/R

Access: From chainage 280+50 distance 800 ft.

Approximate Area 100,000 sq yd

Hole No.	353- C-B	353- C-C	353- C-D			Est. cu yd
Yards strip	.66	.66	.66			66,000
I-Class fill	1.0					33,000
II-Class fill						
III-Class fill		1.0	1.0			66,000
Total Fill						99,000
Strip/Fill						

NOTE:

- I - Class Fill - Granular materials, (D40 > .2mm)
Gravel Sandy till, etc.
- II - Class Fill - Clay, (Clayey till) (> 40% Clay)
- III - Class Fill - Silt, Silty Till (D50 < .06 mm).



ACRES CONSULTING SERVICES
990 PALLISER SQUARE EAST, CALGARY, ALBERTA

GEOTECHNICAL INVESTIGATIONS - MACKENZIE HIGHWAY

Borrow Area Evaluation

Borrow Area: No. 355 1
(mi.) (no.)

Location: Chainage 447+00 Offset 100' R L/R

Access: From chainage 446+00 distance ON C.L. ft.

Approximate Area 70,000 sq yd

Hole No.	355-C-D					Est. cu yd
Yards strip	.5					35,000
I-Class fill						
II-Class fill						
III-Class fill	2.0					140,000
Total Fill						140,000
Strip/Fill						

NOTE:

- I - Class Fill - Granular materials, (D40 > .2mm)
Gravel Sandy till, etc.
- II - Class Fill - Clay, (Clayey till) (> 40% Clay)
- III - Class Fill - Silt, Silty Till (D50 < .06 mm).



ACRES CONSULTING SERVICES
990 PALLISER SQUARE EAST, CALGARY, ALBERTA

GEOTECHNICAL INVESTIGATIONS - MACKENZIE HIGHWAY

Borrow Area Evaluation

Borrow Area: No. 355 2
(mi.) (no.)

Location: Chainage 426+00 Offset 900' R L/R

Access: From chainage 442+00 distance 1500 ft.

Approximate Area 130,000 sq yd

Hole No.	355- B-T-2	355- B-L	355- B-M	355- B-K		Est. cu yd
Yards strip	.25	.25	.25	.25		32,000
I-Class fill			3.0	3.0		190,000
II-Class fill						
III-Class fill	3.0	3.0				190,000
Total Fill						380,000
Strip/Fill						

NOTE:

- I - Class Fill - Granular materials, (D₄₀ > .2mm)
Gravel Sandy till, etc.
- II - Class Fill - Clay, (Clayey till) (> 40% Clay)
- III - Class Fill - Silt, Silty Till (D₅₀ < .06 mm).



ACRES CONSULTING SERVICES
990 PALLISER SQUARE EAST, CALGARY, ALBERTA

GEOTECHNICAL INVESTIGATIONS - MACKENZIE HIGHWAY

Borrow Area Evaluation

Borrow Area: No. 356 1
(mi.) (no.)

Location: Chainage 495+00 Offset ON C.L. L/R

Access: From chainage 495+00 distance ON C.L. ft.

Approximate Area 140,000 sq yd

Hole No.	356- C-D	356- B-T-1	356- B-H			Est. cu yd
Yards strip	.25	.25	.25			35,000
I-Class fill		1.3				60,000
II-Class fill						
III-Class fill	1.3		1.3			120,000
Total Fill						180,000
Strip/Fill						

NOTE:

- I - Class Fill - Granular materials, (D₄₀ > .2mm)
Gravel Sandy till, etc.
- II - Class Fill - Clay, (Clayey till) (> 40% Clay)
- III - Class Fill - Silt, Silty Till (D₅₀ < .06 mm).



ACRES CONSULTING SERVICES
990 PALLISER SQUARE EAST, CALGARY, ALBERTA

GEOTECHNICAL INVESTIGATIONS - MACKENZIE HIGHWAY

Borrow Area Evaluation

Borrow Area: No. 356 2
(mi.) (no.)

Location: Chainage 507+30 Offset 1,100' R L/R

Access: From chainage 507+30 distance 1,100 ft.

Approximate Area 50,000 sq yd

Hole No.	356- B-T-2	356- B-B				Est. cu yd
Yards strip	.25	.25				13,000
I-Class fill	1.6	1.6				80,000
II-Class fill						
III-Class fill						
Total Fill						80,000
Strip/Fill						

NOTE:

- I - Class Fill - Granular materials, (D40 > .2mm)
Gravel Sandy till, etc.
- II - Class Fill - Clay, (Clayey till) (> 40% Clay)
- III - Class Fill - Silt, Silty Till (D50 < .06 mm).



ACRES CONSULTING SERVICES

990 PALLISER SQUARE EAST, CALGARY, ALBERTA

GEOTECHNICAL INVESTIGATIONS - MACKENZIE HIGHWAY

Borrow Area Evaluation

Borrow Area: No. 360 1
(mi.) (no.)

Location: Chainage 716+00 Offset 1,100' L L/R

Access: From chainage _____ distance _____ ft.

Approximate Area 100,000 sq yd

Hole No.	360- B-T-1	360- B-H				Est. cu yd
Yards strip	.25	.25				25,000
I-Class fill	.66					66,000
II-Class fill						
III-Class fill	1.0	6.0				700,000
Total Fill						766,000
Strip/Fill						

NOTE:

- I - Class Fill - Granular materials, (D40 > .2mm)
Gravel Sandy till, etc.
- II - Class Fill - Clay, (Clayey till) (> 40% Clay)
- III - Class Fill - Silt, Silty Till (D50 < .06 mm).



ACRES CONSULTING SERVICES
990 PALLISER SQUARE EAST, CALGARY, ALBERTA

GEOTECHNICAL INVESTIGATIONS - MACKENZIE HIGHWAY

Borrow Area Evaluation

Borrow Area: No. 360 2
(mi.) (no.)

Location: Chainage 706+00 Offset ON E L/R

Access: From chainage 706+00 distance ON E ft.

Approximate Area 100,000 sq yd

Hole No.	360- C-C	360- C-D				Est. cu yd
Yards strip	.25	.25				25,000
I-Class fill	1.65					80,000
II-Class fill						
III-Class fill		2.3				100,000
Total Fill						180,000
Strip/Fill						

NOTE:

- I - Class Fill - Granular materials, (D40 > .2mm)
Gravel Sandy till, etc.
- II - Class Fill - Clay, (Clayey till) (> 40% Clay)
- III - Class Fill - Silt, Silty Till (D50 < .06 mm).



ACRES CONSULTING SERVICES
990 PALLISER SQUARE EAST, CALGARY, ALBERTA

GEOTECHNICAL INVESTIGATIONS - MACKENZIE HIGHWAY

Borrow Area Evaluation

Borrow Area: No. 360 3
(mi.) (no.)

Location: Chainage 393+00 Offset On E L/R

Access: From chainage 393+00 distance ON E ft.

Approximate Area 27,000 sq yd

Hole No.	360- C-F					Est. cu yd
Yards strip	.25					6,900
I-Class fill	1.7					45,000
II-Class fill						
III-Class fill						
Total Fill						45,000
Strip/Fill						

NOTE:

- I - Class Fill - Granular materials, (D₄₀ > .2mm)
Gravel Sandy till, etc.
- II - Class Fill - Clay, (Clayey till) (> 40% Clay)
- III - Class Fill - Silt, Silty Till (D₅₀ < .06 mm).



ACRES CONSULTING SERVICES
990 PALLISER SQUARE EAST, CALGARY, ALBERTA

GEOTECHNICAL INVESTIGATIONS - MACKENZIE HIGHWAY

Borrow Area Evaluation

Borrow Area: No. 361 1
(mi.) (no.)

Location: Chainage 740+00 Offset 3,000' ON C.L. L/R

Access: From chainage _____ distance _____ ft.

Approximate Area 50,000 sq yd

Hole No.	361- C-F	361- C-G				Est. cu yd
Yards strip	.25	.25				13,000
I-Class fill		1.7				42,000
II-Class fill						
III-Class fill	1.7					42,000
Total Fill						84,000
Strip/Fill						

NOTE:

- I - Class Fill - Granular materials, (D₄₀ > .2mm)
Gravel Sandy till, etc.
- II - Class Fill - Clay, (Clayey till) (> 40% Clay)
- III - Class Fill - Silt, Silty Till (D₅₀ < .06 mm).



ACRES CONSULTING SERVICES
990 PALLISER SQUARE EAST, CALGARY, ALBERTA

GEOTECHNICAL INVESTIGATIONS - MACKENZIE HIGHWAY

Borrow Area Evaluation

Borrow Area: No. 362 1
(mi.) (no.)

Location: Chainage 823+00 Offset 400' L L/R

Access: From chainage 820+00 distance ON C.L. ft.

Approximate Area 70,000 sq yd

Hole No.	362- C-A					Est. cu yd
Yards strip	.25					18,000
I-Class fill	2.4					160,000
II-Class fill						
III-Class fill						
Total Fill						160,000
Strip/Fill						

NOTE:

- I - Class Fill - Granular materials, (D₄₀ > .2mm)
Gravel Sandy till, etc.
- II - Class Fill - Clay, (Clayey till) (> 40% Clay)
- III - Class Fill - Silt, Silty Till (D₅₀ < .06 mm).



ACRES CONSULTING SERVICES
990 PALLISER SQUARE EAST, CALGARY, ALBERTA

GEOTECHNICAL INVESTIGATIONS - MACKENZIE HIGHWAY

Borrow Area Evaluation

Borrow Area: No. 362 2
(mi.) (no.)

Location: Chainage 821+00 Offset 800' R C.L. L/R

Access: From chainage _____ distance _____ ft.

Approximate Area 25,000 sq yd

Hole No.	362- B-T-1	362- B-T				Est. cu yd
Yards strip	.25	.25				6,500
I-Class fill	1.7	1.7				43,000
II-Class fill						
III-Class fill						
Total Fill						43,000
Strip/Fill						

NOTE:

- I - Class Fill - Granular materials, (D₄₀ > .2mm)
Gravel Sandy till, etc.
- II - Class Fill - Clay, (Clayey till) (> 40% Clay)
- III - Class Fill - Silt, Silty Till (D₅₀ < .06 mm).



ACRES CONSULTING SERVICES
990 PALLISER SQUARE EAST, CALGARY, ALBERTA

GEOTECHNICAL INVESTIGATIONS - MACKENZIE HIGHWAY

Borrow Area Evaluation

Borrow Area: No. 362 3
(mi.) (no.)

Location: Chainage 809+00 Offset 120'R L/R

Access: From chainage _____ distance _____ ft.

Approximate Area 50,000 sq yd

Hole No.	362- C-C	362- C-D				Est. cu yd
Yards strip	.25	.25				13,000
I-Class fill	2.0	2.0				100,000
II-Class fill						
III-Class fill						
Total Fill						100,000
Strip/Fill						

NOTE:

- I - Class Fill - Granular materials, (D40 > .2mm)
Gravel Sandy till, etc.
- II - Class Fill - Clay, (Clayey till) (> 40% Clay)
- III - Class Fill - Silt, Silty Till (D50 < .06 mm).



ACRES CONSULTING SERVICES
990 PALLISER SQUARE EAST, CALGARY, ALBERTA

GEOTECHNICAL INVESTIGATIONS - MACKENZIE HIGHWAY

Borrow Area Evaluation

Borrow Area: No. 363 1
(mi.) (no.)

Location: Chainage 884+00 Offset ON E L/R

Access: From chainage 884+00 distance ON E ft.

Approximate Area 40,000 sq yd

Hole No.	363- C-A	363- B-T-1				Est. cu yd
Yards strip	.25	.25				10,000
I-Class fill	2.7	2.7				100,000
II-Class fill						
III-Class fill						
Total Fill						100,000
Strip/Fill						

NOTE:

- I - Class Fill - Granular materials, (D₄₀ > .2mm)
Gravel Sandy till, etc.
- II - Class Fill - Clay, (Clayey till) (> 40% Clay)
- III - Class Fill - Silt, Silty Till (D₅₀ < .06 mm).



ACRES CONSULTING SERVICES
990 PALLISER SQUARE EAST, CALGARY, ALBERTA

GEOTECHNICAL INVESTIGATIONS - MACKENZIE HIGHWAY

Borrow Area Evaluation

Borrow Area: No. 363 2
(mi.) (no.)

Location: Chainage 874+00 Offset 700' R L/R

Access: From chainage 866+00 distance 1100'R ft.

Approximate Area 50,000 sq yd

Hole No.	363- B-F					Est. cu yd
Yards strip	.25					13,000
I-Class fill	1.0					50,000
II-Class fill						
III-Class fill	1.5					75,000
Total Fill						125,000
Strip/Fill						

NOTE:

- I - Class Fill - Granular materials, (D₄₀ > .2mm)
Gravel Sandy till, etc.
- II - Class Fill - Clay, (Clayey till) (> 40% Clay)
- III - Class Fill - Silt, Silty Till (D₅₀ < .06 mm).



ACRES CONSULTING SERVICES
990 PALLISER SQUARE EAST, CALGARY, ALBERTA

GEOTECHNICAL INVESTIGATIONS - MACKENZIE HIGHWAY

Borrow Area Evaluation

Borrow Area: No. 364 1
(mi.) (no.)

Location: Chainage 927+00 Offset 500'R L/R

Access: From chainage _____ distance _____ ft.

Approximate Area 100,000 sq yd

Hole No.	364- C-D	364- C-C	364- C-B			Est. cu yd
Yards strip	.25	.25	.25			25,000
I-Class fill	2.3	2.3	2.3			230,000
II-Class fill						
III-Class fill						
Total Fill						230,000
Strip/Fill						

NOTE:

- I - Class Fill - Granular materials, (D₄₀ > .2mm)
Gravel Sandy till, etc.
- II - Class Fill - Clay, (Clayey till) (> 40% Clay)
- III - Class Fill - Silt, Silty Till (D₅₀ < .06 mm).



ACRES CONSULTING SERVICES
990 PALLISER SQUARE EAST, CALGARY, ALBERTA

GEOTECHNICAL INVESTIGATIONS - MACKENZIE HIGHWAY

Borrow Area Evaluation

Borrow Area: No. 365 1
(mi.) (no.)

Location: Chainage 968+50 Offset 220'R L/R

Access: From chainage _____ distance _____ ft.

Approximate Area 100,000 sq yd

Hole No.	365- C-F	365- C-G	365- B-K			Est. cu yd
Yards strip	.25	.25	.25			25,000
I-Class fill	2.0	2.0				130,000
II-Class fill						
III-Class fill			2.0			60,000
Total Fill						190,000
Strip/Fill						

NOTE:

- I - Class Fill - Granular materials, (D₄₀ > .2mm)
Gravel Sandy till, etc.
- II - Class Fill - Clay, (Clayey till) (> 40% Clay)
- III - Class Fill - Silt, Silty Till (D₅₀ < .06 mm).



ACRES CONSULTING SERVICES
990 PALLISER SQUARE EAST, CALGARY, ALBERTA

GEOTECHNICAL INVESTIGATIONS - MACKENZIE HIGHWAY

Borrow Area Evaluation

Borrow Area: No. 366 1
(mi.) (no.)

Location: Chainage 1027+00 Offset 400'L L/R

Access: From chainage _____ distance _____ ft.

Approximate Area 100,000 sq yd

Hole No.	366- C-B	366- C-C	366- C-D	366- C-E		Est. cu yd
Yards strip	0.50	0.50	0.50	0.50		50,000
I-Class fill		1.0	1.0	1.0		75,000
II-Class fill						
III-Class fill	1.0					25,000
Total Fill						100,000
Strip/Fill						

NOTE:

- I - Class Fill - Granular materials, (D40 > .2mm)
Gravel Sandy till, etc.
- II - Class Fill - Clay, (Clayey till) (> 40% Clay)
- III - Class Fill - Silt, Silty Till (D50 < .06 mm).



ACRES CONSULTING SERVICES
990 PALLISER SQUARE EAST, CALGARY, ALBERTA

GEOTECHNICAL INVESTIGATIONS - MACKENZIE HIGHWAY

Borrow Area Evaluation

Borrow Area: No. 368 1
(mi.) (no.)

Location: Chainage 1121 + 00 Offset 500' R L/R

Access: From chainage _____ distance _____ ft.

Approximate Area 80,000 sq yd

Hole No.	368 - C - G	368 - C - F	368 - C - E			Est. cu yd
Yards strip	.6	.6	.6			48,000
I-Class fill		3.0	3.0			160,000
II-Class fill						-
III-Class fill	3.0					80,000
Total Fill						240,000
Strip/Fill						

NOTE:

- I - Class Fill - Granular materials, (D40 > .2mm)
Gravel Sandy till, etc.
- II - Class Fill - Clay, (Clayey till) (> 40% Clay)
- III - Class Fill - Silt, Silty Till (D50 < .06 mm).



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990 PALLISER SQUARE EAST, CALGARY, ALBERTA

GEOTECHNICAL INVESTIGATIONS - MACKENZIE HIGHWAY

Borrow Area Evaluation

Borrow Area: No. 368 2
(mi.) (no.)

Location: Chainage 1138 + 00 Offset on E L/R

Access: From chainage 1138 + 00 distance on E ft.

Approximate Area 60,000 sq yd

Hole No.	368 - C - D	368 - C - C				Est. cu yd
Yards strip	.6	.6				36,000
I-Class fill	1.7	1.7				100,000
II-Class fill						
III-Class fill						
Total Fill						100,000
Strip/Fill						

NOTE:

- I - Class Fill - Granular materials, (D40 > .2mm)
Gravel Sandy till, etc.
- II - Class Fill - Clay, (Clayey till) (> 40% Clay)
- III - Class Fill - Silt, Silty Till (D50 < .06 mm).



ACRES CONSULTING SERVICES
990 PALLISER SQUARE EAST, CALGARY, ALBERTA

GEOTECHNICAL INVESTIGATIONS - MACKENZIE HIGHWAY

Borrow Area Evaluation

Borrow Area: No. 369 1
(mi.) (no.)

Location: Chainage 1160 Offset 300' R L/R

Access: From chainage _____ distance _____ ft.

Approximate Area 60,000 sq yd

Hole No.	369 - B-T-1	369 - C - G				Est. cu yd
Yards strip	.6	.6				36,000
I-Class fill	2.0	2.0				120,000
II-Class fill						
III-Class fill						
Total Fill						120,000
Strip/Fill						

NOTE:

- I - Class Fill - Granular materials, (D₄₀ > .2mm)
Gravel Sandy till, etc.
- II - Class Fill - Clay, (Clayey till) (> 40% Clay)
- III - Class Fill - Silt, Silty Till (D₅₀ < .06 mm).



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990 PALLISER SQUARE EAST, CALGARY, ALBERTA

GEOTECHNICAL INVESTIGATIONS - MACKENZIE HIGHWAY

Borrow Area Evaluation

Borrow Area: No. 369 2
(mi.) (no.)

Location: Chainage 1178 + 00 Offset on E L/R

Access: From chainage 1178 + 00 distance on E ft.

Approximate Area 50,000 sq yd

Hole No.	369 - C - C					Est. cu yd
Yards strip	.25					13,000
I-Class fill						--
II-Class fill						--
III-Class fill	1.3					65,000
Total Fill						65,000
Strip/Fill						

NOTE:

I - Class Fill - Granular materials, (D40 > .2mm)
Gravel Sandy till, etc.

II - Class Fill - Clay, (Clayey till) (> 40% Clay)

III - Class Fill - Silt, Silty Till (D50 < .06 mm).



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990 PALLISER SQUARE EAST, CALGARY, ALBERTA

GEOTECHNICAL INVESTIGATIONS - MACKENZIE HIGHWAY

Borrow Area Evaluation

Borrow Area: No. 370 1
(mi.) (no.)

Location: Chainage 1218 + 00 Offset 300' L L/R

Access: From chainage _____ distance _____ ft.

Approximate Area 150,000 sq yd

Hole No.	370 - B-T-2	370 - C - G	370 - C - H			Est. cu yd
Yards strip	.25	.25	.25			40,000
I-Class fill	3.0	3.0	3.0			450,000
II-Class fill						--
III-Class fill						--
Total Fill						450,000
Strip/Fill						

NOTE:

- I - Class Fill - Granular materials, (D₄₀ > .2mm)
Gravel Sandy till, etc.
- II - Class Fill - Clay, (Clayey till) (> 40% Clay)
- III - Class Fill - Silt, Silty Till (D₅₀ < .06 mm).



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990 PALLISER SQUARE EAST, CALGARY, ALBERTA

GEOTECHNICAL INVESTIGATIONS - MACKENZIE HIGHWAY

Borrow Area Evaluation

Borrow Area: No. 370 2
(mi.) (no.)

Location: Chainage 1227 + 00 Offset 250' R L/R

Access: From chainage 1231 + 50 distance on C.L. ft.

Approximate Area 30,000 sq yd

Hole No.	370 - B-T-1	370 - C - E				Est. cu yd
Yards strip	.25	.25				8,000
I-Class fill		2.3				35,000
II-Class fill						--
III-Class fill	2.3					35,000
Total Fill						70,000
Strip/Fill						

NOTE:

- I - Class Fill - Granular materials, (D₄₀ > .2mm)
Gravel Sandy till, etc.
- II - Class Fill - Clay, (Clayey till) (> 40% Clay)
- III - Class Fill - Silt, Silty Till (D₅₀ < .06 mm).



ACRES CONSULTING SERVICES
990 PALLISER SQUARE EAST, CALGARY, ALBERTA

GEOTECHNICAL INVESTIGATIONS - MACKENZIE HIGHWAY

Borrow Area Evaluation

Borrow Area: No. 370 3
(mi.) (no.)

Location: Chainage 1246 + 00 Offset 100' R L/R

Access: From chainage 1246 + 00 distance on C.L. ft.

Approximate Area 40,000 sq yd

Hole No.	370 - C - A	370 - C - B	370 - C - C			Est. cu yd
Yards strip	.25	.25	.25			10,000
I-Class fill						
II-Class fill						
III-Class fill	2.0	2.0	2.0			80,000
Total Fill						80,000
Strip/Fill						

NOTE:

- I - Class Fill - Granular materials, (D40 > .2mm)
Gravel Sandy till, etc.
- II - Class Fill - Clay, (Clayey till) (> 40% Clay)
- III - Class Fill - Silt, Silty Till (D50 < .06 mm).



ACRES CONSULTING SERVICES
990 PALLISER SQUARE EAST, CALGARY, ALBERTA

GEOTECHNICAL INVESTIGATIONS - MACKENZIE HIGHWAY

Borrow Area Evaluation

Borrow Area: No. 371 1
(mi.) (no.)

Location: Chainage 1288+00 Offset 300'R L/R

Access: From chainage 1298+50 distance on C.L. ft.

Approximate Area 80,000 sq yd

Hole No.	371- C - L	371 - C - I	371 - C - J	371 - C - H		Est. cu yd
Yards strip	0.6	0.6	0.6	0.6		48,000
I-Class fill				2.3		45,000
II-Class fill						--
III-Class fill	2.3	2.3	2.3			135,000
Total Fill						180,000
Strip/Fill						

NOTE:

- I - Class Fill - Granular materials, (D40 > .2mm)
Gravel Sandy till, etc.
- II - Class Fill - Clay, (Clayey till) (> 40% Clay)
- III - Class Fill - Silt, Silty Till (D50 < .06 mm).



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990 PALLISER SQUARE EAST, CALGARY, ALBERTA

GEOTECHNICAL INVESTIGATIONS - MACKENZIE HIGHWAY

Borrow Area Evaluation

Borrow Area: No. 373 1
(mi.) (no.)

Location: Chainage 1378+00 Offset 600'L L/R

Access: From chainage 1374+00 distance on C.L. ft.

Approximate Area 150,000 sq yd

Hole No.	373 - C - I					Est. cu yd
Yards strip	.25					40,000
I-Class fill	2.3					350,000
II-Class fill						-
III-Class fill						-
Total Fill						350,000
Strip/Fill						

NOTE:

- I - Class Fill - Granular materials, (D₄₀ > .2mm)
Gravel Sandy till, etc.
- II - Class Fill - Clay, (Clayey till) (> 40% Clay)
- III - Class Fill - Silt, Silty Till (D₅₀ < .06 mm).



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990 PALLISER SQUARE EAST, CALGARY, ALBERTA

GEOTECHNICAL INVESTIGATIONS - MACKENZIE HIGHWAY

Borrow Area Evaluation

Borrow Area: No. 373 2
(mi.) (no.)

Location: Chainage 1393+00 Offset 250'R L/R

Access: From chainage 1393+00 distance on C.L. ft.

Approximate Area 80,000 sq yd

Hole No.	373 - C - F	373 - C - E	373 - C - D			Est. cu yd
Yards strip	.25	.25	.25			20,000
I-Class fill	2.0	2.0	2.0			160,000
II-Class fill						-
III-Class fill						-
Total Fill						160,000
Strip/Fill						

NOTE:

- I - Class Fill - Granular materials, (D₄₀ > .2mm)
Gravel Sandy till, etc.
- II - Class Fill - Clay, (Clayey till) (> 40% Clay)
- III - Class Fill - Silt, Silty Till (D₅₀ < .06 mm).



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990 PALLISER SQUARE EAST, CALGARY, ALBERTA

GEOTECHNICAL INVESTIGATIONS - MACKENZIE HIGHWAY

Borrow Area Evaluation

Borrow Area: No. 373 3
(mi.) (no.)

Location: Chainage 1413+00 Offset 1000'R. L/R

Access: From chainage _____ distance _____ ft.

Approximate Area 120,000 sq yd

Hole No.	373 - B-T-3					Est. cu yd
Yards strip	.25					30,000
I-Class fill	2.1					250,000
II-Class fill						-
III-Class fill						-
Total Fill						250,000
Strip/Fill						

NOTE:

- I - Class Fill - Granular materials, (D40 > .2mm)
Gravel Sandy till, etc.
- II - Class Fill - Clay, (Clayey till) (> 40% Clay)
- III - Class Fill - Silt, Silty Till (D50 < .06 mm).



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990 PALLISER SQUARE EAST, CALGARY, ALBERTA

GEOTECHNICAL INVESTIGATIONS - MACKENZIE HIGHWAY

Borrow Area Evaluation

Borrow Area: No. 374 1
(mi.) (no.)

Location: Chainage 1472+00 Offset 900'R L/R

Access: From chainage 1476+00 distance 1,000' ft.

Approximate Area 200,000 sq yd

Hole No.	374- B-T-1	374- B-D	374- B-C	374 B-B	374 B-A	Est. cu yd
Yards strip	.25	.25	.25	.25	.25	50,000
I-Class fill	2.5	2.5	2.5	2.5	2.5	500,000
II-Class fill						-
III-Class fill						-
Total Fill						500,000
Strip/Fill						

NOTE:

- I - Class Fill - Granular materials, (D₄₀ > .2mm)
Gravel Sandy till, etc.
- II - Class Fill - Clay, (Clayey till) (> 40% Clay)
- III - Class Fill - Silt, Silty Till (D₅₀ < .06 mm).



ACRES CONSULTING SERVICES
990 PALLISER SQUARE EAST, CALGARY, ALBERTA

GEOTECHNICAL INVESTIGATIONS - MACKENZIE HIGHWAY

Borrow Area Evaluation

Borrow Area: No. 375 1
(mi.) (no.)

Location: Chainage 1503+00 Offset 1,400'R L/R

Access: From chainage _____ distance _____ ft.

Approximate Area 100,000 sq yd

Hole No.	375- B-T-1					Est. cu yd
Yards strip	.25					25,000
I-Class fill	2.0					200,000
II-Class fill						-
III-Class fill						-
Total Fill						200,000
Strip/Fill						

NOTE:

- I - Class Fill - Granular materials, (D40 > .2mm)
Gravel Sandy till, etc.
- II - Class Fill - Clay, (Clayey till) (> 40% Clay)
- III - Class Fill - Silt, Silty Till (D50 < .06 mm).



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990 PALLISER SQUARE EAST, CALGARY, ALBERTA

GEOTECHNICAL INVESTIGATIONS - MACKENZIE HIGHWAY

Borrow Area Evaluation

Borrow Area: No. 376 1
(mi.) (no.)

Location: Chainage 32+00 Offset 500'R L/R

Access: From chainage 32+00 distance ON C.L. ft.

Approximate Area 80,000 sq yd

Hole No.	376- S-C	376- C-D				Est. cu yd
Yards strip	.25	.25				20,000
I-Class fill	2.0	2.0				160,000
II-Class fill						-
III-Class fill						-
Total Fill						160,000
Strip/Fill						

NOTE:

- I - Class Fill - Granular materials, (D40 > .2mm)
Gravel Sandy till, etc.
- II - Class Fill - Clay, (Clayey till) (> 40% Clay)
- III - Class Fill - Silt, Silty Till (D50 < .06 mm).



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990 PALLISER SQUARE EAST, CALGARY, ALBERTA

GEOTECHNICAL INVESTIGATIONS - MACKENZIE HIGHWAY

Borrow Area Evaluation

Borrow Area: No. 378 1
(mi.) (no.)

Location: Chainage 111+00 Offset 500'L L/R

Access: From chainage 111 + 00 distance 1,200' ft.

Approximate Area 70,000 sq yd

Hole No.	378- C-G	378- C-H	378- C-F			Est. cu yd
Yards strip	.25	.25	.25			15,000
I-Class fill			1.3			30,000
II-Class fill						-
III-Class fill	1.3	1.3				60,000
Total Fill						90,000
Strip/Fill						

NOTE:

- I - Class Fill - Granular materials, (D₄₀ > .2mm)
Gravel Sandy till, etc.
- II - Class Fill - Clay, (Clayey till) (> 40% Clay)
- III - Class Fill - Silt, Silty Till (D₅₀ < .06 mm).



ACRES CONSULTING SERVICES
990 PALLISER SQUARE EAST, CALGARY, ALBERTA

GEOTECHNICAL INVESTIGATIONS - MACKENZIE HIGHWAY

Borrow Area Evaluation

Borrow Area: No. 380 1
(mi.) (no.)

Location: Chainage 205+00 Offset 300' R L/R

Access: From chainage _____ distance _____ ft.

Approximate Area 120,000 sq yd

Hole No.	380- C-I	380- C-J	379- C-A			Est. cu yd
Yards strip	.6	.6	.6			70,000
I-Class fill						
II-Class fill						
III-Class fill	2.0	2.0	2.0			240,000
Total Fill						240,000
Strip/Fill						

NOTE:

- I - Class Fill - Granular materials, (D40 > .2mm)
Gravel Sandy till, etc.
- II - Class Fill - Clay, (Clayey till) (> 40% Clay)
- III - Class Fill - Silt, Silty Till (D50 < .06 mm).



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990 PALLISER SQUARE EAST, CALGARY, ALBERTA

GEOTECHNICAL INVESTIGATIONS - MACKENZIE HIGHWAY

Borrow Area Evaluation

Borrow Area: No. 380 2
(mi.) (no.)
Location: Chainage 258+00 Offset 2,500' L L/R
Access: From chainage 249+50 distance 2,400' ft.
Approximate Area 100,000 sq yd

Hole No.	380- B-C	380- B-D				Est. cu yd
Yards strip	0.6	0.6				60,000
I-Class fill		3.5				175,000
II-Class fill						-
III-Class fill	3.5					175,000
Total Fill						350,000
Strip/Fill						

NOTE:

- I - Class Fill - Granular materials, (D40 > .2mm)
Gravel Sandy till, etc.
- II - Class Fill - Clay, (Clayey till) (> 40% Clay)
- III - Class Fill - Silt, Silty Till (D50 < .06 mm).



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990 PALLISER SQUARE EAST, CALGARY, ALBERTA

GEOTECHNICAL INVESTIGATIONS - MACKENZIE HIGHWAY

Borrow Area Evaluation

Borrow Area: No. 381 1
(mi.) (no.)

Location: Chainage 293+00 Offset 900'L L/R

Access: From chainage 297+00 distance 900' ft.

Approximate Area 150,000 sq yd

Hole No.	381- B-J	381- B-K	381- B-L			Est. cu yd
Yards strip	.6	.6	.6			90,000
I-Class fill			2.3			120,000
II-Class fill						
III-Class fill	2.3	2.3				230,000
Total Fill						350,000
Strip/Fill						

NOTE:

- I - Class Fill - Granular materials, (D40 > .2mm)
Gravel Sandy till, etc.
- II - Class Fill - Clay, (Clayey till) (> 40% Clay)
- III - Class Fill - Silt, Silty Till (D50 < .06 mm).



ACRES CONSULTING SERVICES
990 PALLISER SQUARE EAST, CALGARY, ALBERTA

GEOTECHNICAL INVESTIGATIONS - MACKENZIE HIGHWAY

Borrow Area Evaluation

Borrow Area: No. 384 1
(mi.) (no.)

Location: Chainage 435+00 Offset 1,000' R L/R

Access: From chainage 442+00 distance 1,650' ft.

Approximate Area 31,000 sq yd

Hole No.	384-B-D					Est. cu yd
Yards strip	.25					8,000
I-Class fill	1.3					40,000
II-Class fill						-
III-Class fill						-
Total Fill						40,000
Strip/Fill						

NOTE:

- I - Class Fill - Granular materials, (D40 > .2mm)
Gravel Sandy till, etc.
- II - Class Fill - Clay, (Clayey till) (> 40% Clay)
- III - Class Fill - Silt, Silty Till (D50 < .06 mm).



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990 PALLISER SQUARE EAST, CALGARY, ALBERTA

GEOTECHNICAL INVESTIGATIONS - MACKENZIE HIGHWAY

Borrow Area Evaluation

Borrow Area: No. 384 2
(mi.) (no.)

Location: Chainage 459+00 Offset 1,200' R L/R

Access: From chainage 462+00 distance 1,500 ft.

Approximate Area 27,000 sq yd

Hole No.	384- B-0					Est. cu yd
Yards strip	.25					7,000
I-Class fill						
II-Class fill						
III-Class fill	1.3					35,000
Total Fill						35,000
Strip/Fill						

NOTE:

- I - Class Fill - Granular materials, (D40 > .2mm)
Gravel Sandy till, etc.
- II - Class Fill - Clay, (Clayey till) (> 40% Clay)
- III - Class Fill - Silt, Silty Till (D50 < .06 mm).



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990 PALLISER SQUARE EAST, CALGARY, ALBERTA

GEOTECHNICAL INVESTIGATIONS - MACKENZIE HIGHWAY

Borrow Area Evaluation

Borrow Area: No. 385 1
(mi.) (no.)

Location: Chainage 486+00 Offset 1,300' R L/R

Access: From chainage 487+00 distance 1,500' ft.

Approximate Area 100,000 sq yd

Hole No.	385- B-K	385- B-J				Est. cu yd
Yards strip	.7	.7				70,000
I-Class fill						-
II-Class fill						-
III-Class fill	2.0	2.0				200,000
Total Fill						200,000
Strip/Fill						

NOTE:

- I - Class Fill - Granular materials, (D₄₀ > .2mm)
Gravel Sandy till, etc.
- II - Class Fill - Clay, (Clayey till) (> 40% Clay)
- III - Class Fill - Silt, Silty Till (D₅₀ < .06 mm).



ACRES CONSULTING SERVICES
990 PALLISER SQUARE EAST, CALGARY, ALBERTA

GEOTECHNICAL INVESTIGATIONS - MACKENZIE HIGHWAY

Borrow Area Evaluation

Borrow Area: No. 385 2
(mi.) (no.)

Location: Chainage 490+00 Offset 200'L L/R

Access: From chainage 490+00 distance on C.L. ft.

Approximate Area 80,000 sq yd

Hole No.	385- B-H	385- B-I	385- C-F	385- C-G	385- C-C	Est. cu yd
Yards strip	.7	.7	.7	.7	.7	60,000
I-Class fill						-
II-Class fill						-
III-Class fill	2.0	2.0	2.0	2.0	2.0	160,000
Total Fill						160,000
Strip/Fill						

NOTE:

- I - Class Fill - Granular materials, (D40 > .2mm)
Gravel Sandy till, etc.
- II - Class Fill - Clay, (Clayey till) (> 40% Clay)
- III - Class Fill - Silt, Silty Till (D50 < .06 mm).



ACRES CONSULTING SERVICES
990 PALLISER SQUARE EAST, CALGARY, ALBERTA

GEOTECHNICAL INVESTIGATIONS - MACKENZIE HIGHWAY

Borrow Area Evaluation

Borrow Area: No. 386 1
(mi.) (no.)

Location: Chainage 505+00 Offset on C.L. L/R

Access: From chainage 505+00 distance on C.L. ft.

Approximate Area 45,000 sq yd

Hole No.	386- C- E	386- C- F	386 C- G			Est. cu yd
Yards strip		.25	.5			15,000
I-Class fill						
II-Class fill						
III-Class fill	5	5	4.5			120,000
Total Fill						120,000
Strip/Fill						

NOTE:

- I - Class Fill - Granular materials, (D₄₀ > .2mm)
Gravel Sandy till, etc.
- II - Class Fill - Clay, (Clayey till) (> 40% Clay)
- III - Class Fill - Silt, Silty Till (D₅₀ < .06 mm).



ACRES CONSULTING SERVICES
990 PALLISER SQUARE EAST, CALGARY, ALBERTA

GEOTECHNICAL INVESTIGATIONS - MACKENZIE HIGHWAY

Borrow Area Evaluation

Borrow Area: No. 387 1
(mi.) (no.)

Location: Chainage 598+00 Offset ON C.L. L/R

Access: From chainage distance ON C.L. ft.

Approximate Area 60,000 sq yd

Hole No.		387- C-C	387- C-B		387- C-D	Est. cu yd
Yards strip		.25	.25		.25	10,000
I-Class fill		3	2		3	120,000
II-Class fill						
III-Class fill		2	3			100,000
Total Fill						220,000
Strip/Fill						

NOTE:

- I - Class Fill - Granular materials, (D40 > .2mm)
Gravel Sandy till, etc.
- II - Class Fill - Clay, (Clayey till) (> 40% Clay)
- III - Class Fill - Silt, Silty Till (D50 < .06 mm).



ACRES CONSULTING SERVICES
990 PALLISER SQUARE EAST, CALGARY, ALBERTA

GEOTECHNICAL INVESTIGATIONS - MACKENZIE HIGHWAY

Borrow Area Evaluation

Borrow Area: No. 388 2
(mi.) (no.)

Location: Chainage 661+00 Offset 700'R L/R

Access: From chainage 660+50 distance 700' ft.

Approximate Area 20,000 sq yd

Hole No.	388- B-I	388- B-J				Est. cu yd
Yards strip	.25	.25				
I-Class fill						
II-Class fill						
III-Class fill	3.0	3.0				60,000
Total Fill						60,000
Strip/Fill						

NOTE:

- I - Class Fill - Granular materials, (D₄₀ > .2mm)
Gravel Sandy till, etc.
- II - Class Fill - Clay, (Clayey till) (> 40% Clay)
- III - Class Fill - Silt, Silty Till (D₅₀ < .06 mm).



ACRES CONSULTING SERVICES
990 PALLISER SQUARE EAST, CALGARY, ALBERTA

GEOTECHNICAL INVESTIGATIONS - MACKENZIE HIGHWAY

Borrow Area Evaluation

Borrow Area: No. 390 1
(mi.) (no.)

Location: Chainage 735+00 Offset 700'R L/R

Access: From chainage _____ distance _____ ft.

Approximate Area 87,000 sq yd

Hole No.	390- C-A					Est. cu yd
Yards strip	.25					22,000
I-Class fill						
II-Class fill						-
III-Class fill	2.3					200,000
Total Fill						200,000
Strip/Fill						

NOTE:

- I - Class Fill - Granular materials, (D₄₀ > .2mm)
Gravel Sandy till, etc.
- II - Class Fill - Clay, (Clayey till) (> 40% Clay)
- III - Class Fill - Silt, Silty Till (D₅₀ < .06 mm).



ACRES CONSULTING SERVICES
990 PALLISER SQUARE EAST, CALGARY, ALBERTA

GEOTECHNICAL INVESTIGATIONS - MACKENZIE HIGHWAY

Borrow Area Evaluation

Borrow Area: No. 391 1
(mi.) (no.)

Location: Chainage 825+00 Offset 400'R L/R

Access: From chainage 825+00 distance 400' ft.

Approximate Area 60,000 sq yd

Hole No.	391- C-C	391- C-G	391- C-B			Est. cu yd
Yards strip	.25	.25	.25			15,000
I-Class fill	2.0	2.0				80,000
II-Class fill						-
III-Class fill			2.0			40,000
Total Fill						120,000
Strip/Fill						

NOTE:

- I - Class Fill - Granular materials, (D₄₀ > .2mm)
Gravel Sandy till, etc.
- II - Class Fill - Clay, (Clayey till) (> 40% Clay)
- III - Class Fill - Silt, Silty Till (D₅₀ < .06 mm).



ACRES CONSULTING SERVICES
990 PALLISER SQUARE EAST, CALGARY, ALBERTA

GEOTECHNICAL INVESTIGATIONS - MACKENZIE HIGHWAY

Borrow Area Evaluation

Borrow Area: No. 392 1
(mi.) (no.)

Location: Chainage 879+00 Offset 3,500' L/R

Access: From chainage 879+00 distance 3,500' ft.

Approximate Area 100,000 sq yd

Hole No.	392- B-I	392- B-K	392 B-S			Est. cu yd
Yards strip	0.5	0.5	0.5			
I-Class fill	2.0	2.0	2.0			200,000
II-Class fill						-
III-Class fill						
Total Fill						200,000
Strip/Fill						

NOTE:

- I - Class Fill - Granular materials, (D₄₀ > .2mm)
Gravel Sandy till, etc.
- II - Class Fill - Clay, (Clayey till) (> 40% Clay)
- III - Class Fill - Silt, Silty Till (D₅₀ < .06 mm).

Note: This borrow pit area is outside the
air photo mosaic No. 19

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Total approx. quantity estimated = 400,000



ACRES CONSULTING SERVICES
990 PALLISER SQUARE EAST, CALGARY, ALBERTA

GEOTECHNICAL INVESTIGATIONS - MACKENZIE HIGHWAY

Borrow Area Evaluation

Borrow Area: No. 393 1
(mi.) (no.)

Location: Chainage 902+00 Offset ON C.L. L/R

Access: From chainage _____ distance ON C.L. ft.

Approximate Area 100,000 sq yd

Hole No.	393- C-A	393- C-B				Est. cu yd
Yards strip	.6	.6				60,000
I-Class fill	4.0	4.0				400,000
II-Class fill						
III-Class fill						
Total Fill						400,000
Strip/Fill						

NOTE:

- I - Class Fill - Granular materials, (D40 > .2mm)
Gravel Sandy till, etc.
- II - Class Fill - Clay, (Clayey till) (> 40% Clay)
- III - Class Fill - Silt, Silty Till (D50 < .06 mm).



ACRES CONSULTING SERVICES
990 PALLISER SQUARE EAST, CALGARY, ALBERTA

GEOTECHNICAL INVESTIGATIONS - MACKENZIE HIGHWAY

Borrow Area Evaluation

Borrow Area: No. 396 1
(mi.) (no.)

Location: Chainage 56+00 Offset 1,300' R L/R

Access: From chainage _____ distance _____ ft.

Approximate Area 75,000 sq yd

Hole No.	396 BC	396 BJ	396 BK	396-B-T-I		Est. cu yd
Yards strip	.25	.25	.25	.25		20,000
I-Class fill	5	6	6			410,000
II-Class fill		10	2			150,000
III-Class fill						
Total Fill						560,000
Strip/Fill						

NOTE:

- I - Class Fill - Granular materials, (D40 > .2mm)
Gravel Sandy till, etc.
- II - Class Fill - Clay, (Clayey till) (> 40% Clay)
- III - Class Fill - Silt, Silty Till (D50 < .06 mm).



ACRES CONSULTING SERVICES
990 PALLISER SQUARE EAST, CALGARY, ALBERTA

GEOTECHNICAL INVESTIGATIONS - MACKENZIE HIGHWAY

Borrow Area Evaluation

Borrow Area: No. 396 2
(mi.) (no.)

Location: Chainage 77+00 Offset 350' R L/R

Access: From chainage 77+00 distance on C.L. ft.

Approximate Area 40,000 sq yd

Hole No.	396-S-I					Est. cu yd
Yards strip	.3					12,000
I-Class fill	4					240,000
II-Class fill						
III-Class fill						
Total Fill						240,000
Strip/Fill						

NOTE:

- I - Class Fill - Granular materials, (D₄₀ > .2mm)
Gravel Sandy till, etc.
- II - Class Fill - Clay, (Clayey till) (> 40% Clay)
- III - Class Fill - Silt, Silty Till (D₅₀ < .06 mm).



ACRES CONSULTING SERVICES
990 PALLISER SQUARE EAST, CALGARY, ALBERTA

GEOTECHNICAL INVESTIGATIONS - MACKENZIE HIGHWAY

Borrow Area Evaluation

Borrow Area: No. 396 3
(mi.) (no.)

Location: Chainage 103+00 Offset 250'R L/R

Access: From chainage 103+00 distance on C.L. ft.

Approximate Area 30,000 sq yd

Hole No.	396 SH	396 SL				Est. cu yd
Yards strip	.3	.3				9,000
I-Class fill	2	2				60,000
II-Class fill						
III-Class fill						
Total Fill						60,000
Strip/Fill						

NOTE:

- I - Class Fill - Granular materials, (D40 > .2mm)
Gravel Sandy till, etc.
- II - Class Fill - Clay, (Clayey till) (> 40% Clay)
- III - Class Fill - Silt, Silty Till (D50 < .06 mm).



ACRES CONSULTING SERVICES
990 PALLISER SQUARE EAST, CALGARY, ALBERTA

GEOTECHNICAL INVESTIGATIONS - MACKENZIE HIGHWAY

Borrow Area Evaluation

Borrow Area: No. 398 1
(mi.) (no.)

Location: Chainage 196+00 Offset 700'R L/R

Access: From chainage 207+50 distance 1,600' ft.

Approximate Area 120x700 = 84,000 sq yd

Hole No.	398-B-T					Est. cu yd
Yards strip	.3					25,000
I-Class fill	3					250,000
II-Class fill	2					150,000
III-Class fill						
Total Fill						400,000
Strip/Fill						

NOTE:

- I - Class Fill - Granular materials, (D40 > .2mm)
Gravel Sandy till, etc.
- II - Class Fill - Clay, (Clayey till) (> 40% Clay)
- III - Class Fill - Silt, Silty Till (D50 < .06 mm).



ACRES CONSULTING SERVICES
990 PALLISER SQUARE EAST, CALGARY, ALBERTA

GEOTECHNICAL INVESTIGATIONS - MACKENZIE HIGHWAY

Borrow Area Evaluation

Borrow Area: No. 399 1
(mi.) (no.)

Location: Chainage 239+40 Offset 1200' L L/R

Access: From chainage 239+40 distance 1,200' ft.

Approximate Area 90,000 sq yd

Hole No.	399-B-H					Est. cu yd
Yards strip	.3					27,000
I-Class fill						
II-Class fill						
III-Class fill	3					270,000
Total Fill						270,000
Strip/Fill						

NOTE:

- I - Class Fill - Granular materials, (D40 > .2mm)
Gravel Sandy till, etc.
- II - Class Fill - Clay, (Clayey till) (> 40% Clay)
- III - Class Fill - Silt, Silty Till (D50 < .06 mm).



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990 PALLISER SQUARE EAST, CALGARY, ALBERTA

GEOTECHNICAL INVESTIGATIONS - MACKENZIE HIGHWAY

Borrow Area Evaluation

Borrow Area: No. 399 2
(mi.) (no.)

Location: Chainage 242+00 Offset 500'R L/R

Access: From chainage 242+00 distance ON C.L. ft.

Approximate Area 160,000 sq yd

Hole No.	399- C-D	399- C-E	399- C-F			Est. cu yd
Yards strip	.5	.5	.5			80,000
I-Class fill	2.0	2.0	2.0			320,000
II-Class fill						
III-Class fill	1.0	1.0	1.0			160,000
Total Fill						480,000
Strip/Fill						

NOTE:

- I - Class Fill - Granular materials, (D40 > .2mm)
Gravel Sandy till, etc.
- II - Class Fill - Clay, (Clayey till) (> 40% Clay)
- III - Class Fill - Silt, Silty Till (D50 < .06 mm).



ACRES CONSULTING SERVICES
990 PALLISER SQUARE EAST, CALGARY, ALBERTA

GEOTECHNICAL INVESTIGATIONS - MACKENZIE HIGHWAY

Borrow Area Evaluation

Borrow Area: No. 400 1
(mi.) (no.)

Location: Chainage 275+00 Offset 600' L L/R

Access: From chainage 274+50 distance 600; ft.

Approximate Area 120,000 sq yd

Hole No.	400- B-I	400- B-T-1				Est. cu yd
Yards strip	.5	.5				60,000
I-Class fill						
II-Class fill						
III-Class fill	2.0	2.0				240,000
Total Fill						240,000
Strip/Fill						

NOTE:

- I - Class Fill - Granular materials, (D₄₀ > .2mm)
Gravel Sandy till, etc.
- II - Class Fill - Clay, (Clayey till) (> 40% Clay)
- III - Class Fill - Silt, Silty Till (D₅₀ < .06 mm).



ACRES CONSULTING SERVICES
990 PALLISER SQUARE EAST, CALGARY, ALBERTA

GEOTECHNICAL INVESTIGATIONS - MACKENZIE HIGHWAY

Borrow Area Evaluation

Borrow Area: No. 400 2
(mi.) (no.)

Location: Chainage 300+50 Offset 750'R L/R

Access: From chainage 307+00 distance 800' ft.

Approximate Area 100,000 sq yd

Hole No.	400- B-G					Est. cu yd
Yards strip	.3					30,000
I-Class fill	3					300,000
II-Class fill						
III-Class fill						
Total Fill						300,000
Strip/Fill						

NOTE:

- I - Class Fill - Granular materials, (D40 > .2mm)
Gravel Sandy till, etc.
- II - Class Fill - Clay, (Clayey till) (> 40% Clay)
- III - Class Fill - Silt, Silty Till (D50 < .06 mm).



ACRES CONSULTING SERVICES
990 PALLISER SQUARE EAST, CALGARY, ALBERTA

GEOTECHNICAL INVESTIGATIONS - MACKENZIE HIGHWAY

Borrow Area Evaluation

Borrow Area: No. 402 1
(mi.) (no.)

Location: Chainage 371+00 Offset 1800' L/R

Access: From chainage 380+00 distance 1800' ft.

Approximate Area 120,000 sq yd

Hole No.	402- B-F	402- B-H	402- B-G			Est. cu yd
Yards strip	.6	.6	.6			72,000
I-Class fill	3	5	3			600,000
II-Class fill						
III-Class fill						
Total Fill						600,000
Strip/Fill						

NOTE:

I - Class Fill - Granular materials, (D₄₀ > .2mm)
Gravel Sandy till, etc.

II - Class Fill - Clay, (Clayey till) (> 40% Clay)

III - Class Fill - Silt, Silty Till (D₅₀ < .06 mm).



ACRES CONSULTING SERVICES
990 PALLISER SQUARE EAST, CALGARY, ALBERTA

GEOTECHNICAL INVESTIGATIONS - MACKENZIE HIGHWAY

Borrow Area Evaluation

Borrow Area: No. 403 1
(mi.) (no.)

Location: Chainage 454+00 Offset 200'R L/R

Access: From chainage 462+00 distance 600' ft.

Approximate Area 30,000 sq yd

Hole No.	403- B-H	403- B-J	403- C-G			Est. cu yd
Yards strip	.3	.1				18,000
I-Class fill						
II-Class fill						
III-Class fill	3	3	3			90,000
Total Fill						90,000
Strip/Fill						

NOTE:

- I - Class Fill - Granular materials, (D₄₀ > .2mm)
Gravel Sandy till, etc.
- II - Class Fill - Clay, (Clayey till) (> 40% Clay)
- III - Class Fill - Silt, Silty Till (D₅₀ < .06 mm).



ACRES CONSULTING SERVICES
990 PALLISER SQUARE EAST, CALGARY, ALBERTA

GEOTECHNICAL INVESTIGATIONS - MACKENZIE HIGHWAY

Borrow Area Evaluation

Borrow Area: No. 403 2
(mi.) (no.)

Location: Chainage 417+00 Offset 1400'R L/R

Access: From chainage _____ distance _____ ft.

Approximate Area 60,000 sq yd

Hole No.	403- B-A	403- B-I				Est. cu yd
Yards strip	.3	.2				15,000
I-Class fill	5	3				240,000
II-Class fill						
III-Class fill						
Total Fill						240,000
Strip/Fill						

NOTE:

- I - Class Fill - Granular materials, (D₄₀ > .2mm)
Gravel Sandy till, etc.
- II - Class Fill - Clay, (Clayey till) (> 40% Clay)
- III - Class Fill - Silt, Silty Till (D₅₀ < .06 mm).



ACRES CONSULTING SERVICES
990 PALLISER SQUARE EAST, CALGARY, ALBERTA

GEOTECHNICAL INVESTIGATIONS - MACKENZIE HIGHWAY

Borrow Area Evaluation

Borrow Area: No. 404 1
(mi.) (no.)

Location: Chainage 499+00 Offset 1000'L L/R

Access: From chainage 489+30 distance 1,000 ft.

Approximate Area 48,000 sq yd

Hole No.	404-B-J	404-B-I				Est. cu yd
Yards strip	1	.6				38,000
I-Class fill	5	2				140,000
II-Class fill						
III-Class fill						
Total Fill						140,000
Strip/Fill						

NOTE:

- I - Class Fill - Granular materials, (D40 > .2mm)
Gravel Sandy till, etc.
- II - Class Fill - Clay, (Clayey till) (> 40% Clay)
- III - Class Fill - Silt, Silty Till (D50 < .06 mm).



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990 PALLISER SQUARE EAST, CALGARY, ALBERTA

GEOTECHNICAL INVESTIGATIONS - MACKENZIE HIGHWAY

Borrow Area Evaluation

Borrow Area: No. 405 1
(mi.) (no.)

Location: Chainage 545+50 Offset 1600'R L/R

Access: From chainage distance ft.

Approximate Area 100,000 sq yd

Hole No.	405- B-G					Est. cu yd
Yards strip	.3					30,000
I-Class fill	3					300,000
II-Class fill						
III-Class fill						
Total Fill						300,000
Strip/Fill						

NOTE:

- I - Class Fill - Granular materials, (D₄₀ > .2mm)
Gravel Sandy till, etc.
- II - Class Fill - Clay, (Clayey till) (> 40% Clay)
- III - Class Fill - Silt, Silty Till (D₅₀ < .06 mm).



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990 PALLISER SQUARE EAST, CALGARY, ALBERTA

GEOTECHNICAL INVESTIGATIONS - MACKENZIE HIGHWAY

Borrow Area Evaluation

Borrow Area: No. 406 1
(mi.) (no.)

Location: Chainage 578+50 Offset 2,200'R L/R

Access: From chainage _____ distance _____ ft.

Approximate Area 100,000 sq yd

Hole No.	406- B-F	406- B-H				Est. cu yd
Yards strip	.2	.2				20,000
I-Class fill	2					100,000
II-Class fill						
III-Class fill		2				100,000
Total Fill						200,000
Strip/Fill						

NOTE:

- I - Class Fill - Granular materials, (D40 > .2mm)
Gravel Sandy till, etc.
- II - Class Fill - Clay, (Clayey till) (> 40% Clay)
- III - Class Fill - Silt, Silty Till (D50 < .06 mm).



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990 PALLISER SQUARE EAST, CALGARY, ALBERTA

GEOTECHNICAL INVESTIGATIONS - MACKENZIE HIGHWAY

Borrow Area Evaluation

Borrow Area: No. 407 1
(mi.) (no.)

Location: Chainage 651+00 Offset 600'R L/R

Access: From chainage _____ distance _____ ft.

Approximate Area 60,000 sq yd

Hole No.	407- B-J	407- B-T-1	407- B-I			Est. cu yd
Yards strip	.3	.3	.3			15,000
I-Class fill		2				40,000
II-Class fill						
III-Class fill	3		3			120,000
Total Fill						160,000
Strip/Fill						

NOTE:

- I - Class Fill - Granular materials, (D₄₀ > .2mm)
Gravel Sandy till, etc.
- II - Class Fill - Clay, (Clayey till) (> 40% Clay)
- III - Class Fill - Silt, Silty Till (D₅₀ < .06 mm).

ACCESS FROM WINTER ROAD

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ACRES CONSULTING SERVICES

990 PALLISER SQUARE EAST, CALGARY, ALBERTA

GEOTECHNICAL INVESTIGATIONS - MACKENZIE HIGHWAY

Borrow Area Evaluation

Borrow Area: No. 408 1
(mi.) (no.)

Location: Chainage 722+00 Offset 900'R L/R

Access: From chainage 723+20 distance 1,000' ft.

Approximate Area 120,000 sq yd

Hole No.	408- B-I	408- B-J	408- B-K			Est. cu yd
Yards strip	.3	.3	.3			36,000
I-Class fill	3	3	3			360,000
II-Class fill	2					80,000
III-Class fill						
Total Fill						440,000
Strip/Fill						

NOTE:

- I - Class Fill - Granular materials, (D₄₀ > .2mm)
Gravel Sandy till, etc.
- II - Class Fill - Clay, (Clayey till) (> 40% Clay)
- III - Class Fill - Silt, Silty Till (D₅₀ < .06 mm).



ACRES CONSULTING SERVICES
990 PALLISER SQUARE EAST, CALGARY, ALBERTA

GEOTECHNICAL INVESTIGATIONS - MACKENZIE HIGHWAY

Borrow Area Evaluation

Borrow Area: No. 409 1
(mi.) (no.)

Location: Chainage 770+00 Offset 1800'R L/R

Access: From chainage 772+75 distance 1800' ft.

Approximate Area 150,000 sq yd

Hole No.	409-B-J	409-B-T-1			Est. cu yd
Yards strip	.3	.3			45,000
I-Class fill	3	3			450,000
II-Class fill					
III-Class fill					
Total Fill					<u>450,000</u>
Strip/Fill					

NOTE:

- I - Class Fill - Granular materials, (D40 > .2mm)
Gravel Sandy till, etc.
- II - Class Fill - Clay, (Clayey till) (> 40% Clay)
- III - Class Fill - Silt, Silty Till (D50 < .06 mm).



ACRES CONSULTING SERVICES
990 PALLISER SQUARE EAST, CALGARY, ALBERTA

GEOTECHNICAL INVESTIGATIONS - MACKENZIE HIGHWAY

Borrow Area Evaluation

Borrow Area: No. 410 1
(mi.) (no.)

Location: Chainage 841+00 Offset 500'R L/R

Access: From chainage _____ distance _____ ft.

Approximate Area 100,000 sq yd

Hole No.	410- C-H	410- C-I	410- C-J	410- C-K		Est. cu yd
Yards strip	.3	.3	.3	.3		18,000
I-Class fill						
II-Class fill						
III-Class fill	2.0	2.0	2.0	2.0		200,000
Total Fill						200,000
Strip/Fill						

NOTE:

- I - Class Fill - Granular materials, (D₄₀ > .2mm)
Gravel Sandy till, etc.
- II - Class Fill - Clay, (Clayey till) (> 40% Clay)
- III - Class Fill - Silt, Silty Till (D₅₀ < .06 mm).



ACRES CONSULTING SERVICES
990 PALLISER SQUARE EAST, CALGARY, ALBERTA

GEOTECHNICAL INVESTIGATIONS - MACKENZIE HIGHWAY

Borrow Area Evaluation

Borrow Area: No. 411 1
(mi.) (no.)

Location: Chainage 849+00 Offset 1300'L L/R

Access: From chainage 846+60 distance 1300' ft.

Approximate Area 45,000 sq yd

Hole No.	411- B-Y	411- B-Z	411- B-T-1			Est. cu yd
Yards strip	.6	.6	.6			30,000
I-Class fill						
II-Class fill						
III-Class fill	3	3	1.0			105,000
Total Fill						105,000
Strip/Fill						

NOTE:

- I - Class Fill - Granular materials, (D₄₀ > .2mm)
Gravel Sandy till, etc.
- II - Class Fill - Clay, (Clayey till) (> 40% Clay)
- III - Class Fill - Silt, Silty Till (D₅₀ < .06 mm).



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990 PALLISER SQUARE EAST, CALGARY, ALBERTA

GEOTECHNICAL INVESTIGATIONS - MACKENZIE HIGHWAY

Borrow Area Evaluation

Borrow Area: No. 412 1
(mi.) (no.)

Location: Chainage 961+00 Offset 400'R L/R

Access: From chainage 961+00 distance on C.L. ft.

Approximate Area 60,000 sq yd

Hole No.	412 B-K	412- B-L	412- C-D			Est. cu yd
Yards strip	.5	.5	.5			30,000
I-Class fill						-
II-Class fill	2.0	2.0	2.0			120,000
III-Class fill						-
Total Fill						120,000
Strip/Fill						

NOTE:

I - Class Fill - Granular materials, (D₄₀ > .2mm)
Gravel Sandy till, etc.

II - Class Fill - Clay, (Clayey till) (> 40% Clay)

III - Class Fill - Silt, Silty Till (D₅₀ < .06 mm).



ACRES CONSULTING SERVICES
990 PALLISER SQUARE EAST, CALGARY, ALBERTA

GEOTECHNICAL INVESTIGATIONS - MACKENZIE HIGHWAY

Borrow Area Evaluation

Borrow Area: No. 414 1
(mi.) (no.)

Location: Chainage 1029+00 Offset 300'R L/R

Access: From chainage 1027+00 distance 300' ft.

Approximate Area 10,000 sq yd

Hole No.	414- B-L					Est. cu yd
Yards strip	.5					5,000
I-Class fill	6.0					60,000
II-Class fill						-
III-Class fill						-
Total Fill						60,000
Strip/Fill						

NOTE:

- I - Class Fill - Granular materials, (D40 > .2mm)
Gravel Sandy till, etc.
- II - Class Fill - Clay, (Clayey till) (> 40% Clay)
- III - Class Fill - Silt, Silty Till (D50 < .06 mm).



ACRES CONSULTING SERVICES
990 PALLISER SQUARE EAST, CALGARY, ALBERTA

GEOTECHNICAL INVESTIGATIONS - MACKENZIE HIGHWAY

Borrow Area Evaluation

Borrow Area: No. 414 2
(mi.) (no.)

Location: Chainage 1029+00 Offset 600'R L/R

Access: From chainage 1027+00 distance 600' ft.

Approximate Area 12,000 sq yd

Hole No.	414- B-T-I	414- B-K				Est. cu yd
Yards strip	.3	.3				3,000
I-Class fill		5				30,000
II-Class fill						-
III-Class fill	3					18,000
Total Fill						48,000
Strip/Fill						

NOTE:

- I - Class Fill - Granular materials, (D40 > .2mm)
Gravel Sandy till, etc.
- II - Class Fill - Clay, (Clayey till) (> 40% Clay)
- III - Class Fill - Silt, Silty Till (D50 < .06 mm).



ACRES CONSULTING SERVICES
990 PALLISER SQUARE EAST, CALGARY, ALBERTA

GEOTECHNICAL INVESTIGATIONS - MACKENZIE HIGHWAY

Borrow Area Evaluation

Borrow Area: No. 414 3
(mi.) (no.)
Location: Chainage 1030+00 Offset 1,000'R L/R
Access: From chainage 1027+00 distance 1,000 ft.
Approximate Area 18,000 sq yd

Hole No.	414- B-J					Est. cu yd
Yards strip	.3					50,000
I-Class fill	2					36,000
II-Class fill						-
III-Class fill	2					36,000
Total Fill						72,000
Strip/Fill						

NOTE:

- I - Class Fill - Granular materials, (D40 > .2mm)
Gravel Sandy till, etc.
- II - Class Fill - Clay, (Clayey till) (> 40% Clay)
- III - Class Fill - Silt, Silty Till (D50 < .06 mm).



ACRES CONSULTING SERVICES
990 PALLISER SQUARE EAST, CALGARY, ALBERTA

GEOTECHNICAL INVESTIGATIONS - MACKENZIE HIGHWAY

Borrow Area Evaluation

Borrow Area: No. 414 4
(mi.) (no.)

Location: Chainage 1031+00 Offset 1,900'R L/R

Access: From chainage 1027+00 distance 2,000' ft.

Approximate Area 70,000 sq yd

Hole No.	414 - B - I					Est. cu yd
Yards strip	.2					14,000
I-Class fill						---
II-Class fill						---
III-Class fill	2.0					140,000
Total Fill						140,000
Strip/Fill						

NOTE:

- I - Class Fill - Granular materials, (D40 > .2mm)
Gravel Sandy till, etc.
- II - Class Fill - Clay, (Clayey till) (> 40% Clay)
- III - Class Fill - Silt, Silty Till (D50 < .06 mm).



ACRES CONSULTING SERVICES
990 PALLISER SQUARE EAST, CALGARY, ALBERTA

GEOTECHNICAL INVESTIGATIONS - MACKENZIE HIGHWAY

Borrow Area Evaluation

Borrow Area: No. 415 1
(mi.) (no.)

Location: Chainage 1067 Offset 1,700'R L/R

Access: From chainage _____ distance _____ ft.

Approximate Area 70,000 sq yd

Hole No.	415 - B - G					Est. cu yd
Yards strip	.2					14,000
I-Class fill	3					210,000
II-Class fill						---
III-Class fill						---
Total Fill						210,000
Strip/Fill						

NOTE:

- I - Class Fill - Granular materials, (D₄₀ > .2mm)
Gravel Sandy till, etc.
- II - Class Fill - Clay, (Clayey till) (> 40% Clay)
- III - Class Fill - Silt, Silty Till (D₅₀ < .06 mm).



ACRES CONSULTING SERVICES
990 PALLISER SQUARE EAST, CALGARY, ALBERTA

GEOTECHNICAL INVESTIGATIONS - MACKENZIE HIGHWAY

Borrow Area Evaluation

Borrow Area: No. 416 1
(mi.) (no.)

Location: Chainage 1155+00 Offset on C.L. L/R

Access: From chainage 1155+00 distance on C.L. ft.

Approximate Area 100,000 sq yd

Hole No.	416 - B-T-I	416 - S - C	416 - S - D	416 - S - E		Est. cu yd
Yards strip	.3	.3	.3	.3		25,000
I-Class fill	3	3	3	3		240,000
II-Class fill						---
III-Class fill						60,000
Total Fill						300,000
Strip/Fill						

NOTE:

- I - Class Fill - Granular materials, (D₄₀ > .2mm)
Gravel Sandy till, etc.
- II - Class Fill - Clay, (Clayey till) (> 40% Clay)
- III - Class Fill - Silt, Silty Till (D₅₀ < .06 mm).



ACRES CONSULTING SERVICES
990 PALLISER SQUARE EAST, CALGARY, ALBERTA

GEOTECHNICAL INVESTIGATIONS - MACKENZIE HIGHWAY

Borrow Area Evaluation

Borrow Area: No. 418 1
(mi.) (no.)

Location: Chainage 1236+00 Offset 600'R L/R

Access: From chainage 1235+00 distance 600' ft.

Approximate Area 60,000 sq yd

Hole No.	418 - B - N					Est. cu yd
Yards strip	.2					120,000
I-Class fill	2.0					120,000
II-Class fill						--
III-Class fill						--
Total Fill						120,000
Strip/Fill						

NOTE:

- I - Class Fill - Granular materials, (D40 > .2mm)
Gravel Sandy till, etc.
- II - Class Fill - Clay, (Clayey till) (> 40% Clay)
- III - Class Fill - Silt, Silty Till (D50 < .06 mm).



ACRES CONSULTING SERVICES
990 PALLISER SQUARE EAST, CALGARY, ALBERTA

GEOTECHNICAL INVESTIGATIONS - MACKENZIE HIGHWAY

Borrow Area Evaluation

Borrow Area: No. 418 2
(mi.) (no.)

Location: Chainage 1265+00 Offset 350'R L/R

Access: From chainage 1262+00 distance on C.L. ft.

Approximate Area 90,000 sq yd

Hole No.	419 - B - H	419 - B - I	419 - C - G	419 - C - H		Est. cu yd
Yards strip	1.3	.3	.3	.3		50,000
I-Class fill	2.0	2.0	2.0	2.0		180,000
II-Class fill						
III-Class fill						
Total Fill						
Strip/Fill						180,000

NOTE:

- I - Class Fill - Granular materials, (D40 > .2mm)
Gravel Sandy till, etc.
- II - Class Fill - Clay, (Clayey till) (> 40% Clay)
- III - Class Fill - Silt, Silty Till (D50 < .06 mm).



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990 PALLISER SQUARE EAST, CALGARY, ALBERTA

GEOTECHNICAL INVESTIGATIONS - MACKENZIE HIGHWAY

Borrow Area Evaluation

Borrow Area: No. 419 1
(mi.) (no.)

Location: Chainage 1302+00 Offset 1,000'R L/R

Access: From chainage 1296+00 distance 700' ft.

Approximate Area 80,000 sq yd

Hole No.	<u>419- B-J</u>					Est. cu yd
Yards strip	.3					24,000
I-Class fill	3.0					240,000
II-Class fill						
III-Class fill						
Total Fill						240,000
Strip/Fill						

NOTE:

- I - Class Fill - Granular materials, (D40 > .2mm)
Gravel Sandy till, etc.
- II - Class Fill - Clay, (Clayey till) (> 40% Clay)
- III - Class Fill - Silt, Silty Till (D50 < .06 mm).



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990 PALLISER SQUARE EAST, CALGARY, ALBERTA

GEOTECHNICAL INVESTIGATIONS - MACKENZIE HIGHWAY

Borrow Area Evaluation

Borrow Area: No. 420 1
(mi.) (no.)

Location: Chainage 1341 + 00 Offset 500' L L/R

Access: From chainage 1341 + 00 distance 500' ft.

Approximate Area 100,000 sq yd

Hole No.	420 - B - E	420 - C - C	420 - C - D	420 - C - E		Est. cu yd
Yards strip	.3	.3	.3	.3		30,000
I-Class fill	3.0	3.0		3.0		200,000
II-Class fill						
III-Class fill			3.0			100,000
Total Fill						300,000
Strip/Fill						

NOTE:

- I - Class Fill - Granular materials, (D40 > .2mm)
Gravel Sandy till, etc.
- II - Class Fill - Clay, (Clayey till) (> 40% Clay)
- III - Class Fill - Silt, Silty Till (D50 < .06 mm).



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990 PALLISER SQUARE EAST, CALGARY, ALBERTA

GEOTECHNICAL INVESTIGATIONS - MACKENZIE HIGHWAY

Borrow Area Evaluation

Borrow Area: No. 421 1
(mi.) (no.)

Location: Chainage 1411 + 00 Offset 750' R L/R

Access: From chainage 1410 + 00 distance 800' R ft.

Approximate Area 100,000 sq yd

Hole No.	421 - B - H	421 - C - F	421 - C - E			Est. cu yd
Yards strip	.3	.3	.3			30,000
I-Class fill	3.5	3.5	3.5			350,000
II-Class fill						--
III-Class fill						--
Total Fill						350,000
Strip/Fill						

NOTE:

I - Class Fill - Granular materials, (D40 > .2mm)
Gravel Sandy till, etc.

II - Class Fill - Clay, (Clayey till) (> 40% Clay)

III - Class Fill - Silt, Silty Till (D50 < .06 mm).



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990 PALLISER SQUARE EAST, CALGARY, ALBERTA

GEOTECHNICAL INVESTIGATIONS - MACKENZIE HIGHWAY

Borrow Area Evaluation

Borrow Area: No. 423 1
(mi.) (no.)

Location: Chainage 1494 + 00 Offset 900' L L/R

Access: From chainage _____ distance _____ ft.

Approximate Area 120,000 sq yd

Hole No.	423 - B-T-1	423 - C - C	423 - C - B			Est. cu yd
Yards strip	.3	.3	.3			36,000
I-Class fill	3.0	3.0	3.0			360,000
II-Class fill						--
III-Class fill						--
Total Fill						360,000
Strip/Fill						

NOTE:

- I - Class Fill - Granular materials, (D₄₀ > .2mm)
Gravel Sandy till, etc.
- II - Class Fill - Clay, (Clayey till) (> 40% Clay)
- III - Class Fill - Silt, Silty Till (D₅₀ < .06 mm).



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990 PALLISER SQUARE EAST, CALGARY, ALBERTA

GEOTECHNICAL INVESTIGATIONS - MACKENZIE HIGHWAY

Borrow Area Evaluation

Borrow Area: No. 424 1
(mi.) (no.)

Location: Chainage 1587 + 00 Offset 500' L L/R

Access: From chainage _____ distance _____ ft.

Approximate Area 60,000 sq yd

Hole No.	424 - C - G	424 - C - F				Est. cu yd
Yards strip	.3	.3				18,000
I-Class fill	2.3	2.3				140,000
II-Class fill						--
III-Class fill						--
Total Fill						140,000
Strip/Fill						

NOTE:

- I - Class Fill - Granular materials, (D40 > .2mm)
Gravel Sandy till, etc.
- II - Class Fill - Clay, (Clayey till) (> 40% Clay)
- III - Class Fill - Silt, Silty Till (D50 < .06 mm).



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990 PALLISER SQUARE EAST, CALGARY, ALBERTA

GEOTECHNICAL INVESTIGATIONS - MACKENZIE HIGHWAY

Borrow Area Evaluation

Borrow Area: No. 425 1
(mi.) (no.)

Location: Chainage 1628 + 00 Offset 800' R L/R

Access: From chainage 1637 + 00 distance 300' ft.

Approximate Area 100,000 sq yd

Hole No.	425 - B - F	426 - C - A				Est. cu yd
Yards strip	.3	.3				30,000
I-Class fill						
II-Class fill						
III-Class fill	3.0	3.0				300,000
Total Fill						300,000
Strip/Fill						

NOTE:

- I - Class Fill - Granular materials, (D₄₀ > .2mm)
Gravel Sandy till, etc.
- II - Class Fill - Clay, (Clayey till) (> 40% Clay)
- III - Class Fill - Silt, Silty Till (D₅₀ < .06 mm).



ACRES CONSULTING SERVICES
990 PALLISER SQUARE EAST, CALGARY, ALBERTA

GEOTECHNICAL INVESTIGATIONS - MACKENZIE HIGHWAY

Borrow Area Evaluation

Borrow Area: No. 427 1
(mi.) (no.)

Location: Chainage 1709 + 00 Offset 700' L L/R

Access: From chainage _____ distance _____ ft.

Approximate Area 120,000 sq yd

Hole No.	427 - C - D	427 - C - E	427 - C - F			Est. cu yd
Yards strip	.3	.3	.3			36,000
I-Class fill		4.0				160,000
II-Class fill						
III-Class fill	4.0		4.0			320,000
Total Fill						480,000
Strip/Fill						

NOTE:

- I - Class Fill - Granular materials, (D₄₀ > .2mm)
Gravel Sandy till, etc.
- II - Class Fill - Clay, (Clayey till) (> 40% Clay)
- III - Class Fill - Silt, Silty Till (D₅₀ < .06 mm).



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GEOTECHNICAL INVESTIGATIONS - MACKENZIE HIGHWAY

Borrow Area Evaluation

Borrow Area: No. 428 1
(mi.) (no.)

Location: Chainage 1785 + 00 Offset 300' R L/R

Access: From chainage 1785 + 00 distance on C.L. ft.

Approximate Area 50,000 sq yd

Hole No.	428 - C - E	428 - C - F				Est. cu yd
Yards strip	.6	.6				30,000
I-Class fill	2.0					50,000
II-Class fill						--
III-Class fill		2.0				50,000
Total Fill						100,000
Strip/Fill						

NOTE:

I - Class Fill - Granular materials, (D40 > .2mm)
Gravel Sandy till, etc.

II - Class Fill - Clay, (Clayey till) (> 40% Clay)

III - Class Fill - Silt, Silty Till (D50 < .06 mm).



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GEOTECHNICAL INVESTIGATIONS - MACKENZIE HIGHWAY

Borrow Area Evaluation

Borrow Area: No. 429 1
(mi.) (no.)

Location: Chainage 1871 + 00 Offset 1,000' L L/R

Access: From chainage _____ distance _____ ft.

Approximate Area 80,000 sq yd

Hole No.	429 - C-T-1	429 - S - N				Est. cu yd
Yards strip	.3	.3				24,000
I-Class fill	10.0	10.0				800,000
II-Class fill						--
III-Class fill						--
Total Fill						800,000
Strip/Fill						

NOTE:

- I - Class Fill - Granular materials, (D40 > .2mm)
Gravel Sandy till, etc.
- II - Class Fill - Clay, (Clayey till) (> 40% Clay)
- III - Class Fill - Silt, Silty Till (D50 < .06 mm).



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GEOTECHNICAL INVESTIGATIONS - MACKENZIE HIGHWAY

Borrow Area Evaluation

Borrow Area: No. 430 1
(mi.) (no.)

Location: Chainage 1875 + 00 Offset 500' R L/R

Access: From chainage _____ distance _____ ft.

Approximate Area 90,000 sq yd

Hole No.	430 - B-T-1	430 - C - C	430 - C - B			Est. cu yd
Yards strip	.3	.3	.3			27,000
I-Class fill	3.0	3.0	3.0			270,000
II-Class fill						--
III-Class fill						
Total Fill						270,000
Strip/Fill						

NOTE:

- I - Class Fill - Granular materials, (D₄₀ > .2mm)
Gravel Sandy till, etc.
- II - Class Fill - Clay, (Clayey till) (> 40% Clay)
- III - Class Fill - Silt, Silty Till (D₅₀ < .06 mm).



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GEOTECHNICAL INVESTIGATIONS - MACKENZIE HIGHWAY

Borrow Area Evaluation

Borrow Area: No. 431 1
(mi.) (no.)

Location: Chainage 1951 + 00 Offset on C.L. L/R

Access: From chainage 1951 + 00 distance on C.L. ft.

Approximate Area 80,000 sq yd

Hole No.	431 - C - D	431 - C - E	431 - C - F	431 - B-T-1		Est. cu yd
Yards strip	.3	.3	.3	.3		24,000
I-Class fill	2.0	2.0		2.0		120,000
II-Class fill						
III-Class fill			2.0			40,000
Total Fill						160,000
Strip/Fill						

NOTE:

- I - Class Fill - Granular materials, (D₄₀ > .2mm)
Gravel Sandy till, etc.
- II - Class Fill - Clay, (Clayey till) (> 40% Clay)
- III - Class Fill - Silt, Silty Till (D₅₀ < .06 mm).



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GEOTECHNICAL INVESTIGATIONS - MACKENZIE HIGHWAY

Borrow Area Evaluation

Borrow Area: No. 433 1
(mi.) (no.)

Location: Chainage 2014 + 00 Offset 400' R L/R

Access: From chainage 2027 + 50 distance 1,000 ft.

Approximate Area 60,000 sq yd

Hole No.	433 - B-T-1		432 - C - C			Est. cu yd
Yards strip	.3		.3			18,000
I-Class fill	3.0		3.0			180,000
II-Class fill						--
III-Class fill						--
Total Fill						180,000
Strip/Fill						

NOTE:

- I - Class Fill - Granular materials, (D₄₀ > .2mm)
Gravel Sandy till, etc.
- II - Class Fill - Clay, (Clayey till) (> 40% Clay)
- III - Class Fill - Silt, Silty Till (D₅₀ < .06 mm).



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GEOTECHNICAL INVESTIGATIONS - MACKENZIE HIGHWAY

Borrow Area Evaluation

Borrow Area: No. 434 1
(mi.) (no.)

Location: Chainage 2093 + 00 Offset 800' L L/R

Access: From chainage 2093 + 50 distance 1,000' ft.

Approximate Area 140,000 sq yd

Hole No.	434 - C - A	434 - C - B				Est. cu yd
Yards strip	.2	.2				28,000
I-Class fill	3.0	3.0				420,000
II-Class fill						--
III-Class fill						--
Total Fill						420,000
Strip/Fill						

NOTE:

- I - Class Fill - Granular materials, (D₄₀ > .2mm)
Gravel Sandy till, etc.
- II - Class Fill - Clay, (Clayey till) (> 40% Clay)
- III - Class Fill - Silt, Silty Till (D₅₀ < .06 mm).



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GEOTECHNICAL INVESTIGATIONS - MACKENZIE HIGHWAY

Borrow Area Evaluation

Borrow Area: No. 435 1
(mi.) (no.)

Location: Chainage 2161 + 00 Offset 600' R L/R

Access: From chainage distance ft.

Approximate Area 35,000 sq yd

Hole No.	435 - B-T-1					Est. cu yd
Yards strip	.2					7,000
I-Class fill	3.0					100,000
II-Class fill						--
III-Class fill						--
Total Fill						100,000
Strip/Fill						

NOTE:

- I - Class Fill - Granular materials, (D40 > .2mm)
Gravel Sandy till, etc.
- II - Class Fill - Clay, (Clayey till) (> 40% Clay)
- III - Class Fill - Silt, Silty Till (D50 < .06 mm).



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GEOTECHNICAL INVESTIGATIONS - MACKENZIE HIGHWAY

Borrow Area Evaluation

Borrow Area: No. 437 1
(mi.) (no.)

Location: Chainage 2239 + 00 Offset 600' R L/R

Access: From chainage _____ distance _____ ft.

Approximate Area 100,000 sq yd

Hole No.	437 - B-T-1	436 - C - K	437 - C - A	437 - C - B		Est. cu yd
Yards strip	.2	.2	.2	.2		20,000
I-Class fill	2.0	2.0	2.0	1.0		180,000
II-Class fill						--
III-Class fill				2.0		50,000
Total Fill						230,000
Strip/Fill						

NOTE:

- I - Class Fill - Granular materials, (D₄₀ > .2mm)
Gravel Sandy till, etc.
- II - Class Fill - Clay, (Clayey till) (> 40% Clay)
- III - Class Fill - Silt, Silty Till (D₅₀ < .06 mm).



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990 PALLISER SQUARE EAST, CALGARY, ALBERTA

GEOTECHNICAL INVESTIGATIONS - MACKENZIE HIGHWAY

Borrow Area Evaluation

Borrow Area: No. 438 1
(mi.) (no.)

Location: Chainage 2305+00 Offset 5,000'L L/R

Access: From chainage _____ distance _____ ft.

Approximate Area 500,000 sq yd

Hole No.	438- B-E	438- B-G	438- B-H	438- B-K		Est. cu yd
Yards strip	.5	.5	.5	.5		250,000
I-Class fill	3.0	3.0	3.0	3.0		1,500,000
II-Class fill						
III-Class fill						
Total Fill						1,500,000
Strip/Fill						

NOTE:

I - Class Fill - Granular materials, (D₄₀ > .2mm)
Gravel Sandy till, etc.

II - Class Fill - Clay, (Clayey till) (> 40% Clay)

III - Class Fill - Silt, Silty Till (D₅₀ < .06 mm).

ACCESS FROM EXISTING WINTER ROAD



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990 PALLISER SQUARE EAST, CALGARY, ALBERTA

GEOTECHNICAL INVESTIGATIONS - MACKENZIE HIGHWAY

Borrow Area Evaluation

Borrow Area: No. 439 1
(mi.) (no.)

Location: Chainage 262+00 Offset 3800' L L/R

Access: From chainage 270+20 distance 4100' ft.

Approximate Area 75,000 sq yd

Hole No.	439- B-I	439- B-H				Est. cu yd
Yards strip	.3	.3				22,000
I-Class fill						
II-Class fill						
III-Class fill	2.3	2.3				170,000
Total Fill						170,000
Strip/Fill						

NOTE:

- I - Class Fill - Granular materials, (D40 > .2mm)
Gravel Sandy till, etc.
- II - Class Fill - Clay, (Clayey till) (> 40% Clay)
- III - Class Fill - Silt, Silty Till (D50 < .06 mm).

ACCESS FROM EXISTING WINTER ROAD



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GEOTECHNICAL INVESTIGATIONS - MACKENZIE HIGHWAY

Borrow Area Evaluation

Borrow Area: No. 441 1
(mi.) (no.)

Location: Chainage 394+00 Offset 400'R L/R

Access: From chainage 394+00 distance ON C.L. ft.

Approximate Area 50,000 sq yd

Hole No.	441- C-B					Est. cu yd
Yards strip	.3					15,000
I-Class fill						
II-Class fill						
III-Class fill	2.0					100,000
Total Fill						100,000
Strip/Fill						

NOTE:

- I - Class Fill - Granular materials, (D40 > .2mm)
Gravel Sandy till, etc.
- II - Class Fill - Clay, (Clayey till) (> 40% Clay)
- III - Class Fill - Silt, Silty Till (D50 < .06 mm).



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990 PALLISER SQUARE EAST, CALGARY, ALBERTA

GEOTECHNICAL INVESTIGATIONS - MACKENZIE HIGHWAY

Borrow Area Evaluation

Borrow Area: No. 441 2
(mi.) (no.)

Location: Chainage 382+00 Offset 2800'R L/R

Access: From chainage 390+20 distance 3500' ft.

Approximate Area 35,000 sq yd

Hole No.	441- B-K	441- B-I				Est. cu yd
Yards strip	.3	.3				10,000
I-Class fill						
II-Class fill						
III-Class fill	1.3	1.3				45,000
Total Fill						45,000
Strip/Fill						

NOTE:

- I - Class Fill - Granular materials, (D40 > .2mm)
Gravel Sandy till, etc.
- II - Class Fill - Clay, (Clayey till) (> 40% Clay)
- III - Class Fill - Silt, Silty Till (D50 < .06 mm).



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GEOTECHNICAL INVESTIGATIONS - MACKENZIE HIGHWAY

Borrow Area Evaluation

Borrow Area: No. 445 1
(mi.) (no.)

Location: Chainage 131+50 Offset 600'R L/R

Access: From chainage _____ distance _____ ft.

Approximate Area 50,000 sq yd

Hole No.	445- C-C	445- C-D	445- C-E	445- C-G		Est. cu yd
Yards strip	.3	.3	.3	.3		15,000
I-Class fill						
II-Class fill	2.3	2.3	2.3	2.3		110,000
III-Class fill						
Total Fill						110,000
Strip/Fill						

NOTE:

- I - Class Fill - Granular materials, (D₄₀ > .2mm)
Gravel Sandy till, etc.
- II - Class Fill - Clay, (Clayey till) (> 40% Clay)
- III - Class Fill - Silt, Silty Till (D₅₀ < .06 mm).
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ACRES CONSULTING SERVICES
990 PALLISER SQUARE EAST, CALGARY, ALBERTA

GEOTECHNICAL INVESTIGATIONS - MACKENZIE HIGHWAY

Borrow Area Evaluation

Borrow Area: No. 446 1
(mi.) (no.)

Location: Chainage 177+00 Offset 2,200' R L/R

Access: From chainage _____ distance _____ ft.

Approximate Area 60,000 sq yd

Hole No.	446- B-L	446- B-K				Est. cu yd
Yards strip	.3	.3				18,000
I-Class fill						-
II-Class fill	2.3	2.3				140,000
III-Class fill						
Total Fill						
Strip/Fill						140,000

NOTE:

- I - Class Fill - Granular materials, (D₄₀ > .2mm)
Gravel Sandy till, etc.
- II - Class Fill - Clay, (Clayey till) (> 40% Clay)
- III - Class Fill - Silt, Silty Till (D₅₀ < .06 mm).



ACRES CONSULTING SERVICES
990 PALLISER SQUARE EAST, CALGARY, ALBERTA

GEOTECHNICAL INVESTIGATIONS - MACKENZIE HIGHWAY

Borrow Area Evaluation

Borrow Area: No. 447 1
(mi.) (no.)

Location: Chainage 236+50 Offset 600'R L/R

Access: From chainage 236+40 distance 600'R ft.

Approximate Area 120,000 sq yd

Hole No.	447- B-E	447- C-D	447- C-M			Est. cu yd
Yards strip	.5	.5	.5			60,000
I-Class fill						-
II-Class fill	4.0	4.0	4.0			480,000
III-Class fill						-
Total Fill						480,000
Strip/Fill						

NOTE:

- I - Class Fill - Granular materials, (D40 > .2mm)
Gravel Sandy till, etc.
- II - Class Fill - Clay, (Clayey till) (> 40% Clay)
- III - Class Fill - Silt, Silty Till (D50 < .06 mm).



ACRES CONSULTING SERVICES
990 PALLISER SQUARE EAST, CALGARY, ALBERTA

GEOTECHNICAL INVESTIGATIONS - MACKENZIE HIGHWAY

Borrow Area Evaluation

Borrow Area: No. 447 2
(mi.) (no.)

Location: Chainage 259+00 Offset 400'R L/R

Access: From chainage 256+00 distance 500' ft.

Approximate Area 40,000 sq yd

Hole No.	447- B-H	447- B-I				Est. cu yd
Yards strip	.5	.5				20,000
I-Class fill						-
II-Class fill	2.0	2.0				80,000
III-Class fill						-
Total Fill						80,000
Strip/Fill						

NOTE:

- I - Class Fill - Granular materials, (D40 > .2mm)
Gravel Sandy till, etc.
- II - Class Fill - Clay, (Clayey till) (> 40% Clay)
- III - Class Fill - Silt, Silty Till (D50 < .06 mm).



ACRES CONSULTING SERVICES
990 PALLISER SQUARE EAST, CALGARY, ALBERTA

GEOTECHNICAL INVESTIGATIONS - MACKENZIE HIGHWAY

Borrow Area Evaluation

Borrow Area: No. 448 1
(mi.) (no.)

Location: Chainage 277+00 Offset 700'R L/R

Access: From chainage _____ distance _____ ft.

Approximate Area 55,000 sq yd

Hole No.	448- C-N	448- C-D	448- C-S	448- C-C		Est. cu yd
Yards strip	.5	.5	.5	.5		25,000
I-Class fill						-
II-Class fill	3.0	3.0	3.0	3.0		160,000
III-Class fill						-
Total Fill						160,000
Strip/Fill						

NOTE:

- I - Class Fill - Granular materials, (D₄₀ > .2mm)
Gravel Sandy till, etc.
- II - Class Fill - Clay, (Clayey till) (> 40% Clay)
- III - Class Fill - Silt, Silty Till (D₅₀ < .06 mm).

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- Adjacent to center line



ACRES CONSULTING SERVICES
990 PALLISER SQUARE EAST, CALGARY, ALBERTA

GEOTECHNICAL INVESTIGATIONS - MACKENZIE HIGHWAY

Borrow Area Evaluation

Borrow Area: No. 448 2
(mi.) (no.)

Location: Chainage 303 + 00 Offset 600' L L/R

Access: From chainage 300+70 distance 600' ft.

Approximate Area 75,000 sq yd

Hole No.	448- B-J	448- C-H				Est. cu yd
Yards strip	.5	.5				40,000
I-Class fill						-
II-Class fill	2.0	2.0				150,000
III-Class fill						-
Total Fill						150,000
Strip/Fill						

NOTE:

- I - Class Fill - Granular materials, (D40 > .2mm)
Gravel Sandy till, etc.
- II - Class Fill - Clay, (Clayey till) (> 40% Clay)
- III - Class Fill - Silt, Silty Till (D50 < .06 mm).