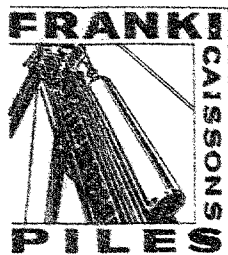


54-F-214c

DORCHESTER # 8

54-F-214C



"Franki Piles carry more tons per Pile"

# FRANKI

## COMPRESSED PILE COMPANY

### OF CANADA LIMITED

1835 YONGE STREET

TORONTO 7, ONT.

CABLEGRAMS:  
"FRANKIPILE"



TELEPHONE:  
Hudson 8-9609

Our Reference:  
PG 327 OF 11654  
October 29th, 1954.

### SOIL INVESTIGATION REPORT

For  
DEPARTMENT OF HIGHWAYS OF ONTARIO  
(M.M. Dillon, Consulting Engineers)  
at  
DORCHESTER #8.

As requested we carried out a soil investigation at the proposed bridge site, Dorchester #8, at Highway #401 and Highway #73.

### REPORT OF INVESTIGATION

Six percussion tests were made at the locations shown on the location sketch. The results are shown on the accompanying diagrams and are summarized as follows.

### S U M M A R Y

Hole No:	Ground Surface:	Water Level:	2,000 lbs per sq.ft.	4,000 lbs per sq.ft.	Refusal
1	859	856	851	849	844
2	860	856	854	845	827
3	860	856	852	850	822
4	860	856	853	843	818
5	861	856	853	836	819
6	860	856	853	842	820

\* NOTE: These bearing capacities are for the soil in its natural undisturbed state.

Two auger borings were made at holes #1 and #6, with the following results.

### LOG OF AUGER BORING

Hole #1.  
Ground Surface Elevation: 859

0' - 2'	Loamy sand	Sample 1.
2' - 6'	Saturated brown fine sand (loamy)	Sample 2.
6' - 8'	Saturated brown fine to medium sand	Sample 3.
8' - 13'	Saturated brown fine to medium sand	Sample 4.

## Hole #6.

Ground Surface Elevation: 860

0' - 2'	Fine to medium sand	Sample 1.
2' - 4'	Peat	Sample 2.
4' - 6'	Saturated brown medium sand (loamy)	Sample 3.
6' - 11'	Saturated brown medium sand	Sample 4.
11' - 16'	Saturated brown medium sand	Sample 5.
16' - 22'	Saturated brown medium sand (slightly silty)	Sample 6.
22' - 27'	Saturated brown medium sand (slightly silty)	Sample 7.
27' - 31'	Saturated brown medium sand (slightly silty)	Sample 8.
31' - 38'	Saturated brown medium sand (slightly silty)	Sample 9.
38' - 39'6"	Gray fine to medium sand	Sample 10.
39'6" - 40'	Gray silty very fine sand with stone fragments (Compact)	Sample 11.

MECHANICAL ANALYSIS:

See accompanying summary (from C.I.T. Lab).

DISCUSSION

An examination of the percussion test summary shows a bearing capacity of 2000 psf at elevation 871 on the proposed North abutment and at elevation 853 on the proposed South abutment (4 and 3 feet below water table).

Excavation below the existing water table (elevation 856) would undoubtedly lessen the soil bearing capacity. Such excavation in the submerged sand would require shoring.

The refusal obtained in hole #1 (elevation 844) was probably caused by an isolated lense of hard material, since the other refusals were at elevations 818 to 827.

CONCLUSION

End bearing piles, driven to refusal depth, would provide a good foundation. However, owing to the uniform and coarse nature of the sand, it would be possible to use driven caissons with expanded bases capable of carrying 100 tons per caisson. Such caissons would only have to be driven to elevation 840.

*W. H. T. Wilson*  
W. H. T. Wilson, P. Eng.

		<u>SIEVE SIZE</u>	<u>% RETAINED</u>	
Sample 4.	6' - 11'	20	4.5	
		40	52.5	
		60	73.0	
		140	86.1	
		200	88.9	12%
Sample 5.	11' - 16'		2.9	
			55.3	
			73.1	
			83.8	
		200	86.7	12%
Sample 6.	16' - 22'		4.5	
			51.5	
			71.7	
			86.4	
		200	89.3	12%
Sample 7.	22' - 27'		5.3	
			48.2	
			68.0	
			85.0	
		200	88.0	12%

# FRANKI

COMPRESSED PILE COMPANY  
OF CANADA LIMITED

## PERCUSSION TEST DIAGRAM

FOR: DEPARTMENT OF HIGHWAYS OF ONTARIO

AT: DORCHESTER #8.

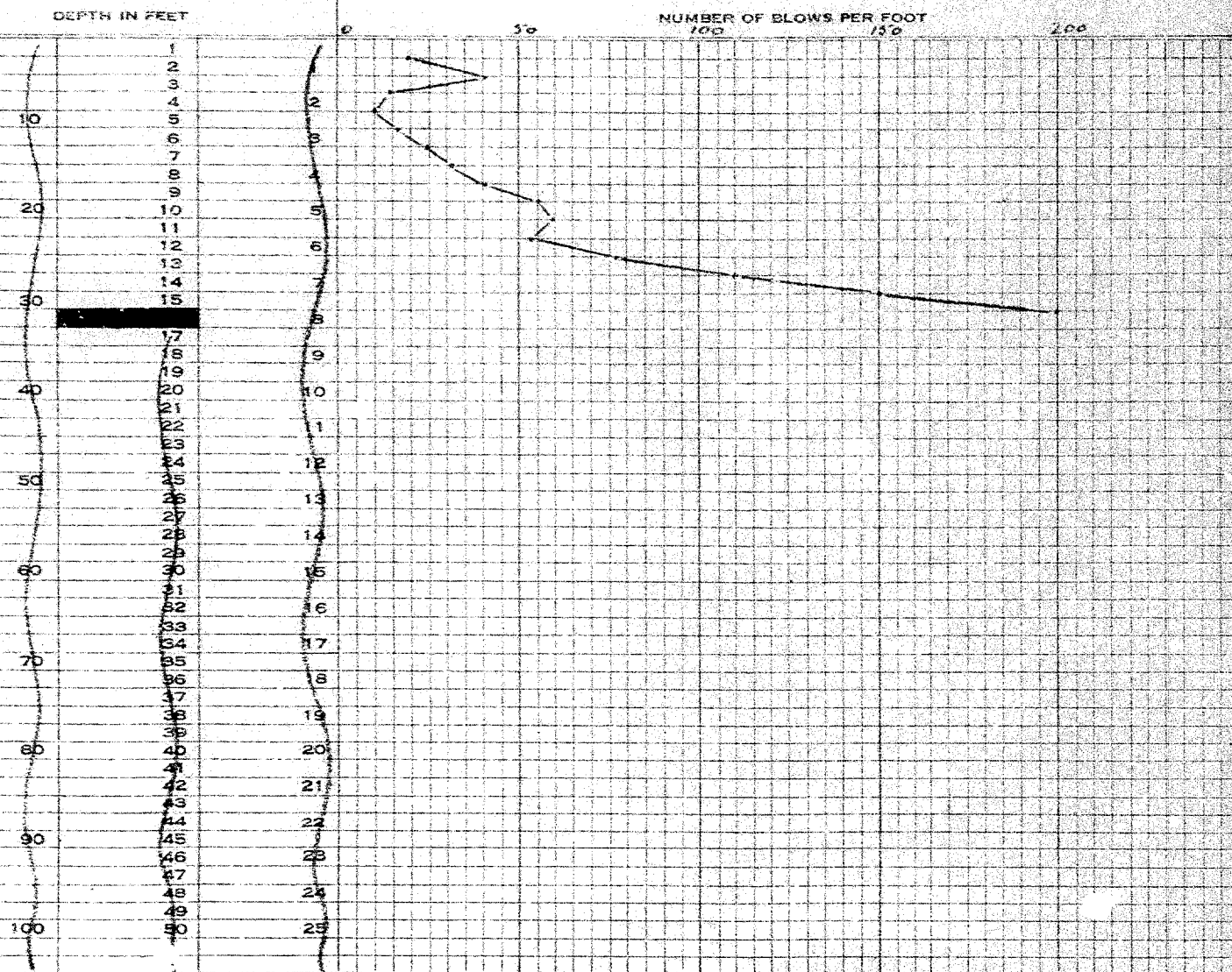
JOB NO. PC 327

DATE: OCTOBER 20, 1954.

TEST NO.: 1

WEIGHT OF HAMMER 2356

DROP 3 FT.



Ground Surface Elevation 859  
Refusal Elevation 844  
Number of Blows 200 for 9"

SIGNED

*Donald C. H.*

# FRANKI

COMPRESSED PILE COMPANY  
OF CANADA LIMITED

## PERCUSSION TEST DIAGRAM

FOR: DEPARTMENT OF HIGHWAYS OF ONTARIO

AT: DORCHESTER #8

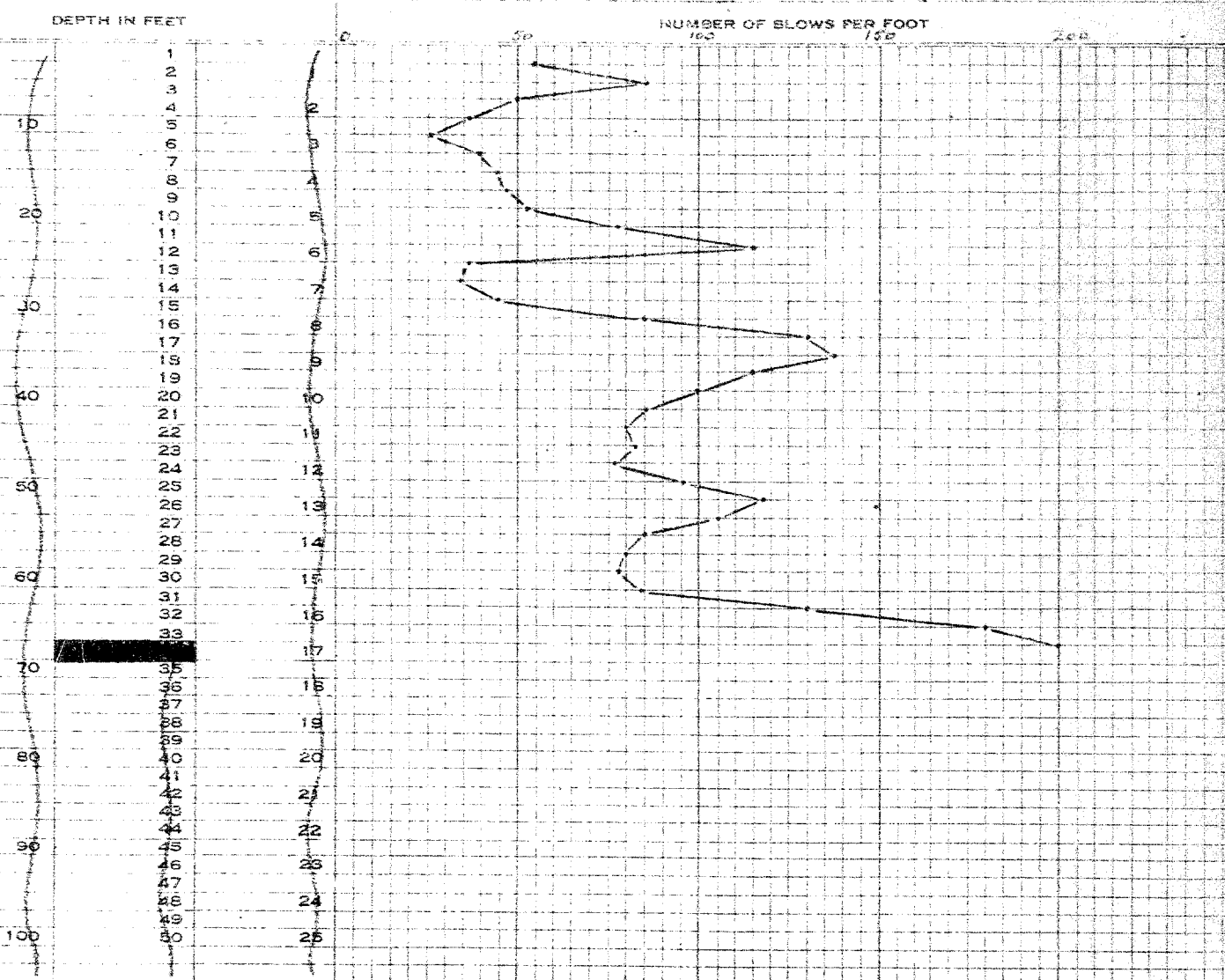
JOB NO. PC 327

DATE: OCTOBER 20, 1954

TEST NO.: 2

WEIGHT OF HAMMER 225#

DROP 3 FT



Ground Surface Elevation 860  
Refusal Elevation 827  
Number of Blows 200 for 11"

SIGNED

*[Signature]*

# FRANKI

COMPRESSED PILE COMPANY  
OF CANADA LIMITED

## PERCUSSION TEST DIAGRAM

FOR: DEPARTMENT OF HIGHWAYS OF ONTARIO

AT: DORCHESTER #8

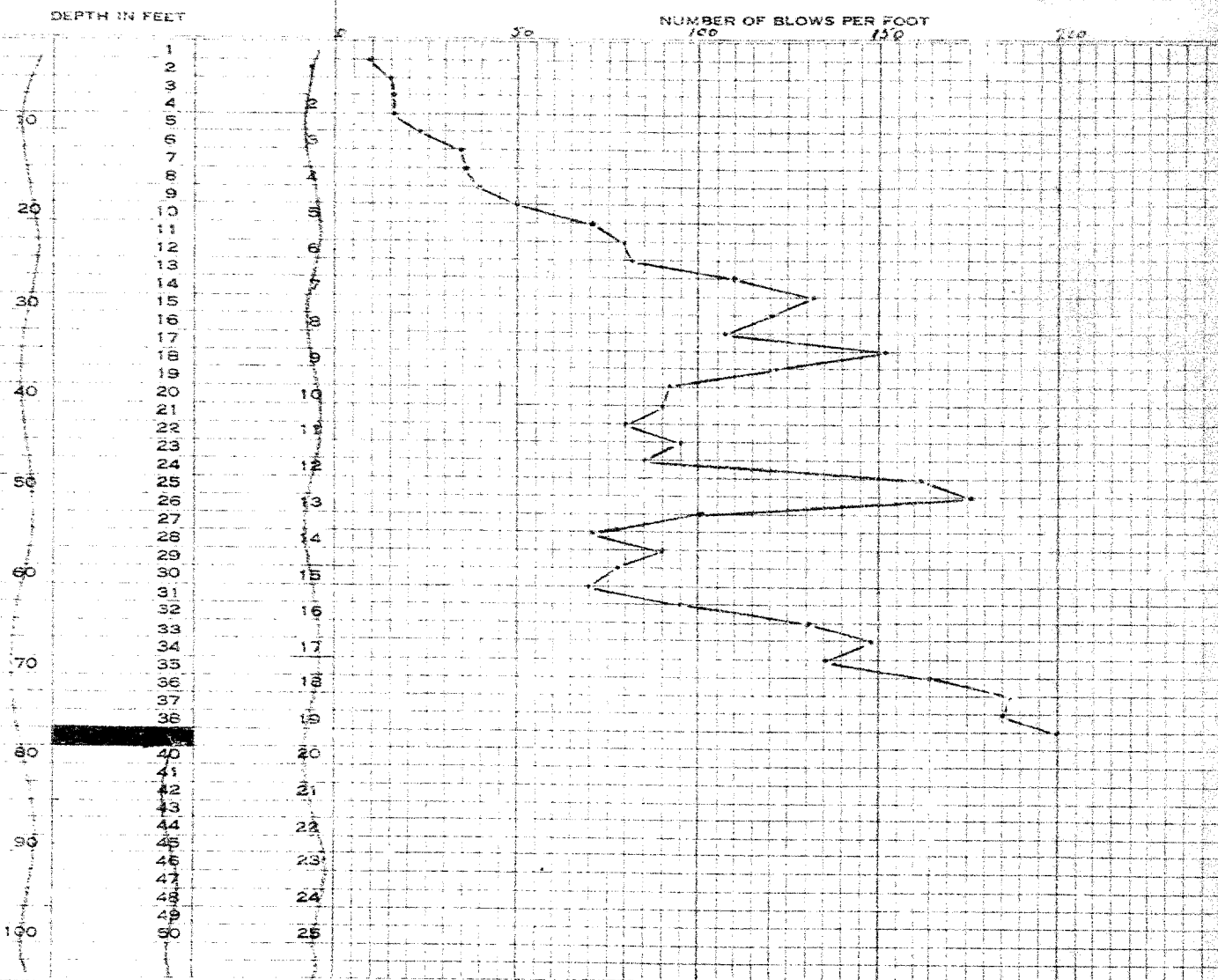
JOB NO. PC 327

DATE: OCTOBER 21, 1954.

TEST NO.: 3

WEIGHT OF HAMMER 225#

DROP 3 FT.



Ground Surface Elevation 860  
Refusal Elevation 822  
Number of Blows 200 for 9"

SIGNED

*Ronald J. Smith*

# FRANKI

COMPRESSED PILE COMPANY  
OF CANADA LIMITED

## PERCUSSION TEST DIAGRAM

FOR: DEPARTMENT OF HIGHWAYS OF ONTARIO

AT: DORCHESTER #8.

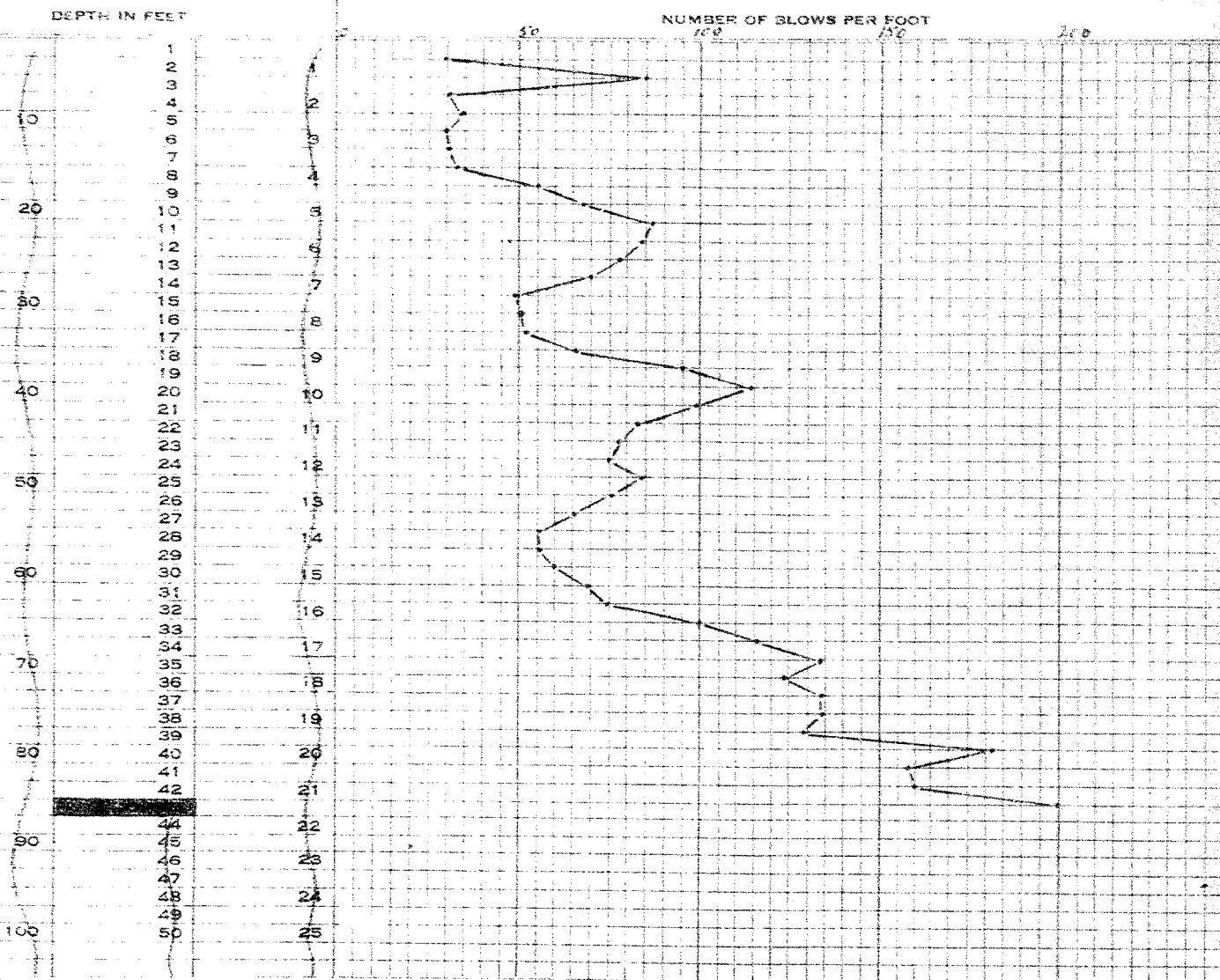
JOB NO. PC 327

DATE: OCTOBER 22, 1954.

TEST NO.: 1

WEIGHT OF HAMMER 2254

DROP 3 FT.



Ground Surface Elevation 860  
Refusal Elevation 818  
Number of Blows 200 for 10"

SIGNED

*Ronald J. Plonk*



# FRANKI

COMPRESSED PILE COMPANY  
OF CANADA LIMITED

## PERCUSSION TEST DIAGRAM

FOR: DEPARTMENT OF HIGHWAYS OF ONTARIO

AT: DORCHESTER #2.

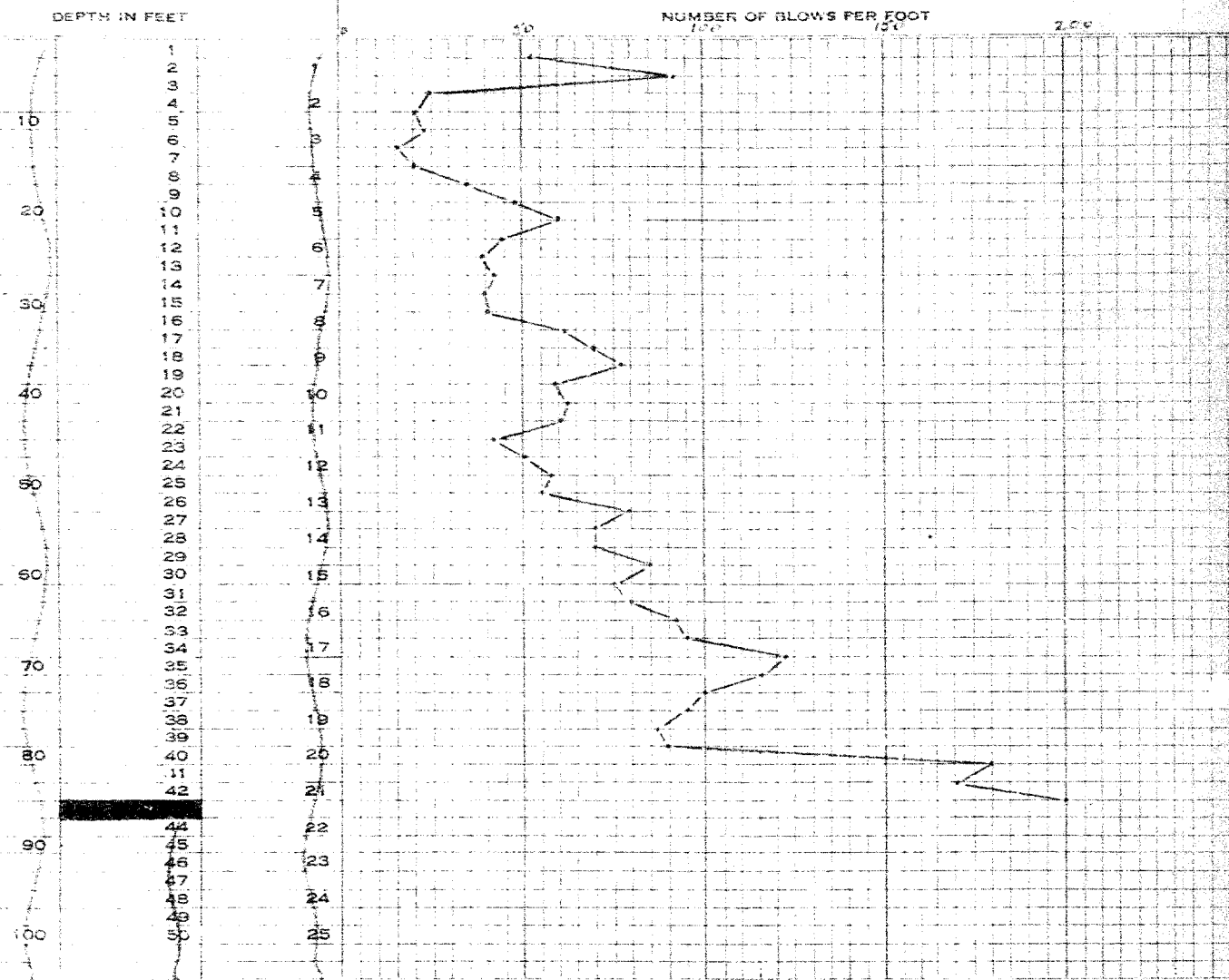
JOB NO. EC 327

DATE: OCTOBER 22, 1954.

TEST NO.: 5

WEIGHT OF HAMMER 225#

DROP 3 FT



Ground Surface Elevation 861  
Refusal Elevation 819  
Number of Blows 200 for 10"

SIGNED

*Donald J. Gough*

# FRANKI

COMPRESSED PILE COMPANY  
OF CANADA LIMITED

## PERCUSSION TEST DIAGRAM

FOR: DEPARTMENT OF HIGHWAYS OF ONTARIO

AT: DORCHESTER #8.

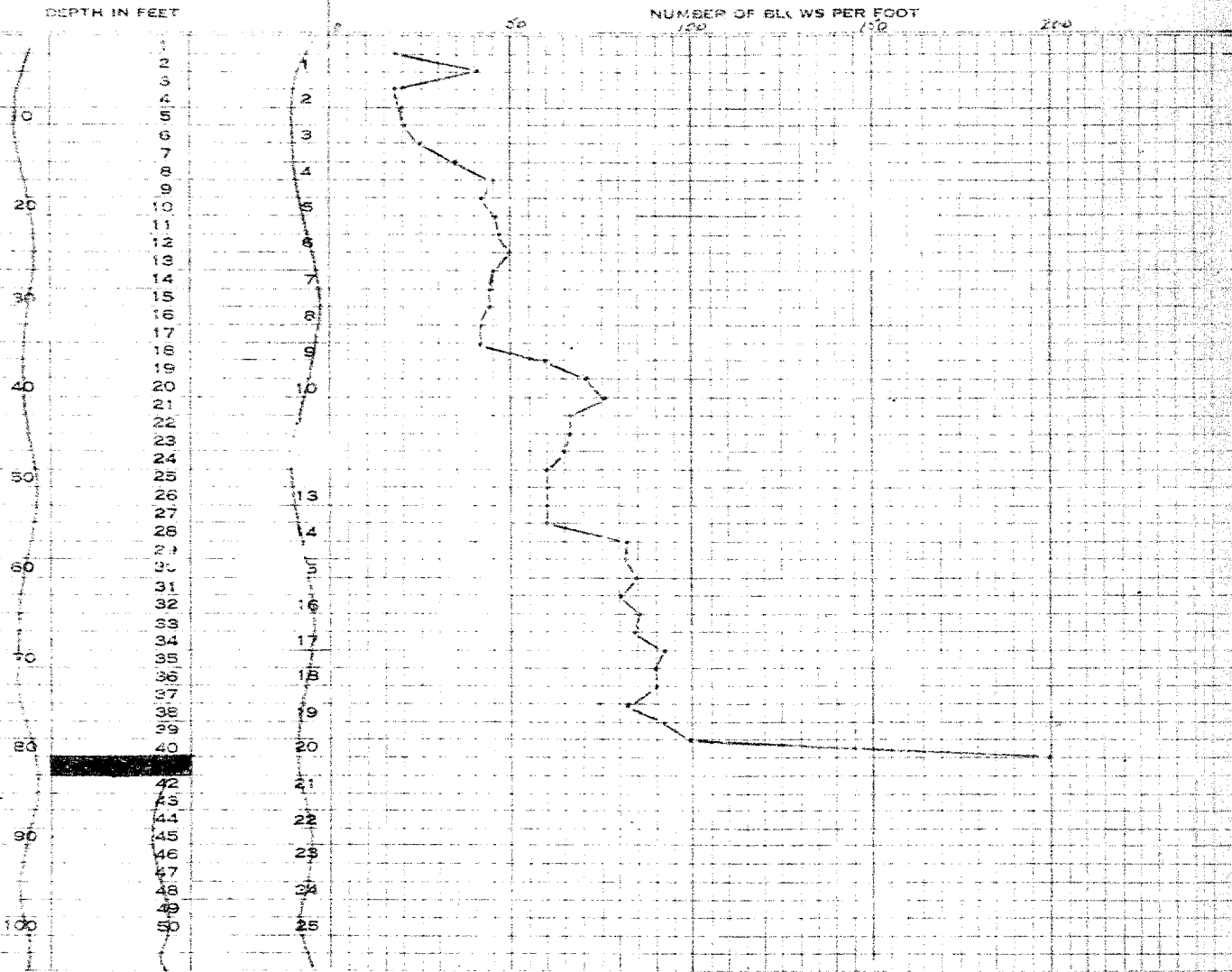
JOB NO. PC 327

DATE: OCTOBER 21, 1954.

TEST NO.: 6

WEIGHT OF HAMMER 225#

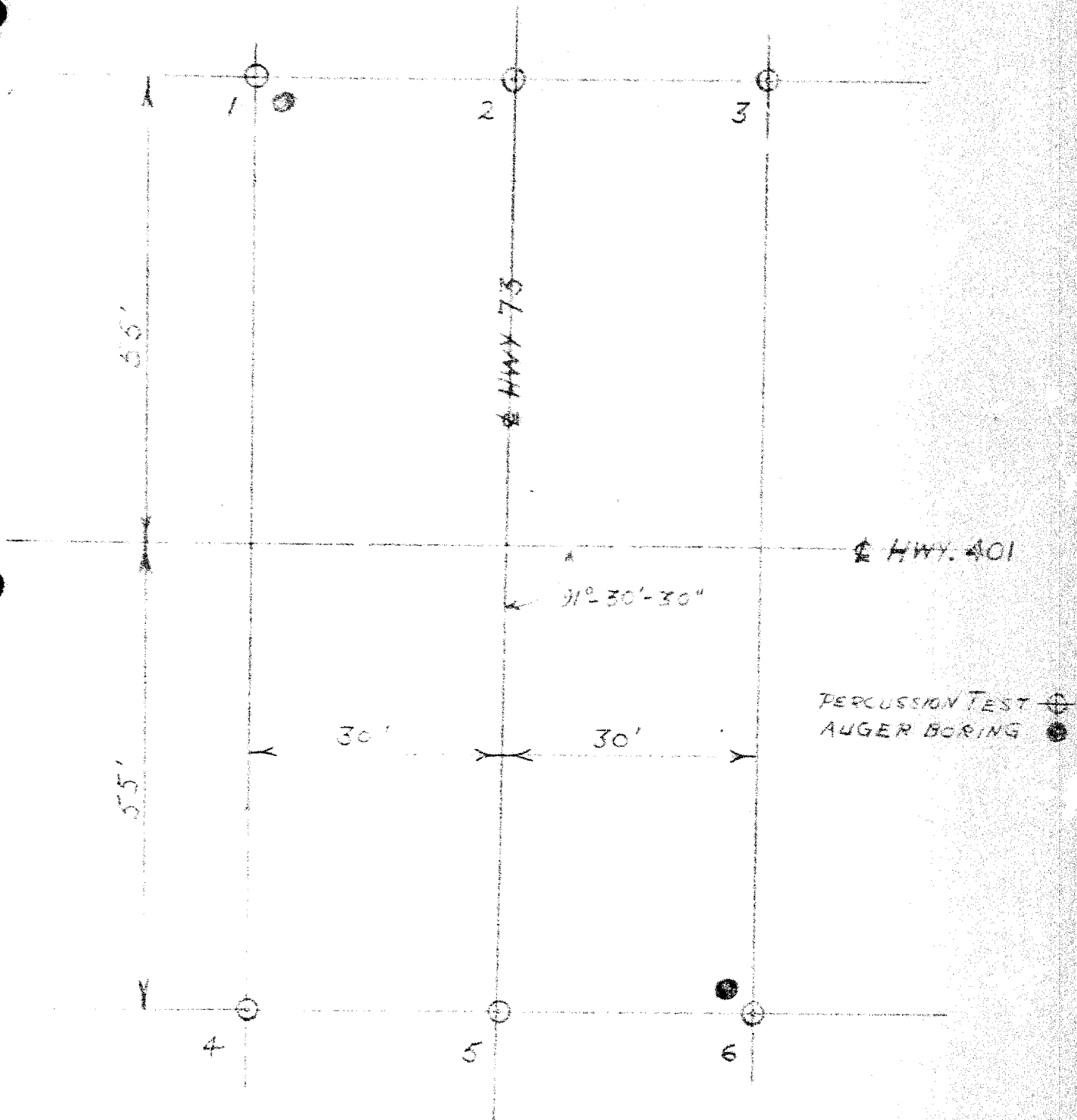
DROP: 3 FT.



Ground Surface Elevation 860  
Refusal Elevation 820  
Number of Blows 200 for 10"

SIGNED

LOCATION SKETCH



FRANKI COMPRESSED FILE COMPANY OF CANADA LIMITED  
for  
DEPARTMENT OF HIGHWAYS OF ONTARIO  
at  
DORCHESTER #8.

PC 327  
October 27th, 1954.