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Consulting Engineers

HYDROGEOLOGIC STUDY UPDATE

FOR THE

CRANDON PROJECT

EXXON MINERALS COMPANY

JUNE, 1984

VOLUME II

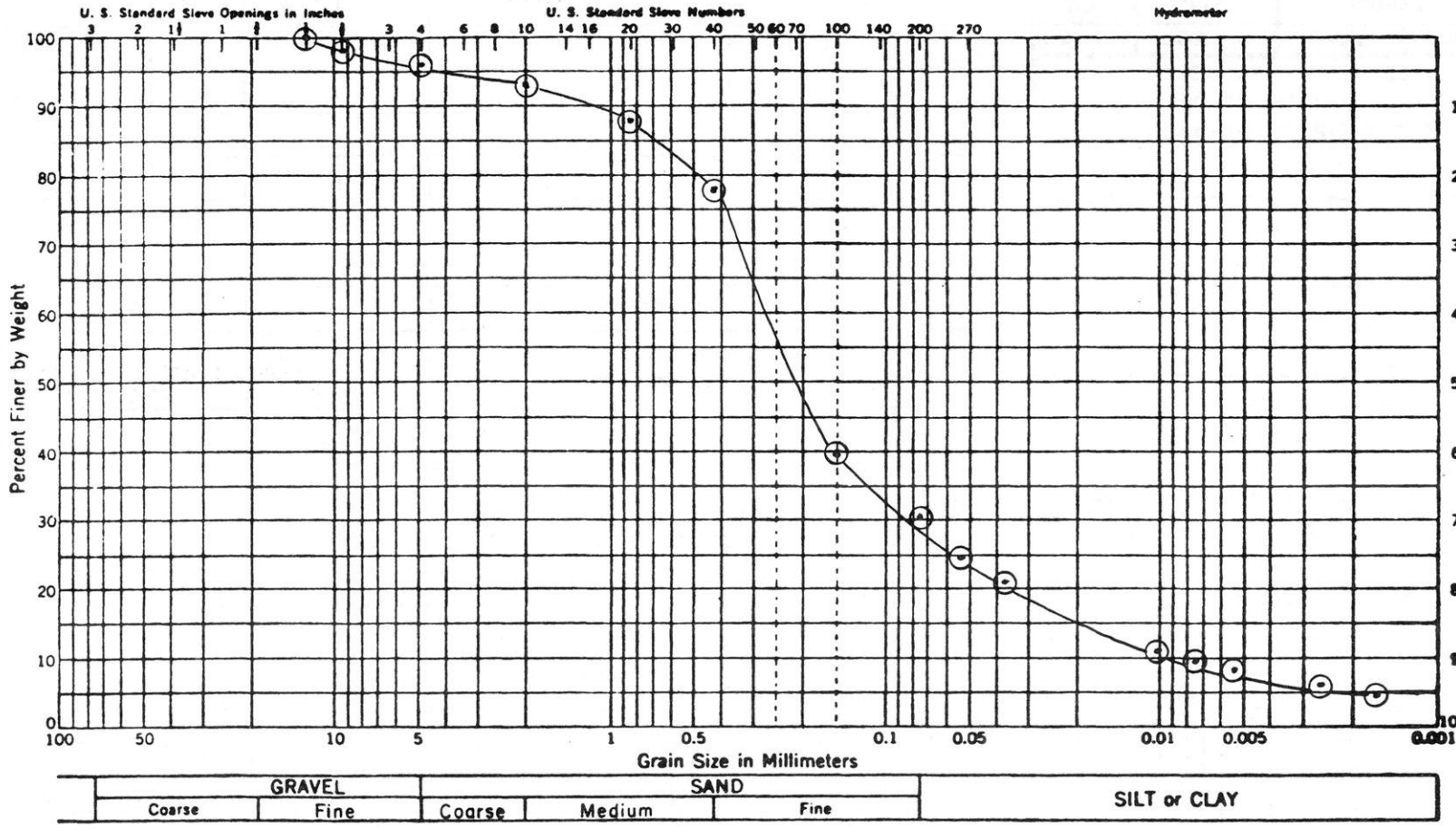
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APPENDIX B

Gradation Curves for G-40 Series

UNIFIED CLASSIFICATION SYSTEM



SAMPLE NO.	W.C.	LL	PL	PI	CLASSIFICATION
G40 D24					Silty fine to medium sand (SM)
S-3					
10-11.5'					

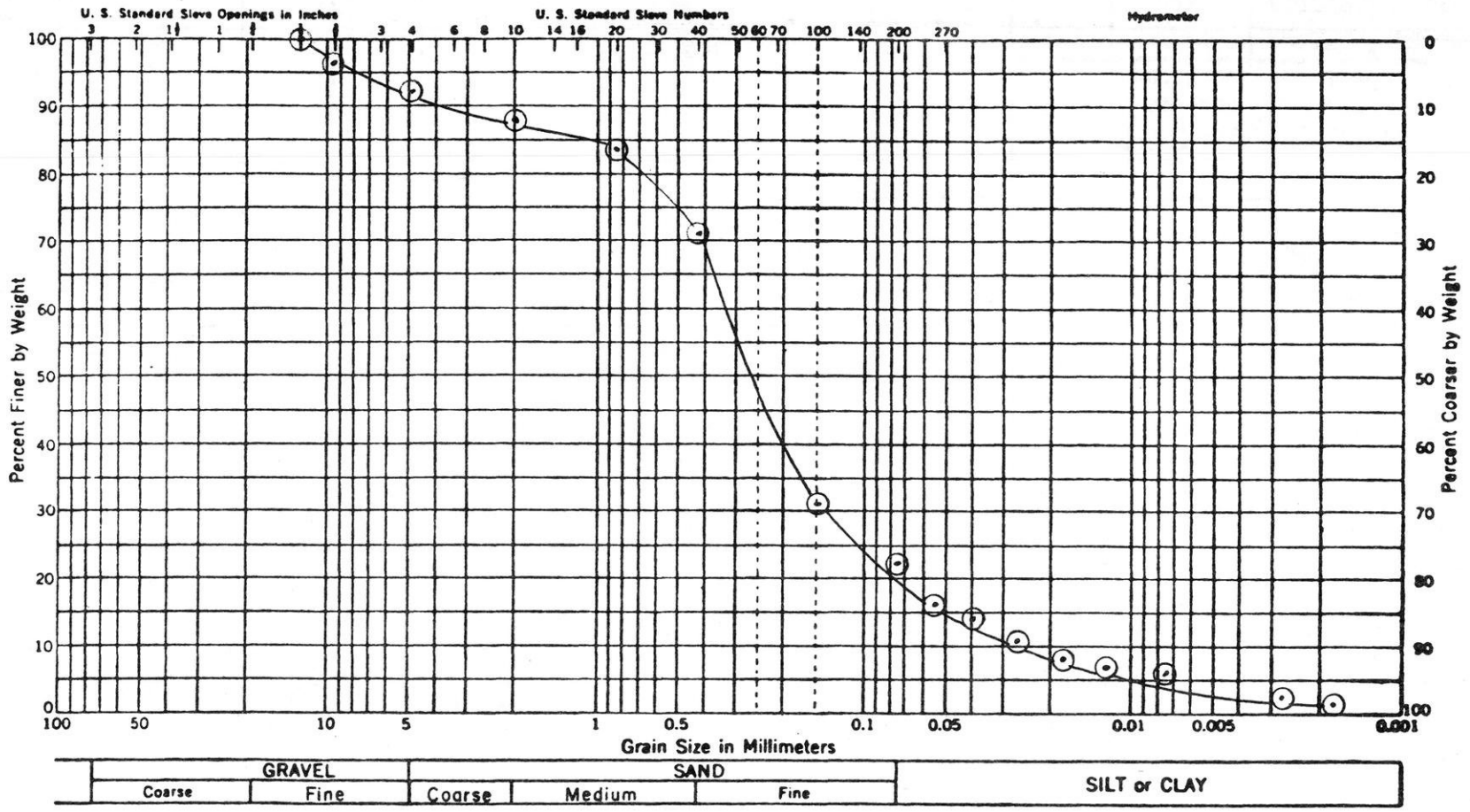
EXXON MINERALS COMPANY
GRAIN SIZE ANALYSIS
CRANDON PROJECT

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DRAWN	APPROVED	DATE	JOB No.
SMD	JAS	6-10-84	12959

BBS09302

UNIFIED CLASSIFICATION SYSTEM



SAMPLE NO.	W.C.	LL	PL	PI	CLASSIFICATION
G40 D24					Silty fine sand (SM)
S-11					
50-50.9'					

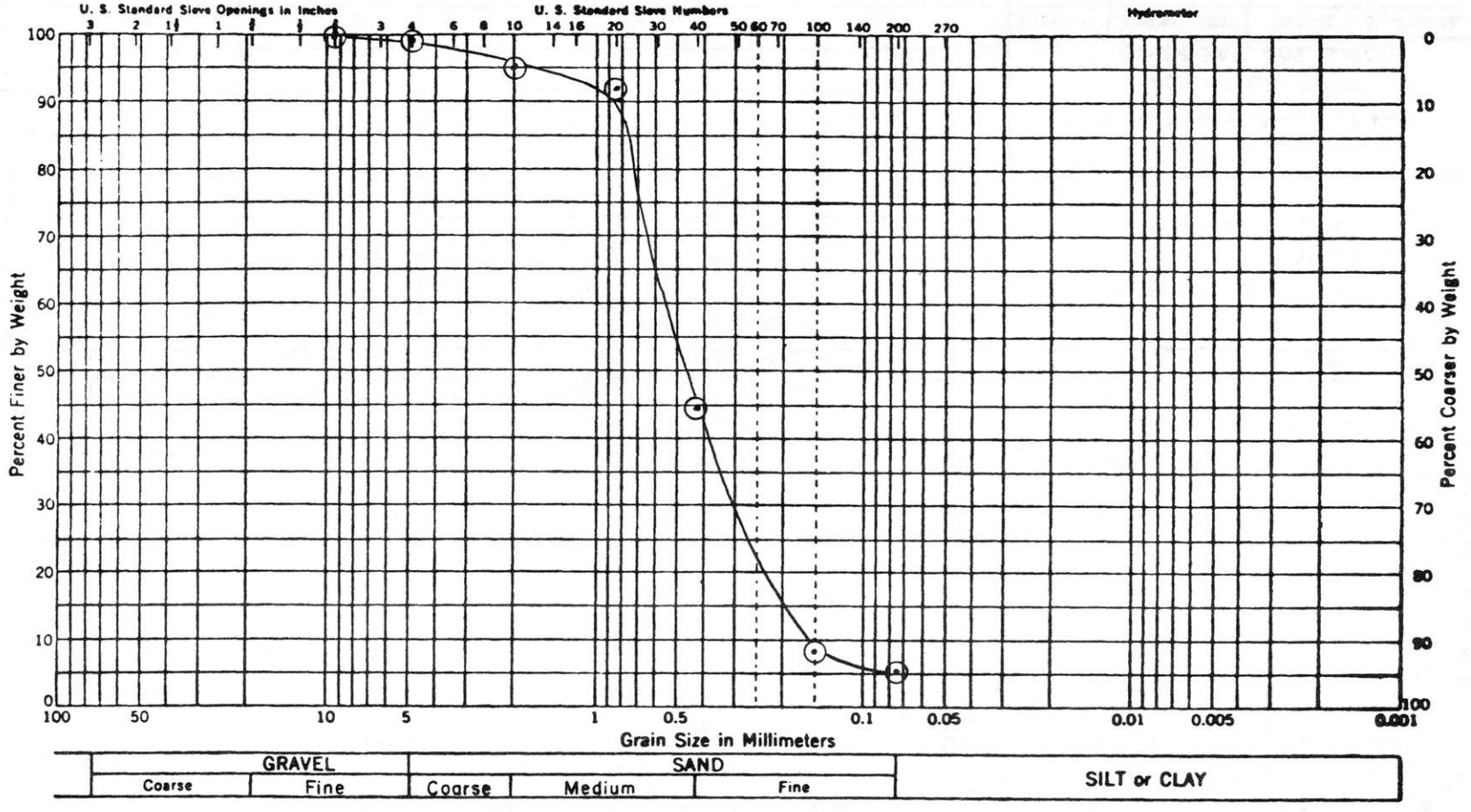
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SAMPLE NO.	W.C.	LL	PL	PI	CLASSIFICATION
G40 D24					Slightly silty fine to medium sand (SM-SP)
S-19					
90-91'					

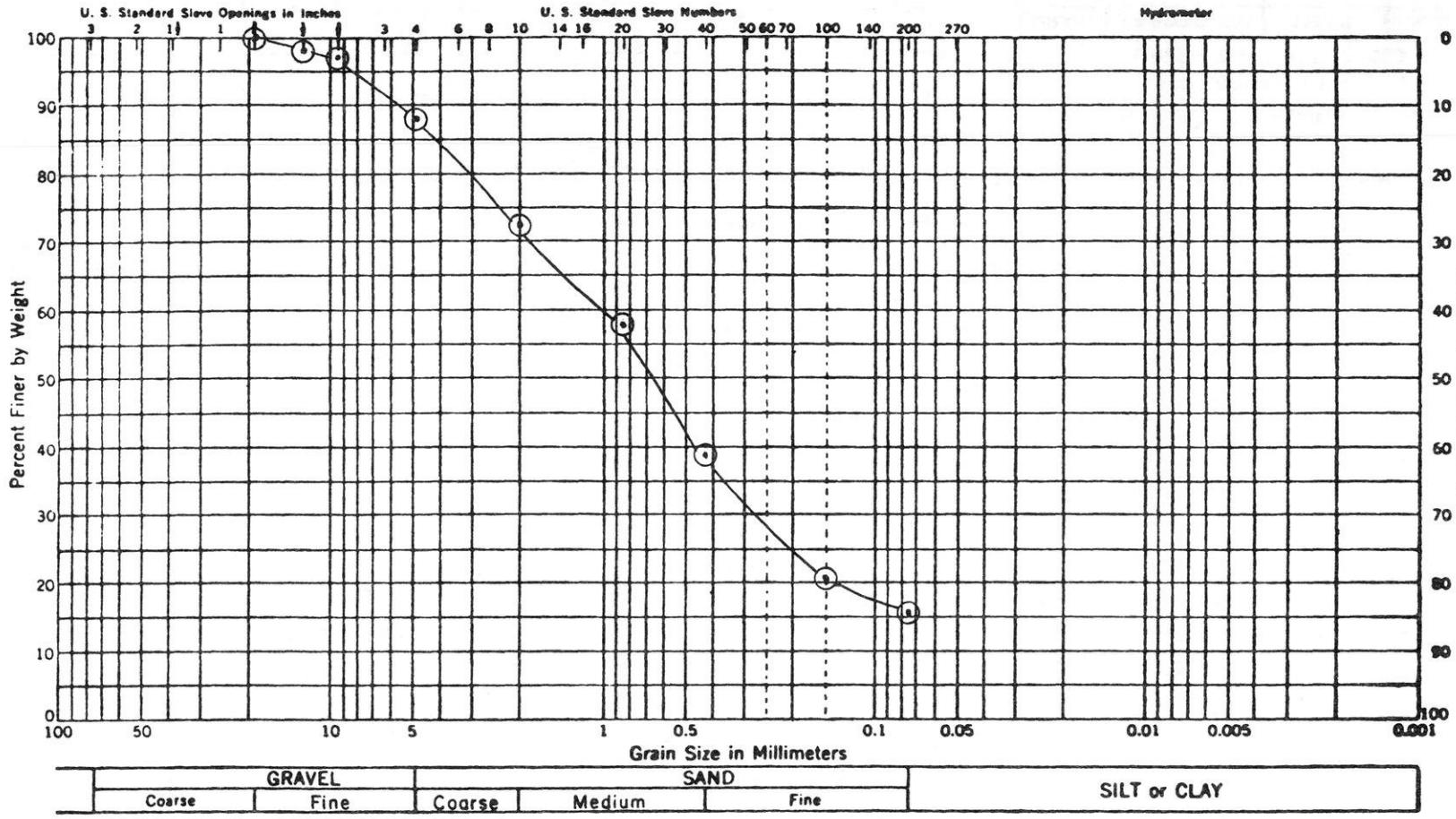
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SAMPLE NO.	W.C.	LL	PL	PI	CLASSIFICATION
G40 D24					Silty fine to coarse sand (SM)
S27					
160-160.8'					

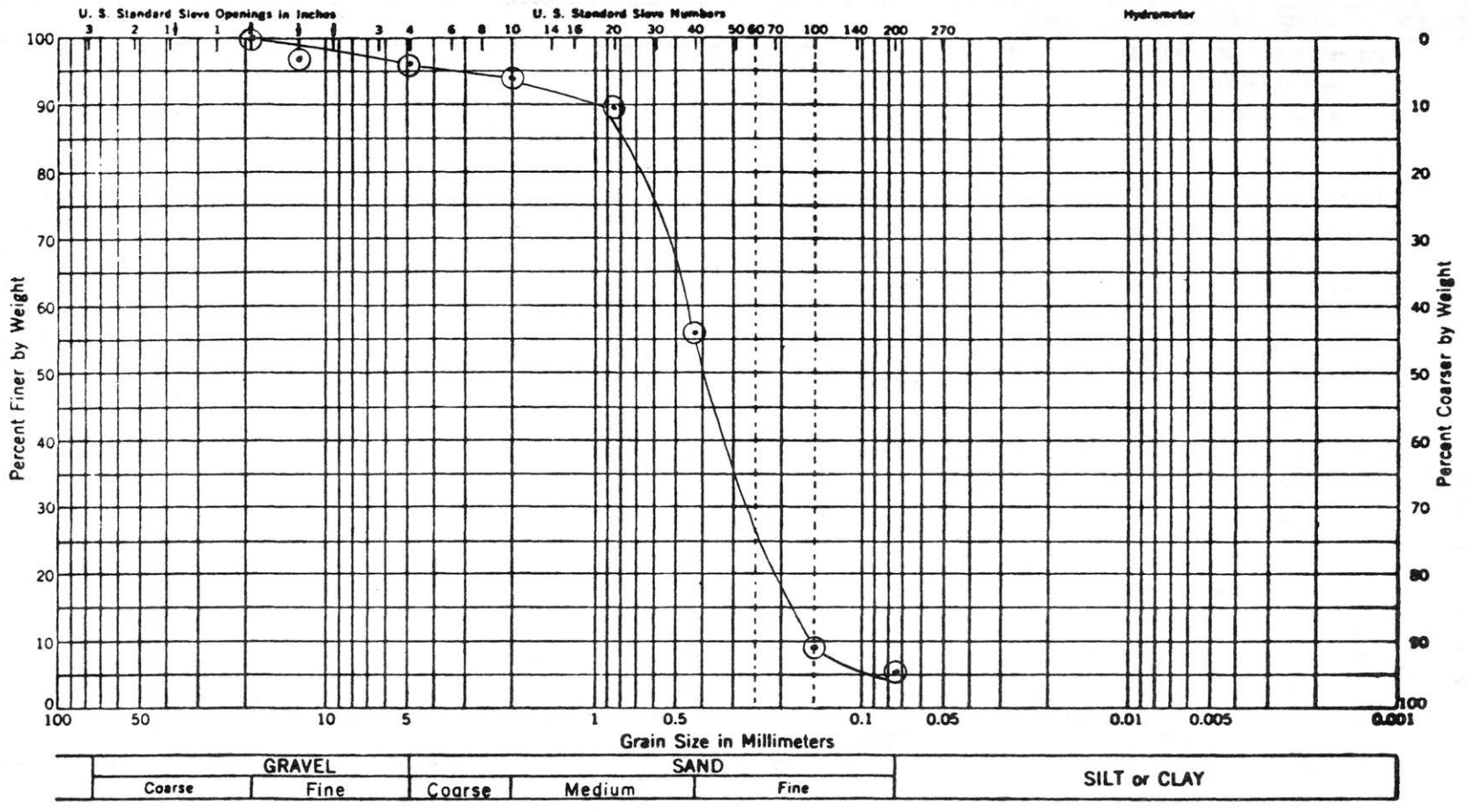
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SAMPLE NO.	W.C.	LL	PL	PI	CLASSIFICATION
G40 H16					Slightly silty fine to medium sand (SM-SP)
S-20					
90-90.75'					

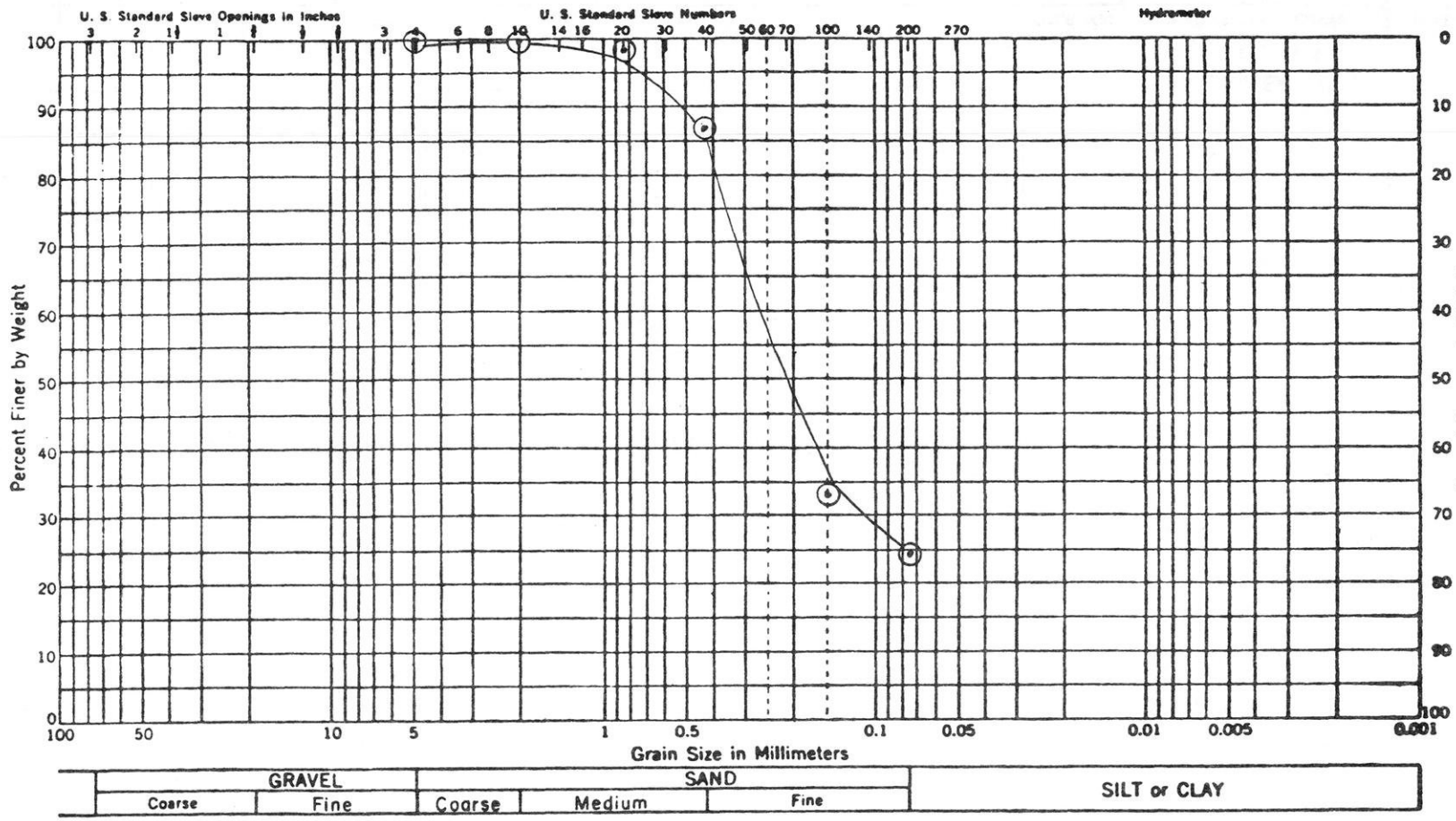
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SAMPLE NO.	W.C.	LL	PL	PI	CLASSIFICATION
G40 H16					Silty fine sand (SM)
S-26					
140-141.5'					

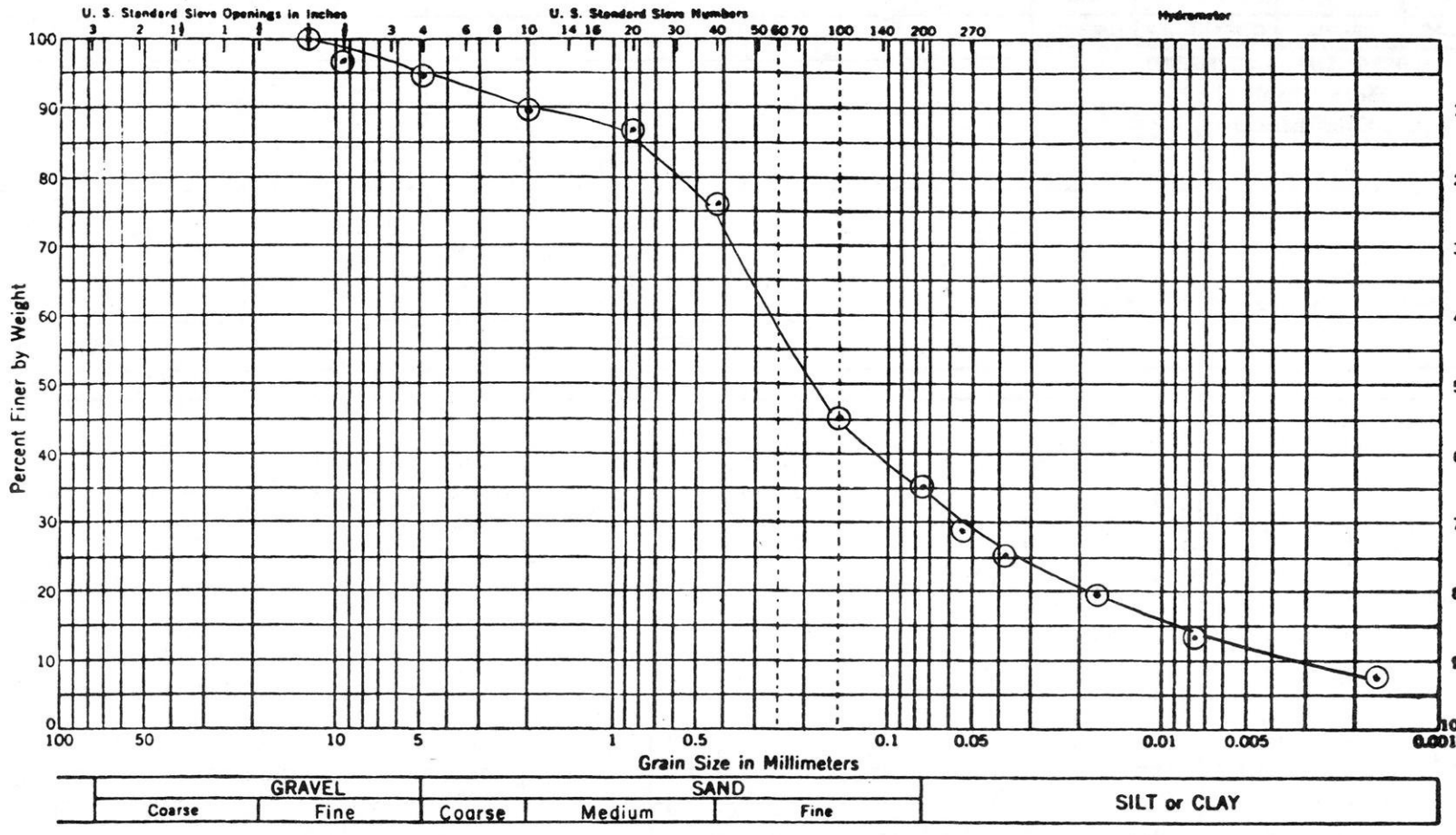
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SAMPLE NO.	W.C.	LL	PL	PI	CLASSIFICATION
G40 H16					Silty fine sand (SM)
S-34					
220-220.7'					

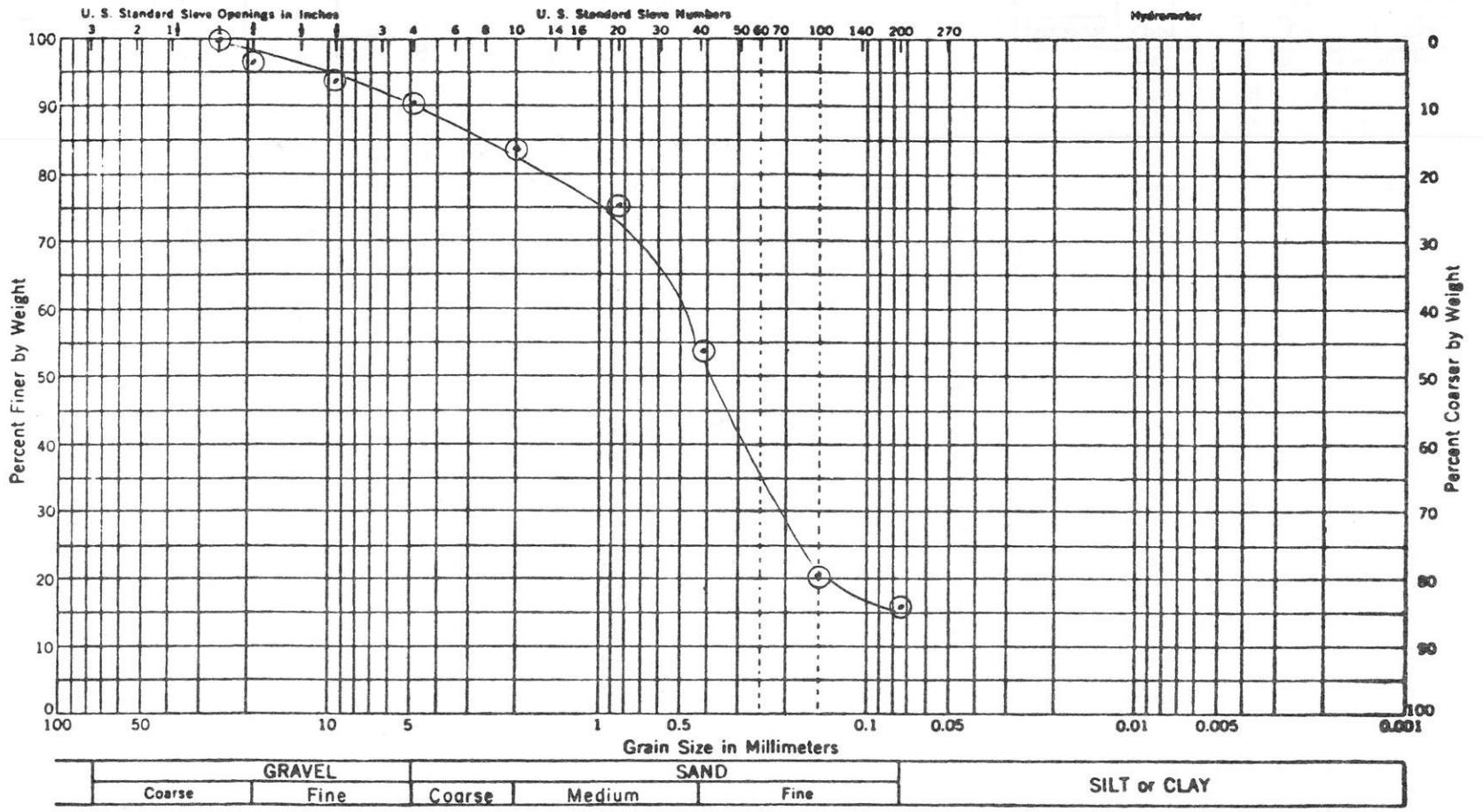
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SAMPLE NO.	W.C.	LL	PL	PI	CLASSIFICATION
G40 H27					Silty fine to coarse sand (SM)
S-8					
35-35.8'					

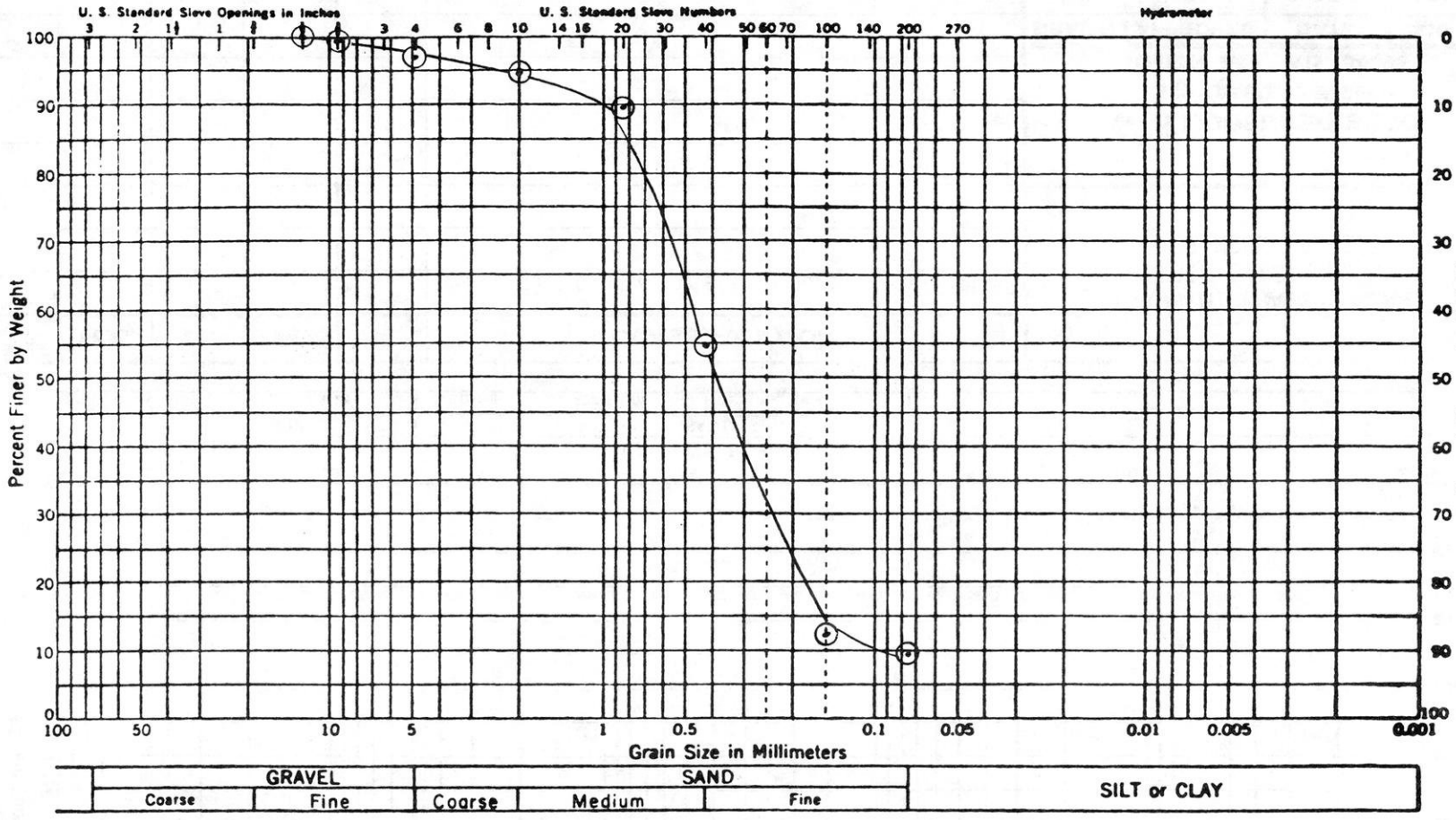
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SAMPLE NO.	W.C.	LL	PL	PI	CLASSIFICATION
G40 H27					Slightly silty fine to medium sand (SM-SP)
S-14					
65-65.9'					

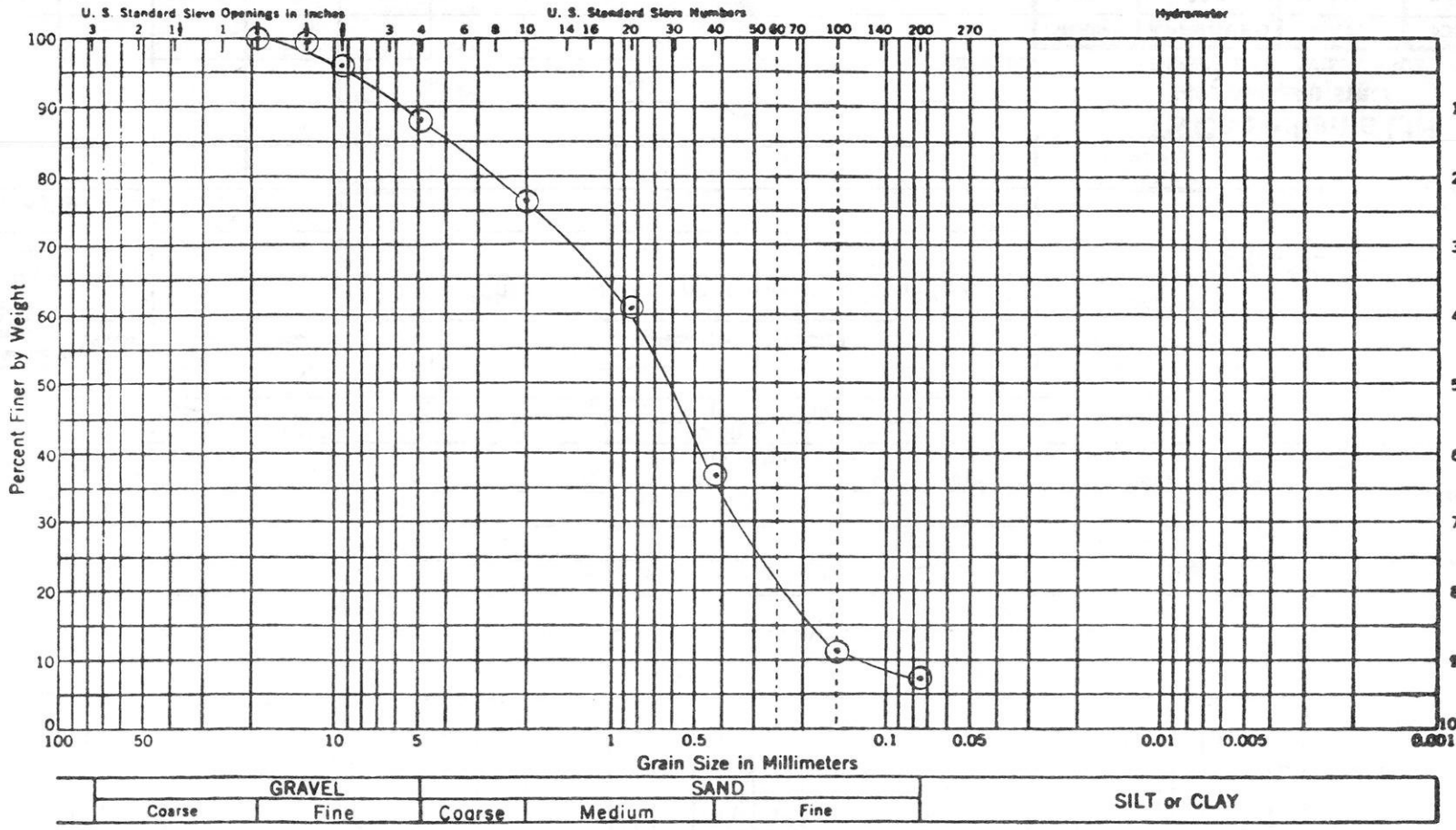
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SAMPLE NO.	W.C.	LL	PL	PI	CLASSIFICATION
G40 H27					Slightly silty fine to coarse sand (SM-SP)
S-19					
90-90.9'					

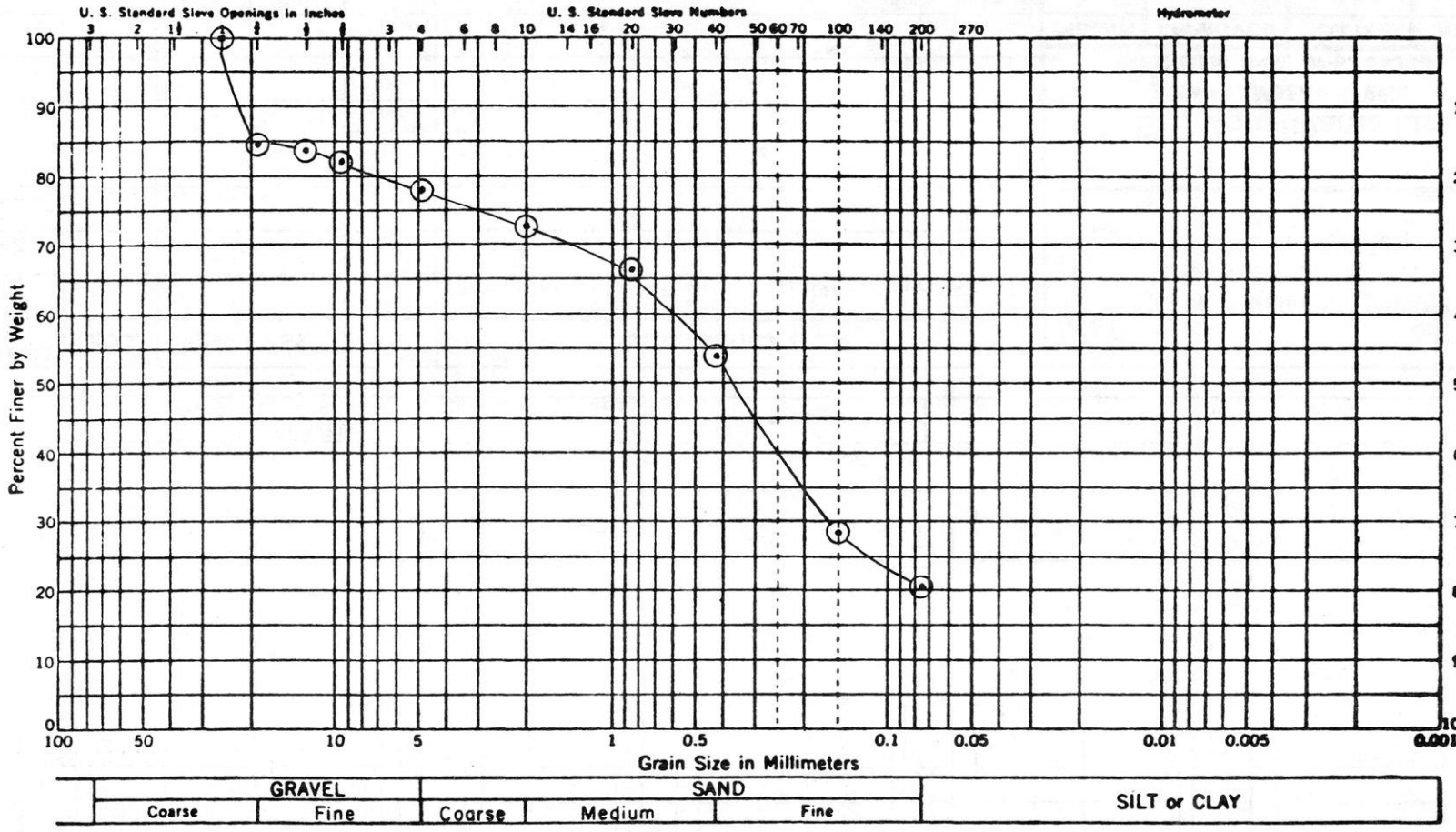
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SAMPLE NO.	W.C.	LL	PL	PI	CLASSIFICATION
G40 M15					Silty fine to medium sand (SM)
S11					
45-46'					

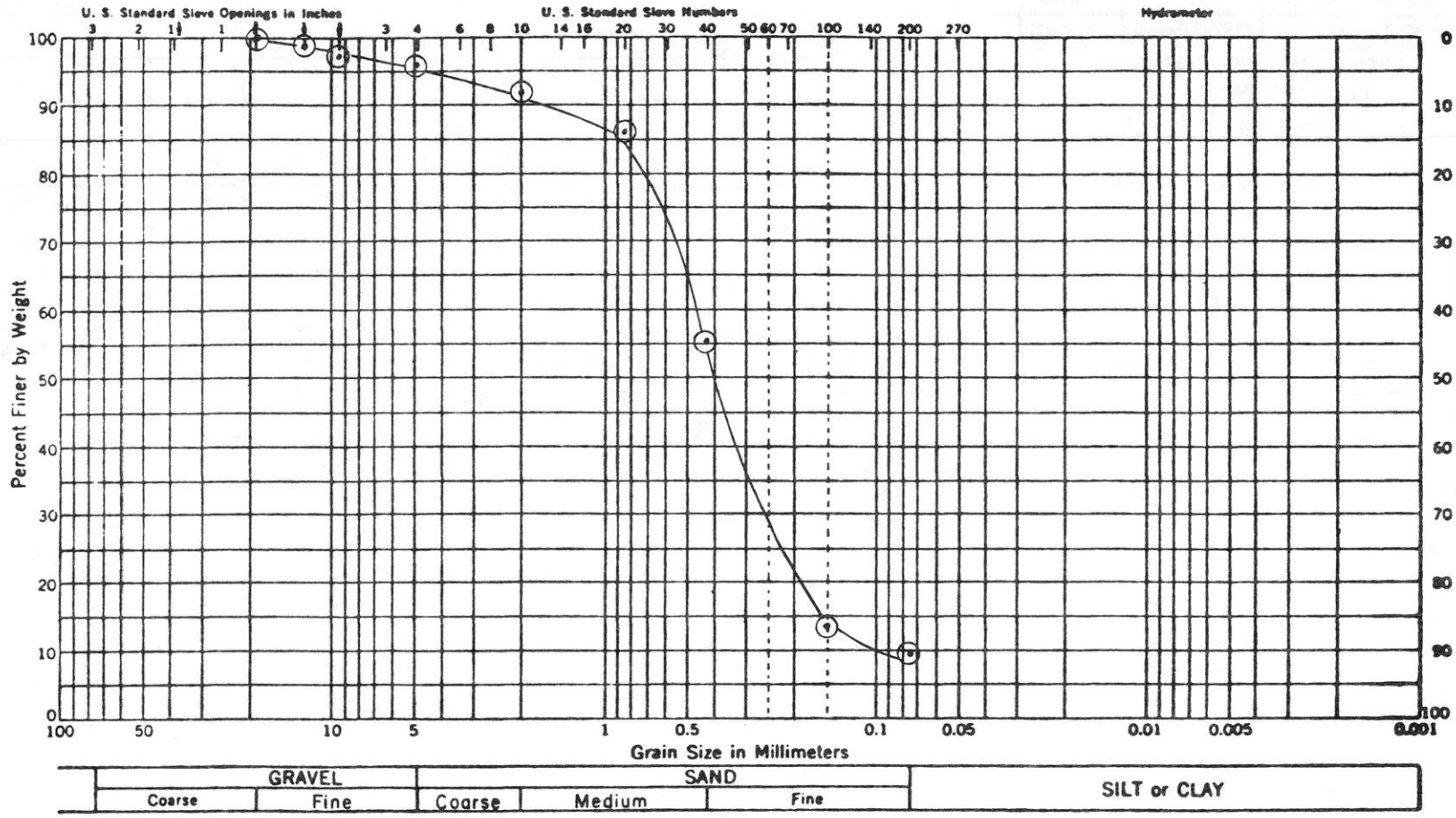
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SAMPLE NO.	W.C.	LL	PL	PI	CLASSIFICATION
G40 M15					Slightly silty fine to medium sand (SM-SP)
S-21					
95-96.5'					

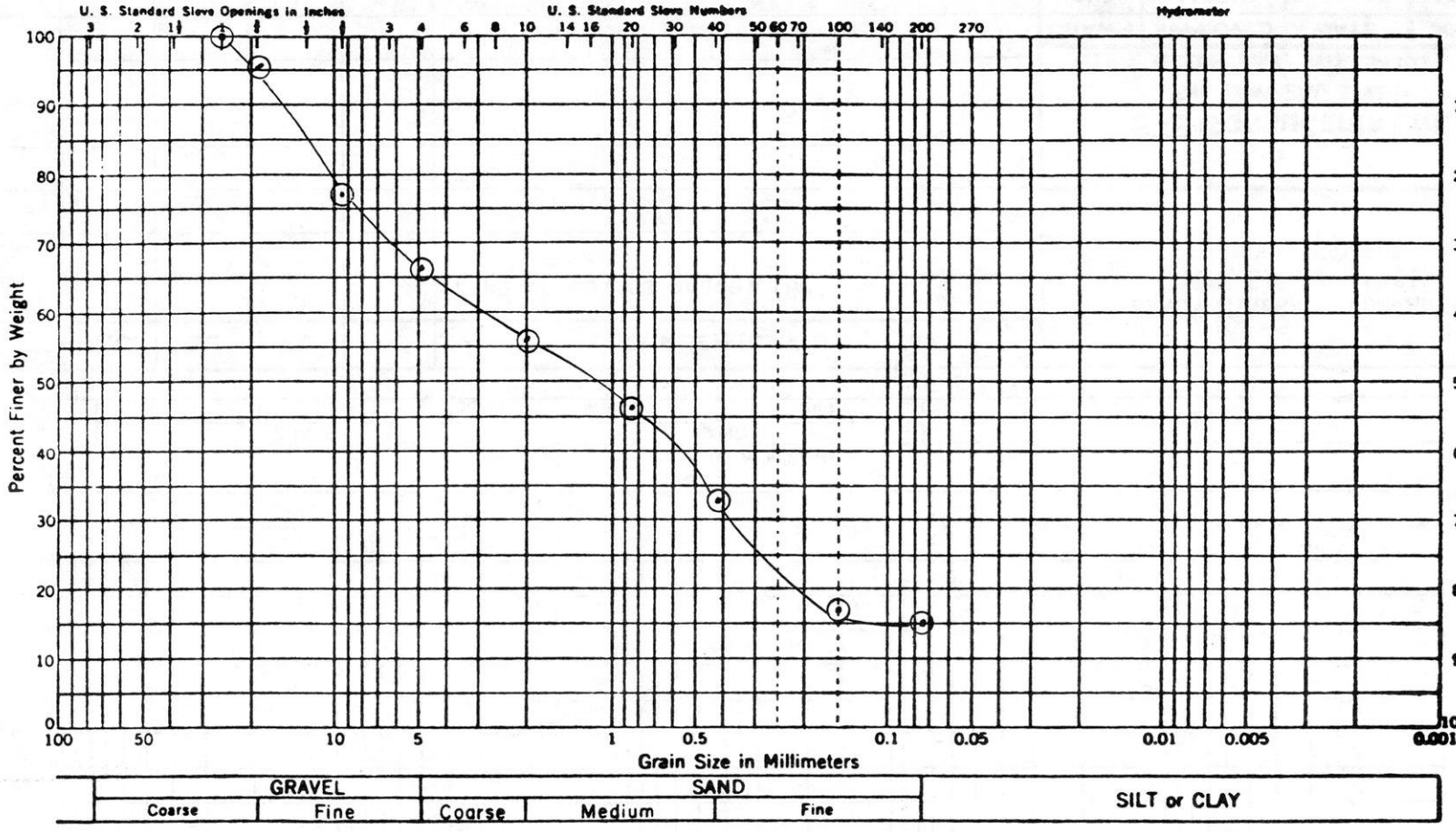
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SAMPLE NO.	W.C.	LL	PL	PI	CLASSIFICATION
G40 P10A					Silty fine to coarse sand (SM)
S-7					
130-130.6'					

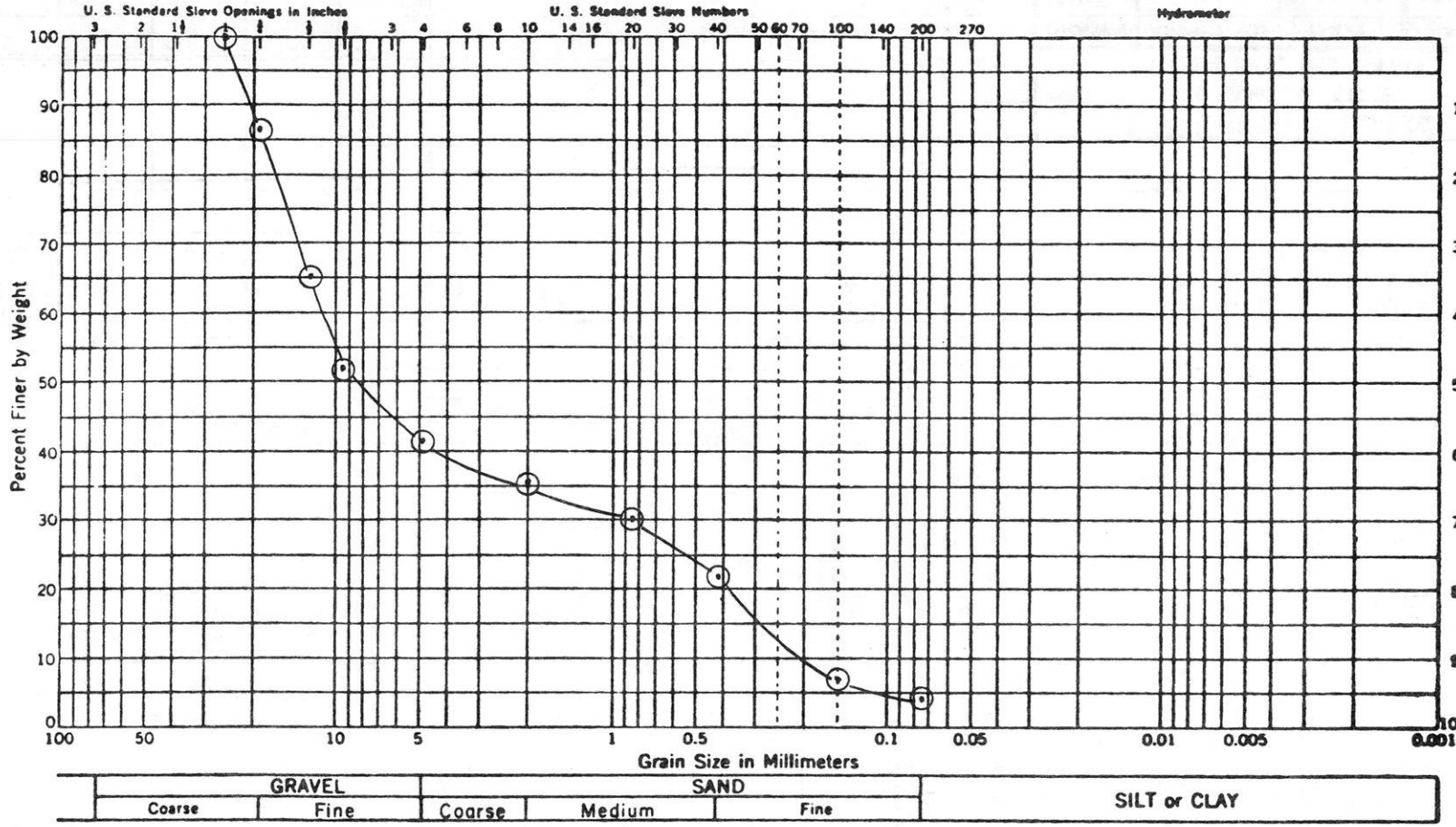
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SAMPLE NO.	W.C.	LL	PL	PI	CLASSIFICATION
G40 S17					Fine to coarse gravel (GP)
S-5					
50-51.5'					

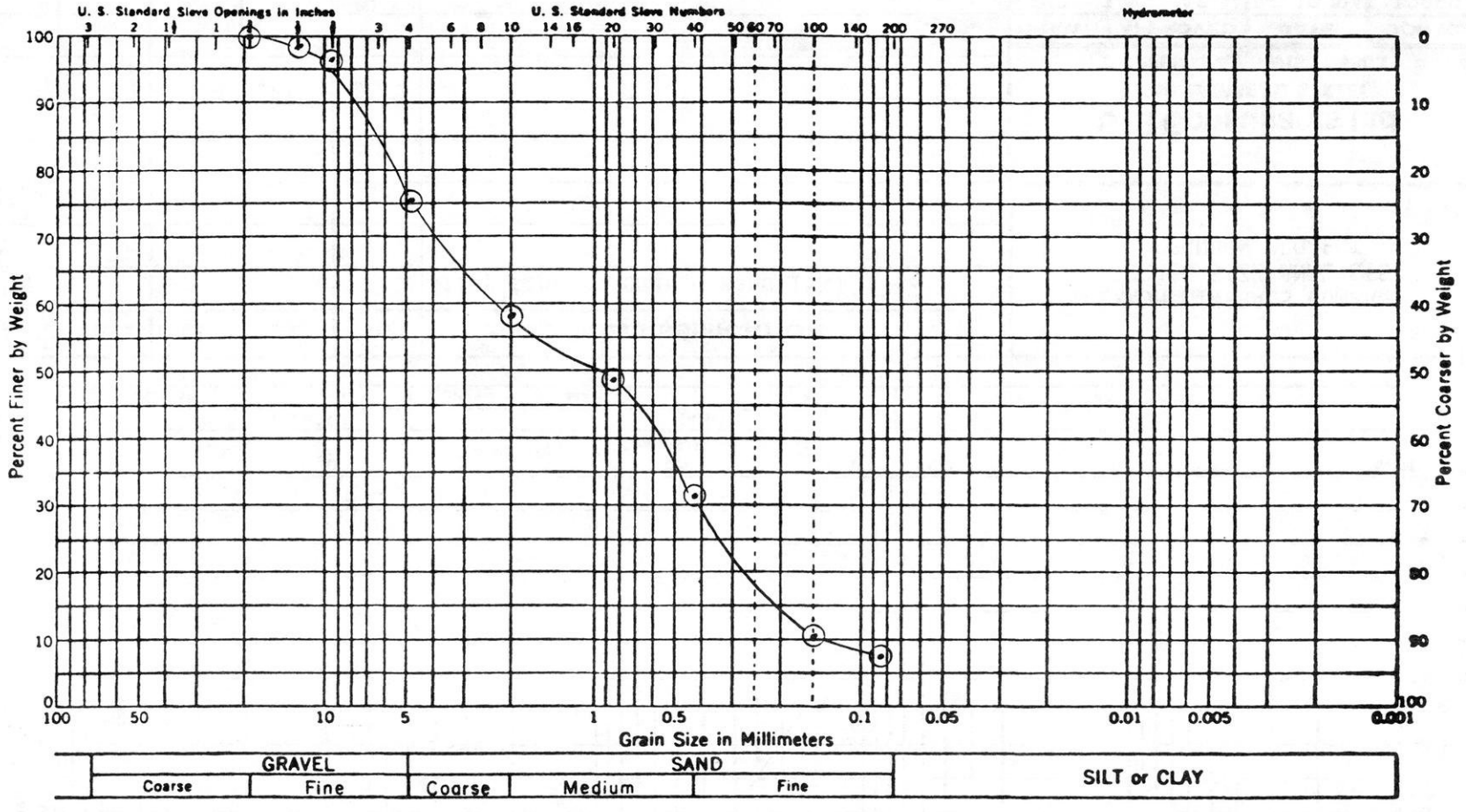
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SAMPLE NO.	W.C.	LL	PL	PI	CLASSIFICATION
G40 S17					Slightly silty fine to coarse sand (SM-SP)
S-11					
110-111.5'					

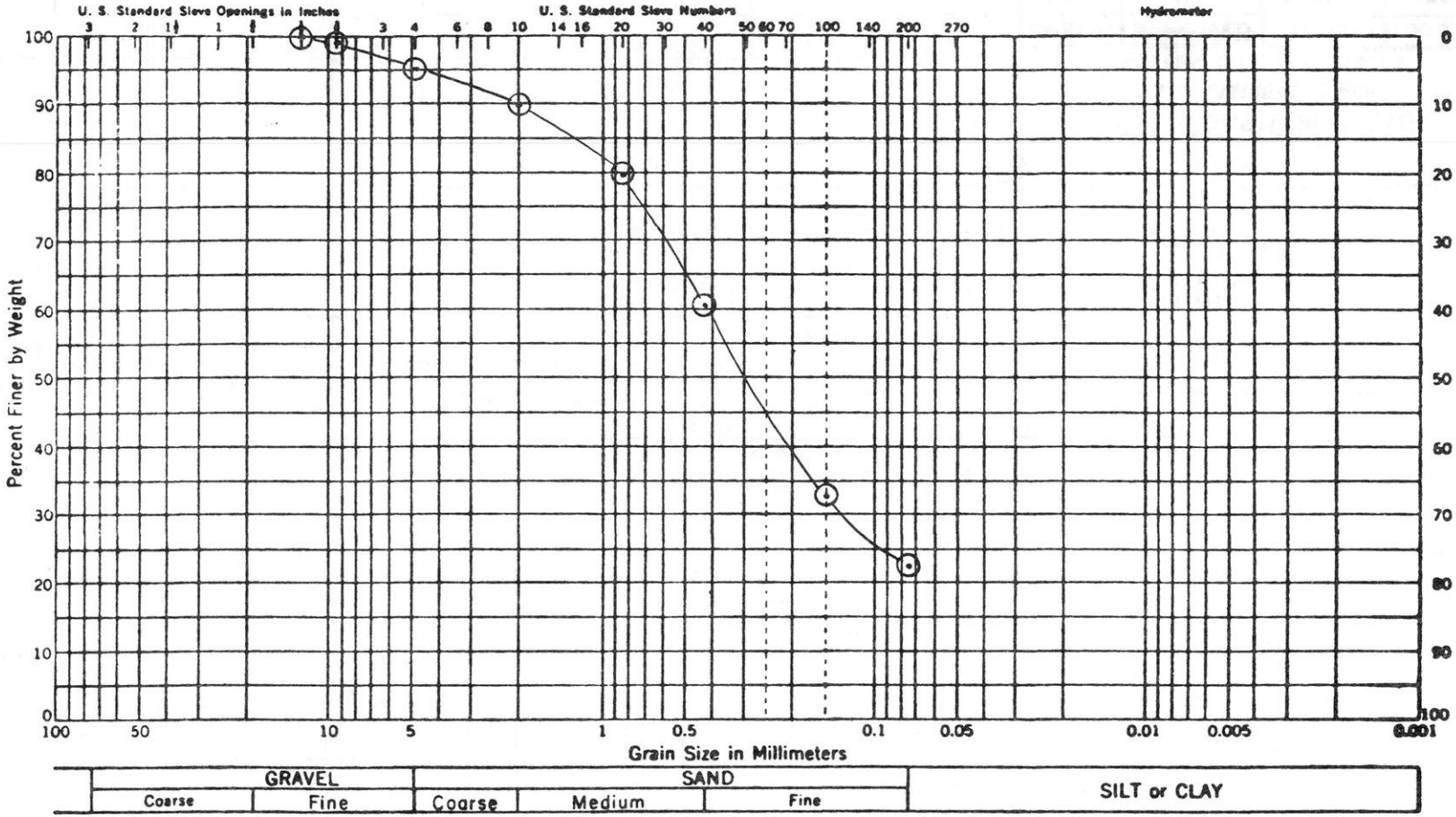
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SAMPLE NO.	W.C.	LL	PL	PI	CLASSIFICATION
G40 S17					Silty fine to coarse sand (SM)
S-15					
150-150.7'					

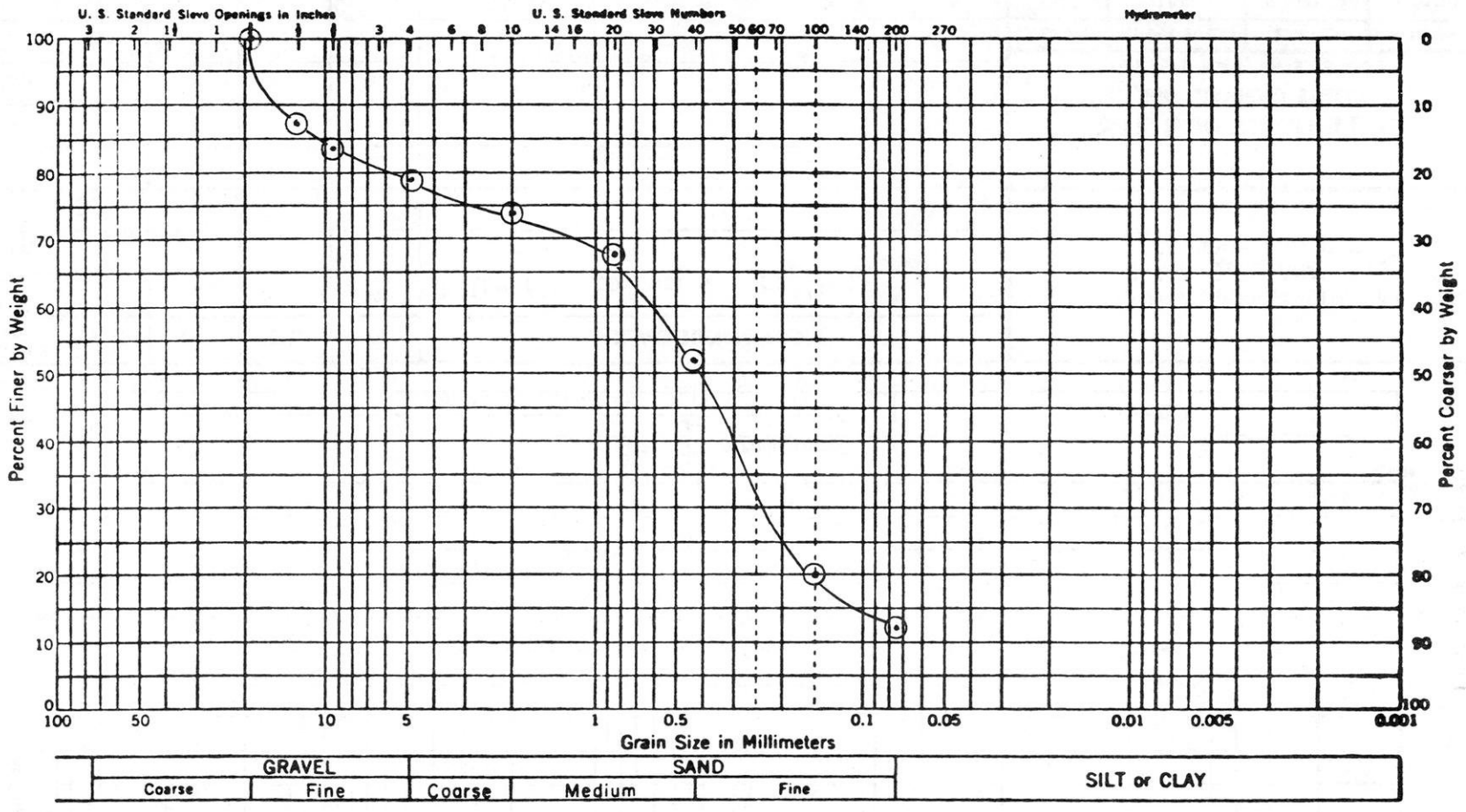
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SAMPLE NO.	W.C.	LL	PL	PI	CLASSIFICATION
G40 S17A					Silty fine to medium sand (SM)
S5					
20-21.5'					

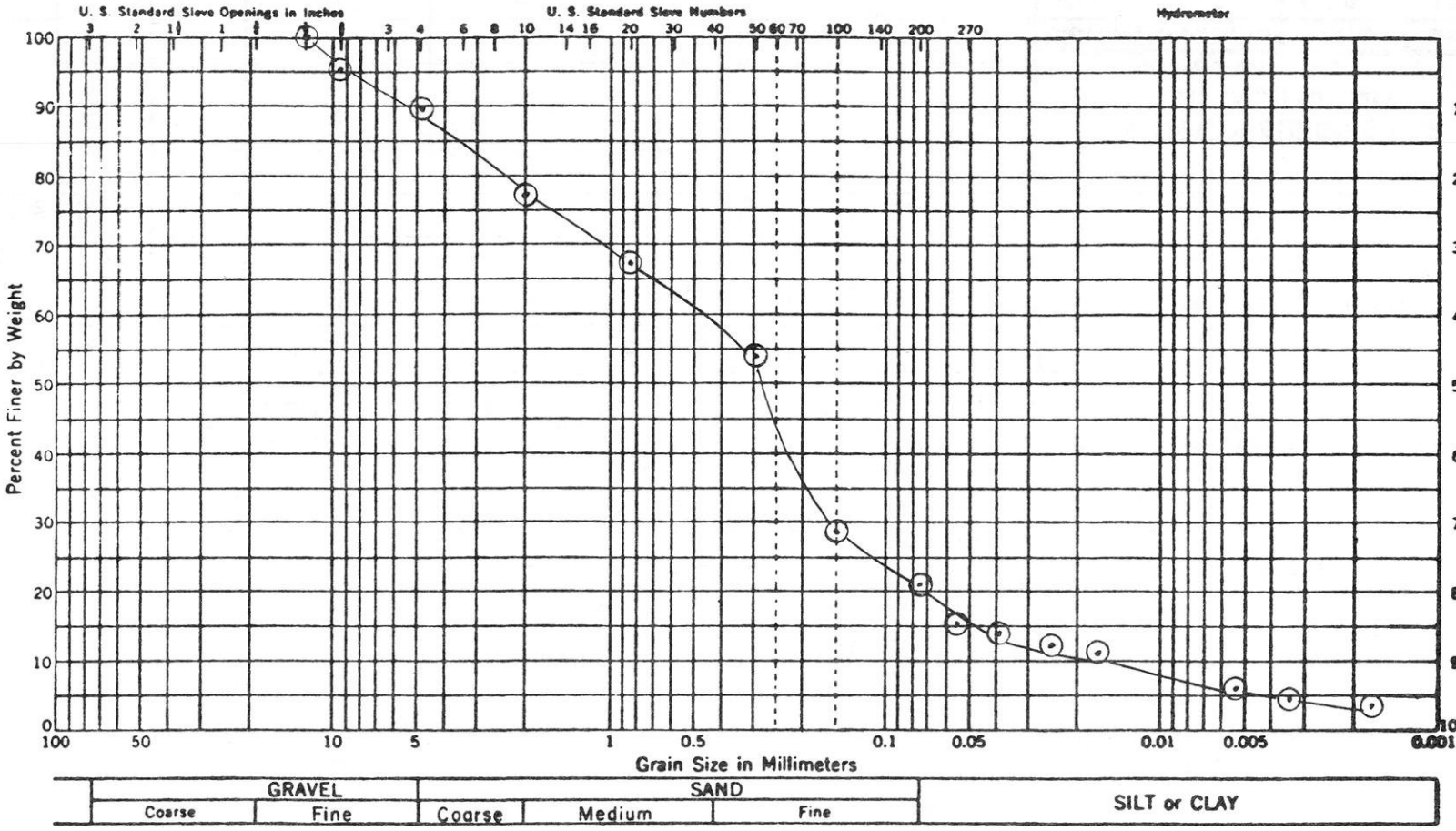
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SAMPLE NO.	W.C.	LL	PL	PI	CLASSIFICATION
G40 T30					Silty fine to coarse sand (SM)
S-16					
153.5-155'					

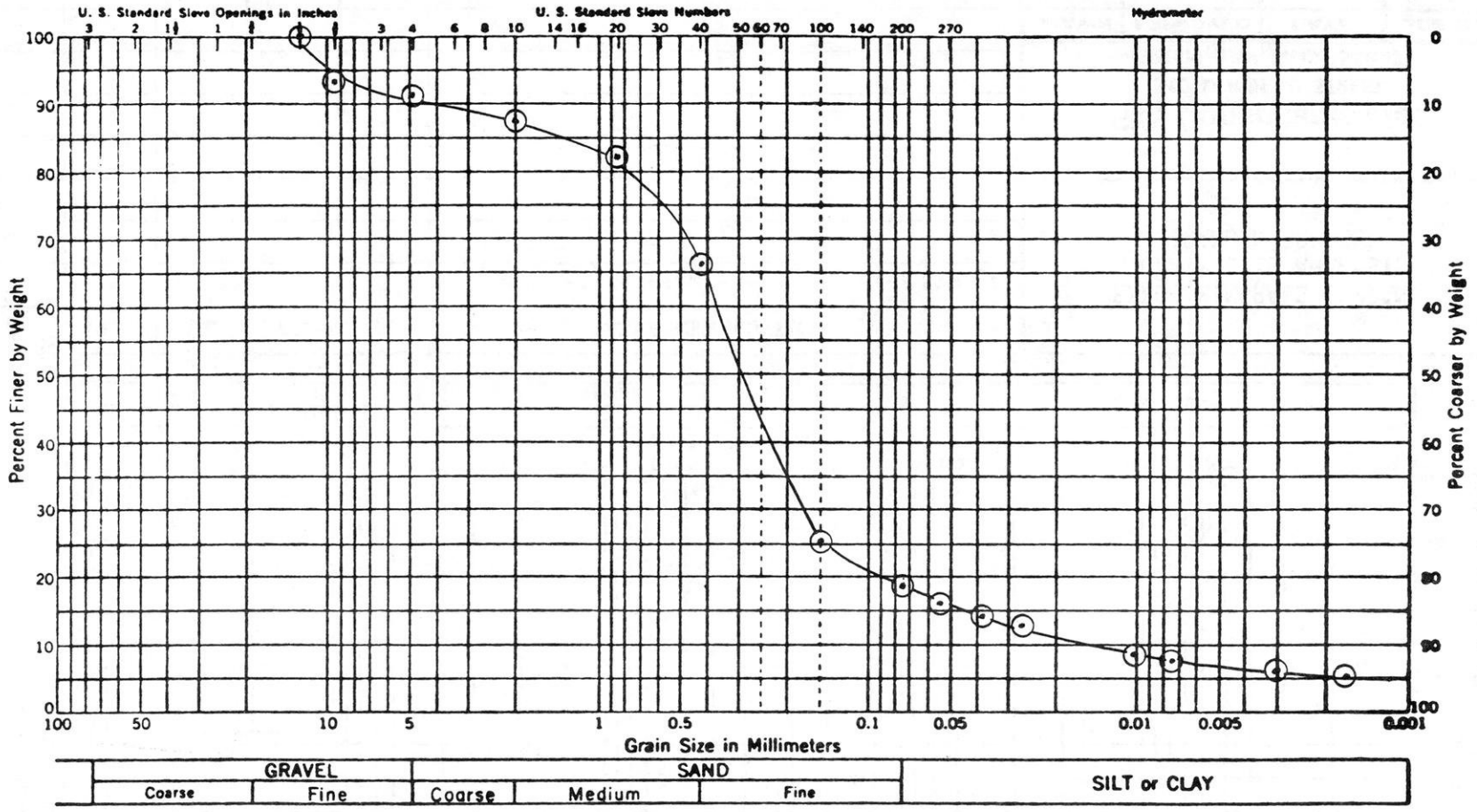
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SAMPLE NO.	W.C.	LL	PL	PI	CLASSIFICATION
G40 X1					Silty fine to medium sand (SM)
S-5					
40-42'					

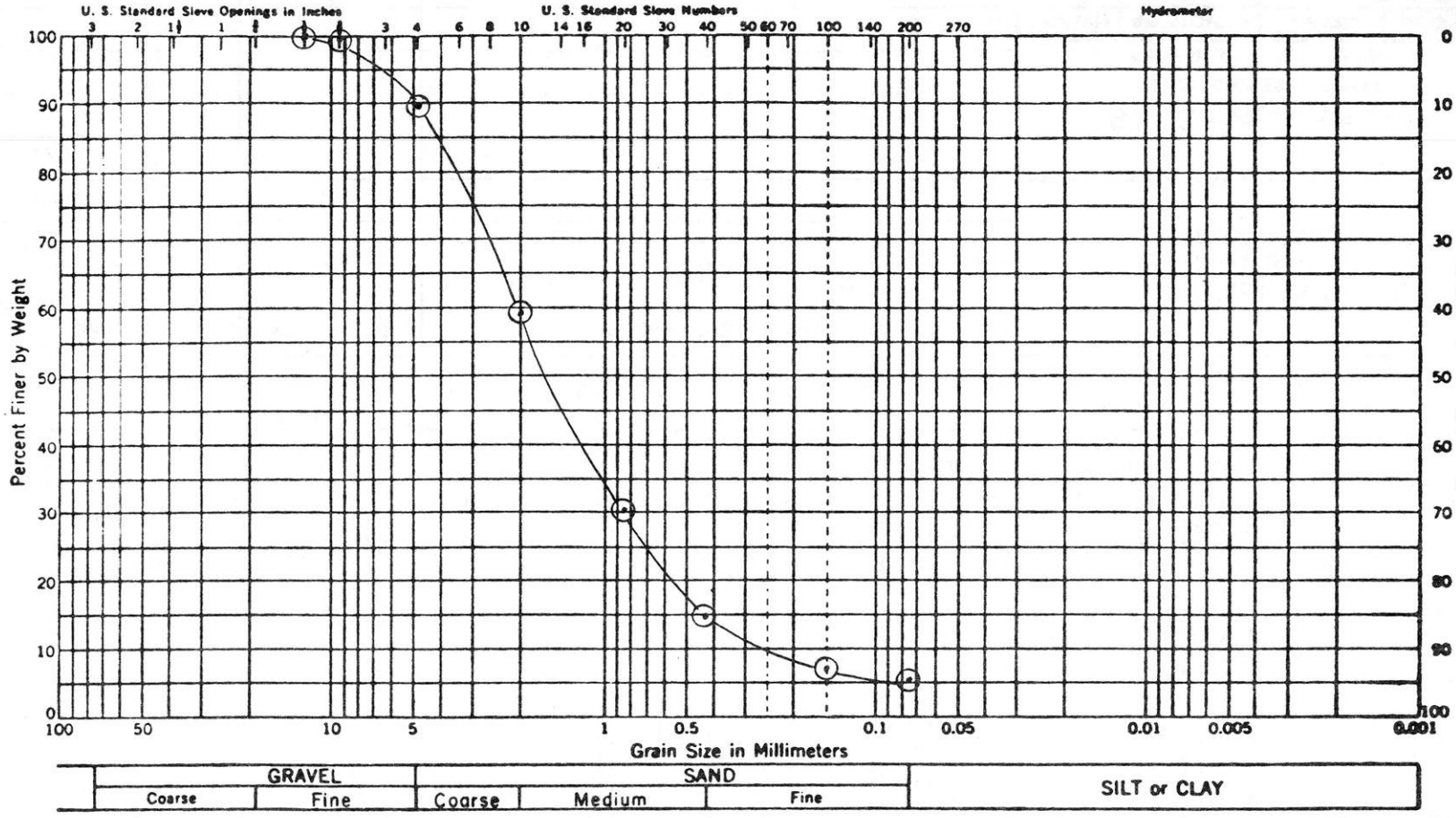
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SAMPLE NO.	W.C.	LL	PL	PI	CLASSIFICATION
G40 X1A					Slightly silty fine to coarse sand (SM-SP)
S-8					
70-75'					

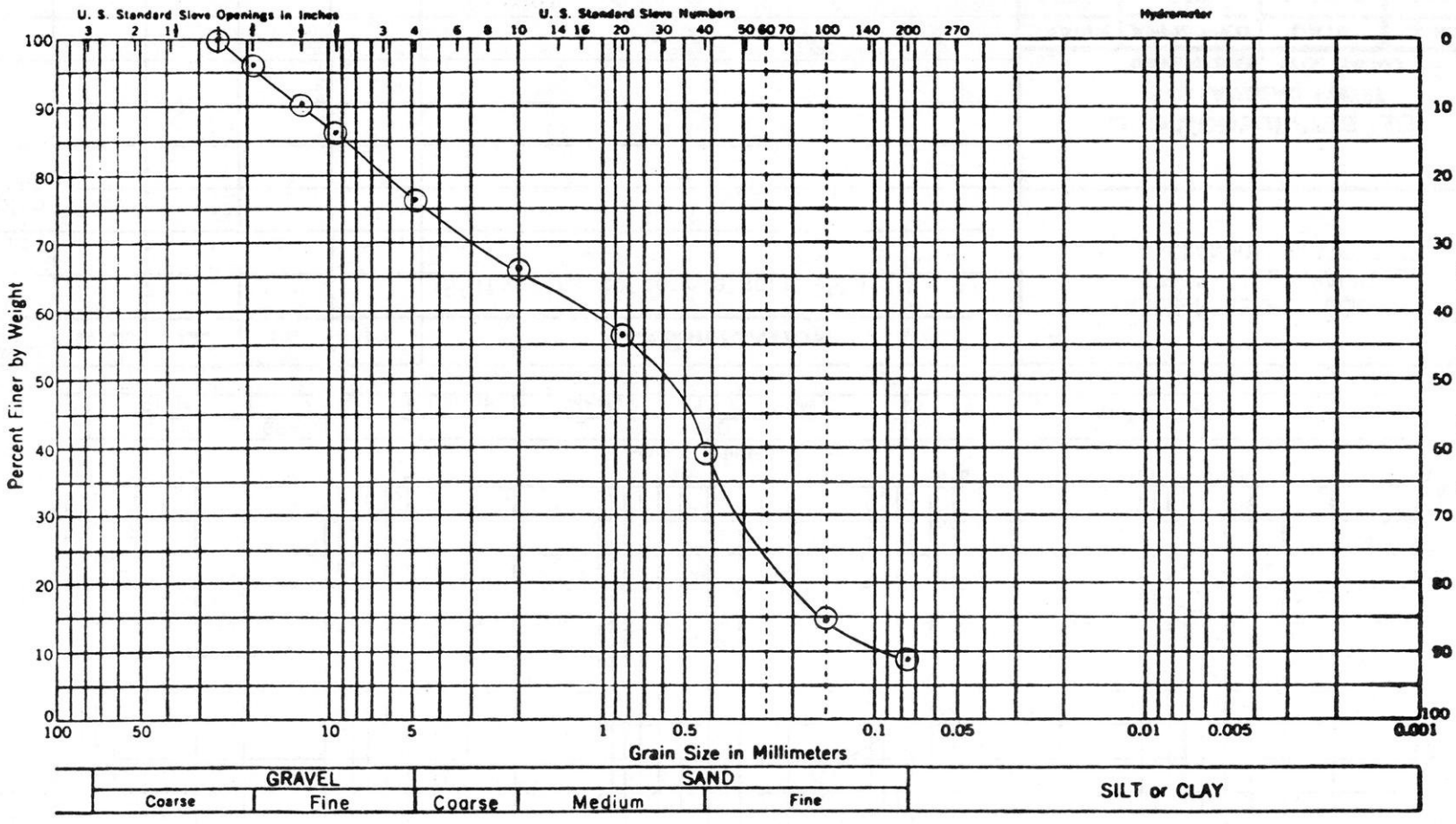
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SAMPLE NO.	W.C.	LL	PL	PI	CLASSIFICATION
G40 X1					Slightly silty fine to coarse sand (SM-SP)
S-11					
102-103.2'					

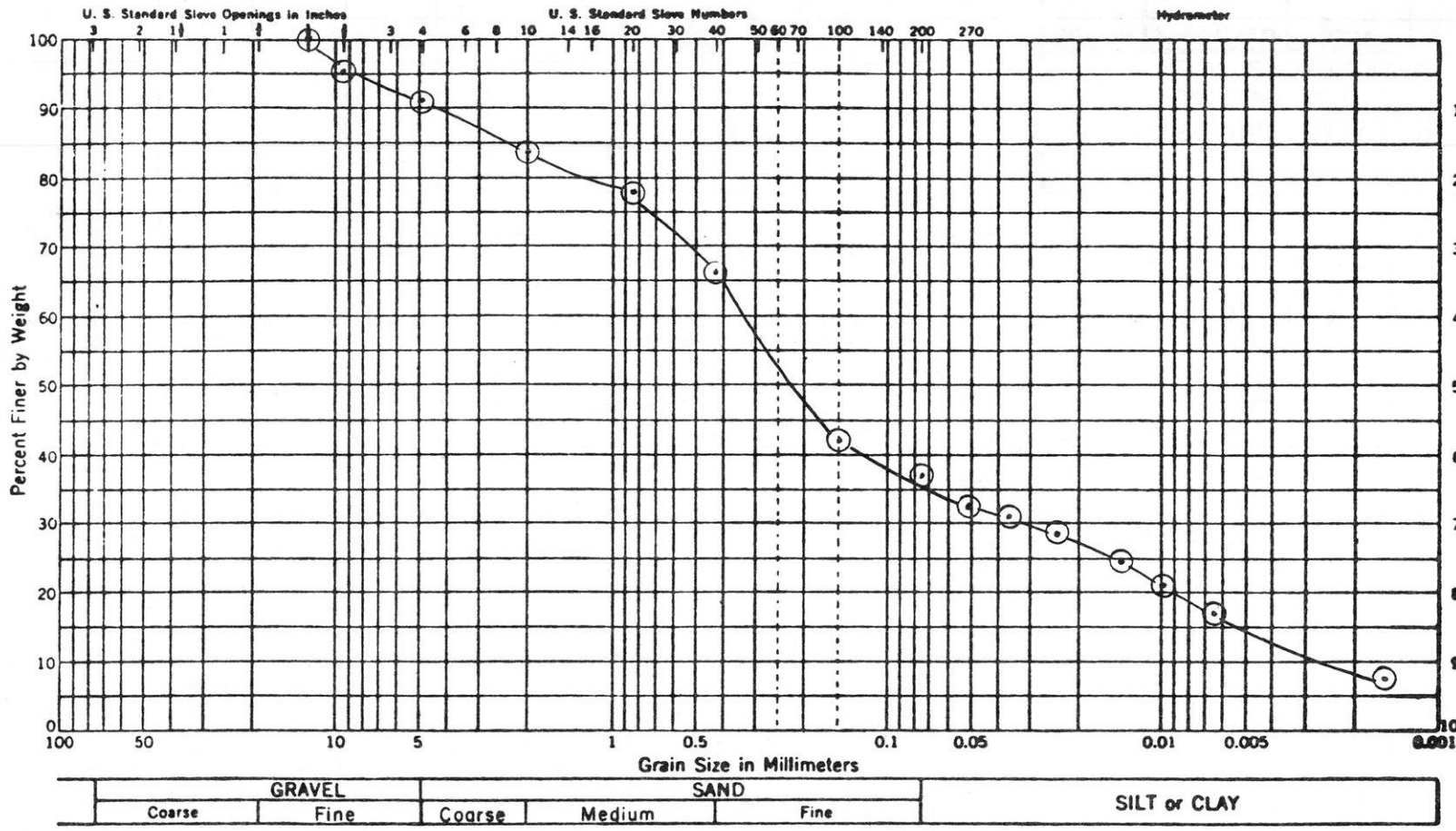
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SAMPLE NO.	W.C.	LL	PL	PI	CLASSIFICATION
G40 X1					Silty fine to coarse sand (SM)
S-13					
122.5-124.3'					

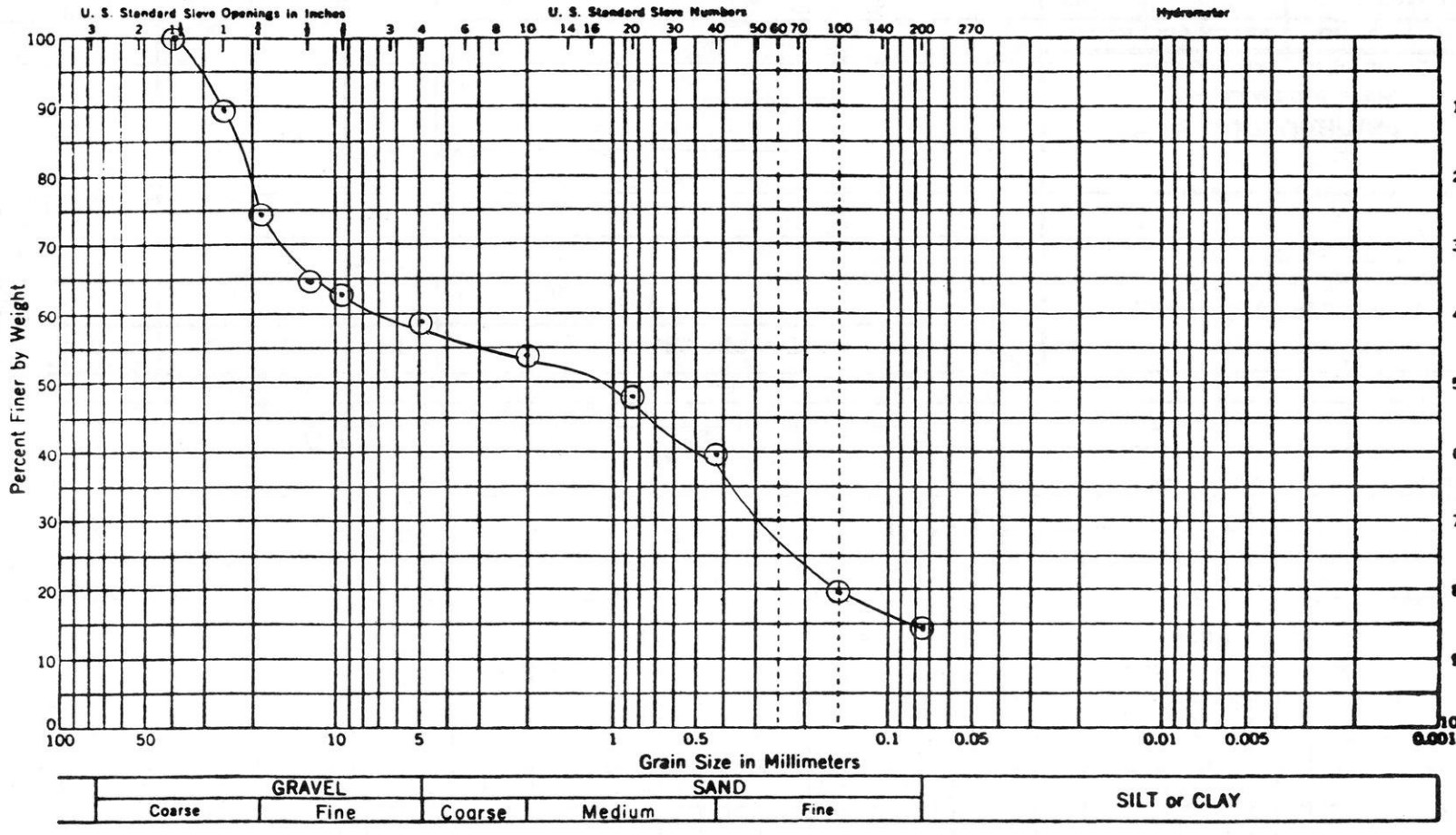
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SAMPLE NO.	W.C.	LL	PL	PI	CLASSIFICATION
G40 Y15					Silty fine to coarse sand (SM)
S-4					
30-32'					

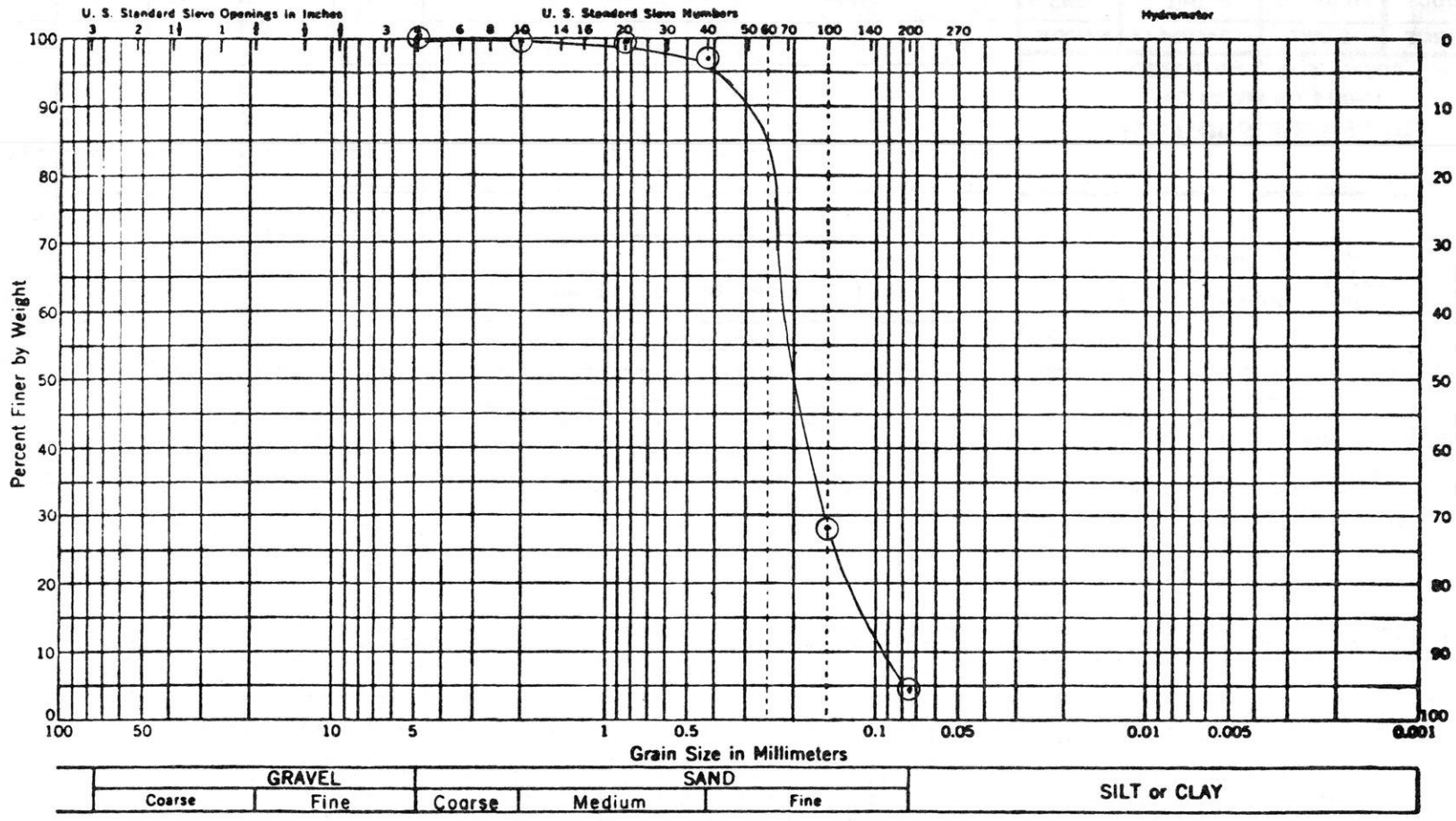
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SAMPLE NO.	W.C.	LL	PL	PI	CLASSIFICATION
G40 Y22					Fine sand (SP)
S-11					
102-103.2'					

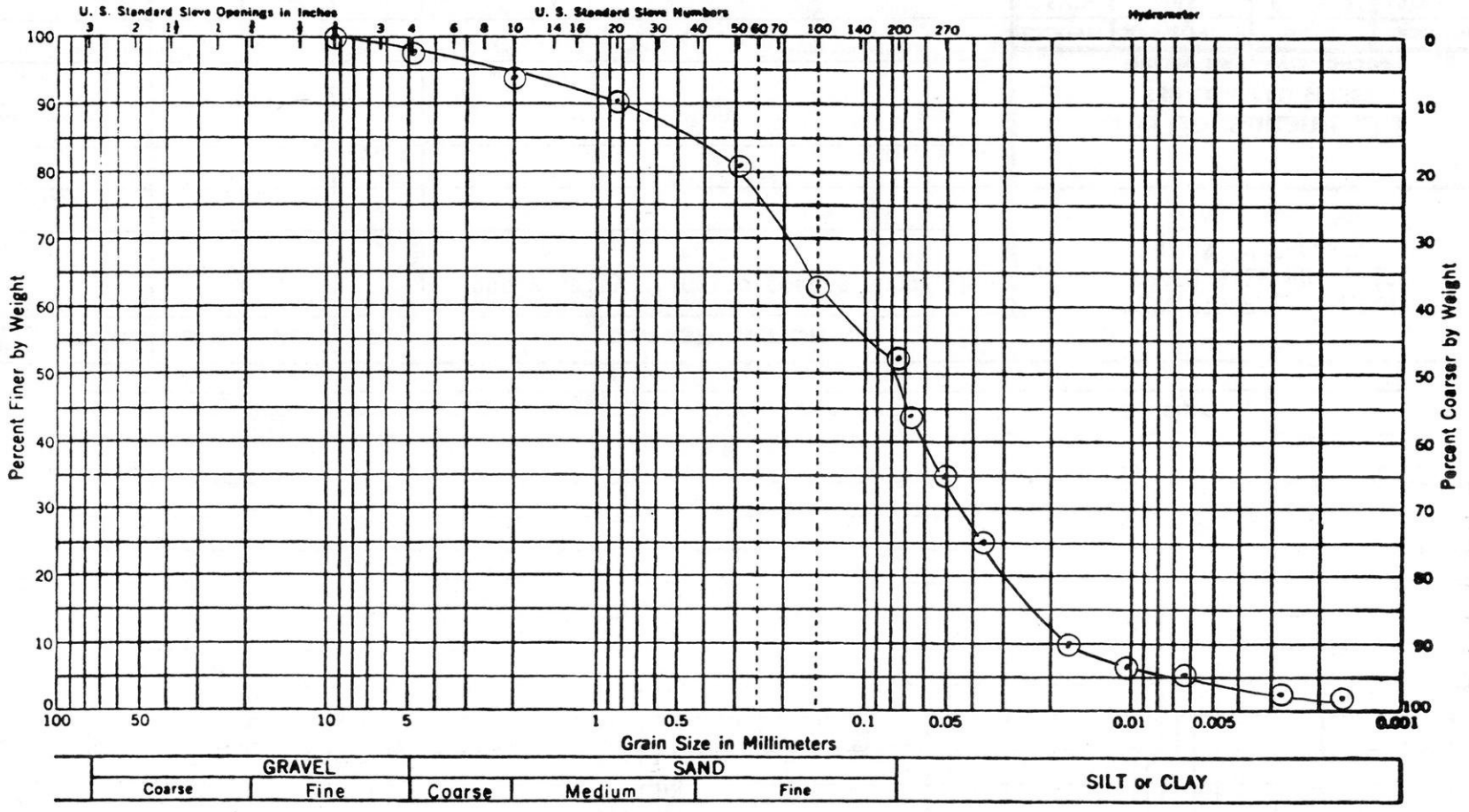
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SAMPLE NO.	W.C.	LL	PL	PI	CLASSIFICATION
G40 Y22					Fine sandy silt (ML)
S-15					
143-144.5'					

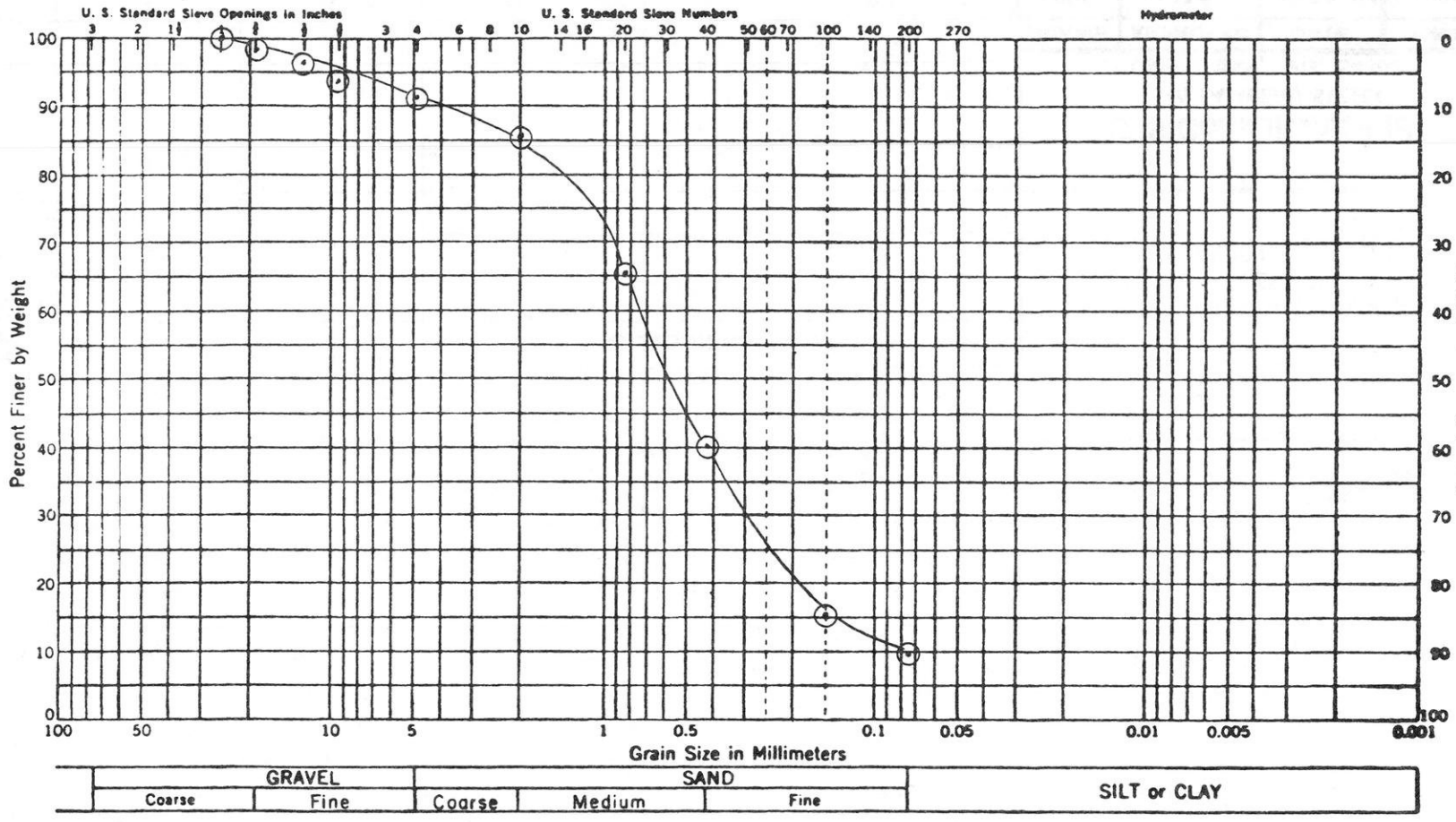
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SAMPLE NO.	W.C.	LL	PL	PI	CLASSIFICATION
G40 Y26					Slightly silty fine to coarse sand (SM-SP)
S-5					
40-41.5'					

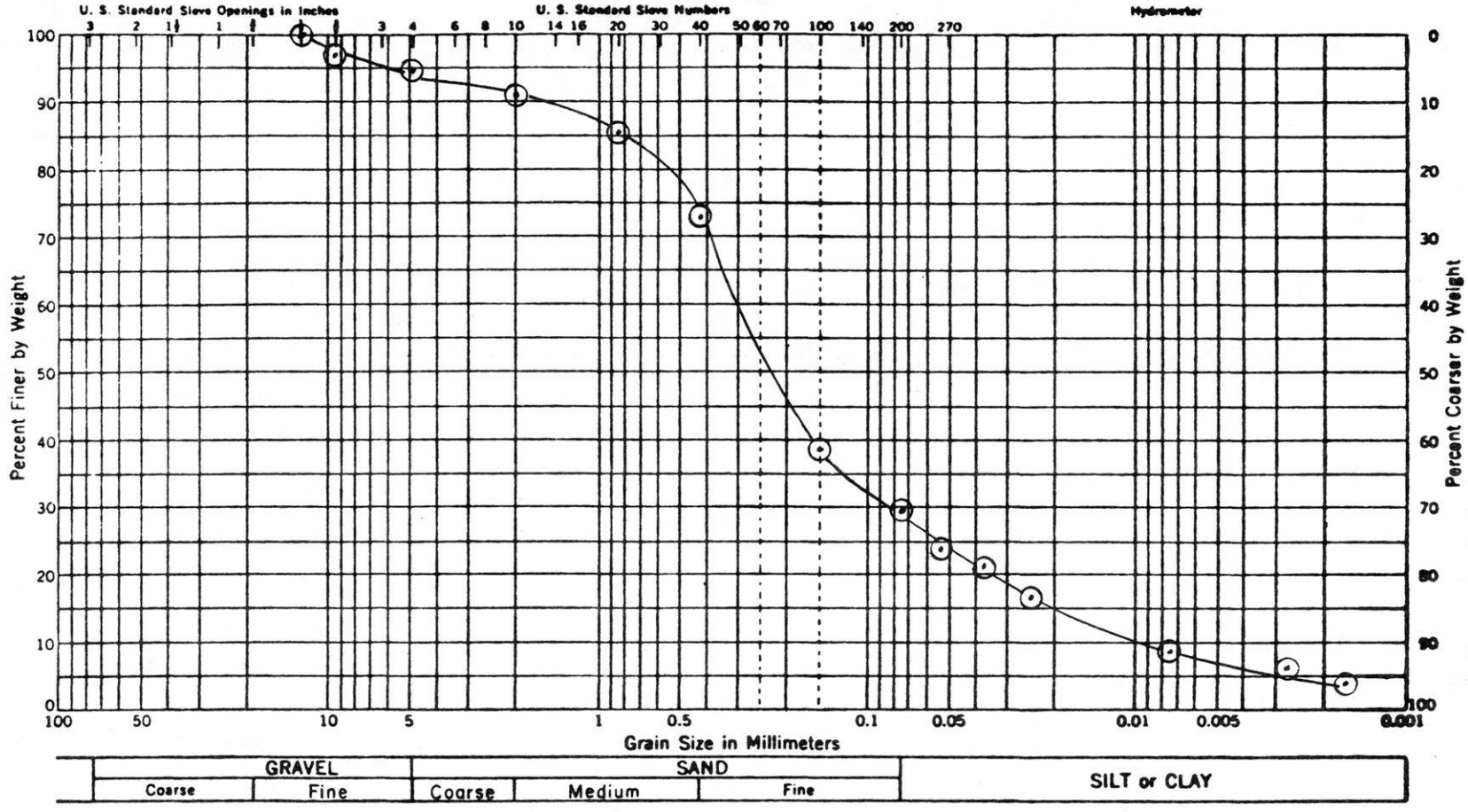
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SAMPLE NO.	W.C.	LL	PL	PI	CLASSIFICATION
G40 Y26					Silty fine to coarse sand (SM)
S-13					
120-121.5'					

EXXON MINERALS COMPANY
GRAIN SIZE ANALYSIS
CRANDON PROJECT

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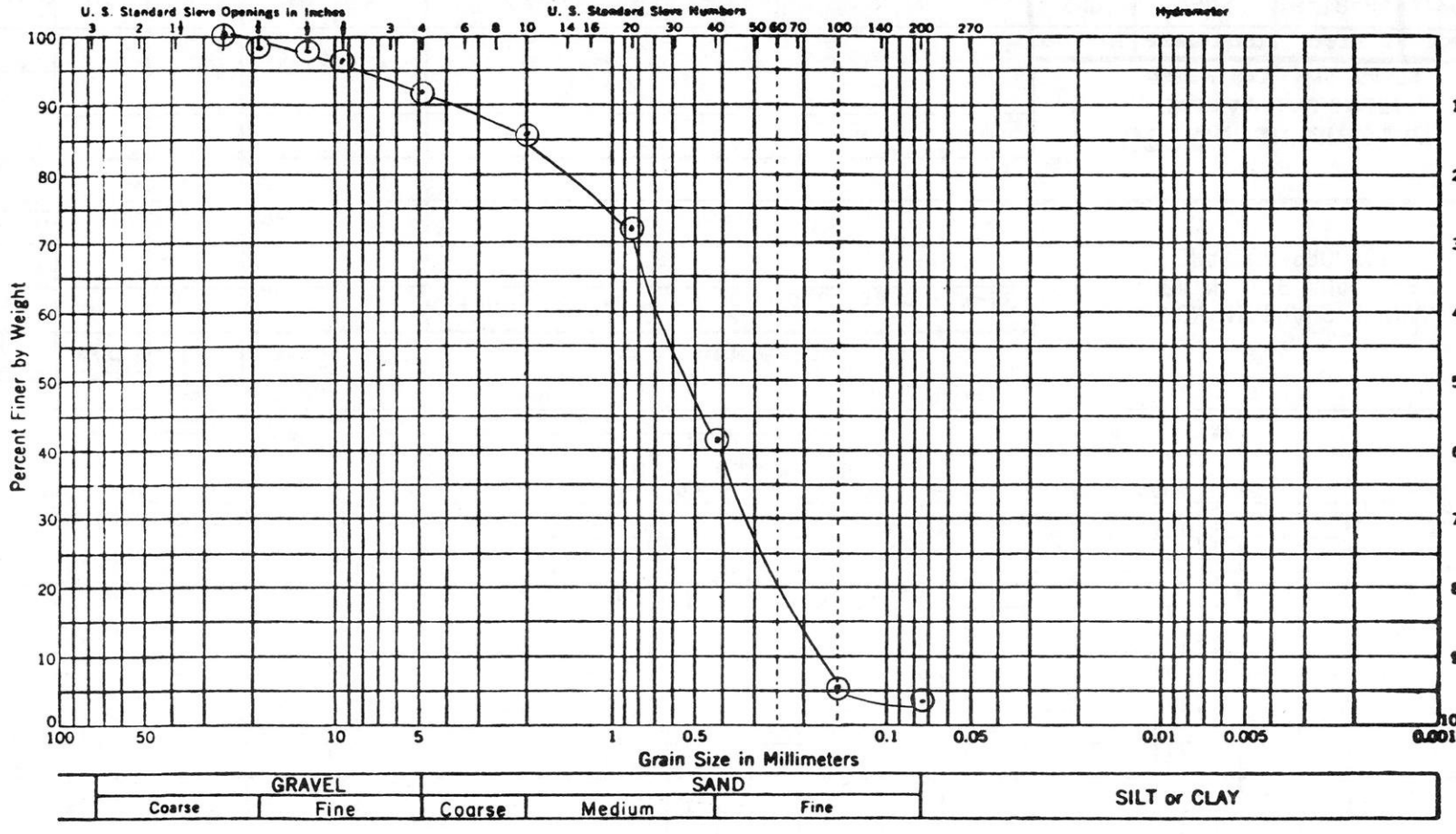
DRAWN	APPROVED	DATE	JOB No.
SMD	JAS	6-10-84	12959

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APPENDIX B

Gradation Curves for G-41 Series

UNIFIED CLASSIFICATION SYSTEM



SAMPLE NO.	W.C.	LL	PL	PI	CLASSIFICATION
G41 A23					Fine to medium sand (SP)
S-10					
46-48'					

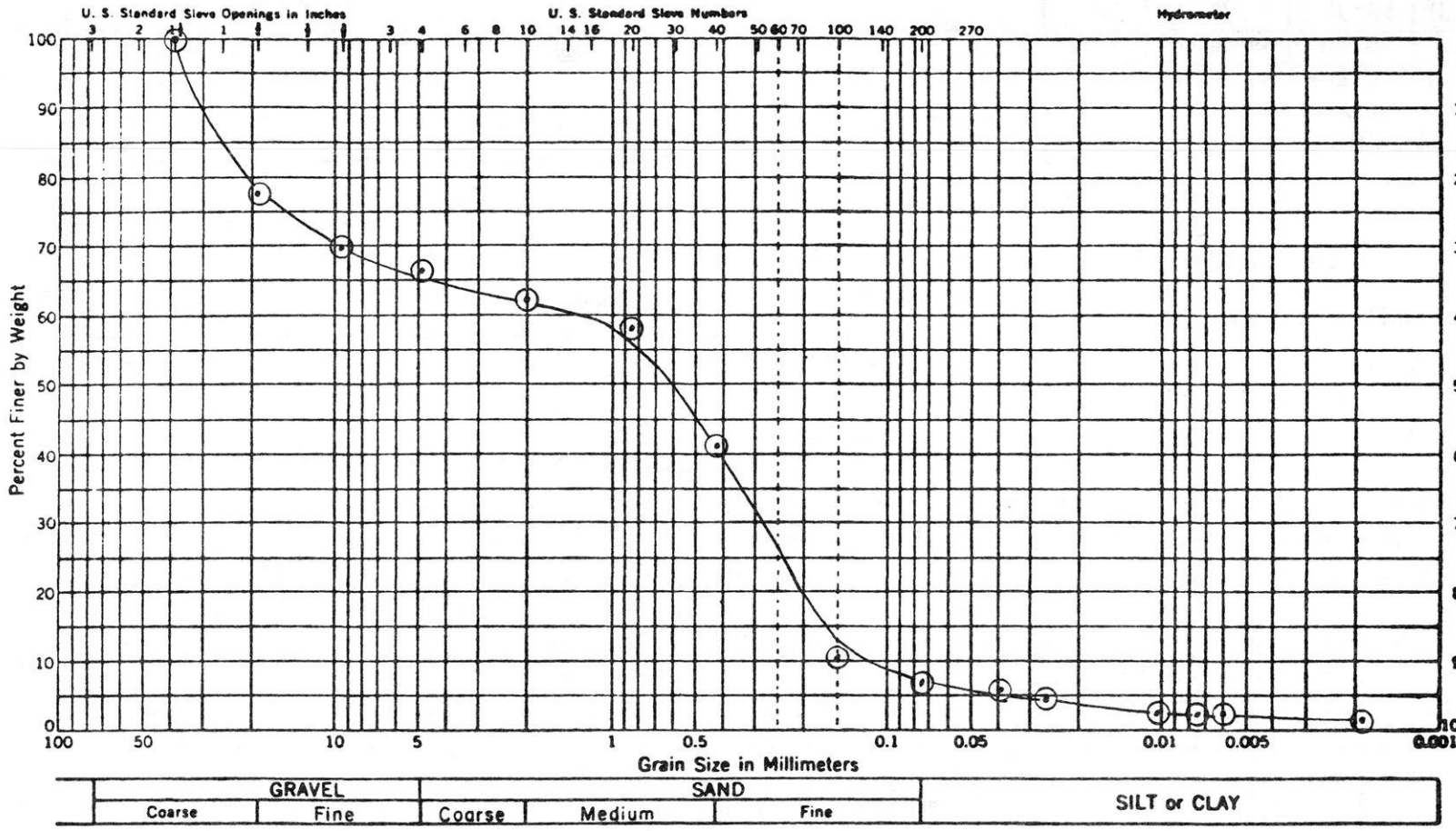
EXXON MINERALS COMPANY
GRAIN SIZE ANALYSIS
CRANDON PROJECT

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GREEN BAY, WIS. 54303

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UNIFIED CLASSIFICATION SYSTEM



SAMPLE NO.	W.C.	LL	PL	PI	CLASSIFICATION
G41 A24					Slightly silty fine to medium sand (SM-SP)
SA-2					
10-12'					

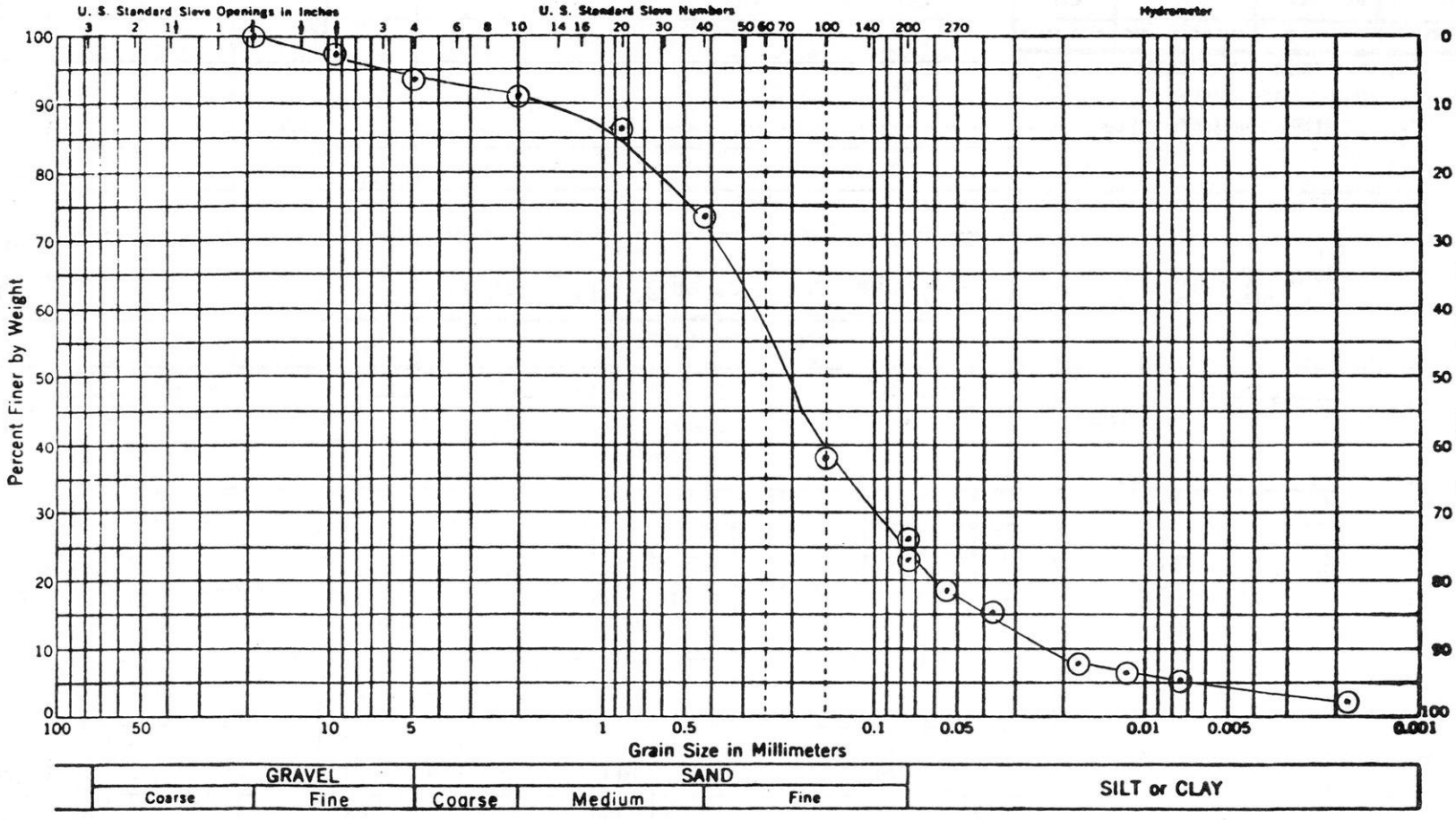
EXXON MINERALS COMPANY
GRAIN SIZE ANALYSIS
CRANDON PROJECT

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GREEN BAY, WIS. 54303

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SMD	JAS	5-18-84	12959

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UNIFIED CLASSIFICATION SYSTEM



SAMPLE NO.	W.C.	LL	PL	PI	CLASSIFICATION
G41 A24					Silty fine sand (SM)
SA-5					
30-31.5'					

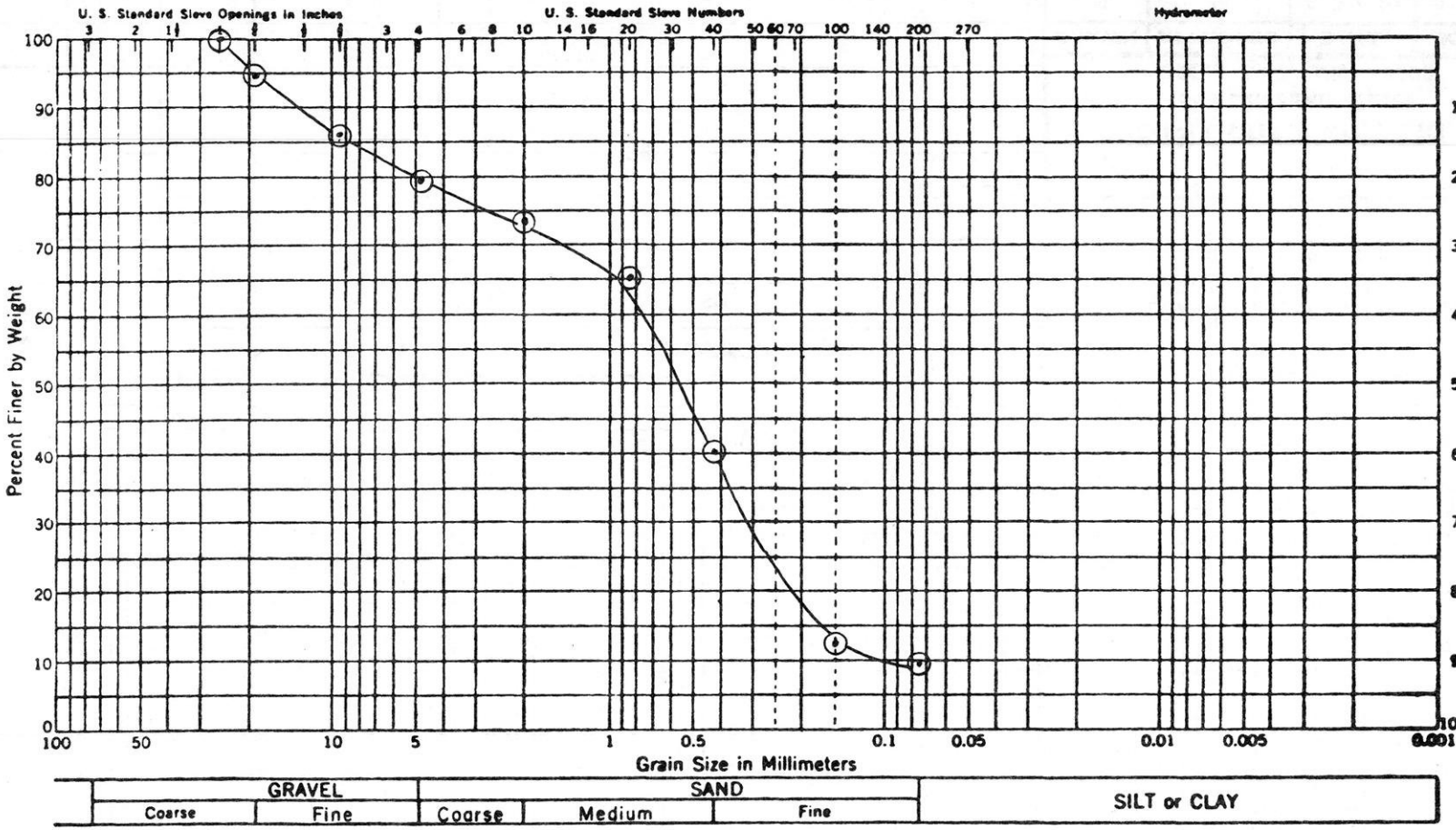
EXXON MINERALS COMPANY
GRAIN SIZE ANALYSIS
CRANDON PROJECT

STS Consultants Ltd.
540 LAMBEAU STREET
GREEN BAY, WIS. 54303

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UNIFIED CLASSIFICATION SYSTEM



SAMPLE NO.	W.C.	LL	PL	PI	CLASSIFICATION
G41 A24					Slightly silty fine to coarse sand (SM-SP)
SA-6					
41-42.5'					

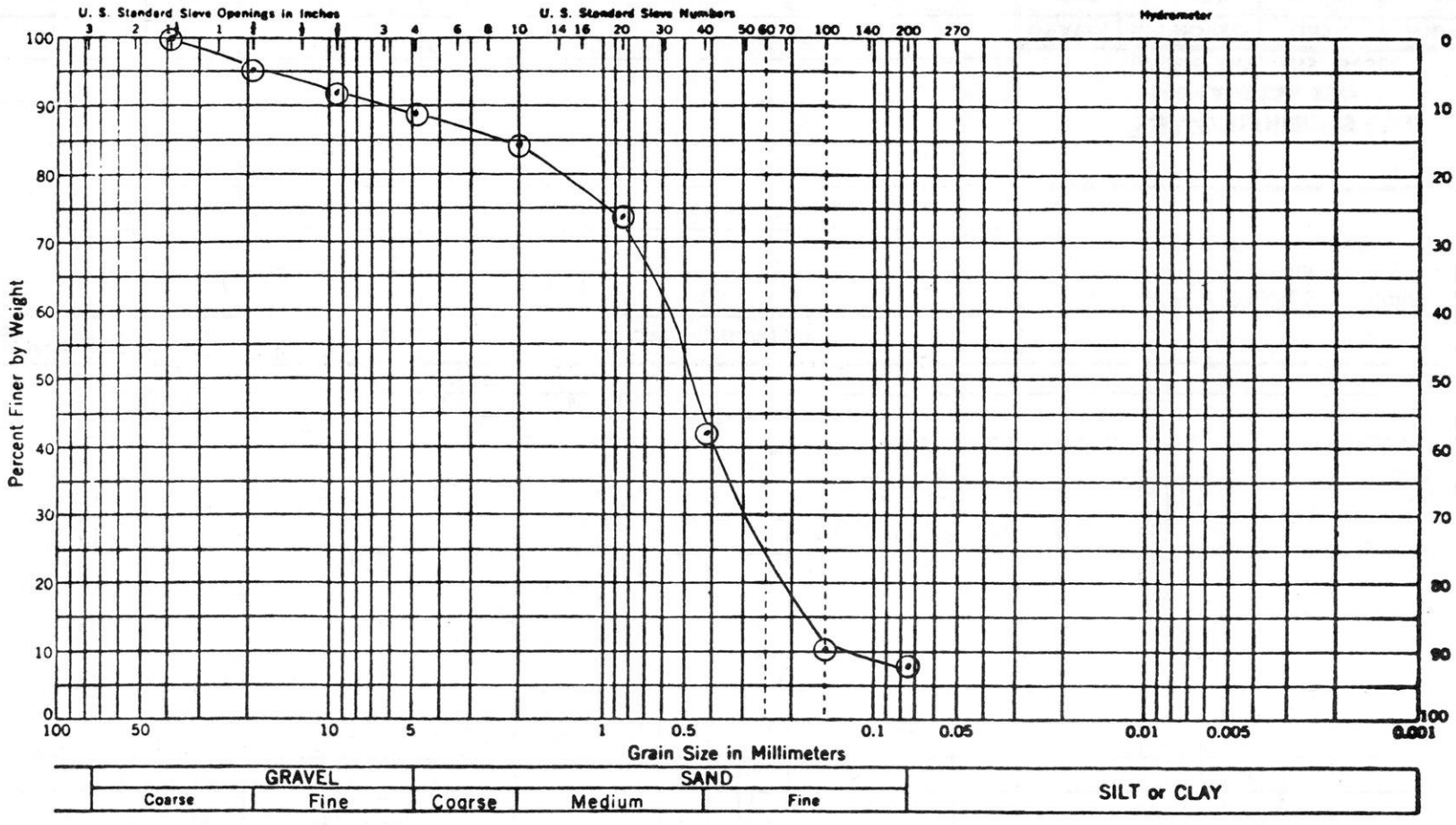
EXXON MINERALS COMPANY
GRAIN SIZE ANALYSIS
CRANDON PROJECT

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UNIFIED CLASSIFICATION SYSTEM



SAMPLE NO.	W.C.	LL	PL	PI	CLASSIFICATION
G41 A24					Slightly silty fine to coarse sand (SM-SP)
SA-8					
60-62'					

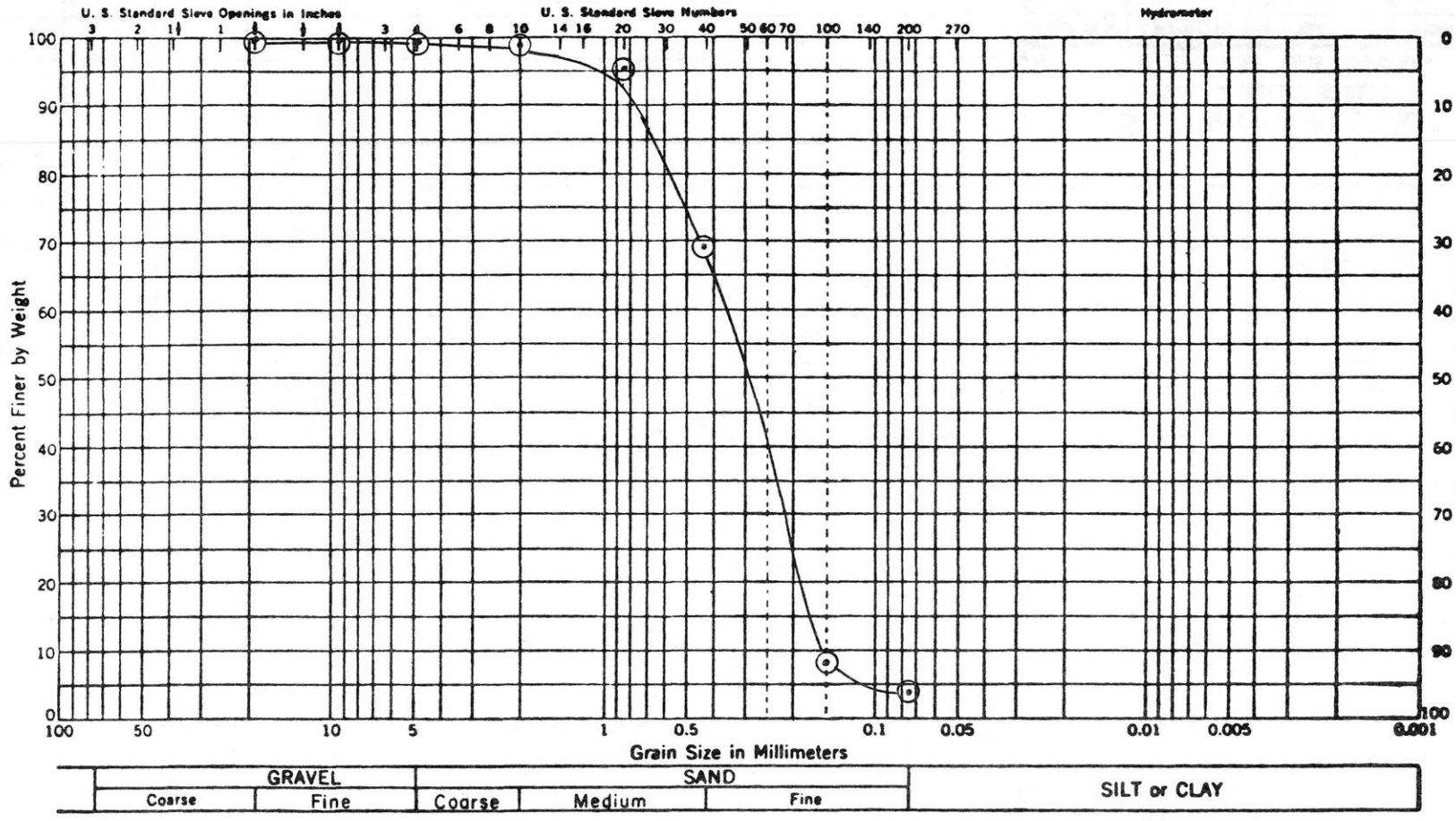
EXXON MINERALS COMPANY
GRAIN SIZE ANALYSIS
CRANDON PROJECT

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GREEN BAY, WIS. 54303

DRAWN	APPROVED	DATE	JOB No.
SMD	JAS	5-18-84	12959

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UNIFIED CLASSIFICATION SYSTEM



SAMPLE NO.	W.C.	LL	PL	PI	CLASSIFICATION
G41 A24					Fine sand (SP)
S-10					
80-81'					

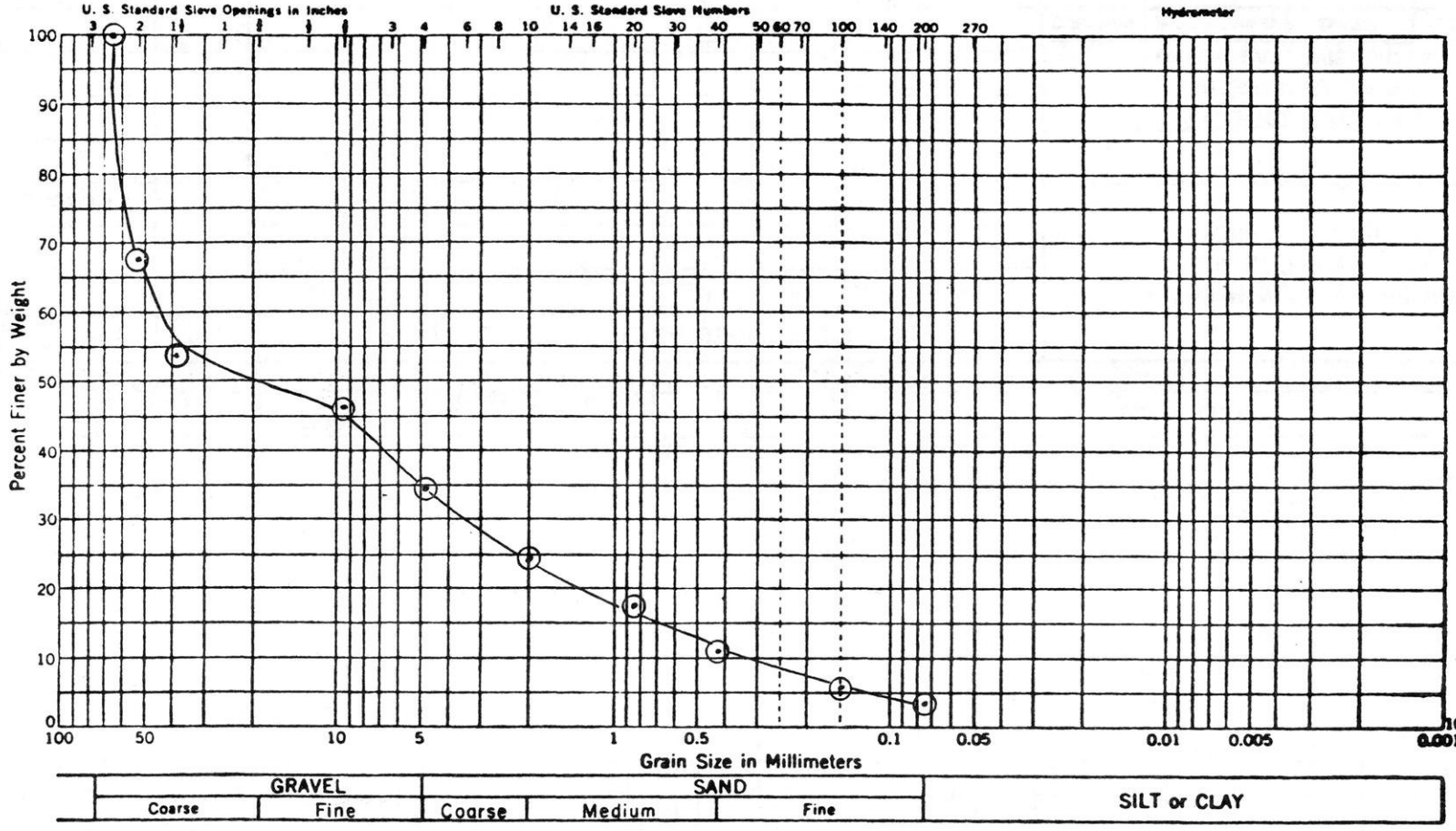
EXXON MINERALS COMPANY
GRAIN SIZE ANALYSIS
CRANDON PROJECT

STS Consultants Ltd.
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DRAWN	APPROVED	DATE	JOB No.
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UNIFIED CLASSIFICATION SYSTEM



SAMPLE NO.	W.C.	LL	PL	PI	CLASSIFICATION
G41 A24					Fine to coarse gravel (GP)
S-12					
100.5-102'					

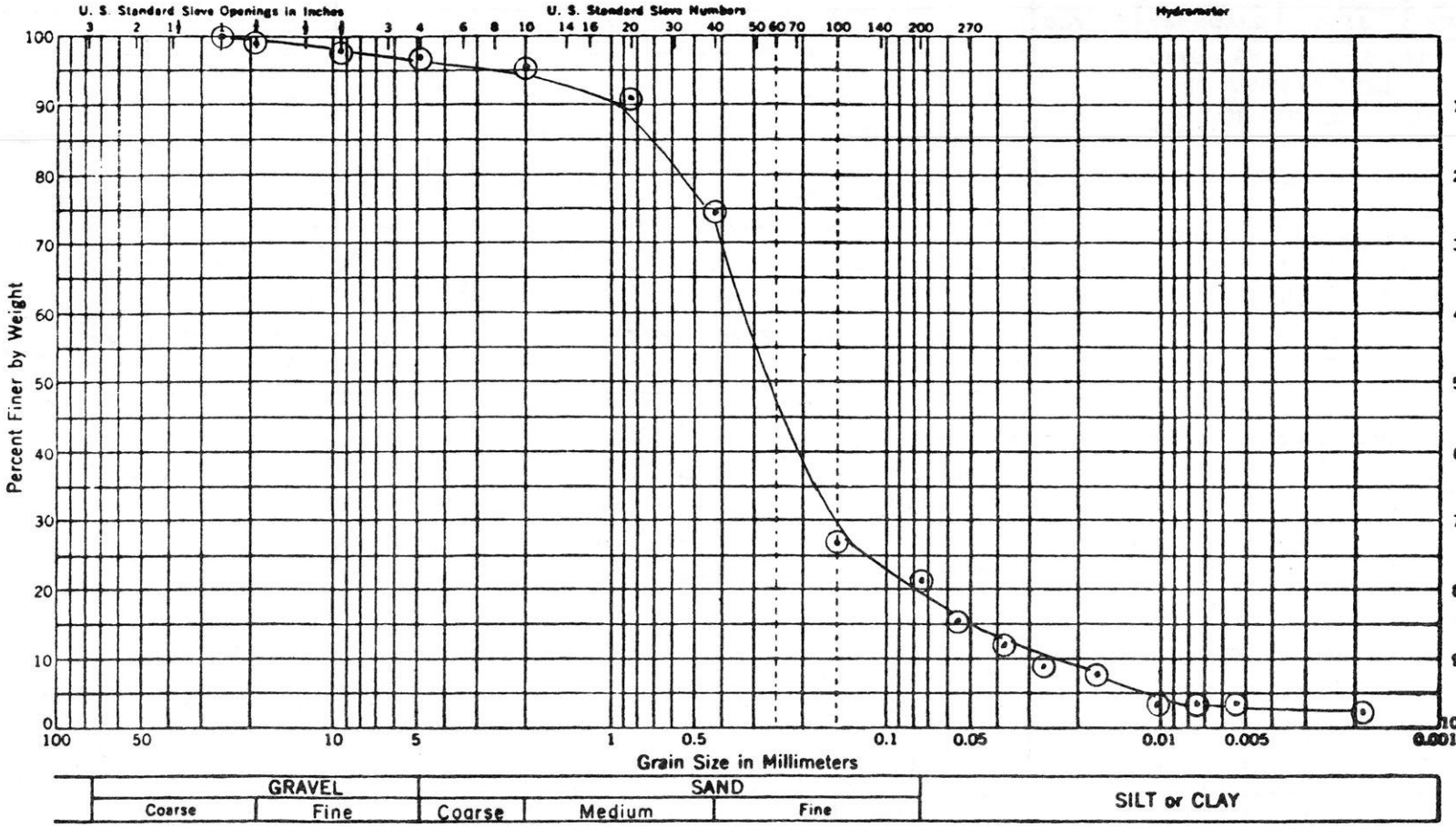
EXXON MINERALS COMPANY
GRAIN SIZE ANALYSIS
CRANDON PROJECT

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UNIFIED CLASSIFICATION SYSTEM



SAMPLE NO.	W.C.	LL	PL	PI	CLASSIFICATION
G41 A24					Silty fine to medium sand (SM)
S-17					
151-152.5'					

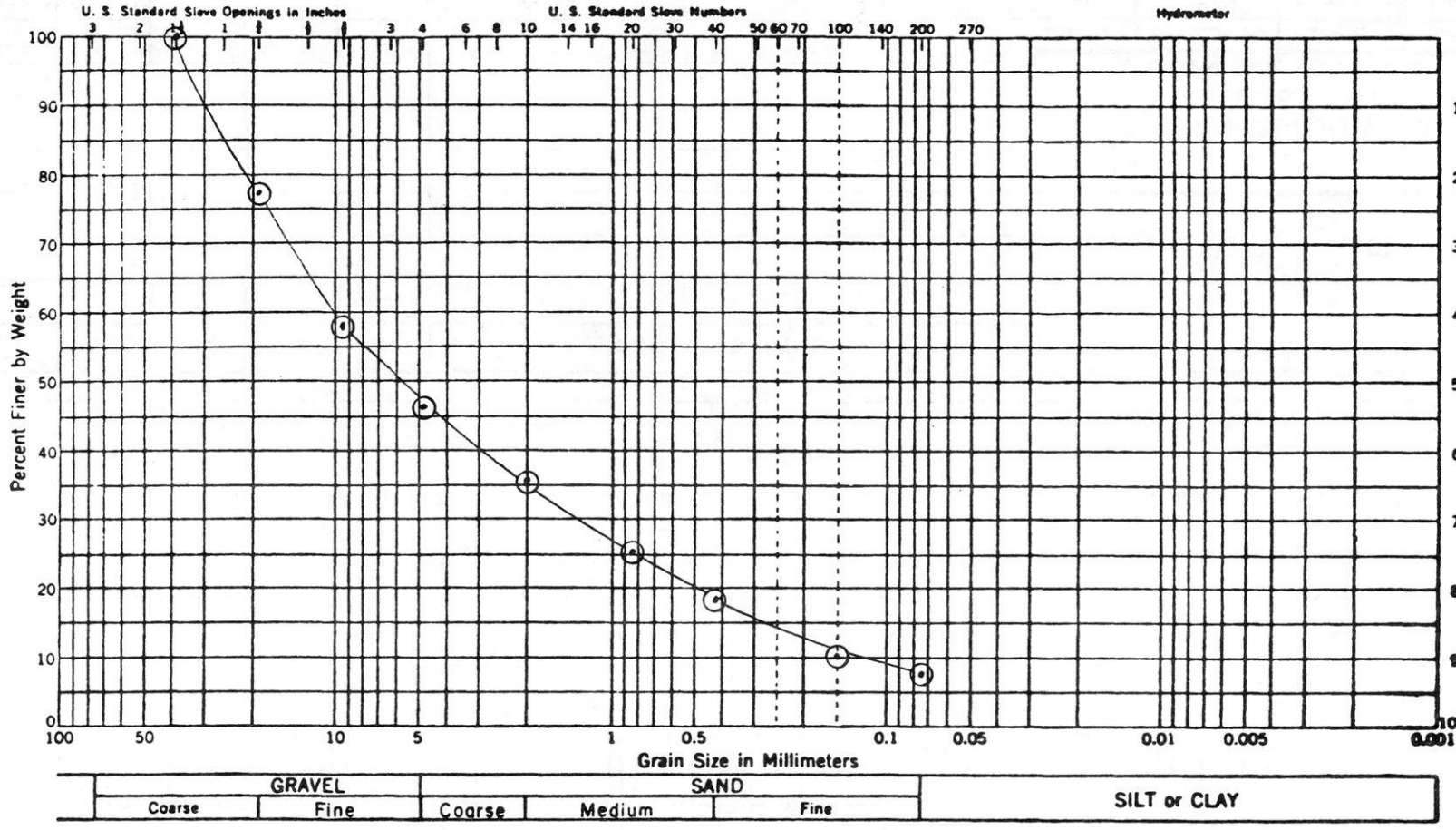
EXXON MINERALS COMPANY
GRAIN SIZE ANALYSIS
CRANDON PROJECT

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DRAWN	APPROVED	DATE	JOB No.
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UNIFIED CLASSIFICATION SYSTEM



SAMPLE NO.	W.C.	LL	PL	PI	CLASSIFICATION
G41 A24					Slightly silty fine gravel (GP-GM)
SA-19					
172-172.3'					

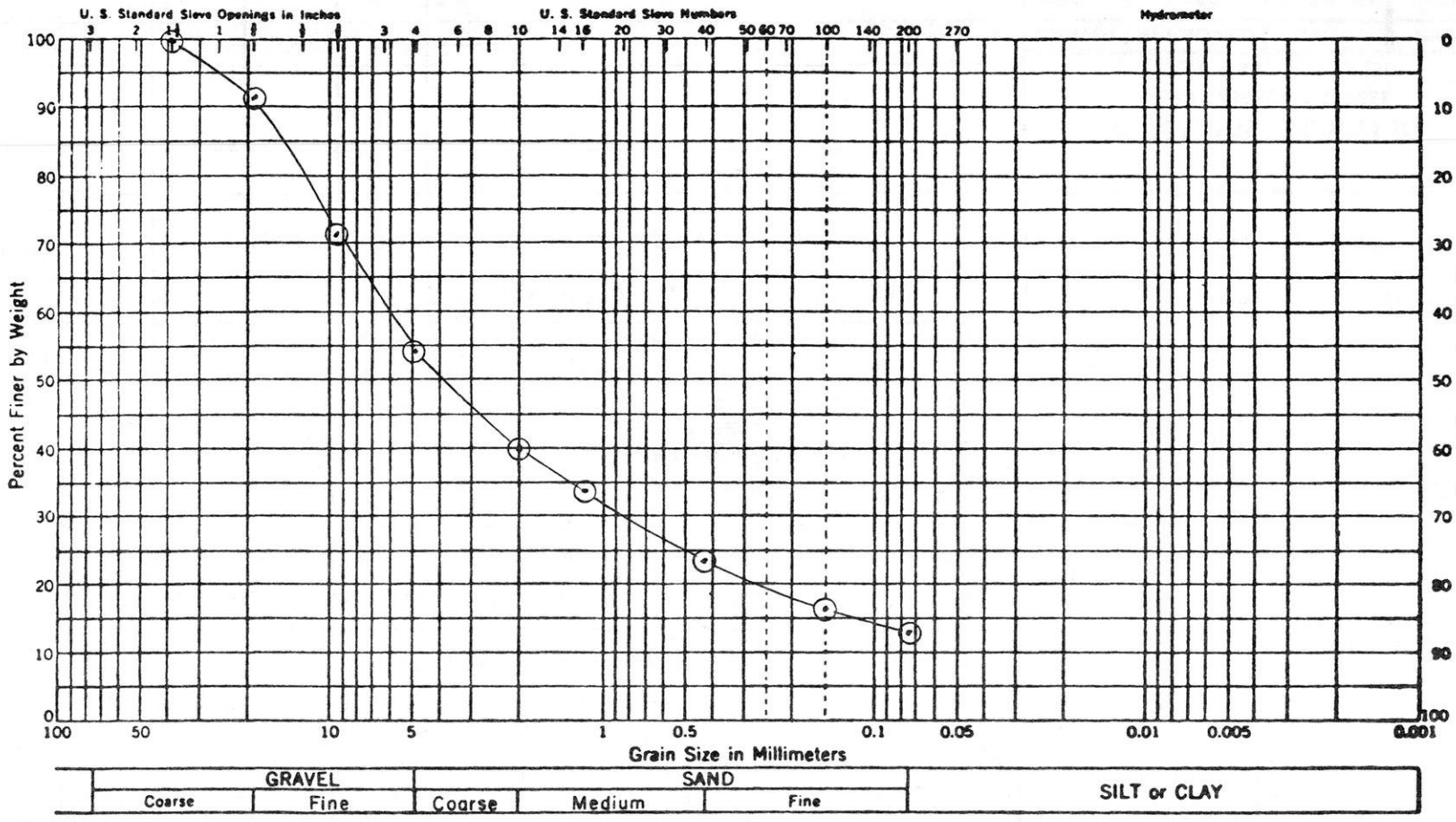
EXXON MINERALS COMPANY
GRAIN SIZE ANALYSIS
CRANDON PROJECT

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DRAWN	APPROVED	DATE	JOB No.
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UNIFIED CLASSIFICATION SYSTEM



SAMPLE NO.	W.C.	LL	PL	PI	CLASSIFICATION
G41 B12					Silty fine to coarse sand (SM)
S-2					
10-11.5					

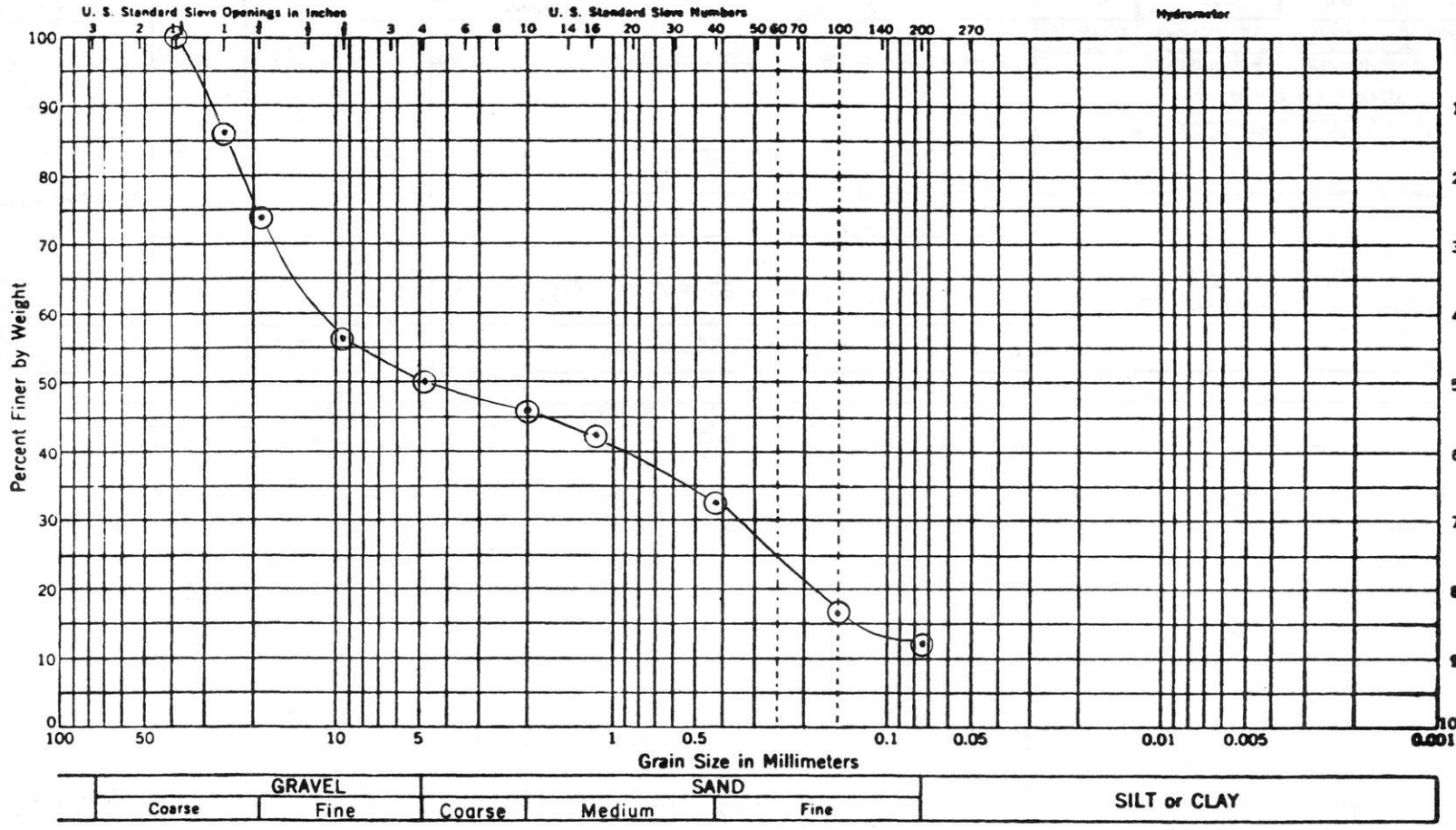
EXXON MINERALS COMPANY
GRAIN SIZE ANALYSIS
CRANDON PROJECT

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DRAWN	APPROVED	DATE	JOB No.
SMD	JAS	5-18-84	12959

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UNIFIED CLASSIFICATION SYSTEM



SAMPLE NO.	W.C.	LL	PL	PI	CLASSIFICATION
G41 B12					Silty fine to coarse sand and gravel
S-4					(SM-GM)
30-31'					

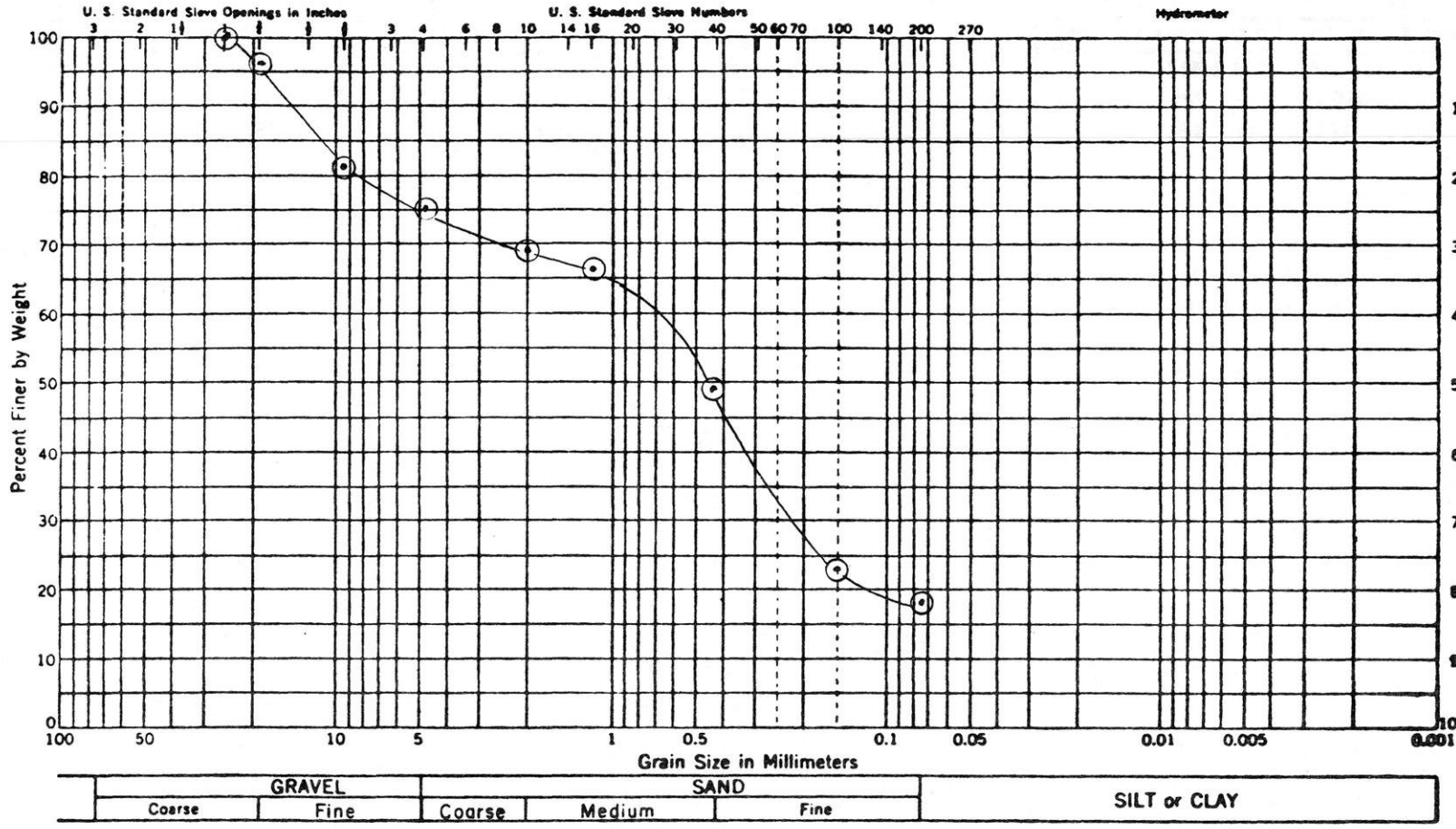
EXXON MINERALS COMPANY
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CRANDON PROJECT

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DRAWN	APPROVED	DATE	JOB No.
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UNIFIED CLASSIFICATION SYSTEM



SAMPLE NO.	W.C.	LL	PL	PI	CLASSIFICATION
G41 B12 S-5 40-41.5'					Silty fine to coarse sand (SM)

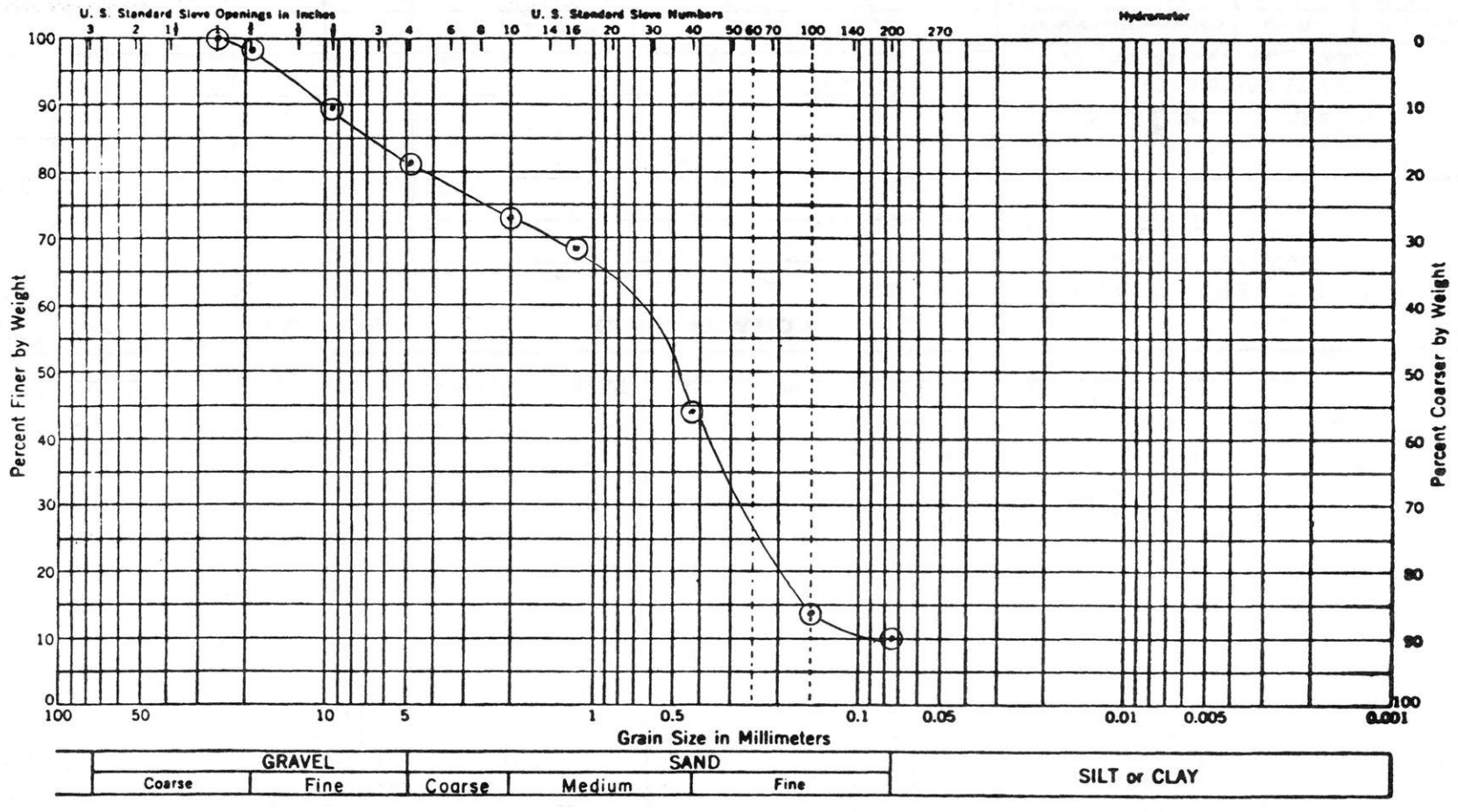
EXXON MINERALS COMPANY
GRAIN SIZE ANALYSIS
CRANDON PROJECT

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UNIFIED CLASSIFICATION SYSTEM



SAMPLE NO.	W.C.	LL	PL	PI	CLASSIFICATION
G41 B12					Slightly silty fine to coarse sand (SM-SP)
S-8					
70-71.5'					

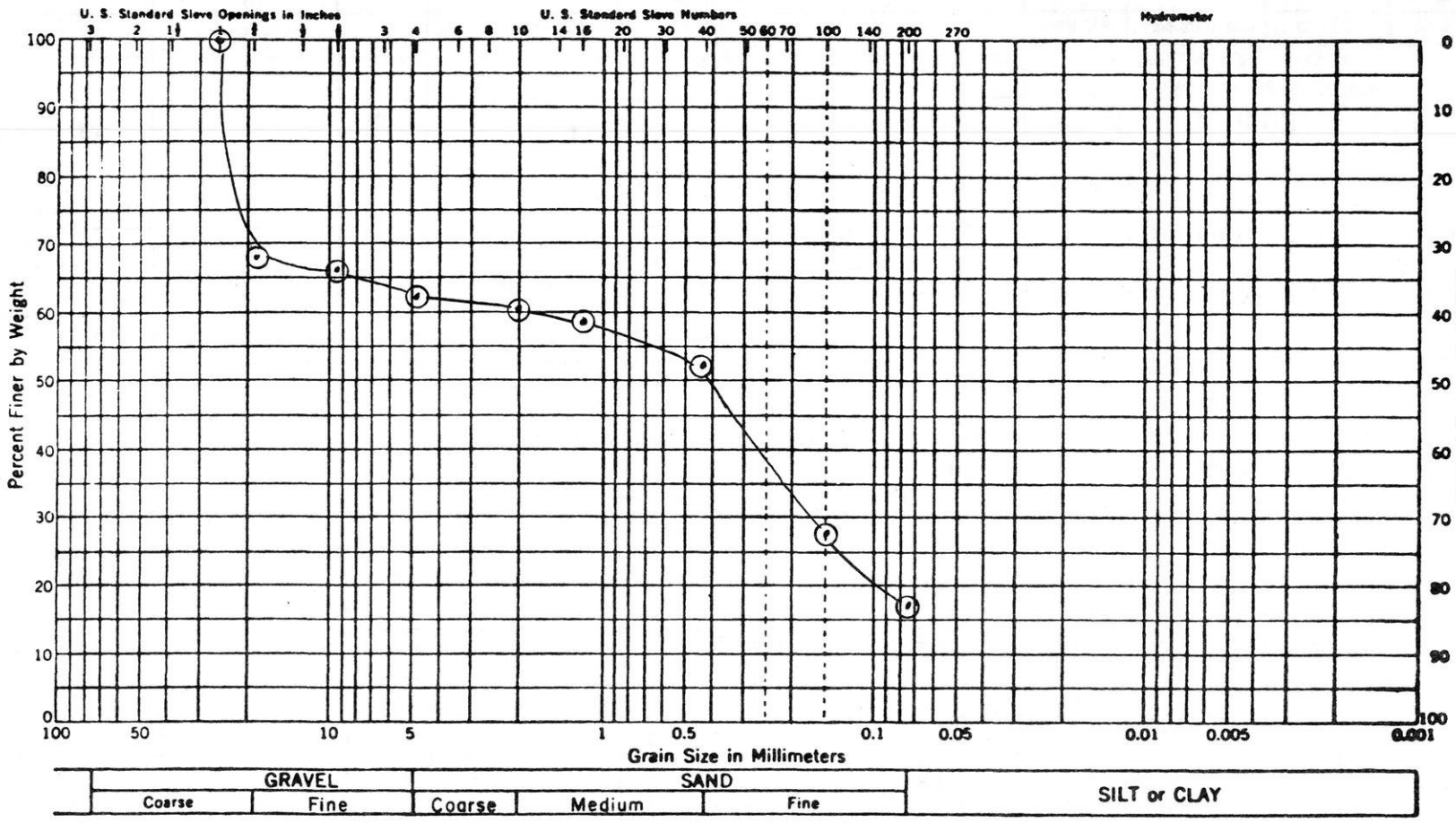
EXXON MINERALS COMPANY
GRAIN SIZE ANALYSIS
CRANDON PROJECT

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DRAWN	APPROVED	DATE	JOB No.
SMD	JAS	5-18-84	12959

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UNIFIED CLASSIFICATION SYSTEM



SAMPLE NO.	W.C.	LL	PL	PI	CLASSIFICATION
G41 B12					Silty fine to coarse sand (SM)
S-12					
110-111'					

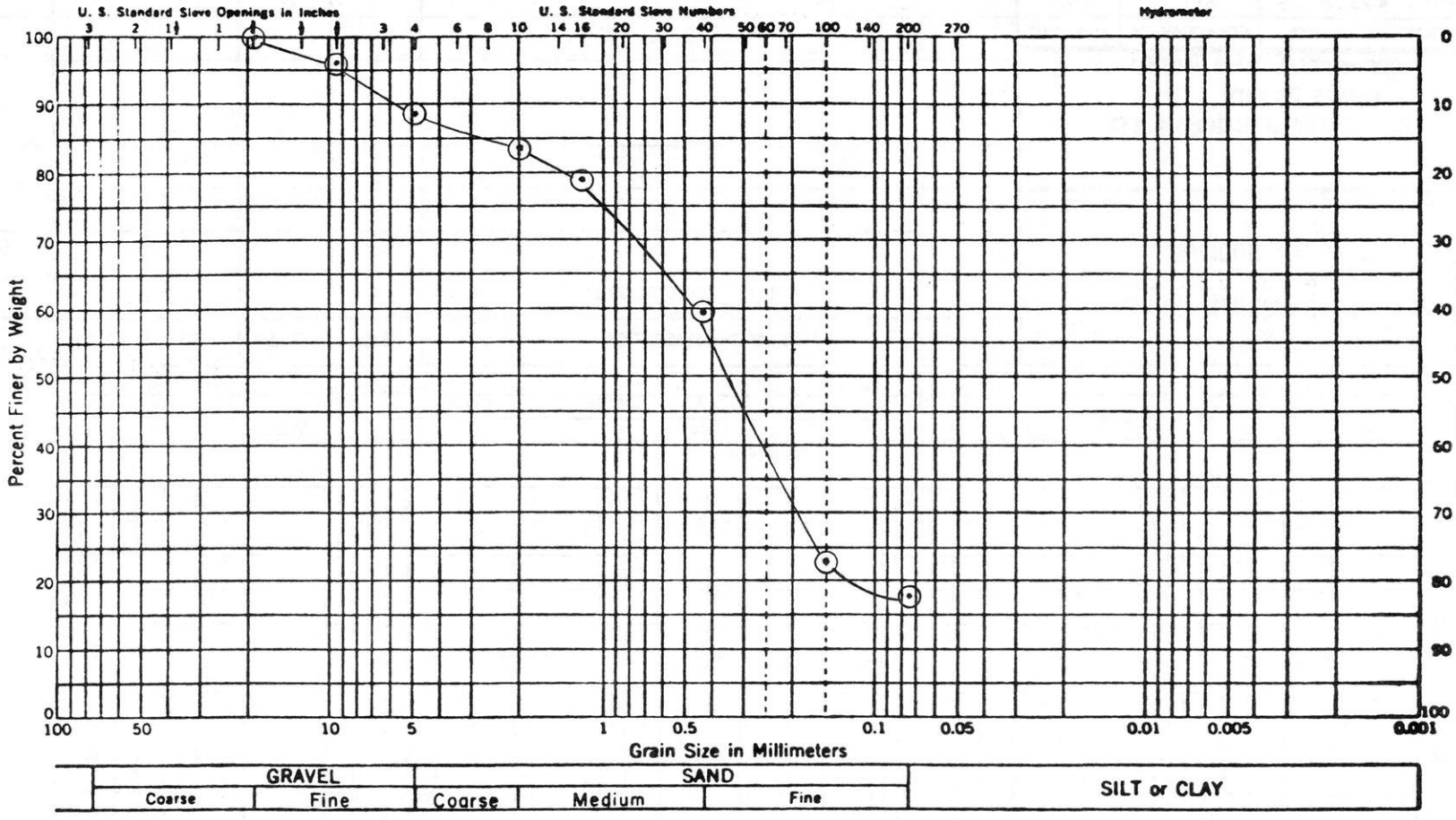
EXXON MINERALS COMPANY
GRAIN SIZE ANALYSIS
CRANDON PROJECT

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GREEN BAY, WIS. 54303

DRAWN	APPROVED	DATE	JOB No.
SMD	JAS	5-18-84	12959

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UNIFIED CLASSIFICATION SYSTEM



SAMPLE NO.	W.C.	LL	PL	PI	CLASSIFICATION
G41 C15					Silty fine to coarse sand (SM)
S-2					
5-6'					

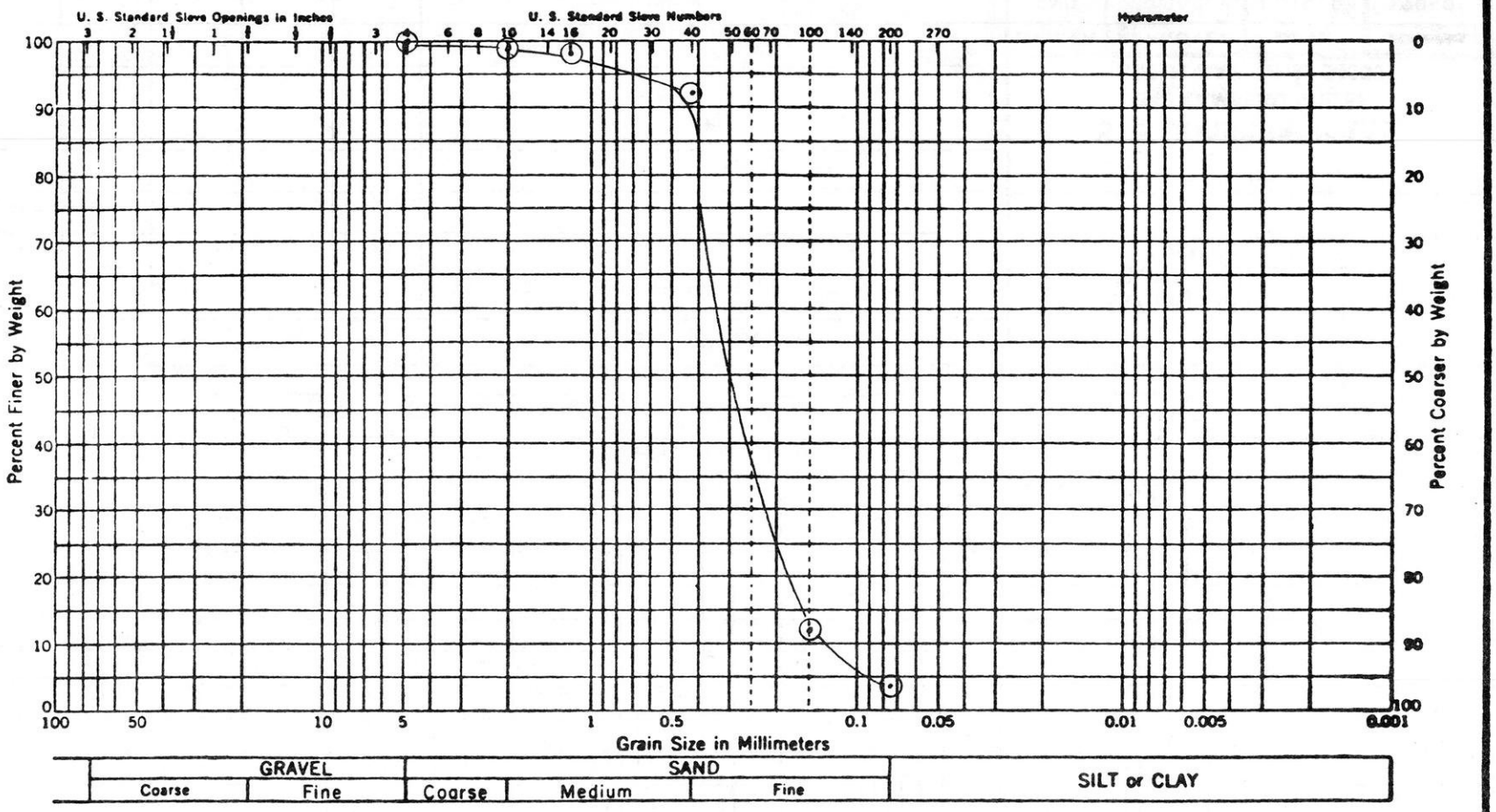
EXXON MINERALS COMPANY
GRAIN SIZE ANALYSIS
CRANDON PROJECT

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DRAWN	APPROVED	DATE	JOB No.
SMD	JAS	5-18-84	12959

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UNIFIED CLASSIFICATION SYSTEM



SAMPLE NO.	W.C.	LL	PL	PI	CLASSIFICATION
G41 C15					Fine to medium sand (SP)
S-5					
15-16.5'					

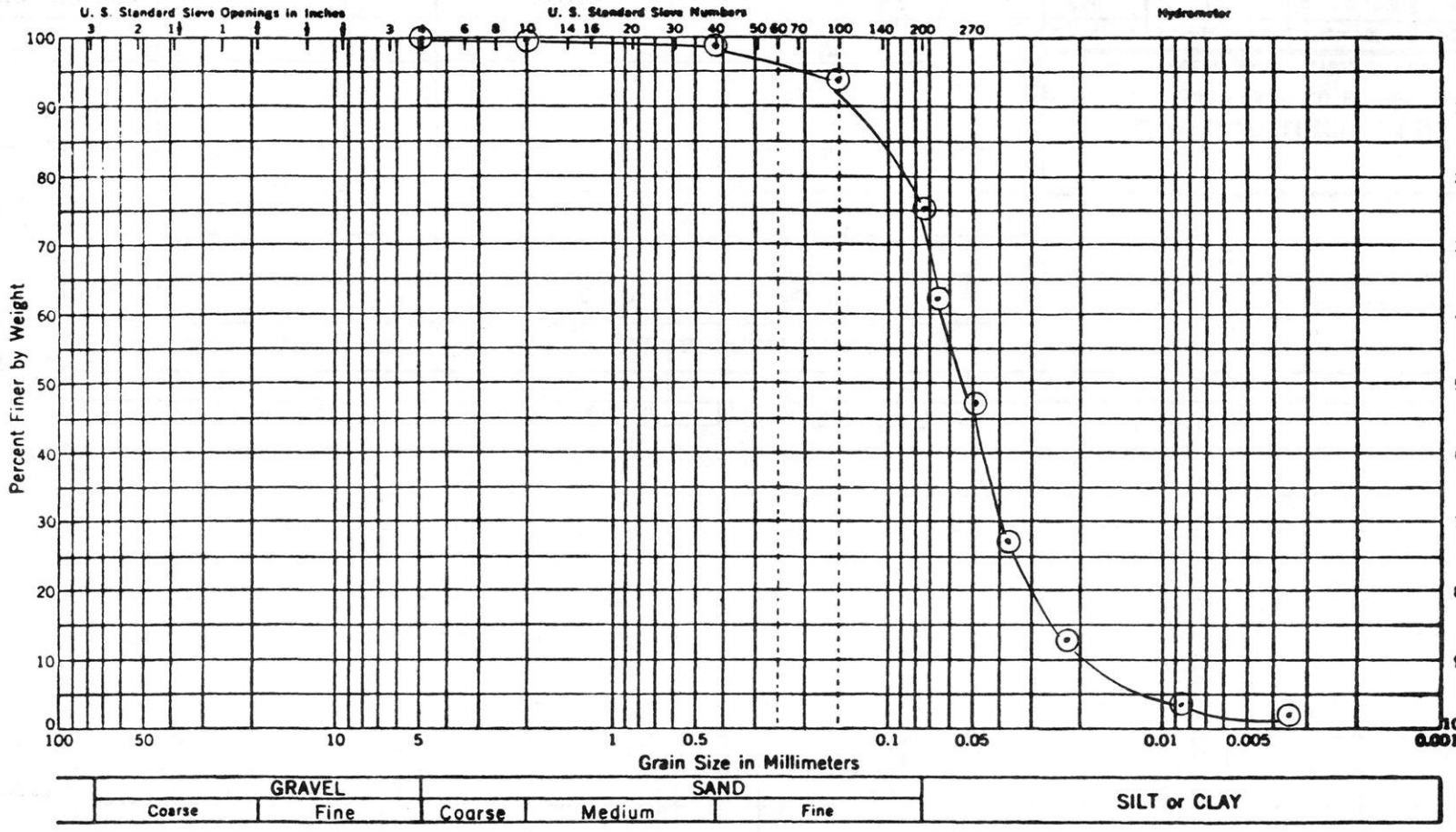
EXXON MINERALS COMPANY
GRAIN SIZE ANALYSIS
CRANDON PROJECT

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DRAWN	APPROVED	DATE	JOB No.
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UNIFIED CLASSIFICATION SYSTEM



SAMPLE NO.	W.C.	LL	PL	PI	CLASSIFICATION
G41 C15					Very fine sandy silt (ML)
S12					
48-49.5'					

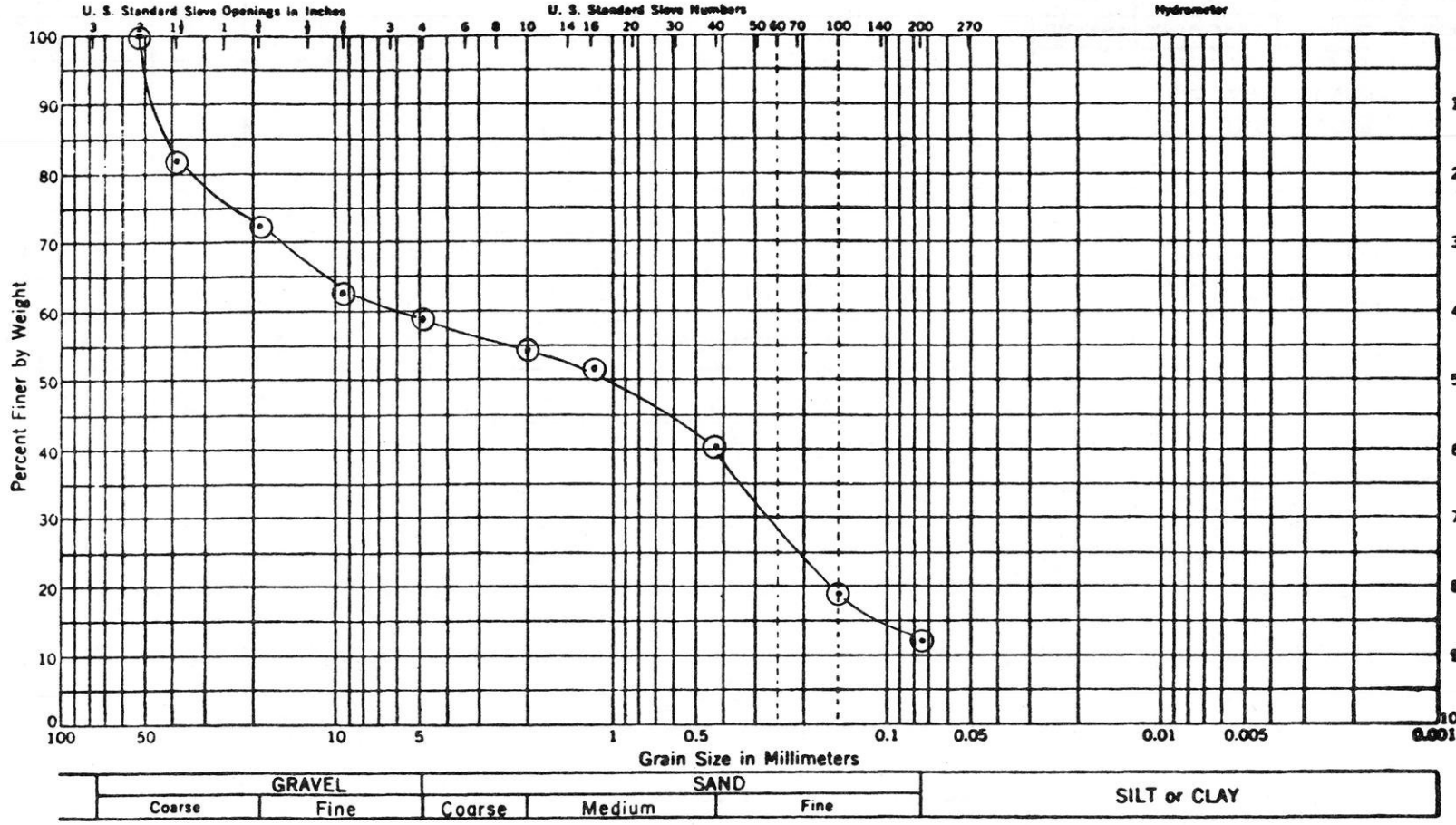
EXXON MINERALS COMPANY
GRAIN SIZE ANALYSIS
CRANDON PROJECT

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DRAWN	APPROVED	DATE	JOB No.
SMD	JAS	6-10-84	12959

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UNIFIED CLASSIFICATION SYSTEM



SAMPLE NO.	W.C.	LL	PL	PI	CLASSIFICATION
G41 C15 S-14 58-59.5'					Silty fine to coarse sand (SM)

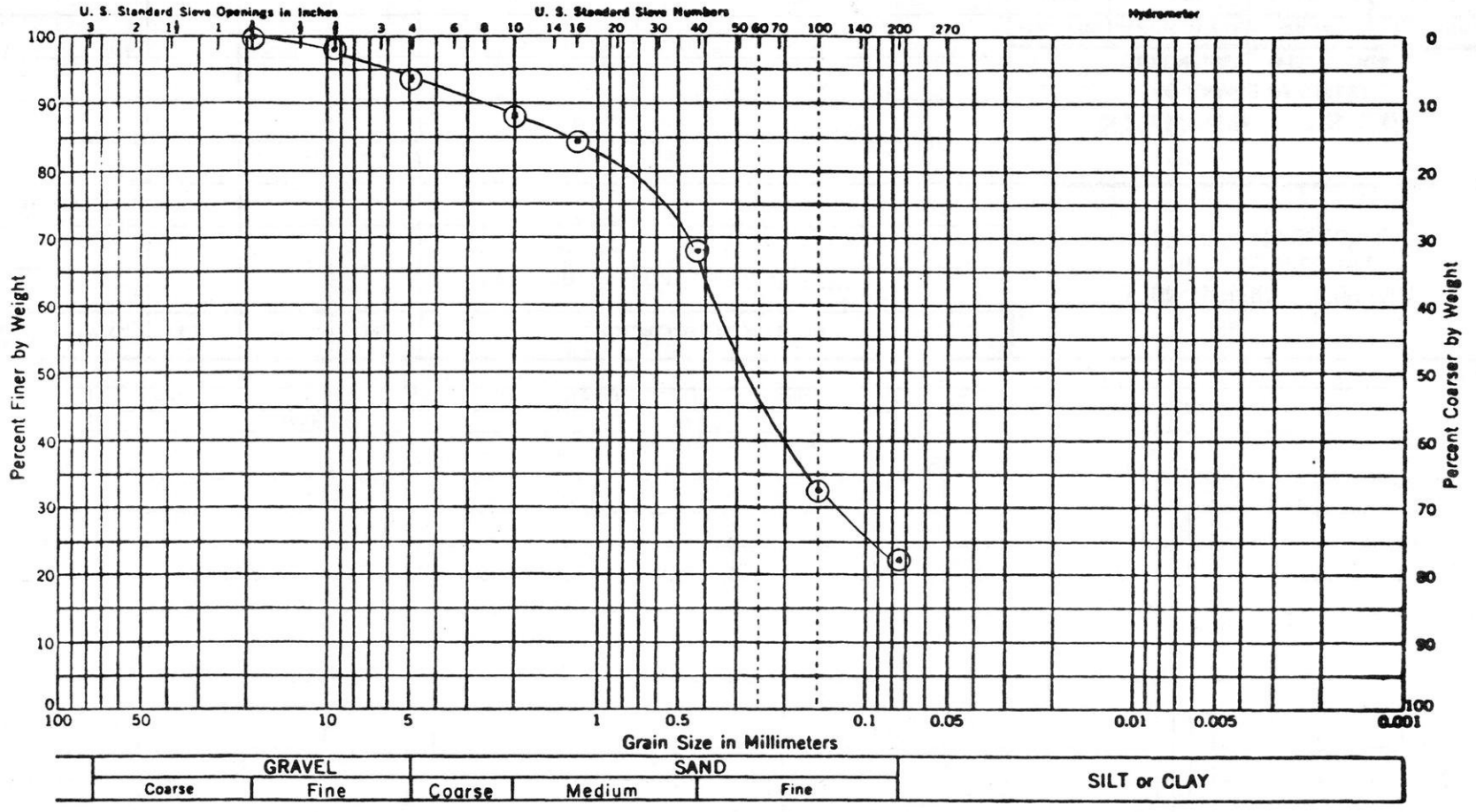
EXXON MINERALS COMPANY
GRAIN SIZE ANALYSIS
CRANDON PROJECT

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DRAWN	APPROVED	DATE	JOB No.
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UNIFIED CLASSIFICATION SYSTEM



SAMPLE NO.	W.C.	LL	PL	PI	CLASSIFICATION
G41 C15					Silty fine to coarse sand (SM)
S-17					
75-75.75'					

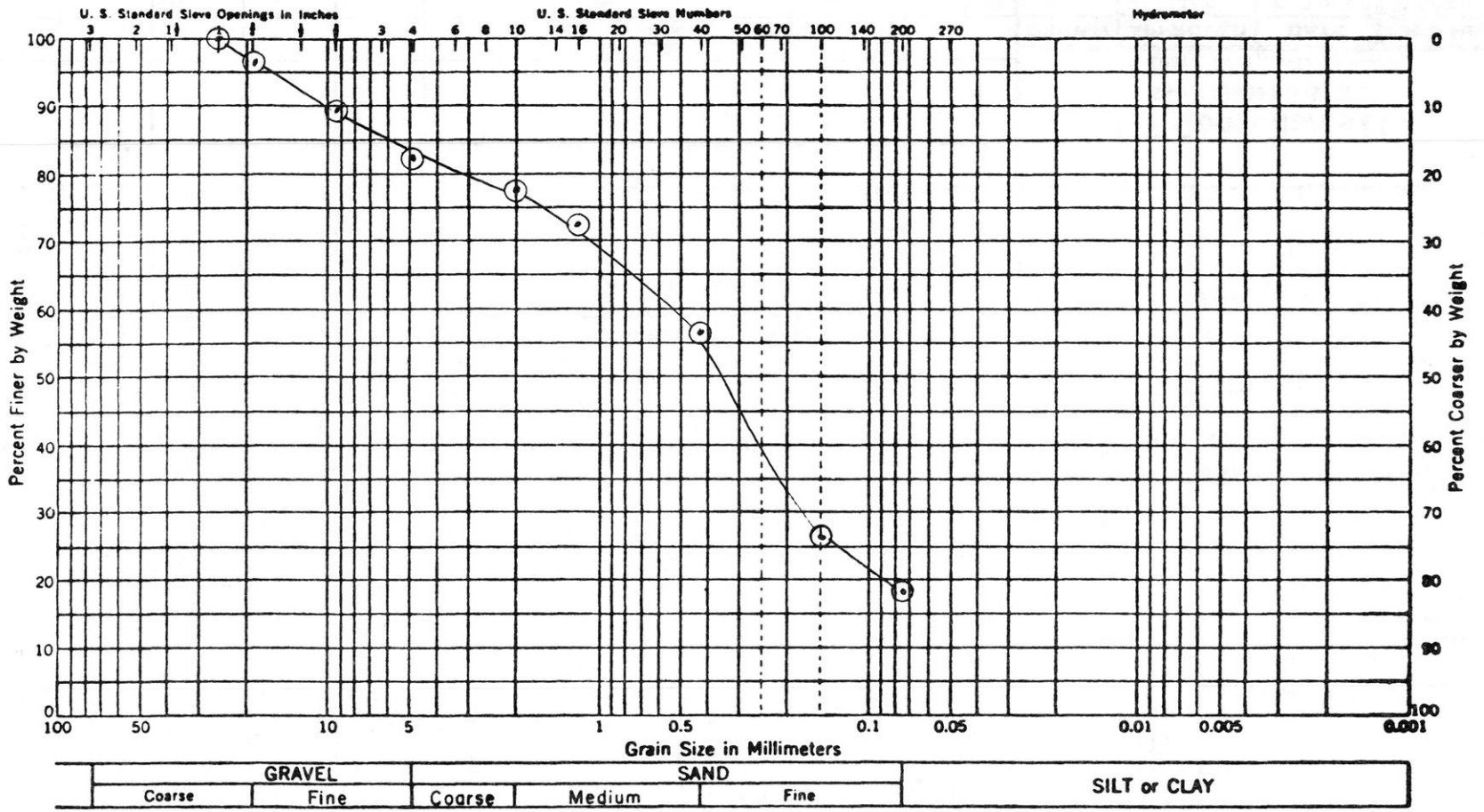
EXXON MINERALS COMPANY
GRAIN SIZE ANALYSIS
CRANDON PROJECT

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DRAWN	APPROVED	DATE	JOB No.
SMD	JAS	5-18-84	12959

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UNIFIED CLASSIFICATION SYSTEM



SAMPLE NO.	W.C.	LL	PL	PI	CLASSIFICATION
G41 C15					Silty fine to coarse sand (SM)
S-21					
95-95.5'					

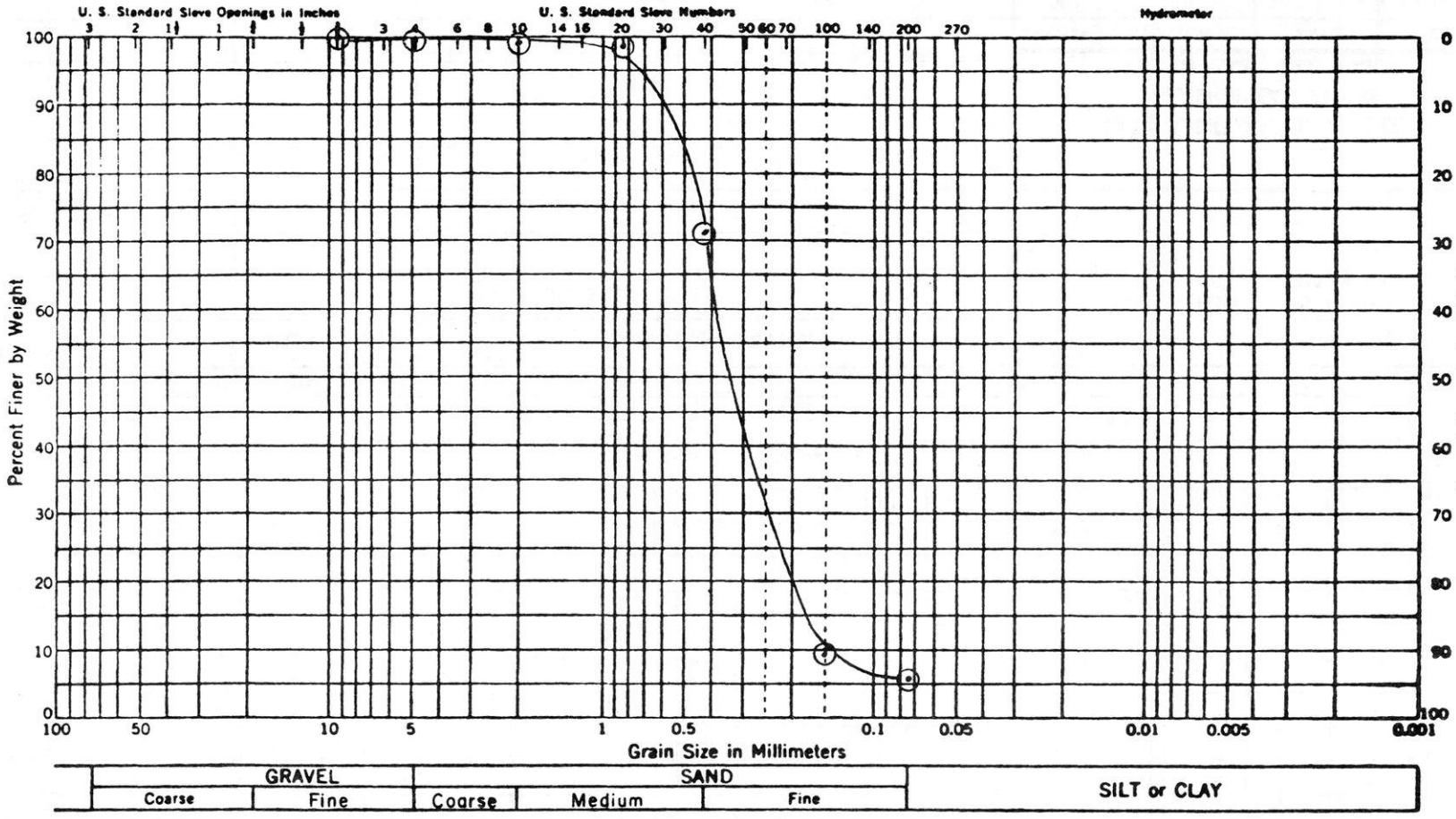
EXXON MINERALS COMPANY
GRAIN SIZE ANALYSIS
CRANDON PROJECT

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DRAWN	APPROVED	DATE	JOB No.
SMD	JAS	5-18-84	12959

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UNIFIED CLASSIFICATION SYSTEM



SAMPLE NO.	W.C.	LL	PL	PI	CLASSIFICATION
G41 C15					Slightly silty fine to medium sand (SP-SM)
S-26					
140-142'					

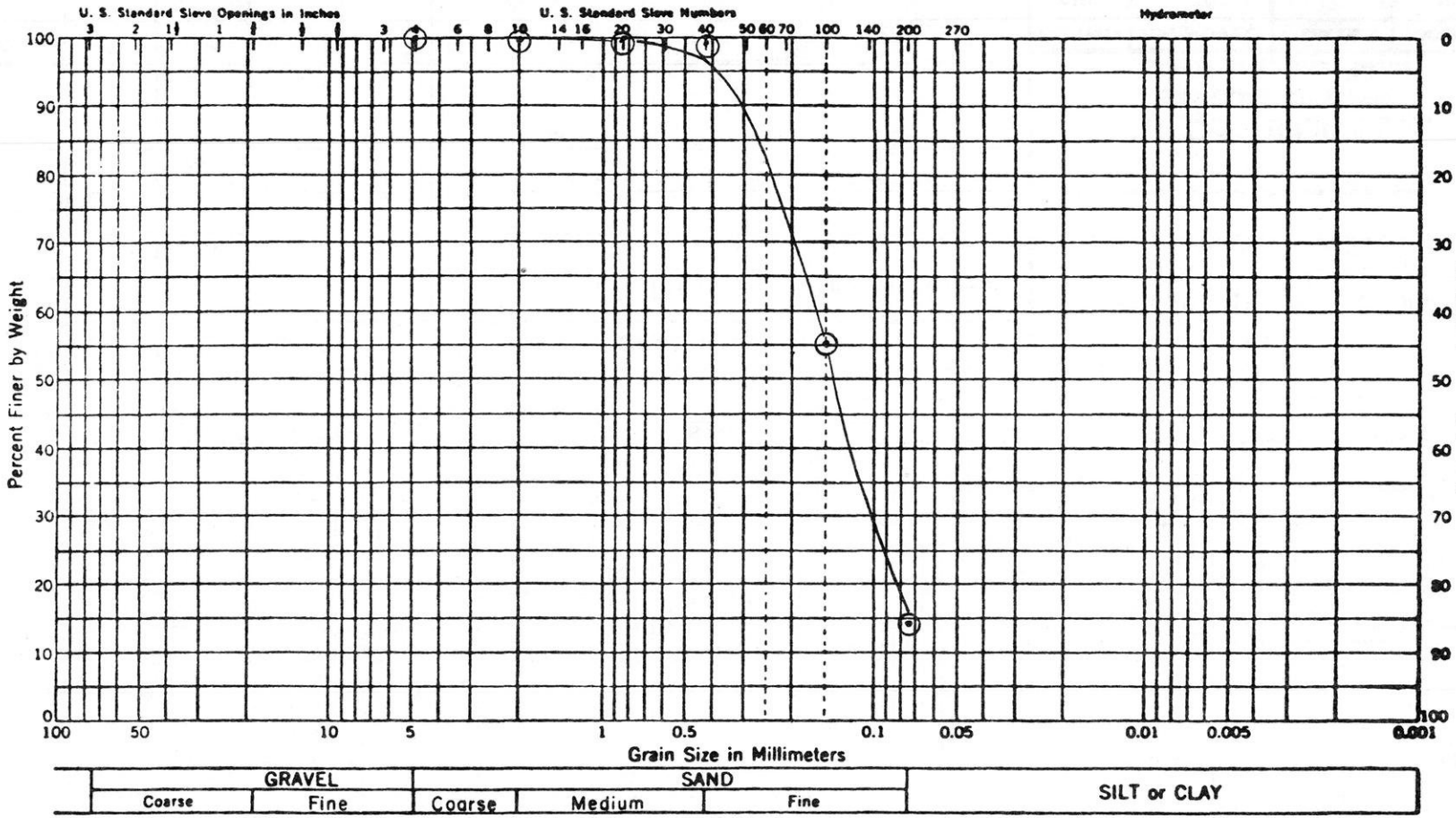
EXXON MINERALS COMPANY
GRAIN SIZE ANALYSIS
CRANDON PROJECT

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DRAWN	APPROVED	DATE	JOB No.
SMD	JAS	5-18-84	12959

BBS09302

UNIFIED CLASSIFICATION SYSTEM



SAMPLE NO.	W.C.	LL	PL	PI	CLASSIFICATION
G41 C15					Silty fine sand (SM)
S-28					
160-160.75'					

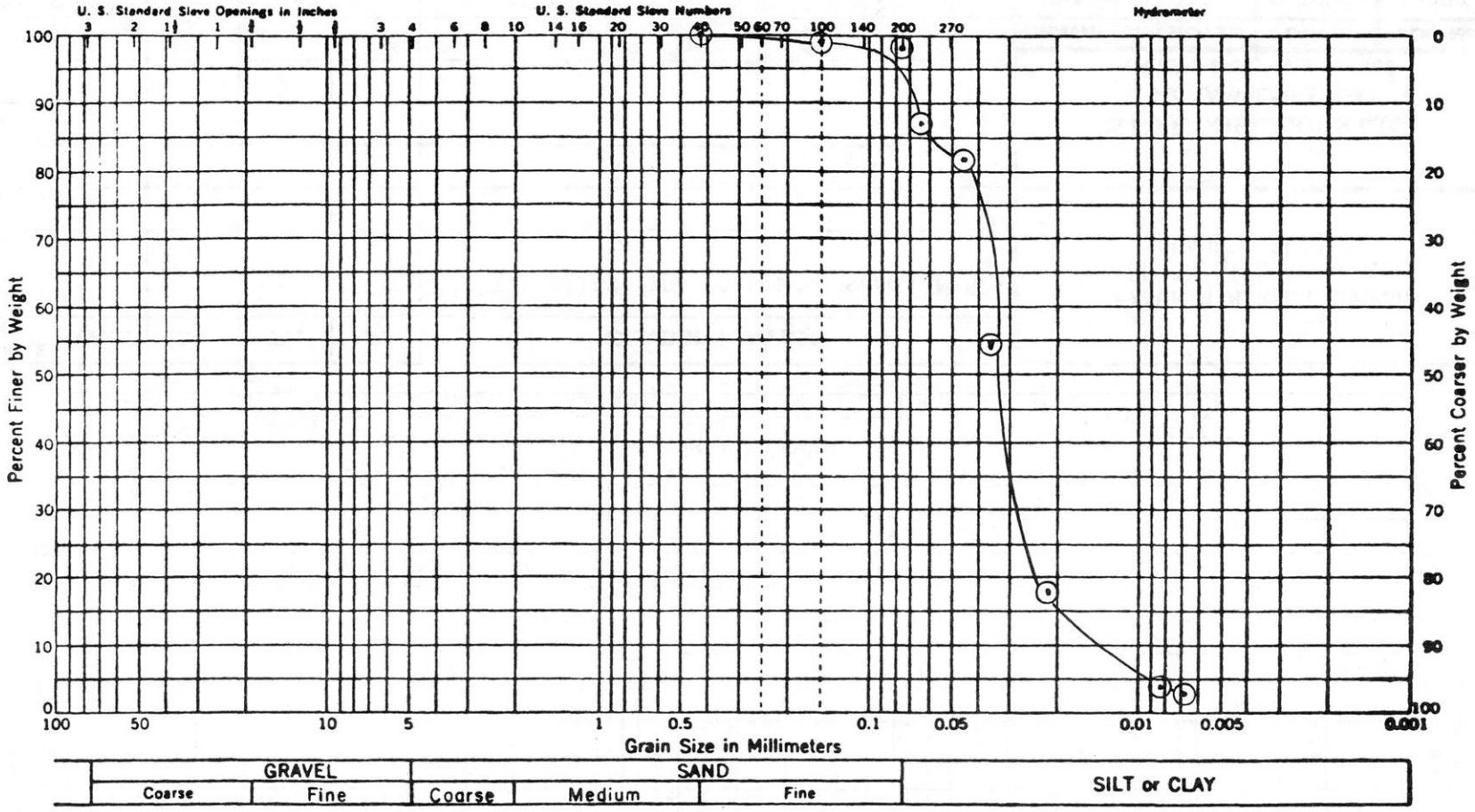
EXXON MINERALS COMPANY
GRAIN SIZE ANALYSIS
CRANDON PROJECT

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DRAWN	APPROVED	DATE	JOB No.
SMD	JAS	5-18-84	12959

BBS09302

UNIFIED CLASSIFICATION SYSTEM



SAMPLE NO.	W.C.	LL	PL	PI	CLASSIFICATION
G41 C15					Silt (ML)
S29					
170-171'					

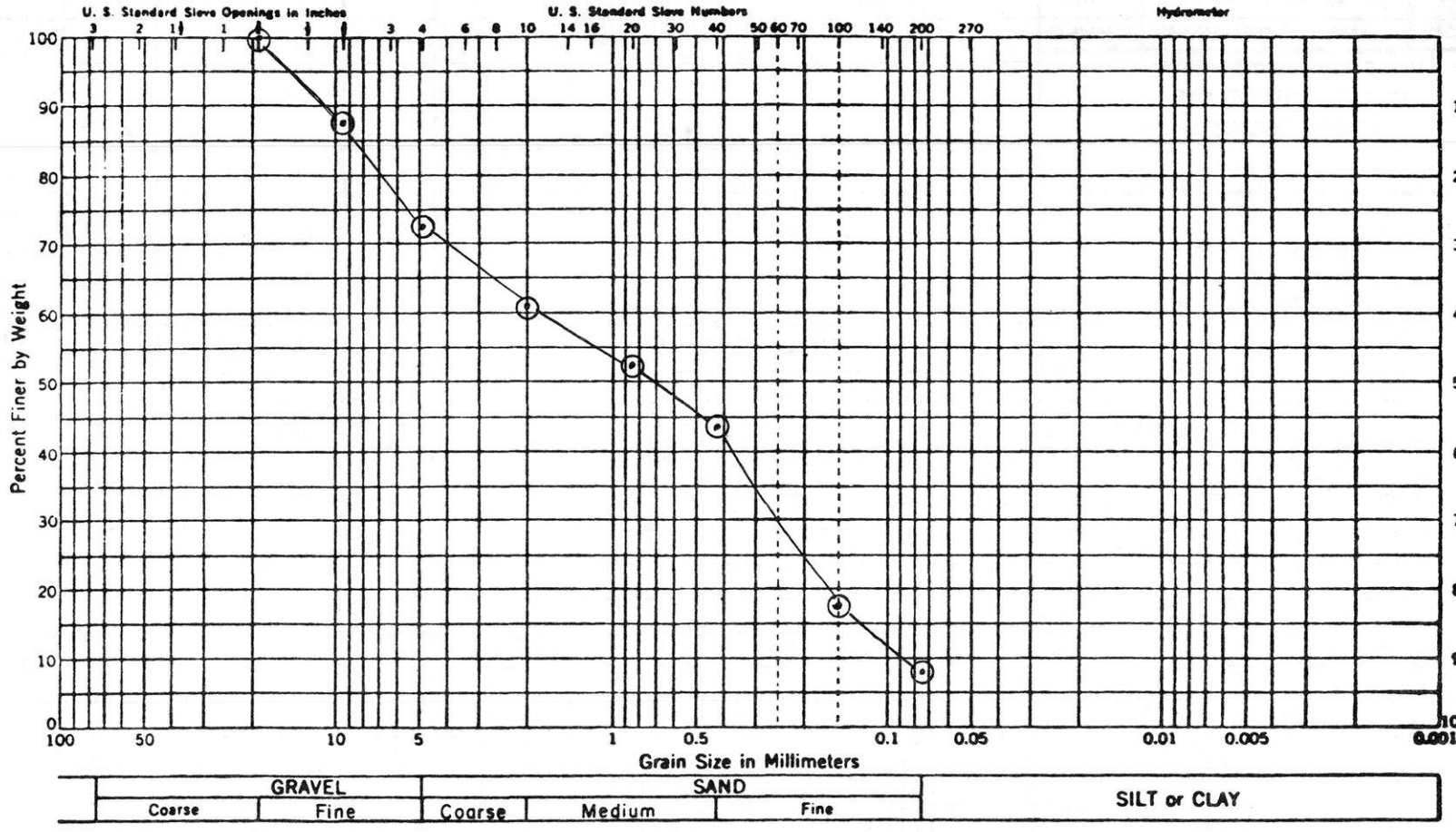
EXXON MINERALS COMPANY
GRAIN SIZE ANALYSIS
CRANDON PROJECT

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DRAWN	APPROVED	DATE	JOB No.
SMD	JAS	6-10-84	12959

BBS09302

UNIFIED CLASSIFICATION SYSTEM



SAMPLE NO.	W.C.	LL	PL	PI	CLASSIFICATION
G41 C15					Slightly silty fine to coarse sand (SM-SP)
S-32					
200-200.7'					

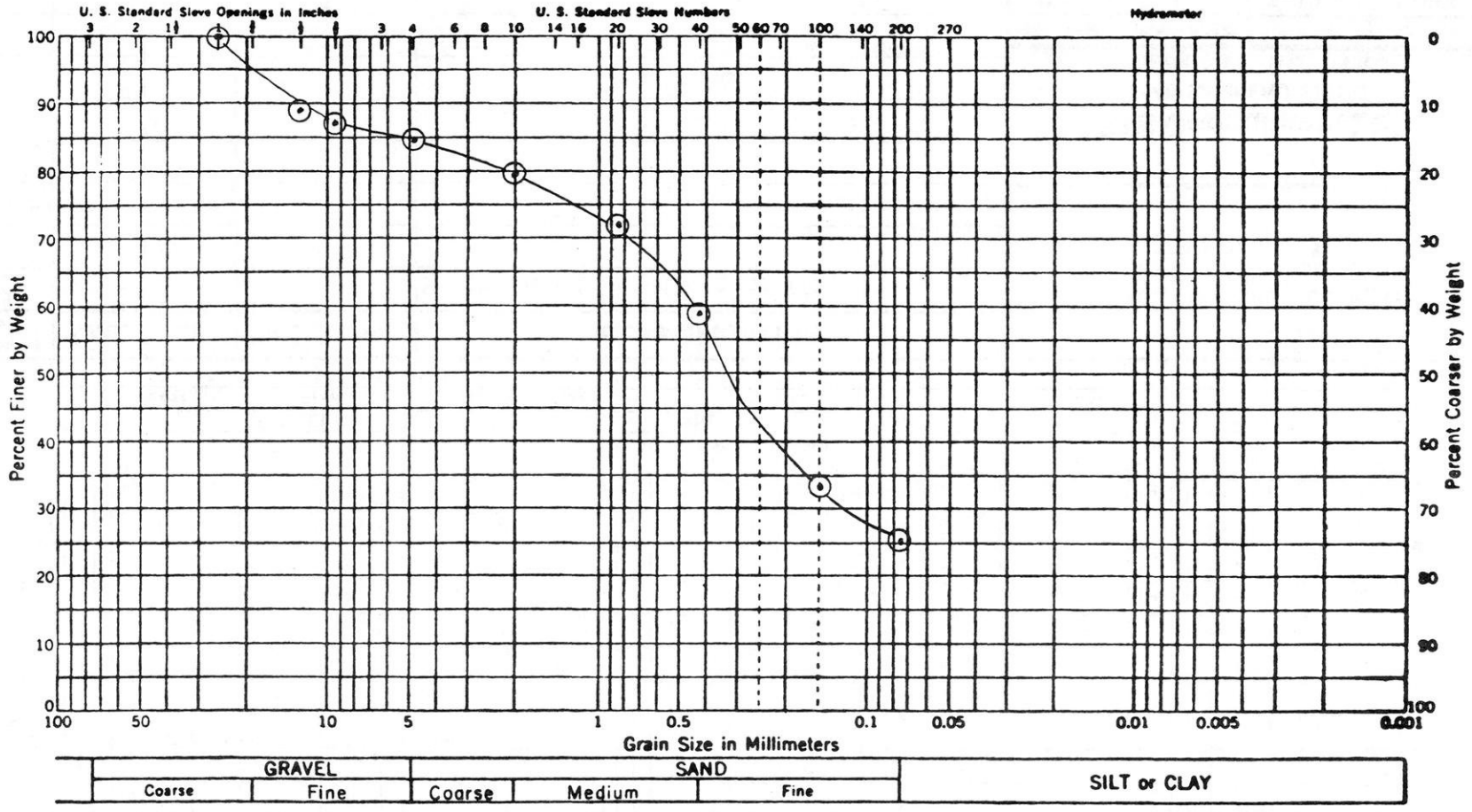
EXXON MINERALS COMPANY
GRAIN SIZE ANALYSIS
CRANDON PROJECT

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DRAWN	APPROVED	DATE	JOB No.
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UNIFIED CLASSIFICATION SYSTEM



SAMPLE NO.	W.C.	LL	PL	PI	CLASSIFICATION
G41 C32					Silty fine to medium sand (SM)
S3					
18-20'					

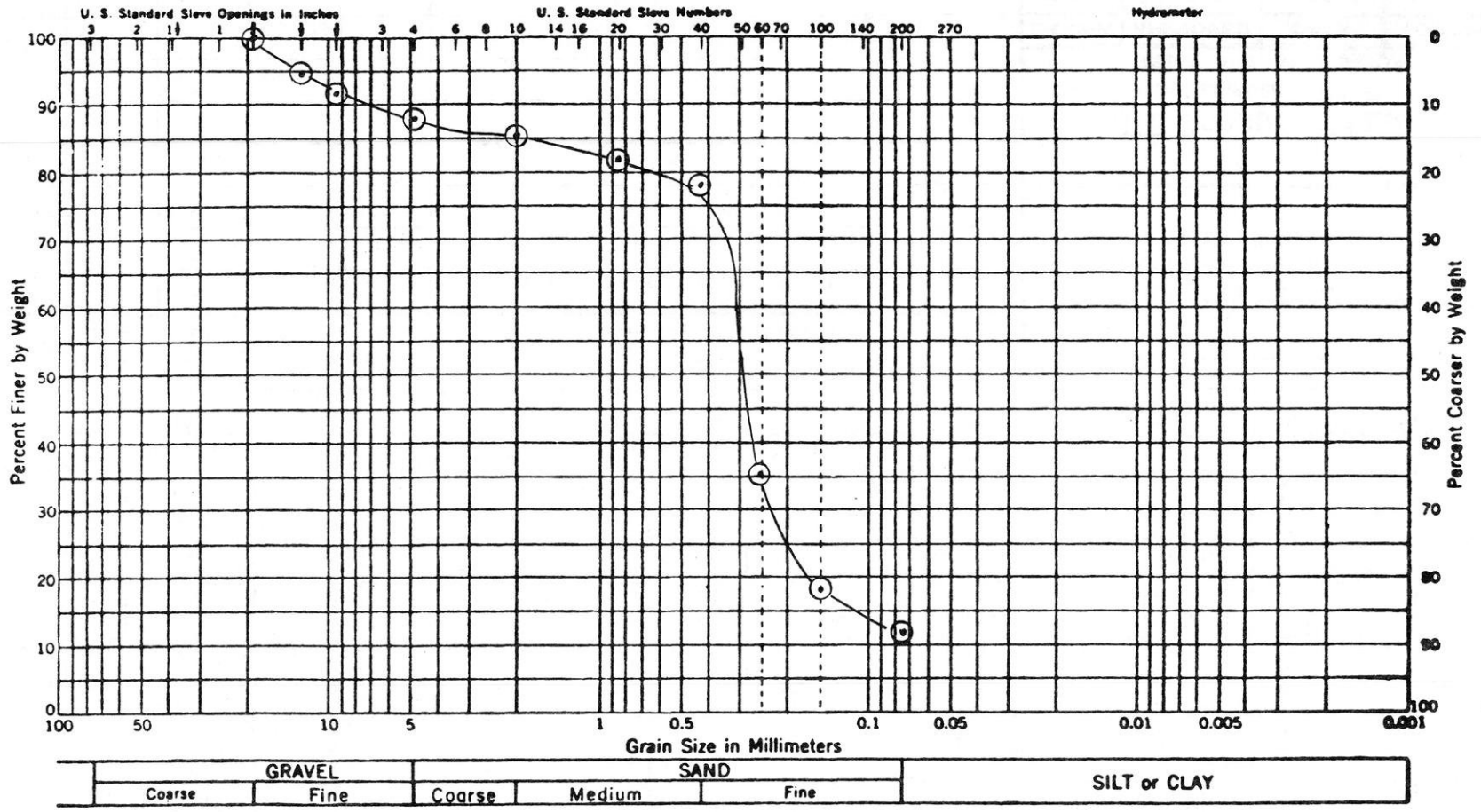
EXXON MINERALS COMPANY
GRAIN SIZE ANALYSIS
CRANDON PROJECT

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DRAWN	APPROVED	DATE	JOB No.
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UNIFIED CLASSIFICATION SYSTEM



SAMPLE NO.	W.C.	LL	PL	PI	CLASSIFICATION
G41 C32					Silty fine to medium sand (SM)
S6					
50-51.3'					

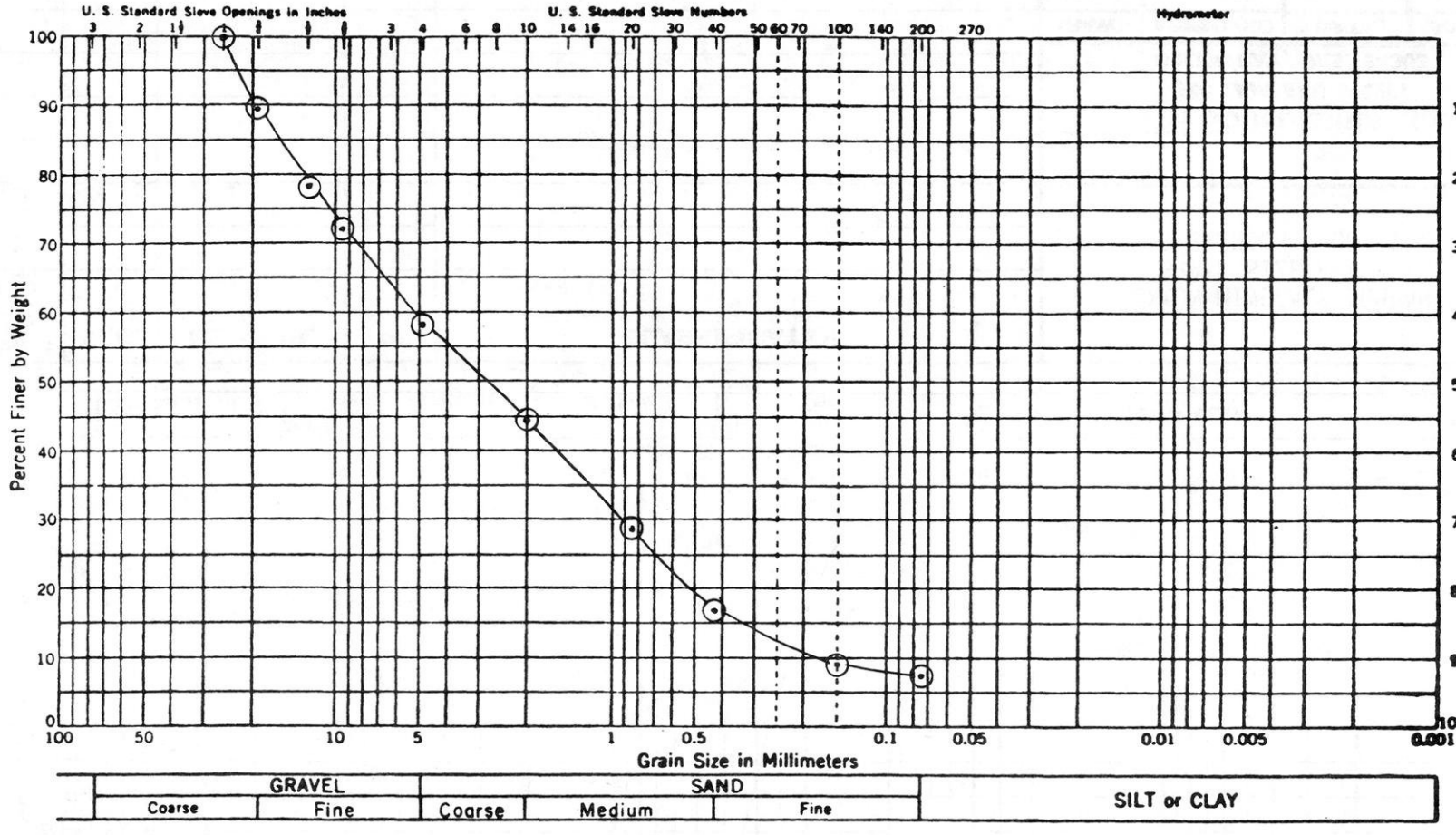
EXXON MINERALS COMPANY
GRAIN SIZE ANALYSIS
CRANDON PROJECT

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GREEN BAY, WIS. 54303

DRAWN	APPROVED	DATE	JOB No.
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UNIFIED CLASSIFICATION SYSTEM



SAMPLE NO.	W.C.	LL	PL	PI	CLASSIFICATION
G41 C32					Slightly silty fine to coarse sand (SM-SP)
S14					
130-131.5'					

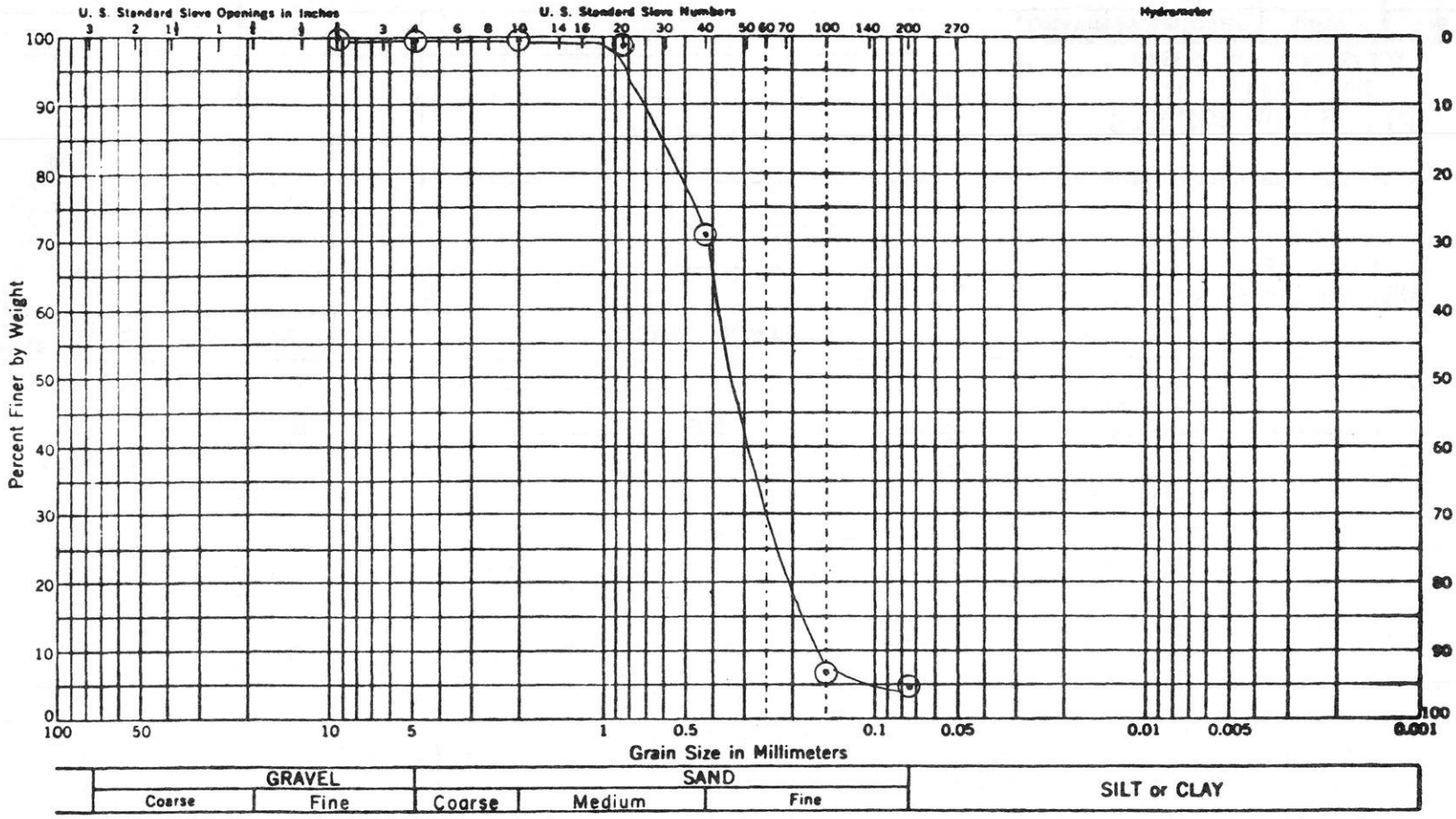
EXXON MINERALS COMPANY
GRAIN SIZE ANALYSIS
CRANDON PROJECT

STS Consultants Ltd.
540 LAMBEAU STREET
GREEN BAY, WIS. 54303

DRAWN	APPROVED	DATE	JOB No.
SMD	JAS	6-10-84	12959

BBS09302

UNIFIED CLASSIFICATION SYSTEM



SAMPLE NO.	W.C.	LL	PL	PI	CLASSIFICATION
G41 C32					Fine sand (SP)
S16					
151-152'					

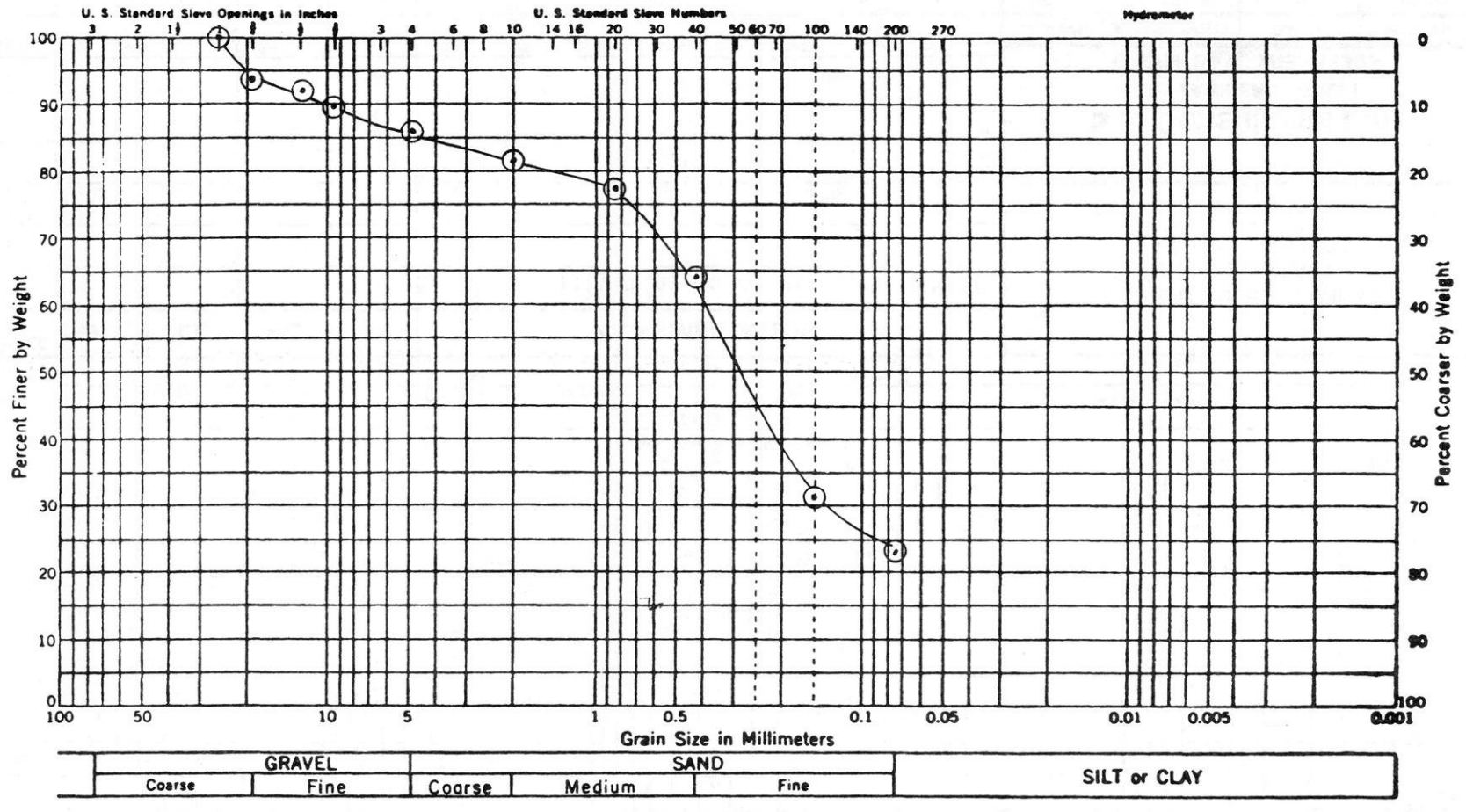
EXXON MINERALS COMPANY
GRAIN SIZE ANALYSIS
CRANDON PROJECT

STS Consultants Ltd.
540 LAMBEAU STREET
GREEN BAY, WIS. 54303

DRAWN	APPROVED	DATE	JOB No.
SMD	JAS	6-10-84	12959

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UNIFIED CLASSIFICATION SYSTEM



SAMPLE NO.	W.C.	LL	PL	PI	CLASSIFICATION
G41 C32					Silty fine to medium sand (SM)
S17					
161.5-163'					

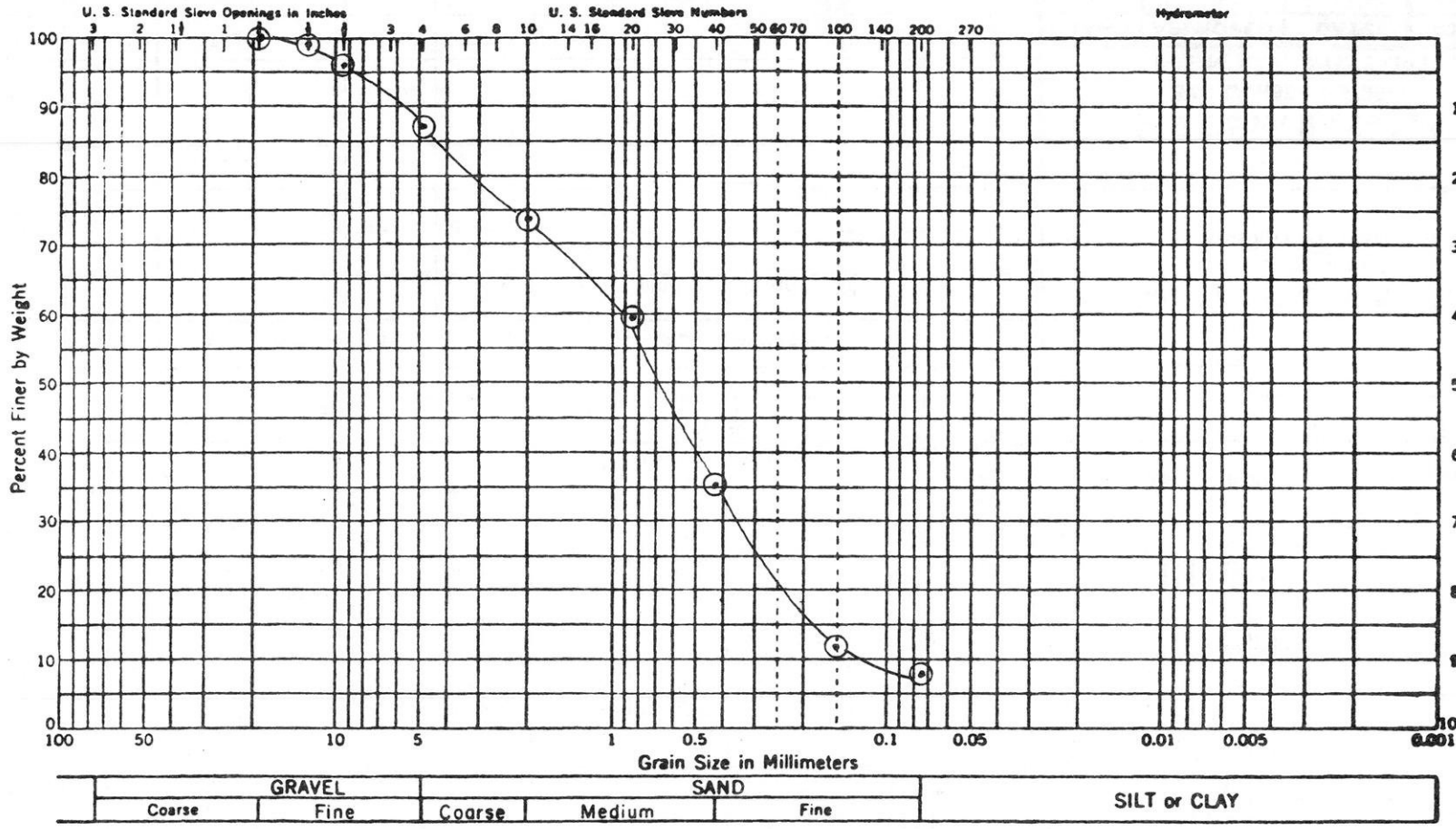
EXXON MINERALS COMPANY
GRAIN SIZE ANALYSIS
CRANDON PROJECT

STS Consultants Ltd.
540 LAMBEAU STREET
GREEN BAY, WIS. 54303

DRAWN	APPROVED	DATE	JOB No.
SMD	JAS	6-10-84	12959

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UNIFIED CLASSIFICATION SYSTEM



SAMPLE NO.	W.C.	LL	PL	PI	CLASSIFICATION
G41 C32					Slightly silty fine to coarse sand (SM-SP)
S20					
193-194.5'					

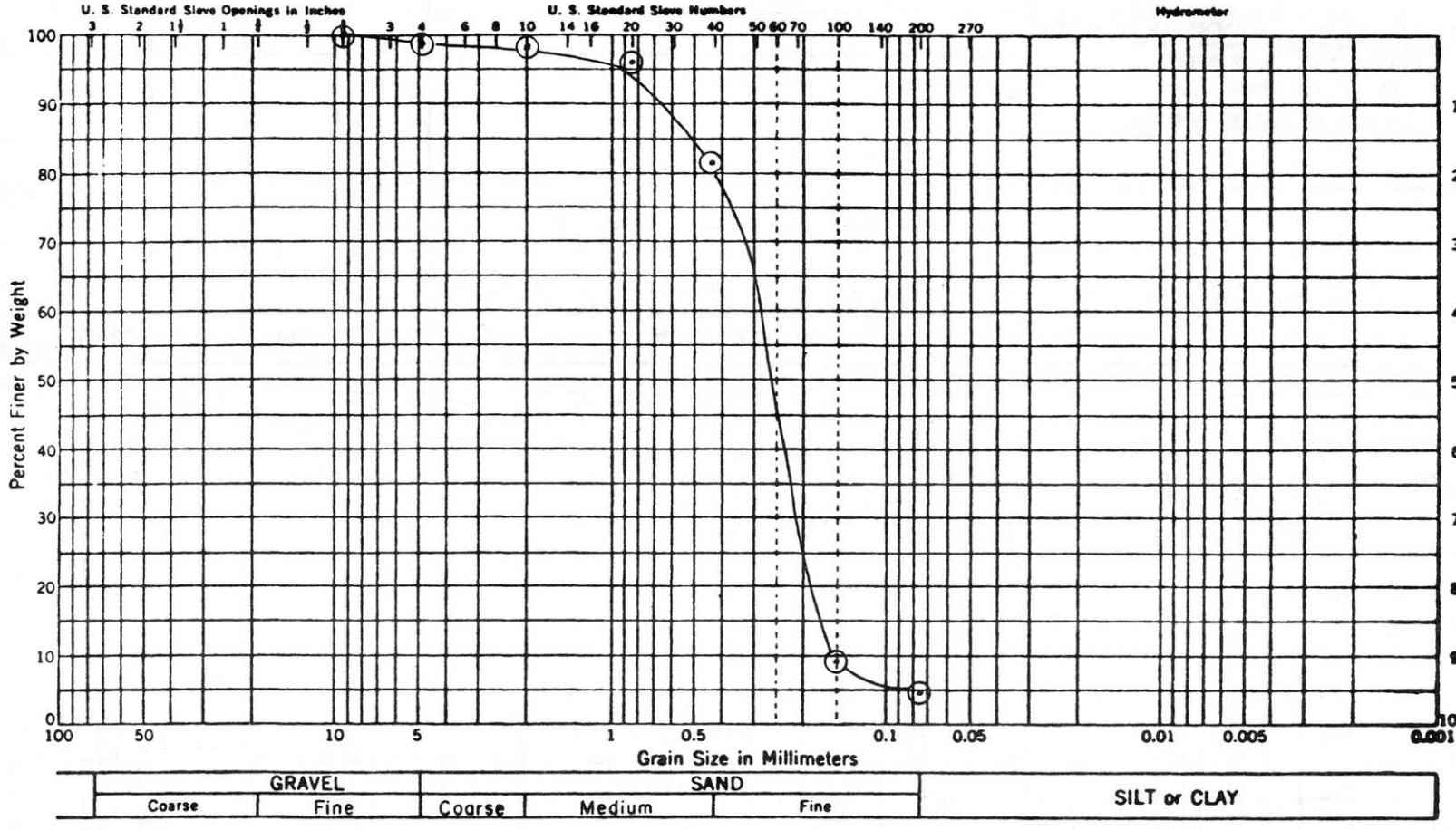
EXXON MINERALS COMPANY
GRAIN SIZE ANALYSIS
CRANDON PROJECT

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540 LAMBEAU STREET
GREEN BAY, WIS. 54303

DRAWN	APPROVED	DATE	JOB No.
SMD	JAS	6-10-84	12959

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UNIFIED CLASSIFICATION SYSTEM



SAMPLE NO.	W.C.	LL	PL	PI	CLASSIFICATION
G41 C32					Fine sand (SP)
S21					
205.0-206.0'					

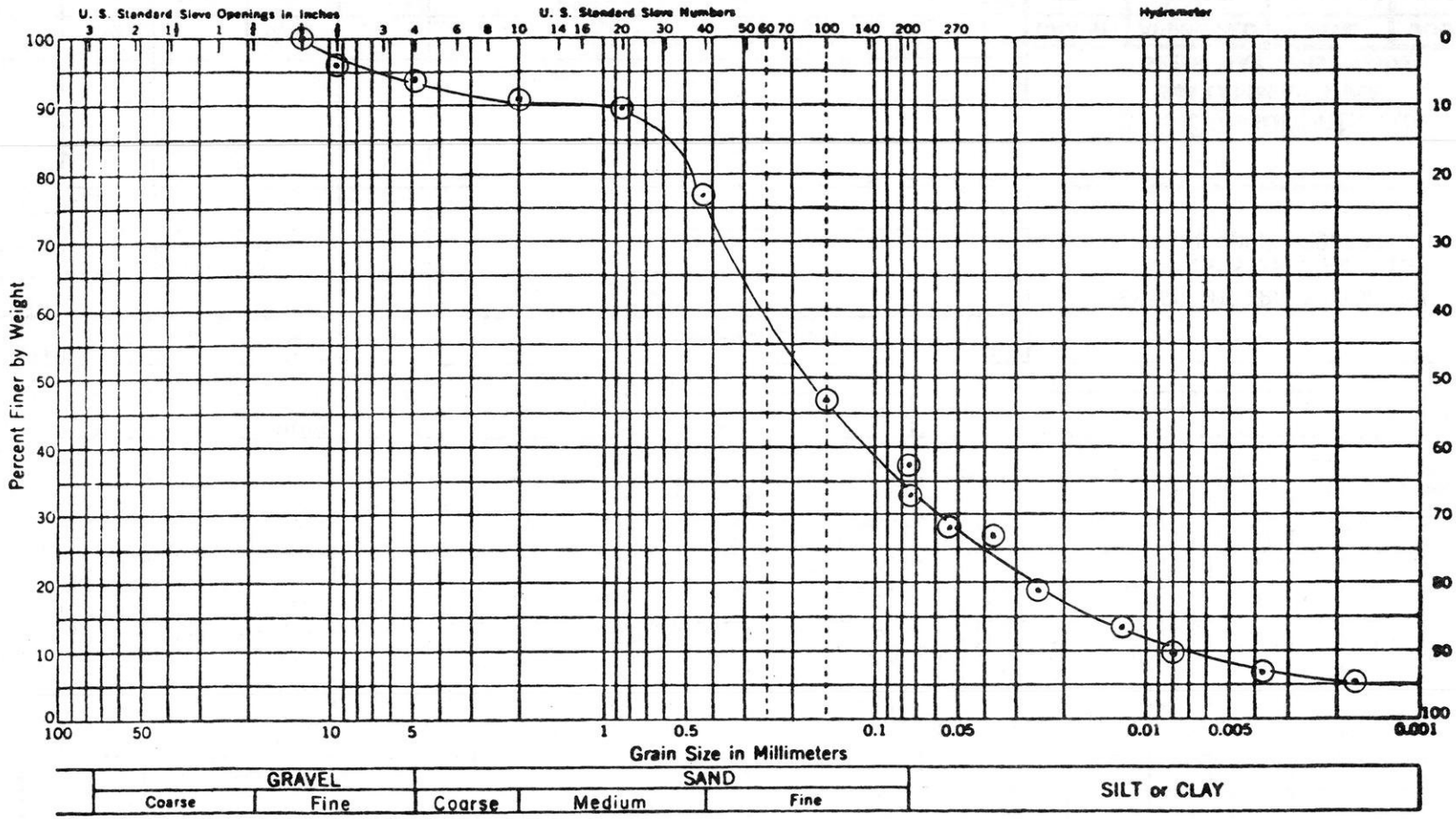
EXXON MINERALS COMPANY
GRAIN SIZE ANALYSIS
CRANDON PROJECT

STS Consultants Ltd.
540 LAMBEAU STREET
GREEN BAY, WIS. 54303

DRAWN	APPROVED	DATE	JOB No.
SMD	JAS	6-10-84	12959

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UNIFIED CLASSIFICATION SYSTEM



SAMPLE NO.	W.C.	LL	PL	PI	CLASSIFICATION
G41 C32					Silty fine to medium sand(SM)
S24					
232-233.5'					

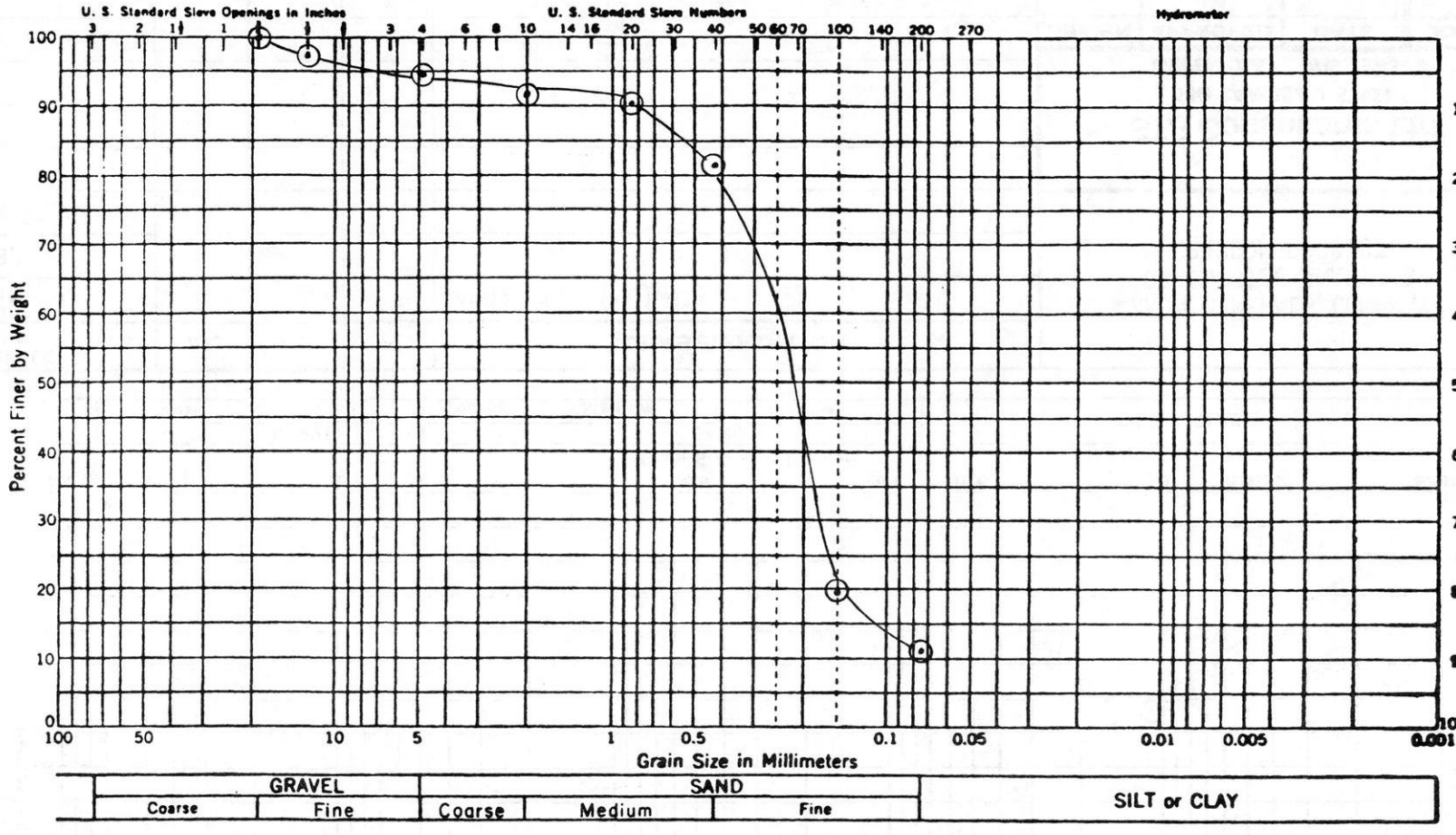
EXXON MINERALS COMPANY
GRAIN SIZE ANALYSIS
CRANDON PROJECT

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540 LAMBEAU STREET
GREEN BAY, WIS. 54303

DRAWN	APPROVED	DATE	JOB No.
SMD	JAS	6-10-84	12959

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UNIFIED CLASSIFICATION SYSTEM



SAMPLE NO.	W.C.	LL	PL	PI	CLASSIFICATION
G41 ET7					Slightly silty fine sand (SM-SP)
S28					
195-196'					

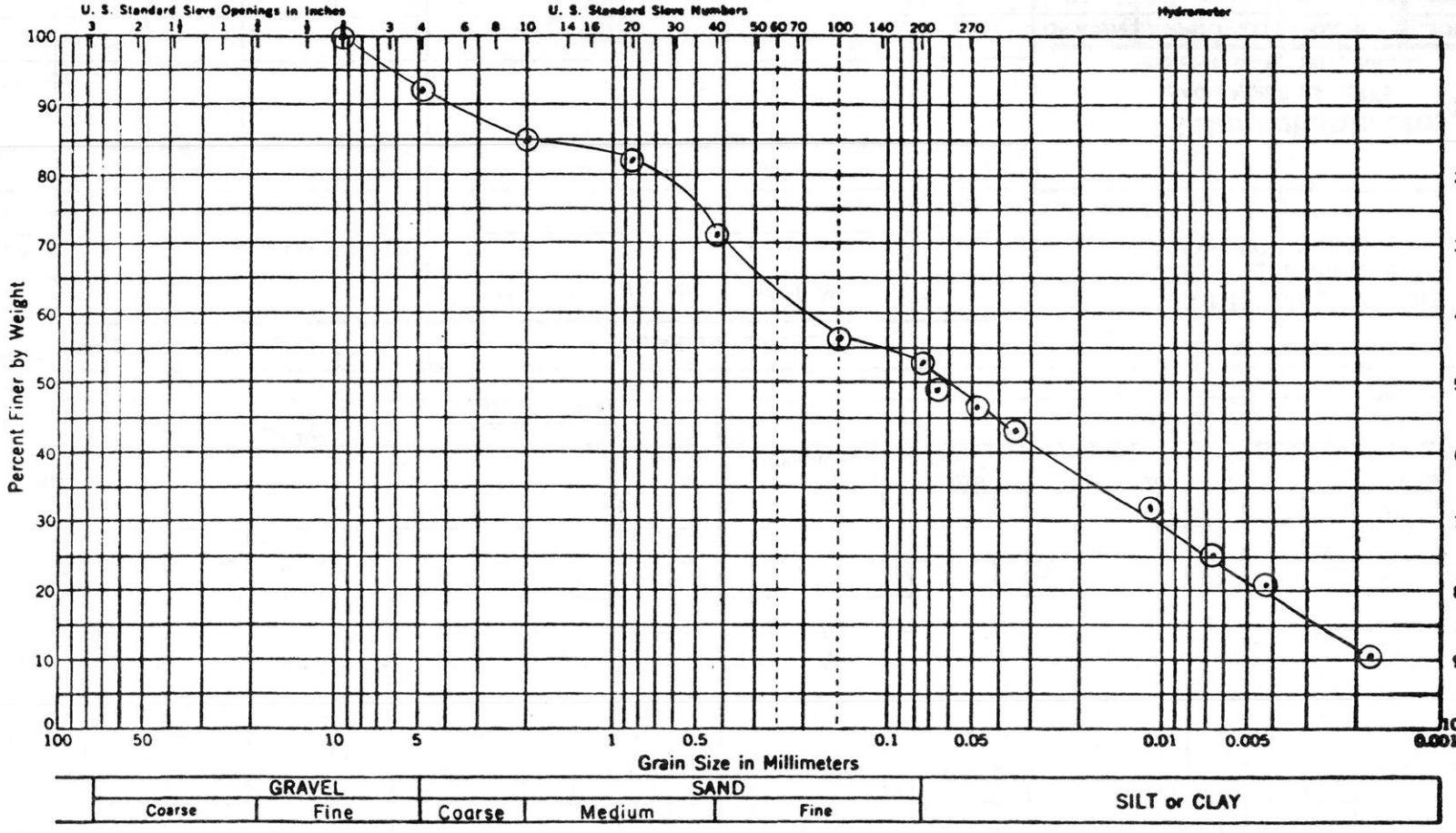
EXXON MINERALS COMPANY
GRAIN SIZE ANALYSIS
CRANDON PROJECT

STS Consultants Ltd.
540 LAMBEAU STREET
GREEN BAY, WIS. 54303

DRAWN	APPROVED	DATE	JOB No.
SMD	JAS	6-10-84	12959

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UNIFIED CLASSIFICATION SYSTEM



SAMPLE NO.	W.C.	LL	PL	PI	CLASSIFICATION
G41 E17					Sandy silt (ML)
S32					
234-235'					

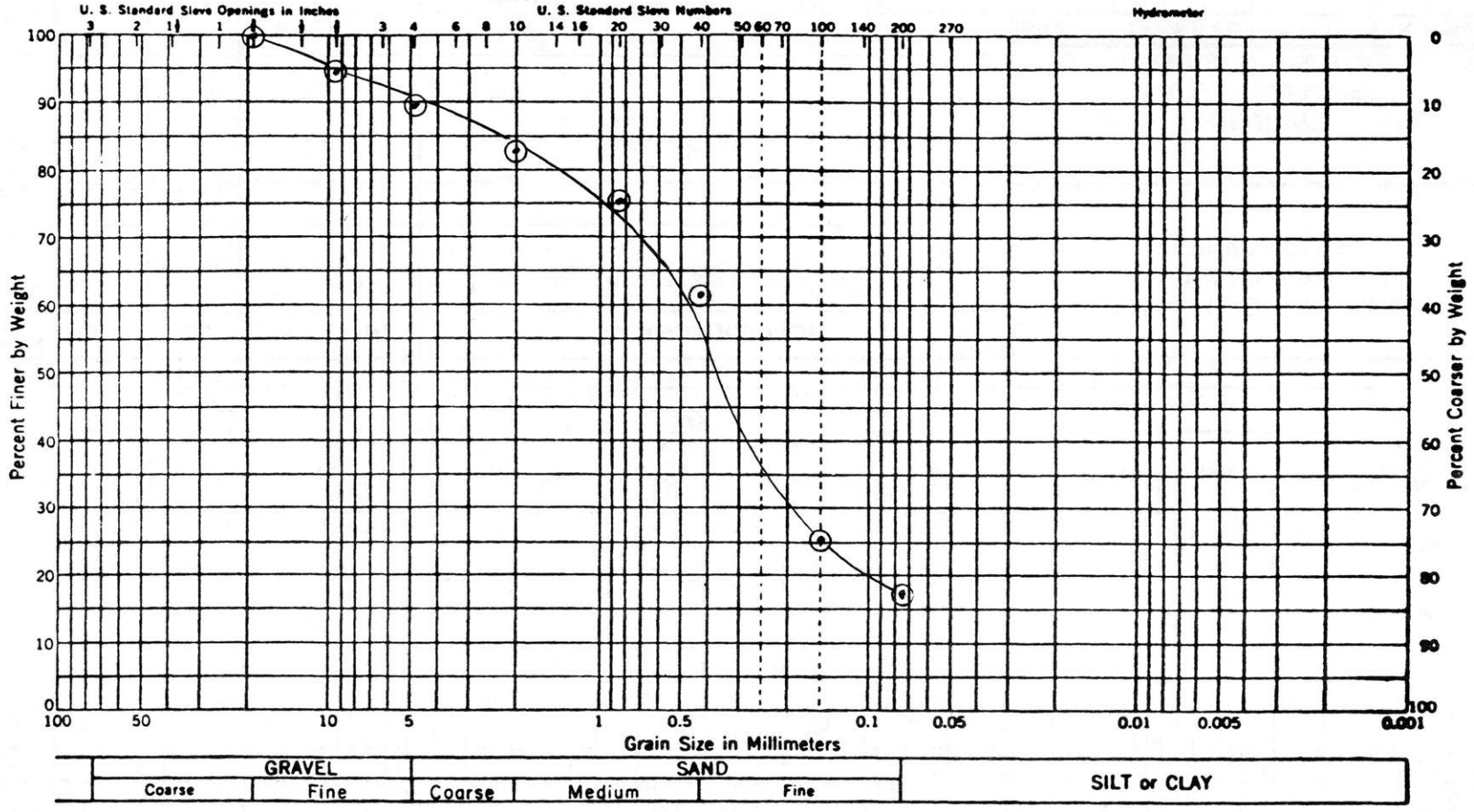
EXXON MINERALS COMPANY
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CRANDON PROJECT

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GREEN BAY, WIS. 54303

DRAWN	APPROVED	DATE	JOB No.
SMD	JAS	6-10-84	12959

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UNIFIED CLASSIFICATION SYSTEM



SAMPLE NO.	W.C.	LL	PL	PI	CLASSIFICATION
G 41					Silty fine to coarse sand (SM)
E 19A					
SA-3					
20.0 -	21.5'				

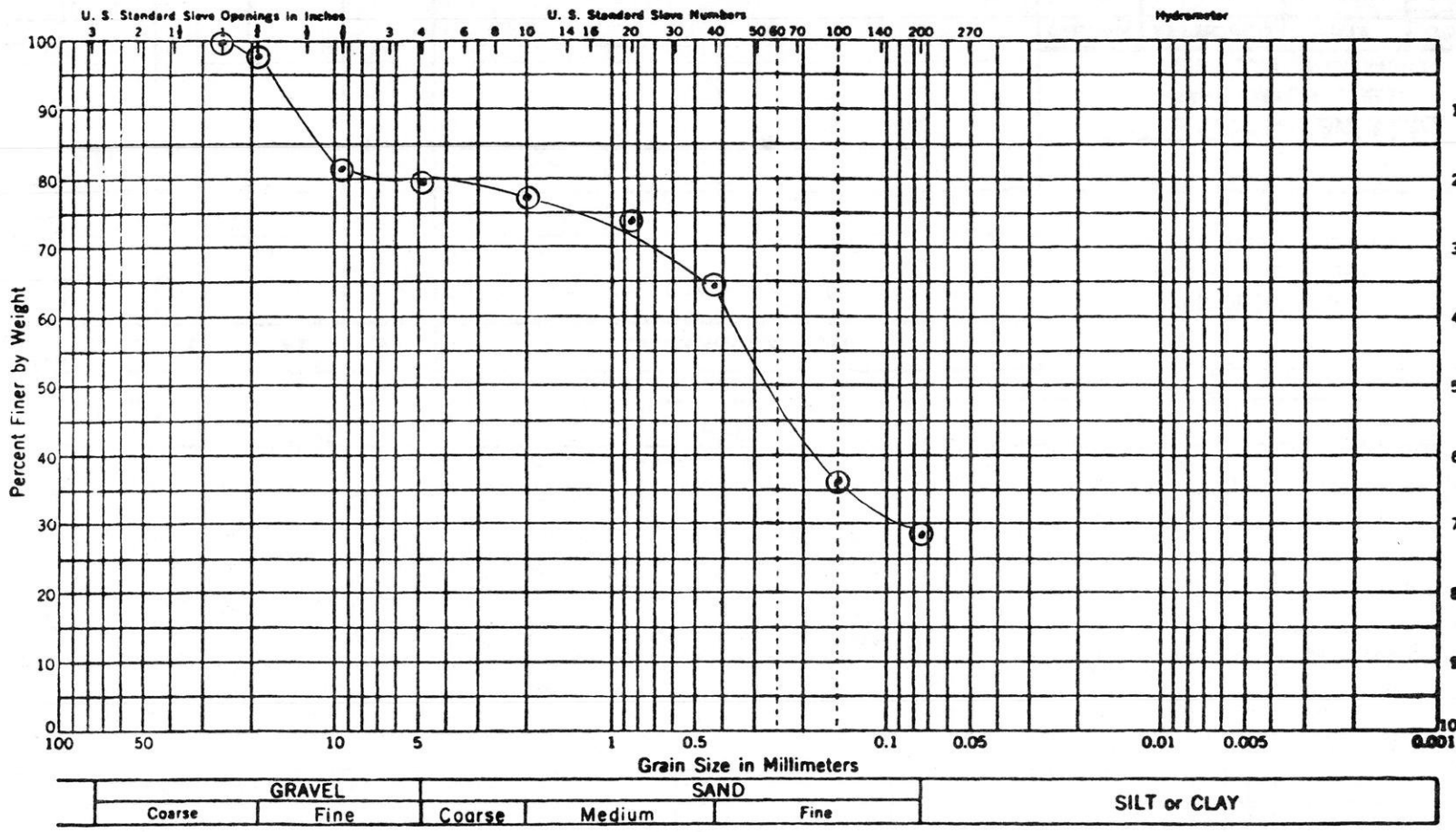
EXXON MINERALS COMPANY
Grain Size Analysis
Crandon Project

STS Consultants Ltd.
540 LAMBEAU STREET
GREEN BAY, WIS. 54303

DRAWN	APPROVED	DATE	JOB No.
JJT	JAS	4-16-84	12959

BBS09302

UNIFIED CLASSIFICATION SYSTEM



SAMPLE NO.	W.C.	LL	PL	PI	CLASSIFICATION
G 41					Silty fine to coarse sand (SM)
E 19A					
SA-4					
30.0 -	31.5'				

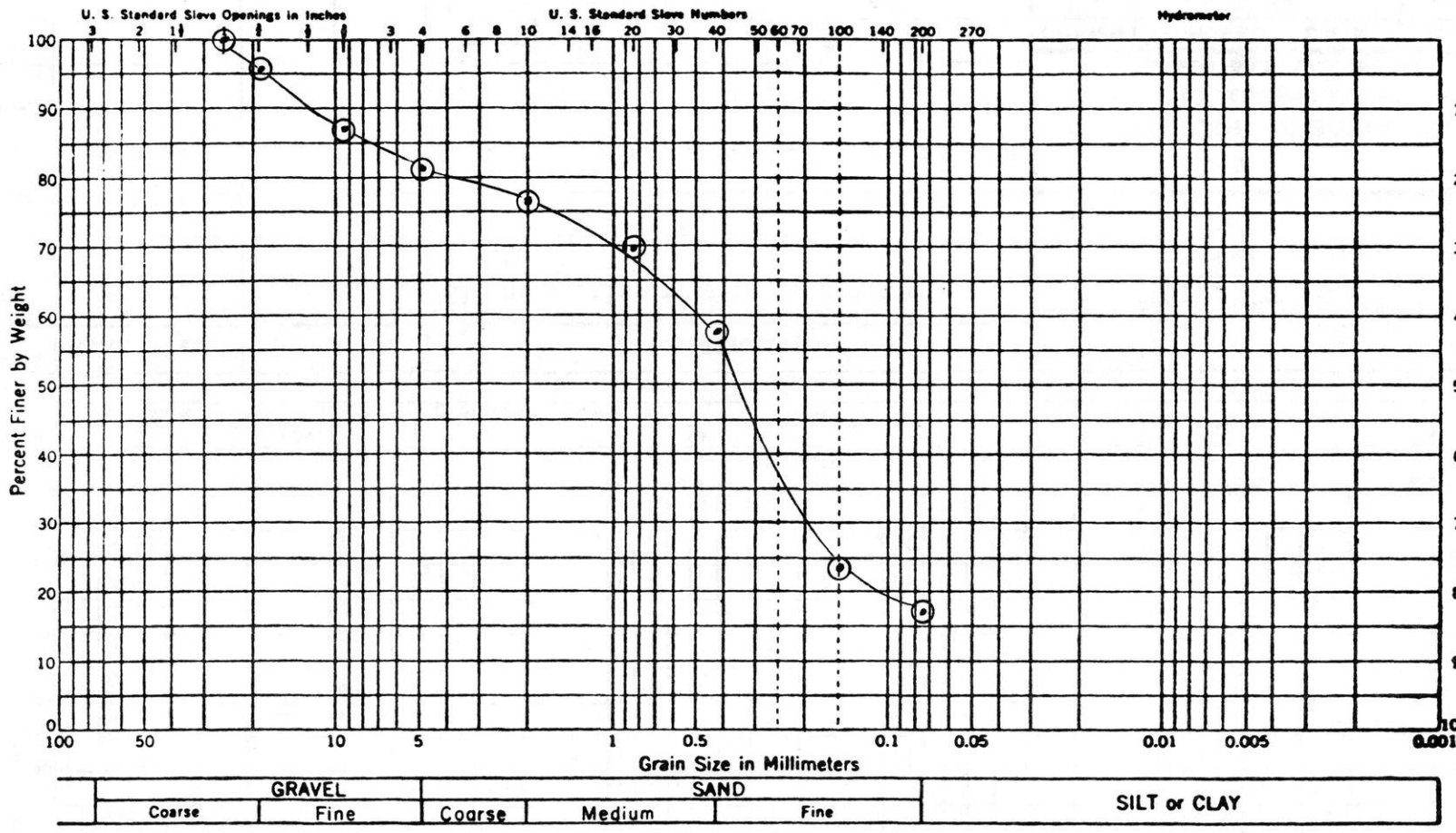
EXXON MINERALS COMPANY
Grain Size Analysis
Crandon Project

STS Consultants Ltd.
540 LAMBEAU STREET
GREEN BAY, WIS. 54303

DRAWN	APPROVED	DATE	JOB No.
JJT	JAS	4-16-84	12959

BBS09302

UNIFIED CLASSIFICATION SYSTEM



SAMPLE NO.	W.C.	LL	PL	PI	CLASSIFICATION
G 41					Silty fine to coarse sand (SM)
E 19A					
SA-10					
90.0 -	91.5'				

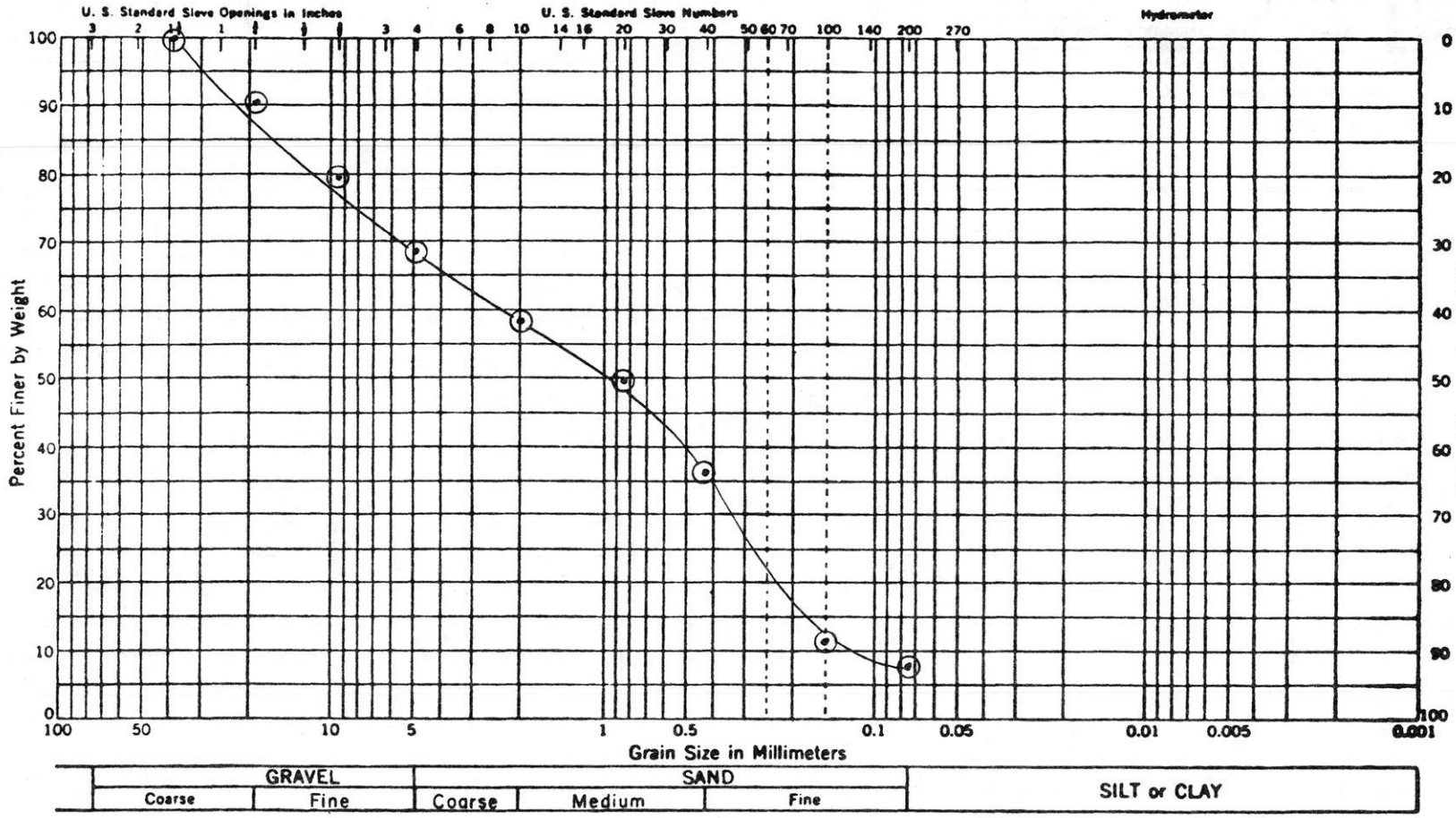
EXXON MINERALS COMPANY
Grain Size Analysis
Crandon Project

STS Consultants Ltd.
540 LAMBEAU STREET
GREEN BAY, WIS. 54303

DRAWN	APPROVED	DATE	JOB No.
JJT	JAS	4-16-84	12959

BBS09302

UNIFIED CLASSIFICATION SYSTEM



SAMPLE NO.	W.C.	LL	PL	PI	CLASSIFICATION
G 41					Slightly silty fine to coarse sand
E 19A					(SM-SP)
SA-12					
110.0	- 111.0'				

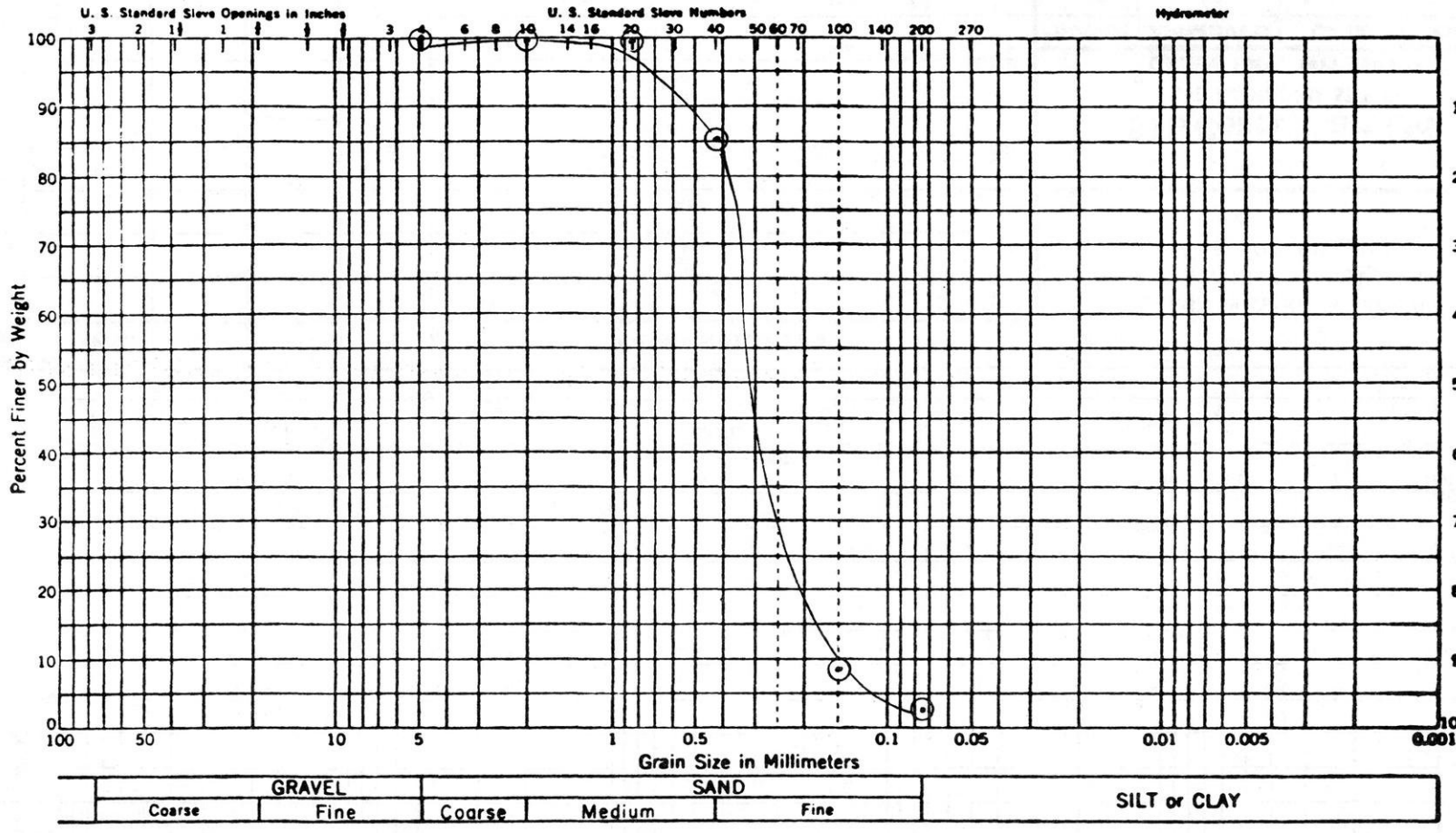
EXXON MINERALS COMPANY
Grain Size Analysis
Crandon Project

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540 LAMBEAU STREET
GREEN BAY, WIS. 54303

DRAWN	APPROVED	DATE	JOB No.
JJT	JAS	4-16-84	12959

BBS09302

UNIFIED CLASSIFICATION SYSTEM



SAMPLE NO.	W.C.	LL	PL	PI	CLASSIFICATION
G 41					Fine sand (SP)
E 19A					
SA-18					
170.0 - 171.3'					

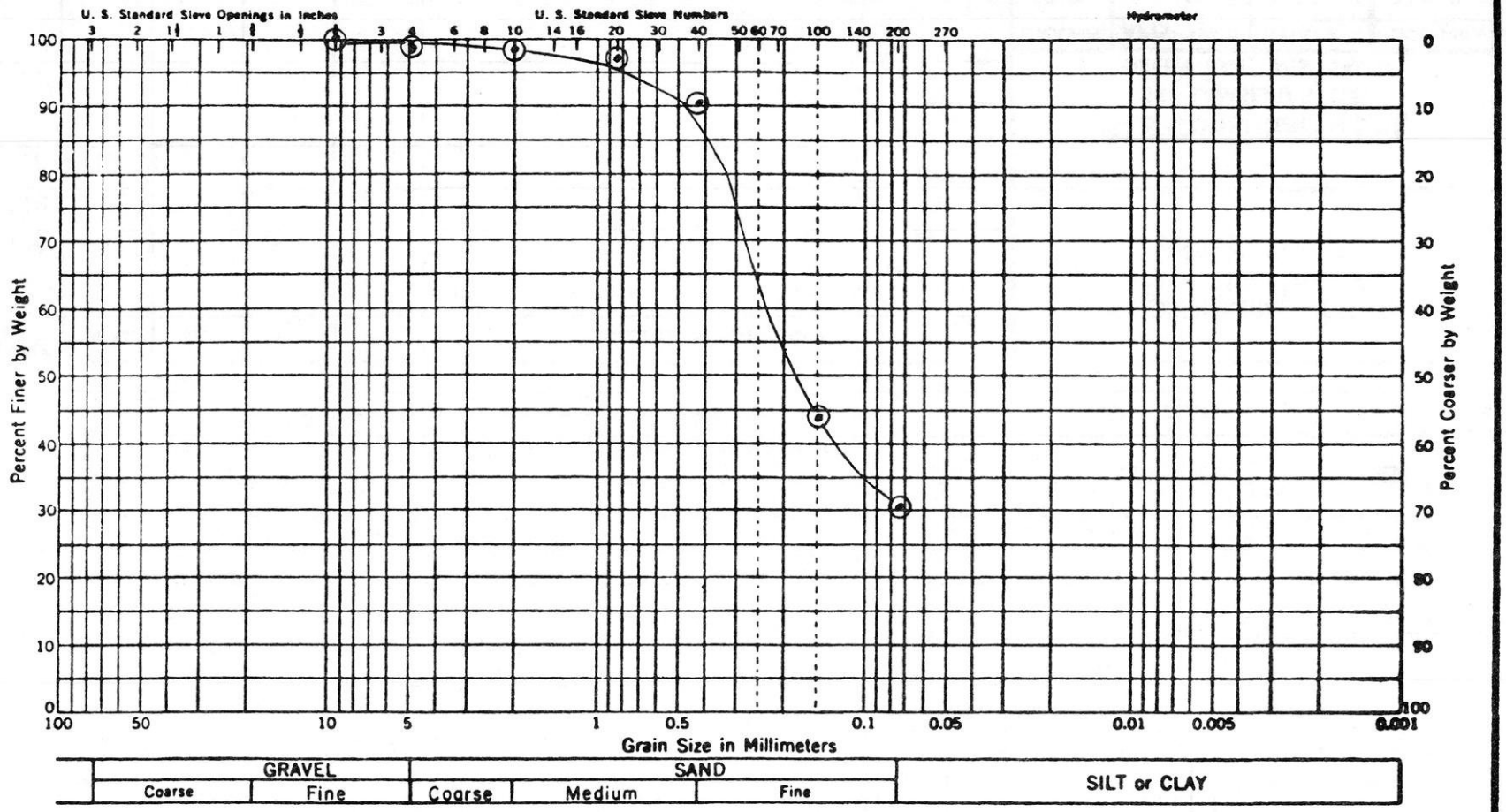
EXXON MINERALS COMPANY
Grain Size Analysis
Crandon Project

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540 LAMBEAU STREET
GREEN BAY, WIS. 54303

DRAWN	APPROVED	DATE	JOB No.
JJT	JAS	4-16-84	12959

BBS09302

UNIFIED CLASSIFICATION SYSTEM



SAMPLE NO.	W.C.	LL	PL	PI	CLASSIFICATION
G 41					Silty fine sand (SM)
E 19A					
SA-19					
180.0 - 182.0'					

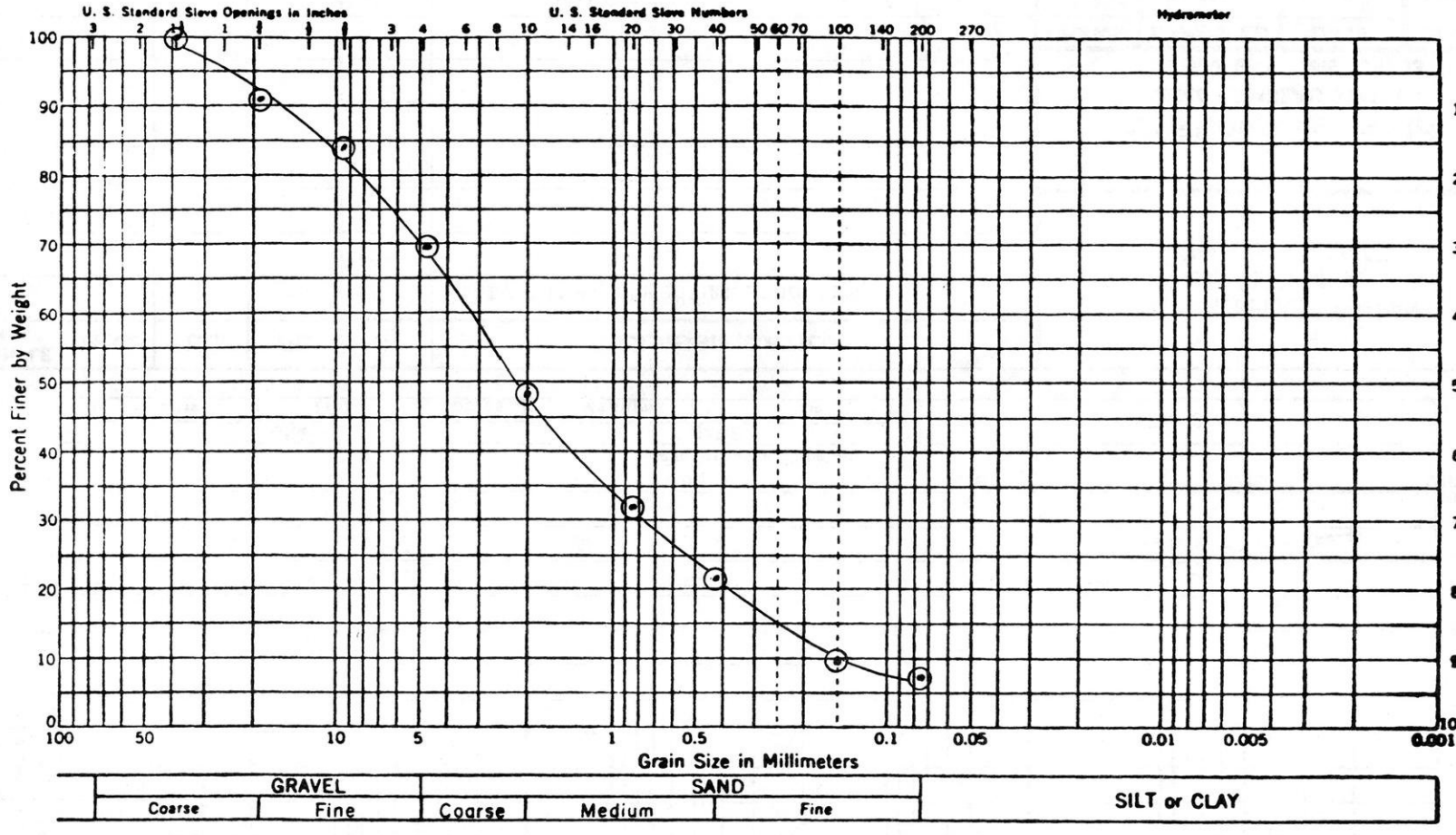
EXXON MINERALS COMPANY
Grain Size Analysis
Crandon Project

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540 LAMBEAU STREET
GREEN BAY, WIS. 54303

DRAWN	APPROVED	DATE	JOB No.
JJT	JAS	4-16-84	12959

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UNIFIED CLASSIFICATION SYSTEM



SAMPLE NO.	W.C.	LL	PL	PI	CLASSIFICATION
G 41					Slightly silty fine to coarse sand
E 19A					(SM-SP)
SA-24					
232.0	- 233.0'				

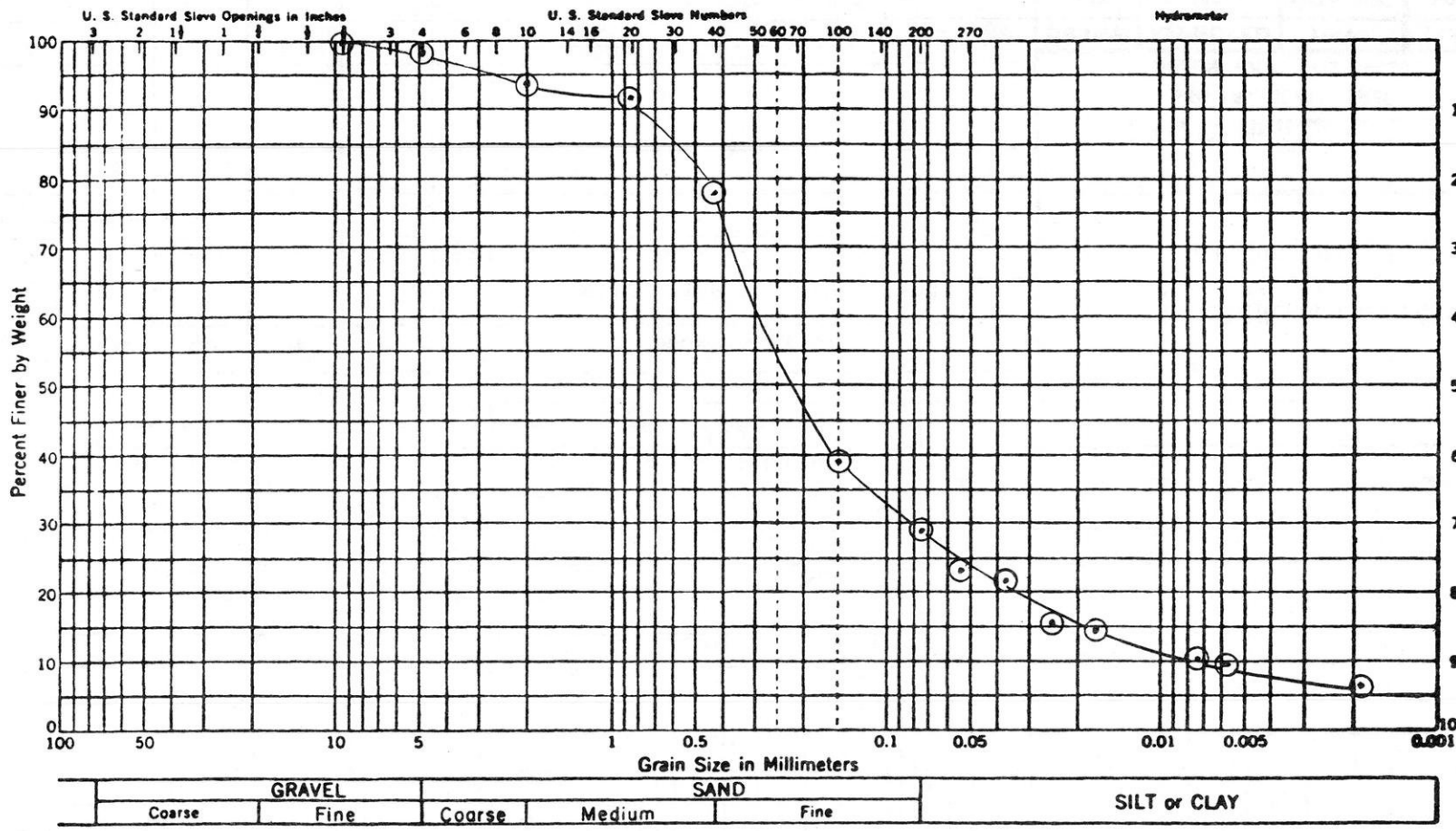
EXXON MINERALS COMPANY
Grain Size Analysis
Crandon Project

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540 LAMBEAU STREET
GREEN BAY, WIS. 54303

DRAWN	APPROVED	DATE	JOB No.
JJT	JAS	4-16-84	12959

BBS09302

UNIFIED CLASSIFICATION SYSTEM



SAMPLE NO.	W.C.	LL	PL	PI	CLASSIFICATION
G41 E22A					Silty fine to medium sand (SM)
S5					
41-42.1'					

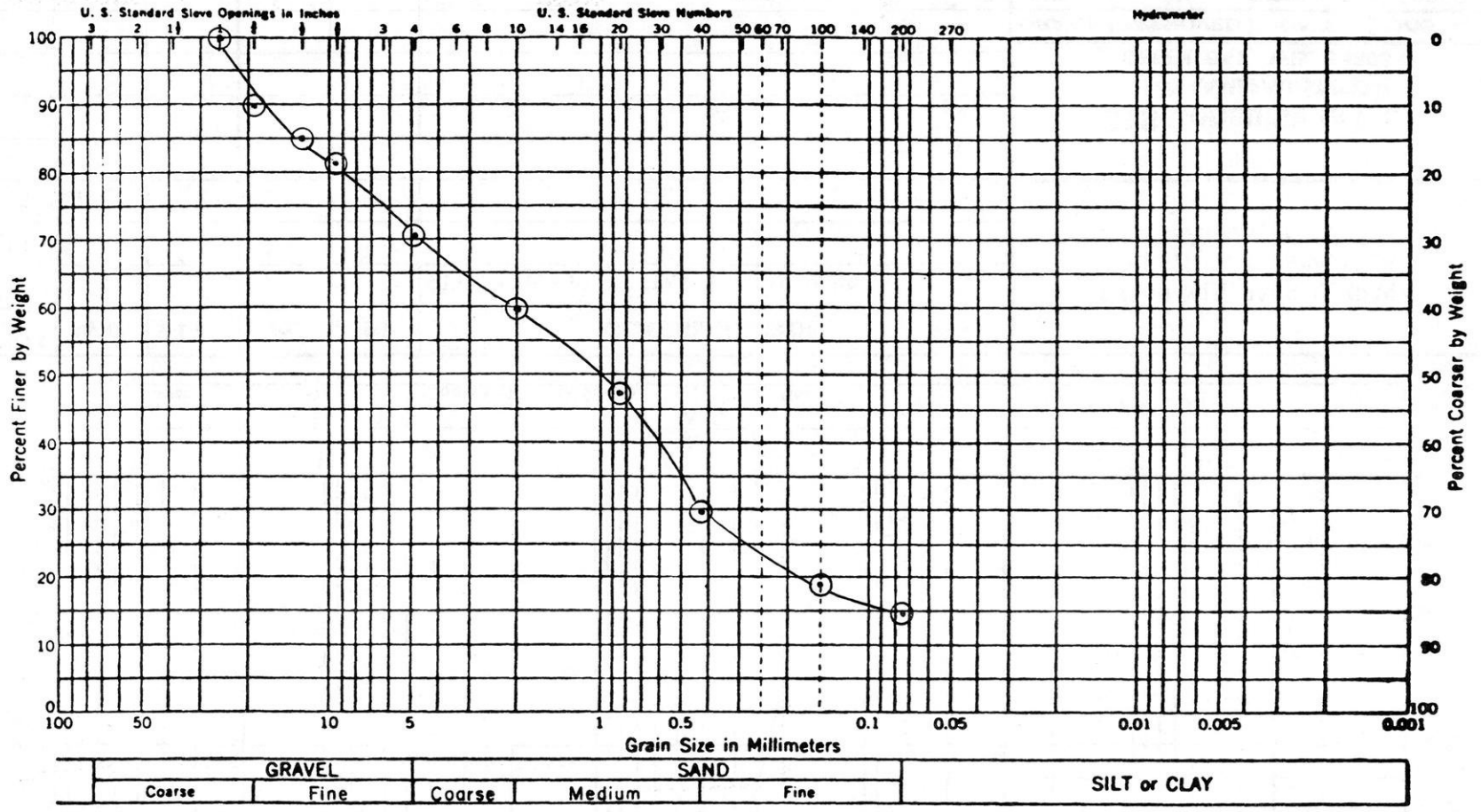
EXXON MINERALS COMPANY
GRAIN SIZE ANALYSIS
CRANDON PROJECT

STS Consultants Ltd.
540 LAMBEAU STREET
GREEN BAY, WIS. 54303

DRAWN	APPROVED	DATE	JOB No.
SMD	JAS	6-10-84	12959

BBS09302

UNIFIED CLASSIFICATION SYSTEM



SAMPLE NO.	W.C.	LL	PL	PI	CLASSIFICATION
G41 E22					Silty fine to coarse sand (SM)
S9					
60-60.5'					

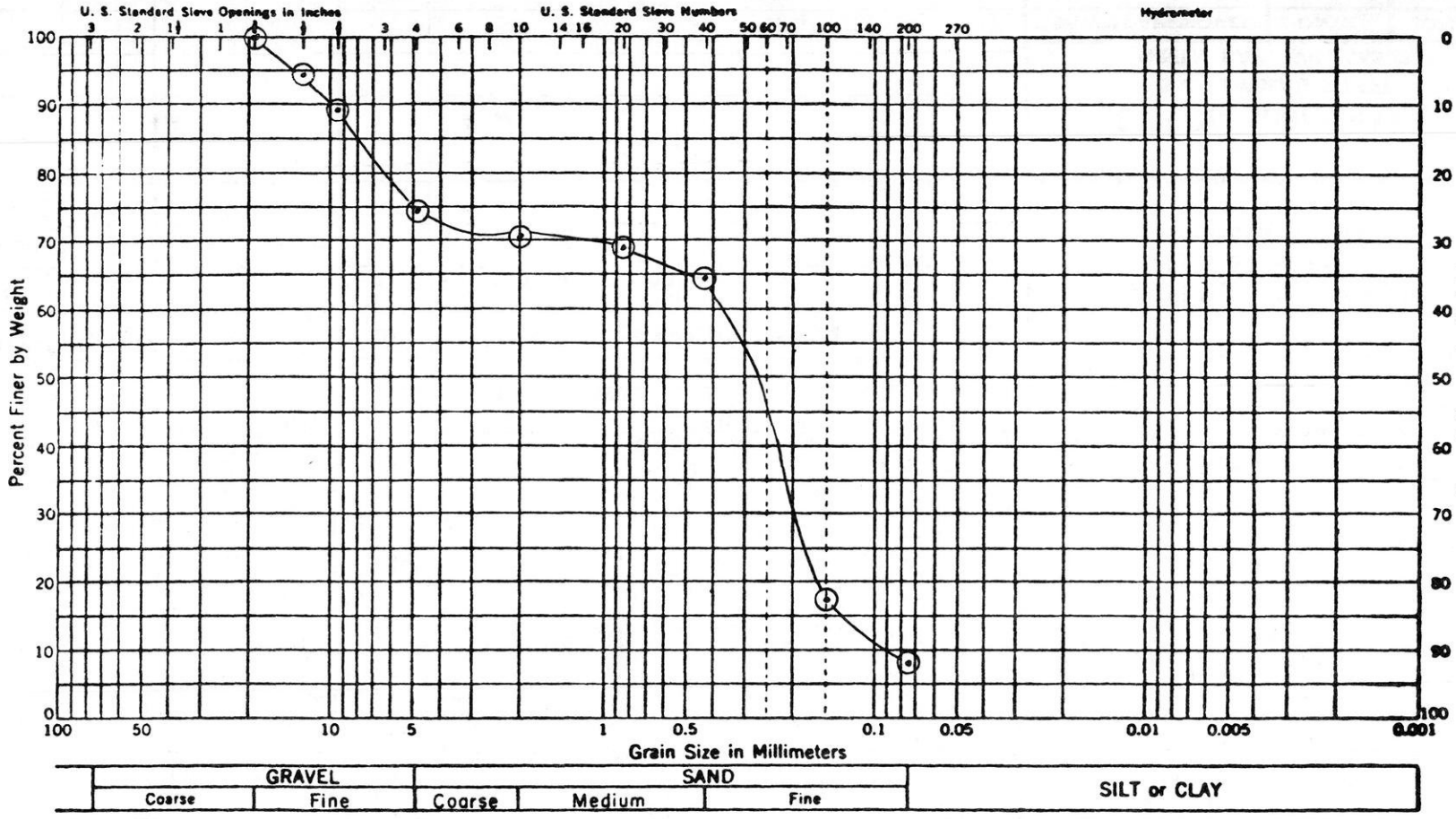
EXXON MINERALS COMPANY
GRAIN SIZE ANALYSIS
CRANDON PROJECT

STS Consultants Ltd.
540 LAMBEAU STREET
GREEN BAY, WIS. 54303

DRAWN	APPROVED	DATE	JOB No.
SMD	JAS	6-10-84	12959

BBS09302

UNIFIED CLASSIFICATION SYSTEM



SAMPLE NO.	W.C.	LL	PL	PI	CLASSIFICATION
G41 E22					Slightly silty fine sand (SM-SP)
S17					
140-141.5'					

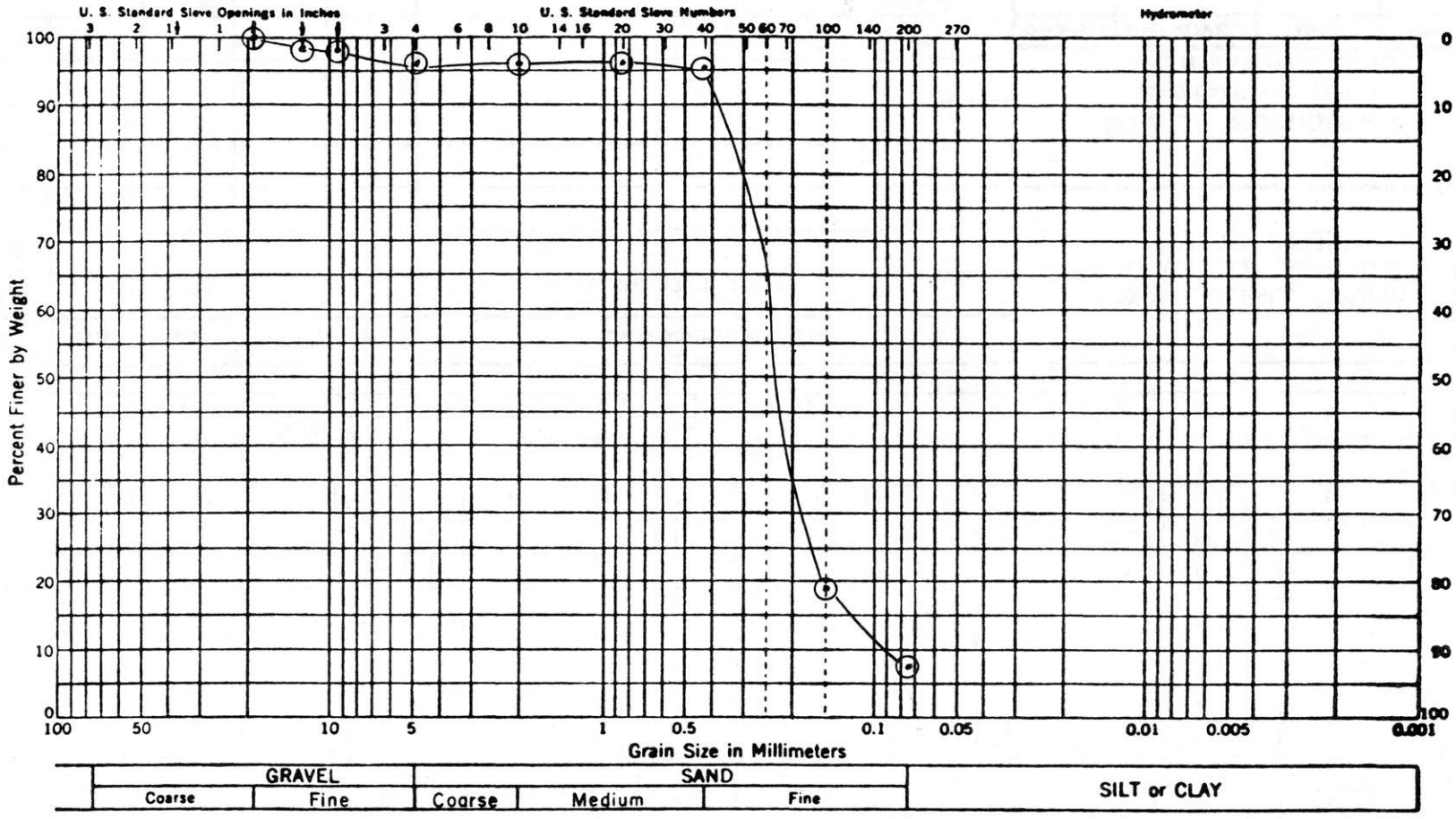
EXXON MINERALS COMPANY
GRAIN SIZE ANALYSIS
CRANDON PROJECT

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540 LAMBEAU STREET
GREEN BAY, WIS. 54303

DRAWN	APPROVED	DATE	JOB No.
SMD	JAS	6-10-84	12959

BBS09302

UNIFIED CLASSIFICATION SYSTEM



SAMPLE NO.	W.C.	LL	PL	PI	CLASSIFICATION
G41 E22					Slightly silty fine sand (SM-SP)
S22					
190-191.3'					

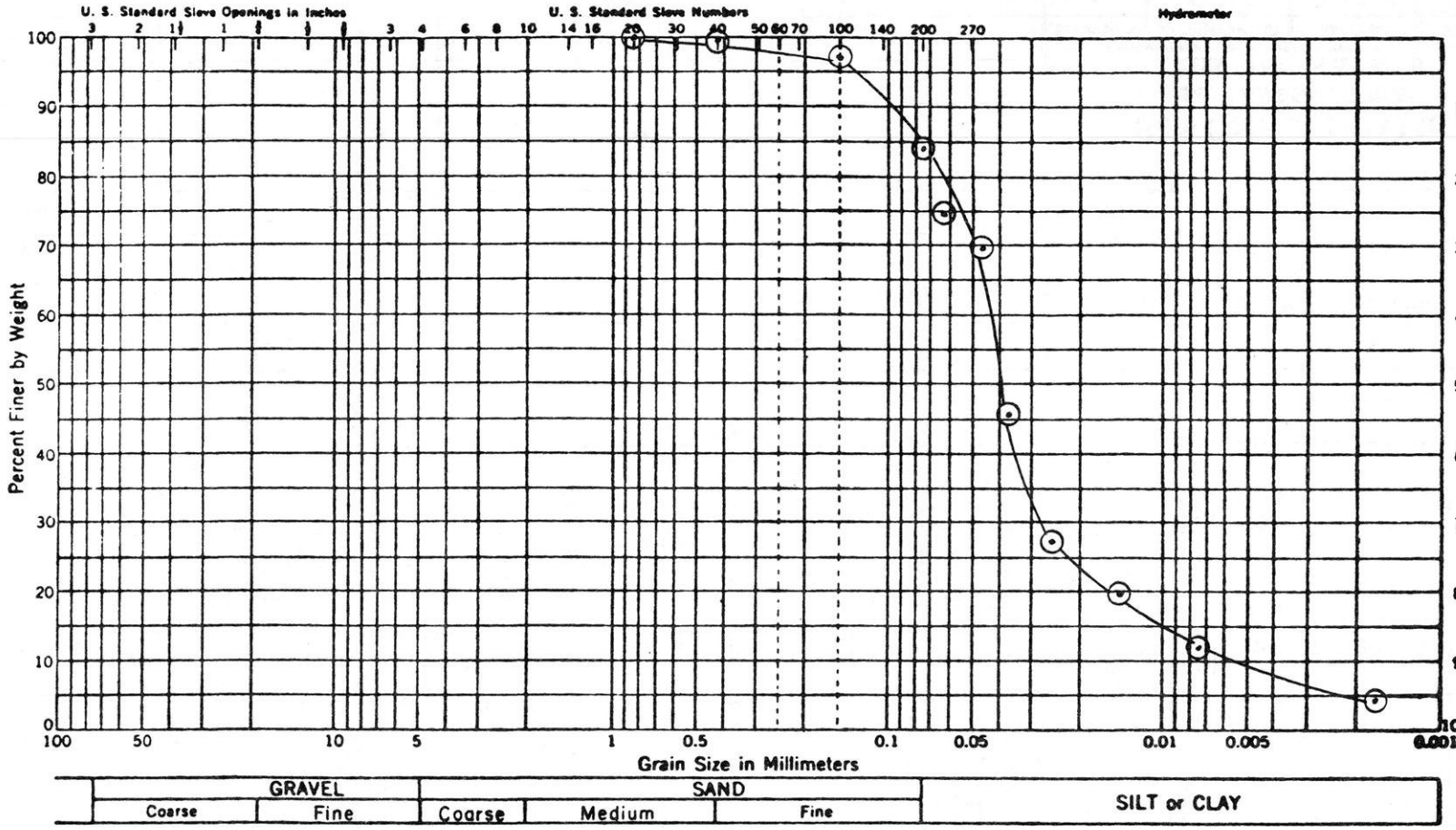
EXXON MINERALS COMPANY
GRAIN SIZE ANALYSIS
CRANDON PROJECT

STS Consultants Ltd.
540 LAMBEAU STREET
GREEN BAY, WIS. 54303

DRAWN	APPROVED	DATE	JOB No.
SMD	JAS	6-10-84	12959

BBS09302

UNIFIED CLASSIFICATION SYSTEM



SAMPLE NO.	W.C.	LL	PL	PI	CLASSIFICATION
G41 E22					Very fine sandy silt (ML)
S24					
209.5-210.4'					

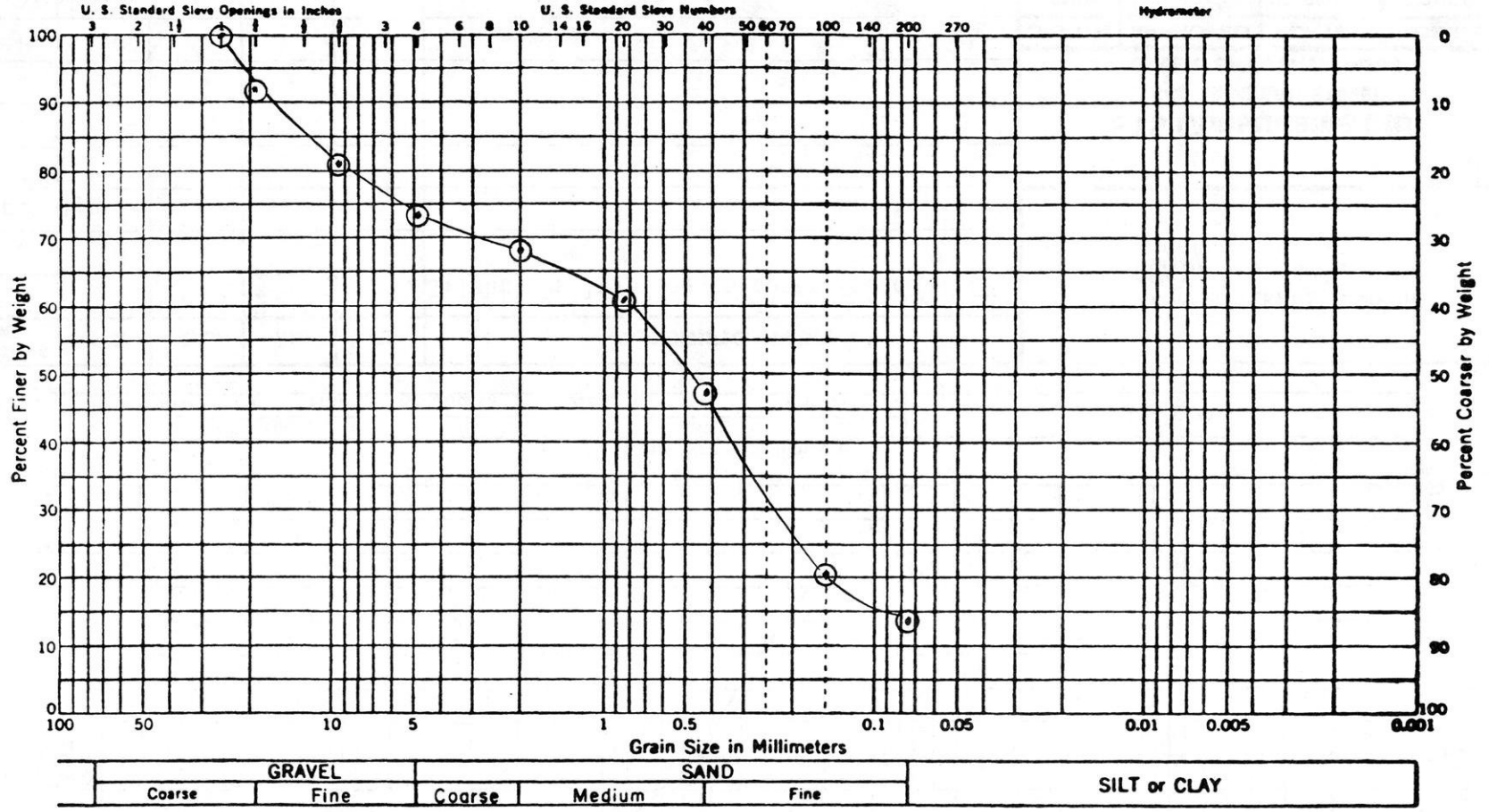
EXXON MINERALS COMPANY
GRAIN SIZE ANALYSIS
CRANDON PROJECT

STS Consultants Ltd.
540 LAMBEAU STREET
GREEN BAY, WIS. 54303

DRAWN	APPROVED	DATE	JOB No.
SMD	JAS	6-10-84	12959

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UNIFIED CLASSIFICATION SYSTEM



SAMPLE NO.	W.C.	LL	PL	PI	CLASSIFICATION
G41 G13					Silty fine to coarse sand (SM)
S-5					
43-45'					

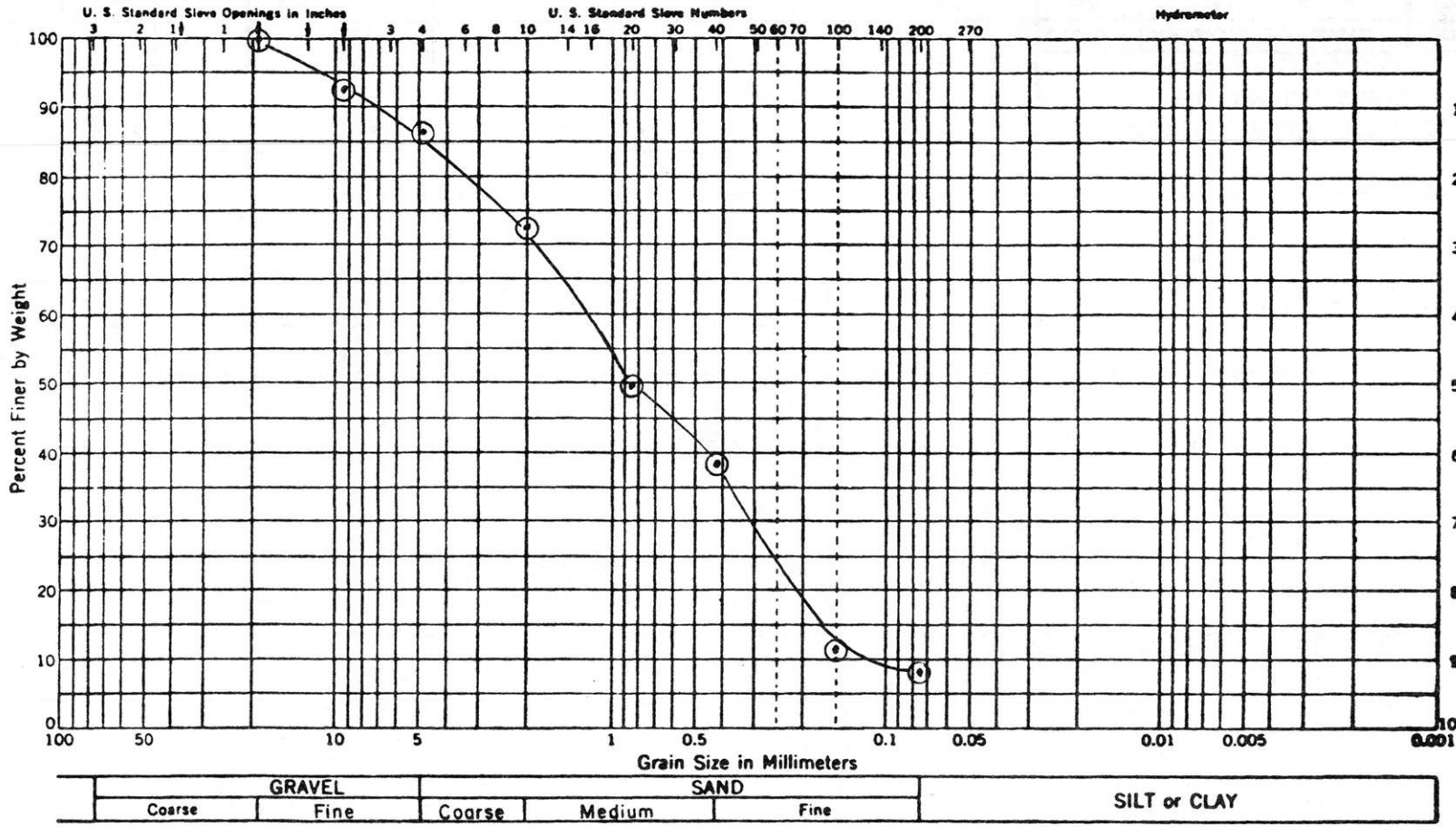
EXXON MINERALS COMPANY
GRAIN SIZE ANALYSIS
CRANDON PROJECT

STS Consultants Ltd.
540 LAMBEAU STREET
GREEN BAY, WIS. 54303

DRAWN	APPROVED	DATE	JOB No.
SMD	JAS	5-18-84	12959

BBS09302

UNIFIED CLASSIFICATION SYSTEM



SAMPLE NO.	W.C.	LL	PL	PI	CLASSIFICATION
G41 G13					Slightly silty fine to coarse sand (SM-SP)
S-12					
110-111.8'					

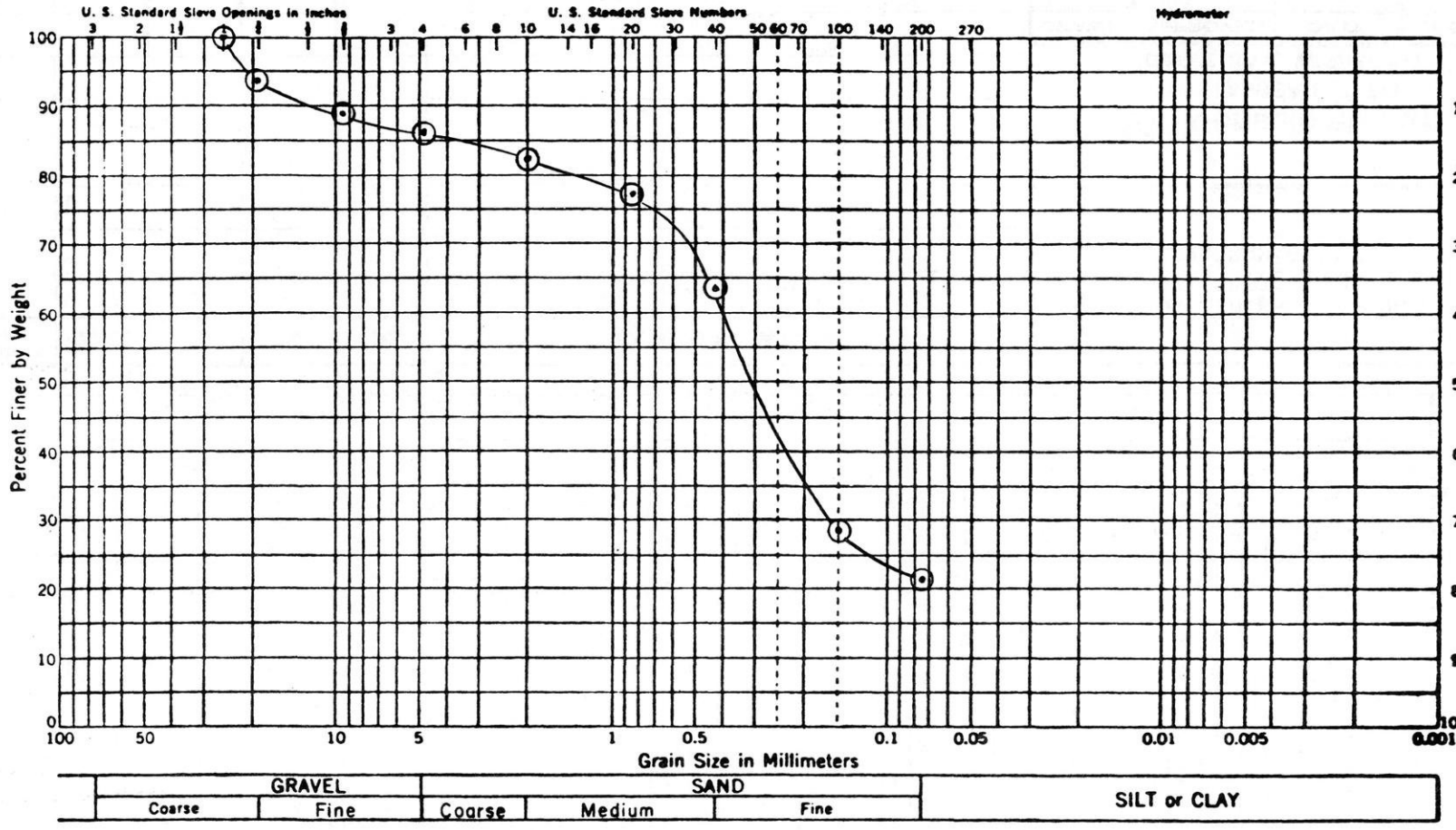
EXXON MINERALS COMPANY
GRAIN SIZE ANALYSIS
CRANDON PROJECT

STS Consultants Ltd.
540 LAMBEAU STREET
GREEN BAY, WIS. 54303

DRAWN	APPROVED	DATE	JOB No.
SMD	JAS	5-18-84	12959

BBS09302

UNIFIED CLASSIFICATION SYSTEM



SAMPLE NO.	W.C.	LL	PL	PI	CLASSIFICATION
G41 G13					Silty fine to coarse sand (SM)
S-13					
120-122'					

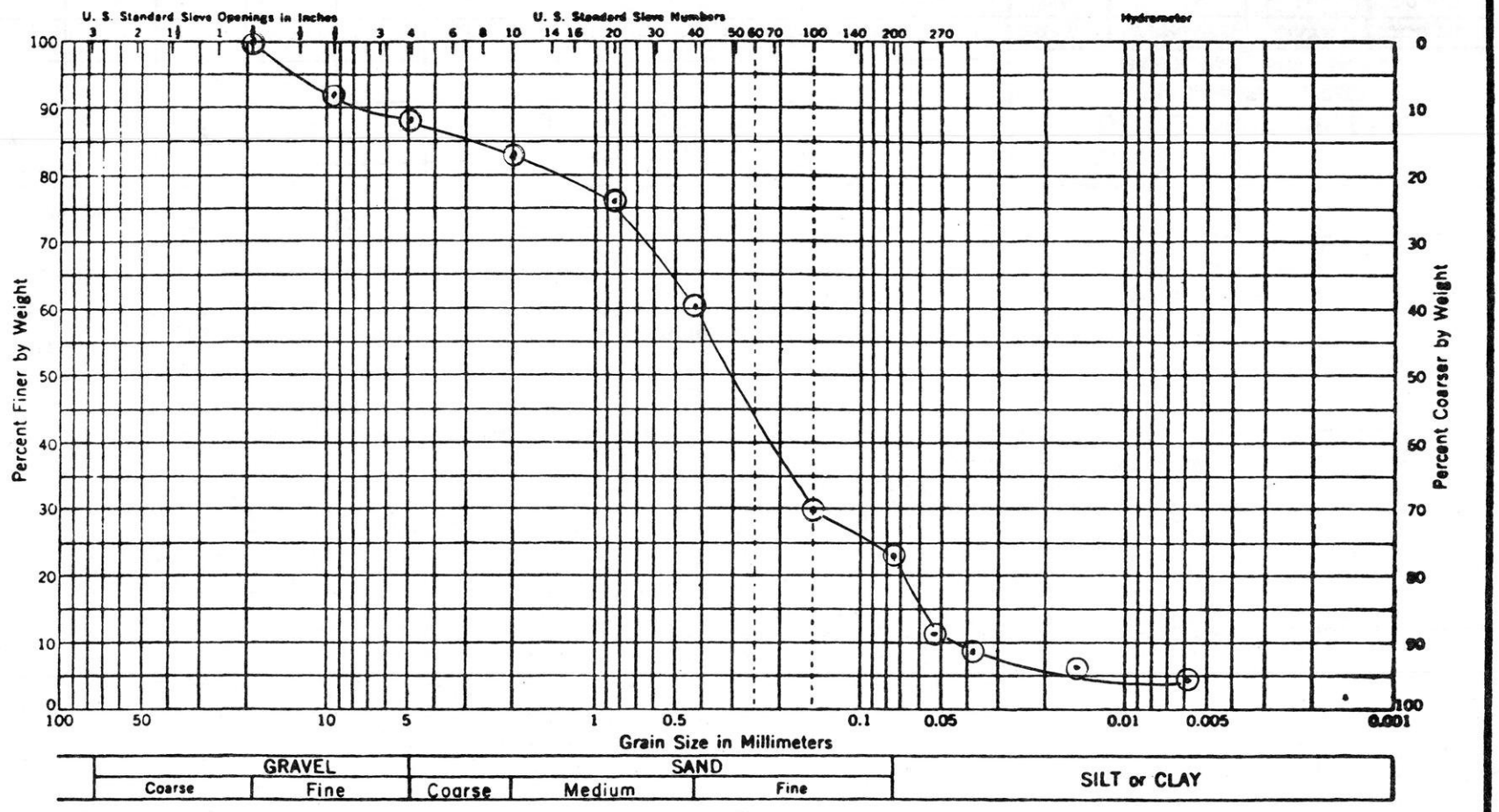
EXXON MINERALS COMPANY
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CRANDON PROJECT

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DRAWN	APPROVED	DATE	JOB No.
SMD	JAS	5-18-84	12959

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UNIFIED CLASSIFICATION SYSTEM



SAMPLE NO.	W.C.	LL	PL	PI	CLASSIFICATION
G41 G13					Silty fine to coarse sand (SM)
S18					
170-170.9'					

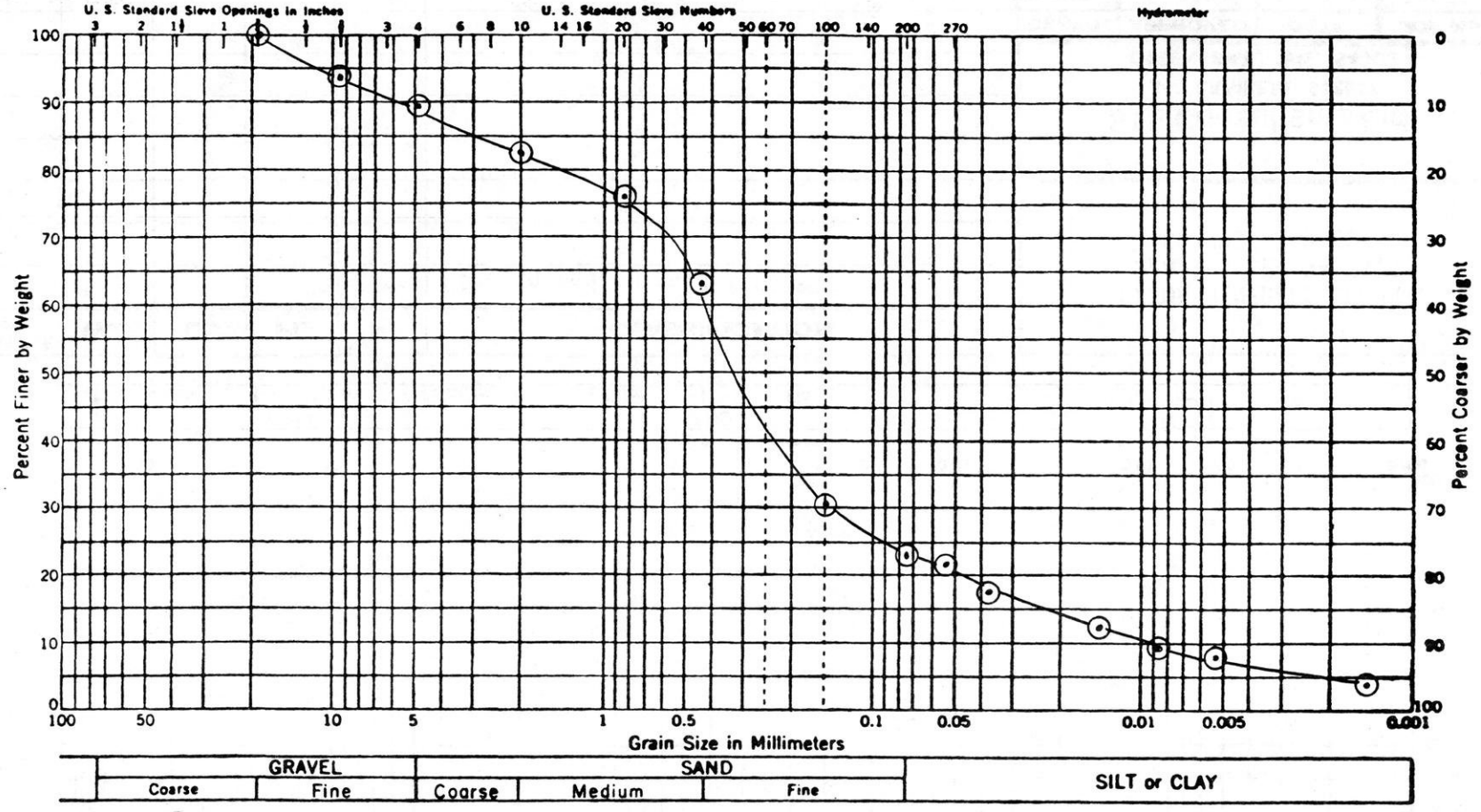
EXXON MINERALS COMPANY
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CRANDON PROJECT

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GREEN BAY, WIS. 54303

DRAWN	APPROVED	DATE	JOB No.
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UNIFIED CLASSIFICATION SYSTEM



SAMPLE NO.	W.C.	LL	PL	PI	CLASSIFICATION
G41 G13					Silty fine to coarse sand (SM)
S23					
220-220.7'					

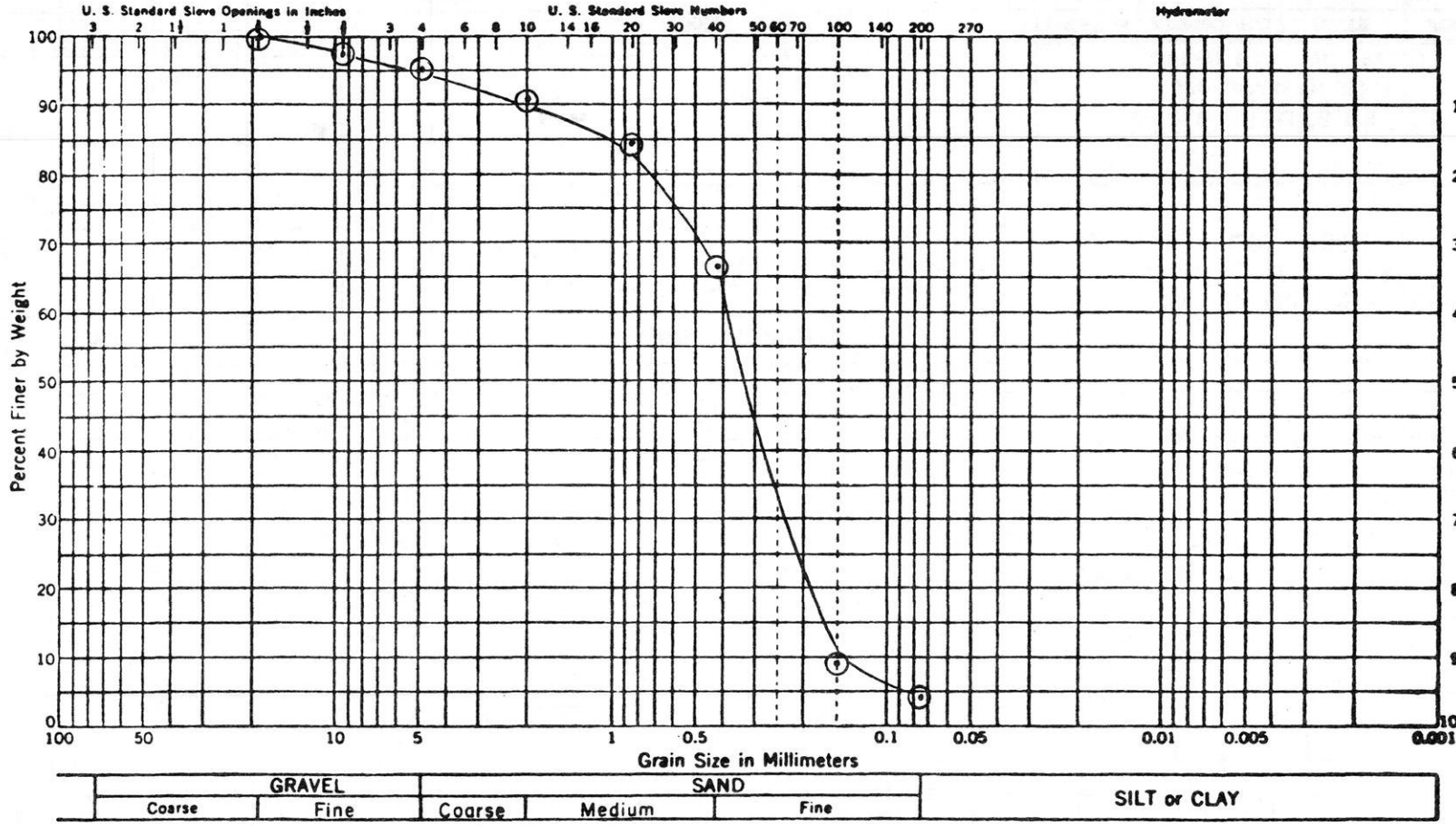
EXXON MINERALS COMPANY
GRAIN SIZE ANALYSIS
CRANDON PROJECT

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540 LAMBEAU STREET
GREEN BAY, WIS. 54303

DRAWN	APPROVED	DATE	JOB No.
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UNIFIED CLASSIFICATION SYSTEM



SAMPLE NO.	W.C.	LL	PL	PI	CLASSIFICATION
G41 G13					Fine to medium sand (SP)
S-25					
240-241.5'					

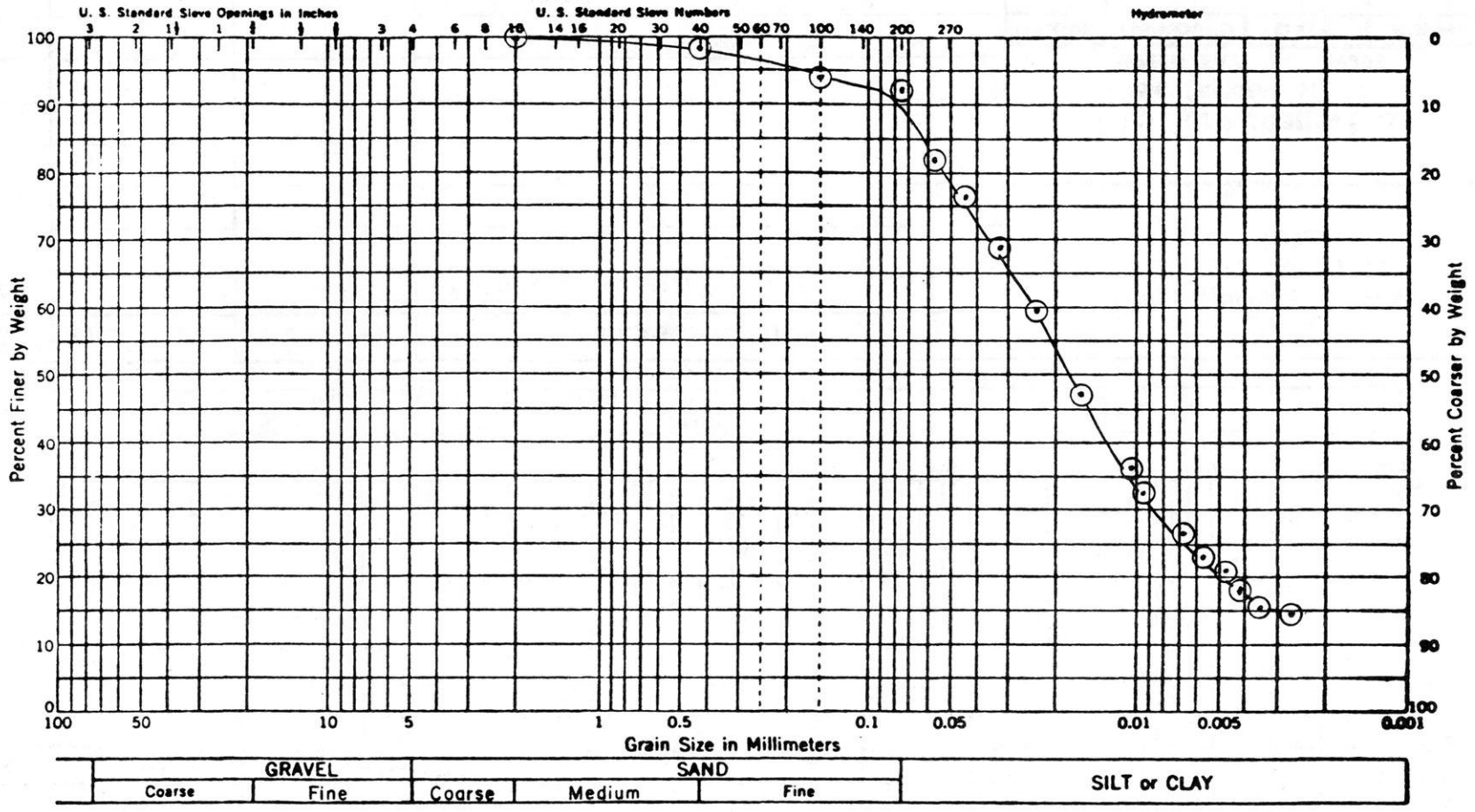
EXXON MINERALS COMPANY
GRAIN SIZE ANALYSIS
CRANDON PROJECT

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540 LAMBEAU STREET
GREEN BAY, WIS. 54303

DRAWN	APPROVED	DATE	JOB No.
SMD	JAS	5-18-84	12959

BBS09302

UNIFIED CLASSIFICATION SYSTEM



SAMPLE NO.	W.C.	LL	PL	PI	CLASSIFICATION
G41 G13					Silty clay (CL)
S31					
300-301'					

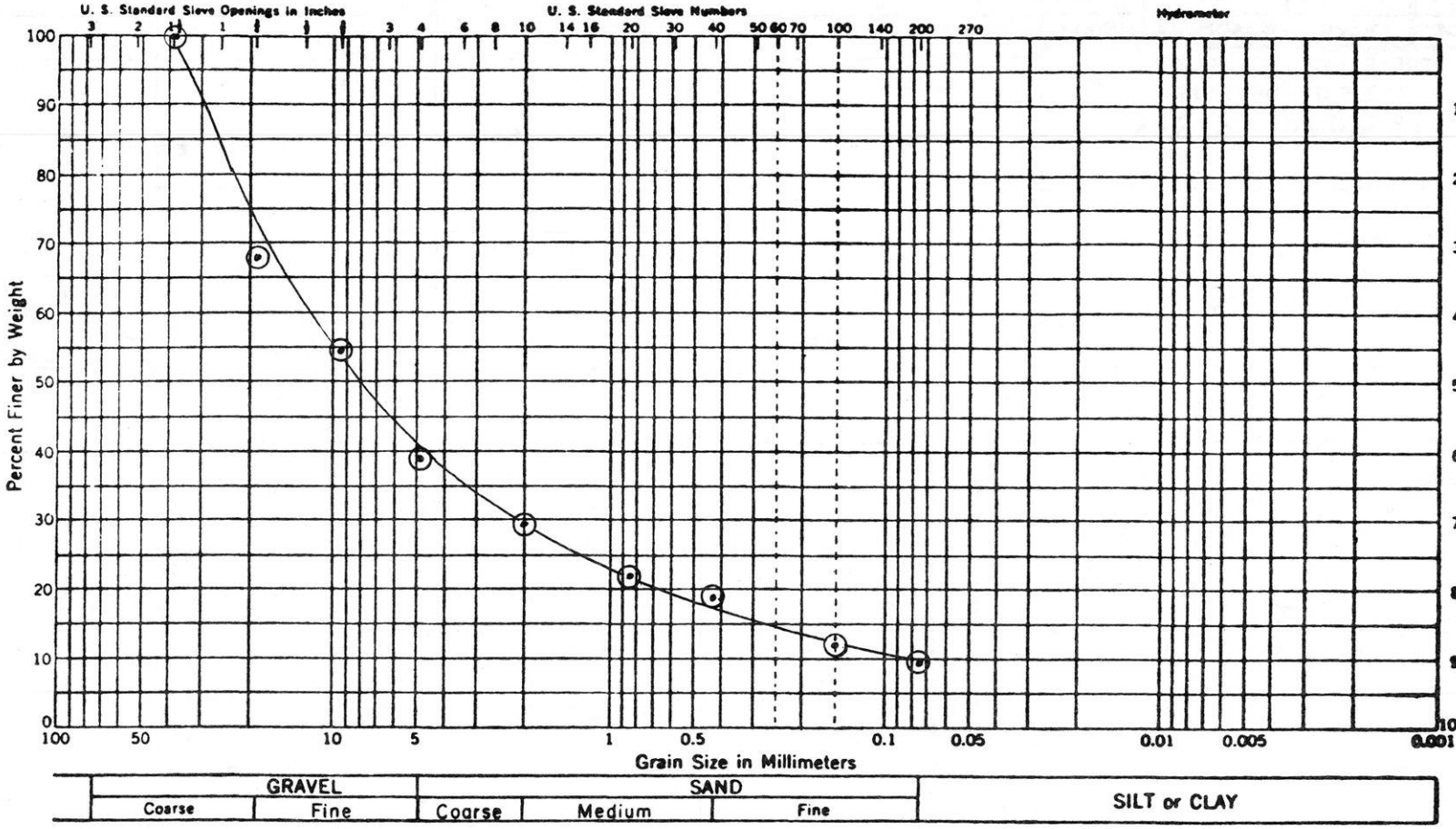
EXXON MINERALS COMPANY
GRAIN SIZE ANALYSIS
CRANDON PROJECT

STS Consultants Ltd.
540 LAMBEAU STREET
GREEN BAY, WIS. 54303

DRAWN	APPROVED	DATE	JOB No.
SMD	JAS	6-10-84	12959

BBS09302

UNIFIED CLASSIFICATION SYSTEM



SAMPLE NO.	W.C.	LL	PL	PI	CLASSIFICATION
G 41					Slightly silty fine to coarse gravel
G 15					(GP-GM)
SA-3					
54.0 -	55.0'				

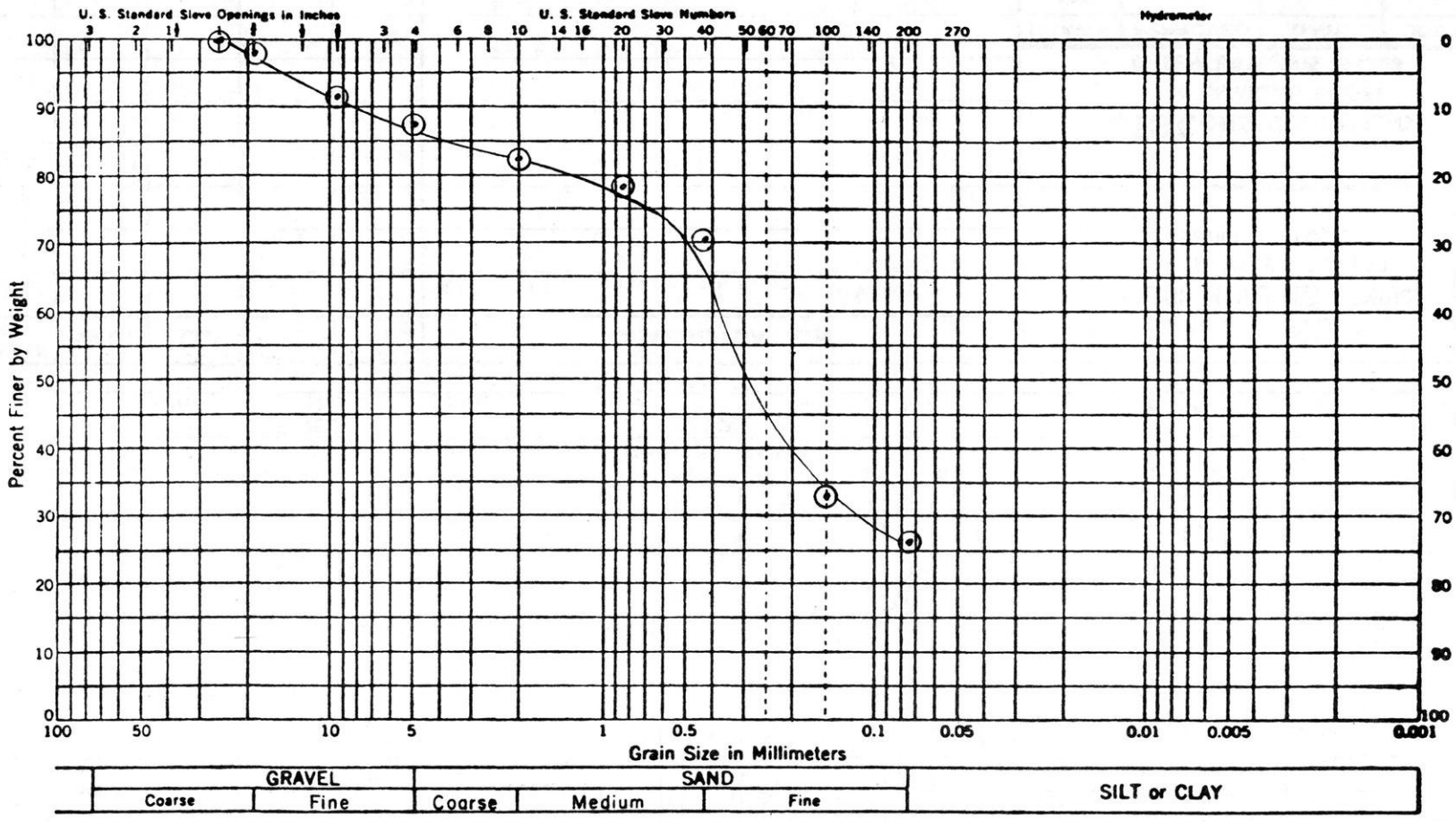
EXXON MINERALS COMPANY
Grain Size Analysis
Crandon Project

STS Consultants Ltd.
540 LAMBEAU STREET
GREEN BAY, WIS. 54303

DRAWN	APPROVED	DATE	JOB No.
JJT	JAS	4-16-84	12959

BBS09302

UNIFIED CLASSIFICATION SYSTEM



SAMPLE NO.	W.C.	LL	PL	PI	CLASSIFICATION
G 41					Silty fine to coarse sand (SM)
G 15					
SA-5A					
65.5 -	66.5'				

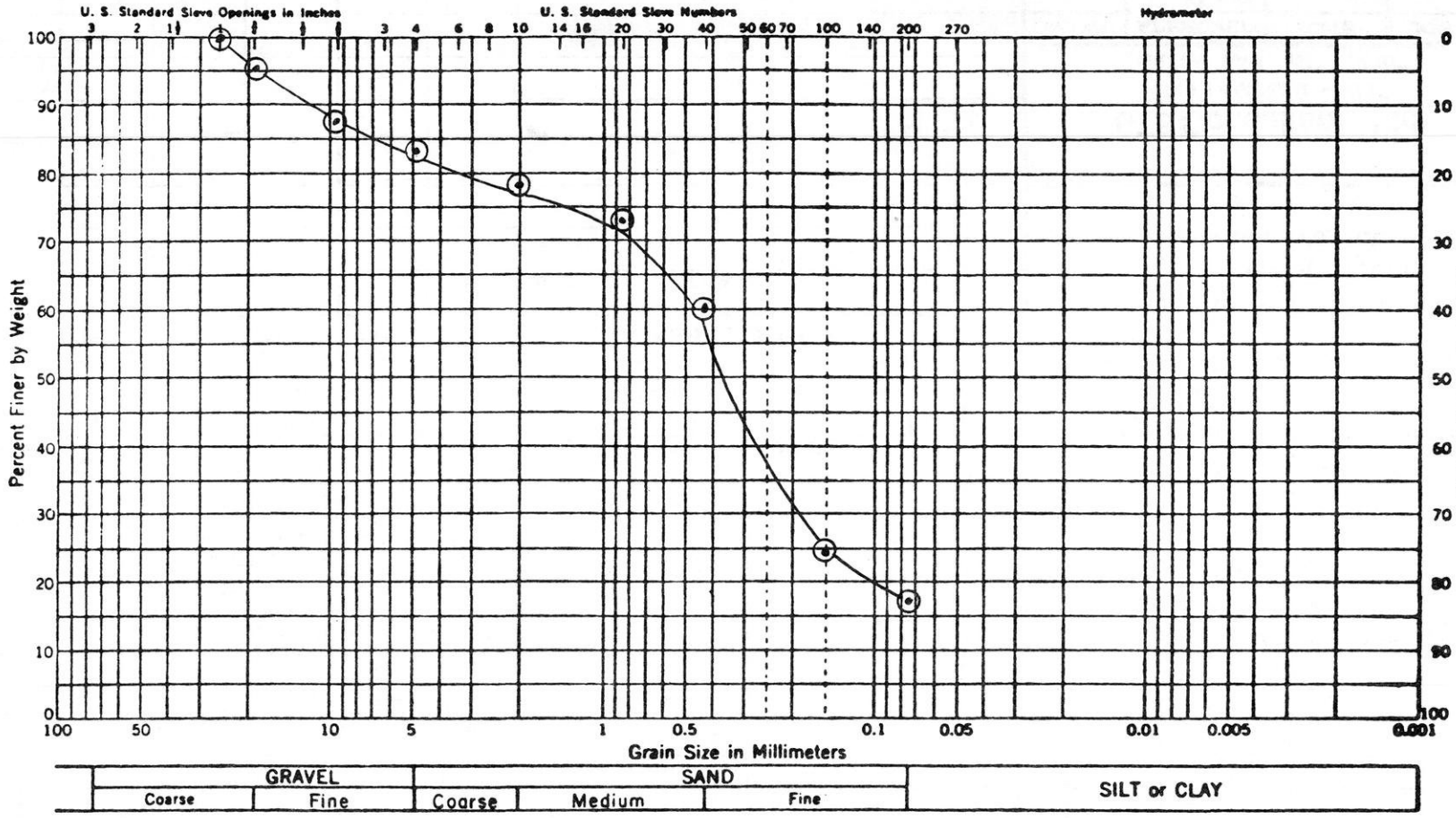
EXXON MINERALS COMPANY
Grain Size Analysis
Crandon Project

STS Consultants Ltd.
540 LAMBEAU STREET
GREEN BAY, WIS. 54303

DRAWN	APPROVED	DATE	JOB No.
JJT	JAS	4-16-84	12959

BBS09302

UNIFIED CLASSIFICATION SYSTEM



SAMPLE NO.	W.C.	LL	PL	PI	CLASSIFICATION
G 41					Silty fine to coarse sand (SM)
G 15					
SA-15					
132 -	132.5'				

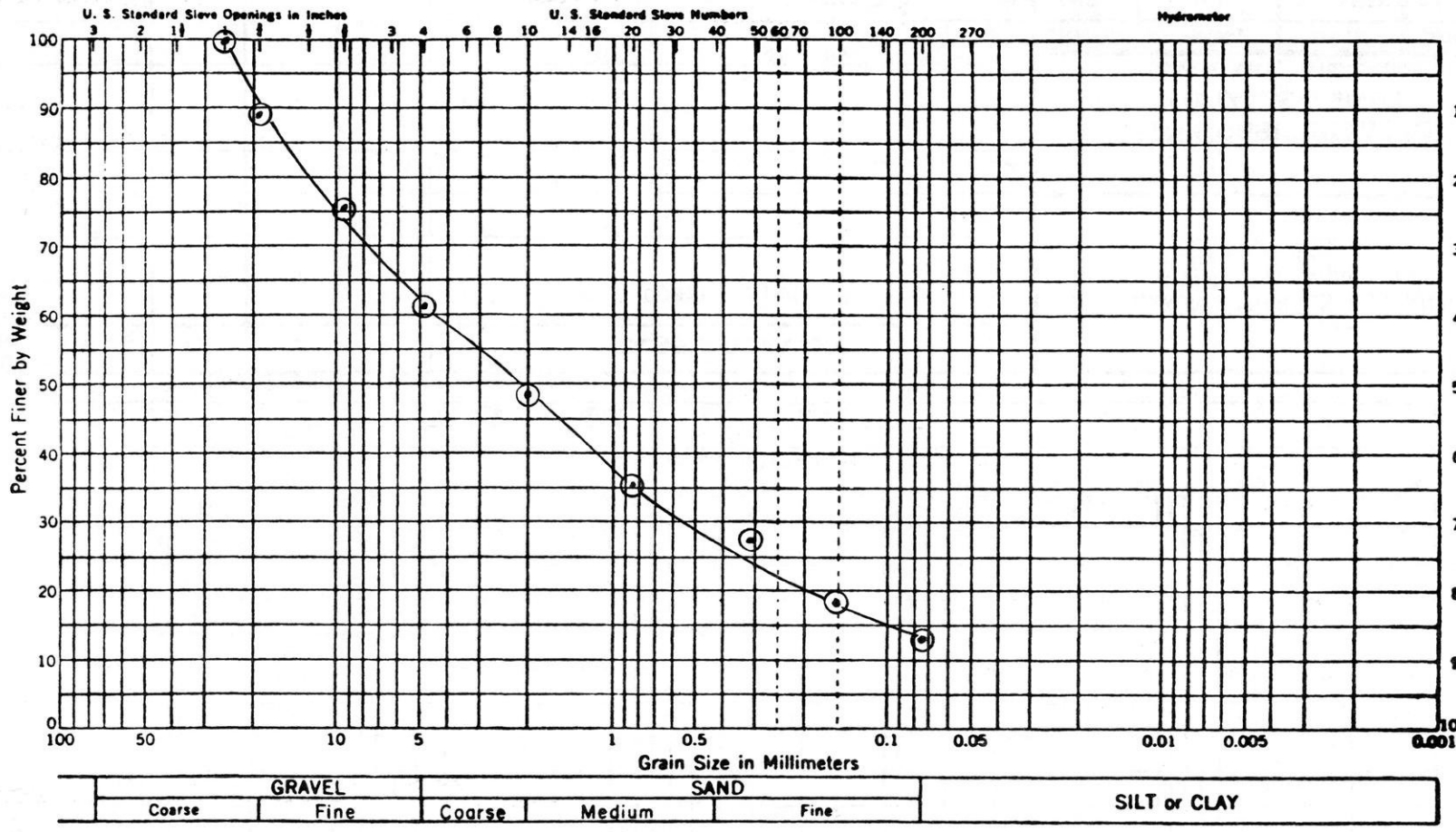
EXXON MINERALS COMPANY
Grain Size Analysis
Crandon Project

STS Consultants Ltd.
540 LAMBEAU STREET
GREEN BAY, WIS. 54303

DRAWN	APPROVED	DATE	JOB No.
JJT	JAS	4-16-84	12959

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UNIFIED CLASSIFICATION SYSTEM



SAMPLE NO.	W.C.	LL	PL	PI	CLASSIFICATION
G-41					Silty fine to coarse sand (SM)
G-15					
SA-20					
183.5 - 184.0'					

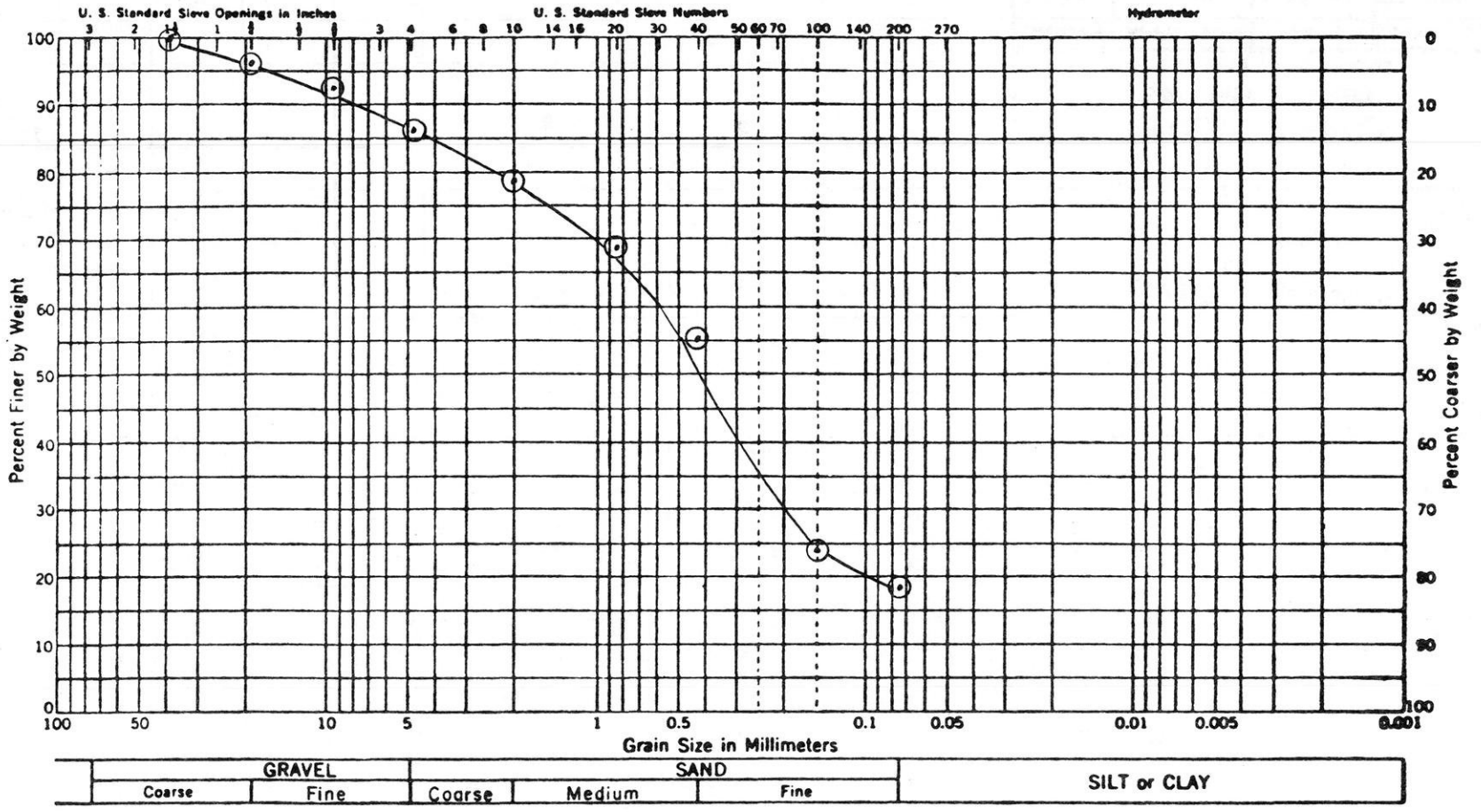
EXXON MINERALS COMPANY
Grain Size Analysis
Crandon Project

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540 LAMBEAU STREET
GREEN BAY, WIS. 54303

DRAWN	APPROVED	DATE	JOB No.
JJT	JAS	4-16-84	12959

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UNIFIED CLASSIFICATION SYSTEM



SAMPLE NO.	W.C.	LL	PL	PI	CLASSIFICATION
G41 H9					Silty fine to coarse sand (SM)
SA-3					
21-22.5'					

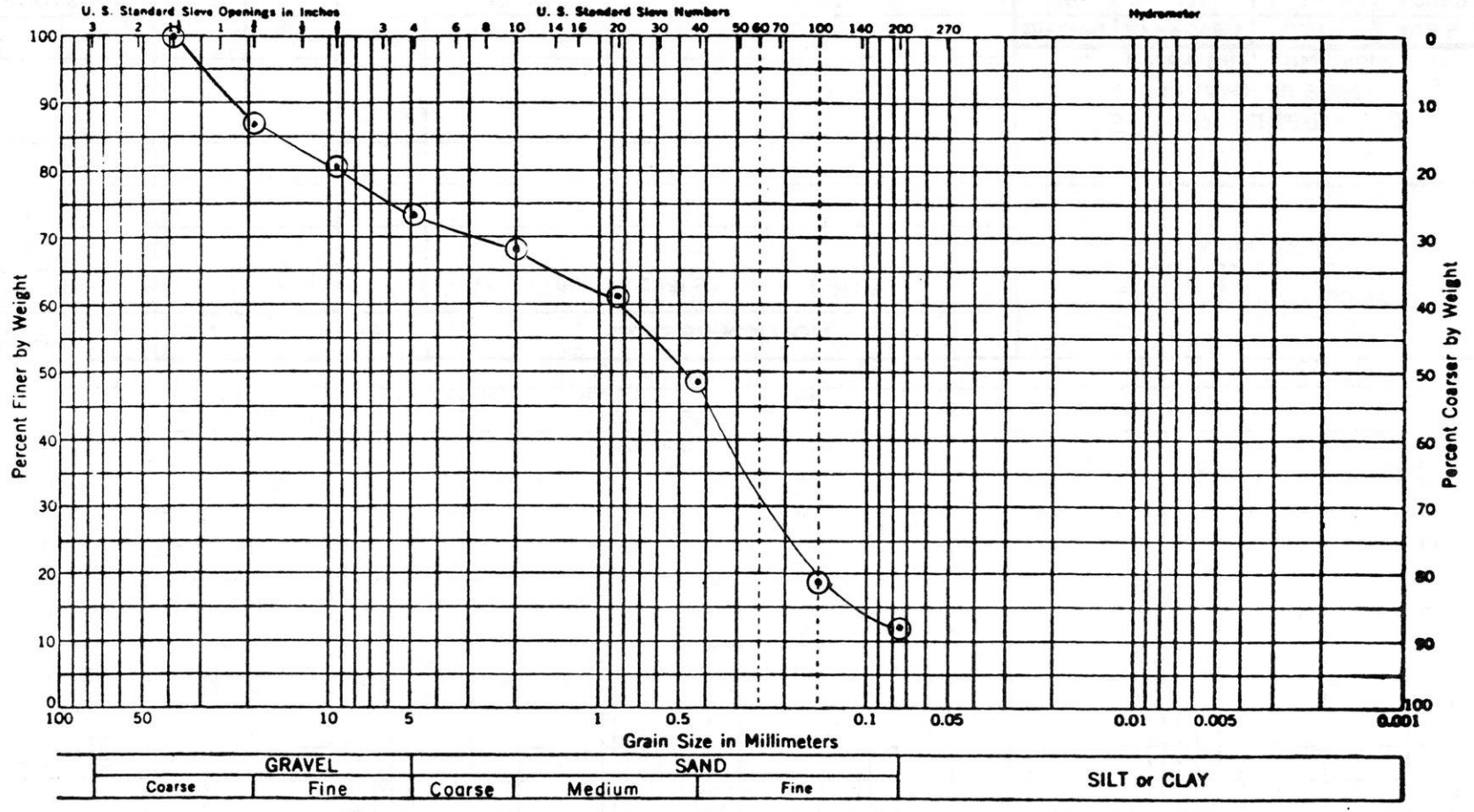
EXXON MINERALS COMPANY
GRAIN SIZE ANALYSIS
CRANDON PROJECT

STS Consultants Ltd.
540 LAMBEAU STREET
GREEN BAY, WIS. 54303

DRAWN	APPROVED	DATE	JOB No.
SMD	JAS	5-18-84	12959

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UNIFIED CLASSIFICATION SYSTEM



SAMPLE NO.	W.C.	LL	PL	PI	CLASSIFICATION
G41 H9					Silty fine to coarse sand (SM)
SA-5					
40-41'					

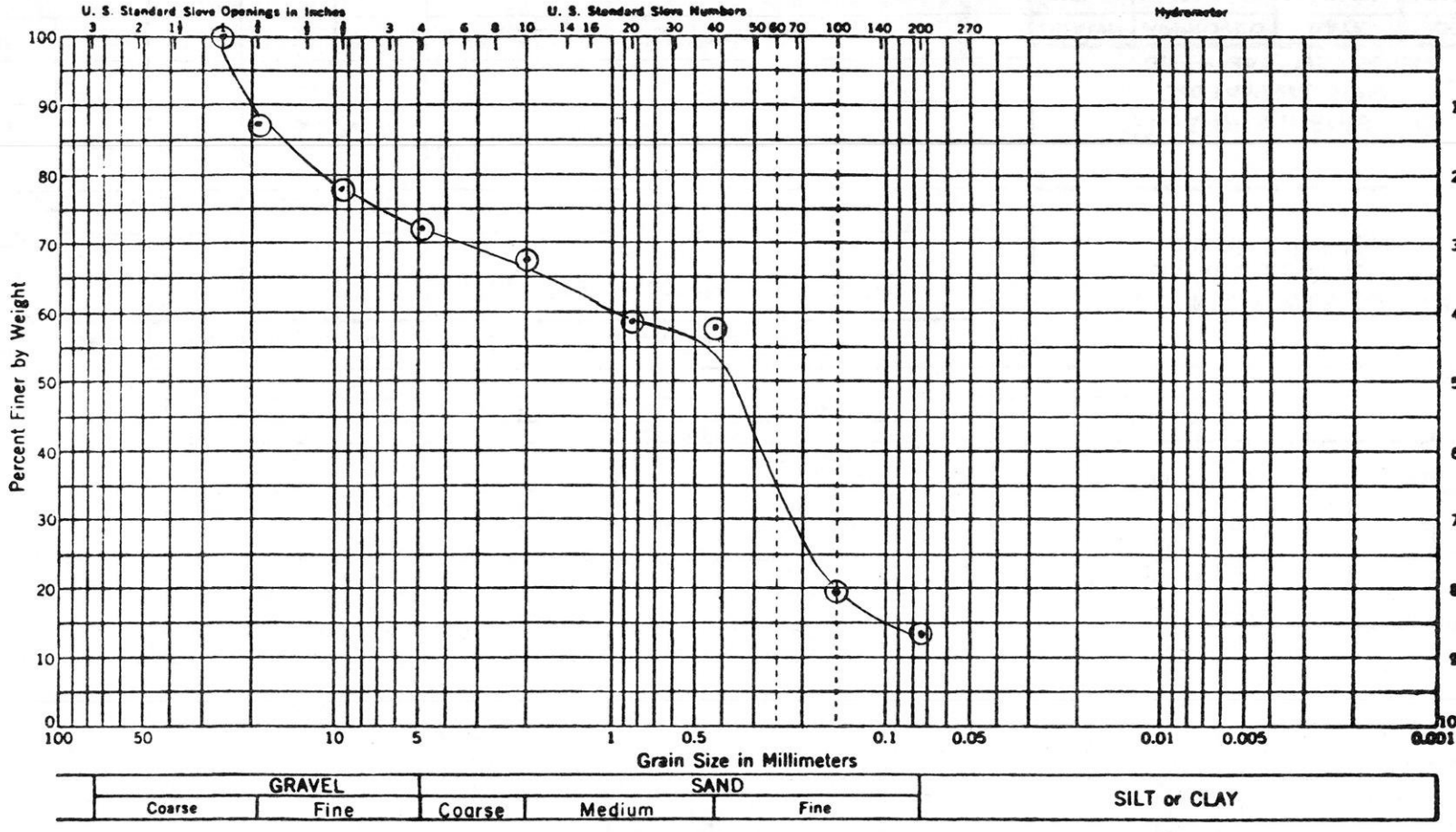
EXXON MINERALS COMPANY
GRAIN SIZE ANALYSIS
CRANDON PROJECT

STS Consultants Ltd.
540 LAMBEAU STREET
GREEN BAY, WIS. 54303

DRAWN	APPROVED	DATE	JOB No.
SMD	JAS	5-18-84	12959

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UNIFIED CLASSIFICATION SYSTEM



SAMPLE NO.	W.C.	LL	PL	PI	CLASSIFICATION
G41 H9					Silty fine to coarse sand (SM)
SA-8					
70-71.8'					

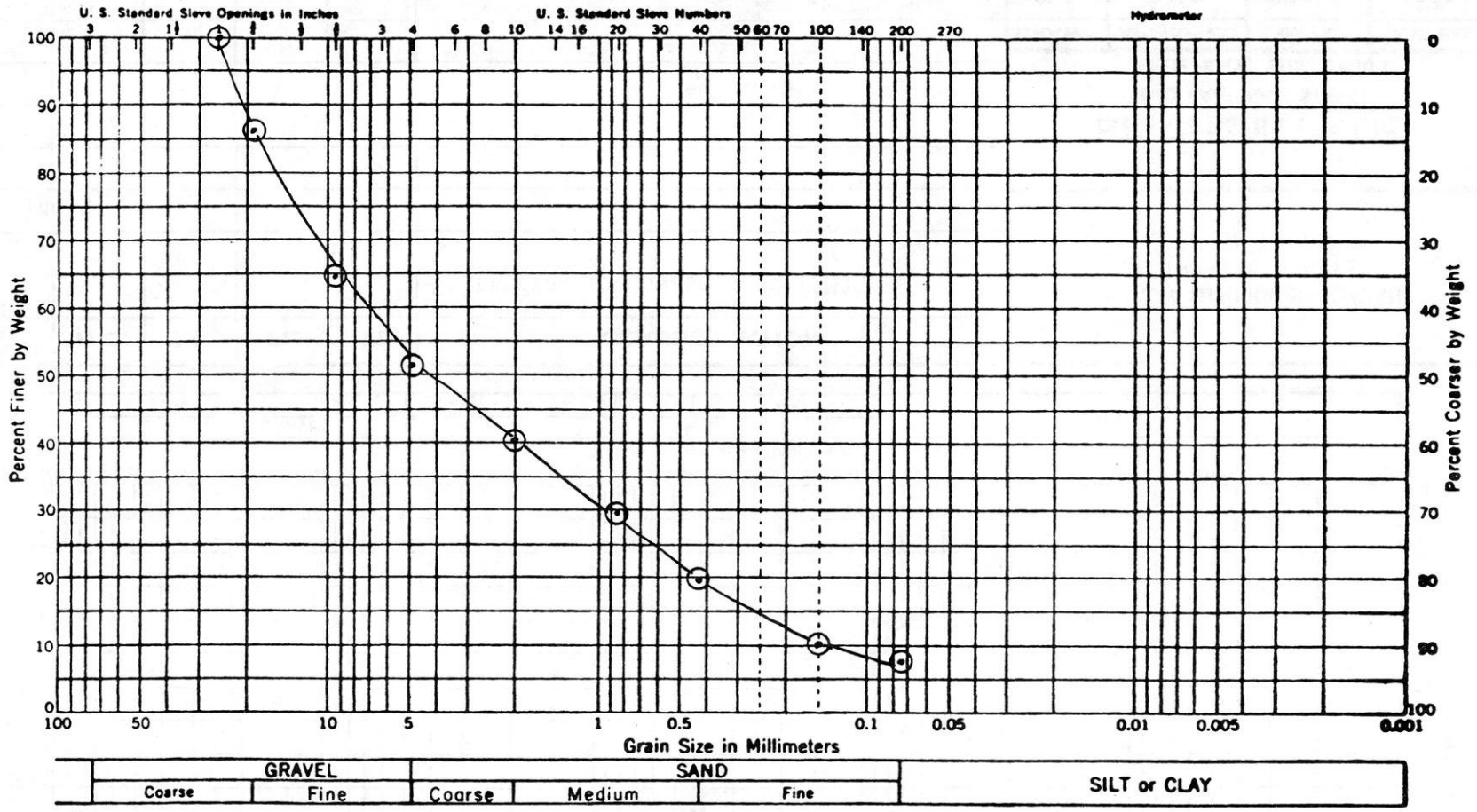
EXXON MINERALS COMPANY
GRAIN SIZE ANALYSIS
CRANDON PROJECT

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540 LAMBEAU STREET
GREEN BAY, WIS. 54303

DRAWN	APPROVED	DATE	JOB No.
SMD	JAS	5-18-84	12959

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UNIFIED CLASSIFICATION SYSTEM



SAMPLE NO.	W.C.	LL	PL	PI	CLASSIFICATION
G41 H9					Slightly silty fine to coarse sand (SM-SP)
SA-10					
90-91'					

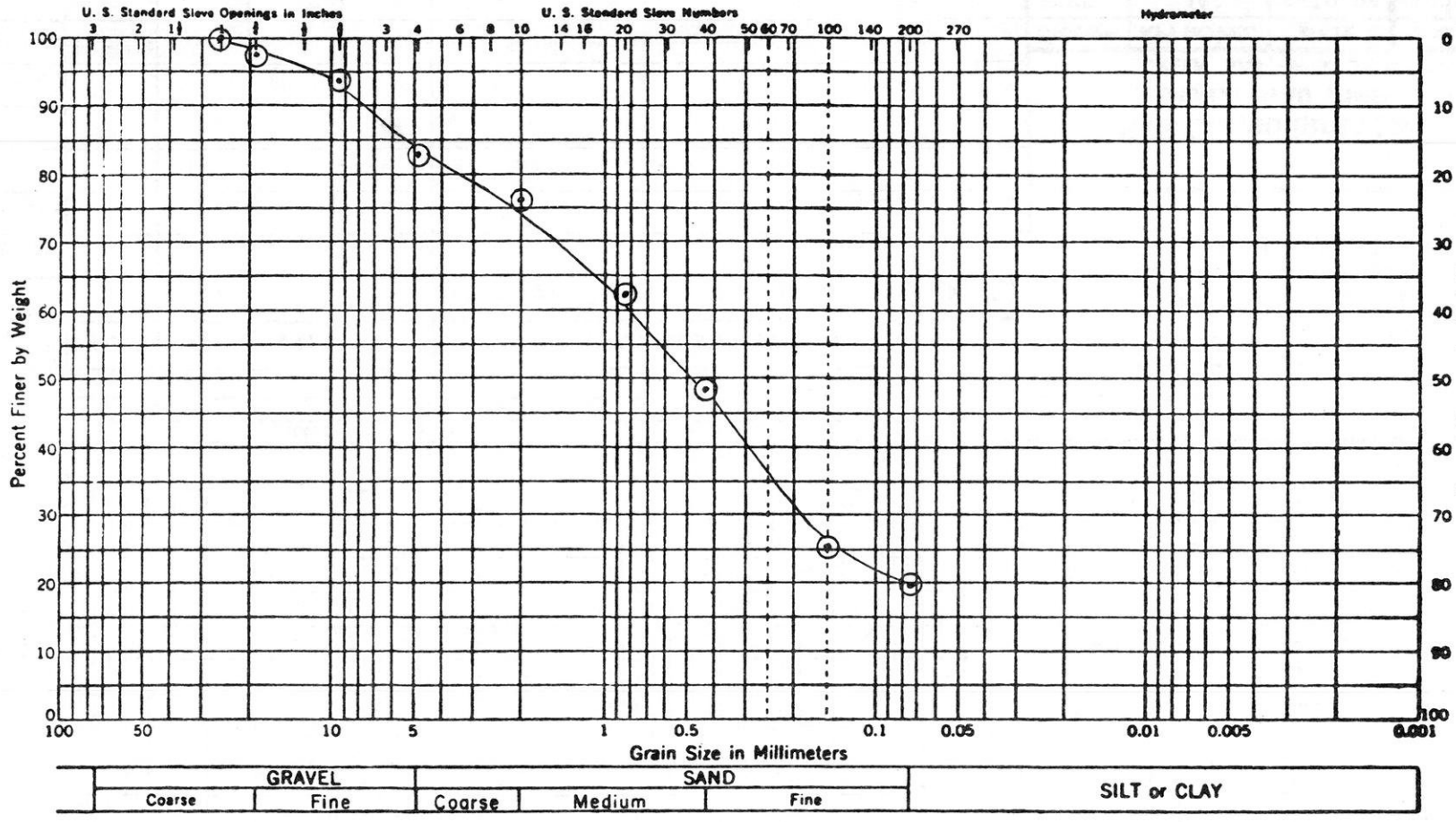
EXXON MINERALS COMPANY
GRAIN SIZE ANALYSIS
CRANDON PROJECT

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GREEN BAY, WIS. 54303

DRAWN	APPROVED	DATE	JOB No.
SMD	JAS	5-18-84	12959

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UNIFIED CLASSIFICATION SYSTEM



SAMPLE NO.	W.C.	LL	PL	PI	CLASSIFICATION
G41 H9					Silty fine to coarse sand (SM)
SA-15					
140-141.5'					

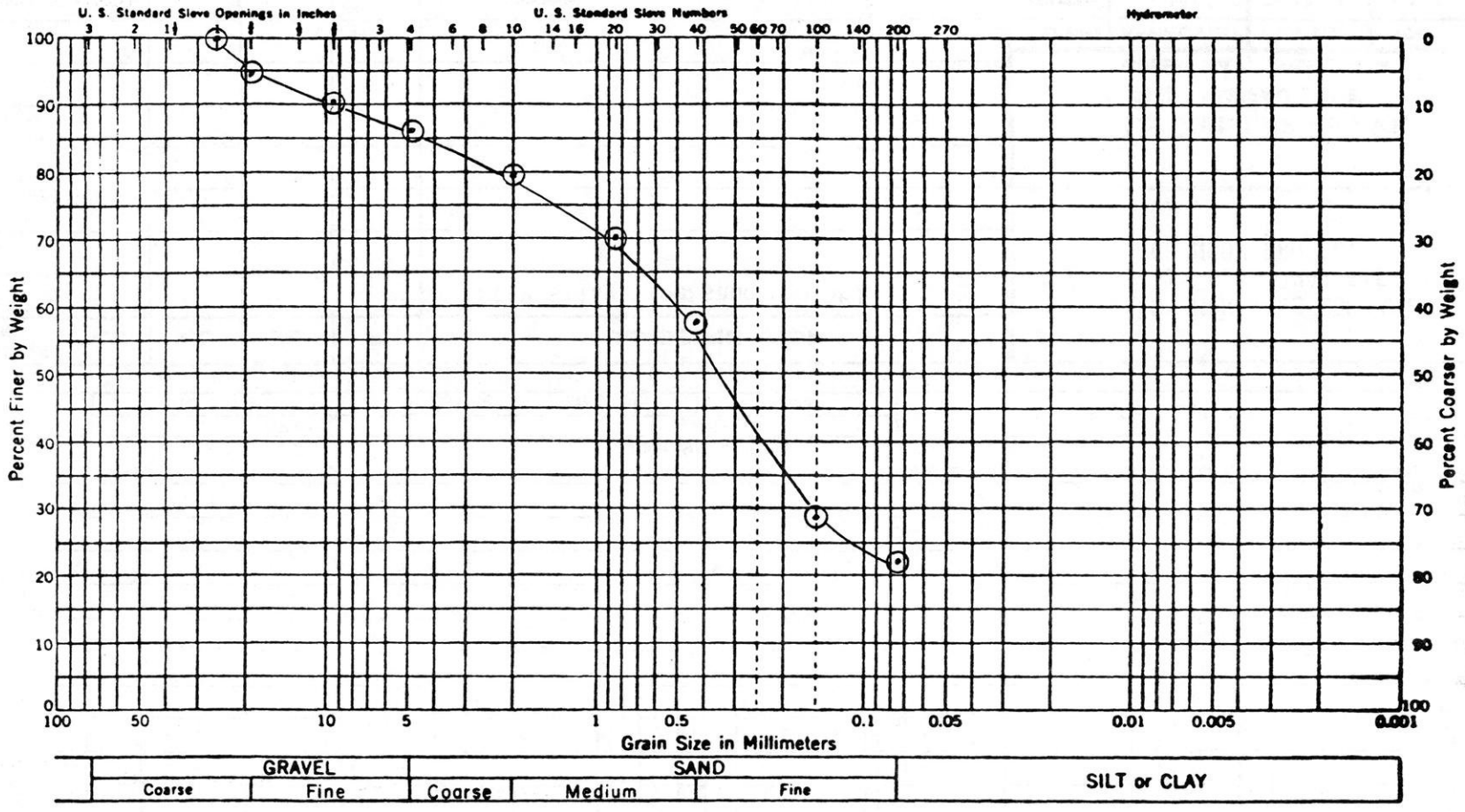
EXXON MINERALS COMPANY
GRAIN SIZE ANALYSIS
CRANDON PROJECT

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540 LAMBEAU STREET
GREEN BAY, WIS. 54303

DRAWN	APPROVED	DATE	JOB No.
SMD	JAS	5-18-84	12959

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UNIFIED CLASSIFICATION SYSTEM



SAMPLE NO.	W.C.	LL	PL	PI	CLASSIFICATION
G41 H9					Silty fine to coarse sand (SM)
SA-16					
150-151.3'					

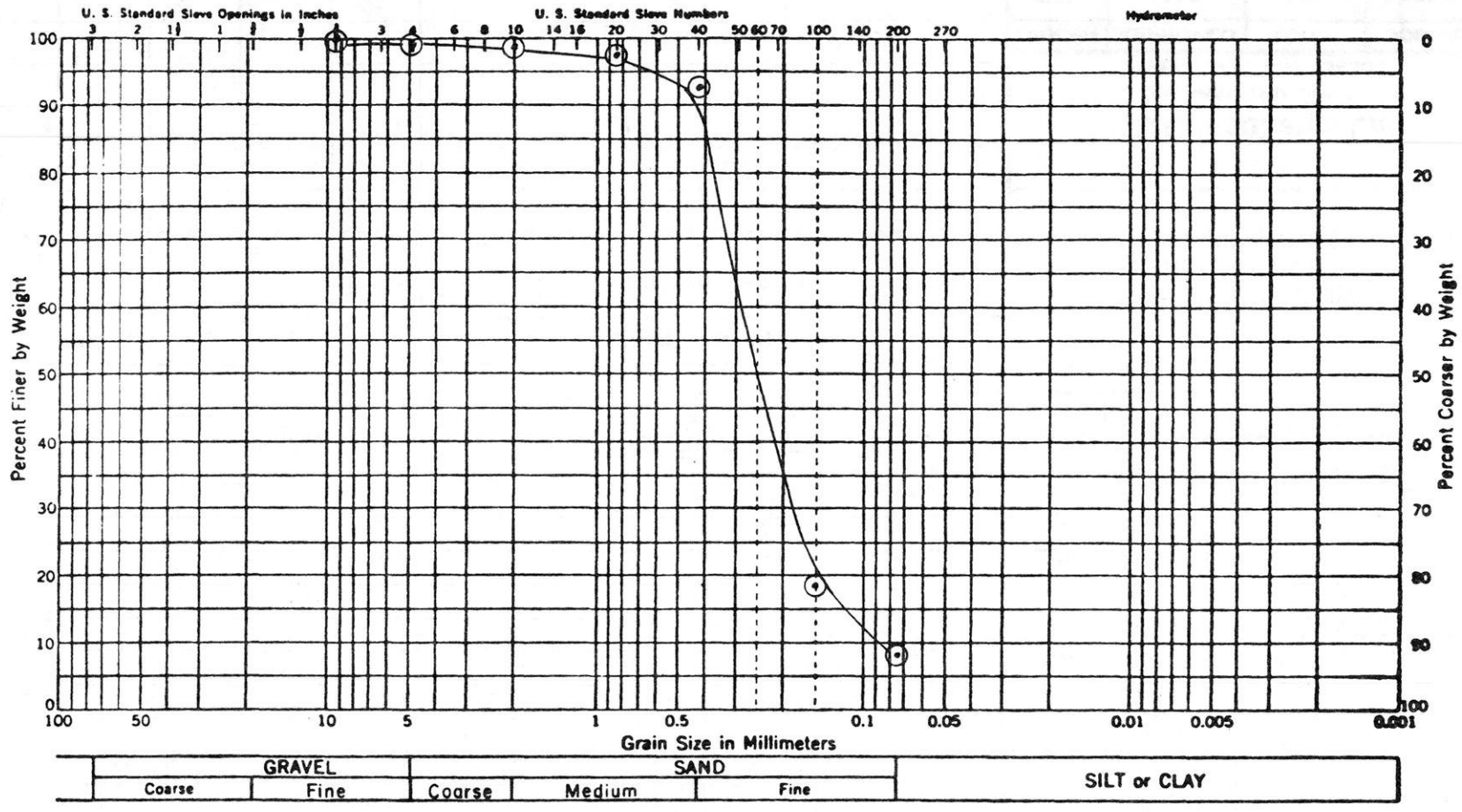
EXXON MINERALS COMPANY
GRAIN SIZE ANALYSIS
CRANDON PROJECT

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540 LAMBEAU STREET
GREEN BAY, WIS. 54303

DRAWN	APPROVED	DATE	JOB No.
SMD	JAS	5-18-84	12959

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UNIFIED CLASSIFICATION SYSTEM



SAMPLE NO.	W.C.	LL	PL	PI	CLASSIFICATION
G41 H9					Slightly silty fine sand (SM-SP)
SA-21					
200-200.8'					

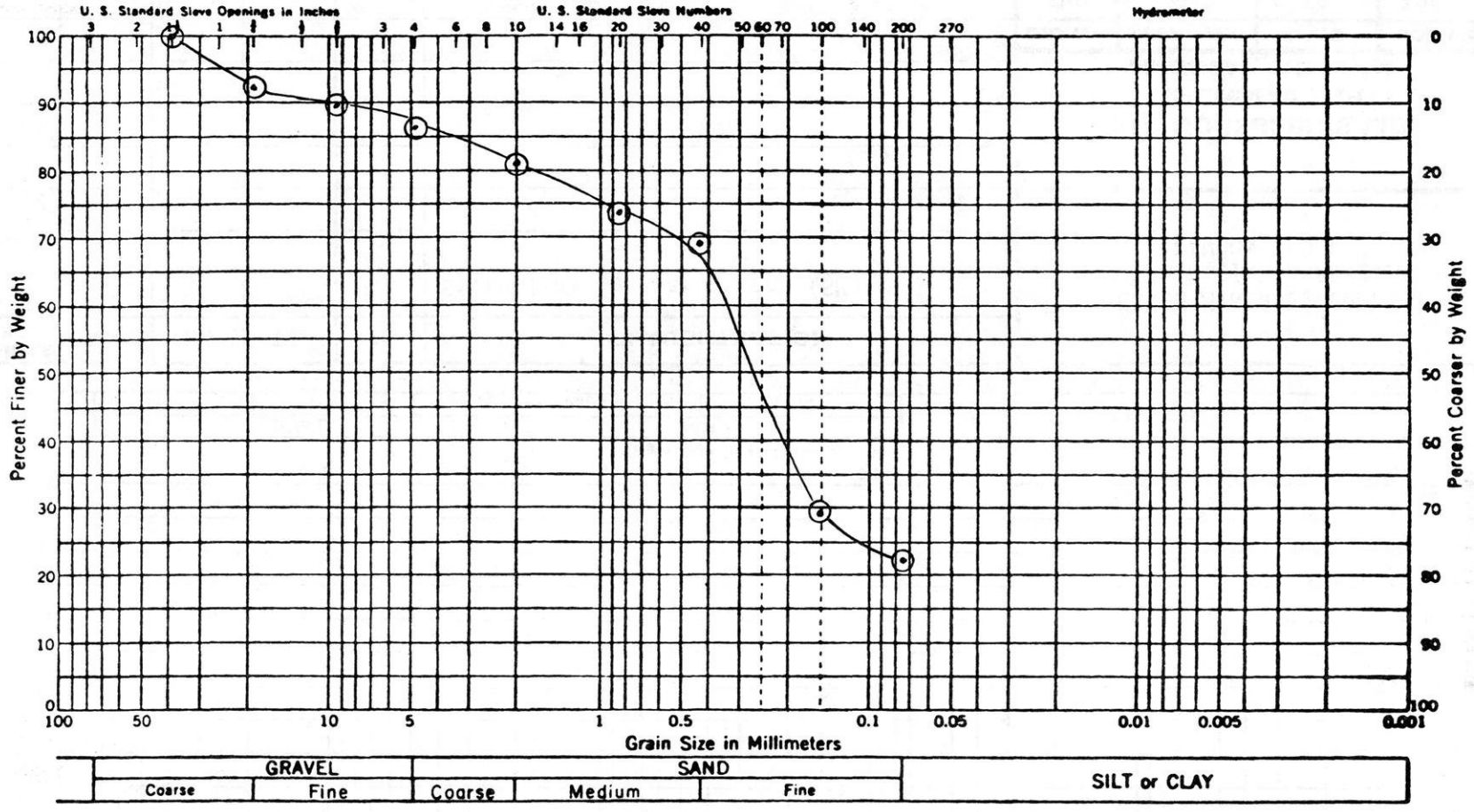
EXXON MINERALS COMPANY
GRAIN SIZE ANALYSIS
CRANDON PROJECT

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540 LAMBEAU STREET
GREEN BAY, WIS. 54303

DRAWN	APPROVED	DATE	JOB No.
SMD	JAS	5-18-84	12959

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UNIFIED CLASSIFICATION SYSTEM



SAMPLE NO.	W.C.	LL	PL	PI	CLASSIFICATION
G41 H9					Silty fine to coarse sand (SM)
SA-22					
210.5-211.4'					

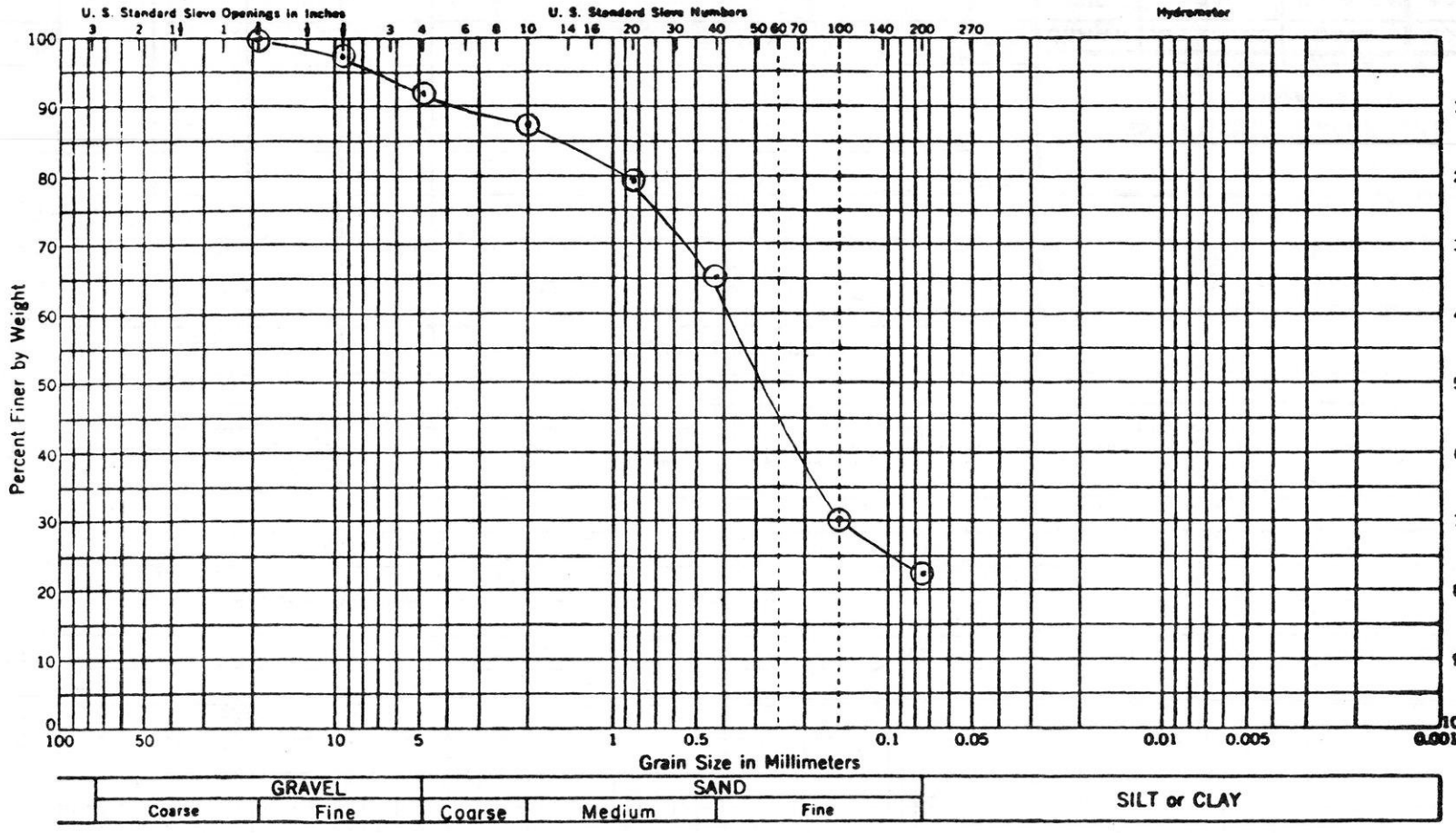
EXXON MINERALS COMPANY
GRAIN SIZE ANALYSIS
CRANDON PROJECT

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540 LAMBEAU STREET
GREEN BAY, WIS. 54303

DRAWN	APPROVED	DATE	JOB No.
SMD	JAS	5-18-84	12959

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UNIFIED CLASSIFICATION SYSTEM



SAMPLE NO.	W.C.	LL	PL	PI	CLASSIFICATION
G41 H18B					Silty fine to coarse sand (SM)
S-2					
10-12'					

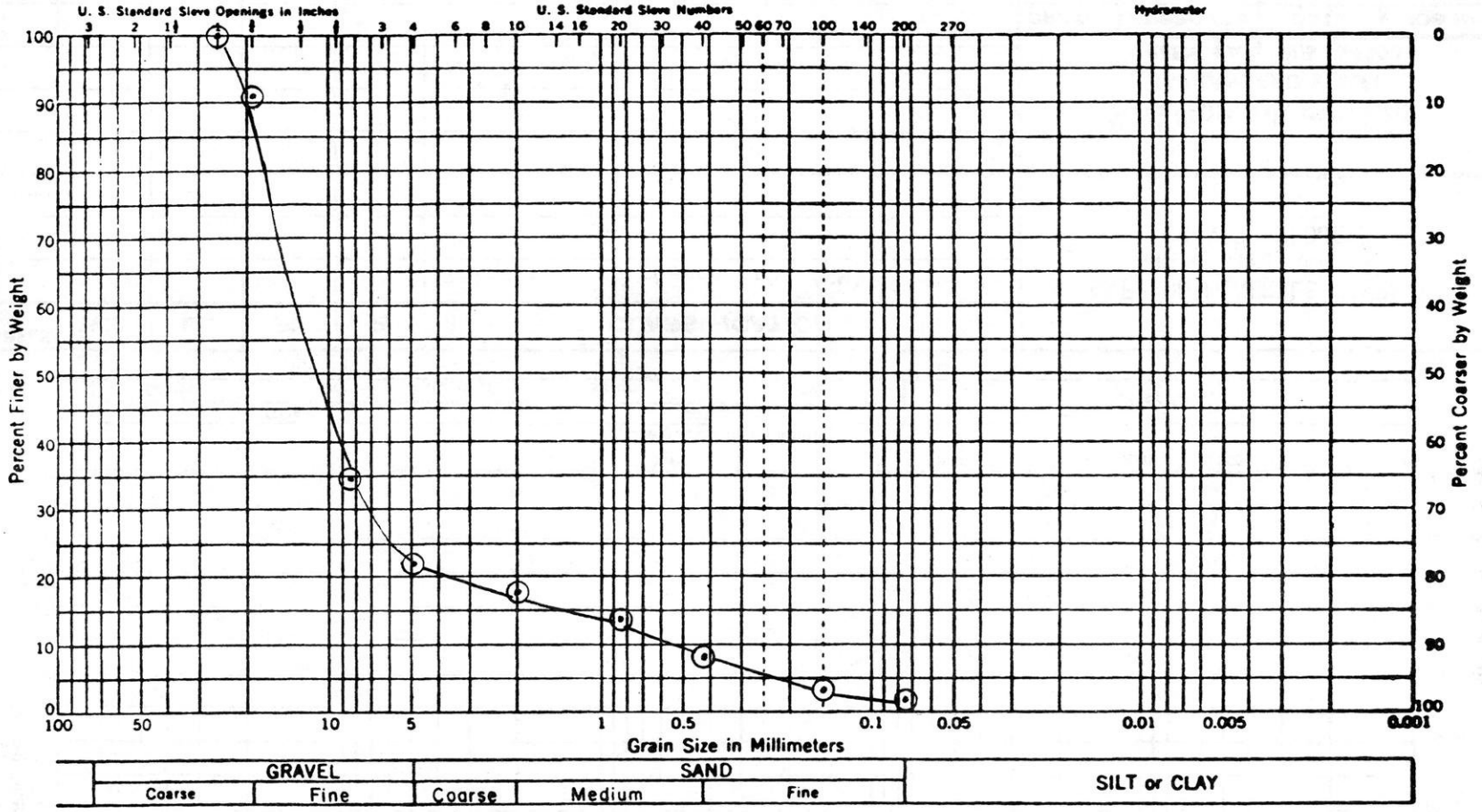
EXXON MINERALS COMPANY
GRAIN SIZE ANALYSIS
CRANDON PROJECT

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540 LAMBEAU STREET
GREEN BAY, WIS. 54303

DRAWN	APPROVED	DATE	JOB No.
SMD	JAS	5-18-84	12959

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UNIFIED CLASSIFICATION SYSTEM



SAMPLE NO.	W.C.	LL	PL	PI	CLASSIFICATION
G41 H18B					Fine gravel (GP)
S-6					
50-52'					

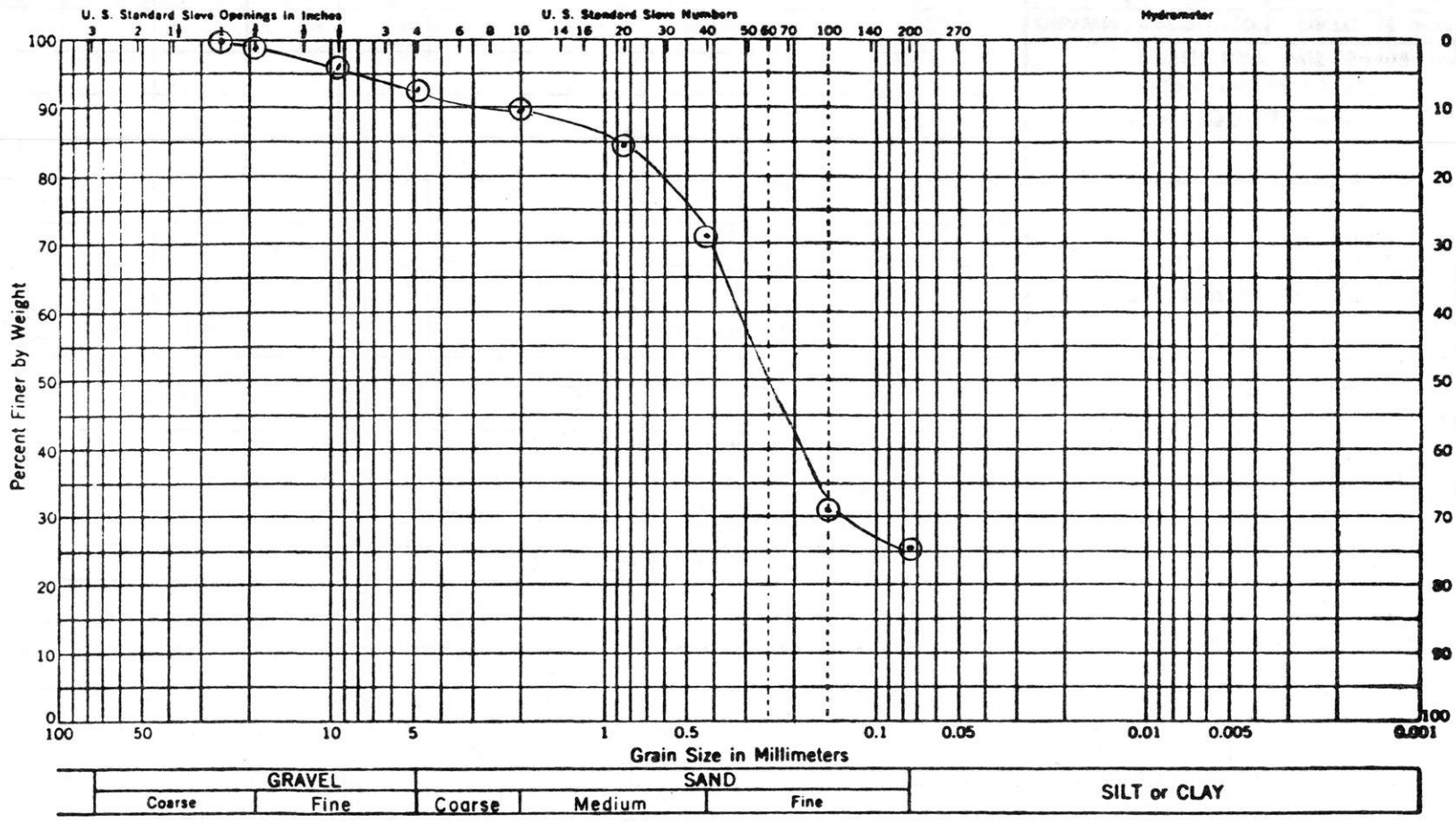
EXXON MINERALS COMPANY
GRAIN SIZE ANALYSIS
CRANDON PROJECT

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GREEN BAY, WIS. 54303

DRAWN	APPROVED	DATE	JOB No.
SMD	JAS	5-18-84	12959

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UNIFIED CLASSIFICATION SYSTEM



SAMPLE NO.	W.C.	LL	PL	PI	CLASSIFICATION
G4I H18B					Silty fine to coarse sand (SM)
SA-8					
70-72'					

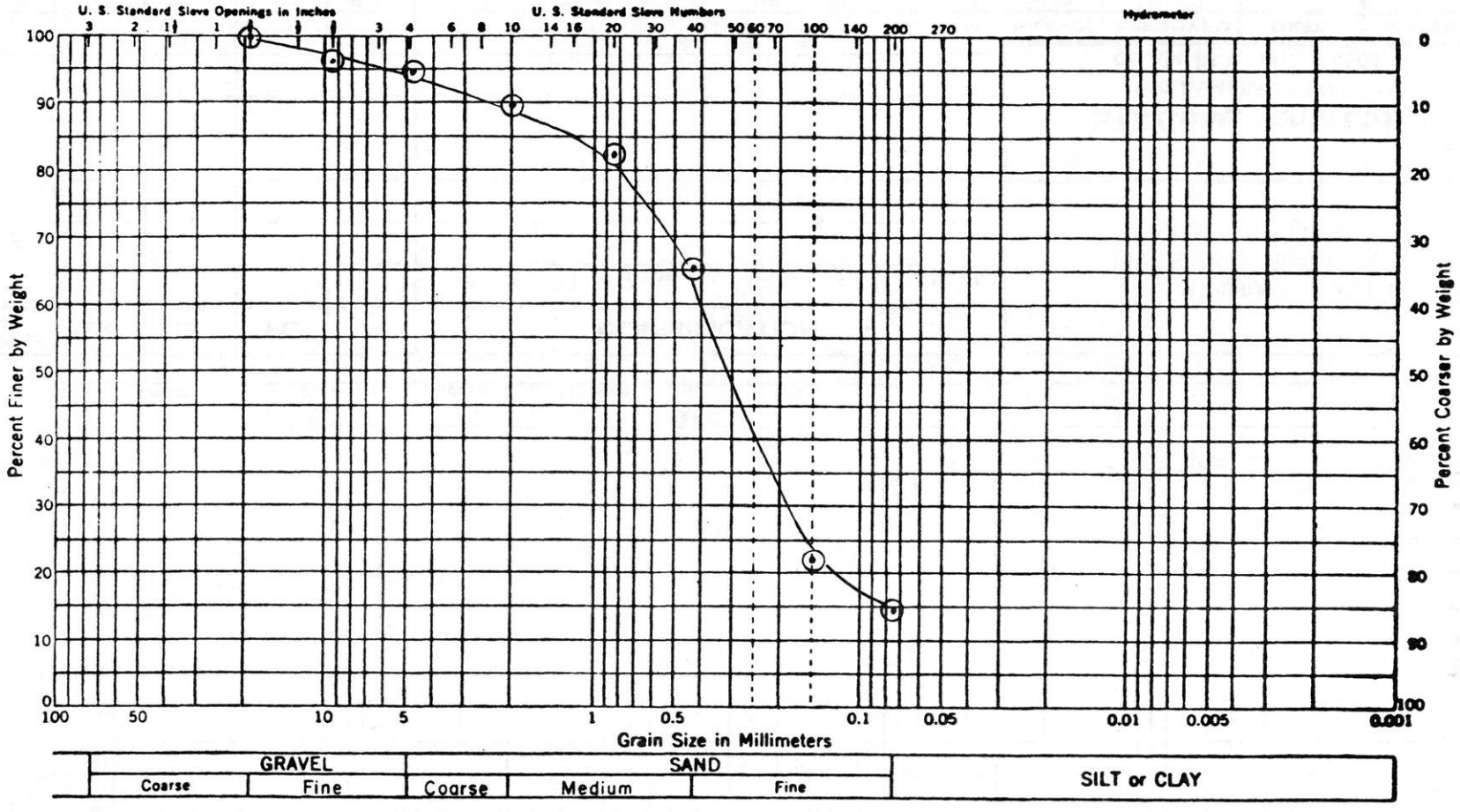
EXXON MINERALS COMPANY
GRAIN SIZE ANALYSIS
CRANDON PROJECT

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540 LAMBEAU STREET
GREEN BAY, WIS. 54303

DRAWN	APPROVED	DATE	JOB No.
SMD	JAS	5-18-84	12959

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UNIFIED CLASSIFICATION SYSTEM



SAMPLE NO.	W.C.	LL	PL	PI	CLASSIFICATION
G41 H18B					Silty fine to coarse sand (SM)
S-13					
120-122'					

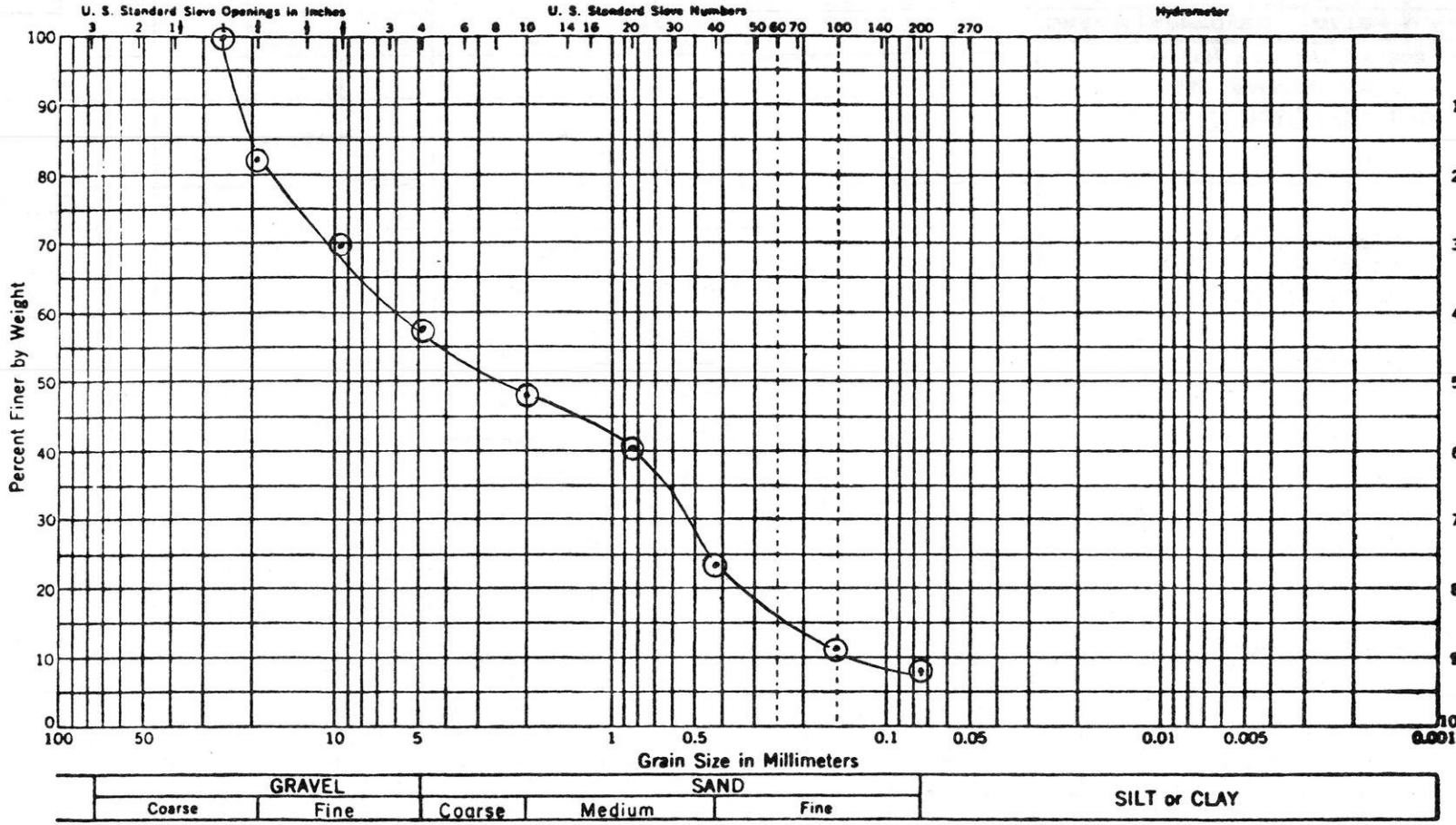
EXXON MINERALS COMPANY
GRAIN SIZE ANALYSIS
CRANDON PROJECT

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GREEN BAY, WIS. 54303

DRAWN	APPROVED	DATE	JOB No.
SMD	JAS	5-18-84	12959

BBS09302

UNIFIED CLASSIFICATION SYSTEM



SAMPLE NO.	W.C.	LL	PL	PI	CLASSIFICATION
G41 H18B					Slightly silty fine to coarse sand (SM-SP)
S-16					
150-152'					

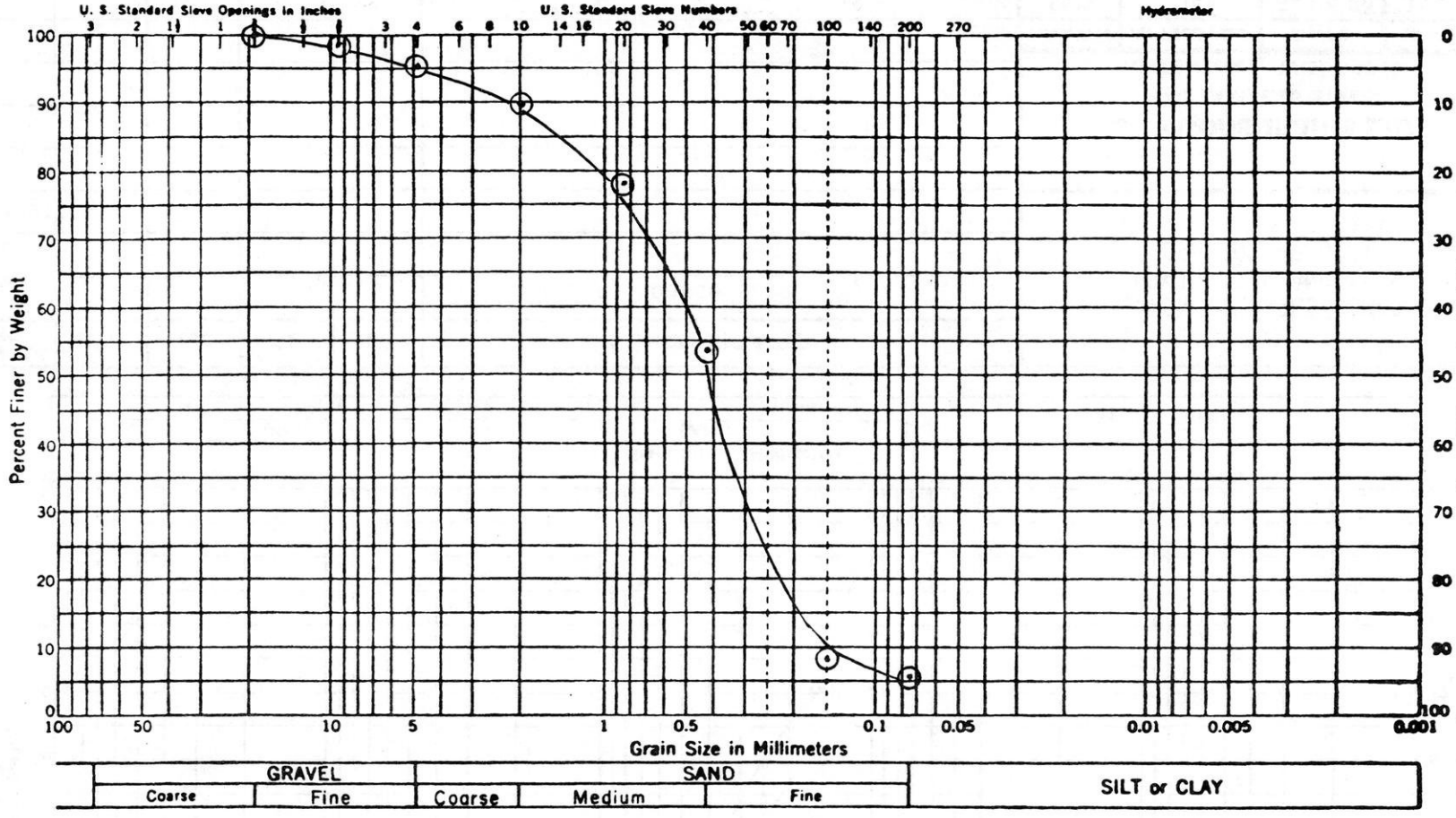
EXXON MINERALS COMPANY
GRAIN SIZE ANALYSIS
CRANDON PROJECT

STS Consultants Ltd.
540 LAMBEAU STREET
GREEN BAY, WIS. 54303

DRAWN	APPROVED	DATE	JOB No.
SMD	JAS	5-18-84	12959

BBS09302

UNIFIED CLASSIFICATION SYSTEM



SAMPLE NO.	W.C.	LL	PL	PI	CLASSIFICATION
G41 H18B					Slightly silty fine to coarse sand (SM-SP)
S-17					
160-162'					

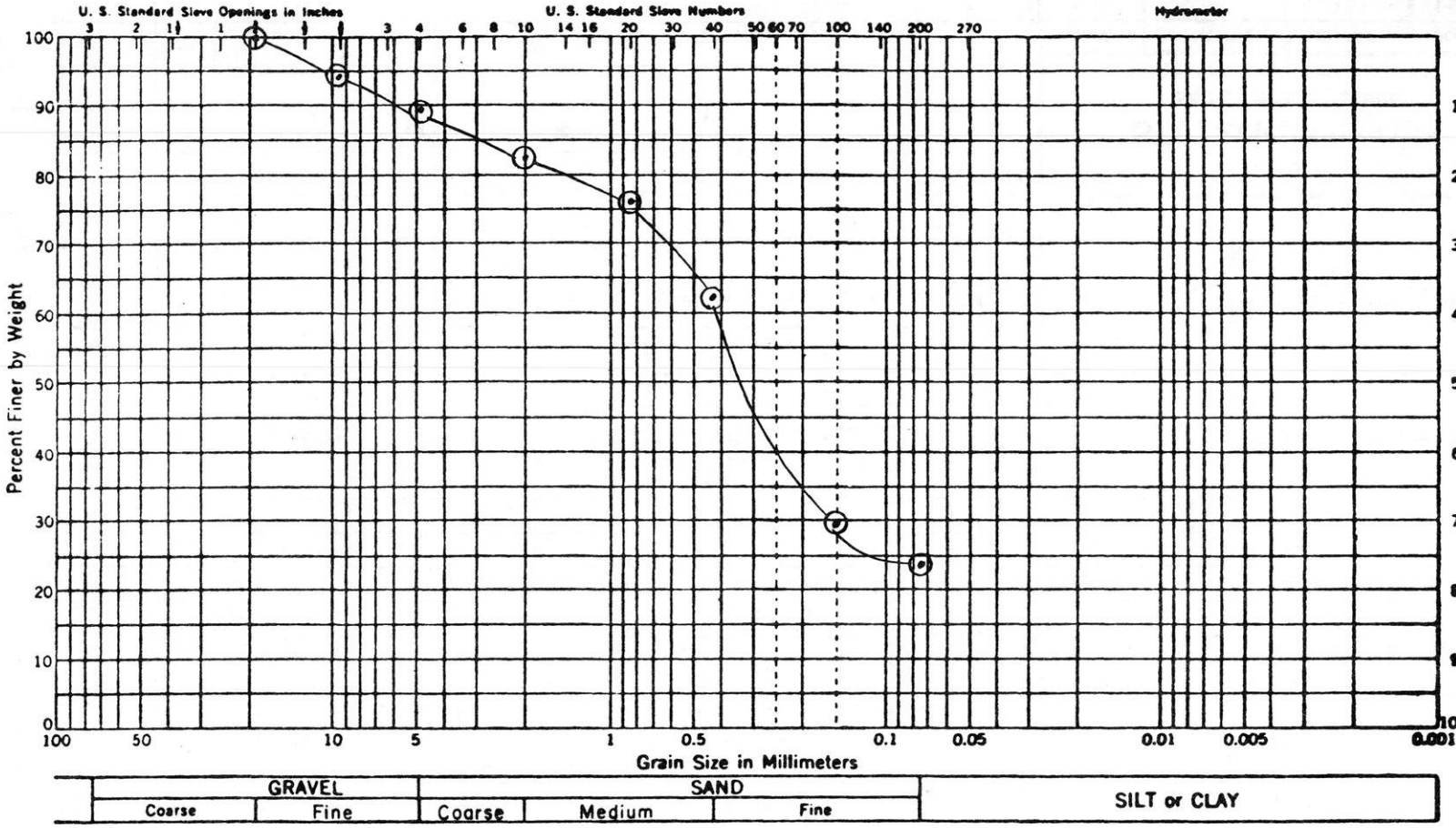
EXXON MINERALS COMPANY
GRAIN SIZE ANALYSIS
CRANDON PROJECT

STS Consultants Ltd.
540 LAMBEAU STREET
GREEN BAY, WIS. 54303

DRAWN	APPROVED	DATE	JOB No.
SMD	JAS	5-18-84	12959

BBS09302

UNIFIED CLASSIFICATION SYSTEM



SAMPLE NO.	W.C.	LL	PL	PI	CLASSIFICATION
G41 H18B					Silty fine to coarse sand (SM)
S-22					
210-211.5'					

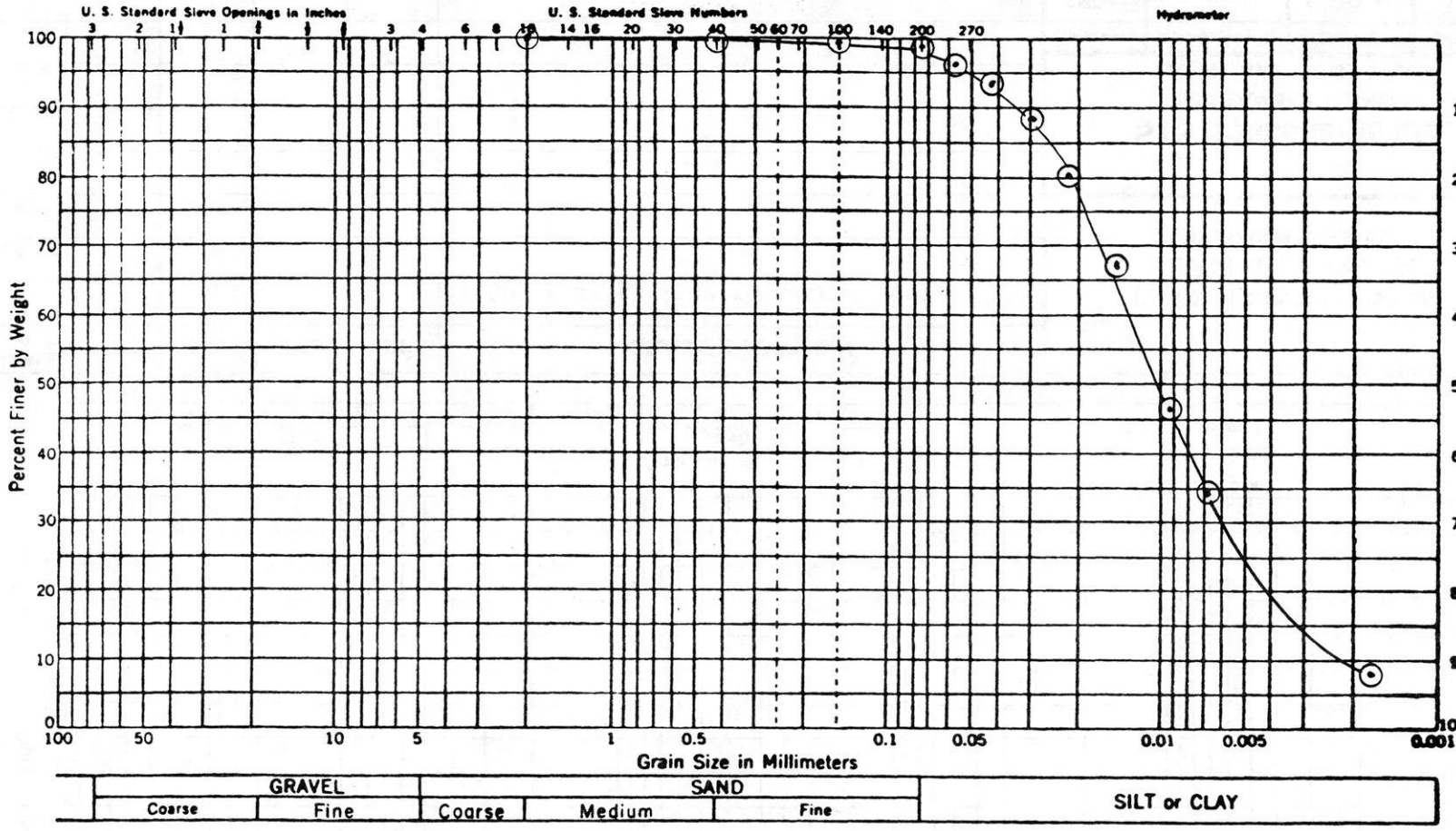
EXXON MINERALS COMPANY
GRAIN SIZE ANALYSIS
CRANDON PROJECT

STS Consultants Ltd.
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GREEN BAY, WIS. 54303

DRAWN	APPROVED	DATE	JOB No.
SMD	JAS	5-18-84	12959

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UNIFIED CLASSIFICATION SYSTEM



SAMPLE NO.	W.C.	LL	PL	PI	CLASSIFICATION
G41 H18B					Clayey silt (ML-CL)
S27					
260-261'					

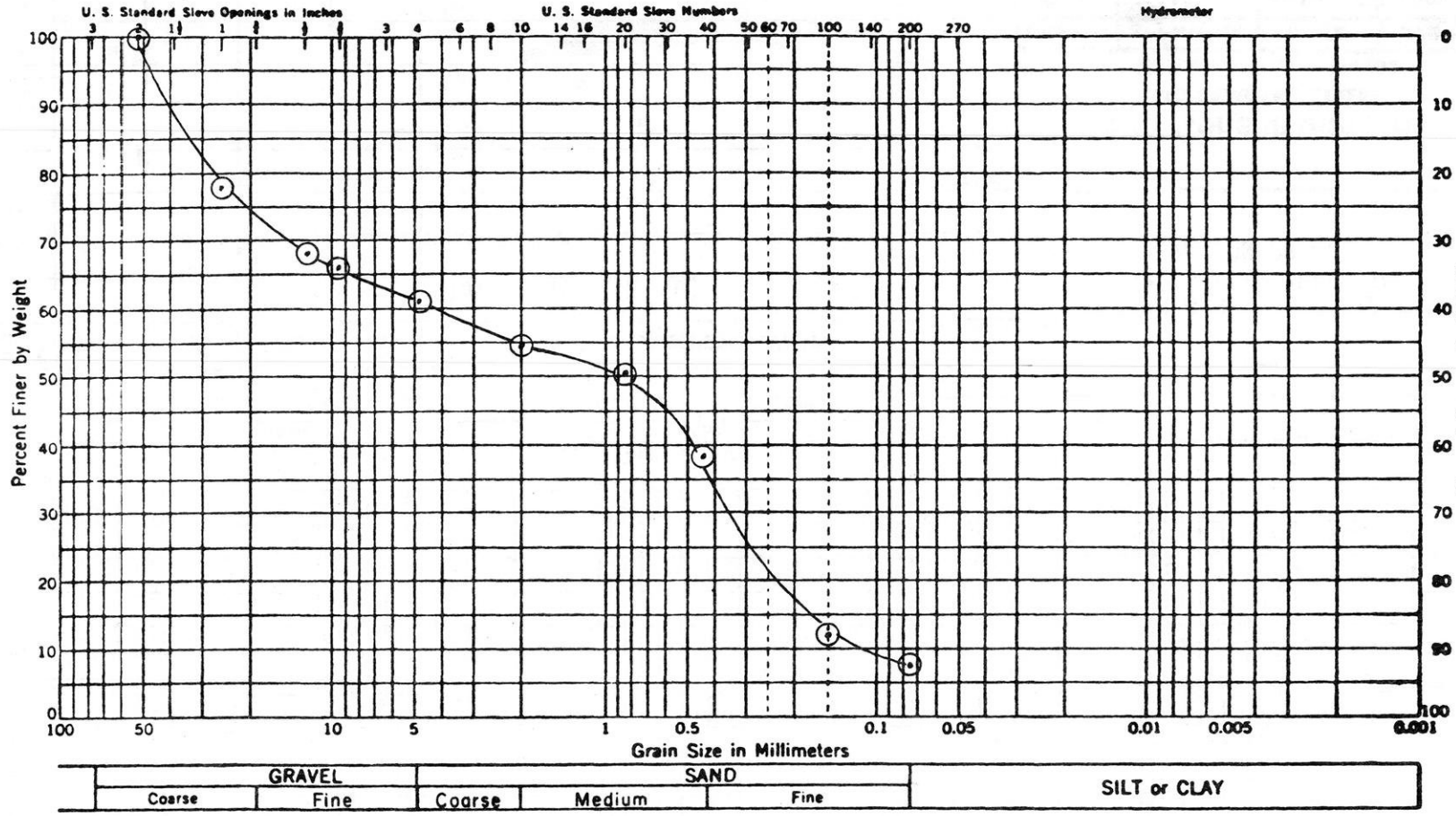
EXXON MINERALS COMPANY
GRAIN SIZE ANALYSIS
CRANDON PROJECT

STS Consultants Ltd.
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GREEN BAY, WIS. 54303

DRAWN	APPROVED	DATE	JOB No.
SMD	JAS	6-10-84	12959

BBS09302

UNIFIED CLASSIFICATION SYSTEM



SAMPLE NO.	W.C.	LL	PL	PI	CLASSIFICATION
G41 K17					Slightly silty fine to coarse sand (SM-SP)
S6					
24-25.5'					

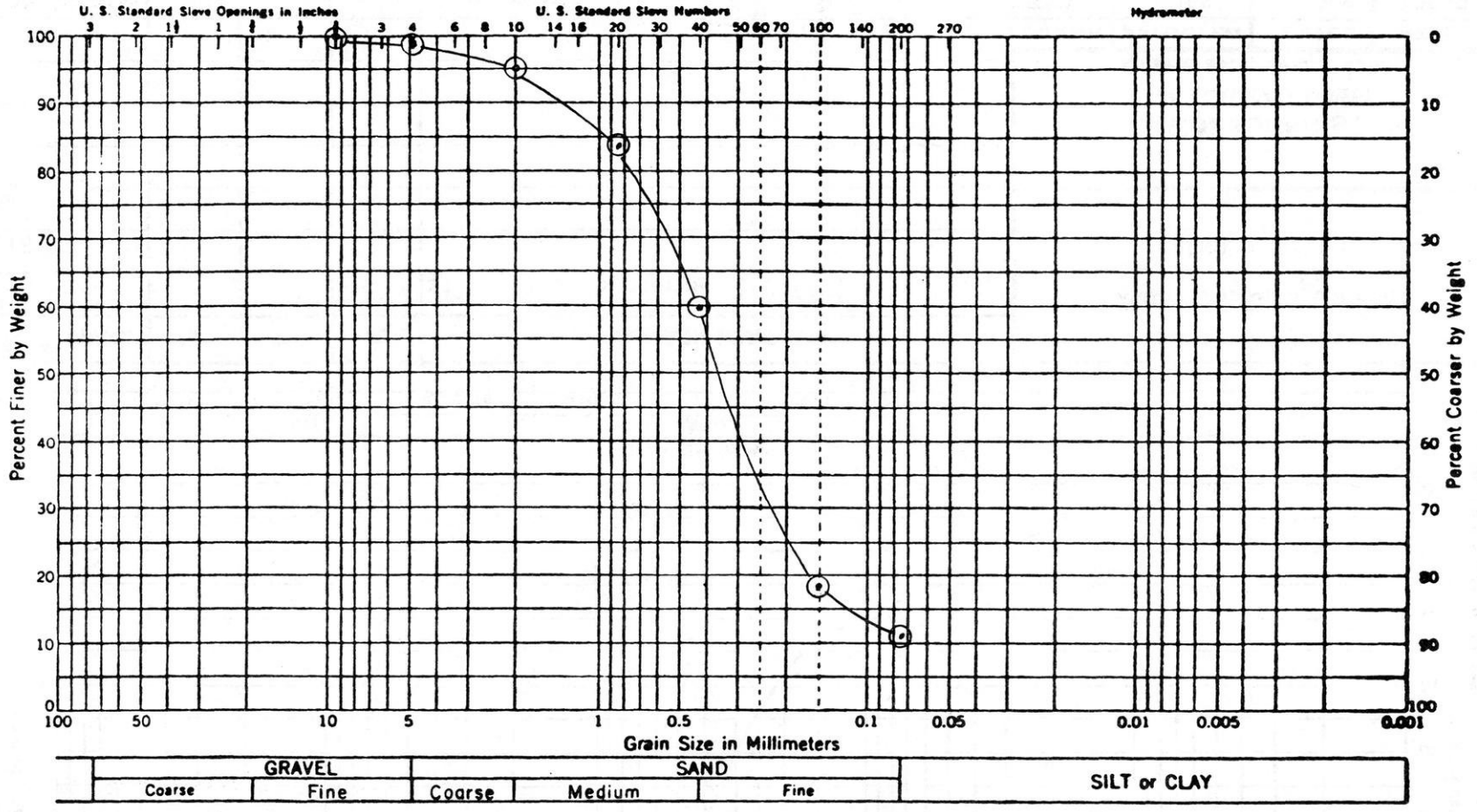
EXXON MINERALS COMPANY
GRAIN SIZE ANALYSIS
CRANDON PROJECT

STS Consultants Ltd.
540 LAMBEAU STREET
GREEN BAY, WIS. 54303

DRAWN	APPROVED	DATE	JOB No.
SMD	JAS	6-10-84	12959

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UNIFIED CLASSIFICATION SYSTEM



SAMPLE NO.	W.C.	LL	PL	PI	CLASSIFICATION
G41 K17					Slightly silty fine to medium sand (SM-SP)
S12					
54-54.5'					

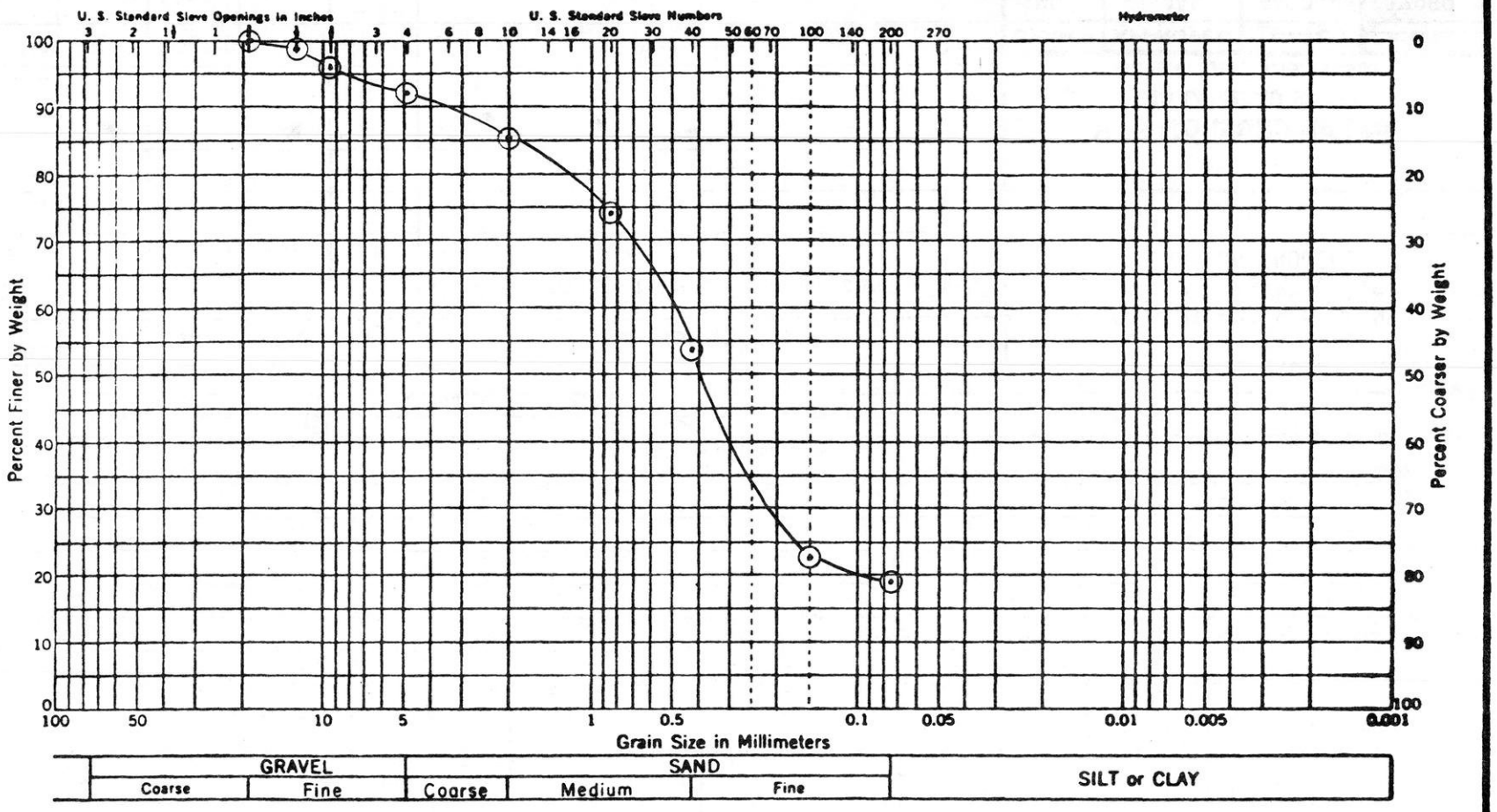
EXXON MINERALS COMPANY
GRAIN SIZE ANALYSIS
CRANDON PROJECT

STS Consultants Ltd.
540 LAMBEAU STREET
GREEN BAY, WIS. 54303

DRAWN	APPROVED	DATE	JOB No.
SMD	JAS	6-10-84	12959

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UNIFIED CLASSIFICATION SYSTEM



SAMPLE NO.	W.C.	LL	PL	PI	CLASSIFICATION
G41 K17					Silty fine to coarse sand (SM)
S16					
74-74.4'					

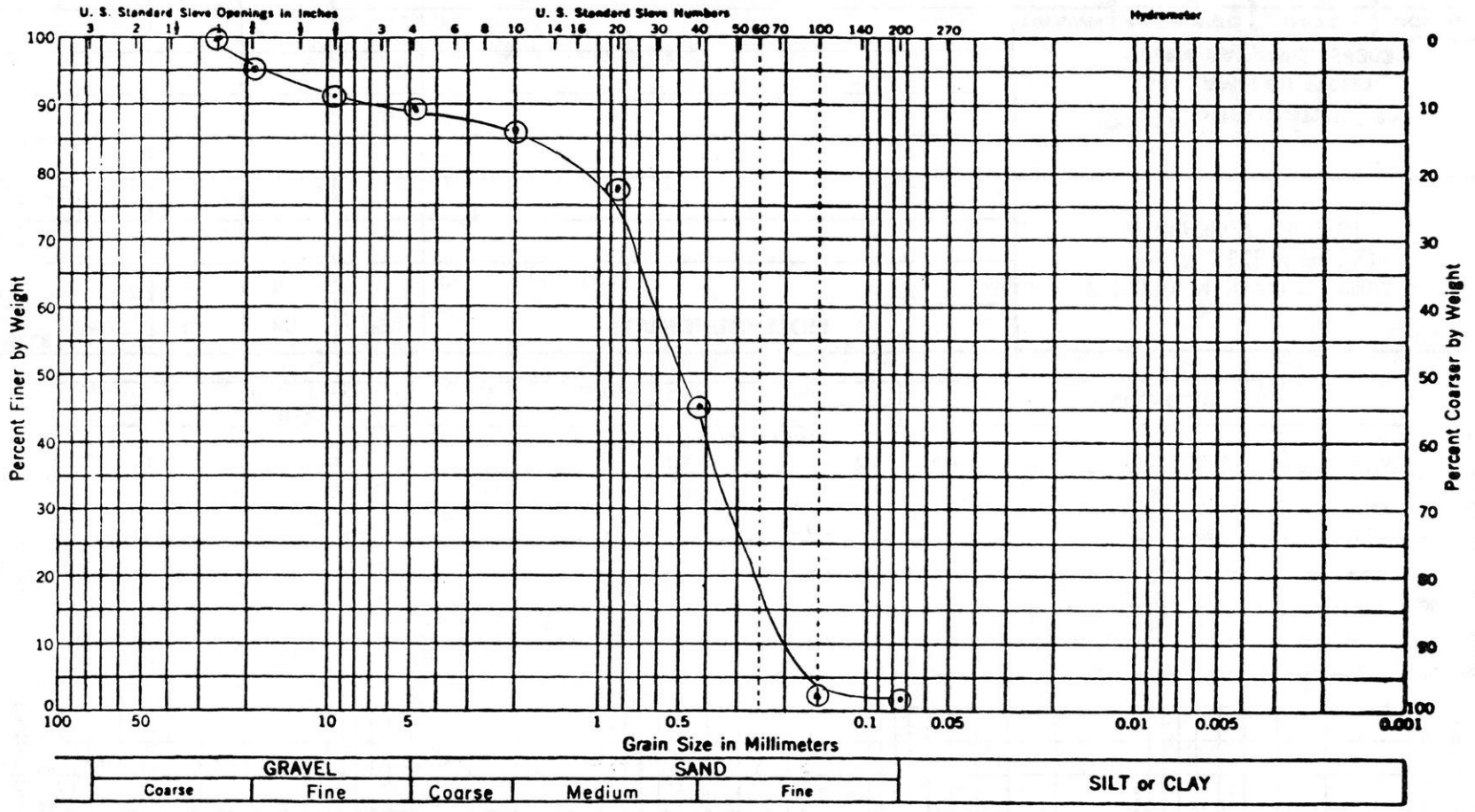
EXXON MINERALS COMPANY
GRAIN SIZE ANALYSIS
CRANDON PROJECT

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540 LAMBEAU STREET
GREEN BAY, WIS. 54303

DRAWN	APPROVED	DATE	JOB No.
SMD	JAS	6-10-84	12959

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UNIFIED CLASSIFICATION SYSTEM



SAMPLE NO.	W.C.	LL	PL	PI	CLASSIFICATION
G41 M11					Fine to coarse sand (SP)
SA-2					
10-12'					

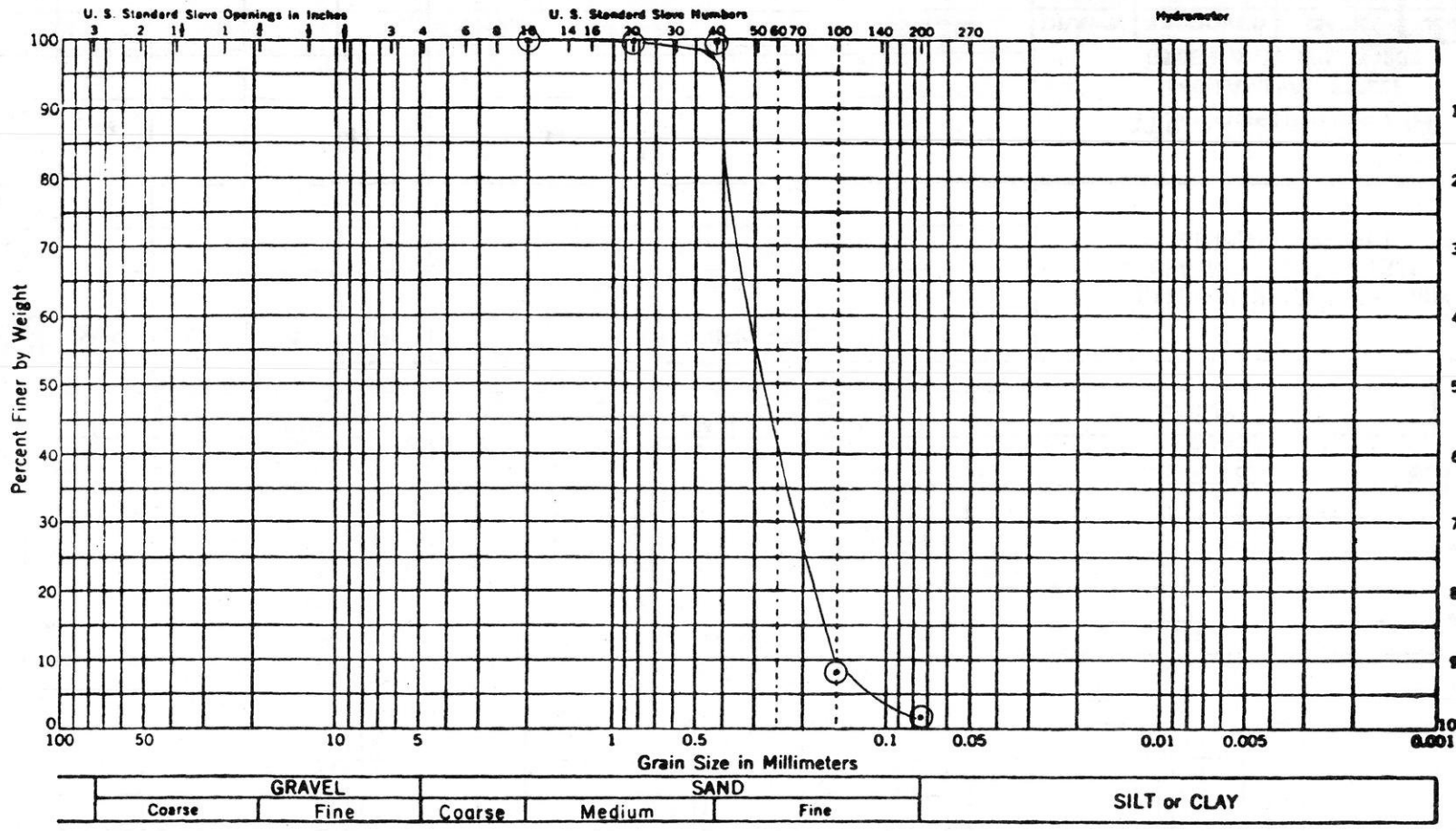
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CRANDON PROJECT

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540 LAMBEAU STREET
GREEN BAY, WIS. 54303

DRAWN	APPROVED	DATE	JOB No.
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UNIFIED CLASSIFICATION SYSTEM



SAMPLE NO.	W.C.	LL	PL	PI	CLASSIFICATION
G41 M11					Fine sand (SP)
SA-5					
38.5-40'					

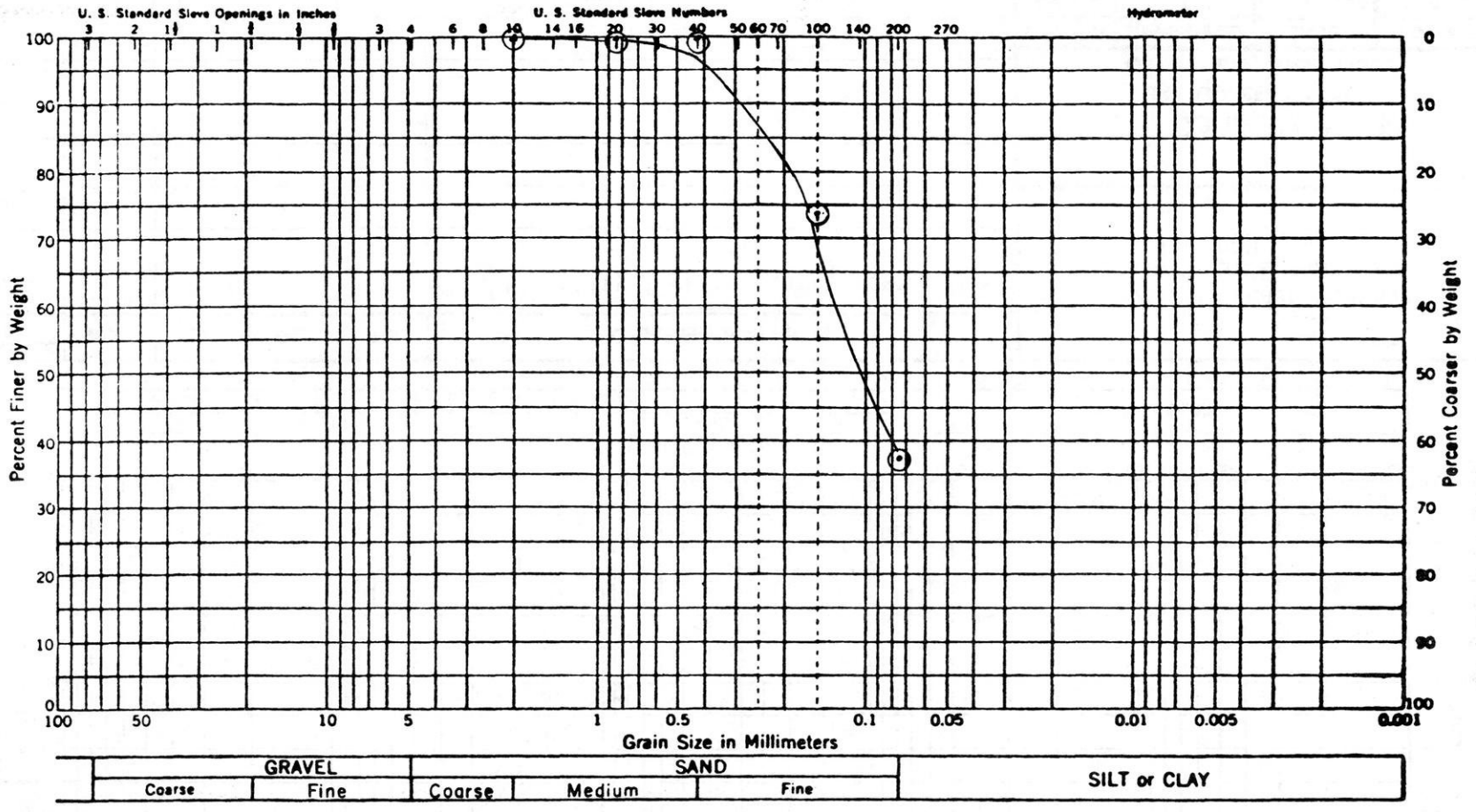
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CRANDON PROJECT

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GREEN BAY, WIS. 54303

DRAWN	APPROVED	DATE	JOB No.
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UNIFIED CLASSIFICATION SYSTEM



SAMPLE NO.	W.C.	LL	PL	PI	CLASSIFICATION
G41 M11					Silty fine sand (SM)
SA-8					
68-70'					

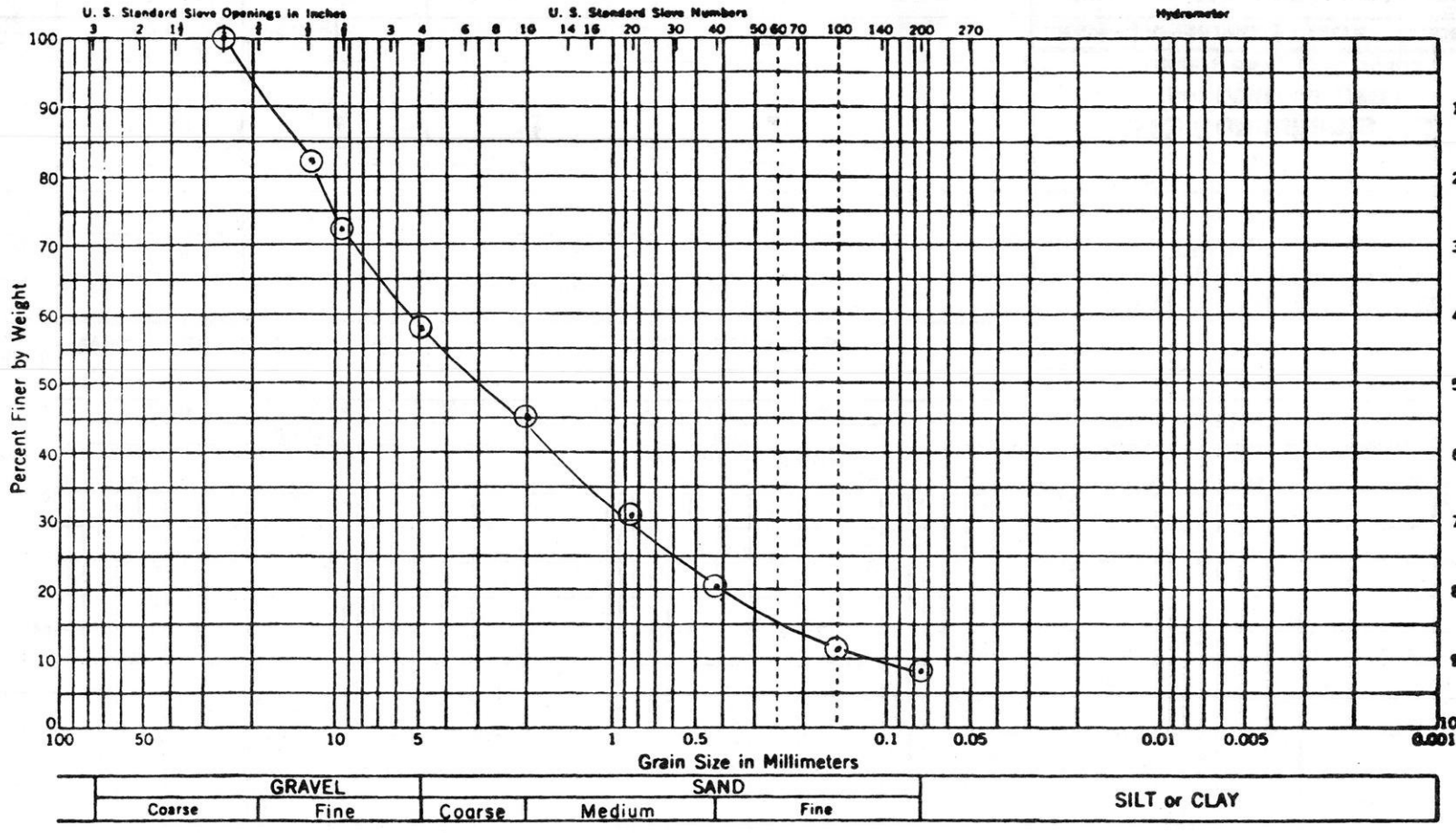
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CRANDON PROJECT

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540 LAMBEAU STREET
GREEN BAY, WIS. 54303

DRAWN	APPROVED	DATE	JOB No.
SMD	JAS	5-18-84	12959

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UNIFIED CLASSIFICATION SYSTEM



SAMPLE NO.	W.C.	LL	PL	PI	CLASSIFICATION
G41 M15					Slightly silty fine to coarse sand (SM-SP)
S5					
40-41'					

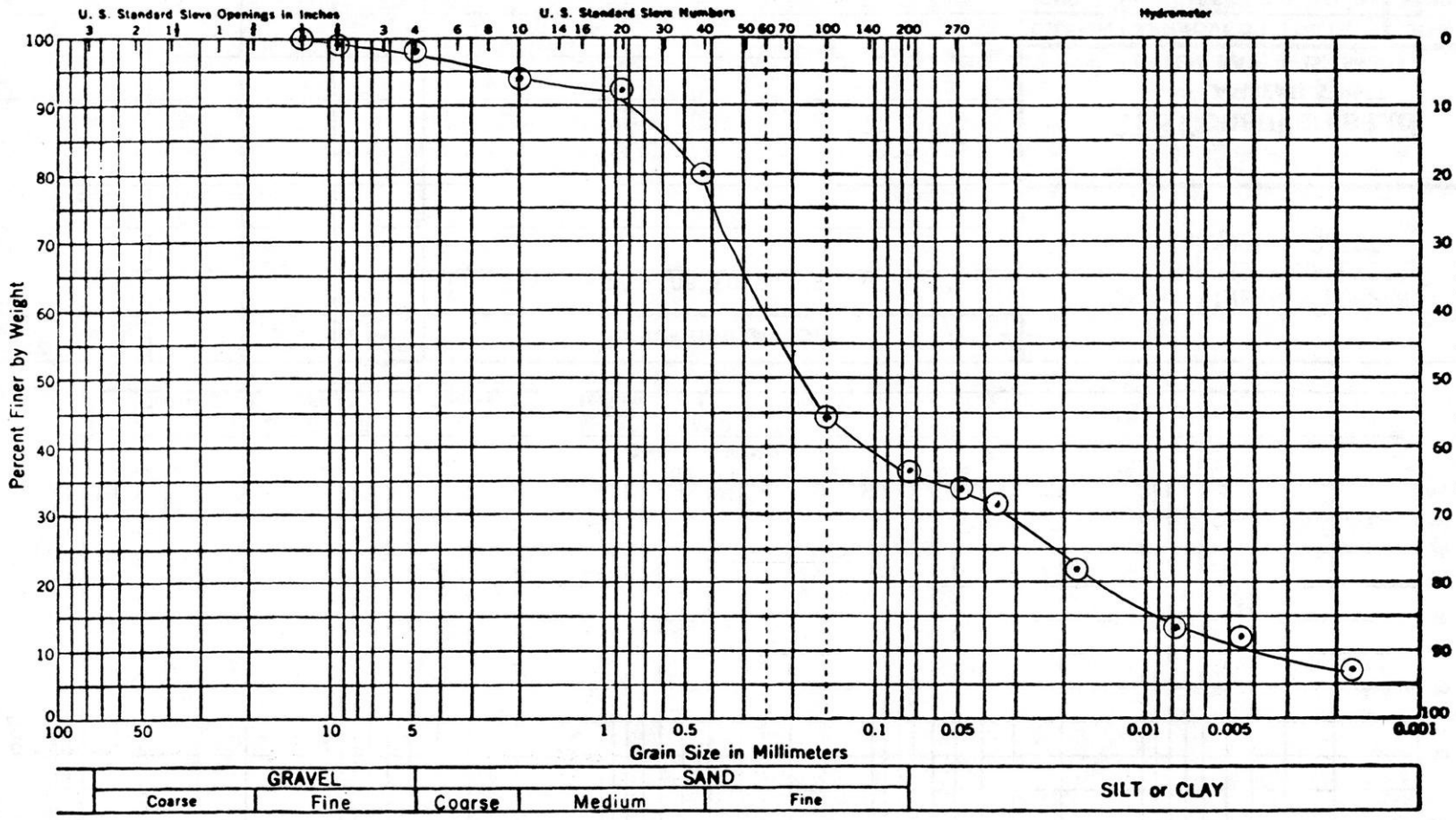
EXXON MINERALS COMPANY
GRAIN SIZE ANALYSIS
CRANDON PROJECT

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540 LAMBEAU STREET
GREEN BAY, WIS. 54303

DRAWN	APPROVED	DATE	JOB No.
SMD	JAS	6-10-84	12959

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UNIFIED CLASSIFICATION SYSTEM



SAMPLE NO.	W.C.	LL	PL	PI	CLASSIFICATION
G41 M15					Silty fine to medium sand (SM)
S10					
90-91	5'				

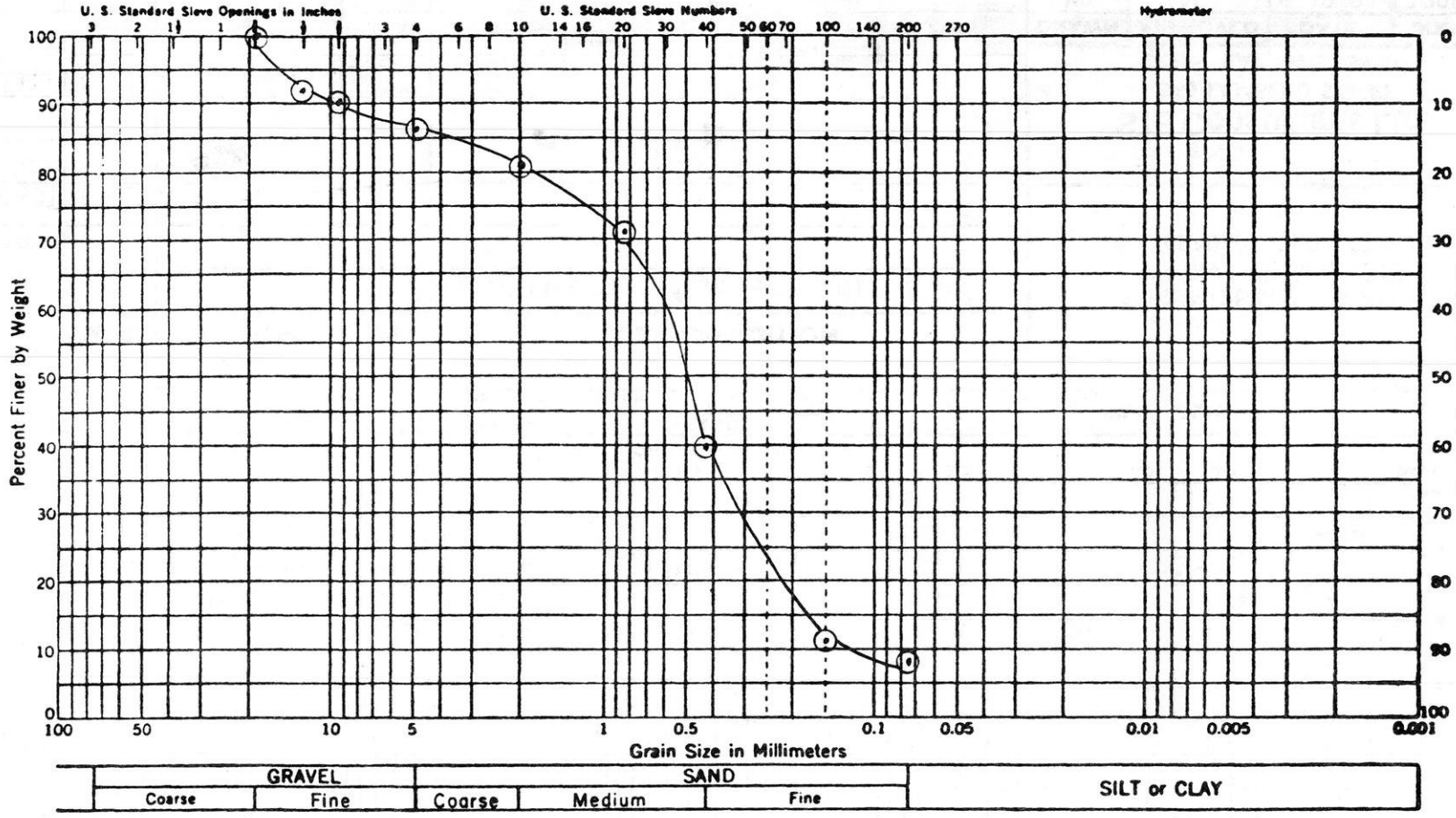
EXXON MINERALS COMPANY
GRAIN SIZE ANALYSIS
CRANDON PROJECT

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540 LAMBEAU STREET
GREEN BAY, WIS. 54303

DRAWN	APPROVED	DATE	JOB No.
SMD	JAS	6-10-84	12959

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UNIFIED CLASSIFICATION SYSTEM



SAMPLE NO.	W.C.	LL	PL	PI	CLASSIFICATION
G41 M15					Slightly silty fine to coarse sand (SM-SP)
S13					
121-122.5'					

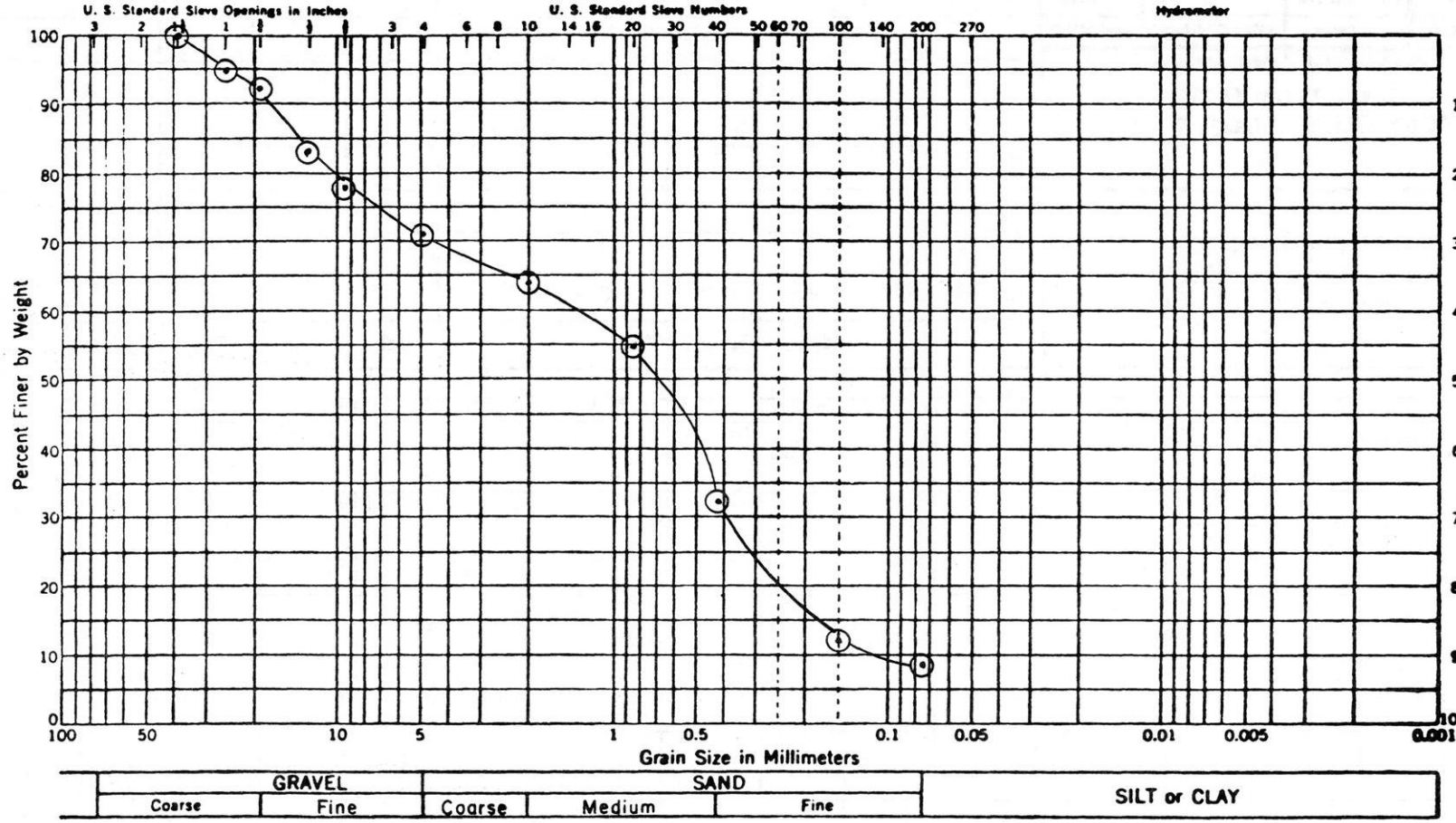
EXXON MINERALS COMPANY
GRAIN SIZE ANALYSIS
CRANDON PROJECT

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540 LAMBEAU STREET
GREEN BAY, WIS. 54303

DRAWN	APPROVED	DATE	JOB No.
SMD	JAS	6-10-84	12959

BBS09302

UNIFIED CLASSIFICATION SYSTEM



SAMPLE NO.	W.C.	LL	PL	PI	CLASSIFICATION
G41 M15					Slightly silty fine to coarse sand (SM-SP)
S16					
150-151.5'					

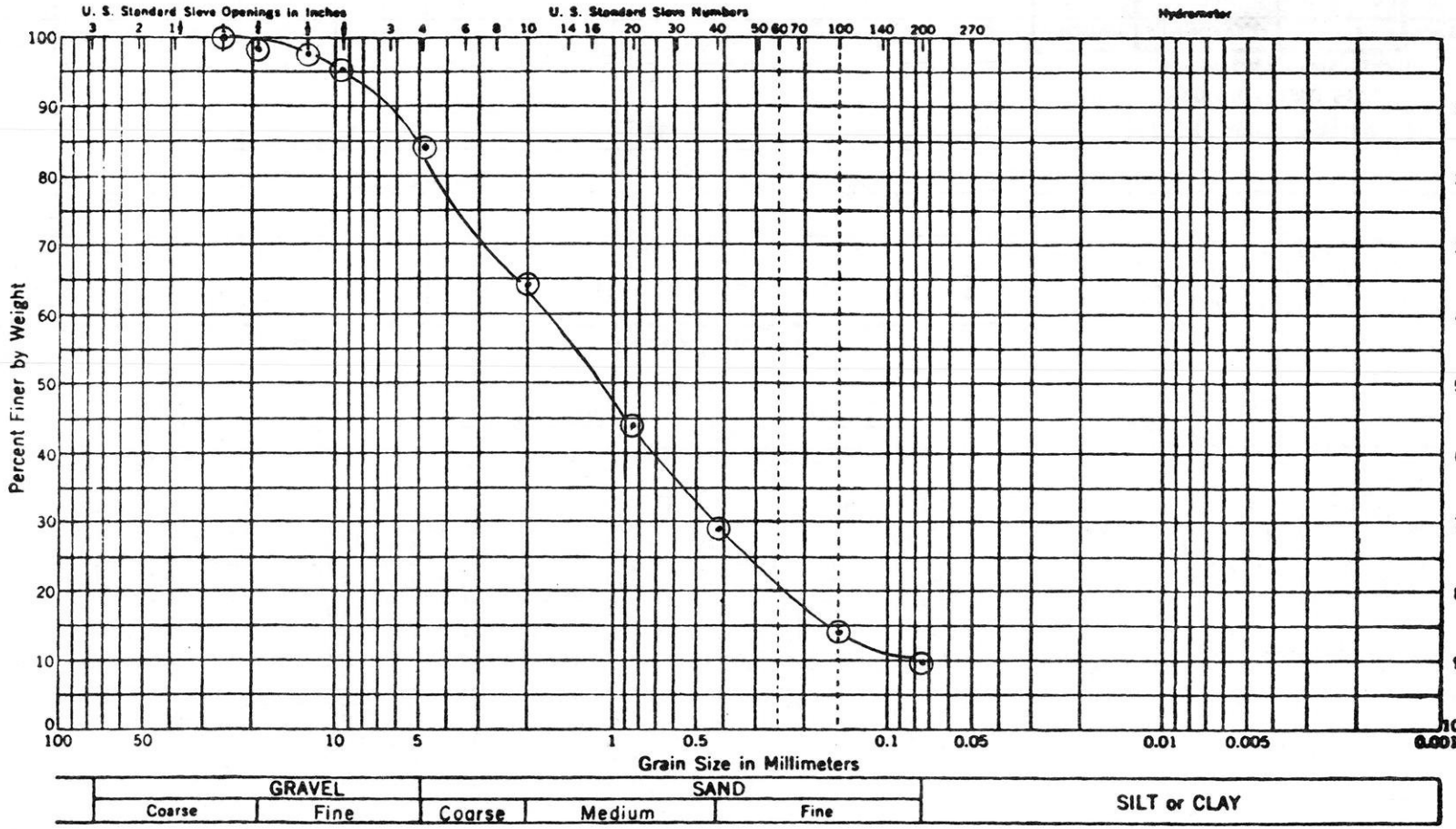
EXXON MINERALS COMPANY
GRAIN SIZE ANALYSIS
CRANDON PROJECT

STS Consultants Ltd.
540 LAMBEAU STREET
GREEN BAY, WIS. 54303

DRAWN	APPROVED	DATE	JOB No.
SMD	JAS	6-10-84	12959

BBS09302

UNIFIED CLASSIFICATION SYSTEM



SAMPLE NO.	W.C.	LL	PL	PI	CLASSIFICATION
G41 M15					Slightly silty fine to coarse sand (SM-SP)
S18					
170-171.5'					

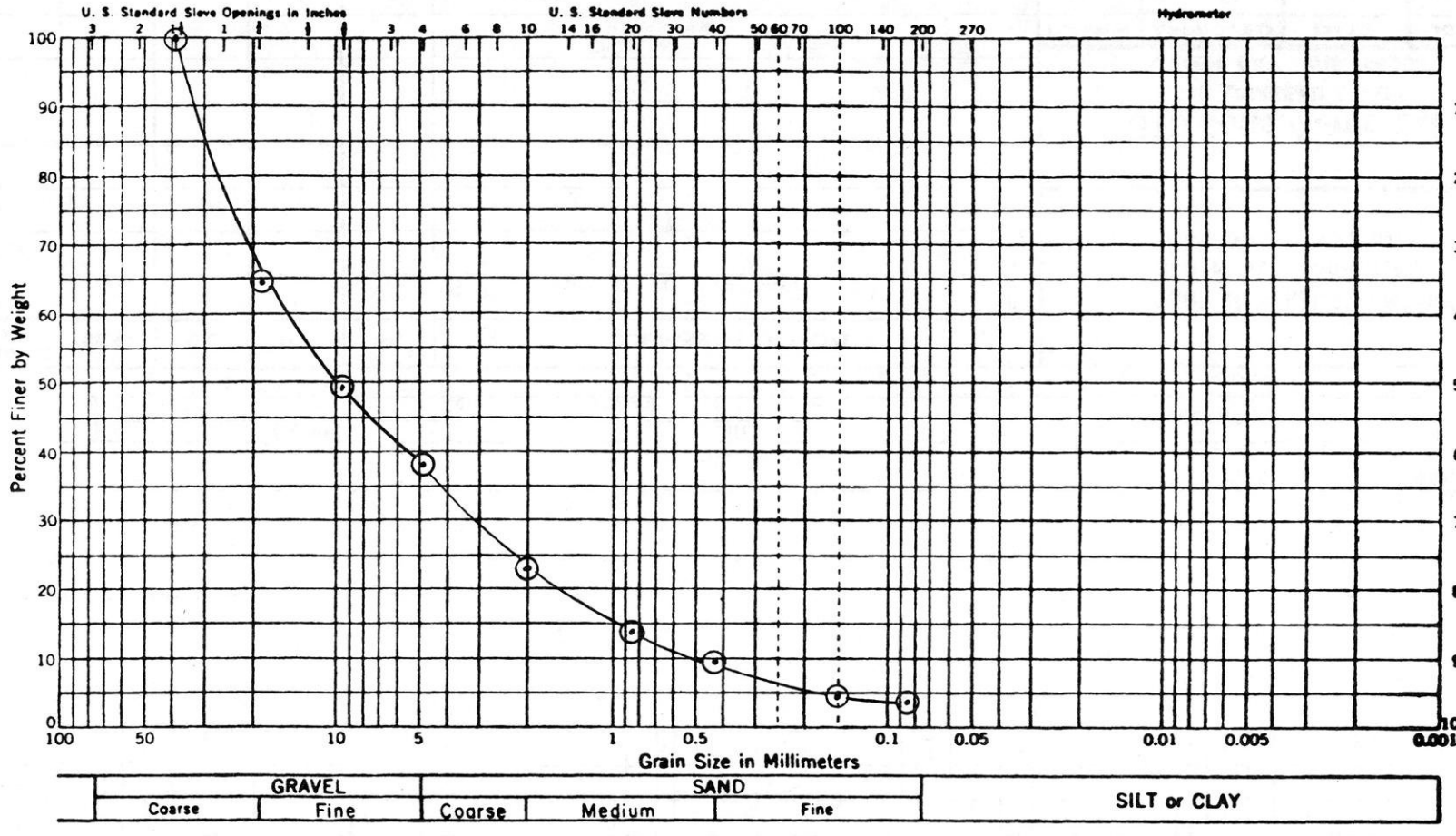
EXXON MINERALS COMPANY
GRAIN SIZE ANALYSIS
CRANDON PROJECT

STS Consultants Ltd.
540 LAMBEAU STREET
GREEN BAY, WIS. 54303

DRAWN	APPROVED	DATE	JOB No.
SMD	JAS	6-10-84	12959

BBS09302

UNIFIED CLASSIFICATION SYSTEM



SAMPLE NO.	W.C.	LL	PL	PI	CLASSIFICATION
G41 P16					Fine gravel (GP)
SA-4					
30-31.5'					

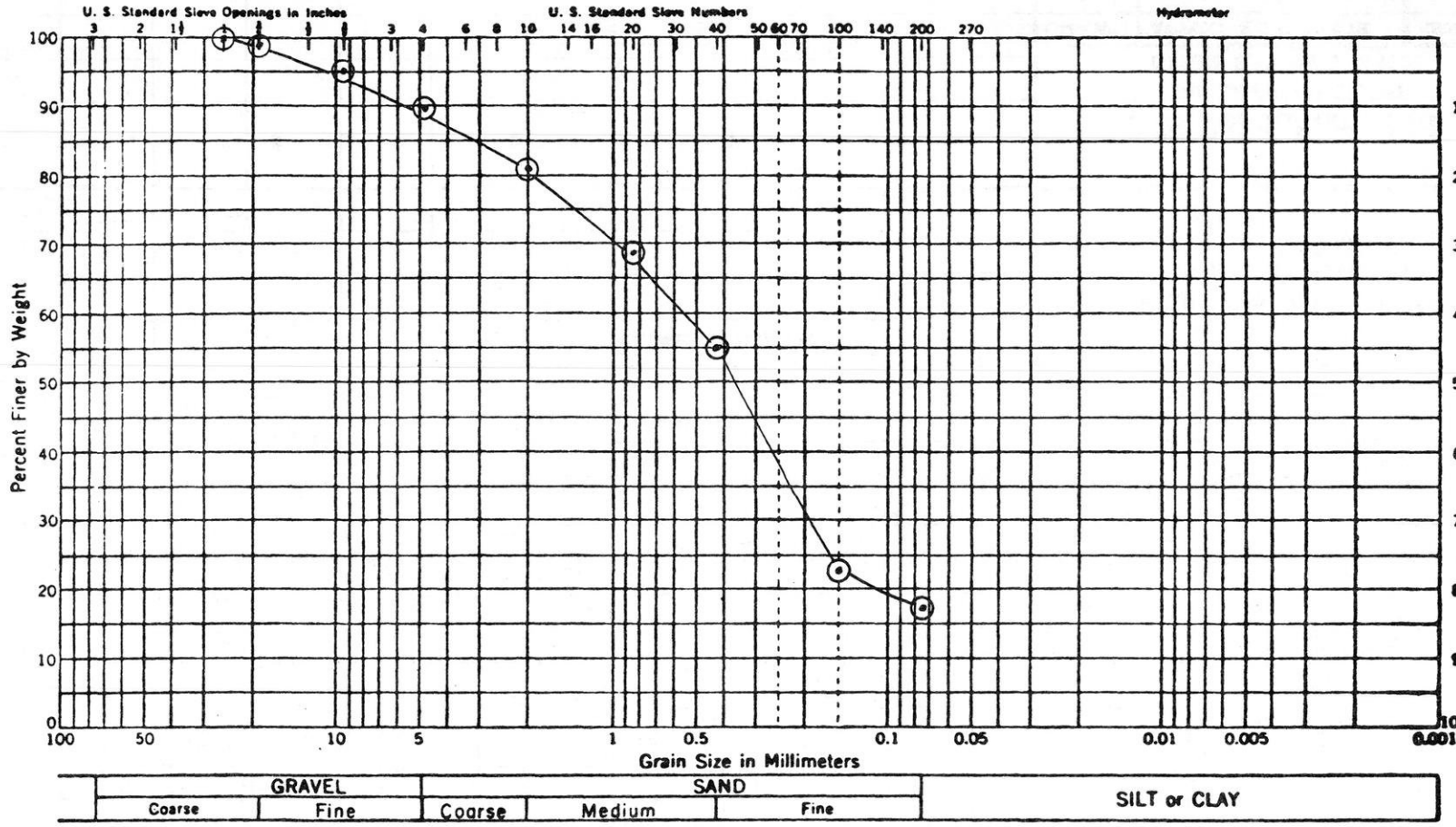
EXXON MINERALS COMPANY
GRAIN SIZE ANALYSIS
CRANDON PROJECT

STS Consultants Ltd.
540 LAMBEAU STREET
GREEN BAY, WIS. 54303

DRAWN	APPROVED	DATE	JOB No.
SMD	JAS	5-18-84	12959

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UNIFIED CLASSIFICATION SYSTEM



SAMPLE NO.	W.C.	LL	PL	PI	CLASSIFICATION
G41 P16					Silty fine to coarse sand (SM)
SA-6					
50-51.5'					

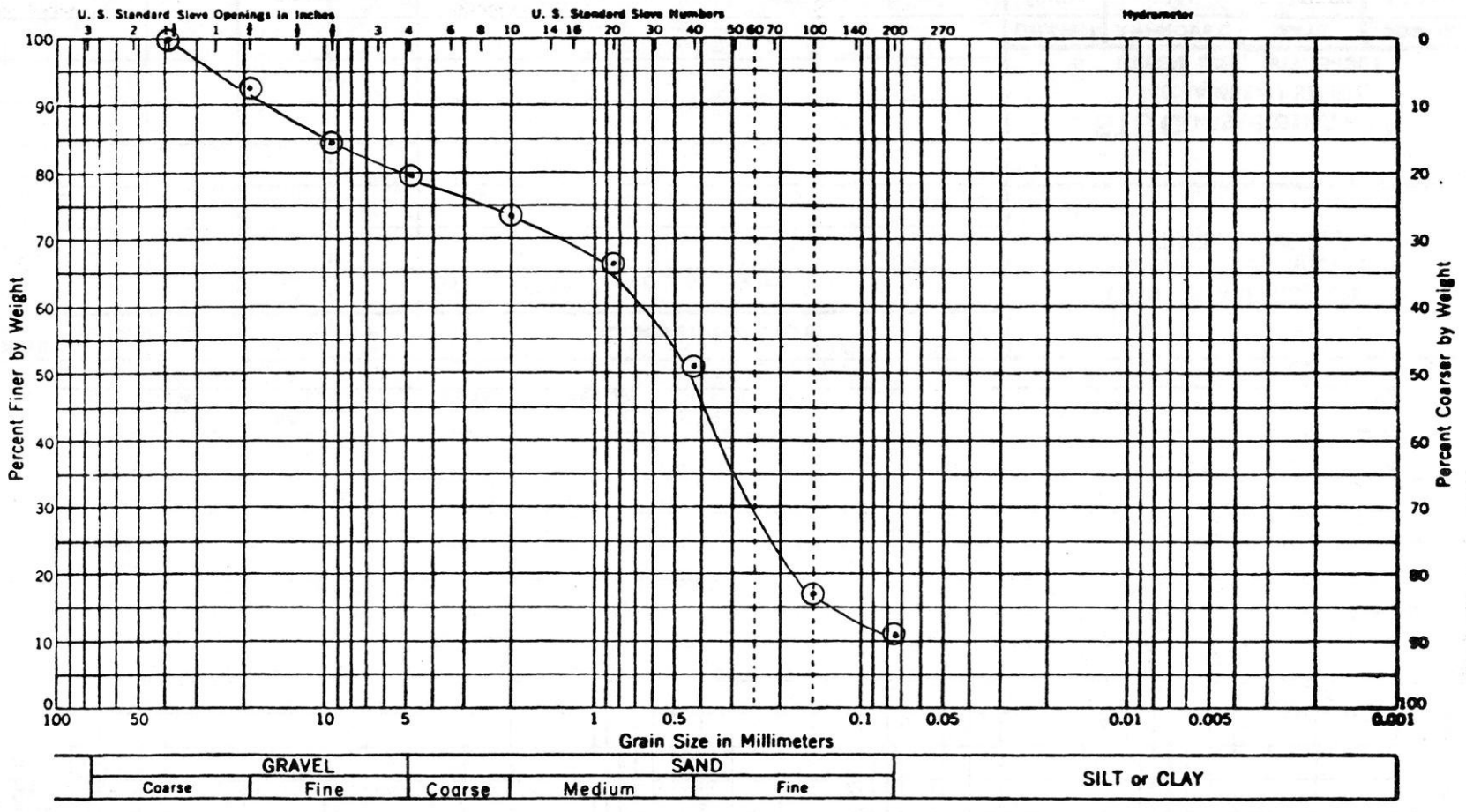
EXXON MINERALS COMPANY
GRAIN SIZE ANALYSIS
CRANDON PROJECT

STS Consultants Ltd.
540 LAMBEAU STREET
GREEN BAY, WIS. 54303

DRAWN	APPROVED	DATE	JOB No.
SMD	JAS	5-18-84	12959

BBS09302

UNIFIED CLASSIFICATION SYSTEM



SAMPLE NO.	W.C.	LL	PL	PI	CLASSIFICATION
G41 P16					Slightly silty fine to coarse sand (SM-SP)
SA-9					
80-81.5'					

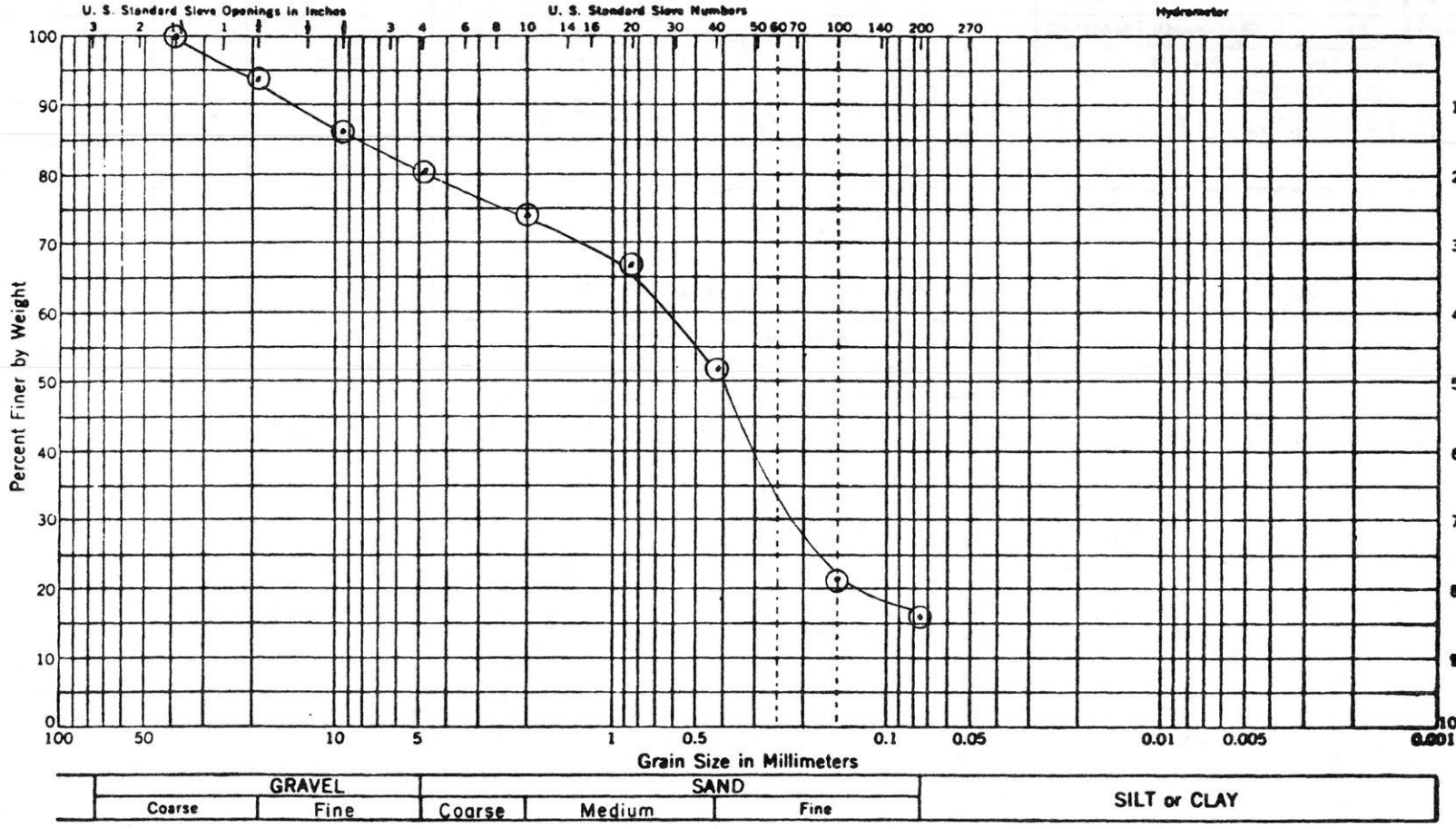
EXXON MINERALS COMPANY
GRAIN SIZE ANALYSIS
CRANDON PROJECT

STS Consultants Ltd.
540 LAMBEAU STREET
GREEN BAY, WIS. 54303

DRAWN	APPROVED	DATE	JOB No.
SMD	JAS	5-18-84	12959

BBS09302

UNIFIED CLASSIFICATION SYSTEM



SAMPLE NO.	W.C.	LL	PL	PI	CLASSIFICATION
G41 P16					Silty fine to coarse sand (SM)
SA-10					
90-91.5'					

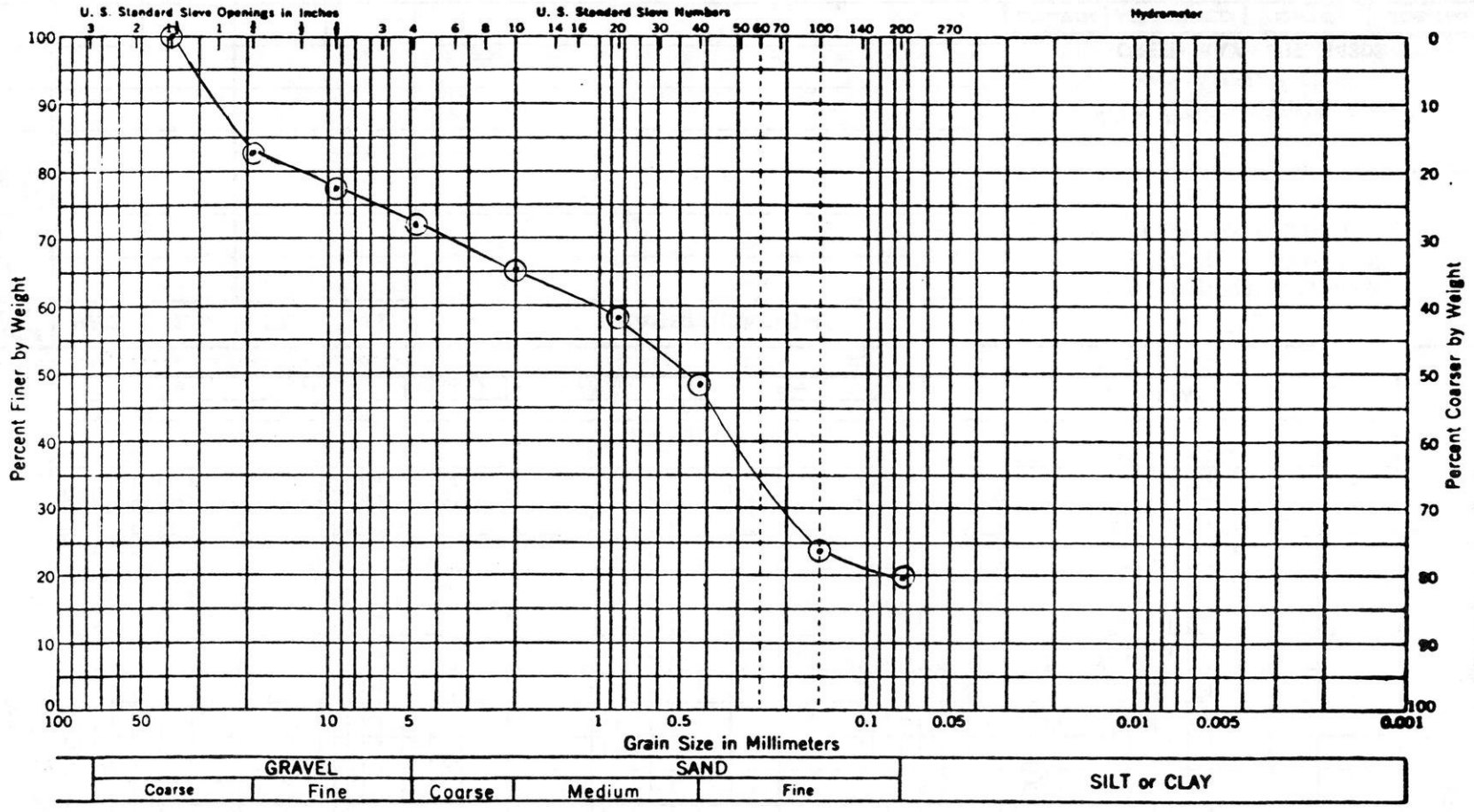
EXXON MINERALS COMPANY
GRAIN SIZE ANALYSIS
CRANDON PROJECT

STS Consultants Ltd.
540 LAMBEAU STREET
GREEN BAY, WIS. 54303

DRAWN	APPROVED	DATE	JOB No.
SMD	JAS	5-18-84	12959

BBS09302

UNIFIED CLASSIFICATION SYSTEM



SAMPLE NO.	W.C.	LL	PL	PI	CLASSIFICATION
G41 P16					Silty fine to coarse sand (SM)
SA-16					
148.5-149.9'					

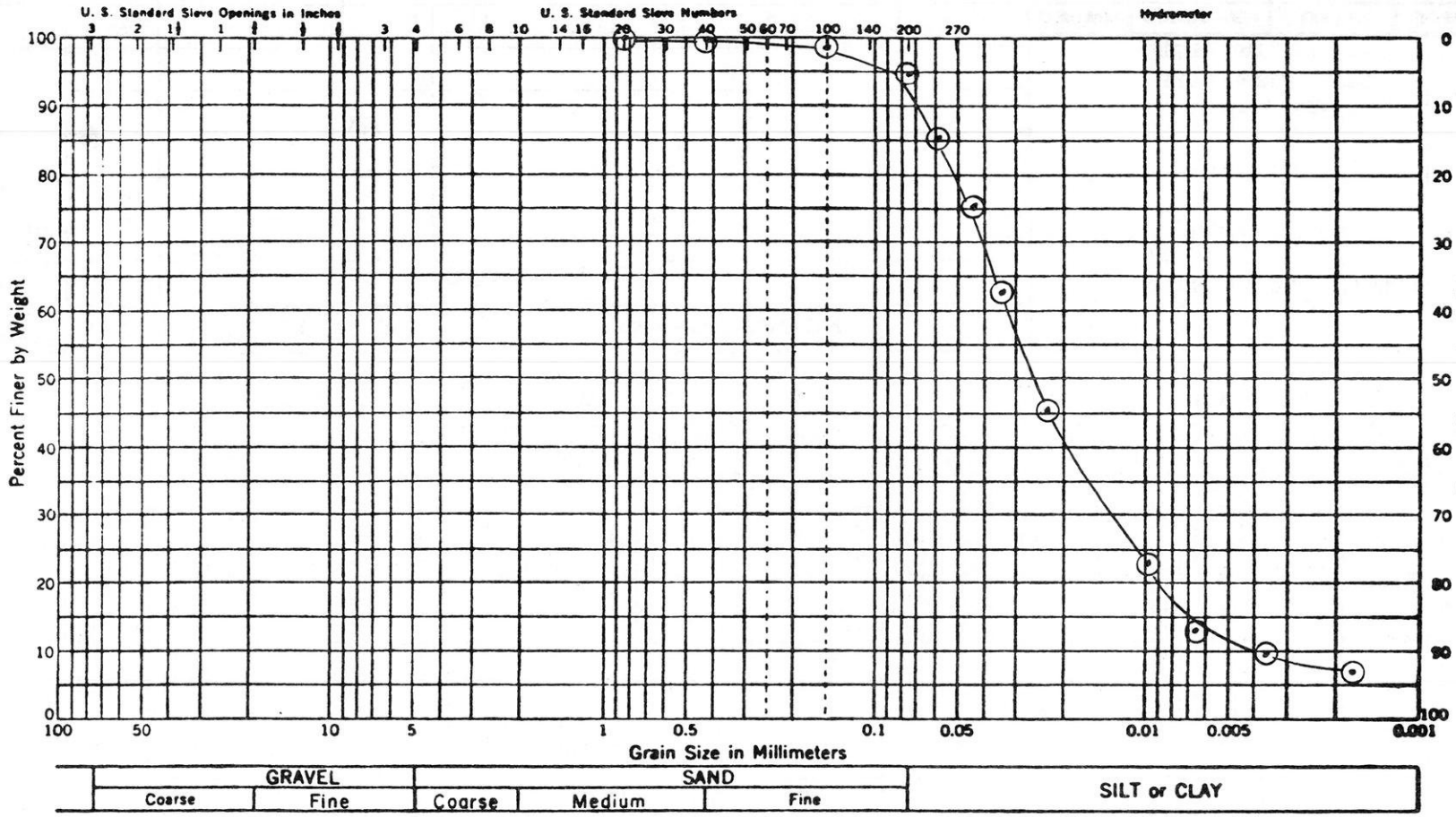
EXXON MINERALS COMPANY
GRAIN SIZE ANALYSIS
CRANDON PROJECT

STS Consultants Ltd.
540 LAMBEAU STREET
GREEN BAY, WIS. 54303

DRAWN	APPROVED	DATE	JOB No.
SMD	JAS	5-18-84	12959

BBS09302

UNIFIED CLASSIFICATION SYSTEM



SAMPLE NO.	W.C.	LL	PL	PI	CLASSIFICATION
G41 P18					Silt (ML)
S4					
15-16	5'				

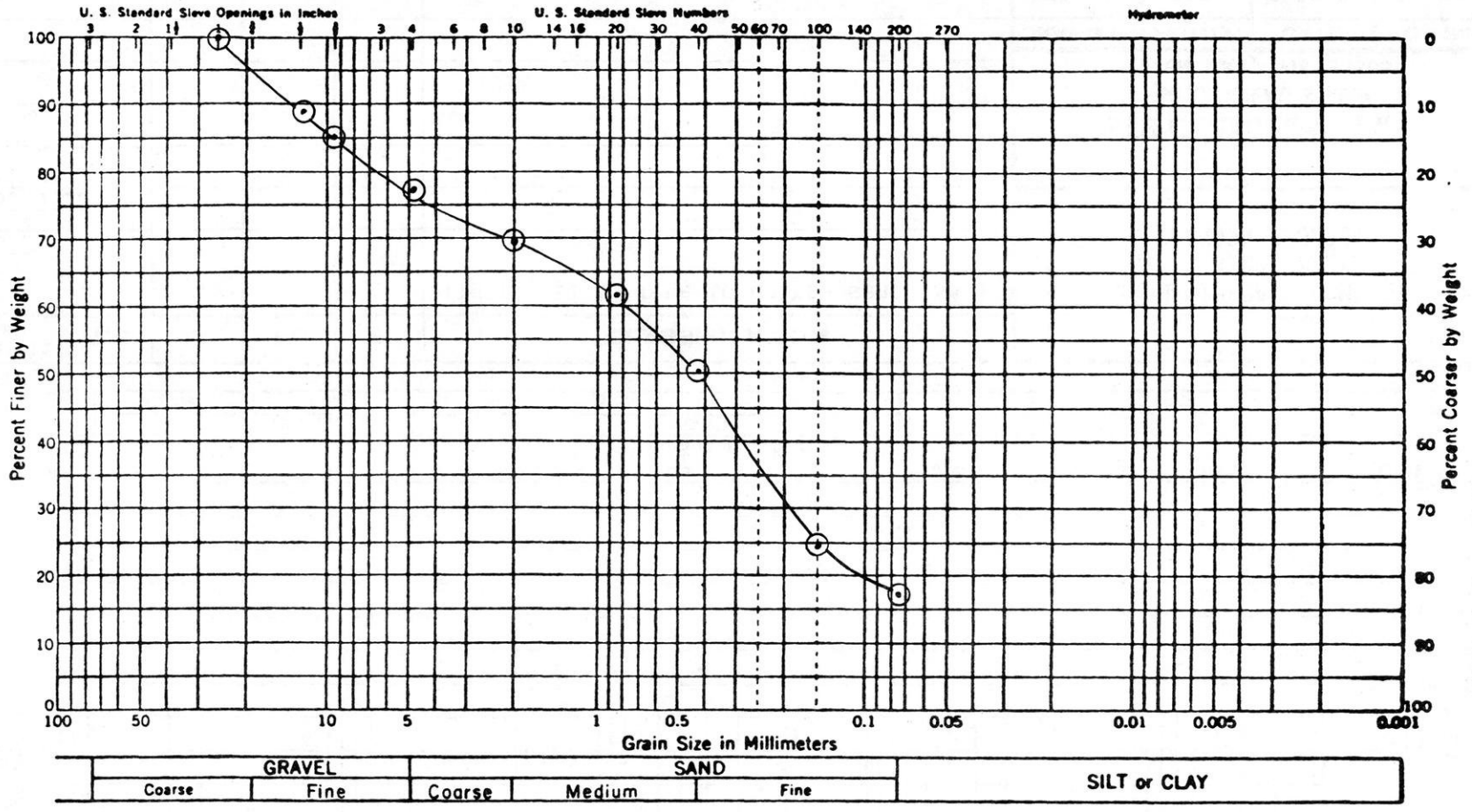
EXXON MINERALS COMPANY
GRAIN SIZE ANALYSIS
CRANDON PROJECT

STS Consultants Ltd.
540 LAMBEAU STREET
GREEN BAY, WIS. 54303

DRAWN	APPROVED	DATE	JOB No.
SMD	JAS	6-10-84	12959

BBS09302

UNIFIED CLASSIFICATION SYSTEM



SAMPLE NO.	W.C.	LL	PL	PI	CLASSIFICATION
G41 P18					Silty fine to coarse sand (SM)
S7					
30-31.5'					

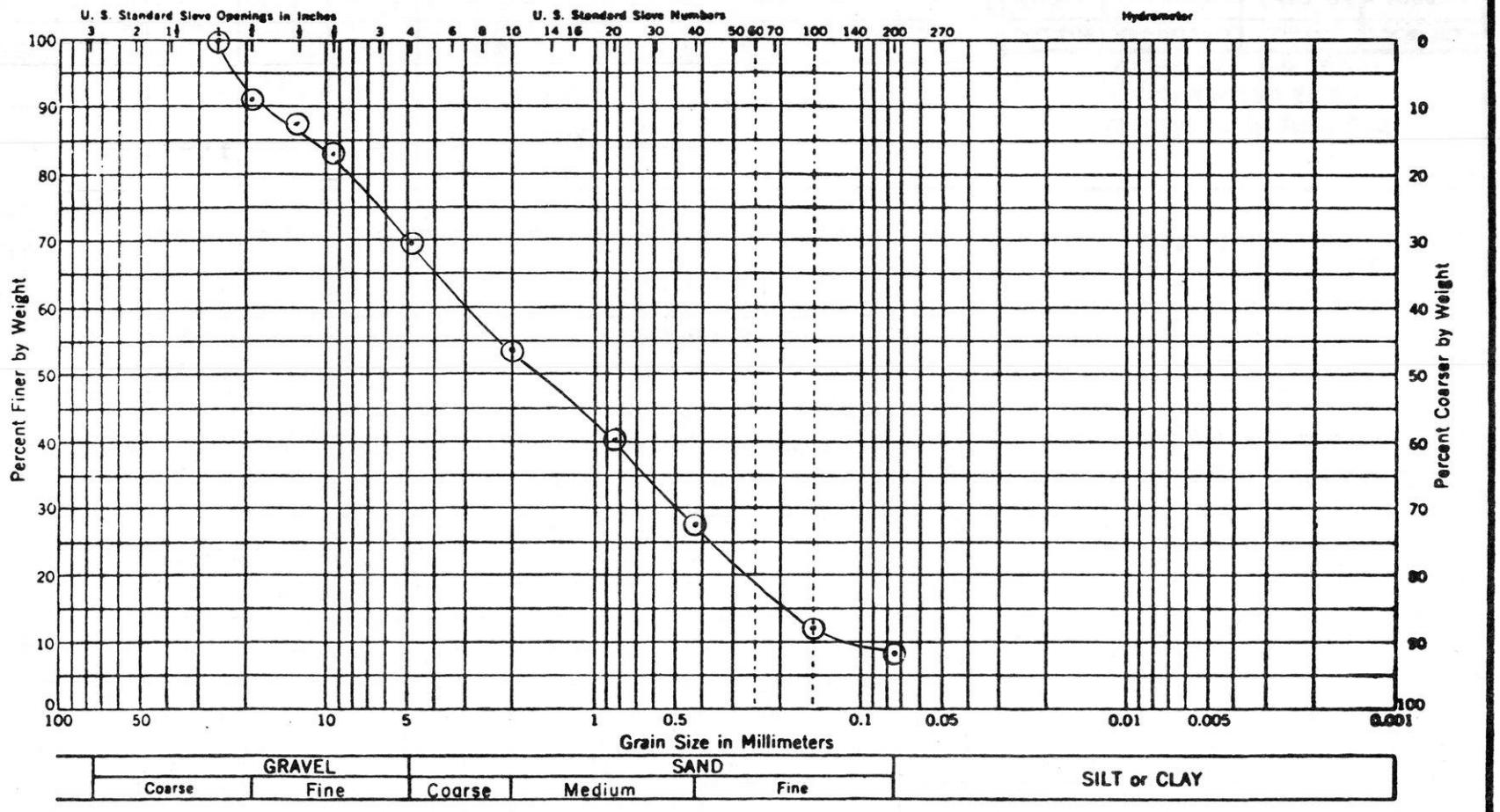
EXXON MINERALS COMPANY
GRAIN SIZE ANALYSIS
CRANDON PROJECT

STS Consultants Ltd.
540 LAMBEAU STREET
GREEN BAY, WIS. 54303

DRAWN	APPROVED	DATE	JOB No.
SMD	JAS	6-10-84	12959

BBS09302

UNIFIED CLASSIFICATION SYSTEM



SAMPLE NO.	W.C.	LL	PL	PI	CLASSIFICATION
G41 P18					Slightly silty fine to coarse sand (SM-SP)
S12					
55-56.5'					

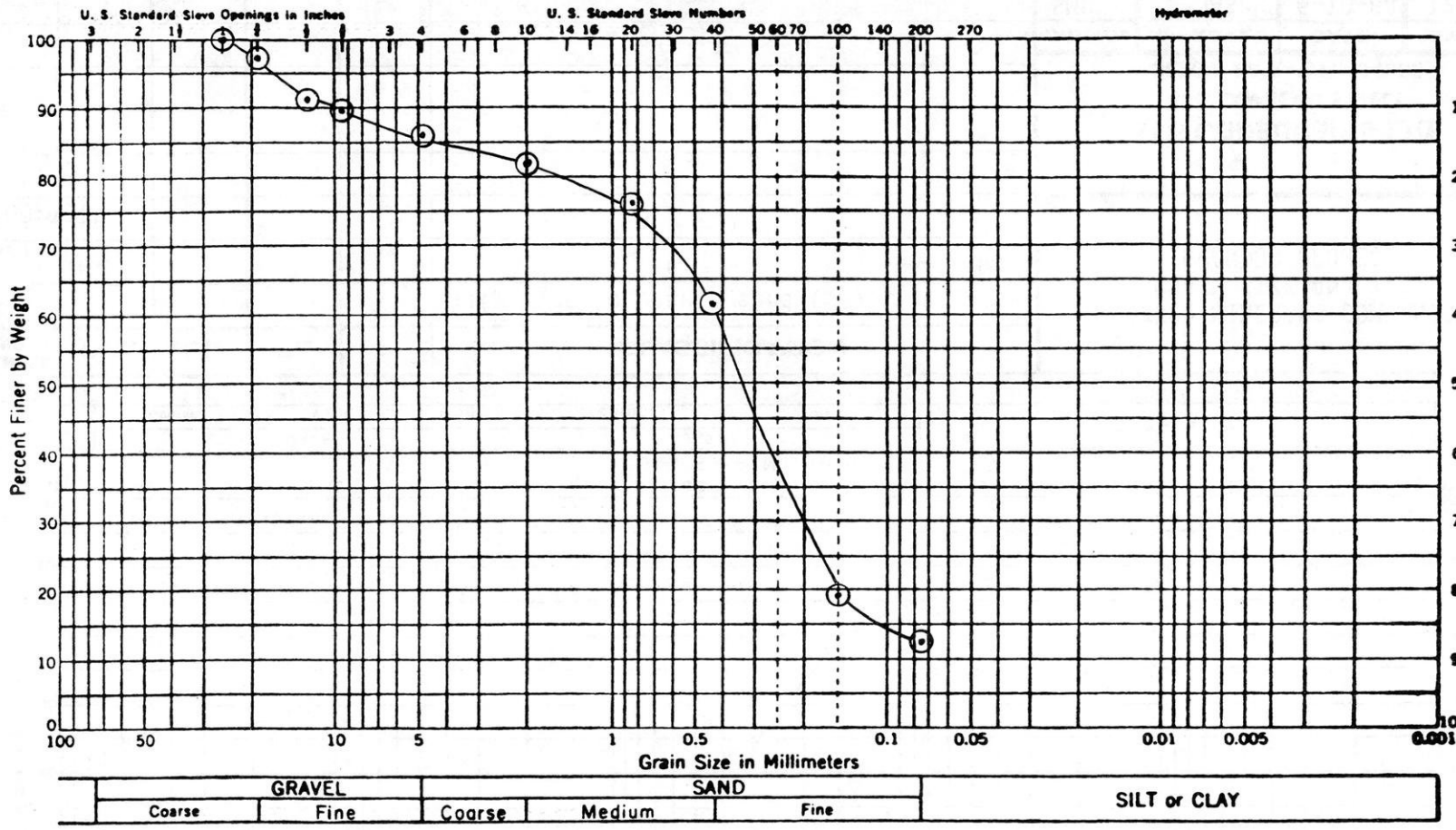
EXXON MINERALS COMPANY
GRAIN SIZE ANALYSIS
CRANDON PROJECT

STS Consultants Ltd.
540 LAMBEAU STREET
GREEN BAY, WIS. 54303

DRAWN	APPROVED	DATE	JOB No.
SMD	JAS	6-10-84	12959

BBS09302

UNIFIED CLASSIFICATION SYSTEM



SAMPLE NO.	W.C.	LL	PL	PI	CLASSIFICATION
G41 PT8					Silty fine to medium sand (SM)
SA18					
85-86.5'					

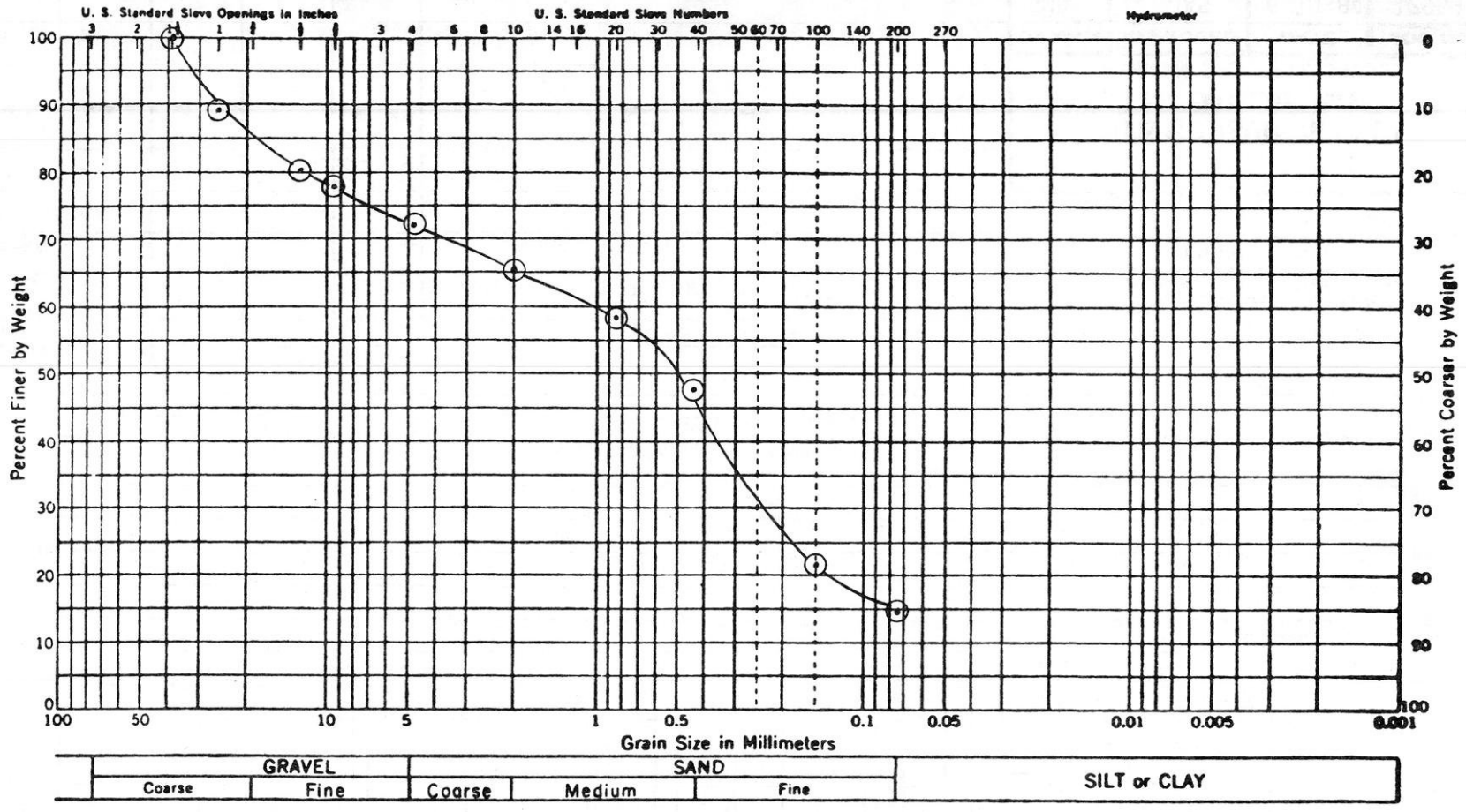
EXXON MINERALS COMPANY
GRAIN SIZE ANALYSIS
CRANDON PROJECT

STS Consultants Ltd.
540 LAMBEAU STREET
GREEN BAY, WIS. 54303

DRAWN	APPROVED	DATE	JOB No.
SMD	JAS	6-10-84	12959

BBS09302

UNIFIED CLASSIFICATION SYSTEM



SAMPLE NO.	W.C.	LL	PL	PI	CLASSIFICATION
G41 P18					Silty fine to coarse sand (SM)
S21					
100-101'					

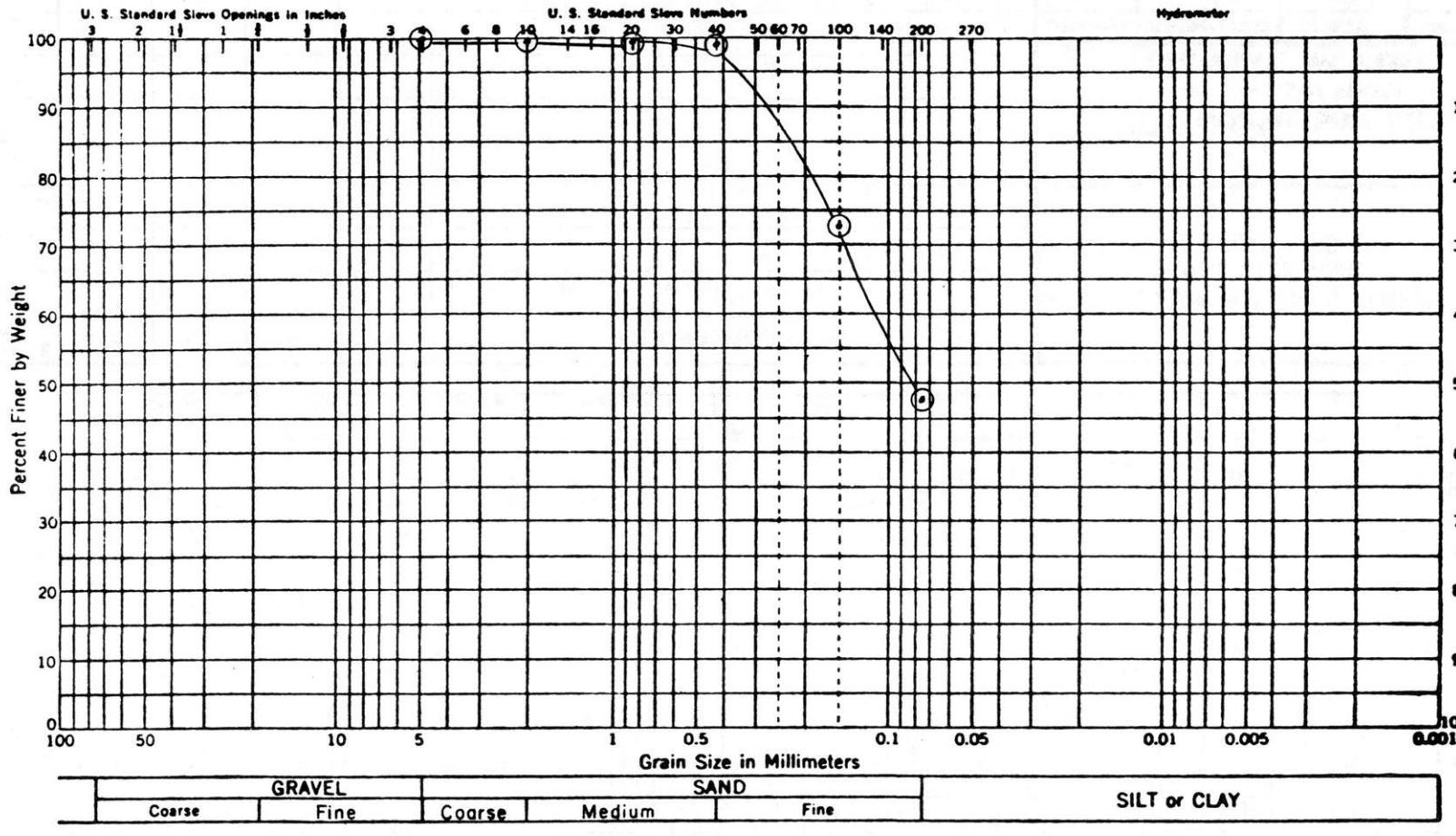
EXXON MINERALS COMPANY
GRAIN SIZE ANALYSIS
CRANDON PROJECT

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540 LAMBEAU STREET
GREEN BAY, WIS. 54303

DRAWN	APPROVED	DATE	JOB No.
SMD	JAS	6-10-84	12959

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UNIFIED CLASSIFICATION SYSTEM



SAMPLE NO.	W.C.	LL	PL	PI	CLASSIFICATION
G41 Q22					Silty fine sand (SM)
SA-3					
20.5-22'					

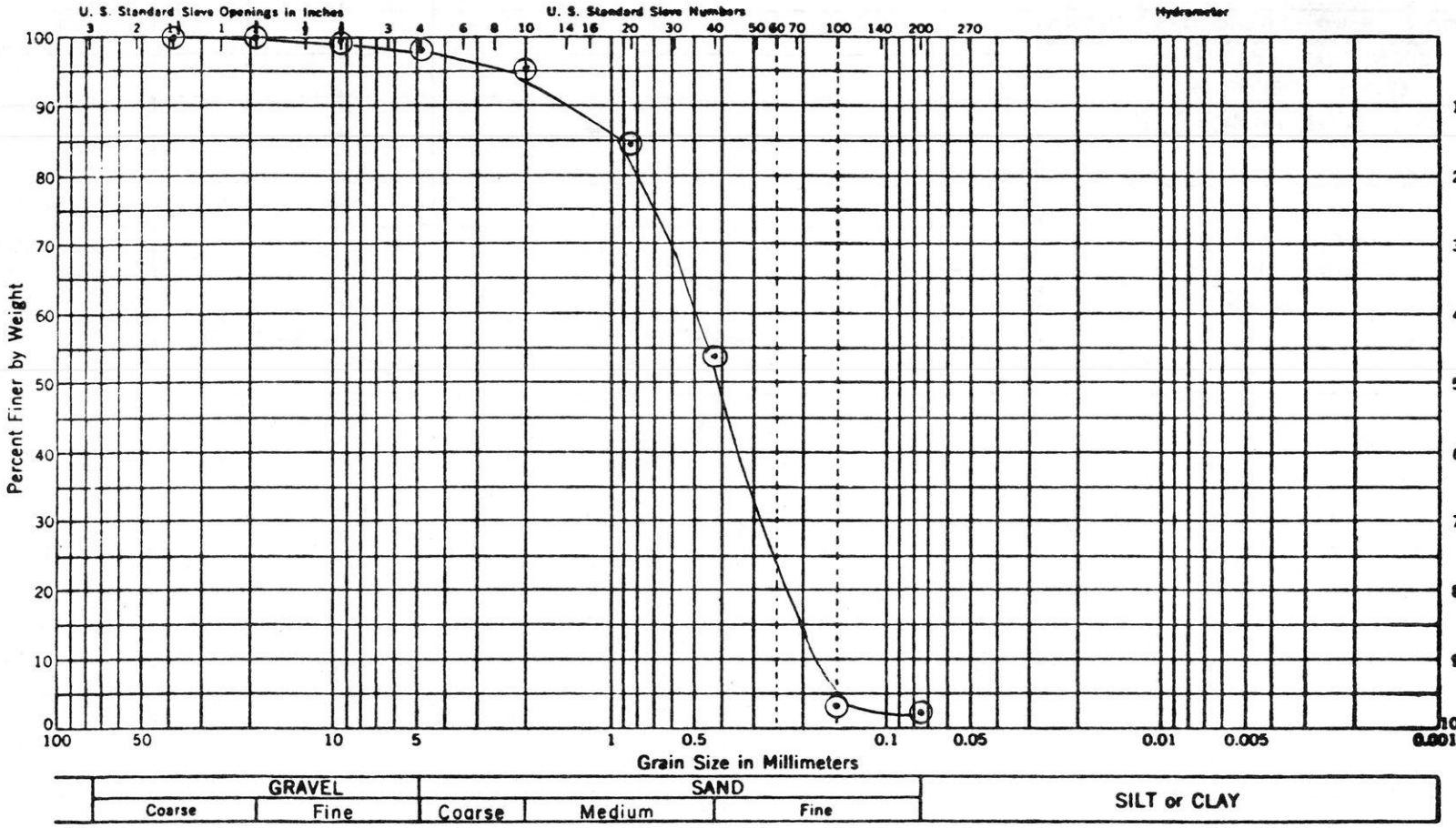
EXXON MINERALS COMPANY
GRAIN SIZE ANALYSIS
CRANDON PROJECT

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540 LAMBEAU STREET
GREEN BAY, WIS. 54303

DRAWN	APPROVED	DATE	JOB No.
SMD	JAS	5-18-84	12959

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UNIFIED CLASSIFICATION SYSTEM



SAMPLE NO.	W.C.	LL	PL	PI	CLASSIFICATION
G41 Q22					Fine to medium sand (SP)
SA-6					
48.5-50.0'					

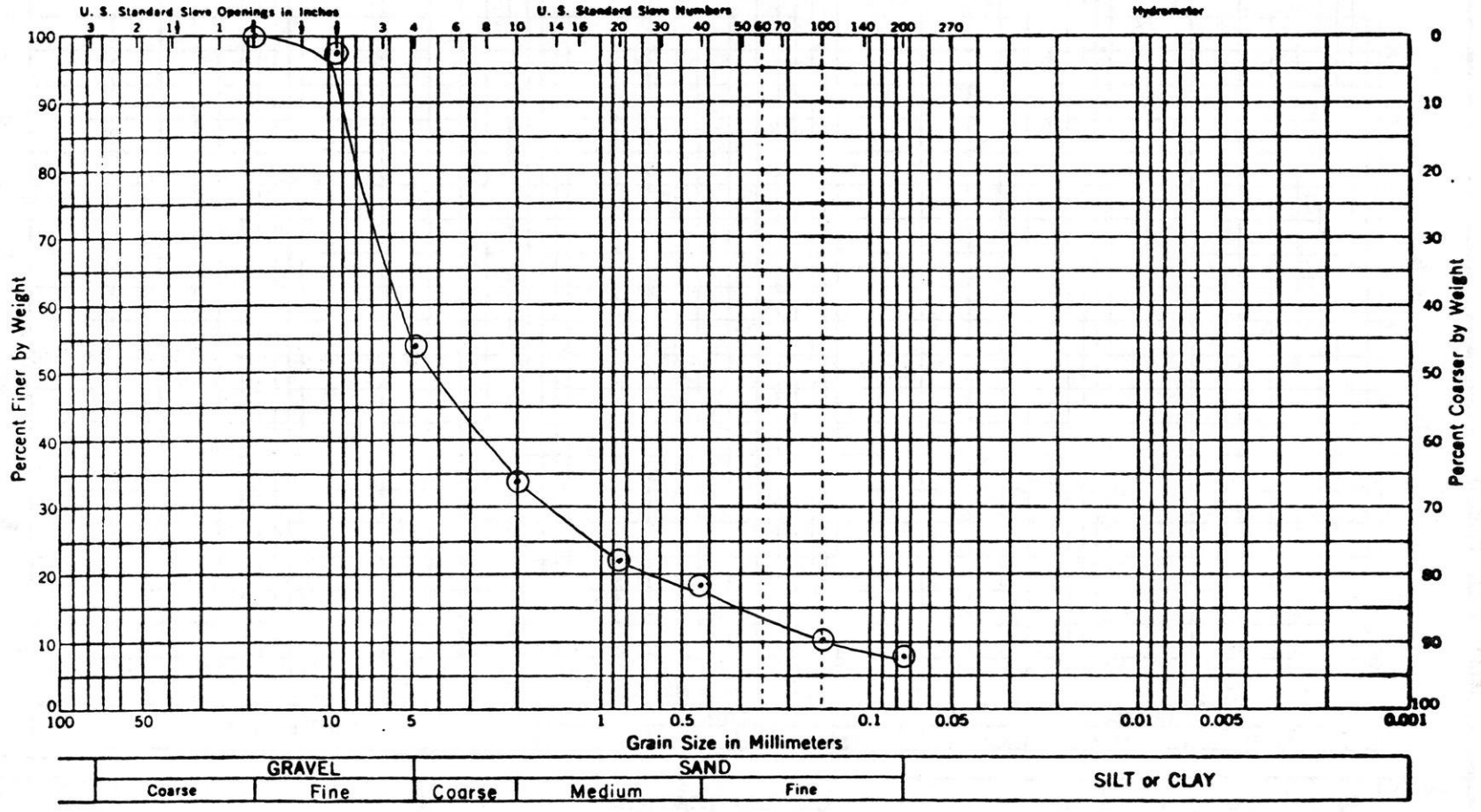
EXXON MINERALS COMPANY
GRAIN SIZE ANALYSIS
CRANDON PROJECT

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GREEN BAY, WIS. 54303

DRAWN	APPROVED	DATE	JOB No.
SMD	JAS	5-18-84	12959

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UNIFIED CLASSIFICATION SYSTEM



SAMPLE NO.	W.C.	LL	PL	PI	CLASSIFICATION
G41 022					Slightly silty fine to coarse sand (SP-SM)
SA-8					
70-71.5'					

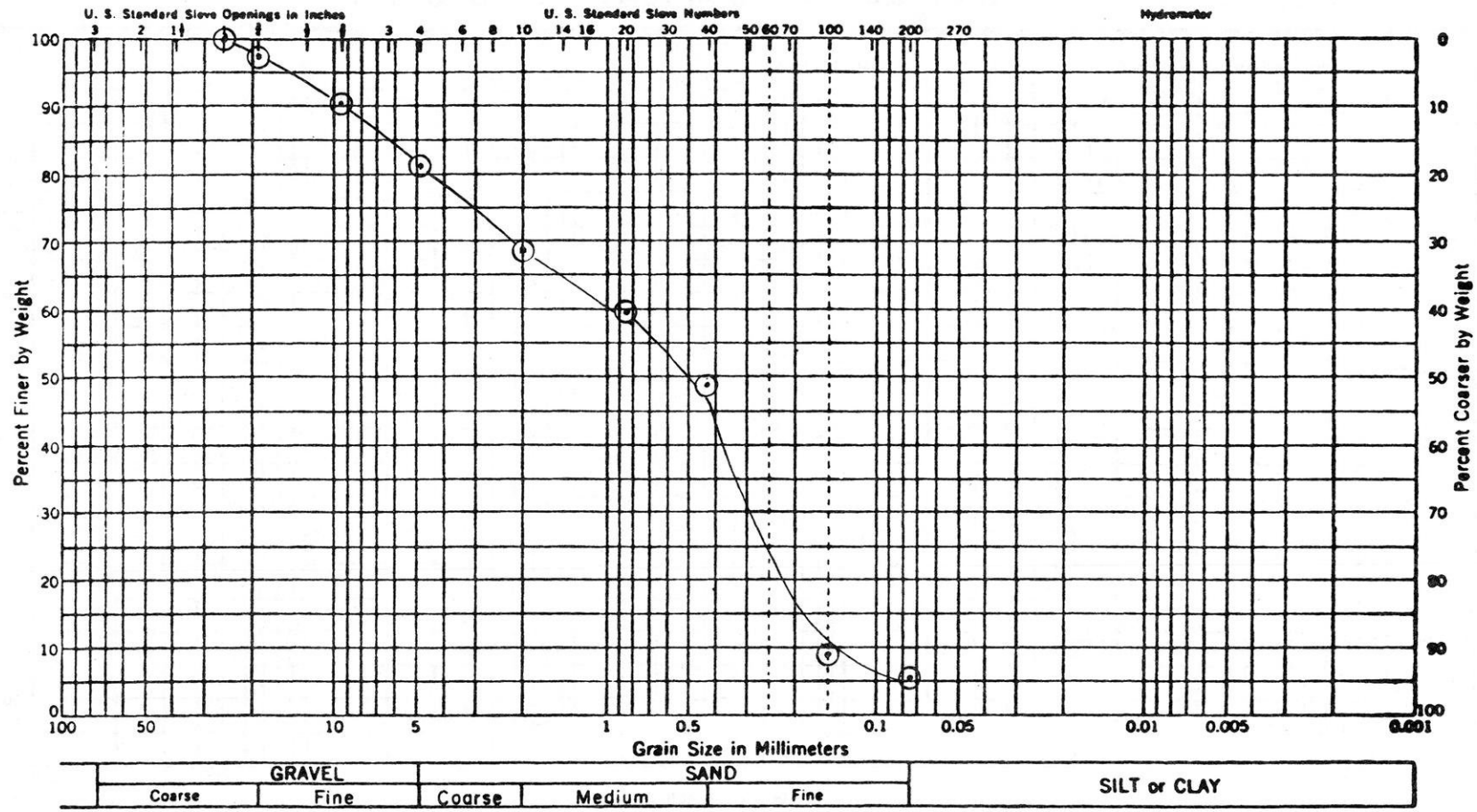
EXXON MINERALS COMPANY
GRAIN SIZE ANALYSIS
CRANDON PROJECT

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540 LAMBEAU STREET
GREEN BAY, WIS. 54303

DRAWN	APPROVED	DATE	JOB No.
SMD	JAS	5-18-84	12959

BBS09302

UNIFIED CLASSIFICATION SYSTEM



SAMPLE NO.	W.C.	LL	PL	PI	CLASSIFICATION
G41 022					Slightly silty fine to coarse sand (SM-SP)
SA-13					
123-124'					

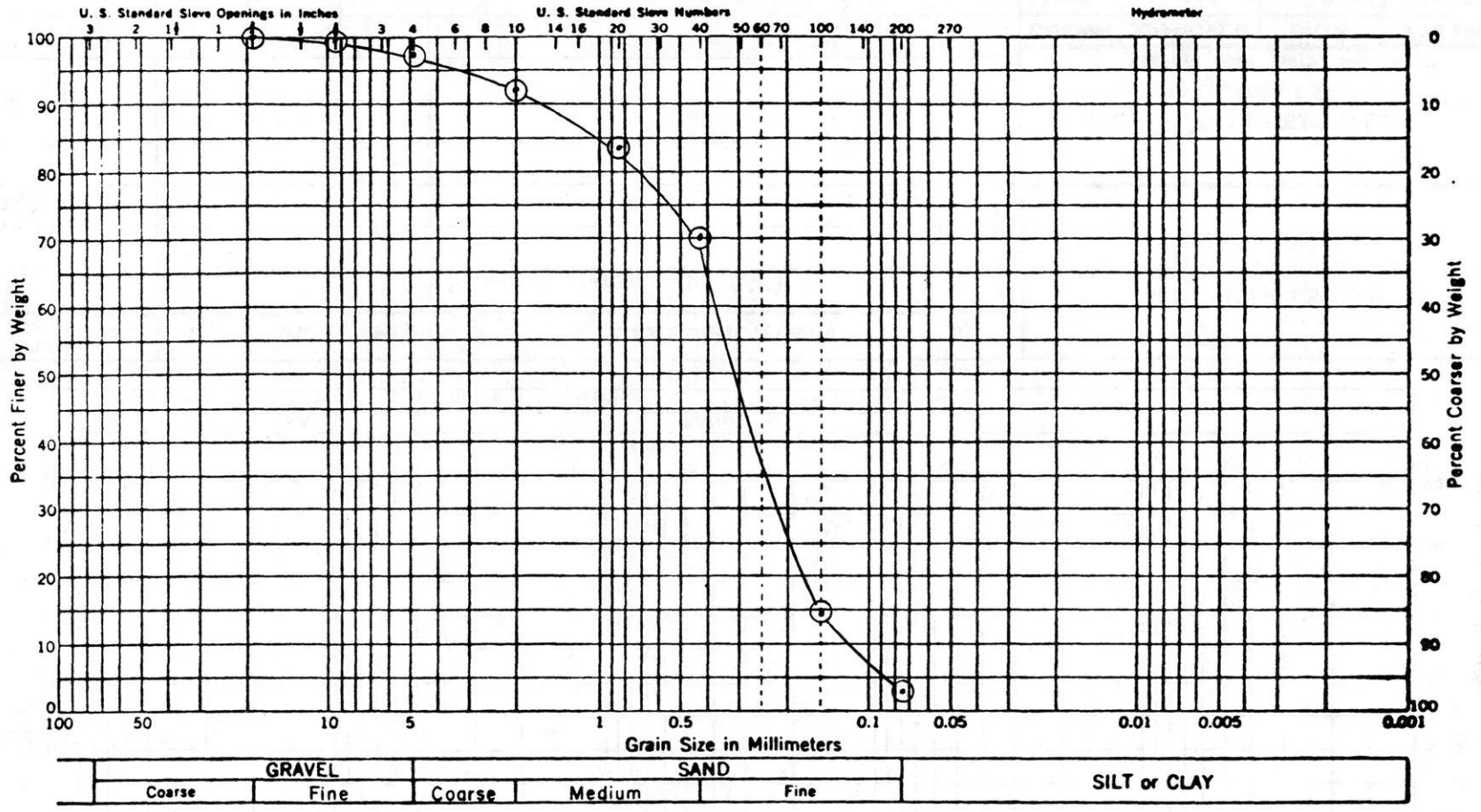
EXXON MINERALS COMPANY
GRAIN SIZE ANALYSIS
CRANDON PROJECT

STS Consultants Ltd.
540 LAMBEAU STREET
GREEN BAY, WIS. 54303

DRAWN	APPROVED	DATE	JOB No.
SMD	JAS	5-18-84	12959

BBS09302

UNIFIED CLASSIFICATION SYSTEM



SAMPLE NO.	W.C.	LL	PL	PI	CLASSIFICATION
G41 Q22					Fine to coarse sand (SP)
SA-14(6)					
129.3-130'					

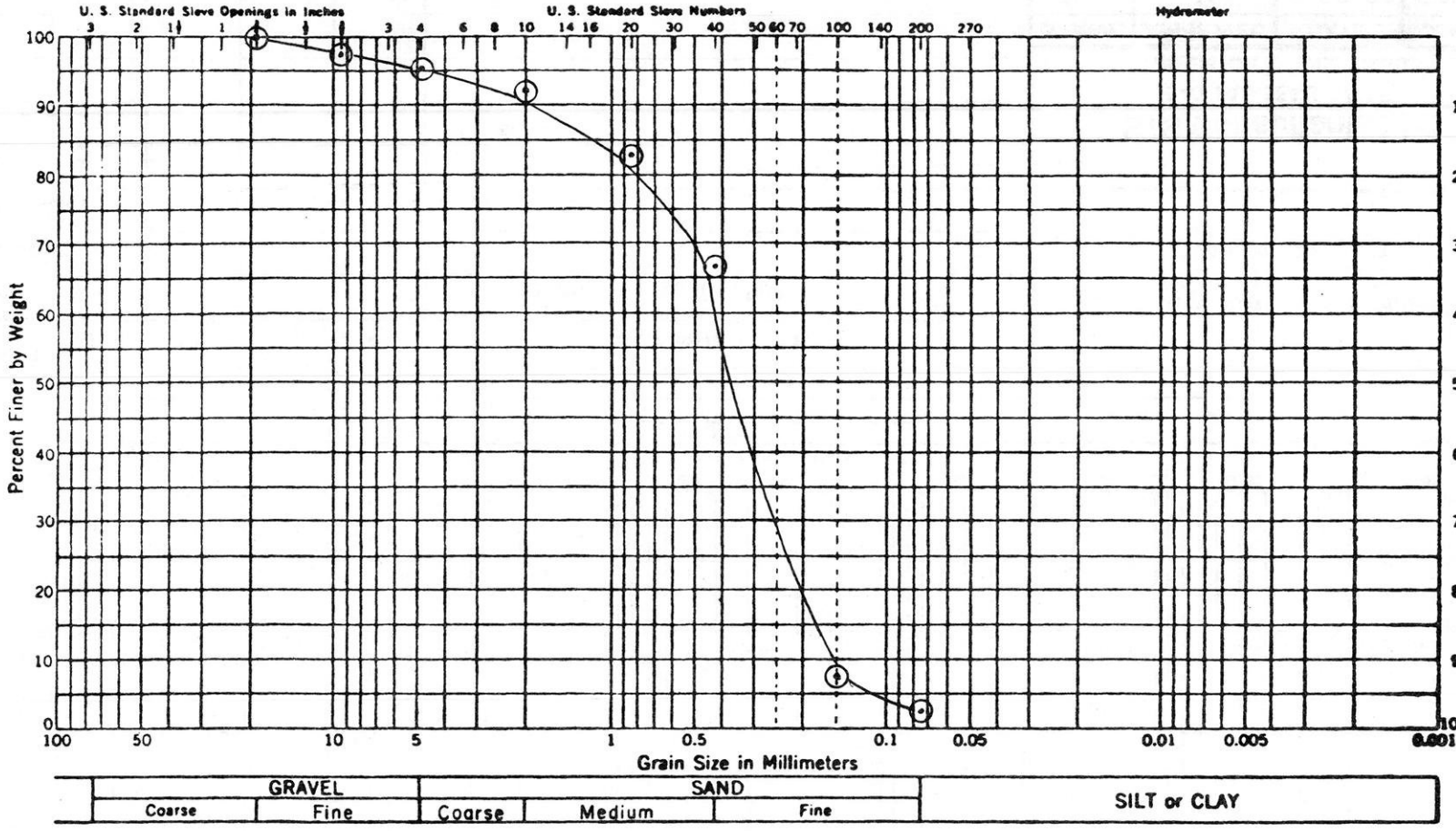
EXXON MINERALS COMPANY
GRAIN SIZE ANALYSIS
CRANDON PROJECT

STS Consultants Ltd.
540 LAMBEAU STREET
GREEN BAY, WIS. 54303

DRAWN	APPROVED	DATE	JOB No.
SMD	JAS	5-18-84	12959

BBS09302

UNIFIED CLASSIFICATION SYSTEM



SAMPLE NO.	W.C.	LL	PL	PI	CLASSIFICATION
G41 Q22					Fine to coarse sand (SP)
SA-15					
138.5-140'					

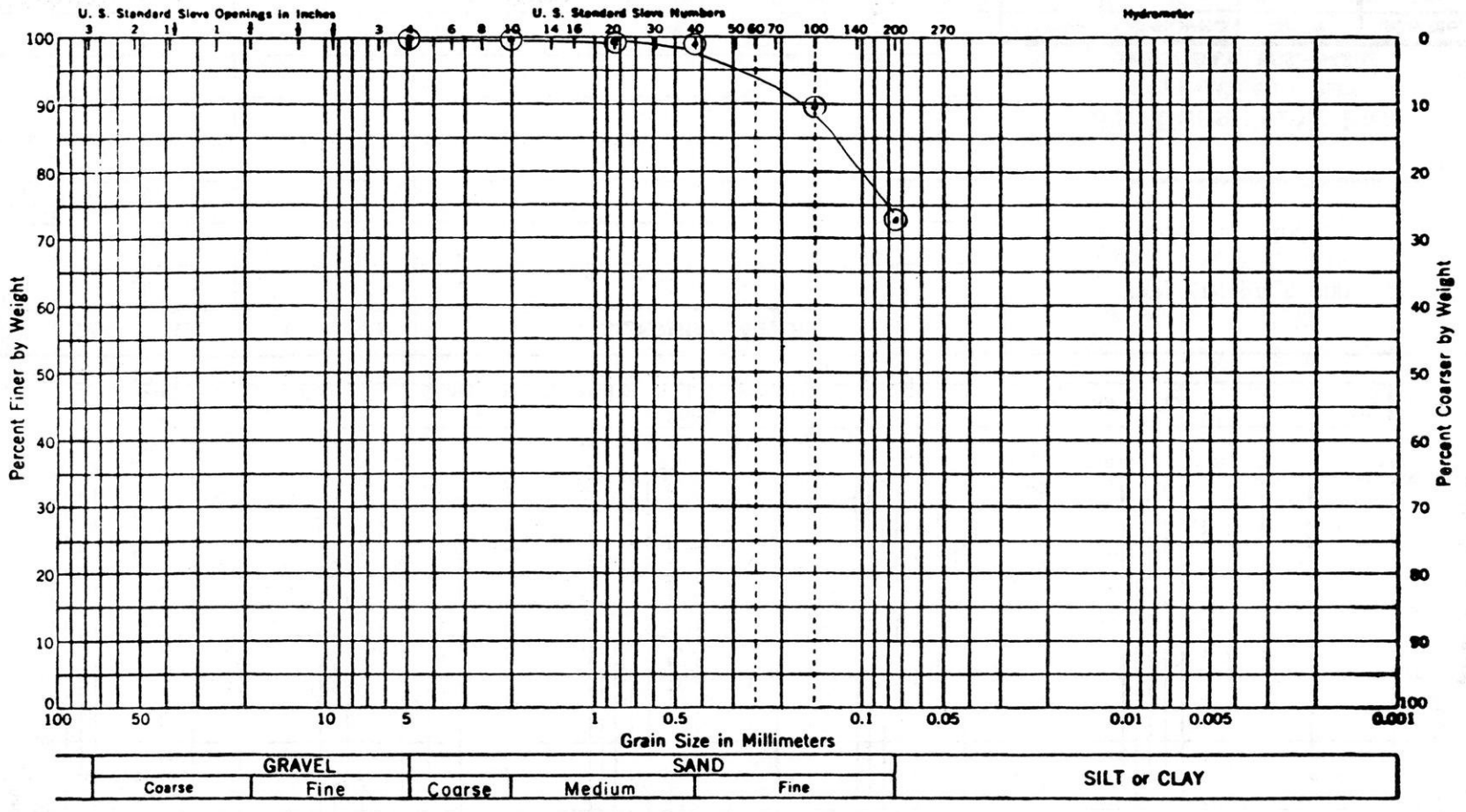
EXXON MINERALS COMPANY
GRAIN SIZE ANALYSIS
CRANDON PROJECT

STS Consultants Ltd.
540 LAMBEAU STREET
GREEN BAY, WIS. 54303

DRAWN	APPROVED	DATE	JOB No.
SMD	JAS	5-18-84	12959

BBS09302

UNIFIED CLASSIFICATION SYSTEM



SAMPLE NO.	W.C.	LL	PL	PI	CLASSIFICATION
G41 Q22					Fine sandy silt (ML)
SA-18					
169-170.2'					

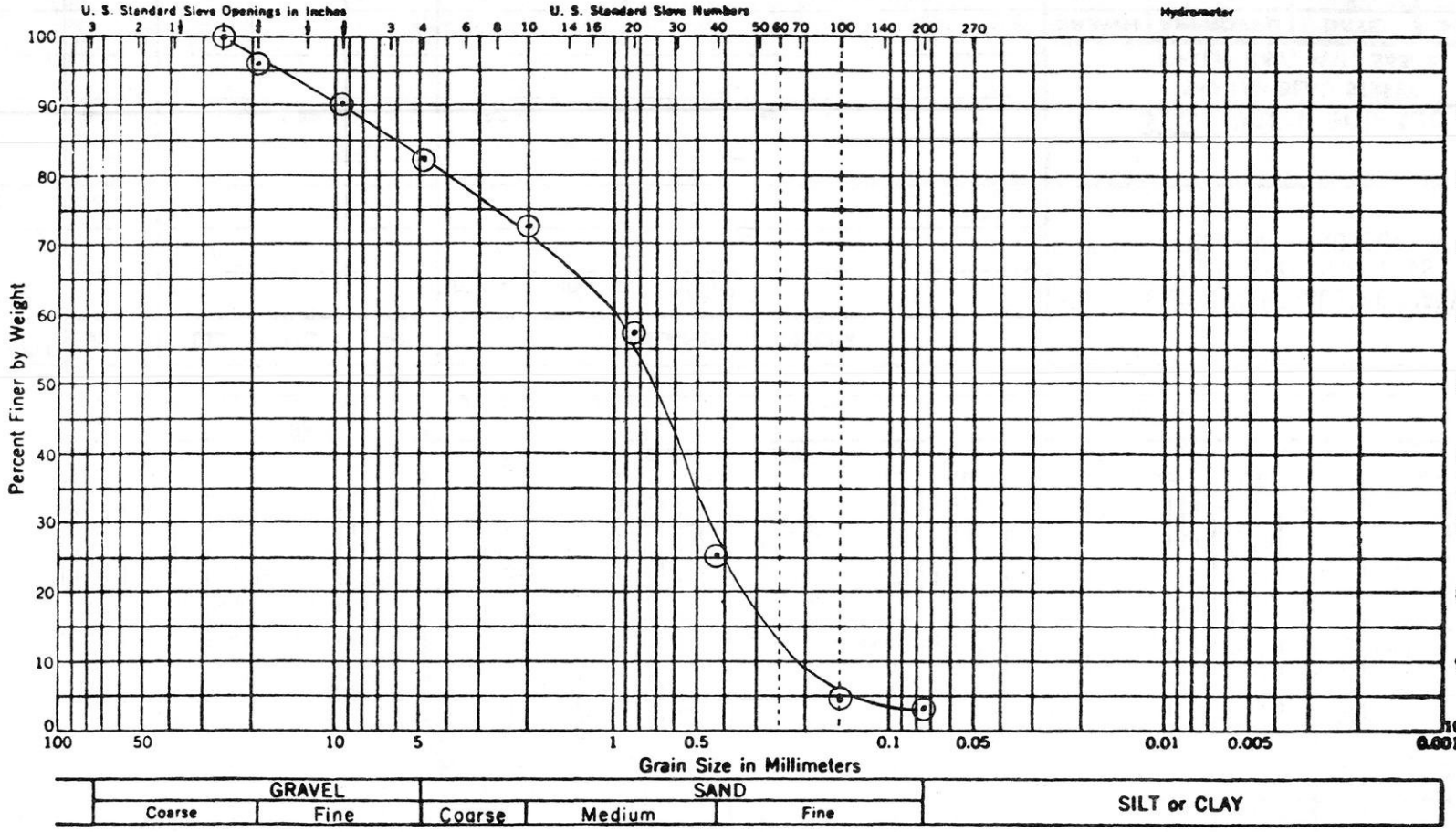
EXXON MINERALS COMPANY
GRAIN SIZE ANALYSIS
CRANDON PROJECT

STS Consultants Ltd.
540 LAMBEAU STREET
GREEN BAY, WIS. 54303

DRAWN	APPROVED	DATE	JOB No.
SMD	JAS	5-18-84	12959

BBS09302

UNIFIED CLASSIFICATION SYSTEM



SAMPLE NO.	W.C.	LL	PL	PI	CLASSIFICATION
G41 022					Fine to coarse sand (SP)
SA-22					
209-210.5'					

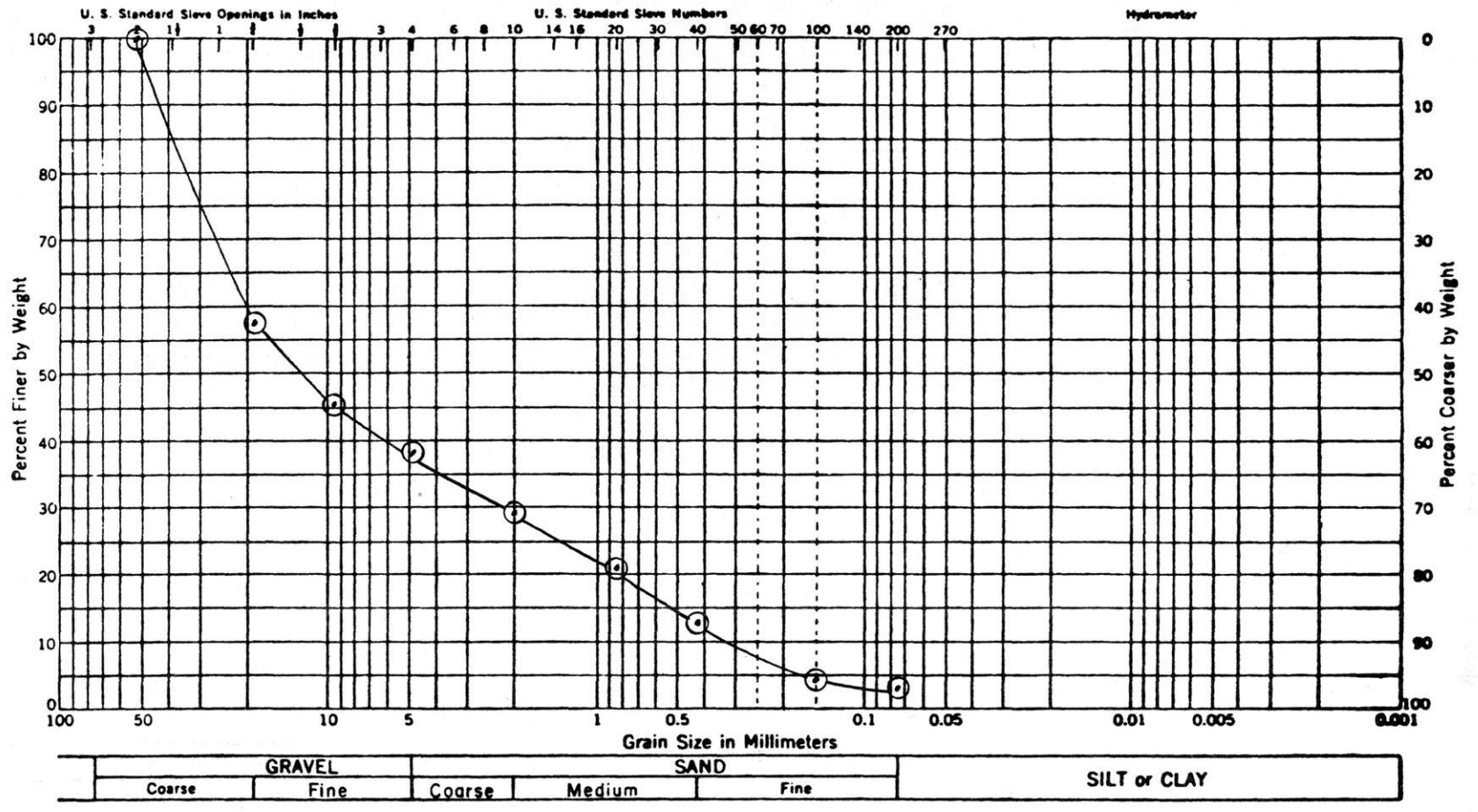
EXXON MINERALS COMPANY
GRAIN SIZE ANALYSIS
CRANDON PROJECT

STS Consultants Ltd.
540 LAMBEAU STREET
GREEN BAY, WIS. 54303

DRAWN	APPROVED	DATE	JOB No.
SMD	JAS	5-18-84	12959

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UNIFIED CLASSIFICATION SYSTEM



SAMPLE NO.	W.C.	LL	PL	PI	CLASSIFICATION
G41 Q22					Fine gravel (GP)
SA-23					
219-221'					

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GRAIN SIZE ANALYSIS
CRANDON PROJECT

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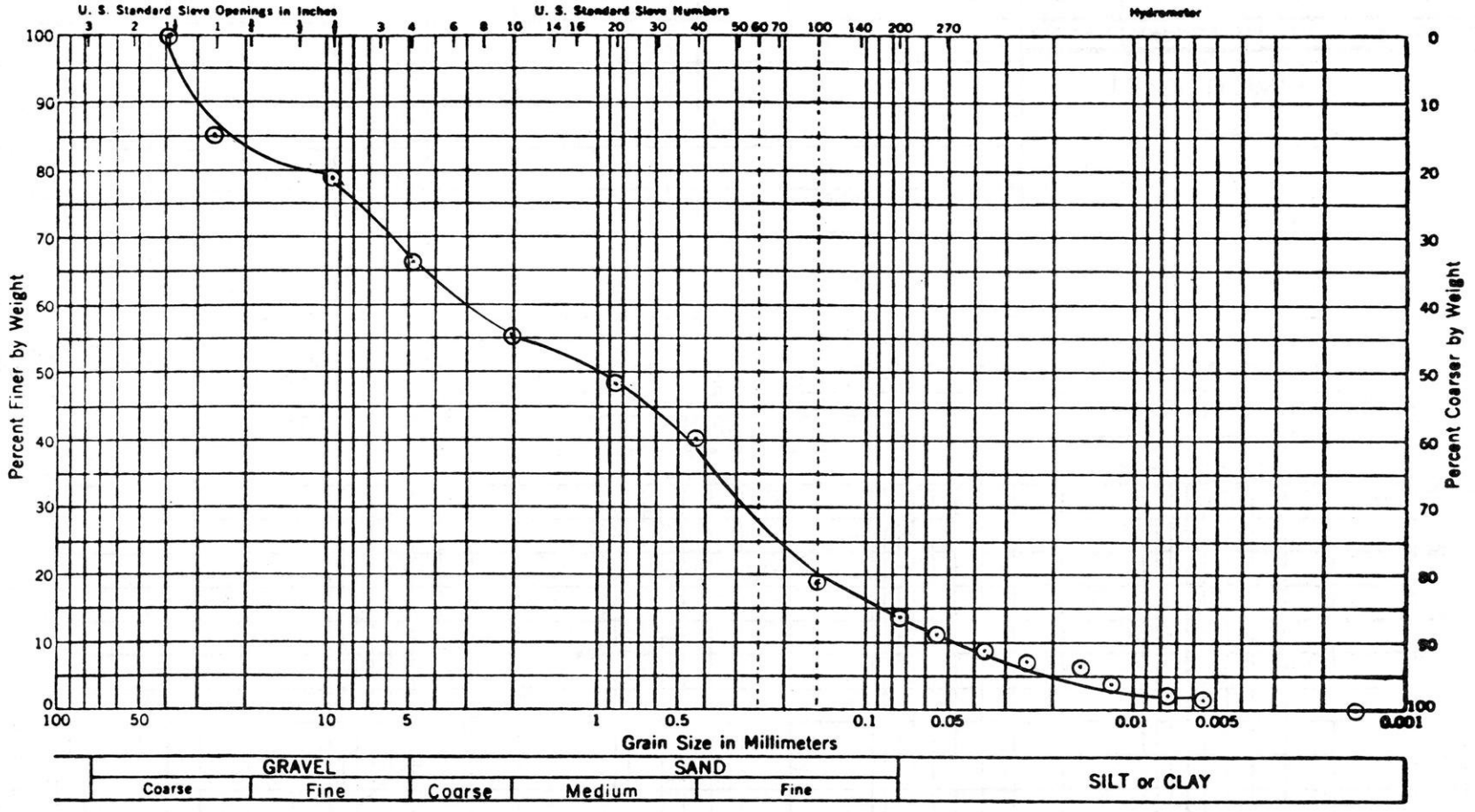
DRAWN	APPROVED	DATE	JOB No.
SMD	JAS	5-18-84	12959

BBS09302

APPENDIX B

Gradation Curves for RP Borings

UNIFIED CLASSIFICATION SYSTEM



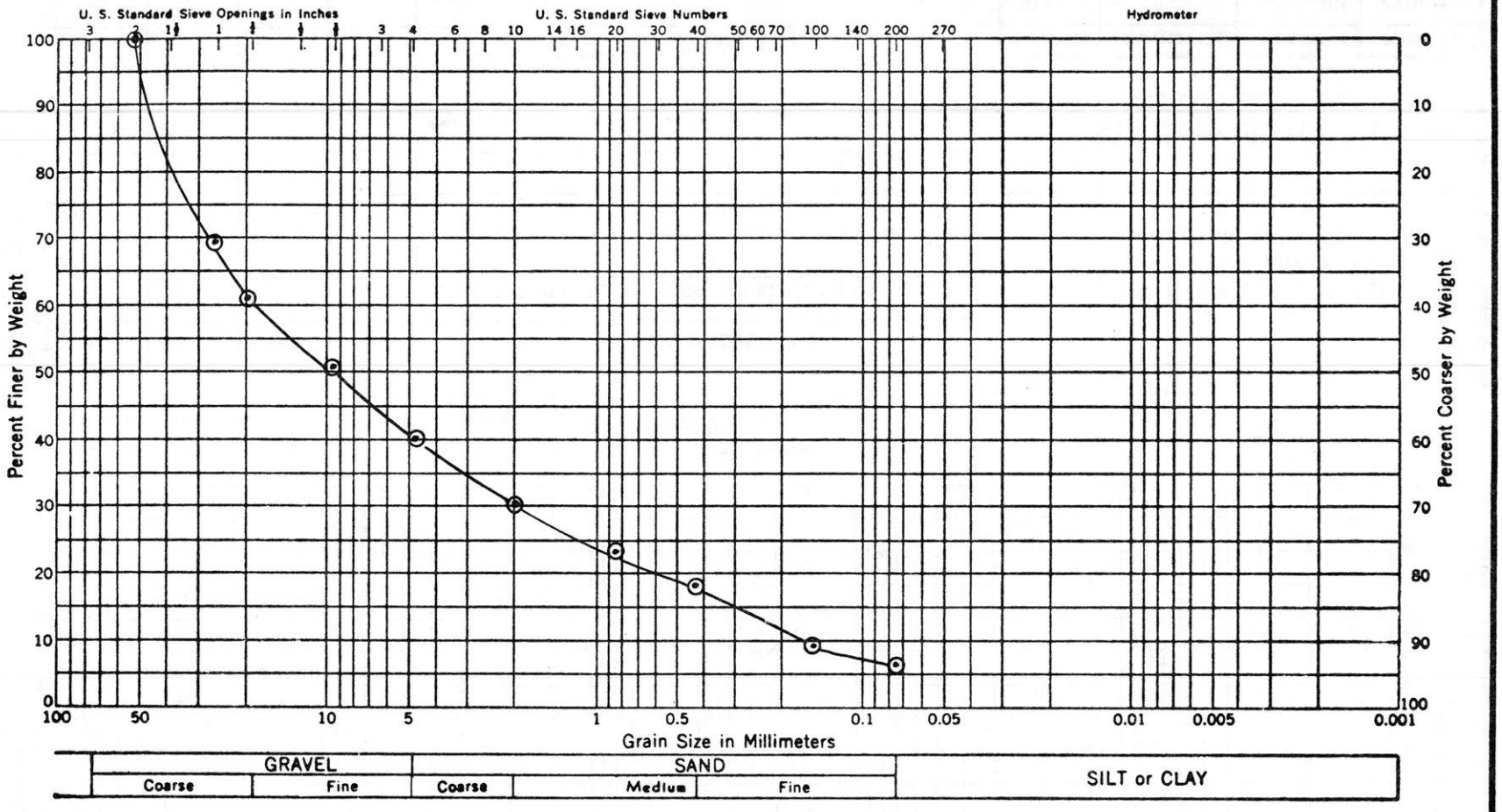
SAMPLE NO.	W.C.	LL	PL	PI	CLASSIFICATION
RP1					Silty fine to coarse sand (SM)
S-1					
19-20.5'					

EXXON MINERALS COMPANY
GRAIN SIZE ANALYSIS
CRANDON PROJECT

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540 LAMBEAU STREET
GREEN BAY, WIS. 54303

DRAWN	APPROVED	DATE	JOB No.
KOO/SMD	JAS	3-20-84	12959

BBS09302



BORING	SAMPLE	DEPTH	SYMBOL	D_{10}	D_{30}	D_{60}	C_u	C_c	CLASSIFICATION
RP-1	S-2	22.5-24'							Slightly silty fine to coarse gravel (GM-GP)

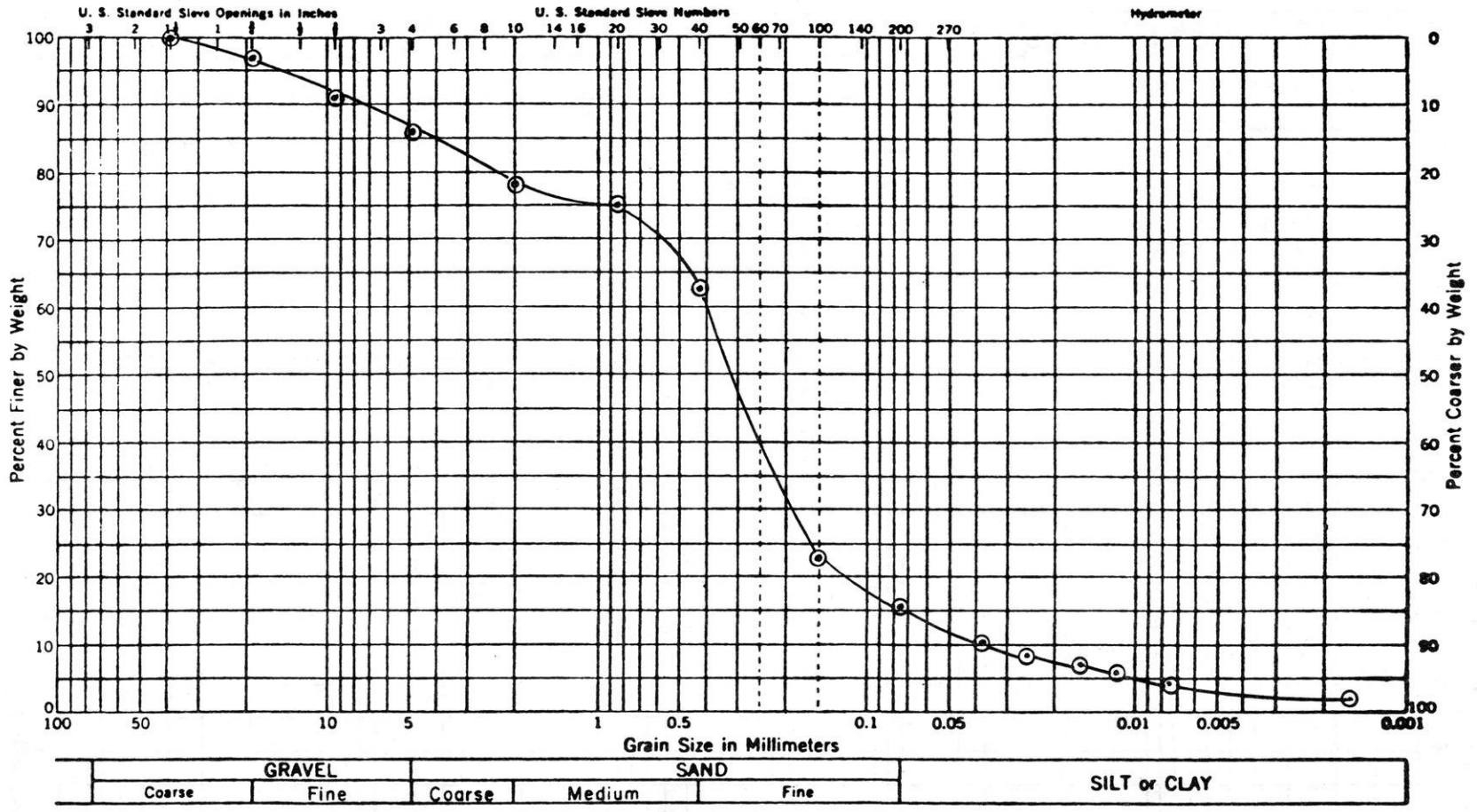
EXXON MINERALS COMPANY
SIEVE ANALYSIS
CRANDON PROJECT

STS CONSULTANTS LTD.

DRAWN	APPROVED	DATE	JOB No.
JJT/SMD	JAS	3-24-84	12959

BBS12478

UNIFIED CLASSIFICATION SYSTEM



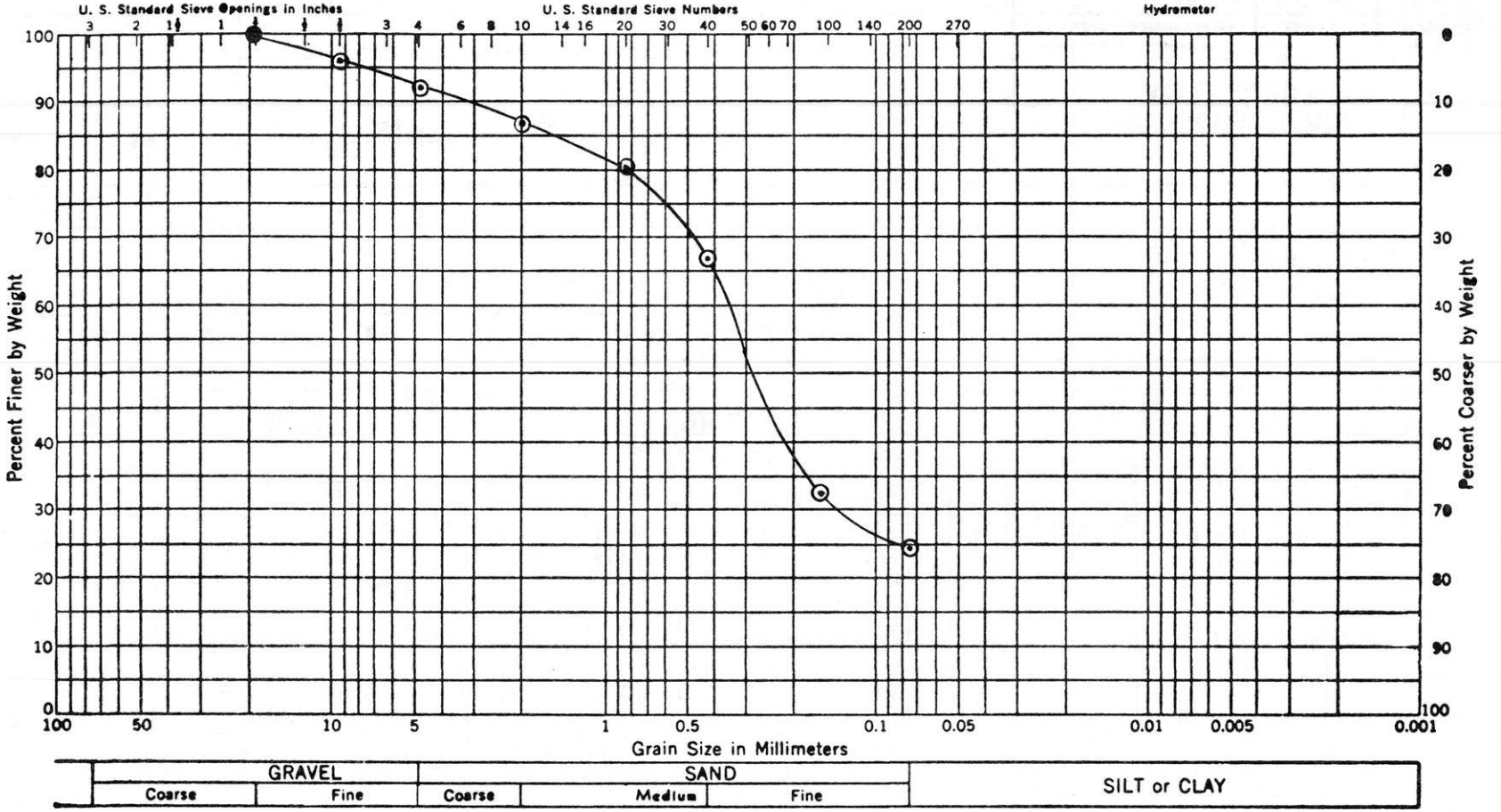
SAMPLE NO.	W.C.	LL	PL	PI	CLASSIFICATION
RP-2					Silty fine to coarse sand (SM)
S-1					
23.0-24.2'					

EXXON MINERALS COMPANY
GRAIN SIZE ANALYSIS
CRANDON PROJECT

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540 LAMBEAU STREET
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DRAWN	APPROVED	DATE	JOB No.
JJT	JAS	4-2-84	12959

BBS09302



BORING	SAMPLE	DEPTH	SYMBOL	D_{10}	D_{30}	D_{60}	C_u	C_c	CLASSIFICATION
RP-2	S-2	28-28.5'							Silty fine to coarse sand (SM)

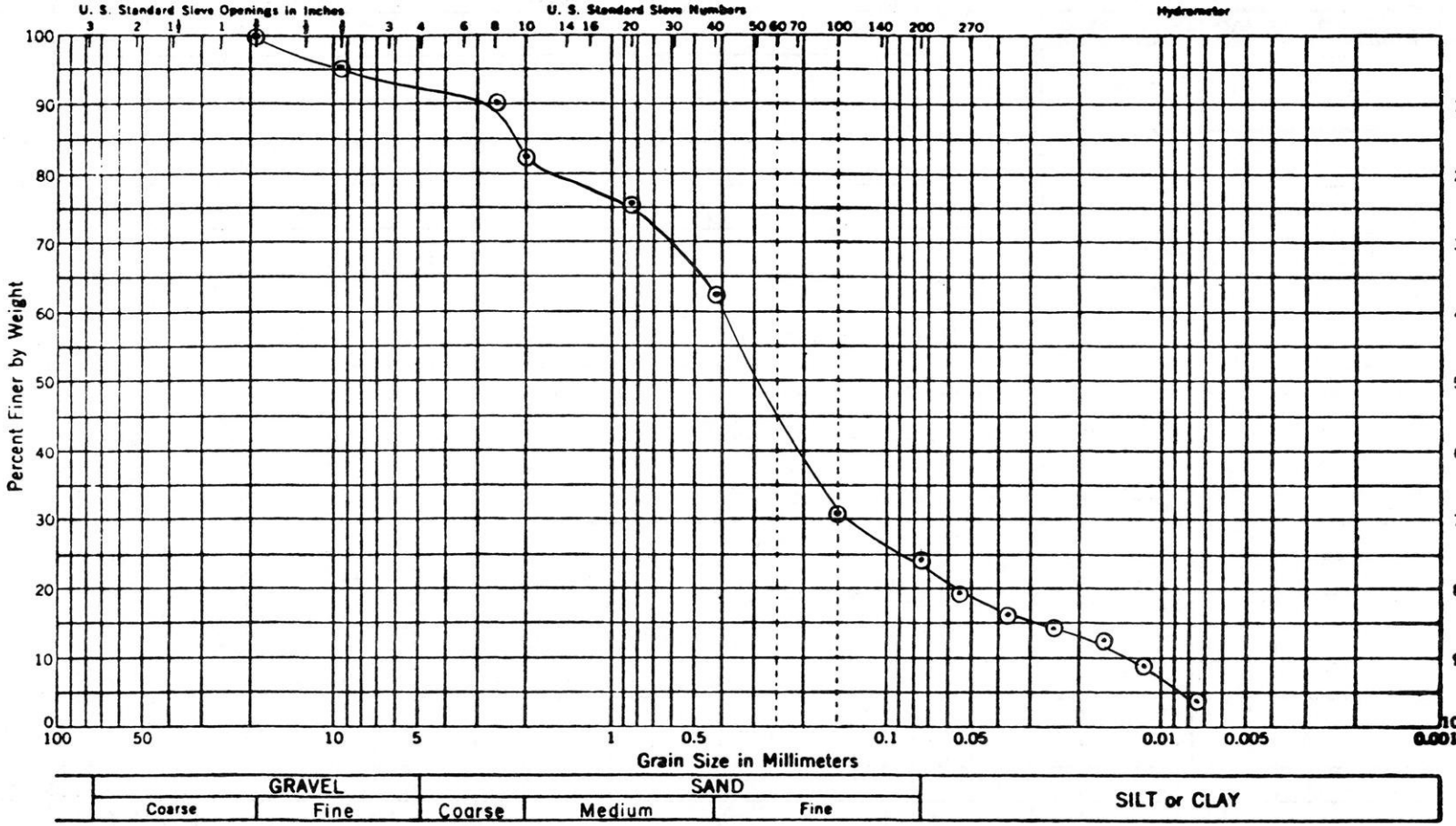
EXXON MINERALS COMPANY
SIEVE ANALYSIS
CRANDON PROJECT

STS CONSULTANTS LTD.

DRAWN	APPROVED	DATE	JOB No.
JJT/SMD	JAS	3-24-84	12959

BBS12478

UNIFIED CLASSIFICATION SYSTEM



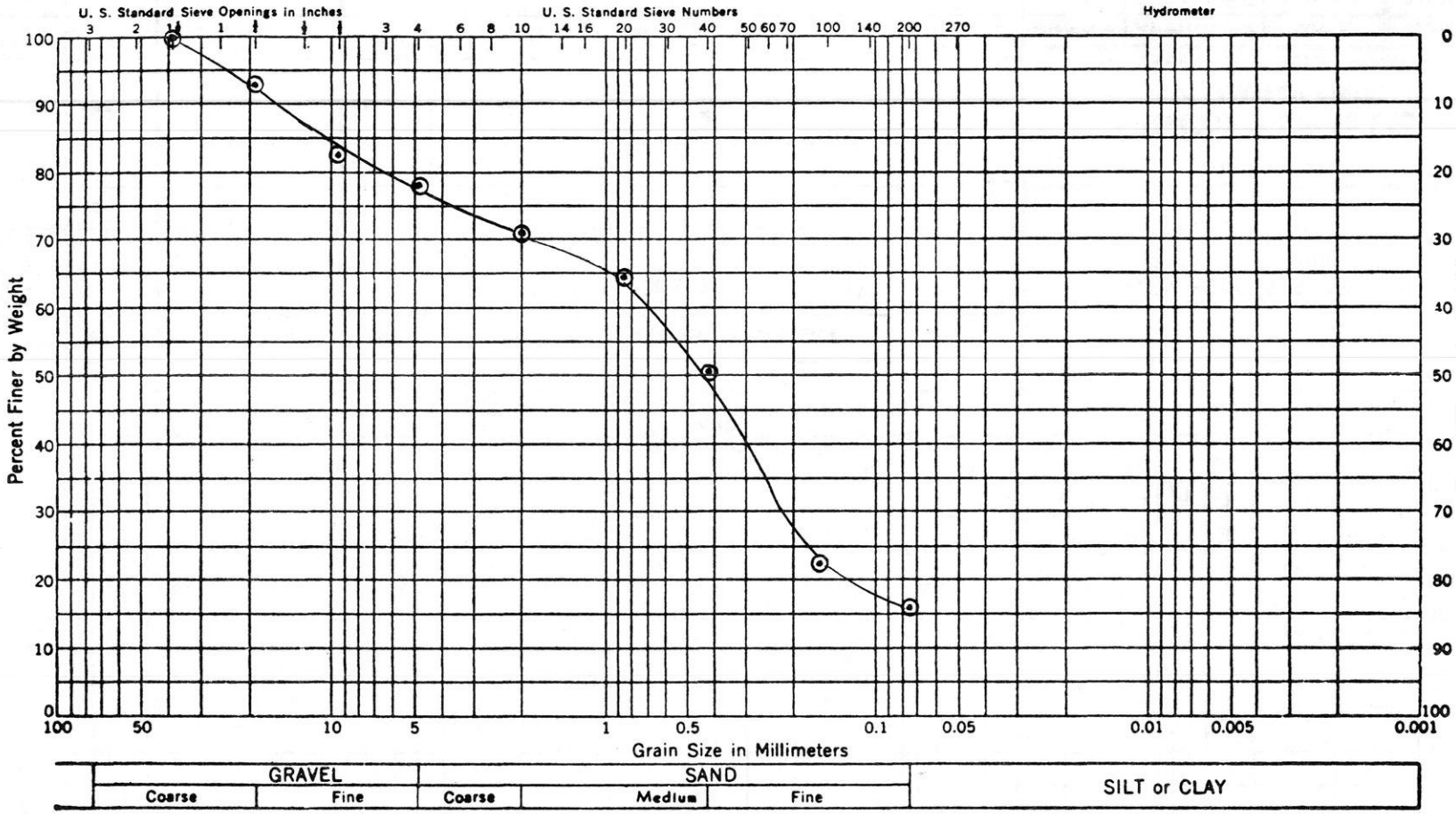
SAMPLE NO.	W.C.	LL	PL	PI	CLASSIFICATION
RP-2					Silty fine to coarse sand (SM)
S-3					
33.0-	34.0'				

EXXON MINERALS COMPANY
GRAIN SIZE ANALYSIS
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GREEN BAY, WIS. 54303

DRAWN	APPROVED	DATE	JOB No.
JJT	JAS	4-2-84	12959

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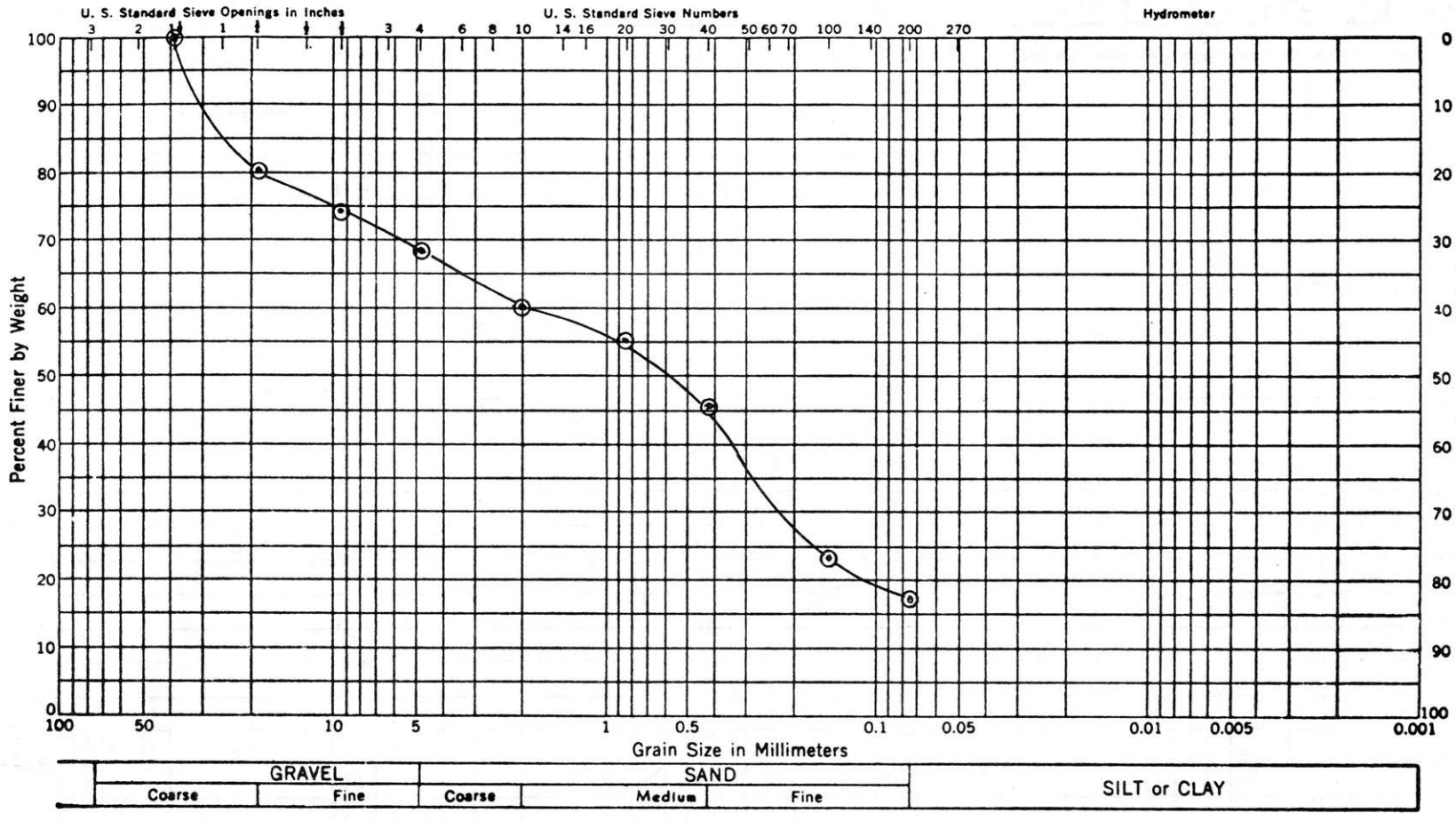
BORING	SAMPLE	DEPTH	SYMBOL	D_{10}	D_{30}	D_{60}	C_u	C_c	CLASSIFICATION
RP-4	S-1	23-24.5'							Silty fine to coarse sand (SM)

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SIEVE ANALYSIS
CRANDON PROJECT

STS CONSULTANTS LTD.

DRAWN	APPROVED	DATE	JOB No.
JJT/SMD	JAS	3-24-84	12959

BBS12478



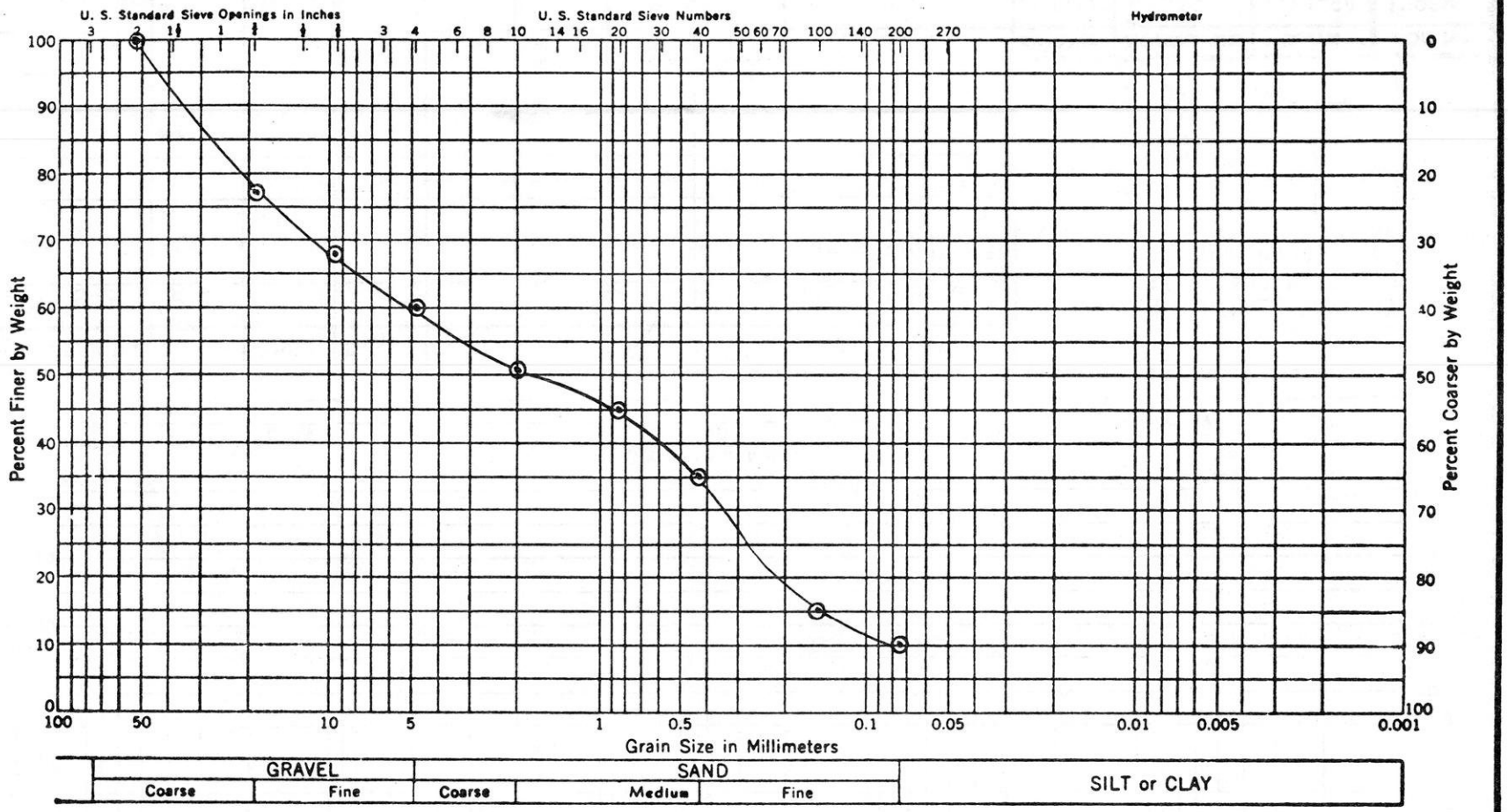
BORING	SAMPLE	DEPTH	SYMBOL	D_{10}	D_{30}	D_{60}	C_u	C_c	CLASSIFICATION
RP-4	S-2	28-28.5'							Silty fine to coarse sand (SM)

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SIEVE ANALYSIS
CRANDON PROJECT

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JJT/SMD	JAS	3-24-84	12959

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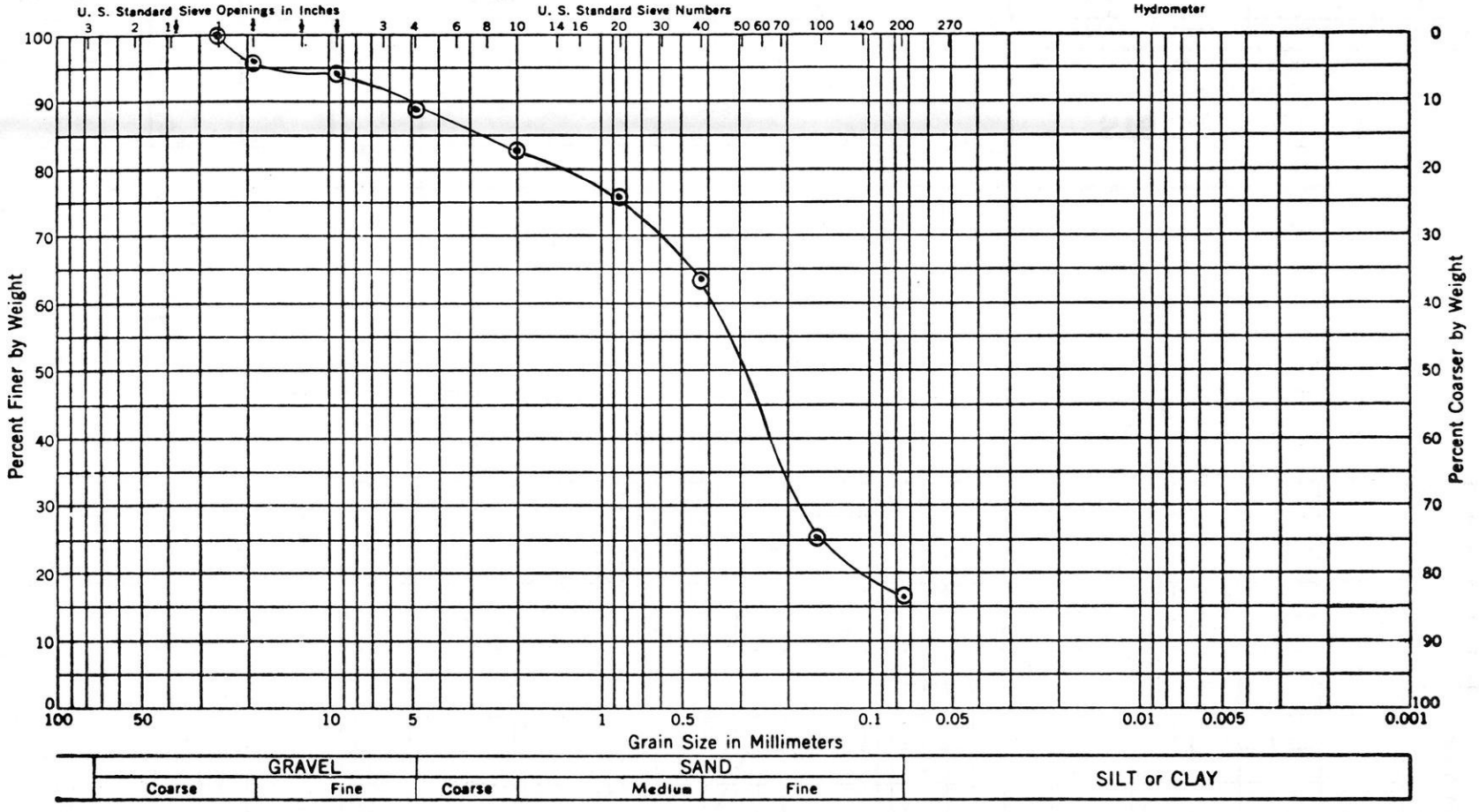
BORING	SAMPLE	DEPTH	SYMBOL	D_{10}	D_{30}	D_{60}	C_u	C_c	CLASSIFICATION
RP-4	S-3	33-33.7'							Slightly silty fine to coarse sand (SM-SP)

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JJT/SMD	JAS	3-24-84	12959

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BORING	SAMPLE	DEPTH	SYMBOL	D_{10}	D_{30}	D_{60}	C_u	C_c	CLASSIFICATION
RP-5	S-1	29-30'							Silty fine to coarse sand (SM)

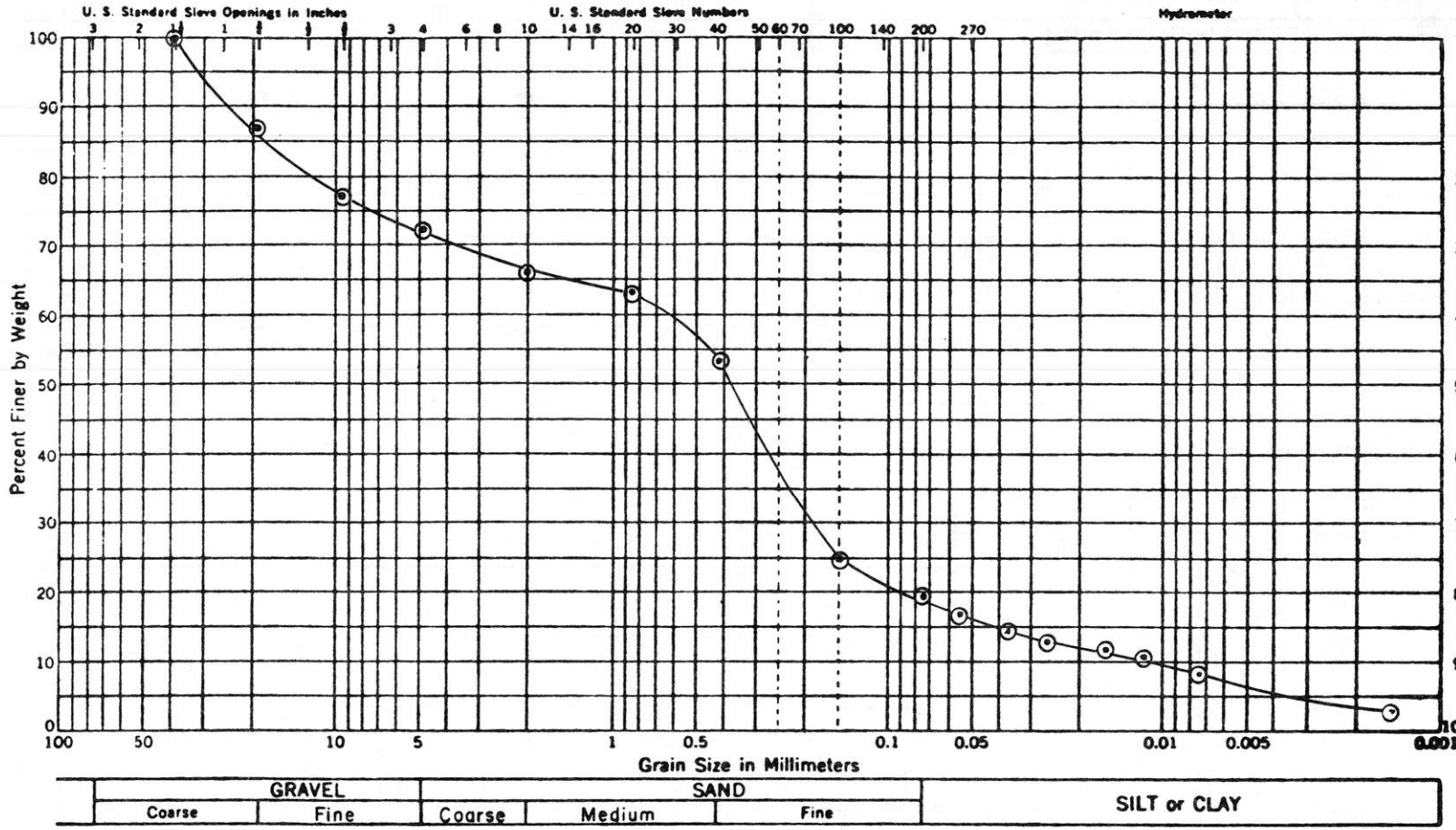
EXXON MINERALS COMPANY
SIEVE ANALYSIS
CRANDON PROJECT

STS CONSULTANTS LTD.

DRAWN	APPROVED	DATE	JOB No.
JJT/SMD	JAS	3-24-84	12959

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UNIFIED CLASSIFICATION SYSTEM



SAMPLE NO.	W.C.	LL	PL	PI	CLASSIFICATION
RP-5					Silty fine to coarse sand (SM)
S-2					
34.0-	35.0'				

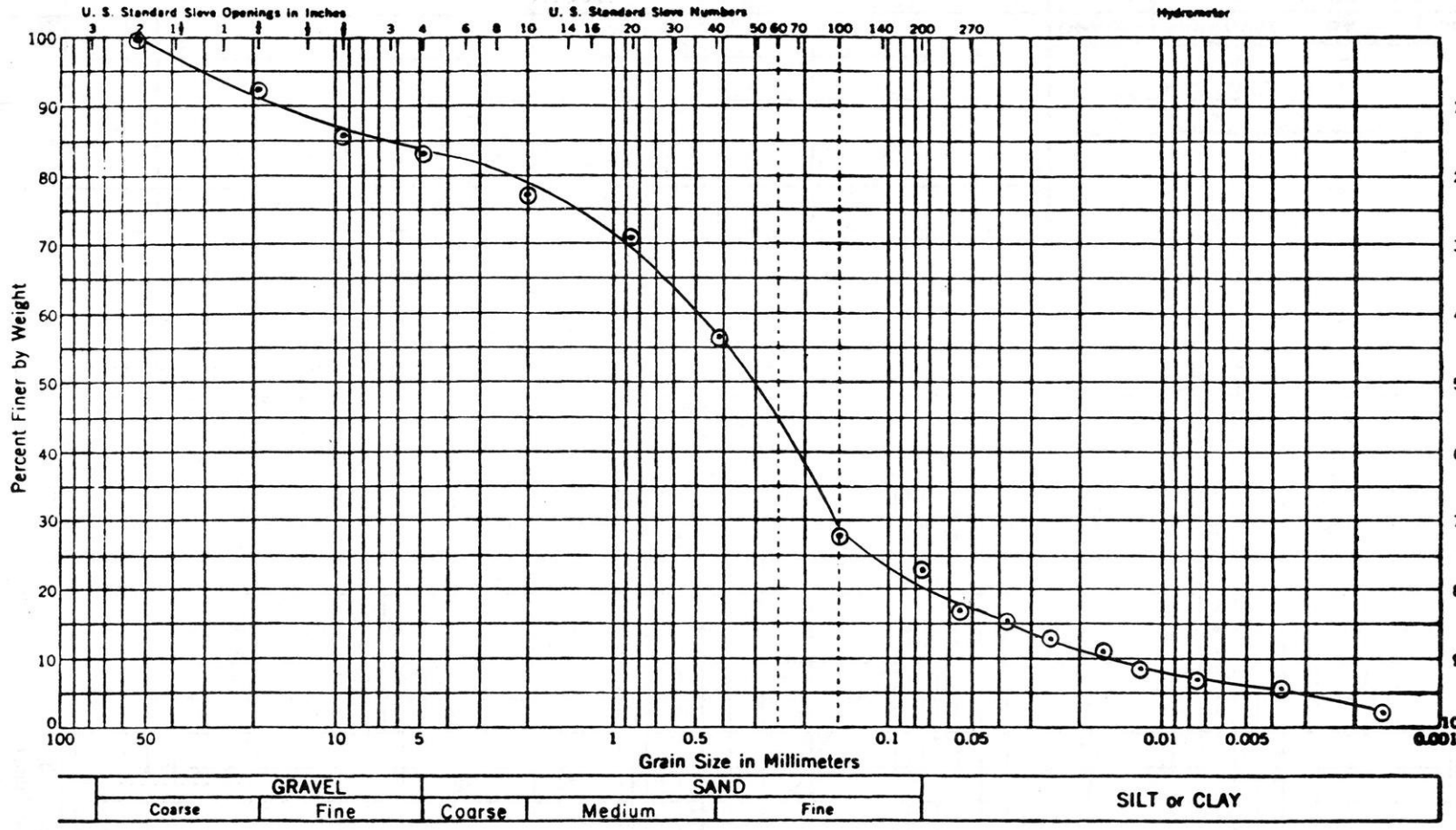
EXXON MINERALS COMPANY
GRAIN SIZE ANALYSIS
CRANDON PROJECT

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GREEN BAY, WIS. 54303

DRAWN	APPROVED	DATE	JOB No.
JJT	JAS	4-2-84	12959

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UNIFIED CLASSIFICATION SYSTEM



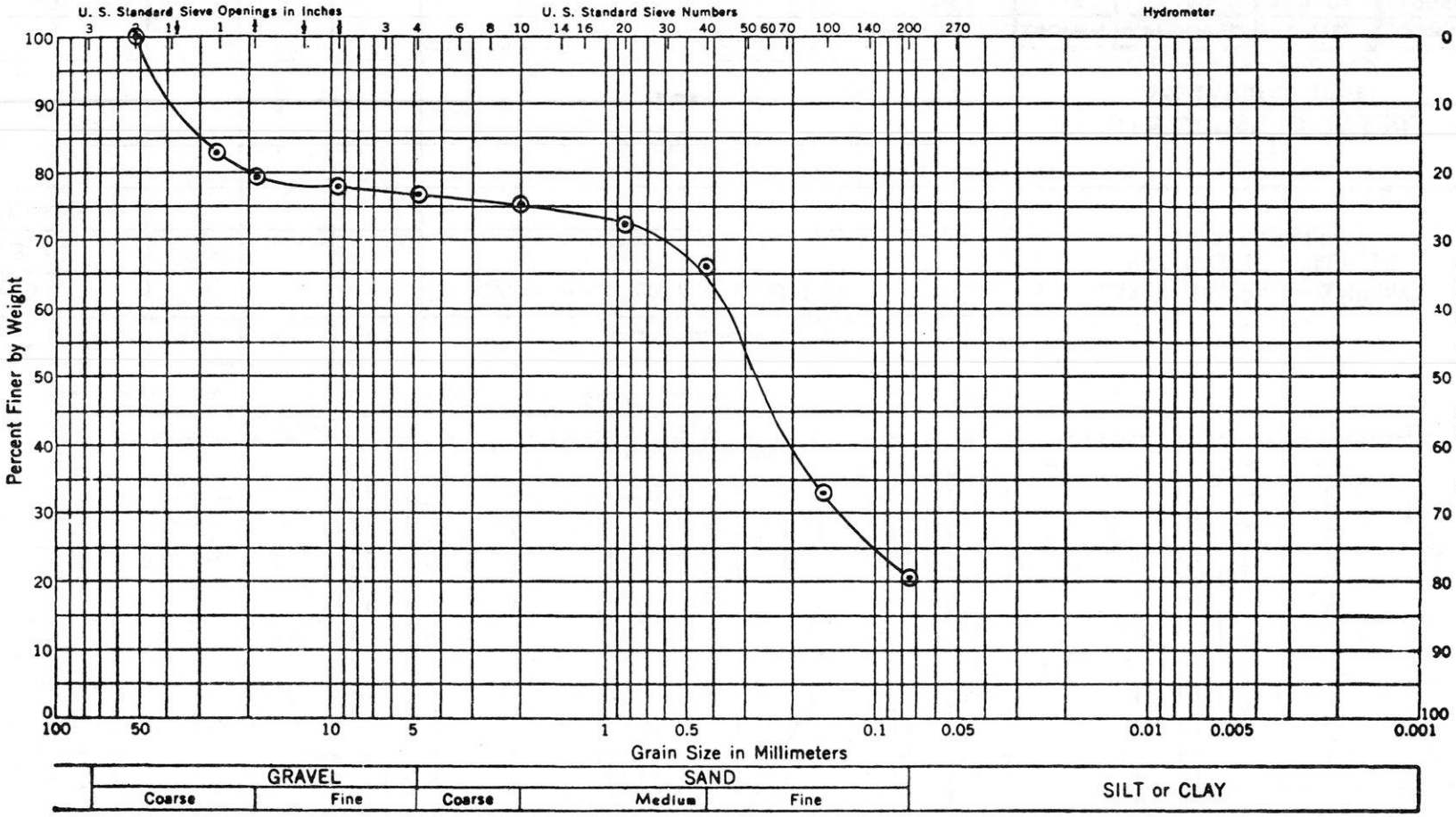
SAMPLE NO.	W.C.	LL	PL	PI	CLASSIFICATION
RP-5					Silty fine to coarse sand (SM)
S-3					
39.0-40.0'					

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BORING	SAMPLE	DEPTH	SYMBOL	D_{10}	D_{30}	D_{60}	C_u	C_c	CLASSIFICATION
RP-8	S-2	24-25.5'							Silty fine to coarse sand (SM)

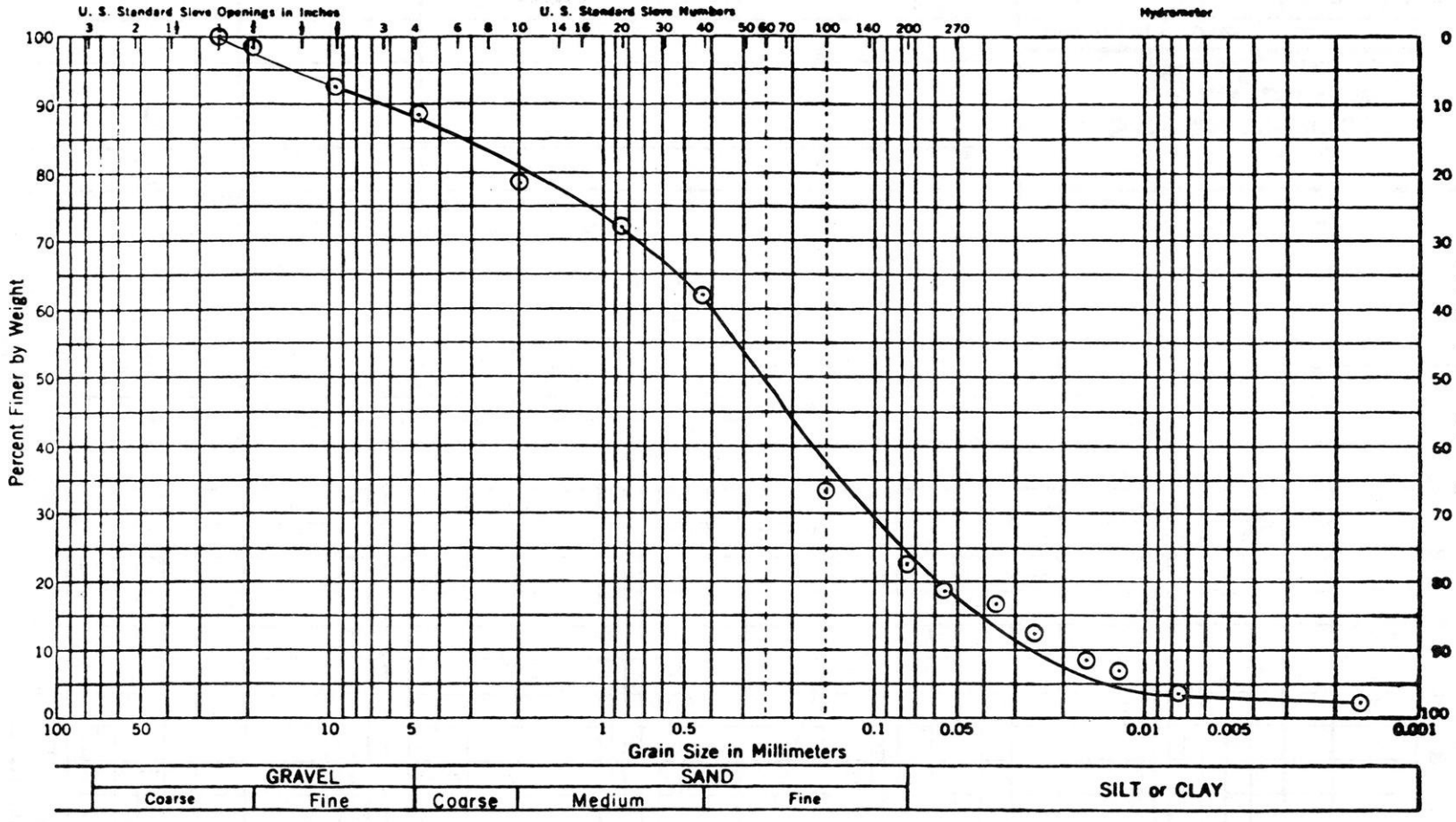
EXXON MINERALS COMPANY
SIEVE ANALYSIS
CRANDON PROJECT

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DRAWN	APPROVED	DATE	JOB No.
JJT/SMD	JAS	3-24-84	12959

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UNIFIED CLASSIFICATION SYSTEM



SAMPLE NO.	W.C.	LL	PL	PI	CLASSIFICATION
RP8					Silty fine to coarse sand (SM)
S-3					
29-30.5					

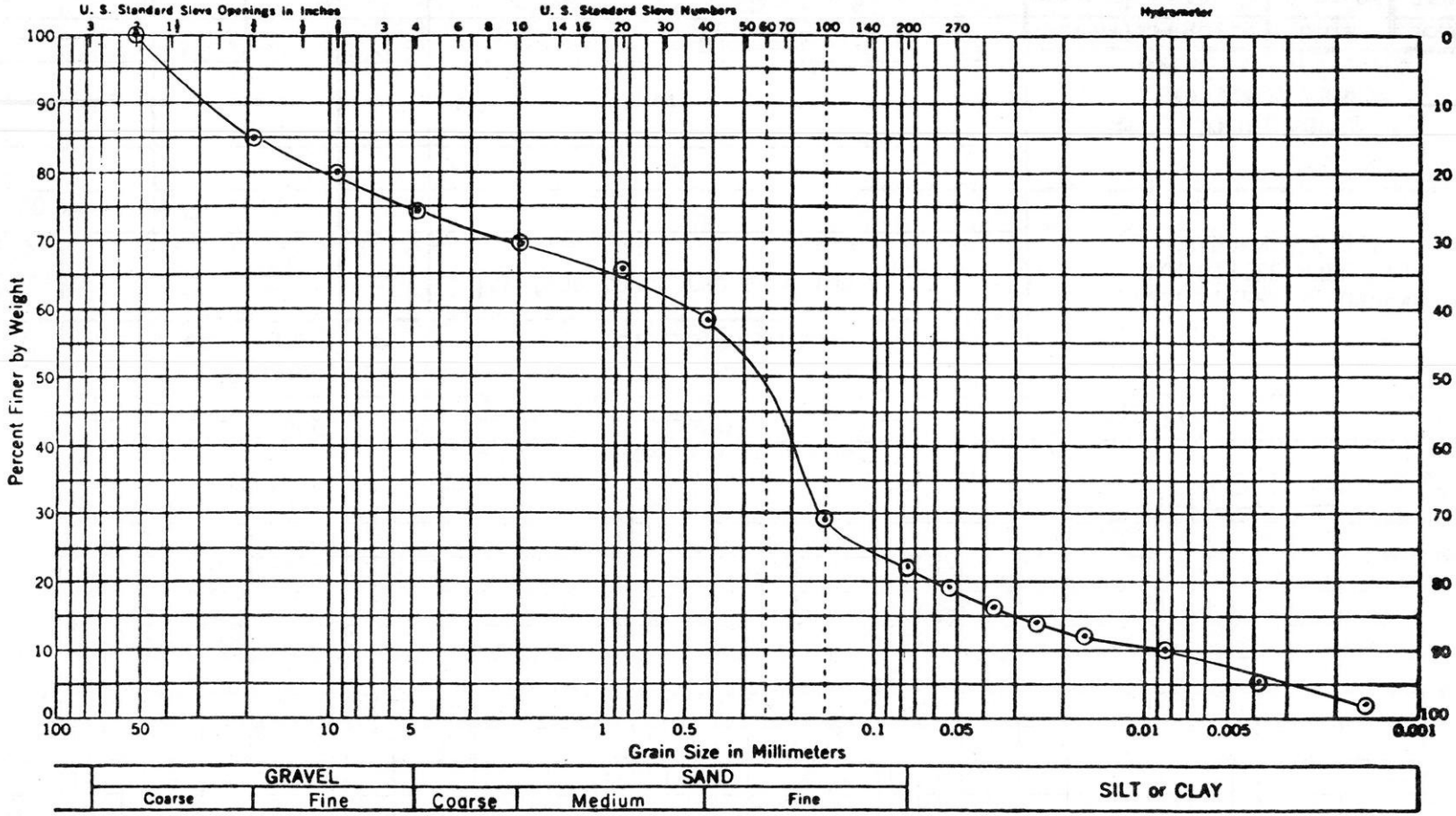
EXXON MINERALS COMPANY
GRAIN SIZE ANALYSIS
CRANDON PROJECT

STS Consultants Ltd.
540 LAMBEAU STREET
GREEN BAY, WIS. 54303

DRAWN	APPROVED	DATE	JOB No.
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UNIFIED CLASSIFICATION SYSTEM



SAMPLE NO.	W.C.	LL	PL	PI	CLASSIFICATION
RP-9					Silty fine to coarse sand (SM)
S-1					
23.0-	24.5'				

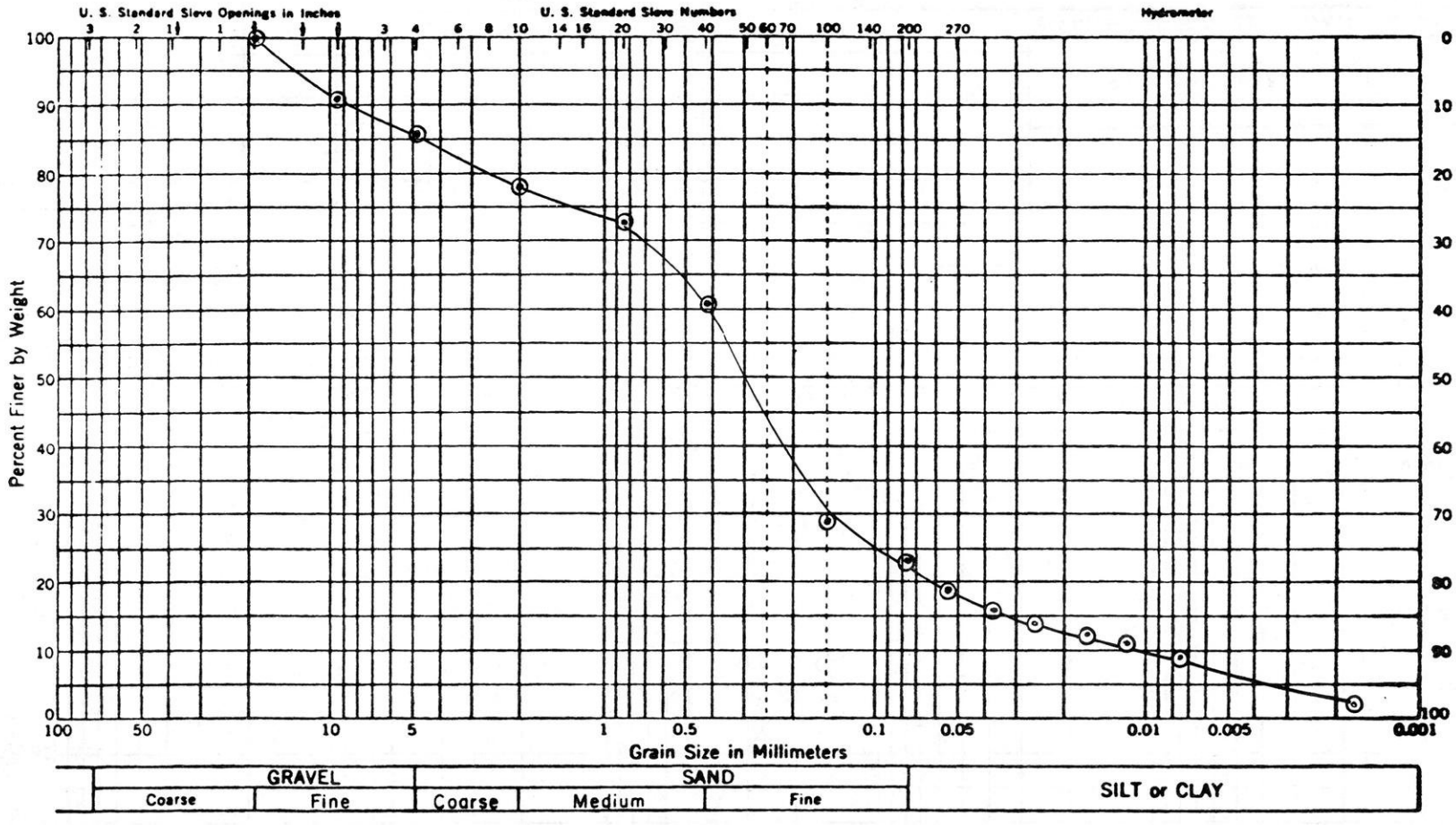
EXXON MINERALS COMPANY
GRAIN SIZE ANALYSIS
CRANDON PROJECT

STS Consultants Ltd.
540 LAMBEAU STREET
GREEN BAY, WIS. 54303

DRAWN	APPROVED	DATE	JOB No.
JJT	JAS	4-2-84	12959

BBS09302

UNIFIED CLASSIFICATION SYSTEM



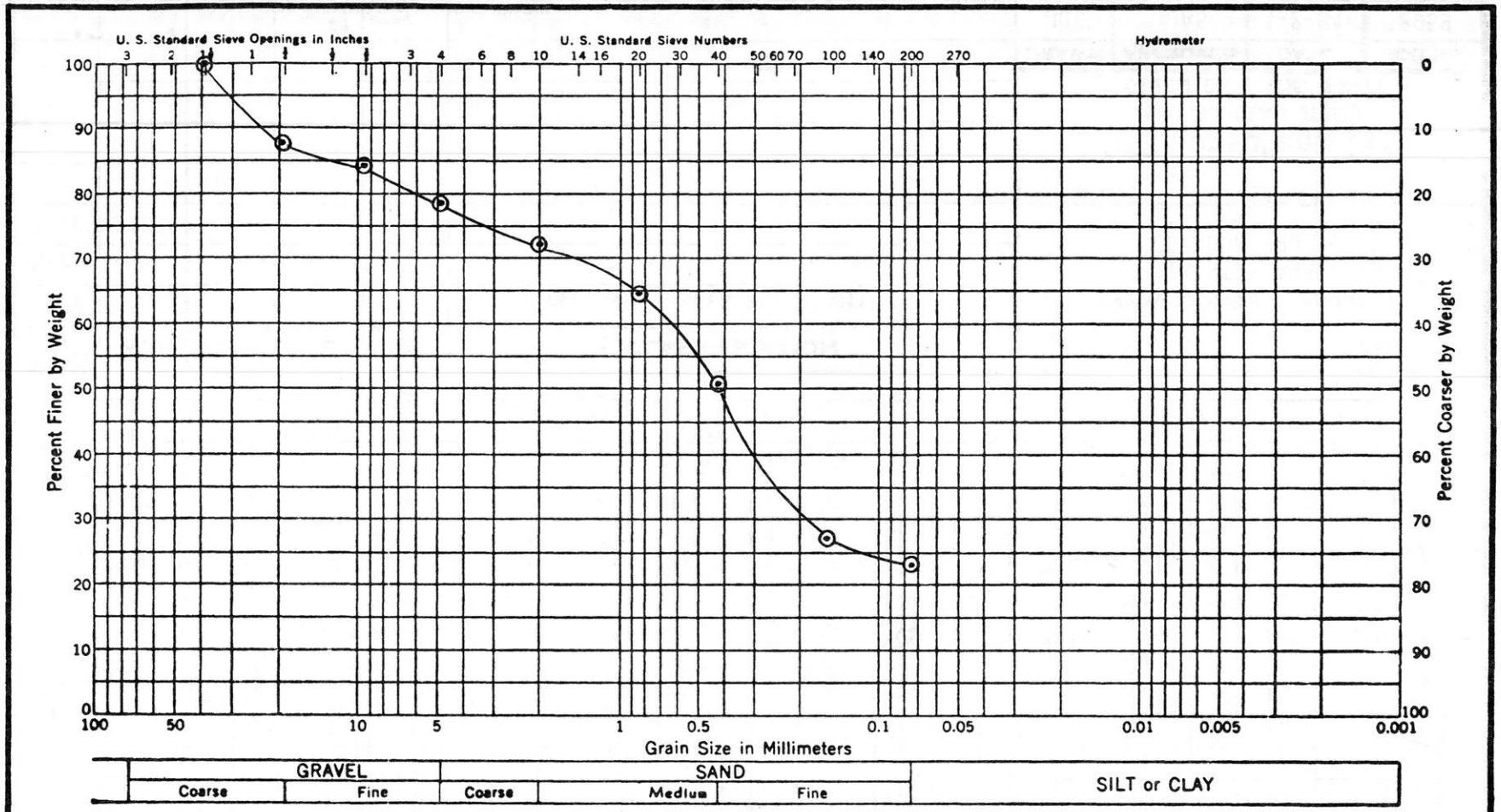
SAMPLE NO.	W.C.	LL	PL	PI	CLASSIFICATION
RP-9					Silty fine to coarse sand (SM)
S-2					
28.0-	29.0'				

EXXON MINERALS COMPANY
GRAIN SIZE ANALYSIS
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540 LAMBEAU STREET
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JJT	JAS	4-2-84	12959

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BORING	SAMPLE	DEPTH	SYMBOL	D_{10}	D_{30}	D_{60}	C_u	C_c	CLASSIFICATION
RP-9	S-3	33-34'							Silty fine to coarse sand (SM)

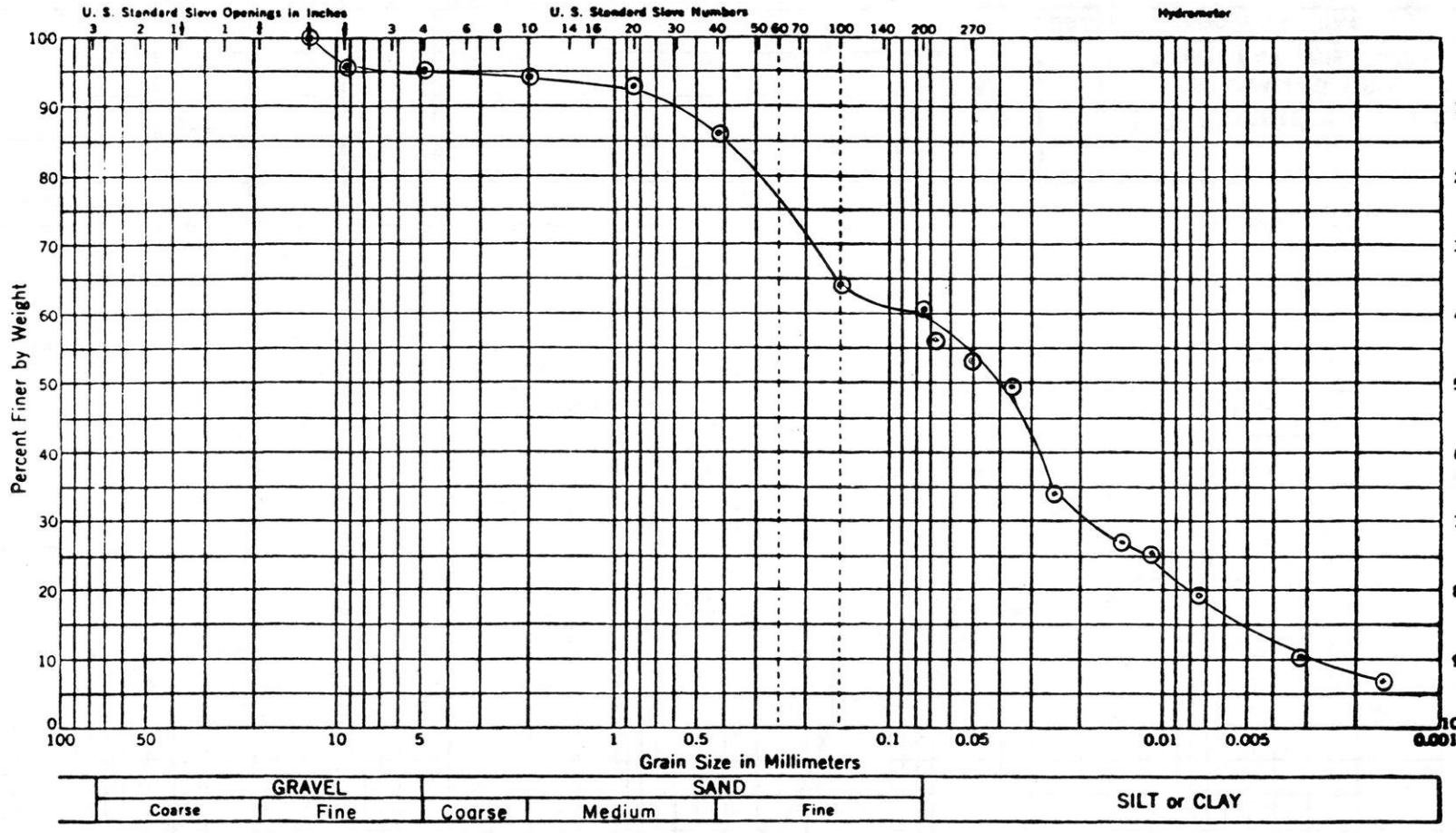
EXXON MINERALS COMPANY
SIEVE ANALYSIS
CRANDON PROJECT

STS CONSULTANTS LTD.

DRAWN	APPROVED	DATE	JOB No.
JJT/SMD	JAS	3-24-84	12959

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UNIFIED CLASSIFICATION SYSTEM



SAMPLE NO.	W.C.	LL	PL	PI	CLASSIFICATION
RP-10					Fine sandy silt (ML)
S-1					
0.0-1.5'					

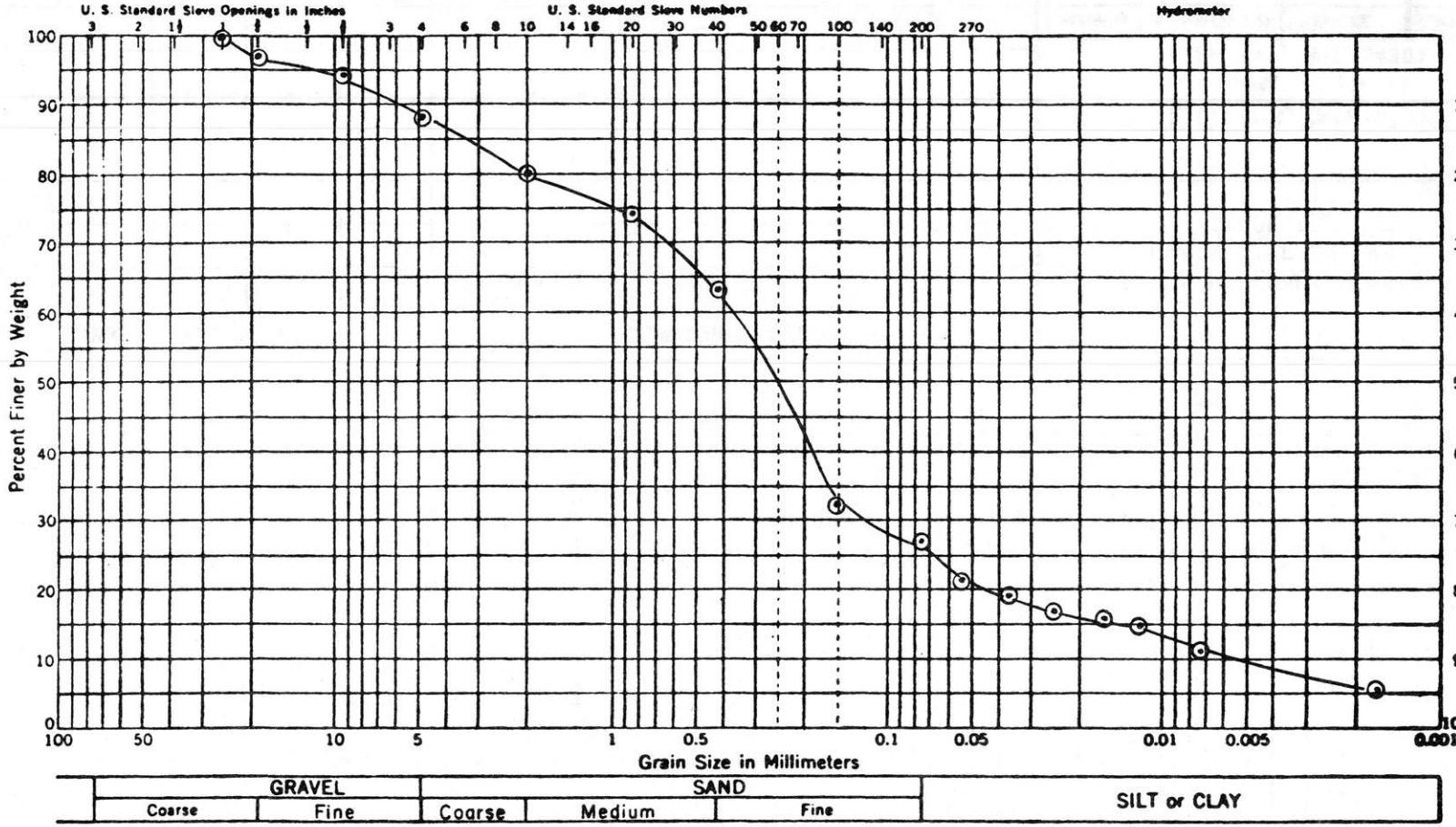
EXXON MINERALS COMPANY
GRAIN SIZE ANALYSIS
CRANDON PROJECT

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DRAWN	APPROVED	DATE	JOB No.
JJT	JAS	4-2-84	12959

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UNIFIED CLASSIFICATION SYSTEM



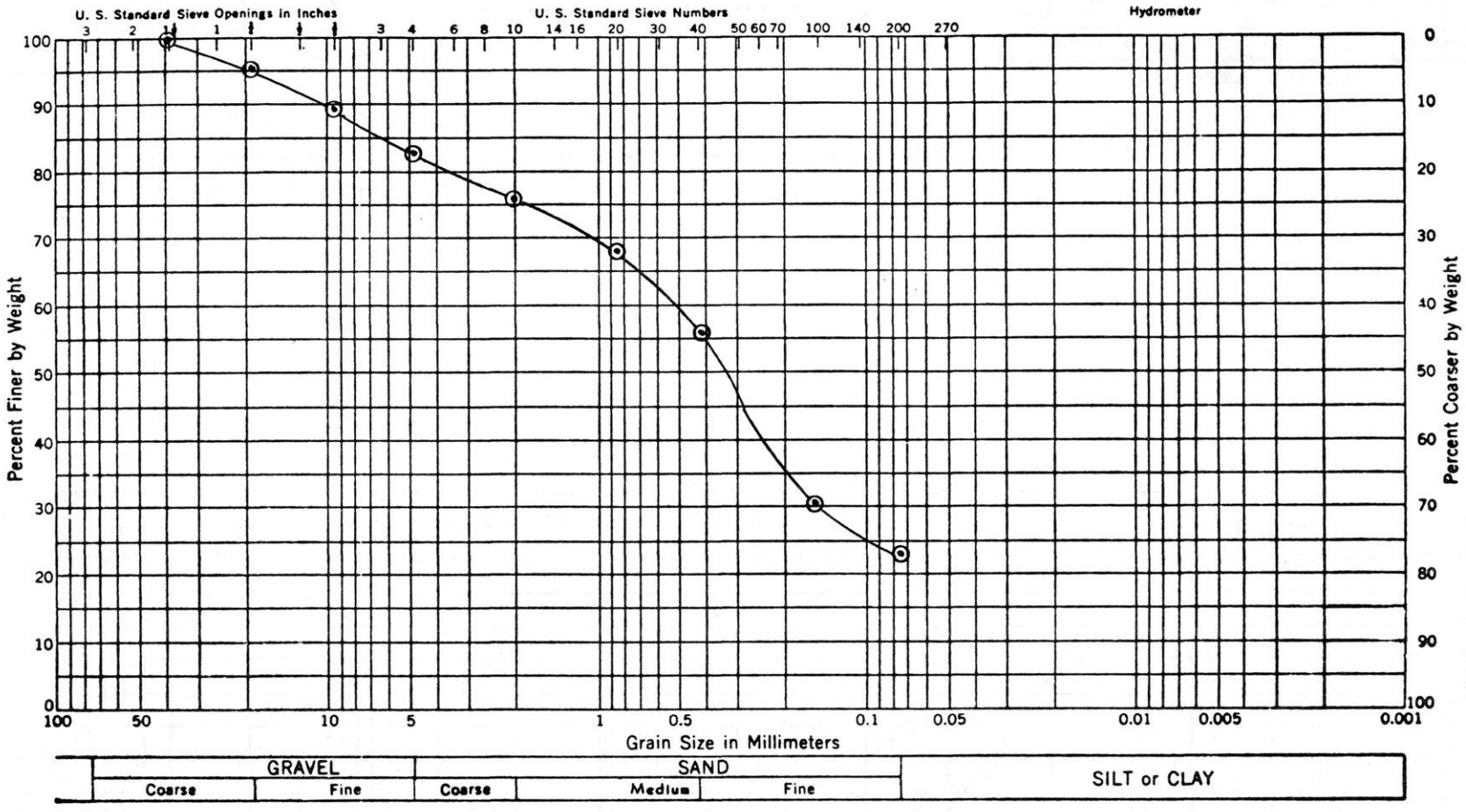
SAMPLE NO.	W.C.	LL	PL	PI	CLASSIFICATION
RP-10					Silty fine to coarse sand (SM)
S-2					
5.0-6.5'					

EXXON MINERALS COMPANY
GRAIN SIZE ANALYSIS
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DRAWN	APPROVED	DATE	JOB No.
JJT	JAS	4-2-84	12959

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BORING	SAMPLE	DEPTH	SYMBOL	D_{10}	D_{30}	D_{60}	C_u	C_c	CLASSIFICATION
RP-10	S-3	10-11.5'							Silty fine to coarse sand (SM)

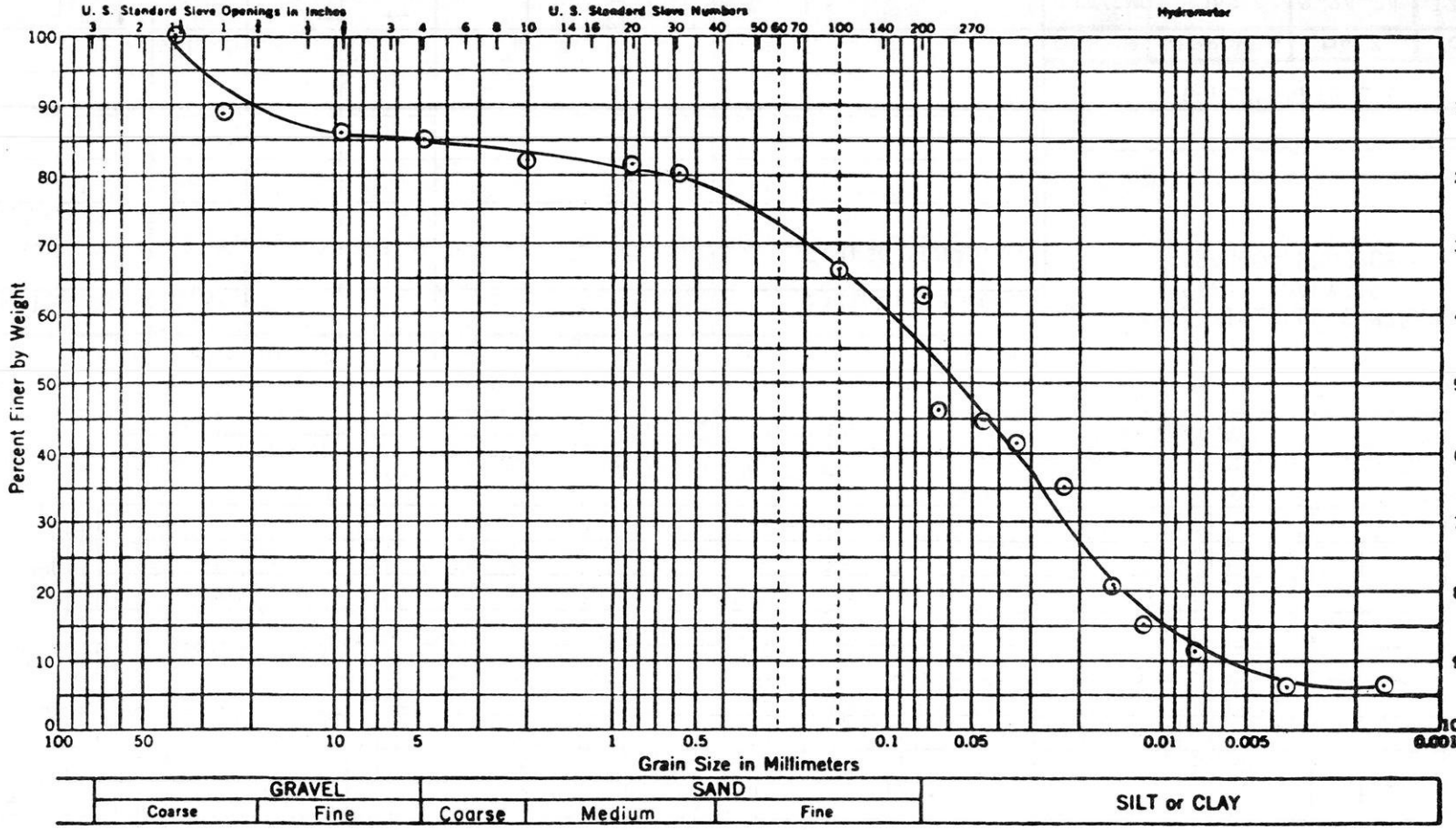
EXXON MINERALS COMPANY
SIEVE ANALYSIS
CRANDON PROJECT

STS CONSULTANTS LTD.

DRAWN	APPROVED	DATE	JOB No.
JJT/SMD	JAS	3-24-84	12959

BBS12478

UNIFIED CLASSIFICATION SYSTEM



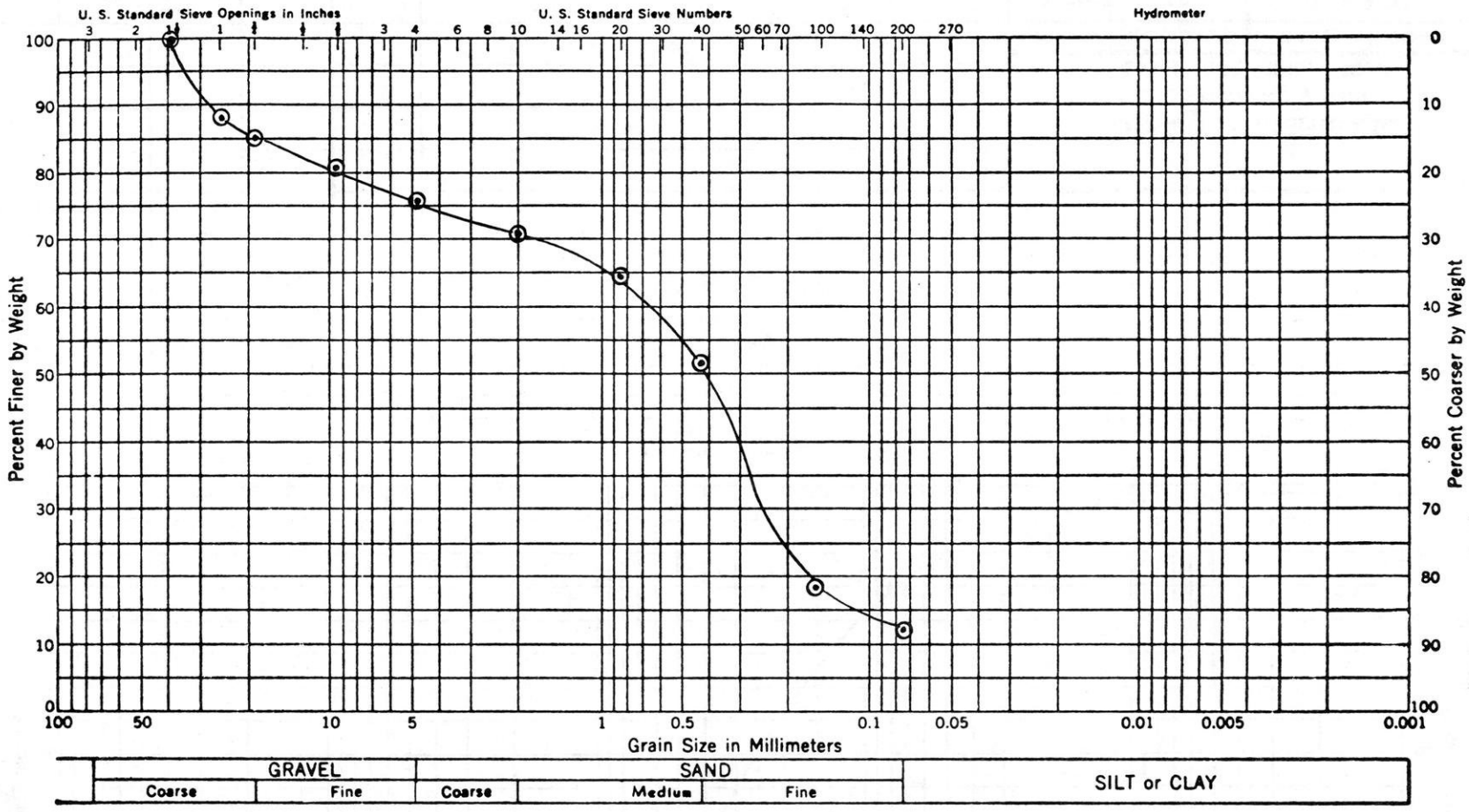
SAMPLE NO.	W.C.	LL	PL	PI	CLASSIFICATION
RP11					Sandy silt (ML)
S-1					
0-1.5'					

EXXON MINERALS COMPANY
GRAIN SIZE ANALYSIS
CRANDON PROJECT

STS Consultants Ltd.
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DRAWN	APPROVED	DATE	JOB No.
KOO/SMD	JAS	3-20-84	12959

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BORING	SAMPLE	DEPTH	SYMBOL	D_{10}	D_{30}	D_{60}	C_u	C_c	CLASSIFICATION
RP-11	S-2	5-6'							Silty fine to coarse sand (SM)

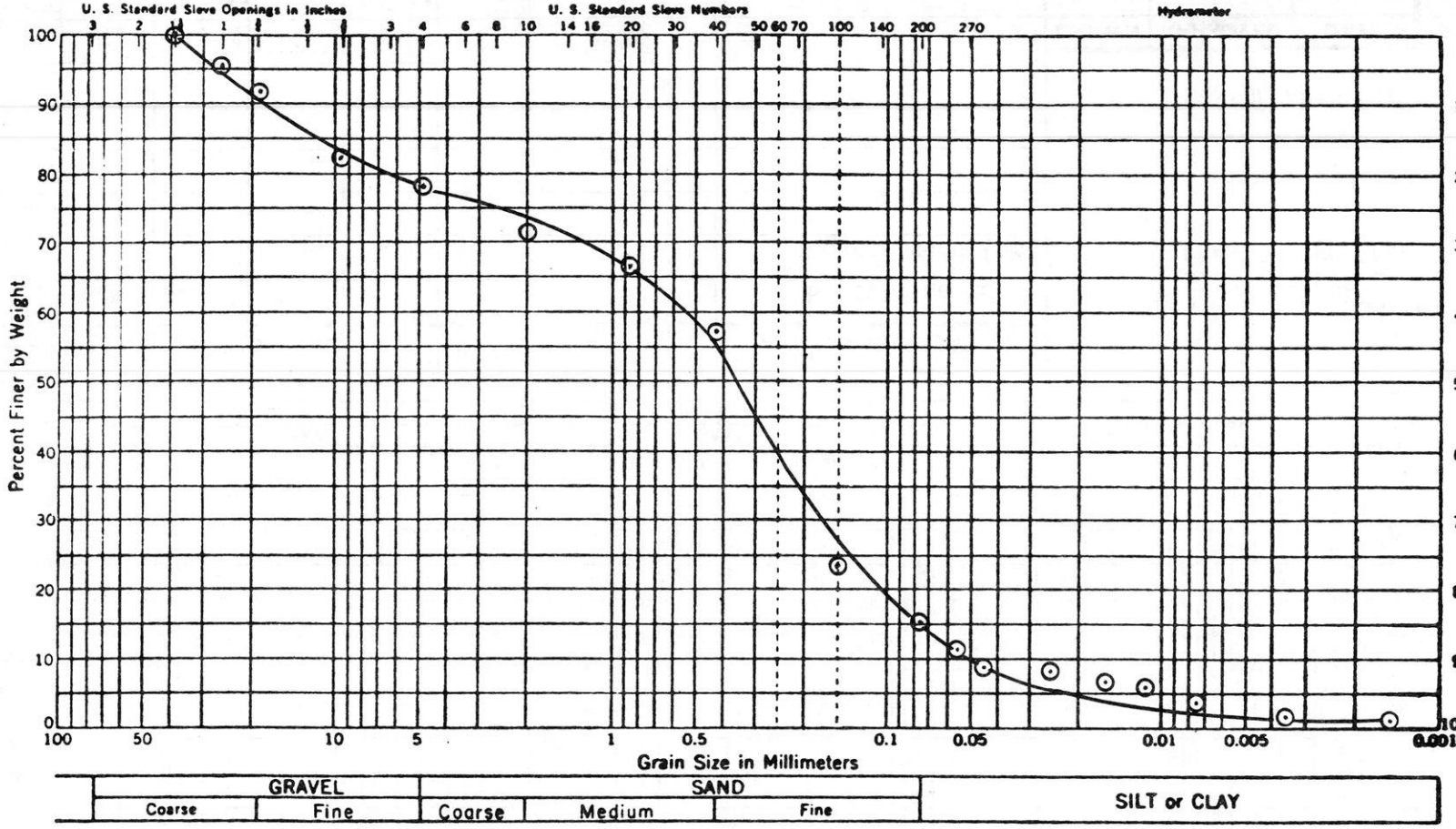
EXXON MINERALS COMPANY
SIEVE ANALYSIS
CRANDON PROJECT

STS CONSULTANTS LTD.

DRAWN	APPROVED	DATE	JOB No.
JJT/SMD	JAS	3-24-84	12959

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UNIFIED CLASSIFICATION SYSTEM



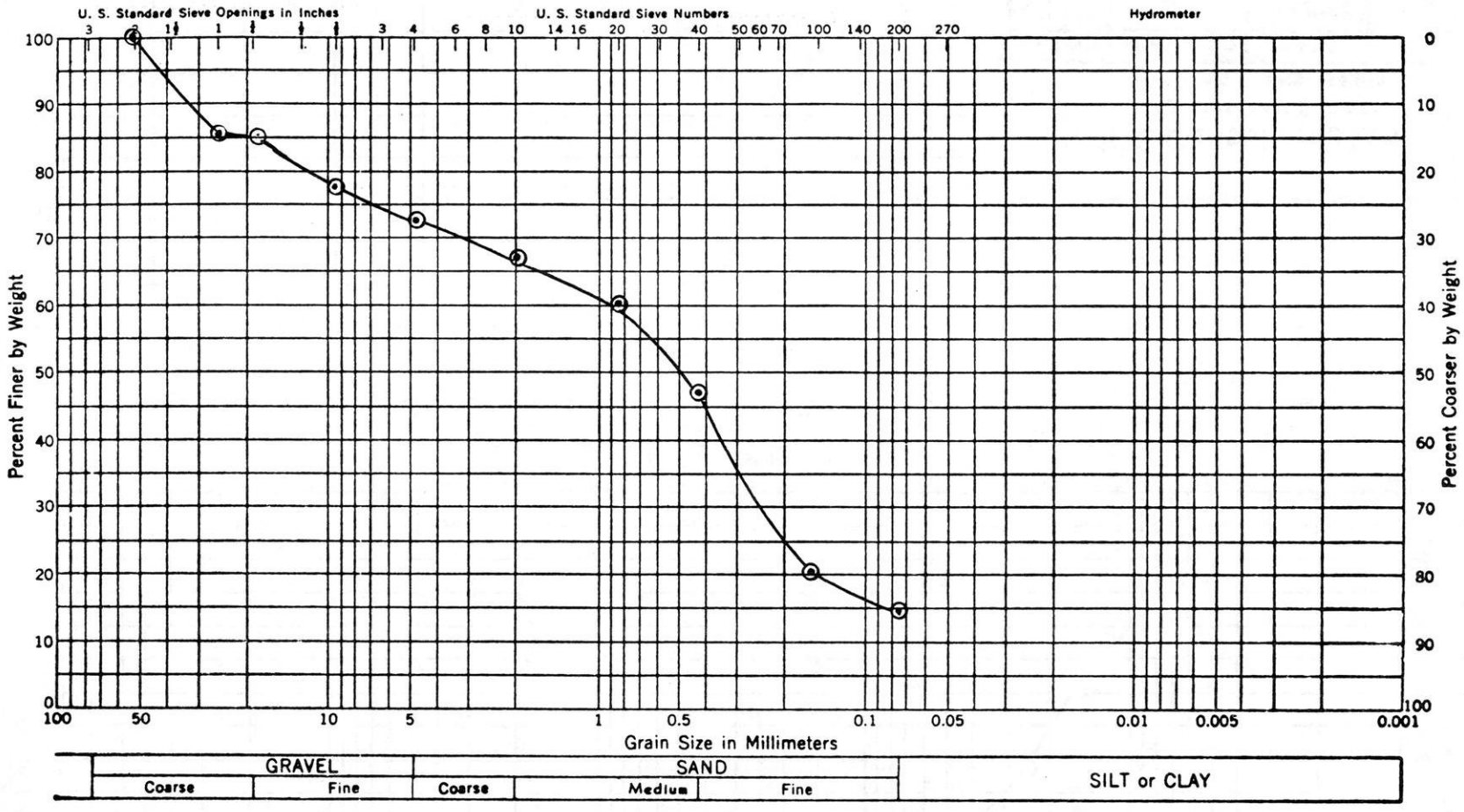
SAMPLE NO.	W.C.	LL	PL	PI	CLASSIFICATION
RP11					Silty fine to coarse sand (SM)
S-3					
10-11'					

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GRAIN SIZE ANALYSIS
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BORING	SAMPLE	DEPTH	SYMBOL	D_{10}	D_{30}	D_{60}	C_u	C_c	CLASSIFICATION
RP-12	S-1	16-17'							Silty fine to coarse sand (SM)

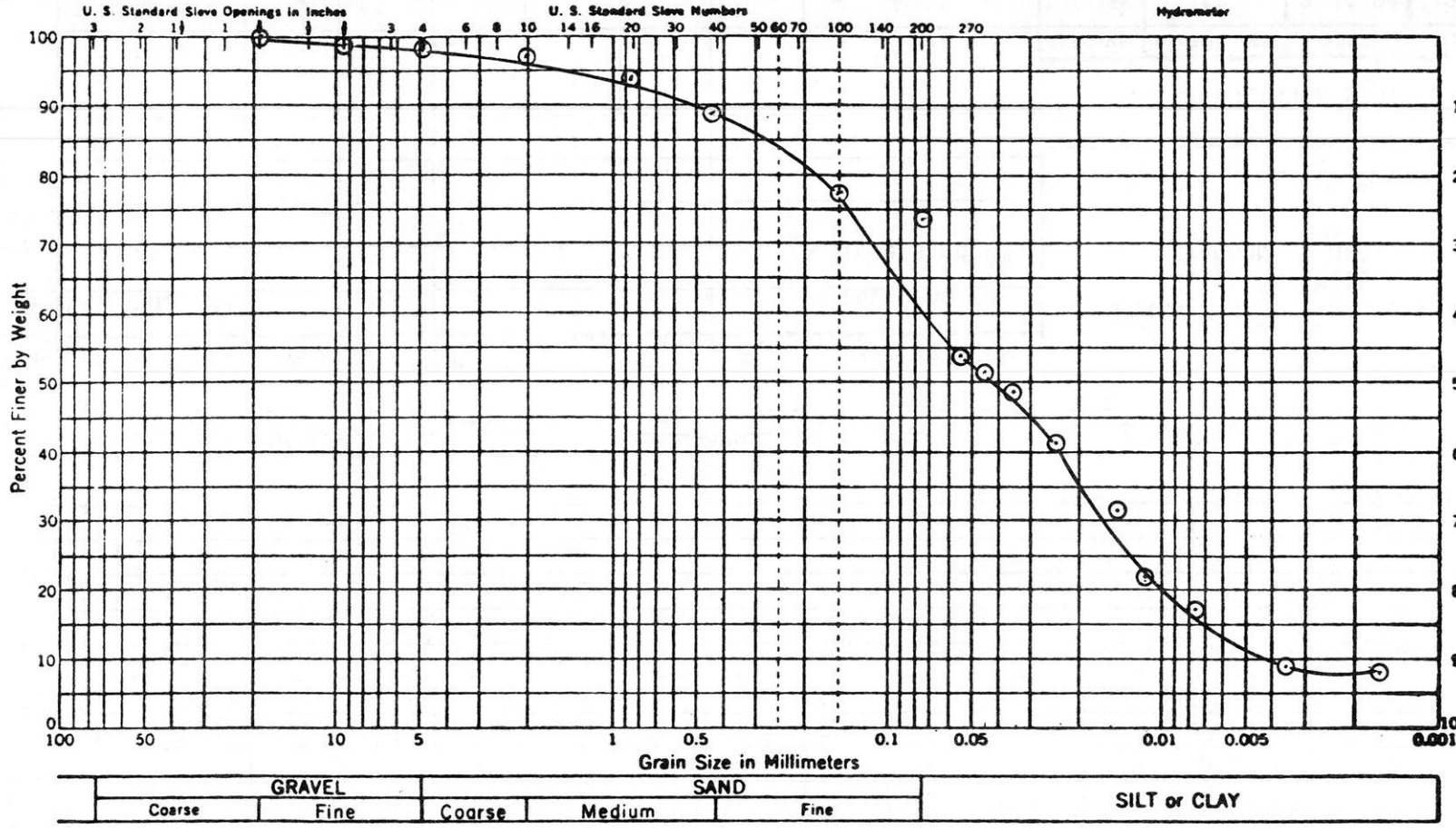
EXXON MINERALS COMPANY
SIEVE ANALYSIS
CRANDON PROJECT

STS CONSULTANTS LTD.

DRAWN	APPROVED	DATE	JOB No.
JJT/SMD	JAS	3-24-84	12959

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UNIFIED CLASSIFICATION SYSTEM



SAMPLE NO.	W.C.	LL	PL	PI	CLASSIFICATION
RP13					Sandy silt (ML)
S-1					
0-1.5'					

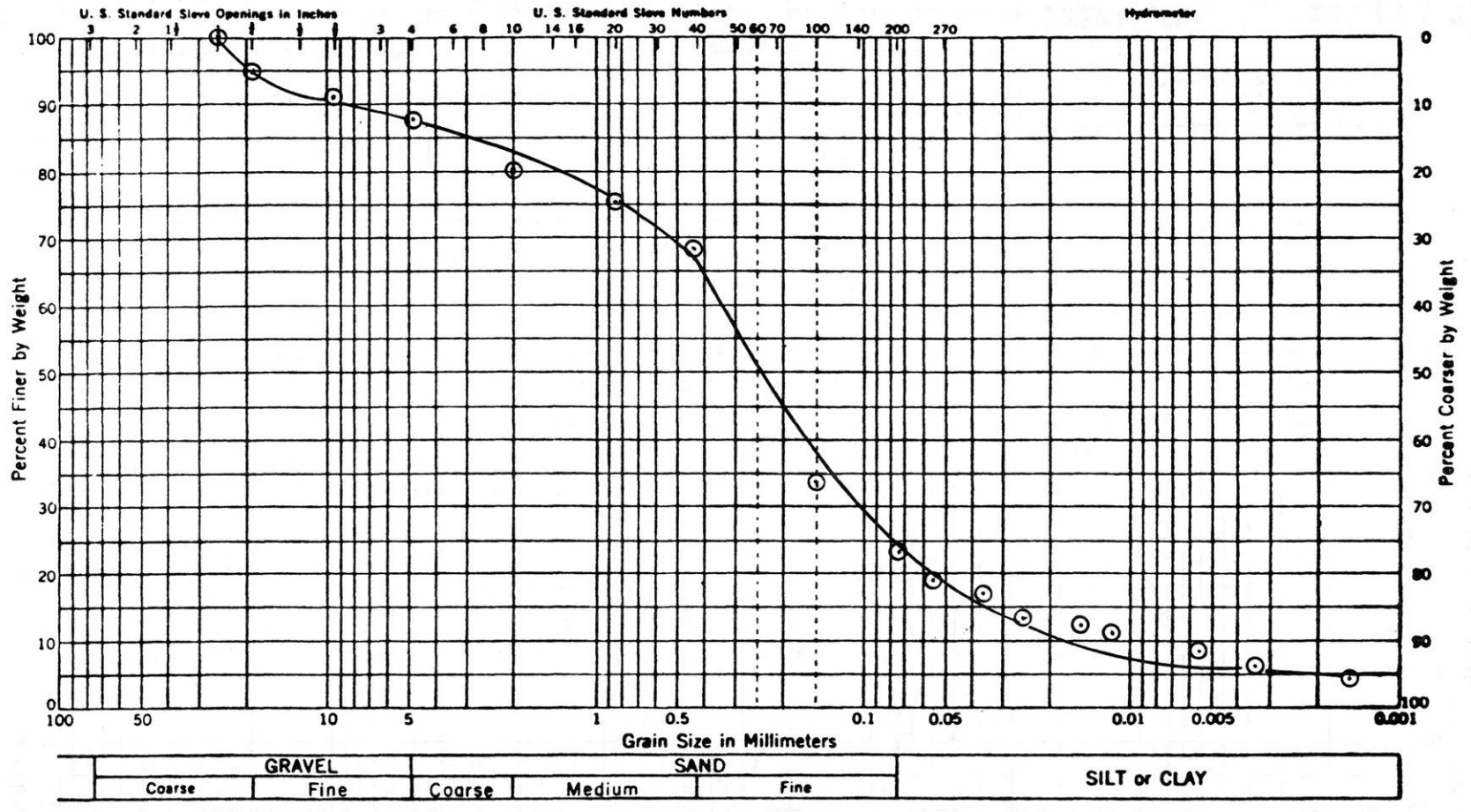
EXXON MINERALS COMPANY
GRAIN SIZE ANALYSIS
CRANDON PROJECT

STS Consultants Ltd.
540 LAMBEAU STREET
GREEN BAY, WIS. 54303

DRAWN	APPROVED	DATE	JOB No.
KOO/SMD	JAS	3-20-84	12959

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UNIFIED CLASSIFICATION SYSTEM



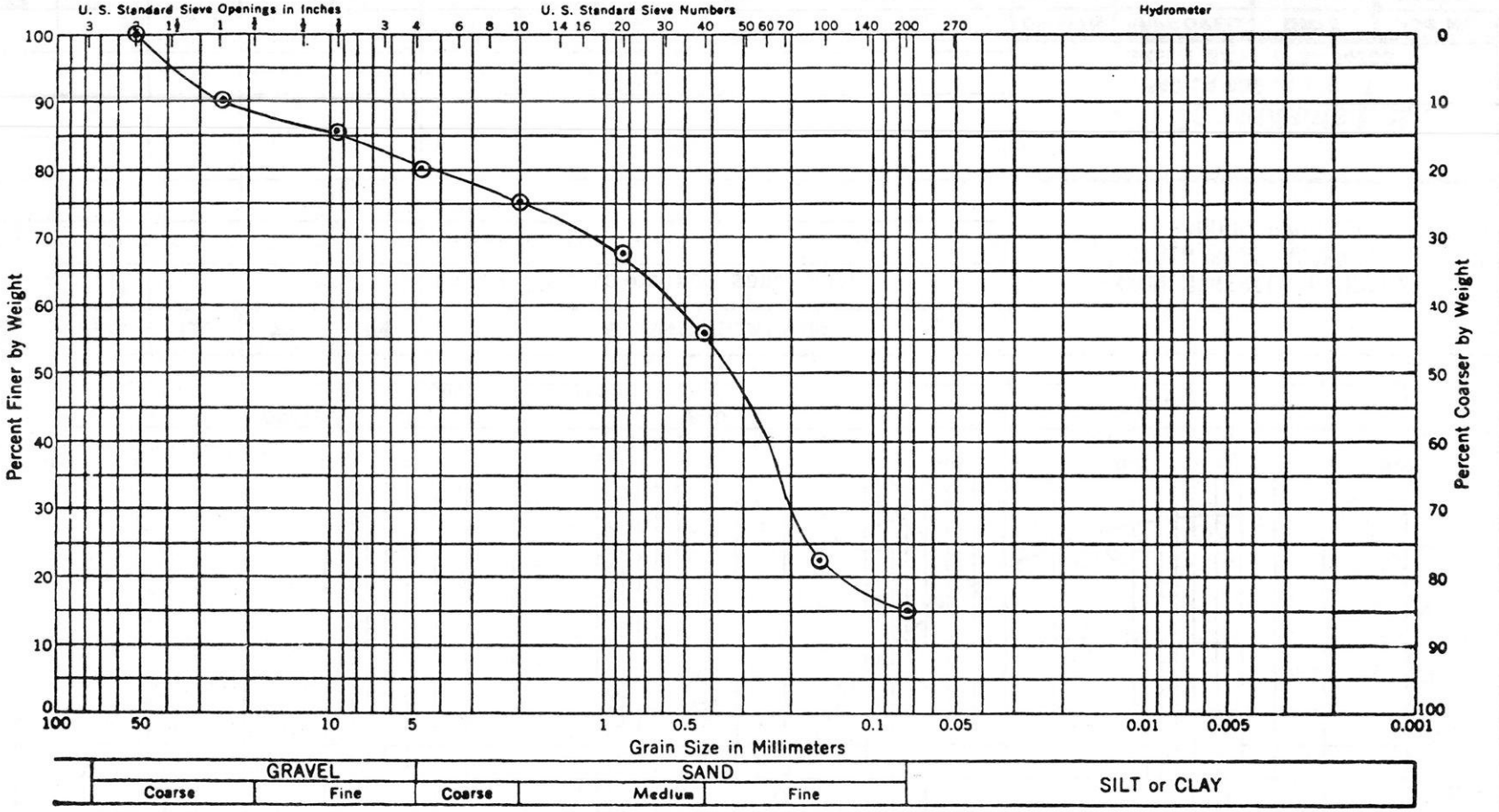
SAMPLE NO.	W.C.	LL	PL	PI	CLASSIFICATION
RP13					Silty fine to coarse sand (SM)
S-2					
6-7.5'					

EXXON MINERALS COMPANY
GRAIN SIZE ANALYSIS
CRANDON PROJECT

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KOO/SMD	JAS	3-20-84	12959

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BORING	SAMPLE	DEPTH	SYMBOL	D_{10}	D_{30}	D_{60}	C_u	C_c	CLASSIFICATION
RP-14	S-1	13-14.5'							Silty fine to coarse sand (SM)

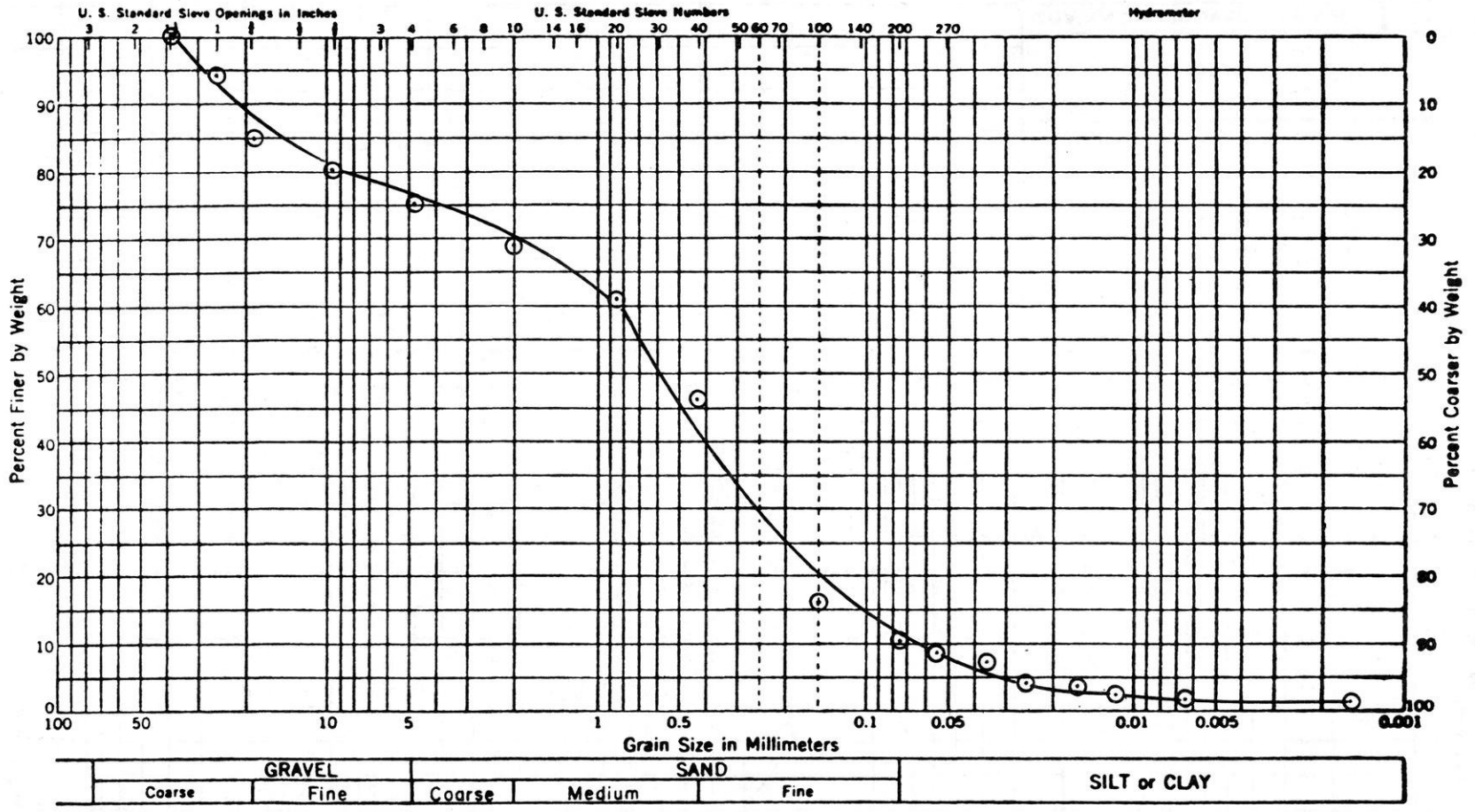
EXXON MINERALS COMPANY
SIEVE ANALYSIS
CRANDON PROJECT

STS CONSULTANTS LTD.

DRAWN	APPROVED	DATE	JOB No.
JJT/SMD	JAS	3-24-84	12959

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UNIFIED CLASSIFICATION SYSTEM



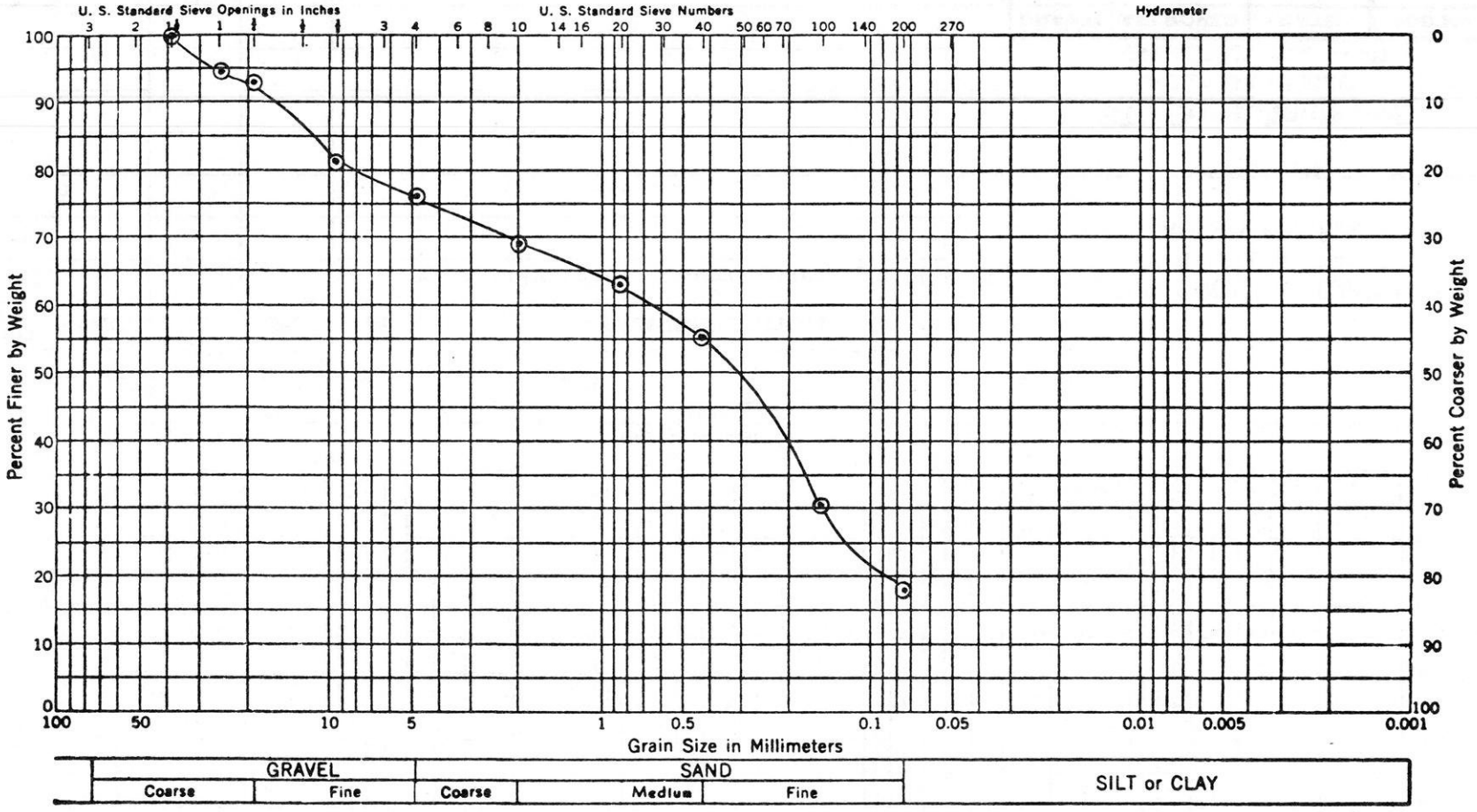
SAMPLE NO.	W.C.	LL	PL	PI	CLASSIFICATION
RP14					Slightly silty fine to coarse sand (SM-SP)
S-2					
18-19.5'					

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GRAIN SIZE ANALYSIS
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DRAWN	APPROVED	DATE	JOB No.
KOO/SMD	JAS	3-20-84	12959

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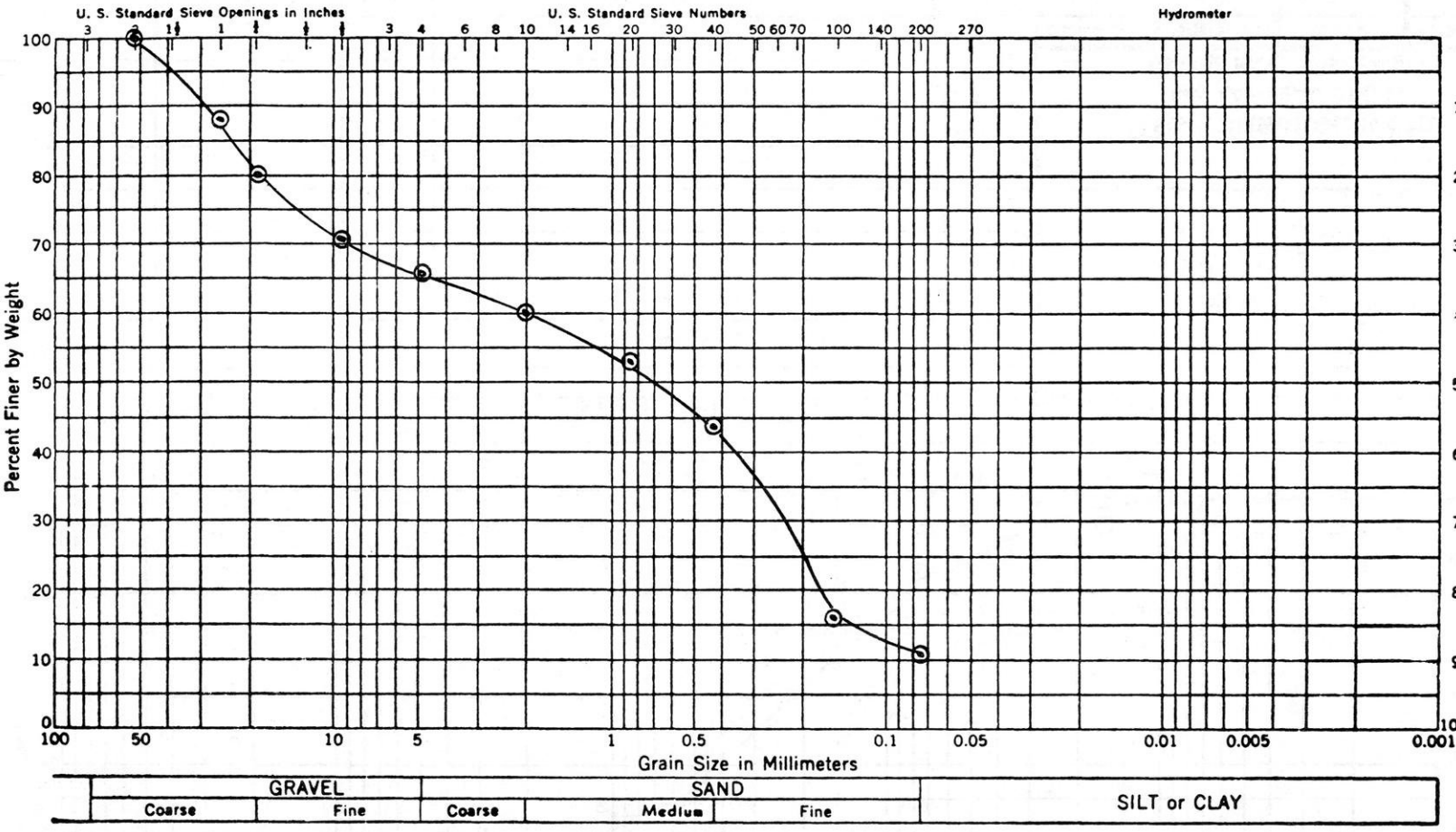
BORING	SAMPLE	DEPTH	SYMBOL	D_{10}	D_{30}	D_{60}	C_u	C_c	CLASSIFICATION
RP-14	S-3	23-23.8'							Silty fine to coarse sand (SM)

EXXON MINERALS COMPANY
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CRANDON PROJECT

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BORING	SAMPLE	DEPTH	SYMBOL	D_{10}	D_{30}	D_{60}	C_u	C_c	CLASSIFICATION
RP-15	S-1	13-14.5'							Slightly silty fine to coarse sand (SM-SP)

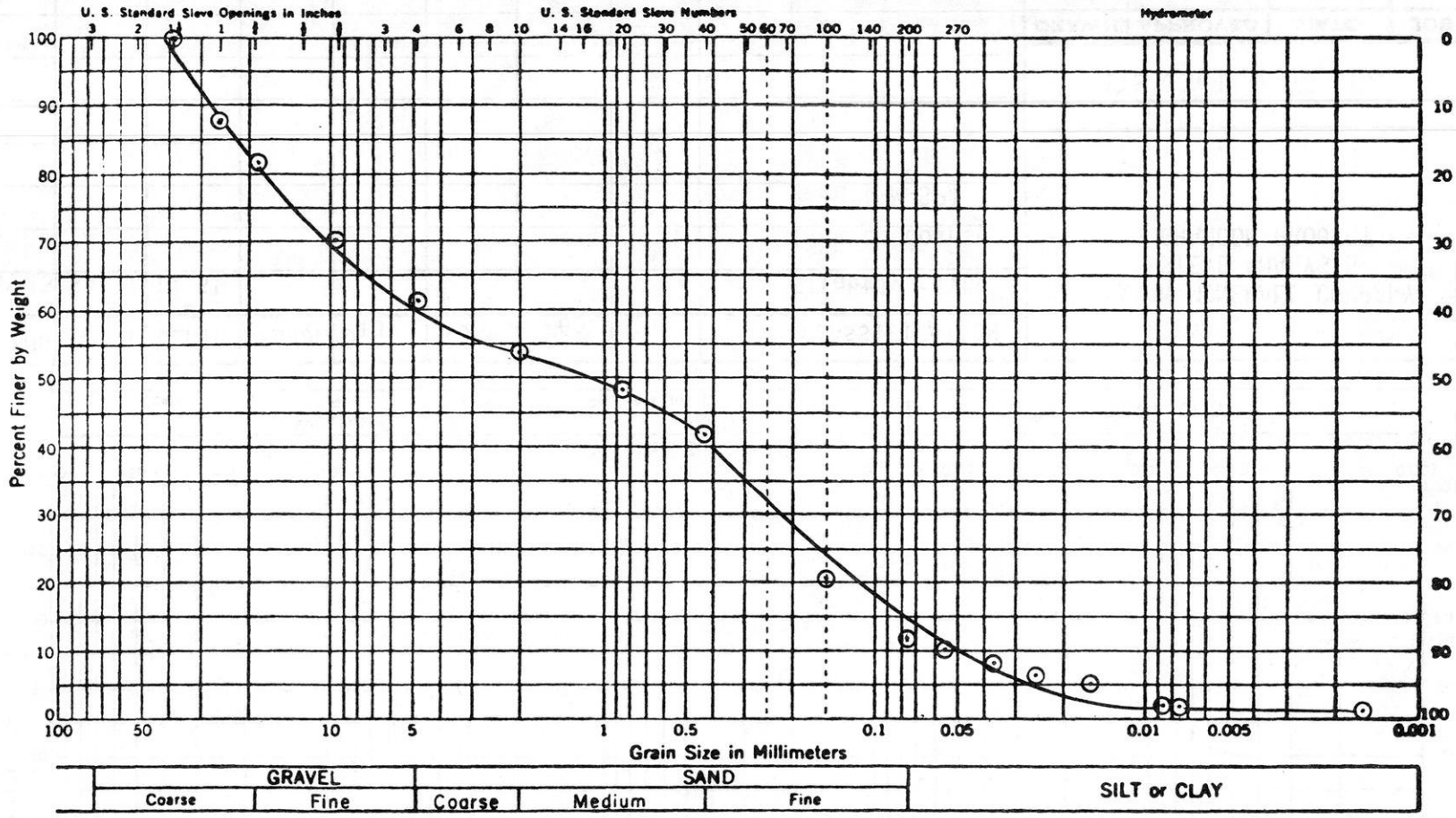
EXXON MINERALS COMPANY
SIEVE ANALYSIS
CRANDON PROJECT

STS CONSULTANTS LTD.

DRAWN	APPROVED	DATE	JOB No.
JJT/SMD	JAS	3-24-84	12959

BBS12478

UNIFIED CLASSIFICATION SYSTEM



SAMPLE NO.	W.C.	LL	PL	PI	CLASSIFICATION
RP15					Silty fine to coarse sand (SM)
S-2					
18-19.5'					

EXXON MINERALS COMPANY
GRAIN SIZE ANALYSIS
CRANDON PROJECT

STS Consultants Ltd.
540 LAMBEAU STREET
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DRAWN	APPROVED	DATE	JOB No.
KOO/SMD	JAS	3-20-84	12959

BBS09302

APPENDIX C

Field Permeability Test Data for EX Piezometers

TEST DATE 4/23/84

STS CONSULTANTS LTD. - FIELD ENGINEERING SERVICES
SINGLE WELL HYDRAULIC CONDUCTIVITY TEST

STS JOB NO.: 12959
PROJECT/LOCATION: EXXON/CRANDON
PROJECT MANAGER: JAS
TEST TECHNICIAN: JCG
DATA ANALYST: PMB/JRT

TEST INFORMATION

TYPE: FALLING HEAD METHOD: SLUG

PIEZOMETER ID: EX1AL
SCREEN LENGTH: 3.0000 feet
SLOT SIZE (est.): 0.0200 inches
STANDPIPE RADIUS: 1.0000 inches
BOREHOLE RADIUS: 3.1250 inches
GRAVEL PACK LENGTH: 8.5000 feet
GRAVEL PACK PERM.: 0.35E-01 ft./sec.
SCREEN PERMEABILITY: 0.35E-02 ft./sec.

LENGTH USED FOR CALCULATION: 8.50 ft.

THE GRAVEL LENGTH WILL BE USED FOR CALC.

SLUG LENGTH: 15.00 feet
SLUG RADIUS: 0.50 inches

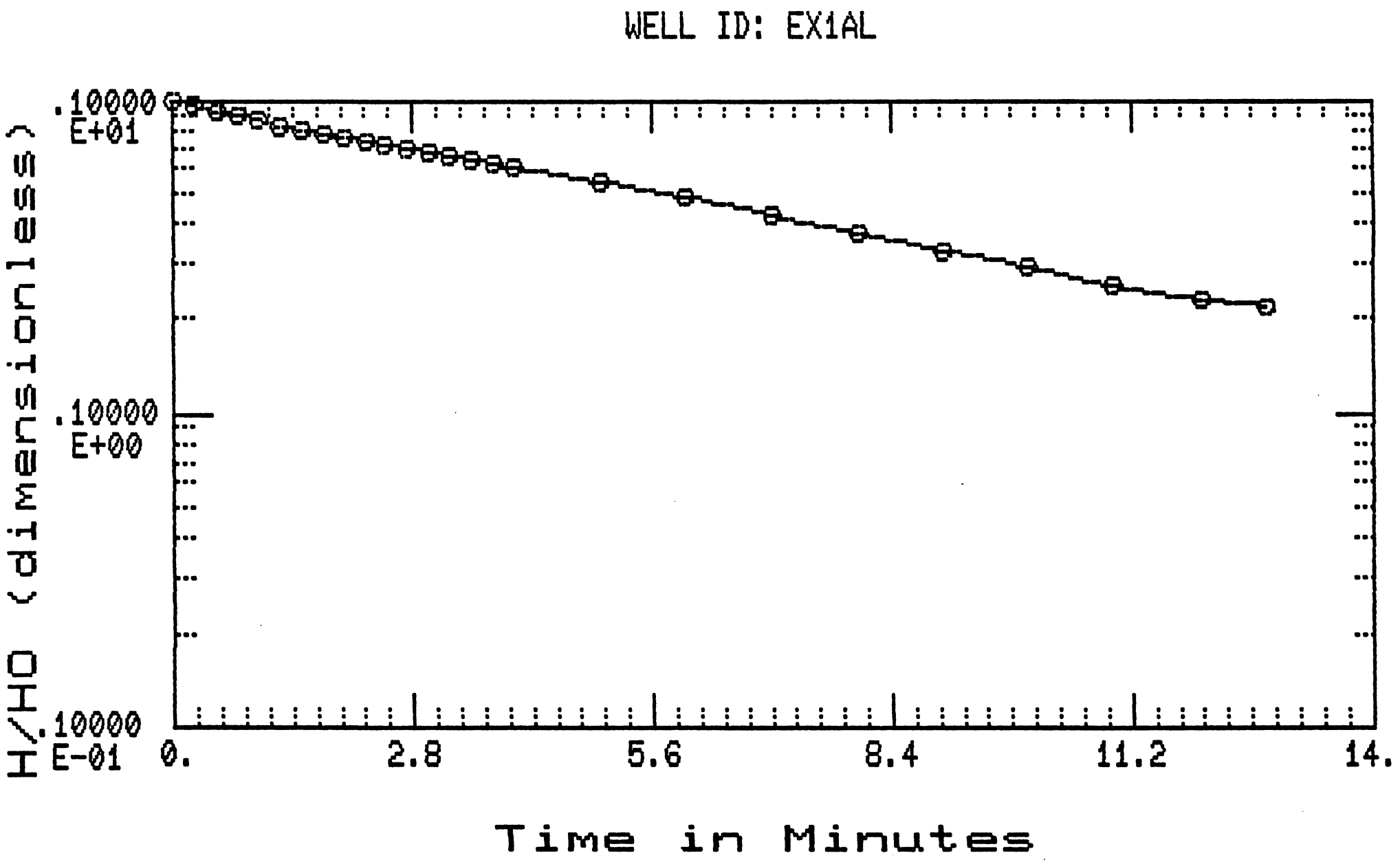
TRANSDUCER USED: 25.00 psi
INITIAL READING: 51.57% of 25.00 psi

DATA POINTS SELECTED

1. TIME: 5.00 minutes HEAD: 54.75 % of 25.00 psi
2. TIME: 11.00 minutes HEAD: 53.07 % of 25.00 psi

HYDRAULIC CONDUCTIVITY OF TEST INTERVAL:

0.91E-04 cm/sec 0.30E-05 ft/sec 0.91E-06 m/sec


WELL ID: EX1AL
.10000 E+01
.10000 E+00
.10000 E-01
H/HO (dimensionless)
0.
2.8
5.6
8.4
11.2
14.
Time in Minutes

WELL ID: EX1AL

TEST DATA:

MEASUREMENT NUMBER	TIME (HH:MM:SS)	TRANSDUCER READING (% of 25.00 psi)	HEAD RATIO (H/HO)
1	14:11: 0	57.45	1.0000
2	14:11:15	57.22	0.9609
3	14:11:30	57.00	0.9235
4	14:11:45	56.80	0.8895
5	14:12: 0	56.62	0.8588
6	14:12:15	56.45	0.8299
7	14:12:30	56.30	0.8044
8	14:12:45	56.15	0.7789
9	14:13: 0	56.02	0.7568
10	14:13:15	55.90	0.7364
11	14:13:30	55.75	0.7109
12	14:13:45	55.65	0.6939
13	14:14: 0	55.52	0.6718
14	14:14:15	55.42	0.6548
15	14:14:30	55.32	0.6378
16	14:14:45	55.20	0.6173
17	14:15: 0	55.10	0.6003
18	14:16: 0	54.75	0.5408
19	14:17: 0	54.42	0.4847
20	14:18: 0	54.07	0.4252
21	14:19: 0	53.77	0.3741
22	14:20: 0	53.50	0.3282
23	14:21: 0	53.27	0.2891
24	14:22: 0	53.07	0.2551
25	14:23: 0	52.92	0.2296
26	14:23:45	52.85	0.2177

STS CONSULTANTS LTD. - FIELD ENGINEERING SERVICES
SINGLE WELL HYDRAULIC CONDUCTIVITY TEST

STS JOB NO.: 12959
PROJECT/LOCATION: EXXON/CRANDON
PROJECT MANAGER: JAS
TEST TECHNICIAN: JCG
DATA ANALYST: PMB/JRT

TEST INFORMATION

TYPE: RISING HEAD METHOD: SLUG

PIEZOMETER ID: EX1AL
SCREEN LENGTH: 3.0000 feet
SLOT SIZE (est.): 0.0200 inches
STANDPIPE RADIUS: 1.0000 inches
BOREHOLE RADIUS: 3.1250 inches
GRAVEL PACK LENGTH: 8.5000 feet
GRAVEL PACK PERM.: 0.35E-01 ft./sec.
SCREEN PERMEABILITY: 0.35E-02 ft./sec.

LENGTH USED FOR CALCULATION: 8.50 ft.

THE GRAVEL LENGTH WILL BE USED FOR CALC.

SLUG LENGTH: 15.00 feet
SLUG RADIUS: 0.50 inches

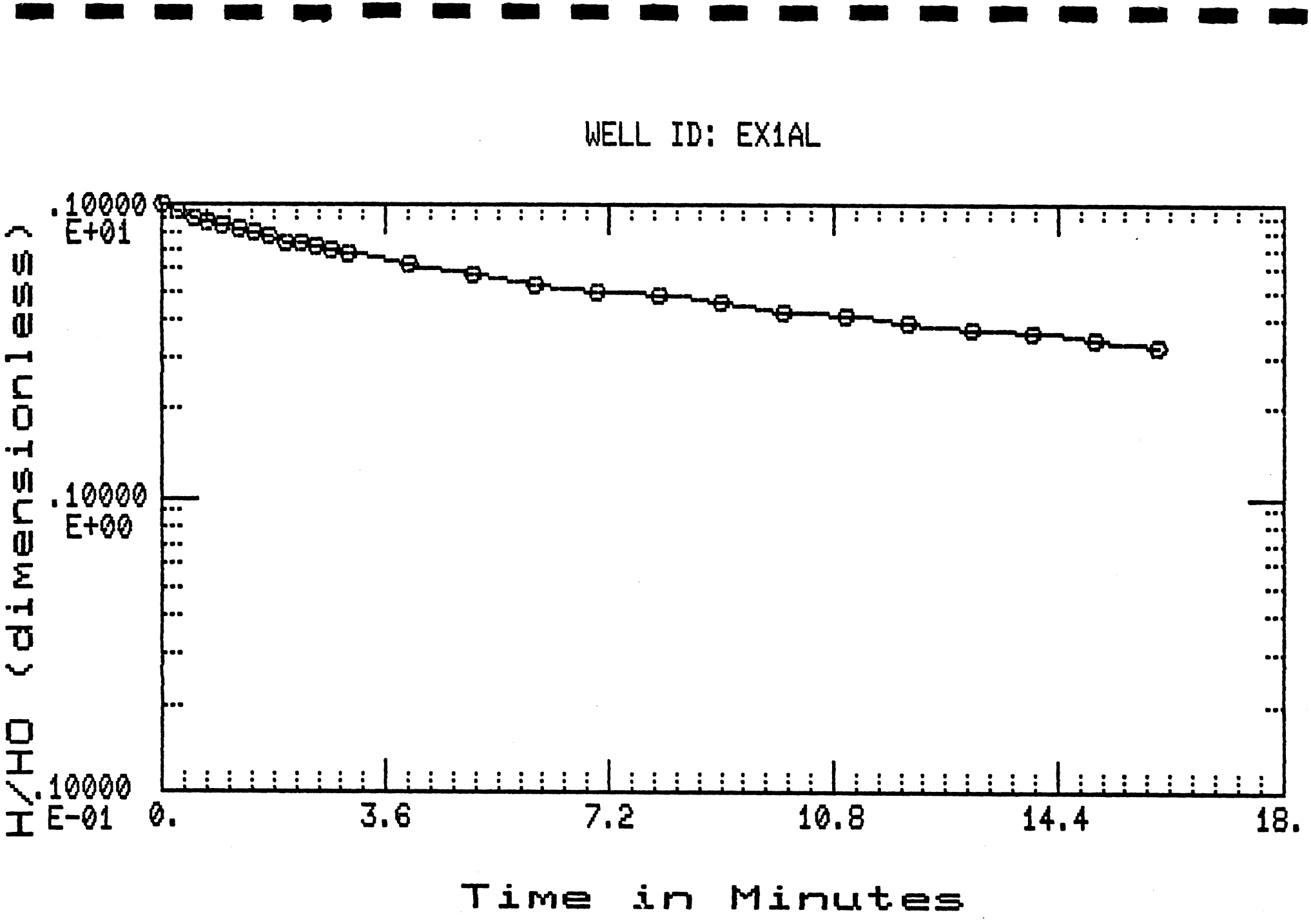
TRANSDUCER USED: 25.00 psi
INITIAL READING: 51.57% of 25.00 psi

DATA POINTS SELECTED

1. TIME: 6.00 minutes HEAD: 48.67 % of 25.00 psi
2. TIME: 16.00 minutes HEAD: 49.82 % of 25.00 psi

HYDRAULIC CONDUCTIVITY OF TEST INTERVAL:

0.37E-04 cm/sec 0.12E-05 ft/sec 0.37E-06 m/sec


WELL ID: EX1AL
.10000 E+01
.10000 E+00
.10000 E-01
H/HO (dimensionless)
0.
3.6
7.2
10.8
14.4
18.
Time in Minutes

WELL ID: EX1AL

TEST DATA:

MEASUREMENT NUMBER	TIME (HH:MM:SS)	TRANSDUCER READING (% of 25.00 psi)	HEAD RATIO (H/HO)
1	14:24: 0	46.17	1.0000
2	14:24:15	46.52	0.9352
3	14:24:30	46.72	0.8981
4	14:24:45	46.90	0.8648
5	14:25: 0	47.05	0.8370
6	14:25:15	47.20	0.8093
7	14:25:30	47.32	0.7870
8	14:25:45	47.42	0.7685
9	14:26: 0	47.55	0.7444
10	14:26:15	47.65	0.7259
11	14:26:30	47.72	0.7130
12	14:26:45	47.82	0.6944
13	14:27: 0	47.90	0.6796
14	14:28: 0	48.20	0.6241
15	14:29: 0	48.45	0.5778
16	14:30: 0	48.67	0.5370
17	14:31: 0	48.82	0.5093
18	14:32: 0	48.92	0.4907
19	14:33: 0	49.07	0.4630
20	14:34: 0	49.27	0.4259
21	14:35: 0	49.35	0.4111
22	14:36: 0	49.45	0.3926
23	14:37: 0	49.55	0.3741
24	14:38: 0	49.62	0.3611
25	14:39: 0	49.72	0.3426
26	14:40: 0	49.82	0.3241

TEST DATE 4/23/84

STS CONSULTANTS LTD. - FIELD ENGINEERING SERVICES
SINGLE WELL HYDRAULIC CONDUCTIVITY TEST

STS JOB NO.: 12959
PROJECT/LOCATION: EXXON/CRANDON
PROJECT MANAGER: JAS
TEST TECHNICIAN: JCG
DATA ANALYST: PMB

TEST INFORMATION

TYPE: FALLING HEAD METHOD: SLUG

PIEZOMETER ID: EX1AU
SCREEN LENGTH: 3.0000 feet
SLOT SIZE (est.): 0.0200 inches
STANDPIPE RADIUS: 1.0000 inches
BOREHOLE RADIUS: 3.1250 inches
GRAVEL PACK LENGTH: 7.0000 feet
GRAVEL PACK PERM.: 0.35E-01 ft./sec.
SCREEN PERMEABILITY: 0.35E-02 ft./sec.

LENGTH USED FOR CALCULATION: 7.00 ft.

THE GRAVEL LENGTH WILL BE USED FOR CALC.

SLUG LENGTH: 15.00 feet
SLUG RADIUS: 0.50 inches

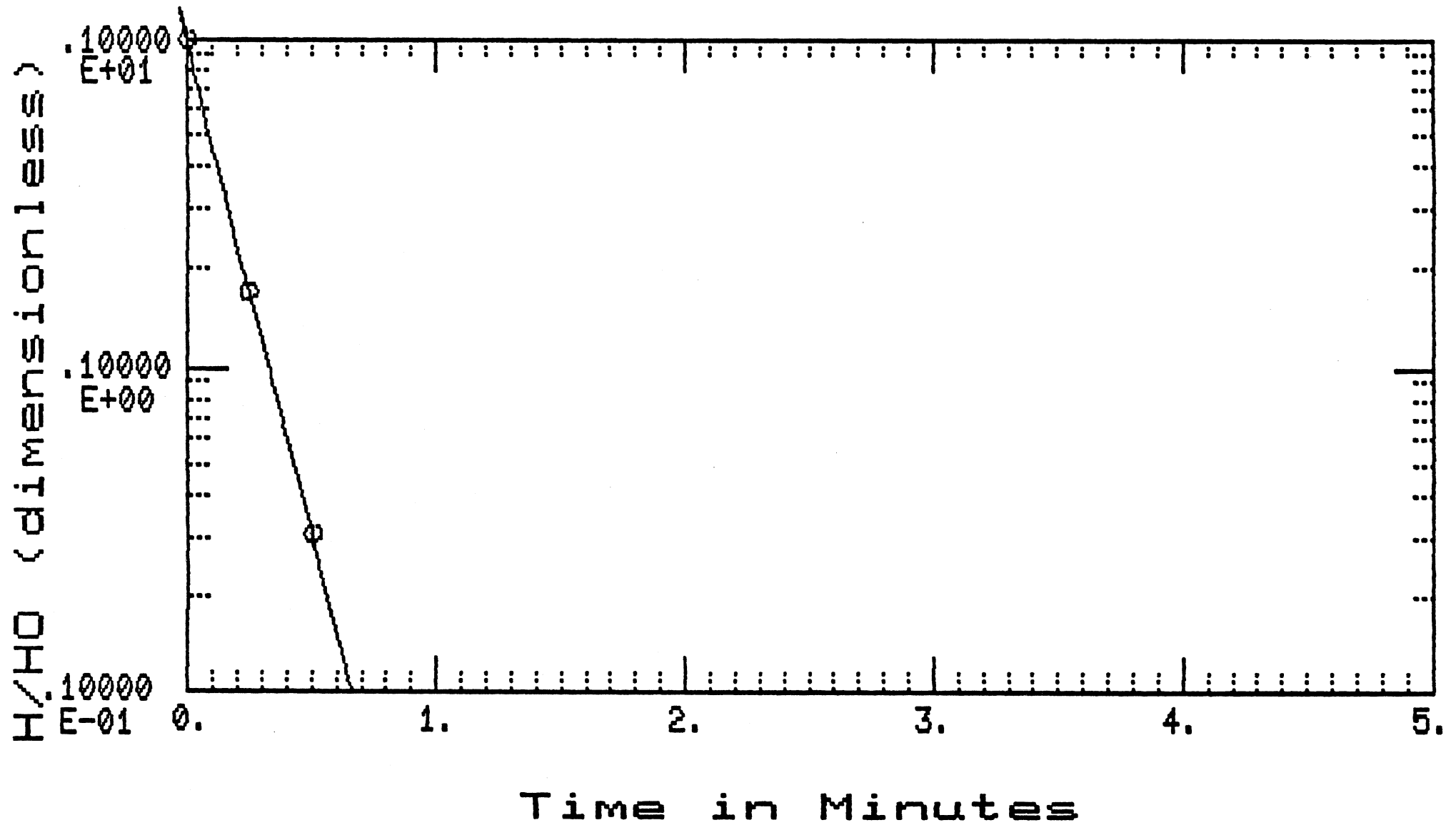
TRANSDUCER USED: 25.00 psi
INITIAL READING: 50.15% of 25.00 psi

DATA POINTS SELECTED

1. TIME: 0.00 minutes HEAD: 53.40 % of 25.00 psi
2. TIME: 0.50 minutes HEAD: 50.25 % of 25.00 psi

HYDRAULIC CONDUCTIVITY OF TEST INTERVAL:

0.58E-02 cm/sec 0.19E-03 ft/sec 0.58E-04 m/sec


WELL ID: EX1AU
.10000 E+01
.10000 E+00
.10000 E-01
H/HO (dimensionless)
0.
1.
2.
3.
4.
5.
Time in Minutes

WELL ID: EX1AU

TEST DATA:

MEASUREMENT NUMBER	TIME (HH:MM:SS)	TRANSDUCER READING (% of 25.00 psi)	HEAD RATIO (H/H0)
1	14:45: 0	53.40	1.0000
2	14:45:15	50.70	0.1692
3	14:45:30	50.25	0.0308
4	14:45:45	50.17	0.0062
5	14:46: 0	50.12	0.0092
6	14:49: 0	50.12	0.0092

STS CONSULTANTS LTD. - FIELD ENGINEERING SERVICES

SINGLE WELL HYDRAULIC CONDUCTIVITY TEST

STS JOB NO.: 12959
PROJECT/LOCATION: EXXON/CRANDON
PROJECT MANAGER: JAS
TEST TECHNICIAN: JCG
DATA ANALYST: PMB/JRT

TEST INFORMATION

TYPE: RISING HEAD METHOD: SLUG

PIEZOMETER ID: EX1AU
SCREEN LENGTH: 3.0000 feet
SLOT SIZE (est.): 0.0200 inches
STANDPIPE RADIUS: 1.0000 inches
BOREHOLE RADIUS: 3.1250 inches
GRAVEL PACK LENGTH: 7.0000 feet
GRAVEL PACK PERM.: 0.35E-01 ft./sec.
SCREEN PERMEABILITY: 0.35E-02 ft./sec.

LENGTH USED FOR CALCULATION: 7.00 ft.

THE GRAVEL LENGTH WILL BE USED FOR CALC.

SLUG LENGTH: 15.00 feet
SLUG RADIUS: 0.50 inches

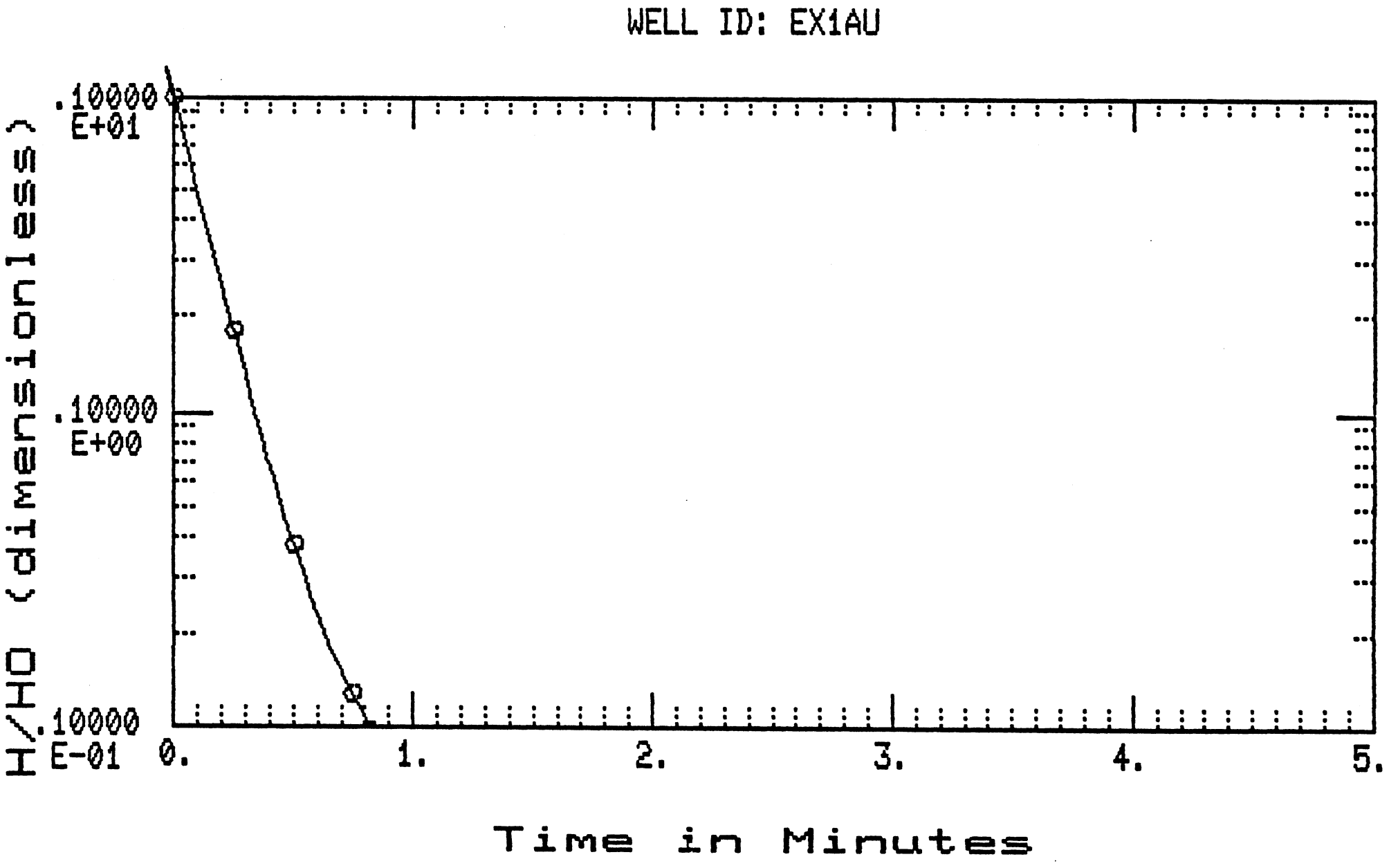
TRANSDUCER USED: 25.00 psi
INITIAL READING: 50.15% of 25.00 psi

DATA POINTS SELECTED

1. TIME: 0.25 minutes HEAD: 49.45 % of 25.00 psi
2. TIME: 0.75 minutes HEAD: 50.10 % of 25.00 psi

HYDRAULIC CONDUCTIVITY OF TEST INTERVAL:

0.44E-02 cm/sec 0.14E-03 ft/sec 0.44E-04 m/sec


WELL ID: EX1AU
.10000 E+01
.10000 E+00
.10000 E-01
H/HO (dimensionless)
0.
1.
2.
3.
4.
5.
Time in Minutes

WELL ID: EX1AU

TEST DATA:

MEASUREMENT NUMBER	TIME (HH:MM:SS)	TRANSDUCER READING (% of 25.00 psi)	HEAD RATIO (H/HO)
1	14:50: 0	46.27	1.0000
2	14:50:15	49.45	0.1804
3	14:50:30	50.00	0.0387
4	14:50:45	50.10	0.0129
5	14:51: 0	50.12	0.0077
6	14:51:30	50.12	0.0077
7	14:51:45	50.15	0.0010
8	14:54: 0	50.15	0.0010

STS CONSULTANTS LTD. - FIELD ENGINEERING SERVICES
SINGLE WELL HYDRAULIC CONDUCTIVITY TEST

STS JOB NO.: 12959
PROJECT/LOCATION: EXXON/CRANDON
PROJECT MANAGER: JAS
TEST TECHNICIAN: JCG
DATA ANALYST: PMB/JRT

TEST INFORMATION

TYPE: FALLING HEAD METHOD: SLUG

PIEZOMETER ID: EX1BL
SCREEN LENGTH: 3.0000 feet
SLOT SIZE (est.): 0.0200 inches
STANDPIPE RADIUS: 1.0000 inches
BOREHOLE RADIUS: 3.1250 inches
GRAVEL PACK LENGTH: 7.0000 feet
GRAVEL PACK PERM.: 0.35E-01 ft./sec.
SCREEN PERMEABILITY: 0.35E-02 ft./sec.

LENGTH USED FOR CALCULATION: 7.00 ft.

THE GRAVEL LENGTH WILL BE USED FOR CALC.

SLUG LENGTH: 15.00 feet
SLUG RADIUS: 0.50 inches

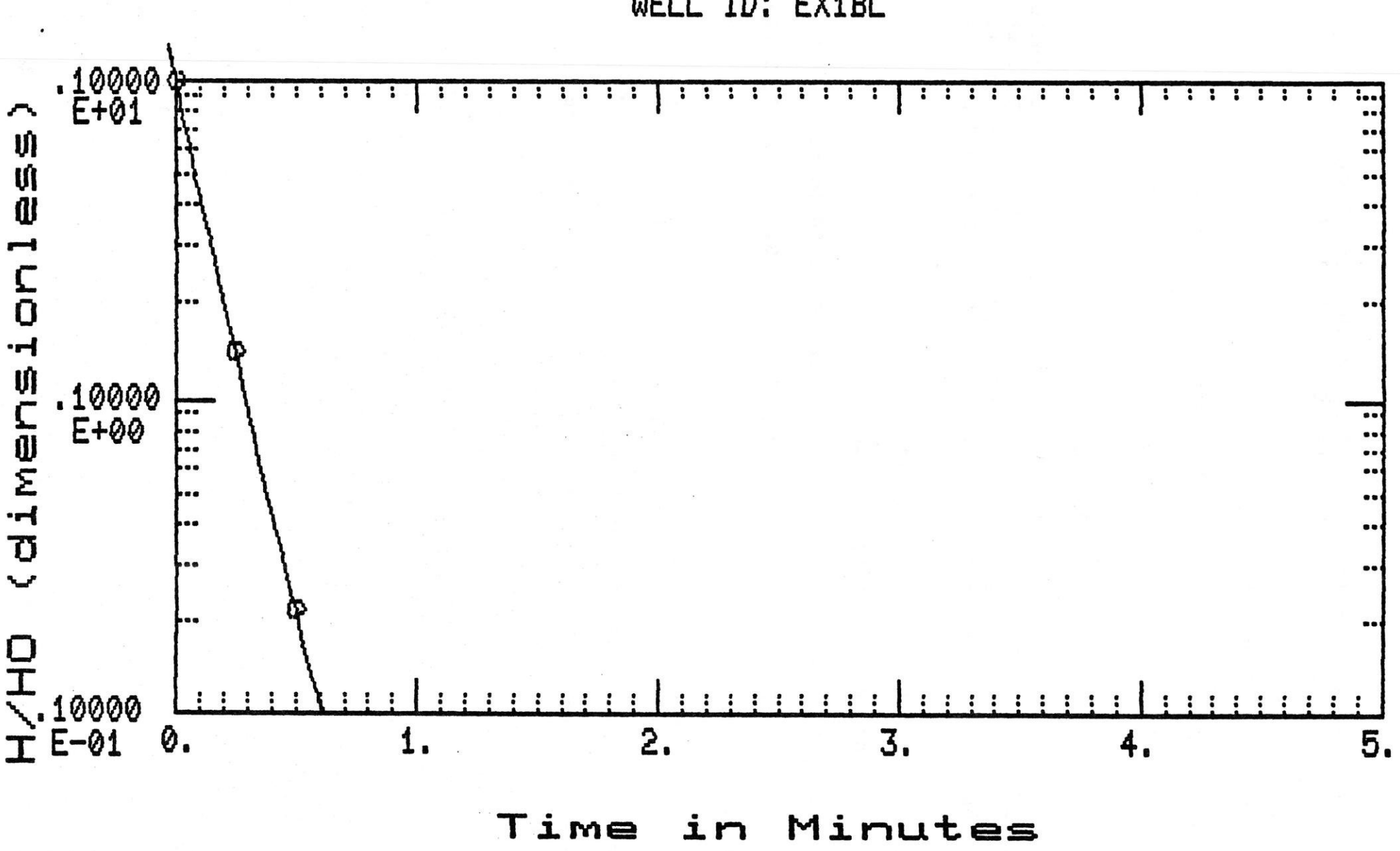
TRANSDUCER USED: 25.00 psi
INITIAL READING: 50.75% of 25.00 psi

DATA POINTS SELECTED

1. TIME: 0.00 minutes HEAD: 55.42 % of 25.00 psi
2. TIME: 0.50 minutes HEAD: 50.85 % of 25.00 psi

HYDRAULIC CONDUCTIVITY OF TEST INTERVAL:

0.64E-02 cm/sec 0.21E-03 ft/sec 0.64E-04 m/sec


WELL ID: EX1BL
.10000 E+01
.10000 E+00
.10000 E-01
H/HO (dimensionless)
0.
1.
2.
3.
4.
5.
Time in Minutes

WELL ID: EX1BL

TEST DATA:

MEASUREMENT NUMBER	TIME (HH:MM:SS)	TRANSDUCER READING (% of 25.00 psi)	HEAD RATIO (H/HO)
1	15: 3: 0	55.42	1.0000
2	15: 3:15	51.40	0.1392
3	15: 3:30	50.85	0.0214
4	15: 3:45	50.77	0.0043
5	15: 7:45	50.77	0.0043

STS CONSULTANTS LTD. - FIELD ENGINEERING SERVICES
SINGLE WELL HYDRAULIC CONDUCTIVITY TEST

STS JOB NO.: 12959
PROJECT/LOCATION: EXXON/CRANDON
PROJECT MANAGER: JAS
TEST TECHNICIAN: JCG
DATA ANALYST: PMB/JRT

TEST INFORMATION

TYPE: RISING HEAD METHOD: SLUG

PIEZOMETER ID: EX1BL
SCREEN LENGTH: 3.0000 feet
SLOT SIZE (est.): 0.0200 inches
STANDPIPE RADIUS: 1.0000 inches
BOREHOLE RADIUS: 3.1250 inches
GRAVEL PACK LENGTH: 7.0000 feet
GRAVEL PACK PERM.: 0.35E-01 ft./sec.
SCREEN PERMEABILITY: 0.35E-02 ft./sec.

LENGTH USED FOR CALCULATION: 7.00 ft.

THE GRAVEL LENGTH WILL BE USED FOR CALC.

SLUG LENGTH: 15.00 feet
SLUG RADIUS: 0.50 inches

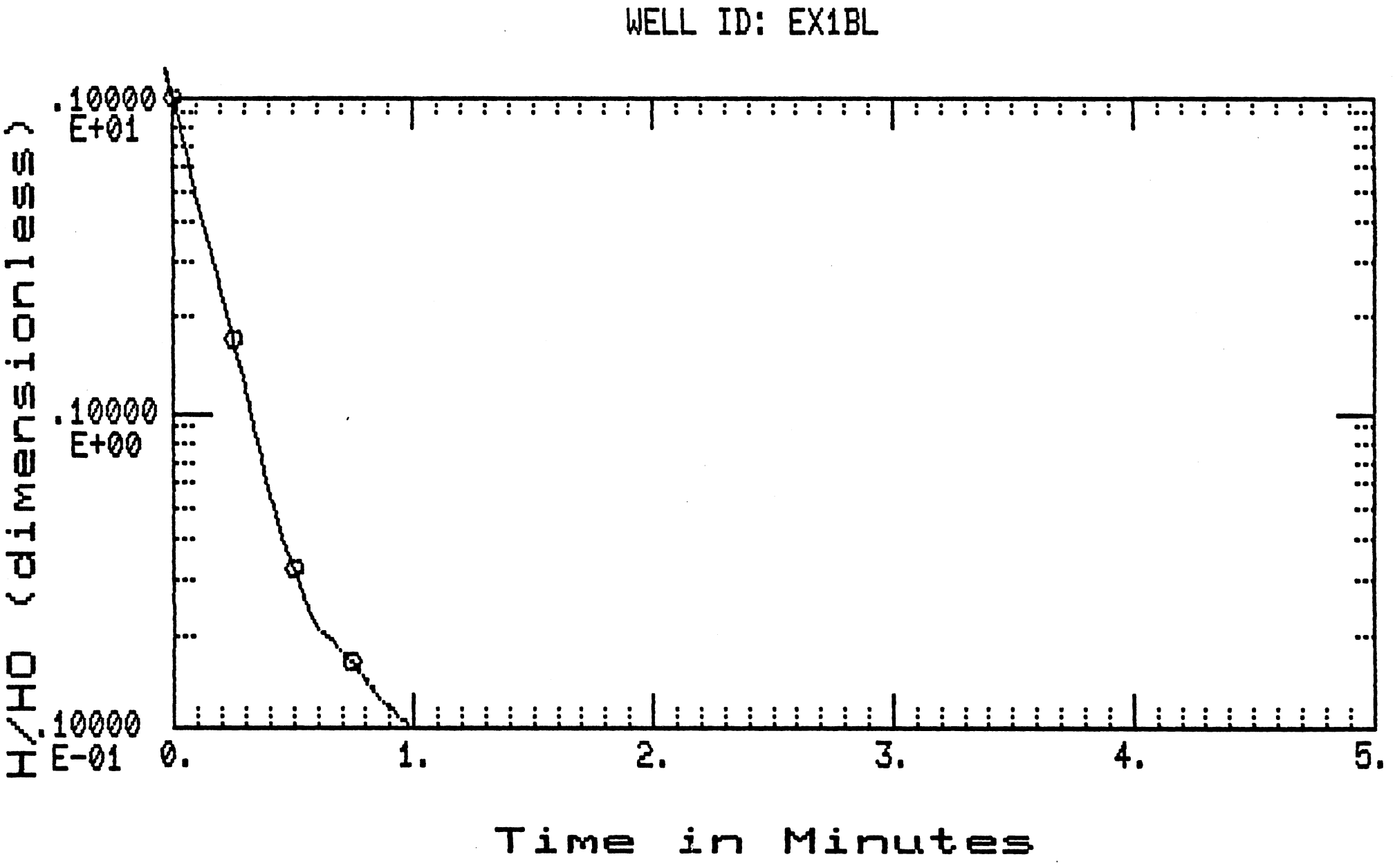
TRANSDUCER USED: 25.00 psi
INITIAL READING: 50.80% of 25.00 psi

DATA POINTS SELECTED

1. TIME: 0.00 minutes HEAD: 47.72 % of 25.00 psi
2. TIME: 0.50 minutes HEAD: 50.70 % of 25.00 psi

HYDRAULIC CONDUCTIVITY OF TEST INTERVAL:

0.57E-02 cm/sec 0.19E-03 ft/sec 0.57E-04 m/sec


WELL ID: EX1BL
H/HO (dimensionless)
.10000 E+01
.10000 E+00
.10000 E-01
0.
1.
2.
3.
4.
5.
Time in Minutes

WELL ID: EX1BL

TEST DATA:

MEASUREMENT NUMBER	TIME (HH:MM:SS)	TRANSDUCER READING (% of 25.00 psi)	HEAD RATIO (H/HO)
1	15: 8: 0	47.72	1.0000
2	15: 8:15	50.27	0.1721
3	15: 8:30	50.70	0.0325
4	15: 8:45	50.75	0.0162
5	15: 9: 0	50.77	0.0097
6	15:11: 0	50.77	0.0097
7	15:12: 0	50.80	0.0010

STS CONSULTANTS LTD. - FIELD ENGINEERING SERVICES
SINGLE WELL HYDRAULIC CONDUCTIVITY TEST

STS JOB NO.: 12959
PROJECT/LOCATION: EXXON CRANDON
PROJECT MANAGER: JAS
TEST TECHNICIAN: JLG
DATA ANALYST: JAS

TEST INFORMATION

TYPE: FALLING HEAD METHOD: SLUG

PIEZOMETER ID: EX 2AL
SCREEN LENGTH: 3.0000 feet
SLOT SIZE (est.): 0.0200 inches
STANDPIPE RADIUS: 1.0000 inches
BOREHOLE RADIUS: 3.1250 inches
GRAVEL PACK LENGTH: 7.0000 feet
GRAVEL PACK PERM.: 0.35E-01 ft./sec.
SCREEN PERMEABILITY: 0.35E-02 ft./sec.

LENGTH USED FOR CALCULATION: 7.00 ft.

THE GRAVEL LENGTH WILL BE USED FOR CALC.

SLUG LENGTH: 15.00 feet
SLUG RADIUS: 0.50 inches

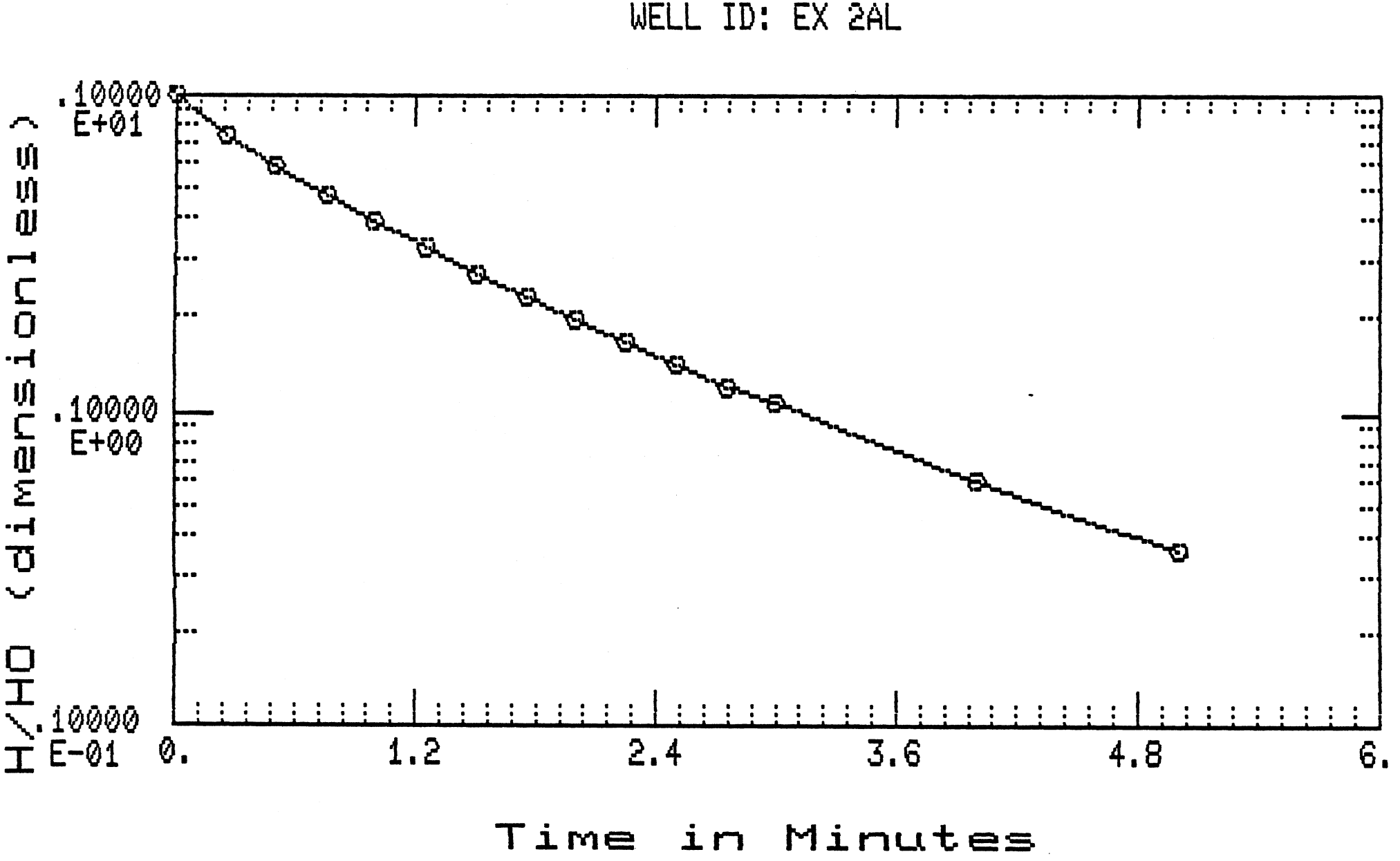
TRANSDUCER USED: 25.00 psi
INITIAL READING: 52.72% of 25.00 psi

DATA POINTS SELECTED

1. TIME: 0.00 minutes HEAD: 57.70 % of 25.00 psi
2. TIME: 1.75 minutes HEAD: 53.87 % of 25.00 psi

HYDRAULIC CONDUCTIVITY OF TEST INTERVAL:

0.69E-03 cm/sec 0.23E-04 ft/sec 0.69E-05 m/sec


WELL ID: EX 2AL
.10000 E+01
.10000 E+00
.10000 E-01
H/HO (dimensionless)
0.
1.2
2.4
3.6
4.8
6.
Time in Minutes

WELL ID: EX 2AL

TEST DATA:

MEASUREMENT NUMBER	TIME (HH:MM:SS)	TRANSDUCER READING (% of 25.00 psi)	HEAD RATIO (H/HO)
1	10:28: 0	57.70	1.0000
2	10:28:15	56.42	0.7430
3	10:28:30	55.65	0.5884
4	10:28:45	55.10	0.4779
5	10:29: 0	54.67	0.3916
6	10:29:15	54.35	0.3273
7	10:29:30	54.07	0.2711
8	10:29:45	53.87	0.2309
9	10:30: 0	53.70	0.1968
10	10:30:15	53.55	0.1667
11	10:30:30	53.42	0.1406
12	10:30:45	53.32	0.1205
13	10:31: 0	53.25	0.1064
14	10:32: 0	53.02	0.0602
15	10:33: 0	52.90	0.0361

STS CONSULTANTS LTD. - FIELD ENGINEERING SERVICES

SINGLE WELL HYDRAULIC CONDUCTIVITY TEST

STS JOB NO.: 12959
PROJECT/LOCATION: EXXON CRANDON
PROJECT MANAGER: JAS
TEST TECHNICIAN: JLG
DATA ANALYST: JAS

TEST INFORMATION

TYPE: RISING HEAD METHOD: SLUG

PIEZOMETER ID: EX 2AL
SCREEN LENGTH: 3.0000 feet
SLOT SIZE (est.): 0.0200 inches
STANDPIPE RADIUS: 1.0000 inches
BOREHOLE RADIUS: 3.1250 inches
GRAVEL PACK LENGTH: 7.0000 feet
GRAVEL PACK PERM.: 0.35E-01 ft./sec.
SCREEN PERMEABILITY: 0.35E-02 ft./sec.

LENGTH USED FOR CALCULATION: 7.00 ft.

THE GRAVEL LENGTH WILL BE USED FOR CALC.

SLUG LENGTH: 15.00 feet
SLUG RADIUS: 0.50 inches

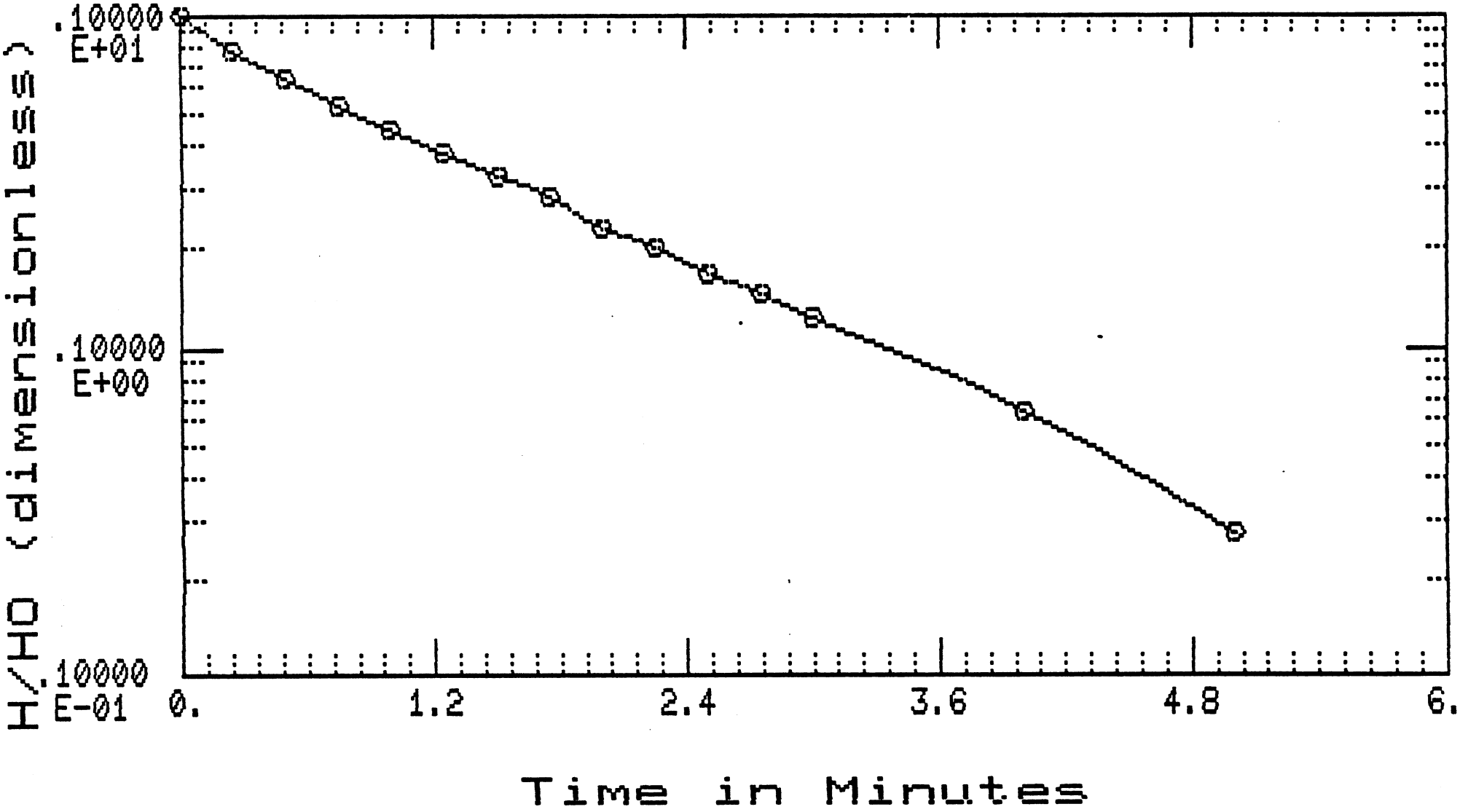
TRANSDUCER USED: 25.00 psi
INITIAL READING: 52.72% of 25.00 psi

DATA POINTS SELECTED

1. TIME: 0.00 minutes HEAD: 47.22 % of 25.00 psi
2. TIME: 2.25 minutes HEAD: 51.62 % of 25.00 psi

HYDRAULIC CONDUCTIVITY OF TEST INTERVAL:

0.59E-03 cm/sec 0.19E-04 ft/sec 0.59E-05 m/sec


WELL ID: EX 2AL
.10000 E+01
.10000 E+00
.10000 E-01
H/HO (dimensionless)
0.
1.2
2.4
3.6
4.8
6.
Time in Minutes

WELL ID: EX 2AL

TEST DATA:

MEASUREMENT NUMBER	TIME (HH:MM:SS)	TRANSDUCER READING (% of 25.00 psi)	HEAD RATIO (H/HO)
1	10:34: 0	47.22	1.0000
2	10:34:15	48.45	0.7764
3	10:34:30	49.20	0.6400
4	10:34:45	49.80	0.5309
5	10:35: 0	50.25	0.4491
6	10:35:15	50.62	0.3818
7	10:35:30	50.92	0.3273
8	10:35:45	51.17	0.2818
9	10:36: 0	51.45	0.2309
10	10:36:15	51.62	0.2000
11	10:36:30	51.80	0.1673
12	10:36:45	51.92	0.1455
13	10:37: 0	52.05	0.1218
14	10:38: 0	52.37	0.0636
15	10:39: 0	52.57	0.0273

TEST DATE 5/25/84

STS CONSULTANTS LTD. - FIELD ENGINEERING SERVICES
SINGLE WELL HYDRAULIC CONDUCTIVITY TEST

STS JOB NO.: 12959
PROJECT/LOCATION: EXXON CRANDON
PROJECT MANAGER: JAS
TEST TECHNICIAN: JLG
DATA ANALYST: JAS

TEST INFORMATION

TYPE: FALLING HEAD METHOD: SLUG

PIEZOMETER ID: EX 2AU
SCREEN LENGTH: 3.0000 feet
SLOT SIZE (est.): 0.0200 inches
STANDPIPE RADIUS: 1.0000 inches
BOREHOLE RADIUS: 3.1250 inches
GRAVEL PACK LENGTH: 7.0000 feet
GRAVEL PACK PERM.: 0.35E-01 ft./sec.
SCREEN PERMEABILITY: 0.35E-02 ft./sec.

LENGTH USED FOR CALCULATION: 7.00 ft.

THE GRAVEL LENGTH WILL BE USED FOR CALC.

SLUG LENGTH: 15.00 feet
SLUG RADIUS: 0.50 inches

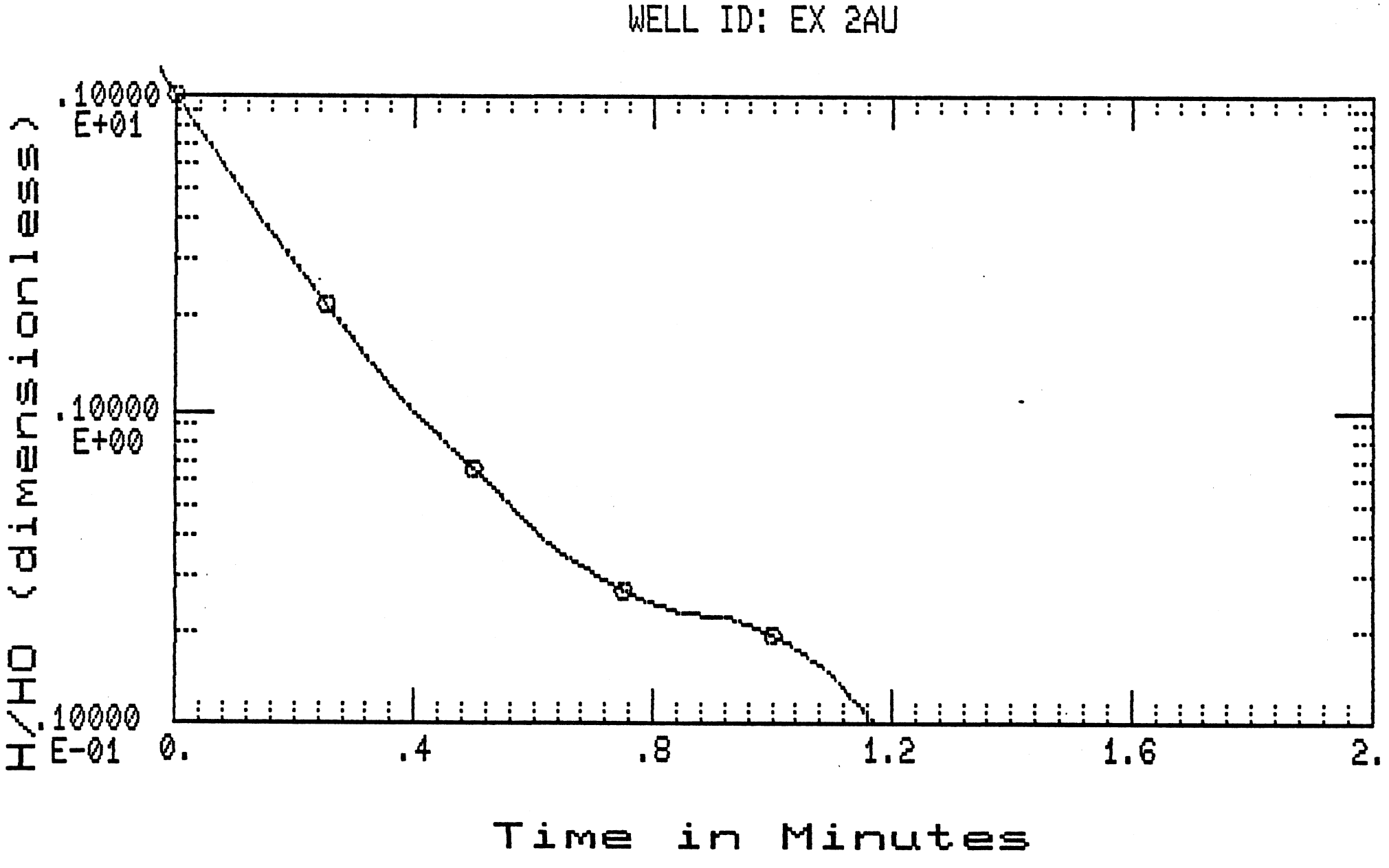
TRANSDUCER USED: 25.00 psi
INITIAL READING: 54.30% of 25.00 psi

DATA POINTS SELECTED

1. TIME: 0.00 minutes HEAD: 56.90 % of 25.00 psi
2. TIME: 0.75 minutes HEAD: 54.37 % of 25.00 psi

HYDRAULIC CONDUCTIVITY OF TEST INTERVAL:

0.40E-02 cm/sec 0.13E-03 ft/sec 0.40E-04 m/sec


WELL ID: EX 2AU
.10000 E+01
.10000 E+00
.10000 E-01
H/HO (dimensionless)
0.
.4
.8
1.2
1.6
2.
Time in Minutes

WELL ID: EX 2AU

TEST DATA:

MEASUREMENT NUMBER	TIME (HH:MM:SS)	TRANSDUCER READING (% of 25.00 psi)	HEAD RATIO (H/HO)
1	10:10: 0	56.90	1.0000
2	10:10:15	54.87	0.2192
3	10:10:30	54.47	0.0654
4	10:10:45	54.37	0.0269
5	10:11: 0	54.35	0.0192
6	10:11:15	54.32	0.0077
7	10:11:30	54.30	0.0010

STS CONSULTANTS LTD. - FIELD ENGINEERING SERVICES

SINGLE WELL HYDRAULIC CONDUCTIVITY TEST

STS JOB NO.: 12959
PROJECT/LOCATION: EXXON CRANDON
PROJECT MANAGER: JAS
TEST TECHNICIAN: JLG
DATA ANALYST: JAS

TEST INFORMATION

TYPE: RISING HEAD METHOD: SLUG

PIEZOMETER ID: EX 2AU
SCREEN LENGTH: 3.0000 feet
SLOT SIZE (est.): 0.0200 inches
STANDPIPE RADIUS: 1.0000 inches
BOREHOLE RADIUS: 3.1250 inches
GRAVEL PACK LENGTH: 7.0000 feet
GRAVEL PACK PERM.: 0.35E-01 ft./sec.
SCREEN PERMEABILITY: 0.35E-02 ft./sec.

LENGTH USED FOR CALCULATION: 7.00 ft.

THE GRAVEL LENGTH WILL BE USED FOR CALC.

SLUG LENGTH: 15.00 feet
SLUG RADIUS: 0.50 inches

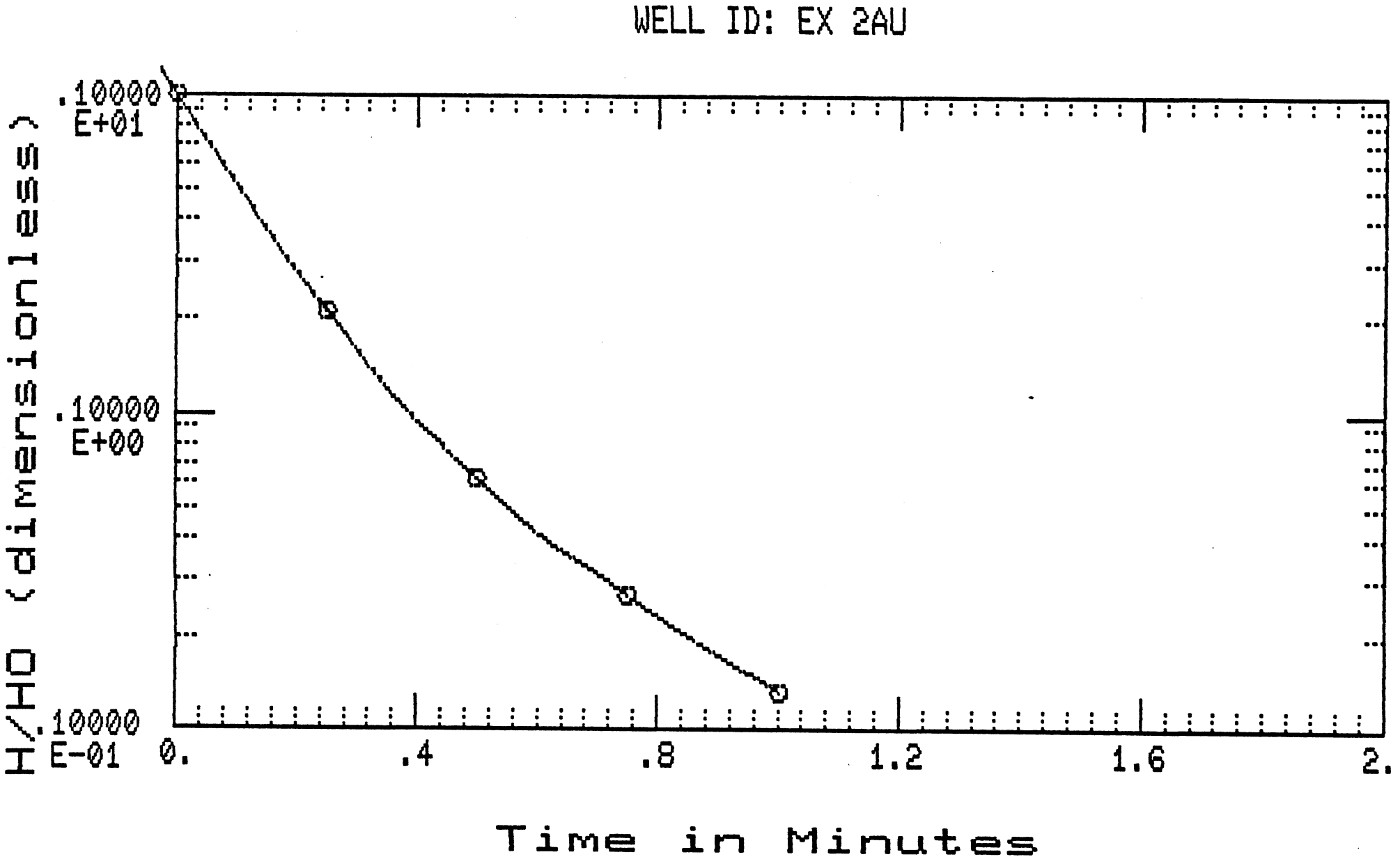
TRANSDUCER USED: 25.00 psi
INITIAL READING: 54.30% of 25.00 psi

DATA POINTS SELECTED

1. TIME: 0.00 minutes HEAD: 50.57 % of 25.00 psi
2. TIME: 0.50 minutes HEAD: 54.07 % of 25.00 psi

HYDRAULIC CONDUCTIVITY OF TEST INTERVAL:

0.46E-02 cm/sec 0.15E-03 ft/sec 0.46E-04 m/sec


WELL ID: EX 2AU
.10000 E+01
.10000 E+00
.10000 E-01
H/HO (dimensionless)
0.
.4
.8
1.2
1.6
2.
Time in Minutes

WELL ID: EX 2AU

TEST DATA:

MEASUREMENT NUMBER	TIME (HH:MM:SS)	TRANSDUCER READING (% of 25.00 psi)	HEAD RATIO (H/HO)
1	10:14: 0	50.57	1.0000
2	10:14:15	53.52	0.2091
3	10:14:30	54.07	0.0617
4	10:14:45	54.20	0.0268
5	10:15: 0	54.25	0.0134

STS CONSULTANTS LTD. - FIELD ENGINEERING SERVICES
SINGLE WELL HYDRAULIC CONDUCTIVITY TEST

STS JOB NO.: 12929
PROJECT/LOCATION: EXXON/CRANDON
PROJECT MANAGER: JAS
TEST TECHNICIAN: JCG
DATA ANALYST: PMB

TEST INFORMATION

TYPE: FALLING HEAD METHOD: VOLUME ADDITION

PIEZOMETER ID:	EX3AL	BOREHOLE RADIUS:	3.1250 inches
SCREEN LENGTH:	3.0000 feet	GRAVEL PACK LENGTH:	7.0000 feet
SLOT SIZE (est.):	0.0200 inches	GRAVEL PACK PERM.:	0.35E-01 ft./sec.
STANDPIPE RADIUS:	1.0000 inches	SCREEN PERMEABILITY:	0.35E-02 ft./sec.

LENGTH USED FOR CALCULATION: 7.00 ft.

THE GRAVEL LENGTH WILL BE USED FOR CALC.

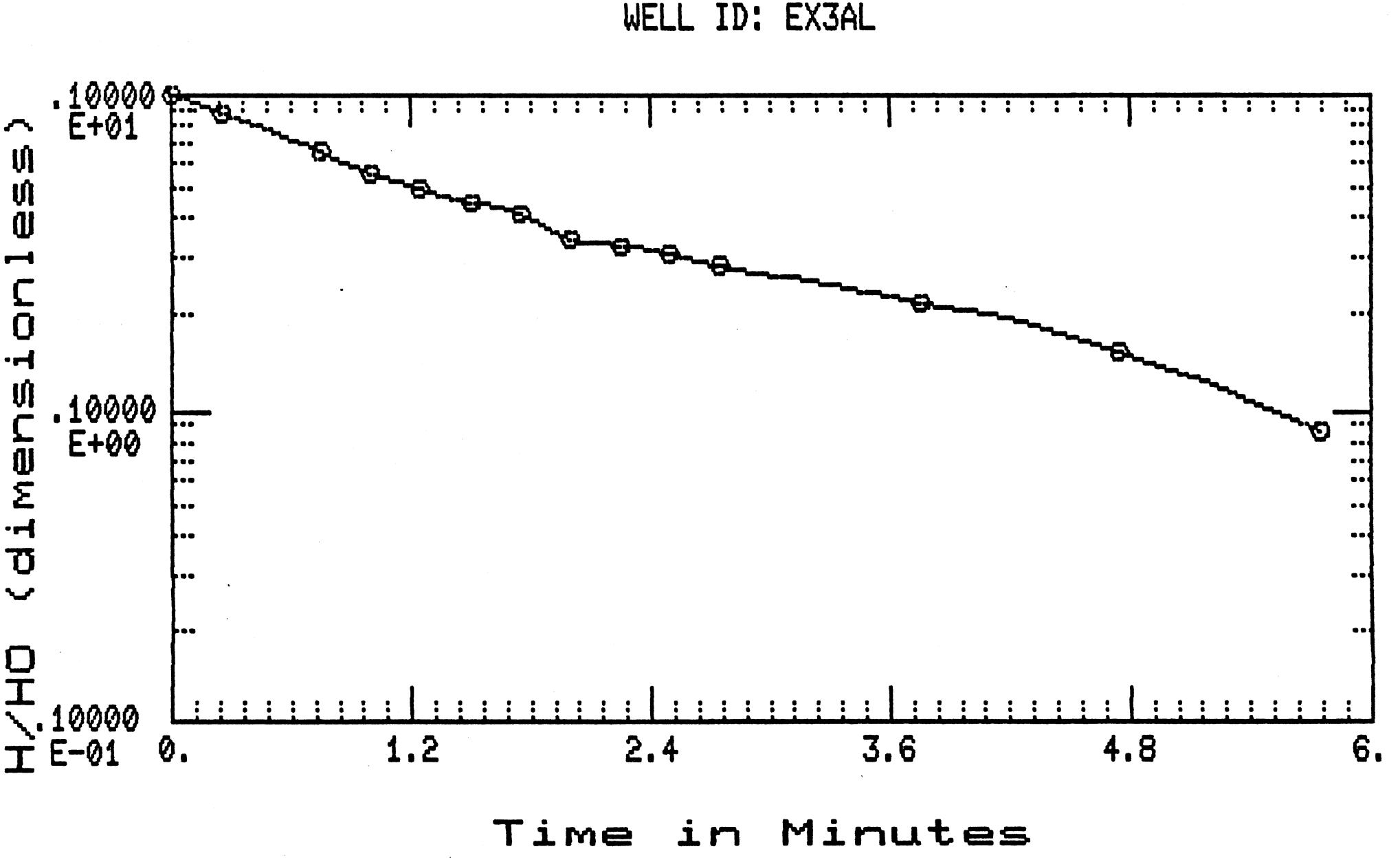
VOLUME ADDED TO STANDPIPE: 0.00 gals.

DATA POINTS SELECTED

1. TIME: 2.25 minutes HEAD: 4.40 ft. below TPVC
2. TIME: 3.75 minutes HEAD: 4.90 ft. below TPVC

HYDRAULIC CONDUCTIVITY OF TEST INTERVAL:

0.22E-03 cm/sec 0.74E-05 ft/sec 0.22E-05 m/sec


WELL ID: EX3AL
.10000 E+01
.10000 E+00
.10000 E-01
H/HO (dimensionless)
0.
1.2
2.4
3.6
4.8
6.
Time in Minutes

WELL ID: EX3AL

TEST DATA:

MEASUREMENT NUMBER	TIME (HH:MM:SS)	WATER LEVEL (ft below TPVC)	HEAD RATIO (H/HO)
1	0: 0:15	1.30	1.0000
2	0: 0:30	1.90	0.8696
3	0: 1: 0	2.90	0.6522
4	0: 1:15	3.30	0.5652
5	0: 1:30	3.60	0.5000
6	0: 1:45	3.80	0.4565
7	0: 2: 0	4.00	0.4130
8	0: 2:15	4.30	0.3478
9	0: 2:30	4.40	0.3261
10	0: 2:45	4.50	0.3043
11	0: 3: 0	4.60	0.2826
12	0: 4: 0	4.90	0.2174
13	0: 5: 0	5.20	0.1522
14	0: 6: 0	5.50	0.0870

STS CONSULTANTS LTD. - FIELD ENGINEERING SERVICES
SINGLE WELL HYDRAULIC CONDUCTIVITY TEST

STS JOB NO.: 12959
PROJECT/LOCATION: EXXON/CRANDON
PROJECT MANAGER: JAS
TEST TECHNICIAN: JCG
DATA ANALYST: PMB

TEST INFORMATION

TYPE: FALLING HEAD METHOD: SLUG

PIEZOMETER ID: EX3AU
SCREEN LENGTH: 3.0000 feet
SLOT SIZE (est.): 0.0200 inches
STANDPIPE RADIUS: 1.0000 inches
BOREHOLE RADIUS: 3.1250 inches
GRAVEL PACK LENGTH: 7.0000 feet
GRAVEL PACK PERM.: 0.35E-01 ft./sec.
SCREEN PERMEABILITY: 0.35E-02 ft./sec.

LENGTH USED FOR CALCULATION: 7.00 ft.

THE GRAVEL LENGTH WILL BE USED FOR CALC.

SLUG LENGTH: 15.00 feet
SLUG RADIUS: 0.50 inches

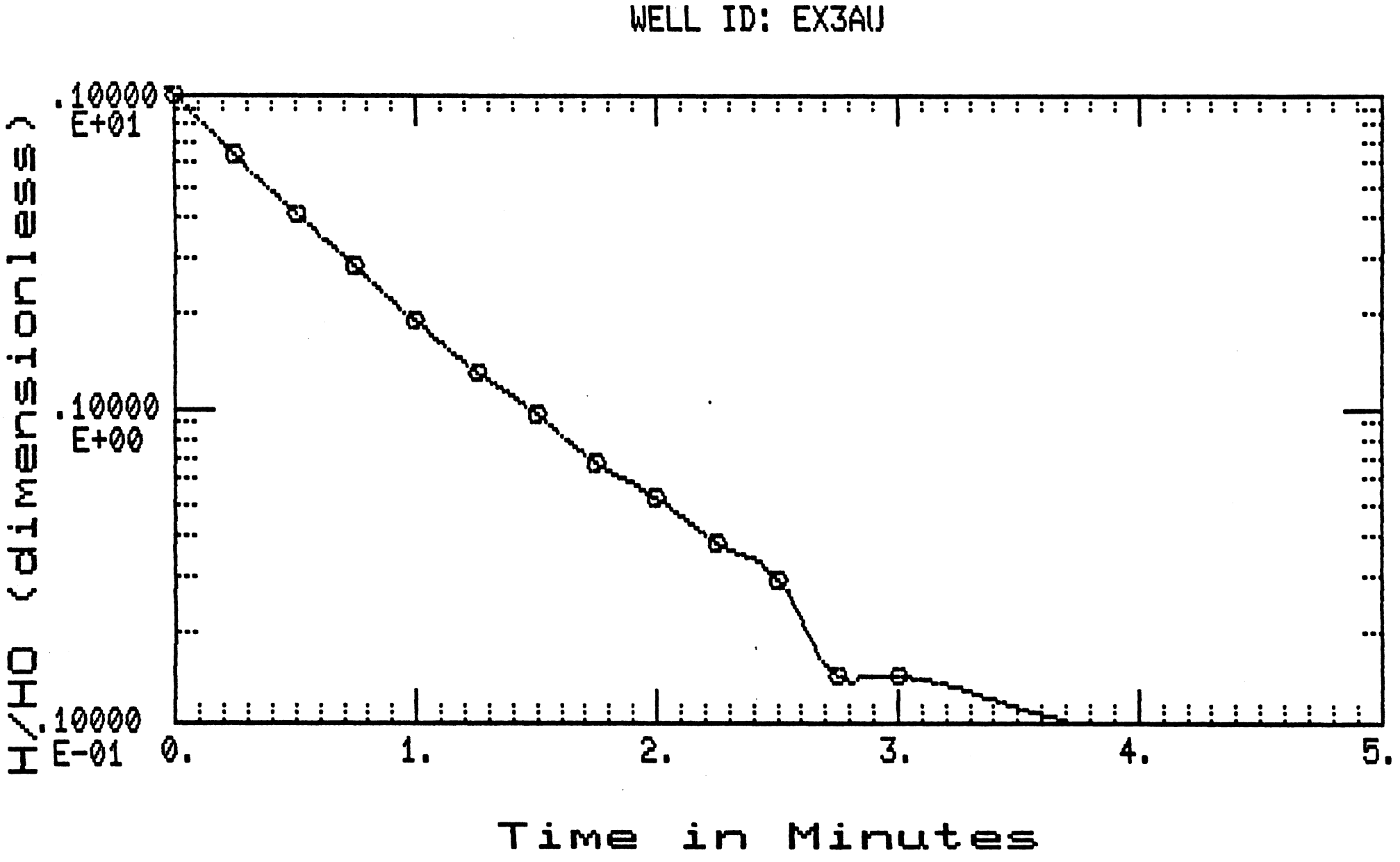
TRANSDUCER USED: 25.00 psi
INITIAL READING: 28.12% of 25.00 psi

DATA POINTS SELECTED

1. TIME: 1.25 minutes HEAD: 28.57 % of 25.00 psi
2. TIME: 2.25 minutes HEAD: 28.25 % of 25.00 psi

HYDRAULIC CONDUCTIVITY OF TEST INTERVAL:

0.10E-02 cm/sec 0.34E-04 ft/sec 0.10E-04 m/sec


WELL ID: EX3AU
.10000 E+01
.10000 E+00
.10000 E-01
H/HO (dimensionless)
0.
1.
2.
3.
4.
5.
Time in Minutes

WELL ID: EX3AU

TEST DATA:

MEASUREMENT NUMBER	TIME (HH:MM:SS)	TRANSDUCER READING (% of 25.00 psi)	HEAD RATIO (H/HO)
1	10:56: 0	31.57	1.0000
2	10:56:15	30.32	0.6377
3	10:56:30	29.57	0.4203
4	10:56:45	29.10	0.2841
5	10:57: 0	28.77	0.1884
6	10:57:15	28.57	0.1304
7	10:57:30	28.45	0.0957
8	10:57:45	28.35	0.0667
9	10:58: 0	28.30	0.0522
10	10:58:15	28.25	0.0377
11	10:58:30	28.22	0.0290
12	10:58:45	28.17	0.0145
13	10:59: 0	28.17	0.0145
14	11: 0: 0	28.15	0.0087
15	11: 0:45	28.12	0.0010

STS CONSULTANTS LTD. - FIELD ENGINEERING SERVICES
SINGLE WELL HYDRAULIC CONDUCTIVITY TEST

STS JOB NO.: 12959
PROJECT/LOCATION: EXXON/CRANDON
PROJECT MANAGER: JAS
TEST TECHNICIAN: JCG
DATA ANALYST: PMB

TEST INFORMATION

TYPE: RISING HEAD METHOD: SLUG

PIEZOMETER ID: EX3AU
SCREEN LENGTH: 3.0000 feet
SLOT SIZE (est.): 0.0200 inches
STANDPIPE RADIUS: 1.0000 inches
BOREHOLE RADIUS: 3.1250 inches
GRAVEL PACK LENGTH: 7.0000 feet
GRAVEL PACK PERM.: 0.35E-01 ft./sec.
SCREEN PERMEABILITY: 0.35E-02 ft./sec.

LENGTH USED FOR CALCULATION: 7.00 ft.

THE GRAVEL LENGTH WILL BE USED FOR CALC.

SLUG LENGTH: 10.00 feet
SLUG RADIUS: 0.50 inches

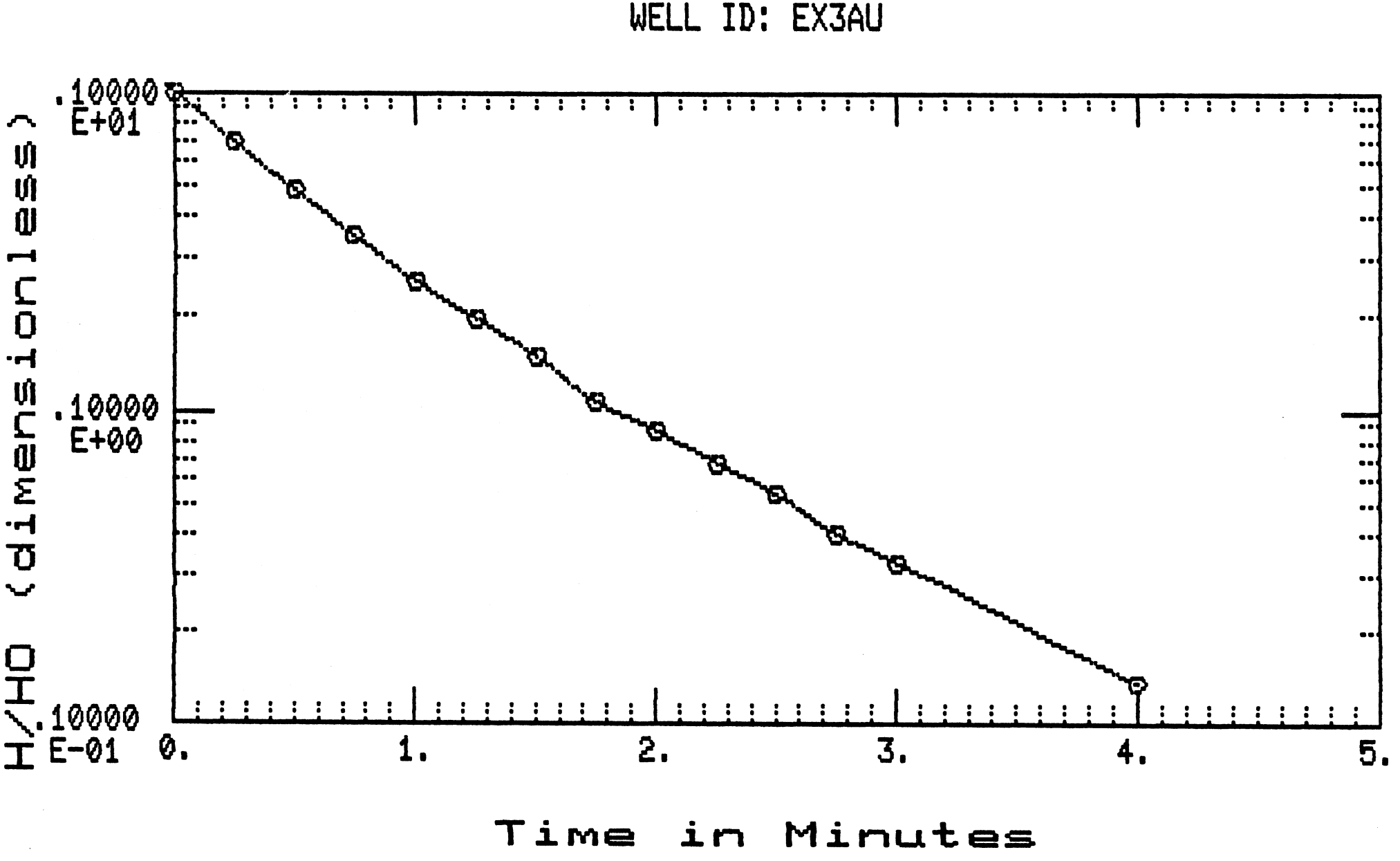
TRANSDUCER USED: 25.00 psi
INITIAL READING: 28.12% of 25.00 psi

DATA POINTS SELECTED

1. TIME: 1.75 minutes HEAD: 27.72 % of 25.00 psi
2. TIME: 3.00 minutes HEAD: 28.00 % of 25.00 psi

HYDRAULIC CONDUCTIVITY OF TEST INTERVAL:

0.80E-03 cm/sec 0.26E-04 ft/sec 0.80E-05 m/sec


WELL ID: EX3AU
.10000 E+01
.10000 E+00
.10000 E-01
H/HO (dimensionless)
0.
1.
2.
3.
4.
5.
Time in Minutes

WELL ID: EX3AU

TEST DATA:

MEASUREMENT NUMBER	TIME (HH:MM:SS)	TRANSDUCER READING (% of 25.00 psi)	HEAD RATIO (H/HO)
1	11: 1: 0	24.42	1.0000
2	11: 1:15	25.57	0.6892
3	11: 1:30	26.32	0.4865
4	11: 1:45	26.82	0.3514
5	11: 2: 0	27.17	0.2568
6	11: 2:15	27.40	0.1946
7	11: 2:30	27.57	0.1486
8	11: 2:45	27.72	0.1081
9	11: 3: 0	27.80	0.0865
10	11: 3:15	27.87	0.0676
11	11: 3:30	27.92	0.0541
12	11: 3:45	27.97	0.0405
13	11: 4: 0	28.00	0.0324
14	11: 5: 0	28.07	0.0135

STS CONSULTANTS LTD. - FIELD ENGINEERING SERVICES
SINGLE WELL HYDRAULIC CONDUCTIVITY TEST

STS JOB NO.: 12959
PROJECT/LOCATION: EXXON/CRANDON
PROJECT MANAGER: JAS
TEST TECHNICIAN: JCG
DATA ANALYST: PMB/JRT

TEST INFORMATION

TYPE: FALLING HEAD METHOD: SLUG

PIEZOMETER ID: EX3BL
SCREEN LENGTH: 3.0000 feet
SLOT SIZE (est.): 0.0200 inches
STANDPIPE RADIUS: 1.0000 inches
BOREHOLE RADIUS: 3.1250 inches
GRAVEL PACK LENGTH: 7.0000 feet
GRAVEL PACK PERM.: 0.35E-01 ft./sec.
SCREEN PERMEABILITY: 0.35E-02 ft./sec.

LENGTH USED FOR CALCULATION: 7.00 ft.

THE GRAVEL LENGTH WILL BE USED FOR CALC.

SLUG LENGTH: 5.00 feet
SLUG RADIUS: 0.50 inches

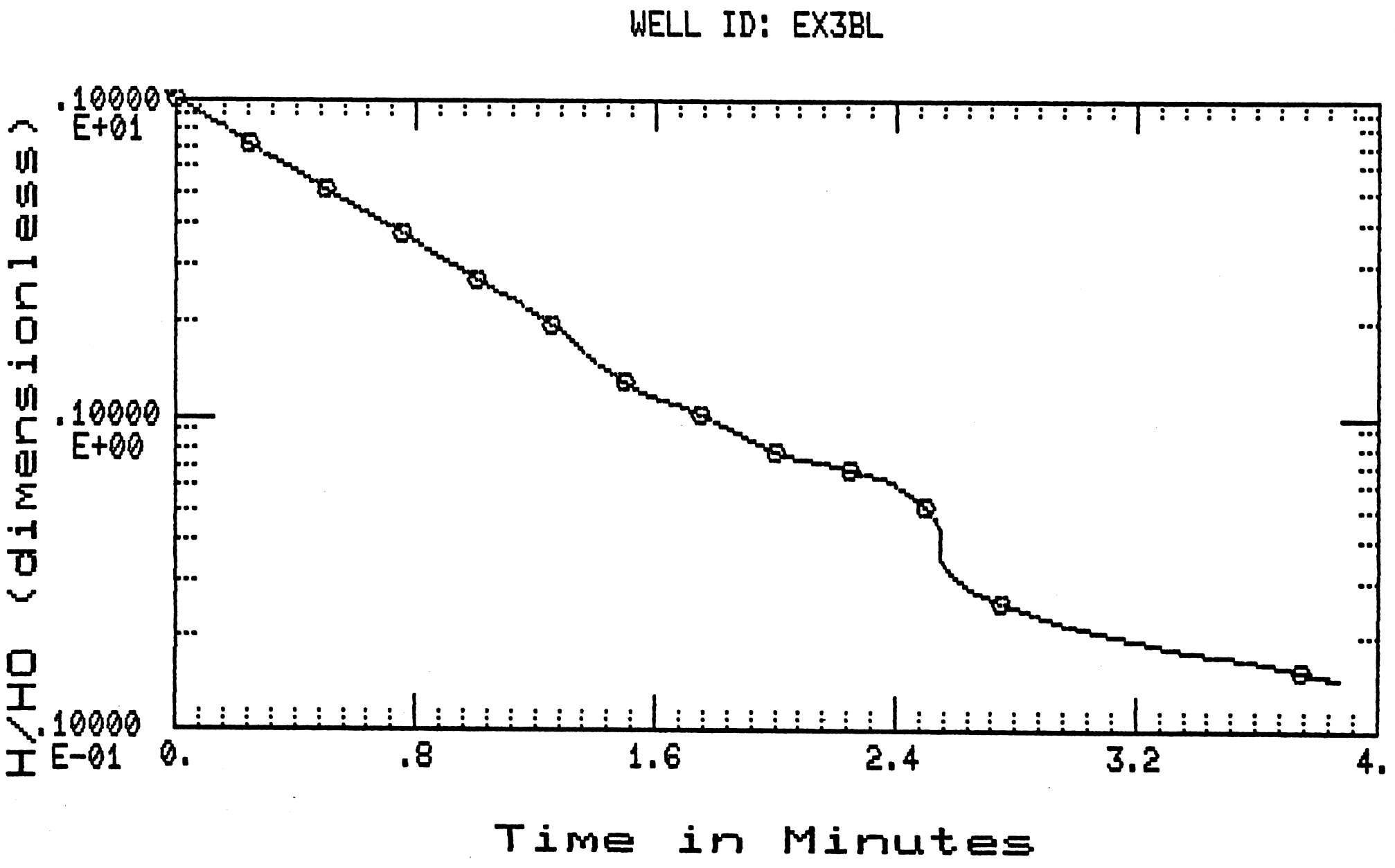
TRANSDUCER USED: 25.00 psi
INITIAL READING: 53.02% of 25.00 psi

DATA POINTS SELECTED

1. TIME: 0.00 minutes HEAD: 54.97 % of 25.00 psi
2. TIME: 1.75 minutes HEAD: 53.22 % of 25.00 psi

HYDRAULIC CONDUCTIVITY OF TEST INTERVAL:

0.11E-02 cm/sec 0.35E-04 ft/sec 0.11E-04 m/sec


WELL ID: EX3BL
.10000
E+01
.10000
E+00
.10000
E-01
H/HO (dimensionless)
0.
.8
1.6
2.4
3.2
4.
Time in Minutes

WELL ID: EX3BL

TEST DATA:

MEASUREMENT NUMBER	TIME (HH:MM:SS)	TRANSDUCER READING (% of 25.00 psi)	HEAD RATIO (H/HO)
1	14:14: 0	54.97	1.0000
2	14:14:15	54.40	0.7077
3	14:14:30	54.02	0.5128
4	14:14:45	53.75	0.3744
5	14:15: 0	53.55	0.2718
6	14:15:15	53.40	0.1949
7	14:15:30	53.27	0.1282
8	14:15:45	53.22	0.1026
9	14:16: 0	53.17	0.0769
10	14:16:15	53.15	0.0667
11	14:16:30	53.12	0.0513
12	14:16:45	53.07	0.0256
13	14:17:45	53.05	0.0154
14	14:17:45	53.05	0.0154
15	14:17:45	53.05	0.0154

STS CONSULTANTS LTD. - FIELD ENGINEERING SERVICES
SINGLE WELL HYDRAULIC CONDUCTIVITY TEST

STS JOB NO.: 12959
PROJECT/LOCATION: EXXON/CRANDON
PROJECT MANAGER: JAS
TEST TECHNICIAN: JCG
DATA ANALYST: PMB/JRT

TEST INFORMATION

TYPE: RISING HEAD METHOD: SLUG

PIEZOMETER ID: EX3BL
SCREEN LENGTH: 3.0000 feet
SLOT SIZE (est.): 0.0200 inches
STANDPIPE RADIUS: 1.0000 inches
BOREHOLE RADIUS: 3.1250 inches
GRAVEL PACK LENGTH: 7.0000 feet
GRAVEL PACK PERM.: 0.35E-01 ft./sec.
SCREEN PERMEABILITY: 0.35E-02 ft./sec.

LENGTH USED FOR CALCULATION: 7.00 ft.

THE GRAVEL LENGTH WILL BE USED FOR CALC.

SLUG LENGTH: 5.00 feet
SLUG RADIUS: 0.50 inches

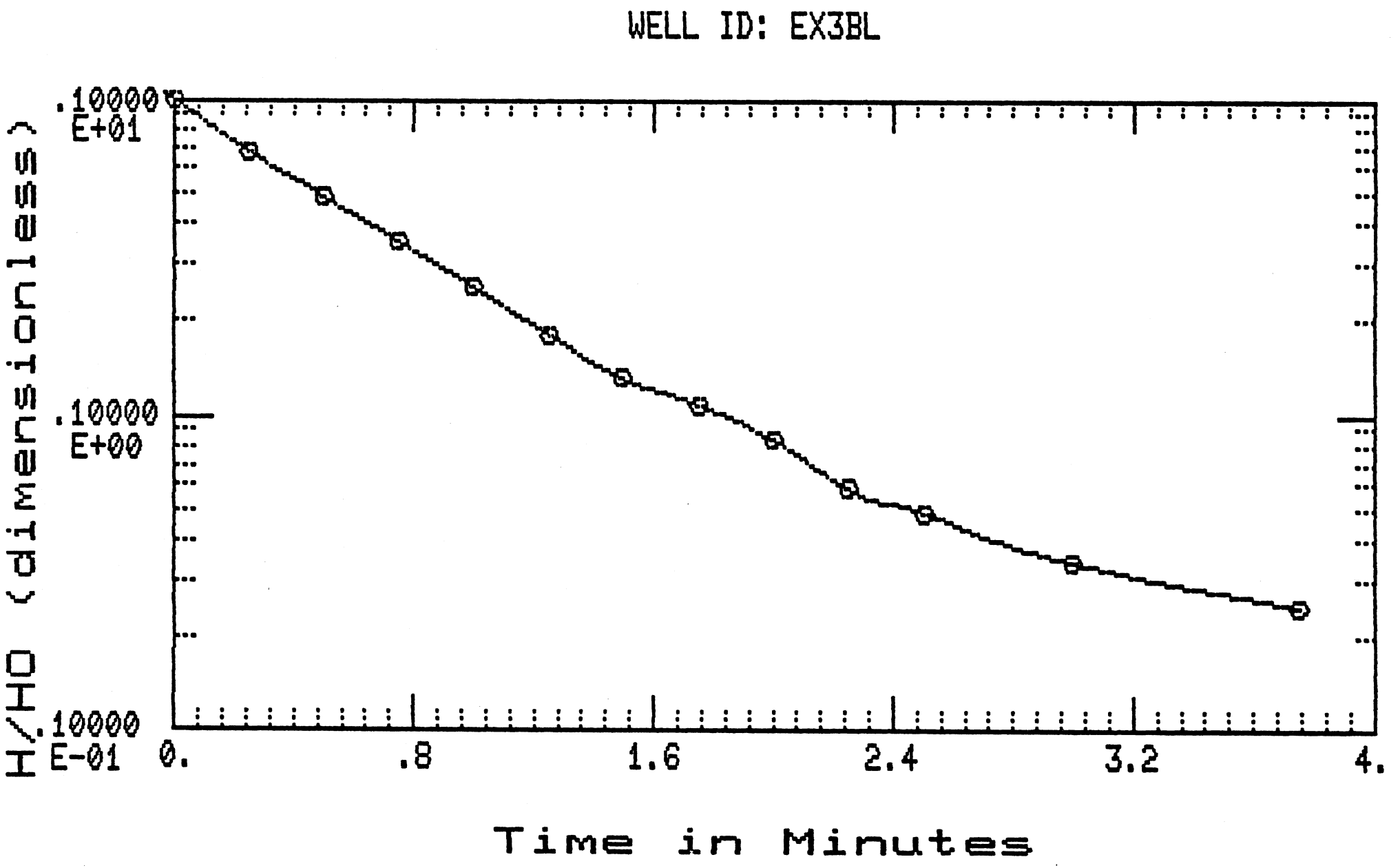
TRANSDUCER USED: 25.00 psi
INITIAL READING: 53.02% of 25.00 psi

DATA POINTS SELECTED

1. TIME: 0.25 minutes HEAD: 51.62 % of 25.00 psi
2. TIME: 1.50 minutes HEAD: 52.75 % of 25.00 psi

HYDRAULIC CONDUCTIVITY OF TEST INTERVAL:

0.11E-02 cm/sec 0.36E-04 ft/sec 0.11E-04 m/sec


WELL ID: EX3BL
.10000
E+01
.10000
E+00
.10000
E-01
H/HO (dimensionless)
0.
.8
1.6
2.4
3.2
4.
Time in Minutes

WELL ID: EX3BL

TEST DATA:

MEASUREMENT NUMBER	TIME (HH:MM:SS)	TRANSDUCER READING (% of 25.00 psi)	HEAD RATIO (H/HO)
1	14:20: 0	50.97	1.0000
2	14:20:15	51.62	0.6829
3	14:20:30	52.02	0.4878
4	14:20:45	52.30	0.3512
5	14:21: 0	52.50	0.2537
6	14:21:15	52.65	0.1805
7	14:21:30	52.75	0.1317
8	14:21:45	52.80	0.1073
9	14:22: 0	52.85	0.0829
10	14:22:15	52.90	0.0585
11	14:22:30	52.92	0.0488
12	14:23: 0	52.95	0.0341
13	14:23:45	52.97	0.0244

STS CONSULTANTS LTD. - FIELD ENGINEERING SERVICES
SINGLE WELL HYDRAULIC CONDUCTIVITY TEST

STS JOB NO.: 12959
PROJECT/LOCATION: EXXON/CRANDON
PROJECT MANAGER: JAS
TEST TECHNICIAN: JCG
DATA ANALYST: PMB

TEST INFORMATION

TYPE: FALLING HEAD METHOD: SLUG

PIEZOMETER ID: EX3BU
SCREEN LENGTH: 3.0000 feet
SLOT SIZE (est.): 0.0200 inches
STANDPIPE RADIUS: 1.0000 inches
BOREHOLE RADIUS: 3.1250 inches
GRAVEL PACK LENGTH: 7.0000 feet
GRAVEL PACK PERM.: 0.35E-01 ft./sec.
SCREEN PERMEABILITY: 0.35E-02 ft./sec.

LENGTH USED FOR CALCULATION: 7.00 ft.

THE GRAVEL LENGTH WILL BE USED FOR CALC.

SLUG LENGTH: 0.00 feet
SLUG RADIUS: 0.00 inches

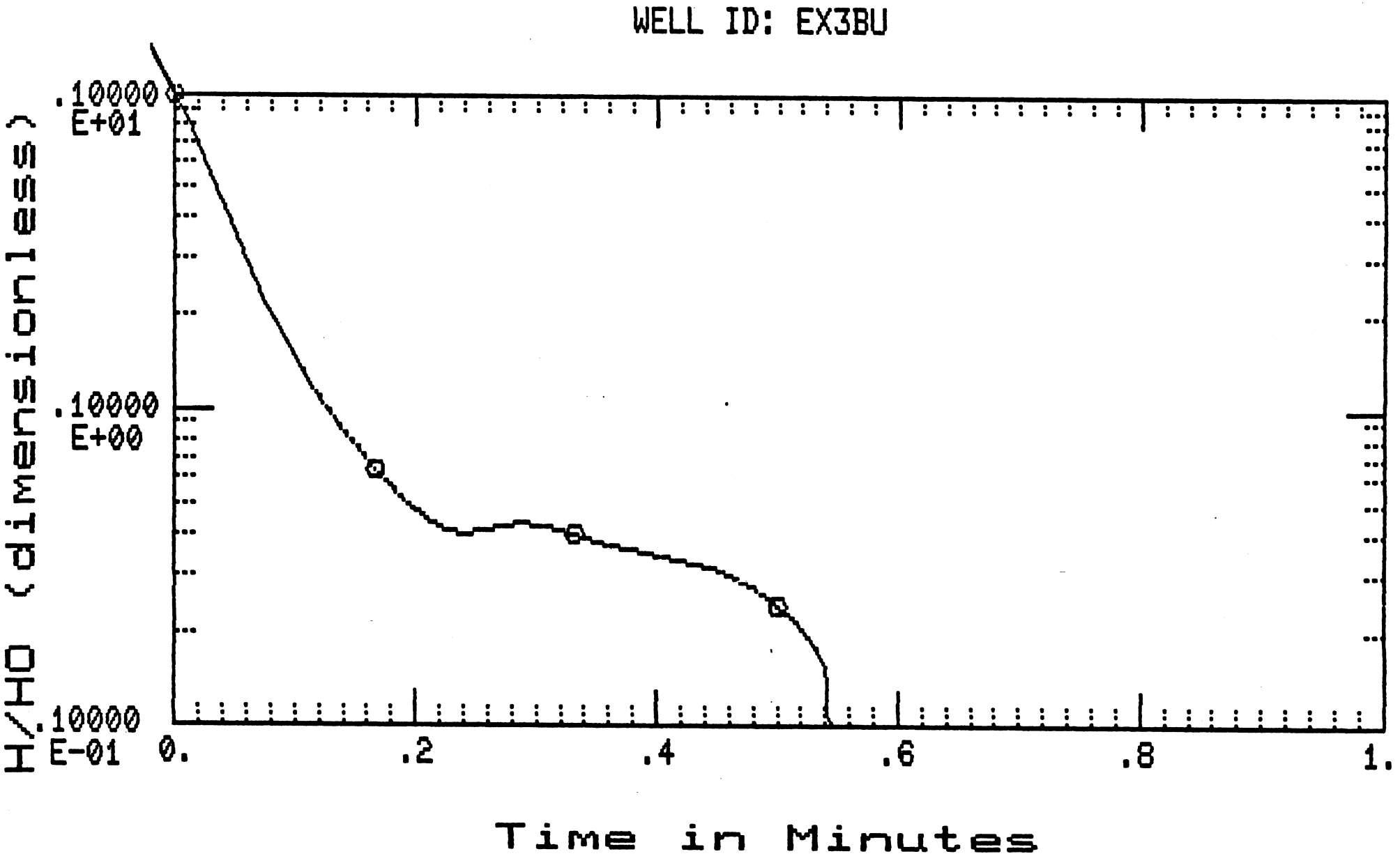
TRANSDUCER USED: 25.00 psi
INITIAL READING: 51.92% of 25.00 psi

DATA POINTS SELECTED

1. TIME: 0.17 minutes HEAD: 52.00 % of 25.00 psi
2. TIME: 0.50 minutes HEAD: 51.95 % of 25.00 psi

HYDRAULIC CONDUCTIVITY OF TEST INTERVAL:

0.24E-02 cm/sec 0.80E-04 ft/sec 0.24E-04 m/sec


WELL ID: EX3BU
.10000 E+01
.10000 E+00
.10000 E-01
H/HO (dimensionless)
0.
.2
.4
.6
.8
1.
Time in Minutes

WELL ID: EX3BU

TEST DATA:

MEASUREMENT NUMBER	TIME (HH:MM:SS)	TRANSDUCER READING (% of 25.00 psi)	HEAD RATIO (H/HO)
1	10:31: 0	53.17	1.0000
2	10:31:10	52.00	0.0640
3	10:31:19	51.97	0.0400
4	10:31:30	51.95	0.0240
5	10:31:40	51.92	0.0010

SINGLE WELL HYDRAULIC CONDUCTIVITY TEST

STS JOB NO.: 12959
PROJECT/LOCATION: EXXON CRANDON
PROJECT MANAGER: JAS
TEST TECHNICIAN: RP
DATA ANALYST: JAS

TEST INFORMATION

TYPE: RISING HEAD METHOD: SLUG

PIEZOMETER ID: EX 3BU
SCREEN LENGTH: 3.000 feet
SLOT SIZE (est.): 0.0200 inches
STANDPIPE RADIUS: 1.0000 inches
BOREHOLE RADIUS: 3.1250 inches
GRAVEL PACK LENGTH: 7.000 feet
GRAVEL PACK PERM.: 0.35E-01 ft./sec.
SCREEN PERMEABILITY: 0.35E-02 ft./sec.

LENGTH USED FOR CALCULATION: 7.00 ft.

THE GRAVEL LENGTH WILL BE USED FOR CALC.

SLUG LENGTH: 0.00 feet
SLUG RADIUS: 0.50 inches

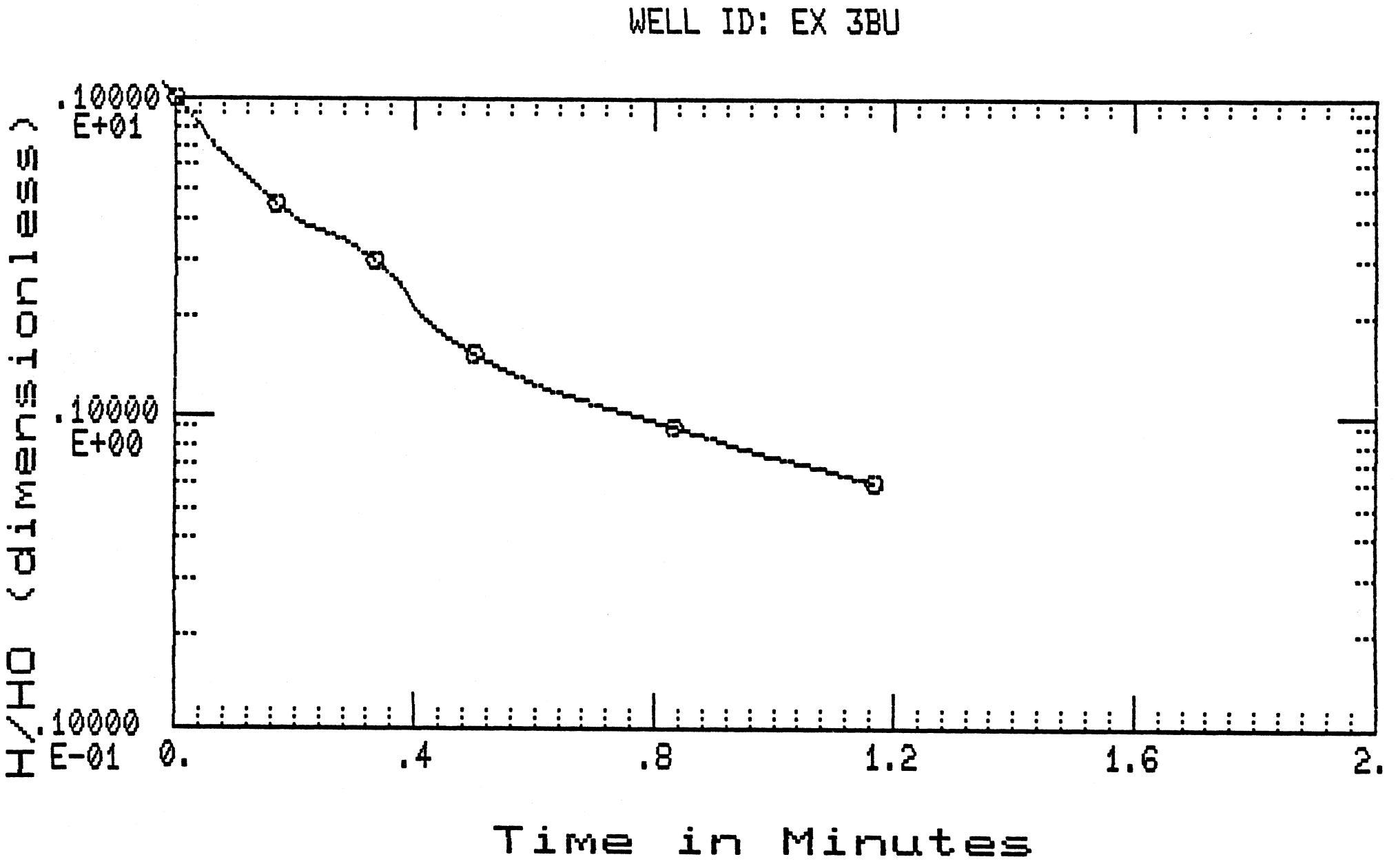
TRANSDUCER USED: 25.00 psi
INITIAL READING: 42.50% of 25.00 psi

DATA POINTS SELECTED

1. TIME: 0.50 minutes HEAD: 42.45 % of 25.00 psi
2. TIME: 1.17 minutes HEAD: 42.48 % of 25.00 psi

HYDRAULIC CONDUCTIVITY OF TEST INTERVAL:

0.11E-02 cm/sec 0.37E-04 ft/sec 0.11E-04 m/sec


WELL ID: EX 3BU
.10000 E+01
.10000 E+00
.10000 E-01
H/HO (dimensionless)
0.
.4
.8
1.2
1.6
2.
Time in Minutes

WELL ID: EX 3BU

TEST DATA:

MEASUREMENT NUMBER	TIME (HH:MM:SS)	TRANSDUCER READING (% of 25.00 psi)	HEAD RATIO (H/HO)
1	8:26:50	42.17	1.0000
2	8:27: 0	42.35	0.4545
3	8:27: 9	42.40	0.3030
4	8:27:20	42.45	0.1515
5	8:27:39	42.47	0.0909
6	8:28: 0	42.48	0.0606

STS CONSULTANTS LTD. - FIELD ENGINEERING SERVICES
SINGLE WELL HYDRAULIC CONDUCTIVITY TEST

STS JOB NO.: 12959
PROJECT/LOCATION: EXXON/CRANDON
PROJECT MANAGER: JAS
TEST TECHNICIAN: JCG
DATA ANALYST: PMB/JRT

TEST INFORMATION

TYPE: FALLING HEAD METHOD: SLUG

PIEZOMETER ID: EX4AL
SCREEN LENGTH: 3.0000 feet
SLOT SIZE (est.): 0.0200 inches
STANDPIPE RADIUS: 1.0000 inches
BOREHOLE RADIUS: 3.1250 inches
GRAVEL PACK LENGTH: 6.5000 feet
GRAVEL PACK PERM.: 0.35E-01 ft./sec.
SCREEN PERMEABILITY: 0.35E-02 ft./sec.

LENGTH USED FOR CALCULATION: 6.50 ft.

THE GRAVEL LENGTH WILL BE USED FOR CALC.

SLUG LENGTH: 15.00 feet
SLUG RADIUS: 0.50 inches

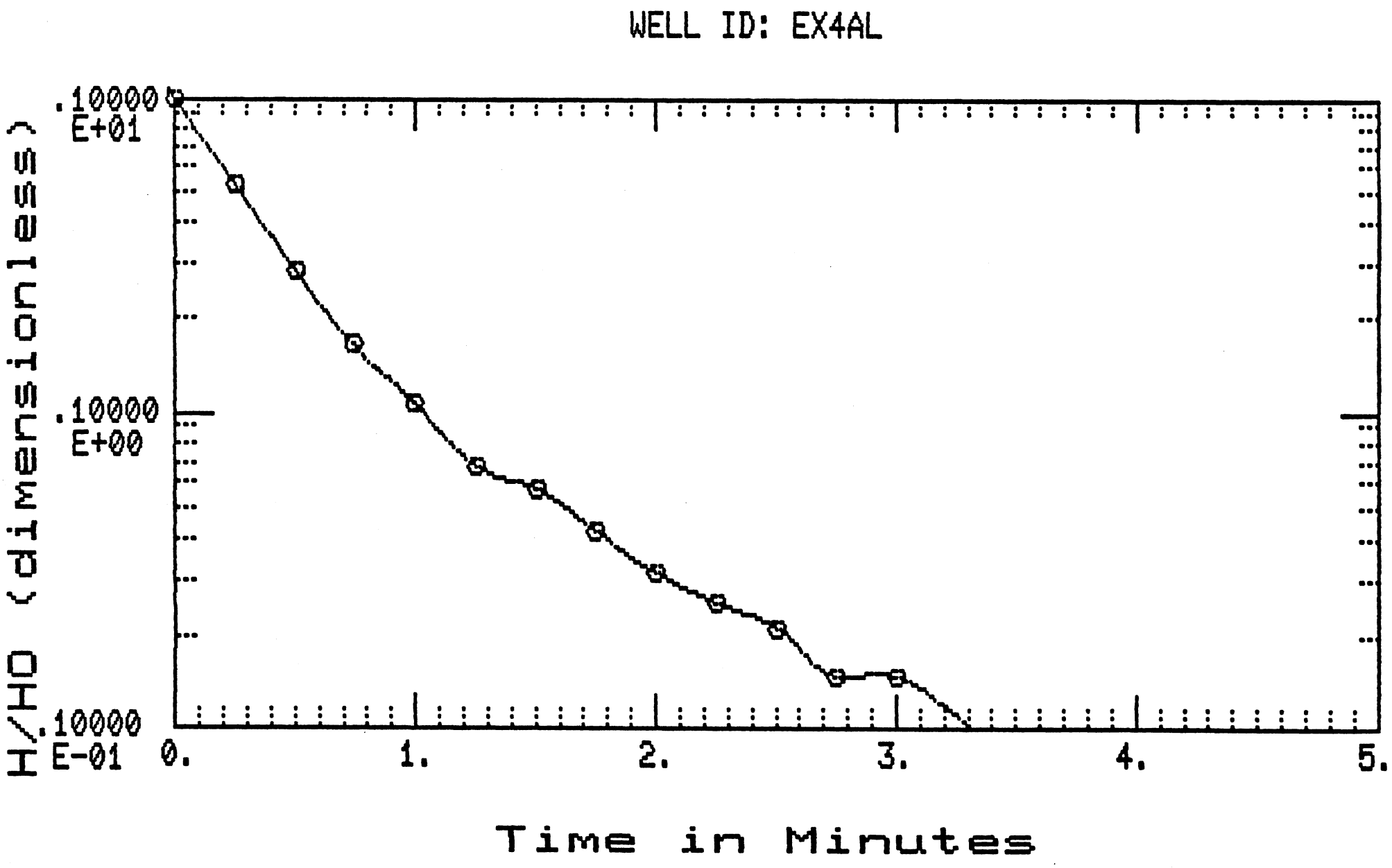
TRANSDUCER USED: 25.00 psi
INITIAL READING: 49.45% of 25.00 psi

DATA POINTS SELECTED

1. TIME: 2.00 minutes HEAD: 49.60 % of 25.00 psi
2. TIME: 3.00 minutes HEAD: 49.52 % of 25.00 psi

HYDRAULIC CONDUCTIVITY OF TEST INTERVAL:

0.67E-03 cm/sec 0.22E-04 ft/sec 0.67E-05 m/sec


WELL ID: EX4AL
.10000 E+01
.10000 E+00
.10000 E-01
H/HO (dimensionless)
0.
1.
2.
3.
4.
5.
Time in Minutes

WELL ID: EX4AL

TEST DATA:

MEASUREMENT NUMBER	TIME (HH:MM:SS)	TRANSDUCER READING (% of 25.00 psi)	HEAD RATIO (H/HO)
1	10:52: 0	54.15	1.0000
2	10:52:15	51.95	0.5319
3	10:52:30	50.80	0.2872
4	10:52:45	50.22	0.1638
5	10:53: 0	49.95	0.1064
6	10:53:15	49.77	0.0681
7	10:53:30	49.72	0.0574
8	10:53:45	49.65	0.0426
9	10:54: 0	49.60	0.0319
10	10:54:15	49.57	0.0255
11	10:54:30	49.55	0.0213
12	10:54:45	49.52	0.0149
13	10:55: 0	49.52	0.0149
14	10:56: 0	49.47	0.0043
15	10:56:45	49.45	0.0010

STS CONSULTANTS LTD. - FIELD ENGINEERING SERVICES

SINGLE WELL HYDRAULIC CONDUCTIVITY TEST

STS JOB NO.: 12959
PROJECT/LOCATION: EXXON/CRANDON
PROJECT MANAGER: JAS
TEST TECHNICIAN: JCG
DATA ANALYST: PMB/JRT

TEST INFORMATION

TYPE: RISING HEAD METHOD: SLUG

PIEZOMETER ID: EX4AL
SCREEN LENGTH: 3.0000 feet
SLOT SIZE (est.): 0.0200 inches
STANDPIPE RADIUS: 1.0000 inches
BOREHOLE RADIUS: 3.1250 inches
GRAVEL PACK LENGTH: 6.5000 feet
GRAVEL PACK PERM.: 0.35E-01 ft./sec.
SCREEN PERMEABILITY: 0.35E-02 ft./sec.

LENGTH USED FOR CALCULATION: 6.50 ft.

THE GRAVEL LENGTH WILL BE USED FOR CALC.

SLUG LENGTH: 15.00 feet
SLUG RADIUS: 0.50 inches

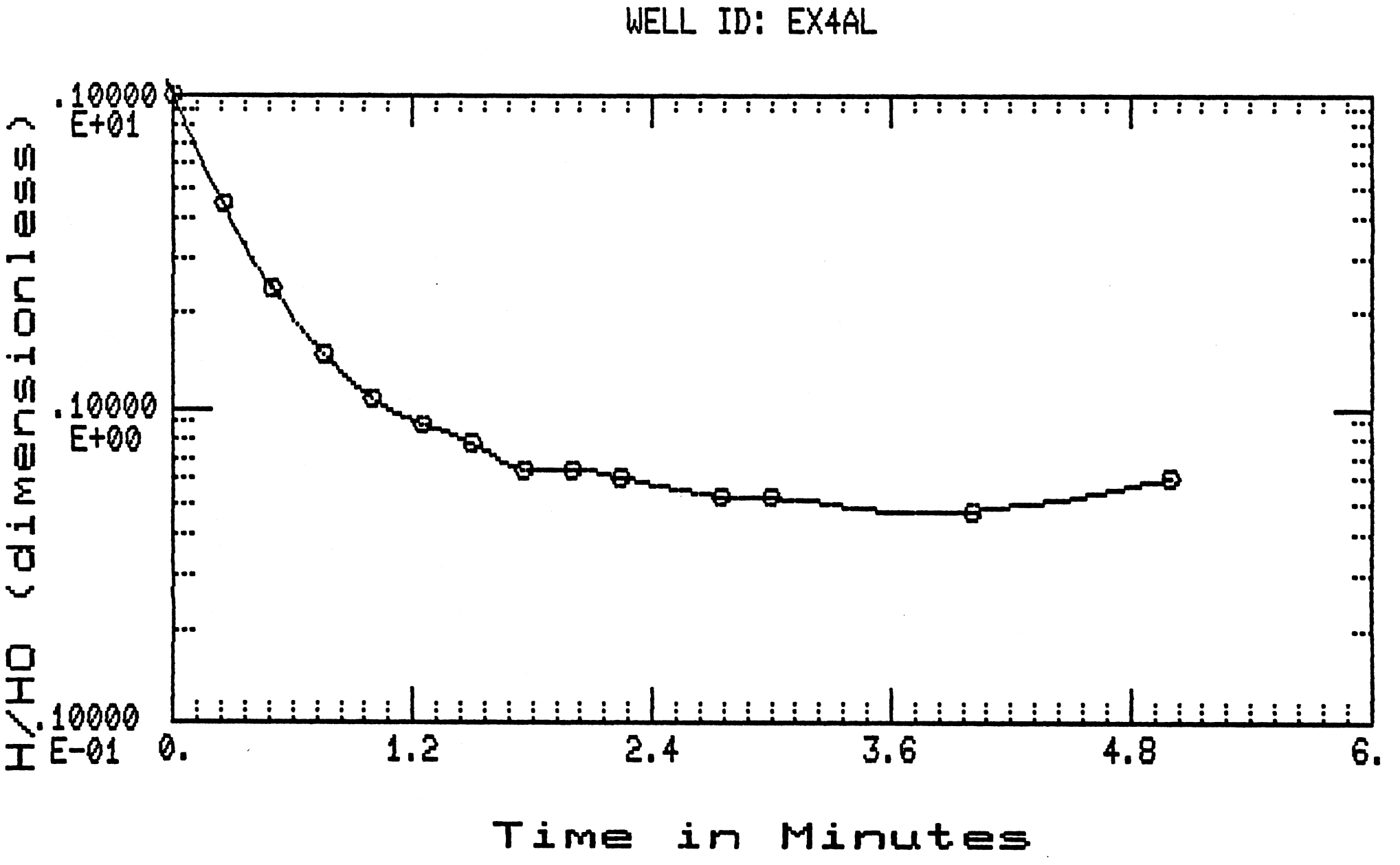
TRANSDUCER USED: 25.00 psi
INITIAL READING: 49.52% of 25.00 psi

DATA POINTS SELECTED

1. TIME: 1.00 minutes HEAD: 49.07 % of 25.00 psi
2. TIME: 1.75 minutes HEAD: 49.25 % of 25.00 psi

HYDRAULIC CONDUCTIVITY OF TEST INTERVAL:

0.59E-03 cm/sec 0.20E-04 ft/sec 0.59E-05 m/sec


WELL ID: EX4AL
.10000 E+01
.10000 E+00
.10000 E-01
H/HO (dimensionless)
0.
1.2
2.4
3.6
4.8
6.
Time in Minutes

WELL ID: EX4AL

TEST DATA:

MEASUREMENT NUMBER	TIME (HH:MM:SS)	TRANSDUCER READING (% of 25.00 psi)	HEAD RATIO (H/HO)
1	11:57: 0	45.35	1.0000
2	11:57:15	47.62	0.4556
3	11:57:30	48.52	0.2398
4	11:57:45	48.90	0.1487
5	11:58: 0	49.07	0.1079
6	11:58:15	49.15	0.0887
7	11:58:30	49.20	0.0767
8	11:58:45	49.25	0.0647
9	11:59: 0	49.25	0.0647
10	11:59:15	49.27	0.0600
11	11:59:45	49.30	0.0528
12	12: 0: 0	49.30	0.0528
13	12: 1: 0	49.32	0.0480
14	12: 2: 0	49.27	0.0600

STS CONSULTANTS LTD. - FIELD ENGINEERING SERVICES

SINGLE WELL HYDRAULIC CONDUCTIVITY TEST

STS JOB NO.: 12959
PROJECT/LOCATION: EXXON CRANDON
PROJECT MANAGER: JAS
TEST TECHNICIAN: JLG
DATA ANALYST: JAS

TEST INFORMATION

TYPE: FALLING HEAD METHOD: SLUG

PIEZOMETER ID: EX 4AU
SCREEN LENGTH: 3.0000 feet
SLOT SIZE (est.): 0.0200 inches
STANDPIPE RADIUS: 1.0000 inches
BOREHOLE RADIUS: 3.1250 inches
GRAVEL PACK LENGTH: 8.0000 feet
GRAVEL PACK PERM.: 0.35E-01 ft./sec.
SCREEN PERMEABILITY: 0.35E-02 ft./sec.

LENGTH USED FOR CALCULATION: 8.00 ft.

THE GRAVEL LENGTH WILL BE USED FOR CALC.

SLUG LENGTH: 15.00 feet
SLUG RADIUS: 0.50 inches

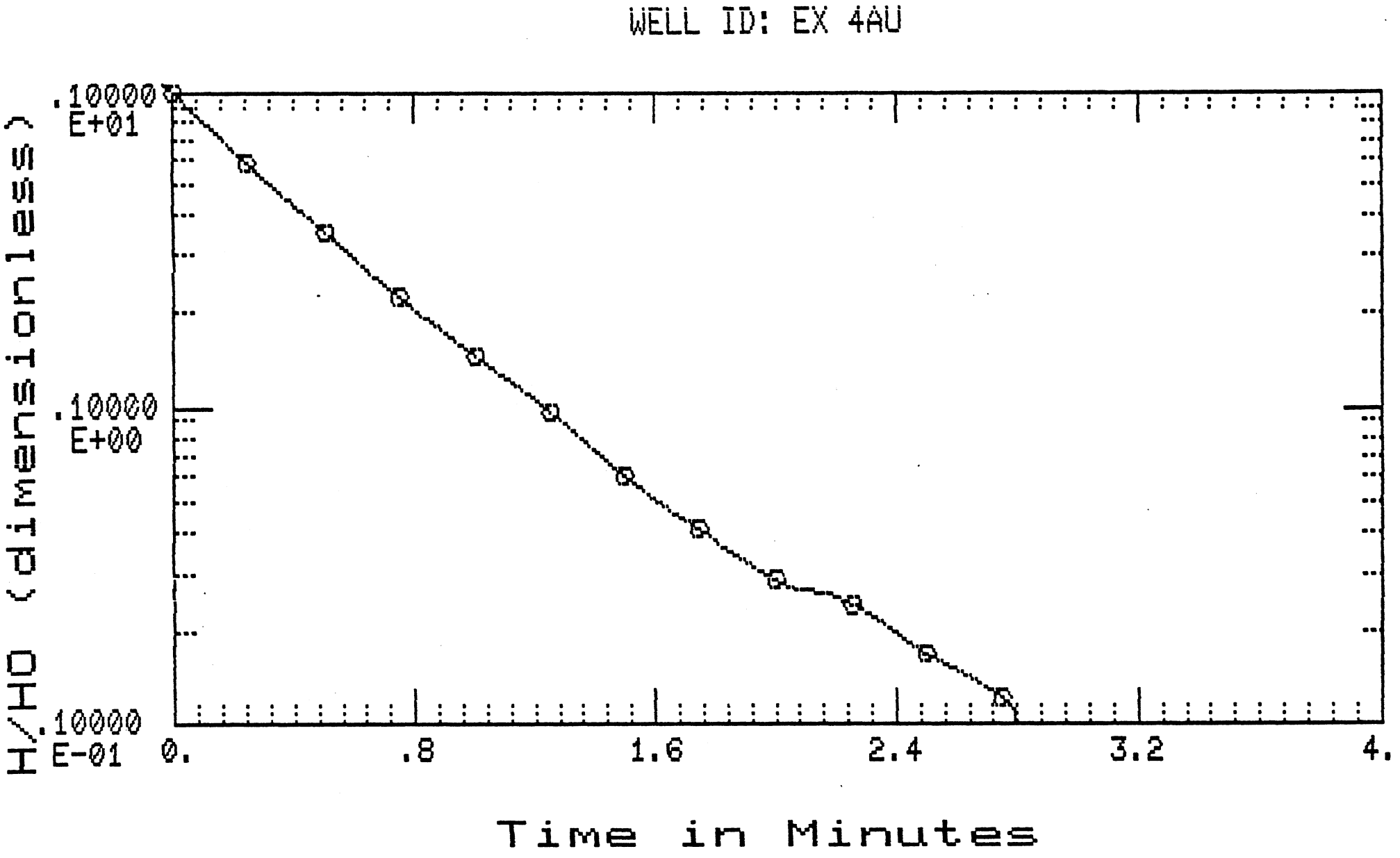
TRANSDUCER USED: 25.00 psi
INITIAL READING: 54.30% of 25.00 psi

DATA POINTS SELECTED

1. TIME: 0.00 minutes HEAD: 58.45 % of 25.00 psi
2. TIME: 2.00 minutes HEAD: 54.42 % of 25.00 psi

HYDRAULIC CONDUCTIVITY OF TEST INTERVAL:

0.13E-02 cm/sec 0.44E-04 ft/sec 0.13E-04 m/sec


WELL ID: EX 4AU
.10000
E+01
.10000
E+00
.10000
E-01
H/HO (dimensionless)
0.
.8
1.6
2.4
3.2
4.
Time in Minutes

WELL ID: EX 4AU

TEST DATA:

MEASUREMENT NUMBER	TIME (HH:MM:SS)	TRANSDUCER READING (% of 25.00 psi)	HEAD RATIO (H/HO)
1	9:40: 0	58.45	1.0000
2	9:40:15	56.75	0.5904
3	9:40:30	55.77	0.3542
4	9:40:45	55.22	0.2217
5	9:41: 0	54.90	0.1446
6	9:41:15	54.70	0.0964
7	9:41:30	54.55	0.0602
8	9:41:45	54.47	0.0410
9	9:42: 0	54.42	0.0289
10	9:42:15	54.40	0.0241
11	9:42:30	54.37	0.0169
12	9:42:45	54.35	0.0120
13	9:43: 0	54.32	0.0048

TEST DATE 6/01/84

STS CONSULTANTS LTD. - FIELD ENGINEERING SERVICES
SINGLE WELL HYDRAULIC CONDUCTIVITY TEST

STS JOB NO.: 12959
PROJECT/LOCATION: EXXON CRANDON
PROJECT MANAGER: JAS
TEST TECHNICIAN: JLG
DATA ANALYST: JAS

TEST INFORMATION

TYPE: FALLING HEAD METHOD: SLUG

PIEZOMETER ID: EX 4BL
SCREEN LENGTH: 3.0000 feet
SLOT SIZE (est.): 0.0200 inches
STANDPIPE RADIUS: 1.0000 inches
BOREHOLE RADIUS: 3.1250 inches
GRAVEL PACK LENGTH: 6.0000 feet
GRAVEL PACK PERM.: 0.35E-01 ft./sec.
SCREEN PERMEABILITY: 0.35E-02 ft./sec.

LENGTH USED FOR CALCULATION: 6.00 ft.

THE GRAVEL LENGTH WILL BE USED FOR CALC.

SLUG LENGTH: 15.00 feet
SLUG RADIUS: 0.50 inches

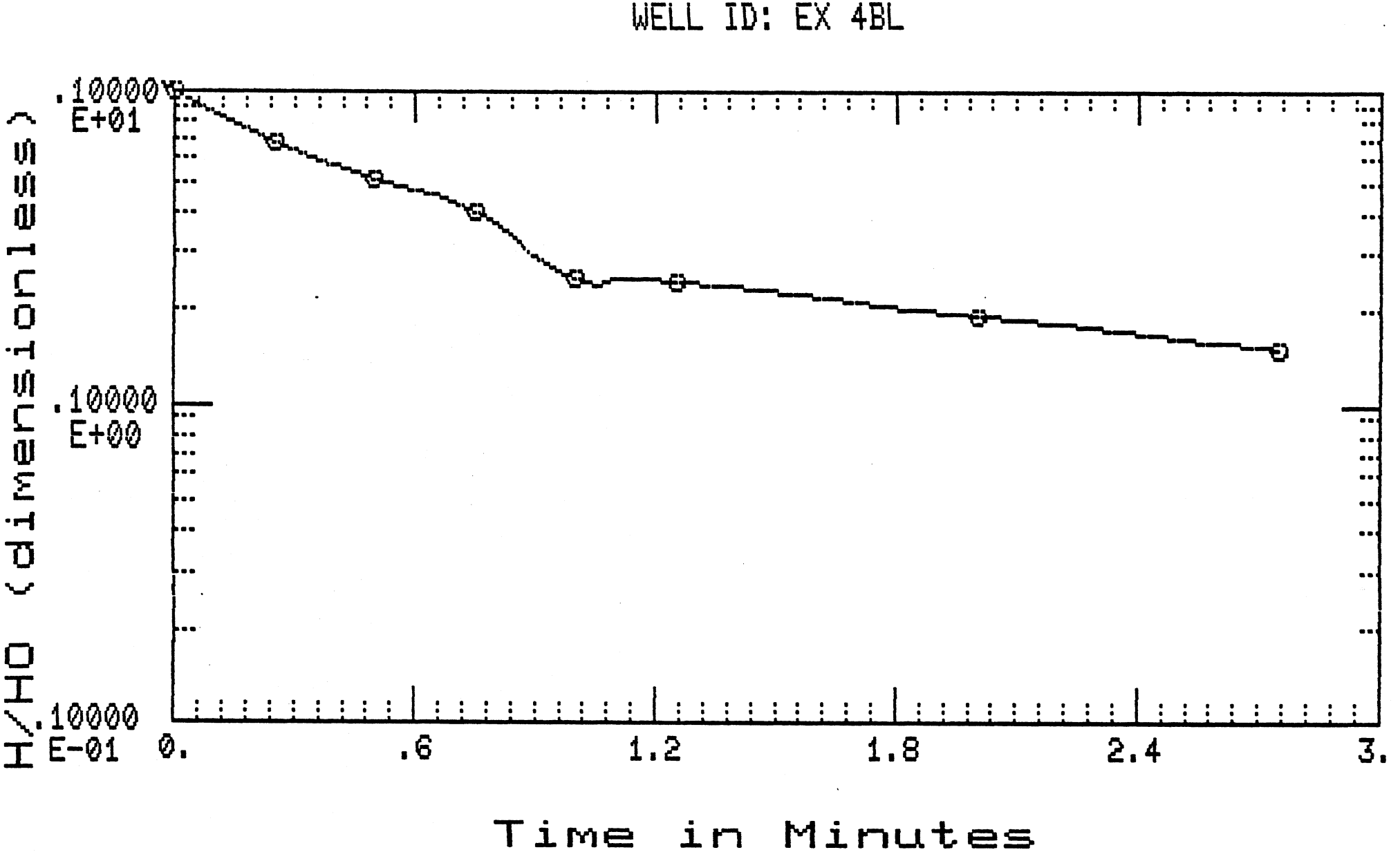
TRANSDUCER USED: 25.00 psi
INITIAL READING: 54.40% of 25.00 psi

DATA POINTS SELECTED

1. TIME: 0.25 minutes HEAD: 56.80 % of 25.00 psi
2. TIME: 0.75 minutes HEAD: 55.82 % of 25.00 psi

HYDRAULIC CONDUCTIVITY OF TEST INTERVAL:

0.97E-03 cm/sec 0.32E-04 ft/sec 0.97E-05 m/sec


WELL ID: EX 4BL
.10000
E+01
.10000
E+00
.10000
E-01
H/HO (dimensionless)
0.
.6
1.2
1.8
2.4
3.
Time in Minutes

WELL ID: EX 4BL

TEST DATA:

MEASUREMENT NUMBER	TIME (HH:MM:SS)	TRANSDUCER READING (% of 25.00 psi)	HEAD RATIO (H/HO)
1	9: 4: 0	57.90	1.0000
2	9: 4:15	56.80	0.6857
3	9: 4:30	56.22	0.5200
4	9: 4:45	55.82	0.4057
5	9: 5: 0	55.27	0.2486
6	9: 5:15	55.25	0.2429
7	9: 6: 0	55.07	0.1914
8	9: 6:45	54.92	0.1486

STS CONSULTANTS LTD. - FIELD ENGINEERING SERVICES
SINGLE WELL HYDRAULIC CONDUCTIVITY TEST

STS JOB NO.: 12959
PROJECT/LOCATION: EXXON CRANDON
PROJECT MANAGER: JAS
TEST TECHNICIAN: JLG
DATA ANALYST: JAS

TEST INFORMATION

TYPE: RISING HEAD METHOD: SLUG

PIEZOMETER ID: EX 4BL
SCREEN LENGTH: 3.0000 feet
SLOT SIZE (est.): 0.0200 inches
STANDPIPE RADIUS: 1.0000 inches
BOREHOLE RADIUS: 3.1250 inches
GRAVEL PACK LENGTH: 6.0000 feet
GRAVEL PACK PERM.: 0.35E-01 ft./sec.
SCREEN PERMEABILITY: 0.35E-02 ft./sec.

LENGTH USED FOR CALCULATION: 6.00 ft.

THE GRAVEL LENGTH WILL BE USED FOR CALC.

SLUG LENGTH: 15.00 feet
SLUG RADIUS: 0.50 inches

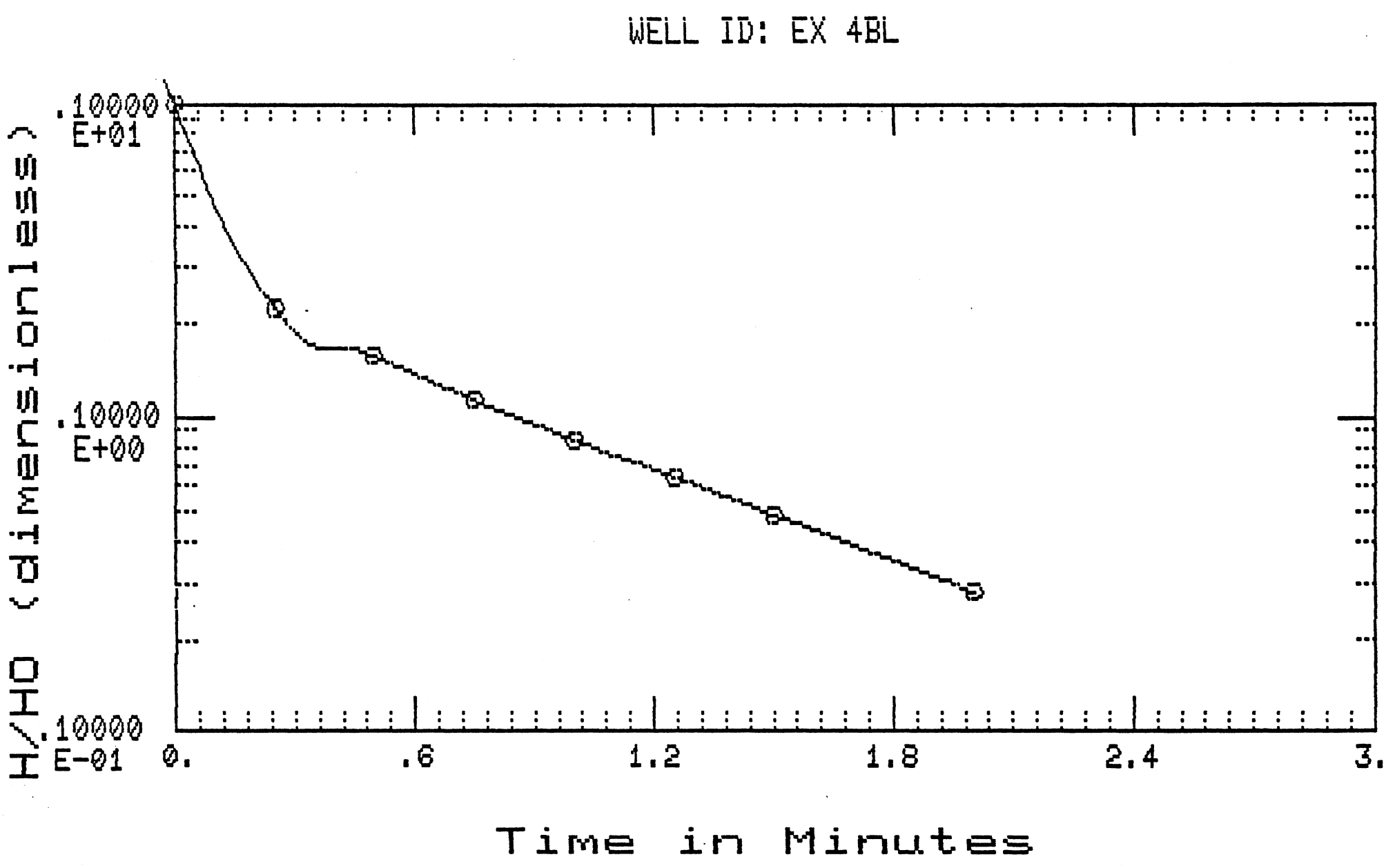
TRANSDUCER USED: 25.00 psi
INITIAL READING: 54.40% of 25.00 psi

DATA POINTS SELECTED

1. TIME: 0.50 minutes HEAD: 52.47 % of 25.00 psi
2. TIME: 2.00 minutes HEAD: 54.05 % of 25.00 psi

HYDRAULIC CONDUCTIVITY OF TEST INTERVAL:

0.10E-02 cm/sec 0.34E-04 ft/sec 0.10E-04 m/sec


WELL ID: EX 4BL
.10000 E+01
.10000 E+00
.10000 E-01
H/HO (dimensionless)
0.
.6
1.2
1.8
2.4
3.
Time in Minutes

WELL ID: EX 4BL

TEST DATA:

MEASUREMENT NUMBER	TIME (HH:MM:SS)	TRANSDUCER READING (% of 25.00 psi)	HEAD RATIO (H/HO)
1	9:10: 0	41.92	1.0000
2	9:10:15	51.65	0.2204
3	9:10:30	52.47	0.1546
4	9:10:45	53.00	0.1122
5	9:11: 0	53.35	0.0841
6	9:11:15	53.60	0.0641
7	9:11:30	53.80	0.0481
8	9:12: 0	54.05	0.0280

STS CONSULTANTS LTD. - FIELD ENGINEERING SERVICES

SINGLE WELL HYDRAULIC CONDUCTIVITY TEST

STS JOB NO.: 12959
PROJECT/LOCATION: EXXON/CRANDON
PROJECT MANAGER: JAS
TEST TECHNICIAN: JCG
DATA ANALYST: PMB/JRT

TEST INFORMATION

TYPE: FALLING HEAD METHOD: SLUG

PIEZOMETER ID: EX4BU
SCREEN LENGTH: 3.0000 feet
SLOT SIZE (est.): 0.0200 inches
STANDPIPE RADIUS: 1.0000 inches
BOREHOLE RADIUS: 3.1250 inches
GRAVEL PACK LENGTH: 7.0000 feet
GRAVEL PACK PERM.: 0.35E-01 ft./sec.
SCREEN PERMEABILITY: 0.35E-02 ft./sec.

LENGTH USED FOR CALCULATION: 7.00 ft.

THE GRAVEL LENGTH WILL BE USED FOR CALC.

SLUG LENGTH: 15.00 feet
SLUG RADIUS: 0.50 inches

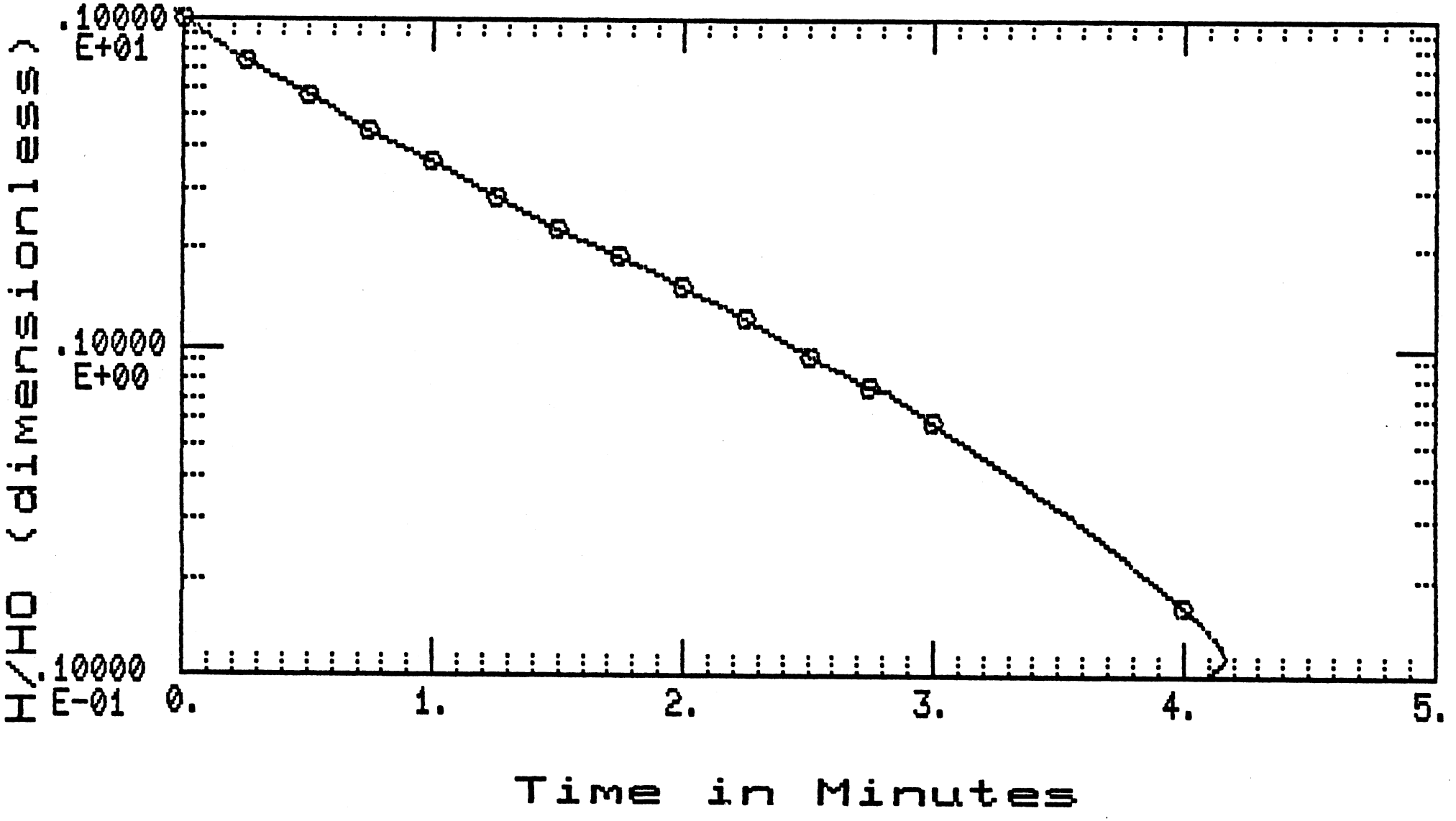
TRANSDUCER USED: 25.00 psi
INITIAL READING: 36.20% of 25.00 psi

DATA POINTS SELECTED

1. TIME: 0.75 minutes HEAD: 38.12 % of 25.00 psi
2. TIME: 3.00 minutes HEAD: 36.45 % of 25.00 psi

HYDRAULIC CONDUCTIVITY OF TEST INTERVAL:

0.75E-03 cm/sec 0.25E-04 ft/sec 0.75E-05 m/sec


WELL ID: EX4BU
.10000 E+01
.10000 E+00
.10000 E-01
H/HO (dimensionless)
0.
1.
2.
3.
4.
5.
Time in Minutes

WELL ID: EX4BU

TEST DATA:

MEASUREMENT NUMBER	TIME (HH:MM:SS)	TRANSDUCER READING (% of 25.00 psi)	HEAD RATIO (H/HO)
1	11:45: 0	40.47	1.0000
2	11:45:15	39.35	0.7377
3	11:45:30	38.67	0.5785
4	11:45:45	38.12	0.4496
5	11:46: 0	37.75	0.3630
6	11:46:15	37.42	0.2857
7	11:46:30	37.17	0.2272
8	11:46:45	37.00	0.1874
9	11:47: 0	36.85	0.1522
10	11:47:15	36.72	0.1218
11	11:47:30	36.60	0.0937
12	11:47:45	36.52	0.0749
13	11:48: 0	36.45	0.0585
14	11:49: 0	36.27	0.0164
15	11:49:45	36.20	0.0010

STS CONSULTANTS LTD. - FIELD ENGINEERING SERVICES
SINGLE WELL HYDRAULIC CONDUCTIVITY TEST

STS JOB NO.: 12959
PROJECT/LOCATION: EXXON/CRANDON
PROJECT MANAGER: JAS
TEST TECHNICIAN: JCG
DATA ANALYST: PMB/JRT

TEST INFORMATION

TYPE: RISING HEAD METHOD: SLUG

PIEZOMETER ID: EX4BU
SCREEN LENGTH: 3.0000 feet
SLOT SIZE (est.): 0.0200 inches
STANDPIPE RADIUS: 1.0000 inches
BOREHOLE RADIUS: 3.1250 inches
GRAVEL PACK LENGTH: 7.0000 feet
GRAVEL PACK PERM.: 0.35E-01 ft./sec.
SCREEN PERMEABILITY: 0.35E-02 ft./sec.

LENGTH USED FOR CALCULATION: 7.00 ft.

THE GRAVEL LENGTH WILL BE USED FOR CALC.

SLUG LENGTH: 15.00 feet
SLUG RADIUS: 0.50 inches

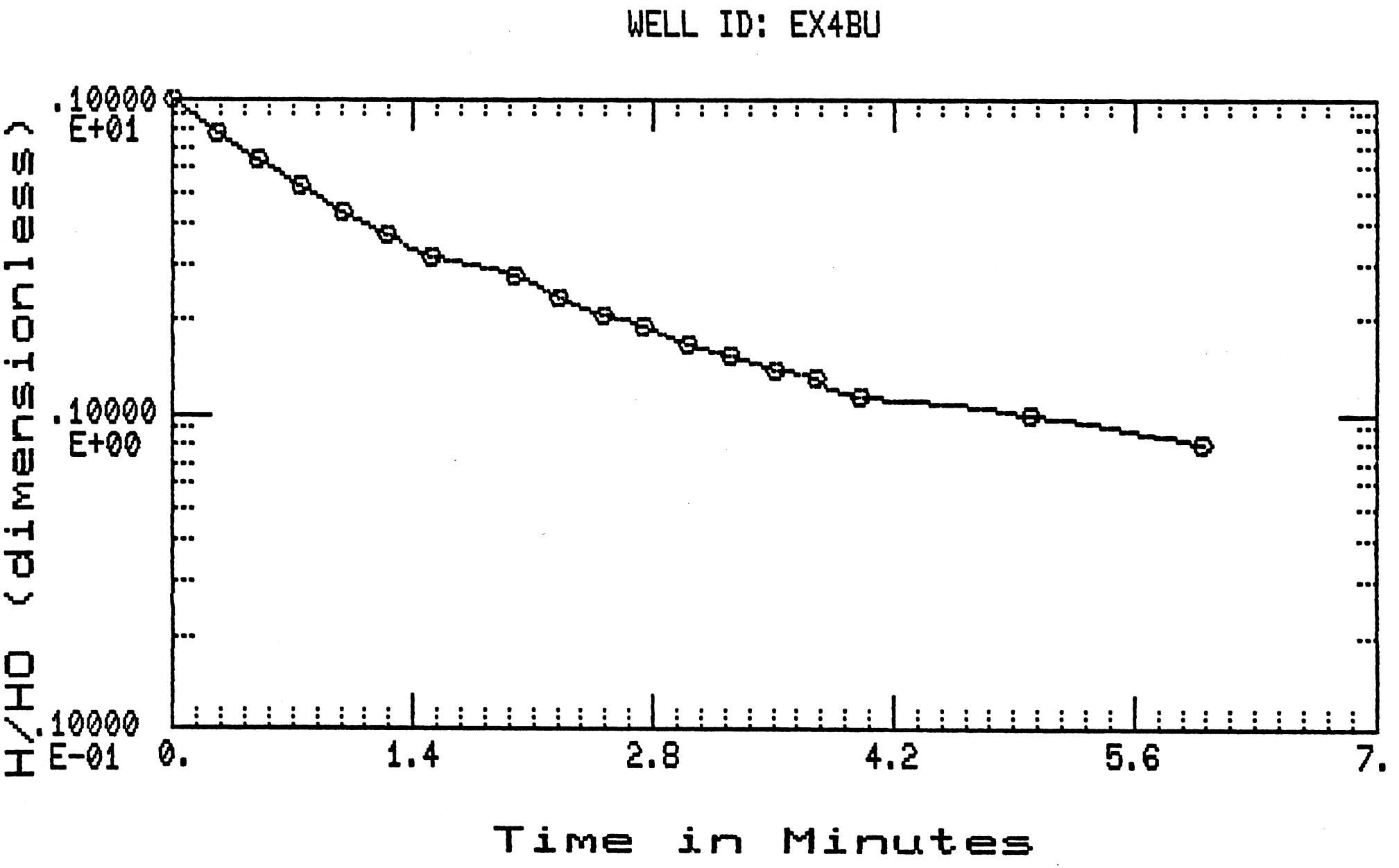
TRANSDUCER USED: 25.00 psi
INITIAL READING: 36.30% of 25.00 psi

DATA POINTS SELECTED

1. TIME: 2.25 minutes HEAD: 35.10 % of 25.00 psi
2. TIME: 4.00 minutes HEAD: 35.72 % of 25.00 psi

HYDRAULIC CONDUCTIVITY OF TEST INTERVAL:

0.34E-03 cm/sec 0.11E-04 ft/sec 0.34E-05 m/sec


WELL ID: EX4BU
.10000 E+01
.10000 E+00
.10000 E-01
H/HO (dimensionless)
0.
1.4
2.8
4.2
5.6
7.
Time in Minutes

WELL ID: EX4BU

TEST DATA:

MEASUREMENT NUMBER	TIME (HH:MM:SS)	TRANSDUCER READING (% of 25.00 psi)	HEAD RATIO (H/HO)
1	11:50: 0	31.22	1.0000
2	11:50:15	32.32	0.7835
3	11:50:30	33.05	0.6398
4	11:50:45	33.62	0.5276
5	11:51: 0	34.07	0.4390
6	11:51:15	34.40	0.3740
7	11:51:30	34.67	0.3209
8	11:52: 0	34.90	0.2756
9	11:52:15	35.10	0.2362
10	11:52:30	35.25	0.2067
11	11:52:45	35.35	0.1870
12	11:53: 0	35.45	0.1673
13	11:53:15	35.52	0.1535
14	11:53:30	35.60	0.1378
15	11:53:45	35.65	0.1280
16	11:54: 0	35.72	0.1142
17	11:55: 0	35.80	0.0984
18	11:56: 0	35.90	0.0787

STS CONSULTANTS LTD. - FIELD ENGINEERING SERVICES
SINGLE WELL HYDRAULIC CONDUCTIVITY TEST

STS JOB NO.: 12959
PROJECT/LOCATION: EXXON/CRANDON
PROJECT MANAGER: JAS
TEST TECHNICIAN: JCG
DATA ANALYST: PMB

TEST INFORMATION

TYPE: FALLING HEAD METHOD: SLUG

PIEZOMETER ID: EX5AL
SCREEN LENGTH: 3.0000 feet
SLOT SIZE (est.): 0.0200 inches
STANDPIPE RADIUS: 1.0000 inches
BOREHOLE RADIUS: 3.1250 inches
GRAVEL PACK LENGTH: 8.0000 feet
GRAVEL PACK PERM.: 0.35E-01 ft./sec.
SCREEN PERMEABILITY: 0.35E-02 ft./sec.

LENGTH USED FOR CALCULATION: 8.00 ft.

THE GRAVEL LENGTH WILL BE USED FOR CALC.

SLUG LENGTH: 20.00 feet
SLUG RADIUS: 0.50 inches

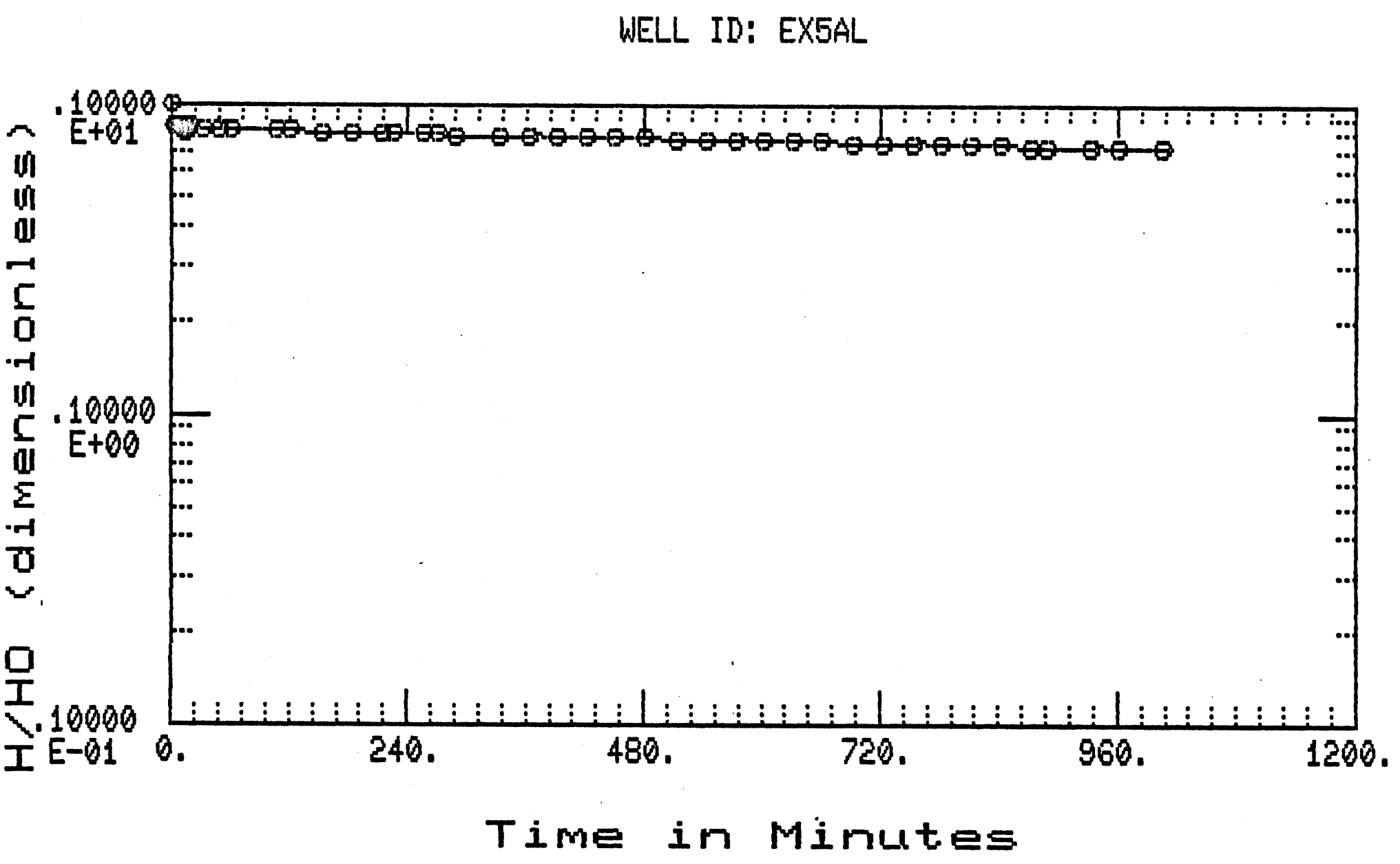
TRANSDUCER USED: 25.00 psi
INITIAL READING: 50.40% of 25.00 psi

DATA POINTS SELECTED

1. TIME: 32.50 minutes HEAD: 56.62 % of 25.00 psi
2. TIME: 1007.50 minutes HEAD: 55.72 % of 25.00 psi

HYDRAULIC CONDUCTIVITY OF TEST INTERVAL:

0.12E-06 cm/sec 0.40E-08 ft/sec 0.12E-08 m/sec


WELL ID: EX5AL
.10000
E+01
.10000
E+00
.10000
E-01
H/HO (dimensionless)
0.
240.
480.
720.
960.
1200.
Time in Minutes

WELL ID: EX5AL

TEST DATA:

MEASUREMENT NUMBER	TIME (HH:MM:SS)	TRANSDUCER READING (% of 25.00 psi)	HEAD RATIO (H/HO)
1	0:10:30	57.90	1.0000
2	0:11: 0	56.72	0.8427
3	0:11:45	56.75	0.8467
4	0:13:15	56.77	0.8493
5	0:15: 0	56.80	0.8533
6	0:16: 0	56.75	0.8467
7	0:17: 0	56.67	0.8360
8	0:19: 0	56.65	0.8333
9	0:21: 0	56.62	0.8293
10	0:24: 0	56.45	0.8067
11	0:25: 0	56.65	0.8333
12	0:27: 0	56.62	0.8293
13	0:29: 0	56.72	0.8427
14	0:43: 0	56.62	0.8293
15	0:58: 0	56.60	0.8267
16	1:13: 0	56.52	0.8160
17	1:58: 0	56.50	0.8133
18	2:13: 0	56.47	0.8093
19	2:43: 0	56.45	0.8067
20	3:13: 0	56.42	0.8027
21	3:43: 0	56.40	0.8000
22	3:58: 0	56.37	0.7960
23	4:28: 0	56.35	0.7933
24	4:43: 0	56.32	0.7893
25	4:58: 0	56.30	0.7867
26	5:43: 0	56.27	0.7827
27	6:13: 0	56.25	0.7800
28	6:43: 0	56.22	0.7760
29	7:13: 0	56.20	0.7733
30	7:43: 0	56.17	0.7693
31	8:13: 0	56.15	0.7667
32	8:43: 0	56.12	0.7627
33	9:13: 0	56.10	0.7600
34	9:43: 0	56.07	0.7560
35	10:13: 0	56.05	0.7533
36	10:43: 0	56.02	0.7493
37	11:13: 0	56.00	0.7467
38	11:43: 0	55.97	0.7427
39	12:13: 0	55.95	0.7400
40	12:43: 0	55.92	0.7360
41	13:13: 0	55.90	0.7333
42	13:43: 0	55.87	0.7293
43	14:13: 0	55.85	0.7267
44	14:43: 0	55.82	0.7227
45	14:58: 0	55.80	0.7200
46	15:43: 0	55.77	0.7160
47	16:13: 0	55.75	0.7133
48	16:58: 0	55.72	0.7093
49	16:58: 0	55.72	0.7093

STS CONSULTANTS LTD. - FIELD ENGINEERING SERVICES
SINGLE WELL HYDRAULIC CONDUCTIVITY TEST

STS JOB NO.: 12959
PROJECT/LOCATION: EXXON/CRANDON
PROJECT MANAGER: JAS
TEST TECHNICIAN: JCG
DATA ANALYST: PMB/JRT

TEST INFORMATION

TYPE: FALLING HEAD METHOD: SLUG

PIEZOMETER ID: EX5AU
SCREEN LENGTH: 3.0000 feet
SLOT SIZE (est.): 0.0200 inches
STANDPIPE RADIUS: 1.0000 inches
BOREHOLE RADIUS: 3.1250 inches
GRAVEL PACK LENGTH: 7.0000 feet
GRAVEL PACK PERM.: 0.35E-01 ft./sec.
SCREEN PERMEABILITY: 0.35E-02 ft./sec.

LENGTH USED FOR CALCULATION: 7.00 ft.

THE GRAVEL LENGTH WILL BE USED FOR CALC.

SLUG LENGTH: 15.00 feet
SLUG RADIUS: 0.50 inches

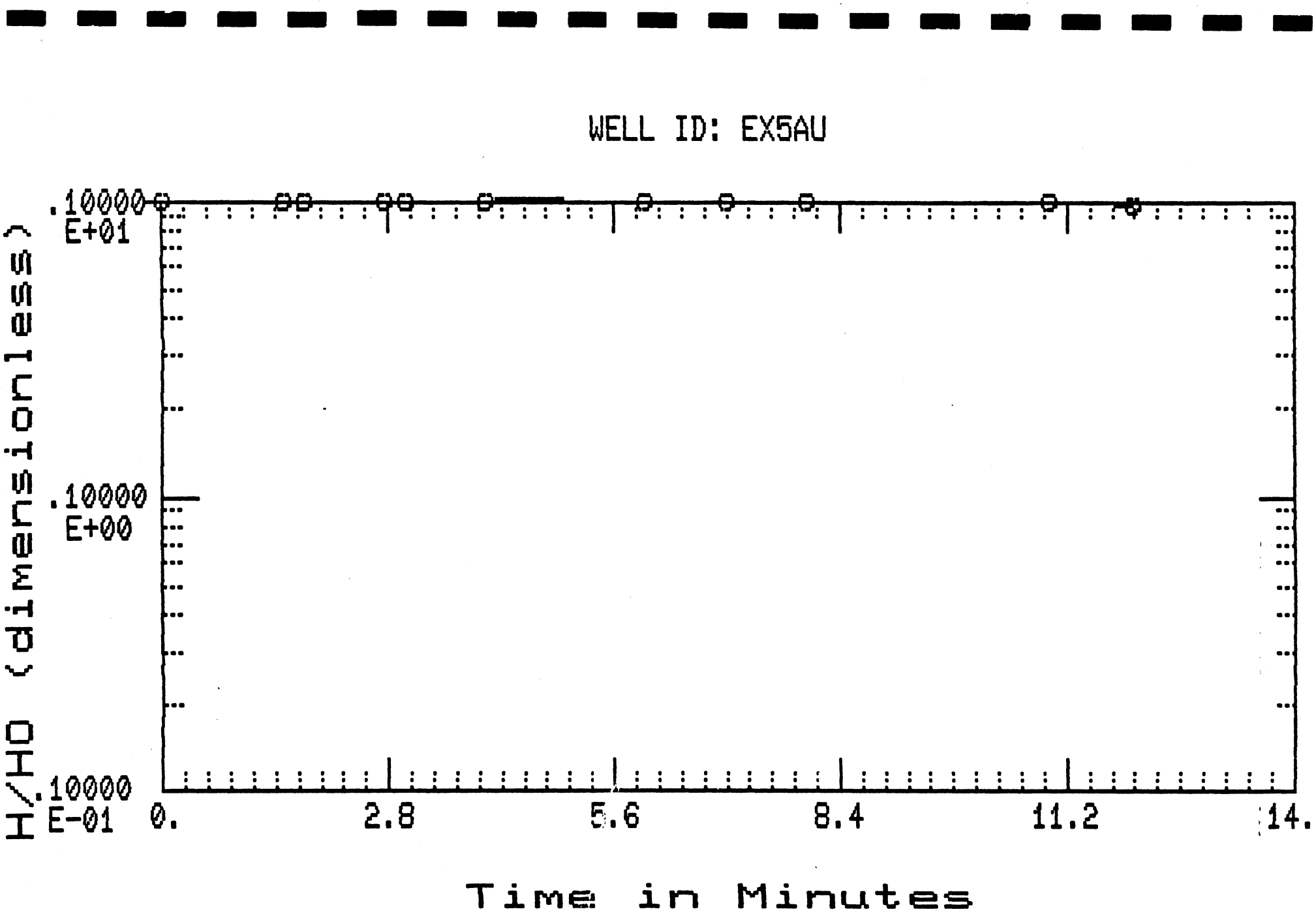
TRANSDUCER USED: 25.00 psi
INITIAL READING: 30.05% of 25.00 psi

DATA POINTS SELECTED

1. TIME: 3.00 minutes HEAD: 36.45 % of 25.00 psi
2. TIME: 12.00 minutes HEAD: 36.30 % of 25.00 psi

HYDRAULIC CONDUCTIVITY OF TEST INTERVAL:

0.22E-05 cm/sec 0.72E-07 ft/sec 0.22E-07 m/sec


WELL ID: EX5AU
.10000 E+01
.10000 E+00
.10000 E-01
H/HO (dimensionless)
0.
2.8
5.6
8.4
11.2
14.
Time in Minutes

WELL ID: EX5AU

TEST DATA:

MEASUREMENT NUMBER	TIME (HH:MM:SS)	TRANSDUCER READING (% of 25.00 psi)	HEAD RATIO (H/HO)
1	17:25: 0	36.45	1.0000
2	17:26:30	36.45	1.0000
3	17:26:45	36.42	0.9953
4	17:27:45	36.45	1.0000
5	17:28: 0	36.45	1.0000
6	17:29: 0	36.40	0.9922
7	17:31: 0	36.35	0.9844
8	17:32: 0	36.32	0.9797
9	17:33: 0	36.35	0.9844
10	17:36: 0	36.32	0.9797
11	17:37: 0	36.30	0.9766

STS CONSULTANTS LTD. - FIELD ENGINEERING SERVICES
SINGLE WELL HYDRAULIC CONDUCTIVITY TEST

STS JOB NO.: 12959
PROJECT/LOCATION: EXXON CRANDON
PROJECT MANAGER: JAS
TEST TECHNICIAN: JLG
DATA ANALYST: JAS

TEST INFORMATION

TYPE: FALLING HEAD METHOD: SLUG

PIEZOMETER ID: EX 5BL
SCREEN LENGTH: 3.0000 feet
SLOT SIZE (est.): 0.0200 inches
STANDPIPE RADIUS: 1.0000 inches
BOREHOLE RADIUS: 3.1250 inches
GRAVEL PACK LENGTH: 7.0000 feet
GRAVEL PACK PERM.: 0.35E-01 ft./sec.
SCREEN PERMEABILITY: 0.35E-02 ft./sec.

LENGTH USED FOR CALCULATION: 7.00 ft.

THE GRAVEL LENGTH WILL BE USED FOR CALC.

SLUG LENGTH: 15.00 feet
SLUG RADIUS: 0.50 inches

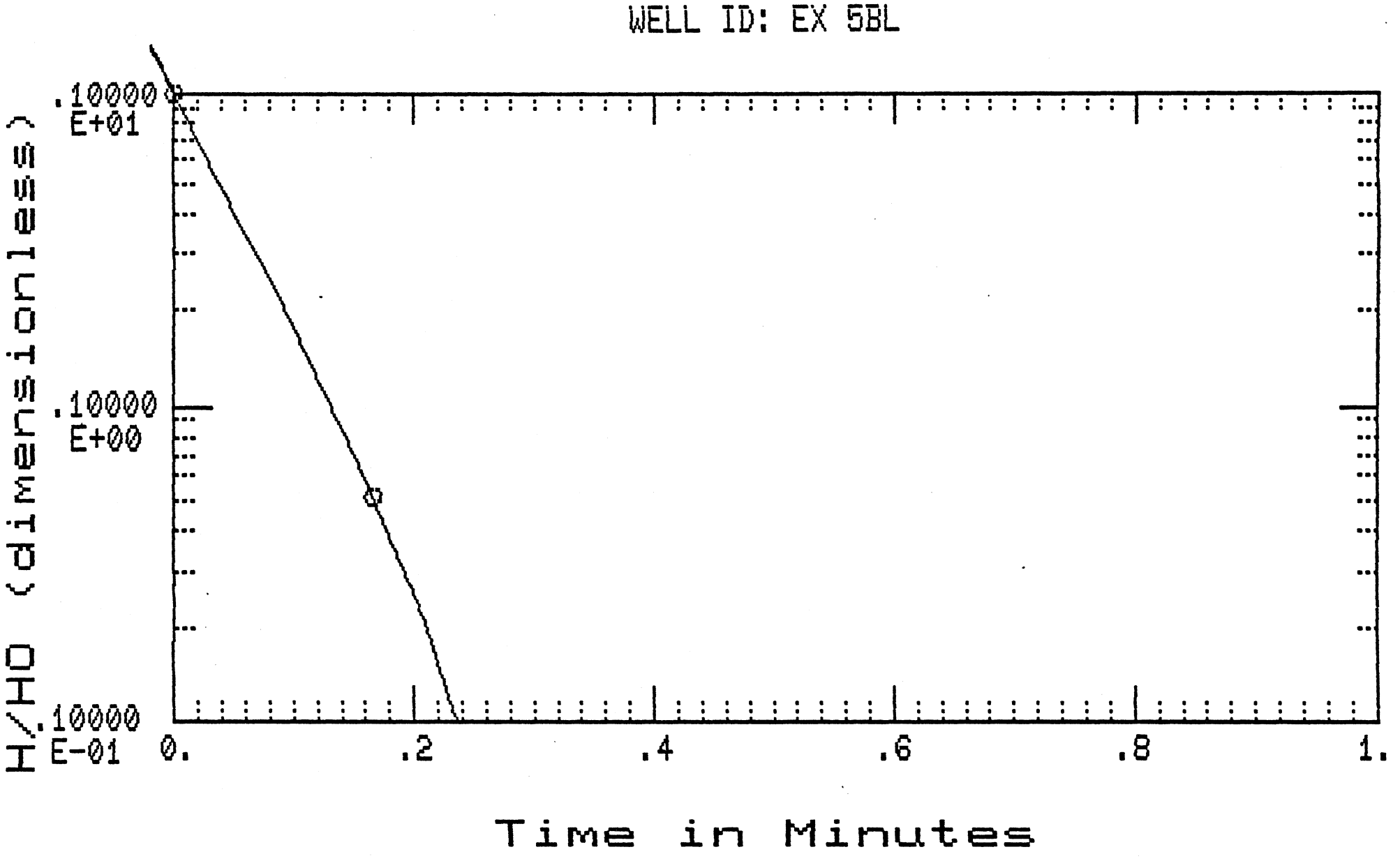
TRANSDUCER USED: 25.00 psi
INITIAL READING: 38.77% of 25.00 psi

DATA POINTS SELECTED

1. TIME: 0.00 minutes HEAD: 39.35 % of 25.00 psi
2. TIME: 0.17 minutes HEAD: 38.80 % of 25.00 psi

HYDRAULIC CONDUCTIVITY OF TEST INTERVAL:

0.15E-01 cm/sec 0.48E-03 ft/sec 0.15E-03 m/sec


WELL ID: EX 5BL
.10000 E+01
.10000 E+00
.10000 E-01
H/HO (dimensionless)
0.
.2
.4
.6
.8
1.
Time in Minutes

WELL ID: EX 5BL

TEST DATA:

MEASUREMENT NUMBER	TIME (HH:MM:SS)	TRANSDUCER READING (% of 25.00 psi)	HEAD RATIO (H/HO)
1	10:59: 0	39.35	1.0000
2	10:59:10	38.80	0.0517
3	10:59:19	38.77	0.0010

STS CONSULTANTS LTD. - FIELD ENGINEERING SERVICES

SINGLE WELL HYDRAULIC CONDUCTIVITY TEST

STS JOB NO.: 12959
PROJECT/LOCATION: EXXON/CRANDON
PROJECT MANAGER: JAS
TEST TECHNICIAN: JCG
DATA ANALYST: PMB

TEST INFORMATION

TYPE: FALLING HEAD METHOD: SLUG

PIEZOMETER ID: EX6AL
SCREEN LENGTH: 3.0000 feet
SLOT SIZE (est.): 0.0200 inches
STANDPIPE RADIUS: 1.0000 inches

BOREHOLE RADIUS: 3.1250 inches
GRAVEL PACK LENGTH: 7.0000 feet
GRAVEL PACK PERM.: 0.35E-01 ft./sec.
SCREEN PERMEABILITY: 0.35E-02 ft./sec.

LENGTH USED FOR CALCULATION: 7.00 ft.

THE GRAVEL LENGTH WILL BE USED FOR CALC.

SLUG LENGTH: 15.00 feet

SLUG RADIUS: 0.50 inches

TRANSDUCER USED: 25.00 psi

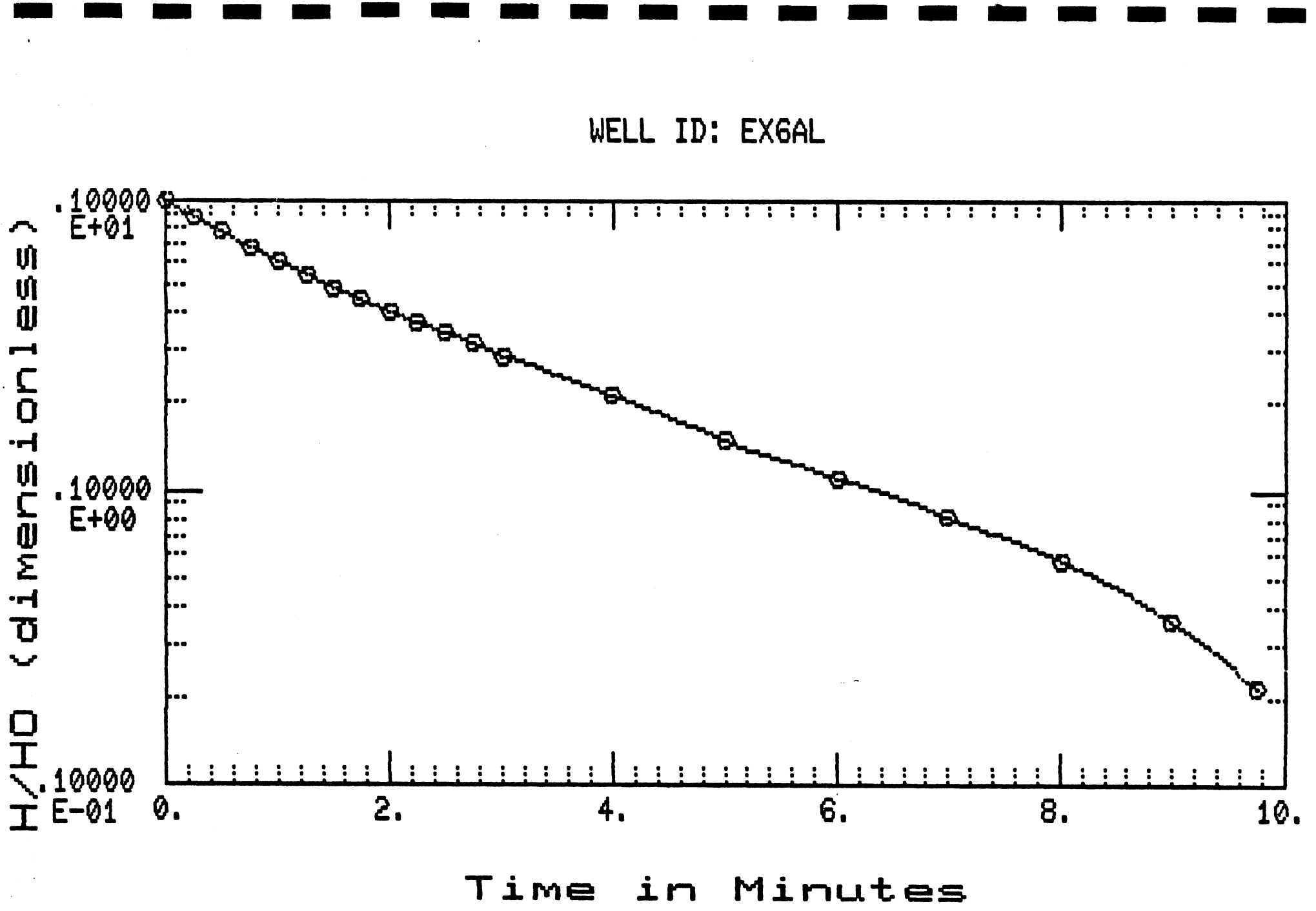
INITIAL READING: 51.70% of 25.00 psi

DATA POINTS SELECTED

1. TIME: 5.00 minutes HEAD: 52.52 % of 25.00 psi
2. TIME: 8.00 minutes HEAD: 52.02 % of 25.00 psi

HYDRAULIC CONDUCTIVITY OF TEST INTERVAL:

0.26E-03 cm/sec 0.85E-05 ft/sec 0.26E-05 m/sec


WELL ID: EX6AL
.10000 E+01
.10000 E+00
.10000 E-01
H/HO (dimensionless)
0.
2.
4.
6.
8.
10.
Time in Minutes

WELL ID: EX6AL

TEST DATA:

MEASUREMENT NUMBER	TIME (HH:MM:SS)	TRANSDUCER READING (% of 25.00 psi)	HEAD RATIO (H/HO)
1	14:14: 0	57.27	1.0000
2	14:14:15	56.55	0.8707
3	14:14:30	55.97	0.7666
4	14:14:45	55.50	0.6822
5	14:15: 0	55.10	0.6104
6	14:15:15	54.75	0.5476
7	14:15:30	54.45	0.4937
8	14:15:45	54.20	0.4488
9	14:16: 0	53.97	0.4075
10	14:16:15	53.77	0.3716
11	14:16:30	53.60	0.3411
12	14:16:45	53.45	0.3142
13	14:17: 0	53.30	0.2873
14	14:18: 0	52.87	0.2101
15	14:19: 0	52.52	0.1472
16	14:20: 0	52.32	0.1113
17	14:21: 0	52.15	0.0808
18	14:22: 0	52.02	0.0575
19	14:23: 0	51.90	0.0359
20	14:23:45	51.82	0.0215

STS CONSULTANTS LTD. - FIELD ENGINEERING SERVICES

SINGLE WELL HYDRAULIC CONDUCTIVITY TEST

STS JOB NO.: 12959
PROJECT/LOCATION: EXXON/CRANDON
PROJECT MANAGER: JAS
TEST TECHNICIAN: JCG
DATA ANALYST: PMB

TEST INFORMATION

TYPE: RISING HEAD METHOD: SLUG

PIEZOMETER ID: EX6AL
SCREEN LENGTH: 3.0000 feet
SLOT SIZE (est.): 0.0200 inches
STANDPIPE RADIUS: 1.0000 inches
BOREHOLE RADIUS: 3.1250 inches
GRAVEL PACK LENGTH: 7.0000 feet
GRAVEL PACK PERM.: 0.35E-01 ft./sec.
SCREEN PERMEABILITY: 0.35E-02 ft./sec.

LENGTH USED FOR CALCULATION: 7.00 ft.

THE GRAVEL LENGTH WILL BE USED FOR CALC.

SLUG LENGTH: 15.00 feet
SLUG RADIUS: 0.50 inches

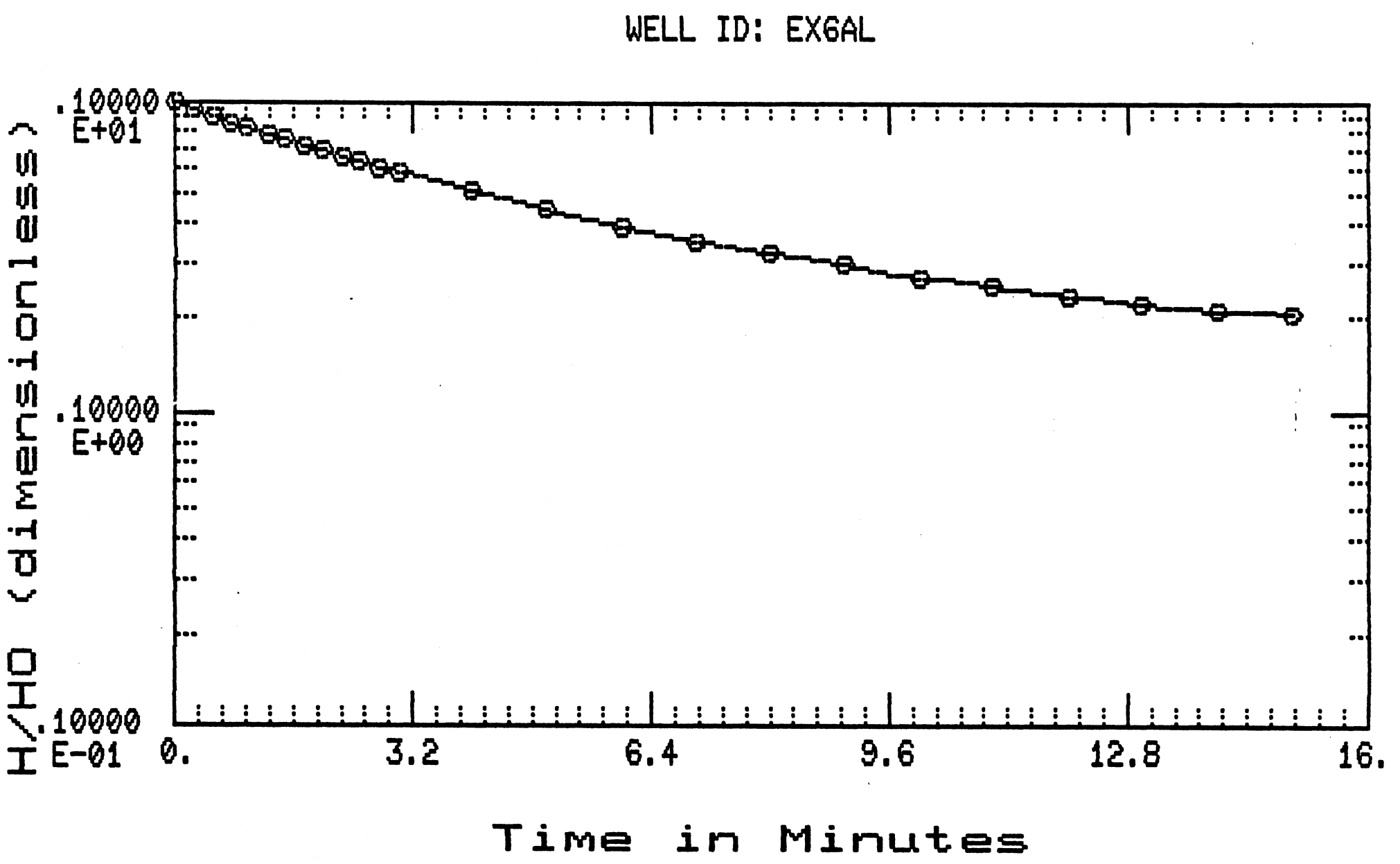
TRANSDUCER USED: 25.00 psi
INITIAL READING: 51.70% of 25.00 psi

DATA POINTS SELECTED

1. TIME: 0.50 minutes HEAD: 46.67 % of 25.00 psi
2. TIME: 6.00 minutes HEAD: 49.45 % of 25.00 psi

HYDRAULIC CONDUCTIVITY OF TEST INTERVAL:

0.12E-03 cm/sec 0.40E-05 ft/sec 0.12E-05 m/sec


WELL ID: EX6AL
.10000
E+01
.10000
E+00
.10000
E-01
H/HO (dimensionless)
0.
3.2
6.4
9.6
12.8
16.
Time in Minutes

WELL ID: EX6AL

TEST DATA:

MEASUREMENT NUMBER	TIME (HH:MM:SS)	TRANSDUCER READING (% of 25.00 psi)	HEAD RATIO (H/H0)
1	14:24: 0	46.05	1.0000
2	14:24:15	46.40	0.9381
3	14:24:30	46.67	0.8903
4	14:24:45	46.90	0.8496
5	14:25: 0	47.10	0.8142
6	14:25:15	47.30	0.7788
7	14:25:30	47.47	0.7487
8	14:25:45	47.65	0.7168
9	14:26: 0	47.80	0.6903
10	14:26:15	47.95	0.6637
11	14:26:30	48.10	0.6372
12	14:26:45	48.22	0.6159
13	14:27: 0	48.35	0.5929
14	14:28: 0	48.50	0.5133
15	14:29: 0	49.17	0.4478
16	14:30: 0	49.45	0.3982
17	14:31: 0	49.70	0.3540
18	14:32: 0	49.87	0.3239
19	14:33: 0	50.02	0.2973
20	14:34: 0	50.17	0.2708
21	14:35: 0	50.27	0.2531
22	14:36: 0	50.37	0.2354
23	14:37: 0	50.45	0.2212
24	14:38: 0	50.50	0.2124
25	14:39: 0	50.55	0.2035

STS CONSULTANTS LTD. - FIELD ENGINEERING SERVICES

SINGLE WELL HYDRAULIC CONDUCTIVITY TEST

STS JOB NO.: 12959
PROJECT/LOCATION: EXXON/CRANDON
PROJECT MANAGER: JAS
TEST TECHNICIAN: JCG
DATA ANALYST: PMB

TEST INFORMATION

TYPE: FALLING HEAD METHOD: SLUG

PIEZOMETER ID: EX6AU
SCREEN LENGTH: 3.0000 feet
SLOT SIZE (est.): 0.0200 inches
STANDPIPE RADIUS: 1.0000 inches
BOREHOLE RADIUS: 3.1250 inches
GRAVEL PACK LENGTH: 7.0000 feet
GRAVEL PACK PERM.: 0.35E-01 ft./sec.
SCREEN PERMEABILITY: 0.35E-02 ft./sec.

LENGTH USED FOR CALCULATION: 7.00 ft.

THE GRAVEL LENGTH WILL BE USED FOR CALC.

SLUG LENGTH: 15.00 feet
SLUG RADIUS: 0.50 inches

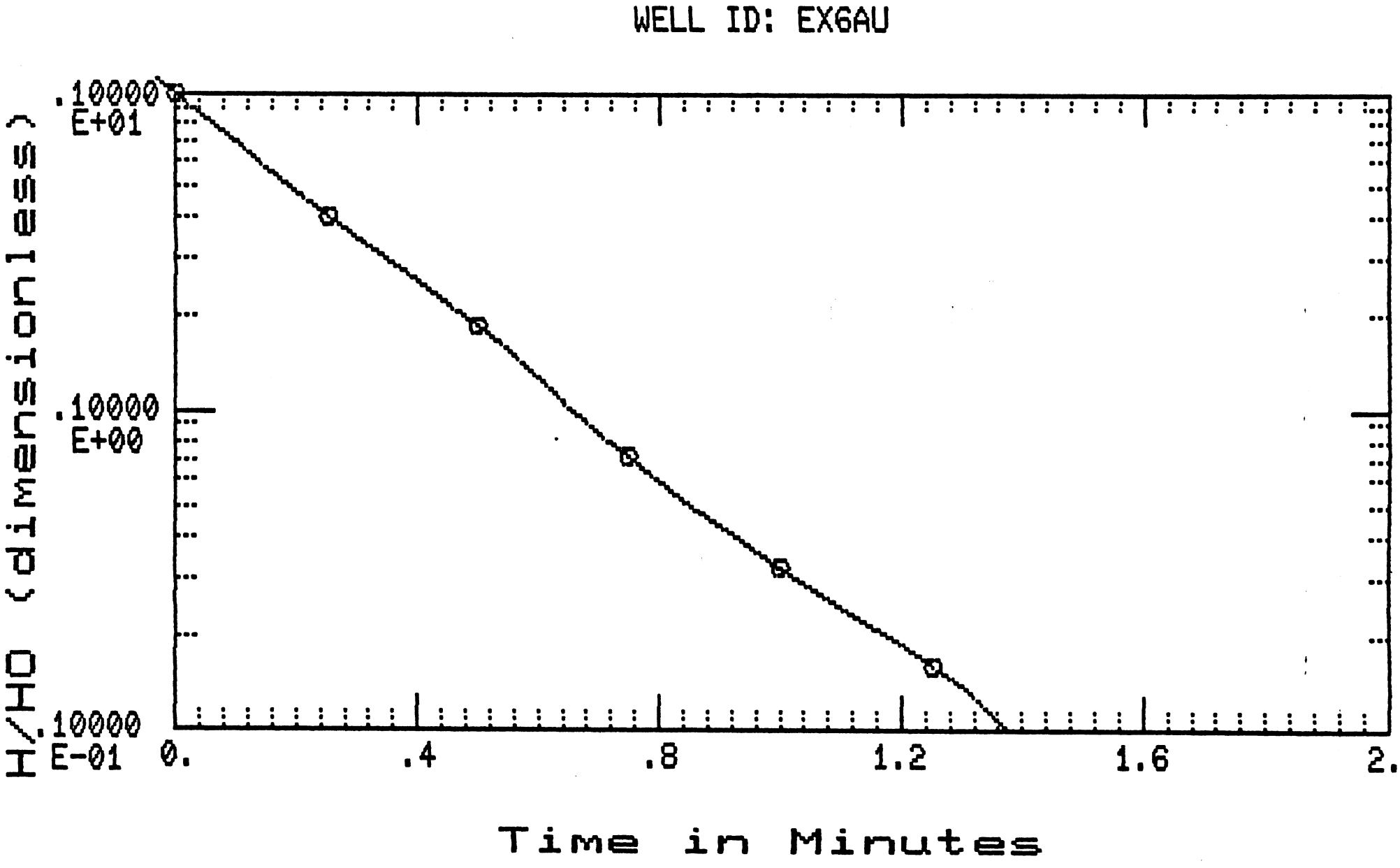
TRANSDUCER USED: 25.00 psi
INITIAL READING: 50.90% of 25.00 psi

DATA POINTS SELECTED

1. TIME: 0.25 minutes HEAD: 52.17 % of 25.00 psi
2. TIME: 1.00 minutes HEAD: 51.00 % of 25.00 psi

HYDRAULIC CONDUCTIVITY OF TEST INTERVAL:

0.28E-02 cm/sec 0.92E-04 ft/sec 0.28E-04 m/sec


WELL ID: EX6AU
.10000
E+01
.10000
E+00
.10000
E-01
H/HO (dimensionless)
0.
.4
.8
1.2
1.6
2.
Time in Minutes

WELL ID: EX6AU

TEST DATA:

MEASUREMENT NUMBER	TIME (HH:MM:SS)	TRANSDUCER READING (% of 25.00 psi)	HEAD RATIO (H/HO)
1	14:44: 0	54.02	1.0000
2	14:44:15	52.17	0.4071
3	14:44:30	51.47	0.1827
4	14:44:45	51.12	0.0705
5	14:45: 0	51.00	0.0321
6	14:45:15	50.95	0.0160
7	14:45:30	50.92	0.0064

STS CONSULTANTS LTD. - FIELD ENGINEERING SERVICES

SINGLE WELL HYDRAULIC CONDUCTIVITY TEST

STS JOB NO.: 12959
PROJECT/LOCATION: EXXON/CRANDON
PROJECT MANAGER: JAS
TEST TECHNICIAN: JCG
DATA ANALYST: PMB

TEST INFORMATION

TYPE: RISING HEAD METHOD: SLUG

PIEZOMETER ID: EX6AU
SCREEN LENGTH: 3.0000 feet
SLOT SIZE (est.): 0.0200 inches
STANDPIPE RADIUS: 1.0000 inches
BOREHOLE RADIUS: 3.1250 inches
GRAVEL PACK LENGTH: 7.0000 feet
GRAVEL PACK PERM.: 0.35E-01 ft./sec.
SCREEN PERMEABILITY: 0.35E-02 ft./sec.

LENGTH USED FOR CALCULATION: 7.00 ft.

THE GRAVEL LENGTH WILL BE USED FOR CALC.

SLUG LENGTH: 15.00 feet
SLUG RADIUS: 0.50 inches

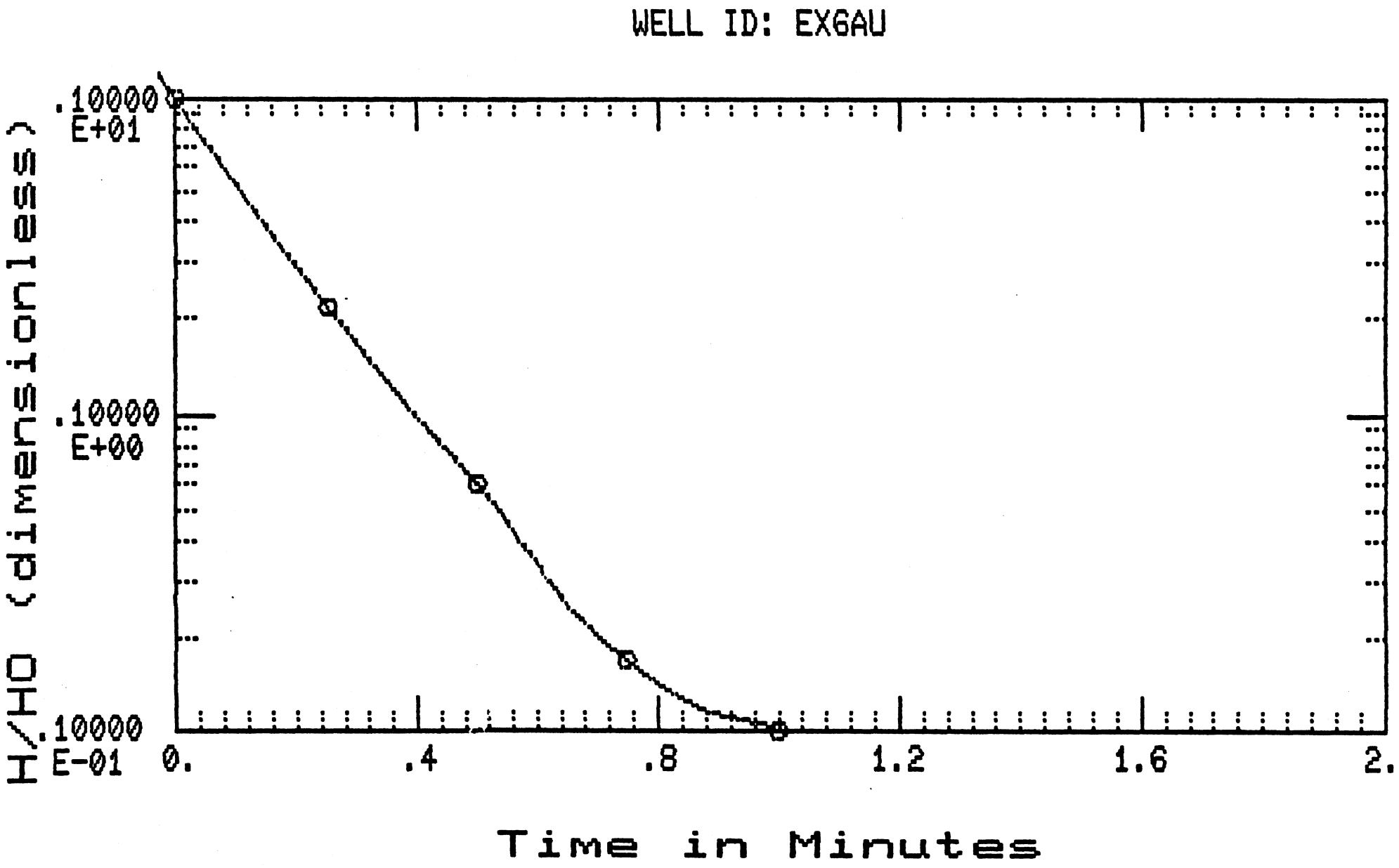
TRANSDUCER USED: 25.00 psi
INITIAL READING: 50.90% of 25.00 psi

DATA POINTS SELECTED

1. TIME: 0.25 minutes HEAD: 50.25 % of 25.00 psi
2. TIME: 0.75 minutes HEAD: 50.85 % of 25.00 psi

HYDRAULIC CONDUCTIVITY OF TEST INTERVAL:

0.43E-02 cm/sec 0.14E-03 ft/sec 0.43E-04 m/sec


WELL ID: EX6AU
.10000
E+01
.10000
E+00
.10000
E-01
H/HO (dimensionless)
0.
.4
.8
1.2
1.6
2.
Time in Minutes

WELL ID: EX6AU

TEST DATA:

MEASUREMENT NUMBER	TIME (HH:MM:SS)	TRANSDUCER READING (% of 25.00 psi)	HEAD RATIO (H/HO)
1	14:49: 0	47.92	1.0000
2	14:49:15	50.25	0.2181
3	14:49:30	50.72	0.0604
4	14:49:45	50.85	0.0168
5	14:50: 0	50.87	0.0101

STS CONSULTANTS LTD. - FIELD ENGINEERING SERVICES
SINGLE WELL HYDRAULIC CONDUCTIVITY TEST

STS JOB NO.: 12959
PROJECT/LOCATION: EXXON/CRANDON
PROJECT MANAGER: JAS
TEST TECHNICIAN: JCG
DATA ANALYST: PMB

TEST INFORMATION

TYPE: FALLING HEAD METHOD: SLUG

PIEZOMETER ID: EX6BL
SCREEN LENGTH: 3.0000 feet
SLOT SIZE (est.): 0.0200 inches
STANDPIPE RADIUS: 1.0000 inches
BOREHOLE RADIUS: 3.1250 inches
GRAVEL PACK LENGTH: 7.0000 feet
GRAVEL PACK PERM.: 0.35E-01 ft./sec.
SCREEN PERMEABILITY: 0.35E-02 ft./sec.

LENGTH USED FOR CALCULATION: 7.00 ft.

THE GRAVEL LENGTH WILL BE USED FOR CALC.

SLUG LENGTH: 15.00 feet
SLUG RADIUS: 0.50 inches

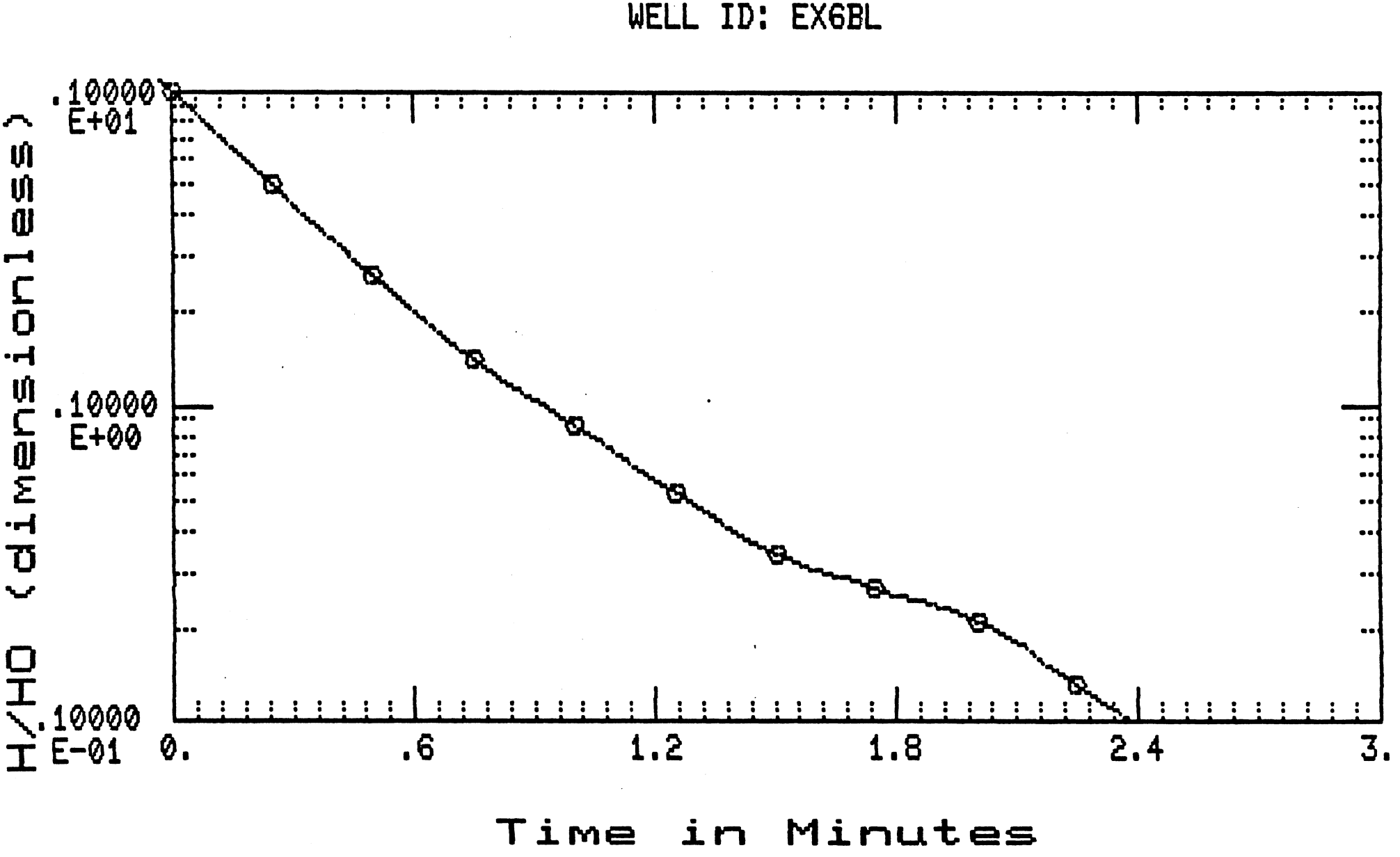
TRANSDUCER USED: 25.00 psi
INITIAL READING: 54.12% of 25.00 psi

DATA POINTS SELECTED

1. TIME: 0.75 minutes HEAD: 54.65 % of 25.00 psi
2. TIME: 1.50 minutes HEAD: 54.25 % of 25.00 psi

HYDRAULIC CONDUCTIVITY OF TEST INTERVAL:

0.16E-02 cm/sec 0.51E-04 ft/sec 0.16E-04 m/sec


WELL ID: EX6BL
.10000 E+01
.10000 E+00
.10000 E-01
H/HO (dimensionless)
0.
.6
1.2
1.8
2.4
3.
Time in Minutes

WELL ID: EX6BL

TEST DATA:

MEASUREMENT NUMBER	TIME (HH:MM:SS)	TRANSDUCER READING (% of 25.00 psi)	HEAD RATIO (H/H0)
1	14:58: 0	57.90	1.0000
2	14:58:15	56.02	0.5026
3	14:58:30	55.10	0.2593
4	14:58:45	54.65	0.1402
5	14:59: 0	54.45	0.0873
6	14:59:15	54.32	0.0529
7	14:59:30	54.25	0.0344
8	14:59:45	54.22	0.0265
9	15: 0: 0	54.20	0.0212
10	15: 0:15	54.17	0.0132
11	15: 0:30	54.15	0.0079

STS CONSULTANTS LTD. - FIELD ENGINEERING SERVICES

SINGLE WELL HYDRAULIC CONDUCTIVITY TEST

STS JOB NO.: 12959
PROJECT/LOCATION: EXXON/CRANDON
PROJECT MANAGER: JAS
TEST TECHNICIAN: JCG
DATA ANALYST: PMB

TEST INFORMATION

TYPE: RISING HEAD METHOD: SLUG

PIEZOMETER ID: EX6BL
SCREEN LENGTH: 3.0000 feet
SLOT SIZE (est.): 0.0200 inches
STANDPIPE RADIUS: 1.0000 inches
BOREHOLE RADIUS: 3.1250 inches
GRAVEL PACK LENGTH: 7.0000 feet
GRAVEL PACK PERM.: 0.35E-01 ft./sec.
SCREEN PERMEABILITY: 0.35E-02 ft./sec.

LENGTH USED FOR CALCULATION: 7.00 ft.

THE GRAVEL LENGTH WILL BE USED FOR CALC.

SLUG LENGTH: 15.00 feet
SLUG RADIUS: 0.00 inches

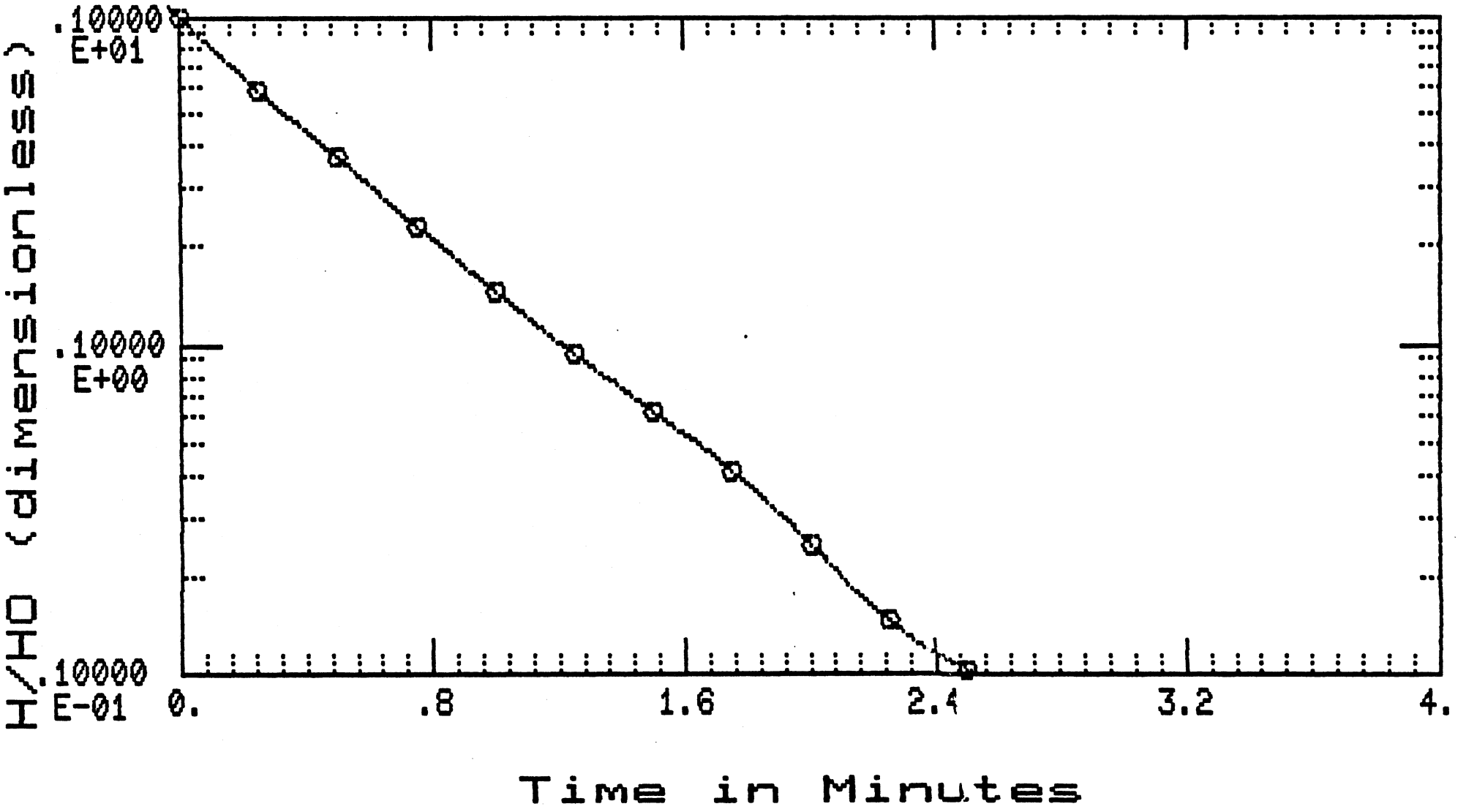
TRANSDUCER USED: 25.00 psi
INITIAL READING: 54.12% of 25.00 psi

DATA POINTS SELECTED

1. TIME: 1.00 minutes HEAD: 53.42 % of 25.00 psi
2. TIME: 1.75 minutes HEAD: 53.92 % of 25.00 psi

HYDRAULIC CONDUCTIVITY OF TEST INTERVAL:

0.14E-02 cm/sec 0.45E-04 ft/sec 0.14E-04 m/sec


WELL ID: EX6BL
.10000 E+01
.10000 E+00
.10000 E-01
H/HO (dimensionless)
0.
.8
1.6
2.4
3.2
4.
Time in Minutes

WELL ID: EX6BL

TEST DATA:

MEASUREMENT NUMBER	TIME (HH:MM:SS)	TRANSDUCER READING (% of 25.00 psi)	HEAD RATIO (H/HO)
1	15: 2: 0	49.32	1.0000
2	15: 2:15	51.25	0.5979
3	15: 2:30	52.35	0.3688
4	15: 2:45	53.02	0.2292
5	15: 3: 0	53.42	0.1458
6	15: 3:15	53.67	0.0938
7	15: 3:30	53.82	0.0625
8	15: 3:45	53.92	0.0417
9	15: 4: 0	54.00	0.0250
10	15: 4:15	54.05	0.0146
11	15: 4:30	54.07	0.0104
12	15: 5: 0	54.10	0.0042

STS CONSULTANTS LTD. - FIELD ENGINEERING SERVICES

SINGLE WELL HYDRAULIC CONDUCTIVITY TEST

STS JOB NO.: 12959
PROJECT/LOCATION: EXXON/CRANDON
PROJECT MANAGER: JAS
TEST TECHNICIAN: JCG
DATA ANALYST: PMB/JRT

TEST INFORMATION

TYPE: FALLING HEAD METHOD: VOLUME ADDITION

PIEZOMETER ID: EX7AL
SCREEN LENGTH: 3.0000 feet
SLOT SIZE (est.): 0.0200 inches
STANDPIPE RADIUS: 1.0000 inches
BOREHOLE RADIUS: 3.1250 inches
GRAVEL PACK LENGTH: 7.0000 feet
GRAVEL PACK PERM.: 0.35E-01 ft./sec.
SCREEN PERMEABILITY: 0.35E-02 ft./sec.

LENGTH USED FOR CALCULATION: 7.00 ft.

THE GRAVEL LENGTH WILL BE USED FOR CALC.

VOLUME ADDED TO STANDPIPE: 0.00 gals.

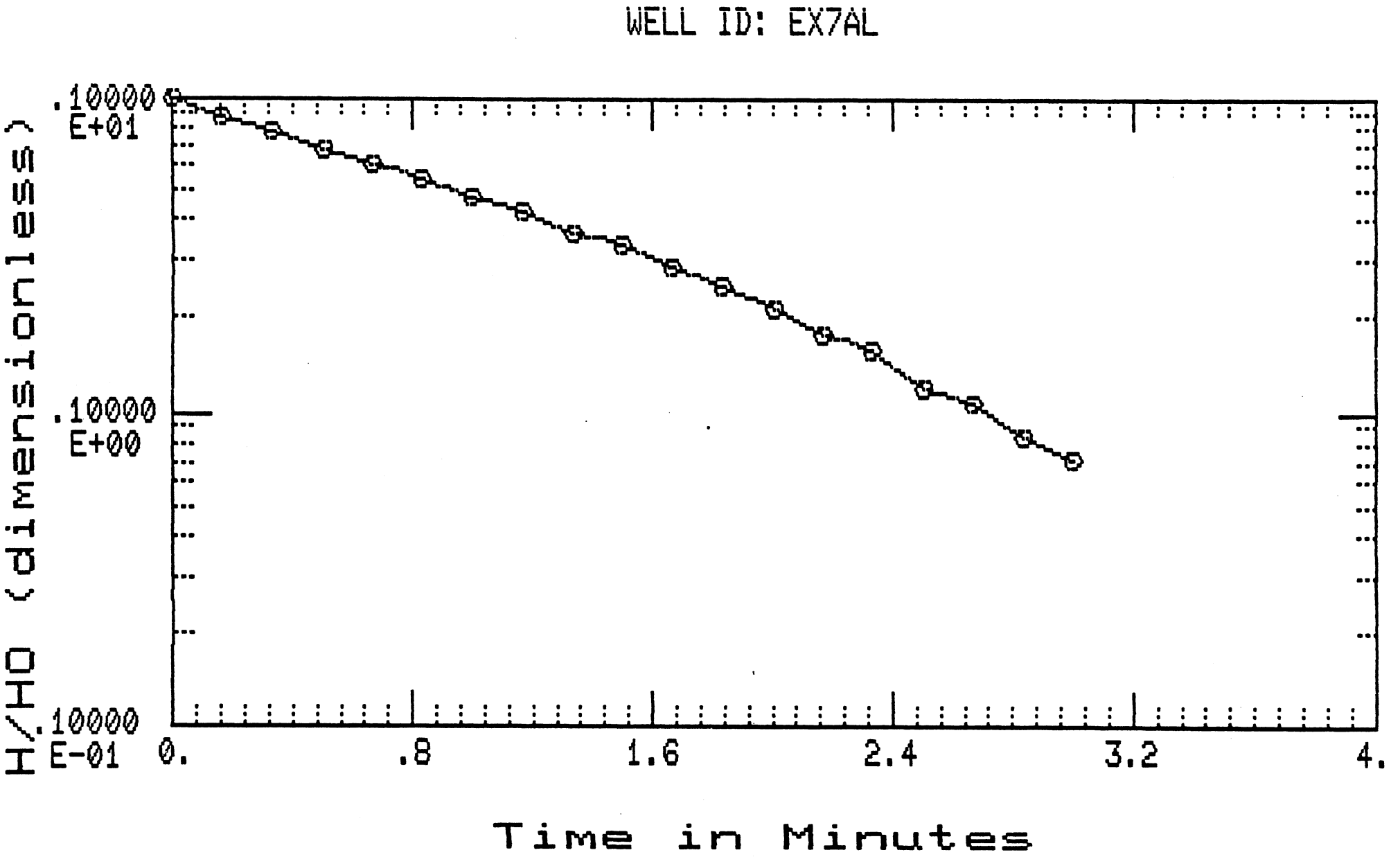
TRANSDUCER USED: 25.00 psi INITIAL READING: 9.10% of 25.00 psi

DATA POINTS SELECTED

1. TIME: 2.00 minutes HEAD: 9.40 % of 25.00 psi
2. TIME: 3.00 minutes HEAD: 9.20 % of 25.00 psi

HYDRAULIC CONDUCTIVITY OF TEST INTERVAL:

0.91E-03 cm/sec 0.30E-04 ft/sec 0.91E-05 m/sec


WELL ID: EX7AL
H/HO (dimensionless)
.10000 E+01
.10000 E+00
.10000 E-01
0.
.8
1.6
2.4
3.2
4.
Time in Minutes

WELL ID: EX7AL

TEST DATA:

MEASUREMENT NUMBER	TIME (HH:MM:SS)	TRANSDUCER READING (% of 25.00 psi)	HEAD RATIO (H/H0)
1	14:38: 0	10.52	1.0000
2	14:38:10	10.32	0.8592
3	14:38:19	10.20	0.7746
4	14:38:30	10.07	0.6831
5	14:38:40	9.97	0.6127
6	14:38:49	9.87	0.5423
7	14:39: 0	9.77	0.4718
8	14:39:10	9.70	0.4225
9	14:39:19	9.62	0.3662
10	14:39:30	9.57	0.3310
11	14:39:40	9.50	0.2817
12	14:39:49	9.45	0.2465
13	14:40: 0	9.40	0.2113
14	14:40:10	9.35	0.1761
15	14:40:19	9.32	0.1549
16	14:40:30	9.27	0.1197
17	14:40:40	9.25	0.1056
18	14:40:49	9.22	0.0845
19	14:41: 0	9.20	0.0704

STS CONSULTANTS LTD. - FIELD ENGINEERING SERVICES

SINGLE WELL HYDRAULIC CONDUCTIVITY TEST

STS JOB NO.: 12959
PROJECT/LOCATION: EXXON/CRANDON
PROJECT MANAGER: JAS
TEST TECHNICIAN: JCG
DATA ANALYST: PMB/JRT

TEST INFORMATION

TYPE: RISING HEAD METHOD: SLUG

PIEZOMETER ID: EX7AL
SCREEN LENGTH: 3.0000 feet
SLOT SIZE (est.): 0.0200 inches
STANDPIPE RADIUS: 1.0000 inches
BOREHOLE RADIUS: 3.1250 inches
GRAVEL PACK LENGTH: 7.0000 feet
GRAVEL PACK PERM.: 0.35E-01 ft./sec.
SCREEN PERMEABILITY: 0.35E-02 ft./sec.

LENGTH USED FOR CALCULATION: 7.00 ft.

THE GRAVEL LENGTH WILL BE USED FOR CALC.

SLUG LENGTH: 0.00 feet
SLUG RADIUS: 0.00 inches

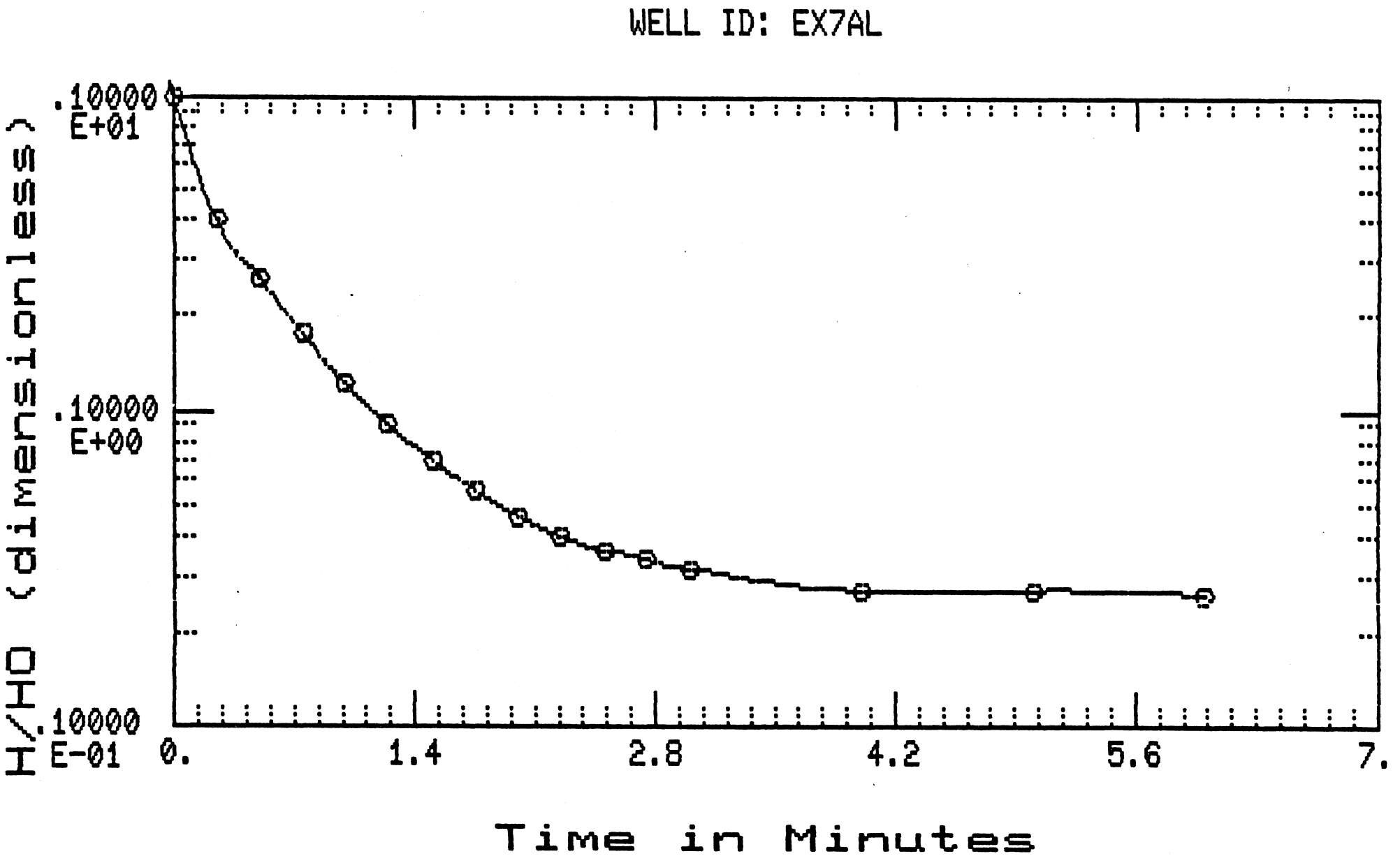
TRANSDUCER USED: 25.00 psi
INITIAL READING: 98.00% of 25.00 psi

DATA POINTS SELECTED

1. TIME: 1.25 minutes HEAD: 96.15 % of 25.00 psi
2. TIME: 2.00 minutes HEAD: 97.05 % of 25.00 psi

HYDRAULIC CONDUCTIVITY OF TEST INTERVAL:

0.74E-03 cm/sec 0.24E-04 ft/sec 0.74E-05 m/sec


WELL ID: EX7AL
.10000 E+01
.10000 E+00
.10000 E-01
H/HO (dimensionless)
0.
1.4
2.8
4.2
5.6
7.
Time in Minutes

WELL ID: EX7AL

TEST DATA:

MEASUREMENT NUMBER	TIME (HH:MM:SS)	TRANSDUCER READING (% of 25.00 psi)	HEAD RATIO (H/HO)
1	11:49: 0	77.52	1.0000
2	11:49:15	89.82	0.3994
3	11:49:30	92.67	0.2603
4	11:49:45	94.40	0.1758
5	11:50: 0	95.50	0.1221
6	11:50:15	96.15	0.0903
7	11:50:30	96.57	0.0698
8	11:50:45	96.85	0.0562
9	11:51: 0	97.05	0.0464
10	11:51:15	97.17	0.0405
11	11:51:30	97.25	0.0366
12	11:51:45	97.30	0.0342
13	11:52: 0	97.35	0.0317
14	11:53: 0	97.45	0.0269
15	11:54: 0	97.45	0.0269
16	11:55: 0	97.47	0.0259

STS CONSULTANTS LTD. - FIELD ENGINEERING SERVICES

SINGLE WELL HYDRAULIC CONDUCTIVITY TEST

STS JOB NO.: 12959
PROJECT/LOCATION: EXXON/CRANDON
PROJECT MANAGER: JAS
TEST TECHNICIAN: JCG
DATA ANALYST: PMB/JRT

TEST INFORMATION

TYPE: FALLING HEAD METHOD: VOLUME ADDITION

PIEZOMETER ID: EX7BL
SCREEN LENGTH: 3.0000 feet
SLOT SIZE (est.): 0.0200 inches
STANDPIPE RADIUS: 1.0000 inches
BOREHOLE RADIUS: 3.1250 inches
GRAVEL PACK LENGTH: 7.0000 feet
GRAVEL PACK PERM.: 0.35E-01 ft./sec.
SCREEN PERMEABILITY: 0.35E-02 ft./sec.

LENGTH USED FOR CALCULATION: 7.00 ft.

THE GRAVEL LENGTH WILL BE USED FOR CALC.

VOLUME ADDED TO STANDPIPE: 0.00 gals.

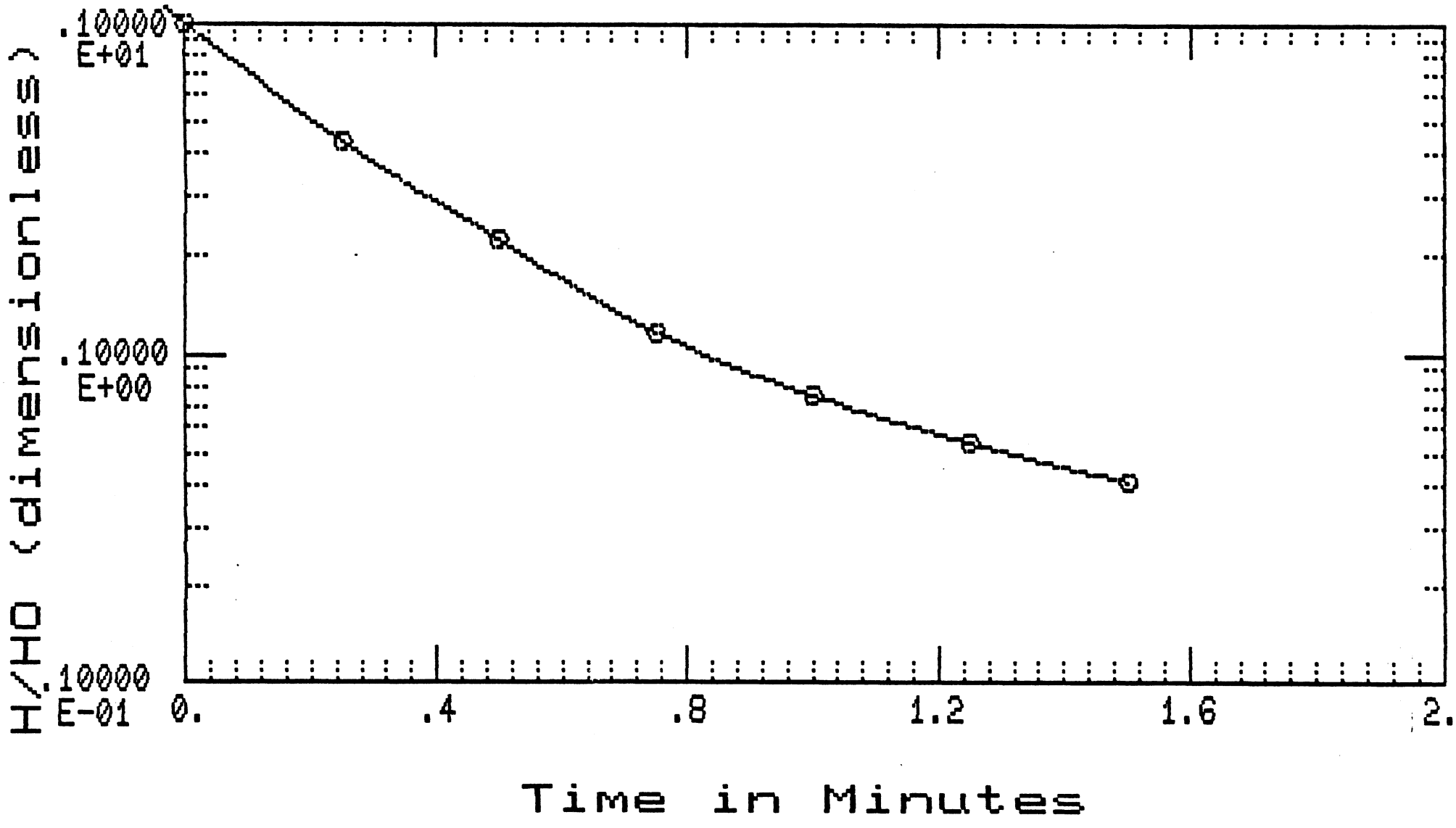
TRANSDUCER USED: 25.00 psi INITIAL READING: 8.97% of 25.00 psi

DATA POINTS SELECTED

1. TIME: 1.00 minutes HEAD: 9.15 % of 25.00 psi
2. TIME: 1.50 minutes HEAD: 9.07 % of 25.00 psi

HYDRAULIC CONDUCTIVITY OF TEST INTERVAL:

0.97E-03 cm/sec 0.32E-04 ft/sec 0.97E-05 m/sec


WELL ID: EX7BL
.10000
E+01
.10000
E+00
.10000
E-01
H/HO (dimensionless)
0.
.4
.8
1.2
1.6
2.
Time in Minutes

WELL ID: EX7BL

TEST DATA:

MEASUREMENT NUMBER	TIME (HH:MM:SS)	TRANSDUCER READING (% of 25.00 Psi)	HEAD RATIO (H/HO)
1	14:47: 0	11.37	1.0000
2	14:47:15	10.02	0.4375
3	14:47:30	9.50	0.2208
4	14:47:45	9.25	0.1167
5	14:48: 0	9.15	0.0750
6	14:48:15	9.10	0.0542
7	14:48:30	9.07	0.0417

TEST DATE 4/24/84

STS CONSULTANTS LTD. - FIELD ENGINEERING SERVICES
SINGLE WELL HYDRAULIC CONDUCTIVITY TEST

STS JOB NO.: 12959
PROJECT/LOCATION: EXXON/CRANDON
PROJECT MANAGER: JAS
TEST TECHNICIAN: JCG
DATA ANALYST: PMB/JRT

TEST INFORMATION

TYPE: RISING HEAD METHOD: SLUG

PIEZOMETER ID: EX7BL
SCREEN LENGTH: 3.0000 feet
SLOT SIZE (est.): 0.0200 inches
STANDPIPE RADIUS: 1.0000 inches
BOREHOLE RADIUS: 3.1250 inches
GRAVEL PACK LENGTH: 7.0000 feet
GRAVEL PACK PERM.: 0.35E-01 ft./sec.
SCREEN PERMEABILITY: 0.35E-02 ft./sec.

LENGTH USED FOR CALCULATION: 7.00 ft.

THE GRAVEL LENGTH WILL BE USED FOR CALC.

SLUG LENGTH: 0.00 feet
SLUG RADIUS: 0.00 inches

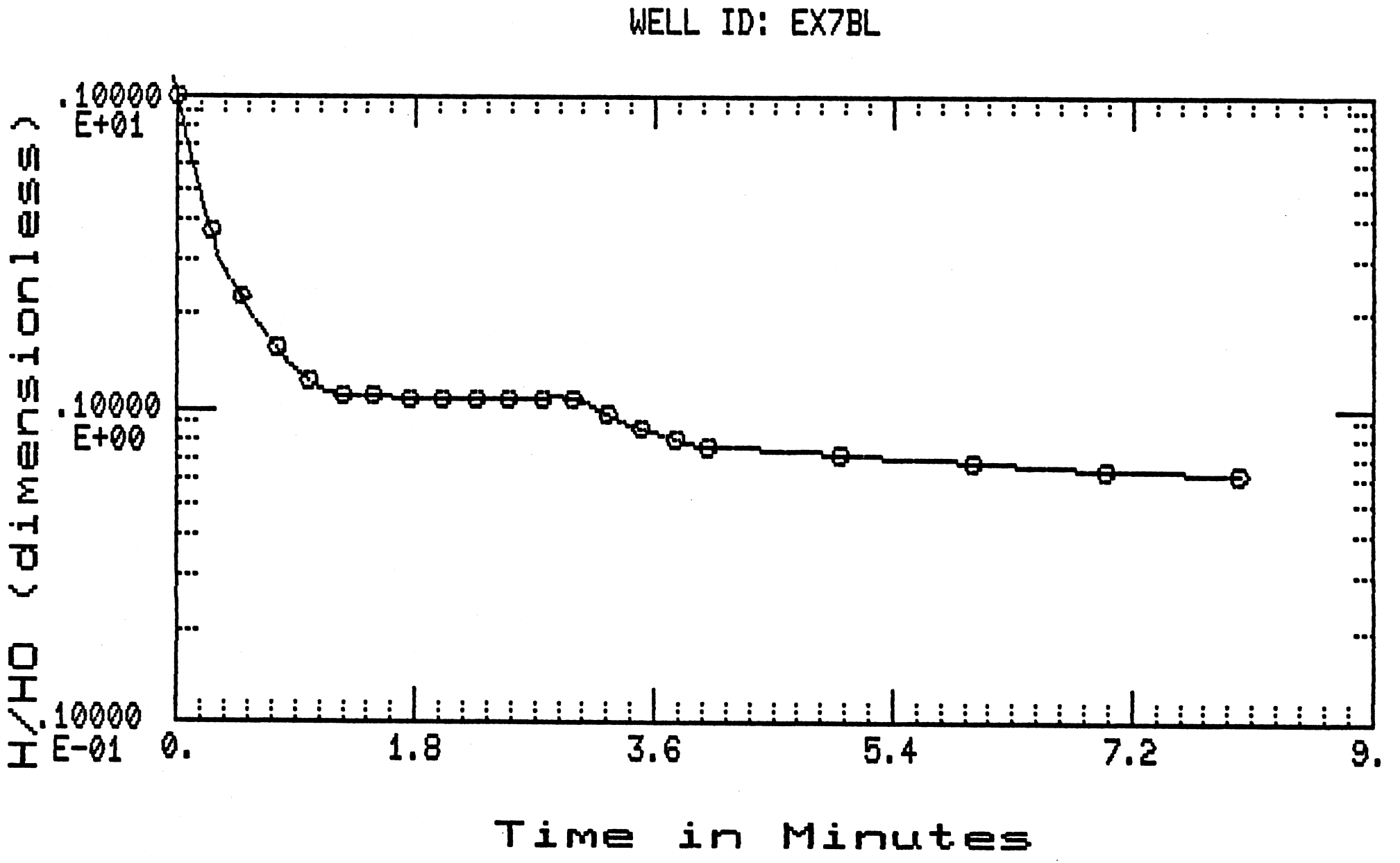
TRANSDUCER USED: 25.00 psi
INITIAL READING: 84.50% of 25.00 psi

DATA POINTS SELECTED

1. TIME: 0.50 minutes HEAD: 81.27 % of 25.00 psi
2. TIME: 1.00 minutes HEAD: 82.75 % of 25.00 psi

HYDRAULIC CONDUCTIVITY OF TEST INTERVAL:

0.10E-02 cm/sec 0.33E-04 ft/sec 0.10E-04 m/sec


WELL ID: EX7BL
.10000 E+01
.10000 E+00
.10000 E-01
H/HO (dimensionless)
0.
1.8
3.6
5.4
7.2
9.
Time in Minutes

WELL ID: EX7BL

TEST DATA:

MEASUREMENT NUMBER	TIME (HH:MM:SS)	TRANSDUCER READING (% of 25.00 psi)	HEAD RATIO (H/HO)
1	12:58: 0	70.32	1.0000
2	12:58:15	79.17	0.3759
3	12:58:30	81.27	0.2278
4	12:58:45	82.27	0.1573
5	12:59: 0	82.75	0.1234
6	12:59:15	82.92	0.1114
7	12:59:30	82.95	0.1093
8	12:59:45	82.97	0.1079
9	13: 0: 0	82.97	0.1079
10	13: 0:15	82.97	0.1079
11	13: 0:30	82.97	0.1079
12	13: 0:45	82.97	0.1079
13	13: 1: 0	83.00	0.1058
14	13: 1:15	83.15	0.0952
15	13: 1:30	83.27	0.0867
16	13: 1:45	83.37	0.0797
17	13: 2: 0	83.43	0.0755
18	13: 3: 0	83.50	0.0705
19	13: 4: 0	83.55	0.0670
20	13: 5: 0	83.60	0.0635
21	13: 6: 0	83.62	0.0621

STS CONSULTANTS LTD. - FIELD ENGINEERING SERVICES

SINGLE WELL HYDRAULIC CONDUCTIVITY TEST

STS JOB NO.: 12959
PROJECT/LOCATION: EXXON CRANDON
PROJECT MANAGER: JAS
TEST TECHNICIAN: JLG
DATA ANALYST: JAS

TEST INFORMATION

TYPE: FALLING HEAD METHOD: SLUG

PIEZOMETER ID: EX 7BU
SCREEN LENGTH: 3.000 feet
SLOT SIZE (est.): 0.0200 inches
STANDPIPE RADIUS: 1.0000 inches
BOREHOLE RADIUS: 3.1250 inches
GRAVEL PACK LENGTH: 7.000 feet
GRAVEL PACK PERM.: 0.35E-01 ft./sec.
SCREEN PERMEABILITY: 0.35E-02 ft./sec.

LENGTH USED FOR CALCULATION: 7.00 ft.

THE GRAVEL LENGTH WILL BE USED FOR CALC.

SLUG LENGTH: 10.00 feet
SLUG RADIUS: 0.50 inches

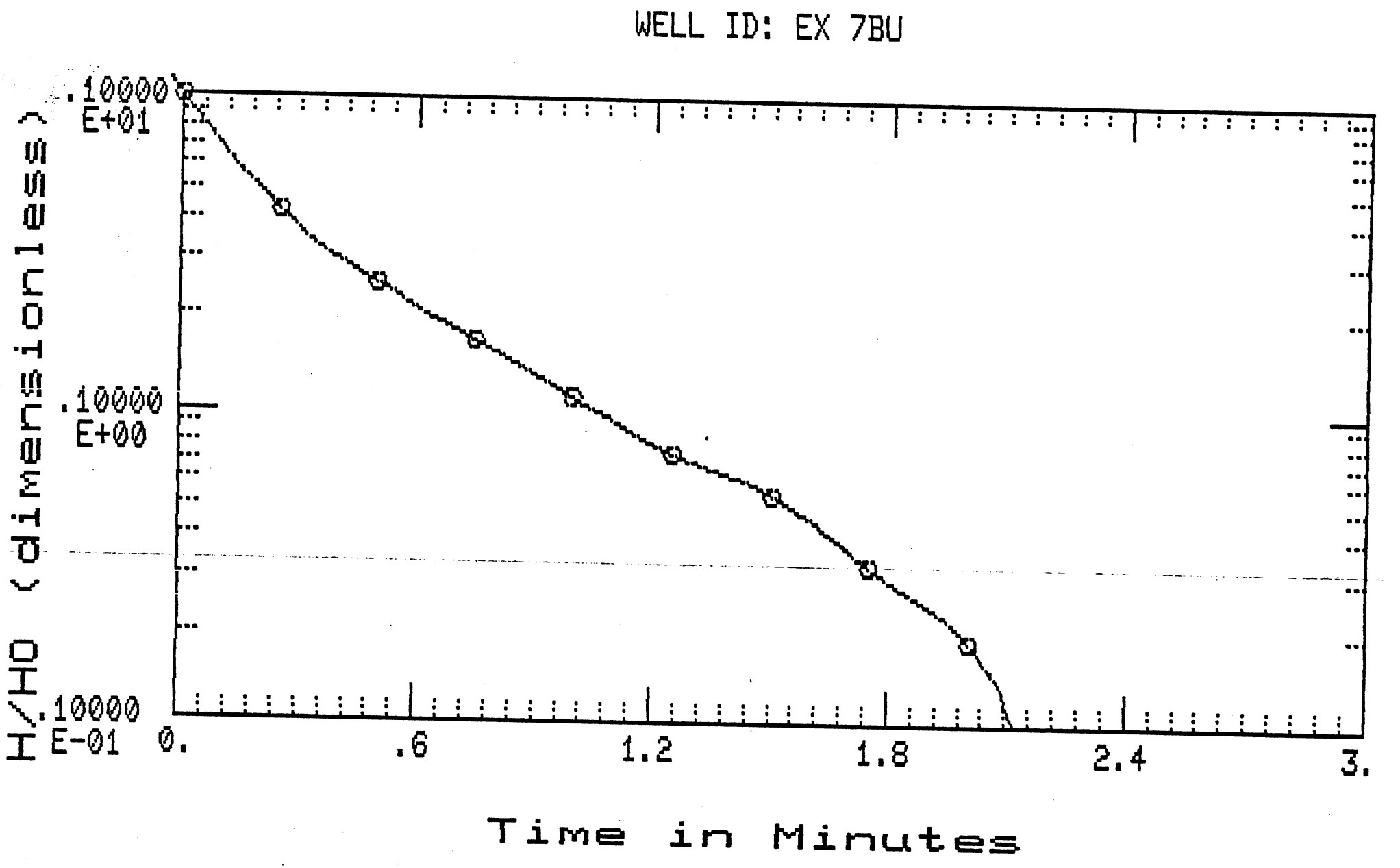
TRANSDUCER USED: 25.00 psi
INITIAL READING: 33.40% of 25.00 psi

DATA POINTS SELECTED

1. TIME: 0.50 minutes HEAD: 34.32 % of 25.00 psi
2. TIME: 1.25 minutes HEAD: 33.67 % of 25.00 psi

HYDRAULIC CONDUCTIVITY OF TEST INTERVAL:

0.14E-02 cm/sec 0.44E-04 ft/sec 0.14E-04 m/sec


WELL ID: EX 7BU
.10000 E+01
.10000 E+00
.10000 E-01
H/HO (dimensionless)
0.
.6
1.2
1.8
2.4
3.
Time in Minutes

WELL ID: EX 7BU

TEST DATA:

MEASUREMENT NUMBER	TIME (HH:MM:SS)	TRANSDUCER READING (% of 25.00 psi)	HEAD RATIO (H/HO)
1	17:21: 0	37.07	1.0000
2	17:21:15	34.97	0.4278
3	17:21:30	34.32	0.2507
4	17:21:45	34.00	0.1635
5	17:22: 0	33.80	0.1090
6	17:22:15	33.67	0.0736
7	17:22:30	33.60	0.0545
8	17:22:45	33.52	0.0327
9	17:23: 0	33.47	0.0191
10	17:23:15	33.42	0.0054

STS CONSULTANTS LTD. - FIELD ENGINEERING SERVICES

SINGLE WELL HYDRAULIC CONDUCTIVITY TEST

STS JOB NO.: 12959
PROJECT/LOCATION: EXXON CRANDON
PROJECT MANAGER: JAS
TEST TECHNICIAN: JLG
DATA ANALYST: JAS

TEST INFORMATION

TYPE: RISING HEAD METHOD: SLUG

PIEZOMETER ID: EX 7BU
SCREEN LENGTH: 3.000 feet
SLOT SIZE (est.): 0.0200 inches
STANDPIPE RADIUS: 1.0000 inches
BOREHOLE RADIUS: 3.1250 inches
GRAVEL PACK LENGTH: 7.000 feet
GRAVEL PACK PERM.: 0.35E-01 ft./sec.
SCREEN PERMEABILITY: 0.35E-02 ft./sec.

LENGTH USED FOR CALCULATION: 7.00 ft.

THE GRAVEL LENGTH WILL BE USED FOR CALC.

SLUG LENGTH: 10.00 feet
SLUG RADIUS: 0.50 inches

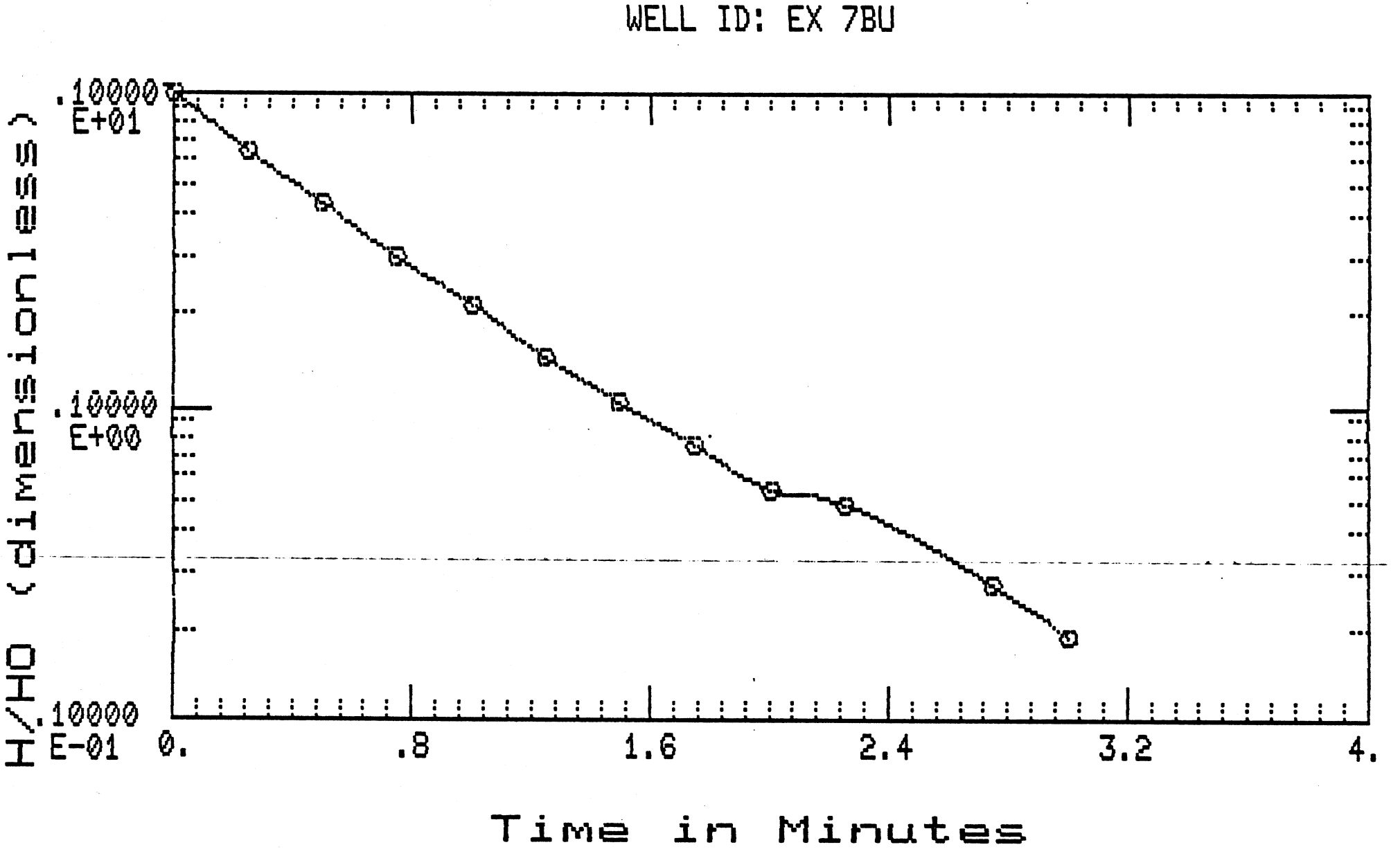
TRANSDUCER USED: 25.00 psi
INITIAL READING: 33.40% of 25.00 psi

DATA POINTS SELECTED

1. TIME: 0.25 minutes HEAD: 31.02 % of 25.00 psi
2. TIME: 2.00 minutes HEAD: 33.20 % of 25.00 psi

HYDRAULIC CONDUCTIVITY OF TEST INTERVAL:

0.12E-02 cm/sec 0.39E-04 ft/sec 0.12E-04 m/sec


WELL ID: EX 7BU
.10000
E+01
.10000
E+00
.10000
E-01
H/HO (dimensionless)
0.
.8
1.6
2.4
3.2
4.
Time in Minutes

WELL ID: EX 7BU

TEST DATA:

MEASUREMENT NUMBER	TIME (HH:MM:SS)	TRANSDUCER READING (% of 25.00 psi)	HEAD RATIO (H/HO)
1	17:25: 0	29.72	1.0000
2	17:25:15	31.02	0.6467
3	17:25:30	31.80	0.4348
4	17:25:45	32.30	0.2989
5	17:26: 0	32.62	0.2120
6	17:26:15	32.87	0.1440
7	17:26:30	33.02	0.1033
8	17:26:45	33.12	0.0761
9	17:27: 0	33.20	0.0543
10	17:27:15	33.22	0.0489
11	17:27:45	33.30	0.0272
12	17:28: 0	33.33	0.0190

STS CONSULTANTS LTD. - FIELD ENGINEERING SERVICES
SINGLE WELL HYDRAULIC CONDUCTIVITY TEST

STS JOB NO.: 12959
PROJECT/LOCATION: EXXON/CRANDON
PROJECT MANAGER: JAS
TEST TECHNICIAN: JCG
DATA ANALYST: PMB/JRT

TEST INFORMATION

TYPE: FALLING HEAD METHOD: VOLUME ADDITION

PIEZOMETER ID: EX8AL
SCREEN LENGTH: 3.0000 feet
SLOT SIZE (est.): 0.0200 inches
STANDPIPE RADIUS: 1.0000 inches
BOREHOLE RADIUS: 3.1250 inches
GRAVEL PACK LENGTH: 7.0000 feet
GRAVEL PACK PERM.: 0.35E-01 ft./sec.
SCREEN PERMEABILITY: 0.35E-02 ft./sec.

LENGTH USED FOR CALCULATION: 7.00 ft.

THE GRAVEL LENGTH WILL BE USED FOR CALC.

VOLUME ADDED TO STANDPIPE: 0.00 gals.

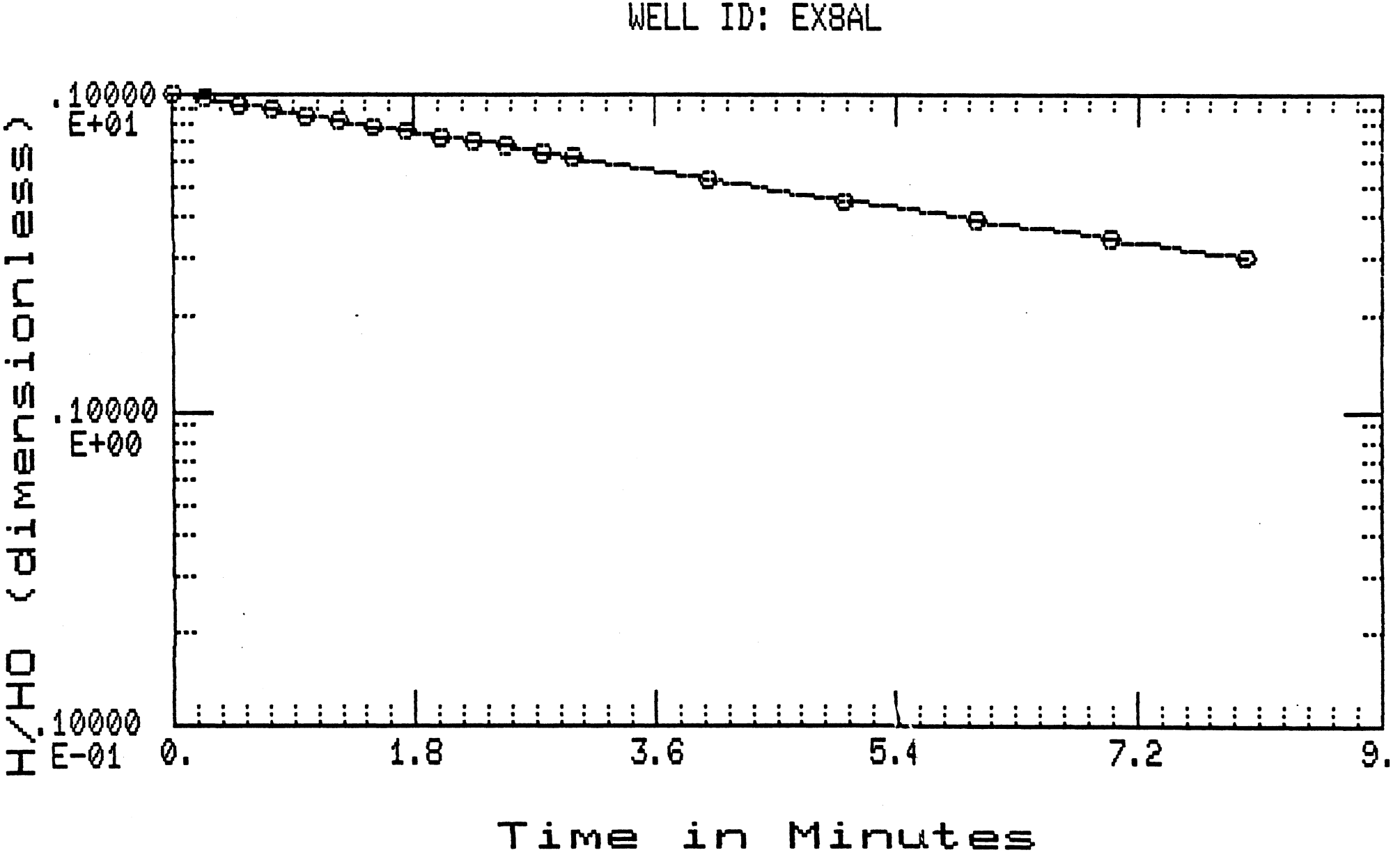
TRANSDUCER USED: 25.00 psi INITIAL READING: 12.75% of 25.00 psi

DATA POINTS SELECTED

1. TIME: 1.75 minutes HEAD: 15.70 % of 25.00 psi
2. TIME: 8.00 minutes HEAD: 13.92 % of 25.00 psi

HYDRAULIC CONDUCTIVITY OF TEST INTERVAL:

0.12E-03 cm/sec 0.40E-05 ft/sec 0.12E-05 m/sec


WELL ID: EX8AL
.10000
E+01
.10000
E+00
.10000
E-01
H/HO (dimensionless)
0.
1.8
3.6
5.4
7.2
9.
Time in Minutes

WELL ID: EX8AL

TEST DATA:

MEASUREMENT NUMBER	TIME (HH:MM:SS)	TRANSDUCER READING (% of 25.00 psi)	HEAD RATIO (H/HO)
1	15:20: 0	16.70	1.0000
2	15:20:15	16.55	0.9620
3	15:20:30	16.37	0.9165
4	15:20:45	16.22	0.8785
5	15:21: 0	16.10	0.8481
6	15:21:15	15.95	0.8101
7	15:21:30	15.82	0.7772
8	15:21:45	15.70	0.7468
9	15:22: 0	15.60	0.7215
10	15:22:15	15.47	0.6886
11	15:22:30	15.40	0.6709
12	15:22:45	15.30	0.6456
13	15:23: 0	15.20	0.6203
14	15:24: 0	14.87	0.5367
15	15:25: 0	14.55	0.455?
16	15:26: 0	14.30	0.3924
17	15:27: 0	14.10	0.3418
18	15:28: 0	13.92	0.2962

TEST DATE 4/24/84

STS CONSULTANTS LTD. - FIELD ENGINEERING SERVICES
SINGLE WELL HYDRAULIC CONDUCTIVITY TEST

STS JOB NO.: 12959
PROJECT/LOCATION: EXXON/CRANDON
PROJECT MANAGER: JAS
TEST TECHNICIAN: JCG
DATA ANALYST: PMB/JRT

TEST INFORMATION

TYPE: RISING HEAD METHOD: SLUG

PIEZOMETER ID: EX8AL
SCREEN LENGTH: 3.0000 feet
SLOT SIZE (est.): 0.0200 inches
STANDPIPE RADIUS: 1.0000 inches
BOREHOLE RADIUS: 3.1250 inches
GRAVEL PACK LENGTH: 7.0000 feet
GRAVEL PACK PERM.: 0.35E-01 ft./sec.
SCREEN PERMEABILITY: 0.35E-02 ft./sec.

LENGTH USED FOR CALCULATION: 7.00 ft.

THE GRAVEL LENGTH WILL BE USED FOR CALC.

SLUG LENGTH: 0.00 feet
SLUG RADIUS: 0.00 inches

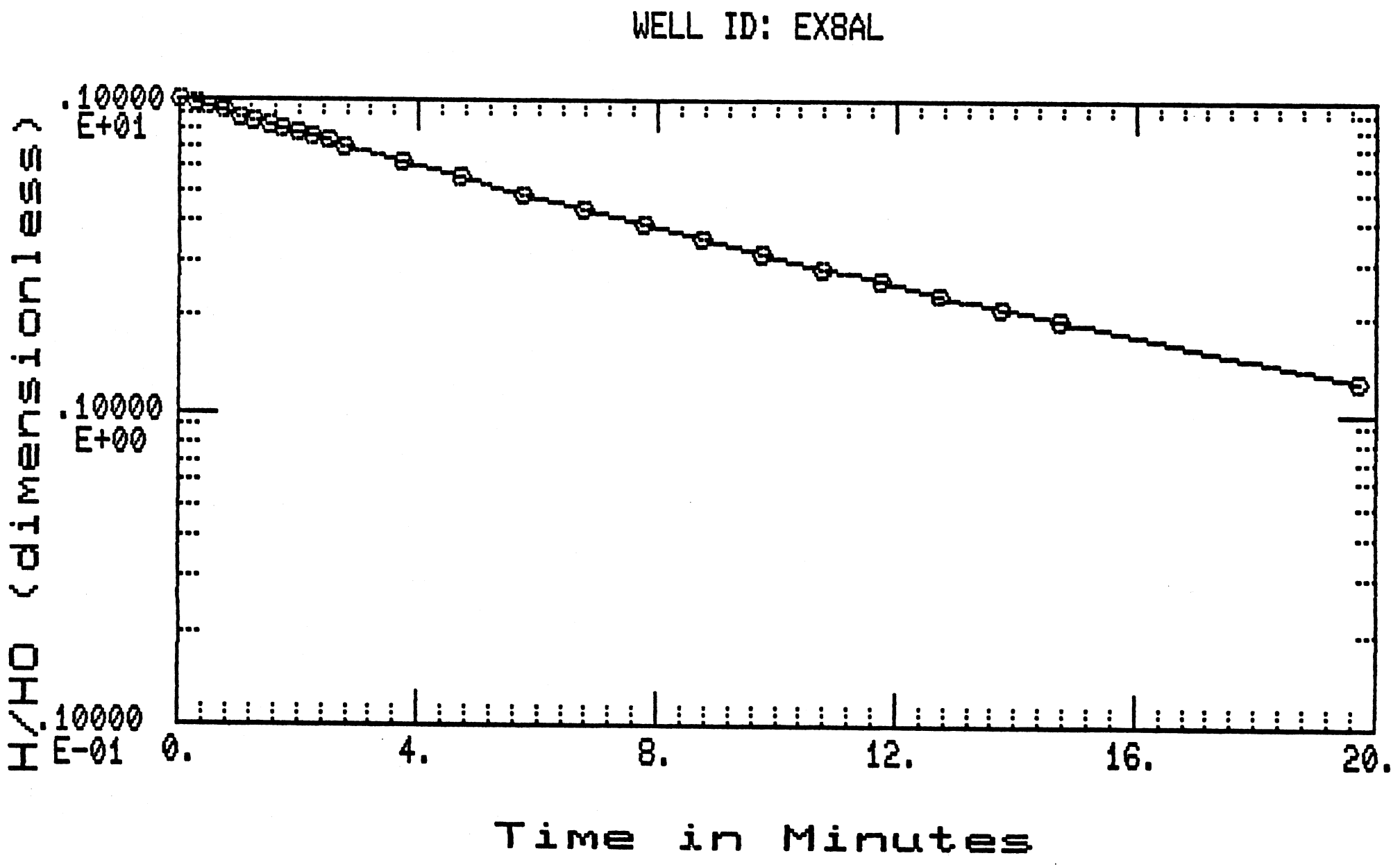
TRANSDUCER USED: 25.00 psi
INITIAL READING: 80.55% of 25.00 psi

DATA POINTS SELECTED

1. TIME: 12.75 minutes HEAD: 75.05 % of 25.00 psi
2. TIME: 19.75 minutes HEAD: 77.62 % of 25.00 psi

HYDRAULIC CONDUCTIVITY OF TEST INTERVAL:

0.75E-04 cm/sec 0.24E-05 ft/sec 0.75E-06 m/sec


WELL ID: EX8AL
.10000 E+01
.10000 E+00
.10000 E-01
H/HO (dimensionless)
0.
4.
8.
12.
16.
20.
Time in Minutes

WELL ID: EX8AL

TEST DATA:

MEASUREMENT NUMBER	TIME (HH:MM:SS)	TRANSDUCER READING (% of 25.00 psi)	HEAD RATIO (H/HO)
1	14: 5:15	57.05	1.0000
2	14: 5:30	57.87	0.9651
3	14: 5:45	58.62	0.9332
4	14: 6: 0	59.32	0.9034
5	14: 6:15	60.00	0.8745
6	14: 6:30	60.62	0.8481
7	14: 6:45	61.22	0.8226
8	14: 7: 0	61.82	0.7970
9	14: 7:15	62.40	0.7723
10	14: 7:30	62.95	0.7489
11	14: 7:45	63.47	0.7268
12	14: 8: 0	63.97	0.7055
13	14: 9: 0	65.87	0.6247
14	14:10: 0	67.50	0.5553
15	14:11: 0	68.95	0.4936
16	14:12: 0	70.20	0.4404
17	14:13: 0	71.25	0.3957
18	14:14: 0	72.22	0.3545
19	14:15: 0	73.05	0.3191
20	14:16: 0	73.80	0.2872
21	14:17: 0	74.47	0.2587
22	14:18: 0	75.05	0.2340
23	14:19: 0	75.55	0.2128
24	14:20: 0	76.00	0.1936
25	14:25: 0	77.62	0.1247

STS CONSULTANTS LTD. - FIELD ENGINEERING SERVICES
SINGLE WELL HYDRAULIC CONDUCTIVITY TEST

STS JOB NO.: 12959
PROJECT/LOCATION: EXXON/CRANDON
PROJECT MANAGER: JAS
TEST TECHNICIAN: JCG
DATA ANALYST: PMB/JRT

TEST INFORMATION

TYPE: FALLING HEAD METHOD: VOLUME ADDITION

PIEZOMETER ID: EX8AU
SCREEN LENGTH: 3.0000 feet
SLOT SIZE (est.): 0.0200 inches
STANDPIPE RADIUS: 1.0000 inches
BOREHOLE RADIUS: 3.1250 inches
GRAVEL PACK LENGTH: 7.0000 feet
GRAVEL PACK PERM.: 0.35E-01 ft./sec.
SCREEN PERMEABILITY: 0.35E-02 ft./sec.

LENGTH USED FOR CALCULATION: 7.00 ft.

THE GRAVEL LENGTH WILL BE USED FOR CALC.

VOLUME ADDED TO STANDPIPE: 0.00 gals.

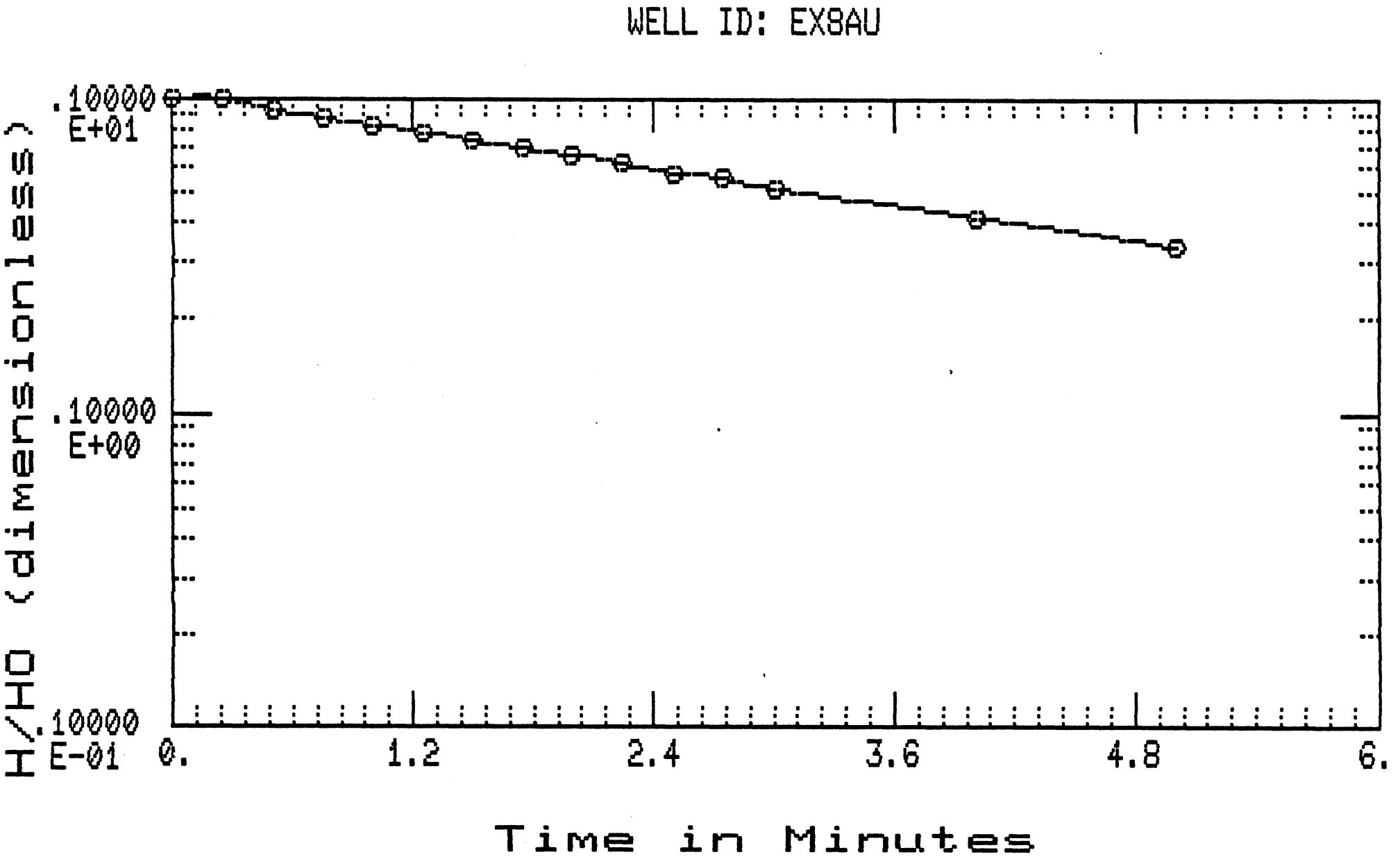
TRANSDUCER USED: 25.00 psi
INITIAL READING: 10.12% of 25.00 psi

DATA POINTS SELECTED

1. TIME: 0.25 minutes HEAD: 12.90 % of 25.00 psi
2. TIME: 5.00 minutes HEAD: 11.05 % of 25.00 psi

HYDRAULIC CONDUCTIVITY OF TEST INTERVAL:

0.19E-03 cm/sec 0.63E-05 ft/sec 0.19E-05 m/sec


WELL ID: EX8AU
.10000 E+01
.10000 E+00
.10000 E-01
H/HO (dimensionless)
0.
1.2
2.4
3.6
4.8
6.
Time in Minutes

WELL ID: EX8AU

TEST DATA:

MEASUREMENT NUMBER	TIME (HH:MM:SS)	TRANSDUCER READING (% of 25.00 psi)	HEAD RATIO (H/HO)
1	15:30: 0	12.92	1.0000
2	15:30:15	12.90	0.9929
3	15:30:30	12.70	0.9214
4	15:30:45	12.55	0.8679
5	15:31: 0	12.42	0.8214
6	15:31:15	12.30	0.7786
7	15:31:30	12.17	0.7321
8	15:31:45	12.07	0.6964
9	15:32: 0	11.95	0.6536
10	15:32:15	11.85	0.6179
11	15:32:30	11.75	0.5821
12	15:32:45	11.67	0.5536
13	15:33: 0	11.57	0.5179
14	15:34: 0	11.30	0.4214
15	15:35: 0	11.05	0.3321

STS CONSULTANTS LTD. - FIELD ENGINEERING SERVICES
SINGLE WELL HYDRAULIC CONDUCTIVITY TEST

STS JOB NO.: 12959
PROJECT/LOCATION: EXXON/CRANDON
PROJECT MANAGER: JAS
TEST TECHNICIAN: JCG
DATA ANALYST: PMB/JRT

TEST INFORMATION

TYPE: RISING HEAD METHOD: SLUG

PIEZOMETER ID: EX8AU
SCREEN LENGTH: 3.0000 feet
SLOT SIZE (est.): 0.0200 inches
STANDPIPE RADIUS: 1.0000 inches
BOREHOLE RADIUS: 3.1250 inches
GRAVEL PACK LENGTH: 7.0000 feet
GRAVEL PACK PERM.: 0.35E-01 ft./sec.
SCREEN PERMEABILITY: 0.35E-02 ft./sec.

LENGTH USED FOR CALCULATION: 7.00 ft.

THE GRAVEL LENGTH WILL BE USED FOR CALC.

SLUG LENGTH: 0.00 feet
SLUG RADIUS: 0.00 inches

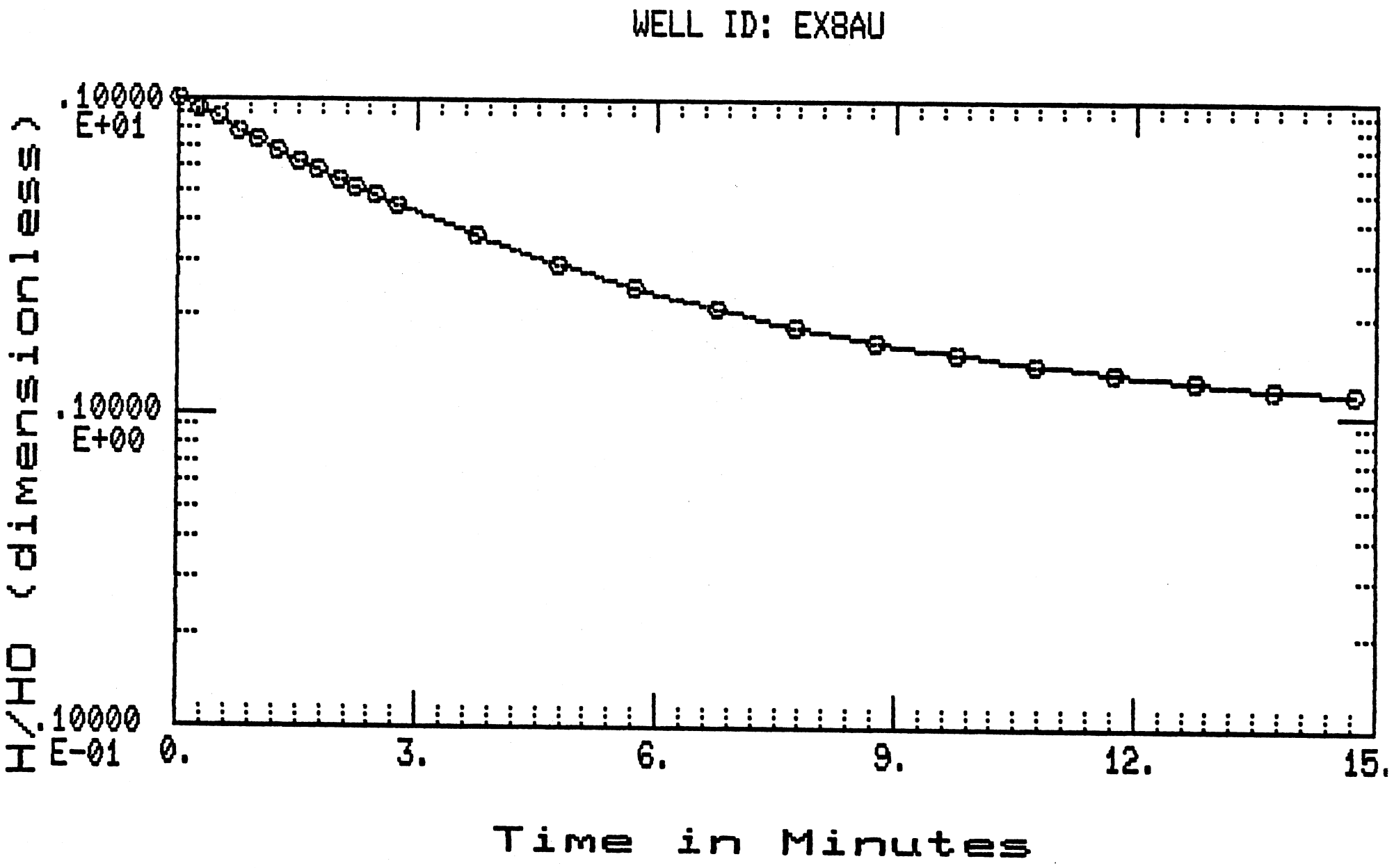
TRANSDUCER USED: 25.00 psi
INITIAL READING: 78.25% of 25.00 psi

DATA POINTS SELECTED

1. TIME: 0.50 minutes HEAD: 65.52 % of 25.00 psi
2. TIME: 2.75 minutes HEAD: 71.65 % of 25.00 psi

HYDRAULIC CONDUCTIVITY OF TEST INTERVAL:

0.24E-03 cm/sec 0.79E-05 ft/sec 0.24E-05 m/sec


WELL ID: EX8AU
.10000 E+01
.10000 E+00
.10000 E-01
H/HO (dimensionless)
0.
3.
6.
9.
12.
15.
Time in Minutes

WELL ID: EX8AU

TEST DATA:

MEASUREMENT NUMBER	TIME (HH:MM:SS)	TRANSDUCER READING (% of 25.00 psi)	HEAD RATIO (H/HO)
1	14:34:15	63.72	1.0000
2	14:34:30	64.90	0.9188
3	14:34:45	65.52	0.8761
4	14:35: 0	66.85	0.7846
5	14:35:15	67.67	0.7281
6	14:35:30	68.42	0.6765
7	14:35:45	69.10	0.6297
8	14:36: 0	69.72	0.5871
9	14:36:15	70.27	0.5492
10	14:36:30	70.75	0.5162
11	14:36:45	71.22	0.4838
12	14:37: 0	71.65	0.4542
13	14:38: 0	73.02	0.3599
14	14:39: 0	74.00	0.2925
15	14:40: 0	74.67	0.2464
16	14:41: 0	75.17	0.2120
17	14:42: 0	75.55	0.1858
18	14:43: 0	75.82	0.1672
19	14:44: 0	76.02	0.1535
20	14:45: 0	76.20	0.1411
21	14:46: 0	76.32	0.1328
22	14:47: 0	76.42	0.1259
23	14:48: 0	76.52	0.1191
24	14:49: 0	76.57	0.1156

STS CONSULTANTS LTD. - FIELD ENGINEERING SERVICES
SINGLE WELL HYDRAULIC CONDUCTIVITY TEST

STS JOB NO.: 12959
PROJECT/LOCATION: EXXON/CRANDON
PROJECT MANAGER: JAS
TEST TECHNICIAN: JCG
DATA ANALYST: PMB/JRT

TEST INFORMATION

TYPE: FALLING HEAD METHOD: VOLUME ADDITION

PIEZOMETER ID:	EX8BL	BOREHOLE RADIUS:	3.1250 inches
SCREEN LENGTH:	3.0000 feet	GRAVEL PACK LENGTH:	7.0000 feet
SLOT SIZE (est.):	0.0200 inches	GRAVEL PACK PERM.:	0.35E-01 ft./sec.
STANDPIPE RADIUS:	1.0000 inches	SCREEN PERMEABILITY:	0.35E-02 ft./sec.

LENGTH USED FOR CALCULATION: 7.00 ft.

THE GRAVEL LENGTH WILL BE USED FOR CALC.

VOLUME ADDED TO STANDPIPE: 0.00 gals.

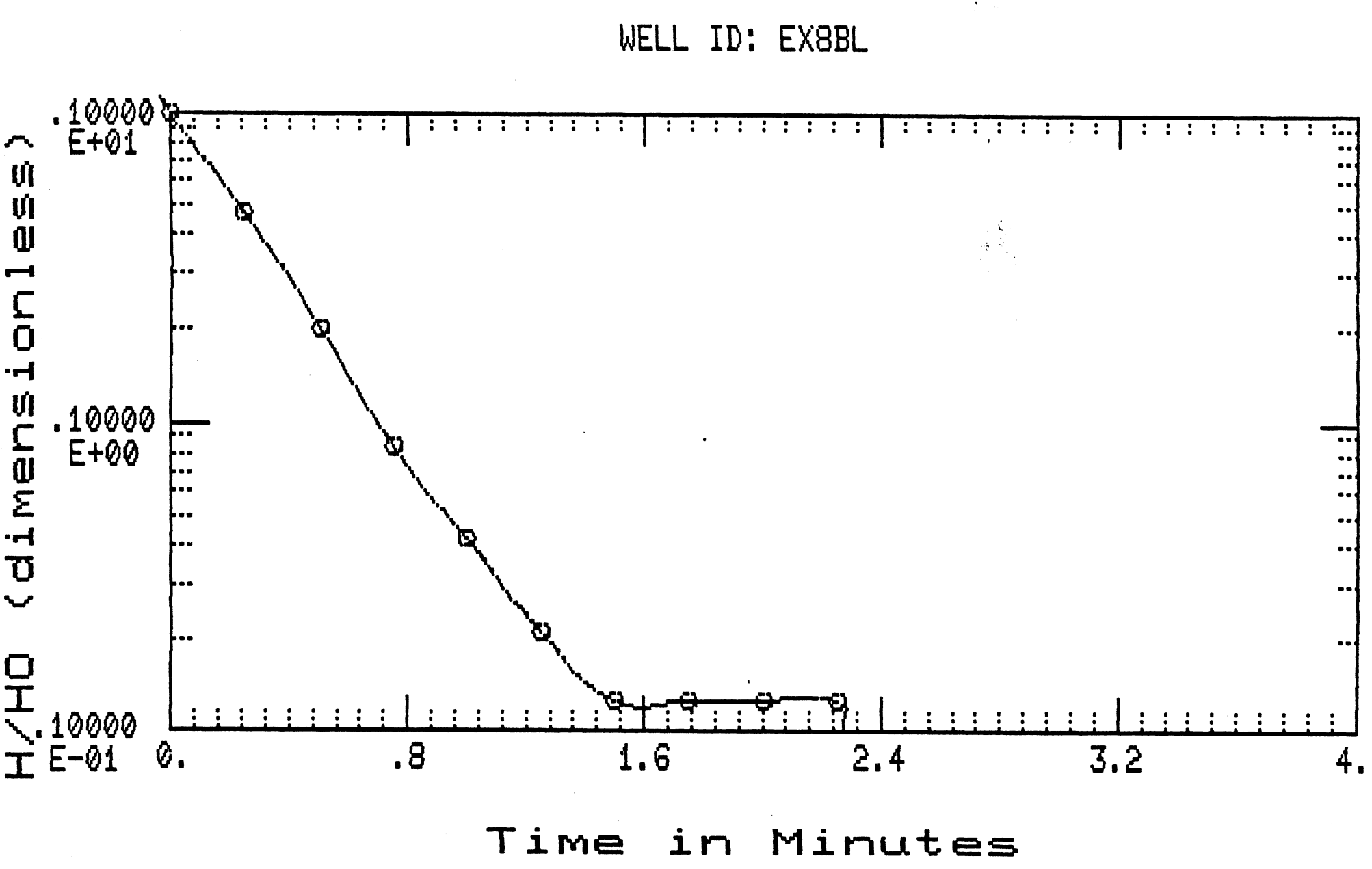
TRANSDUCER USED: 25.00 psi INITIAL READING: 8.12% of 25.00 psi

DATA POINTS SELECTED

1. TIME: 0.75 minutes HEAD: 8.32 % of 25.00 psi
2. TIME: 1.25 minutes HEAD: 8.17 % of 25.00 psi

HYDRAULIC CONDUCTIVITY OF TEST INTERVAL:

0.23E-02 cm/sec 0.75E-04 ft/sec 0.23E-04 m/sec


WELL ID: EX8BL
.10000
E+01
.10000
E+00
.10000
E-01
H/HO (dimensionless)
0.
.8
1.6
2.4
3.2
4.
Time in Minutes

WELL ID: EX8BL

TEST DATA:

MEASUREMENT NUMBER	TIME (HH:MM:SS)	TRANSDUCER READING (% of 25.00 psi)	HEAD RATIO (H/HO)
1	15:38: 0	10.50	1.0000
2	15:38:15	9.25	0.4748
3	15:38:30	8.60	0.2017
4	15:38:45	8.32	0.0840
5	15:39: 0	8.22	0.0420
6	15:39:15	8.17	0.0210
7	15:39:30	8.15	0.0126
8	15:39:45	8.15	0.0126
9	15:40: 0	8.15	0.0126
10	15:40:15	8.15	0.0126
11	15:40:30	8.12	0.0010
12	15:40:45	8.12	0.0010
13	15:41: 0	8.12	0.0010

STS CONSULTANTS LTD. - FIELD ENGINEERING SERVICES

SINGLE WELL HYDRAULIC CONDUCTIVITY TEST

STS JOB NO.: 12959
PROJECT/LOCATION: EXXON/CRANDON
PROJECT MANAGER: JAS
TEST TECHNICIAN: JCG
DATA ANALYST: PMB

TEST INFORMATION

TYPE: RISING HEAD METHOD: SLUG

PIEZOMETER ID: EX8BL
SCREEN LENGTH: 3.0000 feet
SLOT SIZE (est.): 0.0200 inches
STANDPIPE RADIUS: 1.0000 inches
BOREHOLE RADIUS: 3.1250 inches
GRAVEL PACK LENGTH: 7.0000 feet
GRAVEL PACK PERM.: 0.35E-01 ft./sec.
SCREEN PERMEABILITY: 0.35E-02 ft./sec.

LENGTH USED FOR CALCULATION: 7.00 ft.

THE GRAVEL LENGTH WILL BE USED FOR CALC.

SLUG LENGTH: 0.00 feet
SLUG RADIUS: 0.00 inches

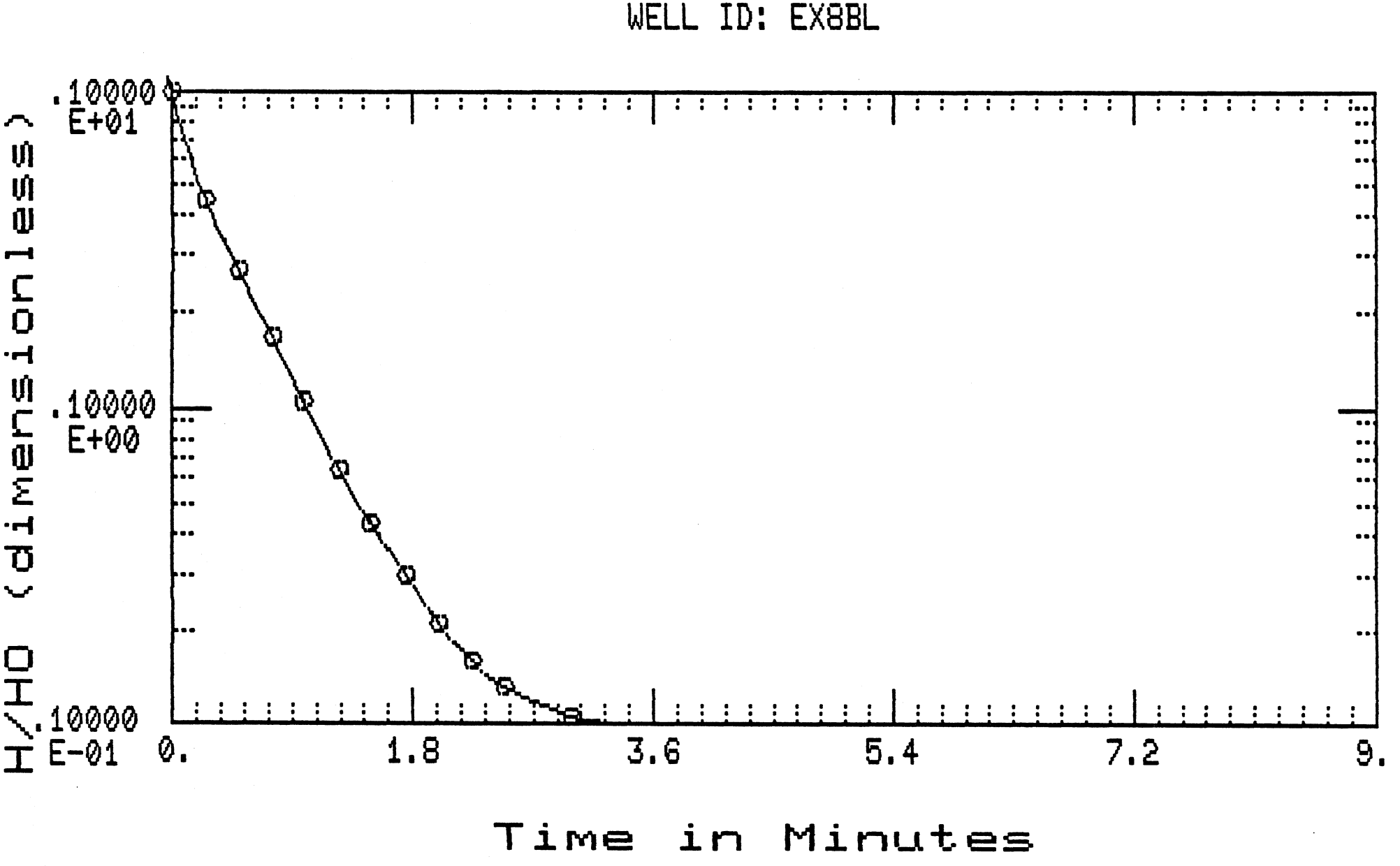
TRANSDUCER USED: 25.00 psi
INITIAL READING: 71.47% of 25.00 psi

DATA POINTS SELECTED

1. TIME: 1.25 minutes HEAD: 70.25 % of 25.00 psi
2. TIME: 2.00 minutes HEAD: 71.07 % of 25.00 psi

HYDRAULIC CONDUCTIVITY OF TEST INTERVAL:

0.12E-02 cm/sec 0.40E-04 ft/sec 0.12E-04 m/sec


WELL ID: EX8BL
.10000
E+01
.10000
E+00
.10000
E-01
H/HO (dimensionless)
0.
1.8
3.6
5.4
7.2
9.
Time in Minutes

WELL ID: EX8BL

TEST DATA:

MEASUREMENT NUMBER	TIME (HH:MM:SS)	TRANSDUCER READING (% of 25.00 psi)	HEAD RATIO (H/HO)
1	14:59: 0	52.47	1.0000
2	14:59:15	62.92	0.4500
3	14:59:30	66.32	0.2711
4	14:59:45	68.32	0.1658
5	15: 0: 0	69.50	0.1037
6	15: 0:15	70.25	0.0642
7	15: 0:30	70.65	0.0432
8	15: 0:45	70.90	0.0300
9	15: 1: 0	71.07	0.0211
10	15: 1:15	71.17	0.0158
11	15: 1:30	71.22	0.0132
12	15: 2: 0	71.27	0.0105
13	15: 4: 0	71.32	0.0079
14	15: 5: 0	71.35	0.0063
15	15: 6: 0	71.40	0.0037
16	15: 7: 0	71.42	0.0026

STS CONSULTANTS LTD. - FIELD ENGINEERING SERVICES

SINGLE WELL HYDRAULIC CONDUCTIVITY TEST

STS JOB NO.: 12959
PROJECT/LOCATION: EXXON/CRANDON
PROJECT MANAGER: JAS
TEST TECHNICIAN: JCG
DATA ANALYST: PMB/JRT

TEST INFORMATION

TYPE: FALLING HEAD METHOD: VOLUME ADDITION

PIEZOMETER ID: EX8BU
SCREEN LENGTH: 8.0000 feet
SLOT SIZE (est.): 0.0200 inches
STANDPIPE RADIUS: 1.0000 inches
BOREHOLE RADIUS: 3.1250 inches
GRAVEL PACK LENGTH: 10.0000 feet
GRAVEL PACK PERM.: 0.35E-01 ft./sec.
SCREEN PERMEABILITY: 0.35E-02 ft./sec.

LENGTH USED FOR CALCULATION: 10.00 ft.

THE GRAVEL LENGTH WILL BE USED FOR CALC.

VOLUME ADDED TO STANDPIPE: 0.00 gals.

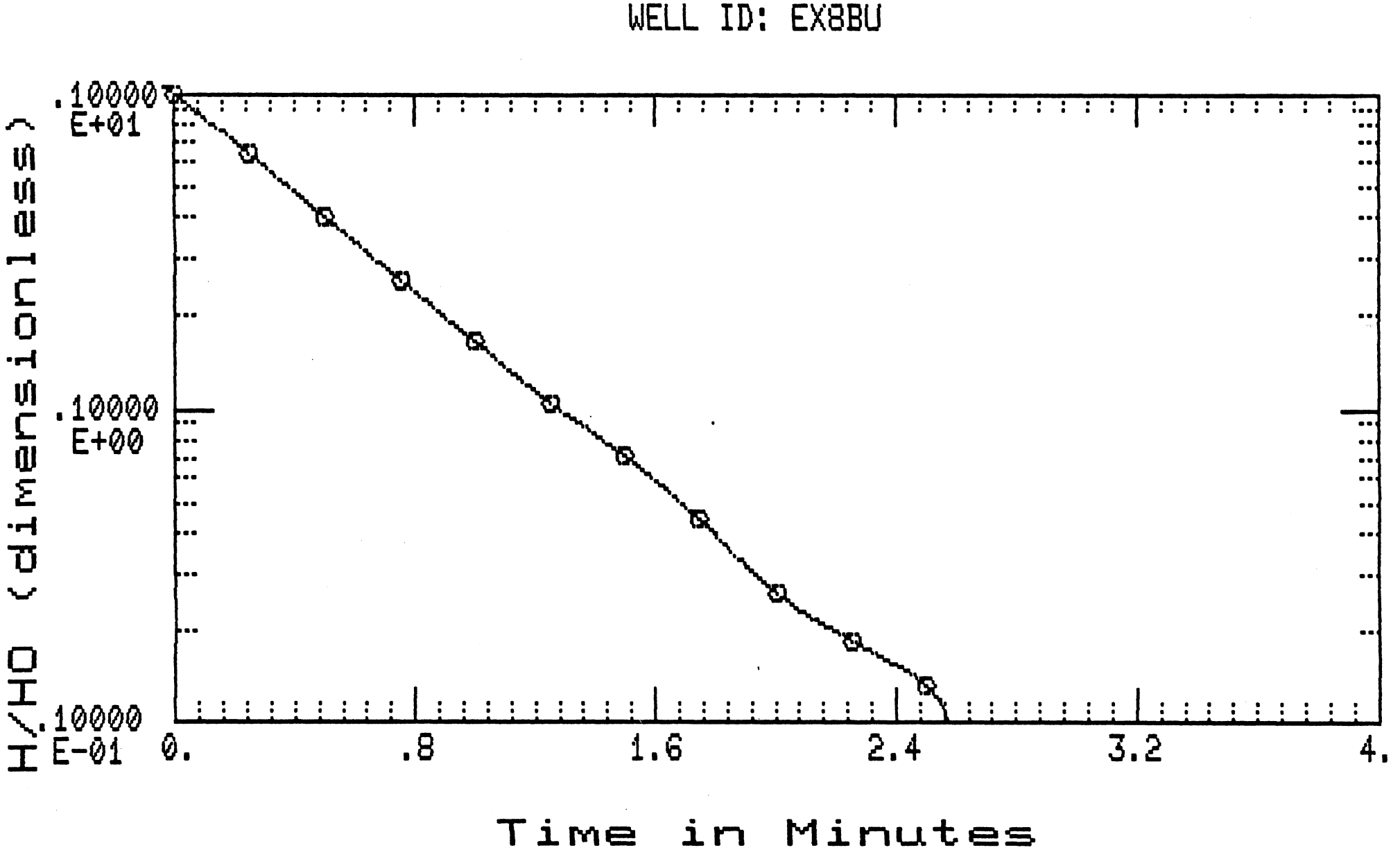
TRANSDUCER USED: 25.00 psi INITIAL READING: 11.50% of 25.00 psi

DATA POINTS SELECTED

1. TIME: 1.00 minutes HEAD: 12.12 % of 25.00 psi
2. TIME: 1.75 minutes HEAD: 11.67 % of 25.00 psi

HYDRAULIC CONDUCTIVITY OF TEST INTERVAL:

0.11E-02 cm/sec 0.36E-04 ft/sec 0.11E-04 m/sec


WELL ID: EX8BU
.10000
E+01
.10000
E+00
.10000
E-01
H/HO (dimensionless)
0.
.8
1.6
2.4
3.2
4.
Time in Minutes

WELL ID: EX8BU

TEST DATA:

MEASUREMENT NUMBER	TIME (HH:MM:SS)	TRANSDUCER READING (% of 25.00 psi)	HEAD RATIO (H/HO)
1	14:51: 0	15.30	1.0000
2	14:51:15	13.95	0.6447
3	14:51:30	13.02	0.4000
4	14:51:45	12.47	0.2553
5	14:52: 0	12.12	0.1632
6	14:52:15	11.90	0.1053
7	14:52:30	11.77	0.0711
8	14:52:45	11.67	0.0447
9	14:53: 0	11.60	0.0263
10	14:53:15	11.57	0.0184
11	14:53:30	11.55	0.0132
12	14:53:45	11.52	0.0053
13	14:54: 0	11.50	0.0010

STS CONSULTANTS LTD. - FIELD ENGINEERING SERVICES

SINGLE WELL HYDRAULIC CONDUCTIVITY TEST

STS JOB NO.: 12959
PROJECT/LOCATION: EXXON/CRANDON
PROJECT MANAGER: JAS
TEST TECHNICIAN: JCG
DATA ANALYST: PMB

TEST INFORMATION

TYPE: FALLING HEAD METHOD: SLUG

PIEZOMETER ID: EX9AL
SCREEN LENGTH: 3.0000 feet
SLOT SIZE (est.): 0.0200 inches
STANDPIPE RADIUS: 1.0000 inches

BOREHOLE RADIUS: 3.1250 inches
GRAVEL PACK LENGTH: 7.0000 feet
GRAVEL PACK PERM.: 0.35E-01 ft./sec.
SCREEN PERMEABILITY: 0.35E-02 ft./sec.

LENGTH USED FOR CALCULATION: 7.00 ft.

THE GRAVEL LENGTH WILL BE USED FOR CALC.

SLUG LENGTH: 20.00 feet
SLUG RADIUS: 0.50 inches

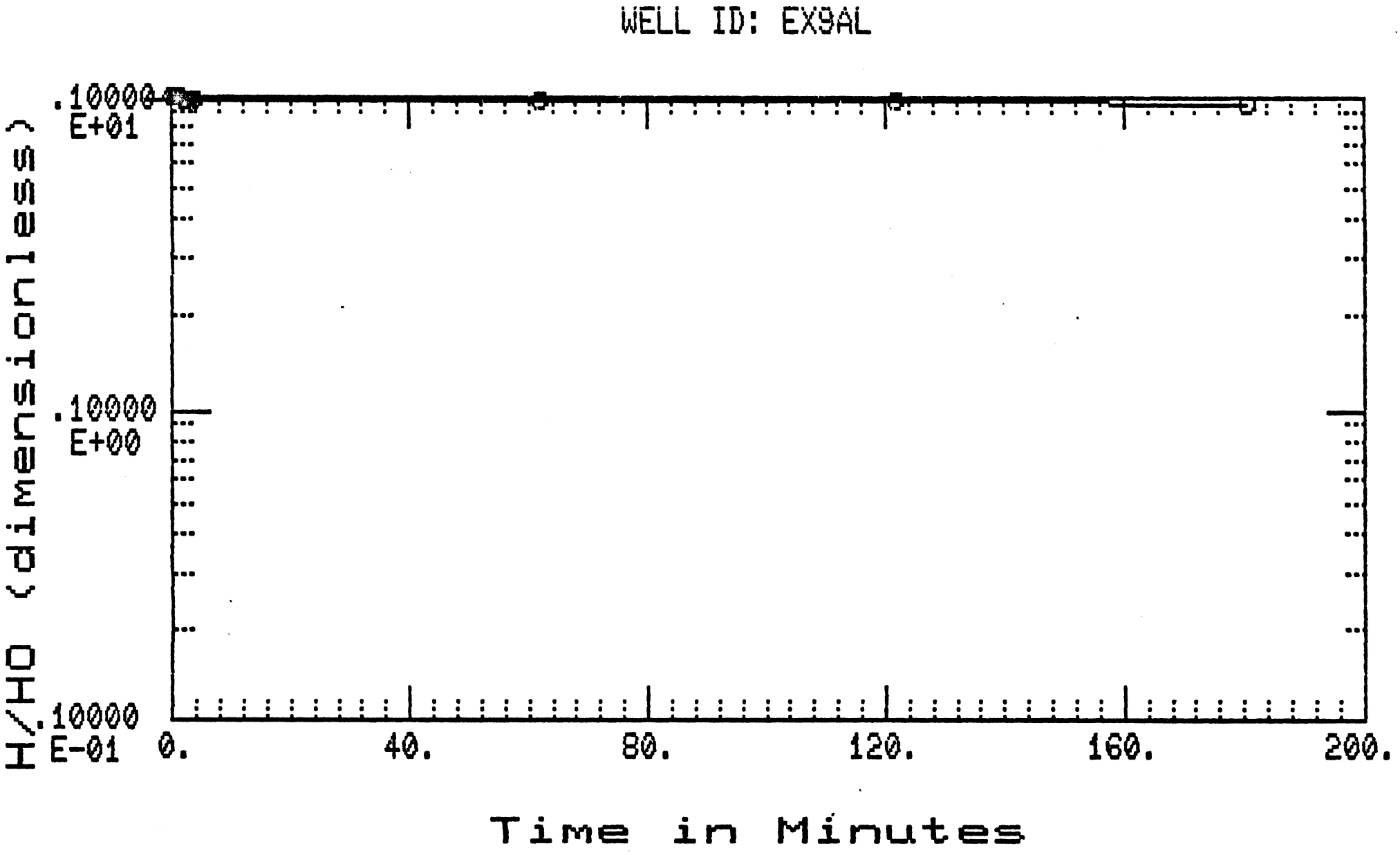
TRANSDUCER USED: 25.00 psi
INITIAL READING: 52.32% of 25.00 psi

DATA POINTS SELECTED

1. TIME: 62.00 minutes HEAD: 56.30 % of 25.00 psi
2. TIME: 180.75 minutes HEAD: 56.29 % of 25.00 psi

HYDRAULIC CONDUCTIVITY OF TEST INTERVAL:

0.18E-07 cm/sec 0.58E-09 ft/sec 0.18E-09 m/sec


WELL ID: EX9AL
.10000 E+01
.10000 E+00
.10000 E-01
H/HO (dimensionless)
0.
40.
80.
120.
160.
200.
Time in Minutes

WELL ID: EX9AL

TEST DATA:

MEASUREMENT NUMBER	TIME (HH:MM:SS)	TRANSDUCER READING (% of 25.00 psi)	HEAD RATIO (H/HO)
1	10:28: 0	56.50	1.0000
2	10:28:30	56.48	0.9952
3	10:28:45	56.46	0.9904
4	10:29:15	56.42	0.9809
5	10:30: 0	56.40	0.9761
6	10:30:30	56.32	0.9569
7	10:32: 0	56.30	0.9522
8	11:30: 0	56.30	0.9522
9	12:30: 0	56.30	0.9522
10	13:28:45	56.29	0.9498

STS CONSULTANTS LTD. - FIELD ENGINEERING SERVICES
SINGLE WELL HYDRAULIC CONDUCTIVITY TEST

STS JOB NO.: 12959
PROJECT/LOCATION: EXXON CRANDON
PROJECT MANAGER: JAS
TEST TECHNICIAN: JLG
DATA ANALYST: JAS

TEST INFORMATION

TYPE: FALLING HEAD METHOD: SLUG

PIEZOMETER ID: EX 9AU
SCREEN LENGTH: 3.0000 feet
SLOT SIZE (est.): 0.0200 inches
STANDPIPE RADIUS: 1.0000 inches
BOREHOLE RADIUS: 3.1250 inches
GRAVEL PACK LENGTH: 7.0000 feet
GRAVEL PACK PERM.: 0.35E-01 ft./sec.
SCREEN PERMEABILITY: 0.35E-02 ft./sec.

LENGTH USED FOR CALCULATION: 7.00 ft.

THE GRAVEL LENGTH WILL BE USED FOR CALC.

SLUG LENGTH: 15.00 feet
SLUG RADIUS: 0.50 inches

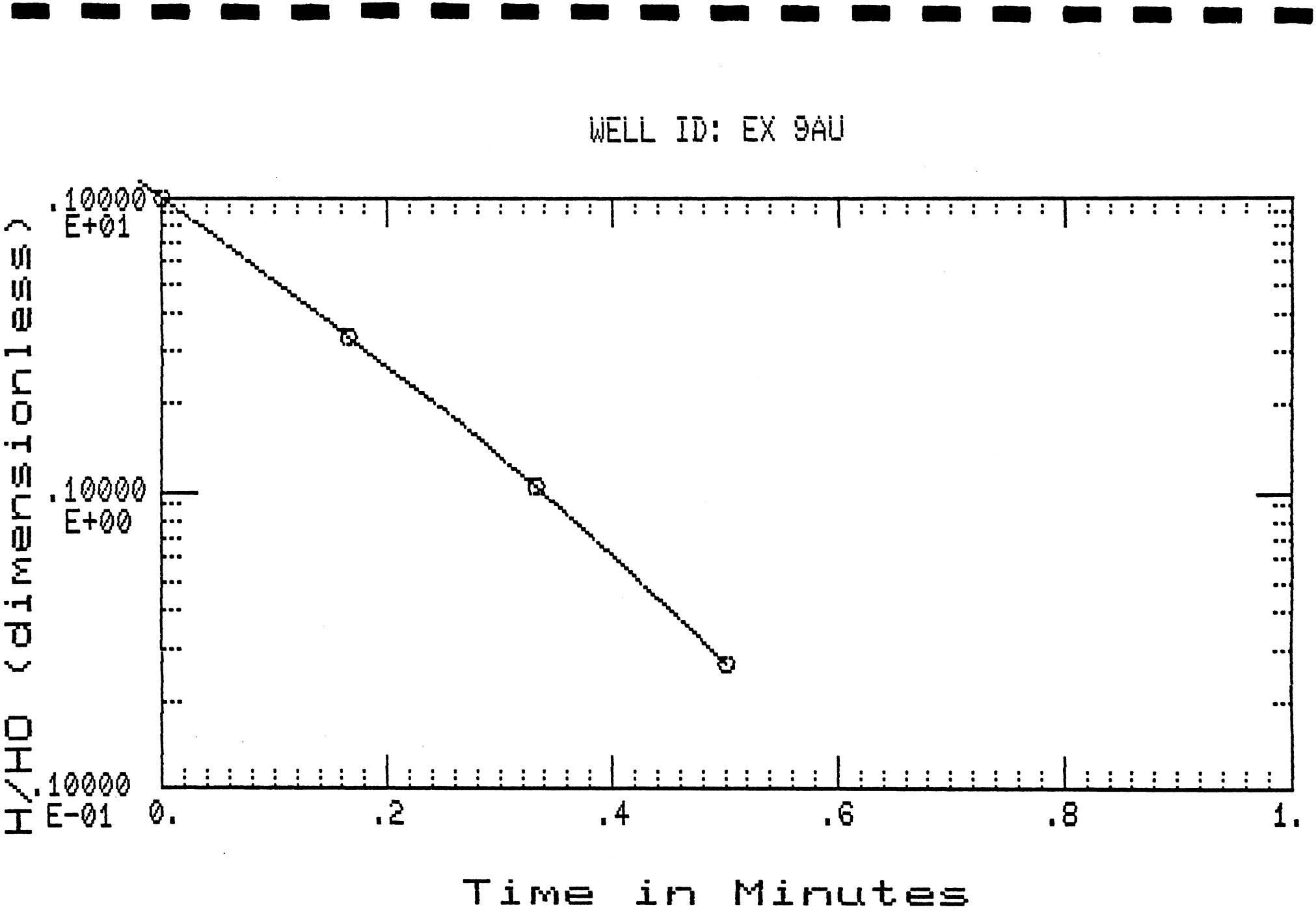
TRANSDUCER USED: 25.00 psi
INITIAL READING: 39.90% of 25.00 psi

DATA POINTS SELECTED

1. TIME: 0.17 minutes HEAD: 40.77 % of 25.00 psi
2. TIME: 0.50 minutes HEAD: 39.97 % of 25.00 psi

HYDRAULIC CONDUCTIVITY OF TEST INTERVAL:

0.63E-02 cm/sec 0.21E-03 ft/sec 0.63E-04 m/sec


WELL ID: EX 9AU
.10000 E+01
.10000 E+00
.10000 E-01
H/HO (dimensionless)
0.
.2
.4
.6
.8
1.
Time in Minutes

WELL ID: EX 9AU

TEST DATA:

MEASUREMENT NUMBER	TIME (HH:MM:SS)	TRANSDUCER READING (% of 25.00 Psi)	HEAD RATIO (H/HO)
1	12: 8: 0	42.50	1.0000
2	12: 8:10	40.77	0.3346
3	12: 8:19	40.17	0.1038
4	12: 8:30	39.97	0.0269

STS CONSULTANTS LTD. - FIELD ENGINEERING SERVICES

SINGLE WELL HYDRAULIC CONDUCTIVITY TEST

STS JOB NO.: 12959
PROJECT/LOCATION: EXXON CRANDON
PROJECT MANAGER: JAS
TEST TECHNICIAN: JLG
DATA ANALYST: JAS

TEST INFORMATION

TYPE: RISING HEAD METHOD: SLUG

PIEZOMETER ID: EX 9AU
SCREEN LENGTH: 3.0000 feet
SLOT SIZE (est.): 0.0200 inches
STANDPIPE RADIUS: 1.0000 inches
BOREHOLE RADIUS: 3.1250 inches
GRAVEL PACK LENGTH: 7.0000 feet
GRAVEL PACK PERM.: 0.35E-01 ft./sec.
SCREEN PERMEABILITY: 0.35E-02 ft./sec.

LENGTH USED FOR CALCULATION: 7.00 ft.

THE GRAVEL LENGTH WILL BE USED FOR CALC.

SLUG LENGTH: 15.00 feet
SLUG RADIUS: 0.50 inches

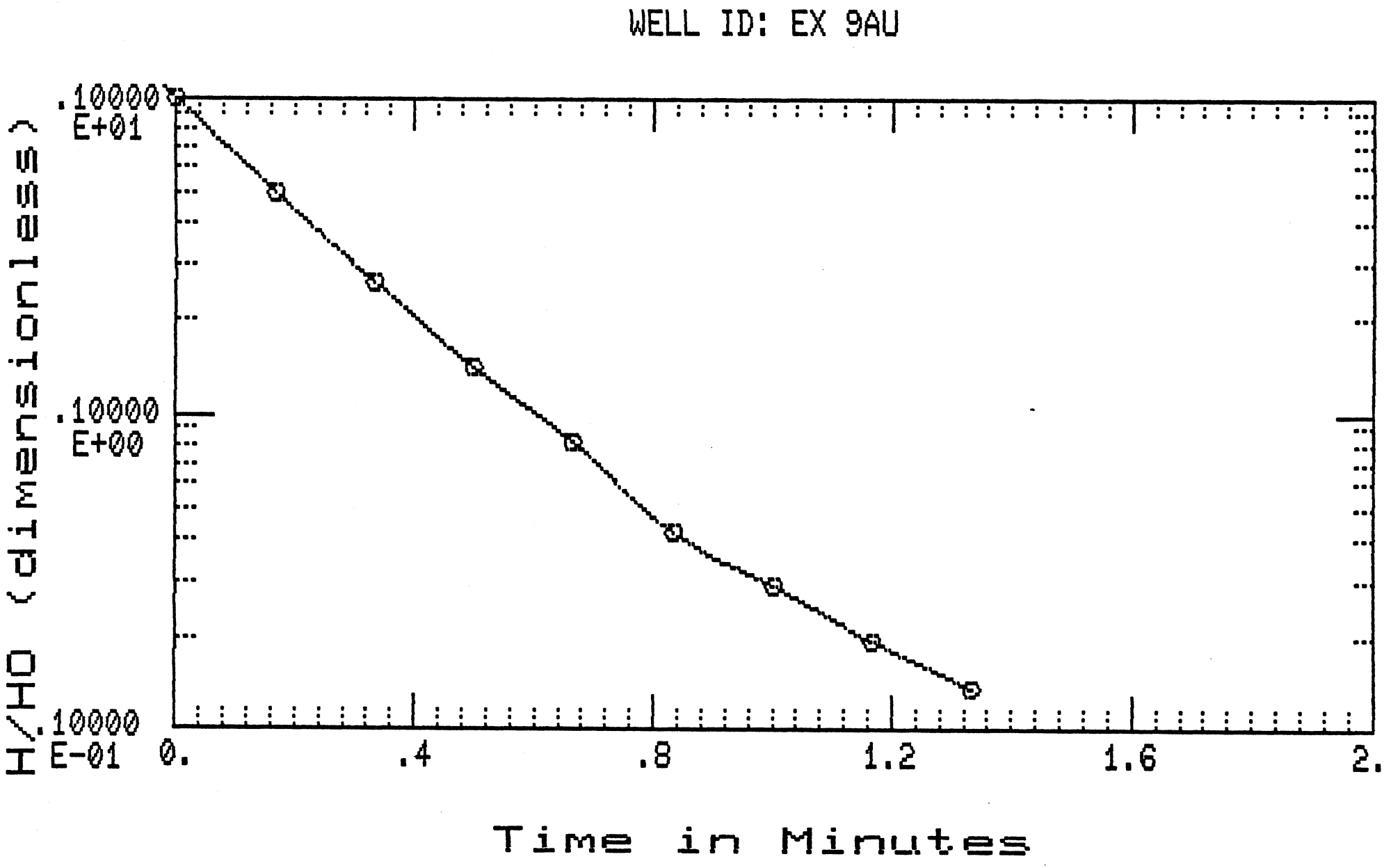
TRANSDUCER USED: 25.00 psi
INITIAL READING: 48.22% of 25.00 psi

DATA POINTS SELECTED

1. TIME: 0.17 minutes HEAD: 45.60 % of 25.00 psi
2. TIME: 0.67 minutes HEAD: 47.80 % of 25.00 psi

HYDRAULIC CONDUCTIVITY OF TEST INTERVAL:

0.30E-02 cm/sec 0.10E-03 ft/sec 0.30E-04 m/sec


WELL ID: EX 9AU
.10000
E+01
.10000
E+00
.10000
E-01
H/HO (dimensionless)
0.
.4
.8
1.2
1.6
2.
Time in Minutes

WELL ID: EX 9AU

TEST DATA:

MEASUREMENT NUMBER	TIME (HH:MM:SS)	TRANSDUCER READING (% of 25.00 psi)	HEAD RATIO (H/HO)
1	14:13: 0	43.07	1.0000
2	14:13:10	45.60	0.5087
3	14:13:19	46.87	0.2621
4	14:13:30	47.50	0.1398
5	14:13:40	47.80	0.0816
6	14:13:49	48.00	0.0427
7	14:14: 0	48.07	0.0291
8	14:14:10	48.12	0.0194
9	14:14:19	48.15	0.0136

STS CONSULTANTS LTD. - FIELD ENGINEERING SERVICES

SINGLE WELL HYDRAULIC CONDUCTIVITY TEST

STS JOB NO.: 12959
PROJECT/LOCATION: EXXON/CRANDON
PROJECT MANAGER: JAS
TEST TECHNICIAN: JCG
DATA ANALYST: PMB/JRT

TEST INFORMATION

TYPE: FALLING HEAD METHOD: SLUG

PIEZOMETER ID: EX9BL
SCREEN LENGTH: 3.0000 feet
SLOT SIZE (est.): 0.0200 inches
STANDPIPE RADIUS: 1.0000 inches
BOREHOLE RADIUS: 3.1250 inches
GRAVEL PACK LENGTH: 7.0000 feet
GRAVEL PACK PERM.: 0.35E-01 ft./sec.
SCREEN PERMEABILITY: 0.35E-02 ft./sec.

LENGTH USED FOR CALCULATION: 7.00 ft.

THE GRAVEL LENGTH WILL BE USED FOR CALC.

SLUG LENGTH: 20.00 feet
SLUG RADIUS: 0.50 inches

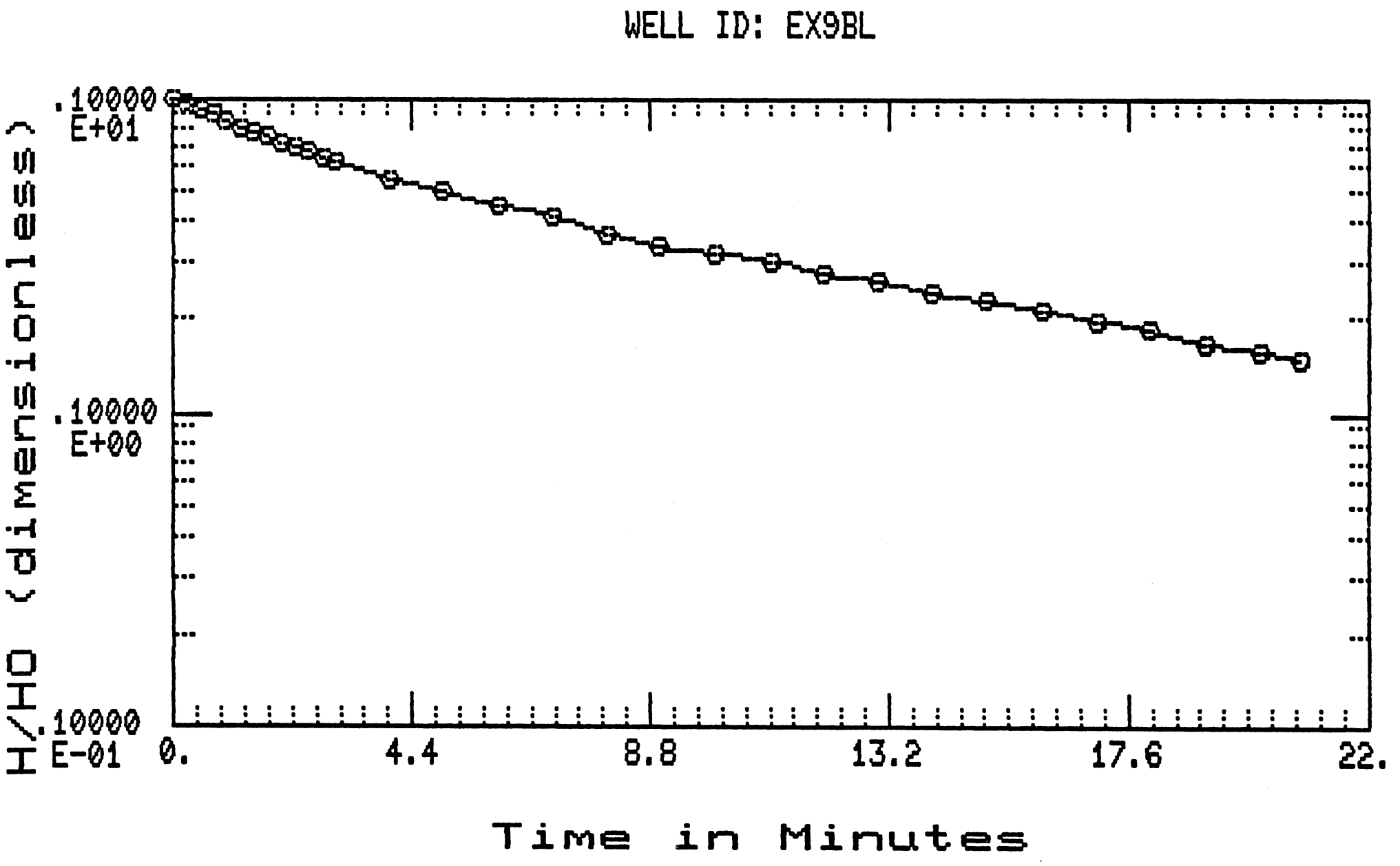
TRANSDUCER USED: 25.00 psi
INITIAL READING: 54.00% of 25.00 psi

DATA POINTS SELECTED

1. TIME: 0.00 minutes HEAD: 60.15 % of 25.00 psi
2. TIME: 2.75 minutes HEAD: 58.00 % of 25.00 psi

HYDRAULIC CONDUCTIVITY OF TEST INTERVAL:

0.13E-03 cm/sec 0.43E-05 ft/sec 0.13E-05 m/sec


WELL ID: EX9BL
.10000 E+01
.10000 E+00
.10000 E-01
H/HO (dimensionless)
0.
4.4
8.8
13.2
17.6
22.
Time in Minutes

WELL ID: EX9BL

TEST DATA:

MEASUREMENT NUMBER	TIME (HH:MM:SS)	TRANSDUCER READING (% of 25.00 psi)	HEAD RATIO (H/HO)
1	9:10: 0	60.15	1.0000
2	9:10:15	59.92	0.9626
3	9:10:30	59.62	0.9138
4	9:10:45	59.40	0.8780
5	9:11: 0	59.17	0.8406
6	9:11:15	58.95	0.8049
7	9:11:30	58.77	0.7756
8	9:11:45	58.60	0.7480
9	9:12: 0	58.45	0.7236
10	9:12:15	58.30	0.6992
11	9:12:30	58.15	0.6748
12	9:12:45	58.00	0.6504
13	9:13: 0	57.87	0.6293
14	9:14: 0	57.37	0.5480
15	9:15: 0	57.07	0.4992
16	9:16: 0	56.80	0.4553
17	9:17: 0	56.57	0.4179
18	9:18: 0	56.25	0.3659
19	9:19: 0	56.05	0.3333
20	9:20: 0	55.95	0.3171
21	9:21: 0	55.85	0.3008
22	9:22: 0	55.70	0.2764
23	9:23: 0	55.60	0.2602
24	9:24: 0	55.47	0.2390
25	9:25: 0	55.40	0.2276
26	9:26: 0	55.30	0.2114
27	9:27: 0	55.20	0.1951
28	9:28: 0	55.12	0.1821
29	9:29: 0	55.02	0.1659
30	9:30: 0	54.97	0.1577
31	9:30:45	54.92	0.1496

STS CONSULTANTS LTD. - FIELD ENGINEERING SERVICES

SINGLE WELL HYDRAULIC CONDUCTIVITY TEST

STS JOB NO.: 12959
PROJECT/LOCATION: EXXON/CRANDON
PROJECT MANAGER: JAS
TEST TECHNICIAN: JCG
DATA ANALYST: PMB/JRT

TEST INFORMATION

TYPE: RISING HEAD METHOD: SLUG

PIEZOMETER ID: EX9BL
SCREEN LENGTH: 3.0000 feet
SLOT SIZE (est.): 0.0200 inches
STANDPIPE RADIUS: 1.0000 inches
BOREHOLE RADIUS: 3.1250 inches
GRAVEL PACK LENGTH: 7.0000 feet
GRAVEL PACK PERM.: 0.35E-01 ft./sec.
SCREEN PERMEABILITY: 0.35E-02 ft./sec.

LENGTH USED FOR CALCULATION: 7.00 ft.

THE GRAVEL LENGTH WILL BE USED FOR CALC.

SLUG LENGTH: 20.00 feet
SLUG RADIUS: 0.30 inches

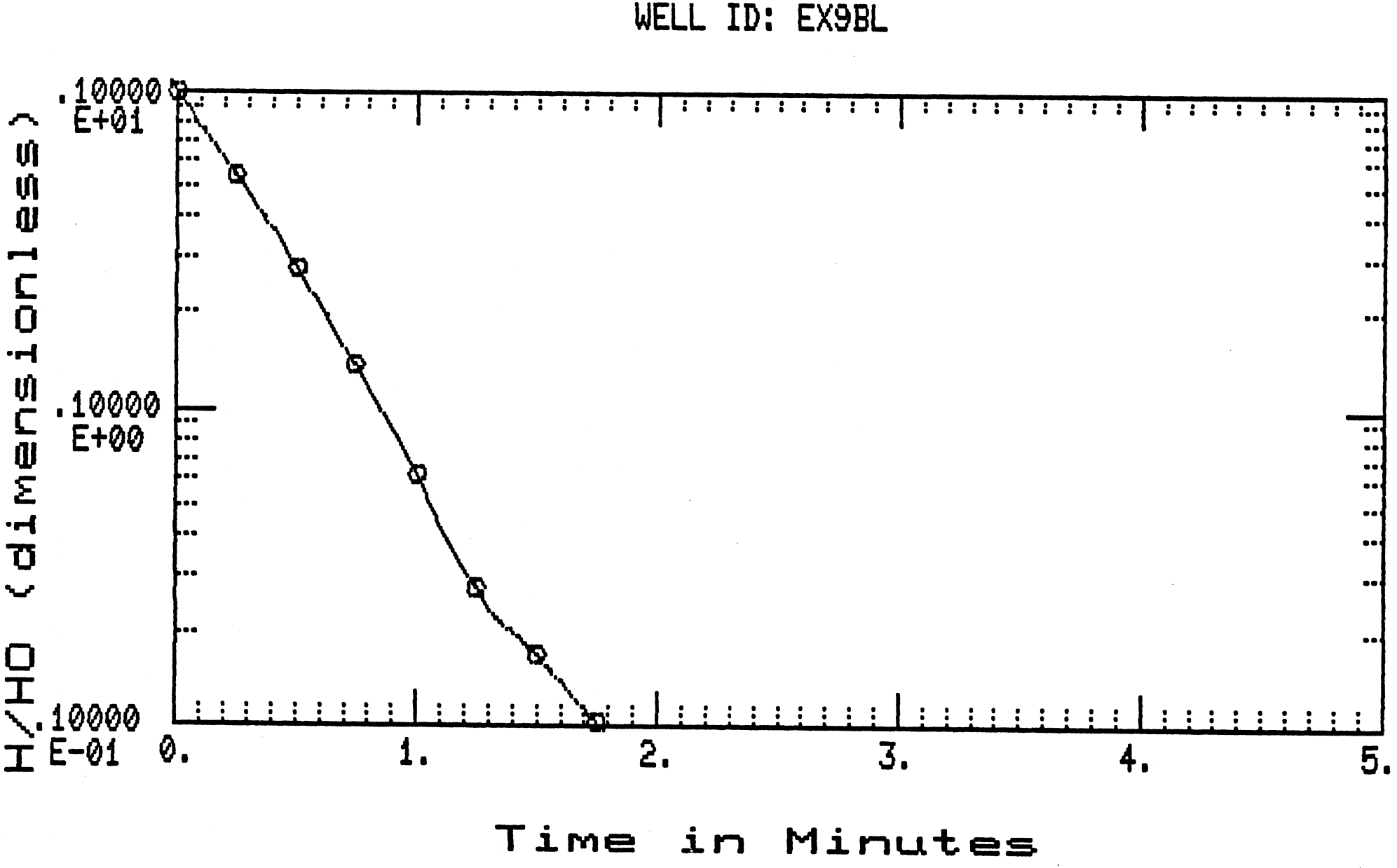
TRANSDUCER USED: 25.00 psi
INITIAL READING: 54.00% of 25.00 psi

DATA POINTS SELECTED

1. TIME: 0.25 minutes HEAD: 51.42 % of 25.00 psi
2. TIME: 1.50 minutes HEAD: 53.92 % of 25.00 psi

HYDRAULIC CONDUCTIVITY OF TEST INTERVAL:

0.23E-02 cm/sec 0.76E-04 ft/sec 0.23E-04 m/sec


WELL ID: EX9BL
.10000
E+01
.10000
E+00
.10000
E-01
H/HO (dimensionless)
0.
1.
2.
3.
4.
5.
Time in Minutes

WELL ID: EX9BL

TEST DATA:

MEASUREMENT NUMBER	TIME (HH:MM:SS)	TRANSDUCER READING (% of 25.00 psi)	HEAD RATIO (H/HO)
1	9:31: 0	49.22	1.0000
2	9:31:15	51.42	0.5397
3	9:31:30	52.67	0.2782
4	9:31:45	53.35	0.1360
5	9:32: 0	53.70	0.0628
6	9:32:15	53.87	0.0272
7	9:32:30	53.92	0.0167
8	9:32:45	53.95	0.0105
9	9:33: 0	53.97	0.0063
10	9:33:15	53.97	0.0063
11	9:33:30	53.97	0.0063
12	9:33:45	53.97	0.0063
13	9:34: 0	53.97	0.0063
14	9:35: 0	54.00	0.0010

STS CONSULTANTS LTD. - FIELD ENGINEERING SERVICES

SINGLE WELL HYDRAULIC CONDUCTIVITY TEST

STS JOB NO.: 12959
PROJECT/LOCATION: EXXON CRANDON
PROJECT MANAGER: JAS
TEST TECHNICIAN: RP
DATA ANALYST: JAS

TEST INFORMATION

TYPE: FALLING HEAD METHOD: SLUG

PIEZOMETER ID: EX 10AL
SCREEN LENGTH: 3.000 feet
SLOT SIZE (est.): 0.0200 inches
STANDPIPE RADIUS: 1.0000 inches

BOREHOLE RADIUS: 3.1250 inches
GRAVEL PACK LENGTH: 6.000 feet
GRAVEL PACK PERM.: 0.35E-02 ft./sec.
SCREEN PERMEABILITY: 0.35E-02 ft./sec.

LENGTH USED FOR CALCULATION: 6.00 ft.

GRAVEL LENGTH WILL BE USED

SLUG LENGTH: 15.00 feet
SLUG RADIUS: 0.50 inches

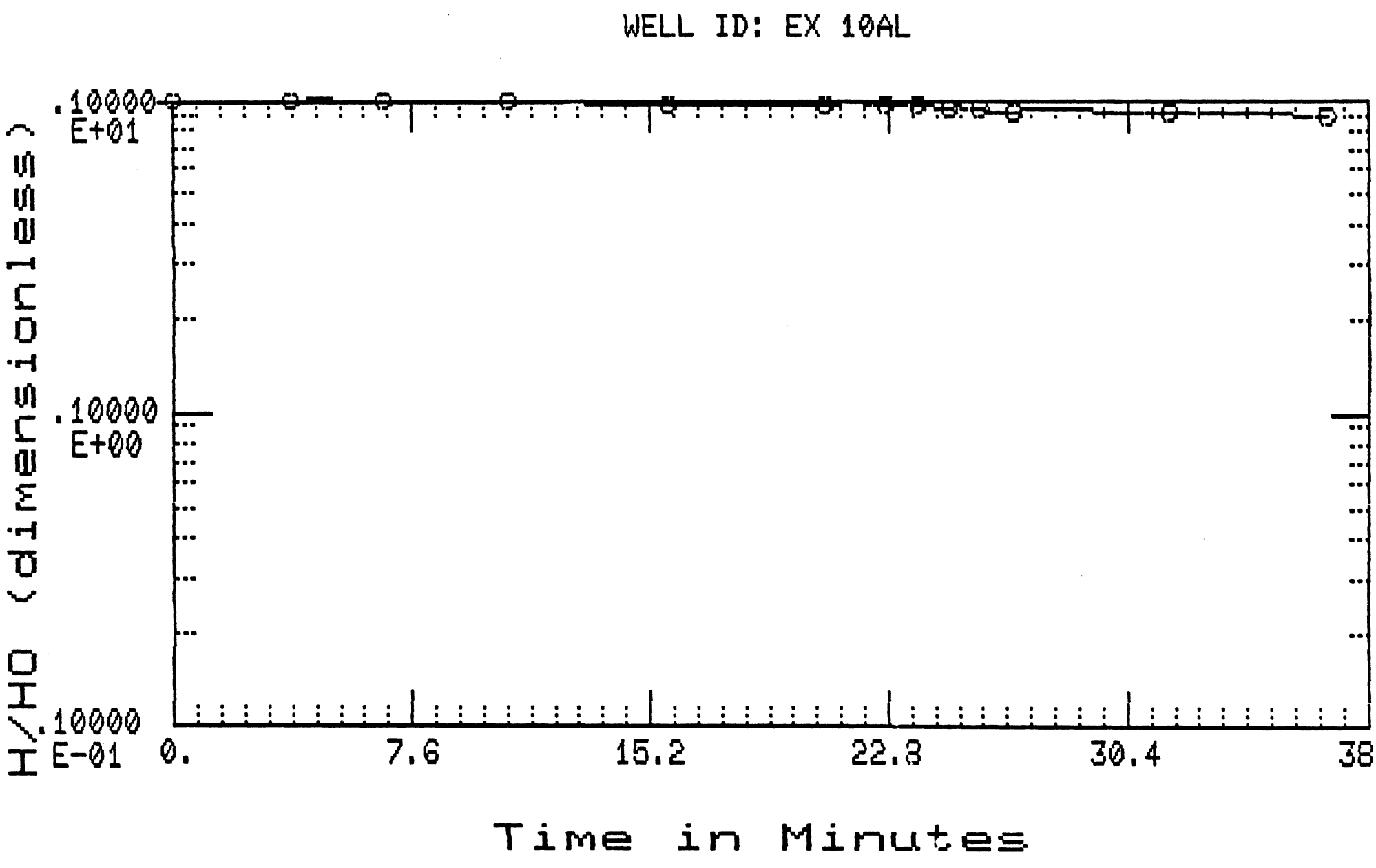
TRANSDUCER USED: 25.00 psi
INITIAL READING: 27.50% of 25.00 psi

DATA POINTS SELECTED

1. TIME: 15.75 minutes HEAD: 31.35 % of 25.00 psi
2. TIME: 23.75 minutes HEAD: 31.27 % of 25.00 psi

HYDRAULIC CONDUCTIVITY OF TEST INTERVAL:

0.24E-05 cm/sec 0.79E-07 ft/sec 0.24E-07 m/sec


WELL ID: EX 10AL
.10000 E+01
.10000 E+00
.10000 E-01
H/HO (dimensionless)
0.
7.6
15.2
22.8
30.4
38
Time in Minutes

WELL ID: EX 10AL

TEST DATA:

MEASUREMENT NUMBER	TIME (HH:MM:SS)	TRANSDUCER READING (% of 25.00 psi)	HEAD RATIO (H/HO)
1	14:13:15	31.45	1.0000
2	14:17: 0	31.42	0.9924
3	14:20: 0	31.40	0.9873
4	14:24: 0	31.37	0.9797
5	14:29: 0	31.35	0.9747
6	14:34: 0	31.32	0.9671
7	14:36: 0	31.30	0.9620
8	14:37: 0	31.27	0.9544
9	14:38: 0	31.22	0.9418
10	14:39: 0	31.17	0.9291
11	14:40: 0	31.15	0.9241
12	14:45: 0	31.07	0.9038
13	14:50: 0	31.00	0.8861

STS CONSULTANTS LTD. - FIELD ENGINEERING SERVICES
SINGLE WELL HYDRAULIC CONDUCTIVITY TEST

STS JOB NO.: 12959
PROJECT/LOCATION: EXXON/CRANDON
PROJECT MANAGER: JAS
TEST TECHNICIAN: JCG
DATA ANALYST: PMB

TEST INFORMATION

TYPE: RISING HEAD METHOD: SLUG

PIEZOMETER ID: EX10AL
SCREEN LENGTH: 3.0000 feet
SLOT SIZE (est.): 0.0200 inches
STANDPIPE RADIUS: 1.0000 inches
BOREHOLE RADIUS: 3.1250 inches
GRAVEL PACK LENGTH: 6.0000 feet
GRAVEL PACK PERM.: 0.35E-01 ft./sec.
SCREEN PERMEABILITY: 0.35E-02 ft./sec.

LENGTH USED FOR CALCULATION: 6.00 ft.

THE GRAVEL LENGTH WILL BE USED FOR CALC.

SLUG LENGTH: 15.00 feet
SLUG RADIUS: 0.50 inches

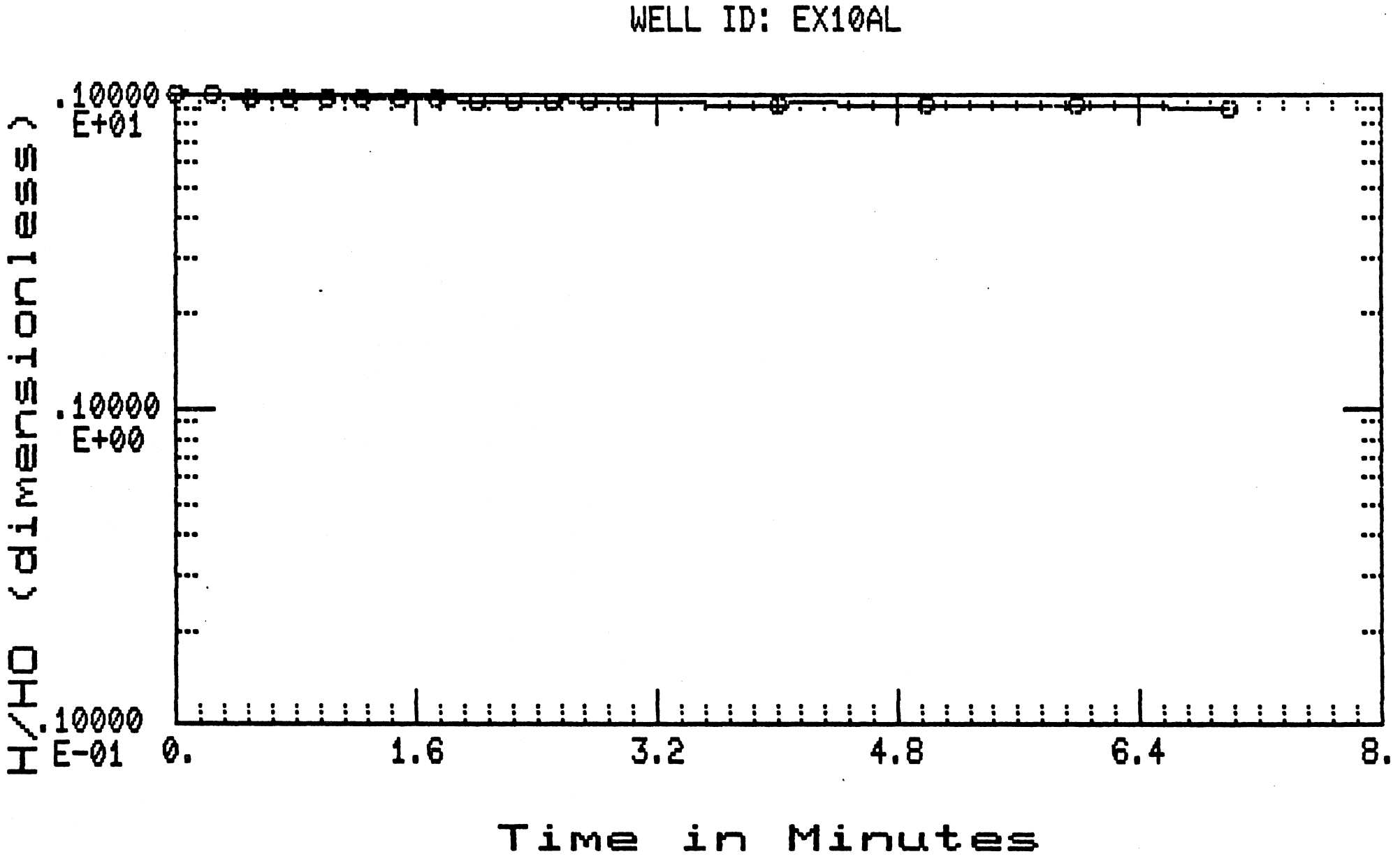
TRANSDUCER USED: 25.00 psi
INITIAL READING: 60.92% of 25.00 psi

DATA POINTS SELECTED

1. TIME: 0.00 minutes HEAD: 52.47 % of 25.00 psi
2. TIME: 7.00 minutes HEAD: 53.37 % of 25.00 psi

HYDRAULIC CONDUCTIVITY OF TEST INTERVAL:

0.15E-04 cm/sec 0.49E-06 ft/sec 0.15E-06 m/sec


WELL ID: EX10AL
.10000 E+01
.10000 E+00
.10000 E-01
H/HO (dimensionless)
0.
1.6
3.2
4.8
6.4
8.
Time in Minutes

WELL ID: EX10AL

TEST DATA:

MEASUREMENT NUMBER	TIME (HH:MM:SS)	TRANSDUCER READING (% of 25.00 psi)	HEAD RATIO (H/HO)
1	11:46: 0	52.47	1.0000
2	11:46:15	52.62	0.9822
3	11:46:30	52.67	0.9763
4	11:46:45	52.70	0.9728
5	11:47: 0	52.75	0.9669
6	11:47:15	52.80	0.9609
7	11:47:30	52.82	0.9586
8	11:47:45	52.87	0.9527
9	11:48: 0	52.90	0.9491
10	11:48:15	52.95	0.9432
11	11:48:30	52.97	0.9408
12	11:48:45	53.00	0.9373
13	11:49: 0	53.05	0.9314
14	11:50: 0	53.15	0.9195
15	11:51: 0	53.22	0.9112
16	11:52: 0	53.30	0.9018
17	11:53: 0	53.37	0.8935

STS CONSULTANTS LTD. - FIELD ENGINEERING SERVICES

SINGLE WELL HYDRAULIC CONDUCTIVITY TEST

STS JOB NO.: 12959
PROJECT/LOCATION: EXXON CRANDON
PROJECT MANAGER: JAS
TEST TECHNICIAN: JLG
DATA ANALYST: JAS

TEST INFORMATION

TYPE: FALLING HEAD METHOD: SLUG

PIEZOMETER ID: EX 10AU
SCREEN LENGTH: 3.0000 feet
SLOT SIZE (est.): 0.0200 inches
STANDPIPE RADIUS: 1.0000 inches
BOREHOLE RADIUS: 3.1250 inches
GRAVEL PACK LENGTH: 9.0000 feet
GRAVEL PACK PERM.: 0.35E-01 ft./sec.
SCREEN PERMEABILITY: 0.35E-02 ft./sec.

LENGTH USED FOR CALCULATION: 9.00 ft.

THE GRAVEL LENGTH WILL BE USED FOR CALC.

SLUG LENGTH: 15.00 feet
SLUG RADIUS: 0.50 inches

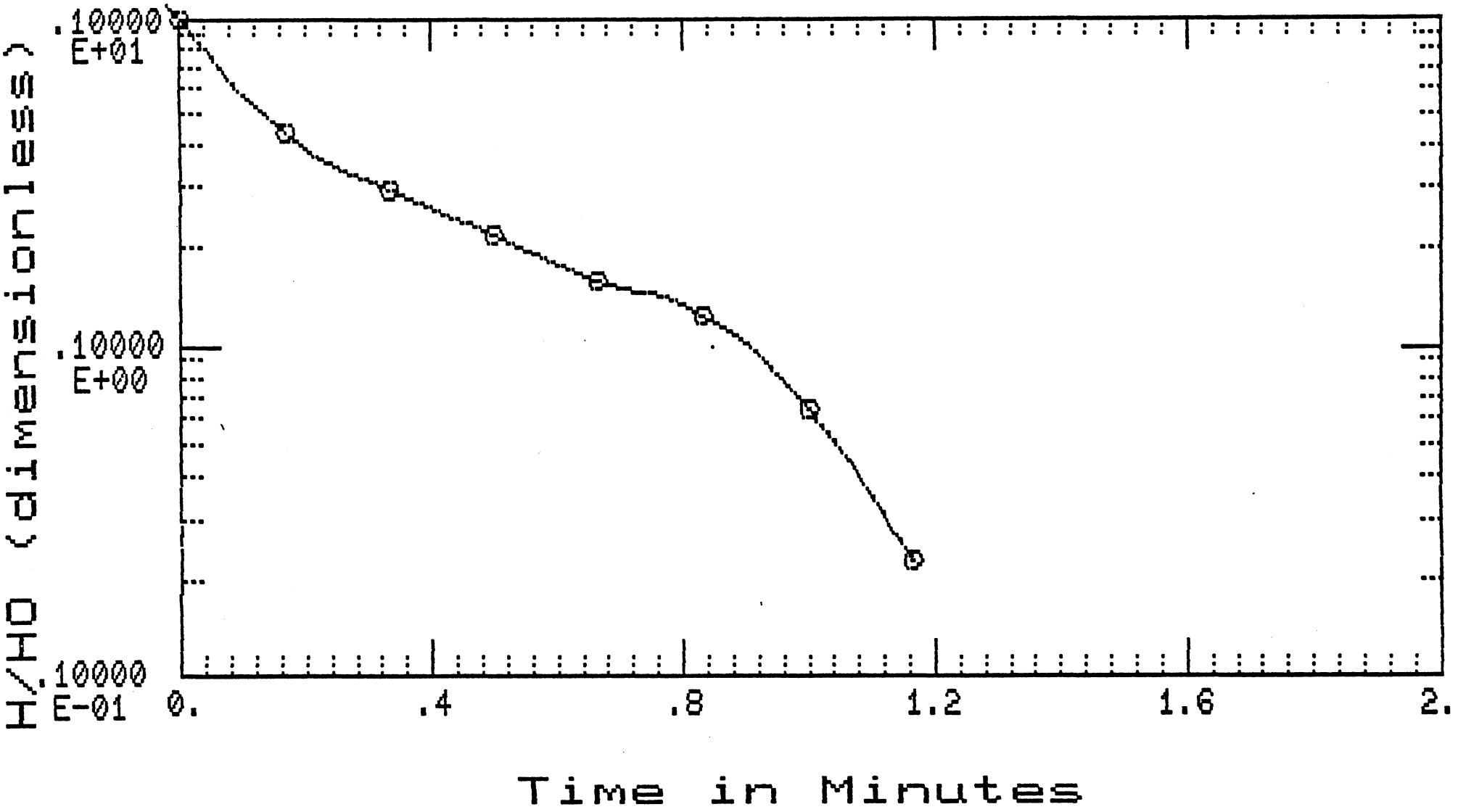
TRANSDUCER USED: 25.00 psi
INITIAL READING: 50.00% of 25.00 psi

DATA POINTS SELECTED

1. TIME: 0.17 minutes HEAD: 52.93 % of 25.00 psi
2. TIME: 0.67 minutes HEAD: 51.02 % of 25.00 psi

HYDRAULIC CONDUCTIVITY OF TEST INTERVAL:

0.15E-02 cm/sec 0.48E-04 ft/sec 0.15E-04 m/sec


WELL ID: EX 10AU
.10000
E+01
.10000
E+00
.10000
E-01
H/HO (dimensionless)
0.
.4
.8
1.2
1.6
2.
Time in Minutes

WELL ID: EX 10AU

TEST DATA:

MEASUREMENT NUMBER	TIME (HH:MM:SS)	TRANSDUCER READING (% of 25.00 psi)	HEAD RATIO (H/HO)
1	15:46: 0	56.60	1.0000
2	15:46:10	52.93	0.4439
3	15:46:19	51.95	0.2955
4	15:46:30	51.42	0.2152
5	15:46:40	51.02	0.1545
6	15:46:49	50.80	0.1212
7	15:47: 0	50.42	0.0636
8	15:47:10	50.15	0.0227

STS CONSULTANTS LTD. - FIELD ENGINEERING SERVICES

SINGLE WELL HYDRAULIC CONDUCTIVITY TEST

STS JOB NO.: 12959
PROJECT/LOCATION: EXXON/CRANDON
PROJECT MANAGER: JAS
TEST TECHNICIAN: JCG
DATA ANALYST: PMB

TEST INFORMATION

TYPE: FALLING HEAD METHOD: SLUG

PIEZOMETER ID: EX10BL
SCREEN LENGTH: 3.0000 feet
SLOT SIZE (est.): 0.0200 inches
STANDPIPE RADIUS: 1.0000 inches
BOREHOLE RADIUS: 3.1250 inches
GRAVEL PACK LENGTH: 7.0000 feet
GRAVEL PACK PERM.: 0.35E-01 ft./sec.
SCREEN PERMEABILITY: 0.35E-02 ft./sec.

LENGTH USED FOR CALCULATION: 7.00 ft.

THE GRAVEL LENGTH WILL BE USED FOR CALC.

SLUG LENGTH: 15.00 feet
SLUG RADIUS: 0.50 inches

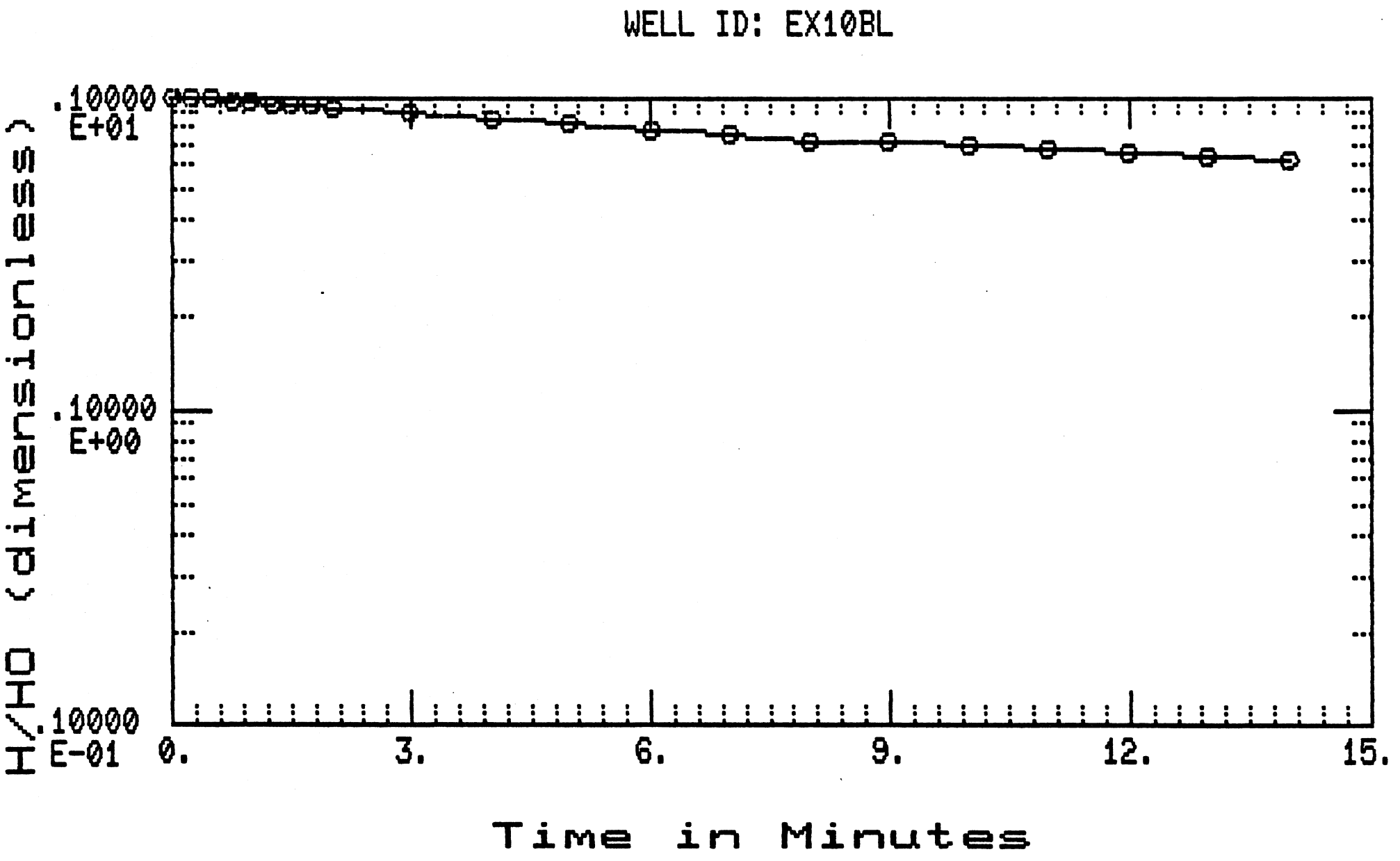
TRANSDUCER USED: 25.00 psi
INITIAL READING: 54.30% of 25.00 psi

DATA POINTS SELECTED

1. TIME: 7.00 minutes HEAD: 60.55 % of 25.00 psi
2. TIME: 14.00 minutes HEAD: 59.47 % of 25.00 psi

HYDRAULIC CONDUCTIVITY OF TEST INTERVAL:

0.22E-04 cm/sec 0.74E-06 ft/sec 0.22E-06 m/sec


WELL ID: EX10BL
.10000 E+01
.10000 E+00
.10000 E-01
H/HO (dimensionless)
0.
3.
6.
9.
12.
15.
Time in Minutes

WELL ID: EX10BL

TEST DATA:

MEASUREMENT NUMBER	TIME (HH:MM:SS)	TRANSDUCER READING (% of 25.00 psi)	HEAD RATIO (H/HO)
1	9:41: 0	62.65	1.0000
2	9:41:15	62.57	0.9904
3	9:41:30	62.47	0.9784
4	9:41:45	62.40	0.9701
5	9:42: 0	62.30	0.9581
6	9:42:15	62.22	0.9485
7	9:42:30	62.12	0.9365
8	9:42:45	62.05	0.9281
9	9:43: 0	61.97	0.9186
10	9:44: 0	61.70	0.8862
11	9:45: 0	61.42	0.8527
12	9:46: 0	61.07	0.8108
13	9:47: 0	60.80	0.7784
14	9:48: 0	60.55	0.7485
15	9:49: 0	60.35	0.7246
16	9:50: 0	60.25	0.7126
17	9:51: 0	60.10	0.6946
18	9:52: 0	59.92	0.6731
19	9:53: 0	59.77	0.6551
20	9:54: 0	59.62	0.6371
21	9:55: 0	59.47	0.6192

STS CONSULTANTS LTD. - FIELD ENGINEERING SERVICES

SINGLE WELL HYDRAULIC CONDUCTIVITY TEST

STS JOB NO.: 12959
PROJECT/LOCATION: EXXON/CRANDON
PROJECT MANAGER: JAS
TEST TECHNICIAN: JCG
DATA ANALYST: PMB

TEST INFORMATION

TYPE: RISING HEAD METHOD: SLUG

PIEZOMETER ID: EX10BL
SCREEN LENGTH: 3.0000 feet
SLOT SIZE (est.): 0.0200 inches
STANDPIPE RADIUS: 1.0000 inches
BOREHOLE RADIUS: 3.1250 inches
GRAVEL PACK LENGTH: 7.0000 feet
GRAVEL PACK PERM.: 0.35E-01 ft./sec.
SCREEN PERMEABILITY: 0.35E-02 ft./sec.

LENGTH USED FOR CALCULATION: 7.00 ft.

THE GRAVEL LENGTH WILL BE USED FOR CALC.

SLUG LENGTH: 15.00 feet
SLUG RADIUS: 0.50 inches

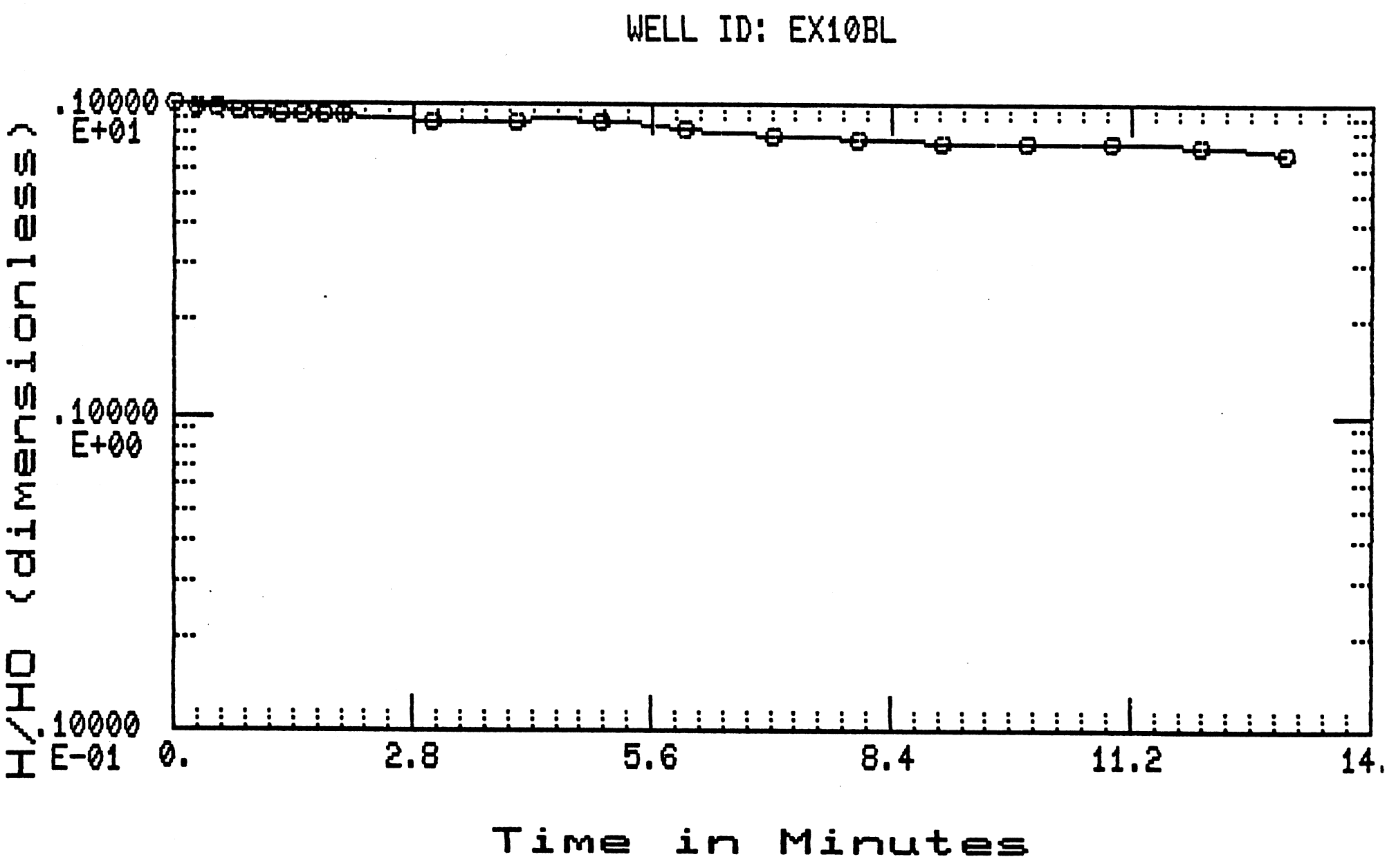
TRANSDUCER USED: 25.00 psi
INITIAL READING: 54.30% of 25.00 psi

DATA POINTS SELECTED

1. TIME: 3.00 minutes HEAD: 50.92 % of 25.00 psi
2. TIME: 13.00 minutes HEAD: 51.65 % of 25.00 psi

HYDRAULIC CONDUCTIVITY OF TEST INTERVAL:

0.20E-04 cm/sec 0.66E-06 ft/sec 0.20E-06 m/sec


WELL ID: EX10BL
.10000 E+01
.10000 E+00
.10000 E-01
H/HO (dimensionless)
0.
2.8
5.6
8.4
11.2
14.
Time in Minutes

WELL ID: EX10BL

TEST DATA:

MEASUREMENT NUMBER	TIME (HH:MM:SS)	TRANSDUCER READING (% of 0.00 psi)	HEAD RATIO (H/HO)
1	9:58: 0	50.42	1.0000
2	9:58:15	50.52	0.9742
3	9:58:30	50.60	0.9536
4	9:58:45	50.65	0.9407
5	9:59: 0	50.67	0.9356
6	9:59:15	50.72	0.9227
7	9:59:30	50.75	0.9149
8	9:59:45	50.77	0.9098
9	10: 0: 0	50.80	0.9021
10	10: 1: 0	50.92	0.8711
11	10: 2: 0	50.92	0.8711
12	10: 3: 0	50.97	0.8582
13	10: 4: 0	51.12	0.8196
14	10: 5: 0	51.27	0.7809
15	10: 6: 0	51.35	0.7603
16	10: 7: 0	51.42	0.7423
17	10: 8: 0	51.45	0.7345
18	10: 9: 0	51.47	0.7294
19	10:10: 0	51.50	0.7216
20	10:11: 0	51.65	0.6830

STS CONSULTANTS LTD. - FIELD ENGINEERING SERVICES
SINGLE WELL HYDRAULIC CONDUCTIVITY TEST

STS JOB NO.: 12959
PROJECT/LOCATION: EXXON CRANDON
PROJECT MANAGER: JAS
TEST TECHNICIAN: JLG
DATA ANALYST: JAS

TEST INFORMATION

TYPE: FALLING HEAD METHOD: SLUG

PIEZOMETER ID: EX 11AL
SCREEN LENGTH: 3.0000 feet
SLOT SIZE (est.): 0.0200 inches
STANDPIPE RADIUS: 1.0000 inches
BOREHOLE RADIUS: 3.1250 inches
GRAVEL PACK LENGTH: 11.0000 feet
GRAVEL PACK PERM.: 0.35E-01 ft./sec.
SCREEN PERMEABILITY: 0.35E-02 ft./sec.

LENGTH USED FOR CALCULATION: 11.00 ft.

THE GRAVEL LENGTH WILL BE USED FOR CALC.

SLUG LENGTH: 15.00 feet
SLUG RADIUS: 0.50 inches

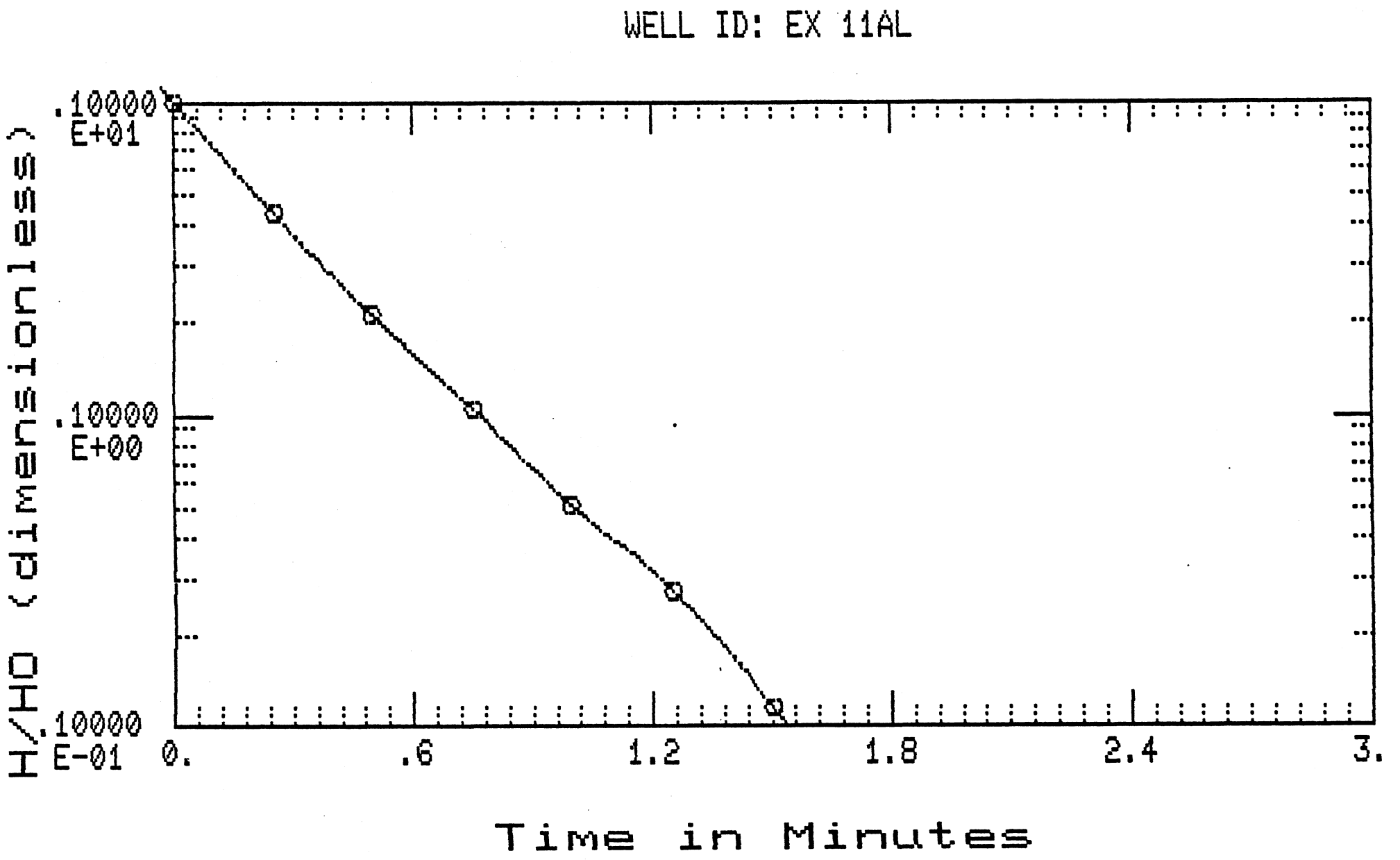
TRANSDUCER USED: 25.00 psi
INITIAL READING: 42.75% of 25.00 psi

DATA POINTS SELECTED

1. TIME: 0.25 minutes HEAD: 44.65 % of 25.00 psi
2. TIME: 1.25 minutes HEAD: 42.87 % of 25.00 psi

HYDRAULIC CONDUCTIVITY OF TEST INTERVAL:

0.17E-02 cm/sec 0.54E-04 ft/sec 0.17E-04 m/sec


WELL ID: EX 11AL
.10000 E+01
.10000 E+00
.10000 E-01
H/HO (dimensionless)
0.
.6
1.2
1.8
2.4
3.
Time in Minutes

WELL ID: EX 11AL

TEST DATA:

MEASUREMENT NUMBER	TIME (HH:MM:SS)	TRANSDUCER READING (% of 25.00 psi)	HEAD RATIO (H/HO)
1	10:57: 0	47.07	1.0000
2	10:57:15	44.65	0.4398
3	10:57:30	43.65	0.2083
4	10:57:45	43.20	0.1042
5	10:58: 0	42.97	0.0509
6	10:58:15	42.87	0.0278
7	10:58:30	42.80	0.0116
8	10:58:45	42.77	0.0046
9	10:59: 0	42.75	0.0010

STS CONSULTANTS LTD. - FIELD ENGINEERING SERVICES
SINGLE WELL HYDRAULIC CONDUCTIVITY TEST

STS JOB NO.: 412959
PROJECT/LOCATION: EXXON CRANDON
PROJECT MANAGER: JAS
TEST TECHNICIAN: JLG
DATA ANALYST: JAS

TEST INFORMATION

TYPE: RISING HEAD METHOD: SLUG

PIEZOMETER ID: EX 11AL
SCREEN LENGTH: 3.0000 feet
SLOT SIZE (est.): 0.0200 inches
STANDPIPE RADIUS: 1.0000 inches
BOREHOLE RADIUS: 3.1250 inches
GRAVEL PACK LENGTH: 11.0000 feet
GRAVEL PACK PERM.: 0.35E-01 ft./sec.
SCREEN PERMEABILITY: 0.35E-02 ft./sec.

LENGTH USED FOR CALCULATION: 11.00 ft.

THE GRAVEL LENGTH WILL BE USED FOR CALC.

SLUG LENGTH: 15.00 feet
SLUG RADIUS: 0.50 inches

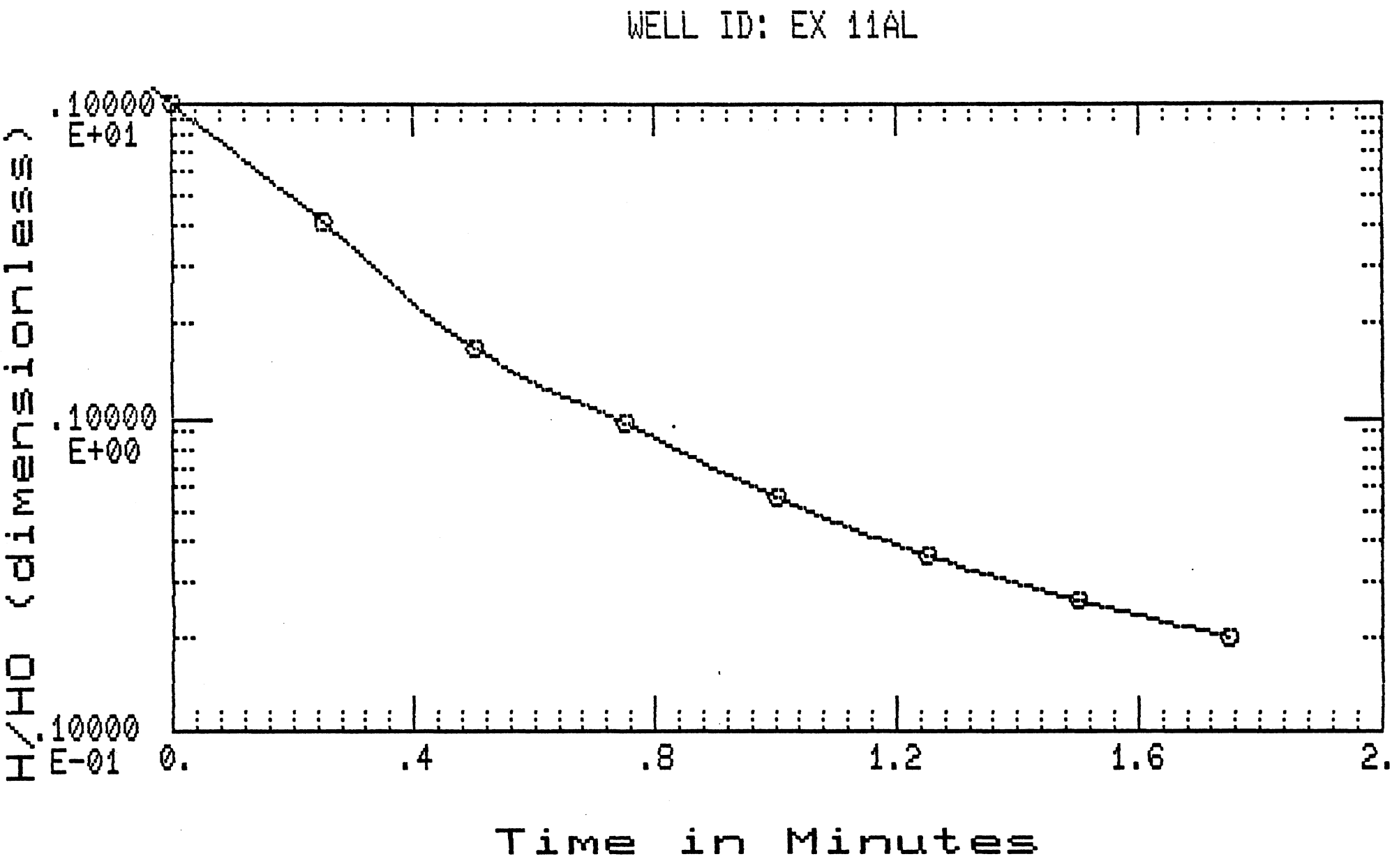
TRANSDUCER USED: 25.00 psi
INITIAL READING: 42.75% of 25.00 psi

DATA POINTS SELECTED

1. TIME: 0.50 minutes HEAD: 41.92 % of 25.00 psi
2. TIME: 1.25 minutes HEAD: 42.57 % of 25.00 psi

HYDRAULIC CONDUCTIVITY OF TEST INTERVAL:

0.12E-02 cm/sec 0.40E-04 ft/sec 0.12E-04 m/sec


WELL ID: EX 11AL
.10000 E+01
.10000 E+00
.10000 E-01
H/HO (dimensionless)
0.
.4
.8
1.2
1.6
2.
Time in Minutes

WELL ID: EX 11AL

TEST DATA:

MEASUREMENT NUMBER	TIME (HH:MM:SS)	TRANSDUCER READING (% of 25.00 psi)	HEAD RATIO (H/HO)
1	11: 1: 0	37.77	1.0000
2	11: 1:15	40.70	0.4116
3	11: 1:30	41.92	0.1667
4	11: 1:45	42.27	0.0964
5	11: 2: 0	42.47	0.0562
6	11: 2:15	42.57	0.0361
7	11: 2:30	42.62	0.0261
8	11: 2:45	42.65	0.0201

SINGLE WELL HYDRAULIC CONDUCTIVITY TEST

STS JOB NO.: 12959
PROJECT/LOCATION: EXXON CRANDON
PROJECT MANAGER: JAS
TEST TECHNICIAN: RP
DATA ANALYST: JAS

TEST INFORMATION

TYPE: FALLING HEAD METHOD: SLUG

PIEZOMETER ID: EX 11AU
SCREEN LENGTH: 3.000 feet
SLOT SIZE (est.): 0.0200 inches
STANDPIPE RADIUS: 1.0000 inches
BOREHOLE RADIUS: 3.1250 inches
GRAVEL PACK LENGTH: 7.000 feet
GRAVEL PACK PERM.: 0.35E-01 ft./sec.
SCREEN PERMEABILITY: 0.35E-02 ft./sec.

LENGTH USED FOR CALCULATION: 7.00 ft.

THE GRAVEL LENGTH WILL BE USED FOR CALC.

SLUG LENGTH: 10.00 feet
SLUG RADIUS: 0.50 inches

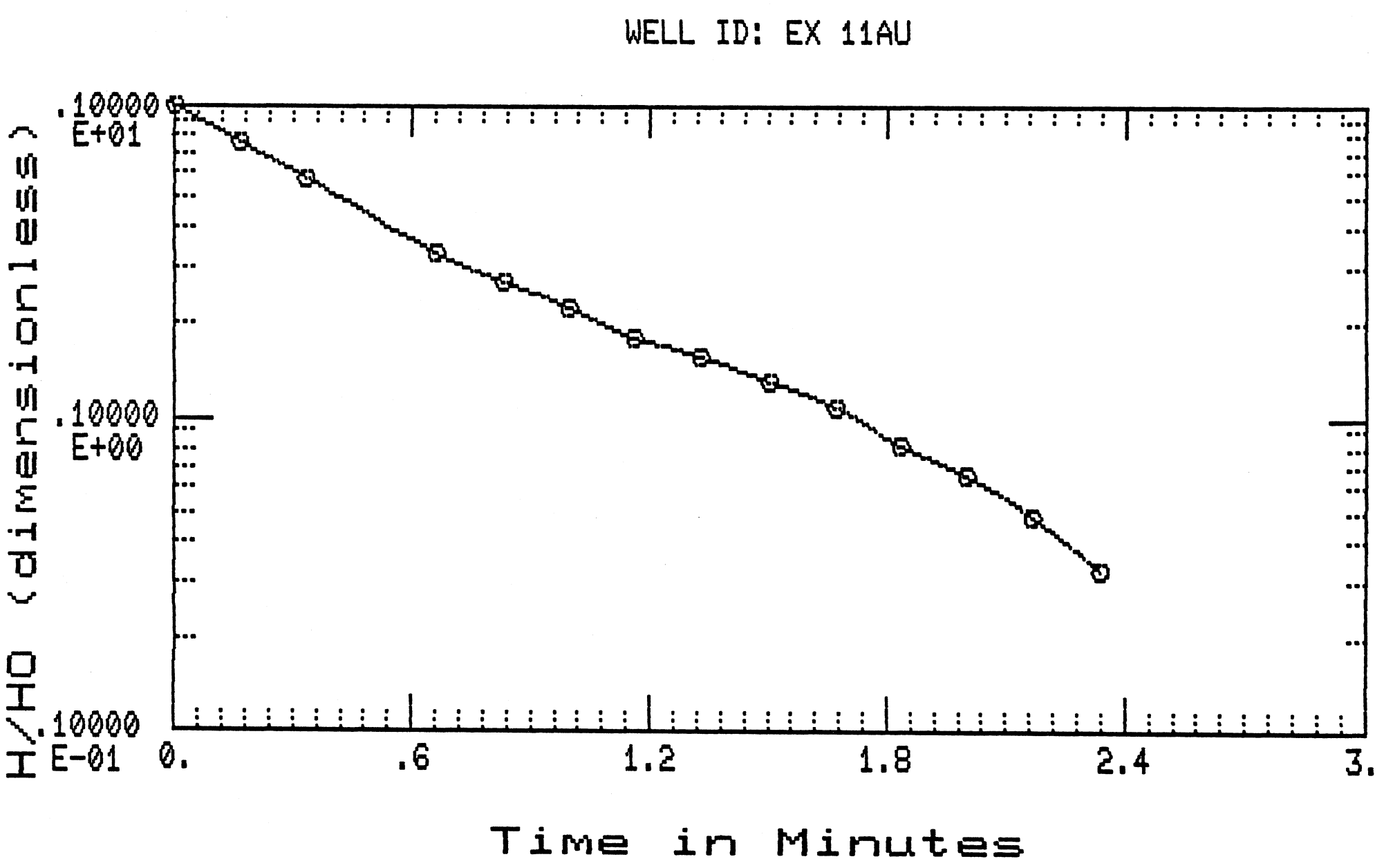
TRANSDUCER USED: 25.00 psi
INITIAL READING: 30.97% of 25.00 psi

DATA POINTS SELECTED

1. TIME: 0.67 minutes HEAD: 32.00 % of 25.00 psi
2. TIME: 1.17 minutes HEAD: 31.52 % of 25.00 psi

HYDRAULIC CONDUCTIVITY OF TEST INTERVAL:

0.10E-02 cm/sec 0.34E-04 ft/sec 0.10E-04 m/sec


WELL ID: EX 11AU
.10000 E+01
.10000 E+00
.10000 E-01
H/HO (dimensionless)
0.
.6
1.2
1.8
2.4
3.
Time in Minutes

WELL ID: EX 11AU

TEST DATA:

MEASUREMENT NUMBER	TIME (HH:MM:SS)	TRANSDUCER READING (% of 25.00 psi)	HEAD RATIO (H/HO)
1	13:59: 0	34.05	1.0000
2	13:59:10	33.30	0.7565
3	13:59:19	32.75	0.5779
4	13:59:40	32.00	0.3344
5	13:59:49	31.80	0.2695
6	14: 0: 0	31.65	0.2208
7	14: 0:10	31.52	0.1786
8	14: 0:19	31.45	0.1558
9	14: 0:30	31.37	0.1299
10	14: 0:40	31.30	0.1071
11	14: 0:49	31.22	0.0812
12	14: 1: 0	31.17	0.0649
13	14: 1:10	31.12	0.0487
14	14: 1:19	31.07	0.0325

STS CONSULTANTS LTD. - FIELD ENGINEERING SERVICES
SINGLE WELL HYDRAULIC CONDUCTIVITY TEST

STS JOB NO.: 12959
PROJECT/LOCATION: EXXON CRANDON
PROJECT MANAGER: JAS
TEST TECHNICIAN: JLG
DATA ANALYST: JAS

TEST INFORMATION

TYPE: RISING HEAD METHOD: SLUG

PIEZOMETER ID: EX 11AU
SCREEN LENGTH: 3.0000 feet
SLOT SIZE (est.): 0.0200 inches
STANDPIPE RADIUS: 1.0000 inches
BOREHOLE RADIUS: 3.1250 inches
GRAVEL PACK LENGTH: 7.0000 feet
GRAVEL PACK PERM.: 0.35E-01 ft./sec.
SCREEN PERMEABILITY: 0.35E-02 ft./sec.

LENGTH USED FOR CALCULATION: 7.00 ft.

THE GRAVEL LENGTH WILL BE USED FOR CALC.

SLUG LENGTH: 15.00 feet
SLUG RADIUS: 0.50 inches

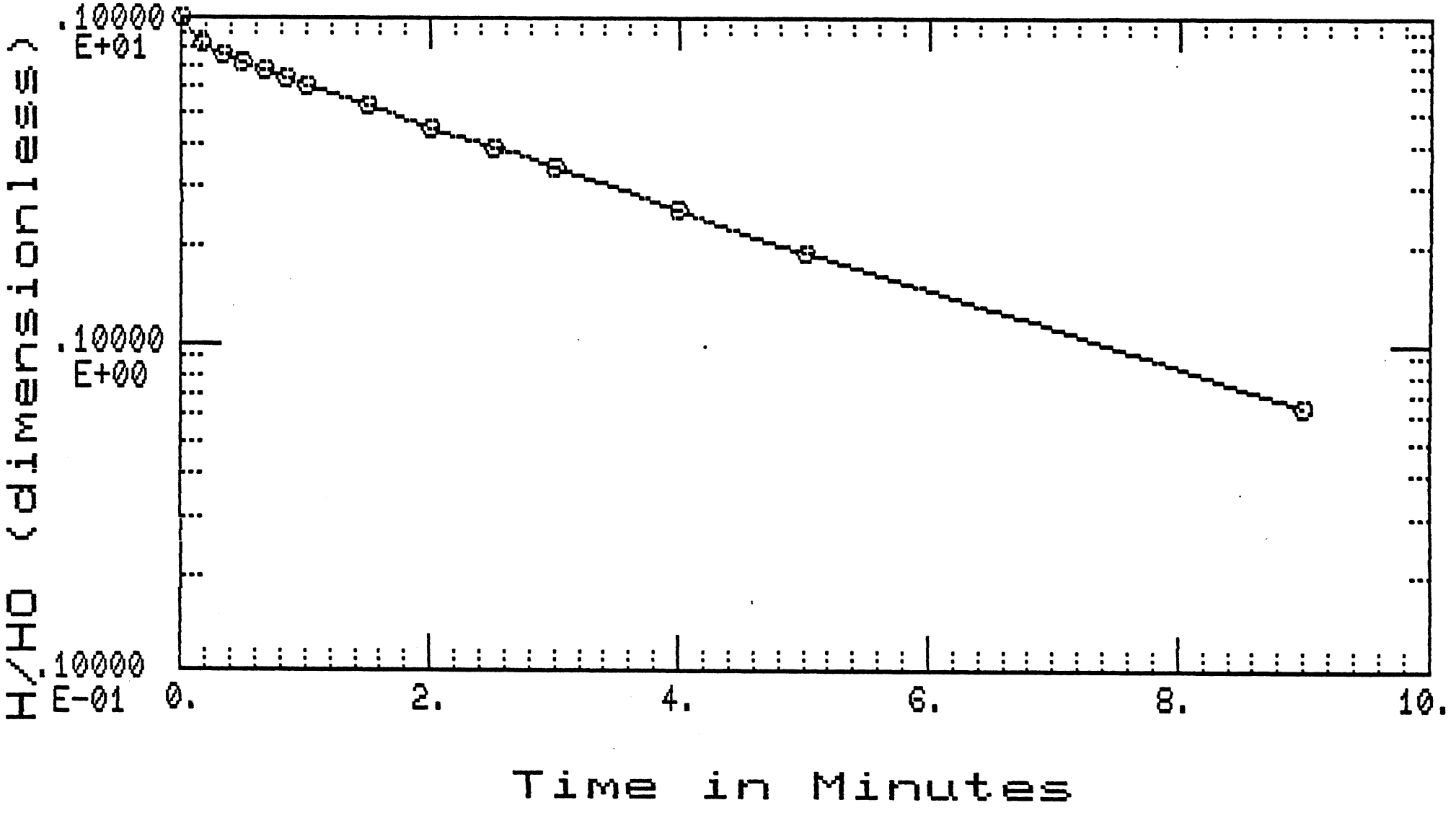
TRANSDUCER USED: 25.00 psi
INITIAL READING: 58.25% of 25.00 psi

DATA POINTS SELECTED

1. TIME: 0.33 minutes HEAD: 54.35 % of 25.00 psi
2. TIME: 5.00 minutes HEAD: 57.27 % of 25.00 psi

HYDRAULIC CONDUCTIVITY OF TEST INTERVAL:

0.25E-03 cm/sec 0.81E-05 ft/sec 0.25E-05 m/sec


WELL ID: EX 11AU
.10000 E+01
.10000 E+00
.10000 E-01
H/HO (dimensionless)
0.
2.
4.
6.
8.
10.
Time in Minutes

WELL ID: EX 11AU

TEST DATA:

MEASUREMENT NUMBER	TIME (HH:MM:SS)	TRANSDUCER READING (% of 25.00 psi)	HEAD RATIO (H/HO)
1	10:58: 0	53.10	1.0000
2	10:58:10	54.02	0.8214
3	10:58:19	54.35	0.7573
4	10:58:30	54.57	0.7146
5	10:58:40	54.75	0.6796
6	10:58:49	54.92	0.6466
7	10:59: 0	55.10	0.6117
8	10:59:30	55.50	0.5340
9	11: 0: 0	55.90	0.4563
10	11: 0:30	56.22	0.3942
11	11: 1: 0	56.50	0.3398
12	11: 2: 0	56.95	0.2524
13	11: 3: 0	57.27	0.1903
14	11: 7: 0	57.92	0.0641

STS CONSULTANTS LTD. - FIELD ENGINEERING SERVICES
SINGLE WELL HYDRAULIC CONDUCTIVITY TEST

STS JOB NO.: 12959
PROJECT/LOCATION: EXXON/CRANDON
PROJECT MANAGER: JAS
TEST TECHNICIAN: JCG
DATA ANALYST: PMB

TEST INFORMATION

TYPE: FALLING HEAD METHOD: SLUG

PIEZOMETER ID: EX11BL
SCREEN LENGTH: 3.0000 feet
SLOT SIZE (est.): 0.0200 inches
STANDPIPE RADIUS: 1.0000 inches
BOREHOLE RADIUS: 3.1250 inches
GRAVEL PACK LENGTH: 7.0000 feet
GRAVEL PACK PERM.: 0.35E-01 ft./sec.
SCREEN PERMEABILITY: 0.35E-02 ft./sec.

LENGTH USED FOR CALCULATION: 7.00 ft.

THE GRAVEL LENGTH WILL BE USED FOR CALC.

SLUG LENGTH: 15.00 feet
SLUG RADIUS: 0.50 inches

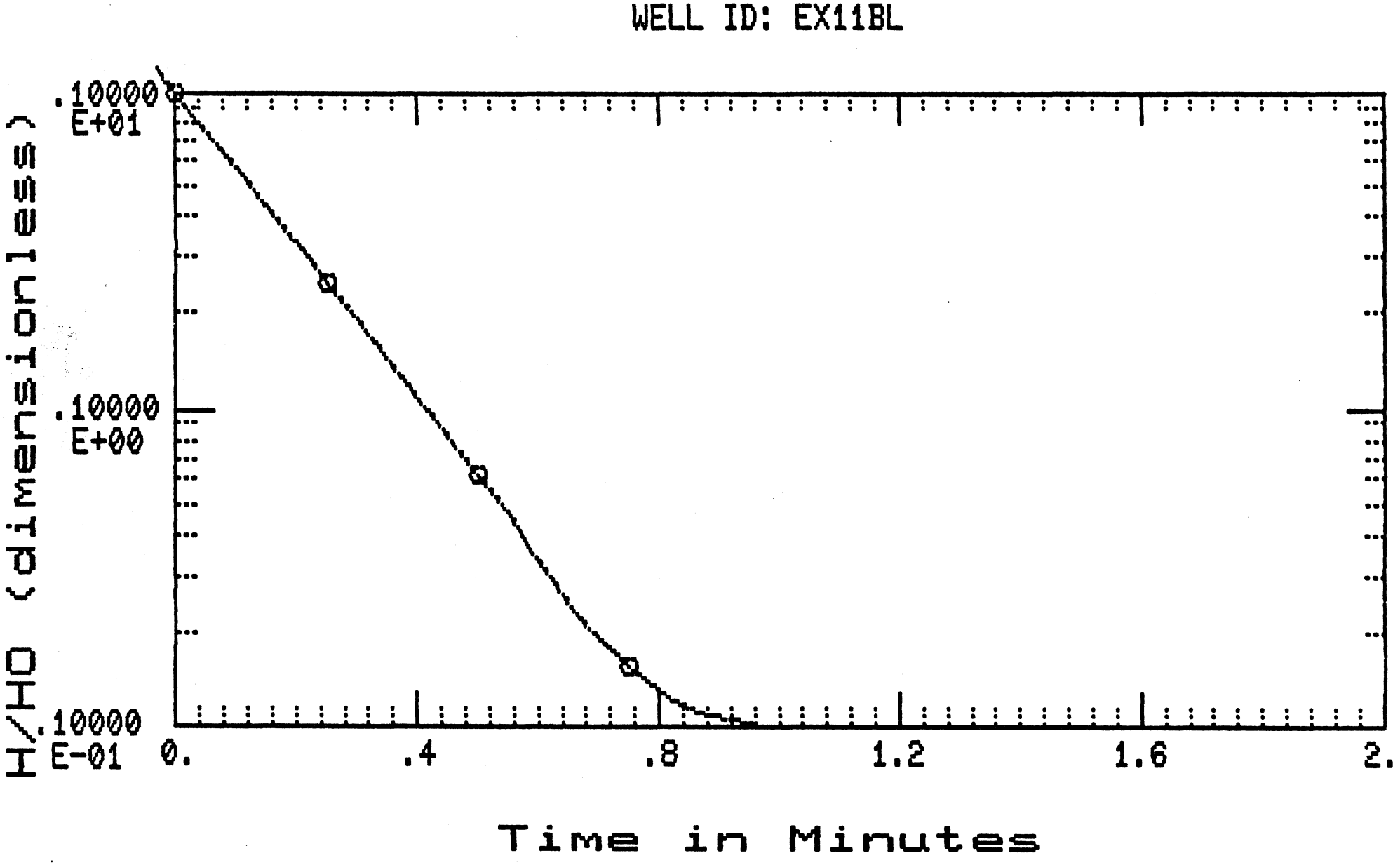
TRANSDUCER USED: 25.00 psi
INITIAL READING: 57.92% of 25.00 psi

DATA POINTS SELECTED

1. TIME: 0.00 minutes HEAD: 61.12 % of 25.00 psi
2. TIME: 0.75 minutes HEAD: 57.97 % of 25.00 psi

HYDRAULIC CONDUCTIVITY OF TEST INTERVAL:

0.46E-02 cm/sec 0.15E-03 ft/sec 0.46E-04 m/sec


WELL ID: EX11BL
.10000 E+01
.10000 E+00
.10000 E-01
H/HO (dimensionless)
0.
.4
.8
1.2
1.6
2.
Time in Minutes

WELL ID: EX11BL

TEST DATA:

MEASUREMENT NUMBER	TIME (HH:MM:SS)	TRANSDUCER READING (% of 25.00 Psi)	HEAD RATIO (H/HO)
1	14: 1: 0	61.12	1.0000
2	14: 1:15	58.72	0.2500
3	14: 1:30	58.12	0.0625
4	14: 1:45	57.97	0.0156
5	14: 2: 0	57.95	0.0094
6	14: 2:15	57.92	0.0010
7	14: 2:30	57.92	0.0010

STS CONSULTANTS LTD. - FIELD ENGINEERING SERVICES
SINGLE WELL HYDRAULIC CONDUCTIVITY TEST

STS JOB NO.: 12959
PROJECT/LOCATION: EXXON/CRANDON
PROJECT MANAGER: JAS
TEST TECHNICIAN: JCG
DATA ANALYST: PMB

TEST INFORMATION

TYPE: RISING HEAD METHOD: SLUG

PIEZOMETER ID: EX11BL
SCREEN LENGTH: 3.0000 feet
SLOT SIZE (est.): 0.0200 inches
STANDPIPE RADIUS: 1.0000 inches
BOREHOLE RADIUS: 3.1250 inches
GRAVEL PACK LENGTH: 7.0000 feet
GRAVEL PACK PERM.: 0.35E-01 ft./sec.
SCREEN PERMEABILITY: 0.35E-02 ft./sec.

LENGTH USED FOR CALCULATION: 7.00 ft.

THE GRAVEL LENGTH WILL BE USED FOR CALC.

SLUG LENGTH: 15.00 feet
SLUG RADIUS: 0.50 inches

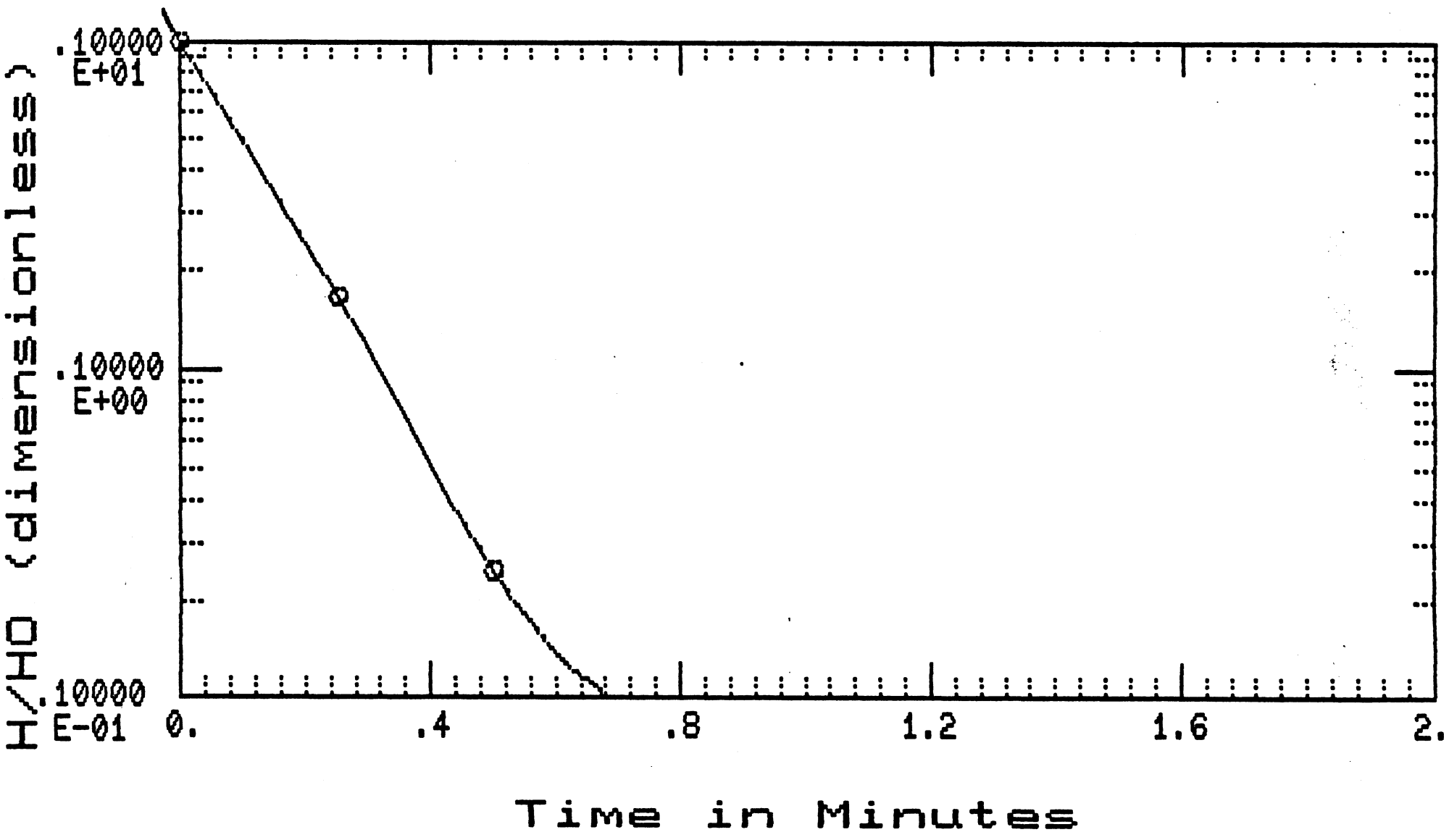
TRANSDUCER USED: 25.00 psi
INITIAL READING: 57.92% of 25.00 psi

DATA POINTS SELECTED

1. TIME: 0.00 minutes HEAD: 55.10 % of 25.00 psi
2. TIME: 0.50 minutes HEAD: 57.85 % of 25.00 psi

HYDRAULIC CONDUCTIVITY OF TEST INTERVAL:

0.61E-02 cm/sec 0.20E-03 ft/sec 0.61E-04 m/sec


WELL ID: EX11BL
.10000 E+01
.10000 E+00
.10000 E-01
H/HO (dimensionless)
0.
.4
.8
1.2
1.6
2.
Time in Minutes

WELL ID: EX11BL

TEST DATA:

MEASUREMENT NUMBER	TIME (HH:MM:SS)	TRANSDUCER READING (% of 25.00 psi)	HEAD RATIO (H/HO)
1	14: 8: 0	55.10	1.0000
2	14: 8:15	57.45	0.1667
3	14: 8:30	57.85	0.0248
4	14: 8:45	57.90	0.0071
5	14: 9: 0	57.90	0.0071
6	14: 9:15	57.90	0.0071

STS CONSULTANTS LTD. - FIELD ENGINEERING SERVICES
SINGLE WELL HYDRAULIC CONDUCTIVITY TEST

STS JOB NO.: 12959
PROJECT/LOCATION: EXXON/CRANDON
PROJECT MANAGER: JAS
TEST TECHNICIAN: JCG
DATA ANALYST: PMB

TEST INFORMATION

TYPE: FALLING HEAD METHOD: SLUG

PIEZOMETER ID: EX11BU
SCREEN LENGTH: 3.0000 feet
SLOT SIZE (est.): 0.0200 inches
STANDPIPE RADIUS: 1.0000 inches
BOREHOLE RADIUS: 3.1250 inches
GRAVEL PACK LENGTH: 7.0000 feet
GRAVEL PACK PERM.: 0.35E-01 ft./sec.
SCREEN PERMEABILITY: 0.35E-02 ft./sec.

LENGTH USED FOR CALCULATION: 7.00 ft.

THE GRAVEL LENGTH WILL BE USED FOR CALC.

SLUG LENGTH: 15.00 feet
SLUG RADIUS: 0.50 inches

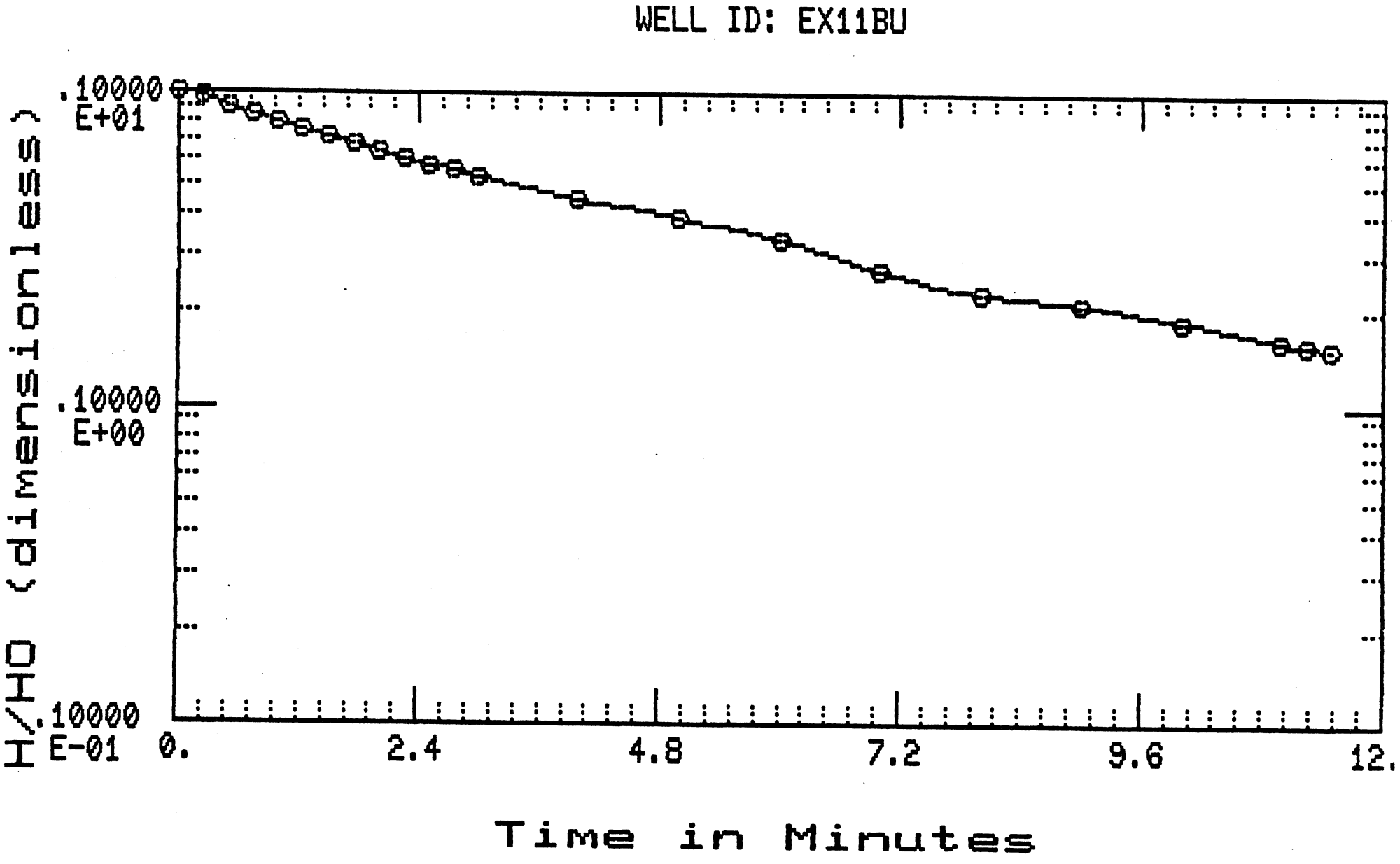
TRANSDUCER USED: 25.00 psi
INITIAL READING: 55.07% of 25.00 psi

DATA POINTS SELECTED

1. TIME: 7.00 minutes HEAD: 56.60 % of 25.00 psi
2. TIME: 11.50 minutes HEAD: 55.92 % of 25.00 psi

HYDRAULIC CONDUCTIVITY OF TEST INTERVAL:

0.11E-03 cm/sec 0.36E-05 ft/sec 0.11E-05 m/sec


WELL ID: EX11BU
.10000
E+01
.10000
E+00
.10000
E-01
H/HO (dimensionless)
0.
2.4
4.8
7.2
9.6
12.
Time in Minutes

WELL ID: EX11BU

TEST DATA:

MEASUREMENT NUMBER	TIME (HH:MM:SS)	TRANSDUCER READING (% of 25.00 psi)	HEAD RATIO (H/H0)
1	14:31: 0	60.72	1.0000
2	14:31:15	60.50	0.9611
3	14:31:30	60.15	0.8991
4	14:31:45	59.85	0.8460
5	14:32: 0	59.57	0.7965
6	14:32:15	59.32	0.7522
7	14:32:30	59.10	0.7133
8	14:32:45	58.90	0.6779
9	14:33: 0	58.70	0.6425
10	14:33:15	58.52	0.6106
11	14:33:30	58.35	0.5805
12	14:33:45	58.20	0.5540
13	14:34: 0	58.05	0.5274
14	14:35: 0	57.60	0.4478
15	14:36: 0	57.27	0.3894
16	14:37: 0	56.97	0.3363
17	14:38: 0	56.60	0.2708
18	14:39: 0	56.37	0.2301
19	14:40: 0	56.27	0.2124
20	14:41: 0	56.12	0.1858
21	14:42: 0	55.97	0.1593
22	14:42:15	55.95	0.1558
23	14:42:30	55.92	0.1504

STS CONSULTANTS LTD. - FIELD ENGINEERING SERVICES

SINGLE WELL HYDRAULIC CONDUCTIVITY TEST

STS JOB NO.: 12959
PROJECT/LOCATION: EXXON/CRANDON
PROJECT MANAGER: JAS
TEST TECHNICIAN: JCG
DATA ANALYST: PMB

TEST INFORMATION

TYPE: RISING HEAD METHOD: SLUG

PIEZOMETER ID: EX11BU
SCREEN LENGTH: 3.0000 feet
SLOT SIZE (est.): 0.0200 inches
STANDPIPE RADIUS: 1.0000 inches
BOREHOLE RADIUS: 3.1250 inches
GRAVEL PACK LENGTH: 7.0000 feet
GRAVEL PACK PERM.: 0.35E-01 ft./sec.
SCREEN PERMEABILITY: 0.35E-02 ft./sec.

LENGTH USED FOR CALCULATION: 7.00 ft.

THE GRAVEL LENGTH WILL BE USED FOR CALC.

SLUG LENGTH: 15.00 feet
SLUG RADIUS: 0.50 inches

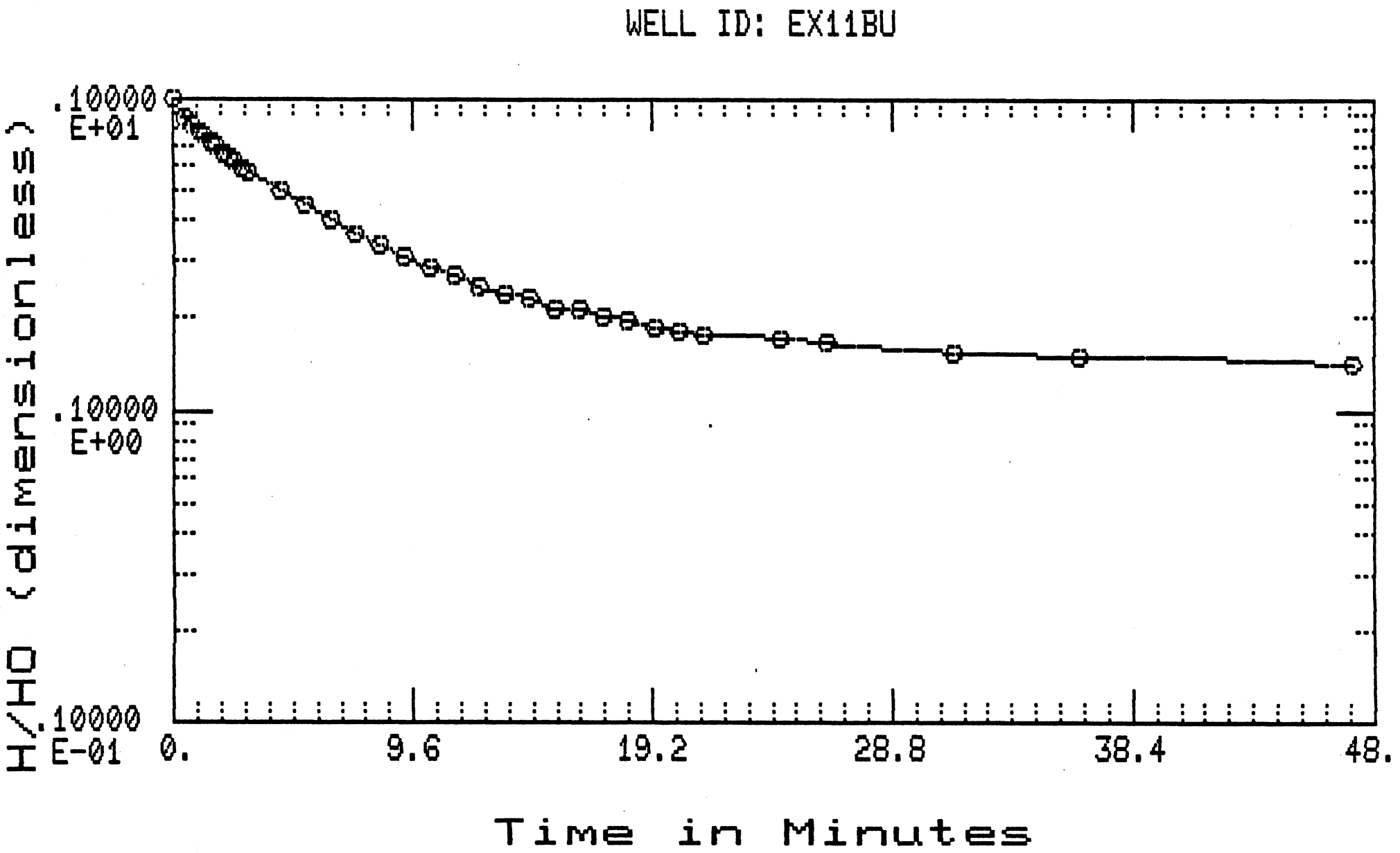
TRANSDUCER USED: 25.00 psi
INITIAL READING: 55.22% of 25.00 psi

DATA POINTS SELECTED

1. TIME: 16.25 minutes HEAD: 54.05 % of 25.00 psi
2. TIME: 22.25 minutes HEAD: 54.25 % of 25.00 psi

HYDRAULIC CONDUCTIVITY OF TEST INTERVAL:

0.26E-04 cm/sec 0.85E-06 ft/sec 0.26E-06 m/sec


WELL ID: EX11BU
.10000 E+01
.10000 E+00
.10000 E-01
H/HO (dimensionless)
0.
9.6
19.2
28.8
38.4
48.
Time in Minutes

WELL ID: EX11BU

TEST DATA:

MEASUREMENT NUMBER	TIME (HH:MM:SS)	TRANSDUCER READING (% of 0.00 psi)	HEAD RATIO (H/HO)
1	14:43:45	49.70	1.0000
2	14:43: 0	50.17	0.9149
3	14:44:15	50.47	0.8605
4	14:44:30	50.70	0.8188
5	14:44:45	50.90	0.7826
6	14:45: 0	51.07	0.7518
7	14:45:15	51.25	0.7192
8	14:45:30	51.42	0.6884
9	14:45:45	51.55	0.6649
10	14:46: 0	51.67	0.6431
11	14:46:15	51.80	0.6196
12	14:46:30	51.92	0.5978
13	14:46:45	52.02	0.5797
14	14:48: 0	52.42	0.5072
15	14:49: 0	52.72	0.4529
16	14:50: 0	52.97	0.4076
17	14:51: 0	53.20	0.3659
18	14:52: 0	53.37	0.3351
19	14:53: 0	53.52	0.3080
20	14:54: 0	53.65	0.2844
21	14:55: 0	53.75	0.2663
22	14:56: 0	53.85	0.2482
23	14:57: 0	53.92	0.2355
24	14:58: 0	53.97	0.2264
25	14:59: 0	54.05	0.2120
26	15: 0: 0	54.07	0.2083
27	15: 1: 0	54.12	0.1993
28	15: 2: 0	54.15	0.1938
29	15: 3: 0	54.20	0.1848
30	15: 4: 0	54.22	0.1812
31	15: 5: 0	54.25	0.1757
32	15: 8: 0	54.27	0.1721
33	15:10: 0	54.32	0.1630
34	15:15: 0	54.37	0.1540
35	15:20: 0	54.40	0.1486
36	15:31: 0	54.45	0.1395

STS CONSULTANTS LTD. - FIELD ENGINEERING SERVICES

SINGLE WELL HYDRAULIC CONDUCTIVITY TEST

STS JOB NO.: 12959
PROJECT/LOCATION: EXXON/CRANDON
PROJECT MANAGER: JAS
TEST TECHNICIAN: JCG
DATA ANALYST: PMB

TEST INFORMATION

TYPE: FALLING HEAD METHOD: SLUG

PIEZOMETER ID: EX12AL
SCREEN LENGTH: 3.0000 feet
SLOT SIZE (est.): 0.0200 inches
STANDPIPE RADIUS: 1.0000 inches
BOREHOLE RADIUS: 3.1250 inches
GRAVEL PACK LENGTH: 7.0000 feet
GRAVEL PACK PERM.: 0.35E-01 ft./sec.
SCREEN PERMEABILITY: 0.35E-02 ft./sec.

LENGTH USED FOR CALCULATION: 7.00 ft.

THE GRAVEL LENGTH WILL BE USED FOR CALC.

SLUG LENGTH: 20.00 feet
SLUG RADIUS: 0.50 inches

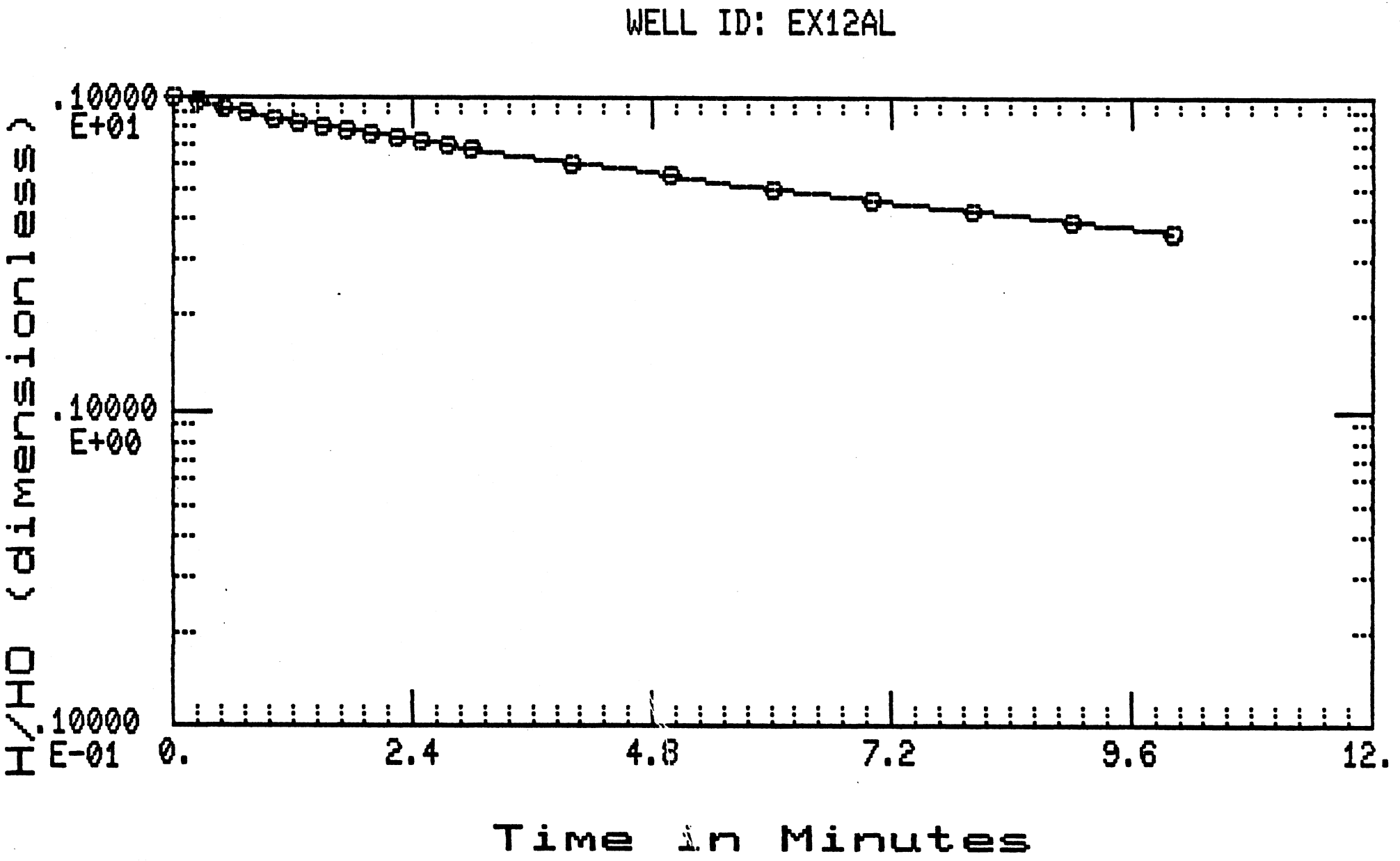
TRANSDUCER USED: 25.00 psi
INITIAL READING: 55.07% of 25.00 psi

DATA POINTS SELECTED

1. TIME: 6.00 minutes HEAD: 59.15 % of 25.00 psi
2. TIME: 10.00 minutes HEAD: 58.00 % of 25.00 psi

HYDRAULIC CONDUCTIVITY OF TEST INTERVAL:

0.69E-04 cm/sec 0.23E-05 ft/sec 0.69E-06 m/sec


WELL ID: EX12AL
.10000 E+01
.10000 E+00
.10000 E-01
H/HO (dimensionless)
0.
2.4
4.8
7.2
9.6
12.
Time in Minutes

WELL ID: EX12AL

TEST DATA:

MEASUREMENT NUMBER	TIME (HH:MM:SS)	TRANSDUCER READING (% of 25.00 psi)	HEAD RATIO (H/HO)
1	14: 4: 0	63.10	1.0000
2	14: 4:15	62.77	0.9589
3	14: 4:30	62.45	0.9191
4	14: 4:45	62.17	0.8842
5	14: 5: 0	61.92	0.8531
6	14: 5:15	61.67	0.8219
7	14: 5:30	61.45	0.7945
8	14: 5:45	61.30	0.7758
9	14: 6: 0	61.12	0.7534
10	14: 6:15	60.95	0.7323
11	14: 6:30	60.80	0.7136
12	14: 6:45	60.65	0.6949
13	14: 7: 0	60.50	0.6762
14	14: 8: 0	59.97	0.6102
15	14: 9: 0	59.52	0.5542
16	14:10: 0	59.15	0.5081
17	14:11: 0	58.82	0.4670
18	14:12: 0	58.52	0.4296
19	14:13: 0	58.25	0.3960
20	14:14: 0	58.00	0.3649

TEST DATE 4/11/84

STS CONSULTANTS LTD. - FIELD ENGINEERING SERVICES
SINGLE WELL HYDRAULIC CONDUCTIVITY TEST

STS JOB NO.: 12959
PROJECT/LOCATION: EXXON/CRANDON
PROJECT MANAGER: JAS
TEST TECHNICIAN: JCG
DATA ANALYST: PMB

TEST INFORMATION

TYPE: RISING HEAD METHOD: SLUG

PIEZOMETER ID: EX12AL
SCREEN LENGTH: 3.0000 feet
SLOT SIZE (est.): 0.0200 inches
STANDPIPE RADIUS: 1.0000 inches
BOREHOLE RADIUS: 3.1250 inches
GRAVEL PACK LENGTH: 7.0000 feet
GRAVEL PACK PERM.: 0.35E-01 ft./sec.
SCREEN PERMEABILITY: 0.35E-02 ft./sec.

LENGTH USED FOR CALCULATION: 7.00 ft.

THE GRAVEL LENGTH WILL BE USED FOR CALC.

SLUG LENGTH: 20.00 feet
SLUG RADIUS: 0.50 inches

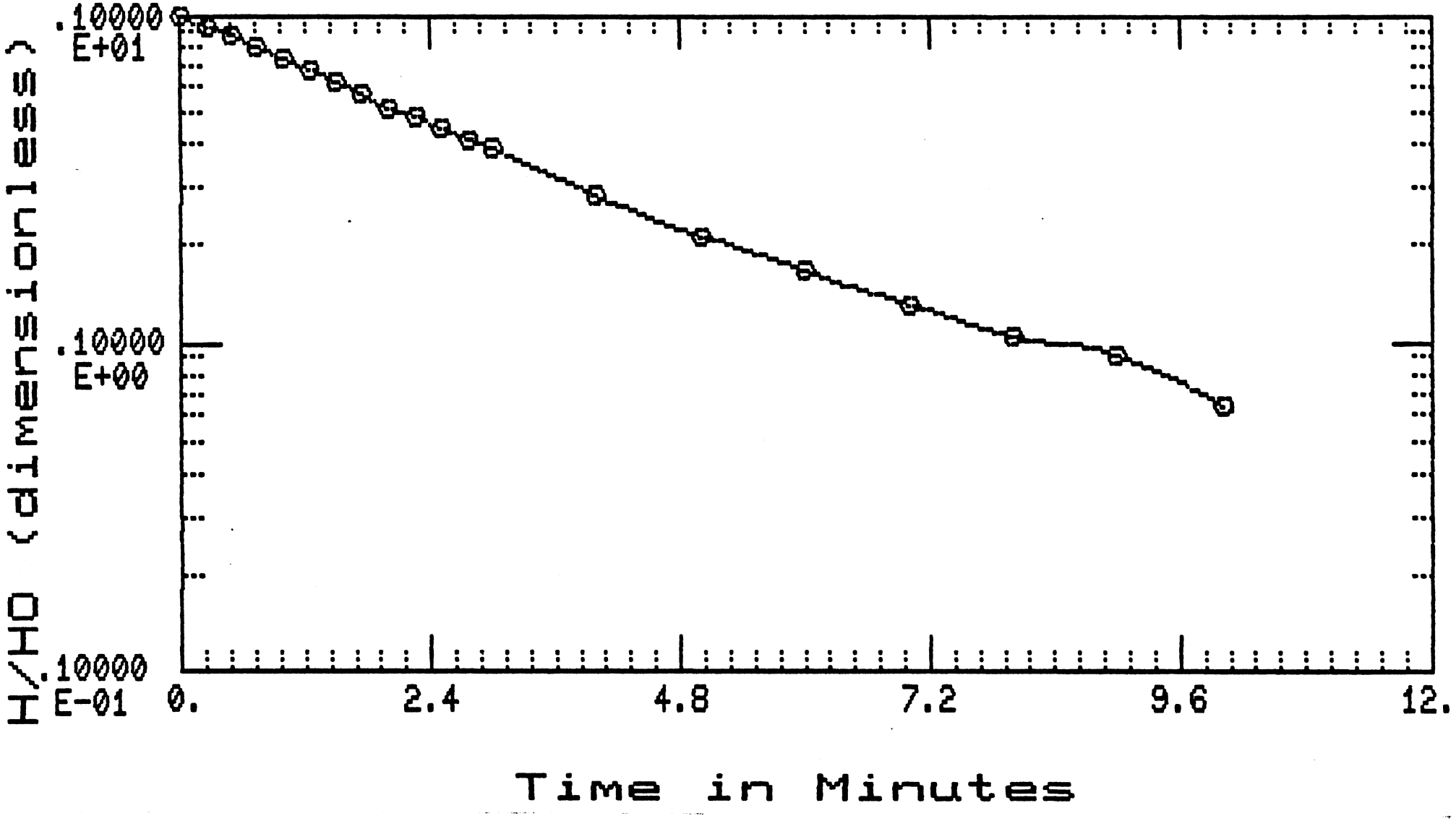
TRANSDUCER USED: 25.00 psi
INITIAL READING: 55.07% of 25.00 psi

DATA POINTS SELECTED

1. TIME: 5.00 minutes HEAD: 53.85 % of 25.00 psi
2. TIME: 10.00 minutes HEAD: 54.70 % of 25.00 psi

HYDRAULIC CONDUCTIVITY OF TEST INTERVAL:

0.20E-03 cm/sec 0.65E-05 ft/sec 0.20E-05 m/sec


WELL ID: EX12AL
.10000 E+01
.10000 E+00
.10000 E-01
H/HO (dimensionless)
0.
2.4
4.8
7.2
9.6
12.
Time in Minutes

WELL ID: EX12AL

TEST DATA:

MEASUREMENT NUMBER	TIME (HH:MM:SS)	TRANSDUCER READING (% of 25.00 psi)	HEAD RATIO (H/HO)
1	14:15: 0	49.30	1.0000
2	14:15:15	49.75	0.9220
3	14:15:30	50.12	0.8579
4	14:15:45	50.50	0.7920
5	14:16: 0	50.87	0.7279
6	14:16:15	51.15	0.6794
7	14:16:30	51.47	0.6239
8	14:16:45	51.75	0.5754
9	14:17: 0	52.05	0.5234
10	14:17:15	52.22	0.4939
11	14:17:30	52.45	0.4541
12	14:17:45	52.65	0.4194
13	14:18: 0	52.82	0.3899
14	14:19: 0	53.45	0.2808
15	14:20: 0	53.85	0.2114
16	14:21: 0	54.12	0.1646
17	14:22: 0	54.32	0.1300
18	14:23: 0	54.47	0.1040
19	14:24: 0	54.55	0.0901
20	14:25: 0	54.70	0.0641

TEST DATE 5/30/84

STS CONSULTANTS LTD. - FIELD ENGINEERING SERVICES
SINGLE WELL HYDRAULIC CONDUCTIVITY TEST

STS JOB NO.: 12959
PROJECT/LOCATION: EXXON CRANDON
PROJECT MANAGER: JAS
TEST TECHNICIAN: JLG
DATA ANALYST: JAS

TEST INFORMATION

TYPE: FALLING HEAD METHOD: SLUG

PIEZOMETER ID: EX 12AU
SCREEN LENGTH: 3.0000 feet
SLOT SIZE (est.): 0.0200 inches
STANDPIPE RADIUS: 1.0000 inches
BOREHOLE RADIUS: 3.1250 inches
GRAVEL PACK LENGTH: 10.0000 feet
GRAVEL PACK PERM.: 0.35E-01 ft./sec.
SCREEN PERMEABILITY: 0.35E-02 ft./sec.

LENGTH USED FOR CALCULATION: 10.00 ft.

THE GRAVEL LENGTH WILL BE USED FOR CALC.

SLUG LENGTH: 15.00 feet
SLUG RADIUS: 0.50 inches

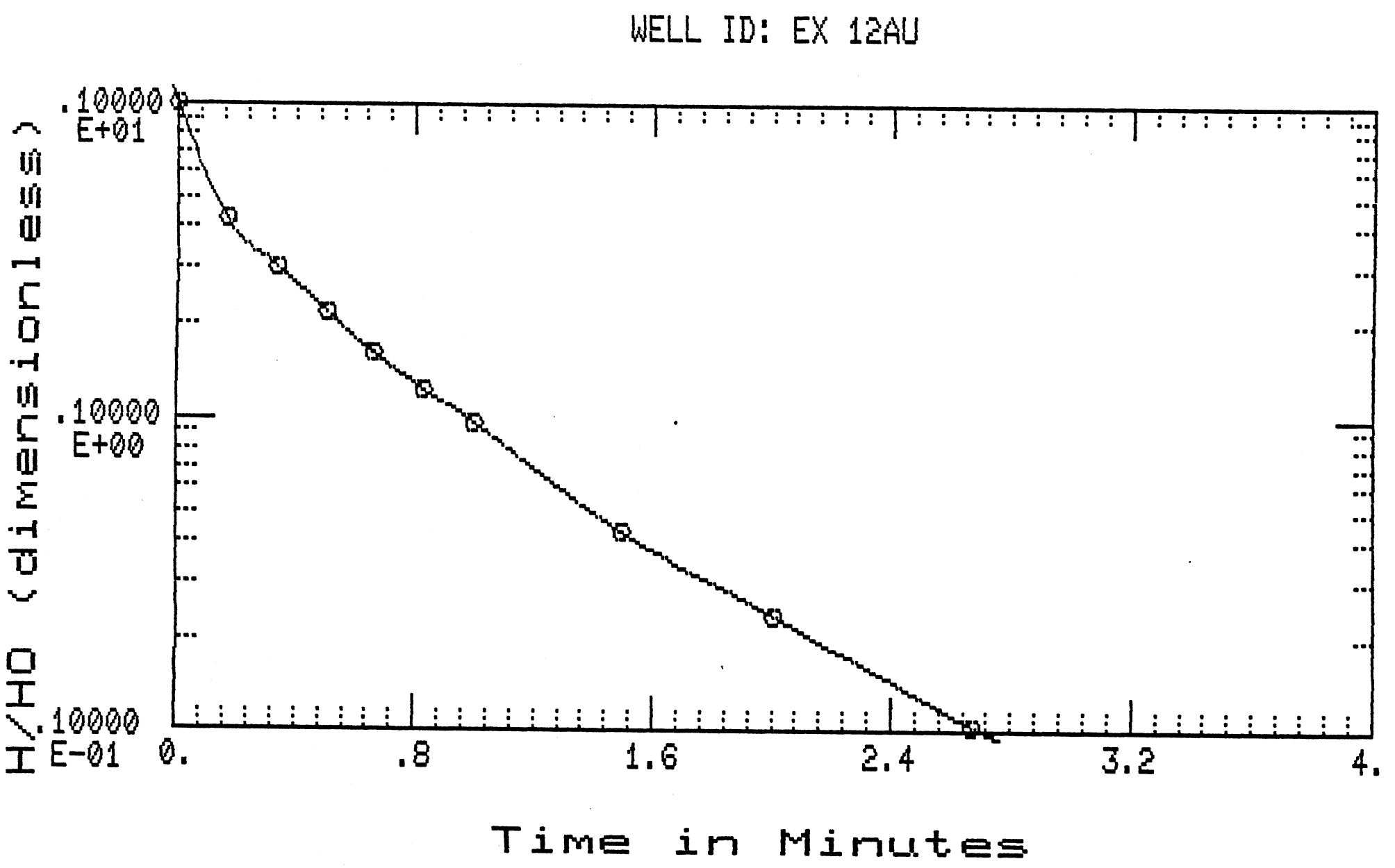
TRANSDUCER USED: 25.00 psi
INITIAL READING: 52.22% of 25.00 psi

DATA POINTS SELECTED

1. TIME: 0.17 minutes HEAD: 55.50 % of 25.00 psi
2. TIME: 1.50 minutes HEAD: 52.55 % of 25.00 psi

HYDRAULIC CONDUCTIVITY OF TEST INTERVAL:

0.11E-02 cm/sec 0.36E-04 ft/sec 0.11E-04 m/sec


WELL ID: EX 12AU
.10000 E+01
.10000 E+00
.10000 E-01
H/HO (dimensionless)
0.
.8
1.6
2.4
3.2
4.
Time in Minutes

WELL ID: EX 12AU

TEST DATA:

MEASUREMENT NUMBER	TIME (HH:MM:SS)	TRANSDUCER READING (% of 25.00 psi)	HEAD RATIO (H/HO)
1	16:12: 0	59.87	1.0000
2	16:12:10	55.50	0.4288
3	16:12:19	54.52	0.3007
4	16:12:30	53.90	0.2196
5	16:12:40	53.45	0.1608
6	16:12:49	53.15	0.1216
7	16:13: 0	52.95	0.0954
8	16:13:30	52.55	0.0431
9	16:14: 0	52.40	0.0235
10	16:14:40	52.30	0.0105
11	16:15:49	52.25	0.0039

STS CONSULTANTS LTD. - FIELD ENGINEERING SERVICES
SINGLE WELL HYDRAULIC CONDUCTIVITY TEST

STS JOB NO.: 12959
PROJECT/LOCATION: EXXON CRANDON
PROJECT MANAGER: JAS
TEST TECHNICIAN: JLG
DATA ANALYST: JAS

TEST INFORMATION

TYPE: RISING HEAD METHOD: SLUG

PIEZOMETER ID: EX 12AU
SCREEN LENGTH: 3.0000 feet
SLOT SIZE (est.): 0.0200 inches
STANDPIPE RADIUS: 1.0000 inches
BOREHOLE RADIUS: 3.1250 inches
GRAVEL PACK LENGTH: 10.0000 feet
GRAVEL PACK PERM.: 0.35E-01 ft./sec.
SCREEN PERMEABILITY: 0.35E-02 ft./sec.

LENGTH USED FOR CALCULATION: 10.00 ft.

THE GRAVEL LENGTH WILL BE USED FOR CALC.

SLUG LENGTH: 15.00 feet
SLUG RADIUS: 0.50 inches

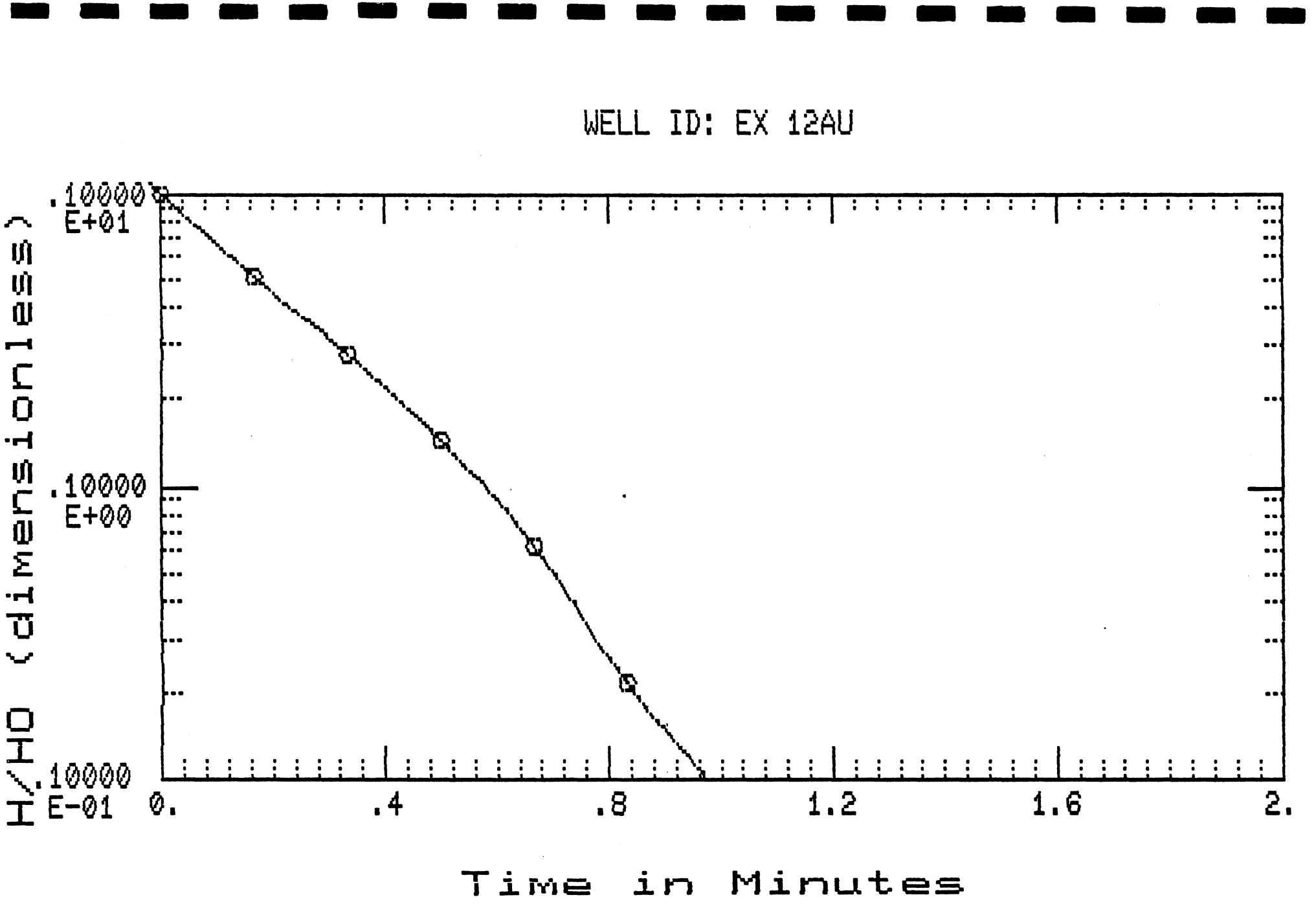
TRANSDUCER USED: 25.00 psi
INITIAL READING: 52.22% of 25.00 psi

DATA POINTS SELECTED

1. TIME: 0.17 minutes HEAD: 49.35 % of 25.00 psi
2. TIME: 0.67 minutes HEAD: 51.87 % of 25.00 psi

HYDRAULIC CONDUCTIVITY OF TEST INTERVAL:

0.27E-02 cm/sec 0.89E-04 ft/sec 0.27E-04 m/sec


WELL ID: EX 12AU
.10000
E+01
.10000
E+00
.10000
E-01
H/HO (dimensionless)
0.
.4
.8
1.2
1.6
2.
Time in Minutes

WELL ID: EX 12AU

TEST DATA:

MEASUREMENT NUMBER	TIME (HH:MM:SS)	TRANSDUCER READING (% of 25.00 psi)	HEAD RATIO (H/HO)
1	16:16: 0	46.62	1.0000
2	16:16:10	49.35	0.5125
3	16:16:19	50.67	0.2768
4	16:16:30	51.42	0.1429
5	16:16:40	51.87	0.0625
6	16:16:49	52.10	0.0214
7	16:17: 0	52.17	0.0089
8	16:17:10	52.18	0.0071
9	16:17:19	52.20	0.0036
10	16:17:30	52.22	0.0010

STS CONSULTANTS LTD. - FIELD ENGINEERING SERVICES

SINGLE WELL HYDRAULIC CONDUCTIVITY TEST

STS JOB NO.: 12959
PROJECT/LOCATION: EXXON/CRANDON
PROJECT MANAGER: JAS
TEST TECHNICIAN: JCG
DATA ANALYST: PMB

TEST INFORMATION

TYPE: FALLING HEAD METHOD: SLUG

PIEZOMETER ID: EX12BL
SCREEN LENGTH: 3.0000 feet
SLOT SIZE (est.): 0.0200 inches
STANDPIPE RADIUS: 1.0000 inches
BOREHOLE RADIUS: 3.1250 inches
GRAVEL PACK LENGTH: 7.0000 feet
GRAVEL PACK PERM.: 0.35E-01 ft./sec.
SCREEN PERMEABILITY: 0.35E-02 ft./sec.

LENGTH USED FOR CALCULATION: 7.00 ft.

THE GRAVEL LENGTH WILL BE USED FOR CALC.

SLUG LENGTH: 20.00 feet
SLUG RADIUS: 0.50 inches

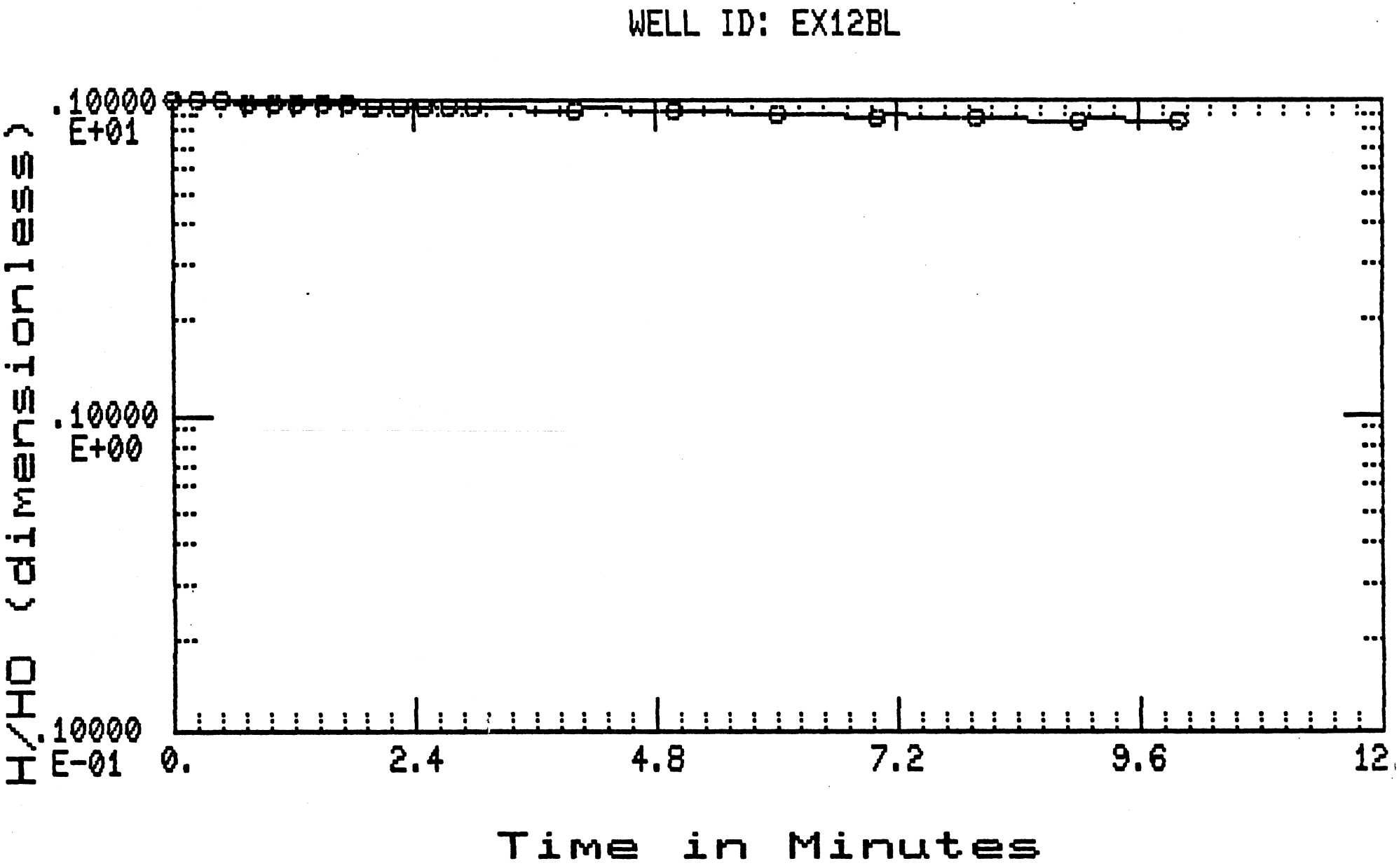
TRANSDUCER USED: 25.00 psi
INITIAL READING: 49.50% of 25.00 psi

DATA POINTS SELECTED

1. TIME: 0.00 minutes HEAD: 57.45 % of 25.00 psi
2. TIME: 10.00 minutes HEAD: 56.17 % of 25.00 psi

HYDRAULIC CONDUCTIVITY OF TEST INTERVAL:

0.15E-04 cm/sec 0.48E-06 ft/sec 0.15E-06 m/sec


WELL ID: EX12BL
.10000 E+01
.10000 E+00
.10000 E-01
H/HO (dimensionless)
0.
2.4
4.8
7.2
9.6
12
Time in Minutes

WELL ID: EX12BL

TEST DATA:

MEASUREMENT NUMBER	TIME (HH:MM:SS)	TRANSDUCER READING (% of 25.00 psi)	HEAD RATIO (H/HO)
1	12: 8: 0	57.45	1.0000
2	12: 8:15	57.37	0.9899
3	12: 8:30	57.30	0.9811
4	12: 8:45	57.25	0.9748
5	12: 9: 0	57.20	0.9686
6	12: 9:15	57.15	0.9623
7	12: 9:30	57.12	0.9585
8	12: 9:45	57.07	0.9522
9	12:10: 0	57.02	0.9459
10	12:10:15	57.00	0.9434
11	12:10:30	56.97	0.9396
12	12:10:45	56.95	0.9371
13	12:11: 0	56.90	0.9308
14	12:12: 0	56.80	0.9182
15	12:13: 0	56.70	0.9057
16	12:14: 0	56.60	0.8931
17	12:15: 0	56.45	0.8742
18	12:16: 0	56.35	0.8616
19	12:17: 0	56.22	0.8453
20	12:18: 0	56.17	0.8390

STS CONSULTANTS LTD. - FIELD ENGINEERING SERVICES
SINGLE WELL HYDRAULIC CONDUCTIVITY TEST

STS JOB NO.: 12959
PROJECT/LOCATION: EXXON/CRANDON
PROJECT MANAGER: JAS
TEST TECHNICIAN: JCG
DATA ANALYST: PMB

TEST INFORMATION

TYPE: RISING HEAD METHOD: SLUG

PIEZOMETER ID: EX12BL
SCREEN LENGTH: 3.0000 feet
SLOT SIZE (est.): 0.0200 inches
STANDPIPE RADIUS: 1.0000 inches
BOREHOLE RADIUS: 3.1250 inches
GRAVEL PACK LENGTH: 7.0000 feet
GRAVEL PACK PERM.: 0.35E-01 ft./sec.
SCREEN PERMEABILITY: 0.35E-02 ft./sec.

LENGTH USED FOR CALCULATION: 7.00 ft.

THE GRAVEL LENGTH WILL BE USED FOR CALC.

SLUG LENGTH: 20.00 feet
SLUG RADIUS: 0.50 inches

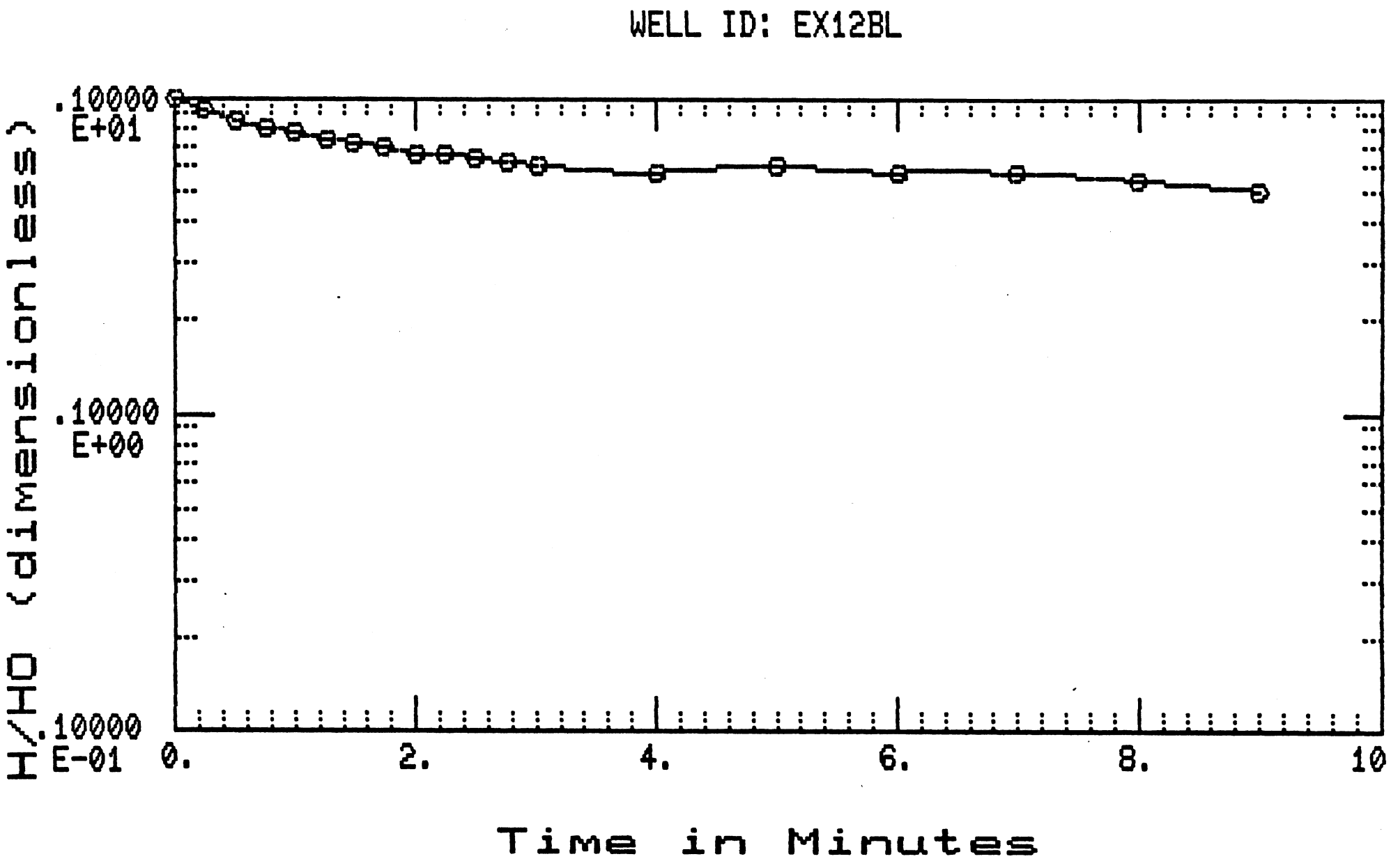
TRANSDUCER USED: 25.00 psi
INITIAL READING: 49.50% of 25.00 psi

DATA POINTS SELECTED

1. TIME: 7.00 minutes HEAD: 48.47 % of 25.00 psi
2. TIME: 9.00 minutes HEAD: 48.60 % of 25.00 psi

HYDRAULIC CONDUCTIVITY OF TEST INTERVAL:

0.56E-04 cm/sec 0.18E-05 ft/sec 0.56E-06 m/sec


WELL ID: EX12BL
.10000 E+01
.10000 E+00
.10000 E-01
H/HO (dimensionless)
0.
2.
4.
6.
8.
10.
Time in Minutes

WELL ID: EX12BL

TEST DATA:

MEASUREMENT NUMBER	TIME (HH:MM:SS)	TRANSDUCER READING (% of 25.00 psi)	HEAD RATIO (H/HO)
1	12:19: 0	47.70	1.0000
2	12:19:15	47.87	0.9056
3	12:19:30	47.97	0.8500
4	12:19:45	48.05	0.8056
5	12:20: 0	48.12	0.7667
6	12:20:15	48.17	0.7389
7	12:20:30	48.22	0.7111
8	12:20:45	48.25	0.6944
9	12:21: 0	48.30	0.6667
10	12:21:15	48.32	0.6556
11	12:21:30	48.35	0.6389
12	12:21:45	48.37	0.6278
13	12:22: 0	48.40	0.6111
14	12:23: 0	48.45	0.5833
15	12:24: 0	48.42	0.6000
16	12:25: 0	48.45	0.5833
17	12:26: 0	48.47	0.5722
18	12:27: 0	48.52	0.5444
19	12:28: 0	48.60	0.5000

STS CONSULTANTS LTD. - FIELD ENGINEERING SERVICES

SINGLE WELL HYDRAULIC CONDUCTIVITY TEST

STS JOB NO.: 12959
PROJECT/LOCATION: EXXON/CRANDON
PROJECT MANAGER: JAS
TEST TECHNICIAN: JCG
DATA ANALYST: PMB/JRT

TEST INFORMATION

TYPE: FALLING HEAD METHOD: SLUG

PIEZOMETER ID: EX13AL
SCREEN LENGTH: 3.0000 feet
SLOT SIZE (est.): 0.0200 inches
STANDPIPE RADIUS: 1.0000 inches
BOREHOLE RADIUS: 3.1250 inches
GRAVEL PACK LENGTH: 9.0000 feet
GRAVEL PACK PERM.: 0.35E-01 ft./sec.
SCREEN PERMEABILITY: 0.35E-02 ft./sec.

LENGTH USED FOR CALCULATION: 9.00 ft.

THE GRAVEL LENGTH WILL BE USED FOR CALC.

SLUG LENGTH: 15.00 feet
SLUG RADIUS: 0.50 inches

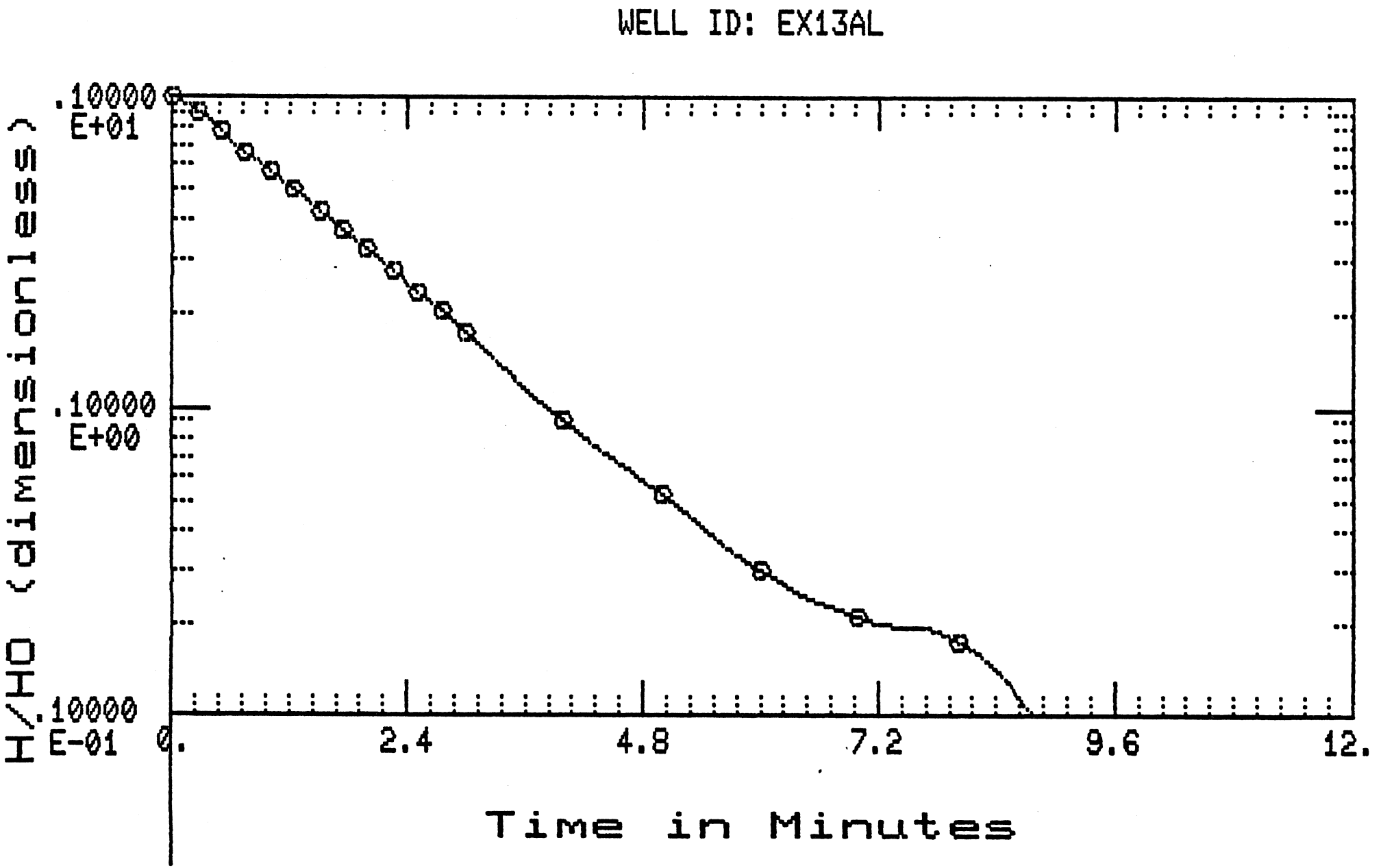
TRANSDUCER USED: 25.00 psi
INITIAL READING: 42.90% of 25.00 psi

DATA POINTS SELECTED

1. TIME: 0.25 minutes HEAD: 48.05 % of 25.00 psi
2. TIME: 2.75 minutes HEAD: 44.07 % of 25.00 psi

HYDRAULIC CONDUCTIVITY OF TEST INTERVAL:

0.41E-03 cm/sec 0.14E-04 ft/sec 0.41E-05 m/sec


WELL ID: EX13AL
.10000
E+01
.10000
E+00
.10000
E-01
H/HO (dimensionless)
0.
2.4
4.8
7.2
9.6
12.
Time in Minutes

WELL ID: EX13AL

TEST DATA:

MEASUREMENT NUMBER	TIME (HH:MM:SS)	TRANSDUCER READING (% of 25.00 psi)	HEAD RATIO (H/H0)
1	13:11: 0	48.65	1.0000
2	13:11:15	48.05	0.8957
3	13:11:30	47.40	0.7826
4	13:11:45	46.72	0.6643
5	13:12: 0	46.22	0.5774
6	13:12:15	45.77	0.4991
7	13:12:30	45.37	0.4296
8	13:12:45	45.02	0.3687
9	13:13: 0	44.77	0.3252
10	13:13:15	44.50	0.2783
11	13:13:30	44.27	0.2383
12	13:13:45	44.07	0.2035
13	13:14: 0	43.90	0.1739
14	13:15: 0	43.42	0.0904
15	13:16: 0	43.20	0.0522
16	13:17: 0	43.07	0.0296
17	13:18: 0	43.02	0.0209
18	13:19: 0	43.00	0.0174
19	13:20: 0	42.95	0.0087
20	13:21: 0	42.95	0.0087
21	13:22: 0	42.92	0.0035
22	13:22:45	42.92	0.0035

STS CONSULTANTS LTD. - FIELD ENGINEERING SERVICES

SINGLE WELL HYDRAULIC CONDUCTIVITY TEST

STS JOB NO.: 12959
PROJECT/LOCATION: EXXON/CRANDON
PROJECT MANAGER: JAS
TEST TECHNICIAN: JCG
DATA ANALYST: PMB/JRT

TEST INFORMATION

TYPE: RISING HEAD METHOD: SLUG

PIEZOMETER ID: EX13AL
SCREEN LENGTH: 3.0000 feet
SLOT SIZE (est.): 0.0200 inches
STANDPIPE RADIUS: 1.0000 inches
BOREHOLE RADIUS: 3.1250 inches
GRAVEL PACK LENGTH: 9.0000 feet
GRAVEL PACK PERM.: 0.35E-01 ft./sec.
SCREEN PERMEABILITY: 0.35E-02 ft./sec.

LENGTH USED FOR CALCULATION: 9.00 ft.

THE GRAVEL LENGTH WILL BE USED FOR CALC.

SLUG LENGTH: 15.00 feet
SLUG RADIUS: 0.50 inches

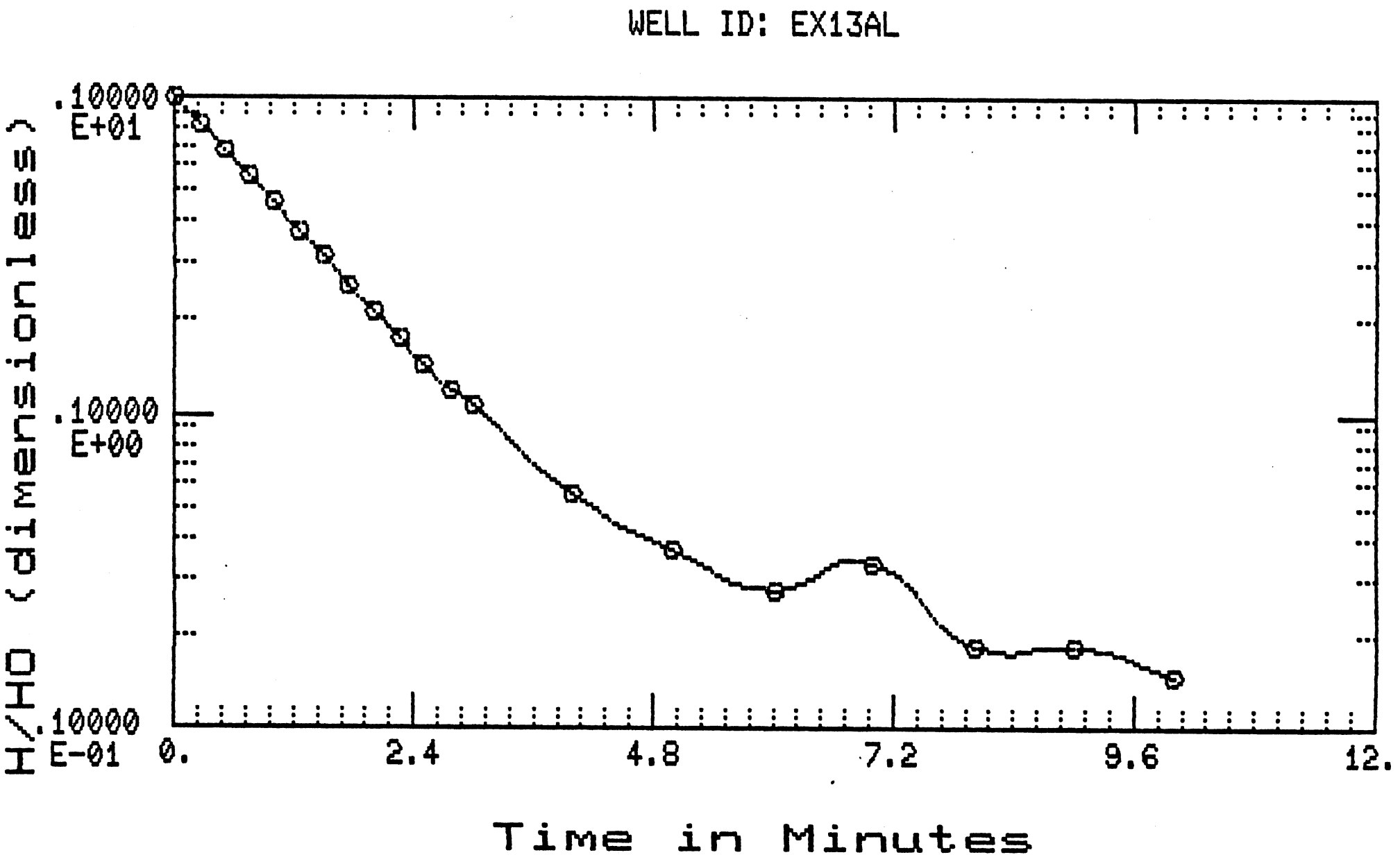
TRANSDUCER USED: 25.00 psi
INITIAL READING: 42.90% of 25.00 psi

DATA POINTS SELECTED

1. TIME: 0.00 minutes HEAD: 37.47 % of 25.00 psi
2. TIME: 2.75 minutes HEAD: 42.25 % of 25.00 psi

HYDRAULIC CONDUCTIVITY OF TEST INTERVAL:

0.54E-03 cm/sec 0.18E-04 ft/sec 0.54E-05 m/sec


WELL ID: EX13AL
.10000 E+01
.10000 E+00
.10000 E-01
H/HO (dimensionless)
0.
2.4
4.8
7.2
9.6
12.
Time in Minutes

WELL ID: EX13AL

TEST DATA:

MEASUREMENT NUMBER	TIME (HH:MM:SS)	TRANSDUCER READING (% of 25.00 psi)	HEAD RATIO (H/HO)
1	13:23: 0	37.47	1.0000
2	13:23:15	38.42	0.8250
3	13:23:30	39.20	0.6814
4	13:23:45	39.85	0.5617
5	13:24: 0	40.40	0.4604
6	13:24:15	40.85	0.3775
7	13:24:30	41.20	0.3131
8	13:24:45	41.52	0.2541
9	13:25: 0	41.75	0.2118
10	13:25:15	41.95	0.1750
11	13:25:30	42.12	0.1436
12	13:25:45	42.25	0.1197
13	13:26: 0	42.32	0.1068
14	13:27: 0	42.60	0.0552
15	13:28: 0	42.70	0.0368
16	13:29: 0	42.75	0.0276
17	13:30: 0	42.72	0.0331
18	13:31: 0	42.80	0.0184
19	13:32: 0	42.80	0.0184
20	13:33: 0	42.82	0.0147

STS CONSULTANTS LTD. - FIELD ENGINEERING SERVICES

SINGLE WELL HYDRAULIC CONDUCTIVITY TEST

STS JOB NO.: 12959
PROJECT/LOCATION: EXXON CRANDON
PROJECT MANAGER: JAS
TEST TECHNICIAN: JLG
DATA ANALYST: JAS

TEST INFORMATION

TYPE: FALLING HEAD METHOD: SLUG

PIEZOMETER ID: EX 13BL
SCREEN LENGTH: 3.0000 feet
SLOT SIZE (est.): 0.0200 inches
STANDPIPE RADIUS: 1.0000 inches
BOREHOLE RADIUS: 3.1250 inches
GRAVEL PACK LENGTH: 7.0000 feet
GRAVEL PACK PERM.: 0.35E-01 ft./sec.
SCREEN PERMEABILITY: 0.35E-02 ft./sec.

LENGTH USED FOR CALCULATION: 7.00 ft.

THE GRAVEL LENGTH WILL BE USED FOR CALC.

SLUG LENGTH: 15.00 feet
SLUG RADIUS: 0.50 inches

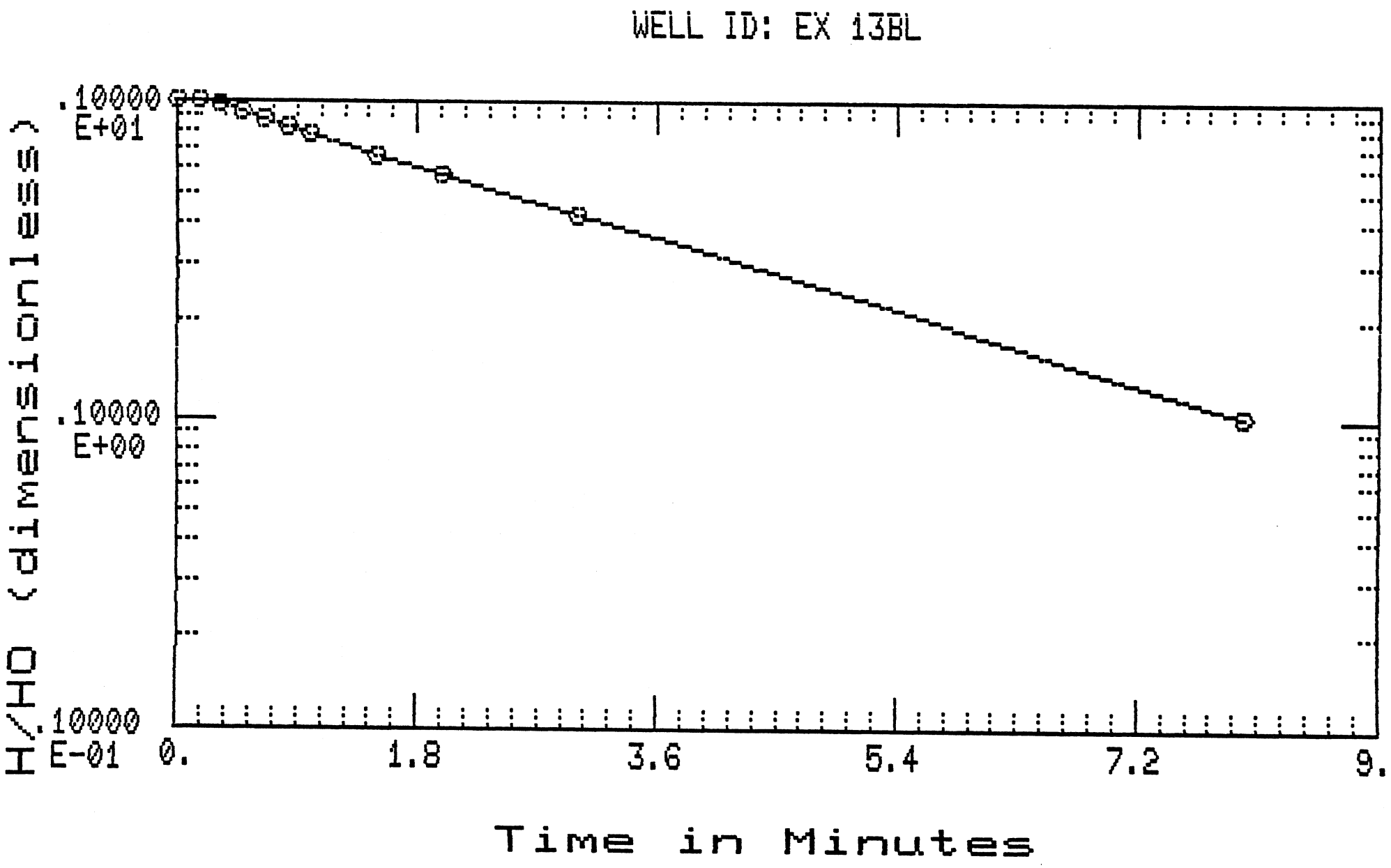
TRANSDUCER USED: 25.00 psi
INITIAL READING: 44.50% of 25.00 psi

DATA POINTS SELECTED

1. TIME: 1.00 minutes HEAD: 48.77 % of 25.00 psi
2. TIME: 8.00 minutes HEAD: 45.05 % of 25.00 psi

HYDRAULIC CONDUCTIVITY OF TEST INTERVAL:

0.24E-03 cm/sec 0.80E-05 ft/sec 0.24E-05 m/sec


WELL ID: EX 13BL
.10000 E+01
.10000 E+00
.10000 E-01
H/HO (dimensionless)
0.
1.8
3.6
5.4
7.2
9.
Time in Minutes

WELL ID: EX 13BL

TEST DATA:

MEASUREMENT NUMBER	TIME (HH:MM:SS)	TRANSDUCER READING (% of 25.00 psi)	HEAD RATIO (H/HO)
1	14:57: 0	49.97	1.0000
2	14:57:10	49.95	0.9963
3	14:57:19	49.72	0.9543
4	14:57:30	49.45	0.9049
5	14:57:40	49.22	0.8629
6	14:57:49	49.00	0.8227
7	14:58: 0	48.77	0.7806
8	14:58:30	48.15	0.6673
9	14:59: 0	47.65	0.5759
10	15: 0: 0	46.85	0.4296
11	15: 5: 0	45.05	0.1005

TEST DATE 5/31/84

STS CONSULTANTS LTD. - FIELD ENGINEERING SERVICES
SINGLE WELL HYDRAULIC CONDUCTIVITY TEST

STS JOB NO.: 12959
PROJECT/LOCATION: EXXON CRANDON
PROJECT MANAGER: JAS
TEST TECHNICIAN: JLG
DATA ANALYST: JAS

TEST INFORMATION

TYPE: RISING HEAD METHOD: SLUG

PIEZOMETER ID: EX 13BL
SCREEN LENGTH: 3.0000 feet
SLOT SIZE (est.): 0.0200 inches
STANDPIPE RADIUS: 1.0000 inches
BOREHOLE RADIUS: 3.1250 inches
GRAVEL PACK LENGTH: 7.0000 feet
GRAVEL PACK PERM.: 0.35E-01 ft./sec.
SCREEN PERMEABILITY: 0.35E-02 ft./sec.

LENGTH USED FOR CALCULATION: 7.00 ft.

THE GRAVEL LENGTH WILL BE USED FOR CALC.

SLUG LENGTH: 15.00 feet
SLUG RADIUS: 0.50 inches

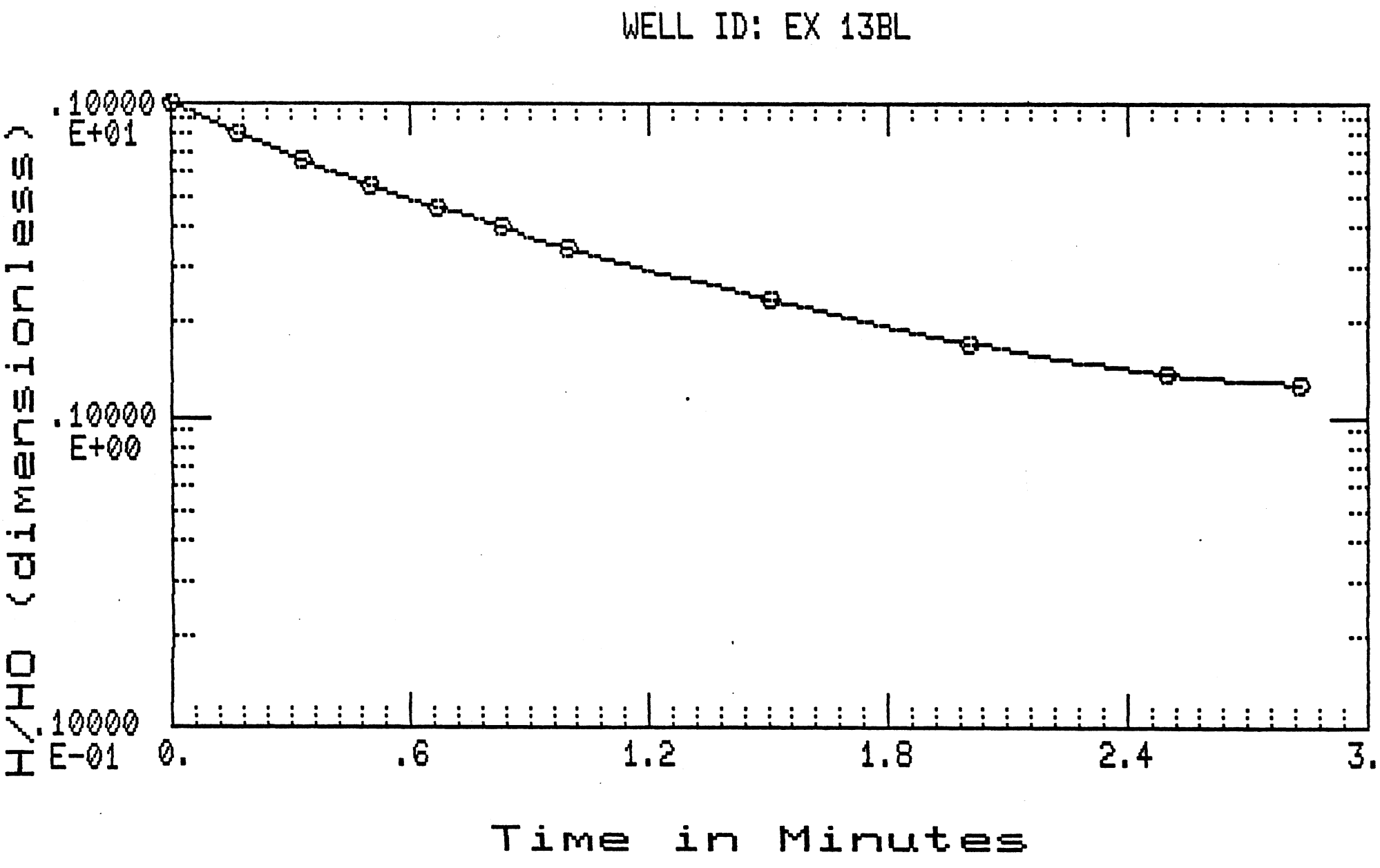
TRANSDUCER USED: 25.00 psi
INITIAL READING: 44.50% of 25.00 psi

DATA POINTS SELECTED

1. TIME: 0.33 minutes HEAD: 41.70 % of 25.00 psi
2. TIME: 1.00 minutes HEAD: 43.05 % of 25.00 psi

HYDRAULIC CONDUCTIVITY OF TEST INTERVAL:

0.82E-03 cm/sec 0.27E-04 ft/sec 0.82E-05 m/sec


WELL ID: EX 13BL
.10000 E+01
.10000 E+00
.10000 E-01
H/HO (dimensionless)
0.
.6
1.2
1.8
2.4
3.
Time in Minutes

WELL ID: EX 13BL

TEST DATA:

MEASUREMENT NUMBER	TIME (HH:MM:SS)	TRANSDUCER READING (% of 25.00 psi)	HEAD RATIO (H/HO)
1	15: 6: 0	40.25	1.0000
2	15: 6:10	41.10	0.8000
3	15: 6:19	41.70	0.6588
4	15: 6:30	42.17	0.5482
5	15: 6:40	42.52	0.4659
6	15: 6:49	42.80	0.4000
7	15: 7: 0	43.05	0.3412
8	15: 7:30	43.50	0.2353
9	15: 8: 0	43.77	0.1718
10	15: 8:30	43.92	0.1365
11	15: 8:49	43.97	0.1247

STS CONSULTANTS LTD. - FIELD ENGINEERING SERVICES
SINGLE WELL HYDRAULIC CONDUCTIVITY TEST

STS JOB NO.: 12959
PROJECT/LOCATION: EXXON CRANDON
PROJECT MANAGER: JAS
TEST TECHNICIAN: JLG
DATA ANALYST: JAS

TEST INFORMATION

TYPE: FALLING HEAD METHOD: SLUG

PIEZOMETER ID: EX 13BU
SCREEN LENGTH: 3.0000 feet
SLOT SIZE (est.): 0.0200 inches
STANDPIPE RADIUS: 1.0000 inches
BOREHOLE RADIUS: 3.1250 inches
GRAVEL PACK LENGTH: 16.0000 feet
GRAVEL PACK PERM.: 0.35E-01 ft./sec.
SCREEN PERMEABILITY: 0.35E-02 ft./sec.

LENGTH USED FOR CALCULATION: 16.00 ft.

THE GRAVEL LENGTH WILL BE USED FOR CALC.

SLUG LENGTH: 15.00 feet
SLUG RADIUS: 0.50 inches

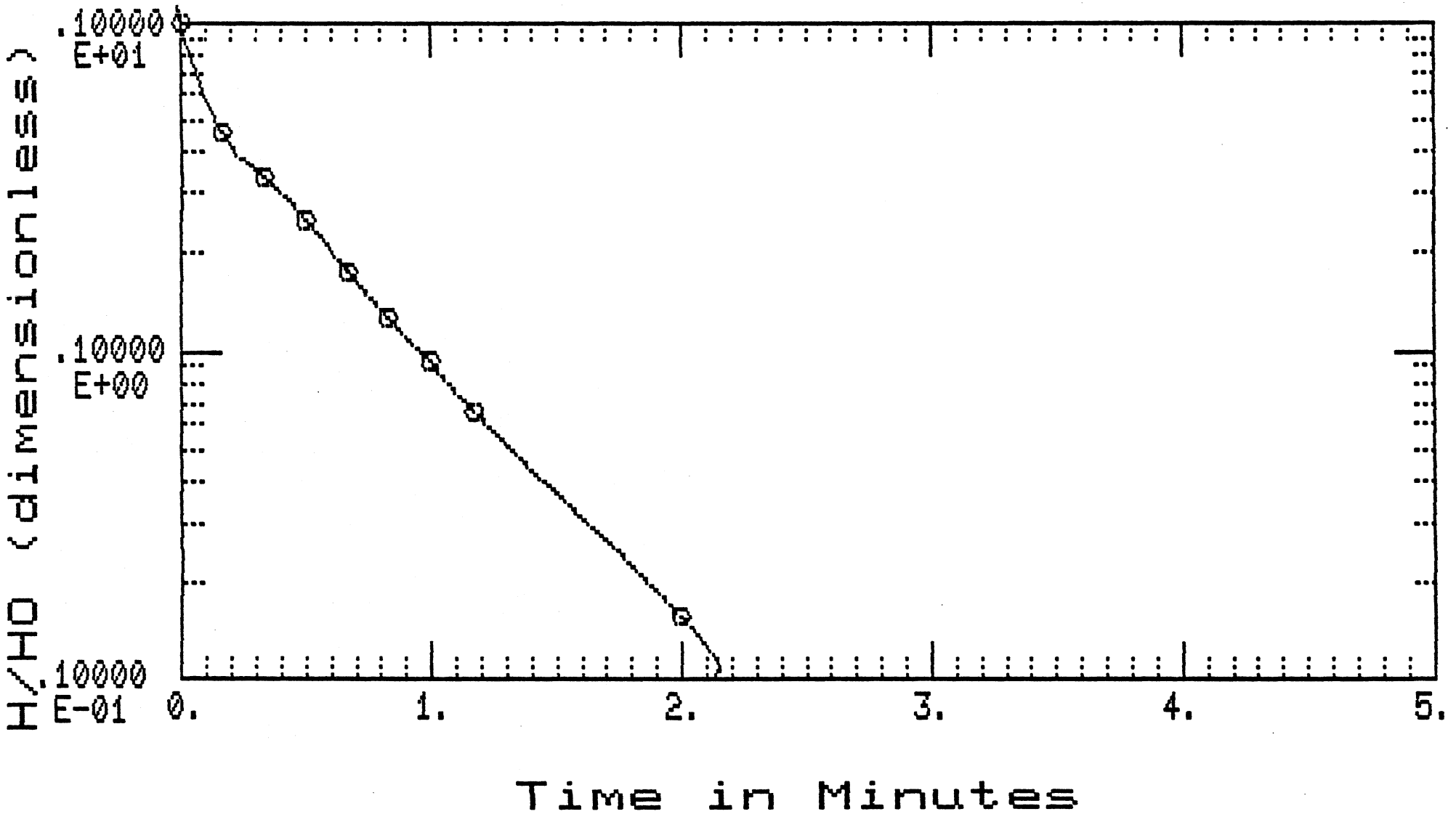
TRANSDUCER USED: 25.00 psi
INITIAL READING: 44.22% of 25.00 psi

DATA POINTS SELECTED

1. TIME: 0.33 minutes HEAD: 47.00 % of 25.00 psi
2. TIME: 1.17 minutes HEAD: 44.77 % of 25.00 psi

HYDRAULIC CONDUCTIVITY OF TEST INTERVAL:

0.88E-03 cm/sec 0.29E-04 ft/sec 0.88E-05 m/sec


WELL ID: EX 13BU
.10000 E+01
.10000 E+00
.10000 E-01
H/HO (dimensionless)
0.
1.
2.
3.
4.
5.
Time in Minutes

WELL ID: EX 13BU

TEST DATA:

MEASUREMENT NUMBER	TIME (HH:MM:SS)	TRANSDUCER READING (% of 25.00 Psi)	HEAD RATIO (H/HO)
1	14:34: 0	52.57	1.0000
2	14:34:10	48.07	0.4611
3	14:34:19	47.00	0.3329
4	14:34:30	46.27	0.2455
5	14:34:40	45.67	0.1737
6	14:34:49	45.27	0.1257
7	14:35: 0	45.00	0.0934
8	14:35:10	44.77	0.0659
9	14:36: 0	44.35	0.0156
10	14:36:19	44.27	0.0060
11	14:37: 0	44.25	0.0036
12	14:38: 0	44.22	0.0010

TEST DATE 5/31/84

STS CONSULTANTS LTD. - FIELD ENGINEERING SERVICES
SINGLE WELL HYDRAULIC CONDUCTIVITY TEST

STS JOB NO.: 12959
PROJECT/LOCATION: EXXON CRANDON
PROJECT MANAGER: JAS
TEST TECHNICIAN: JLG
DATA ANALYST: JAS

TEST INFORMATION

TYPE: RISING HEAD METHOD: SLUG

PIEZOMETER ID: EX 13BU
SCREEN LENGTH: 3.0000 feet
SLOT SIZE (est.): 0.0200 inches
STANDPIPE RADIUS: 1.0000 inches
BOREHOLE RADIUS: 3.1250 inches
GRAVEL PACK LENGTH: 16.0000 feet
GRAVEL PACK PERM.: 0.35E-01 ft./sec.
SCREEN PERMEABILITY: 0.35E-02 ft./sec.

LENGTH USED FOR CALCULATION: 16.00 ft.

THE GRAVEL LENGTH WILL BE USED FOR CALC.

SLUG LENGTH: 15.00 feet
SLUG RADIUS: 0.50 inches

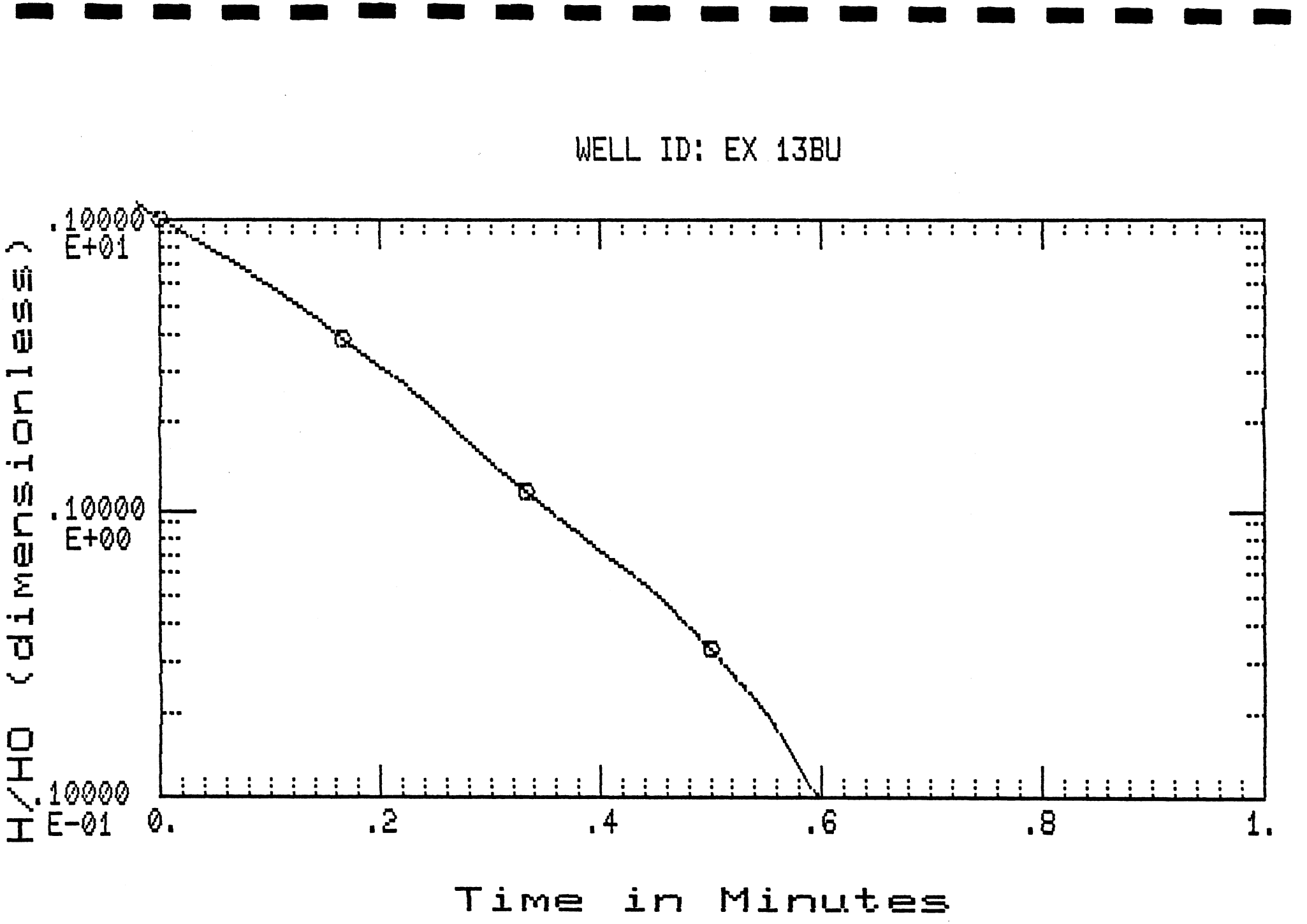
TRANSDUCER USED: 25.00 psi
INITIAL READING: 44.22% of 25.00 psi

DATA POINTS SELECTED

1. TIME: 0.17 minutes HEAD: 42.45 % of 25.00 psi
2. TIME: 0.50 minutes HEAD: 44.07 % of 25.00 psi

HYDRAULIC CONDUCTIVITY OF TEST INTERVAL:

0.34E-02 cm/sec 0.11E-03 ft/sec 0.34E-04 m/sec


WELL ID: EX 13BU
.10000 E+01
.10000 E+00
.10000 E-01
H/HO (dimensionless)
0.
.2
.4
.6
.8
1.
Time in Minutes

WELL ID: EX 13BU

TEST DATA:

MEASUREMENT NUMBER	TIME (HH:MM:SS)	TRANSDUCER READING (% of 25.00 psi)	HEAD RATIO (H/HO)
1	14:38: 0	39.70	1.0000
2	14:38:10	42.45	0.3916
3	14:38:19	43.70	0.1150
4	14:38:30	44.07	0.0332
5	14:38:40	44.20	0.0044

STS CONSULTANTS LTD. - FIELD ENGINEERING SERVICES
SINGLE WELL HYDRAULIC CONDUCTIVITY TEST

STS JOB NO.: 12959
PROJECT/LOCATION: EXXON/CRANDON
PROJECT MANAGER: JAS
TEST TECHNICIAN: JCG
DATA ANALYST: PMB/JRT

TEST INFORMATION

TYPE: FALLING HEAD METHOD: SLUG

PIEZOMETER ID: EX13CL
SCREEN LENGTH: 3.0000 feet
SLOT SIZE (est.): 0.0200 inches
STANDPIPE RADIUS: 1.0000 inches
BOREHOLE RADIUS: 3.1250 inches
GRAVEL PACK LENGTH: 7.0000 feet
GRAVEL PACK PERM.: 0.35E-01 ft./sec.
SCREEN PERMEABILITY: 0.35E-02 ft./sec.

LENGTH USED FOR CALCULATION: 7.00 ft.

THE GRAVEL LENGTH WILL BE USED FOR CALC.

SLUG LENGTH: 15.00 feet
SLUG RADIUS: 0.50 inches

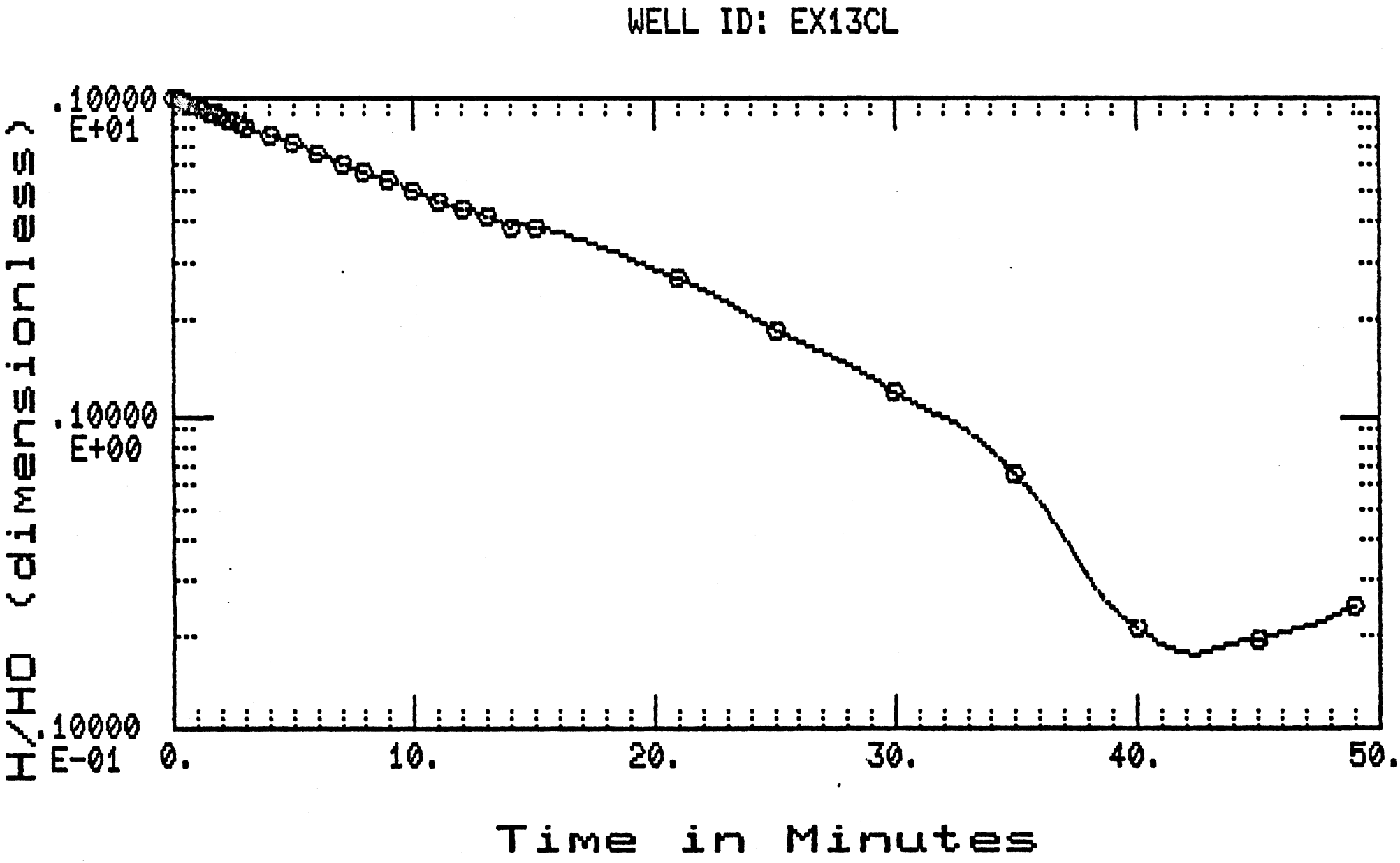
TRANSDUCER USED: 25.00 psi
INITIAL READING: 57.57% of 25.00 psi

DATA POINTS SELECTED

1. TIME: 0.00 minutes HEAD: 63.70 % of 25.00 psi
2. TIME: 14.00 minutes HEAD: 59.95 % of 25.00 psi

HYDRAULIC CONDUCTIVITY OF TEST INTERVAL:

0.56E-04 cm/sec 0.18E-05 ft/sec 0.56E-06 m/sec


WELL ID: EX13CL
.10000
E+01
.10000
E+00
.10000
E-01
H/HO (dimensionless)
0.
10.
20.
30.
40.
50.
Time in Minutes

WELL ID: EX13CL

TEST DATA:

MEASUREMENT NUMBER	TIME (HH:MM:SS)	TRANSDUCER READING (% of 25.00 psi)	HEAD RATIO (H/HO)
1	13:45: 0	63.70	1.0000
2	13:45:15	63.57	0.9788
3	13:45:30	63.45	0.9592
4	13:45:45	63.35	0.9429
5	13:46: 0	63.25	0.9266
6	13:46:15	63.15	0.9103
7	13:46:30	63.05	0.8940
8	13:46:45	62.95	0.8777
9	13:47: 0	62.87	0.8646
10	13:47:15	62.77	0.8483
11	13:47:30	62.70	0.8369
12	13:47:45	62.60	0.8206
13	13:48: 0	62.52	0.8075
14	13:49: 0	62.22	0.7586
15	13:50: 0	61.95	0.7145
16	13:51: 0	61.60	0.6574
17	13:52: 0	61.32	0.6117
18	13:53: 0	61.07	0.5710
19	13:54: 0	60.90	0.5432
20	13:55: 0	60.65	0.5024
21	13:56: 0	60.45	0.4698
22	13:57: 0	60.27	0.4405
23	13:58: 0	60.15	0.4209
24	13:59: 0	59.95	0.3883
25	14: 0: 0	59.92	0.3834
26	14: 6: 0	59.20	0.2659
27	14:10: 0	58.70	0.1843
28	14:15: 0	58.30	0.1191
29	14:20: 0	57.97	0.0653
30	14:25: 0	57.70	0.0212
31	14:30: 0	57.45	0.0196
32	14:34: 0	57.42	0.0245

STS CONSULTANTS LTD. - FIELD ENGINEERING SERVICES
SINGLE WELL HYDRAULIC CONDUCTIVITY TEST

STS JOB NO.: 12959
PROJECT/LOCATION: EXXON/CRANDON
PROJECT MANAGER: JAS
TEST TECHNICIAN: JCG
DATA ANALYST: PMB/JRT

TEST INFORMATION

TYPE: RISING HEAD METHOD: SLUG

PIEZOMETER ID: EX13CL
SCREEN LENGTH: 3.0000 feet
SLOT SIZE (est.): 0.0200 inches
STANDPIPE RADIUS: 1.0000 inches
BOREHOLE RADIUS: 3.1250 inches
GRAVEL PACK LENGTH: 7.0000 feet
GRAVEL PACK PERM.: 0.35E-01 ft./sec.
SCREEN PERMEABILITY: 0.35E-02 ft./sec.

LENGTH USED FOR CALCULATION: 7.00 ft.

THE GRAVEL LENGTH WILL BE USED FOR CALC.

SLUG LENGTH: 15.00 feet
SLUG RADIUS: 0.50 inches

TRANSDUCER USED: 25.00 psi
INITIAL READING: 57.57% of 25.00 psi

DATA POINTS SELECTED

1. TIME: 6.25 minutes HEAD: 52.92 % of 25.00 psi
2. TIME: 35.25 minutes HEAD: 55.72 % of 25.00 psi

HYDRAULIC CONDUCTIVITY OF TEST INTERVAL:

0.26E-04 cm/sec 0.86E-06 ft/sec 0.26E-06 m/sec

WELL ID: EX13CL
.10000
E+01
.10000
E+00
.10000
E-01
H/HO (dimensionless)
0.
12.4
24.8
37.2
49.6
62.
Time in Minutes

WELL ID: EX13CL

TEST DATA:

MEASUREMENT NUMBER	TIME (HH:MM:SS)	TRANSDUCER READING (% of 25.00 psi)	HEAD RATIO (H/HO)
1	14:35: 0	51.15	1.0000
2	14:35:15	51.42	0.9579
3	14:35:30	51.52	0.9424
4	14:35:45	51.67	0.9190
5	14:36: 0	51.75	0.9065
6	14:36:15	51.82	0.8956
7	14:36:30	51.87	0.8879
8	14:36:45	51.95	0.8754
9	14:37: 0	52.02	0.8645
10	14:37:15	52.07	0.8567
11	14:37:30	52.15	0.8442
12	14:37:45	52.20	0.8364
13	14:38: 0	52.27	0.8255
14	14:39: 0	52.52	0.7866
15	14:40: 0	52.72	0.7555
16	14:41: 0	52.92	0.7243
17	14:42: 0	53.07	0.7009
18	14:43: 0	53.20	0.6807
19	14:44: 0	53.35	0.6573
20	14:45: 0	53.50	0.6340
21	14:46: 0	53.65	0.6106
22	14:47: 0	53.77	0.5919
23	14:48: 0	53.92	0.5685
24	14:49: 0	54.05	0.5483
25	14:50: 0	54.15	0.5327
26	14:55: 0	54.67	0.4517
27	15: 0: 0	55.05	0.3925
28	15: 5: 0	55.35	0.3458
29	15:10: 0	55.72	0.2882
30	15:15: 0	55.90	0.2601
31	15:20: 0	56.02	0.2414
32	15:25: 0	56.10	0.2290
33	15:30: 0	56.15	0.2212
34	15:35: 0	56.20	0.2134

STS CONSULTANTS LTD. - FIELD ENGINEERING SERVICES

SINGLE WELL HYDRAULIC CONDUCTIVITY TEST

STS JOB NO.: 12959
PROJECT/LOCATION: EXXON/CRANDON
PROJECT MANAGER: JAS
TEST TECHNICIAN: JCG
DATA ANALYST: PMB/JRT

TEST INFORMATION

TYPE: FALLING HEAD METHOD: SLUG

PIEZOMETER ID: EX14AL
SCREEN LENGTH: 3.3000 feet
SLOT SIZE (est.): 0.0200 inches
STANDPIPE RADIUS: 1.0000 inches
BOREHOLE RADIUS: 3.1250 inches
GRAVEL PACK LENGTH: 7.0000 feet
GRAVEL PACK PERM.: 0.35E-01 ft./sec.
SCREEN PERMEABILITY: 0.35E-02 ft./sec.

LENGTH USED FOR CALCULATION: 7.00 ft.

THE GRAVEL LENGTH WILL BE USED FOR CALC.

SLUG LENGTH: 15.00 feet
SLUG RADIUS: 0.50 inches

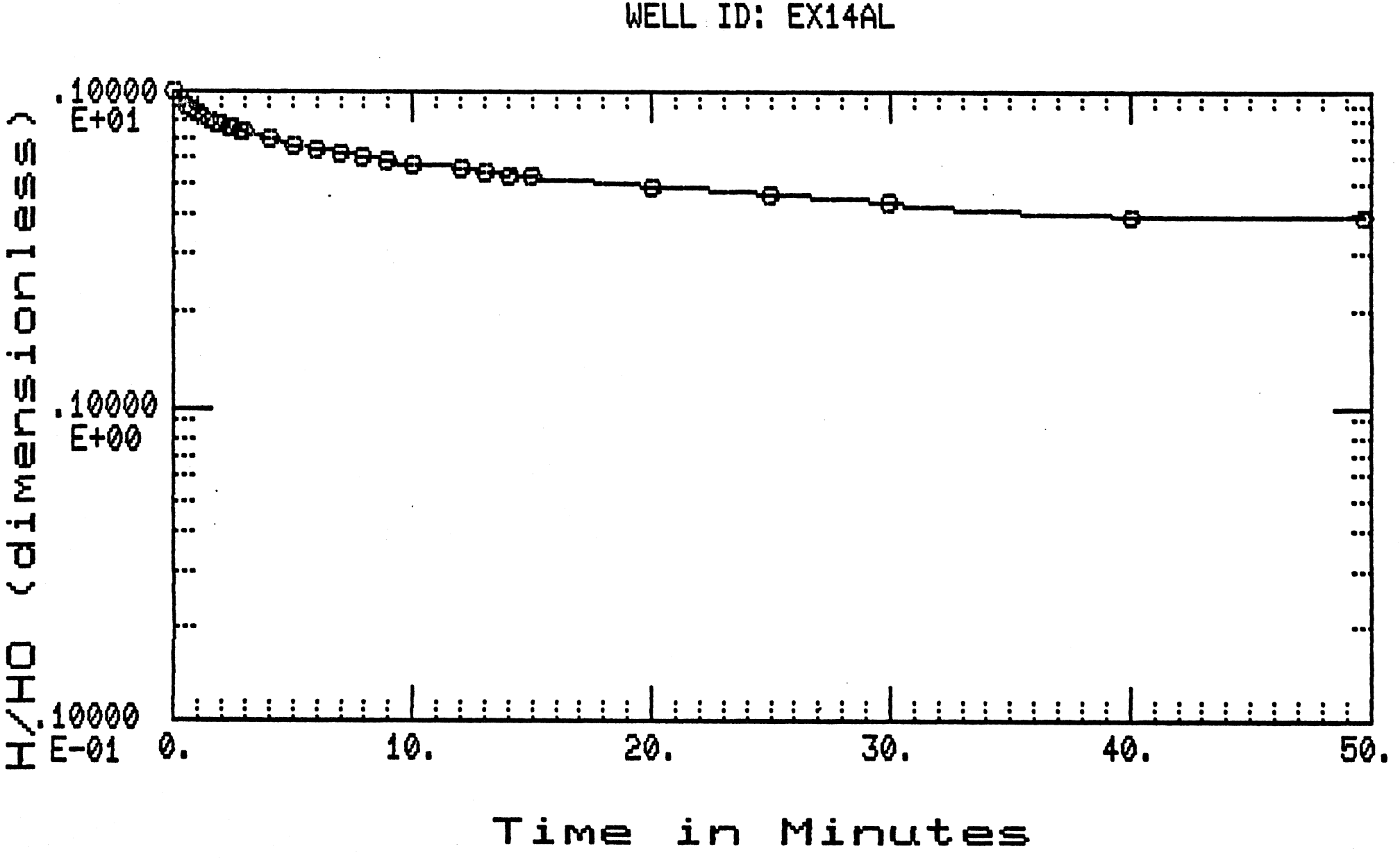
TRANSDUCER USED: 25.00 psi
INITIAL READING: 50.40% of 25.00 psi

DATA POINTS SELECTED

1. TIME: 4.00 minutes HEAD: 54.67 % of 25.00 psi
2. TIME: 10.00 minutes HEAD: 53.90 % of 25.00 psi

HYDRAULIC CONDUCTIVITY OF TEST INTERVAL:

0.27E-04 cm/sec 0.90E-06 ft/sec 0.27E-06 m/sec


WELL ID: EX14AL
.10000 E+01
.10000 E+00
.10000 E-01
H/HO (dimensionless)
0.
10.
20.
30.
40.
50.
Time in Minutes

WELL ID: EX14AL

TEST DATA:

MEASUREMENT NUMBER	TIME (HH:MM:SS)	TRANSDUCER READING (% of 0.00 psi)	HEAD RATIO (H/HO)
1	9:10: 0	56.47	1.0000
2	9:10:15	56.12	0.9423
3	9:10:30	55.87	0.9012
4	9:10:45	55.67	0.8682
5	9:11: 0	55.52	0.8435
6	9:11:15	55.37	0.8188
7	9:11:30	55.27	0.8023
8	9:11:45	55.17	0.7858
9	9:12: 0	55.10	0.7743
10	9:12:15	55.02	0.7611
11	9:12:30	54.97	0.7529
12	9:12:45	54.90	0.7414
13	9:13: 0	54.85	0.7331
14	9:14: 0	54.67	0.7035
15	9:15: 0	54.45	0.6672
16	9:16: 0	54.27	0.6376
17	9:17: 0	54.15	0.6178
18	9:18: 0	54.05	0.6013
19	9:19: 0	53.97	0.5881
20	9:20: 0	53.90	0.5766
21	9:22: 0	53.82	0.5634
22	9:23: 0	53.72	0.5470
23	9:24: 0	53.65	0.5354
24	9:25: 0	53.60	0.5272
25	9:30: 0	53.40	0.4942
26	9:35: 0	53.20	0.4613
27	9:40: 0	53.05	0.4366
28	9:50: 0	52.82	0.3987
29	9:59:45	52.77	0.3904

STS CONSULTANTS LTD. - FIELD ENGINEERING SERVICES

SINGLE WELL HYDRAULIC CONDUCTIVITY TEST

STS JOB NO.: 12959
PROJECT/LOCATION: EXXON/CRANDON
PROJECT MANAGER: JAS
TEST TECHNICIAN: JCG
DATA ANALYST: PMB/JRT

TEST INFORMATION

TYPE: RISING HEAD METHOD: SLUG

PIEZOMETER ID: EX14AL
SCREEN LENGTH: 3.3000 feet
SLOT SIZE (est.): 0.0200 inches
STANDPIPE RADIUS: 1.0000 inches
BOREHOLE RADIUS: 3.1250 inches
GRAVEL PACK LENGTH: 7.0000 feet
GRAVEL PACK PERM.: 0.35E-01 ft./sec.
SCREEN PERMEABILITY: 0.35E-02 ft./sec.

LENGTH USED FOR CALCULATION: 7.00 ft.

THE GRAVEL LENGTH WILL BE USED FOR CALC.

SLUG LENGTH: 15.00 feet
SLUG RADIUS: 0.50 inches

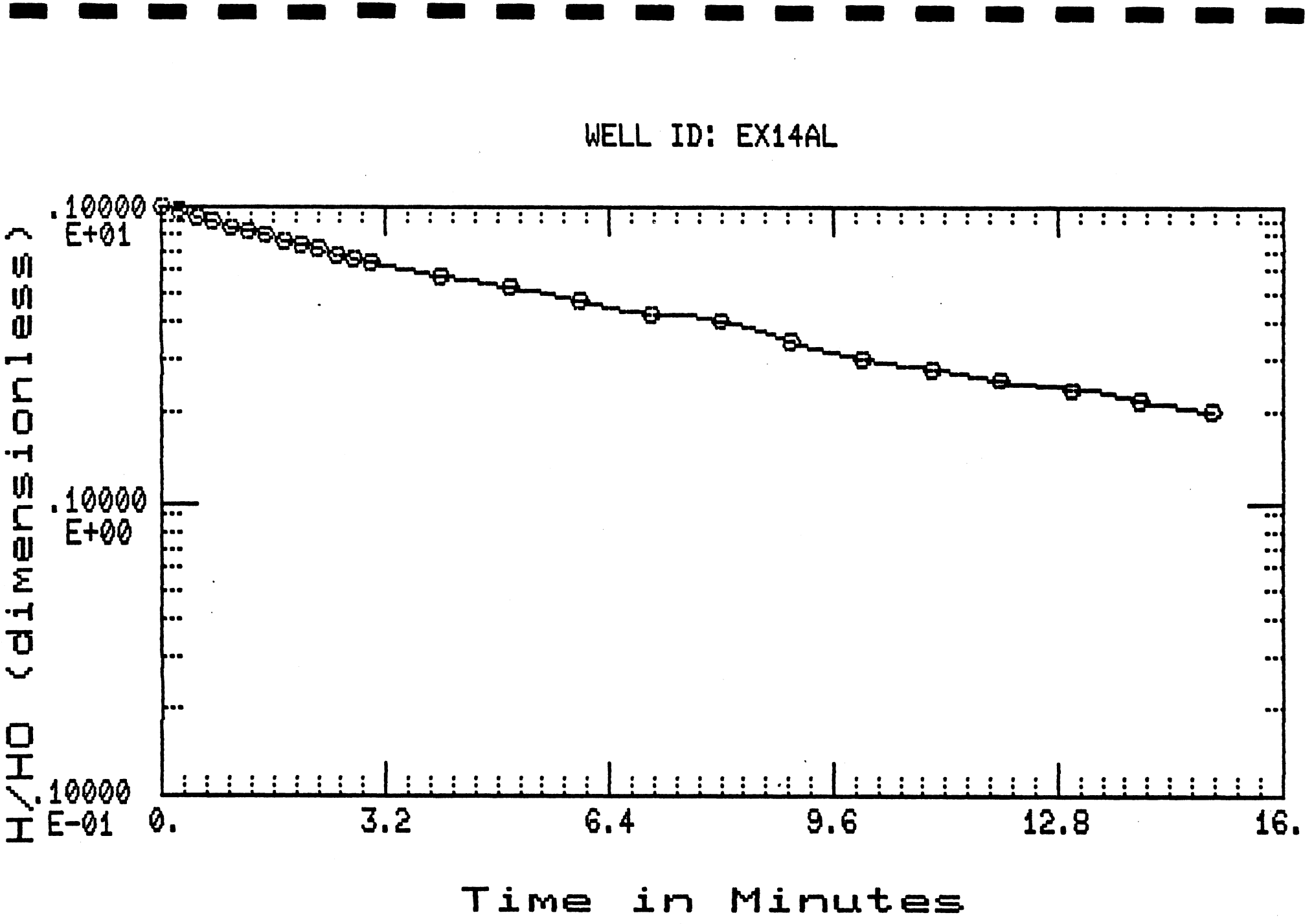
TRANSDUCER USED: 25.00 psi
INITIAL READING: 50.40% of 25.00 psi

DATA POINTS SELECTED

1. TIME: 10.00 minutes HEAD: 49.20 % of 25.00 psi
2. TIME: 15.00 minutes HEAD: 49.62 % of 25.00 psi

HYDRAULIC CONDUCTIVITY OF TEST INTERVAL:

0.71E-04 cm/sec 0.23E-05 ft/sec 0.71E-06 m/sec


WELL ID: EX14AL
.10000 E+01
.10000 E+00
.10000 E-01
H/HO (dimensionless)
0.
3.2
6.4
9.6
12.8
16.
Time in Minutes

WELL ID: EX14AL

TEST DATA:

MEASUREMENT NUMBER	TIME (HH:MM:SS)	TRANSDUCER READING (% of 25.00 psi)	HEAD RATIO (H/HO)
1	10: 0: 0	46.45	1.0000
2	10: 0:15	46.62	0.9570
3	10: 0:30	46.77	0.9190
4	10: 0:45	46.92	0.8810
5	10: 1: 0	47.07	0.8430
6	10: 1:15	47.17	0.8177
7	10: 1:30	47.27	0.7924
8	10: 1:45	47.40	0.7595
9	10: 2: 0	47.50	0.7342
10	10: 2:15	47.60	0.7089
11	10: 2:30	47.70	0.6835
12	10: 2:45	47.77	0.6658
13	10: 3: 0	47.87	0.6405
14	10: 4: 0	48.15	0.5696
15	10: 5: 0	48.32	0.5266
16	10: 6: 0	48.52	0.4759
17	10: 7: 0	48.70	0.4304
18	10: 8: 0	48.82	0.4000
19	10: 9: 0	49.05	0.3418
20	10:10: 0	49.20	0.3038
21	10:11: 0	49.30	0.2785
22	10:12: 0	49.40	0.2532
23	10:13: 0	49.47	0.2354
24	10:14: 0	49.55	0.2152
25	10:15: 0	49.62	0.1975

STS CONSULTANTS LTD. - FIELD ENGINEERING SERVICES

SINGLE WELL HYDRAULIC CONDUCTIVITY TEST

STS JOB NO.: 12959
PROJECT/LOCATION: EXXON CRANDON
PROJECT MANAGER: JAS
TEST TECHNICIAN: JLG
DATA ANALYST: JAS

TEST INFORMATION

TYPE: FALLING HEAD METHOD: SLUG

PIEZOMETER ID: EX 14AU
SCREEN LENGTH: 3.0000 feet
SLOT SIZE (est.): 0.0200 inches
STANDPIPE RADIUS: 1.0000 inches
BOREHOLE RADIUS: 3.1250 inches
GRAVEL PACK LENGTH: 7.0000 feet
GRAVEL PACK PERM.: 0.35E-01 ft./sec.
SCREEN PERMEABILITY: 0.35E-02 ft./sec.

LENGTH USED FOR CALCULATION: 7.00 ft.

THE GRAVEL LENGTH WILL BE USED FOR CALC.

SLUG LENGTH: 15.00 feet
SLUG RADIUS: 0.50 inches

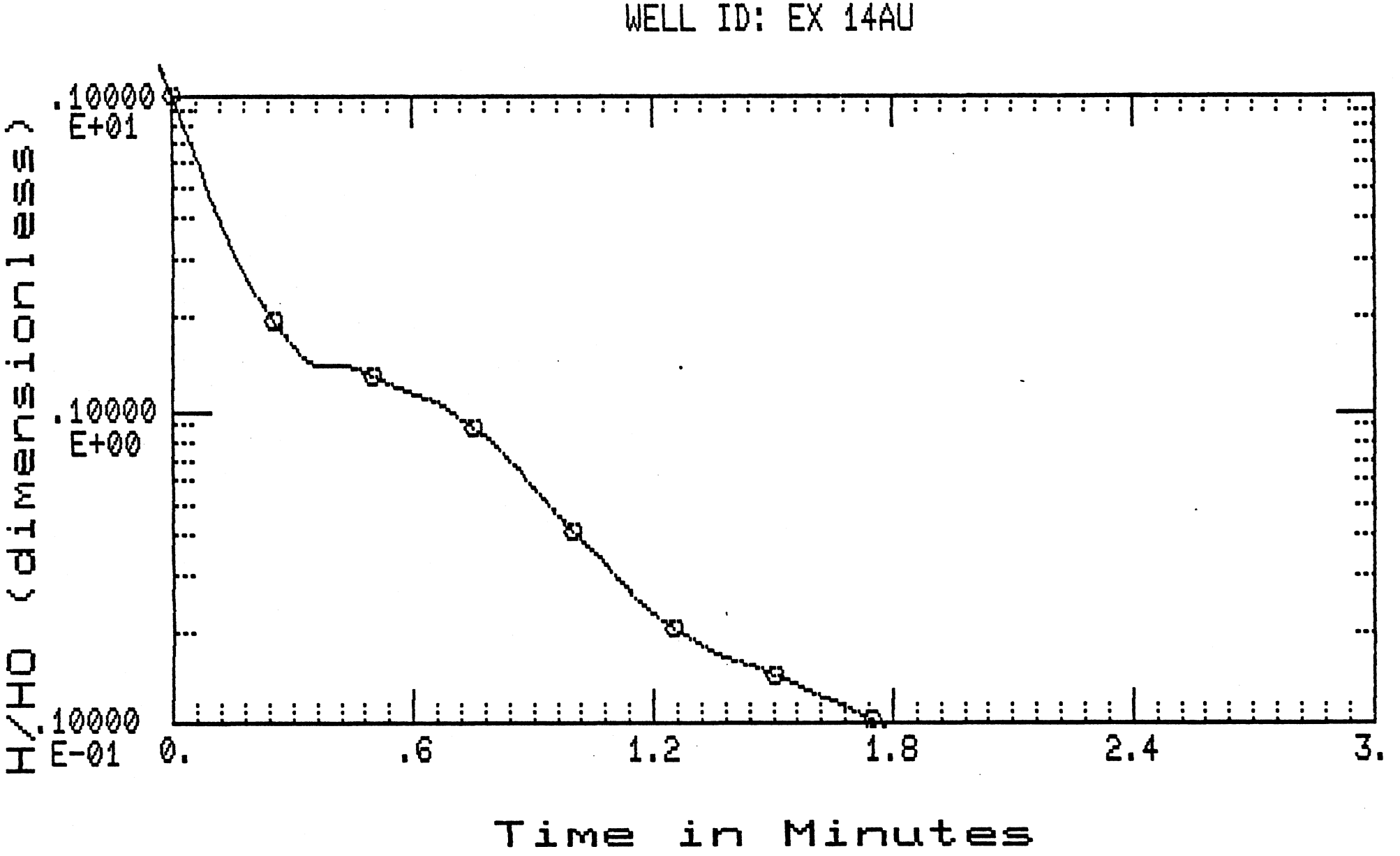
TRANSDUCER USED: 25.00 psi
INITIAL READING: 46.02% of 25.00 psi

DATA POINTS SELECTED

1. TIME: 0.75 minutes HEAD: 46.45 % of 25.00 psi
2. TIME: 1.25 minutes HEAD: 46.12 % of 25.00 psi

HYDRAULIC CONDUCTIVITY OF TEST INTERVAL:

0.24E-02 cm/sec 0.79E-04 ft/sec 0.24E-04 m/sec


WELL ID: EX 14AU
.10000 E+01
.10000 E+00
.10000 E-01
H/HO (dimensionless)
0.
.6
1.2
1.8
2.4
3.
Time in Minutes

WELL ID: EX 14AU

TEST DATA:

MEASUREMENT NUMBER	TIME (HH:MM:SS)	TRANSDUCER READING (% of 25.00 psi)	HEAD RATIO (H/HO)
1	13: 2: 0	50.85	1.0000
2	13: 2:15	46.97	0.1967
3	13: 2:30	46.65	0.1304
4	13: 2:45	46.45	0.0890
5	13: 3: 0	46.22	0.0414
6	13: 3:15	46.12	0.0207
7	13: 3:30	46.09	0.0145
8	13: 3:45	46.07	0.0104
9	13: 4: 0	46.05	0.0062
10	13: 4:15	46.02	0.0010

STS CONSULTANTS LTD. - FIELD ENGINEERING SERVICES

SINGLE WELL HYDRAULIC CONDUCTIVITY TEST

STS JOB NO.: 12959
PROJECT/LOCATION: EXXON CRANDON
PROJECT MANAGER: JAS
TEST TECHNICIAN: JLG
DATA ANALYST: JAS

TEST INFORMATION

TYPE: RISING HEAD METHOD: SLUG

PIEZOMETER ID: EX 14AU
SCREEN LENGTH: 3.0000 feet
SLOT SIZE (est.): 0.0200 inches
STANDPIPE RADIUS: 1.0000 inches
BOREHOLE RADIUS: 3.1250 inches
GRAVEL PACK LENGTH: 7.0000 feet
GRAVEL PACK PERM.: 0.35E-01 ft./sec.
SCREEN PERMEABILITY: 0.35E-02 ft./sec.

LENGTH USED FOR CALCULATION: 7.00 ft.

THE GRAVEL LENGTH WILL BE USED FOR CALC.

SLUG LENGTH: 15.00 feet
SLUG RADIUS: 0.50 inches

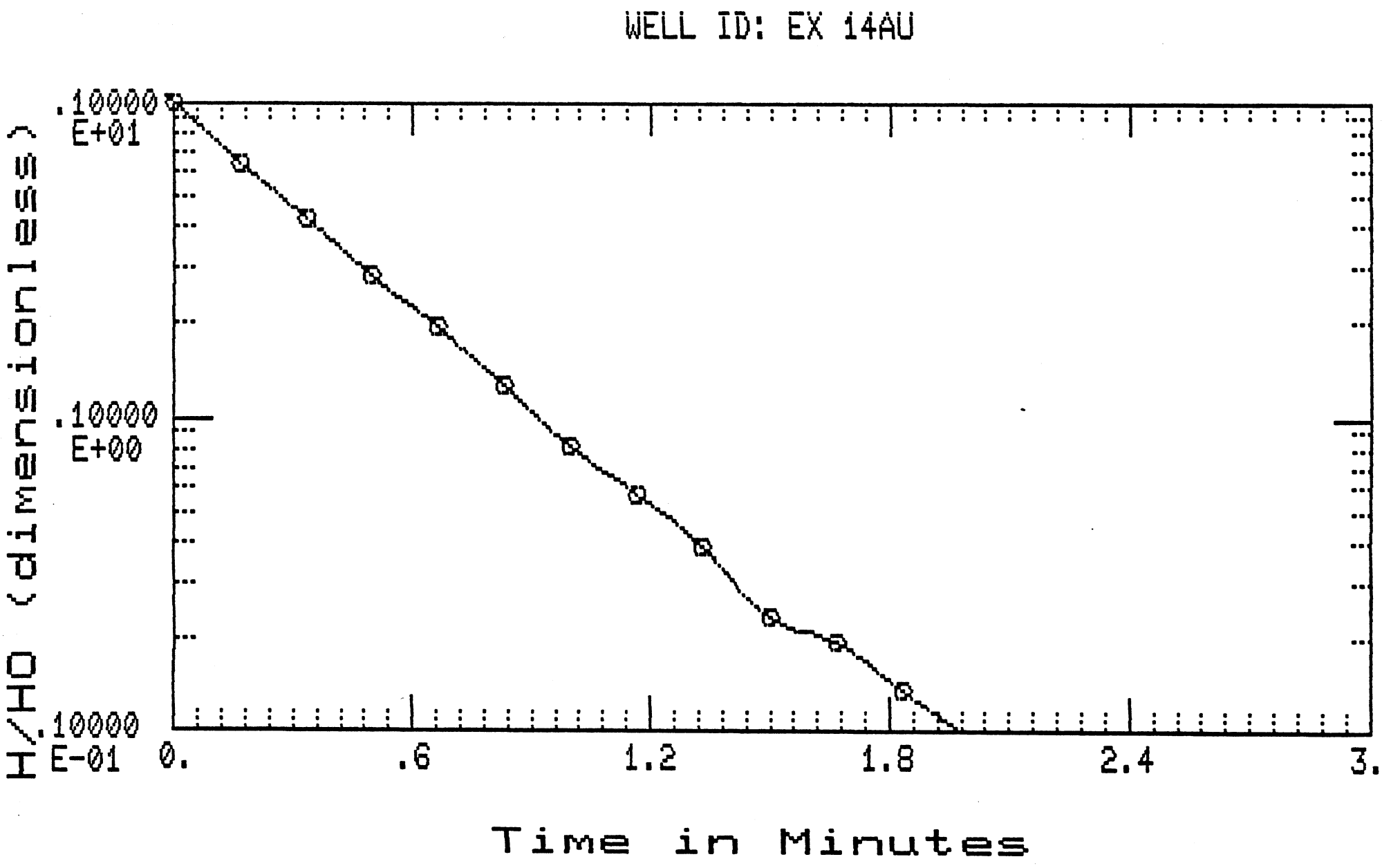
TRANSDUCER USED: 25.00 psi
INITIAL READING: 46.02% of 25.00 psi

DATA POINTS SELECTED

1. TIME: 0.00 minutes HEAD: 40.85 % of 25.00 psi
2. TIME: 1.00 minutes HEAD: 45.60 % of 25.00 psi

HYDRAULIC CONDUCTIVITY OF TEST INTERVAL:

0.21E-02 cm/sec 0.68E-04 ft/sec 0.21E-04 m/sec


WELL ID: EX 14AU
H/HO (dimensionless)
.10000
E+01
.10000
E+00
.10000
E-01
0.
.6
1.2
1.8
2.4
3.
Time in Minutes

WELL ID: EX 14AU

TEST DATA:

MEASUREMENT NUMBER	TIME (HH:MM:SS)	TRANSDUCER READING (% of 25.00 psi)	HEAD RATIO (H/HO)
1	13: 6: 0	40.85	1.0000
2	13: 6:10	42.70	0.6422
3	13: 6:19	43.80	0.4294
4	13: 6:30	44.55	0.2843
5	13: 6:40	45.02	0.1934
6	13: 6:49	45.37	0.1257
7	13: 7: 0	45.60	0.0812
8	13: 7:10	45.72	0.0580
9	13: 7:19	45.82	0.0387
10	13: 7:30	45.90	0.0232
11	13: 7:40	45.92	0.0193
12	13: 7:49	45.95	0.0135
13	13: 8: 0	45.97	0.0097

STS CONSULTANTS LTD. - FIELD ENGINEERING SERVICES

SINGLE WELL HYDRAULIC CONDUCTIVITY TEST

STS JOB NO.: 12959
PROJECT/LOCATION: EXXON/CRANDON
PROJECT MANAGER: JAS
TEST TECHNICIAN: JCG
DATA ANALYST: PMB/JRT

TEST INFORMATION

TYPE: FALLING HEAD METHOD: SLUG

PIEZOMETER ID: EX14BL
SCREEN LENGTH: 3.0000 feet
SLOT SIZE (est.): 0.0200 inches
STANDPIPE RADIUS: 1.0000 inches
BOREHOLE RADIUS: 3.1250 inches
GRAVEL PACK LENGTH: 7.0000 feet
GRAVEL PACK PERM.: 0.35E-01 ft./sec.
SCREEN PERMEABILITY: 0.35E-02 ft./sec.

LENGTH USED FOR CALCULATION: 7.00 ft.

THE GRAVEL LENGTH WILL BE USED FOR CALC.

SLUG LENGTH: 15.00 feet
SLUG RADIUS: 0.50 inches

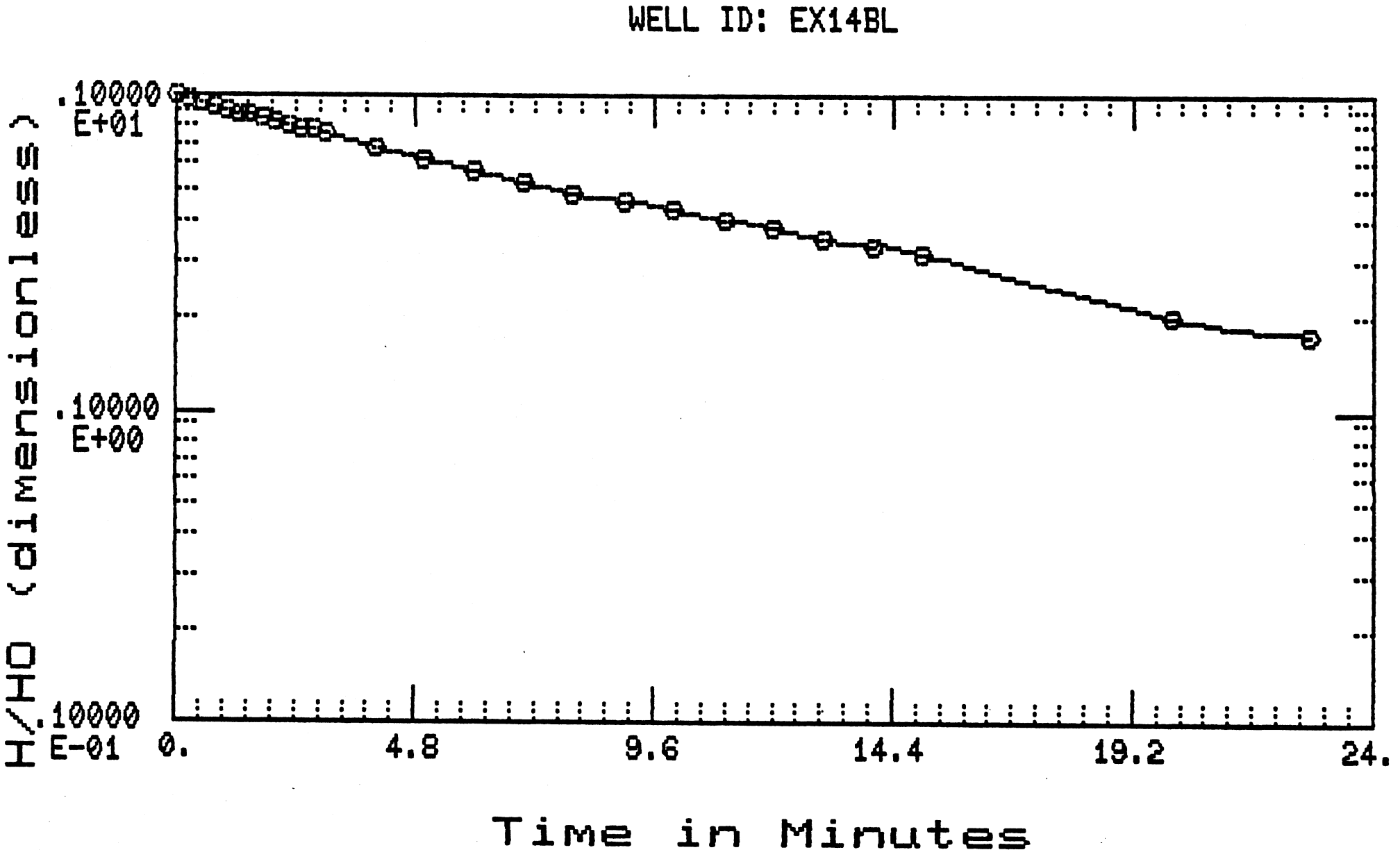
TRANSDUCER USED: 25.00 psi
INITIAL READING: 51.92% of 25.00 psi

DATA POINTS SELECTED

1. TIME: 8.00 minutes HEAD: 54.87 % of 25.00 psi
2. TIME: 15.00 minutes HEAD: 53.82 % of 25.00 psi

HYDRAULIC CONDUCTIVITY OF TEST INTERVAL:

0.52E-04 cm/sec 0.17E-05 ft/sec 0.52E-06 m/sec


WELL ID: EX14BL
.10000 E+01
.10000 E+00
.10000 E-01
H/HO (dimensionless)
0.
4.8
9.6
14.4
19.2
24.
Time in Minutes

WELL ID: EX14BL

TEST DATA:

MEASUREMENT NUMBER	TIME (HH:MM:SS)	TRANSDUCER READING (% of 0.00 psi)	HEAD RATIO (H/HO)
1	10:53: 0	57.97	1.0000
2	10:53:15	57.77	0.9669
3	10:53:30	57.62	0.9421
4	10:53:45	57.50	0.9223
5	10:54: 0	57.35	0.8975
6	10:54:15	57.22	0.8760
7	10:54:30	57.10	0.8562
8	10:54:45	56.97	0.8347
9	10:55: 0	56.85	0.8149
10	10:55:15	56.75	0.7983
11	10:55:30	56.65	0.7818
12	10:55:45	56.62	0.7769
13	10:56: 0	56.45	0.7488
14	10:57: 0	56.07	0.6860
15	10:58: 0	55.70	0.6248
16	10:59: 0	55.37	0.5702
17	11: 0: 0	55.10	0.5256
18	11: 1: 0	54.87	0.4876
19	11: 2: 0	54.75	0.4678
20	11: 3: 0	54.57	0.4380
21	11: 4: 0	54.40	0.4099
22	11: 5: 0	54.22	0.3802
23	11: 6: 0	54.07	0.3554
24	11: 7: 0	53.95	0.3355
25	11: 8: 0	53.82	0.3140
26	11:13: 0	53.12	0.1983
27	11:15:45	52.97	0.1736

STS CONSULTANTS LTD. - FIELD ENGINEERING SERVICES
SINGLE WELL HYDRAULIC CONDUCTIVITY TEST

STS JOB NO.: 12959
PROJECT/LOCATION: EXXON/CRANDON
PROJECT MANAGER: JAS
TEST TECHNICIAN: JCG
DATA ANALYST: PMB/JRT

TEST INFORMATION

TYPE: RISING HEAD METHOD: SLUG

PIEZOMETER ID: EX14BL
SCREEN LENGTH: 3.0000 feet
SLOT SIZE (est.): 0.0200 inches
STANDPIPE RADIUS: 1.0000 inches
BOREHOLE RADIUS: 3.1250 inches
GRAVEL PACK LENGTH: 7.0000 feet
GRAVEL PACK PERM.: 0.35E-01 ft./sec.
SCREEN PERMEABILITY: 0.35E-02 ft./sec.

LENGTH USED FOR CALCULATION: 7.00 ft.

THE GRAVEL LENGTH WILL BE USED FOR CALC.

SLUG LENGTH: 15.00 feet
SLUG RADIUS: 0.50 inches

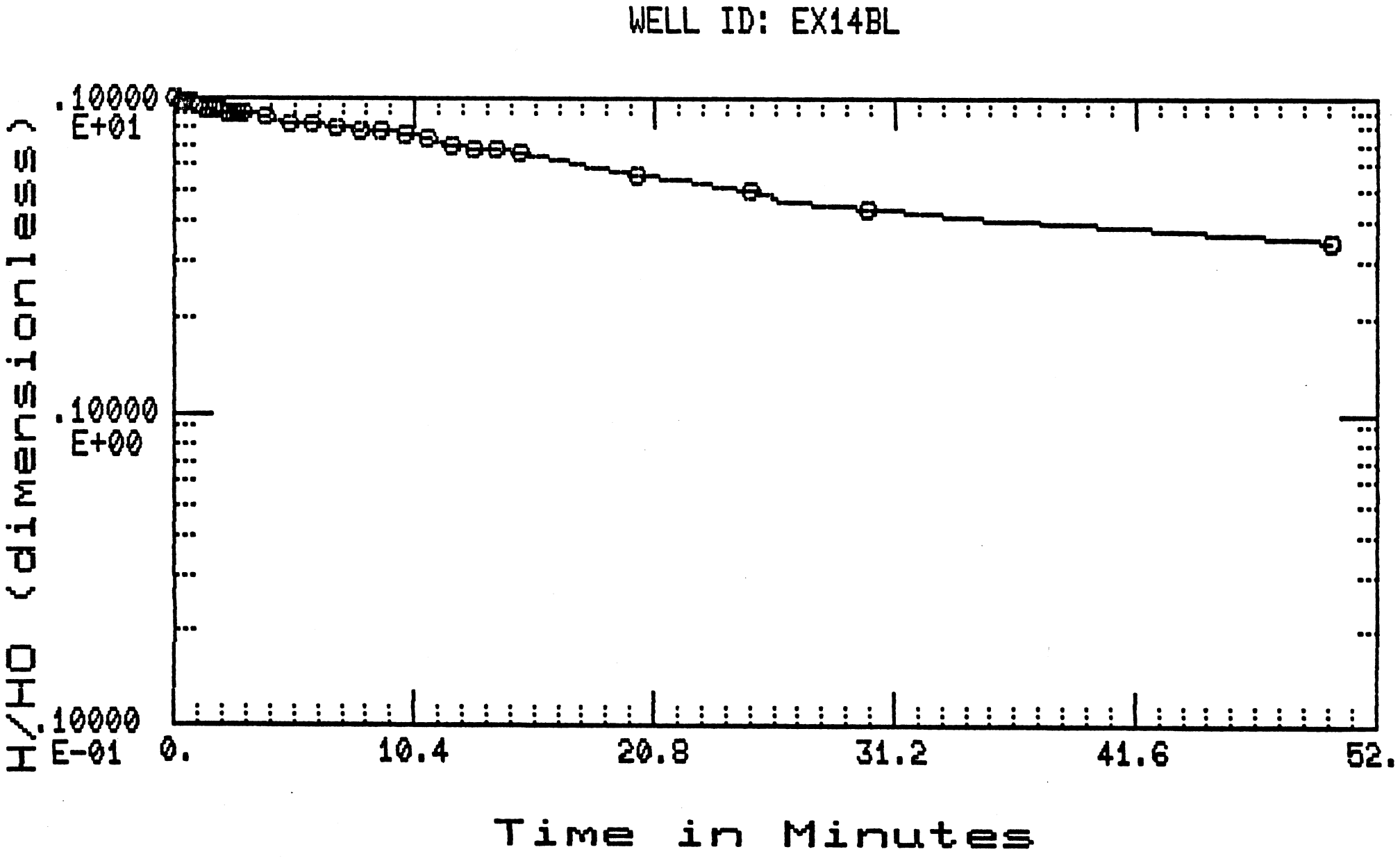
TRANSDUCER USED: 25.00 psi
INITIAL READING: 51.92% of 25.00 psi

DATA POINTS SELECTED

1. TIME: 13.00 minutes HEAD: 48.30 % of 25.00 psi
2. TIME: 30.00 minutes HEAD: 49.55 % of 25.00 psi

HYDRAULIC CONDUCTIVITY OF TEST INTERVAL:

0.21E-04 cm/sec 0.68E-06 ft/sec 0.21E-06 m/sec


WELL ID: EX14BL
.10000 E+01
.10000 E+00
.10000 E-01
H/HO (dimensionless)
0.
10.4
20.8
31.2
41.6
52.
Time in Minutes

WELL ID: EX14BL

TEST DATA:

MEASUREMENT NUMBER	TIME (HH:MM:SS)	TRANSDUCER READING (% of 25.00 Psi)	HEAD RATIO (H/HO)
1	11:16: 0	46.57	1.0000
2	11:16:15	46.75	0.9664
3	11:16:30	46.82	0.9533
4	11:16:45	46.82	0.9533
5	11:17: 0	46.92	0.9346
6	11:17:15	46.97	0.9252
7	11:17:30	47.00	0.9196
8	11:17:45	47.05	0.9103
9	11:18: 0	47.07	0.9065
10	11:18:15	47.12	0.8972
11	11:18:30	47.15	0.8916
12	11:18:45	47.20	0.8822
13	11:19: 0	47.22	0.8785
14	11:20: 0	47.35	0.8542
15	11:21: 0	47.50	0.8262
16	11:22: 0	47.55	0.8168
17	11:23: 0	47.62	0.8037
18	11:24: 0	47.72	0.7850
19	11:25: 0	47.82	0.7664
20	11:26: 0	47.92	0.7477
21	11:27: 0	48.02	0.7290
22	11:28: 0	48.17	0.7009
23	11:29: 0	48.30	0.6766
24	11:30: 0	48.32	0.6729
25	11:31: 0	48.40	0.6579
26	11:36: 0	48.90	0.5645
27	11:41: 0	49.25	0.4991
28	11:46: 0	49.55	0.4430
29	12: 6: 0	50.07	0.3458

TEST DATE 4/09/84

STS CONSULTANTS LTD. - FIELD ENGINEERING SERVICES
SINGLE WELL HYDRAULIC CONDUCTIVITY TEST

STS JOB NO.: 12959
PROJECT/LOCATION: EXXON/CRANDON
PROJECT MANAGER: JAS
TEST TECHNICIAN: JCG
DATA ANALYST: PMB

TEST INFORMATION

TYPE: FALLING HEAD METHOD: SLUG

PIEZOMETER ID: EX15AL
SCREEN LENGTH: 3.0000 feet
SLOT SIZE (est.): 0.0200 inches
STANDPIPE RADIUS: 1.0000 inches
BOREHOLE RADIUS: 3.1250 inches
GRAVEL PACK LENGTH: 9.0000 feet
GRAVEL PACK PERM.: 0.35E-01 ft./sec.
SCREEN PERMEABILITY: 0.35E-02 ft./sec.

LENGTH USED FOR CALCULATION: 9.00 ft.

THE GRAVEL LENGTH WILL BE USED FOR CALC.

SLUG LENGTH: 20.00 feet
SLUG RADIUS: 0.50 inches

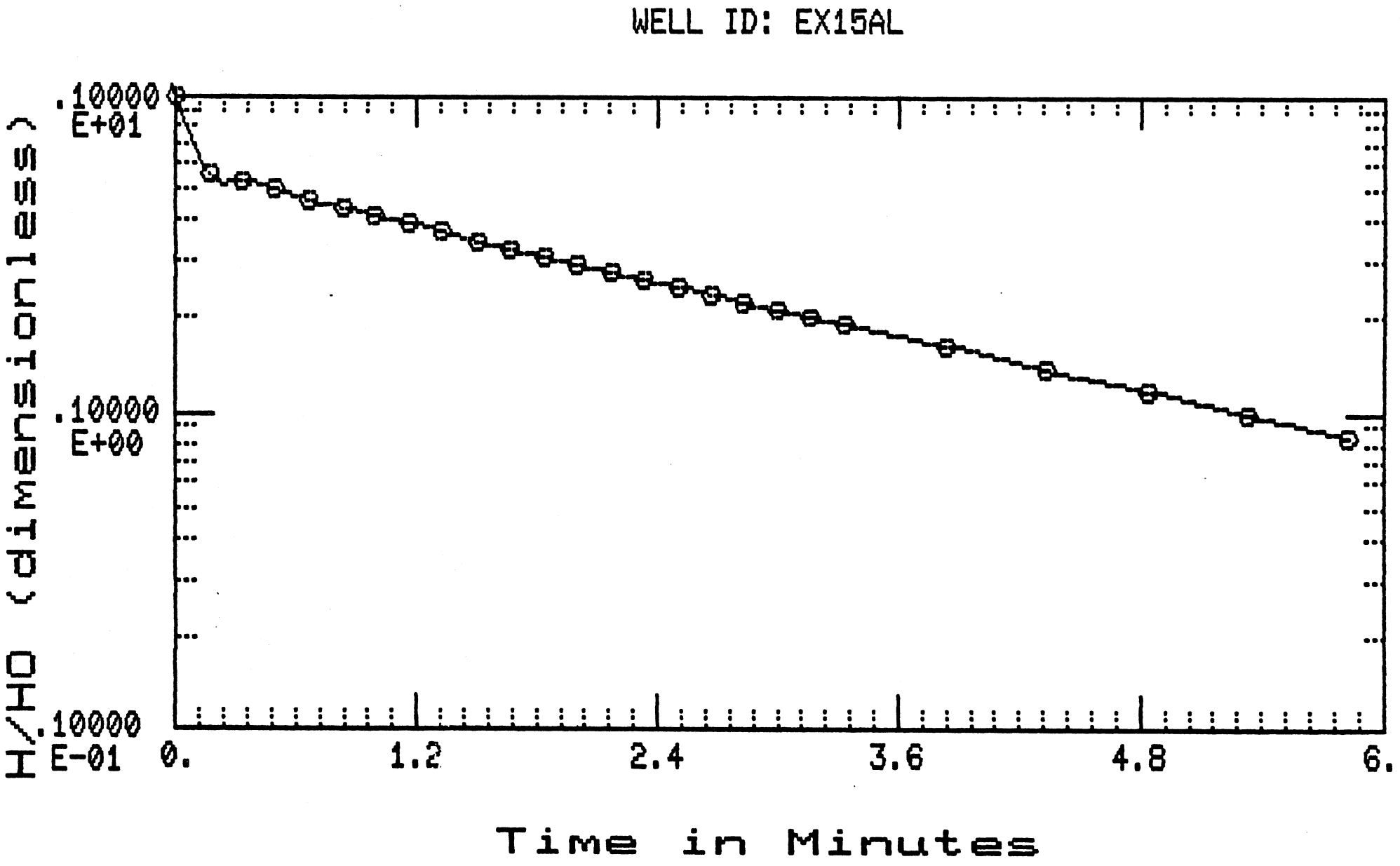
TRANSDUCER USED: 25.00 psi
INITIAL READING: 56.77% of 25.00 psi

DATA POINTS SELECTED

1. TIME: 0.33 minutes HEAD: 63.15 % of 25.00 psi
2. TIME: 5.83 minutes HEAD: 57.77 % of 25.00 psi

HYDRAULIC CONDUCTIVITY OF TEST INTERVAL:

0.23E-03 cm/sec 0.77E-05 ft/sec 0.23E-05 m/sec


WELL ID: EX15AL
.10000 E+01
.10000 E+00
.10000 E-01
H/HO (dimensionless)
0.
1.2
2.4
3.6
4.8
6.
Time in Minutes

WELL ID: EX15AL

TEST DATA:

MEASUREMENT NUMBER	TIME (HH:MM:SS)	TRANSDUCER READING (% of 25.00 psi)	HEAD RATIO (H/HO)
1	16:23:19	68.77	1.0000
2	16:23:30	63.57	0.5667
3	16:23:40	63.15	0.5317
4	16:23:49	62.75	0.4983
5	16:24: 0	62.40	0.4692
6	16:24:10	62.07	0.4417
7	16:24:19	61.75	0.4150
8	16:24:30	61.47	0.3917
9	16:24:40	61.20	0.3692
10	16:24:49	60.95	0.3483
11	16:25: 0	60.72	0.3292
12	16:25:10	60.50	0.3108
13	16:25:19	60.30	0.2942
14	16:25:30	60.10	0.2775
15	16:25:40	59.92	0.2625
16	16:25:49	59.75	0.2483
17	16:26: 0	59.60	0.2358
18	16:26:10	59.42	0.2208
19	16:26:19	59.30	0.2108
20	16:26:30	59.15	0.1983
21	16:26:40	59.02	0.1875
22	16:27:10	58.70	0.1608
23	16:27:40	58.40	0.1358
24	16:28:10	58.17	0.1167
25	16:28:40	57.95	0.0983
26	16:29:10	57.77	0.0833

STS CONSULTANTS LTD. - FIELD ENGINEERING SERVICES
SINGLE WELL HYDRAULIC CONDUCTIVITY TEST

STS JOB NO.: 12959
PROJECT/LOCATION: EXXON/CRANDON
PROJECT MANAGER: JAS
TEST TECHNICIAN: JCG
DATA ANALYST: PMB

TEST INFORMATION

TYPE: RISING HEAD METHOD: SLUG

PIEZOMETER ID: EX15AL
SCREEN LENGTH: 3.0000 feet
SLOT SIZE (est.): 0.0200 inches
STANDPIPE RADIUS: 1.0000 inches
BOREHOLE RADIUS: 3.1250 inches
GRAVEL PACK LENGTH: 9.0000 feet
GRAVEL PACK PERM.: 0.35E-01 ft./sec.
SCREEN PERMEABILITY: 0.35E-02 ft./sec.

LENGTH USED FOR CALCULATION: 9.00 ft.

THE GRAVEL LENGTH WILL BE USED FOR CALC.

SLUG LENGTH: 20.00 feet
SLUG RADIUS: 0.50 inches

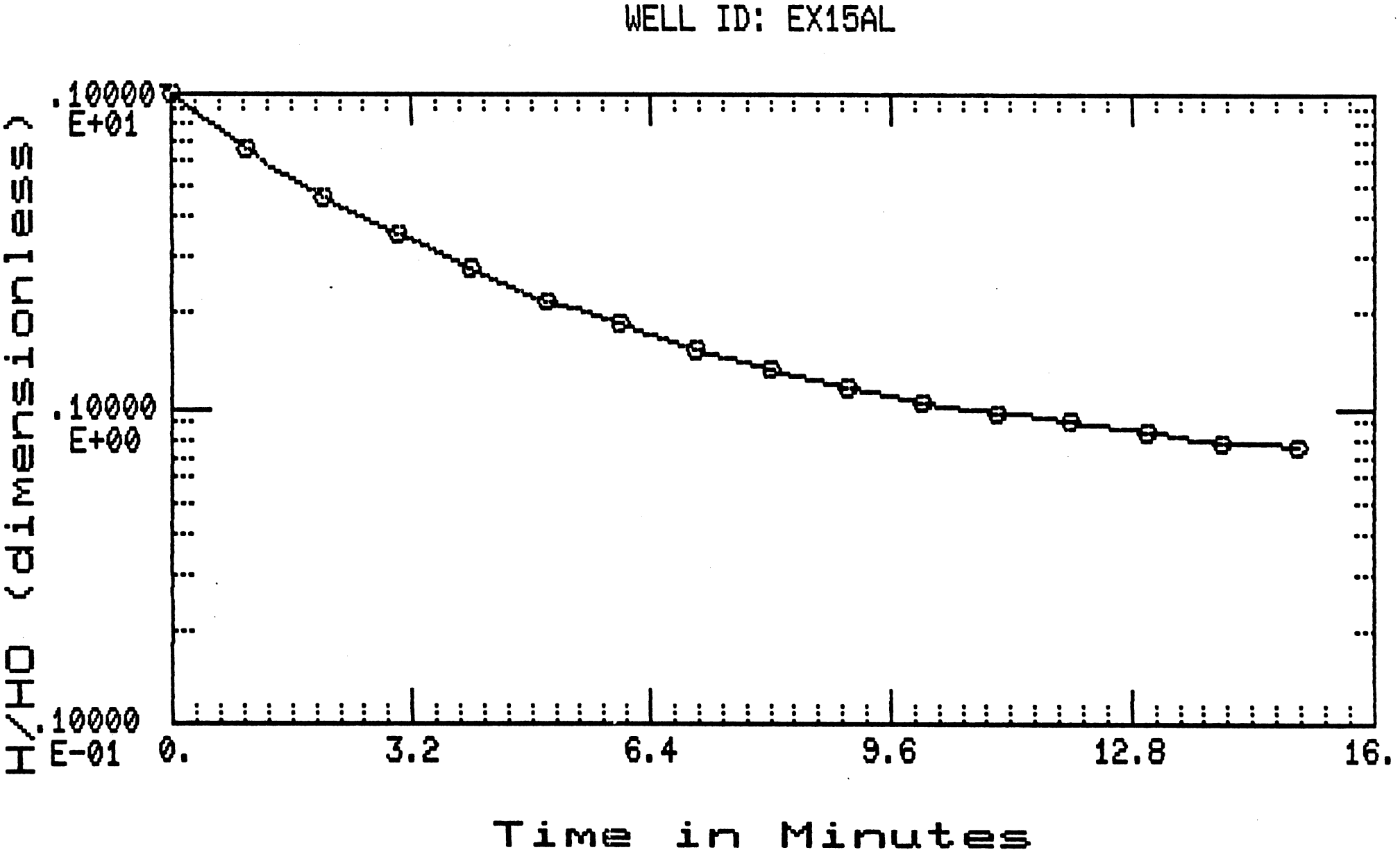
TRANSDUCER USED: 25.00 psi
INITIAL READING: 56.77% of 25.00 psi

DATA POINTS SELECTED

1. TIME: 2.00 minutes HEAD: 52.87 % of 25.00 psi
2. TIME: 5.00 minutes HEAD: 54.95 % of 25.00 psi

HYDRAULIC CONDUCTIVITY OF TEST INTERVAL:

0.18E-03 cm/sec 0.58E-05 ft/sec 0.18E-05 m/sec


WELL ID: EX15AL
.10000 E+01
.10000 E+00
.10000 E-01
H/HO (dimensionless)
0.
3.2
6.4
9.6
12.8
16.
Time in Minutes

WELL ID: EX15AL

TEST DATA:

MEASUREMENT NUMBER	TIME (HH:MM:SS)	TRANSDUCER READING (% of 25.00 psi)	HEAD RATIO (H/HO)
1	16:40: 0	48.45	1.0000
2	16:41: 0	51.27	0.6611
3	16:42: 0	52.87	0.4688
4	16:43: 0	53.82	0.3546
5	16:44: 0	54.47	0.2764
6	16:45: 0	54.95	0.2187
7	16:46: 0	55.25	0.1827
8	16:47: 0	55.50	0.1526
9	16:48: 0	55.67	0.1322
10	16:49: 0	55.80	0.1166
11	16:50: 0	55.90	0.1046
12	16:51: 0	55.97	0.0962
13	16:52: 0	56.02	0.0901
14	16:53: 0	56.07	0.0841
15	16:54: 0	56.12	0.0781
16	16:55: 0	56.15	0.0745

STS CONSULTANTS LTD. - FIELD ENGINEERING SERVICES

SINGLE WELL HYDRAULIC CONDUCTIVITY TEST

STS JOB NO.: 12959
PROJECT/LOCATION: EXXON/CRANDON
PROJECT MANAGER: JAS
TEST TECHNICIAN: JCG
DATA ANALYST: PMB

TEST INFORMATION

TYPE: FALLING HEAD METHOD: SLUG

PIEZOMETER ID: EX15AU
SCREEN LENGTH: 3.0000 feet
SLOT SIZE (est.): 0.0200 inches
STANDPIPE RADIUS: 1.0000 inches
BOREHOLE RADIUS: 3.1250 inches
GRAVEL PACK LENGTH: 7.5000 feet
GRAVEL PACK PERM.: 0.35E-01 ft./sec.
SCREEN PERMEABILITY: 0.35E-02 ft./sec.

LENGTH USED FOR CALCULATION: 7.50 ft.

THE GRAVEL LENGTH WILL BE USED FOR CALC.

SLUG LENGTH: 20.00 feet
SLUG RADIUS: 0.50 inches

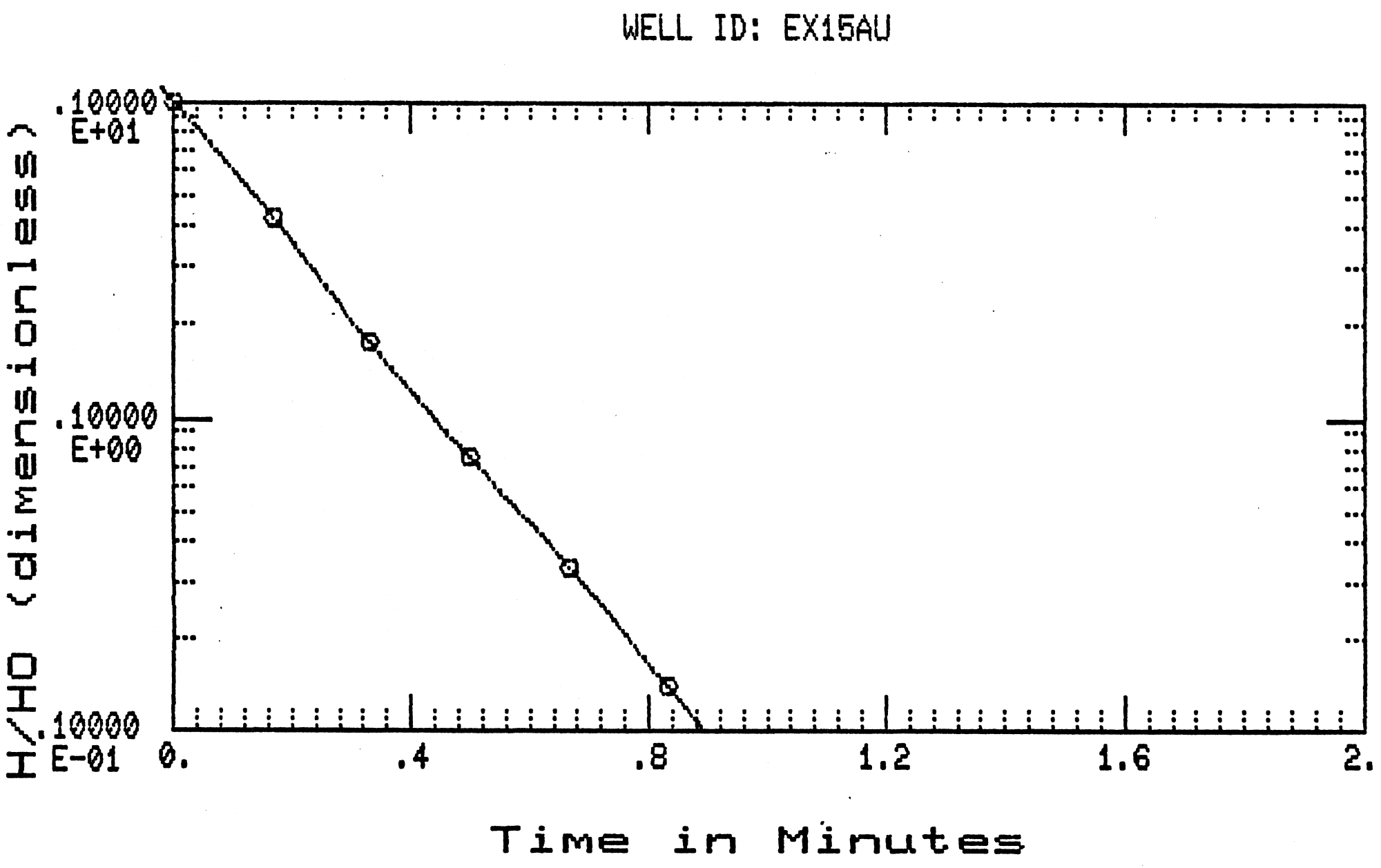
TRANSDUCER USED: 25.00 psi
INITIAL READING: 57.95% of 25.00 psi

DATA POINTS SELECTED

1. TIME: 0.00 minutes HEAD: 61.55 % of 25.00 psi
2. TIME: 0.50 minutes HEAD: 58.22 % of 25.00 psi

HYDRAULIC CONDUCTIVITY OF TEST INTERVAL:

0.41E-02 cm/sec 0.13E-03 ft/sec 0.41E-04 m/sec


WELL ID: EX15AU
.10000 E+01
.10000 E+00
.10000 E-01
H/HO (dimensionless)
0.
.4
.8
1.2
1.6
2.
Time in Minutes

WELL ID: EX15AU

TEST DATA:

MEASUREMENT NUMBER	TIME (HH:MM:SS)	TRANSDUCER READING (% of 25.00 psi)	HEAD RATIO (H/HO)
1	17:25: 0	61.55	1.0000
2	17:25: 9	59.50	0.4306
3	17:25:20	58.57	0.1722
4	17:25:30	58.22	0.0750
5	17:25:39	58.07	0.0333
6	17:25:50	58.00	0.0139
7	17:26: 0	57.97	0.0056
8	17:26: 9	57.95	0.0010

STS CONSULTANTS LTD. - FIELD ENGINEERING SERVICES

SINGLE WELL HYDRAULIC CONDUCTIVITY TEST

STS JOB NO.: 12959
PROJECT/LOCATION: EXXON/CRANDON
PROJECT MANAGER: PMB
TEST TECHNICIAN: JCG
DATA ANALYST: PMB

TEST INFORMATION

TYPE: RISING HEAD METHOD: SLUG

PIEZOMETER ID: EX15AU
SCREEN LENGTH: 3.0000 feet
SLOT SIZE (est.): 0.0200 inches
STANDPIPE RADIUS: 1.0000 inches
BOREHOLE RADIUS: 3.1250 inches
GRAVEL PACK LENGTH: 7.5000 feet
GRAVEL PACK PERM.: 0.35E-01 ft./sec.
SCREEN PERMEABILITY: 0.35E-02 ft./sec.

LENGTH USED FOR CALCULATION: 7.50 ft.

THE GRAVEL LENGTH WILL BE USED FOR CALC.

SLUG LENGTH: 20.00 feet
SLUG RADIUS: 0.50 inches

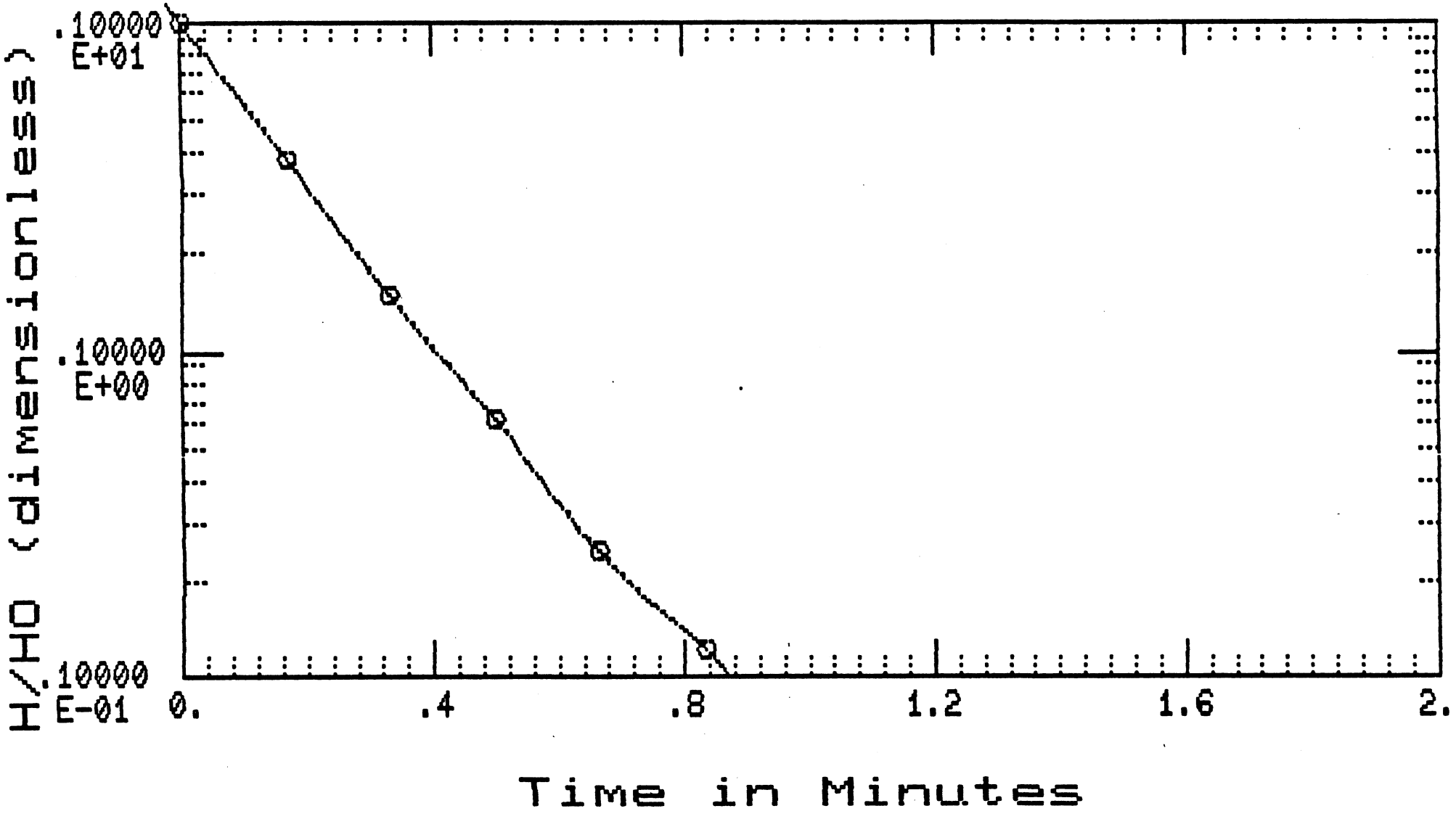
TRANSDUCER USED: 25.00 psi
INITIAL READING: 57.92% of 25.00 psi

DATA POINTS SELECTED

1. TIME: 0.00 minutes HEAD: 53.87 % of 25.00 psi
2. TIME: 0.50 minutes HEAD: 57.67 % of 25.00 psi

HYDRAULIC CONDUCTIVITY OF TEST INTERVAL:

0.44E-02 cm/sec 0.14E-03 ft/sec 0.44E-04 m/sec


WELL ID: EX15AU
.10000 E+01
.10000 E+00
.10000 E-01
H/HO (dimensionless)
0.
.4
.8
1.2
1.6
2.
Time in Minutes

WELL ID: EX15AU

TEST DATA:

MEASUREMENT NUMBER	TIME (HH:MM:SS)	TRANSDUCER READING (% of 25.00 psi)	HEAD RATIO (H/HO)
1	17:21: 0	53.87	1.0000
2	17:21: 9	56.35	0.3877
3	17:21:20	57.32	0.1481
4	17:21:30	57.67	0.0617
5	17:21:39	57.82	0.0247
6	17:21:50	57.87	0.0123
7	17:22: 0	57.90	0.0049
8	17:22: 9	57.90	0.0049
9	17:22:20	57.90	0.0049
10	17:22:30	57.92	0.0010

STS CONSULTANTS LTD. - FIELD ENGINEERING SERVICES

SINGLE WELL HYDRAULIC CONDUCTIVITY TEST

STS JOB NO.: 12959
PROJECT/LOCATION: EXXON/CRANDON
PROJECT MANAGER: JAS
TEST TECHNICIAN: JCG
DATA ANALYST: PMB/JRT

TEST INFORMATION

TYPE: FALLING HEAD METHOD: SLUG

PIEZOMETER ID: EX16AL
SCREEN LENGTH: 3.0000 feet
SLOT SIZE (est.): 0.0200 inches
STANDPIPE RADIUS: 1.0000 inches
BOREHOLE RADIUS: 3.1250 inches
GRAVEL PACK LENGTH: 7.0000 feet
GRAVEL PACK PERM.: 0.35E-01 ft./sec.
SCREEN PERMEABILITY: 0.35E-02 ft./sec.

LENGTH USED FOR CALCULATION: 7.00 ft.

THE GRAVEL LENGTH WILL BE USED FOR CALC.

SLUG LENGTH: 15.00 feet
SLUG RADIUS: 0.50 inches

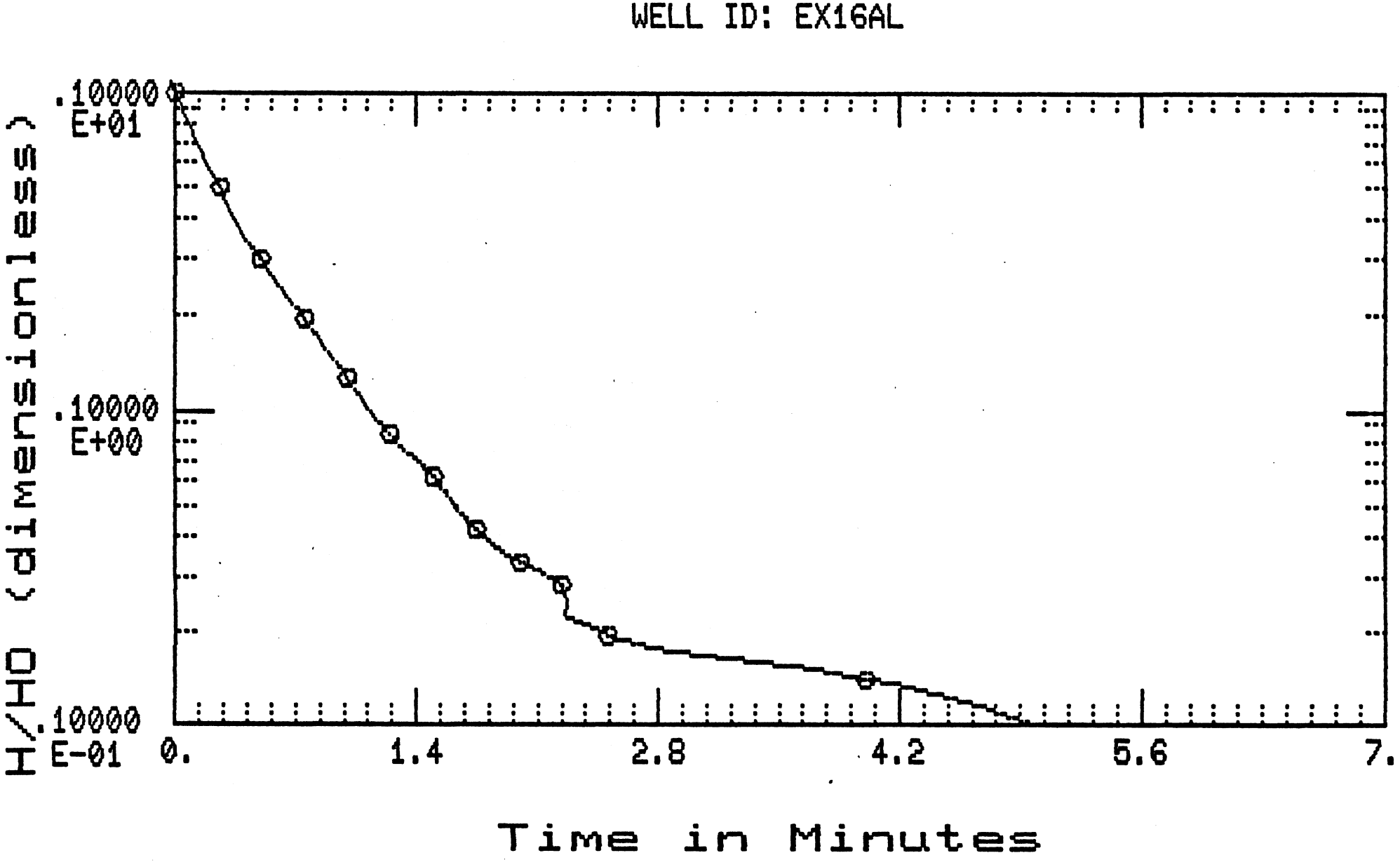
TRANSDUCER USED: 25.00 psi
INITIAL READING: 55.45% of 25.00 psi

DATA POINTS SELECTED

1. TIME: 0.50 minutes HEAD: 56.52 % of 25.00 psi
2. TIME: 1.25 minutes HEAD: 55.75 % of 25.00 psi

HYDRAULIC CONDUCTIVITY OF TEST INTERVAL:

0.14E-02 cm/sec 0.46E-04 ft/sec 0.14E-04 m/sec


WELL ID: EX16AL
.10000 E+01
.10000 E+00
.10000 E-01
H/HO (dimensionless)
0.
1.4
2.8
4.2
5.6
7.
Time in Minutes

WELL ID: EX16AL

TEST DATA:

MEASUREMENT NUMBER	TIME (HH:MM:SS)	TRANSDUCER READING (% of 25.00 psi)	HEAD RATIO (H/HO)
1	10:54: 0	59.02	1.0000
2	10:54:15	57.25	0.5042
3	10:54:30	56.52	0.2997
4	10:54:45	56.15	0.1961
5	10:55: 0	55.90	0.1261
6	10:55:15	55.75	0.0840
7	10:55:30	55.67	0.0616
8	10:55:45	55.60	0.0420
9	10:56: 0	55.57	0.0336
10	10:56:15	55.55	0.0280
11	10:56:30	55.52	0.0196
12	10:58: 0	55.50	0.0140
13	11: 0:45	55.47	0.0056

STS CONSULTANTS LTD. - FIELD ENGINEERING SERVICES
SINGLE WELL HYDRAULIC CONDUCTIVITY TEST

STS JOB NO.: 12959
PROJECT/LOCATION: EXXON/CRANDON
PROJECT MANAGER: JAS
TEST TECHNICIAN: JCG
DATA ANALYST: PMB/JRT

TEST INFORMATION

TYPE: RISING HEAD METHOD: SLUG

PIEZOMETER ID: EX16AL
SCREEN LENGTH: 3.0000 feet
SLOT SIZE (est.): 0.0200 inches
STANDPIPE RADIUS: 1.0000 inches
BOREHOLE RADIUS: 3.1250 inches
GRAVEL PACK LENGTH: 7.0000 feet
GRAVEL PACK PERM.: 0.35E-01 ft./sec.
SCREEN PERMEABILITY: 0.35E-02 ft./sec.

LENGTH USED FOR CALCULATION: 7.00 ft.

THE GRAVEL LENGTH WILL BE USED FOR CALC.

SLUG LENGTH: 15.00 feet
SLUG RADIUS: 0.50 inches

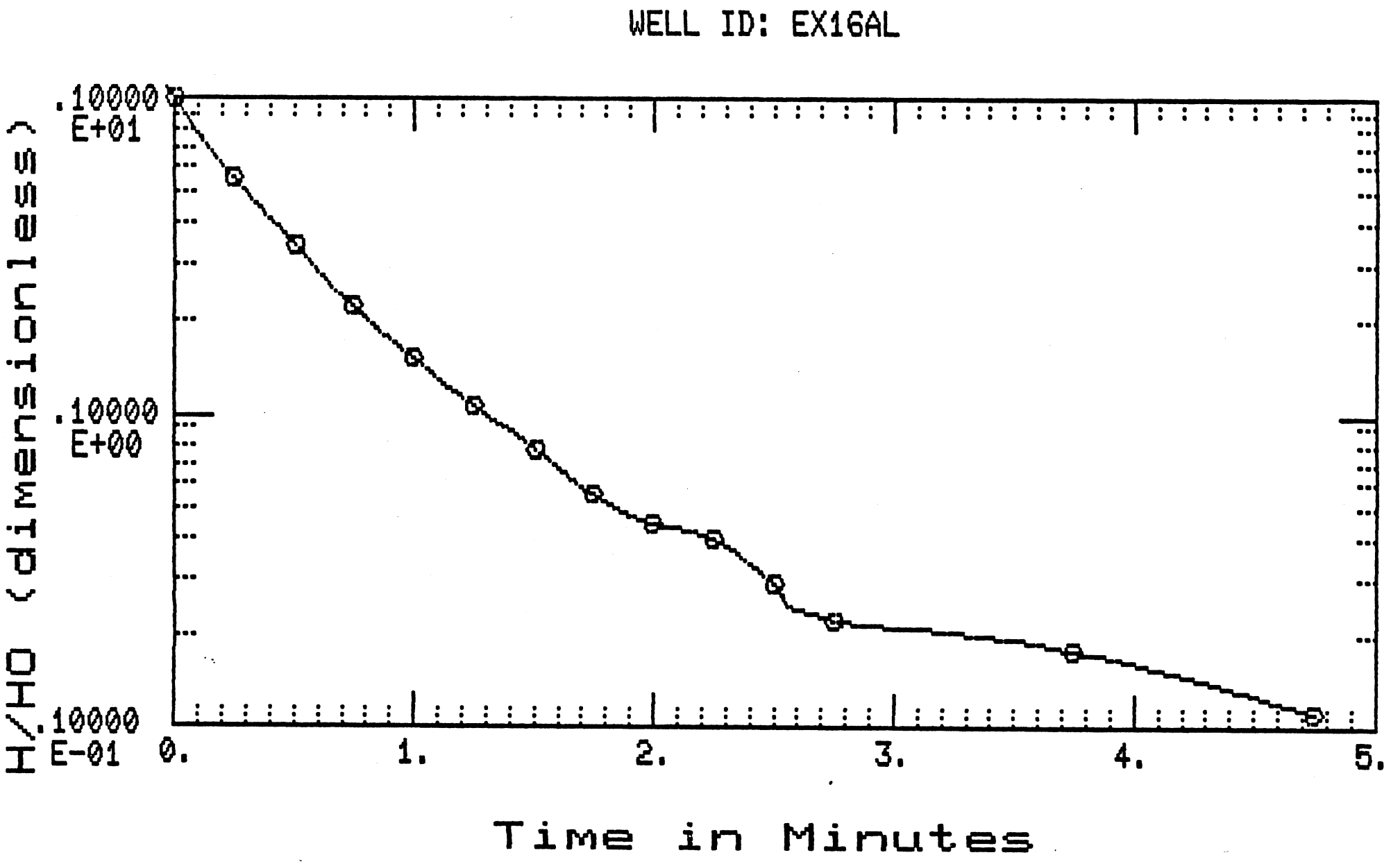
TRANSDUCER USED: 25.00 psi
INITIAL READING: 55.45% of 25.00 psi

DATA POINTS SELECTED

1. TIME: 0.75 minutes HEAD: 54.45 % of 25.00 psi
2. TIME: 1.75 minutes HEAD: 55.20 % of 25.00 psi

HYDRAULIC CONDUCTIVITY OF TEST INTERVAL:

0.11E-02 cm/sec 0.38E-04 ft/sec 0.11E-04 m/sec


WELL ID: EX16AL
.10000 E+01
.10000 E+00
.10000 E-01
H/HO (dimensionless)
0.
1.
2.
3.
4.
5.
Time in Minutes

WELL ID: EX16AL

TEST DATA:

MEASUREMENT NUMBER	TIME (HH:MM:SS)	TRANSDUCER READING (% of 25.00 psi)	HEAD RATIO (H/HO)
1	11: 1: 0	50.95	1.0000
2	11: 1:15	52.95	0.5556
3	11: 1:30	53.90	0.3444
4	11: 1:45	54.45	0.2222
5	11: 2: 0	54.77	0.1511
6	11: 2:15	54.97	0.1067
7	11: 2:30	55.10	0.0778
8	11: 2:45	55.20	0.0556
9	11: 3: 0	55.25	0.0444
10	11: 3:15	55.27	0.0400
11	11: 3:30	55.32	0.0289
12	11: 3:45	55.35	0.0222
13	11: 4:45	55.37	0.0178
14	11: 5:45	55.40	0.0111

STS CONSULTANTS LTD. - FIELD ENGINEERING SERVICES
SINGLE WELL HYDRAULIC CONDUCTIVITY TEST

STS JOB NO.: 12959
PROJECT/LOCATION: EXXON/CRANDON
PROJECT MANAGER: JAS
TEST TECHNICIAN: JCG
DATA ANALYST: PMB/JRT

TEST INFORMATION

TYPE: FALLING HEAD METHOD: SLUG

PIEZOMETER ID: EX16AU
SCREEN LENGTH: 3.0000 feet
SLOT SIZE (est.): 0.0200 inches
STANDPIPE RADIUS: 1.0000 inches
BOREHOLE RADIUS: 3.1250 inches
GRAVEL PACK LENGTH: 7.0000 feet
GRAVEL PACK PERM.: 0.35E-01 ft./sec.
SCREEN PERMEABILITY: 0.35E-02 ft./sec.

LENGTH USED FOR CALCULATION: 7.00 ft.

THE GRAVEL LENGTH WILL BE USED FOR CALC.

SLUG LENGTH: 15.00 feet
SLUG RADIUS: 0.50 inches

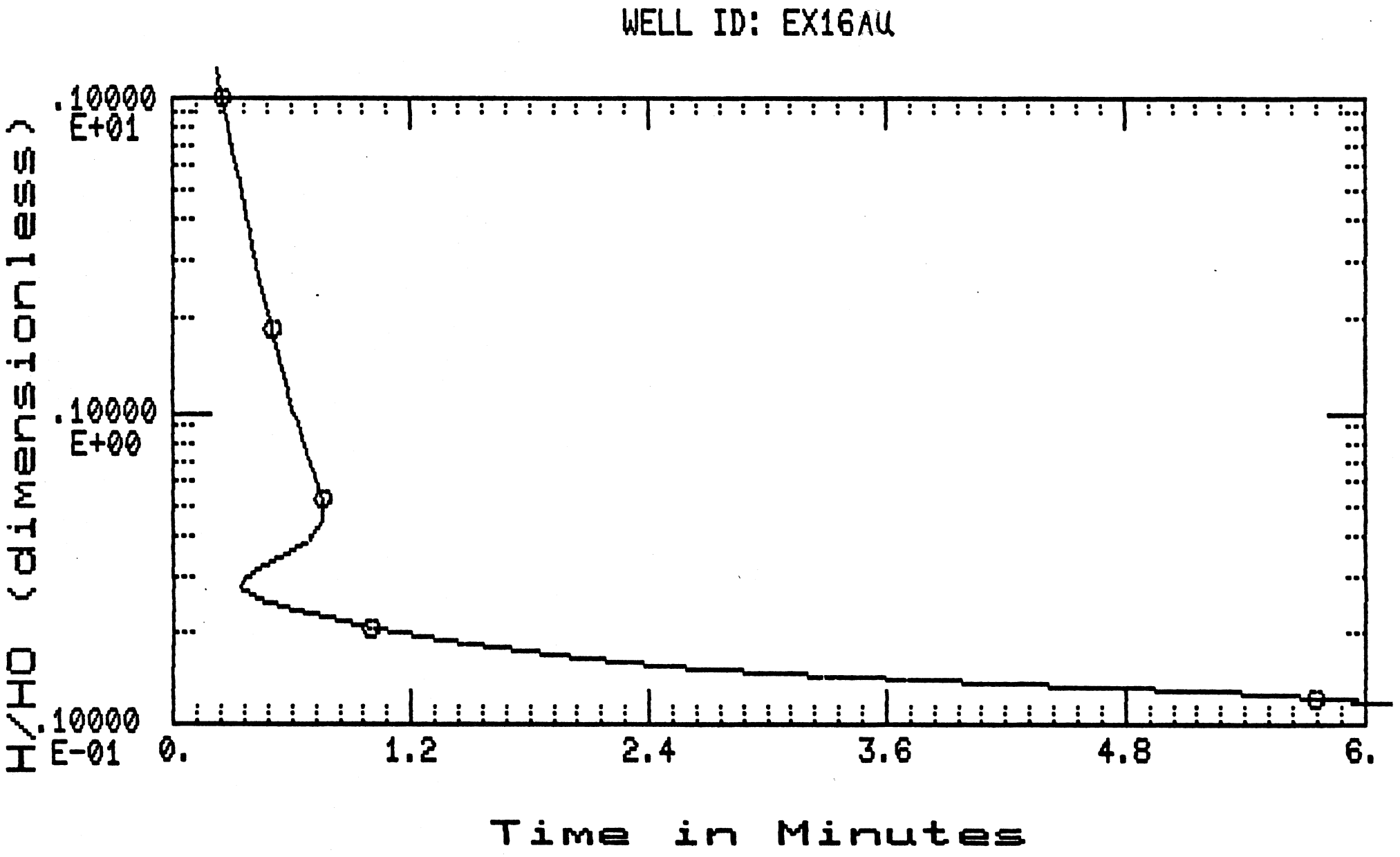
TRANSDUCER USED: 25.00 psi
INITIAL READING: 54.27% of 25.00 psi

DATA POINTS SELECTED

1. TIME: 0.50 minutes HEAD: 54.72 % of 25.00 psi
2. TIME: 1.00 minutes HEAD: 54.32 % of 25.00 psi

HYDRAULIC CONDUCTIVITY OF TEST INTERVAL:

0.36E-02 cm/sec 0.12E-03 ft/sec 0.36E-04 m/sec


WELL ID: EX16AU
.10000 E+01
.10000 E+00
.10000 E-01
H/HO (dimensionless)
0.
1.2
2.4
3.6
4.8
6.
Time in Minutes

WELL ID: EX16AU

TYPE: FALLING HEAD

TEST DATA:

MEASUREMENT NUMBER	TIME (HH:MM:SS)	TRANSDUCER READING (% of 25.00 psi)	HEAD RATIO (H/HO)
1	11:15: 0	56.70	1.0000
2	11:15: 0	56.70	1.0000
3	11:15:15	54.72	0.1852
4	11:15:30	54.40	0.0535
5	11:15:45	54.32	0.0206
6	11:20:30	54.30	0.0123
7	11:20:30	54.30	0.0123

STS CONSULTANTS LTD. - FIELD ENGINEERING SERVICES

SINGLE WELL HYDRAULIC CONDUCTIVITY TEST

STS JOB NO.: 12959
PROJECT/LOCATION: EXXON/CRANDON
PROJECT MANAGER: JAS
TEST TECHNICIAN: JCG
DATA ANALYST: PMB

TEST INFORMATION

TYPE: RISING HEAD METHOD: SLUG

PIEZOMETER ID: EX16AU
SCREEN LENGTH: 3.0000 feet
SLOT SIZE (est.): 0.0200 inches
STANDPIPE RADIUS: 1.0000 inches
BOREHOLE RADIUS: 3.1250 inches
GRAVEL PACK LENGTH: 7.0000 feet
GRAVEL PACK PERM.: 0.35E-01 ft./sec.
SCREEN PERMEABILITY: 0.35E-02 ft./sec.

LENGTH USED FOR CALCULATION: 7.00 ft.

THE GRAVEL LENGTH WILL BE USED FOR CALC.

SLUG LENGTH: 15.00 feet
SLUG RADIUS: 0.50 inches

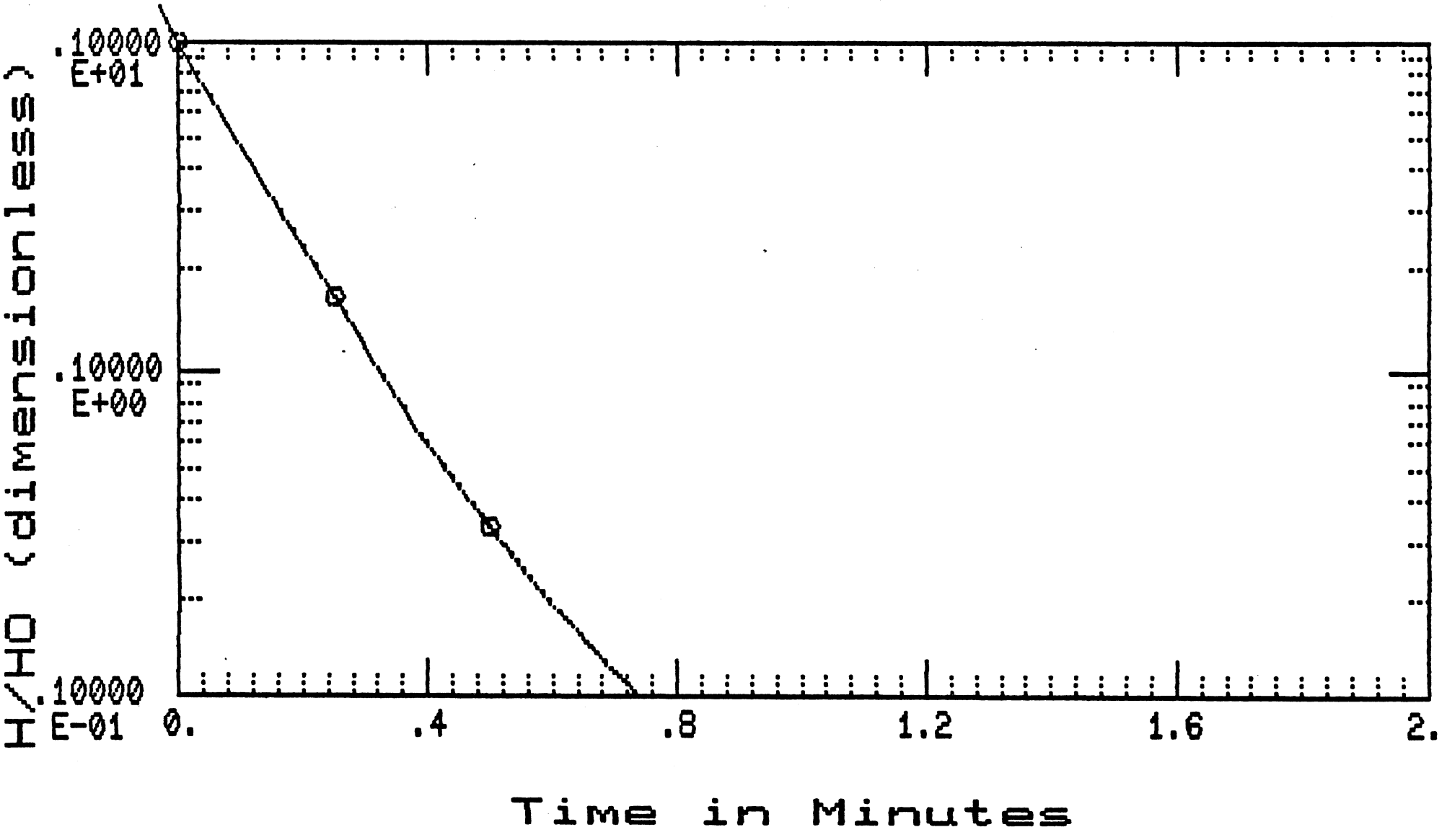
TRANSDUCER USED: 25.00 psi
INITIAL READING: 54.27% of 25.00 psi

DATA POINTS SELECTED

1. TIME: 0.00 minutes HEAD: 52.15 % of 25.00 psi
2. TIME: 0.50 minutes HEAD: 54.20 % of 25.00 psi

HYDRAULIC CONDUCTIVITY OF TEST INTERVAL:

0.57E-02 cm/sec 0.19E-03 ft/sec 0.57E-04 m/sec


WELL ID: EX16AU
H/HO (dimensionless)
.10000 E+01
.10000 E+00
.10000 E-01
0.
.4
.8
1.2
1.6
2.
Time in Minutes

WELL ID: EX16AU

TYPE: RISING HEAD

TEST DATA:

MEASUREMENT NUMBER	TIME (HH:MM:SS)	TRANSDUCER READING (% of 25.00 Psi)	HEAD RATIO (H/HO)
1	11:20:45	52.15	1.0000
2	11:21: 0	53.92	0.1651
3	11:21:15	54.20	0.0330
4	11:21:30	54.25	0.0094
5	11:22: 0	54.27	0.0010

STS CONSULTANTS LTD. - FIELD ENGINEERING SERVICES
SINGLE WELL HYDRAULIC CONDUCTIVITY TEST

STS JOB NO.: 12959
PROJECT/LOCATION: EXXON/CRANDON
PROJECT MANAGER: JAS
TEST TECHNICIAN: JCG
DATA ANALYST: PMB/JRT

TEST INFORMATION

TYPE: FALLING HEAD METHOD: SLUG

PIEZOMETER ID: EX16BL
SCREEN LENGTH: 17.0000 feet
SLOT SIZE (est.): 0.0200 inches
STANDPIPE RADIUS: 1.0000 inches
BOREHOLE RADIUS: 3.1250 inches
GRAVEL PACK LENGTH: 30.0000 feet
GRAVEL PACK PERM.: 0.35E-01 ft./sec.
SCREEN PERMEABILITY: 0.35E-02 ft./sec.

LENGTH USED FOR CALCULATION: 30.00 ft.

THE GRAVEL LENGTH WILL BE USED FOR CALC.

SLUG LENGTH: 15.00 feet
SLUG RADIUS: 0.50 inches

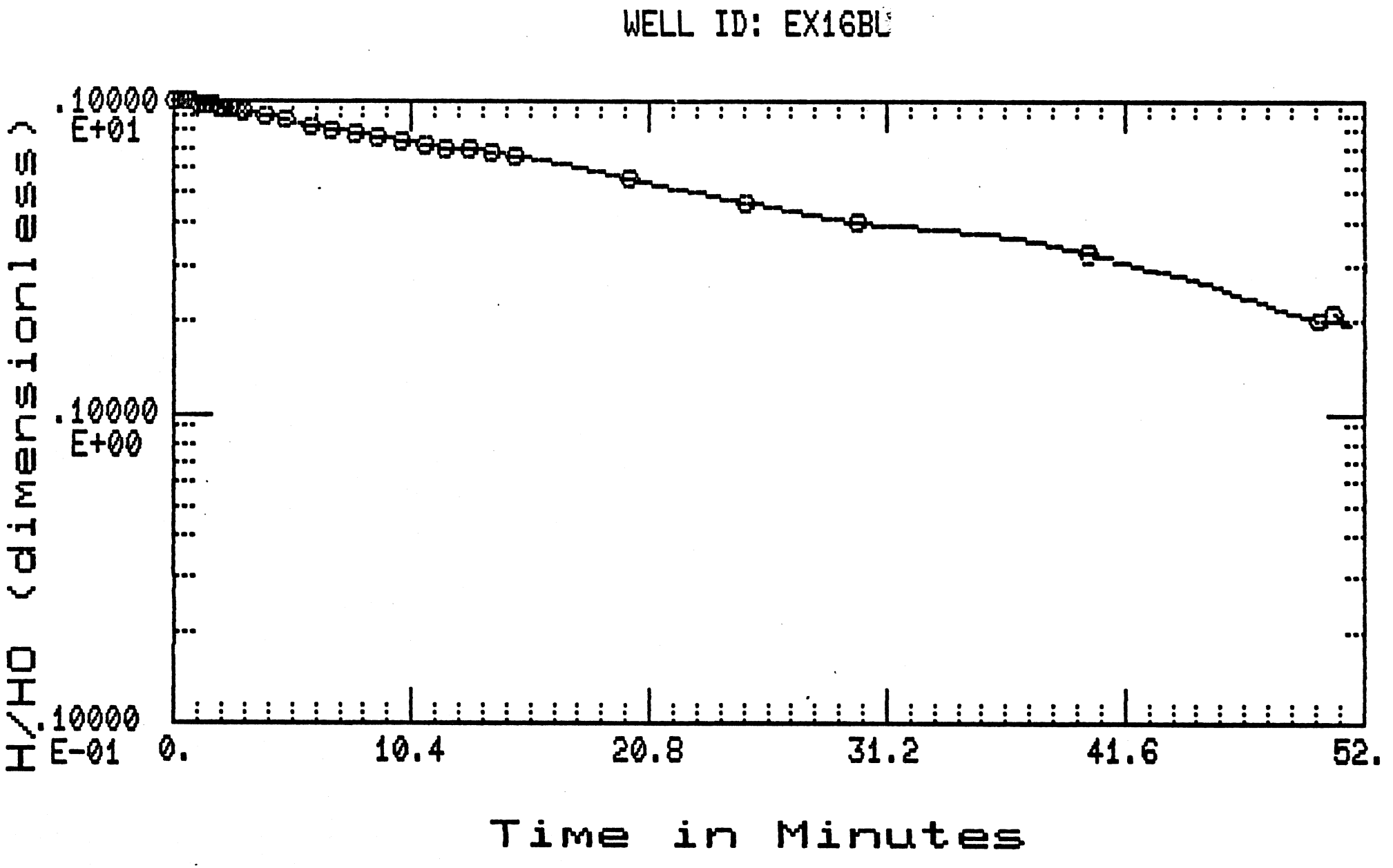
TRANSDUCER USED: 25.00 psi
INITIAL READING: 55.37% of 25.00 psi

DATA POINTS SELECTED

1. TIME: 14.00 minutes HEAD: 59.52 % of 25.00 psi
2. TIME: 30.00 minutes HEAD: 57.87 % of 25.00 psi

HYDRAULIC CONDUCTIVITY OF TEST INTERVAL:

0.88E-05 cm/sec 0.29E-06 ft/sec 0.88E-07 m/sec


WELL ID: EX16BL
.10000
E+01
.10000
E+00
.10000
E-01
H/HO (dimensionless)
0.
10.4
20.8
31.2
41.6
52.
Time in Minutes

WELL ID: EX16BL

TEST DATA:

MEASUREMENT NUMBER	TIME (HH:MM:SS)	TRANSDUCER READING (% of 25.00 psi)	HEAD RATIO (H/HO)
1	11:30: 0	61.55	1.0000
2	11:30:15	61.52	0.9951
3	11:30:30	61.47	0.9871
4	11:30:45	61.45	0.9838
5	11:31: 0	61.40	0.9757
6	11:31:15	61.35	0.9676
7	11:31:30	61.30	0.9595
8	11:31:45	61.27	0.9547
9	11:32: 0	61.22	0.9466
10	11:32:15	61.17	0.9385
11	11:32:30	61.15	0.9353
12	11:32:45	61.10	0.9272
13	11:33: 0	61.07	0.9223
14	11:34: 0	60.90	0.8948
15	11:35: 0	60.67	0.8576
16	11:36: 0	60.47	0.8252
17	11:37: 0	60.30	0.7977
18	11:38: 0	60.15	0.7735
19	11:39: 0	60.00	0.7492
20	11:40: 0	59.87	0.7282
21	11:41: 0	59.80	0.7168
22	11:42: 0	59.65	0.6926
23	11:43: 0	59.62	0.6877
24	11:44: 0	59.52	0.6715
25	11:45: 0	59.42	0.6553
26	11:50: 0	58.80	0.5550
27	11:55: 0	58.25	0.4660
28	12: 0: 0	57.87	0.4045
29	12:10: 0	57.37	0.3236
30	12:20: 0	56.62	0.2023
31	12:20:45	56.67	0.2104

STS CONSULTANTS LTD. - FIELD ENGINEERING SERVICES

SINGLE WELL HYDRAULIC CONDUCTIVITY TEST

STS JOB NO.: 12959
PROJECT/LOCATION: EXXON/CRANDON
PROJECT MANAGER: JAS
TEST TECHNICIAN: JCG
DATA ANALYST: PMB

TEST INFORMATION

TYPE: RISING HEAD METHOD: SLUG

PIEZOMETER ID: EX16BL
SCREEN LENGTH: 17.0000 feet
SLOT SIZE (est.): 0.0200 inches
STANDPIPE RADIUS: 1.0000 inches
BOREHOLE RADIUS: 3.1250 inches
GRAVEL PACK LENGTH: 30.0000 feet
GRAVEL PACK PERM.: 0.35E-01 ft./sec.
SCREEN PERMEABILITY: 0.35E-02 ft./sec.

LENGTH USED FOR CALCULATION: 30.00 ft.

THE GRAVEL LENGTH WILL BE USED FOR CALC.

SLUG LENGTH: 15.00 feet
SLUG RADIUS: 0.50 inches

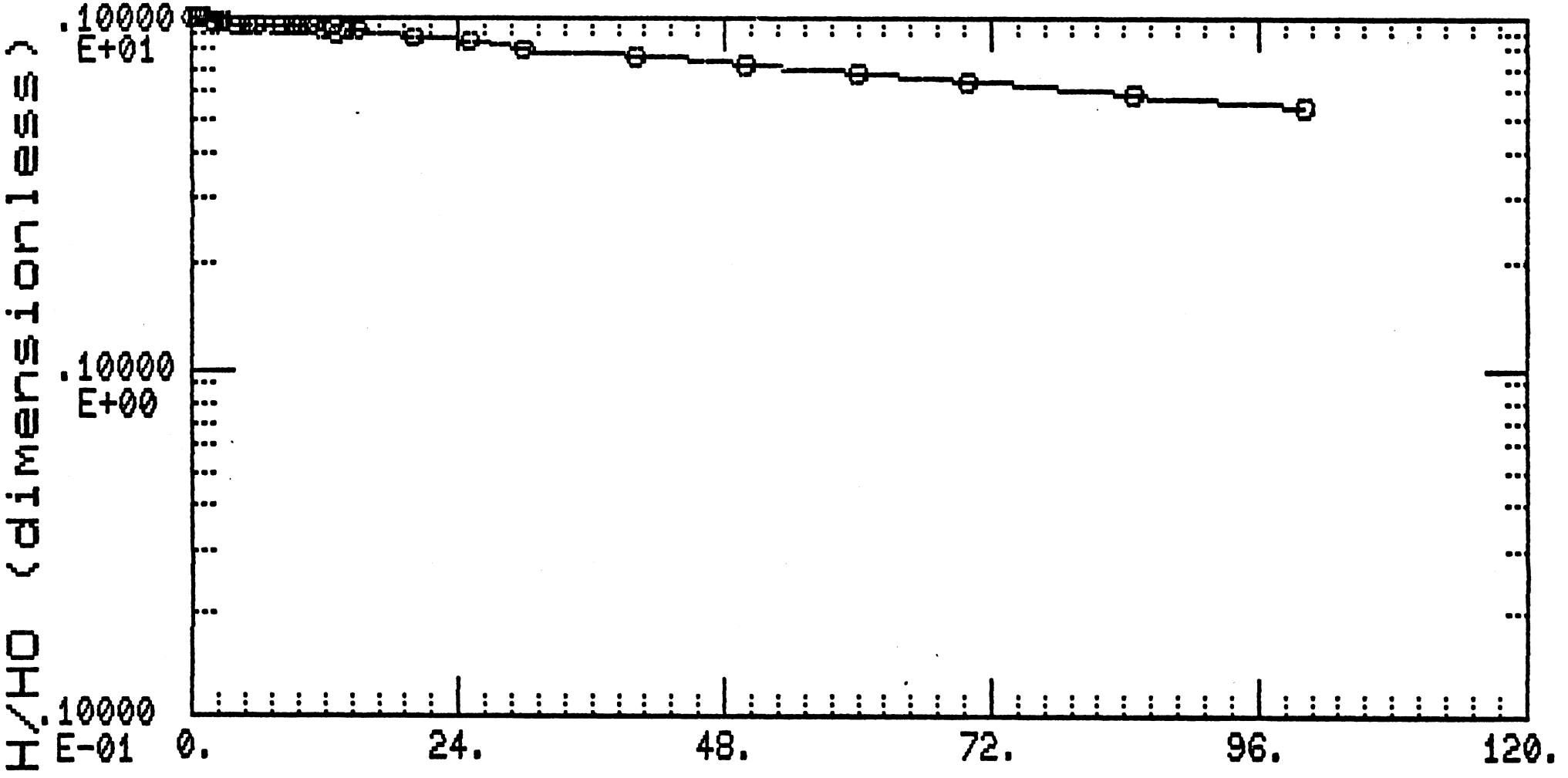
TRANSDUCER USED: 25.00 psi
INITIAL READING: 55.37% of 25.00 psi

DATA POINTS SELECTED

1. TIME: 30.00 minutes HEAD: 51.30 % of 25.00 psi
2. TIME: 100.00 minutes HEAD: 52.57 % of 25.00 psi

HYDRAULIC CONDUCTIVITY OF TEST INTERVAL:

0.15E-05 cm/sec 0.49E-07 ft/sec 0.15E-07 m/sec


WELL ID: EX16BL
.10000 E+01
.10000 E+00
.10000 E-01
H/HO (dimensionless)
0.
24.
48.
72.
96.
120.
Time in Minutes

WELL ID: EX16BL

TYPE: RISING HEAD

TEST DATA:

MEASUREMENT NUMBER	TIME (HH:MM:SS)	TRANSDUCER READING (% of 25.00 psi)	HEAD RATIO (H/HO)
1	12:21: 0	50.25	1.0000
2	12:21:30	50.30	0.9902
3	12:21:45	50.32	0.9863
4	12:22:15	50.35	0.9805
5	12:22:45	50.37	0.9766
6	12:23: 0	50.40	0.9707
7	12:23:45	50.42	0.9668
8	12:25: 0	50.50	0.9512
9	12:26: 0	50.55	0.9414
10	12:27: 0	50.57	0.9375
11	12:29: 0	50.52	0.9473
12	12:30: 0	50.55	0.9414
13	12:31: 0	50.57	0.9375
14	12:32: 0	50.60	0.9316
15	12:33: 0	50.72	0.9082
16	12:34: 0	50.77	0.8984
17	12:35: 0	50.75	0.9023
18	12:36: 0	50.75	0.9023
19	12:41: 0	50.90	0.8730
20	12:46: 0	51.02	0.8496
21	12:51: 0	51.30	0.7949
22	13: 1: 0	51.47	0.7617
23	13:11: 0	51.72	0.7129
24	13:21: 0	51.92	0.6738
25	13:31: 0	52.10	0.6387
26	13:46: 0	52.37	0.5859
27	14: 1: 0	52.57	0.5469

APPENDIX C

Field Permeability Test Data for Well Points

STS CONSULTANTS LTD. - FIELD ENGINEERING SERVICES
SINGLE WELL HYDRAULIC CONDUCTIVITY TEST

STS JOB NO.: 12959
PROJECT/LOCATION: EXXON/CRANDON
PROJECT MANAGER: JAS
TEST TECHNICIAN: JCG
DATA ANALYST: PMB/JRT

TEST INFORMATION

TYPE: FALLING HEAD METHOD: SLUG

PIEZOMETER ID:	WP1L	BOREHOLE RADIUS:	1.0000 inches
SCREEN LENGTH:	3.0000 feet	GRAVEL PACK LENGTH:	3.0000 feet
SLOT SIZE (est.):	0.0200 inches	GRAVEL PACK PERM.:	0.35E-02 ft./sec.
STANDPIPE RADIUS:	1.0000 inches	SCREEN PERMEABILITY:	0.35E-02 ft./sec.

LENGTH USED FOR CALCULATION: 3.00 ft.

THE GRAVEL LENGTH WILL BE USED FOR CALC.

SLUG LENGTH: 5.00 feet SLUG RADIUS: 0.50 inches

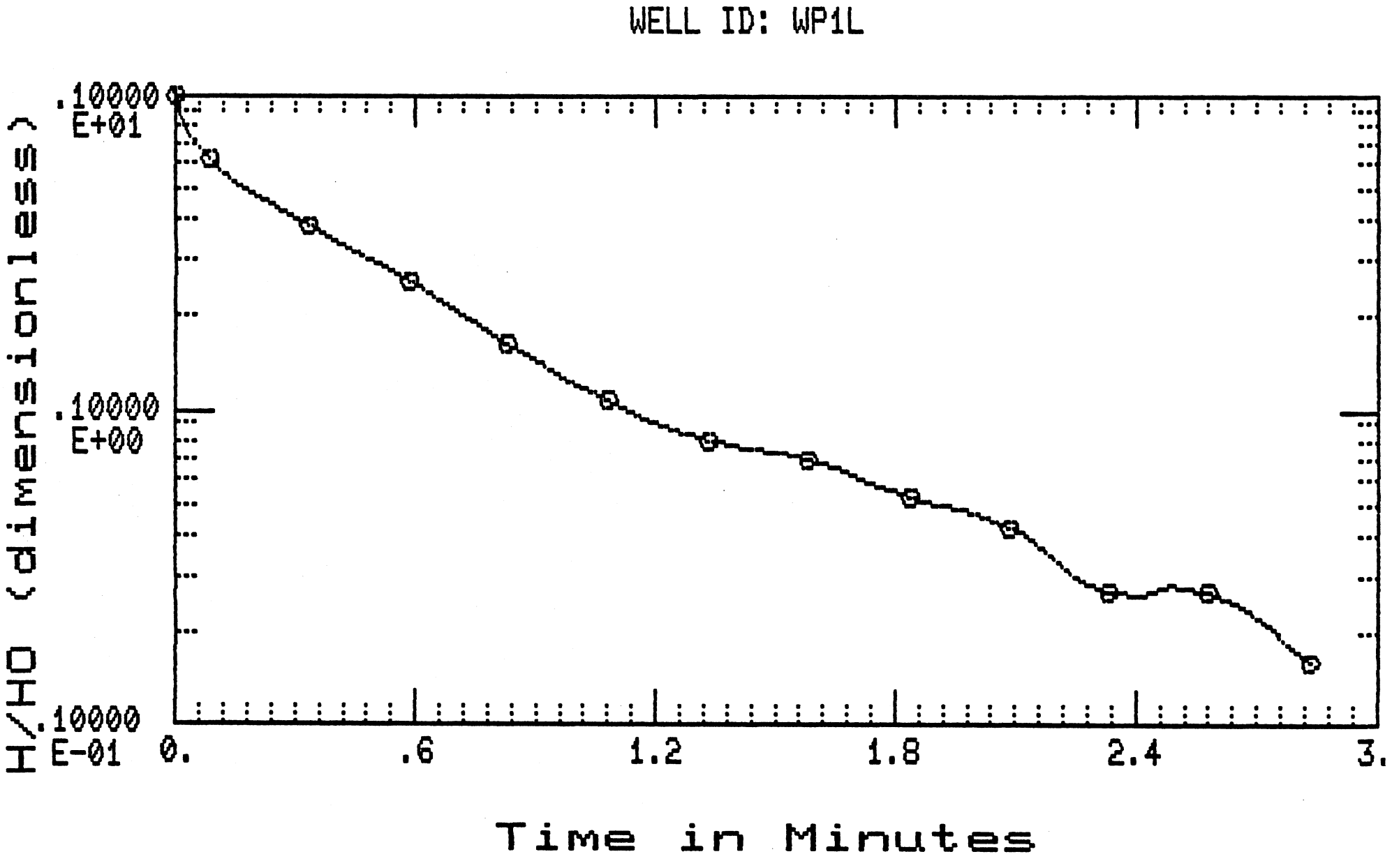
TRANSDUCER USED: 25.00 psi INITIAL READING: 13.32% of 25.00 psi

DATA POINTS SELECTED

1. TIME: 1.08 minutes HEAD: 13.52 % of 25.00 psi
2. TIME: 2.08 minutes HEAD: 13.40 % of 25.00 psi

HYDRAULIC CONDUCTIVITY OF TEST INTERVAL:

0.19E-02 cm/sec 0.63E-04 ft/sec 0.19E-04 m/sec


WELL ID: WP1L
.10000 E+01
.10000 E+00
.10000 E-01
H/HO (dimensionless)
0.
.6
1.2
1.8
2.4
3.
Time in Minutes

WELL ID: WP1L

TEST DATA:

MEASUREMENT NUMBER	TIME (HH:MM:SS)	TRANSDUCER READING (% of 25.00 psi)	HEAD RATIO (H/HO)
1	10: 4:10	15.20	1.0000
2	10: 4:15	14.50	0.6277
3	10: 4:30	14.05	0.3883
4	10: 4:45	13.80	0.2553
5	10: 5: 0	13.62	0.1596
6	10: 5:15	13.52	0.1064
7	10: 5:30	13.47	0.0798
8	10: 5:45	13.45	0.0691
9	10: 6: 0	13.42	0.0532
10	10: 6:15	13.40	0.0426
11	10: 6:30	13.37	0.0266
12	10: 6:45	13.37	0.0266
13	10: 7: 0	13.35	0.0160

STS CONSULTANTS LTD. - FIELD ENGINEERING SERVICES
SINGLE WELL HYDRAULIC CONDUCTIVITY TEST

STS JOB NO.: 12959
PROJECT/LOCATION: EXXON/CRANDON
PROJECT MANAGER: JAS
TEST TECHNICIAN: JCG
DATA ANALYST: PMB

TEST INFORMATION

TYPE: RISING HEAD METHOD: SLUG

PIEZOMETER ID: WP1L
SCREEN LENGTH: 3.0000 feet
SLOT SIZE (est.): 0.0200 inches
STANDPIPE RADIUS: 1.0000 inches
BOREHOLE RADIUS: 1.0000 inches
GRAVEL PACK LENGTH: 3.0000 feet
GRAVEL PACK PERM.: 0.35E-02 ft./sec.
SCREEN PERMEABILITY: 0.35E-02 ft./sec.

LENGTH USED FOR CALCULATION: 3.00 ft.

THE GRAVEL LENGTH WILL BE USED FOR CALC.

SLUG LENGTH: 5.00 feet
SLUG RADIUS: 0.50 inches

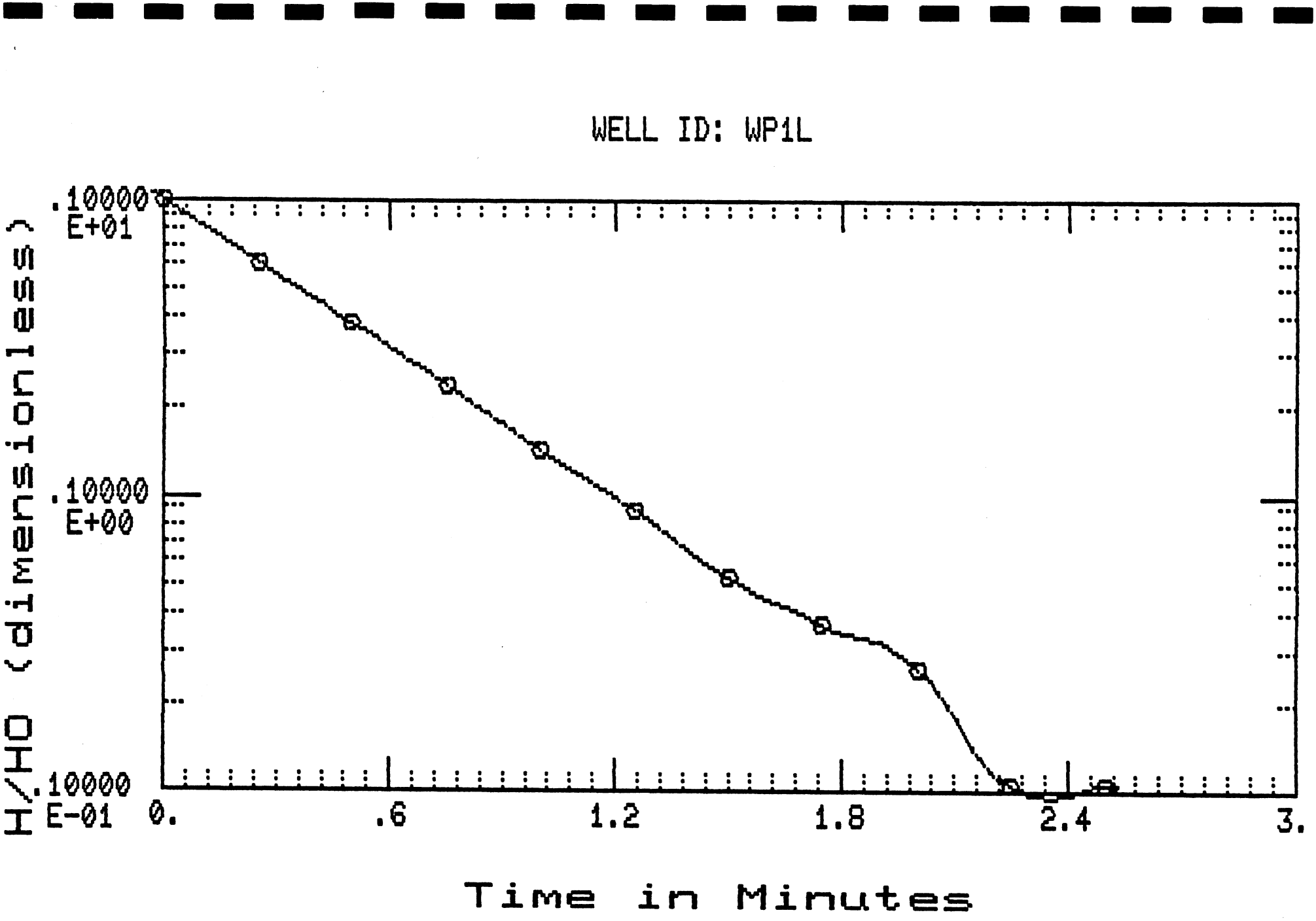
TRANSDUCER USED: 25.00 psi
INITIAL READING: 13.42% of 25.00 psi

DATA POINTS SELECTED

1. TIME: 0.00 minutes HEAD: 11.52 % of 25.00 psi
2. TIME: 1.50 minutes HEAD: 13.32 % of 25.00 psi

HYDRAULIC CONDUCTIVITY OF TEST INTERVAL:

0.41E-02 cm/sec 0.14E-03 ft/sec 0.41E-04 m/sec


WELL ID: WP1L
.10000 E+01
.10000 E+00
.10000 E-01
H/HO (dimensionless)
0.
.6
1.2
1.8
2.4
3.
Time in Minutes

WELL ID: WP1L

TEST DATA:

MEASUREMENT NUMBER	TIME (HH:MM:SS)	TRANSDUCER READING (% of 25.00 psi)	HEAD RATIO (H/HO)
1	10: 8: 0	11.52	1.0000
2	10: 8:15	12.25	0.6158
3	10: 8:30	12.70	0.3789
4	10: 8:45	12.97	0.2368
5	10: 9: 0	13.15	0.1421
6	10: 9:15	13.25	0.0895
7	10: 9:30	13.32	0.0526
8	10: 9:45	13.35	0.0368
9	10:10: 0	13.37	0.0263
10	10:10:15	13.40	0.0105
11	10:10:30	13.40	0.0105
12	10:10:45	13.42	0.0010

STS CONSULTANTS LTD. - FIELD ENGINEERING SERVICES

SINGLE WELL HYDRAULIC CONDUCTIVITY TEST

STS JOB NO.: 12959
PROJECT/LOCATION: EXXON CRANDON
PROJECT MANAGER: JAS
TEST TECHNICIAN: RP
DATA ANALYST: JAS

TEST INFORMATION

TYPE: FALLING HEAD METHOD: SLUG

PIEZOMETER ID: WP 2L
SCREEN LENGTH: 3.000 feet
SLOT SIZE (est.): 0.0200 inches
STANDPIPE RADIUS: 1.0000 inches
BOREHOLE RADIUS: 1.0000 inches
GRAVEL PACK LENGTH: 3.000 feet
GRAVEL PACK PERM.: 0.35E-02 ft./sec.
SCREEN PERMEABILITY: 0.35E-02 ft./sec.

LENGTH USED FOR CALCULATION: 3.00 ft.

THE SCREEN LENGTH WILL BE USED FOR CALC.

SLUG LENGTH: 10.00 feet
SLUG RADIUS: 0.50 inches

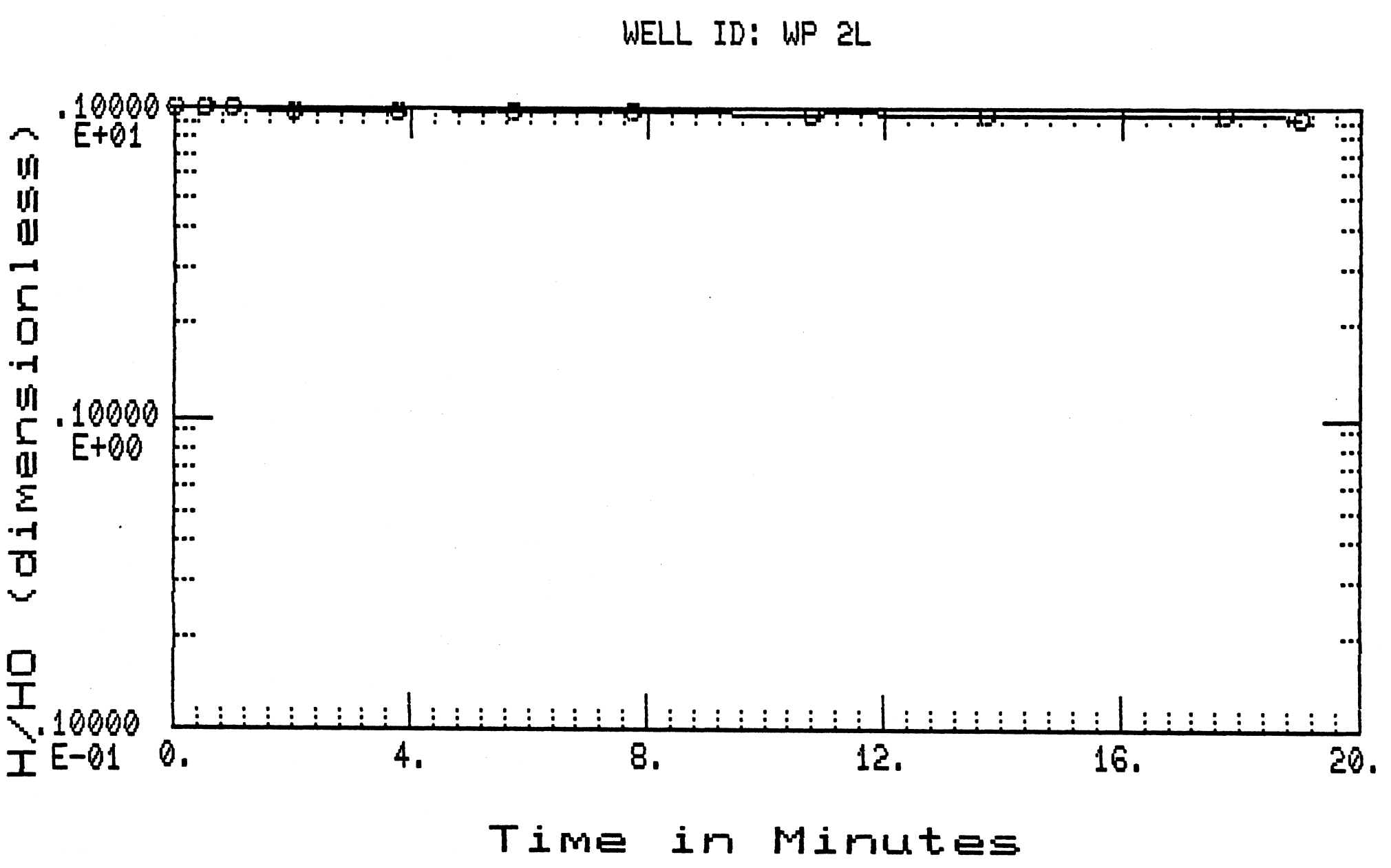
TRANSDUCER USED: 25.00 psi
INITIAL READING: 47.77% of 25.00 psi

DATA POINTS SELECTED

1. TIME: 7.75 minutes HEAD: 50.77 % of 25.00 psi
2. TIME: 17.75 minutes HEAD: 50.70 % of 25.00 psi

HYDRAULIC CONDUCTIVITY OF TEST INTERVAL:

0.50E-05 cm/sec 0.16E-06 ft/sec 0.50E-07 m/sec


WELL ID: WP 2L
.10000 E+01
.10000 E+00
.10000 E-01
H/HO (dimensionless)
0.
4.
8.
12.
16.
20.
Time in Minutes

WELL ID: WP 2L

TEST DATA:

MEASUREMENT NUMBER	TIME (HH:MM:SS)	TRANSDUCER READING (% of 25.00 Psi)	HEAD RATIO (H/HO)
1	9:52:15	50.92	1.0000
2	9:52:45	50.90	0.9937
3	9:53:15	50.87	0.9841
4	9:54:15	50.85	0.9778
5	9:56: 0	50.82	0.9683
6	9:58: 0	50.80	0.9619
7	10: 0: 0	50.77	0.9524
8	10: 3: 0	50.75	0.9460
9	10: 6: 0	50.72	0.9365
10	10:10: 0	50.70	0.9302
11	10:11:15	50.67	0.9206

STS CONSULTANTS LTD. - FIELD ENGINEERING SERVICES

SINGLE WELL HYDRAULIC CONDUCTIVITY TEST

STS JOB NO.: 12959
PROJECT/LOCATION: EXXON CRANDON
PROJECT MANAGER: JAS
TEST TECHNICIAN: RP
DATA ANALYST: JAS

TEST INFORMATION

TYPE: RISING HEAD METHOD: SLUG

PIEZOMETER ID: WP 2L
SCREEN LENGTH: 3.000 feet
SLOT SIZE (est.): 0.0200 inches
STANDPIPE RADIUS: 1.0000 inches
BOREHOLE RADIUS: 1.0000 inches
GRAVEL PACK LENGTH: 3.000 feet
GRAVEL PACK PERM.: 0.35E-02 ft./sec.
SCREEN PERMEABILITY: 0.35E-02 ft./sec.

LENGTH USED FOR CALCULATION: 3.00 ft.

THE SCREEN LENGTH WILL BE USED FOR CALC.

SLUG LENGTH: 10.00 feet
SLUG RADIUS: 0.25 inches

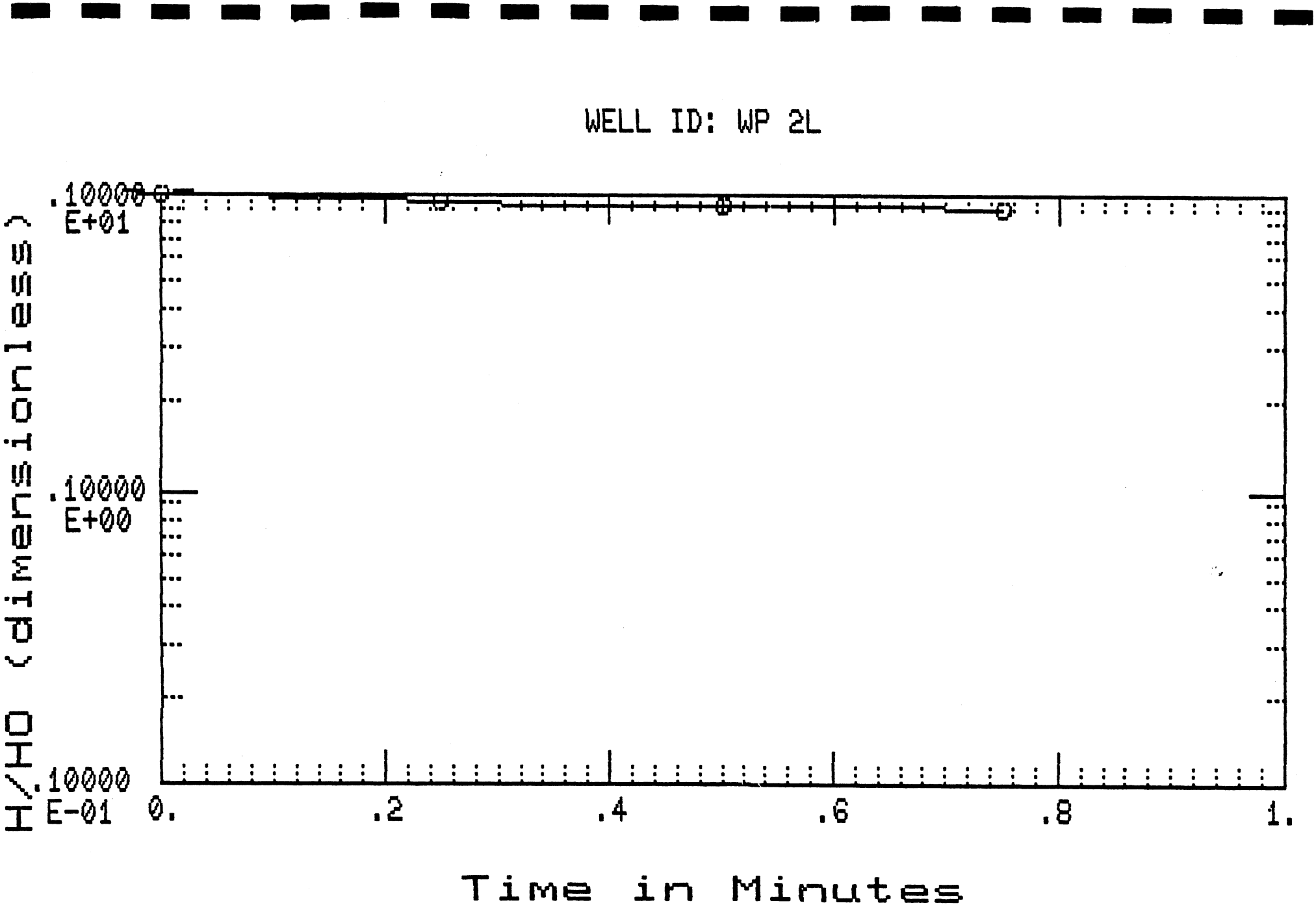
TRANSDUCER USED: 25.00 psi
INITIAL READING: 47.77% of 25.00 psi

DATA POINTS SELECTED

1. TIME: 0.25 minutes HEAD: 46.60 % of 25.00 psi
2. TIME: 0.75 minutes HEAD: 46.65 % of 25.00 psi

HYDRAULIC CONDUCTIVITY OF TEST INTERVAL:

0.18E-03 cm/sec 0.60E-05 ft/sec 0.18E-05 m/sec


WELL ID: WP 2L
.10000 E+01
.10000 E+00
.10000 E-01
H/HO (dimensionless)
0.
.2
.4
.6
.8
1.
Time in Minutes

WELL ID: WP 2L

TEST DATA:

MEASUREMENT NUMBER	TIME (HH:MM:SS)	TRANSDUCER READING (% of 25.00 psi)	HEAD RATIO (H/HO)
1	10:11:45	46.52	1.0000
2	10:12: 0	46.60	0.9360
3	10:12:15	46.62	0.9200
4	10:12:30	46.65	0.8960

STS CONSULTANTS LTD. - FIELD ENGINEERING SERVICES
SINGLE WELL HYDRAULIC CONDUCTIVITY TEST

STS JOB NO.: 12959
PROJECT/LOCATION: EXXON/CRANDON
PROJECT MANAGER: JAS
TEST TECHNICIAN: JCG
DATA ANALYST: PMB/JRT

TEST INFORMATION

TYPE: FALLING HEAD METHOD: SLUG

PIEZOMETER ID: WP3L
SCREEN LENGTH: 3.0000 feet
SLOT SIZE (est.): 0.0200 inches
STANDPIPE RADIUS: 1.0000 inches
BOREHOLE RADIUS: 1.0000 inches
GRAVEL PACK LENGTH: 3.0000 feet
GRAVEL PACK PERM.: 0.35E-02 ft./sec.
SCREEN PERMEABILITY: 0.35E-02 ft./sec.

LENGTH USED FOR CALCULATION: 3.00 ft.

THE SCREEN LENGTH WILL BE USED FOR CALC.

SLUG LENGTH: 10.00 feet
SLUG RADIUS: 0.50 inches

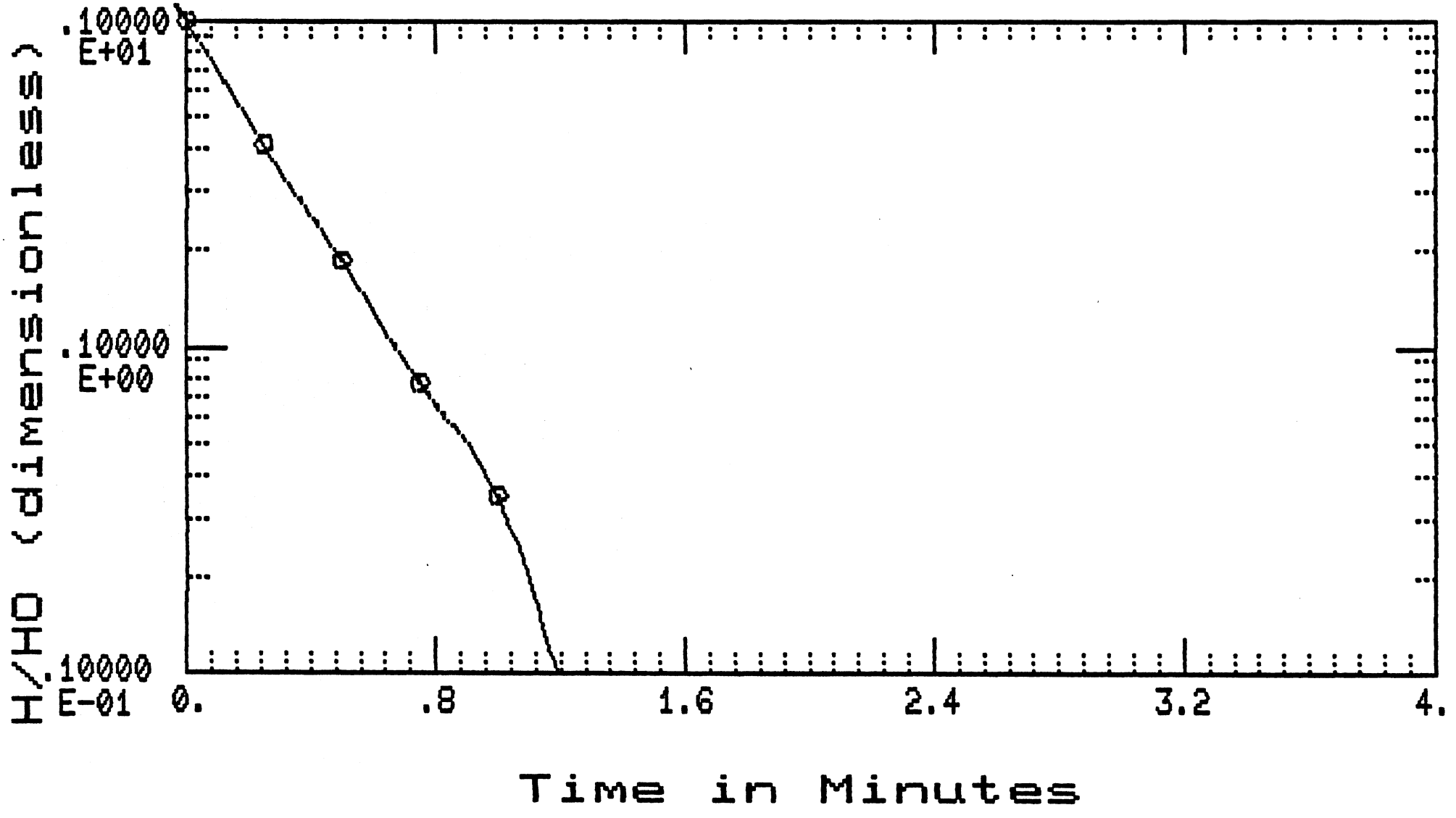
TRANSDUCER USED: 25.00 psi
INITIAL READING: 8.95% of 25.00 psi

DATA POINTS SELECTED

1. TIME: 0.25 minutes HEAD: 10.15 % of 25.00 psi
2. TIME: 1.00 minutes HEAD: 9.05 % of 25.00 psi

HYDRAULIC CONDUCTIVITY OF TEST INTERVAL:

0.70E-02 cm/sec 0.23E-03 ft/sec 0.70E-04 m/sec


WELL ID: WP3L
.10000 E+01
.10000 E+00
.10000 E-01
H/HO (dimensionless)
0.
.8
1.6
2.4
3.2
4.
Time in Minutes

WELL ID: WP3L

TEST DATA:

MEASUREMENT NUMBER	TIME (HH:MM:SS)	TRANSDUCER READING (% of 25.00 psi)	HEAD RATIO (H/HO)
1	9:57: 0	11.80	1.0000
2	9:57:15	10.15	0.4211
3	9:57:30	9.47	0.1825
4	9:57:45	9.17	0.0772
5	9:58: 0	9.05	0.0351
6	9:58:15	8.97	0.0070
7	9:58:30	8.97	0.0070
8	9:58:45	8.95	0.0010
9	9:59: 0	8.97	0.0070
10	9:59:15	8.97	0.0070
11	9:59:30	8.97	0.0070
12	9:59:45	8.95	0.0010
13	10: 0: 0	8.95	0.0010

STS CONSULTANTS LTD. - FIELD ENGINEERING SERVICES
SINGLE WELL HYDRAULIC CONDUCTIVITY TEST

STS JOB NO.: 12959
PROJECT/LOCATION: EXXON/CRANDON
PROJECT MANAGER: JAS
TEST TECHNICIAN: JCG
DATA ANALYST: PMB/JRT

TEST INFORMATION

TYPE: RISING HEAD METHOD: SLUG

PIEZOMETER ID: WP3L
SCREEN LENGTH: 3.0000 feet
SLOT SIZE (est.): 0.0200 inches
STANDPIPE RADIUS: 1.0000 inches
BOREHOLE RADIUS: 1.0000 inches
GRAVEL PACK LENGTH: 3.0000 feet
GRAVEL PACK PERM.: 0.35E-02 ft./sec.
SCREEN PERMEABILITY: 0.35E-02 ft./sec.

LENGTH USED FOR CALCULATION: 3.00 ft.

THE GRAVEL LENGTH WILL BE USED FOR CALC.

SLUG LENGTH: 0.00 feet
SLUG RADIUS: 0.50 inches

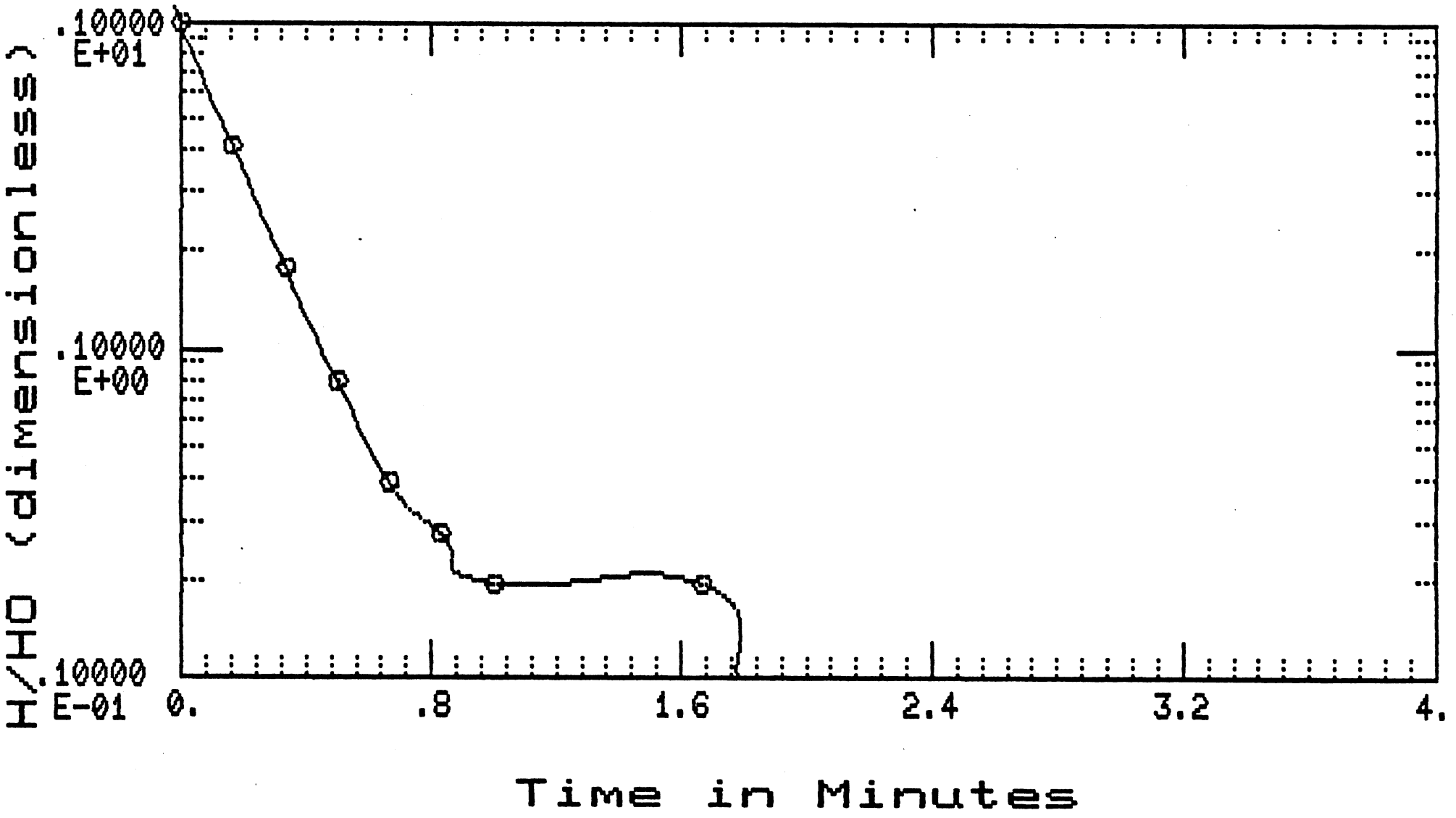
TRANSDUCER USED: 25.00 psi
INITIAL READING: 29.02% of 25.00 psi

DATA POINTS SELECTED

1. TIME: 0.33 minutes HEAD: 28.57 % of 25.00 psi
2. TIME: 0.67 minutes HEAD: 28.92 % of 25.00 psi

HYDRAULIC CONDUCTIVITY OF TEST INTERVAL:

0.95E-02 cm/sec 0.31E-03 ft/sec 0.95E-04 m/sec


WELL ID: WP3L
.10000
E+01
.10000
E+00
.10000
E-01
H/HO (dimensionless)
0.
.8
1.6
2.4
3.2
4.
Time in Minutes

WELL ID: WP3L

TEST DATA:

MEASUREMENT NUMBER	TIME (HH:MM:SS)	TRANSDUCER READING (% of 25.00 psi)	HEAD RATIO (H/HO)
1	10:20: 0	26.47	1.0000
2	10:20:10	27.97	0.4118
3	10:20:19	28.57	0.1765
4	10:20:30	28.82	0.0784
5	10:20:40	28.92	0.0392
6	10:20:49	28.95	0.0275
7	10:21: 0	28.97	0.0196
8	10:21:40	28.97	0.0196
9	10:21:49	29.00	0.0078
10	10:23:49	29.00	0.0078

STS CONSULTANTS LTD. - FIELD ENGINEERING SERVICES
SINGLE WELL HYDRAULIC CONDUCTIVITY TEST

STS JOB NO.: 12959
PROJECT/LOCATION: EXXON/CRANDON
PROJECT MANAGER: JAS
TEST TECHNICIAN: JCG
DATA ANALYST: PMB/JRT

TEST INFORMATION

TYPE: FALLING HEAD METHOD: SLUG

PIEZOMETER ID: WP4L
SCREEN LENGTH: 3.0000 feet
SLOT SIZE (est.): 0.0200 inches
STANDPIPE RADIUS: 1.0000 inches
BOREHOLE RADIUS: 1.0000 inches
GRAVEL PACK LENGTH: 3.0000 feet
GRAVEL PACK PERM.: 0.35E-02 ft./sec.
SCREEN PERMEABILITY: 0.35E-02 ft./sec.

LENGTH USED FOR CALCULATION: 3.00 ft.

THE GRAVEL LENGTH WILL BE USED FOR CALC.

SLUG LENGTH: 15.00 feet
SLUG RADIUS: 0.50 inches

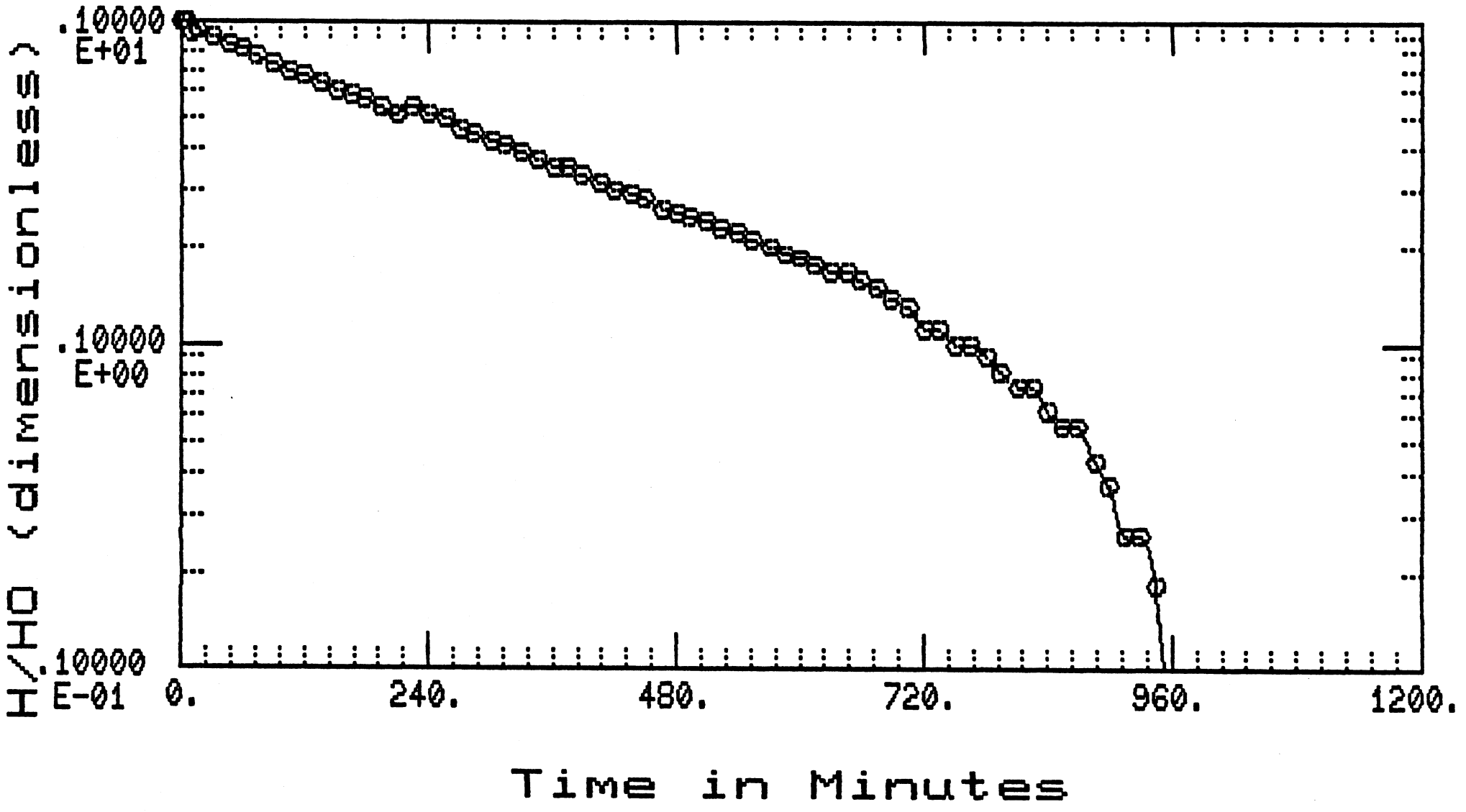
TRANSDUCER USED: 25.00 psi
INITIAL READING: 24.30% of 25.00 psi

DATA POINTS SELECTED

1. TIME: 225.00 minutes HEAD: 25.77 % of 25.00 psi
2. TIME: 675.00 minutes HEAD: 24.70 % of 25.00 psi

HYDRAULIC CONDUCTIVITY OF TEST INTERVAL:

0.61E-05 cm/sec 0.20E-06 ft/sec 0.61E-07 m/sec


WELL ID: WP4L
.10000
E+01
.10000
E+00
.10000
E-01
H/HO (dimensionless)
0.
240.
480.
720.
960.
1200.
Time in Minutes

WELL ID: WP4L

TEST DATA:

MEASUREMENT NUMBER	TIME (HH:MM:SS)	TRANSDUCER READING (% of 25.00 psi)	HEAD RATIO (H/HO)
1	14:15: 0	27.02	1.0000
2	14:15:15	27.02	1.0000
3	14:15:30	27.02	1.0000
4	14:15:45	27.02	1.0000
5	14:16: 0	27.02	1.0000
6	14:16:15	27.00	0.9926
7	14:16:30	27.00	0.9926
8	14:16:45	27.00	0.9926
9	14:17: 0	27.00	0.9926
10	14:18: 0	27.00	0.9926
11	14:19: 0	27.00	0.9926
12	14:20: 0	26.97	0.9816
13	14:25: 0	26.80	0.9191
14	14:30: 0	26.82	0.9265
15	14:45: 0	26.75	0.9007
16	15: 0: 0	26.62	0.8529
17	15:15: 0	26.50	0.8088
18	15:30: 0	26.40	0.7721
19	15:45: 0	26.30	0.7353
20	16: 0: 0	26.22	0.7059
21	16:15: 0	26.12	0.6691
22	16:30: 0	26.05	0.6434
23	16:45: 0	25.97	0.6140
24	17: 0: 0	25.92	0.5956
25	17:15: 0	25.85	0.5699
26	17:30: 0	25.77	0.5404
27	17:45: 0	25.72	0.5221
28	18: 0: 0	25.77	0.5404
29	18:15: 0	25.72	0.5221
30	18:30: 0	25.67	0.5037
31	18:45: 0	25.57	0.4669
32	19: 0: 0	25.52	0.4485
33	19:15: 0	25.47	0.4301
34	19:30: 0	25.42	0.4118
35	19:45: 0	25.37	0.3934
36	20: 0: 0	25.32	0.3750
37	20:15: 0	25.27	0.3566
38	20:30: 0	25.25	0.3493
39	20:45: 0	25.20	0.3309
40	21: 0: 0	25.17	0.3199
41	21:15: 0	25.12	0.3015
42	21:30: 0	25.10	0.2941
43	21:45: 0	25.07	0.2831
44	22: 0: 0	25.02	0.2647
45	22:15: 0	25.00	0.2574
46	22:30: 0	24.97	0.2463
47	22:45: 0	24.95	0.2390
48	23: 0: 0	24.92	0.2279
49	23:15: 0	24.90	0.2206
50	23:30: 0	24.87	0.2096
51	23:45: 0	24.85	0.2022
52	24: 0: 0	24.82	0.1912
53	24:15: 0	24.80	0.1838
54	24:30: 0	24.77	0.1728
55	24:45: 0	24.75	0.1654
56	25: 0: 0	24.75	0.1654
57	25:15: 0	24.72	0.1544
58	25:30: 0	24.70	0.1471
59	25:45: 0	24.67	0.1360
60	26: 0: 0	24.65	0.1287
61	26:15: 0	24.60	0.1103
62	26:30: 0	24.60	0.1103
63	26:45: 0	24.57	0.0993
64	27: 0: 0	24.57	0.0993
65	27:15: 0	24.55	0.0919
66	27:30: 0	24.52	0.0809
67	27:45: 0	24.50	0.0735
68	28: 0: 0	24.50	0.0735
69	28:15: 0	24.47	0.0625
70	28:30: 0	24.45	0.0551
71	28:45: 0	24.45	0.0551
72	29: 0: 0	24.42	0.0441
73	29:15: 0	24.40	0.0368
74	29:30: 0	24.37	0.0257
75	29:45: 0	24.37	0.0257
76	30: 0: 0	24.35	0.0184
77	30:15: 0	24.32	0.0074
78	30:30: 0	24.32	0.0074
79	30:45: 0	24.32	0.0074
80	31: 0: 0	24.30	0.0010
81	31:15: 0	24.30	0.0010

STS CONSULTANTS LTD. - FIELD ENGINEERING SERVICES
SINGLE WELL HYDRAULIC CONDUCTIVITY TEST

STS JOB NO.: 12959
PROJECT/LOCATION: EXXON/CRANDON
PROJECT MANAGER: JAS
TEST TECHNICIAN: JCG
DATA ANALYST: PMB/JRT

TEST INFORMATION

TYPE: FALLING HEAD METHOD: VOLUME ADDITION

PIEZOMETER ID:	WP6L	BOREHOLE RADIUS:	1.0000 inches
SCREEN LENGTH:	3.0000 feet	GRAVEL PACK LENGTH:	3.0000 feet
SLOT SIZE (est.):	0.0200 inches	GRAVEL PACK PERM.:	0.35E-02 ft./sec.
STANDPIPE RADIUS:	1.0000 inches	SCREEN PERMEABILITY:	0.35E-02 ft./sec.

LENGTH USED FOR CALCULATION: 3.00 ft.

THE GRAVEL LENGTH WILL BE USED FOR CALC.

VOLUME ADDED TO STANDPIPE: 0.00 gals.

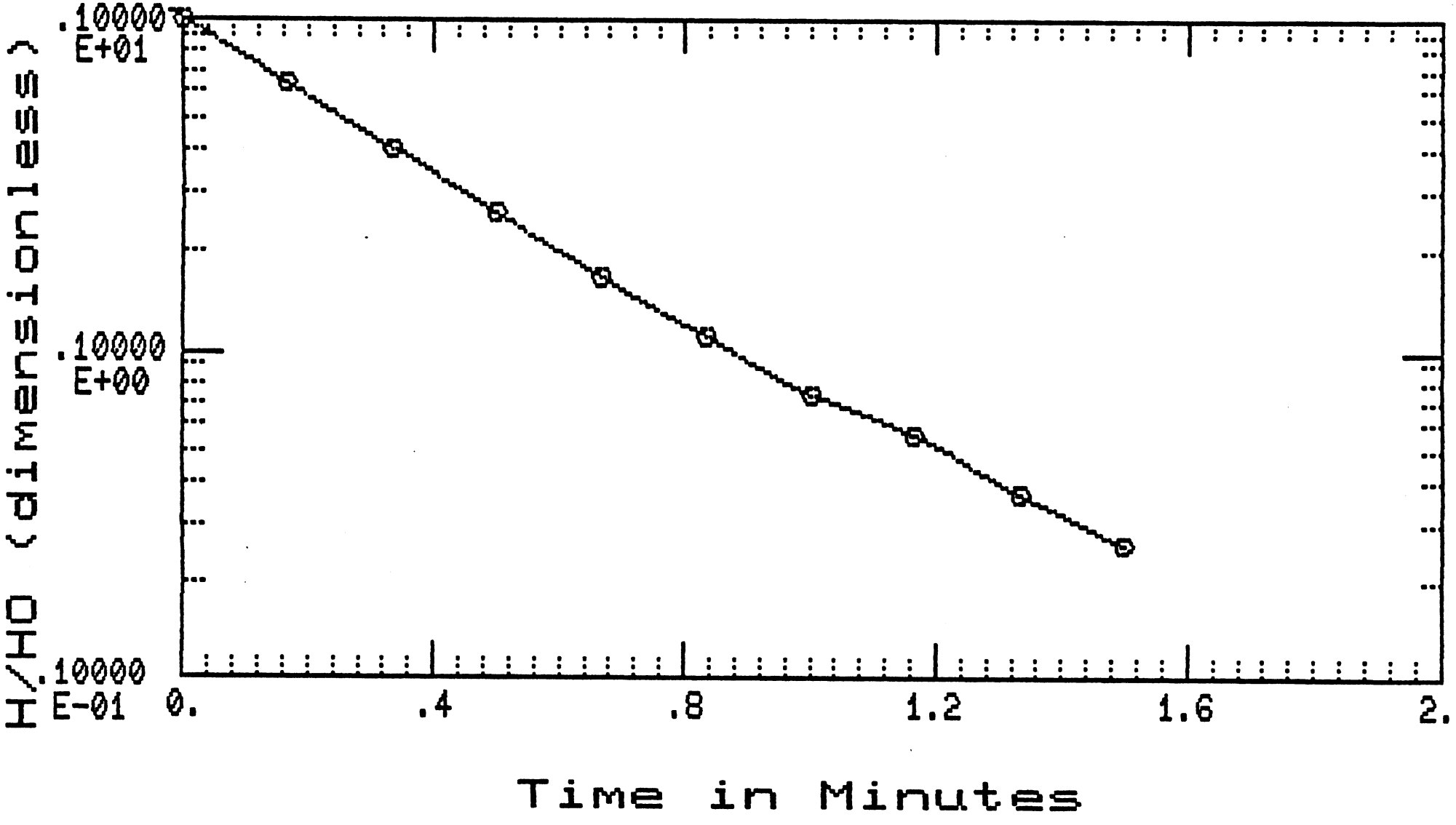
TRANSDUCER USED: 25.00 psi INITIAL READING: 9.45% of 25.00 psi

DATA POINTS SELECTED

1. TIME: 1.00 minutes HEAD: 9.65 % of 25.00 psi
2. TIME: 1.50 minutes HEAD: 9.52 % of 25.00 psi

HYDRAULIC CONDUCTIVITY OF TEST INTERVAL:

0.44E-02 cm/sec 0.15E-03 ft/sec 0.44E-04 m/sec


WELL ID: WP6L
.10000
E+01
.10000
E+00
.10000
E-01
H/HO (dimensionless)
0.
.4
.8
1.2
1.6
2.
Time in Minutes

WELL ID: WP6L

TEST DATA:

MEASUREMENT NUMBER	TIME (HH:MM:SS)	TRANSDUCER READING (% of 25.00 psi)	HEAD RATIO (H/HO)
1	12:20: 0	12.15	1.0000
2	12:20:10	11.17	0.6370
3	12:20:19	10.55	0.4074
4	12:20:30	10.15	0.2593
5	12:20:40	9.90	0.1667
6	12:20:49	9.75	0.1111
7	12:21: 0	9.65	0.0741
8	12:21:10	9.60	0.0556
9	12:21:19	9.55	0.0370
10	12:21:30	9.52	0.0259

STS CONSULTANTS LTD. - FIELD ENGINEERING SERVICES

SINGLE WELL HYDRAULIC CONDUCTIVITY TEST

STS JOB NO.: 12959
PROJECT/LOCATION: EXXON/CRANDON
PROJECT MANAGER: JAS
TEST TECHNICIAN: JCG
DATA ANALYST: PMB/JRT

TEST INFORMATION

TYPE: FALLING HEAD METHOD: SLUG

PIEZOMETER ID: WP7L
SCREEN LENGTH: 3.0000 feet
SLOT SIZE (est.): 0.0200 inches
STANDPIPE RADIUS: 1.0000 inches
BOREHOLE RADIUS: 1.0000 inches
GRAVEL PACK LENGTH: 3.0000 feet
GRAVEL PACK PERM.: 0.35E-02 ft./sec.
SCREEN PERMEABILITY: 0.35E-02 ft./sec.

LENGTH USED FOR CALCULATION: 3.00 ft.

THE GRAVEL LENGTH WILL BE USED FOR CALC.

SLUG LENGTH: 10.00 feet
SLUG RADIUS: 0.50 inches

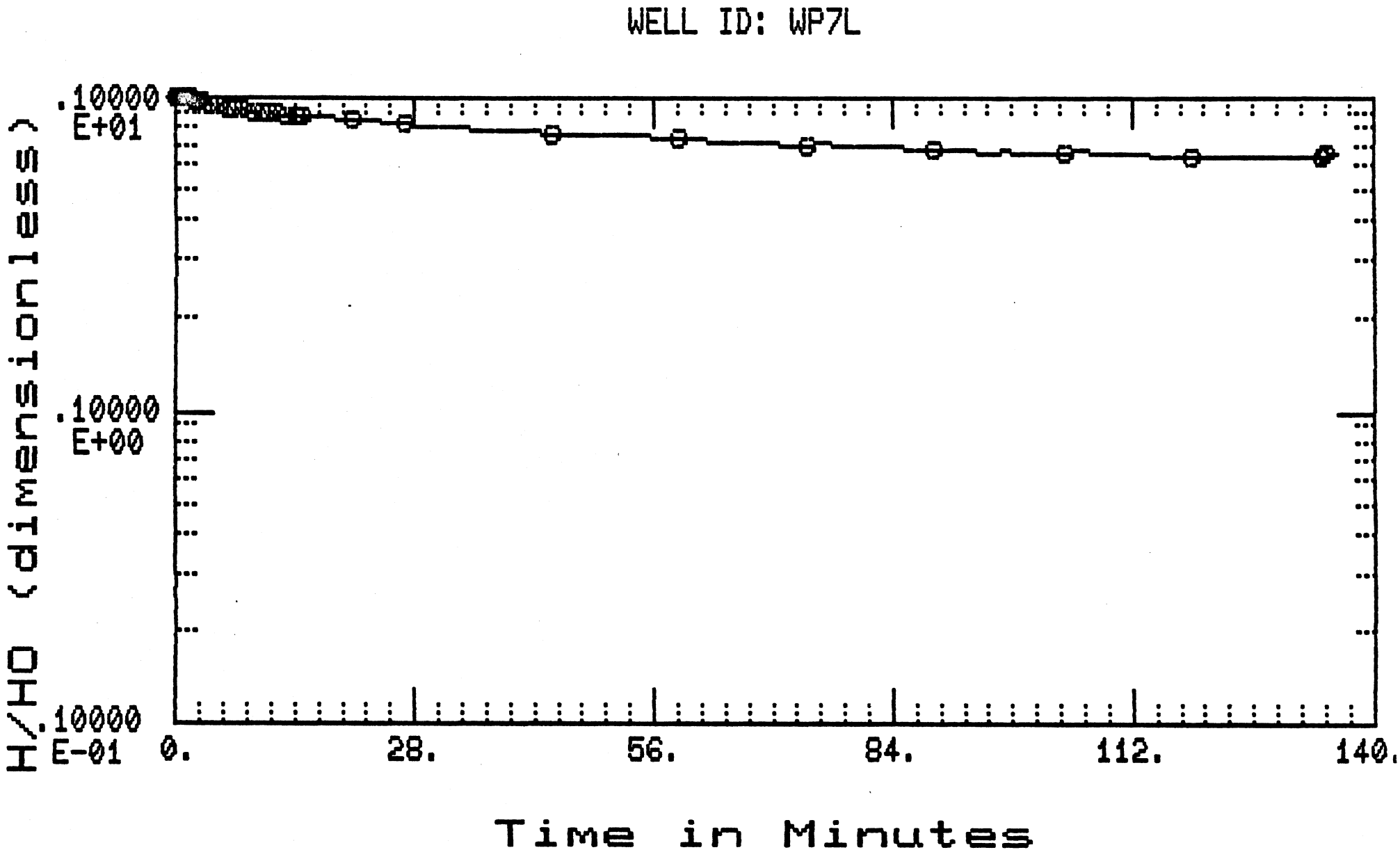
TRANSDUCER USED: 25.00 psi
INITIAL READING: 43.17% of 25.00 psi

DATA POINTS SELECTED

1. TIME: 44.00 minutes HEAD: 46.32 % of 25.00 psi
2. TIME: 119.00 minutes HEAD: 45.82 % of 25.00 psi

HYDRAULIC CONDUCTIVITY OF TEST INTERVAL:

0.49E-05 cm/sec 0.16E-06 ft/sec 0.49E-07 m/sec


WELL ID: WP7L
.10000
E+01
.10000
E+00
.10000
E-01
H/HO (dimensionless)
0.
28.
56.
84.
112.
140.
Time in Minutes

WELL ID: WP7L

TEST DATA:

MEASUREMENT NUMBER	TIME (HH:MM:SS)	TRANSDUCER READING (% of 25.00 psi)	HEAD RATIO (H/HO)
1	10: 2: 0	47.30	1.0000
2	10: 2:15	47.30	1.0000
3	10: 2:30	47.27	0.9927
4	10: 2:45	47.27	0.9927
5	10: 3: 0	47.25	0.9879
6	10: 3:15	47.25	0.9879
7	10: 3:30	47.22	0.9806
8	10: 3:45	47.22	0.9806
9	10: 4: 0	47.20	0.9758
10	10: 4:15	47.20	0.9758
11	10: 4:30	47.20	0.9758
12	10: 4:45	47.20	0.9758
13	10: 5: 0	47.17	0.9685
14	10: 6: 0	47.07	0.9443
15	10: 7: 0	47.02	0.9322
16	10: 8: 0	46.97	0.9201
17	10: 9: 0	46.92	0.9080
18	10:10: 0	46.90	0.9031
19	10:11: 0	46.87	0.8959
20	10:12: 0	46.85	0.8910
21	10:13: 0	46.80	0.8789
22	10:14: 0	46.80	0.8789
23	10:15: 0	46.77	0.8717
24	10:16: 0	46.75	0.8668
25	10:17: 0	46.72	0.8596
26	10:23: 0	46.62	0.8354
27	10:29: 0	46.52	0.8111
28	10:46: 0	46.32	0.7627
29	11: 1: 0	46.17	0.7264
30	11:16: 0	46.05	0.6973
31	11:31: 0	45.95	0.6731
32	11:46: 0	45.90	0.6610
33	12: 1: 0	45.82	0.6416
34	12:16: 0	45.85	0.6489
35	12:16:45	45.87	0.6538

STS CONSULTANTS LTD. - FIELD ENGINEERING SERVICES
SINGLE WELL HYDRAULIC CONDUCTIVITY TEST

STS JOB NO.: 12959
PROJECT/LOCATION: EXXON/CRANDON
PROJECT MANAGER: JAS
TEST TECHNICIAN: JCG
DATA ANALYST: PMB/JRT

TEST INFORMATION

TYPE: RISING HEAD METHOD: SLUG

PIEZOMETER ID: WP7L
SCREEN LENGTH: 3.0000 feet
SLOT SIZE (est.): 0.0200 inches
STANDPIPE RADIUS: 1.0000 inches
BOREHOLE RADIUS: 1.0000 inches
GRAVEL PACK LENGTH: 3.0000 feet
GRAVEL PACK PERM.: 0.35E-02 ft./sec.
SCREEN PERMEABILITY: 0.35E-02 ft./sec.

LENGTH USED FOR CALCULATION: 3.00 ft.

THE GRAVEL LENGTH WILL BE USED FOR CALC.

SLUG LENGTH: 10.00 feet
SLUG RADIUS: 0.50 inches

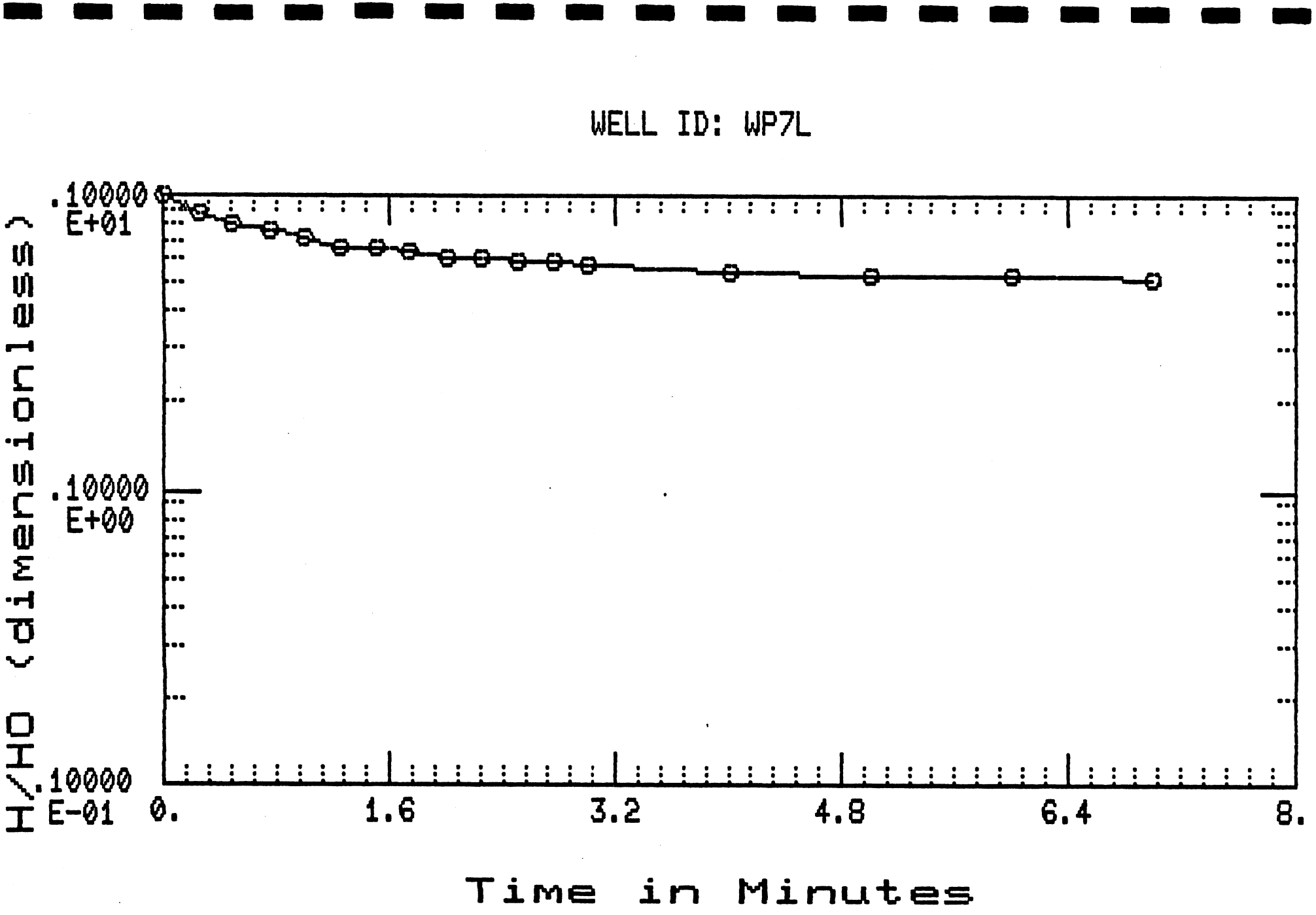
TRANSDUCER USED: 25.00 psi
INITIAL READING: 43.17% of 25.00 psi

DATA POINTS SELECTED

1. TIME: 4.00 minutes HEAD: 42.22 % of 25.00 psi
2. TIME: 7.00 minutes HEAD: 42.27 % of 25.00 psi

HYDRAULIC CONDUCTIVITY OF TEST INTERVAL:

0.38E-04 cm/sec 0.12E-05 ft/sec 0.38E-06 m/sec


WELL ID: WP7L
.10000
E+01
.10000
E+00
.10000
E-01
H/HO (dimensionless)
0.
1.6
3.2
4.8
6.4
8.
Time in Minutes

WELL ID: WP7L

TEST DATA:

MEASUREMENT NUMBER	TIME (HH:MM:SS)	TRANSDUCER READING (% of 25.00 psi)	HEAD RATIO (H/HO)
1	12:17: 0	41.45	1.0000
2	12:17:15	41.67	0.8721
3	12:17:30	41.80	0.7965
4	12:17:45	41.87	0.7558
5	12:18: 0	41.95	0.7093
6	12:18:15	42.02	0.6686
7	12:18:30	42.02	0.6686
8	12:18:45	42.07	0.6395
9	12:19: 0	42.12	0.6105
10	12:19:15	42.12	0.6105
11	12:19:30	42.15	0.5930
12	12:19:45	42.15	0.5930
13	12:20: 0	42.17	0.5814
14	12:21: 0	42.22	0.5523
15	12:22: 0	42.25	0.5349
16	12:23: 0	42.25	0.5349
17	12:24: 0	42.27	0.5233

APPENDIX C

Field Permeability Test Data for Older Wells
G-40, G-41, DM, DW and BE

STS CONSULTANTS LTD. - FIELD ENGINEERING SERVICES

SINGLE WELL HYDRAULIC CONDUCTIVITY TEST

STS JOB NO.: 12959
PROJECT/LOCATION: EXXON/CRANDON
PROJECT MANAGER: JAS
TEST TECHNICIAN: JCG
DATA ANALYST: PMB/JRT

TEST INFORMATION

TYPE: FALLING HEAD METHOD: SLUG

PIEZOMETER ID: G40-M15
SCREEN LENGTH: 10.0000 feet
SLOT SIZE (est.): -0.0001 inches
STANDPIPE RADIUS: 1.0000 inches
BOREHOLE RADIUS: 3.1250 inches
GRAVEL PACK LENGTH: 46.0000 feet
GRAVEL PACK PERM.: 0.35E-01 ft./sec.
SCREEN PERMEABILITY: 0.35E-02 ft./sec.

LENGTH USED FOR CALCULATION: 46.00 ft.

THE GRAVEL LENGTH WILL BE USED FOR CALC.

SLUG LENGTH: 15.00 feet
SLUG RADIUS: 0.50 inches

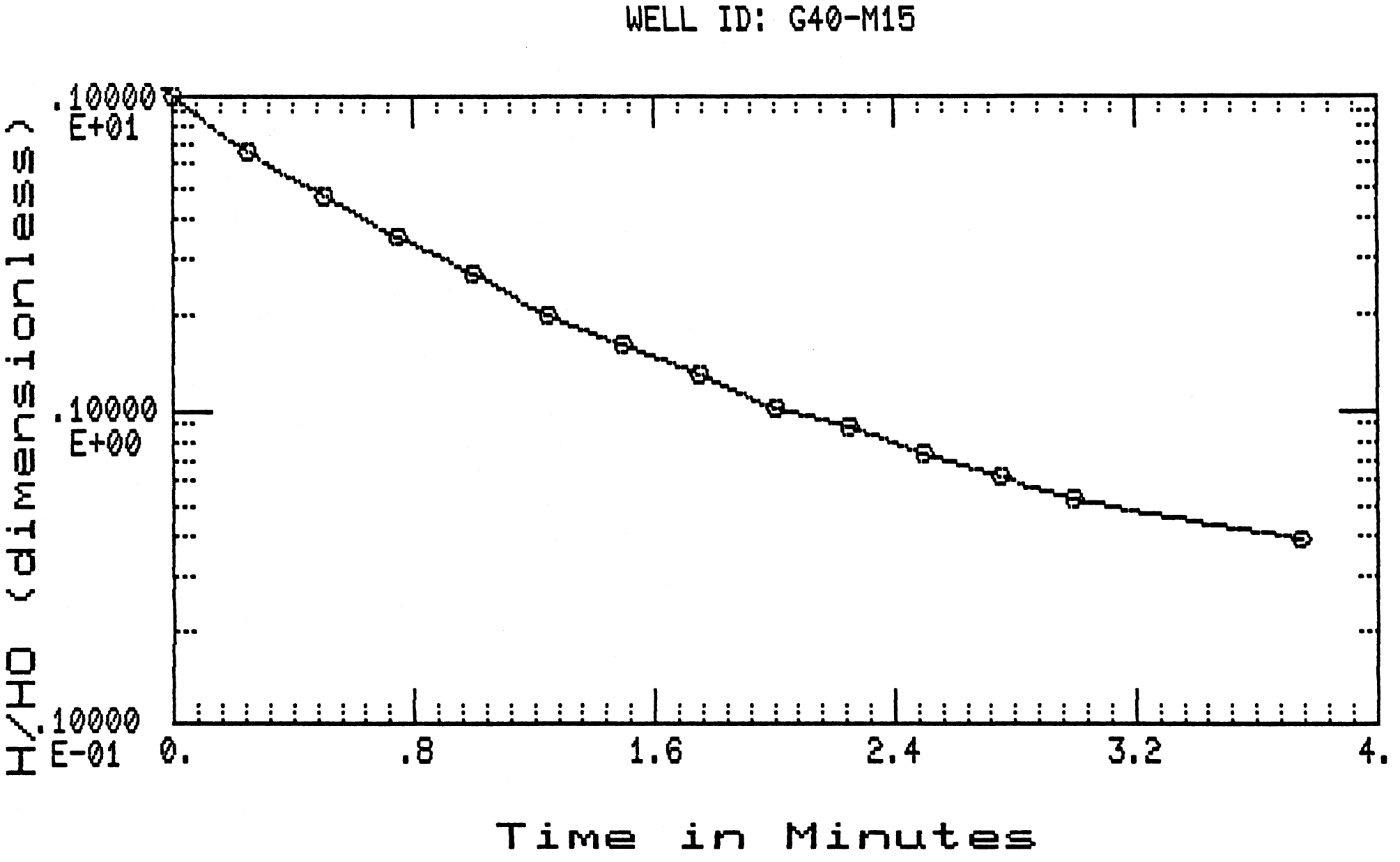
TRANSDUCER USED: 25.00 psi
INITIAL READING: 53.30% of 25.00 psi

DATA POINTS SELECTED

1. TIME: 2.00 minutes HEAD: 53.82 % of 25.00 psi
2. TIME: 3.00 minutes HEAD: 53.57 % of 25.00 psi

HYDRAULIC CONDUCTIVITY OF TEST INTERVAL:

0.13E-03 cm/sec 0.43E-05 ft/sec 0.13E-05 m/sec


WELL ID: G40-M15
.10000 E+01
.10000 E+00
.10000 E-01
H/HO (dimensionless)
0.
.8
1.6
2.4
3.2
4.
Time in Minutes

WELL ID: G40-M15

TEST DATA:

MEASUREMENT NUMBER	TIME (HH:MM:SS)	TRANSDUCER READING (% of 25.00 psi)	HEAD RATIO (H/HO)
1	13:20: 0	58.42	1.0000
2	13:20:15	56.72	0.6680
3	13:20:30	55.75	0.4785
4	13:20:45	55.10	0.3516
5	13:21: 0	54.67	0.2676
6	13:21:15	54.32	0.1992
7	13:21:30	54.12	0.1602
8	13:21:45	53.97	0.1309
9	13:22: 0	53.82	0.1016
10	13:22:15	53.75	0.0879
11	13:22:30	53.67	0.0723
12	13:22:45	53.62	0.0625
13	13:23: 0	53.57	0.0527
14	13:23:45	53.50	0.0391

STS CONSULTANTS LTD. - FIELD ENGINEERING SERVICES
SINGLE WELL HYDRAULIC CONDUCTIVITY TEST

STS JOB NO.: 12959
PROJECT/LOCATION: EXXON/CRANDON
PROJECT MANAGER: JAS
TEST TECHNICIAN: JCG
DATA ANALYST: PMB/JRT

TEST INFORMATION

TYPE: RISING HEAD METHOD: SLUG

PIEZOMETER ID: G40-M15
SCREEN LENGTH: 10.0000 feet
SLOT SIZE (est.): -0.0001 inches
STANDPIPE RADIUS: 1.0000 inches
BOREHOLE RADIUS: 3.1250 inches
GRAVEL PACK LENGTH: 46.0000 feet
GRAVEL PACK PERM.: 0.35E-01 ft./sec.
SCREEN PERMEABILITY: 0.35E-02 ft./sec.

LENGTH USED FOR CALCULATION: 46.00 ft.

THE GRAVEL LENGTH WILL BE USED FOR CALC.

SLUG LENGTH: 15.00 feet
SLUG RADIUS: 0.50 inches

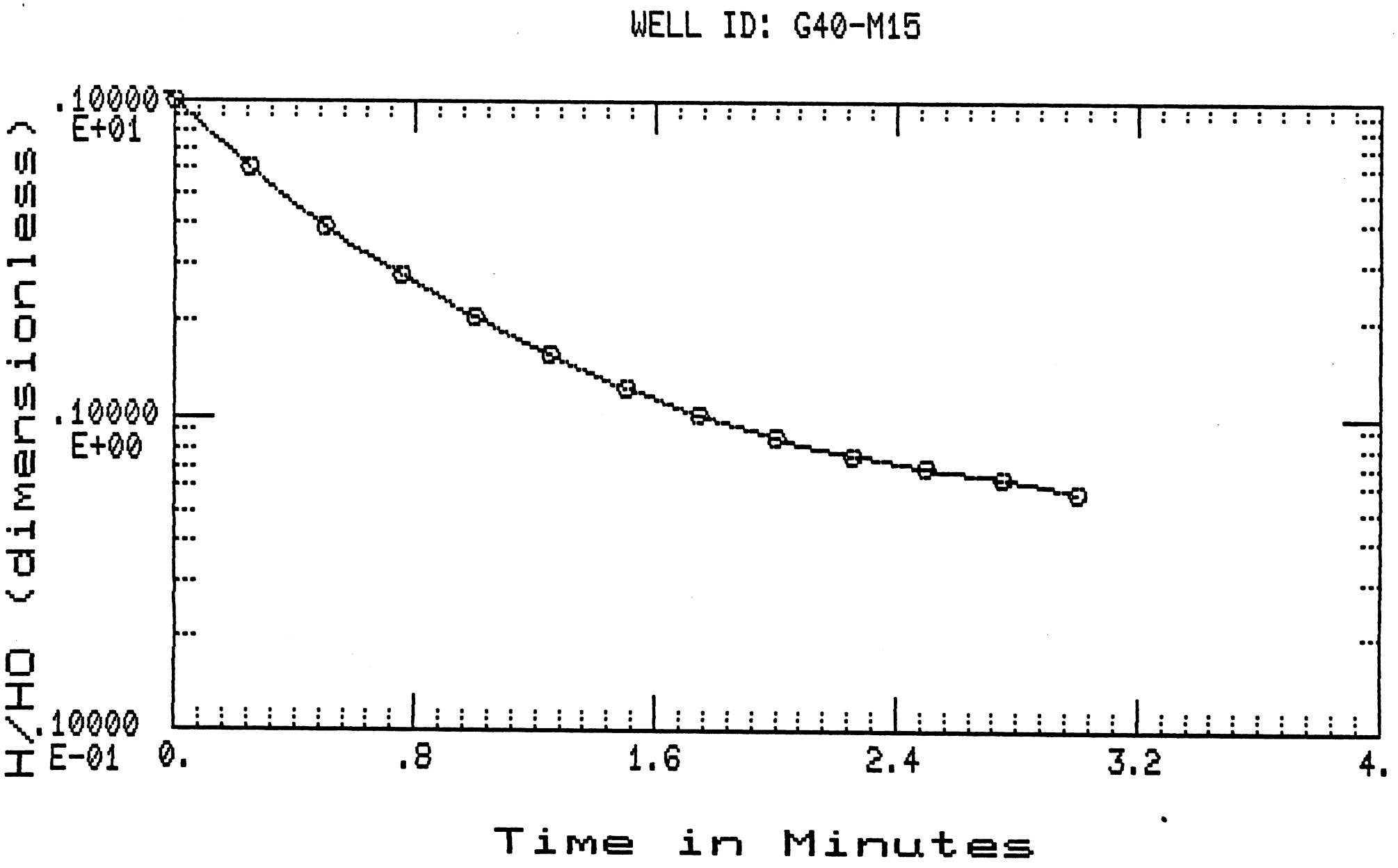
TRANSDUCER USED: 25.00 psi
INITIAL READING: 53.57% of 25.00 psi

DATA POINTS SELECTED

1. TIME: 2.00 minutes HEAD: 53.17 % of 25.00 psi
2. TIME: 3.00 minutes HEAD: 53.30 % of 25.00 psi

HYDRAULIC CONDUCTIVITY OF TEST INTERVAL:

0.78E-04 cm/sec 0.26E-05 ft/sec 0.78E-06 m/sec


WELL ID: G40-M15
.10000
E+01
.10000
E+00
.10000
E-01
H/HO (dimensionless)
0.
.8
1.6
2.4
3.2
4.
Time in Minutes

WELL ID: G40-M15

TEST DATA:

MEASUREMENT NUMBER	TIME (HH:MM:SS)	TRANSDUCER READING (% of 25.00 Psi)	HEAD RATIO (H/HO)
1	13:24: 0	48.92	1.0000
2	13:24:15	50.72	0.6129
3	13:24:30	51.75	0.3914
4	13:24:45	52.27	0.2796
5	13:25: 0	52.62	0.2043
6	13:25:15	52.85	0.1548
7	13:25:30	53.00	0.1226
8	13:25:45	53.10	0.1011
9	13:26: 0	53.17	0.0860
10	13:26:15	53.22	0.0753
11	13:26:30	53.25	0.0688
12	13:26:45	53.27	0.0645
13	13:27: 0	53.30	0.0581

STS CONSULTANTS LTD. - FIELD ENGINEERING SERVICES
SINGLE WELL HYDRAULIC CONDUCTIVITY TEST

STS JOB NO.: 12959
PROJECT/LOCATION: EXXON/CRANDON
PROJECT MANAGER: JAS
TEST TECHNICIAN: JCG
DATA ANALYST: PMB/JRT

TEST INFORMATION

TYPE: FALLING HEAD METHOD: SLUG

PIEZOMETER ID:	G40-S17	BOREHOLE RADIUS:	3.1250 inches
SCREEN LENGTH:	10.0000 feet	GRAVEL PACK LENGTH:	39.7000 feet
SLOT SIZE (est.):	0.0200 inches	GRAVEL PACK PERM.:	0.35E-01 ft./sec.
STANDPIPE RADIUS:	1.0000 inches	SCREEN PERMEABILITY:	0.35E-02 ft./sec.

LENGTH USED FOR CALCULATION: 39.70 ft.

THE GRAVEL LENGTH WILL BE USED FOR CALC.

SLUG LENGTH: 15.00 feet SLUG RADIUS: 0.50 inches

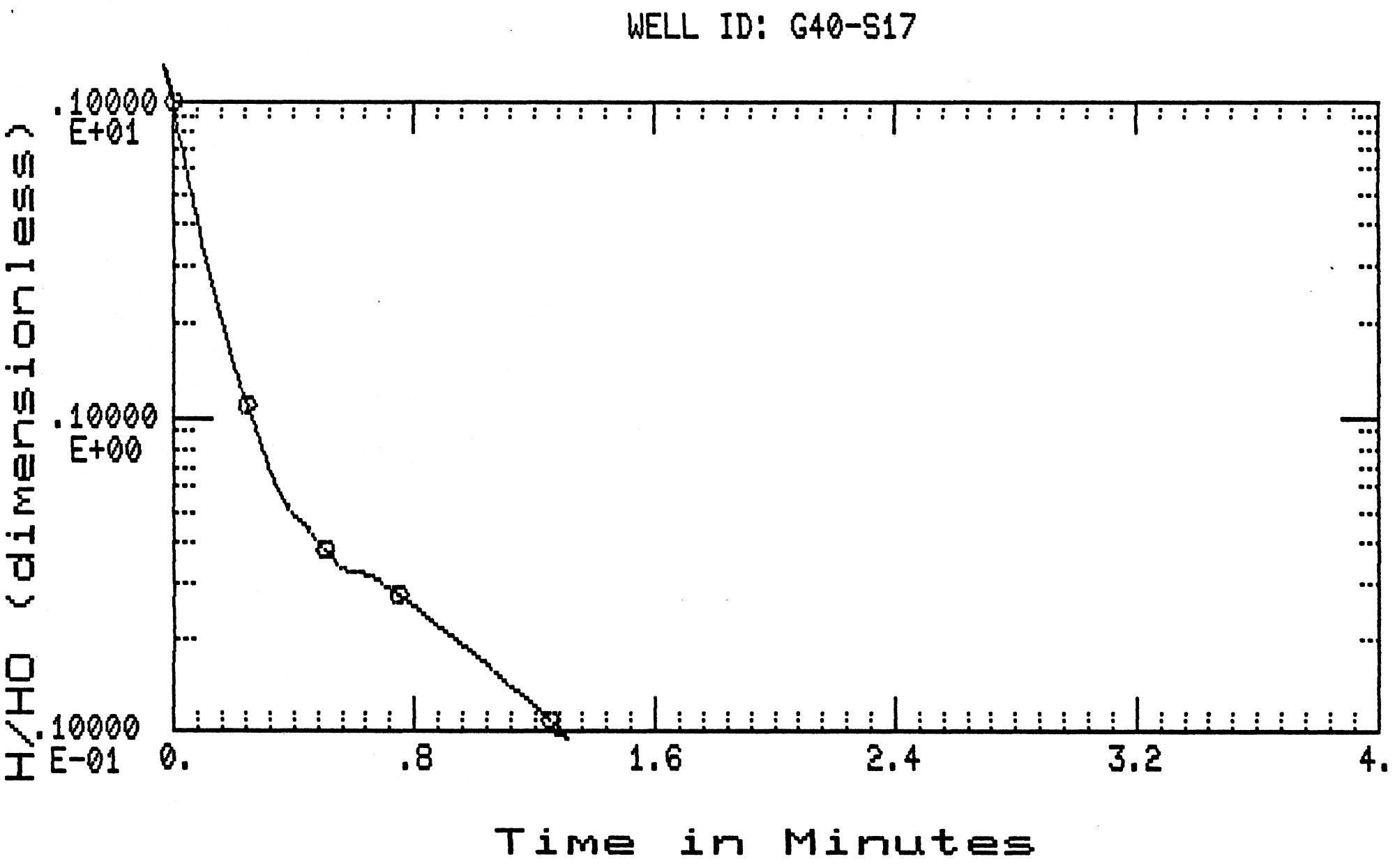
TRANSDUCER USED: 25.00 psi INITIAL READING: 55.10% of 25.00 psi

DATA POINTS SELECTED

1. TIME: 0.50 minutes HEAD: 55.17 % of 25.00 psi
2. TIME: 1.25 minutes HEAD: 55.12 % of 25.00 psi

HYDRAULIC CONDUCTIVITY OF TEST INTERVAL:

0.37E-03 cm/sec 0.12E-04 ft/sec 0.37E-05 m/sec


WELL ID: G40-S17
.10000 E+01
.10000 E+00
.10000 E-01
H/HO (dimensionless)
0.
.8
1.6
2.4
3.2
4.
Time in Minutes

WELL ID: G40-S17

TEST DATA:

MEASUREMENT NUMBER	TIME (HH:MM:SS)	TRANSDUCER READING (% of 25.00 psi)	HEAD RATIO (H/HO)
1	13:37: 0	56.92	1.0000
2	13:37:15	55.30	0.1099
3	13:37:30	55.17	0.0385
4	13:37:45	55.15	0.0275
5	13:38:15	55.12	0.0110
6	13:38:30	55.10	0.0010
7	13:40:45	55.10	0.0010

STS CONSULTANTS LTD. - FIELD ENGINEERING SERVICES
SINGLE WELL HYDRAULIC CONDUCTIVITY TEST

STS JOB NO.: 12959
PROJECT/LOCATION: EXXON/CRANDON
PROJECT MANAGER: JAS
TEST TECHNICIAN: JCG
DATA ANALYST: PMB/JRT

TEST INFORMATION

TYPE: RISING HEAD METHOD: SLUG

PIEZOMETER ID: G40-S17
SCREEN LENGTH: 10.000 feet
SLOT SIZE (est.): 0.0200 inches
STANDPIPE RADIUS: 1.0000 inches
BOREHOLE RADIUS: 2.0000 inches
GRAVEL PACK LENGTH: 39.700 feet
GRAVEL PACK PERM.: 0.35E-01 ft./sec.
SCREEN PERMEABILITY: 0.35E-02 ft./sec.

LENGTH USED FOR CALCULATION: 10.00 ft.

THE SCREEN LENGTH WILL BE USED FOR CALC.

SLUG LENGTH: 15.00 feet
SLUG RADIUS: 0.50 inches

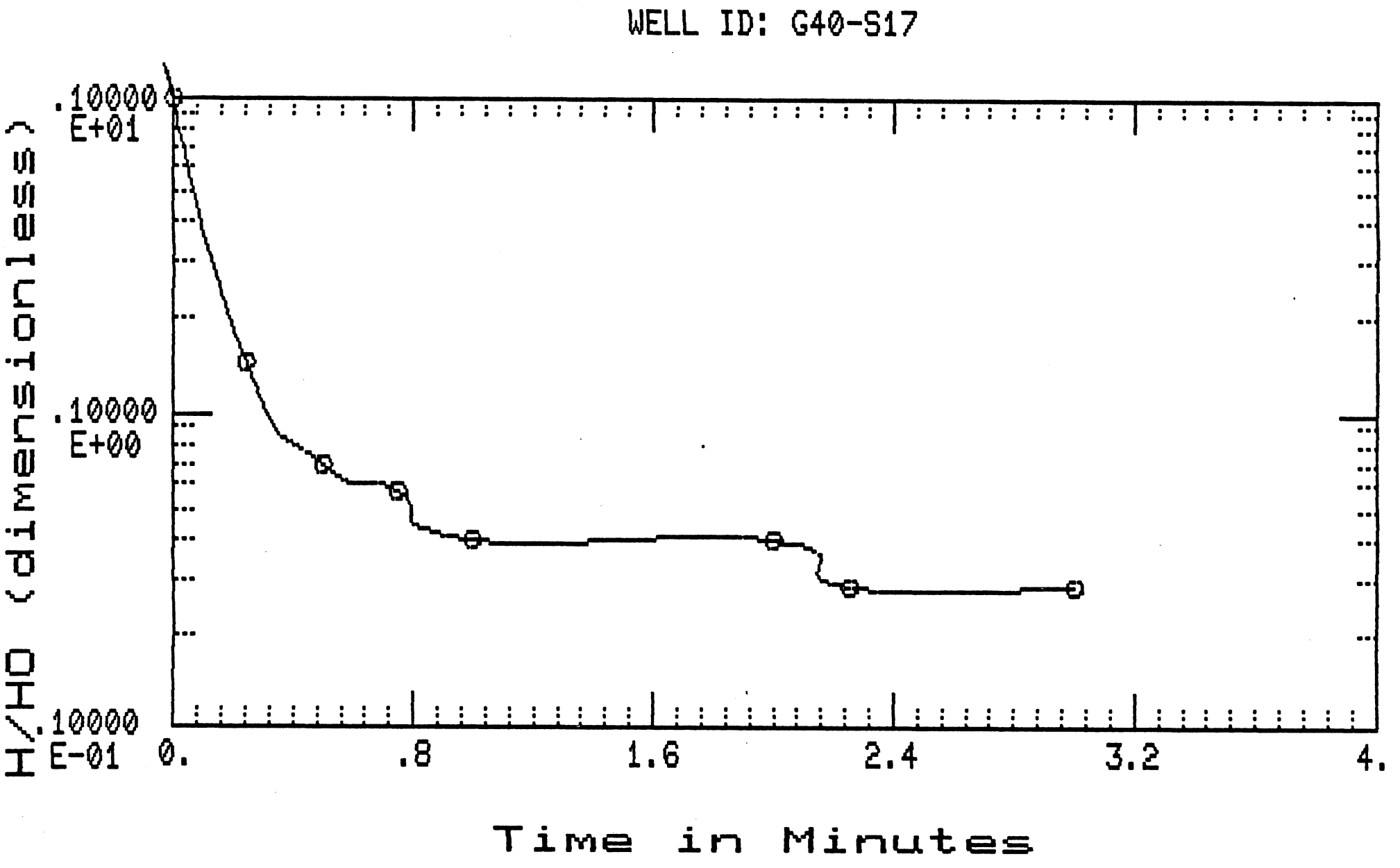
TRANSDUCER USED: 25.00 psi
INITIAL READING: 55.12% of 25.00 psi

DATA POINTS SELECTED

1. TIME: 0.50 minutes HEAD: 55.00 % of 25.00 psi
2. TIME: 1.00 minutes HEAD: 55.05 % of 25.00 psi

HYDRAULIC CONDUCTIVITY OF TEST INTERVAL:

0.78E-03 cm/sec 0.26E-04 ft/sec 0.78E-05 m/sec


WELL ID: G40-S17
.10000 E+01
.10000 E+00
.10000 E-01
H/HO (dimensionless)
0.
.8
1.6
2.4
3.2
4.
Time in Minutes

WELL ID: G40-S17

TEST DATA:

MEASUREMENT NUMBER	TIME (HH:MM:SS)	TRANSDUCER READING (% of 25.00 psi)	HEAD RATIO (H/HO)
1	13:41: 0	53.37	1.0000
2	13:41:15	54.87	0.1429
3	13:41:30	55.00	0.0686
4	13:41:45	55.02	0.0571
5	13:42: 0	55.05	0.0400
6	13:43: 0	55.05	0.0400
7	13:43:15	55.07	0.0286
8	13:44: 0	55.07	0.0286

STS CONSULTANTS LTD. - FIELD ENGINEERING SERVICES
SINGLE WELL HYDRAULIC CONDUCTIVITY TEST

STS JOB NO.: 12959
PROJECT/LOCATION: EXXON/CRANDON
PROJECT MANAGER: JAS
TEST TECHNICIAN: JCG
DATA ANALYST: PMB/JRT

TEST INFORMATION

TYPE: FALLING HEAD METHOD: SLUG

PIEZOMETER ID: G41-E17
SCREEN LENGTH: 10.000 feet
SLOT SIZE (est.): 0.0200 inches
STANDPIPE RADIUS: 1.0000 inches
BOREHOLE RADIUS: 2.0000 inches
GRAVEL PACK LENGTH: 32.000 feet
GRAVEL PACK PERM.: 0.35E-01 ft./sec.
SCREEN PERMEABILITY: 0.35E-02 ft./sec.

LENGTH USED FOR CALCULATION: 32.00 ft.

THE GRAVEL LENGTH WILL BE USED FOR CALC.

SLUG LENGTH: 15.00 feet
SLUG RADIUS: 0.50 inches

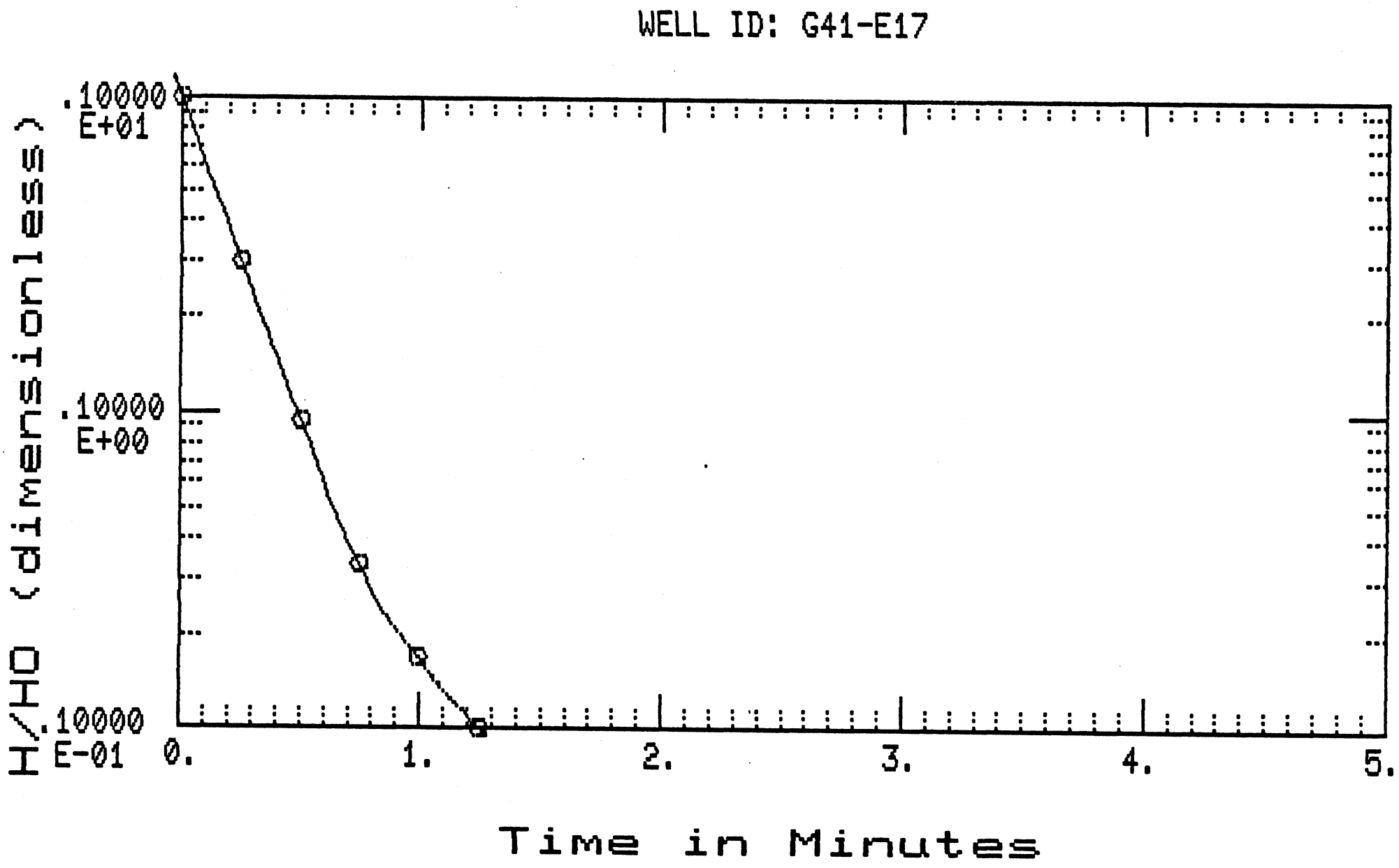
TRANSDUCER USED: 25.00 psi
INITIAL READING: 54.02% of 25.00 psi

DATA POINTS SELECTED

1. TIME: 0.25 minutes HEAD: 54.92 % of 25.00 psi
2. TIME: 0.75 minutes HEAD: 54.12 % of 25.00 psi

HYDRAULIC CONDUCTIVITY OF TEST INTERVAL:

0.13E-02 cm/sec 0.42E-04 ft/sec 0.13E-04 m/sec


WELL ID: G41-E17
.10000 E+01
.10000 E+00
.10000 E-01
H/HO (dimensionless)
0.
1.
2.
3.
4.
5.
Time in Minutes

WELL ID: G41-E17

TEST DATA:

MEASUREMENT NUMBER	TIME (HH:MM:SS)	TRANSDUCER READING (% of 25.00 psi)	HEAD RATIO (H/HO)
1	12:58: 0	57.00	1.0000
2	12:58:15	54.92	0.3020
3	12:58:30	54.30	0.0940
4	12:58:45	54.12	0.0336
5	12:59: 0	54.07	0.0168
6	12:59:15	54.05	0.0101
7	12:59:30	54.02	0.0010
8	12:59:45	54.02	0.0010
9	13: 0: 0	54.00	0.0067
10	13: 0:15	54.00	0.0067
11	13: 0:30	54.00	0.0067
12	13: 0:45	54.00	0.0067
13	13: 1: 0	54.00	0.0067
14	13: 2: 0	54.00	0.0067
15	13: 2:45	54.00	0.0067

TEST DATE
5/03/84

STS CONSULTANTS LTD. - FIELD ENGINEERING SERVICES
SINGLE WELL HYDRAULIC CONDUCTIVITY TEST

STS JOB NO.: 12959
PROJECT/LOCATION: EXXON/CRANDON
PROJECT MANAGER: JAS
TEST TECHNICIAN: JCG
DATA ANALYST: PMB/JRT

TEST INFORMATION

TYPE: RISING HEAD METHOD: SLUG

PIEZOMETER ID: G41-E17
SCREEN LENGTH: 10.000 feet
SLOT SIZE (est.): 0.0200 inches
STANDPIPE RADIUS: 1.0000 inches
BOREHOLE RADIUS: 2.0000 inches
GRAVEL PACK LENGTH: 32.000 feet
GRAVEL PACK PERM.: 0.35E-01 ft./sec.
SCREEN PERMEABILITY: 0.35E-02 ft./sec.

LENGTH USED FOR CALCULATION: 32.00 ft.

THE GRAVEL LENGTH WILL BE USED FOR CALC.

SLUG LENGTH: 15.00 feet
SLUG RADIUS: 0.50 inches

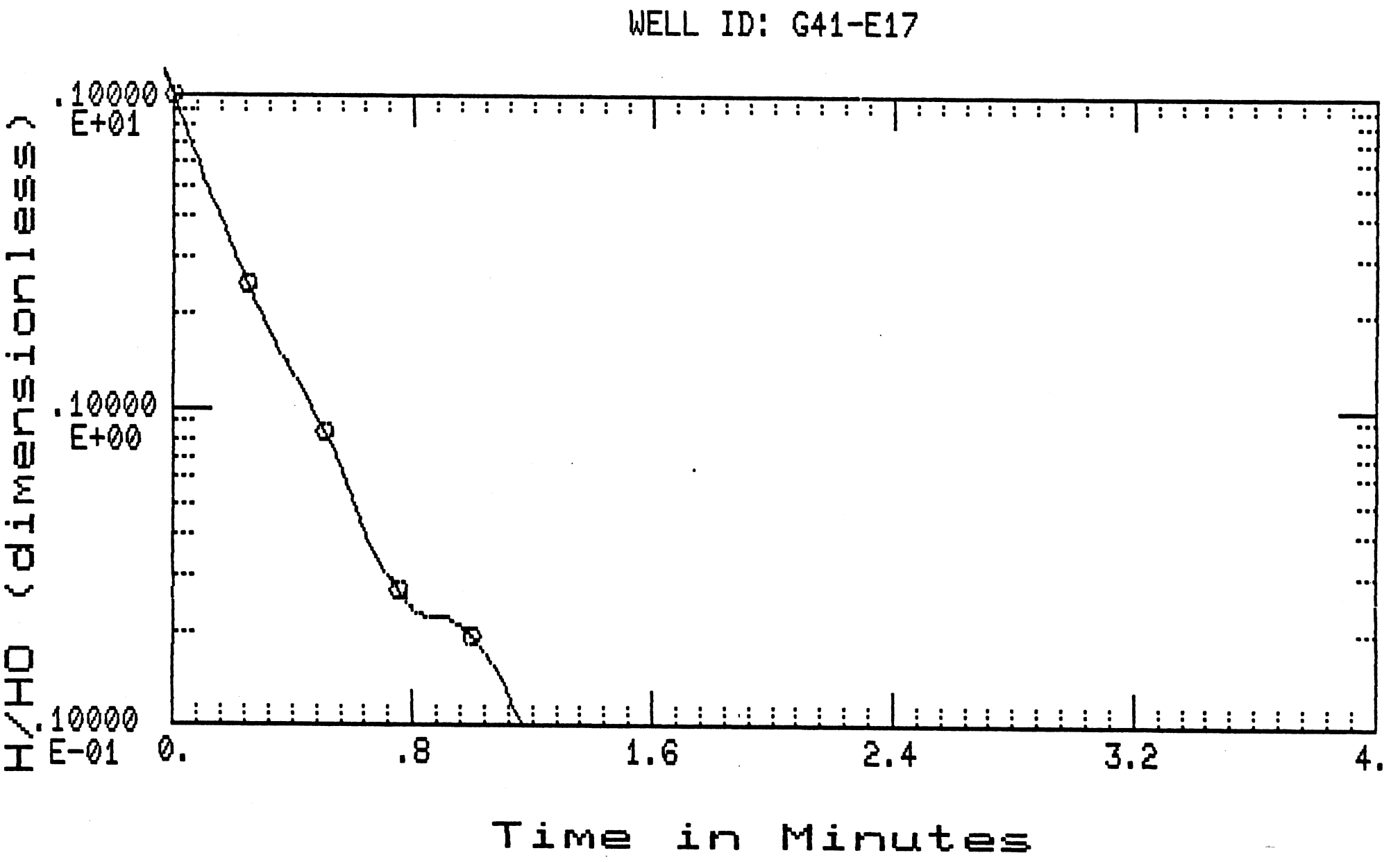
TRANSDUCER USED: 25.00 psi
INITIAL READING: 53.97% of 25.00 psi

DATA POINTS SELECTED

1. TIME: 0.25 minutes HEAD: 53.32 % of 25.00 psi
2. TIME: 0.75 minutes HEAD: 53.90 % of 25.00 psi

HYDRAULIC CONDUCTIVITY OF TEST INTERVAL:

0.13E-02 cm/sec 0.42E-04 ft/sec 0.13E-04 m/sec


WELL ID: G41-E17
.10000 E+01
.10000 E+00
.10000 E-01
H/HO (dimensionless)
0.
.8
1.6
2.4
3.2
4.
Time in Minutes

WELL ID: G41-E17

TEST DATA:

MEASUREMENT NUMBER	TIME (HH:MM:SS)	TRANSDUCER READING (% of 25.00 psi)	HEAD RATIO (H/HO)
1	13: 3: 0	51.37	1.0000
2	13: 3:15	53.32	0.2500
3	13: 3:30	53.75	0.0846
4	13: 3:45	53.90	0.0269
5	13: 4: 0	53.92	0.0192
6	13: 4:15	53.95	0.0077
7	13: 4:30	53.95	0.0077
8	13: 4:45	53.95	0.0077
9	13: 5: 0	53.97	0.0010
10	13: 5:15	53.97	0.0010
11	13: 5:30	53.97	0.0010
12	13: 5:45	53.97	0.0010
13	13: 6: 0	53.97	0.0010

STS CONSULTANTS LTD. - FIELD ENGINEERING SERVICES
SINGLE WELL HYDRAULIC CONDUCTIVITY TEST

STS JOB NO.: 12959
PROJECT/LOCATION: EXXON/CRANDON
PROJECT MANAGER: JAS
TEST TECHNICIAN: JCG
DATA ANALYST: PMB/JRT

TEST INFORMATION

TYPE: FALLING HEAD METHOD: SLUG

PIEZOMETER ID: G41-E19A
SCREEN LENGTH: 10.000 feet
SLOT SIZE (est.): 0.0200 inches
STANDPIPE RADIUS: 1.0000 inches
BOREHOLE RADIUS: 2.0000 inches
GRAVEL PACK LENGTH: 17.000 feet
GRAVEL PACK PERM.: 0.35E-01 ft./sec.
SCREEN PERMEABILITY: 0.35E-02 ft./sec.

LENGTH USED FOR CALCULATION: 17.00 ft.

THE GRAVEL LENGTH WILL BE USED FOR CALC.

SLUG LENGTH: 15.00 feet
SLUG RADIUS: 0.50 inches

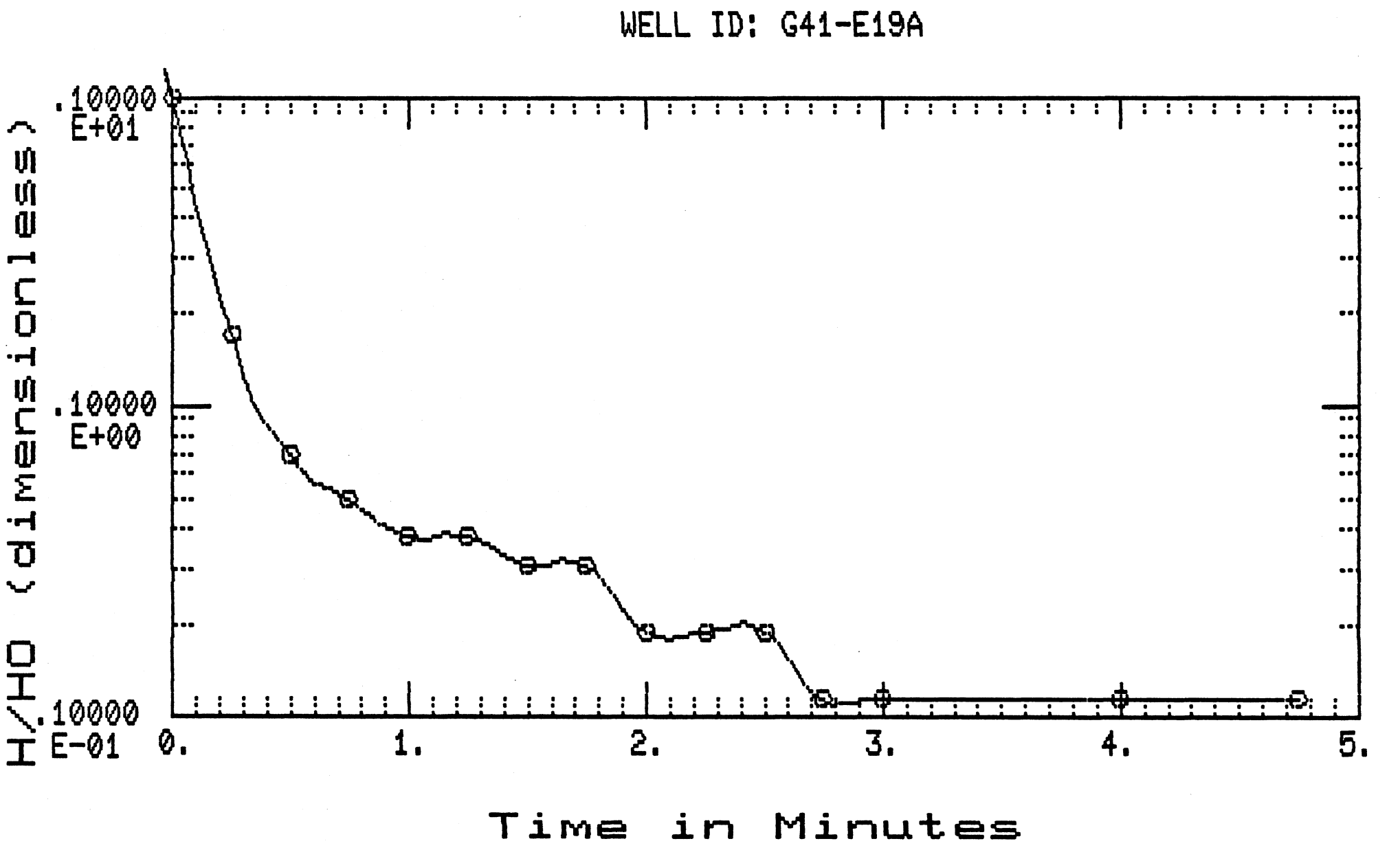
TRANSDUCER USED: 25.00 psi
INITIAL READING: 53.22% of 25.00 psi

DATA POINTS SELECTED

1. TIME: 0.50 minutes HEAD: 53.40 % of 25.00 psi
2. TIME: 1.00 minutes HEAD: 53.32 % of 25.00 psi

HYDRAULIC CONDUCTIVITY OF TEST INTERVAL:

0.56E-03 cm/sec 0.19E-04 ft/sec 0.56E-05 m/sec


WELL ID: G41-E19A
.10000 E+01
.10000 E+00
.10000 E-01
H/HO (dimensionless)
0.
1.
2.
3.
4.
5.
Time in Minutes

WELL ID: G41-E19A

TEST DATA:

MEASUREMENT NUMBER	TIME (HH:MM:SS)	TRANSDUCER READING (% of 25.00 psi)	HEAD RATIO (H/H0)
1	12:39: 0	55.85	1.0000
2	12:39:15	53.67	0.1711
3	12:39:30	53.40	0.0684
4	12:39:45	53.35	0.0494
5	12:40: 0	53.32	0.0380
6	12:40:15	53.32	0.0380
7	12:40:30	53.30	0.0304
8	12:40:45	53.30	0.0304
9	12:41: 0	53.27	0.0190
10	12:41:15	53.27	0.0190
11	12:41:30	53.27	0.0190
12	12:41:45	53.25	0.0114
13	12:42: 0	53.25	0.0114
14	12:43: 0	53.25	0.0114
15	12:43:45	53.25	0.0114

STS CONSULTANTS LTD. - FIELD ENGINEERING SERVICES
SINGLE WELL HYDRAULIC CONDUCTIVITY TEST

STS JOB NO.: 12959
PROJECT/LOCATION: EXXON/CRANDON
PROJECT MANAGER: JAS
TEST TECHNICIAN: JCG
DATA ANALYST: PMB/JRT

TEST INFORMATION

TYPE: RISING HEAD METHOD: SLUG

PIEZOMETER ID: G41-E19A
SCREEN LENGTH: 10.000 feet
SLOT SIZE (est.): 0.0200 inches
STANDPIPE RADIUS: 1.0000 inches
BOREHOLE RADIUS: 2.0000 inches
GRAVEL PACK LENGTH: 17.000 feet
GRAVEL PACK PERM.: 0.35E-01 ft./sec.
SCREEN PERMEABILITY: 0.35E-02 ft./sec.

LENGTH USED FOR CALCULATION: 17.00 ft.

THE GRAVEL LENGTH WILL BE USED FOR CALC.

SLUG LENGTH: 15.00 feet
SLUG RADIUS: 0.50 inches

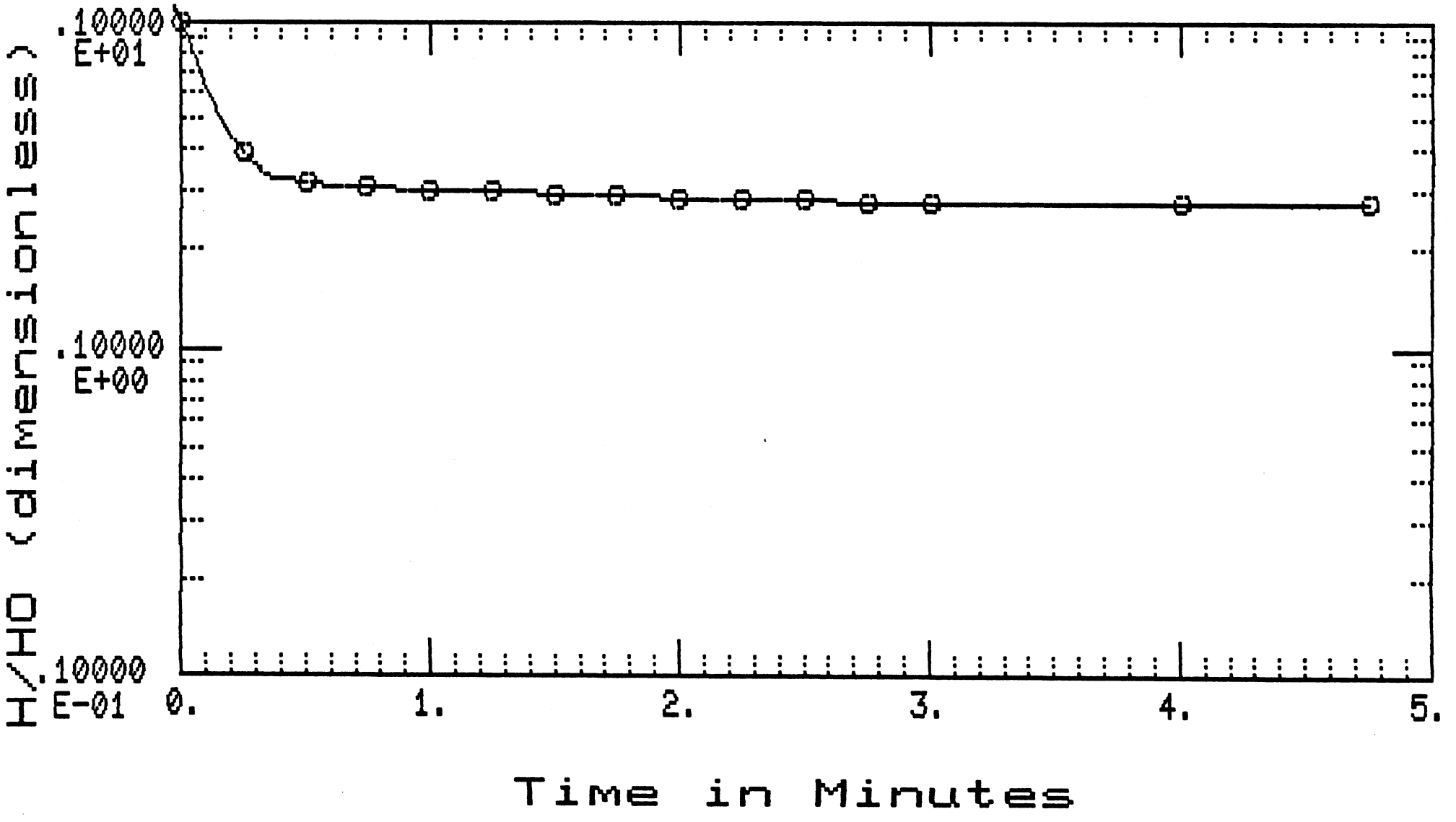
TRANSDUCER USED: 25.00 psi
INITIAL READING: 53.35% of 25.00 psi

DATA POINTS SELECTED

1. TIME: 0.25 minutes HEAD: 52.87 % of 25.00 psi
2. TIME: 0.50 minutes HEAD: 53.17 % of 25.00 psi

HYDRAULIC CONDUCTIVITY OF TEST INTERVAL:

0.19E-02 cm/sec 0.62E-04 ft/sec 0.19E-04 m/sec


WELL ID: G41-E19A
.10000 E+01
.10000 E+00
.10000 E-01
H/HO (dimensionless)
0.
1.
2.
3.
4.
5.
Time in Minutes

WELL ID: G41-E19A

TEST DATA:

MEASUREMENT NUMBER	TIME (HH:MM:SS)	TRANSDUCER READING (% of 25.00 psi)	HEAD RATIO (H/HO)
1	12:43: 0	50.05	1.0000
2	12:43:15	52.87	0.1455
3	12:43:30	53.17	0.0545
4	12:43:45	53.20	0.0455
5	12:44: 0	53.22	0.0394
6	12:44:15	53.22	0.0394
7	12:44:30	53.22	0.0394
8	12:44:45	53.22	0.0394
9	12:45: 0	53.23	0.0364
10	12:45:15	53.22	0.0394
11	12:45:30	53.22	0.0394
12	12:45:45	53.22	0.0394
13	12:46: 0	53.22	0.0394

STS CONSULTANTS LTD. - FIELD ENGINEERING SERVICES
SINGLE WELL HYDRAULIC CONDUCTIVITY TEST

STS JOB NO.: 12959
PROJECT/LOCATION: EXXON/CRANDON
PROJECT MANAGER: JAS
TEST TECHNICIAN: JCG
DATA ANALYST: PMB/JRT

TEST INFORMATION

TYPE: FALLING HEAD METHOD: SLUG

PIEZOMETER ID: G41-E22A
SCREEN LENGTH: 5.000 feet
SLOT SIZE (est.): 0.0200 inches
STANDPIPE RADIUS: 1.0000 inches
BOREHOLE RADIUS: 2.0000 inches
GRAVEL PACK LENGTH: 14.100 feet
GRAVEL PACK PERM.: 0.35E-01 ft./sec.
SCREEN PERMEABILITY: 0.35E-02 ft./sec.

LENGTH USED FOR CALCULATION: 14.10 ft.

THE GRAVEL LENGTH WILL BE USED FOR CALC.

SLUG LENGTH: 10.00 feet
SLUG RADIUS: 0.50 inches

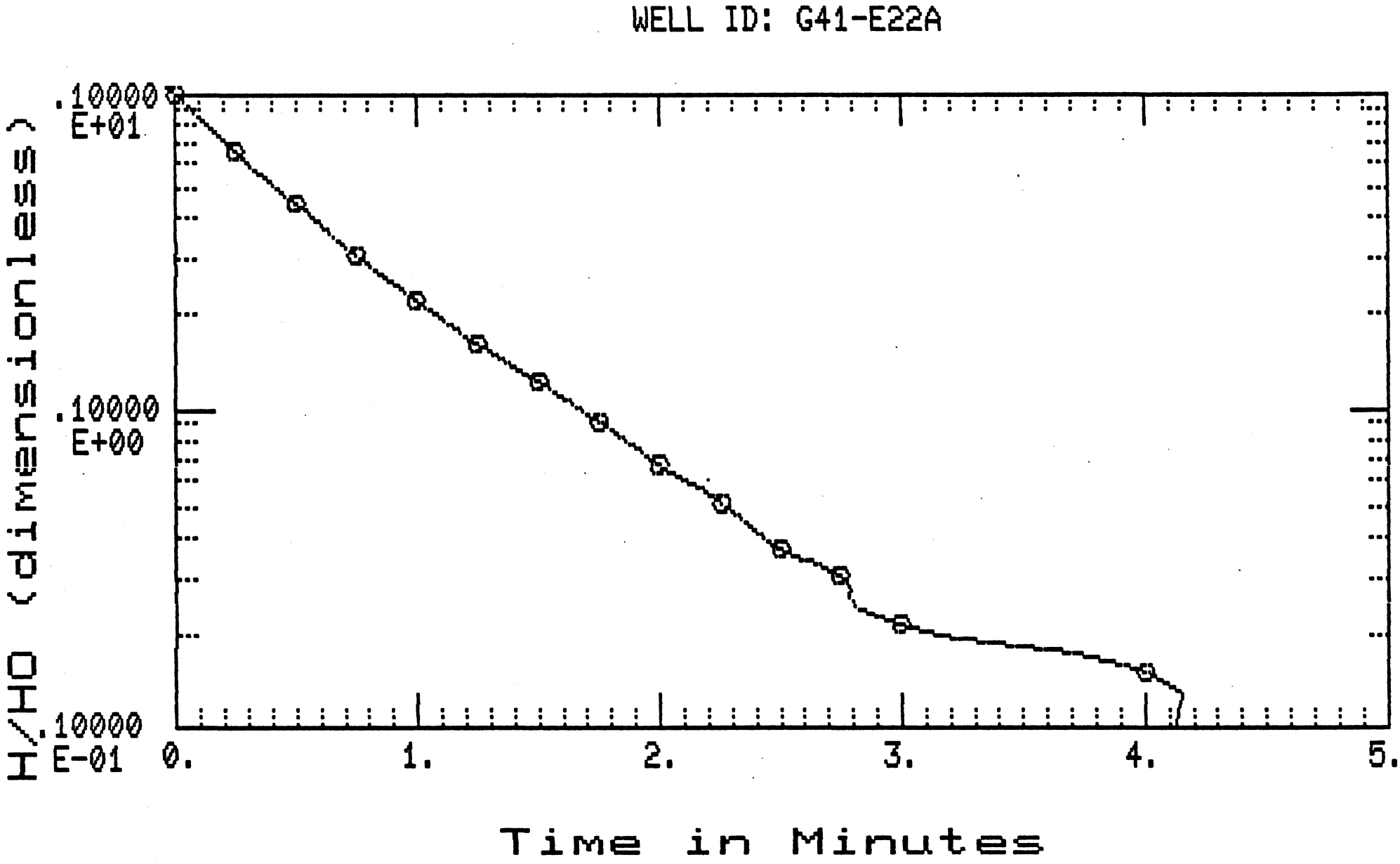
TRANSDUCER USED: 25.00 psi
INITIAL READING: 28.85% of 25.00 psi

DATA POINTS SELECTED

1. TIME: 1.25 minutes HEAD: 29.37 % of 25.00 psi
2. TIME: 2.50 minutes HEAD: 28.97 % of 25.00 psi

HYDRAULIC CONDUCTIVITY OF TEST INTERVAL:

0.65E-03 cm/sec 0.21E-04 ft/sec 0.65E-05 m/sec


WELL ID: G41-E22A
.10000 E+01
.10000 E+00
.10000 E-01
H/HO (dimensionless)
0.
1.
2.
3.
4.
5.
Time in Minutes

WELL ID: G41-E22A

TEST DATA:

MEASUREMENT NUMBER	TIME (HH:MM:SS)	TRANSDUCER READING (% of 25.00 psi)	HEAD RATIO (H/HO)
1	13:25: 0	32.12	1.0000
2	13:25:15	31.00	0.6575
3	13:25:30	30.32	0.4495
4	13:25:45	29.87	0.3119
5	13:26: 0	29.57	0.2202
6	13:26:15	29.37	0.1590
7	13:26:30	29.25	0.1223
8	13:26:45	29.15	0.0917
9	13:27: 0	29.07	0.0673
10	13:27:15	29.02	0.0520
11	13:27:30	28.97	0.0367
12	13:27:45	28.95	0.0306
13	13:28: 0	28.92	0.0214
14	13:29: 0	28.90	0.0153
15	13:29:45	28.85	0.0010

STS CONSULTANTS LTD. - FIELD ENGINEERING SERVICES
SINGLE WELL HYDRAULIC CONDUCTIVITY TEST

STS JOB NO.: 12959
PROJECT/LOCATION: EXXON/CRANDON
PROJECT MANAGER: JAS
TEST TECHNICIAN: JCG
DATA ANALYST: PMB/JRT

TEST INFORMATION

TYPE: RISING HEAD METHOD: SLUG

PIEZOMETER ID: G41-E22A
SCREEN LENGTH: 5.000 feet
SLOT SIZE (est.): 0.0200 inches
STANDPIPE RADIUS: 1.0000 inches
BOREHOLE RADIUS: 2.0000 inches
GRAVEL PACK LENGTH: 14.100 feet
GRAVEL PACK PERM.: 0.35E-01 ft./sec.
SCREEN PERMEABILITY: 0.35E-02 ft./sec.

LENGTH USED FOR CALCULATION: 14.10 ft.

THE GRAVEL LENGTH WILL BE USED FOR CALC.

SLUG LENGTH: 10.00 feet
SLUG RADIUS: 0.50 inches

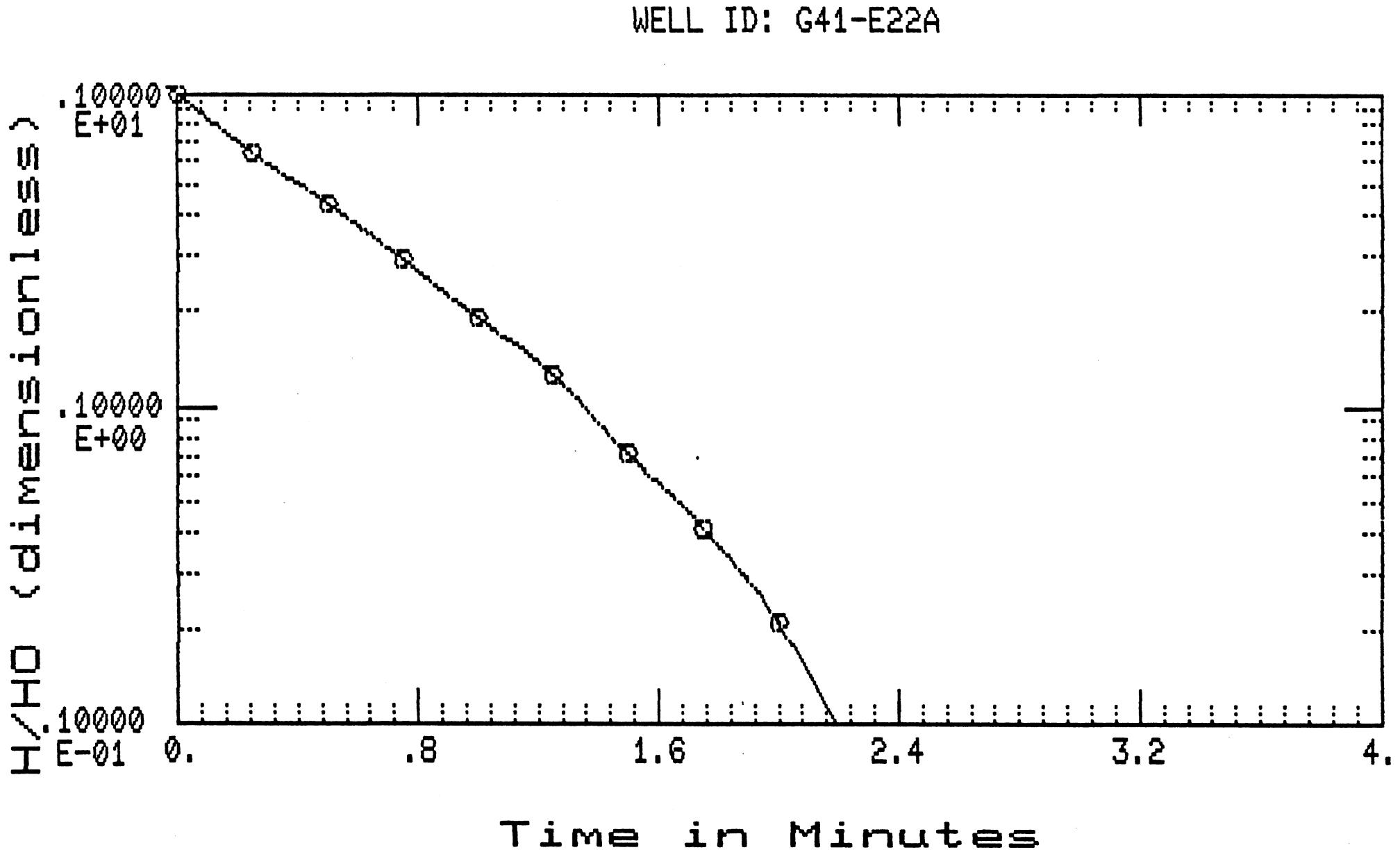
TRANSDUCER USED: 25.00 psi
INITIAL READING: 28.67% of 25.00 psi

DATA POINTS SELECTED

1. TIME: 0.00 minutes HEAD: 26.27 % of 25.00 psi
2. TIME: 1.25 minutes HEAD: 28.37 % of 25.00 psi

HYDRAULIC CONDUCTIVITY OF TEST INTERVAL:

0.92E-03 cm/sec 0.30E-04 ft/sec 0.92E-05 m/sec


WELL ID: G41-E22A
.10000 E+01
.10000 E+00
.10000 E-01
H/HO (dimensionless)
0.
.8
1.6
2.4
3.2
4.
Time in Minutes

WELL ID: G41-E22A

TEST DATA:

MEASUREMENT NUMBER	TIME (HH:MM:SS)	TRANSDUCER READING (% of 25.00 psi)	HEAD RATIO (H/HO)
1	13:30: 0	26.27	1.0000
2	13:30:15	27.12	0.6458
3	13:30:30	27.62	0.4375
4	13:30:45	27.97	0.2917
5	13:31: 0	28.22	0.1875
6	13:31:15	28.37	0.1250
7	13:31:30	28.50	0.0708
8	13:31:45	28.57	0.0417
9	13:32: 0	28.62	0.0208
10	13:32:15	28.65	0.0083
11	13:32:30	28.67	0.0010
12	13:32:45	28.67	0.0010
13	13:33: 0	28.67	0.0010

TEST DATE 4/30/84

STS CONSULTANTS LTD. - FIELD ENGINEERING SERVICES
SINGLE WELL HYDRAULIC CONDUCTIVITY TEST

STS JOB NO.: 12959
PROJECT/LOCATION: EXXON/CRANDON
PROJECT MANAGER: JAS
TEST TECHNICIAN: JCG
DATA ANALYST: PMB/JRT

TEST INFORMATION

TYPE: FALLING HEAD METHOD: SLUG

PIEZOMETER ID: G41-M11
SCREEN LENGTH: 10.000 feet
SLOT SIZE (est.): 0.0200 inches
STANDPIPE RADIUS: 1.0000 inches
BOREHOLE RADIUS: 2.0000 inches
GRAVEL PACK LENGTH: 46.000 feet
GRAVEL PACK PERM.: 0.35E-01 ft./sec.
SCREEN PERMEABILITY: 0.35E-02 ft./sec.

LENGTH USED FOR CALCULATION: 46.00 ft.

THE GRAVEL LENGTH WILL BE USED FOR CALC.

SLUG LENGTH: 10.00 feet
SLUG RADIUS: 0.50 inches

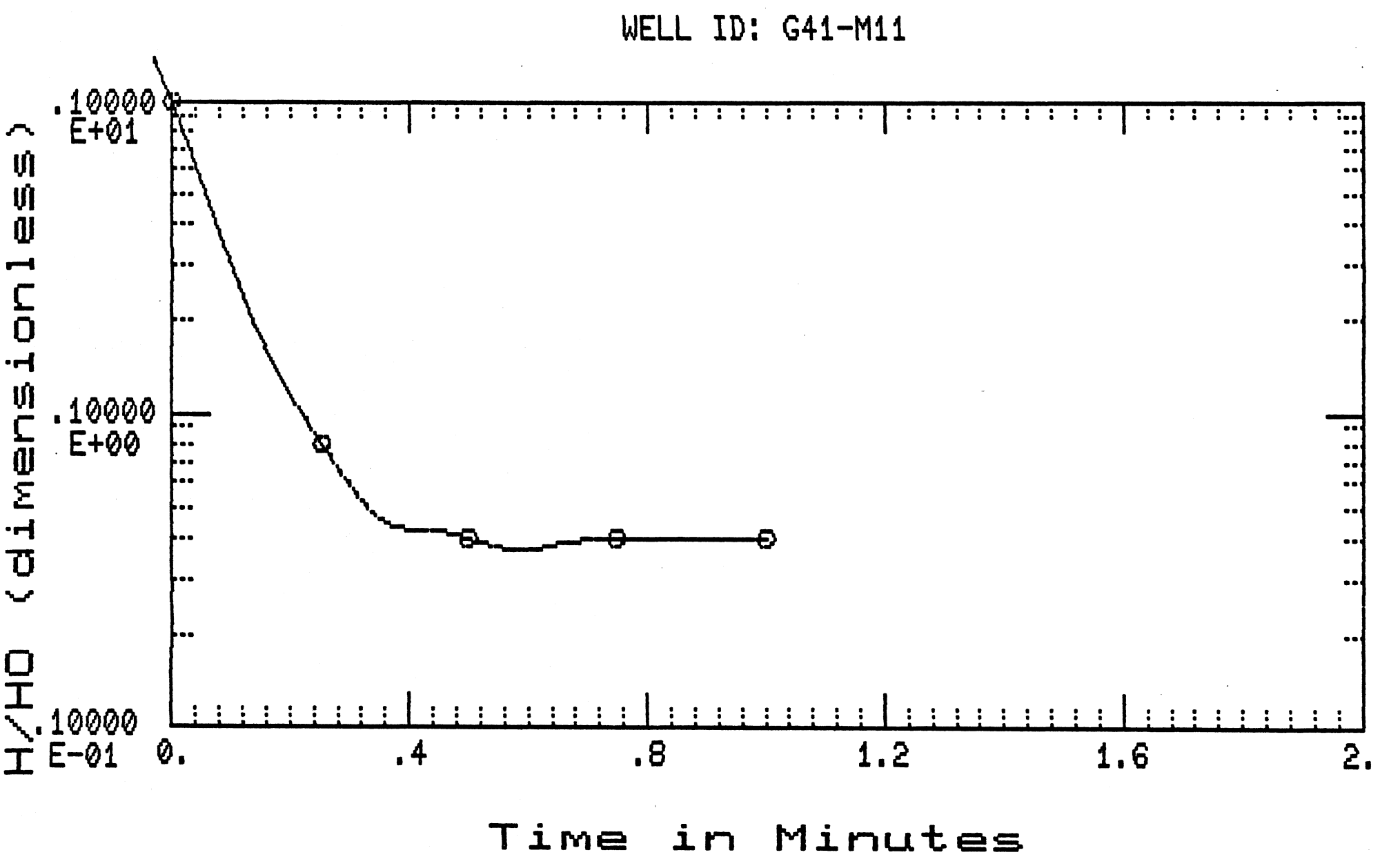
TRANSDUCER USED: 25.00 psi
INITIAL READING: 52.42% of 25.00 psi

DATA POINTS SELECTED

1. TIME: 0.00 minutes HEAD: 53.67 % of 25.00 psi
2. TIME: 0.25 minutes HEAD: 52.52 % of 25.00 psi

HYDRAULIC CONDUCTIVITY OF TEST INTERVAL:

0.22E-02 cm/sec 0.71E-04 ft/sec 0.22E-04 m/sec


WELL ID: G41-M11
.10000 E+01
.10000 E+00
.10000 E-01
H/HO (dimensionless)
0.
.4
.8
1.2
1.6
2.
Time in Minutes

WELL ID: G41-M11

TEST DATA:

MEASUREMENT NUMBER	TIME (HH:MM:SS)	TRANSDUCER READING (% of 25.00 psi)	HEAD RATIO (H/HO)
1	13:44: 0	53.67	1.0000
2	13:44:15	52.52	0.0800
3	13:44:30	52.47	0.0400
4	13:44:45	52.47	0.0400
5	13:45: 0	52.47	0.0400

STS CONSULTANTS LTD. - FIELD ENGINEERING SERVICES
SINGLE WELL HYDRAULIC CONDUCTIVITY TEST

STS JOB NO.: 12959
PROJECT/LOCATION: EXXON/CRANDON
PROJECT MANAGER: JAS
TEST TECHNICIAN: JCG
DATA ANALYST: PMB/JRT

TEST INFORMATION

TYPE: RISING HEAD METHOD: SLUG

PIEZOMETER ID: G41-M11
SCREEN LENGTH: 10.000 feet
SLOT SIZE (est.): 0.0200 inches
STANDPIPE RADIUS: 1.0000 inches
BOREHOLE RADIUS: 2.0000 inches
GRAVEL PACK LENGTH: 46.000 feet
GRAVEL PACK PERM.: 0.35E-01 ft./sec.
SCREEN PERMEABILITY: 0.35E-02 ft./sec.

LENGTH USED FOR CALCULATION: 46.00 ft.

THE GRAVEL LENGTH WILL BE USED FOR CALC.

SLUG LENGTH: 10.00 feet
SLUG RADIUS: 0.50 inches

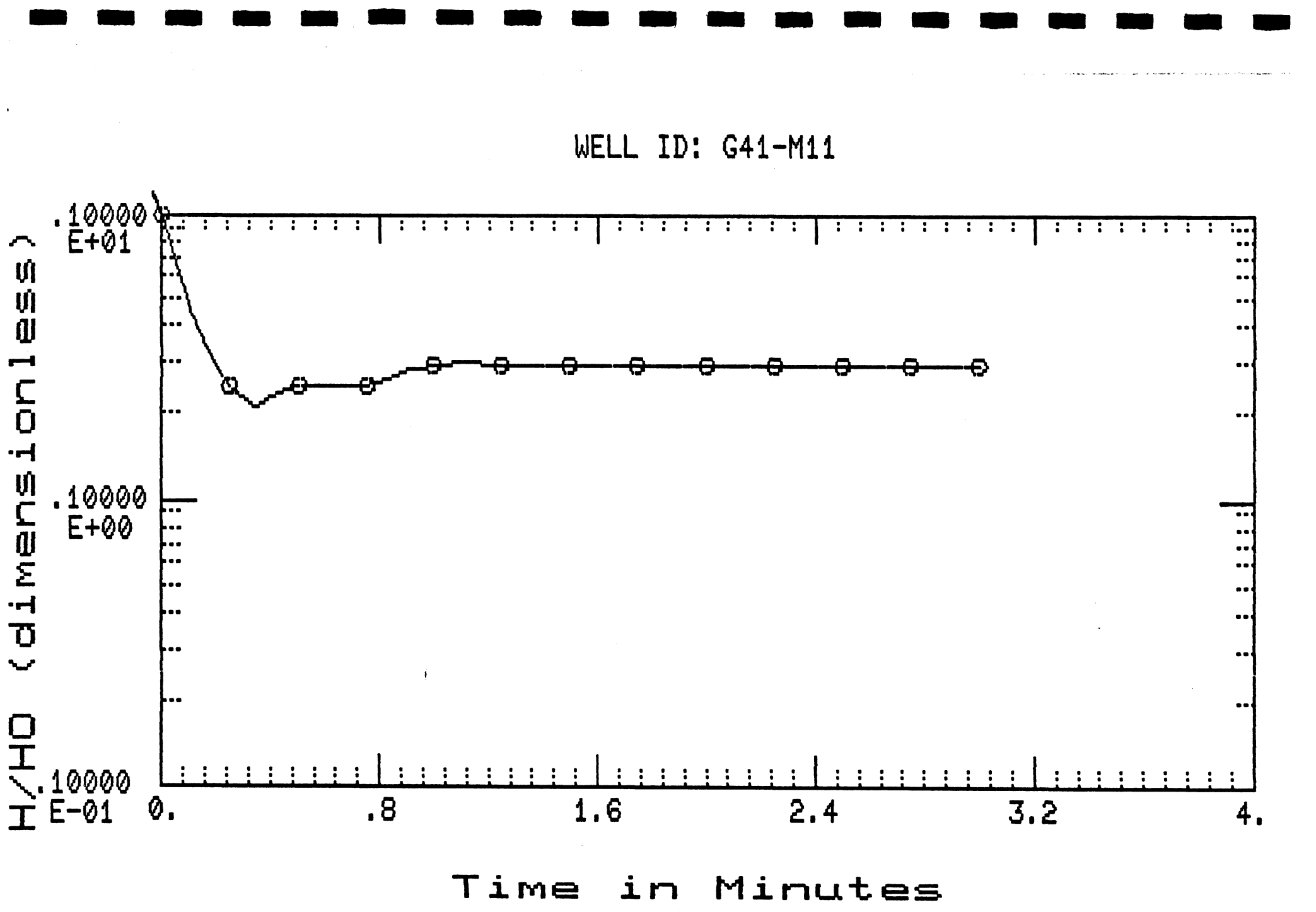
TRANSDUCER USED: 25.00 psi
INITIAL READING: 52.42% of 25.00 psi

DATA POINTS SELECTED

1. TIME: 0.00 minutes HEAD: 51.90 % of 25.00 psi
2. TIME: 0.25 minutes HEAD: 52.55 % of 25.00 psi

HYDRAULIC CONDUCTIVITY OF TEST INTERVAL:

0.12E-02 cm/sec 0.39E-04 ft/sec 0.12E-04 m/sec


WELL ID: G41-M11
.10000
E+01
.10000
E+00
.10000
E-01
H/HO (dimensionless)
0.
.8
1.6
2.4
3.2
4.
Time in Minutes

WELL ID: G41-M11

TEST DATA:

MEASUREMENT NUMBER	TIME (HH:MM:SS)	TRANSDUCER READING (% of 25.00 psi)	HEAD RATIO (H/HO)
1	13:49: 0	51.90	1.0000
2	13:49:15	52.55	0.2500
3	13:49:30	52.55	0.2500
4	13:49:45	52.55	0.2500
5	13:50: 0	52.57	0.2885
6	13:50:15	52.57	0.2885
7	13:50:30	52.57	0.2885
8	13:50:45	52.57	0.2885
9	13:51: 0	52.57	0.2885
10	13:51:15	52.57	0.2885
11	13:51:30	52.57	0.2885
12	13:51:45	52.57	0.2885
13	13:52: 0	52.57	0.2885

STS CONSULTANTS LTD. - FIELD ENGINEERING SERVICES

SINGLE WELL HYDRAULIC CONDUCTIVITY TEST

STS JOB NO.: 12959
PROJECT/LOCATION: EXXON/CRANDON
PROJECT MANAGER: JAS
TEST TECHNICIAN: JCG
DATA ANALYST: PMB/JRT

TEST INFORMATION

TYPE: FALLING HEAD METHOD: SLUG

PIEZOMETER ID: G41-P16
SCREEN LENGTH: 10.000 feet
SLOT SIZE (est.): 0.0200 inches
STANDPIPE RADIUS: 1.0000 inches
BOREHOLE RADIUS: 2.0000 inches
GRAVEL PACK LENGTH: 142.000 feet
GRAVEL PACK PERM.: 0.35E-01 ft./sec.
SCREEN PERMEABILITY: 0.35E-02 ft./sec.

LENGTH USED FOR CALCULATION: 142.00 ft.

THE GRAVEL LENGTH WILL BE USED FOR CALC.

SLUG LENGTH: 10.00 feet
SLUG RADIUS: 0.50 inches

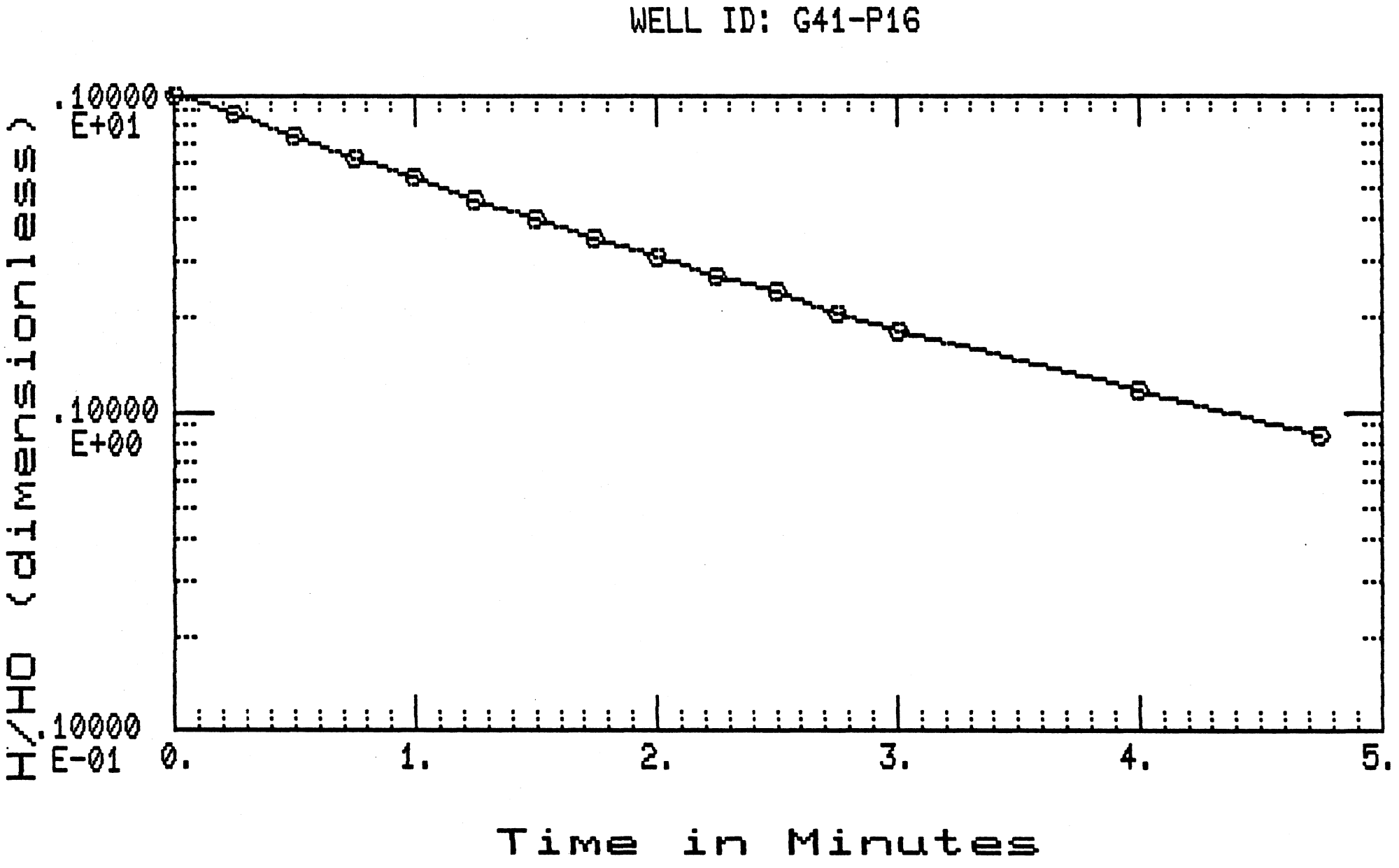
TRANSDUCER USED: 25.00 psi
INITIAL READING: 54.25% of 25.00 psi

DATA POINTS SELECTED

1. TIME: 1.25 minutes HEAD: 55.92 % of 25.00 psi
2. TIME: 3.00 minutes HEAD: 54.90 % of 25.00 psi

HYDRAULIC CONDUCTIVITY OF TEST INTERVAL:

0.45E-04 cm/sec 0.15E-05 ft/sec 0.45E-06 m/sec


WELL ID: G41-P16
.10000 E+01
.10000 E+00
.10000 E-01
H/HO (dimensionless)
0.
1.
2.
3.
4.
5.
Time in Minutes

WELL ID: G41-P16

TEST DATA:

MEASUREMENT NUMBER	TIME (HH:MM:SS)	TRANSDUCER READING (% of 25.00 psi)	HEAD RATIO (H/HO)
1	14:40: 0	57.87	1.0000
2	14:40:15	57.35	0.8564
3	14:40:30	56.90	0.7320
4	14:40:45	56.52	0.6271
5	14:41: 0	56.20	0.5387
6	14:41:15	55.92	0.4613
7	14:41:30	55.70	0.4006
8	14:41:45	55.52	0.3508
9	14:42: 0	55.37	0.3094
10	14:42:15	55.22	0.2680
11	14:42:30	55.12	0.2403
12	14:42:45	55.00	0.2072
13	14:43: 0	54.90	0.1796
14	14:44: 0	54.67	0.1160
15	14:44:45	54.55	0.0829

STS CONSULTANTS LTD. - FIELD ENGINEERING SERVICES
SINGLE WELL HYDRAULIC CONDUCTIVITY TEST

STS JOB NO.: 12959
PROJECT/LOCATION: EXXON/CRANDON
PROJECT MANAGER: JAS
TEST TECHNICIAN: JCG
DATA ANALYST: PMB/JRT

TEST INFORMATION

TYPE: RISING HEAD METHOD: SLUG

PIEZOMETER ID: G41-P16
SCREEN LENGTH: 10.000 feet
SLOT SIZE (est.): 0.0200 inches
STANDPIPE RADIUS: 1.0000 inches
BOREHOLE RADIUS: 2.0000 inches
GRAVEL PACK LENGTH: 142.000 feet
GRAVEL PACK PERM.: 0.35E-01 ft./sec.
SCREEN PERMEABILITY: 0.35E-02 ft./sec.

LENGTH USED FOR CALCULATION: 142.00 ft.

THE GRAVEL LENGTH WILL BE USED FOR CALC.

SLUG LENGTH: 10.00 feet
SLUG RADIUS: 0.50 inches

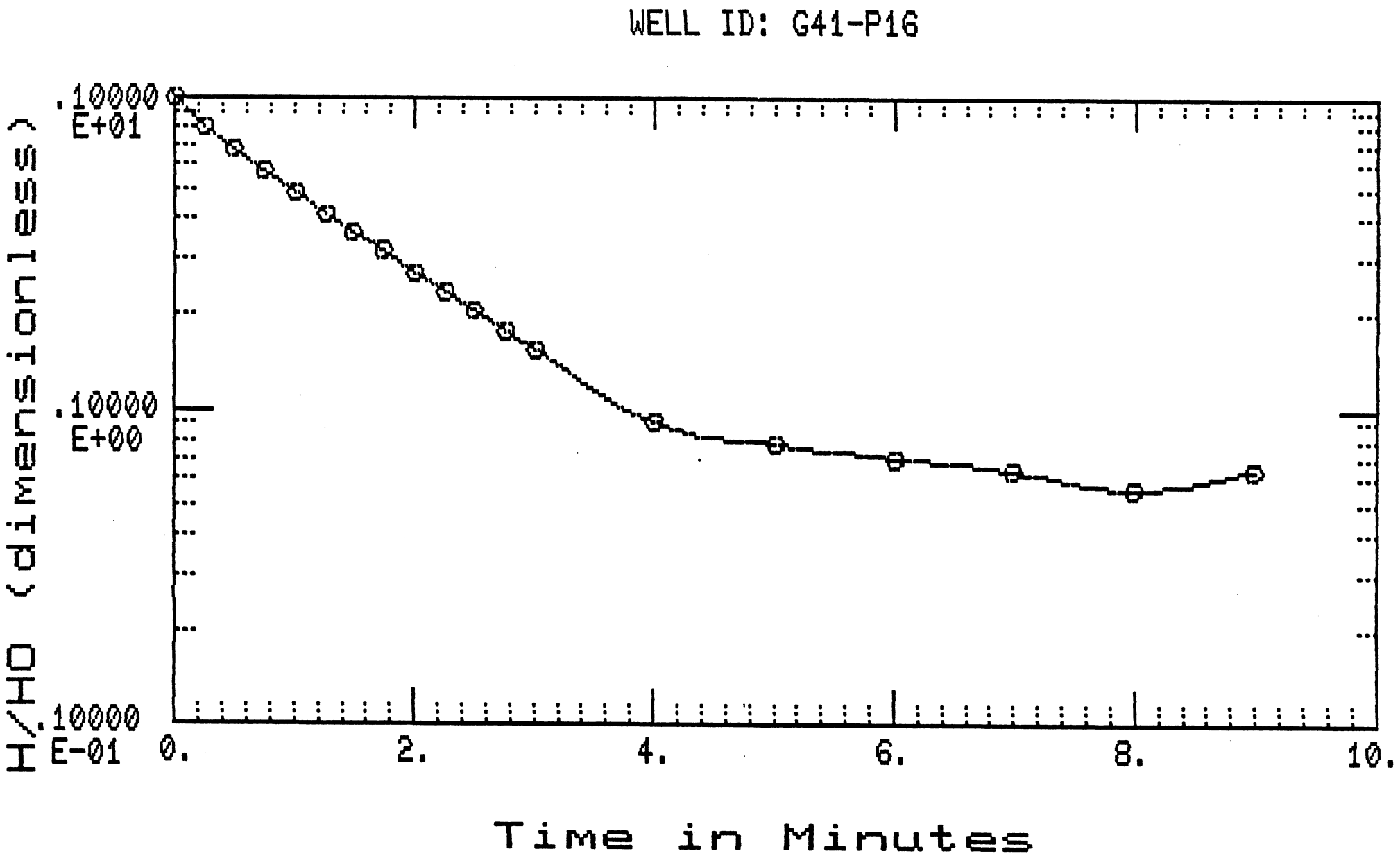
TRANSDUCER USED: 25.00 psi
INITIAL READING: 54.25% of 25.00 psi

DATA POINTS SELECTED

1. TIME: 0.50 minutes HEAD: 51.82 % of 25.00 psi
2. TIME: 4.00 minutes HEAD: 53.92 % of 25.00 psi

HYDRAULIC CONDUCTIVITY OF TEST INTERVAL:

0.48E-04 cm/sec 0.16E-05 ft/sec 0.48E-06 m/sec


WELL ID: G41-P16
.10000 E+01
.10000 E+00
.10000 E-01
H/HO (dimensionless)
0.
2.
4.
6.
8.
10.
Time in Minutes

WELL ID: G41-P16

TEST DATA:

MEASUREMENT NUMBER	TIME (HH:MM:SS)	TRANSDUCER READING (% of 25.00 psi)	HEAD RATIO (H/HO)
1	14:45: 0	50.65	1.0000
2	14:45:15	51.37	0.8000
3	14:45:30	51.82	0.6750
4	14:45:45	52.20	0.5694
5	14:46: 0	52.47	0.4944
6	14:46:15	52.75	0.4167
7	14:46:30	52.95	0.3611
8	14:46:45	53.12	0.3139
9	14:47: 0	53.27	0.2722
10	14:47:15	53.40	0.2361
11	14:47:30	53.52	0.2028
12	14:47:45	53.62	0.1750
13	14:48: 0	53.70	0.1528
14	14:49: 0	53.92	0.0917
15	14:50: 0	53.97	0.0778
16	14:51: 0	54.00	0.0694
17	14:52: 0	54.02	0.0639
18	14:53: 0	54.05	0.0556
19	14:54: 0	54.02	0.0639

STS CONSULTANTS LTD. - FIELD ENGINEERING SERVICES

SINGLE WELL HYDRAULIC CONDUCTIVITY TEST

STS JOB NO.: 12959
PROJECT/LOCATION: EXXON/CRANDON
PROJECT MANAGER: JAS
TEST TECHNICIAN: JCG
DATA ANALYST: PMB/JRT

TEST INFORMATION

TYPE: FALLING HEAD METHOD: VOLUME ADDITION

PIEZOMETER ID: G41-P18
SCREEN LENGTH: 10.000 feet
SLOT SIZE (est.): 0.0001 inches
STANDPIPE RADIUS: 1.0000 inches
BOREHOLE RADIUS: 2.0000 inches
GRAVEL PACK LENGTH: 135.000 feet
GRAVEL PACK PERM.: 0.35E-01 ft./sec.
SCREEN PERMEABILITY: 0.35E-02 ft./sec.

LENGTH USED FOR CALCULATION: 10.00 ft.

THE SCREEN LENGTH WILL BE USED FOR CALC.

VOLUME ADDED TO STANDPIPE: 1.00 gals.

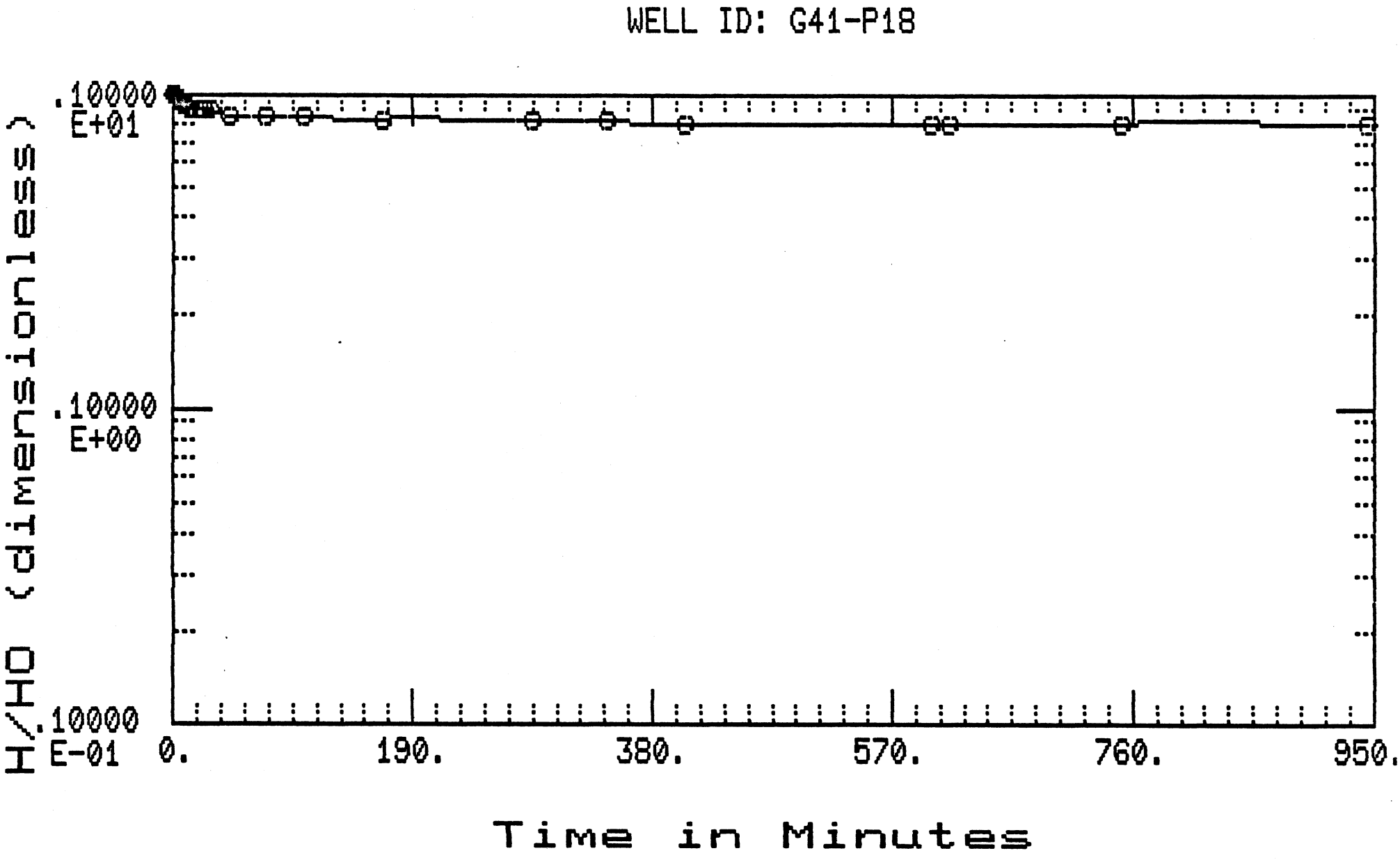
TRANSDUCER USED: 25.00 psi INITIAL READING: 16.72% of 25.00 psi

DATA POINTS SELECTED

1. TIME: 30.00 minutes HEAD: 21.30 % of 25.00 psi
2. TIME: 405.00 minutes HEAD: 20.92 % of 25.00 psi

HYDRAULIC CONDUCTIVITY OF TEST INTERVAL:

0.17E-06 cm/sec 0.55E-08 ft/sec 0.17E-08 m/sec


WELL ID: G41-P18
.10000 E+01
.10000 E+00
.10000 E-01
H/HO (dimensionless)
0.
190.
380.
570.
760.
950.
Time in Minutes

WELL ID: G41-P18

TEST DATA:

MEASUREMENT NUMBER	TIME (HH:MM:SS)	TRANSDUCER READING (% of 25.00 psi)	HEAD RATIO (H/HO)
1	15:32: 0	21.92	1.0000
2	15:32:15	21.90	0.9962
3	15:32:30	21.87	0.9904
4	15:32:45	21.87	0.9904
5	15:33: 0	21.85	0.9865
6	15:33:15	21.85	0.9865
7	15:33:30	21.82	0.9808
8	15:33:45	21.82	0.9808
9	15:34: 0	21.80	0.9769
10	15:34:15	21.77	0.9712
11	15:34:30	21.77	0.9712
12	15:34:45	21.75	0.9673
13	15:35: 0	21.75	0.9673
14	15:36: 0	21.67	0.9519
15	15:37: 0	21.62	0.9423
16	15:38: 0	21.57	0.9327
17	15:39: 0	21.55	0.9288
18	15:40: 0	21.50	0.9192
19	15:41: 0	21.47	0.9135
20	15:42: 0	21.42	0.9038
21	15:43: 0	21.42	0.9038
22	15:44: 0	21.40	0.9000
23	15:52: 0	21.37	0.8942
24	15:57: 0	21.32	0.8846
25	16: 2: 0	21.30	0.8808
26	16:17: 0	21.12	0.8462
27	16:47: 0	21.07	0.8365
28	17:17: 0	21.05	0.8327
29	18:17: 0	21.00	0.8231
30	20:17: 0	20.97	0.8173
31	21:17: 0	20.95	0.8135
32	22:17: 0	20.92	0.8077
33	25:32: 0	20.87	0.7981
34	25:47: 0	20.90	0.8038
35	28: .2: 0	20.87	0.7981
36	31:17: 0	20.85	0.7942

STS CONSULTANTS LTD. - FIELD ENGINEERING SERVICES

SINGLE WELL HYDRAULIC CONDUCTIVITY TEST

STS JOB NO.: 12959
PROJECT/LOCATION: EXXON/CRANDON
PROJECT MANAGER: JAS
TEST TECHNICIAN: JCG
DATA ANALYST: PMB/JRT

TEST INFORMATION

TYPE: FALLING HEAD METHOD: SLUG

PIEZOMETER ID: DMS-1
SCREEN LENGTH: 10.000 feet
SLOT SIZE (est.): 0.0100 inches
STANDPIPE RADIUS: 1.0000 inches
BOREHOLE RADIUS: 2.0000 inches
GRAVEL PACK LENGTH: 55.000 feet
GRAVEL PACK PERM.: 0.35E-01 ft./sec.
SCREEN PERMEABILITY: 0.18E-02 ft./sec.

LENGTH USED FOR CALCULATION: 55.00 ft.

THE GRAVEL LENGTH WILL BE USED FOR CALC.

SLUG LENGTH: 15.00 feet
SLUG RADIUS: 0.50 inches

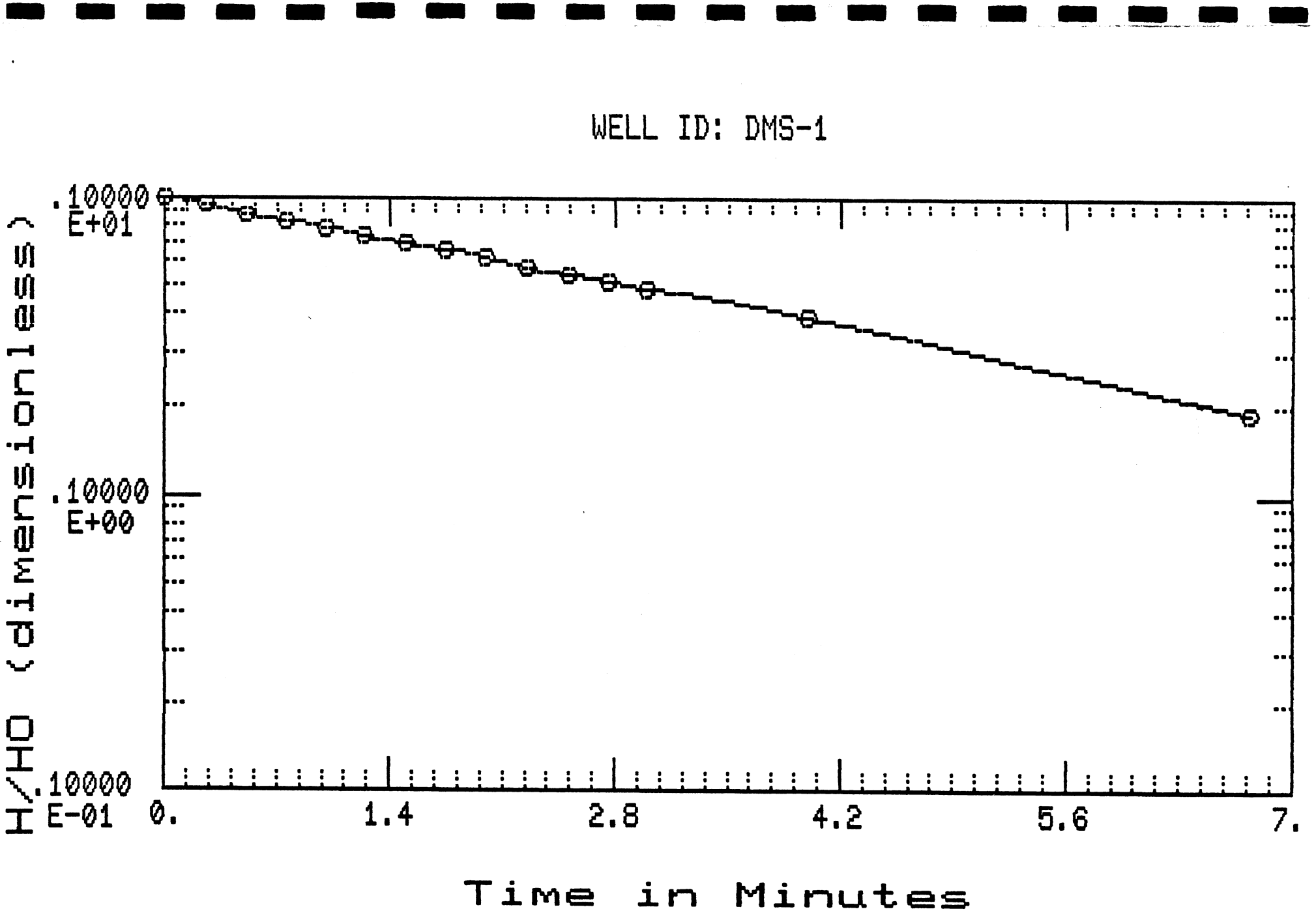
TRANSDUCER USED: 25.00 psi
INITIAL READING: 47.02% of 25.00 psi

DATA POINTS SELECTED

1. TIME: 0.00 minutes HEAD: 51.72 % of 25.00 psi
2. TIME: 6.75 minutes HEAD: 47.90 % of 25.00 psi

HYDRAULIC CONDUCTIVITY OF TEST INTERVAL:

0.46E-04 cm/sec 0.15E-05 ft/sec 0.46E-06 m/sec


WELL ID: DMS-1
.10000 E+01
.10000 E+00
.10000 E-01
H/HO (dimensionless)
0.
1.4
2.8
4.2
5.6
7.
Time in Minutes

WELL ID: DMS-1

TEST DATA:

MEASUREMENT NUMBER	TIME (HH:MM:SS)	TRANSDUCER READING (% of 25.00 psi)	HEAD RATIO (H/HO)
1	10:57: 0	51.72	1.0000
2	10:57:15	51.45	0.9426
3	10:57:30	51.12	0.8723
4	10:57:45	50.90	0.8255
5	10:58: 0	50.67	0.7766
6	10:58:15	50.47	0.7340
7	10:58:30	50.27	0.6915
8	10:58:45	50.10	0.6553
9	10:59: 0	49.92	0.6170
10	10:59:15	49.75	0.5809
11	10:59:30	49.60	0.5489
12	10:59:45	49.45	0.5170
13	10:59:30	49.60	0.5489
14	10:59:45	49.45	0.5170
15	11: 0: 0	49.30	0.4851
16	11: 1: 0	48.85	0.3894
17	11: 3:45	47.90	0.1872

STS CONSULTANTS LTD. - FIELD ENGINEERING SERVICES

SINGLE WELL HYDRAULIC CONDUCTIVITY TEST

STS JOB NO.: 12959
PROJECT/LOCATION: EXXON/CRANDON
PROJECT MANAGER: JAS
TEST TECHNICIAN: JCG
DATA ANALYST: PMB/JRT

TEST INFORMATION

TYPE: RISING HEAD METHOD: SLUG

PIEZOMETER ID: DMS-1
SCREEN LENGTH: 10.000 feet
SLOT SIZE (est.): 0.0100 inches
STANDPIPE RADIUS: 1.0000 inches
BOREHOLE RADIUS: 2.0000 inches
GRAVEL PACK LENGTH: 55.000 feet
GRAVEL PACK PERM.: 0.35E-01 ft./sec.
SCREEN PERMEABILITY: 0.18E-02 ft./sec.

LENGTH USED FOR CALCULATION: 55.00 ft.

THE GRAVEL LENGTH WILL BE USED FOR CALC.

SLUG LENGTH: 15.00 feet
SLUG RADIUS: 0.50 inches

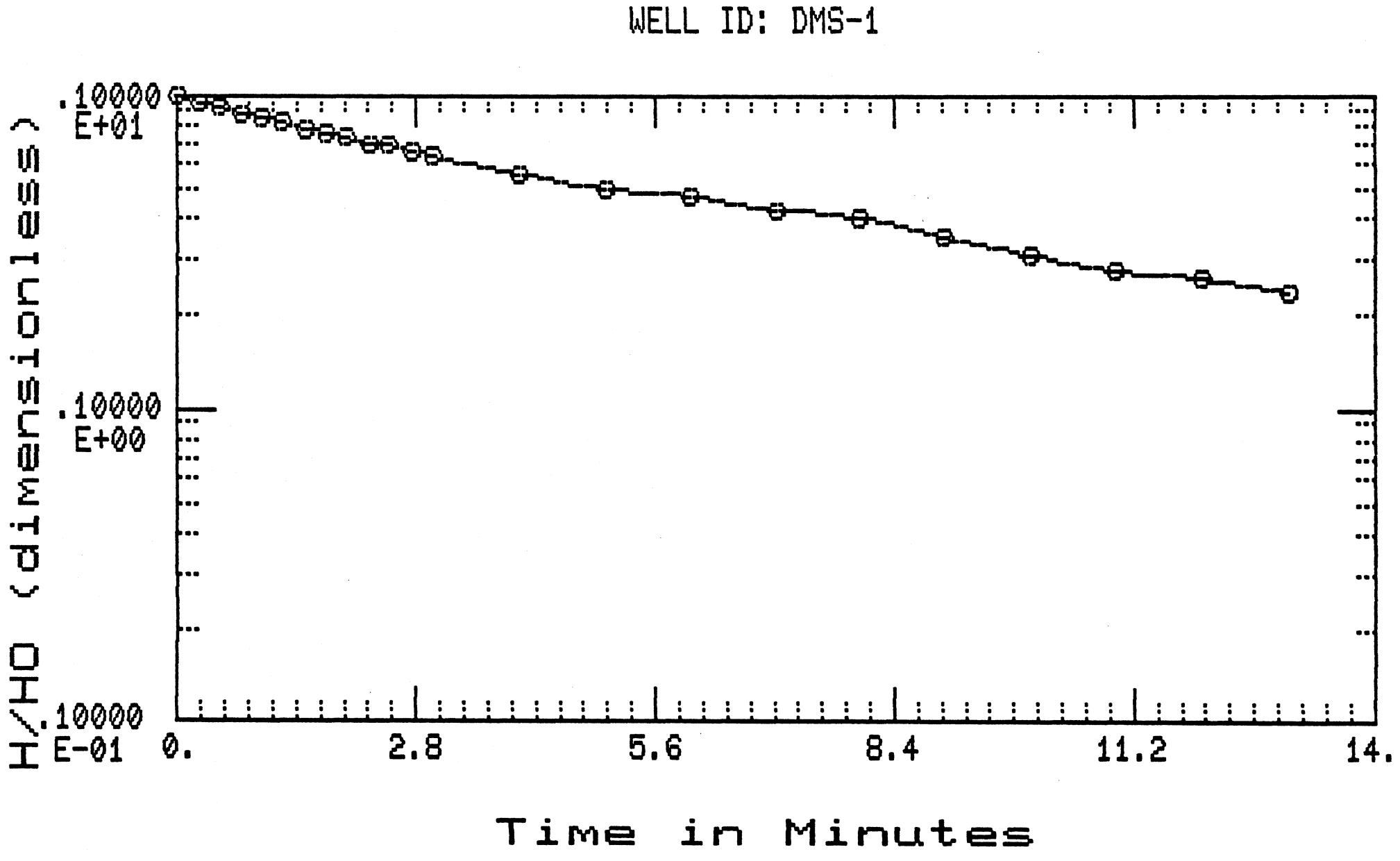
TRANSDUCER USED: 25.00 psi
INITIAL READING: 47.02% of 25.00 psi

DATA POINTS SELECTED

1. TIME: 3.00 minutes HEAD: 45.00 % of 25.00 psi
2. TIME: 13.00 minutes HEAD: 46.27 % of 25.00 psi

HYDRAULIC CONDUCTIVITY OF TEST INTERVAL:

0.18E-04 cm/sec 0.60E-06 ft/sec 0.18E-06 m/sec


WELL ID: DMS-1
.10000 E+01
.10000 E+00
.10000 E-01
H/HO (dimensionless)
0.
2.8
5.6
8.4
11.2
14.
Time in Minutes

WELL ID: DMS-1

TEST DATA:

MEASUREMENT NUMBER	TIME (HH:MM:SS)	TRANSDUCER READING (% of 25.00 psi)	HEAD RATIO (H/HO)
1	11: 4: 0	43.87	1.0000
2	11: 4:15	44.05	0.9429
3	11: 4:30	44.17	0.9048
4	11: 4:45	44.27	0.8730
5	11: 5: 0	44.37	0.8413
6	11: 5:15	44.47	0.8095
7	11: 5:30	44.57	0.7778
8	11: 5:45	44.65	0.7524
9	11: 6: 0	44.72	0.7302
10	11: 6:15	44.80	0.7048
11	11: 6:30	44.85	0.6889
12	11: 6:45	44.92	0.6667
13	11: 7: 0	45.00	0.6413
14	11: 8: 0	45.25	0.5619
15	11: 9: 0	45.42	0.5079
16	11:10: 0	45.50	0.4825
17	11:11: 0	45.67	0.4286
18	11:12: 0	45.75	0.4032
19	11:13: 0	45.92	0.3492
20	11:14: 0	46.05	0.3079
21	11:15: 0	46.15	0.2762
22	11:16: 0	46.20	0.2603
23	11:17: 0	46.27	0.2381

STS CONSULTANTS LTD. - FIELD ENGINEERING SERVICES
SINGLE WELL HYDRAULIC CONDUCTIVITY TEST

STS JOB NO.: 12959
PROJECT/LOCATION: EXXON/CRANDON
PROJECT MANAGER: JAS
TEST TECHNICIAN: JCG
DATA ANALYST: PMB/JRT

TEST INFORMATION

TYPE: FALLING HEAD METHOD: VOLUME ADDITION

PIEZOMETER ID:	DM1-2L	BOREHOLE RADIUS:	2.0000 inches
SCREEN LENGTH:	5.000 feet	GRAVEL PACK LENGTH:	51.000 feet
SLOT SIZE (est.):	0.0100 inches	GRAVEL PACK PERM.:	0.35E-01 ft./sec.
STANDPIPE RADIUS:	0.3750 inches	SCREEN PERMEABILITY:	0.18E-02 ft./sec.

LENGTH USED FOR CALCULATION: 51.00 ft.

THE GRAVEL LENGTH WILL BE USED FOR CALC.

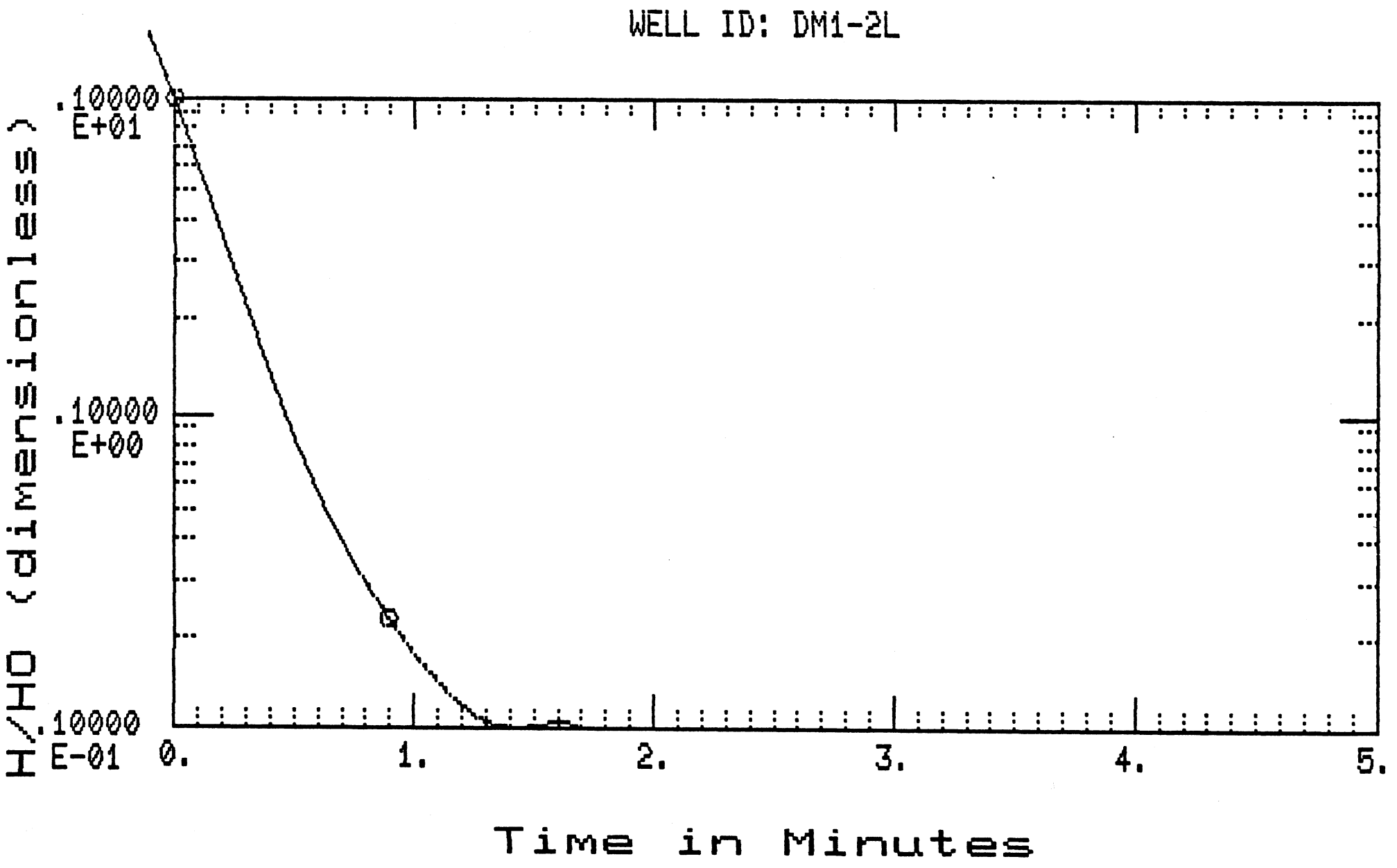
VOLUME ADDED TO STANDPIPE: 1.00 gals.

DATA POINTS SELECTED

1. TIME: 0.00 minutes HEAD: 18.00 ft. below TPVC
2. TIME: 0.90 minutes HEAD: 39.70 ft. below TPVC

HYDRAULIC CONDUCTIVITY OF TEST INTERVAL:

0.12E-03 cm/sec 0.38E-05 ft/sec 0.12E-05 m/sec


WELL ID: DM1-2L
.10000 E+01
.10000 E+00
.10000 E-01
H/HO (dimensionless)
0.
1.
2.
3.
4.
5.
Time in Minutes

WELL ID: DM1-2L

TEST DATA:

MEASUREMENT NUMBER	TIME (HH:MM:SS)	WATER LEVEL (ft below TPVC)	HEAD RATIO (H/HO)
1	0: 0:30	18.00	1.0000
2	0: 1:23	39.70	0.0225
3	0: 2:18	40.00	0.0090
4	0: 2:45	40.10	0.0045
5	0: 3:15	40.10	0.0045
6	0: 5: 0	40.10	0.0045

STS CONSULTANTS LTD. - FIELD ENGINEERING SERVICES
SINGLE WELL HYDRAULIC CONDUCTIVITY TEST

STS JOB NO.: 12959
PROJECT/LOCATION: EXXON/CRANDON
PROJECT MANAGER: JAS
TEST TECHNICIAN: JCG
DATA ANALYST: PMBJRT

TEST INFORMATION

TYPE: RISING HEAD METHOD: VOLUME SUBTRACTION

PIEZOMETER ID: DW-1L
SCREEN LENGTH: 10.000 feet
SLOT SIZE (est.): 0.0100 inches
STANDPIPE RADIUS: 0.5000 inches
BOREHOLE RADIUS: 2.0000 inches
GRAVEL PACK LENGTH: 20.000 feet
GRAVEL PACK PERM.: 0.35E-01 ft./sec.
SCREEN PERMEABILITY: 0.18E-02 ft./sec.

LENGTH USED FOR CALCULATION: 20.00 ft.

THE GRAVEL LENGTH WILL BE USED FOR CALC.

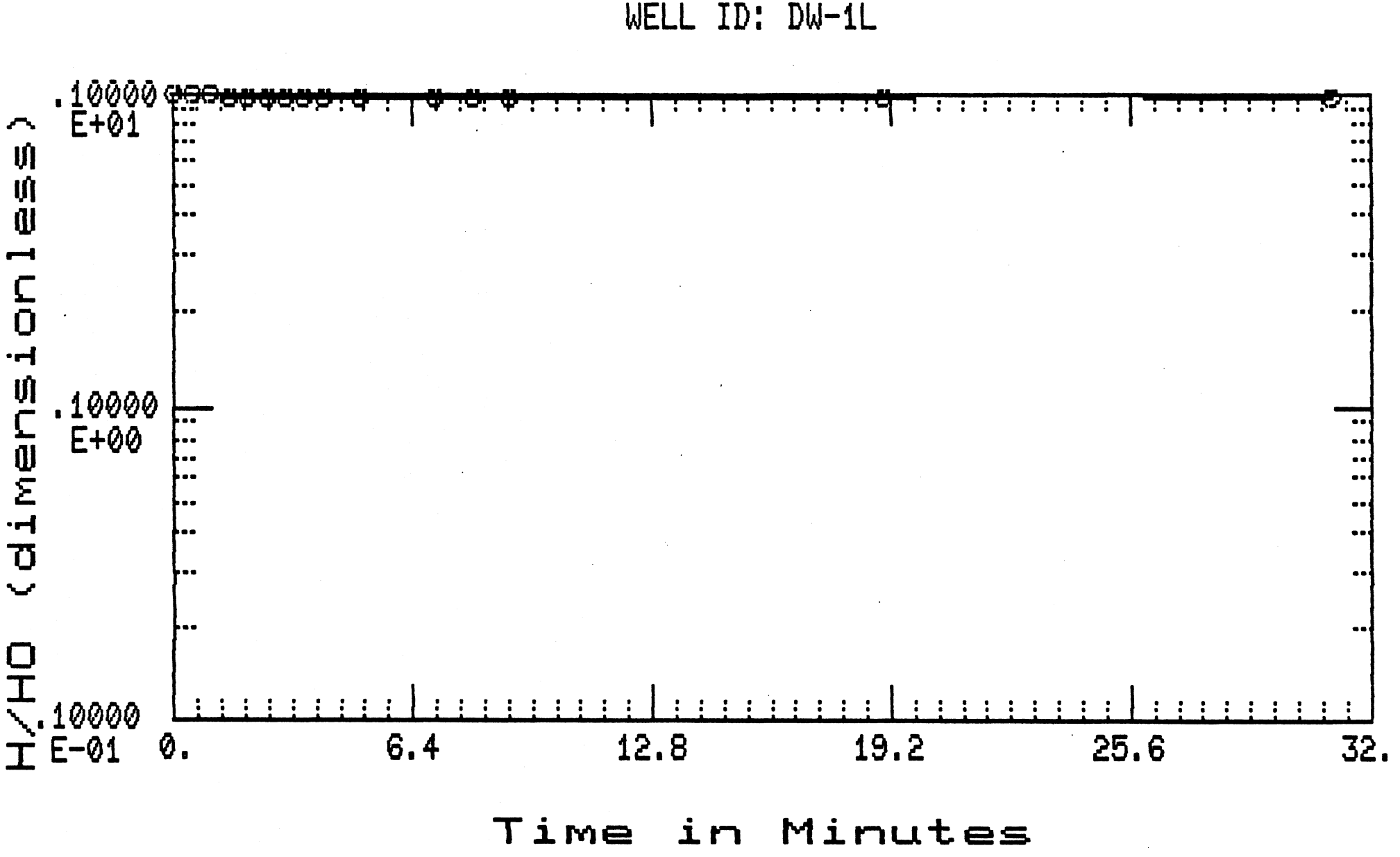
BEGINNING WATER LEVEL: 66.70 ft. below TPVC

DATA POINTS SELECTED

1. TIME: 0.00 minutes HEAD: 84.50 ft. below TPVC
2. TIME: 31.00 minutes HEAD: 83.80 ft. below TPVC

HYDRAULIC CONDUCTIVITY OF TEST INTERVAL:

0.14E-06 cm/sec 0.45E-08 ft/sec 0.14E-08 m/sec


WELL ID: DW-1L
.10000 E+01
.10000 E+00
.10000 E-01
H/HO (dimensionless)
0.
6.4
12.8
19.2
25.6
32.
Time in Minutes

WELL ID: DW-1L

TEST DATA:

MEASUREMENT NUMBER	TIME (HH:MM:SS)	WATER LEVEL (ft below TPVC)	HEAD RATIO (H/HO)
1	12:16: 0	84.50	1.0000
2	12:16:30	84.20	0.9831
3	12:17: 0	84.20	0.9831
4	12:17:30	84.10	0.9775
5	12:18: 0	84.10	0.9775
6	12:18:30	84.10	0.9775
7	12:19: 0	84.10	0.9775
8	12:19:30	84.10	0.9775
9	12:20: 0	84.00	0.9719
10	12:21: 0	84.00	0.9719
11	12:23: 0	84.00	0.9719
12	12:24: 0	84.00	0.9719
13	12:25: 0	83.90	0.9663
14	12:35: 0	83.90	0.9663
15	12:47: 0	83.80	0.9607

STS CONSULTANTS LTD. - FIELD ENGINEERING SERVICES
SINGLE WELL HYDRAULIC CONDUCTIVITY TEST

STS JOB NO.: 12959
PROJECT/LOCATION: EXXON/CRANDON
PROJECT MANAGER: JAS
TEST TECHNICIAN: JCG
DATA ANALYST: PMB/JRT

TEST INFORMATION

TYPE: RISING HEAD METHOD: VOLUME SUBTRACTION

PIEZOMETER ID: DW-1U
SCREEN LENGTH: 5.000 feet
SLOT SIZE (est.): 0.0100 inches
STANDPIPE RADIUS: 0.5000 inches
BOREHOLE RADIUS: 2.0000 inches
GRAVEL PACK LENGTH: 22.000 feet
GRAVEL PACK PERM.: 0.35E-01 ft./sec.
SCREEN PERMEABILITY: 0.18E-02 ft./sec.

LENGTH USED FOR CALCULATION: 22.00 ft.

THE GRAVEL LENGTH WILL BE USED FOR CALC.

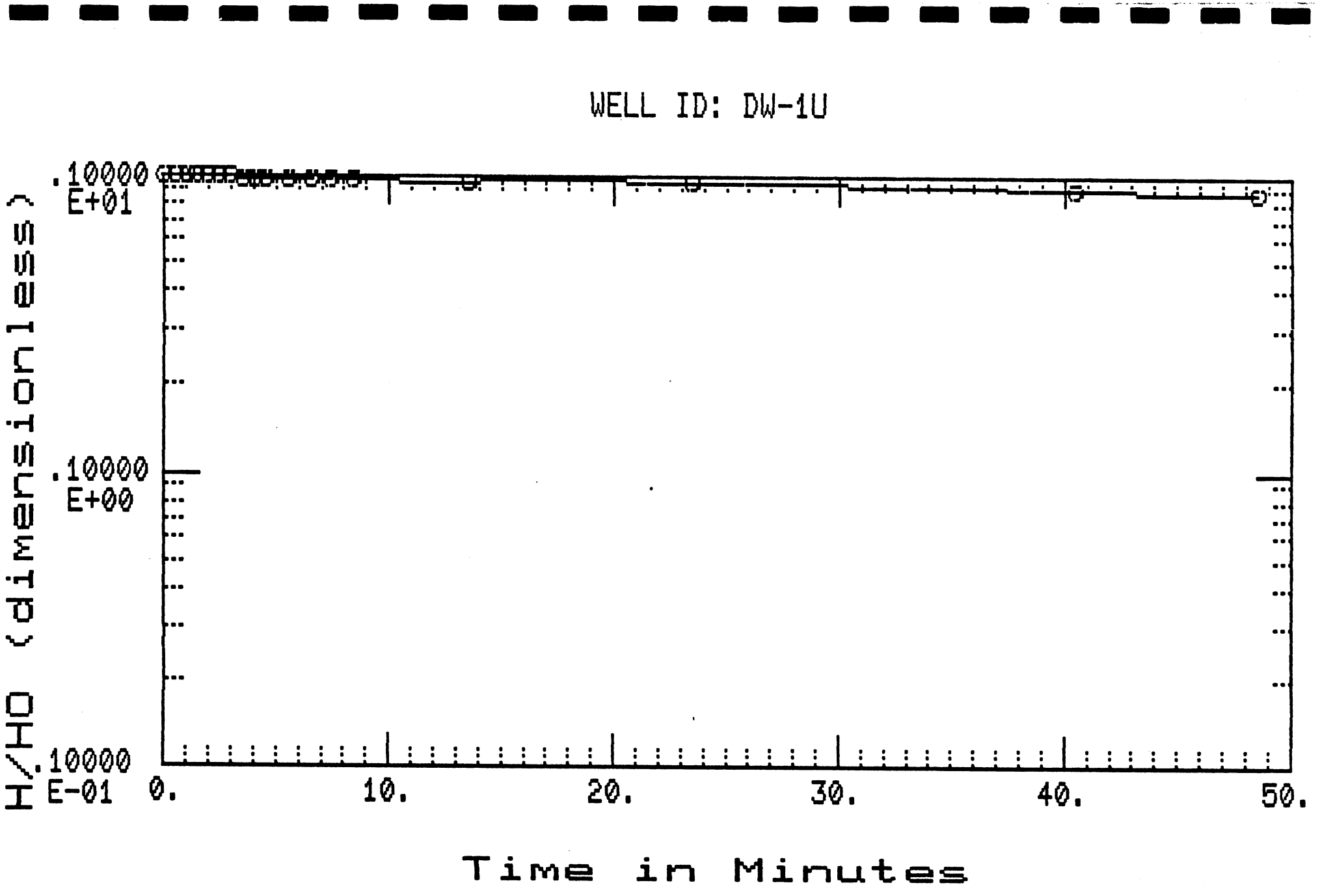
BEGINNING WATER LEVEL: 68.00 ft. below TPVC

DATA POINTS SELECTED

1. TIME: 0.00 minutes HEAD: 86.00 ft. below TPVC
2. TIME: 48.50 minutes HEAD: 83.70 ft. below TPVC

HYDRAULIC CONDUCTIVITY OF TEST INTERVAL:

0.28E-06 cm/sec 0.91E-08 ft/sec 0.28E-08 m/sec


WELL ID: DW-1U
.10000 E+01
.10000 E+00
.10000 E-01
H/HO (dimensionless)
0.
10.
20.
30.
40.
50.
Time in Minutes

WELL ID: DW-1U

TEST DATA:

MEASUREMENT NUMBER	TIME (HH:MM:SS)	WATER LEVEL (ft below TPVC)	HEAD RATIO (H/HO)
1	11:56:30	86.00	1.0000
2	11:57: 0	85.90	0.9944
3	11:57:30	85.90	0.9944
4	11:58: 0	85.80	0.9889
5	11:58:30	85.70	0.9833
6	11:59: 0	85.70	0.9833
7	11:59:30	85.70	0.9833
8	12: 0: 0	85.60	0.9778
9	12: 0:30	85.60	0.9778
10	12: 1: 0	85.50	0.9722
11	12: 2: 0	85.50	0.9722
12	12: 3: 0	85.50	0.9722
13	12: 4: 0	85.30	0.9611
14	12: 5: 0	85.30	0.9611
15	12:10: 0	85.00	0.9444
16	12:20: 0	84.70	0.9278
17	12:37: 0	83.80	0.8778
18	12:45: 0	83.70	0.8722

STS CONSULTANTS LTD. - FIELD ENGINEERING SERVICES

SINGLE WELL HYDRAULIC CONDUCTIVITY TEST

STS JOB NO.: 12959
PROJECT/LOCATION: EXXON/CRANDON
PROJECT MANAGER: JAS
TEST TECHNICIAN: JCG
DATA ANALYST: PMB/JRT

TEST INFORMATION

TYPE: FALLING HEAD METHOD: VOLUME ADDITION

PIEZOMETER ID:	DW1A	BOREHOLE RADIUS:	4.0000 inches
SCREEN LENGTH:	12.000 feet	GRAVEL PACK LENGTH:	20.000 feet
SLOT SIZE (est.):	0.0100 inches	GRAVEL PACK PERM.:	0.35E-01 ft./sec.
STANDPIPE RADIUS:	0.6250 inches	SCREEN PERMEABILITY:	0.18E-02 ft./sec.

LENGTH USED FOR CALCULATION: 20.00 ft.

THE GRAVEL LENGTH WILL BE USED FOR CALC.

VOLUME ADDED TO STANDPIPE: 1.00 gals.

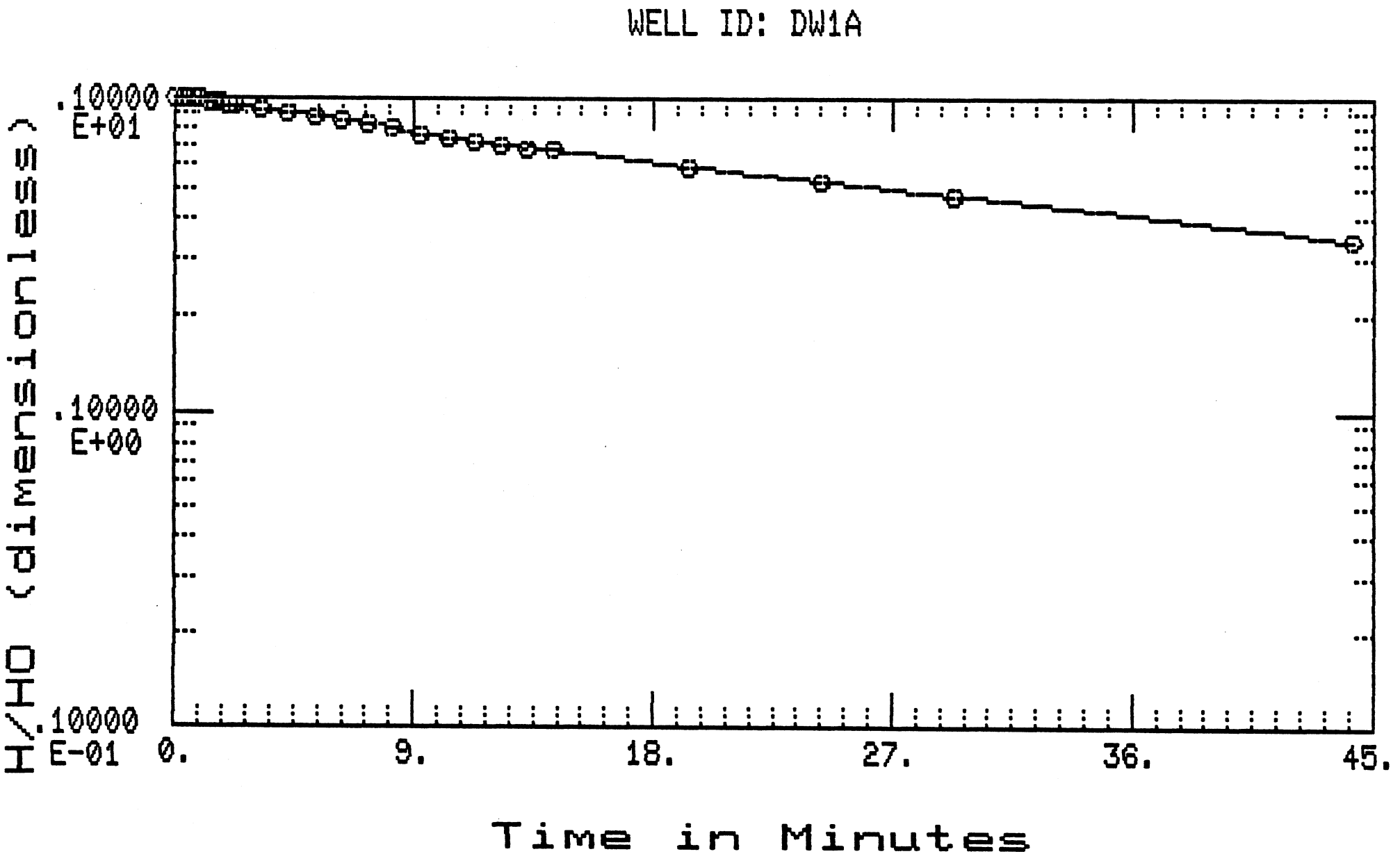
TRANSDUCER USED: 25.00 psi INITIAL READING: 1.20% of 25.00 psi

DATA POINTS SELECTED

1. TIME: 9.25 minutes HEAD: 6.57 % of 25.00 psi
2. TIME: 44.25 minutes HEAD: 3.60 % of 25.00 psi

HYDRAULIC CONDUCTIVITY OF TEST INTERVAL:

0.32E-05 cm/sec 0.11E-06 ft/sec 0.32E-07 m/sec


WELL ID: DW1A
.10000
E+01
.10000
E+00
.10000
E-01
H/HO (dimensionless)
0.
9.
18.
27.
36.
45.
Time in Minutes

WELL ID: DW1A

TEST DATA:

MEASUREMENT NUMBER	TIME (HH:MM:SS)	TRANSDUCER READING (% of 25.00 psi)	HEAD RATIO (H/HO)
1	11:26:45	8.25	1.0000
2	11:27: 0	8.25	1.0000
3	11:27:15	8.17	0.9887
4	11:27:30	8.12	0.9816
5	11:27:45	8.10	0.9787
6	11:28: 0	8.05	0.9716
7	11:28:15	7.97	0.9603
8	11:28:30	7.92	0.9532
9	11:28:45	7.90	0.9504
10	11:29: 0	7.85	0.9433
11	11:30: 0	7.67	0.9177
12	11:31: 0	7.52	0.8965
13	11:32: 0	7.35	0.8723
14	11:33: 0	7.20	0.8511
15	11:34: 0	7.00	0.8227
16	11:35: 0	6.77	0.7901
17	11:36: 0	6.57	0.7617
18	11:37: 0	6.40	0.7376
19	11:38: 0	6.27	0.7191
20	11:39: 0	6.12	0.6979
21	11:40: 0	6.00	0.6809
22	11:41: 0	5.92	0.6695
23	11:46: 0	5.42	0.5986
24	11:51: 0	4.95	0.5319
25	11:56: 0	4.57	0.4780
26	12:11: 0	3.60	0.3404

STS CONSULTANTS LTD. - FIELD ENGINEERING SERVICES
SINGLE WELL HYDRAULIC CONDUCTIVITY TEST

STS JOB NO.: 12959
PROJECT/LOCATION: EXXON/CRANDON
PROJECT MANAGER: JAS
TEST TECHNICIAN: JCG
DATA ANALYST: PMB/JRT

TEST INFORMATION

TYPE: FALLING HEAD METHOD: VOLUME ADDITION

PIEZOMETER ID: DW3U
SCREEN LENGTH: 10.000 feet
SLOT SIZE (est.): 0.0100 inches
STANDPIPE RADIUS: 0.6250 inches
BOREHOLE RADIUS: 2.0000 inches
GRAVEL PACK LENGTH: 15.000 feet
GRAVEL PACK PERM.: 0.35E-01 ft./sec.
SCREEN PERMEABILITY: 0.18E-02 ft./sec.

LENGTH USED FOR CALCULATION: 15.00 ft.

THE GRAVEL LENGTH WILL BE USED FOR CALC.

VOLUME ADDED TO STANDPIPE: 1.00 gals.

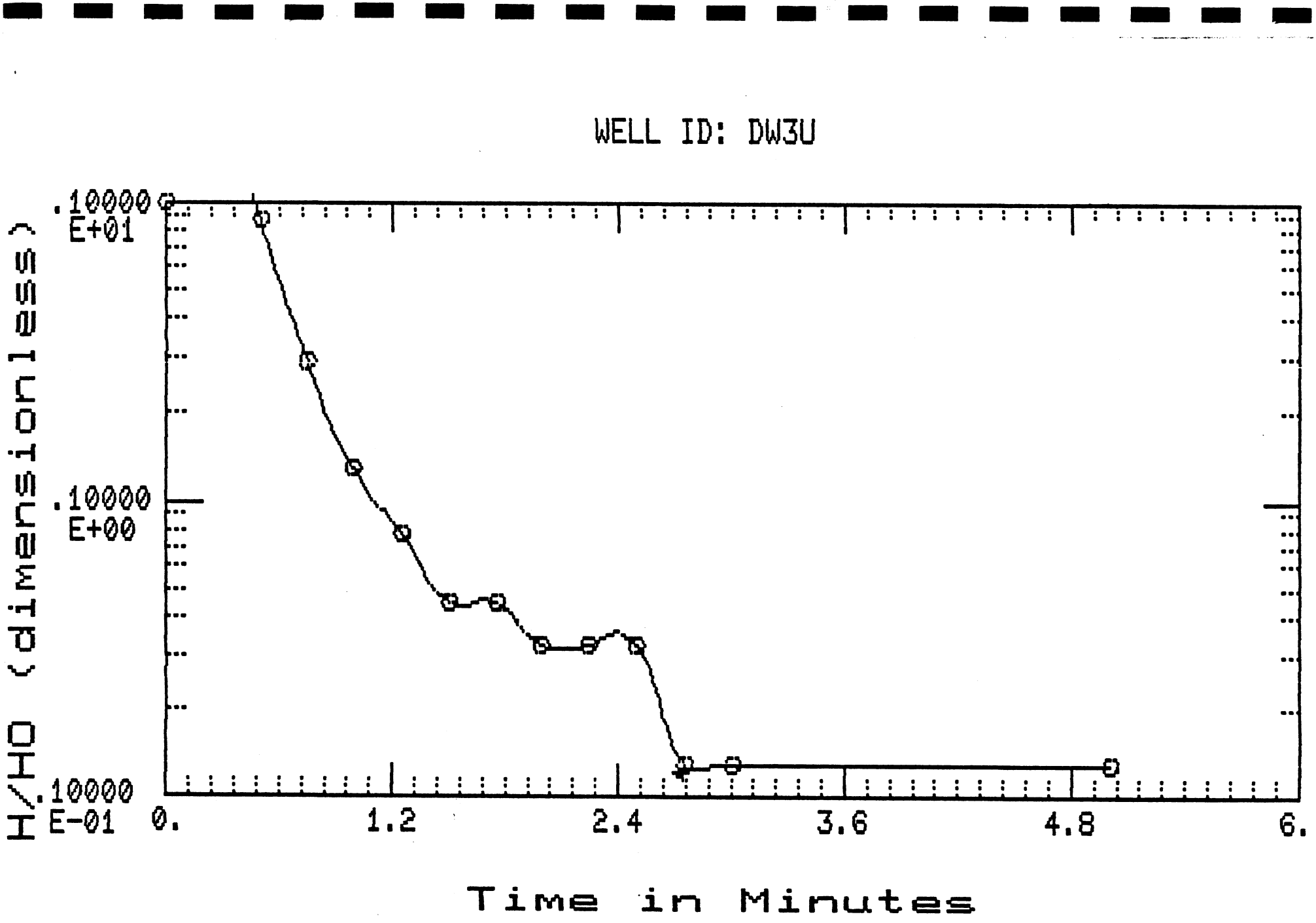
TRANSDUCER USED: 25.00 psi INITIAL READING: 10.10% of 25.00 psi

DATA POINTS SELECTED

1. TIME: 0.50 minutes HEAD: 11.45 % of 25.00 psi
2. TIME: 1.00 minutes HEAD: 10.30 % of 25.00 psi

HYDRAULIC CONDUCTIVITY OF TEST INTERVAL:

0.79E-03 cm/sec 0.26E-04 ft/sec 0.79E-05 m/sec


WELL ID: DW3U
.10000 E+01
.10000 E+00
.10000 E-01
H/HO (dimensionless)
0.
1.2
2.4
3.6
4.8
6.
Time in Minutes

WELL ID: DW3U

TEST DATA:

MEASUREMENT NUMBER	TIME (HH:MM:SS)	TRANSDUCER READING (% of 25.00 psi)	HEAD RATIO (H/HO)
1	13: 0: 0	11.65	1.0000
2	13: 0:15	13.77	2.3677
3	13: 0:30	11.45	0.8710
4	13: 0:45	10.55	0.2903
5	13: 1: 0	10.30	0.1290
6	13: 1:15	10.22	0.0774
7	13: 1:30	10.17	0.0452
8	13: 1:45	10.17	0.0452
9	13: 2: 0	10.15	0.0323
10	13: 2:15	10.15	0.0323
11	13: 2:30	10.15	0.0323
12	13: 2:45	10.12	0.0129
13	13: 3: 0	10.12	0.0129
14	13: 5: 0	10.12	0.0129

STS CONSULTANTS LTD. - FIELD ENGINEERING SERVICES
SINGLE WELL HYDRAULIC CONDUCTIVITY TEST

STS JOB NO.: 12959
PROJECT/LOCATION: EXXON/CRANDON
PROJECT MANAGER: JAS
TEST TECHNICIAN: JCG
DATA ANALYST: PMB/JRT

TEST INFORMATION

TYPE: RISING HEAD METHOD: VOLUME SUBTRACTION

PIEZOMETER ID:	DW-3L	BOREHOLE RADIUS:	2.0000 inches
SCREEN LENGTH:	5.000 feet	GRAVEL PACK LENGTH:	12.000 feet
SLOT SIZE (est.):	0.0100 inches	GRAVEL PACK PERM.:	0.35E-01 ft./sec.
STANDPIPE RADIUS:	0.3750 inches	SCREEN PERMEABILITY:	0.18E-02 ft./sec.

LENGTH USED FOR CALCULATION: 12.00 ft.

THE GRAVEL LENGTH WILL BE USED FOR CALC.

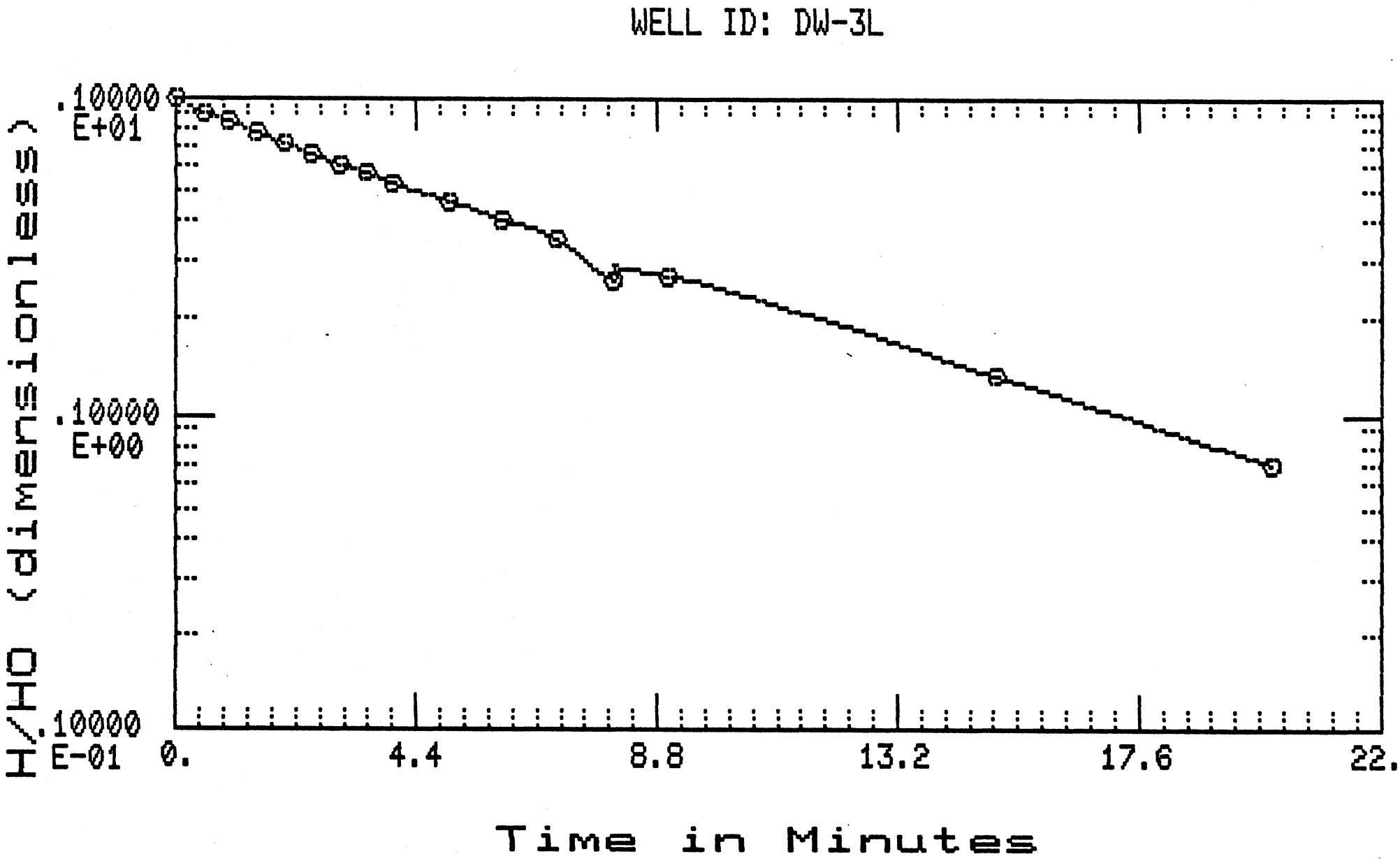
BEGINNING WATER LEVEL: 80.60 ft. below TPVC

DATA POINTS SELECTED

1. TIME: 2.00 minutes HEAD: 89.90 ft. below TPVC
2. TIME: 9.00 minutes HEAD: 84.10 ft. below TPVC

HYDRAULIC CONDUCTIVITY OF TEST INTERVAL:

0.12E-04 cm/sec 0.40E-06 ft/sec 0.12E-06 m/sec


WELL ID: DW-3L
.10000 E+01
.10000 E+00
.10000 E-01
H/HO (dimensionless)
0.
4.4
8.8
13.2
17.6
22.
Time in Minutes

WELL ID: DW-3L

TEST DATA:

MEASUREMENT NUMBER	TIME (HH:MM:SS)	WATER LEVEL (ft below TPVC)	HEAD RATIO (H/HO)
1	13:20: 0	93.50	1.0000
2	13:20:30	92.20	0.8992
3	13:21: 0	91.40	0.8372
4	13:21:30	90.60	0.7752
5	13:22: 0	89.90	0.7209
6	13:22:30	89.10	0.6589
7	13:23: 0	88.50	0.6124
8	13:23:30	88.00	0.5736
9	13:24: 0	87.40	0.5271
10	13:25: 0	86.60	0.4651
11	13:26: 0	85.80	0.4031
12	13:27: 0	85.10	0.3488
13	13:28: 0	84.00	0.2636
14	13:29: 0	84.10	0.2713
15	13:35: 0	82.30	0.1318
16	13:40: 0	81.50	0.0698

STS CONSULTANTS LTD. - FIELD ENGINEERING SERVICES
SINGLE WELL HYDRAULIC CONDUCTIVITY TEST

STS JOB NO.: 12959
PROJECT/LOCATION: EXXON/CRANDON
PROJECT MANAGER: JAS
TEST TECHNICIAN: PMB
DATA ANALYST: PMB/JRT

TEST INFORMATION

TYPE: RISING HEAD METHOD: VOLUME SUBTRACTION

PIEZOMETER ID: 211-1
SCREEN LENGTH: 39.000 feet
SLOT SIZE (est.): -0.0001 inches
STANDPIPE RADIUS: 1.0000 inches
BOREHOLE RADIUS: 1.9375 inches
GRAVEL PACK LENGTH: 60.000 feet
GRAVEL PACK PERM.: 0.35E-01 ft./sec.
SCREEN PERMEABILITY: -.10E-03 ft./sec.

LENGTH USED FOR CALCULATION: 60.00 ft.

THE GRAVEL LENGTH WILL BE USED FOR CALC.

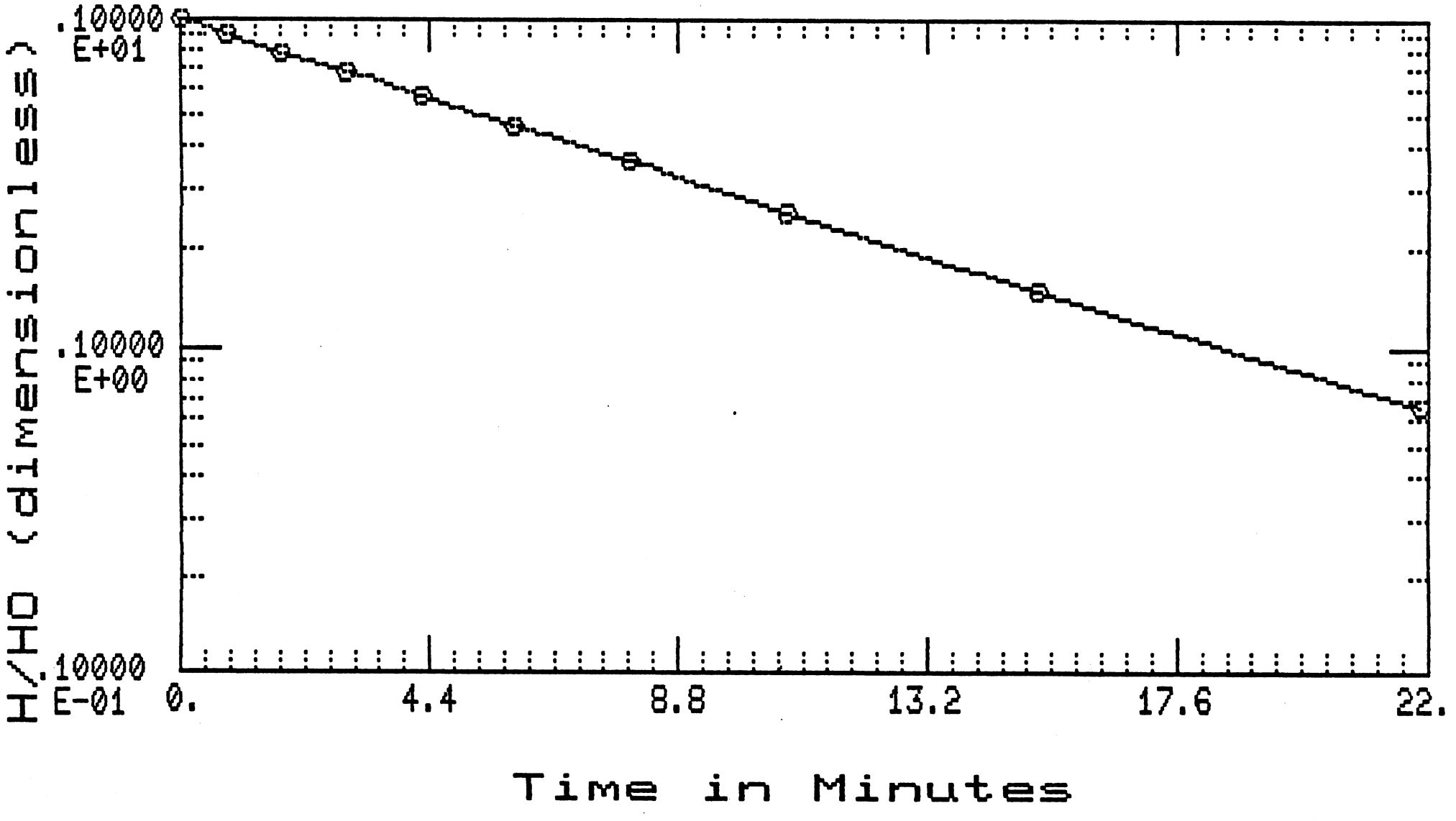
BEGINNING WATER LEVEL: 68.12 ft. below TPVC

DATA POINTS SELECTED

1. TIME: 0.00 minutes HEAD: 115.00 ft. below TPVC
2. TIME: 21.85 minutes HEAD: 71.20 ft. below TPVC

HYDRAULIC CONDUCTIVITY OF TEST INTERVAL:

0.22E-04 cm/sec 0.71E-06 ft/sec 0.22E-06 m/sec


WELL ID: 211-1
.10000
E+01
.10000
E+00
.10000
E-01
H/HO (dimensionless)
0.
4.4
8.8
13.2
17.6
22.
Time in Minutes

WELL ID: 211-1

TEST DATA:

MEASUREMENT NUMBER	TIME (HH:MM:SS)	WATER LEVEL (ft below TPVC)	HEAD RATIO (H/HO)
1	9:46: 0	115.00	1.0000
2	9:46:48	110.00	0.8933
3	9:47:46	105.00	0.7867
4	9:48:55	100.00	0.6800
5	9:50:15	95.00	0.5734
6	9:51:53	90.00	0.4667
7	9:53:57	85.00	0.3601
8	9:56:43	80.00	0.2534
9	10: 1: 9	75.00	0.1468
10	10: 7:50	71.20	0.0657

STS CONSULTANTS LTD. - FIELD ENGINEERING SERVICES
SINGLE WELL HYDRAULIC CONDUCTIVITY TEST

STS JOB NO.: 12959
PROJECT/LOCATION: EXXON/CRANDON
PROJECT MANAGER: JAS
TEST TECHNICIAN: PMB
DATA ANALYST: PMB/JRT

TEST INFORMATION

TYPE: RISING HEAD METHOD: VOLUME SUBTRACTION

PIEZOMETER ID:	211-1T2	BOREHOLE RADIUS:	1.9375 inches
SCREEN LENGTH:	39.000 feet	GRAVEL PACK LENGTH:	60.000 feet
SLOT SIZE (est.):	-0.0001 inches	GRAVEL PACK PERM.:	0.35E-01 ft./sec.
STANDPIPE RADIUS:	1.0000 inches	SCREEN PERMEABILITY:	-.10E-03 ft./sec.

LENGTH USED FOR CALCULATION: 60.00 ft.

THE GRAVEL LENGTH WILL BE USED FOR CALC.

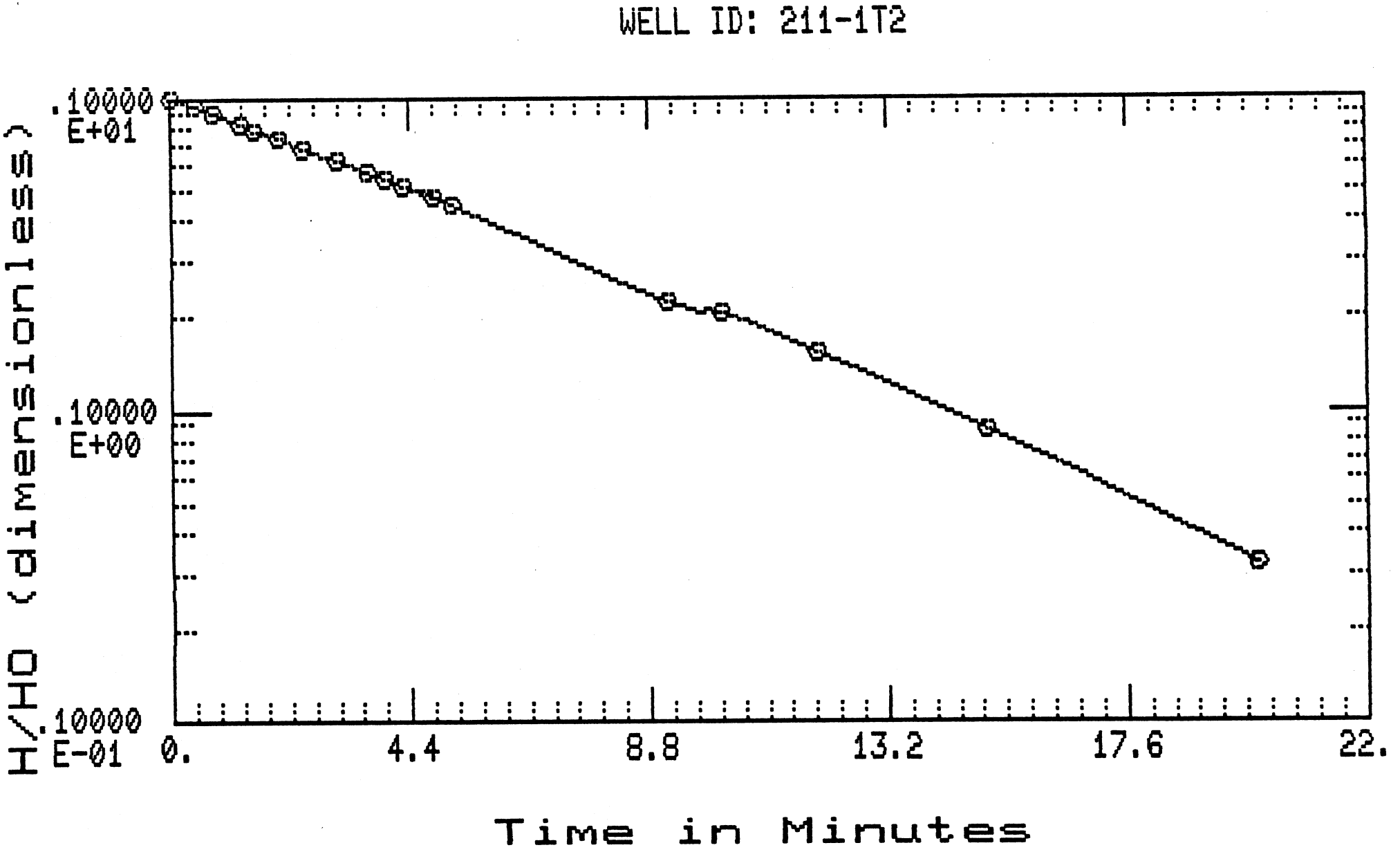
BEGINNING WATER LEVEL: 68.18 ft. below TPVC

DATA POINTS SELECTED

1. TIME: 3.65 minutes HEAD: 93.70 ft. below TPVC
2. TIME: 9.13 minutes HEAD: 78.10 ft. below TPVC

HYDRAULIC CONDUCTIVITY OF TEST INTERVAL:

0.30E-04 cm/sec 0.98E-06 ft/sec 0.30E-06 m/sec


WELL ID: 211-1T2
.10000 E+01
.10000 E+00
.10000 E-01
H/HO (dimensionless)
0.
4.4
8.8
13.2
17.6
22.
Time in Minutes

WELL ID: 211-1T2

TEST DATA:

MEASUREMENT NUMBER	TIME (HH:MM:SS)	WATER LEVEL (ft below TPVC)	HEAD RATIO (H/HO)
1	0: 0: 0	112.50	1.0000
2	0: 0:28	109.50	0.9323
3	0: 0:48	107.20	0.8804
4	0: 1:16	104.60	0.8218
5	0: 1:33	103.00	0.7856
6	0: 2: 0	100.80	0.7360
7	0: 2:27	98.60	0.6864
8	0: 3: 2	96.25	0.6333
9	0: 3:39	93.70	0.5758
10	0: 3:56	92.45	0.5476
11	0: 4:16	91.35	0.5228
12	0: 4:50	89.30	0.4765
13	0: 5:13	88.15	0.4506
14	0: 9: 7	78.10	0.2238
15	0:10: 7	77.30	0.2058
16	0:11:53	75.00	0.1539
17	0:15: 0	72.00	0.0862
18	0:20: 0	69.60	0.0320

STS CONSULTANTS LTD. - FIELD ENGINEERING SERVICES
SINGLE WELL HYDRAULIC CONDUCTIVITY TEST

STS JOB NO.: 12959
PROJECT/LOCATION: EXXON/CRANDON
PROJECT MANAGER: RKL
TEST TECHNICIAN: JCG
DATA ANALYST: PMB

TEST INFORMATION

TYPE: RISING HEAD METHOD: VOLUME SUBTRACTION

PIEZOMETER ID:	BE2112L	BOREHOLE RADIUS:	1.9375 inches
SCREEN LENGTH:	7.000 feet	GRAVEL PACK LENGTH:	15.000 feet
SLOT SIZE (est.):	-0.0001 inches	GRAVEL PACK PERM.:	0.35E-01 ft./sec.
STANDPIPE RADIUS:	0.3750 inches	SCREEN PERMEABILITY:	-.10E-03 ft./sec.

LENGTH USED FOR CALCULATION: 15.00 ft.

THE GRAVEL LENGTH WILL BE USED FOR CALC.

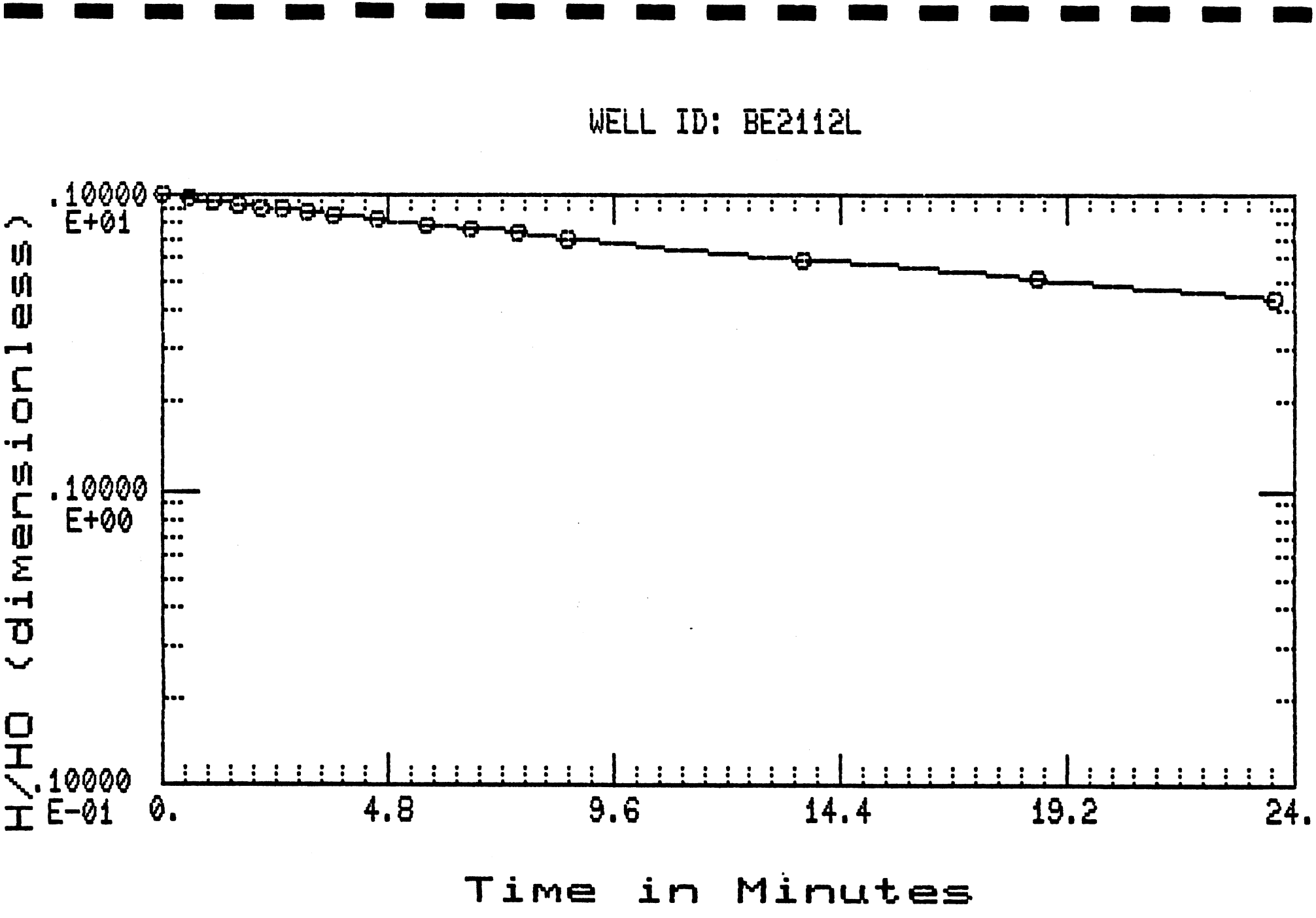
BEGINNING WATER LEVEL: 78.70 ft. below TPVC

DATA POINTS SELECTED

1. TIME: 4.58 minutes HEAD: 102.90 ft. below TPVC
2. TIME: 23.58 minutes HEAD: 91.80 ft. below TPVC

HYDRAULIC CONDUCTIVITY OF TEST INTERVAL:

0.24E-05 cm/sec 0.79E-07 ft/sec 0.24E-07 m/sec


WELL ID: BE2112L
.10000 E+01
.10000 E+00
.10000 E-01
H/HO (dimensionless)
0.
4.8
9.6
14.4
19.2
24.
Time in Minutes

WELL ID: BE2112L

TEST DATA:

MEASUREMENT NUMBER	TIME (HH:MM:SS)	WATER LEVEL (ft below TPVC)	HEAD RATIO (H/HO)
1	0: 0:55	108.40	1.0000
2	0: 1:30	107.30	0.9630
3	0: 2: 0	106.80	0.9461
4	0: 2:30	106.00	0.9192
5	0: 3: 0	105.40	0.8990
6	0: 3:30	104.90	0.8822
7	0: 4: 0	104.30	0.8620
8	0: 4:35	103.70	0.8418
9	0: 5:30	102.90	0.8148
10	0: 6:30	102.00	0.7845
11	0: 7:30	101.10	0.7542
12	0: 8:30	100.30	0.7273
13	0: 9:30	99.60	0.7037
14	0:14:30	96.50	0.5993
15	0:19:30	94.00	0.5152
16	0:24:30	91.80	0.4411

STS CONSULTANTS LTD. - FIELD ENGINEERING SERVICES
SINGLE WELL HYDRAULIC CONDUCTIVITY TEST

STS JOB NO.: 12959
PROJECT/LOCATION: EXXON/CRANDON
PROJECT MANAGER: JAS
TEST TECHNICIAN: JCG
DATA ANALYST: PMB

TEST INFORMATION

TYPE: RISING HEAD METHOD: VOLUME SUBTRACTION

PIEZOMETER ID:	BE2113U	BOREHOLE RADIUS:	1.9375 inches
SCREEN LENGTH:	10.000 feet	GRAVEL PACK LENGTH:	24.000 feet
SLOT SIZE (est.):	-0.0001 inches	GRAVEL PACK PERM.:	0.35E-01 ft./sec.
STANDPIPE RADIUS:	0.3750 inches	SCREEN PERMEABILITY:	-.10E-03 ft./sec.

LENGTH USED FOR CALCULATION: 24.00 ft.

THE GRAVEL LENGTH WILL BE USED FOR CALC.

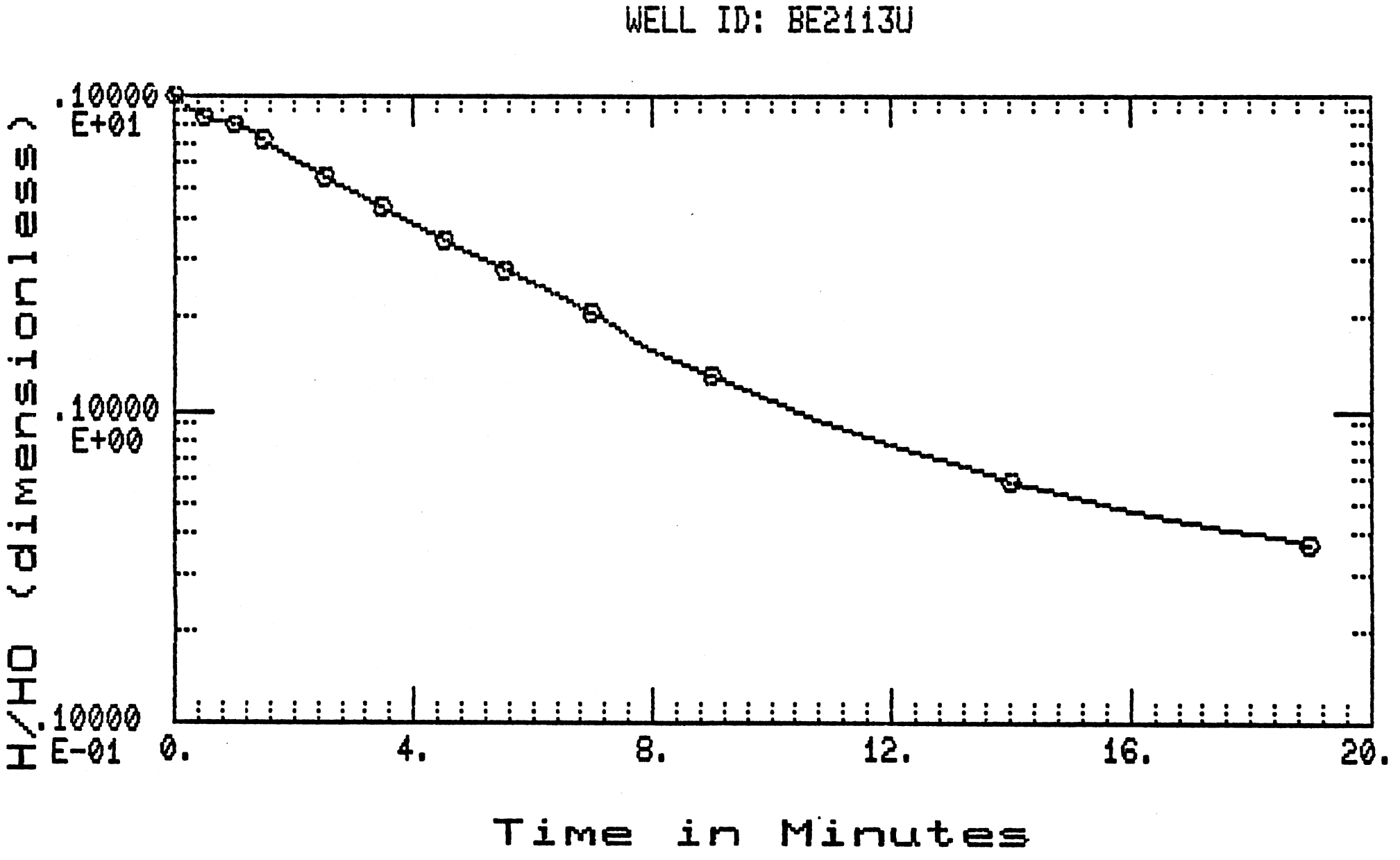
BEGINNING WATER LEVEL: 67.60 ft. below TPVC

DATA POINTS SELECTED

1. TIME: 1.00 minutes HEAD: 117.70 ft. below TPVC
2. TIME: 9.00 minutes HEAD: 75.60 ft. below TPVC

HYDRAULIC CONDUCTIVITY OF TEST INTERVAL:

0.12E-04 cm/sec 0.39E-06 ft/sec 0.12E-06 m/sec


WELL ID: BE2113U
.10000 E+01
.10000 E+00
.10000 E-01
H/HO (dimensionless)
0.
4.
8.
12.
16.
20.
Time in Minutes

WELL ID: BE2113U

TEST DATA:

MEASUREMENT NUMBER	TIME (HH:MM:SS)	WATER LEVEL (ft below TPVC)	HEAD RATIO (H/HO)
1	0: 1: 0	130.10	1.0000
2	0: 1:30	120.50	0.8464
3	0: 2: 0	117.70	0.8016
4	0: 2:30	111.90	0.7088
5	0: 3:30	102.00	0.5504
6	0: 4:30	95.00	0.4384
7	0: 5:30	89.30	0.3472
8	0: 6:30	85.00	0.2784
9	0: 8: 0	80.30	0.2032
10	0:10: 0	75.60	0.1280
11	0:15: 0	71.30	0.0592
12	0:20: 0	69.90	0.0368

STS CONSULTANTS LTD. - FIELD ENGINEERING SERVICES
SINGLE WELL HYDRAULIC CONDUCTIVITY TEST

STS JOB NO.: 12959
PROJECT/LOCATION: EXXON/CRANDON
PROJECT MANAGER: JAS
TEST TECHNICIAN: JCG
DATA ANALYST: PMB

TEST INFORMATION

TYPE: RISING HEAD METHOD: VOLUME SUBTRACTION

PIEZOMETER ID:	BE2113L	BOREHOLE RADIUS:	1.9375 inches
SCREEN LENGTH:	10.000 feet	GRAVEL PACK LENGTH:	23.000 feet
SLOT SIZE (est.):	-0.0001 inches	GRAVEL PACK PERM.:	0.35E-01 ft./sec.
STANDPIPE RADIUS:	0.3750 inches	SCREEN PERMEABILITY:	-.10E-03 ft./sec.

LENGTH USED FOR CALCULATION: 23.00 ft.

THE GRAVEL LENGTH WILL BE USED FOR CALC.

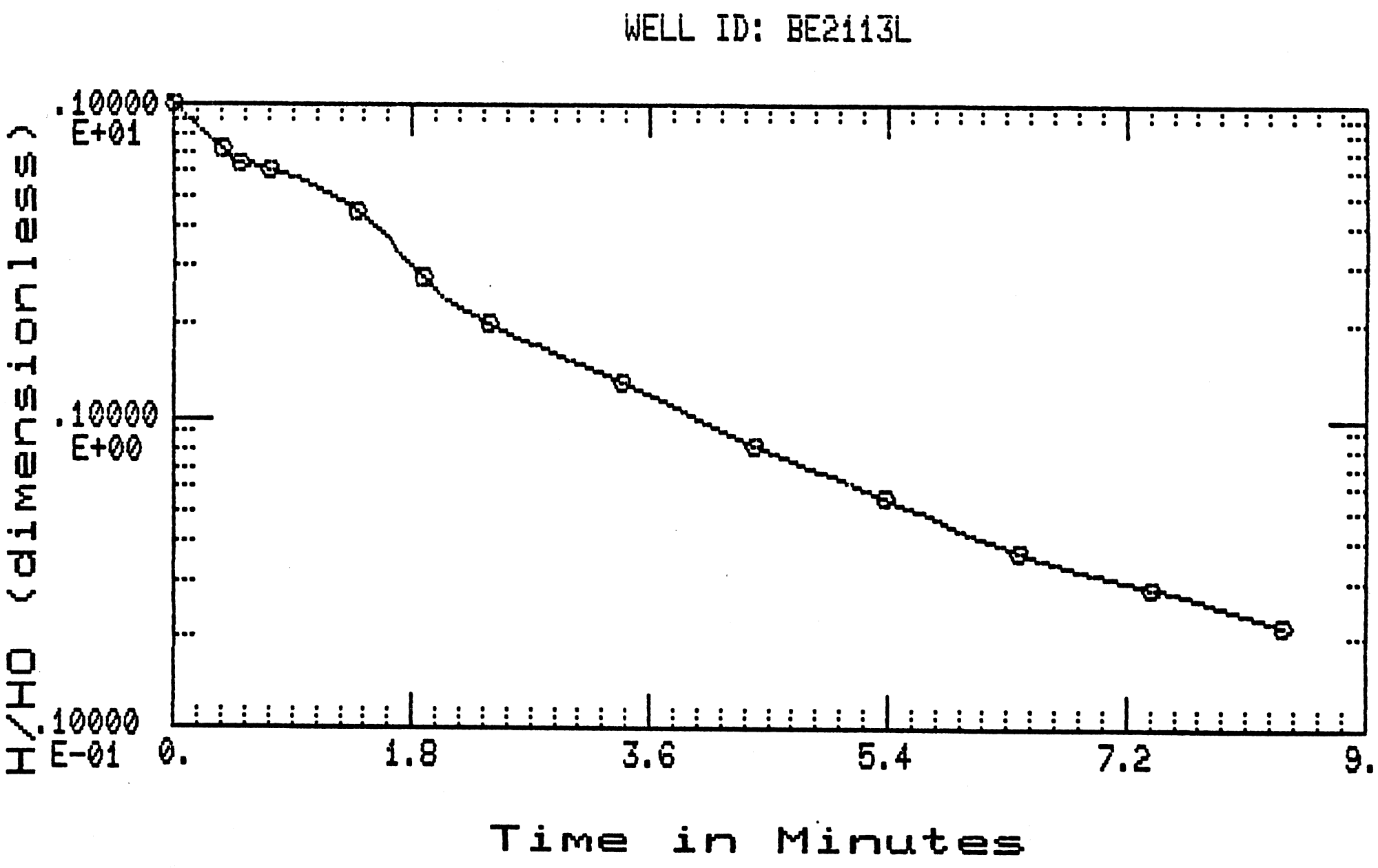
BEGINNING WATER LEVEL: 69.30 ft. below TPVC

DATA POINTS SELECTED

1. TIME: 2.38 minutes HEAD: 80.40 ft. below TPVC
2. TIME: 6.38 minutes HEAD: 71.40 ft. below TPVC

HYDRAULIC CONDUCTIVITY OF TEST INTERVAL:

0.22E-04 cm/sec 0.73E-06 ft/sec 0.22E-06 m/sec


WELL ID: BE2113L
.10000 E+01
.10000 E+00
.10000 E-01
H/HO (dimensionless)
0.
1.8
3.6
5.4
7.2
9.
Time in Minutes

WELL ID: BE2113L

TEST DATA:

MEASUREMENT NUMBER	TIME (HH:MM:SS)	WATER LEVEL (ft below TPVC)	HEAD RATIO (H/HO)
1	0: 0:52	125.50	1.0000
2	0: 1:14	109.00	0.7064
3	0: 1:23	105.00	0.6352
4	0: 1:35	103.80	0.6139
5	0: 2:15	94.50	0.4484
6	0: 2:45	84.80	0.2758
7	0: 3:15	80.40	0.1975
8	0: 4:15	76.60	0.1299
9	0: 5:15	73.90	0.0819
10	0: 6:15	72.40	0.0552
11	0: 7:15	71.40	0.0374
12	0: 8:15	70.90	0.0285
13	0: 9:15	70.50	0.0214

STS CONSULTANTS LTD. - FIELD ENGINEERING SERVICES

SINGLE WELL HYDRAULIC CONDUCTIVITY TEST

STS JOB NO.: 12959
PROJECT/LOCATION: EXXON/CRANDON
PROJECT MANAGER: JAS
TEST TECHNICIAN: PMB
DATA ANALYST: PMB/JRT

TEST INFORMATION

TYPE: RISING HEAD METHOD: VOLUME SUBTRACTION

PIEZOMETER ID:	213-1	BOREHOLE RADIUS:	1.9375 inches
SCREEN LENGTH:	25.000 feet	GRAVEL PACK LENGTH:	44.000 feet
SLOT SIZE (est.):	-0.0001 inches	GRAVEL PACK PERM.:	0.35E-01 ft./sec.
STANDPIPE RADIUS:	1.0000 inches	SCREEN PERMEABILITY:	-.10E-03 ft./sec.

LENGTH USED FOR CALCULATION: 44.00 ft.

THE GRAVEL LENGTH WILL BE USED FOR CALC.

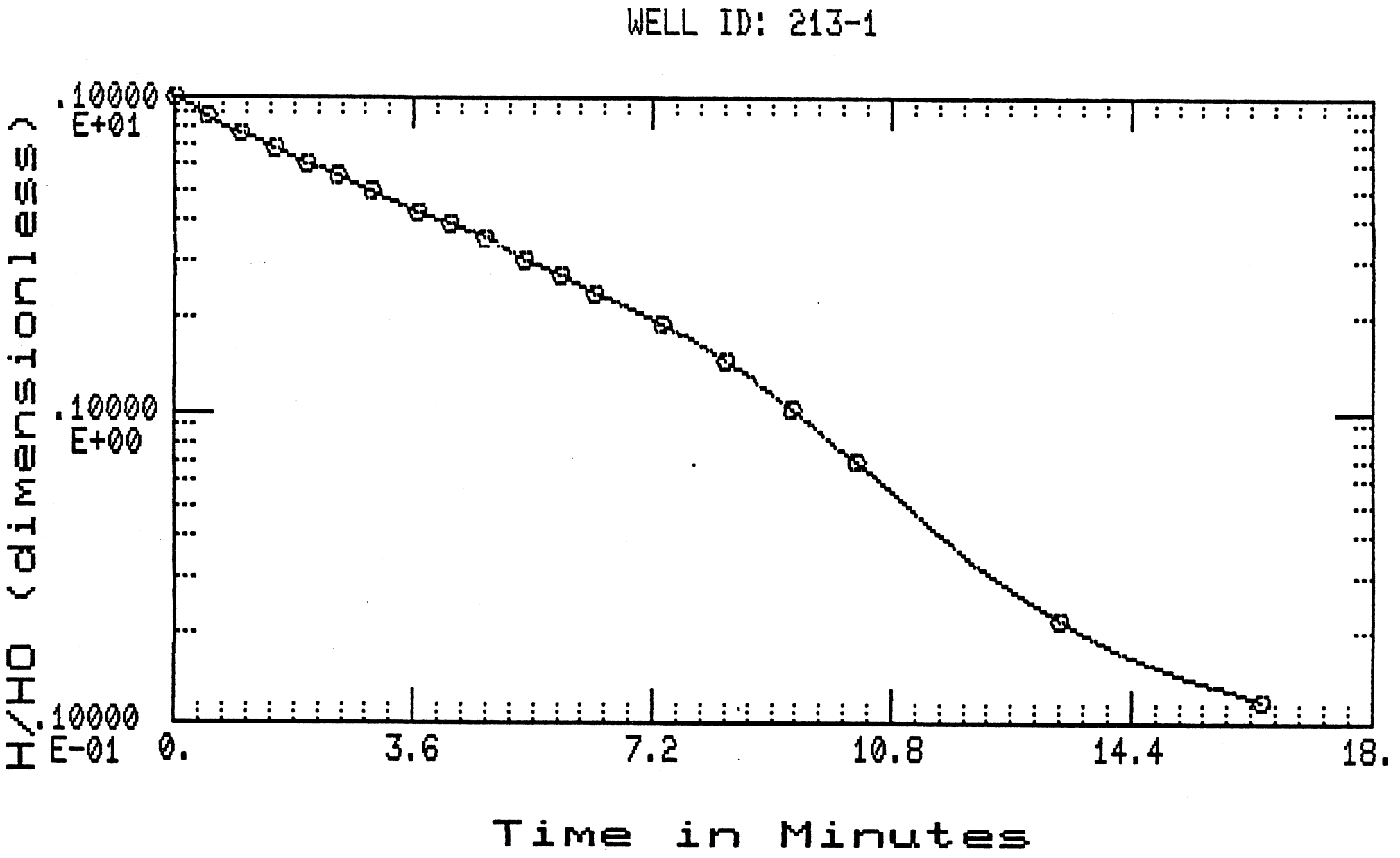
BEGINNING WATER LEVEL: 34.45 ft. below TPVC

DATA POINTS SELECTED

1. TIME: 1.00 minutes HEAD: -53.75 ft. below TPVC
2. TIME: 7.35 minutes HEAD: 39.20 ft. below TPVC

HYDRAULIC CONDUCTIVITY OF TEST INTERVAL:

0.50E-04 cm/sec 0.16E-05 ft/sec 0.50E-06 m/sec


WELL ID: 213-1
.10000 E+01
.10000 E+00
.10000 E-01
H/HO (dimensionless)
0.
3.6
7.2
10.8
14.4
18.
Time in Minutes

WELL ID: 213-1

TEST DATA:

MEASUREMENT NUMBER	TIME (HH:MM:SS)	WATER LEVEL (ft below TPVC)	HEAD RATIO (H/H0)
1	12:33:40	59.70	1.0000
2	12:34:10	56.10	0.8574
3	12:34:40	53.75	0.7644
4	12:35:10	51.60	0.6792
5	12:35:40	50.00	0.6158
6	12:36: 9	48.50	0.5564
7	12:36:40	47.10	0.5010
8	12:37:19	45.35	0.4317
9	12:37:47	44.50	0.3980
10	12:38:18	43.40	0.3545
11	12:38:55	42.10	0.3030
12	12:39:29	41.30	0.2713
13	12:40: 0	40.40	0.2356
14	12:41: 0	39.20	0.1881
15	12:41:57	38.10	0.1446
16	12:42:59	37.00	0.1010
17	12:43:58	36.20	0.0693
18	12:46:58	35.00	0.0218
19	12:50: 0	34.75	0.0119

STS CONSULTANTS LTD. - FIELD ENGINEERING SERVICES
SINGLE WELL HYDRAULIC CONDUCTIVITY TEST

STS JOB NO.: 12959
PROJECT/LOCATION: EXXON/CRANDON
PROJECT MANAGER: JAS
TEST TECHNICIAN: JCG
DATA ANALYST: PMB

TEST INFORMATION

TYPE: RISING HEAD METHOD: VOLUME SUBTRACTION

PIEZOMETER ID:	BE213-2	BOREHOLE RADIUS:	1.9375 inches
SCREEN LENGTH:	25.000 feet	GRAVEL PACK LENGTH:	45.000 feet
SLOT SIZE (est.):	-0.0001 inches	GRAVEL PACK PERM.:	0.35E-01 ft./sec.
STANDPIPE RADIUS:	1.0000 inches	SCREEN PERMEABILITY:	-.10E-03 ft./sec.

LENGTH USED FOR CALCULATION: 45.00 ft.

THE GRAVEL LENGTH WILL BE USED FOR CALC.

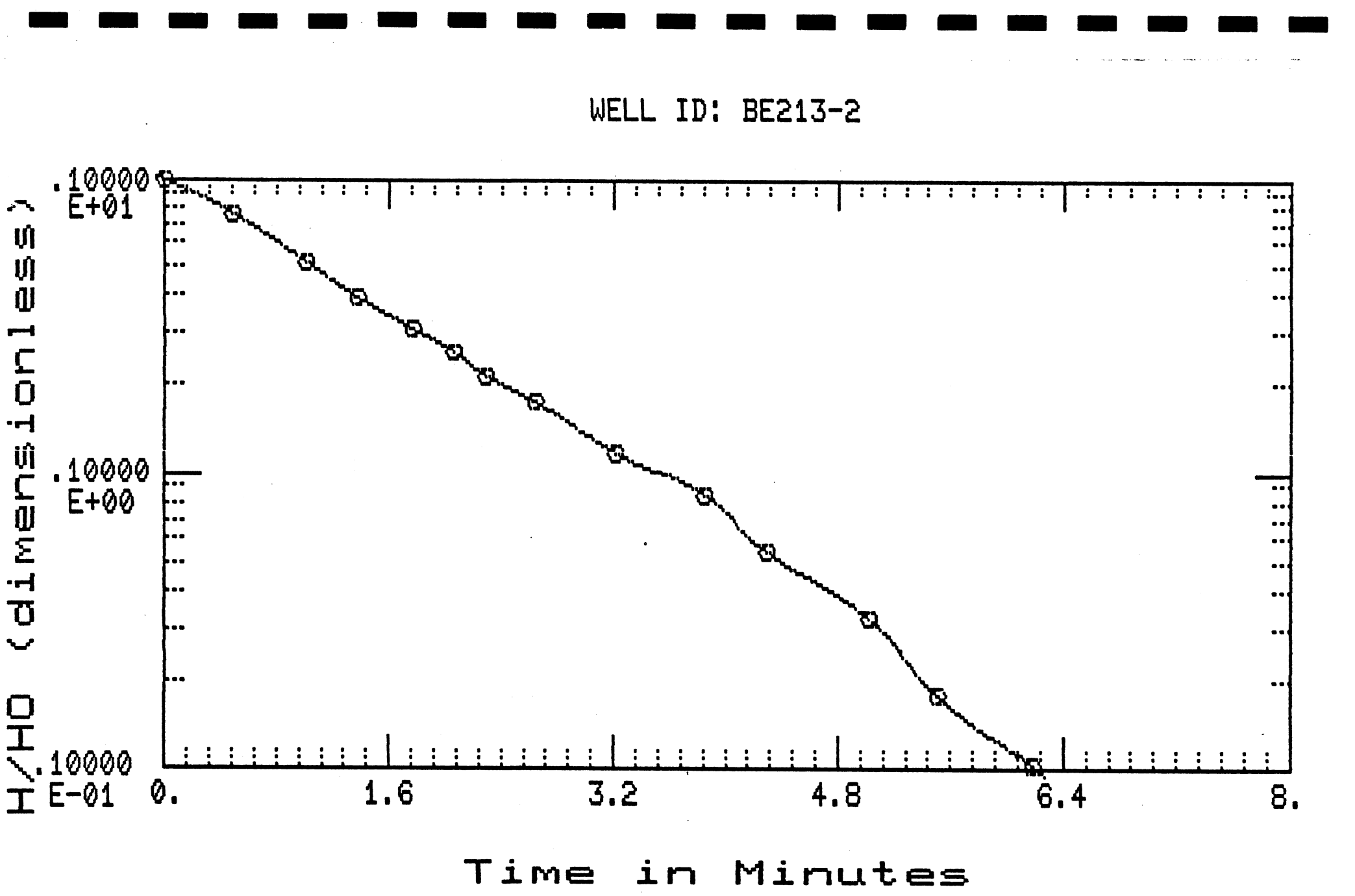
BEGINNING WATER LEVEL: 31.46 ft. below TPVC

DATA POINTS SELECTED

1. TIME: 0.48 minutes HEAD: 41.70 ft. below TPVC
2. TIME: 5.02 minutes HEAD: 31.90 ft. below TPVC

HYDRAULIC CONDUCTIVITY OF TEST INTERVAL:

0.15E-03 cm/sec 0.50E-05 ft/sec 0.15E-05 m/sec


WELL ID: BE213-2
.10000 E+01
.10000 E+00
.10000 E-01
H/HO (dimensionless)
0.
1.6
3.2
4.8
6.4
8.
Time in Minutes

WELL ID: BE213-2

TEST DATA:

MEASUREMENT NUMBER	TIME (HH:MM:SS)	WATER LEVEL (ft below TPVC)	HEAD RATIO (H/H0)
1	1:12:28	45.00	1.0000
2	1:12:58	41.70	0.7563
3	1:13:28	38.50	0.5199
4	1:13:52	36.75	0.3907
5	1:14:15	35.60	0.3058
6	1:14:31	34.95	0.2578
7	1:14:46	34.35	0.2134
8	1:15: 7	33.80	0.1728
9	1:15:41	33.05	0.1174
10	1:16:20	32.60	0.0842
11	1:16:46	32.20	0.0547
12	1:17:30	31.90	0.0325
13	1:18: 0	31.70	0.0177
14	1:18:39	31.60	0.0103
15	1:19:37	31.45	0.0007

STS CONSULTANTS LTD. - FIELD ENGINEERING SERVICES
SINGLE WELL HYDRAULIC CONDUCTIVITY TEST

STS JOB NO.: 12959
PROJECT/LOCATION: EXXON/CRANDON
PROJECT MANAGER: JAS
TEST TECHNICIAN: PMB
DATA ANALYST: PMB/JRT

TEST INFORMATION

TYPE: RISING HEAD METHOD: VOLUME SUBTRACTION

PIEZOMETER ID:	213-3L	BOREHOLE RADIUS:	1.9375 inches
SCREEN LENGTH:	10.000 feet	GRAVEL PACK LENGTH:	18.000 feet
SLOT SIZE (est.):	-0.0001 inches	GRAVEL PACK PERM.:	0.35E-01 ft./sec.
STANDPIPE RADIUS:	0.3750 inches	SCREEN PERMEABILITY:	-.10E-03 ft./sec.

LENGTH USED FOR CALCULATION: 18.00 ft.

THE GRAVEL LENGTH WILL BE USED FOR CALC.

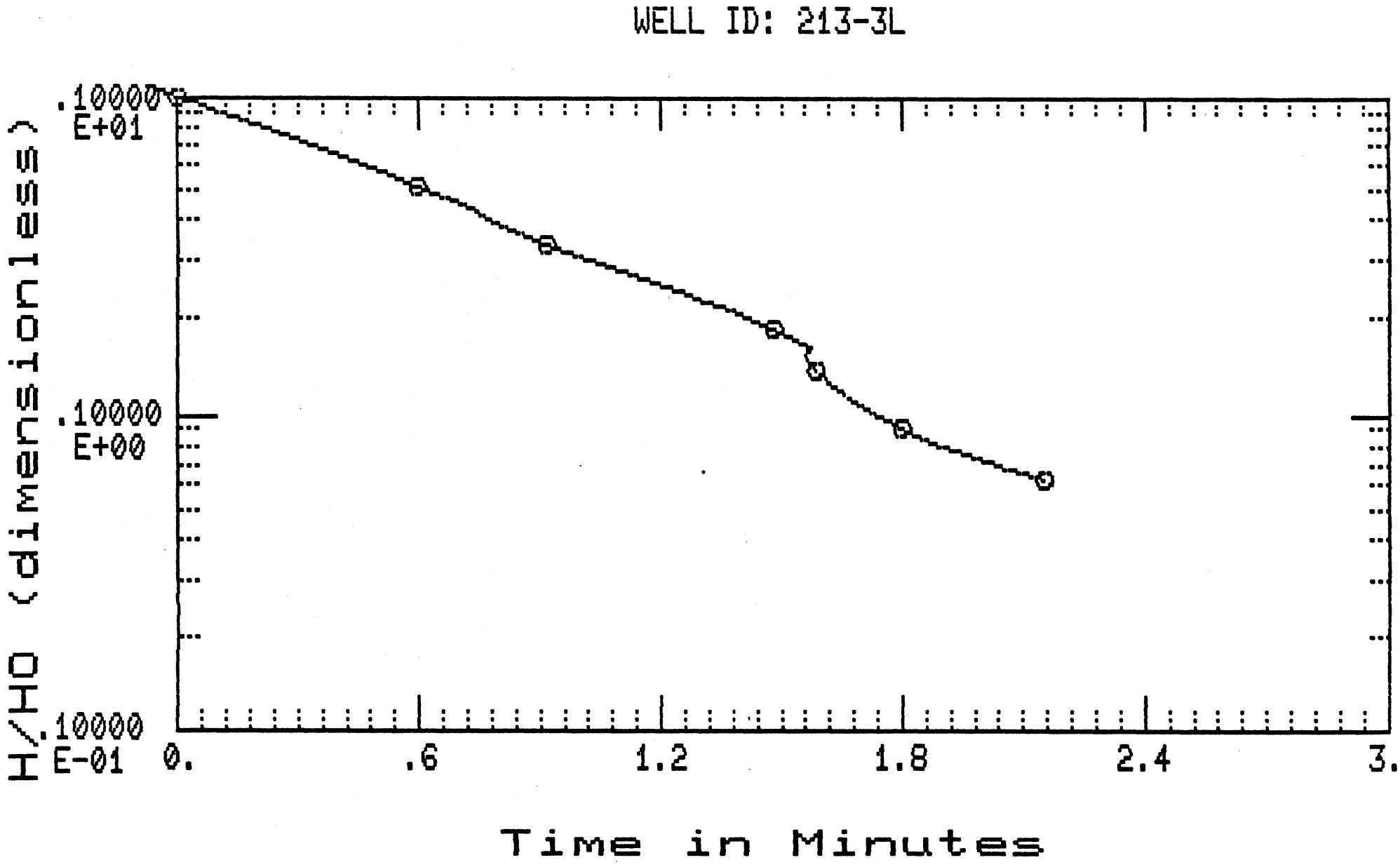
BEGINNING WATER LEVEL: 38.02 ft. below TPVC

DATA POINTS SELECTED

1. TIME: 0.00 minutes HEAD: 52.10 ft. below TPVC
2. TIME: 1.48 minutes HEAD: 40.60 ft. below TPVC

HYDRAULIC CONDUCTIVITY OF TEST INTERVAL:

0.74E-04 cm/sec 0.24E-05 ft/sec 0.74E-06 m/sec


WELL ID: 213-3L
.10000 E+01
.10000 E+00
.10000 E-01
H/HO (dimensionless)
0.
.6
1.2
1.8
2.4
3.
Time in Minutes

WELL ID: 213-3L

TEST DATA:

MEASUREMENT NUMBER	TIME (HH:MM:SS)	WATER LEVEL (ft below TPVC)	HEAD RATIO (H/HO)
1	0: 0: 0	52.10	1.0000
2	0: 0:36	45.20	0.5099
3	0: 0:55	42.70	0.3324
4	0: 1:29	40.60	0.1832
5	0: 1:35	39.95	0.1371
6	0: 1:48	39.30	0.0909
7	0: 2: 9	38.90	0.0625

STS CONSULTANTS LTD. - FIELD ENGINEERING SERVICES

SINGLE WELL HYDRAULIC CONDUCTIVITY TEST

STS JOB NO.: 12959
PROJECT/LOCATION: EXXON/CRANDON
PROJECT MANAGER: JAS
TEST TECHNICIAN: PMB
DATA ANALYST: PMB/JRT

TEST INFORMATION

TYPE: RISING HEAD METHOD: VOLUME SUBTRACTION

PIEZOMETER ID: 216-1
SCREEN LENGTH: 20.0000 feet
SLOT SIZE (est.): -0.0001 inches
STANDPIPE RADIUS: 1.0000 inches
BOREHOLE RADIUS: 1.9375 inches
GRAVEL PACK LENGTH: 35.0000 feet
GRAVEL PACK PERM.: 0.35E-01 ft./sec.
SCREEN PERMEABILITY: -.10E-03 ft./sec.

LENGTH USED FOR CALCULATION: 35.00 ft.

THE GRAVEL LENGTH WILL BE USED FOR CALC.

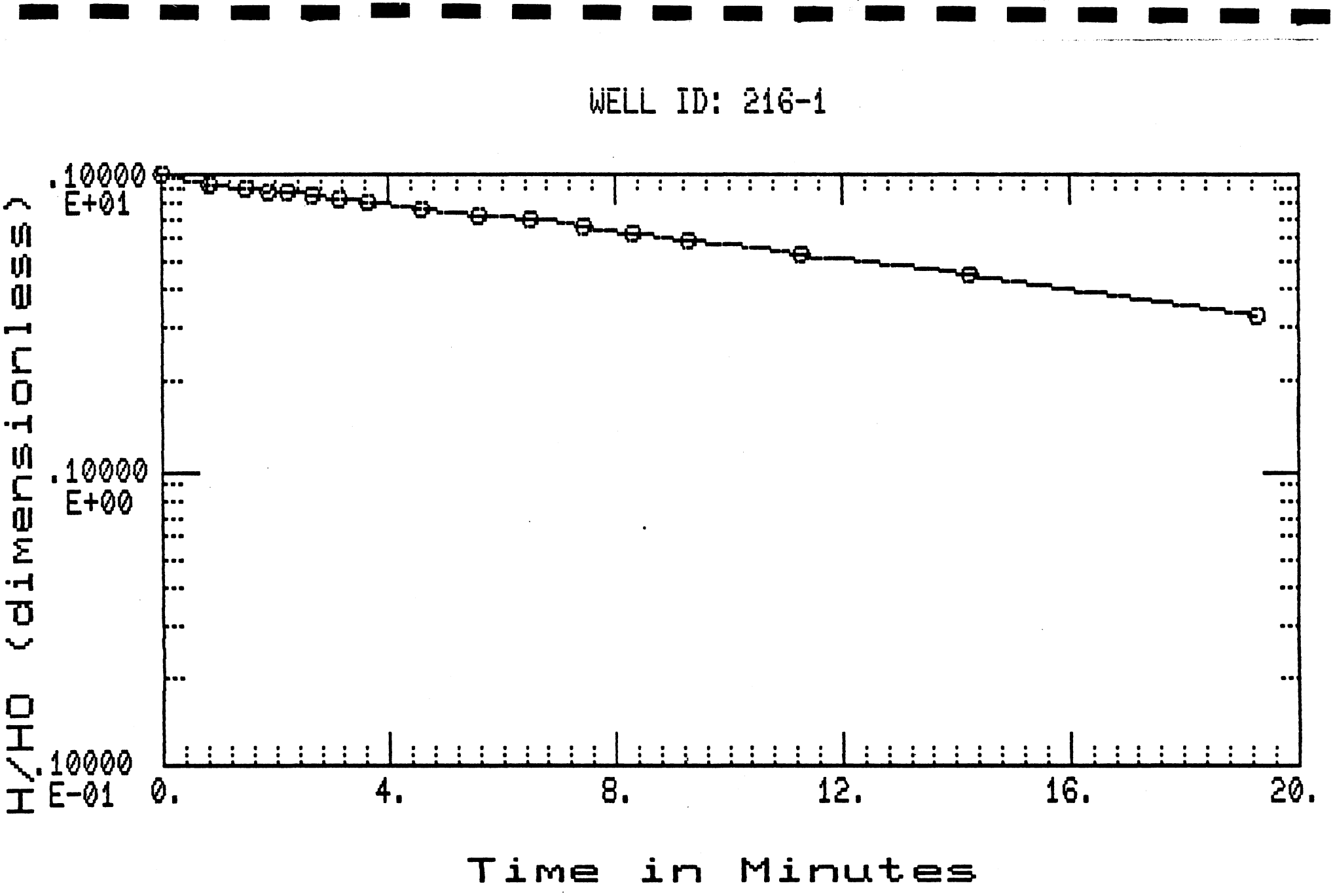
BEGINNING WATER LEVEL: 72.07 ft. below TPVC

DATA POINTS SELECTED

1. TIME: 6.52 minutes HEAD: 97.17 ft. below TPVC
2. TIME: 19.28 minutes HEAD: 84.10 ft. below TPVC

HYDRAULIC CONDUCTIVITY OF TEST INTERVAL:

0.16E-04 cm/sec 0.51E-06 ft/sec 0.16E-06 m/sec


WELL ID: 216-1
.10000 E+01
.10000 E+00
.10000 E-01
H/HO (dimensionless)
0.
4.
8.
12.
16.
20.
Time in Minutes

WELL ID: 216-1

TEST DATA:

MEASUREMENT NUMBER	TIME (HH:MM:SS)	WATER LEVEL (ft below TPVC)	HEAD RATIO (H/HO)
1	11: 8:48	108.55	1.0000
2	11: 9:39	105.80	0.9246
3	11:10:16	104.80	0.8972
4	11:10:41	104.00	0.8753
5	11:11: 3	103.40	0.8588
6	11:11:30	102.72	0.8402
7	11:11:57	102.00	0.8204
8	11:12:27	101.20	0.7985
9	11:13:23	100.00	0.7656
10	11:14:23	98.40	0.7218
11	11:15:19	97.17	0.6880
12	11:16:15	95.90	0.6532
13	11:17:10	94.80	0.6231
14	11:18: 8	93.60	0.5902
15	11:20: 5	91.40	0.5299
16	11:23: 4	88.40	0.4476
17	11:28: 5	84.10	0.3298

STS CONSULTANTS LTD. - FIELD ENGINEERING SERVICES
SINGLE WELL HYDRAULIC CONDUCTIVITY TEST

STS JOB NO.: 12959
PROJECT/LOCATION: EXXON/CRANDON
PROJECT MANAGER: JAS
TEST TECHNICIAN: JCG
DATA ANALYST: PMB

TEST INFORMATION

TYPE: RISING HEAD METHOD: VOLUME SUBTRACTION

PIEZOMETER ID: BE2162
SCREEN LENGTH: 20.000 feet
SLOT SIZE (est.): -0.0001 inches
STANDPIPE RADIUS: 0.3750 inches
BOREHOLE RADIUS: 1.9375 inches
GRAVEL PACK LENGTH: 28.000 feet
GRAVEL PACK PERM.: 0.35E-01 ft./sec.
SCREEN PERMEABILITY: -.10E-03 ft./sec.

LENGTH USED FOR CALCULATION: 28.00 ft.

THE GRAVEL LENGTH WILL BE USED FOR CALC.

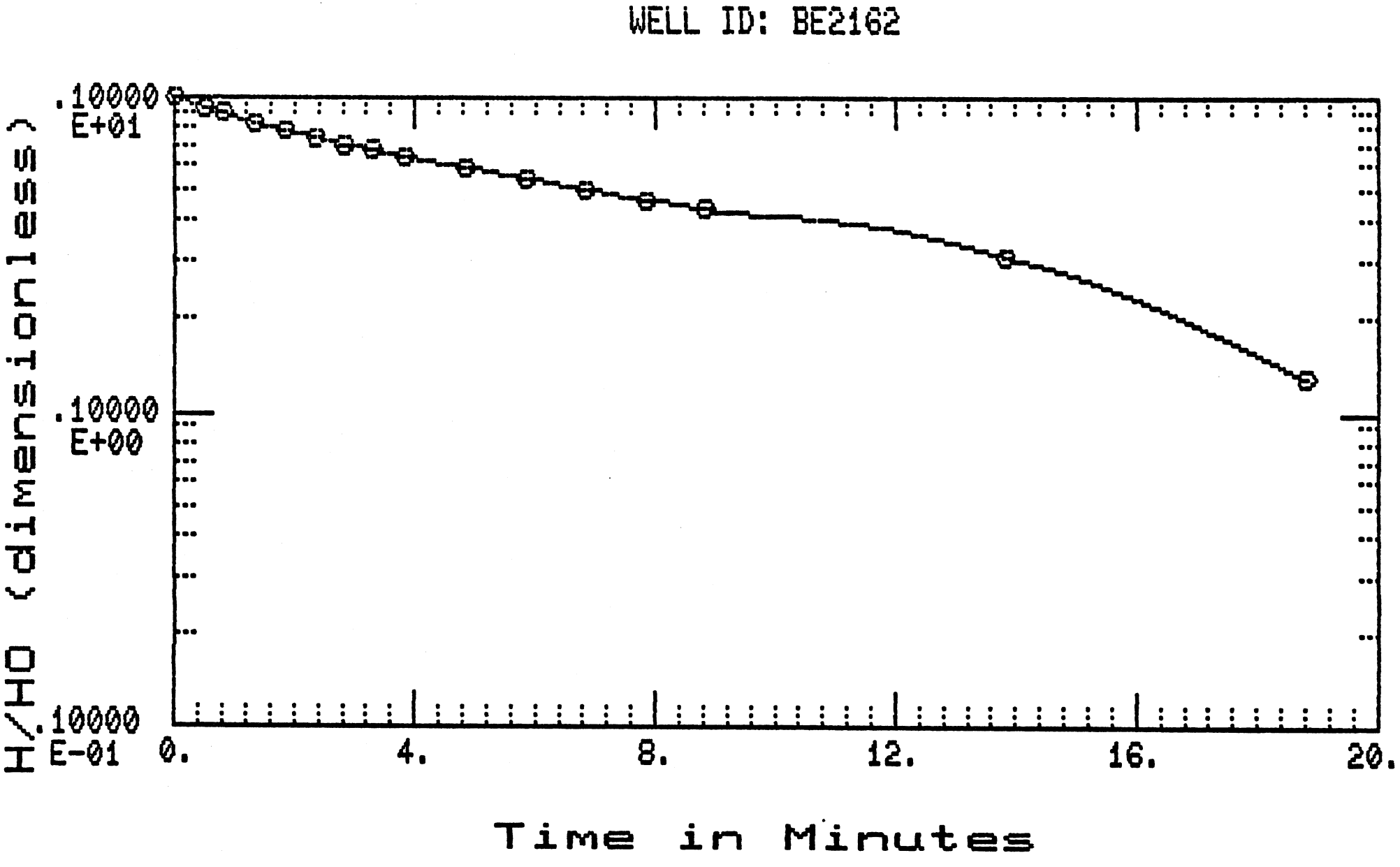
BEGINNING WATER LEVEL: 69.70 ft. below TPVC

DATA POINTS SELECTED

1. TIME: 2.83 minutes HEAD: 82.40 ft. below TPVC
2. TIME: 8.83 minutes HEAD: 77.60 ft. below TPVC

HYDRAULIC CONDUCTIVITY OF TEST INTERVAL:

0.36E-05 cm/sec 0.12E-06 ft/sec 0.36E-07 m/sec


WELL ID: BE2162
.10000
E+01
.10000
E+00
.10000
E-01
H/HO (dimensionless)
0.
4.
8.
12.
16.
20.
Time in Minutes

WELL ID: BE2162

TEST DATA:

MEASUREMENT NUMBER	TIME (HH:MM:SS)	WATER LEVEL (ft below TPVC)	HEAD RATIO (H/HO)
1	0: 1: 9	87.70	1.0000
2	0: 1:40	86.30	0.9222
3	0: 2: 0	85.50	0.8778
4	0: 2:30	84.60	0.8278
5	0: 3: 0	83.80	0.7833
6	0: 3:30	83.00	0.7389
7	0: 4: 0	82.40	0.7056
8	0: 4:30	81.90	0.6778
9	0: 5: 0	81.30	0.6444
10	0: 6: 0	80.40	0.5944
11	0: 7: 0	79.60	0.5500
12	0: 8: 0	78.80	0.5056
13	0: 9: 0	78.10	0.4667
14	0:10: 0	77.60	0.4389
15	0:15: 0	75.30	0.3111
16	0:20: 0	72.00	0.1278

STS CONSULTANTS LTD. - FIELD ENGINEERING SERVICES
SINGLE WELL HYDRAULIC CONDUCTIVITY TEST

STS JOB NO.: 12959
PROJECT/LOCATION: EXXON/CRANDON
PROJECT MANAGER: JAS
TEST TECHNICIAN: JCG
DATA ANALYST: PMB

TEST INFORMATION

TYPE: RISING HEAD METHOD: VOLUME SUBTRACTION

PIEZOMETER ID: BE2163U
SCREEN LENGTH: 26.000 feet
SLOT SIZE (est.): -0.0001 inches
STANDPIPE RADIUS: 0.3750 inches
BOREHOLE RADIUS: 1.9375 inches
GRAVEL PACK LENGTH: 39.000 feet
GRAVEL PACK PERM.: 0.35E-01 ft./sec.
SCREEN PERMEABILITY: -.10E-03 ft./sec.

LENGTH USED FOR CALCULATION: 39.00 ft.

THE GRAVEL LENGTH WILL BE USED FOR CALC.

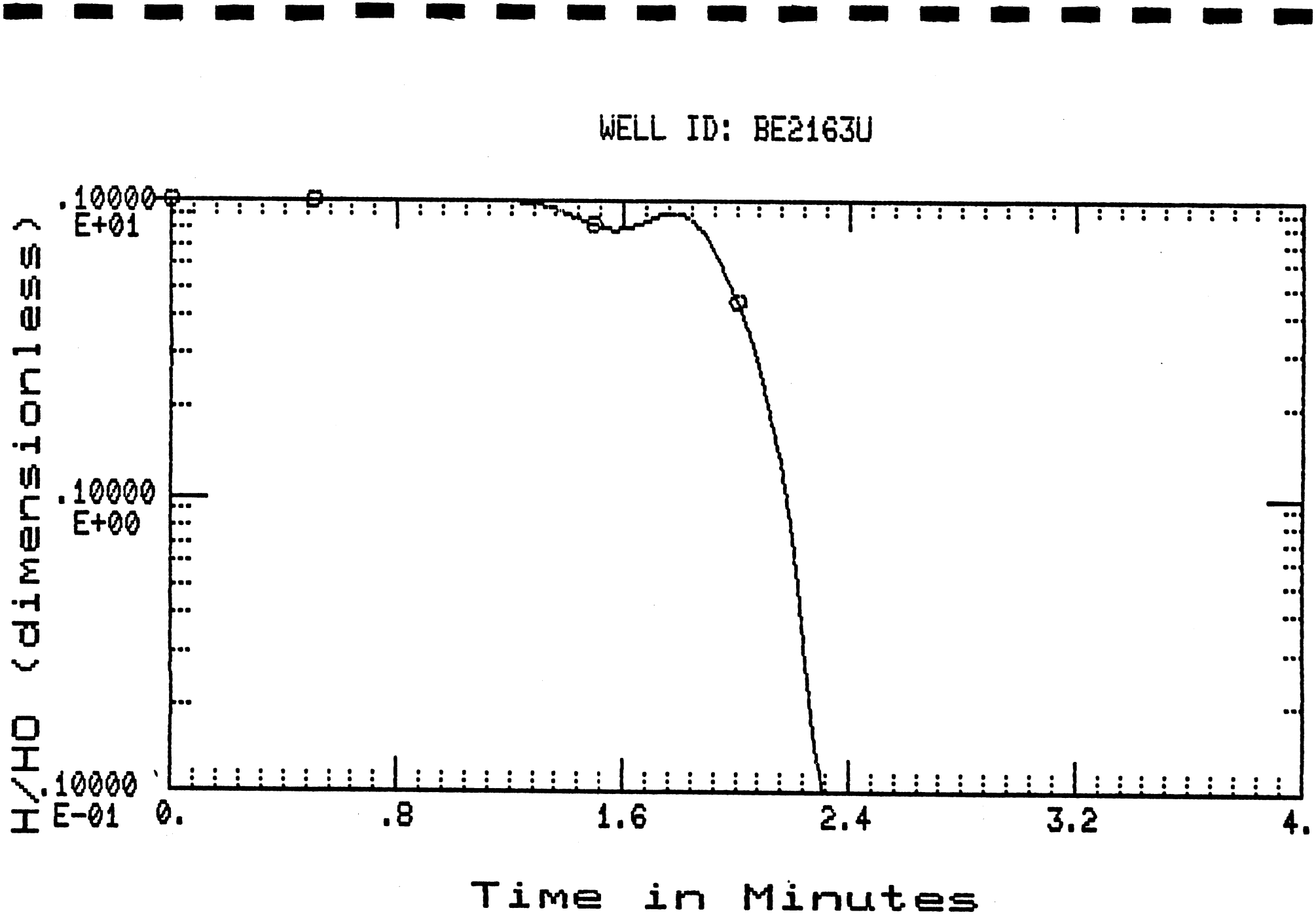
BEGINNING WATER LEVEL: 78.00 ft. below TPVC

DATA POINTS SELECTED

1. TIME: 0.50 minutes HEAD: 79.10 ft. below TPVC
2. TIME: 1.50 minutes HEAD: 78.90 ft. below TPVC

HYDRAULIC CONDUCTIVITY OF TEST INTERVAL:

0.70E-05 cm/sec 0.23E-06 ft/sec 0.70E-07 m/sec


WELL ID: BE2163U
.10000 E+01
.10000 E+00
.10000 E-01
H/HO (dimensionless)
0.
.8
1.6
2.4
3.2
4.
Time in Minutes

WELL ID: BE2163U

TEST DATA:

MEASUREMENT NUMBER	TIME (HH:MM:SS)	WATER LEVEL (ft below TPVC)	HEAD RATIO (H/HO)
1	0: 1: 0	79.10	1.0000
2	0: 1:30	79.10	1.0000
3	0: 2: 0	79.20	1.0909
4	0: 2:30	78.90	0.8182
5	0: 3: 0	78.50	0.4545
6	0: 3:30	78.00	0.0010
7	0: 4: 0	78.00	0.0010

STS CONSULTANTS LTD. - FIELD ENGINEERING SERVICES
SINGLE WELL HYDRAULIC CONDUCTIVITY TEST

STS JOB NO.: 12959
PROJECT/LOCATION: EXXON/CRANDON
PROJECT MANAGER: JAS
TEST TECHNICIAN: JCG
DATA ANALYST: PMB

TEST INFORMATION

TYPE: RISING HEAD METHOD: VOLUME SUBTRACTION

PIEZOMETER ID: BE2163L
SCREEN LENGTH: 10.000 feet
SLOT SIZE (est.): -0.0001 inches
STANDPIPE RADIUS: 0.3750 inches
BOREHOLE RADIUS: 1.9375 inches
GRAVEL PACK LENGTH: 22.500 feet
GRAVEL PACK PERM.: 0.35E-01 ft./sec.
SCREEN PERMEABILITY: -.10E-03 ft./sec.

LENGTH USED FOR CALCULATION: 22.50 ft.

THE GRAVEL LENGTH WILL BE USED FOR CALC.

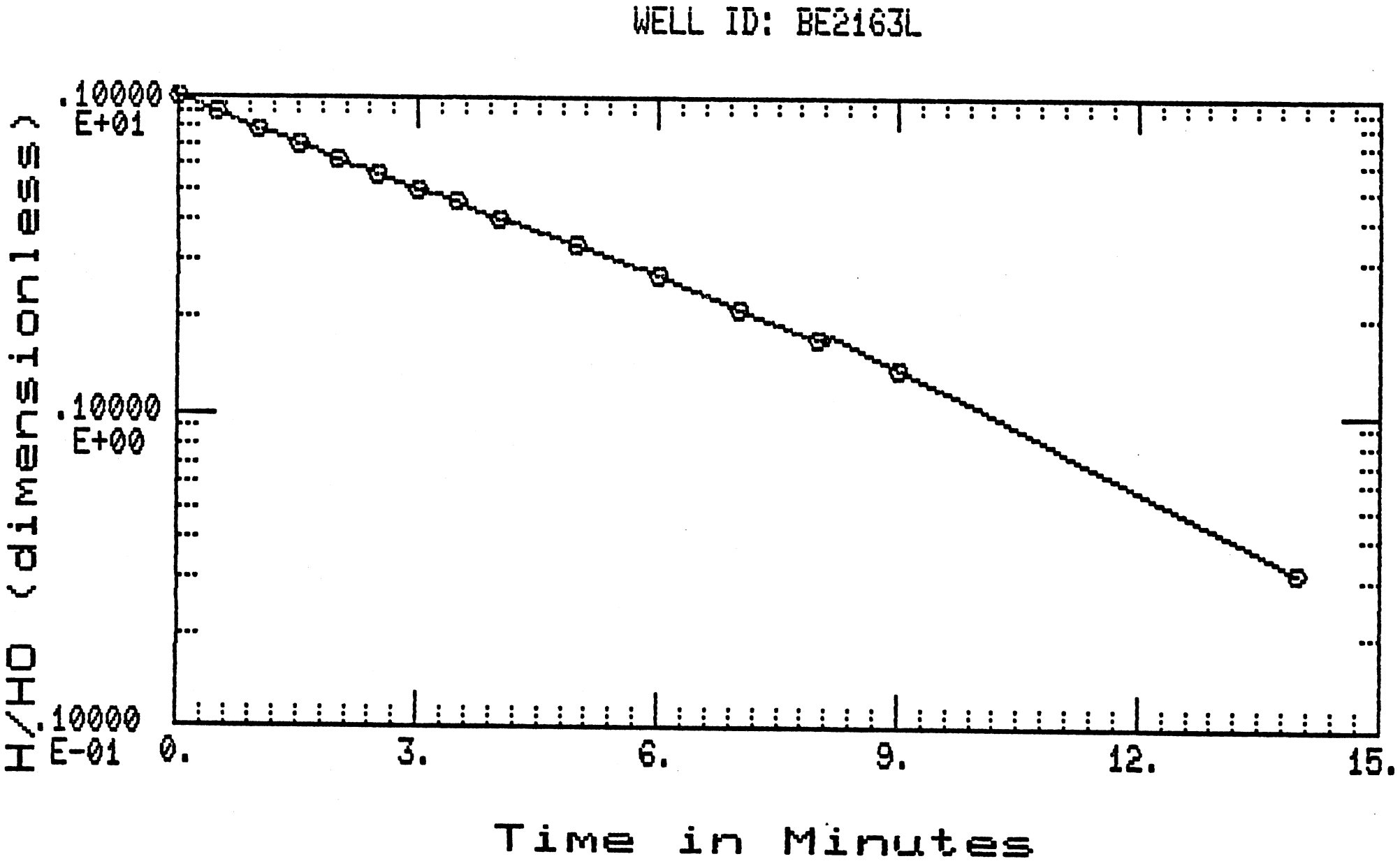
BEGINNING WATER LEVEL: 78.00 ft. below TPVC

DATA POINTS SELECTED

1. TIME: 0.00 minutes HEAD: 93.90 ft. below TPVC
2. TIME: 8.00 minutes HEAD: 80.70 ft. below TPVC

HYDRAULIC CONDUCTIVITY OF TEST INTERVAL:

0.12E-04 cm/sec 0.40E-06 ft/sec 0.12E-06 m/sec


WELL ID: BE2163L
.10000 E+01
.10000 E+00
.10000 E-01
H/HO (dimensionless)
0.
3.
6.
9.
12.
15.
Time in Minutes

WELL ID: BE2163L

TEST DATA:

MEASUREMENT NUMBER	TIME (HH:MM:SS)	WATER LEVEL (ft below TPVC)	HEAD RATIO (H/HO)
1	0: 1: 0	93.90	1.0000
2	0: 1:30	92.00	0.8805
3	0: 2: 0	90.40	0.7799
4	0: 2:30	89.20	0.7044
5	0: 3: 0	87.90	0.6226
6	0: 3:30	87.00	0.5660
7	0: 4: 0	86.10	0.5094
8	0: 4:30	85.30	0.4591
9	0: 5: 0	84.50	0.4088
10	0: 6: 0	83.30	0.3333
11	0: 7: 0	82.30	0.2704
12	0: 8: 0	81.40	0.2138
13	0: 9: 0	80.70	0.1698
14	0:10: 0	80.20	0.1384
15	0:15: 0	78.50	0.0314

APPENDIX D

Summary of Well Elevations and Coordinate Locations

April 19, 1984

EXXON MINERALS COMPANY USA
OVERBURDEN HOLES (MULTI PIEZOMETER)
-CRANDON PROJECT-
VERTICAL CONTROL
(Based on U.S.G.S. Datum, Mean Sea Level)

Drillhole No.	Well Elevation Feet	Well Elevation Meters	Ground Elevation Feet	Ground Elevation Meters	Bench Mark Elevation Feet	Bench Mark Elevation Meters	Bench Mark Descriptions
EX-1A			1555.48	474.111	1558.97	475.175	BM-EX-1 - R.R. spike in 12" Basswood N64°W 47.7' from EX-1A (U & L)
EX-1A(U)	1558.00	474.879					
EX-1A(L)	1558.00	474.879					
EX-1B			1555.16	474.014	1558.97	475.175	BM-EX-1 - R.R. spike in 12" Basswood N55°W 47.6' from EX-1B (U & L)
EX-1B(U)	1557.53	474.736					
EX-1B(L)	1557.56	474.745					
EX-2A			1592.11	485.276	1594.93	486.136	BM-EX-2 - R.R. spike in 12" N. Pine N49°E 95.7' from EX-2A (U & L)
EX-2A(U)	1594.91	486.130					
EX-2A(L)	1594.91	486.130					
EX-2B			1591.99	485.240	1594.93	486.136	BM-EX-2 - R.R. spike in 12" N. Pine N52°E 86.7' from EX-2B (L)
EX-2B(L)	1594.62	486.041					
EX-3A			1559.09	475.212	1560.02	475.495	BM-EX-3 - R.R. spike in 6" Spruce S26°E 21.9' from EX-3A (U & L)

Drillhole No.	Well Elevation Feet	Well Elevation Meters	Ground Elevation Feet	Ground Elevation Meters	Bench Mark Elevation Feet	Bench Mark Elevation Meters	Bench Mark Descriptions
EX-3A(U)	1562.02	476.105					
EX-3A(L)	1562.05	476.114					
EX-3B			1559.38	475.300	1560.02	475.495	BM-EX-3 - R.R. spike in 6" Spruce S40°E 28.3' from EX-3B (U & L)
EX-3B(U)	1562.38	476.214					
EX-3B(L)	1562.36	476.208					
EX-3C			1560.09	475.516	1560.02	475.495	BM-EX-3 - R.R. spike in 6" Spruce S64°E 33.3' from EX-3C (L)
EX-3C(L)	1562.62	476.288					
EX-4A			1573.87	479.717	1574.09	479.784	BM-EX-4 - R.R. spike in 14" Aspen N13°E 37.1' from EX-4A (U & L)
EX-4A(U)	1577.02	480.677					
EX-4A(L)	1577.06	480.689					
EX-4B			1573.68	479.659	1574.09	479.784	BM-EX-4 - R.R. spike in 14" Aspen N28°E 36.2' from EX-4B (U & L)
EX-4B(U)	1577.08	480.695					
EX-4B(L)	1577.15	480.716					
EX-4C			1573.58	479.628	1574.09	479.784	BM-EX-4 - R.R. spike in 14"Aspen N34°E 24.1' from EX-4C(L)
EX-4C(L)	1577.03	480.680					

Drillhole No.	Well Elevation Feet	Well Elevation Meters	Ground Elevation Feet	Ground Elevation Meters	Bench Mark Elevation Feet	Bench Mark Elevation Meters	Bench Mark Descriptions
EX-5A			1632.50	497.587	1634.83	498.297	BM-EX-5 - R.R. spike in 10" Maple N64°W 44.3' from EX-5A(U & L)
EX-5A(U)	1635.39	498.468					
EX-5A(L)	1635.39	498.468					
EX-5B			1632.54	497.599	1634.83	498.297	BM-EX-5 - R.R. spike in 10" Maple N60°W 36.1' from EX-5B (U & L)
EX-5B(U)	1635.83	498.602					
EX-5B(L)	1635.83	498.602					
EX-5C			1632.78	497.672	1634.83	498.297	BM-EX-5 - R.R. spike in 10" Maple N50°W 40.4' from EX-5C(L)
EX-5C(L)	1635.75	498.578					
EX-6A			1606.94	489.796	1608.48	490.266	BM-EX-6 - R.R. spike in double Maple N71°W 39.0' from EX-6A (U & L)
EX-6A(U)	1609.61	490.610					
EX-6A(L)	1609.63	490.616					
EX-6B			1606.80	489.754	1608.48	490.266	BM-EX-6 - R.R. spike in double Maple N69°W 30.5' from EX-6B (U & L)
EX-6B(U)	1609.78	490.662					
EX-6B(L)	1609.78	490.662					

Drillhole No.	Well Elevation Feet	Well Elevation Meters	Ground Elevation Feet	Ground Elevation Meters	Bench Mark Elevation Feet	Bench Mark Elevation Meters	Bench Mark Descriptions
EX-7A			1580.35	481.692	1579.89	481.551	BM-EX-7 - R.R. spike in 16" Cedar N17°E 29.0' from EX-7A (L)
EX-7A(L)	1583.42	482.627					
EX-7B			1580.67	481.789	1579.89	481.551	BM-EX-7 - R.R. spike in 16" Cedar N27°E 37.6' from EX-7B (U & L)
EX-7B(U)	1583.92	482.780					
EX-7B(L)	1583.91	482.777					
EX-7C	1583.06	482.518	1581.15	481.935	1579.89	481.551	BM-EX-7 - R.R. spike in 16" Cedar N30°E 42' from EX-7C
EX-8A			1586.46	483.554	1584.89	483.075	BM-G41-M11-1 - R.R. spike in 10" Maple S6°E 145' from EX-8A (U & L)
EX-8A(U)	1589.26	484.407					
EX-8A(L)	1589.26	484.407					
EX-8B			1586.62	483.603	1584.89	483.075	BM-G41-M11-1 - R. R. spike in 10" Maple S9°E 154' from EX-8B (U & L)
EX-8B(U)	1589.40	484.450					
EX-8B(L)	1589.40	484.450					
EX-9A			1708.86	520.862	1707.40	520.417	BM-EX-9 R.R. spike in 18" Basswood N38°E 29.9' from EX-9A (U & L)
EX-9A(U)	1712.33	521.919					
EX-9A(L)	1712.34	521.922					

Drillhole No.	Well Elevation Feet	Well Elevation Meters	Ground Elevation Feet	Ground Elevation Meters	Bench Mark Elevation Feet	Bench Mark Elevation Meters	Bench Mark Descriptions
EX-9B			1708.64	520.795	1707.40	520.417	BM-EX-9 - R.R. spike in 18" Basswood N68°E 22.8' from EX-9B (U & L)
EX-9B(U)	1711.71	521.730					
EX-9B(L)	1711.68	521.721					
EX-10A			1674.93	510.520	1678.34	511.559	BM-EX-10 - R.R. spike in 6" Maple S51°E 24.9' from EX-10A (U & L)
EX-10A(U)	1678.22	511.522					
EX-10A(L)	1678.17	511.507					
EX-10B			1673.62	510.120	1678.34	511.559	BM-EX-10 - R.R. spike in 6" Maple S70°E 44.6' from EX-10B (U & L)
EX-10B(U)	1677.17	511.202					
EX-10B(L)	1677.18	511.205					
EX-11A			1682.05	512.690	1683.04	512.992	BM-EX-11 - R.R. spike in 15" Elm S72°E 33.3' from EX-11A (U & L)
EX-11A(U)	1685.34	513.693					
EX-11A(L)	1685.31	513.684					
EX-11B			1681.75	512.598	1683.04	512.992	BM-EX-11 - R.R. spike in 15" Elm S51°E 21.4' from EX-11B (U & L)
EX-11B(U)	1684.54	513.449					
EX-11B(L)	1684.54	513.449					

Drillhole No.	Well Elevation Feet	Well Elevation Meters	Ground Elevation Feet	Ground Elevation Meters	Bench Mark Elevation Feet	Bench Mark Elevation Meters	Bench Mark Descriptions
EX-11C			1681.98	512.669	1683.04	512.992	BM-EX-11 - R.R. spike in 15" Elm S74°E 48.4' from EX-11C(L)
EX-11C (L)	1685.29	513.677					
EX-12A			1687.76	514.430	1689.05	514.823	BM-EX-12 - R.R. spike in 8" Maple S51°W 48.0' from EX-12A (U & L)
EX-12A(U)	1691.08	515.442					
EX-12A(L)	1691.10	515.448					
EX-12B			1688.02	514.510	1689.05	514.823	BM-EX-12 - R.R. spike in 8" Maple S33°W 42.9' from EX-12B (U & L)
EX-12B(U)	1691.25	515.494					
EX-12B(L)	1691.24	515.491					
EX-13A			1657.32	505.152	1660.20	506.030	BM-EX-13 - R.R. spike in 14" Aspen S22°E 50.6' from EX-13A (L)
EX-13A(L)	1659.70	505.878					
EX-13B			1657.71	505.271	1660.20	506.030	BM-EX-13 - R.R. spike in 14" Aspen S13°E 34.0' from EX-13B (U & L)
EX-13B(U)	1660.24	506.042					
EX-13B(L)	1660.21	506.033					
EX-13C			1657.56	505.225	1660.20	506.030	BM-EX-13 - R.R. spike in 14" Aspen S26°E 34.9' from EX-13C (L)
EX-13C(L)	1660.68	506.176					

Drillhole No.	Well Elevation Feet	Well Elevation Meters	Ground Elevation Feet	Ground Elevation Meters	Bench Mark Elevation Feet	Bench Mark Elevation Meters	Bench Mark Descriptions
EX-13D			1657.88	505.323	1660.20	506.030	BM-EX-13 - R.R. Spike in 14" Aspen S24°E 28.4' from EX-13D (L)
EX-13D(L)	1661.13	506.313					
EX-14A			1682.67	512.879	1684.28	513.370	BM-EX-14 - R.R. spike in 12" Elm S65°W 42.4' from EX-14A (U & L)
EX-14A(U)	1685.32	513.687					
EX-14A(L)	1685.32	513.687					
EX-14B			1682.78	512.912	1684.28	513.370	BM-EX-14 - R.R. spike in 12" Elm S35°W 26.3' from EX-14B (U & L)
EX-14B(U)	1685.01	513.592					
EX-14B(L)	1685.01	513.592					
EX-15A			1626.64	495.801	1629.25	496.596	BM-EX-15 - R.R. spike in 10" Maple S42°W 35.5' from EX-15A (U & L)
EX-15A(U)	1629.24	496.593					
EX-15A(L)	1629.24	496.593					
EX-15B			1626.10	495.636	1629.25	496.596	BM-EX-15 - R.R. spike in 10" Maple S42°W 42.7' from EX-15B (L)
EX-15B(L)	1629.30	496.612					
EX-16A			1614.70	492.162	1616.17	492.610	BM-G41-C15-233 - R.R. spike found in double Cherry N79°E 70.8' from EX-16A (U & L)
EX-16A(U)	1617.43	492.994					

Drillhole No.	Well Elevation Feet	Well Elevation Meters	Ground Elevation Feet	Ground Elevation Meters	Bench Mark Elevation Feet	Bench Mark Elevation Meters	Bench Mark Description
EX-16A(L)	1617.39	492.981					
EX-16B			1614.62	492.137	1616.17	492.610	BM-G41-C15-233 - R.R. spike found in double Cherry N84°E 69.5' from EX-16B(L)
EX-16B(L)	1616.84	492.814					

April 19, 1984

EXXON MINERALS COMPANY USA
WELL POINT LOCATIONS - CRANDON PROJECT
VERTICAL CONTROL
(Based on U.S.G.S. Datum, Mean Sea Level)

Well Point No.	Well Elevation Feet	Well Elevation Meters	Ground Elevation Feet	Ground Elevation Meters	Bench Mark Elevation Feet	Bench Mark Elevation Meters	Bench Mark Description
WP-1(U)	1556.09	474.297	1553.85	473.614	1555.00	473.965	BM-WP-1 - R.R. spike in 6" Cedar S64°W 21.9' from WP-1(U)
WP-1(L)	1556.04	474.282	1553.85	473.614	1555.00	473.965	BM-WP-1 - R.R. spike in 6" Cedar S52°W 27.5' from WP-1 (L)
WP-2(U)	1538.48	468.930	1536.03	468.183	1537.01	468.482	BM-WP-2 - R.R. spike in 5" Spruce S48°E 14.7' from WP-2 (U)
WP-2(L)	1537.67	468.683	1536.12	468.210	1537.01	468.482	BM-WP-2 - R.R. spike in 5" Spruce S67°E 12.3' from WP-2 (L)
WP-3(U)	1543.27	470.390	1540.89	469.664	1538.11	468.817	BM-WP-3 - R.R. spike in 16" Balsam N40°W 57.7' from WP-3 (U)
WP-3(L)	1539.67	469.292	1537.73	468.701	1538.11	468.817	BM-WP-3 - R.R. spike in 16" Balsam N70°W 63.4' from WP-3 (L)
WP-4(U)	1547.35	471.633	1545.29	471.005	1545.61	471.103	BM-WP-4 - R.R. spike in 6" Tamarack N53°W 111.5' from WP-4 (U)
WP-4(L)	1543.30	470.399	1541.18	469.753	1545.61	471.103	BM-WP-4 - R.R. spike in 6" Tamarack N38°W 132.4' from WP-4 (L)
WP-5(U)	1550.12	472.478	1547.98	471.825	1554.01	473.663	BM-WP-5 - R.R. spike in 14" Spruce S8°W 34.9' from WP-5 (U)
WP-5(L)	1550.25	472.517	1548.02	471.837	1554.01	473.663	BM-WP-5 - R.R. spike in 14" Sprice S12°W 40.8' from WP-5 (L)

Well Point No.	Well Elevation Feet	Well Elevation Meters	Ground Elevation Feet	Ground Elevation Meters	Bench Mark Elevation Feet	Bench Mark Elevation Meters	Bench Mark Description
WP-6(U)	1581.66	482.091	1579.51	481.436	1581.43	482.021	BM-WP-6 - R.R. spike in 14" Cedar S12°W 14.2' from WP-6 (U)
WP-6(L)	1581.61	482.076	1579.60	481.463	1581.43	482.021	BM-WP-6 - R.R. spike in 14" Cedar S4°E 20.7' from WP-6 (L)
WP-7(U)	1582.53	482.356	1580.26	481.664	1581.25	481.966	BM-WP-7 - R.R. spike in 12" Cedar S78°W 34' from WP-7 (U)
WP-7(L)	1583.94	482.786	1580.08	481.609	1581.25	481.966	BM-WP-7 - R.R. spike in 12" Cedar S89°W 32' from WP-7 (L)

April 16, 1984

EXXON MINERALS COMPANY
WATER RECLAIM POND SOILS INVESTIGATION HOLES
-CRANDON PROJECT-
VERTICAL CONTROL
(Based on U.S.G.S. Datum, Mean Sea Level)

Drillhole #	Elevation Feet	Meters	Description
RP-1	1634.71	498.261	Ground elevation at RP-1
RP-2	1642.51	500.638	Ground elevation at RP-2
RP-3	1642.48	500.629	Ground elevation at RP-3
RP-4	1659.07	505.686	Ground elevation at RP-4
RP-5	1644.62	501.281	Ground elevation at RP-5
RP-6	1644.51	501.248	Ground elevation at RP-6
RP-7	1636.08	498.678	Ground elevation at RP-7
RP-8	1654.91	504.418	Ground elevation at RP-8
RP-9	1654.67	504.344	Ground elevation at RP-9
BM-RP-9	1647.02	502.013	R.R. spike set in triple Maple S3°E 127' from RP-9
RP-10	1625.80	495.545	Ground elevation at RP-10
RP-11	1630.33	496.926	Ground elevation at RP-11
RP-12	1648.79	502.552	Ground elevation at RP-12
RP-13	1620.30	493.868	Ground elevation at RP-13
RP-14	1645.44	501.531	Ground elevation at RP-14
RP-15	1642.23	500.553	Ground elevation at RP-15

April 19, 1984

EXXON MINERALS COMPANY, USA
OVERBURDEN HOLES (MULTI PIEZOMETER)
-CRANDON PROJECT-
HORIZONTAL CONTROL
(Based on Wisconsin Coordinate System, North Zone)

	Feet		Meters	
Drillhole No.	North	East	North	East
EX-1A	104,151	2,273,714	31,745	693,029
EX-1B	104,144	2,273,710	31,743	693,028
EX-2A	110,340	2,262,240	33,632	689,532
EX-2B	110,349	2,262,244	33,634	689,533
EX-3A	110,285	2,263,941	33,615	690,051
EX-3B	110,287	2,263,932	33,616	690,048
EX-3C	110,280	2,263,921	33,613	690,045
EX-4A	119,912	2,274,288	36,549	693,204
EX-4B	119,917	2,274,278	36,551	693,201
EX-4C	119,929	2,274,283	36,554	693,203
EX-5A	119,857	2,276,790	36,533	693,967
EX-5B	119,858	2,276,781	36,533	693,964
EX-5C	119,851	2,276,781	36,531	693,964
EX-6A	120,340	2,289,928	36,680	697,972
EX-6B	120,341	2,289,919	36,680	697,969
EX-7A	117,862	2,286,791	35,924	697,015
EX-7B	117,856	2,286,783	35,923	697,013
EX-7C	117,853	2,286,779	35,922	697,012
EX-8A	116,362	2,287,655	35,467	697,279

Drillhole No.	Feet		Meters	
	North	East	North	East
EX-8B	116,371	2,287,651	35,470	697,277
EX-9A	116,461	2,284,725	35,497	696,386
EX-9B	116,472	2,284,729	35,501	696,387
EX-10A	115,111	2,284,239	35,086	696,237
EX-10B	115,109	2,284,216	35,085	696,230
EX-11A	113,254	2,283,698	34,520	696,073
EX-11B	113,260	2,283,714	34,522	696,077
EX-11C	113,259	2,283,684	34,521	696,068
EX-12A	113,156	2,284,707	34,490	696,380
EX-12B	113,163	2,284,692	34,492	696,376
EX-13A	111,555	2,283,499	34,002	696,012
EX-13B	111,541	2,283,510	33,998	696,015
EX-13C	111,538	2,283,501	33,997	696,013
EX-13D	111,534	2,283,508	33,996	696,015
EX-14A	110,251	2,286,304	33,605	696,867
EX-14B	110,257	2,286,282	33,606	696,860
EX-15A	112,443	2,280,005	34,273	694,947
EX-15B	112,447	2,280,010	34,274	694,948
EX-16A	113,316	2,282,043	34,539	695,568
EX-16B	113,322	2,282,041	34,541	695,568

April 19, 1984

EXXON MINERALS COMPANY, USA
WELL POINT LOCATION - CRANDON PROJECT
HORIZONTAL CONTROL
(Based on Wisconsin Coordinate System, North Zone)

	Feet		Meters	
Well Point No.	North	East	North	East
WP-1(U)	110,540	2,265,404	33,693	690,497
WP-1(L)	110,547	2,265,406	33,695	690,497
WP-2(U)	119,698	2,267,150	36,484	691,029
WP-2(L)	119,694	2,267,150	36,483	691,029
WP-3(U)	119,246	2,268,023	36,346	691,295
WP-3(L)	119,269	2,268,045	36,353	691,302
WP-4(U)	121,825	2,274,236	37,132	693,189
WP-4(L)	121,799	2,274,240	37,124	693,190
WP-5(U)	120,865	2,274,352	36,840	693,224
WP-5(L)	120,871	2,274,355	36,842	693,225
WP-6(U)	118,247	2,287,407	36,042	697,203
WP-6(L)	118,254	2,287,403	36,044	697,202
WP-7(U)	116,494	2,287,958	35,507	697,371
WP-7(L)	116,486	2,287,958	35,505	697,371

April 16, 1984

EXXON MINERALS COMPANY
WATER RECLAIM POND SOILS INVESTIGATION HOLES
-CRANDON PROJECT-
HORIZONTAL CONTROL
(Based on Wisconsin Coordinate System, North Zone)

	Feet		Meters	
Drillhole #	North	East	North	East
RP-1	115604	2280542	35236	695111
RP-2	115652	2281119	35251	695286
RP-3	115712	2281620	35269	695439
RP-4	115903	2282534	35327	695718
RP-5	115119	2280901	35088	695220
RP-6	115346	2281381	35158	695366
RP-7	115410	2281782	35177	695489
RP-8	115562	2282668	35223	695759
RP-9	114750	2280723	34976	695166
RP-10	114892	2281336	35019	695353
RP-11	115033	2282358	35062	695664
RP-12	115000	2282868	35052	695820
RP-13	114509	2282328	34902	695655
RP-14	115863	2281985	35315	695550
RP-15	115462	2282287	35193	695642

APPENDIX D

Water Level Measurements on 4-17-84 and 5-24-84

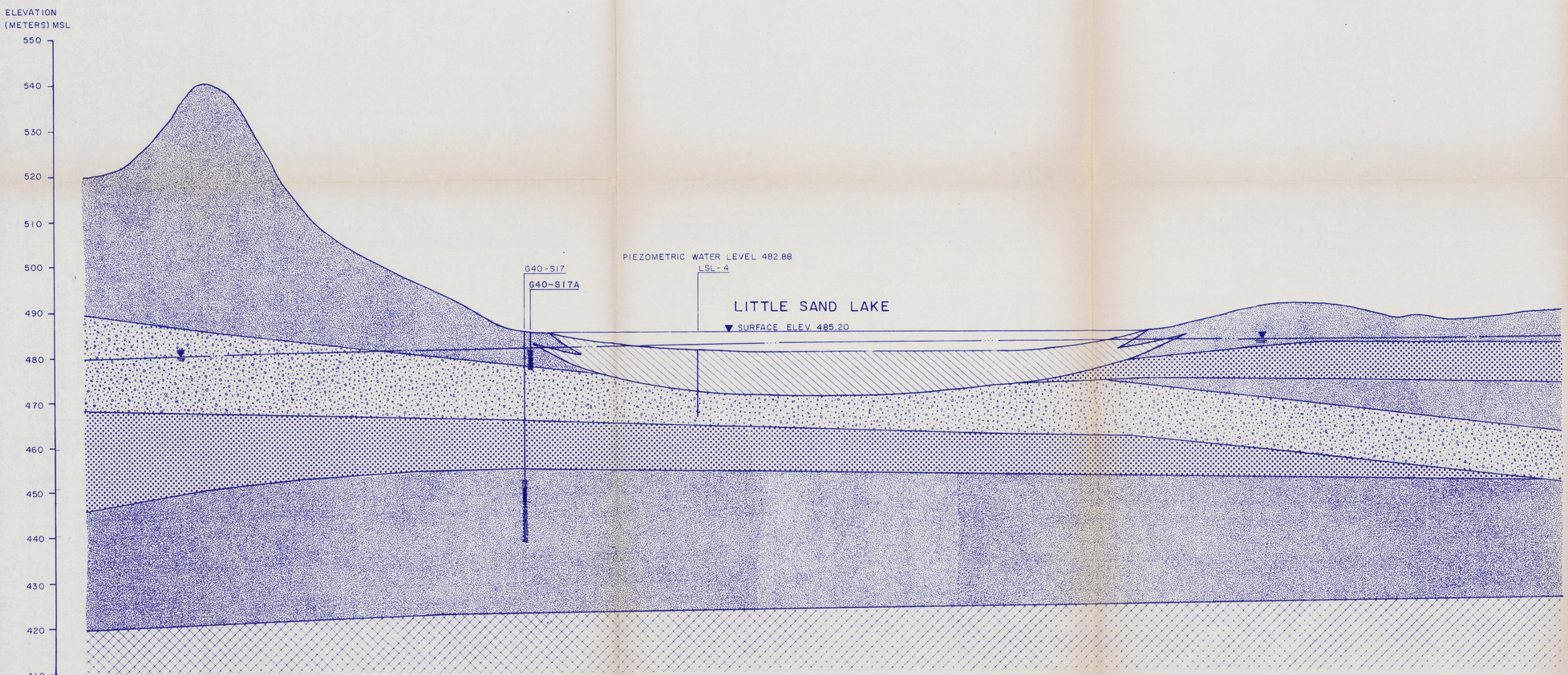
WELLNUM	CNORTH	CEAST	CELEV	TOTALD	DATE	WELEV	SCRTOP	SCRBOT	GRATOP	GRABOT
BE-211-1	35520.00	693820.00	502.82	60.96	84-04-27	482.12	454.01	442.12	458.58	441.21
BE-211-2L	35495.00	693897.00	502.92	57.30	84-04-27	478.61	451.38	449.25	453.52	448.95
BE-211-2U	35495.00	693897.00	503.06	57.30	84-04-27	479.25	466.62	460.53	470.28	457.40
BE-211-3L	35502.00	693818.00	503.13	67.36	84-04-27	482.12	438.88	435.83	441.93	434.22
BE-211-3U	35502.00	693818.00	503.13	67.36	84-04-27	482.10	446.50	443.50	450.77	443.76
BE-213-1	35365.00	694469.00	494.28	28.35	84-04-27	483.44	473.63	466.01	477.29	465.10
BE-213-2	35376.00	694538.00	493.55	28.97	84-04-27	484.05	472.77	465.15	476.13	463.63
BE-213-3L	35391.00	694478.00	495.48	35.05	84-04-27	483.93	463.52	460.47	465.35	459.86
BE-213-3U	35391.00	694478.00	495.52	35.05	84-04-27	483.93	471.45	468.40	474.49	467.79
BE-216-1	35434.00	694193.00	505.88	46.33	84-04-27	484.03	465.87	459.78	468.92	458.86
BE-216-2	35457.00	694258.00	505.54	42.98	84-04-27	484.30	468.53	462.44	470.06	461.32
BE-216-3L	35460.00	694200.00	507.39	54.41	84-04-27	483.82	457.80	454.76	459.02	452.16
BE-216-3U	35460.00	694200.00	507.39	54.41	84-04-27	483.58	469.08	461.16	472.74	460.85
DMA-10	33684.00	693543.00	486.17	14.02	84-04-27	480.41	472.92	471.70	475.66	471.70
DMA-12	35932.00	694935.00	494.67	13.72	84-04-27	485.68	481.64	480.41	483.47	480.41
DMA-13	33665.00	690617.00	474.28	12.34	84-04-27	473.70	463.19	461.97	463.95	461.97
DMA-16	37732.00	692280.00	485.02	18.38	84-04-27	474.02	467.54	466.32	468.76	466.32
DMA-18	34064.00	691862.00	494.11	21.49	84-04-27	476.28	473.46	472.24	476.82	472.09
DMA-19	35053.00	694860.00	487.21	9.14	84-04-27	485.11	480.13	478.91	482.27	478.91
DMA-20	36332.00	692697.00	485.60	16.46	84-04-27	476.28	469.99	468.77	474.26	468.77
DMA-22B	34686.00	700234.00	497.05	30.60	84-04-27	488.73	469.15	466.10	472.56	465.98
DMA-29	30855.00	686222.00	468.97	12.19	84-04-27	467.78	463.33	462.11	463.77	462.25
DMA-29AL	30861.00	686222.00	468.92	16.15	84-04-27	467.87	453.14	452.23	453.79	452.23
DMA-29AU	30861.00	686222.00	468.92	16.15	84-04-27	467.83	455.58	454.36	456.65	454.36
DMA-31	36625.00	695424.00	485.71	7.62	84-04-27	483.46	478.87	477.95	480.70	477.95
DMA-32A	34153.00	698170.00	485.71	53.34	84-04-27	482.85	475.23	474.01	476.14	472.48
DMA-34	34747.00	685207.00	468.49	9.30	84-04-27	467.89	462.66	461.44	463.58	461.44
DMA-4	33962.00	695204.00	491.81	9.14	84-04-27	484.22	483.42	482.20	487.08	482.20
DMA-47	37001.00	693744.00	479.97	9.45	84-04-27	474.17	472.63	471.41	474.31	470.19
DMA-48	36266.00	691504.00	472.05	8.99	84-04-27	468.61	464.34	463.12	465.56	463.12
DMB-10	35381.00	692254.00	493.98	30.33	84-04-27	476.30	466.23	463.18	474.61	463.18
DMB-11	33515.00	693062.00	505.65	30.48	84-04-27	478.83	477.73	474.68	478.80	474.68
DMB-12	32733.00	693484.00	483.90	24.96	84-04-27	477.35	462.09	459.04	462.09	459.04
DMB-13	32647.00	691891.00	491.04	18.29	84-04-27	473.57	475.30	472.25	475.91	472.25
DMB-18	33699.00	691306.00	488.44	24.66	84-04-27	474.73	466.66	463.61	468.18	463.61
DMB-19	33665.00	690622.00	473.75	48.98	84-04-27	473.34	450.54	447.49	00	00
DMB-1A	34871.00	695829.00	496.70	24.20	84-04-27	486.15	475.16	472.12	487.05	472.12
DMB-20	35273.00	692059.00	490.00	12.19	84-04-27	00	480.55	477.50	481.68	477.50
DMB-20A	35272.00	692063.00	490.05	25.85	84-04-27	476.52	465.34	463.81	466.71	463.81
DMB-21	34388.00	690610.00	475.87	15.09	84-04-27	474.19	463.42	460.38	466.14	460.38
DMB-22	34516.00	691620.00	493.21	24.08	84-04-27	00	471.79	468.75	471.37	468.75
DMB-23	35326.00	691350.00	477.00	30.24	84-04-27	474.04	449.37	446.32	449.67	446.26
DMB-24	31109.00	692316.00	477.57	14.94	84-04-27	469.31	463.98	462.45	464.34	462.45
DMB-25	32225.00	691448.00	501.70	39.47	84-04-27	472.14	463.34	461.82	465.33	461.82
DMB-26	32163.00	695631.00	522.52	40.87	84-04-27	483.11	484.32	481.27	485.54	481.27
DMB-27	33124.00	696072.00	503.09	25.57	84-04-27	484.28	480.13	477.09	480.68	477.09
DMB-28	32565.00	696599.00	501.00	21.34	84-04-27	484.30	480.86	479.34	481.32	479.34
DMB-29	31817.00	697417.00	497.29	21.12	84-04-27	484.52	477.22	475.70	477.92	475.70
DMB-3	35630.00	697221.00	484.73	18.75	84-04-27	481.65	497.72	496.19	499.24	496.19
DMB-4	36090.00	696099.00	501.68	24.48	84-04-27	486.02	480.06	477.01	480.06	477.01
DMB-5	34179.00	696634.00	515.24	30.02	84-04-27	485.70	487.79	484.74	494.01	484.74
DMB-5A	34177.00	696635.00	515.32	36.64	84-04-27	485.39	481.38	478.33	485.65	478.33
DMB-6	34255.00	695664.00	508.44	26.21	84-04-27	485.79	484.93	481.88	489.16	481.88
DMB-7	32355.00	697337.00	504.43	24.14	84-04-27	484.78	483.01	479.96	486.06	479.96
DMB-8	34923.00	697335.00	495.17	15.45	84-04-27	484.32	480.90	479.37	482.42	479.37
DMB-9A	33697.00	697151.00	506.92	79.40	84-04-27	485.05	440.32	437.27	440.01	432.39
DMB-9B	33637.00	697151.00	506.92	79.40	84-04-27	485.06	448.55	445.50	450.68	442.45
DMB-9C	33697.00	697151.00	506.92	79.40	84-04-27	485.06	460.13	457.08	465.01	455.25
DMC-1	35089.00	698704.00	492.55	14.48	84-04-27	483.90	480.77	479.73	00	00
DMC-2	38560.00	697609.00	484.64	15.70	84-04-27	481.59	472.32	469.27	473.23	468.51
DMC-3	32595.00	698516.00	491.32	14.17	84-04-27	485.07	480.07	477.02	481.89	476.56
DMI-1	35584.00	694584.00	499.34	33.22	84-04-27	485.14	466.57	465.81	483.03	465.66
DMI-2L	35542.00	694564.00	497.01	42.37	84-04-27	484.77	455.81	454.28	469.83	454.28
DMI-2U	35542.00	694564.00	497.01	42.37	84-04-27	484.59	481.41	480.50	484.86	480.50
DMP-1	35563.00	694482.00	502.72	21.55	84-04-27	484.52	482.78	480.65	483.91	480.65
DMP-2	35093.00	694545.00	486.73	11.13	84-04-27	483.74	477.01	475.48	477.65	475.21
DMP-3	34645.00	693612.00	495.36	19.99	84-04-27	481.46	477.33	474.89	478.64	474.86
DMS-1	35693.00	694403.00	507.12	39.01	84-04-27	486.15	477.51	474.47	00	00
DMS-2	35944.00	694302.00	500.89	56.08	84-04-27	485.38	00	00	00	00
DW-1A	35459.00	693807.00	502.75	21.64	84-04-27	482.48	484.78	481.12	486.31	480.82
DW-1L	35455.00	693806.00	502.81	65.53	84-04-27	482.48	460.65	457.60	461.87	457.60
DW-1U	35455.00	693806.00	502.81	65.53	84-04-27	482.08	474.37	472.84	476.50	470.40
DW-2L	35594.00	694883.00	488.20	28.96	84-04-27	485.76	462.00	460.47	464.44	458.95
DW-2U	35594.00	694883.00	488.20	28.96	84-04-27	485.70	471.14	466.57	473.28	466.26
DW-3L	35434.00	693373.00	505.54	51.51	84-04-27	480.98	466.06	464.54	467.89	463.62
DW-3U	35434.00	693373.00	505.54	51.51	84-04-27	480.91	478.25	475.20	485.57	473.99
EX-10AL	35086.00	696237.00	511.51	78.03	84-04-27	486.21	435.84	434.93	436.45	434.62
EX-10AL	35086.00	696237.00	511.51	78.03	84-05-24	486.20	00	00	00	00
EX-10AU	35086.00	696237.00	511.52	78.03	84-04-27	486.19	451.39	450.47	452.00	449.25
EX-10AU	35086.00	696237.00	511.52	78.03	84-05-24	486.27	00	00	00	00
EX-10BL	35085.00	696230.00	511.20	44.81	84-04-27	486.21	466.84	465.92	467.45	465.31
EX-10BL	35085.00	696230.00	511.20	44.81	84-05-24	486.11	00	00	00	00
EX-10BU	35085.00	696230.00	511.20	44.81	84-05-24	486.54	485.74	481.16	490.31	480.55
EX-11AL	34520.00	696073.00	513.68	86.87	84-04-27	485.76	431.31	430.39	433.14	429.78
EX-11AL	34520.00	696073.00	513.68	86.87	84-05-24	485.78	00	00	00	00
EX-11AU	34520.00	696073.00	513.69	86.87	84-04-27	488.80	445.02	444.11	445.63	443.50
EX-11AU	34520.00	696073.00	513.69	86.87	84-05-24	485.78	00	00	00	00
EX-11BL	34522.00	696077.00	513.45	53.04	84-04-27	485.74	461.08	460.17	461.70	459.56
EX-11BL	34522.00	696077.00	513.45	53.04	84-05-24	485.76	00	00	00	00
EX-11BU	34522.00	696077.00	513.45	53.04	84-04-27	485.79	470.84	469.93	471.45	469.32
EX-11BU	34522.00	696077.00	513.45	53.04	84-05-24	485.80	00	00	00	00
EX-11CL	34521.00	696068.00	513.68	31.09	84-05-24	485.83	486.76	482.19	489.81	481.58
EX-12AL	34490.00	696380.00	515.49	92.96	84-04-27	485.79	425.73	424.82	426.34	424.21
EX-12AL	34490.00	696380.00	515.49	92.96	84-05-24	485.85	00	00	00	00
EX-12AU	34490.00	696380.00	515.44	92.96	84-04-27	485.78	443.72	442.80	445.24	442.19
EX-12AU	34490.00	696380.00	515.44	92.96	84-05-24	485.87	00	00	00	00
EX-12BL	34492.00	696375.00	515.49	56.69	84-04-27	485.82	459.34	458.43	459.95	457.82
EX-12BL	34492.00	696375.00	515.49	56.69	84-05-24	485.80	00	00	00	00
EX-12BU	34492.00	696375.00	515.49	56.69	84-04-27	485.95	481.89	477.32	487.99	476.71
EX-12BU	34492.00	696375.00	515.49	56.69	84-05-24	485.91	00	00	00	00
EX-13AL	34002.00	696012.00	505.88	71.63	84-04-27	485.31	435.66	434.74	536.27	433.52
EX-13AL	34002.00	696012.00	505.88	71.63	84-05-24	485.22	00	00	00	00
EX-13BL	33998.00	696015.00	506.03	58.83	84-04-27	485.25	447.97	447.05	448.58	446.44
EX-13BL	33998.00	696015.00	506.03	58.83	84-05-24	476.67	00	00	00	00
EX-13BU	33998.00	696015.00	506.04	58.83	84-04-27	485.37	462.29	461.38	464.12	459.25
EX-13BU	33998.00	696015.00	506.04	58.83	84-05-24	485.33	00	00	00	00
EX-13CL	33997.00	696012.00	506.18	32.92	84-04-27	485.38	473.53	472.61	474.44	472.31
EX-13CL	33997.00	696012.00	506.18	32.92	84-05-24	485.43	00	00	00	00
EX-13DL	33996.00	696015.00	506.31	22.86	84-04-27	485.46	487.64	483.07	488.25	482.46
EX-13DL	33996.00	696015.00	506.31	22.86	84-05-24	485.45	00	00	00	00
EX-14AL	33605.00	696867.00	513.69	86.26	84-04-27	485.04	432.20	431.19	432.72	430.58
EX-14AL	33605.00	696867.00	513.69	86.26	84-05-24	485.04	00	00	00	00

WELLNUM	CNORTH	CEAST	CELEV	TOTALD	DATE	WELEV	SCRTOP	SCRBOT	GRATOP	GRABOT
EX-14AU	33605.00	696867.00	513.69	86.26	84-04-27	485.04	451.92	451.00	452.53	450.39
EX-14AU	33605.00	696867.00	513.69	86.26	84-05-24	485.01	00	00	00	00
EX-14BL	33606.00	696860.00	513.59	49.38	84-04-27	485.11	465.06	464.14	465.67	463.53
EX-14BL	33606.00	696860.00	513.59	49.38	84-05-24	485.00	00	00	00	00
EX-14BU	33606.00	696860.00	513.59	49.38	84-04-27	485.08	482.43	477.86	483.04	477.23
EX-14BU	33606.00	696860.00	513.59	49.38	84-05-24	485.05	00	00	00	00
EX-15AL	34273.00	694947.00	496.59	71.63	84-04-27	484.05	428.90	427.98	429.66	426.92
EX-15AL	34273.00	694947.00	496.59	71.63	84-05-24	484.11	00	00	00	00
EX-15AU	34273.00	694947.00	496.59	71.63	84-04-27	484.29	460.14	459.22	460.75	458.46
EX-15AU	34273.00	694947.00	496.59	71.63	84-05-24	484.35	00	00	00	00
EX-15BL	34274.00	694948.00	496.61	15.85	84-04-27	484.30	484.97	480.40	492.59	479.79
EX-15BL	34274.00	694948.00	496.61	15.85	84-05-24	484.37	00	00	00	00
EX-16AL	34539.00	695568.00	492.98	44.20	84-04-27	485.76	449.79	448.88	450.40	447.96
EX-16AL	34539.00	695568.00	492.98	44.20	84-05-24	485.82	00	00	00	00
EX-16AU	34539.00	695568.00	492.98	44.20	84-04-27	485.71	460.46	459.55	461.07	458.94
EX-16AU	34539.00	695568.00	492.98	44.20	84-05-24	485.83	00	00	00	00
EX-16BL	34541.00	695567.00	492.91	21.94	84-04-27	485.86	475.37	470.19	479.33	470.19
EX-16BL	34541.00	695567.00	492.91	21.94	84-05-24	485.94	00	00	00	00
EX-1AL	31745.00	693029.00	474.88	40.48	84-04-27	471.98	435.71	434.79	436.32	433.72
EX-1AL	31745.00	693029.00	474.88	40.48	84-05-24	472.03	00	00	00	00
EX-1AU	31745.00	693029.00	474.88	40.48	84-04-27	471.92	442.72	441.80	443.33	441.19
EX-1AU	31745.00	693029.00	474.88	40.48	84-05-24	471.98	00	00	00	00
EX-1BL	31743.00	693028.00	474.74	14.33	84-04-27	471.92	461.21	460.30	461.82	459.69
EX-1BL	31743.00	693028.00	474.74	14.33	84-05-24	471.98	00	00	00	00
EX-1BU	31743.00	693028.00	474.74	14.32	84-04-27	472.11	472.49	467.92	473.25	467.31
EX-1BU	31743.00	693028.00	474.74	14.32	84-05-24	472.14	00	00	00	00
EX-2AL	33632.00	689532.00	486.13	58.52	84-04-27	474.39	438.95	438.03	439.56	437.42
EX-2AL	33632.00	689532.00	486.13	58.52	84-05-24	474.43	00	00	00	00
EX-2AU	33632.00	689532.00	486.13	58.52	84-04-27	474.60	463.94	463.02	464.55	462.42
EX-2AU	33632.00	689532.00	486.13	58.52	84-05-24	474.62	00	00	00	00
EX-2CL	33634.00	689533.00	486.04	11.28	84-04-27	474.79	476.14	471.56	477.10	471.00
EX-2CL	33634.00	689533.00	486.04	11.28	84-05-24	474.79				
EX-3AL	33615.00	690051.00	476.11	49.38	84-04-27	474.24	431.32	430.41	431.93	429.80
EX-3AL	33615.00	690051.00	476.11	49.38	84-05-24	474.25	00	00	00	00
EX-3AU	33615.00	690051.00	476.10	49.38	84-04-27	474.27	441.68	440.77	442.29	440.16
EX-3AU	33615.00	690051.00	476.10	49.38	84-05-24	474.30	00	00	00	00
EX-3BL	33616.00	690048.00	476.21	22.86	84-04-27	474.27	453.96	453.05	454.57	452.44
EX-3BL	33616.00	690048.00	476.21	22.86	84-05-24	474.30	00	00	00	00
EX-3BU	33616.00	690048.00	476.21	22.86	84-04-27	474.27	463.11	462.19	463.72	461.58
EX-3BU	33616.00	690048.00	476.21	22.86	84-05-24	474.29	00	00	00	00
EX-3CL	33613.00	690044.00	476.25	3.66	84-04-27	474.09	474.60	472.47	474.75	471.86
EX-3CL	33613.00	690044.00	476.25	3.66	84-05-24	474.04	00	00	00	00
EX-4AL	36549.00	693204.00	480.69	36.27	84-04-27	474.84	444.82	443.90	445.43	443.44
EX-4AL	36549.00	693204.00	480.69	36.27	84-05-24	474.94	00	00	00	00
EX-4AU	36549.00	693204.00	480.68	36.27	84-04-27	474.69	451.83	450.91	452.59	450.15
EX-4AU	36549.00	693204.00	480.68	36.27	84-05-24	474.81	00	00	00	00
EX-4BL	36551.00	693201.00	480.72	35.66	84-04-27	474.81	460.61	459.69	461.22	459.39
EX-4BL	36551.00	693201.00	480.72	35.66	84-05-24	474.93	00	00	00	00
EX-4BU	36551.00	693201.00	480.69	35.66	84-04-27	474.83	468.38	467.47	468.99	466.86
EX-4BU	36551.00	693201.00	480.69	35.66	84-05-24	474.99	00	00	00	00
EX-4CL	36544.00	693203.00	480.68	8.84	84-05-24	475.43	476.27	471.70	478.41	470.79
EX-5AL	36532.00	693967.00	498.47	57.61	84-04-27	478.34	441.81	440.89	442.42	439.98
EX-5AL	36532.00	693967.00	498.47	57.61	84-05-24	478.48	00	00	00	00
EX-5AU	36532.00	693967.00	498.47	57.61	84-04-27	455.79	448.82	447.90	449.43	447.29
EX-5AU	36532.00	693967.00	498.47	57.61	84-05-24	492.19	00	00	00	00
EX-5BL	36533.00	693964.00	498.60	34.14	84-04-27	478.83	464.98	464.07	465.59	463.46
EX-5BL	36533.00	693964.00	498.60	34.14	84-05-24	478.93	00	00	00	00
EX-5CL	36531.00	693964.00	498.58	22.86	84-04-27	479.55	479.99	475.42	483.04	474.81
EX-5CL	36531.00	693964.00	498.58	22.86	84-05-24	479.46	00	00	00	00
EX-6AL	36680.00	697971.00	490.62	59.74	84-04-27	483.03	436.46	435.54	437.06	434.93
EX-6AL	36680.00	697971.00	490.62	59.74	84-05-24	482.98	00	00	00	00
EX-6AU	36680.00	697971.00	490.61	59.74	84-04-27	482.96	453.52	452.61	454.13	452.00
EX-6AU	36680.00	697971.00	490.61	59.74	84-05-24	482.98	00	00	00	00
EX-6BL	36680.00	697969.00	490.66	26.52	84-04-27	483.56	464.76	463.84	465.37	463.24
EX-6BL	36680.00	697969.00	490.66	26.52	84-05-24	483.59	00	00	00	00
EX-6BU	36680.00	697969.00	490.66	26.52	84-04-27	483.28	485.18	480.61	485.79	480.00
EX-6BU	36680.00	697969.00	490.66	26.52	84-05-24	483.33	00	00	00	00
EX-7AL	35924.00	697015.00	482.63	51.51	84-04-27	482.33	434.45	433.53	435.06	432.92
EX-7AL	35924.00	697015.00	482.63	51.51	84-05-24	482.32	00	00	00	00
EX-7BL	35923.00	697013.00	482.78	34.14	84-04-27	482.11	449.17	448.26	449.78	447.65
EX-7BL	35923.00	697013.00	482.78	34.14	84-05-24	482.07	00	00	00	00
EX-7BU	35923.00	697013.00	482.78	34.14	84-04-27	481.50	461.37	460.45	461.52	459.39
EX-7BU	35923.00	697013.00	482.78	34.14	84-05-24	482.60	00	00	00	00
EX-8AL	35467.00	697279.00	484.41	53.16	84-04-27	483.10	434.48	433.57	435.09	432.96
EX-8AL	35467.00	697279.00	484.41	53.16	84-05-24	483.06	00	00	00	00
EX-8AU	35467.00	697279.00	484.41	53.16	84-04-27	482.59	452.46	451.55	453.07	450.94
EX-8AU	35467.00	697279.00	484.41	53.16	84-05-24	482.53	00	00	00	00
EX-8BL	35470.00	697277.00	484.45	23.47	84-04-27	481.59	461.66	460.74	462.27	460.13
EX-8BL	35470.00	697277.00	484.45	23.47	84-05-24	481.59	00	00	00	00
EX-8BU	35470.00	697277.00	484.45	23.47	84-04-27	481.59	482.07	479.64	482.38	479.33
EX-8BU	35470.00	697277.00	484.45	23.47	84-05-24	481.61	00	00	00	00
EX-9AL	35497.00	696386.00	521.92	85.34	84-04-27	486.87	437.04	436.13	437.65	435.52
EX-9AL	35497.00	696386.00	521.92	85.34	84-05-24	486.69	00	00	00	00
EX-9AU	35497.00	696386.00	521.92	85.34	84-04-27	486.06	446.79	445.88	447.40	445.27
EX-9AU	35497.00	696386.00	521.92	85.34	84-05-24	486.04	00	00	00	00
EX-9BL	35501.00	696387.00	521.72	58.52	84-04-27	486.10	463.80	462.88	464.41	462.27
EX-9BL	35501.00	696387.00	521.72	58.52	84-05-24	486.05	00	00	00	00
EX-9BU	35086.00	696237.00	521.73	58.52	84-04-27	486.10	485.74	479.65	488.79	479.04
EX-9BU	35086.00	696237.00	521.73	58.52	84-05-24	486.14	00	00	00	00
G40-D24	32937.00	690965.00	497.45	57.45	84-04-27	473.62	443.76	440.72	445.90	439.35
G40-H16	34522.00	691626.00	493.57	81.69	84-04-27	475.77	448.68	445.64	459.35	444.72
G40-H27	32288.00	691791.00	488.83	76.20	84-04-27	472.31	436.21	433.16	440.48	412.13
G40-J15	34683.00	691943.00	489.36	15.70	84-04-27	476.56	477.51	474.46	479.04	473.09
G40-K13	35092.00	692167.00	488.70	15.32	84-04-27	477.18	477.61	474.56	480.35	474.56
G40-L23	33199.00	692222.00	500.20	27.68	84-04-27	476.30	476.18	473.13	477.09	471.97
G40-M15	34644.00	692426.00	499.61	94.49	84-04-27	478.61	418.66	415.61	418.66	404.64
G40-P10A	35584.00	692780.00	504.46	48.77	84-04-27	478.43	477.12	474.07	478.95	454.56
G40-P20	33854.00	692969.00	500.83	24.69	84-04-27	479.16	480.08	477.04	481.91	475.51
G40-Q7	36287.00	693223.00	490.63	21.49	84-04-27	477.19	472.77	469.72	474.90	468.65
G40-R23	33153.00	693362.00	494.41	24.69	84-04-27	478.41	473.75	470.71	475.58	469.18
G40-S17	34228.00	693656.00	487.11	45.93	84-04-27	480.98	450.99	447.94	452.52	440.42
G40-S17A	34240.00	693662.00	487.11	9.14	84-04-27	481.29	480.03	478.50	481.55	477.29
G40-T30	32237.00	694461.00	485.44	49.38	84-04-27	481.33	452.75	449.70	454.27	435.37
G40-X1	37038.00	694333.00	493.43	43.59	84-04-27	482.76	469.86	466.81	471.69	449.13
G40-X1A	37164.00	694284.00	481.96	22.86	84-04-27	479.95	466.01	462.96	468.75	458.39
G40-Y15	34642.00	694695.00	486.42	53.34	84-04-27	483.78	460.07	457.02	461.59	432.33
G40-Y15A	34645.00	694692.00	486.43	6.10	84-04-27	485.22	484.24	482.71	484.24	479.66
G40-Y21	33751.00	694348.00	486.30	6.10	84-04-27	482.55	481.83	480.31	482.14	479.39
G40-Y22	33187.00	694430.00	491.16	59.74	84-04-27	480.46	441.07	438.02	443.51	430.71
G40-Y26	32516.00	694580.00	485.48	39.01	84-04-27	482.01	456.50	453.46	458.03	453.46
G41-A23	32940.00	695033.00	490.81	14.63	84-04-27	482.67	478.69	477.01	480.37	475.49
G41-A23	32940.00	695033.00	490.81	14.63	84-04-27	482.67	00	00	00	00

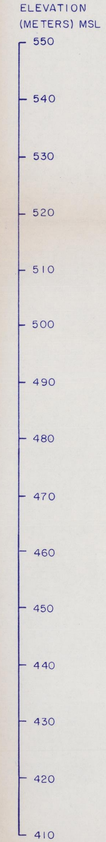
84/06/18 CRANDON QSCHEMA HYDRO DATA BASE PAGE

WELLNUM	CNORTH	CEAST	CELEV	TOTALD	DATE	WELEV	SCRTOP	SCRBOT	GRATOP	GRABOT
G41-A24	32632.00	695098.00	492.75	54.86	84-04-27	482.87	461.49	458.44	466.06	437.11
G41-B12	35393.00	695131.00	491.72	38.40	84-04-27	485.96	468.07	465.02	470.20	452.53
G41-C15	34549.00	695578.00	492.90	66.23	84-04-27	485.65	433.00	429.96	435.53	426.21
G41-C32	31242.00	695590.00	531.23	79.86	84-04-27	482.89	465.37	462.32	469.33	450.43
G41-E13	34868.00	695826.00	496.62	76.35	84-04-27	486.01	426.81	423.76	427.42	419.65
G41-E13	34868.00	695826.00	496.62	76.35	84-04-27	486.01	00	00	00	00
G41-E17	34255.00	695861.00	508.52	79.25	84-04-27	485.51	436.28	433.23	438.42	428.66
G41-E19A	33607.00	695949.00	502.61	84.12	84-04-27	484.90	466.53	463.48	468.66	417.46
G41-E22	33519.00	695729.00	491.32	68.28	84-04-27	484.43	455.60	452.55	457.12	424.37
G41-E22A	33514.00	695735.00	491.25	12.83	84-04-27	484.67	480.52	479.00	482.05	477.75
G41-F24	32691.00	696002.00	504.80	74.06	84-04-27	483.89	478.69	475.64	481.13	429.93
G41-G12	35304.00	696296.00	511.63	6.40	84-04-27	00	506.34	504.82	506.80	504.36
G41-G13	35131.00	696386.00	521.88	97.23	84-04-27	486.22	445.79	443.36	452.50	423.85
G41-G14A	34772.00	696261.00	520.73	73.46	84-04-27	485.92	452.91	446.81	00	00
G41-G14B	34764.00	696261.00	520.81	109.76	84-04-27	485.86	437.32	431.23	440.07	410.47
G41-G14C	34756.00	696261.00	520.75	48.77	84-04-27	486.03	480.16	474.07	482.29	474.37
G41-G14D	34703.00	696261.00	520.42	78.33	84-04-27	485.95	452.18	446.09	454.32	445.17
G41-G14E	34695.00	696261.00	520.54	50.29	84-04-27	485.95	479.03	472.93	480.55	472.93
G41-G14F	34688.00	696261.00	520.21	101.19	84-04-27	485.86	430.83	424.73	433.57	427.78
G41-G15	34569.00	696293.00	516.39	118.26	84-04-27	485.88	442.41	439.36	444.24	412.54
G41-G15A	34589.00	696283.00	516.82	34.44	84-04-27	485.85	485.01	481.96	487.91	481.51
G41-G15B	34577.00	696282.00	516.49	51.82	84-04-27	485.89	467.59	464.54	471.25	463.93
G41-G21	33374.00	696245.00	507.78	30.63	84-04-27	484.77	480.01	477.26	487.02	476.81
G41-H18B	33972.00	696500.00	514.19	87.78	84-04-27	485.49	468.42	465.37	42.67	87.78
G41-H9	35762.00	696469.00	519.59	96.01	84-04-27	486.03	448.68	445.63	454.77	422.77
G41-K13	34977.00	696764.00	519.01	86.87	84-04-27	485.79	438.81	435.76	444.91	431.19
G41-K13A	34982.00	696760.00	519.04	37.24	84-04-27	485.97	484.80	481.76	485.96	480.88
G41-K26	32388.00	696910.00	514.55	100.58	84-04-27	484.50	466.08	463.03	472.17	413.35
G41-M11	35439.00	697300.00	483.29	48.92	84-04-27	481.52	467.19	464.14	469.63	432.51
G41-N21	33275.00	697509.00	527.12	45.87	84-04-27	484.76	484.29	481.27	503.34	496.63
G41-P16	34673.00	697615.00	484.34	55.17	84-04-27	481.51	470.83	467.78	472.35	429.07
G41-P18	34029.00	697635.00	485.06	39.62	84-04-27	483.78	453.81	450.76	455.33	446.19
G41-P18B	33952.00	697634.00	485.01	13.56	84-04-27	484.31	473.67	472.15	474.28	472.15
G41-P24	32731.00	697585.00	513.35	105.16	84-04-27	484.73	481.27	478.22	483.70	407.50
G41-Q22	33059.00	697746.00	492.39	96.47	84-04-27	484.86	437.50	434.43	439.61	394.96
TW-1	35626.00	694861.00	488.46	16.76	84-04-27	485.59	475.85	471.28	478.90	471.28
WP-1L	33695.00	690497.00	474.28	10.52	84-04-27	473.33	464.01	463.10	00	00
WP-1L	33695.00	690497.00	474.28	10.52	84-05-24	473.23	00	00	00	00
WP-1U	33693.00	690497.00	474.30	1.83	84-04-27	473.55	473.00	471.78	00	00
WP-1U	33693.00	690497.00	474.30	1.83	84-05-24	473.46	00	00	00	00
WP-2L	36483.00	691029.00	468.68	9.94	84-04-27	468.20	459.19	458.27	00	00
WP-2L	36483.00	691029.00	468.68	9.94	84-05-24	468.64	00	00	00	00
WP-2U	36484.00	691029.00	468.93	1.83	84-04-27	468.05	467.57	466.35	00	00
WP-2U	36484.00	691029.00	468.93	1.83	84-05-24	468.84	00	00	00	00
WP-3L	36353.00	691301.00	469.28	10.06	84-04-27	468.29	459.56	458.64	00	00
WP-3L	36353.00	691301.00	469.28	10.06	84-05-24	468.23	00	00	00	00
WP-3U	36346.00	691295.00	470.39	3.35	84-04-27	468.24	468.75	466.31	00	00
WP-3U	36346.00	691295.00	470.39	3.35	84-05-24	468.23	00	00	00	00
WP-4L	37124.00	693190.00	470.40	9.75	84-04-27	469.70	460.91	460.00	00	00
WP-4L	37124.00	693190.00	470.40	9.75	84-05-24	469.67	00	00	00	00
WP-4U	37132.00	693189.00	471.63	3.11	84-04-27	469.42	470.33	467.90	00	00
WP-4U	37132.00	693189.00	471.63	3.11	84-05-24	469.48	00	00	00	00
WP-5L	36842.00	693225.00	472.52	10.06	84-05-24	00	462.69	461.78	00	00
WP-5U	36840.00	693224.00	472.48	1.52	84-04-27	472.11	471.21	470.30	00	00
WP-5U	36840.00	693224.00	472.48	1.52	84-05-24	472.01	00	00	00	00
WP-6L	36044.00	697202.00	482.08	10.06	84-04-27	481.52	472.32	471.40	00	00
WP-6L	36044.00	697202.00	482.08	10.06	84-05-24	480.38	00	00	00	00
WP-6U	36042.00	697203.00	482.09	1.98	84-04-27	481.52	480.67	479.45	00	00
WP-6U	35842.00	697203.00	482.09	1.98	84-05-24	481.52	00	00	00	00
WP-7L	35505.00	697371.00	482.79	10.06	84-04-27	481.59	472.46	471.55	00	00
WP-7L	35505.00	697371.00	482.79	10.06	84-05-24	481.61	00	00	00	00
WP-7U	35507.00	697371.00	482.36	1.83	84-04-27	481.51	481.05	479.83	00	00
WP-7U	35507.00	697371.00	482.36	1.83	84-05-24	481.55	00	00	00	00
WW-2	35492.00	693774.00	501.67	47.20	84-04-27	436.71	00	00	00	00

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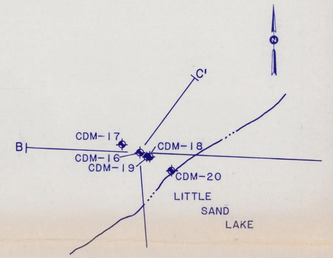


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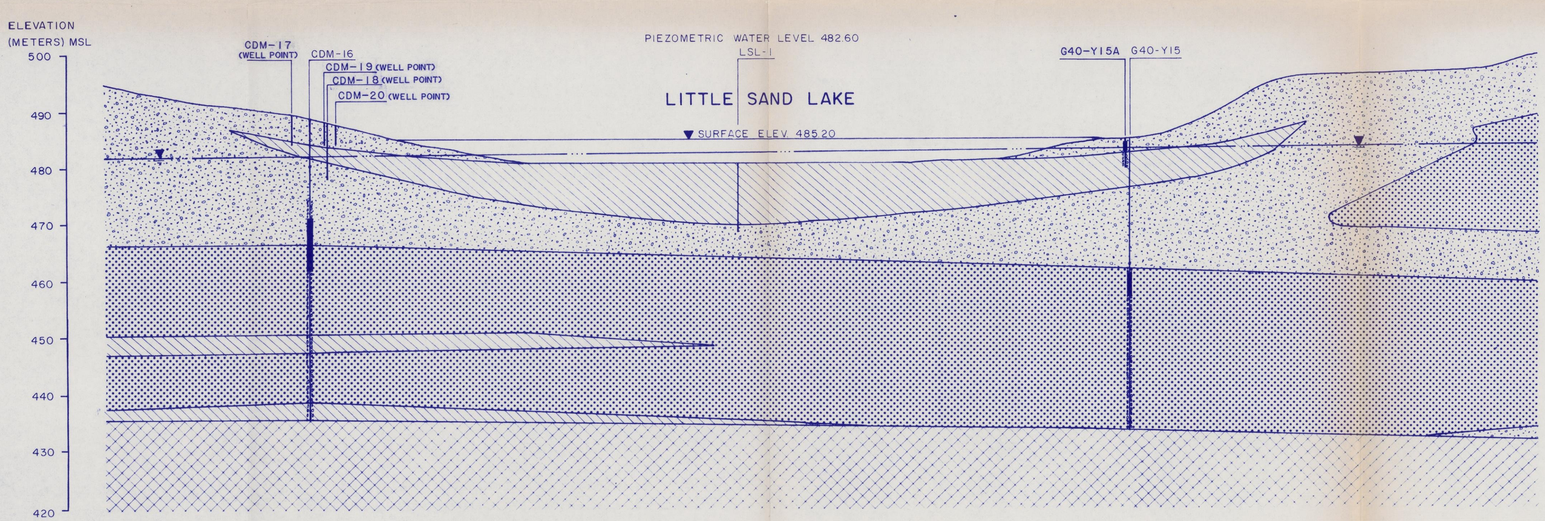
LEGEND

- LACUSTRINE
- TILL
- COARSE GRAINED STRATIFIED DRIFT
- FINE GRAINED STRATIFIED DRIFT
- BASAL TILL
- BEDROCK
- LAKE WATER LEVEL
- GROUNDWATER POTENTIOMETRIC SURFACE

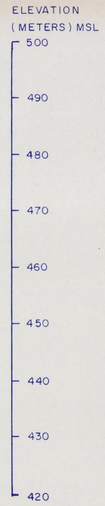


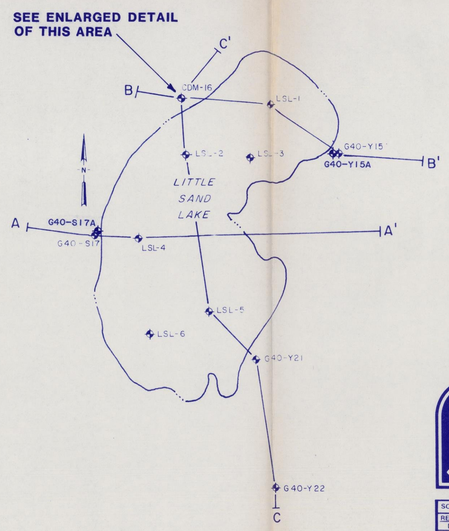
ENLARGED DETAIL
NOT TO SCALE

B



B'





CROSS-SECTION INDEX
LITTLE SAND LAKE
NOT TO SCALE

NOTE: PROJECTIONS OF SOIL STRATA BASED ON DATA FROM BORING LOCATIONS. SOIL CONDITIONS BETWEEN BORINGS MAY VARY.

0 50 100 150 200 250
HORIZONTAL SCALE IN METERS
VERTICAL EXAGGERATION 5x

STS Consultants Ltd.
540 Lambeau St. Green Bay, Wisconsin
ph.414-494-9656

SCALE: AS NOTED	DATE: 6-19-84	DRAWN BY: J.J.T.	APPROVED BY: J.A.S.

REVISIONS: DATE	BY	DESCRIPTION
12/3/84	DRS	ADDED CDM-17 THRU CDM-20, G40-S17A & G40-Y15A

HYDROGEOLOGIC STUDY UPDATE
EXXON MINERALS COMPANY
CRANDON PROJECT

EXPANDED GEOLOGIC CROSS-SECTIONS OF LITTLE SAND LAKE

DRAWING NUMBER: 12959-16

GGB INC.

C

ELEVATION (METERS) MSL

510 500 490 480 470 460 450 440 430 420

C'

ELEVATION (METERS) MSL

510 500 490 480 470 460 450 440 430 420

G40-Y22 G40-Y21 LSL-5 LSL-2 CDM-19 (WELL POINT) CDM-16 CDM-18 (WELL POINT) CDM-17 (WELL POINT) CDM-20 (WELL POINT)

LITTLE SAND LAKE

▼ SURFACE ELEV. 485.2

A

ELEVATION (METERS) MSL

530 520 510 500 490 480 470 460 450 440 430 420 410

G40-P17 PIEZOMETER WATER LEVEL - DRY OL-1 G40-P10A

OAK LAKE

▼ SURFACE ELEV. 497.88

A'

ELEVATION (METERS) MSL

530 520 510 500 490 480 470 460 450 440 430 420 410

A' G40-P10A

N OAK LAKE OL-1 G40-P17 A

CROSS-SECTION INDEX
OAK LAKE
NOT TO SCALE

C' B B' CDM-16 LSL-1 G40-Y15 G40-Y15A LSL-2 LSL-3 LITTLE SAND LAKE LSL-4 G40-S17A G40-S17 A A' N LSL-5 LSL-6 G40-Y21 G40-Y22 C

CROSS-SECTION INDEX
LITTLE SAND LAKE
NOT TO SCALE

LEGEND

- LACUSTRINE
- TILL
- COARSE GRAINED STRATIFIED DRIFT
- FINE GRAINED STRATIFIED DRIFT
- BASAL TILL
- BEDROCK
- LAKE WATER LEVEL
- GROUNDWATER POTENTIOMETRIC SURFACE

NOTE: PROJECTIONS OF SOIL STRATA BASED ON DATA FROM BORING LOCATIONS. SOIL CONDITIONS BETWEEN BORINGS MAY VARY.

0 50 100 150 200 250

HORIZONTAL SCALE IN METERS
VERTICAL EXAGGERATION 5x

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HYDROGEOLOGIC STUDY UPDATE
EXXON MINERALS COMPANY
CRANDON PROJECT

EXPANDED GEOLOGIC CROSS-SECTIONS OF LITTLE SAND LAKE AND OAK LAKE

DRAWING NUMBER: 12959-17

GGB INC.

UW-STEVENS POINT
3 1775 621702 8