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NWIRP CALVERTON NY
5090.3a

03

RCRA Facility Investigation

for

Naval Weapons Industrial Reserve Plant

Calverton, New York

VOLUME III
APPENDICES E-I

Northern Division

Naval Facilities Engineering Command

Contract Number N62472-90-D-1298

Contract Task Order 0138

April 1995

Halliburton NUS
CORPORATION

APPENDICES

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MONITORING WELL CONSTRUCTION SHEETS

HALLIBURTON NUS
Environmental Corporation

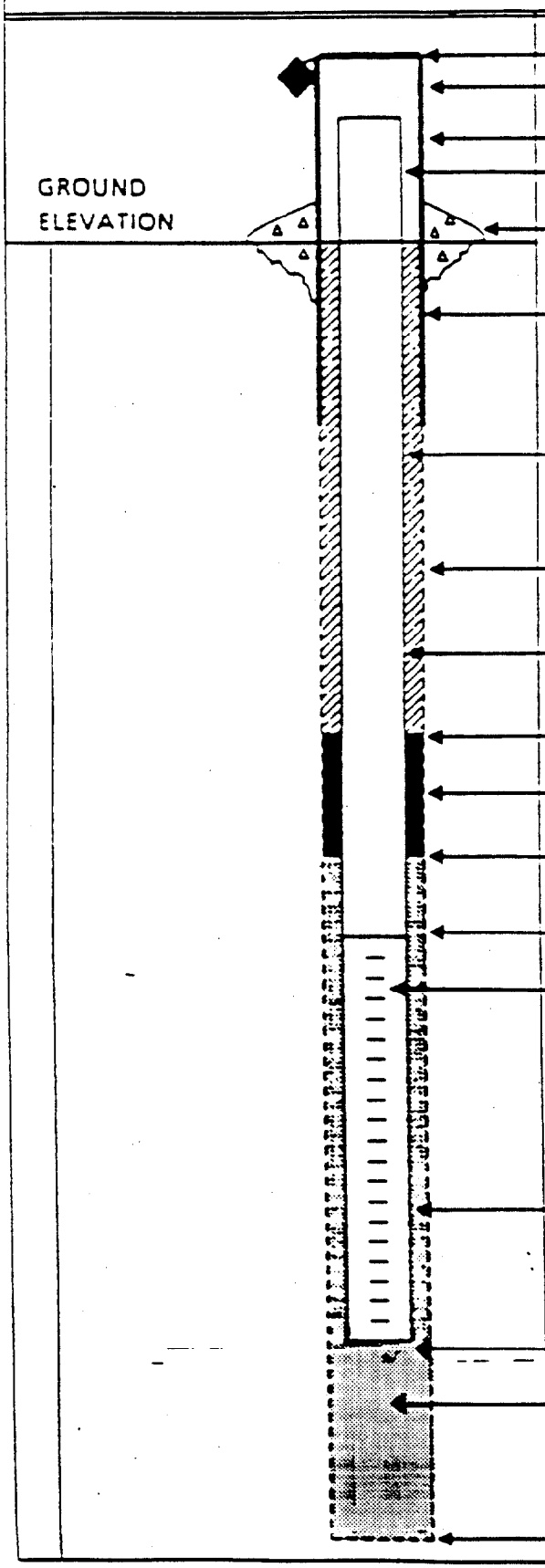
BORING NO. NP-MW01

OVERBURDEN
MONITORING WELL SHEET

PROJECT: NWIRP - Calverton
PROJECT NO.: 0206
ELEVATION:
FIELD GEOLOGIST: Paul Davis

LOCATION: Calverton, N.Y.
BORING: NP-mw01
DATE: 6-27-94

DRILLER: ADT
DRILLING METHOD: HSA
DEVELOPMENT METHOD: Submersible Pump



ELEVATION OF TOP OF SURFACE CASING: 79.03
ELEVATION OF TOP OF RISER PIPE: 78.75
STICK - UP TOP OF SURFACE CASING: + 2.5' GS
STICK - UP RISER PIPE: +2.21' GS
TYPE OF SURFACE SEAL: Cement
I.D. OF SURFACE CASING: 6"
TYPE OF SURFACE CASING: Steel
RISER PIPE I.D.: 4"
TYPE OF RISER PIPE: Bedrock Enterprises, Inc. PVC Schedule 40
BOREHOLE DIAMETER: 11"
TYPE OF BACKFILL: Cement/grout
ELEVATION / DEPTH TOP OF SEAL: -36' GS
TYPE OF SEAL: Bentonite Pellets
DEPTH TOP OF SAND PACK: -38' GS
ELEVATION / DEPTH TOP OF SCREEN: -40' GS
TYPE OF SCREEN: PVC (schedule 40)
SLOT SIZE x LENGTH: .020" x 10'
I.D. OF SCREEN: 4"
TYPE OF SAND PACK: #2 morie Sand
ELEVATION / DEPTH BOTTOM OF SCREEN: -50' GS
ELEVATION / DEPTH BOTTOM OF SAND PACK: -50' GS
TYPE OF BACKFILL BELOW OBSERVATION WELL: Undisturbed natural material
ELEVATION / DEPTH OF HOLE: -50' GS

HALLIBURTON NUS
Environmental Corporation

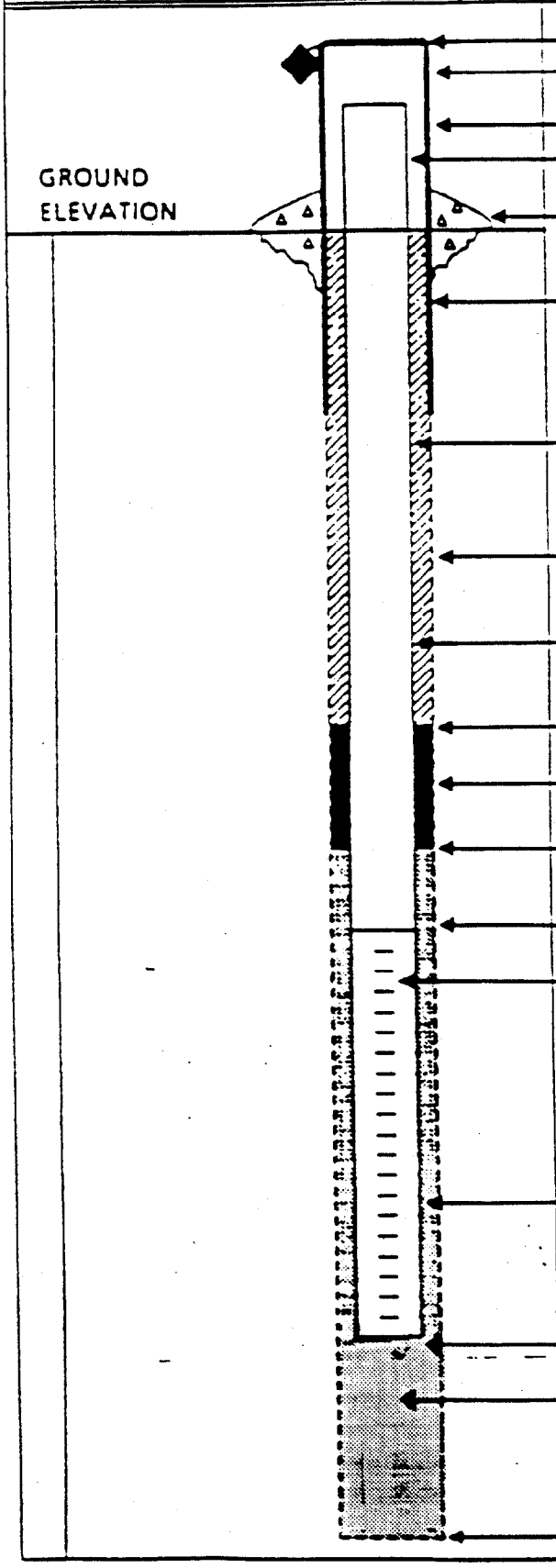
BORING NO NP-MW02

OVERBURDEN
MONITORING WELL SHEET

PROJECT NWIRP- Calverton
PROJECT NO. 0206
ELEVATION
FIELD GEOLOGIST Paul Davis

LOCATION Calverton, N.Y
BORING NP-MW02
DATE 6-28-94

DRILLER ADT
DRILLING METHOD HSA
DEVELOPMENT METHOD Submersible Pump



ELEVATION OF TOP OF SURFACE CASING: 52.72
ELEVATION OF TOP OF RISER PIPE: 52.34

STICK - UP TOP OF SURFACE CASING: +2.42' GS
STICK - UP RISER PIPE: +2.04' GS

TYPE OF SURFACE SEAL: Cement

I.D. OF SURFACE CASING: 6"
TYPE OF SURFACE CASING: Steel

RISER PIPE I.D. 4"
TYPE OF RISER PIPE: Bedrock Enterprizes, Inc. PVC Schedule 40

BOREHOLE DIAMETER: 11"

TYPE OF BACKFILL: Cement / grout

ELEVATION / DEPTH TOP OF SEAL: -10' GS

TYPE OF SEAL: Bentonite Pellets

DEPTH TOP OF SAND PACK: -13' GS

ELEVATION / DEPTH TOP OF SCREEN: -15' GS

TYPE OF SCREEN: PVC Schedule 40

SLOT SIZE x LENGTH: .020" x 10'

I.D. OF SCREEN: 4"

TYPE OF SAND PACK: #2 morie Sand

ELEVATION / DEPTH BOTTOM OF SCREEN: -25' GS

ELEVATION / DEPTH BOTTOM OF SAND PACK: -25.5'

TYPE OF BACKFILL BELOW OBSERVATION WELL: morie #2 Sand and undisturbed material

ELEVATION / DEPTH OF HOLE: -25.5' GS

HALLIBURTON NUS
Environmental Corporation

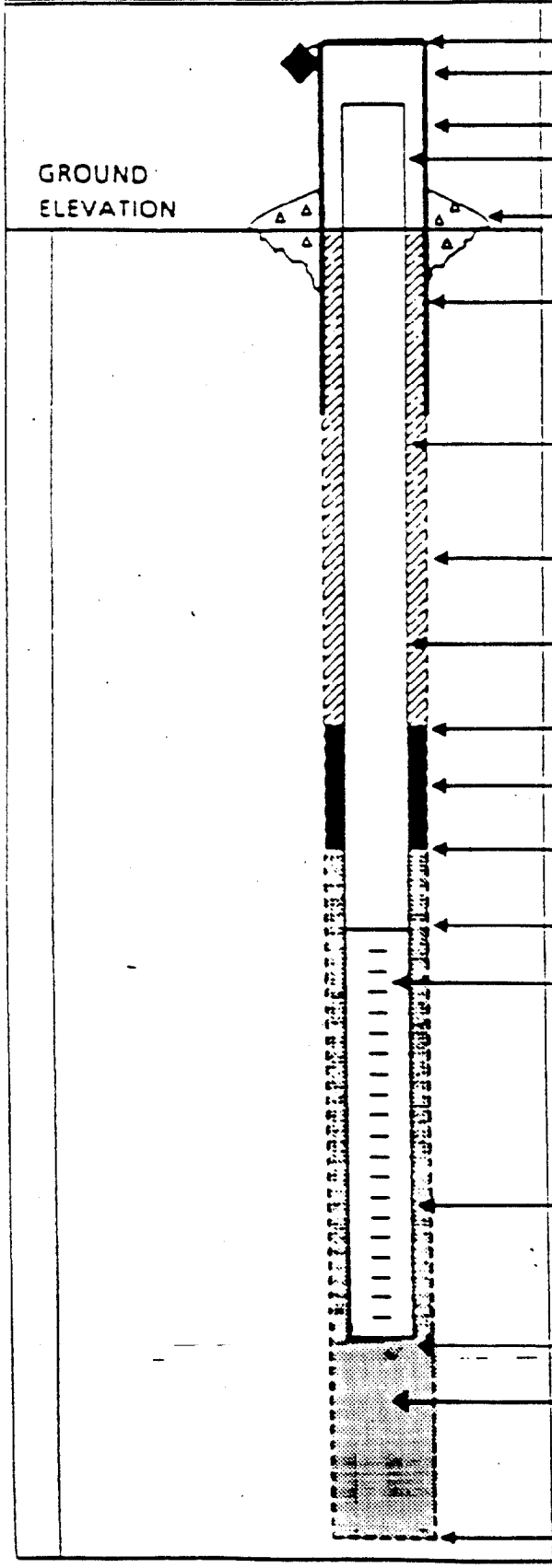
BORING NO NP-MW03

OVERBURDEN MONITORING WELL SHEET

PROJECT NWIRP-Calverton
PROJECT NO. 0206
ELEVATION
FIELD GEOLOGIST Paul Davis

LOCATION Calverton, N.Y
BORING NP-MW03
DATE 6-28-94

DRILLER ADT
DRILLING METHOD HSA
DEVELOPMENT METHOD Submersible Pump



ELEVATION OF TOP OF SURFACE CASING: 50.69
ELEVATION OF TOP OF RISER PIPE: 50.41
STICK - UP TOP OF SURFACE CASING: + 2.37' GS
STICK - UP RISER PIPE: + 2.08' GS
TYPE OF SURFACE SEAL: Cement
I.D. OF SURFACE CASING: 6"
TYPE OF SURFACE CASING: Steel
RISER PIPE I.D. 4"
TYPE OF RISER PIPE: Bedrock Enterprizes, Inc. PVC Schedule 40
BOREHOLE DIAMETER: 11"
TYPE OF BACKFILL: Cement / grout
ELEVATION / DEPTH TOP OF SEAL: -9.0' GS
TYPE OF SEAL: Bentonite Pellets
DEPTH TOP OF SAND PACK: -11' GS
ELEVATION / DEPTH TOP OF SCREEN: -13' GS
TYPE OF SCREEN: PVC - Schedule 40
SLOT SIZE x LENGTH: .020" x 10'
I.D. OF SCREEN: 4"
TYPE OF SAND PACK: #2 morie Sand
ELEVATION / DEPTH BOTTOM OF SCREEN: -23' GS
ELEVATION / DEPTH BOTTOM OF SAND PACK: -23.5' GS
TYPE OF BACKFILL BELOW OBSERVATION WELL: #2 morie Sand & undisturbed material
ELEVATION / DEPTH OF HOLE: -23.5' GS

HALLIBURTON NUS
Environmental Corporation

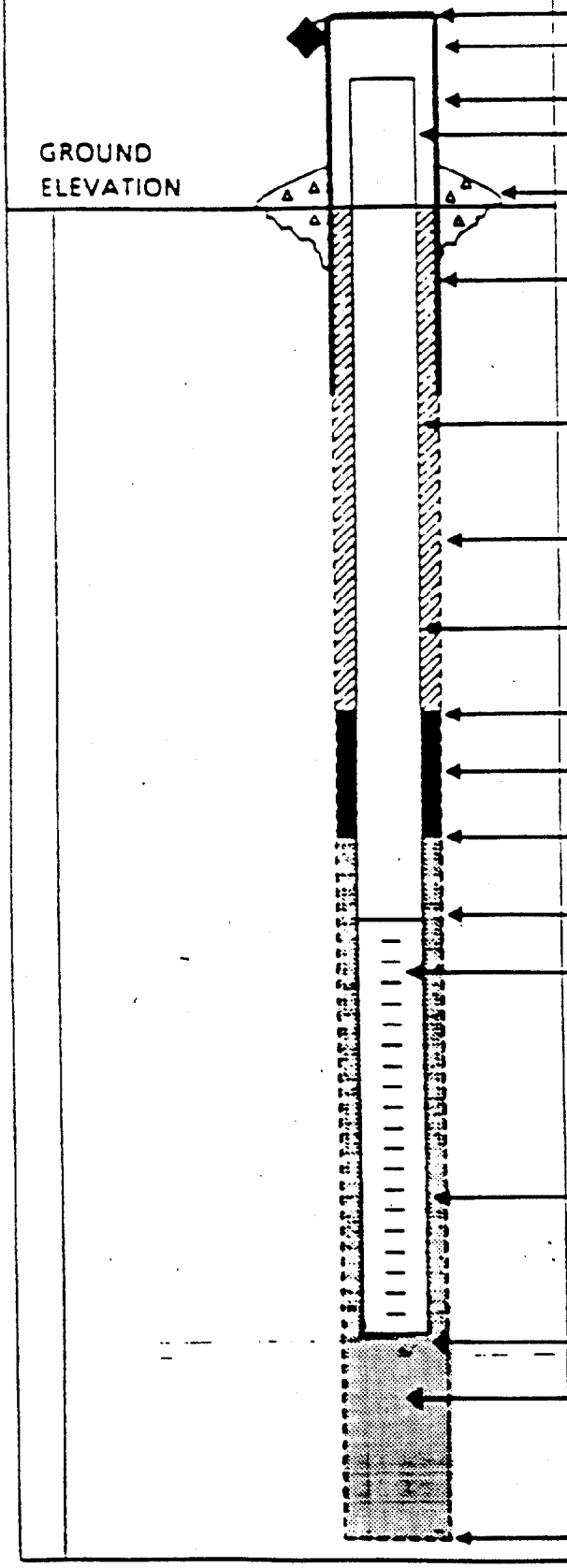
BORING NO NP-MW04

OVERBURDEN
MONITORING WELL SHEET

PROJECT NWIRP- Calverton
PROJECT NO. 0206
ELEVATION
FIELD GEOLOGIST Paul Davis

LOCATION Calverton, N.Y
BORING NP-MW04
DATE 6-27-94

DRILLER AOT
DRILLING METHOD HSA
DEVELOPMENT METHOD Submersible Pump



ELEVATION OF TOP OF SURFACE CASING: 75.38
ELEVATION OF TOP OF RISER PIPE: 74.49
STICK - UP TOP OF SURFACE CASING: + 3.25' GS
STICK - UP RISER PIPE: + 2.33' GS
TYPE OF SURFACE SEAL: Cement
I.D. OF SURFACE CASING: 6"
TYPE OF SURFACE CASING: Steel
RISER PIPE I.D. 4"
TYPE OF RISER PIPE: Bedrock Enterprizes, Inc. PVC - Schedule 40
BOREHOLE DIAMETER: 11"
TYPE OF BACKFILL: Cement / grout
ELEVATION / DEPTH TOP OF SEAL: -31' GS
TYPE OF SEAL: Bentonite Pellets
DEPTH TOP OF SAND PACK: -33' GS
ELEVATION / DEPTH TOP OF SCREEN: -35' GS
TYPE OF SCREEN: PVC - Schedule 40
SLOT SIZE x LENGTH: .020" x 10'
I.D. OF SCREEN: 4"
TYPE OF SAND PACK: # 2 morie Sand
ELEVATION / DEPTH BOTTOM OF SCREEN: -45' GS
ELEVATION / DEPTH BOTTOM OF SAND PACK: -45.5' GS
TYPE OF BACKFILL BELOW OBSERVATION WELL: Un #2 morie Sand and Undisturbed natural material
ELEVATION / DEPTH OF HOLE: -45.5' GS

HALLIBURTON NUS
Environmental Corporation

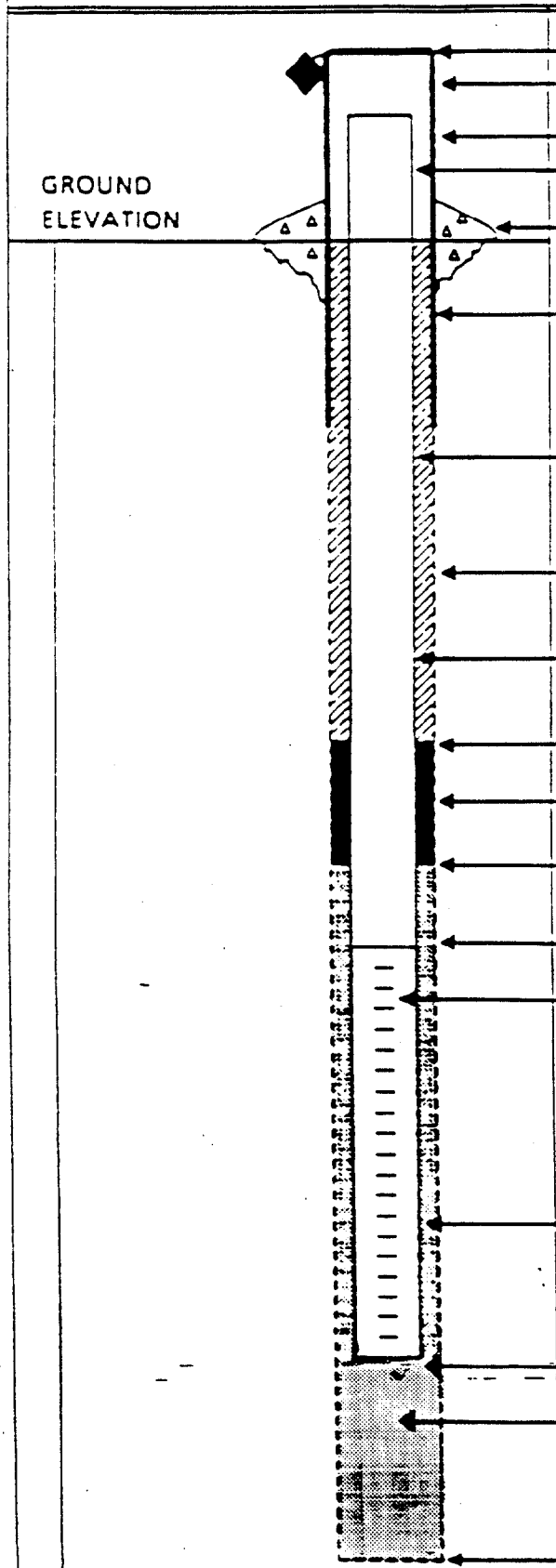
BORING NO. FT-MW01

OVERBURDEN MONITORING WELL SHEET

PROJECT: NWIRP-Calverton
PROJECT NO.: 0206
ELEVATION:
FIELD GEOLOGIST: Paul Davis

LOCATION: Calverton, NY.
BORING: FT-MW01-S
DATE: 6-30-94

DRILLER: ADT
DRILLING METHOD: HSA
DEVELOPMENT METHOD: Submersible Pump



ELEVATION OF TOP OF SURFACE CASING: 64.52
ELEVATION OF TOP OF RISER PIPE: 64.16
STICK - UP TOP OF SURFACE CASING: +2.37' GS
STICK - UP RISER PIPE: +2.02' GS
TYPE OF SURFACE SEAL: Cement
I.D. OF SURFACE CASING: 6"
TYPE OF SURFACE CASING: Steel
RISER PIPE I.D.: 4"
TYPE OF RISER PIPE: Bedrock Enterprizes, Inc. PVC - Schedule 40
BOREHOLE DIAMETER: 11"
TYPE OF BACKFILL: Cement / grout
ELEVATION / DEPTH TOP OF SEAL: -12' GS
TYPE OF SEAL: Bentonite Pellets
DEPTH TOP OF SAND PACK: -14' GS
ELEVATION / DEPTH TOP OF SCREEN: -18' GS
TYPE OF SCREEN: PVC - Schedule 40
SLOT SIZE x LENGTH: .020" x 10'
I.D. OF SCREEN: 4"
TYPE OF SAND PACK: #2 morie Sand
ELEVATION / DEPTH BOTTOM OF SCREEN: -28' GS
ELEVATION / DEPTH BOTTOM OF SAND PACK: -28.5' GS
TYPE OF BACKFILL BELOW OBSERVATION WELL: #2 morie Sand & undisturbed natural material
ELEVATION / DEPTH OF HOLE: -28.5' GS

HALLIBURTON NUS
Environmental Corporation

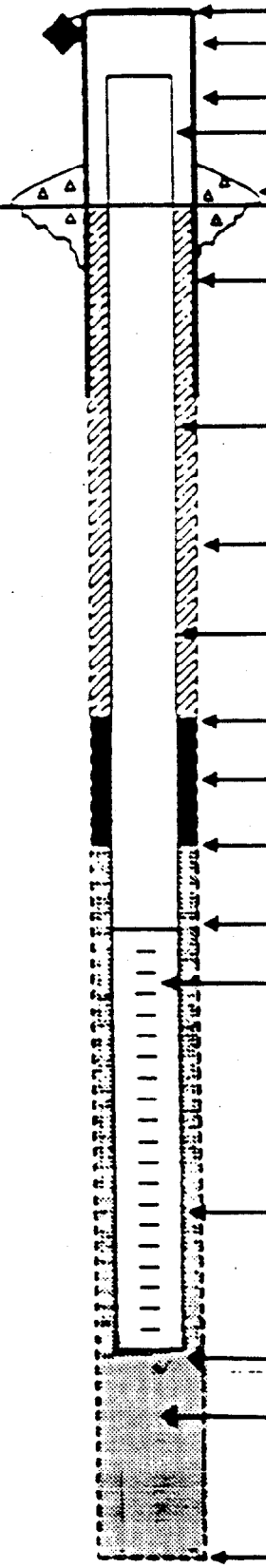
BORING NO FT-MW01

OVERBURDEN MONITORING WELL SHEET

PROJECT NWIRP, Calverton
PROJECT NO. 0206
ELEVATION
FIELD GEOLOGIST M. Mengel & T. Rojahn

LOCATION Calverton, NY.
BORING FT-MW01-I
DATE 7-13-94

DRILLER ADT
DRILLING METHOD HSA
DEVELOPMENT METHOD Submersible Pump



ELEVATION OF TOP OF SURFACE CASING: 64.16
ELEVATION OF TOP OF RISER PIPE: 63.88

STICK - UP TOP OF SURFACE CASING: + 2.08' GS
STICK - UP RISER PIPE: + 1.79' GS

TYPE OF SURFACE SEAL: Cement

I.D. OF SURFACE CASING: 6"
TYPE OF SURFACE CASING: Steel

RISER PIPE I.D. 4"
TYPE OF RISER PIPE: Bedrock Enterprizes, Inc. PVC - Schedule 40

BOREHOLE DIAMETER: 11"

TYPE OF BACKFILL: Cement / grout

ELEVATION / DEPTH TOP OF SEAL: -59' GS

TYPE OF SEAL: Bentonite Pellets

DEPTH TOP OF SAND PACK: -64' GS

ELEVATION / DEPTH TOP OF SCREEN: -68' GS

TYPE OF SCREEN: PVC - Schedule 40

SLOT SIZE x LENGTH: .020" x 10'

I.D. OF SCREEN: 4"

TYPE OF SAND PACK: #2 morie Sand

ELEVATION / DEPTH BOTTOM OF SCREEN: -78' GS

ELEVATION / DEPTH BOTTOM OF SAND PACK: -78' GS

TYPE OF BACKFILL BELOW OBSERVATION WELL: Undisturbed natural material

ELEVATION / DEPTH OF HOLE: -78' GS

HALLIBURTON NUS
Environmental Corporation

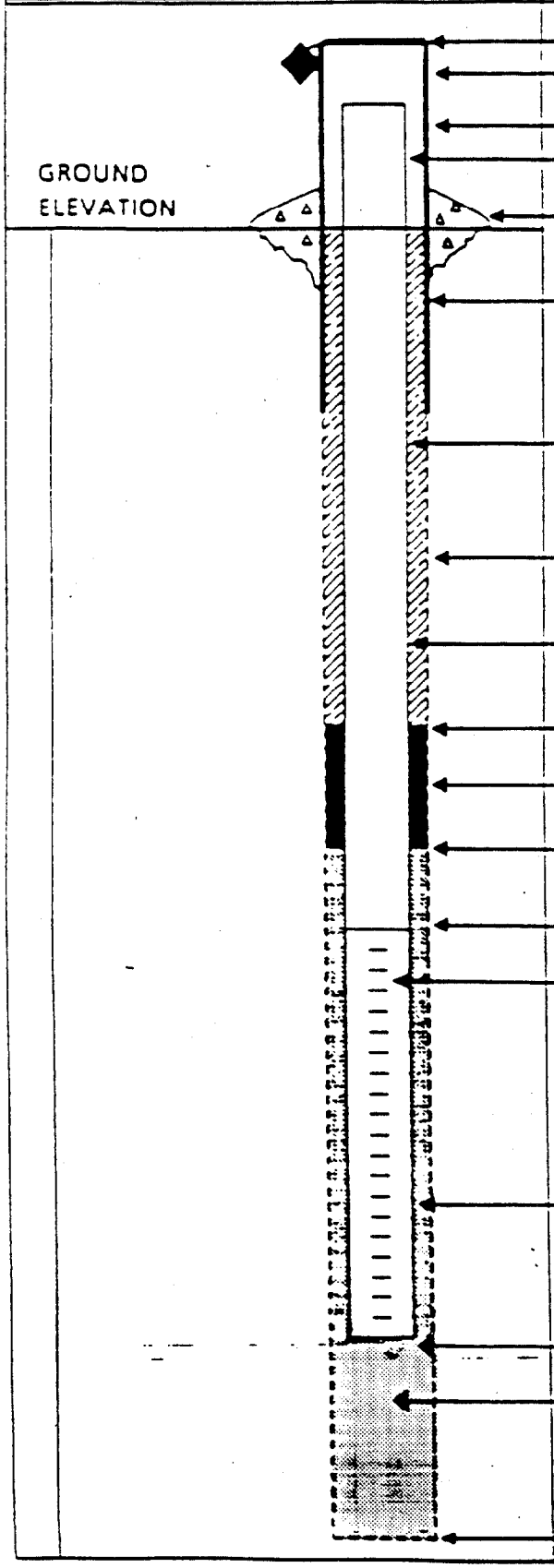
BORING NO. [illegible]

OVERBURDEN MONITORING WELL SHEET

PROJECT: NWIRP- Calverton
PROJECT NO.: 0206
ELEVATION:
FIELD GEOLOGIST: Paul Davis

LOCATION: Calverton, NY.
BORING: FT-MW02-S
DATE: 7-05-94

DRILLER: ADT
DRILLING METHOD: HSA
DEVELOPMENT METHOD: Submersible Pump



ELEVATION OF TOP OF SURFACE CASING: 55.98
ELEVATION OF TOP OF RISER PIPE: 55.47
STICK - UP TOP OF SURFACE CASING: +2.67' GS
STICK - UP RISER PIPE: +2.15' GS
TYPE OF SURFACE SEAL: Cement
I.D. OF SURFACE CASING: 6"
TYPE OF SURFACE CASING: Steel
RISER PIPE I.D. 4"
TYPE OF RISER PIPE: Bedrock Enterprises, Inc. PVC- Schedule 40
BOREHOLE DIAMETER: 11"
TYPE OF BACKFILL: Cement / grout
ELEVATION / DEPTH TOP OF SEAL: -6' GS
TYPE OF SEAL: Bentonite Pellets
DEPTH TOP OF SAND PACK: -8' GS
ELEVATION / DEPTH TOP OF SCREEN: -10' GS
TYPE OF SCREEN: PVC - Schedule 40
SLOT SIZE x LENGTH: .020" x 10'
I.D. OF SCREEN: 4"
TYPE OF SAND PACK: #2 morie Sand
ELEVATION / DEPTH BOTTOM OF SCREEN: -20' GS
ELEVATION / DEPTH BOTTOM OF SAND PACK: -20.5' GS
TYPE OF BACKFILL BELOW OBSERVATION WELL: #2 morie Sand & undisturbed natural material
ELEVATION / DEPTH OF HOLE: -20.5' GS

HALLIBURTON NUS
Environmental Corporation

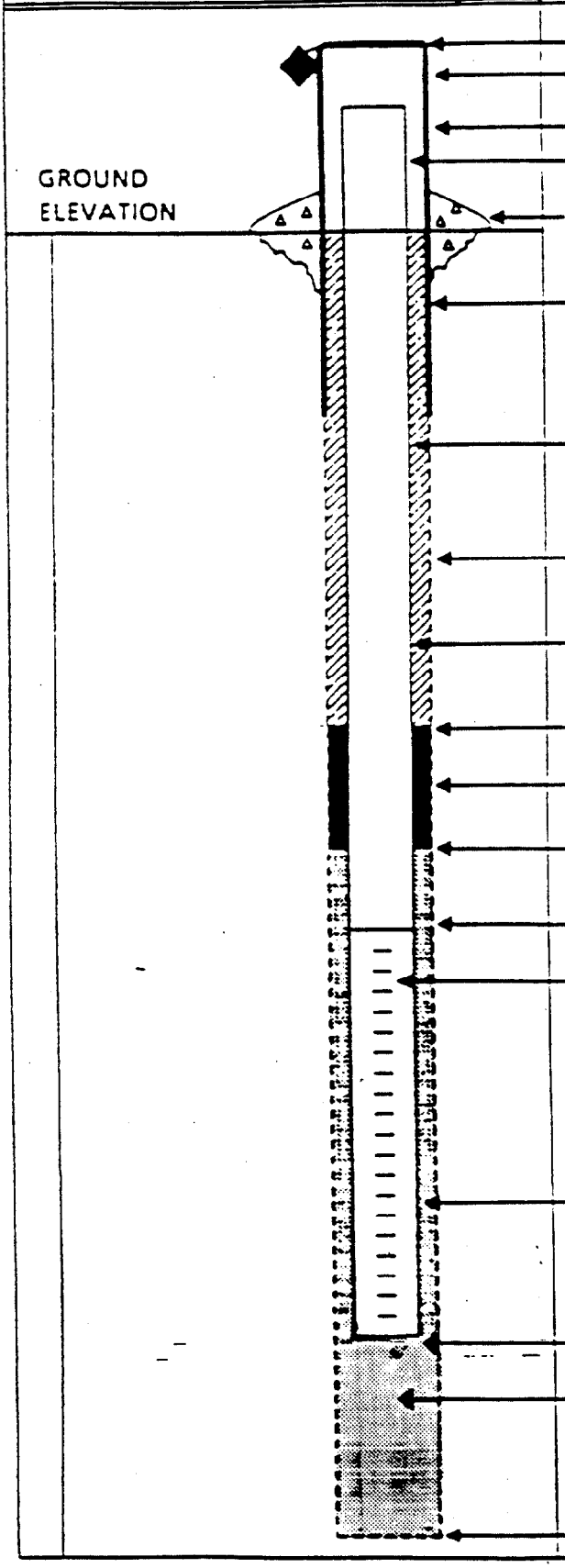
BORING NO. FT-MW02

OVERBURDEN MONITORING WELL SHEET

PROJECT: NWIRP-Calverton
PROJECT NO.: 0206
ELEVATION:
FIELD GEOLOGIST: Paul Davis

LOCATION: Calverton, NY
BORING: FT-MW02-I
DATE: 7-20-94

DRILLER: ADT
DRILLING METHOD: HSA
DEVELOPMENT METHOD: Submersible pump



ELEVATION OF TOP OF SURFACE CASING: 55.89
ELEVATION OF TOP OF RISER PIPE: 55.57
STICK - UP TOP OF SURFACE CASING: + 2.62' GS
STICK - UP RISER PIPE: + 2.29' GS
TYPE OF SURFACE SEAL: Cement
I.D. OF SURFACE CASING: 6"
TYPE OF SURFACE CASING: Steel
RISER PIPE I.D. 4"
TYPE OF RISER PIPE: Bedrock Enterprizes, Inc. PVC - Schedule 40
BOREHOLE DIAMETER: 11"
TYPE OF BACKFILL: Cement / grout
ELEVATION / DEPTH TOP OF SEAL: -49' GS
TYPE OF SEAL: Bentonite Pellets
DEPTH TOP OF SAND PACK: -52' GS
ELEVATION / DEPTH TOP OF SCREEN: -58' GS
TYPE OF SCREEN: PVC - Schedule 40
SLOT SIZE x LENGTH: .020" x 10'
I.D. OF SCREEN: 4"
TYPE OF SAND PACK: #2 morie Sand
ELEVATION / DEPTH BOTTOM OF SCREEN: -68' GS
ELEVATION / DEPTH BOTTOM OF SAND PACK: -68.5'
TYPE OF BACKFILL BELOW OBSERVATION WELL: Collapsed natural material
ELEVATION / DEPTH OF HOLE: -80' GS

HALLIBURTON NUS
Environmental Corporation

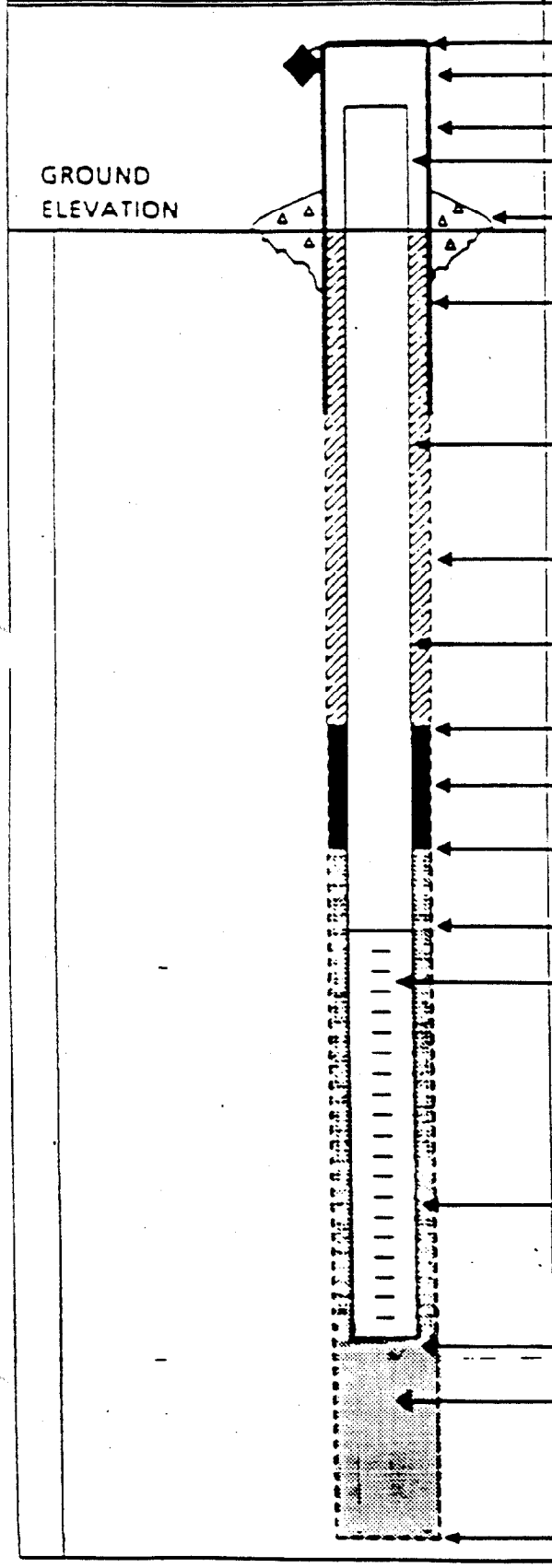
BORING NO. FT-MW03-S

OVERBURDEN
MONITORING WELL SHEET

PROJECT: NWIRP- Calverton
PROJECT NO.: 0206
ELEVATION:
FIELD GEOLOGIST: Paul Davis

LOCATION: Calverton, NY
BORING: FT- MW03 -S
DATE: 6-30-94

DRILLER: ADT
DRILLING METHOD: HSA
DEVELOPMENT METHOD: Submersible Pump



ELEVATION OF TOP OF SURFACE CASING: 67.01
ELEVATION OF TOP OF RISER PIPE: 66.87
STICK - UP TOP OF SURFACE CASING: +2.63'
STICK - UP RISER PIPE: +2.46'
TYPE OF SURFACE SEAL: Cement
I.D. OF SURFACE CASING: 6"
TYPE OF SURFACE CASING: Steel
RISER PIPE I.D. 4"
TYPE OF RISER PIPE: Bedrock Enterprizes, Inc. PVC - Schedule 40
BOREHOLE DIAMETER: 11"
TYPE OF BACKFILL: Cement/grout
ELEVATION/DEPTH TOP OF SEAL: -17' GS
TYPE OF SEAL: Bentonite Pellets
DEPTH TOP OF SAND PACK: -19' GS
ELEVATION/DEPTH TOP OF SCREEN: -21' GS
TYPE OF SCREEN: PVC - Schedule 40
SLOT SIZE x LENGTH: .020" x 10'
I.D. OF SCREEN: 4"
TYPE OF SAND PACK: #2 morie Sand
ELEVATION/DEPTH BOTTOM OF SCREEN: -31' GS
ELEVATION/DEPTH BOTTOM OF SAND PACK: -31.5' GS
TYPE OF BACKFILL BELOW OBSERVATION WELL: #2 morie Sand & undisturbed natural material
ELEVATION/DEPTH OF HOLE: -31.5' GS

HALLIBURTON NUS
Environmental Corporation

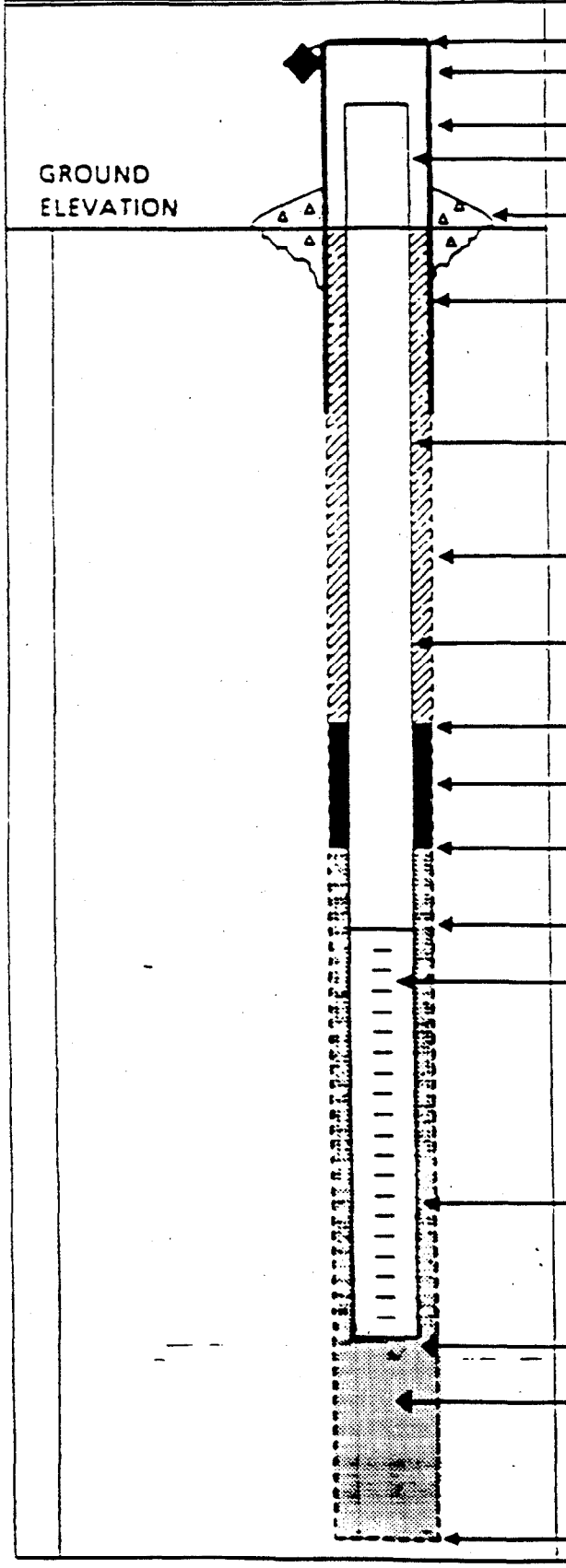
BORING NO. FT-MW04-S

OVERBURDEN
MONITORING WELL SHEET

PROJECT: NWIRP- Calverton
PROJECT NO.: 0206
ELEVATION:
FIELD GEOLOGIST: Paul Davis

LOCATION: Calverton, N.Y.
BORING: FT-mw04-S
DATE: 7-01-94

DRILLER: ADT
DRILLING METHOD: HSA
DEVELOPMENT METHOD: Submersible Pump



ELEVATION OF TOP OF SURFACE CASING: 62.58
ELEVATION OF TOP OF RISER PIPE: 61.33

STICK - UP TOP OF SURFACE CASING: + 2.67'
STICK - UP RISER PIPE: + 1.42'

TYPE OF SURFACE SEAL: Cement

I.D. OF SURFACE CASING: 6"
TYPE OF SURFACE CASING: Steel

RISER PIPE I.D. 4"
TYPE OF RISER PIPE: Bedrock Enterprizes, Inc. PVC - Schedule 40

BOREHOLE DIAMETER: 11"

TYPE OF BACKFILL: Cement / grout

ELEVATION / DEPTH TOP OF SEAL: -12' GS

TYPE OF SEAL: Bentonite Pellets

DEPTH TOP OF SAND PACK: -14' GS

ELEVATION / DEPTH TOP OF SCREEN: -16.5' GS

TYPE OF SCREEN: PVC- Schedule 40

SLOT SIZE x LENGTH: .020" x 10'

I.D. OF SCREEN: 4"

TYPE OF SAND PACK: # 2 morie sand

ELEVATION / DEPTH BOTTOM OF SCREEN: -26.5' GS

ELEVATION / DEPTH BOTTOM OF SAND PACK: -27' G

TYPE OF BACKFILL BELOW OBSERVATION WELL: # 2 morie Sand

ELEVATION / DEPTH OF HOLE: -27' GS

HALLIBURTON NUS
Environmental Corporation

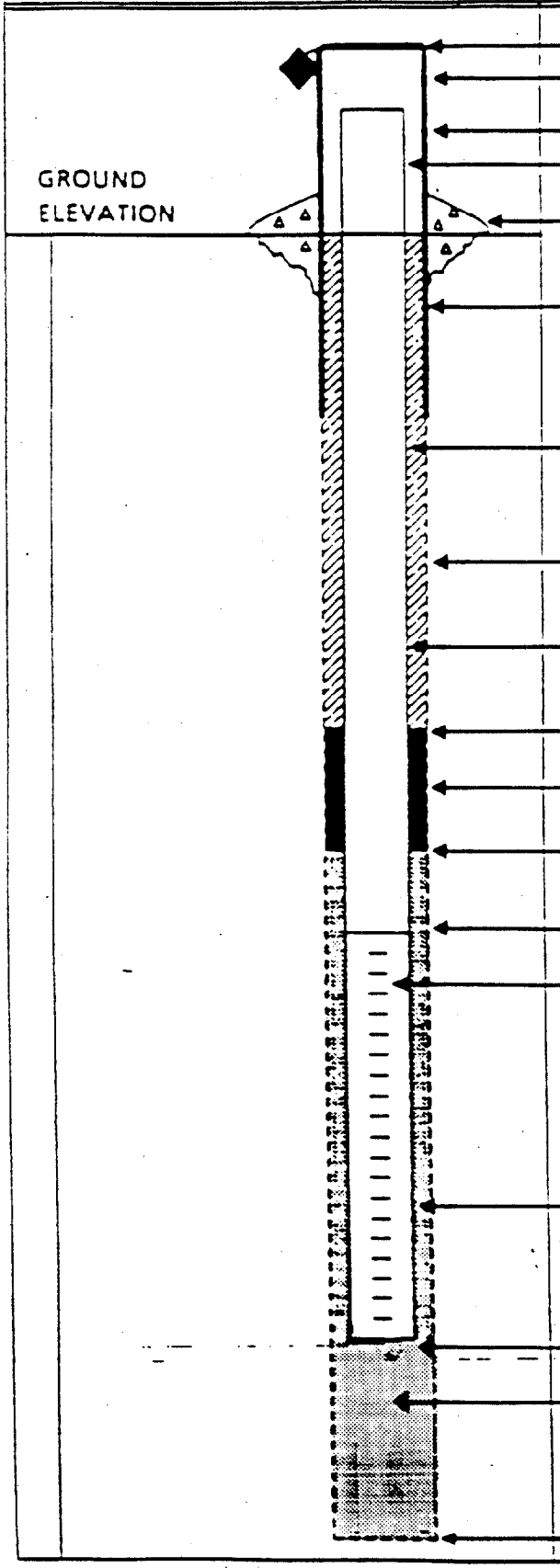
BORING NO. _____

OVERBURDEN
MONITORING WELL SHEET

PROJECT: NWIRP- Calverton
PROJECT NO.: 0206
ELEVATION: _____
FIELD GEOLOGIST: Paul Davis

LOCATION: Calverton, NY.
BORING: FT- MW05-S
DATE: 7-07-94

DRILLER: ADT
DRILLING METHOD: HSA
DEVELOPMENT METHOD: Submersible Pump



ELEVATION OF TOP OF SURFACE CASING: 51.84
ELEVATION OF TOP OF RISER PIPE: 51.48
STICK - UP TOP OF SURFACE CASING: + 2.42'
STICK - UP RISER PIPE: + 2.04'
TYPE OF SURFACE SEAL: Cement
I.D. OF SURFACE CASING: 6"
TYPE OF SURFACE CASING: Steel
RISER PIPE I.D.: 4"
TYPE OF RISER PIPE: Bedrock Enterprizes, Inc, PVC - Schedule 40
BOREHOLE DIAMETER: 11"
TYPE OF BACKFILL: Cement / grout
ELEVATION / DEPTH TOP OF SEAL: -3' GS
TYPE OF SEAL: Bentonite Pellets
DEPTH TOP OF SAND PACK: -5' GS
ELEVATION / DEPTH TOP OF SCREEN: -7.5' GS
TYPE OF SCREEN: PVC - Schedule 40
SLOT SIZE x LENGTH: .020" x 10'
I.D. OF SCREEN: 4"
TYPE OF SAND PACK: #2 morie Sand
ELEVATION / DEPTH BOTTOM OF SCREEN: -17.5' GS
ELEVATION / DEPTH BOTTOM OF SAND PACK: -18' GS
TYPE OF BACKFILL BELOW OBSERVATION WELL: #2 morie Sand
ELEVATION / DEPTH OF HOLE: -18' GS

HALLIBURTON NUS
Environmental Corporation

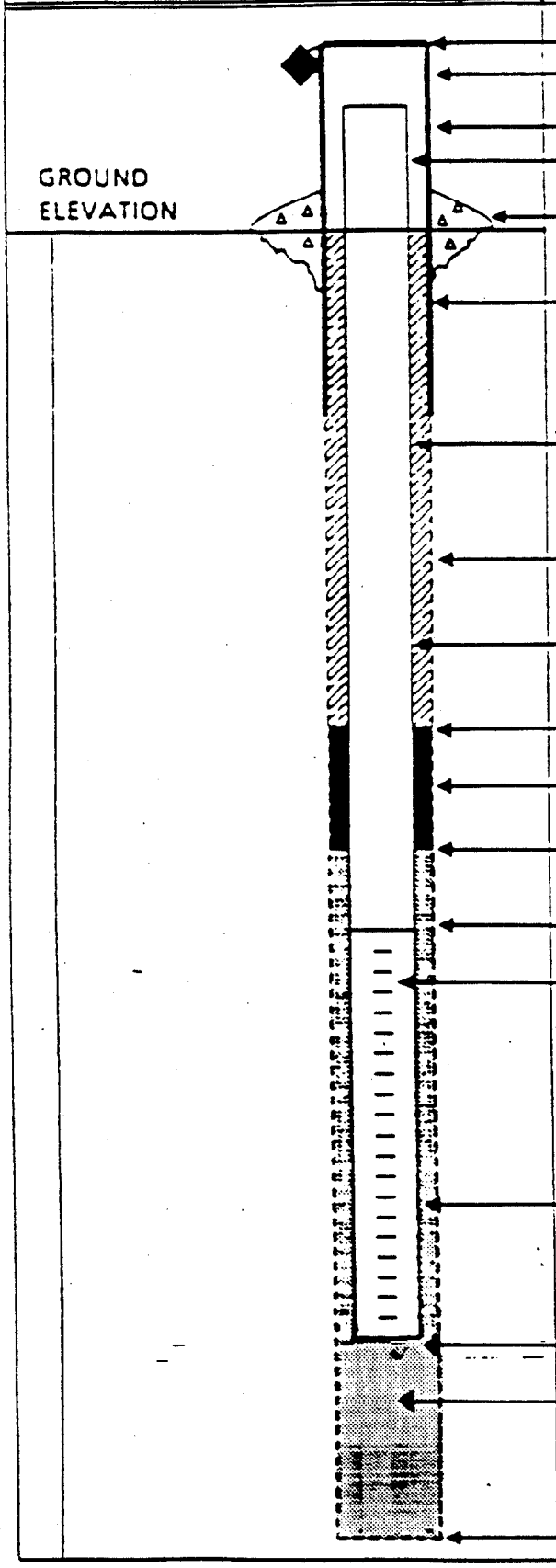
BORING NO. FT-MW05-I

OVERBURDEN
MONITORING WELL SHEET

PROJECT: NWIRP- Calverton
PROJECT NO.: 0206
ELEVATION:
FIELD GEOLOGIST: Paul Davis

LOCATION: Calverton, N.Y
BORING: FT- MW05-I
DATE: 7-19-94

DRILLER: ADT
DRILLING METHOD: HSA
DEVELOPMENT METHOD: Submersible Pump



ELEVATION OF TOP OF SURFACE CASING: 52.47
ELEVATION OF TOP OF RISER PIPE: 51.92
STICK - UP TOP OF SURFACE CASING: +2.58'
STICK - UP RISER PIPE: +2.02'
TYPE OF SURFACE SEAL: Cement
I.D. OF SURFACE CASING: 6"
TYPE OF SURFACE CASING: Steel
RISER PIPE I.D. 4"
TYPE OF RISER PIPE: Bedrock Enterprizes, inc. PVC - Schedule 40
BOREHOLE DIAMETER: 11"
TYPE OF BACKFILL: Cement / grout
ELEVATION / DEPTH TOP OF SEAL: -41' GS
TYPE OF SEAL: Bentonite Pellets
DEPTH TOP OF SAND PACK: -43' GS
ELEVATION / DEPTH TOP OF SCREEN: -48' GS
TYPE OF SCREEN: PVC - Schedule 40
SLOT SIZE x LENGTH: .020" x 10'
I.D. OF SCREEN: 4"
TYPE OF SAND PACK: # 2 morie Sand
ELEVATION / DEPTH BOTTOM OF SCREEN: -58' GS
ELEVATION / DEPTH BOTTOM OF SAND PACK: -58.5'
TYPE OF BACKFILL BELOW OBSERVATION WELL: #2 morie Sand and Collapsed natural material
ELEVATION / DEPTH OF HOLE: -80' GS

HALLIBURTON NUS
Environmental Corporation

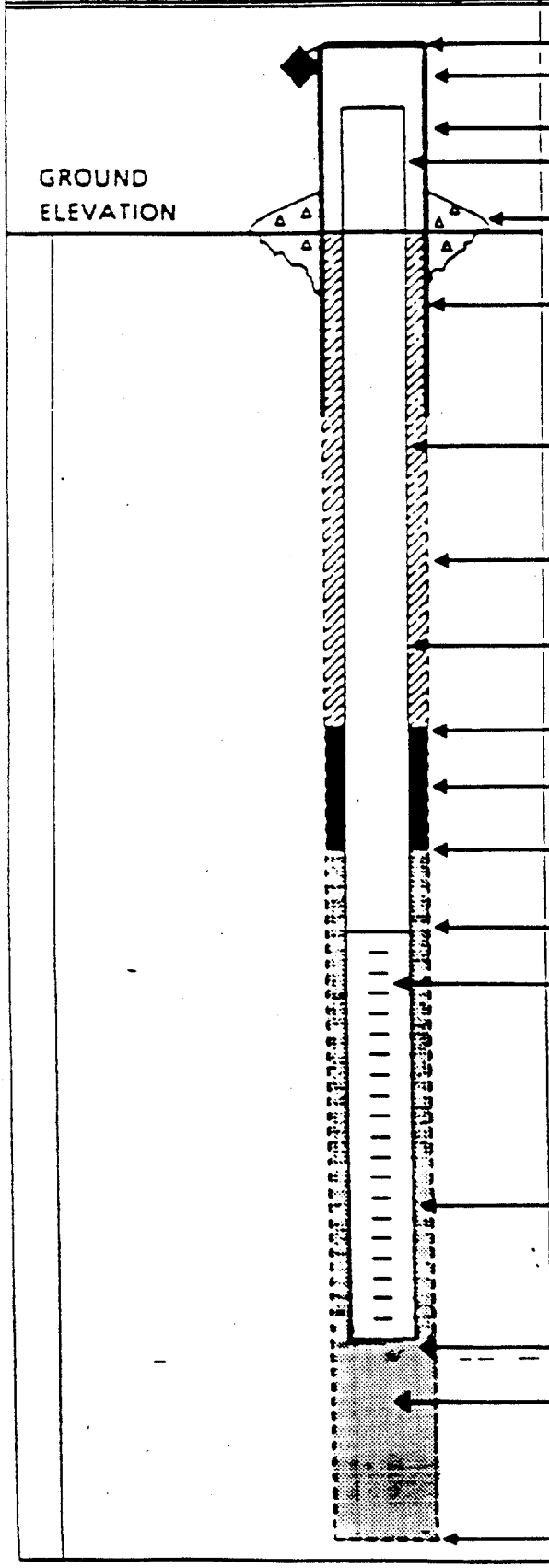
BORING NO. [illegible]

OVERBURDEN MONITORING WELL SHEET

PROJECT: NWIRP - Calverton
PROJECT NO.: 0206
ELEVATION:
FIELD GEOLOGIST: Paul Davis

LOCATION: Calverton, N.Y.
BORING: FT-MW06-S
DATE: 7-07-94

DRILLER: ADT
DRILLING METHOD: HSA
DEVELOPMENT METHOD: Submersible Pump



ELEVATION OF TOP OF SURFACE CASING: 61.63
ELEVATION OF TOP OF RISER PIPE: 61.26
STICK - UP TOP OF SURFACE CASING: + 2.16'
STICK - UP RISER PIPE: + 1.84'
TYPE OF SURFACE SEAL: Cement
I.D. OF SURFACE CASING: 6"
TYPE OF SURFACE CASING: Steel
RISER PIPE I.D.: 4"
TYPE OF RISER PIPE: Bedrock Enterprizes, inc. PVC - Schedule 40
BOREHOLE DIAMETER: 11"
TYPE OF BACKFILL: Cement grout
ELEVATION / DEPTH TOP OF SEAL: 11.5' GS
TYPE OF SEAL: Bentonite Pellets
DEPTH TOP OF SAND PACK: 14.5' GS
ELEVATION / DEPTH TOP OF SCREEN: 17' GS
TYPE OF SCREEN: PVC Schedule 40
SLOT SIZE x LENGTH: .020" x 10'
I.D. OF SCREEN: 4"
TYPE OF SAND PACK: #2 morie Sand
ELEVATION / DEPTH BOTTOM OF SCREEN: 27' GS
ELEVATION / DEPTH BOTTOM OF SAND PACK: 27.5' GS
TYPE OF BACKFILL BELOW OBSERVATION WELL: #2 morie Sand
ELEVATION / DEPTH OF HOLE: 27.5' GS

HALLIBURTON NUS
Environmental Corporation

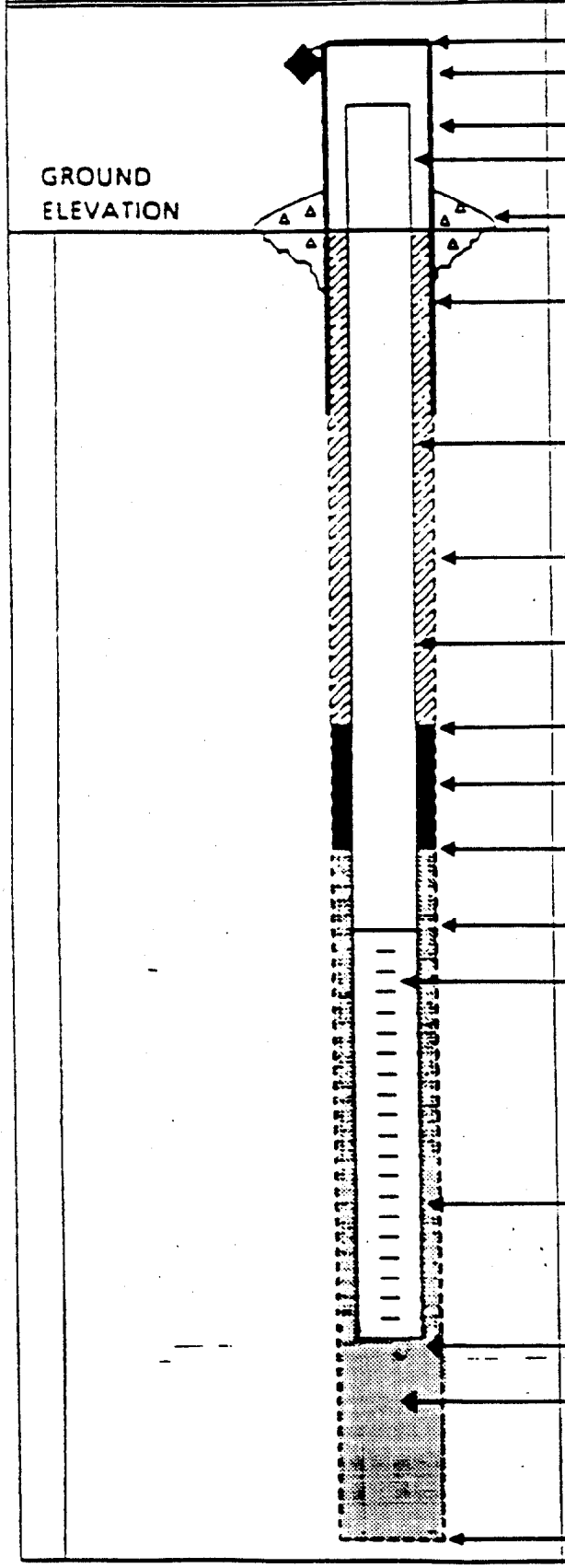
BORING NO FT-MW06-I

OVERBURDEN
MONITORING WELL SHEET

PROJECT Calverton, NWIRP
PROJECT NO. 0206
ELEVATION
FIELD GEOLOGIST T. Rojahn

LOCATION Calverton, NY
BORING FT-MW06-I
DATE 7-14-94

DRILLER ADT
DRILLING METHOD HSA
DEVELOPMENT METHOD Submersible Pump



ELEVATION OF TOP OF SURFACE CASING: 62.55
ELEVATION OF TOP OF RISER PIPE: 61.99
STICK - UP TOP OF SURFACE CASING: +2.13'
STICK - UP RISER PIPE: +1.86'
TYPE OF SURFACE SEAL: Cement
I.D. OF SURFACE CASING: 6"
TYPE OF SURFACE CASING: Steel
RISER PIPE I.D. 4"
TYPE OF RISER PIPE: Bedrock Enterprizes, Inc. PVC - Schedule 40
BOREHOLE DIAMETER: 11"
TYPE OF BACKFILL: Cement grout
ELEVATION / DEPTH TOP OF SEAL: -57' GS
TYPE OF SEAL: Bentonite Pellets
DEPTH TOP OF SAND PACK: -59' GS
ELEVATION / DEPTH TOP OF SCREEN: -65' GS
TYPE OF SCREEN: PVC - Schedule 40
SLOT SIZE x LENGTH: .020" x 10'
I.D. OF SCREEN: 4"
TYPE OF SAND PACK: #2 morie sand
ELEVATION / DEPTH BOTTOM OF SCREEN: -75' GS
ELEVATION / DEPTH BOTTOM OF SAND PACK: -75.5'
TYPE OF BACKFILL BELOW OBSERVATION WELL: #2 morie sand
ELEVATION / DEPTH OF HOLE: -75.5' GS

HALLIBURTON NUS
Environmental Corporation

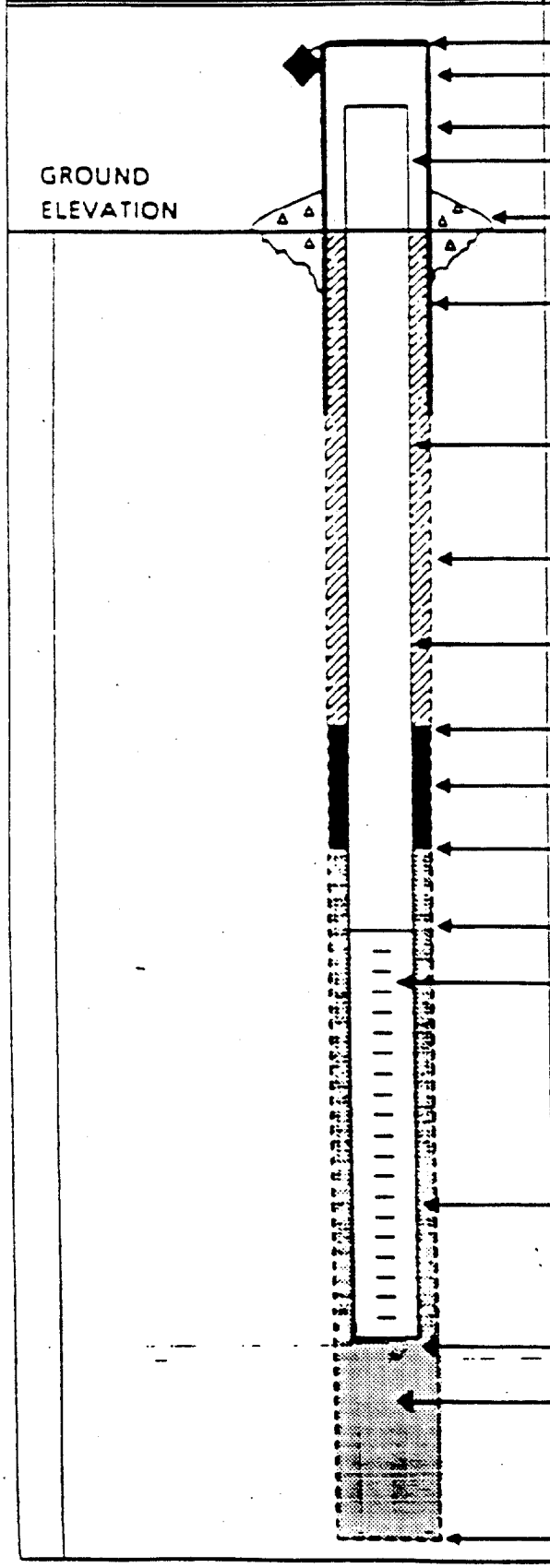
BORING NO. FT-MW07-S

OVERBURDEN MONITORING WELL SHEET

PROJECT: NWIRP- Calverton
PROJECT NO.: 0206
ELEVATION:
FIELD GEOLOGIST: Paul Davis

LOCATION: Calverton, NY
BORING: FT- MW07-S
DATE: 7-07-94

DRILLER: ADT
DRILLING METHOD: HSA
DEVELOPMENT METHOD: Submersible Pump



ELEVATION OF TOP OF SURFACE CASING: 70.61
ELEVATION OF TOP OF RISER PIPE: 70.30
STICK - UP TOP OF SURFACE CASING: +2.25'
STICK - UP RISER PIPE: +1.96'
TYPE OF SURFACE SEAL: Cement
I.D. OF SURFACE CASING: 6"
TYPE OF SURFACE CASING: Steel
RISER PIPE I.D. 4"
TYPE OF RISER PIPE: Bedrock Enterprizes, Inc. PVC - Schedule 40
BOREHOLE DIAMETER: 11"
TYPE OF BACKFILL: Cement grout
ELEVATION / DEPTH TOP OF SEAL: -17' GS
TYPE OF SEAL: Bentonite Pellets
DEPTH TOP OF SAND PACK: -21.5' GS
ELEVATION / DEPTH TOP OF SCREEN: -25' GS
TYPE OF SCREEN: PVC- Schedule 40
SLOT SIZE x LENGTH: .020" x 10'
I.D. OF SCREEN: 4"
TYPE OF SAND PACK: #2 morie Sand
ELEVATION / DEPTH BOTTOM OF SCREEN: -35' GS
ELEVATION / DEPTH BOTTOM OF SAND PACK: -35.5' GS
TYPE OF BACKFILL BELOW OBSERVATION WELL: #2 morie Sand
ELEVATION / DEPTH OF HOLE: -35.5' GS

HALLIBURTON NUS
Environmental Corporation

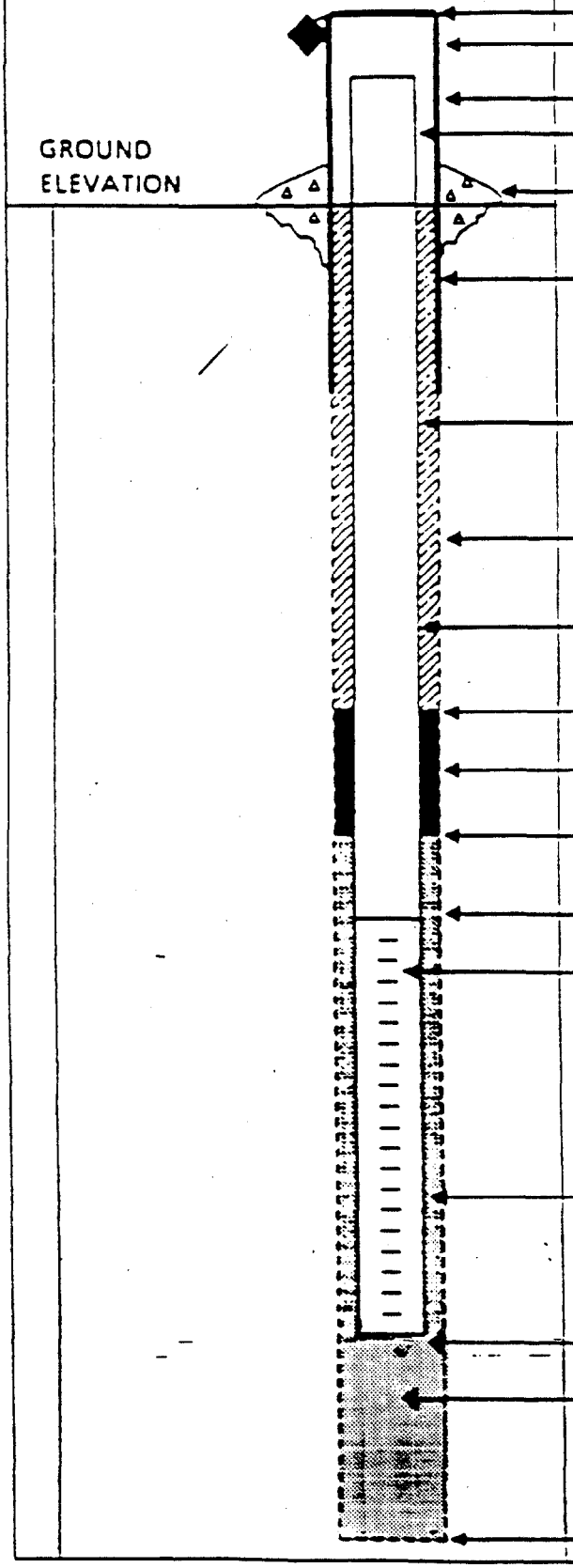
BORING NO. FC-MW01-S

OVERBURDEN
MONITORING WELL SHEET

PROJECT: NWIRP - Calverton
PROJECT NO.: 0206
ELEVATION:
FIELD GEOLOGIST: T. Rojahn

LOCATION: Calverton, NY
BORING: FC-MW01-S
DATE: 7-14-94

DRILLER: AOT
DRILLING METHOD: HSA
DEVELOPMENT METHOD: Submersible Pump



ELEVATION OF TOP OF SURFACE CASING: 49.30
ELEVATION OF TOP OF RISER PIPE: 48.56
STICK - UP TOP OF SURFACE CASING: +2.88'
STICK - UP RISER PIPE: +2.17'
TYPE OF SURFACE SEAL: Cement
I.D. OF SURFACE CASING: 6"
TYPE OF SURFACE CASING: Steel
RISER PIPE I.D. 4"
TYPE OF RISER PIPE: Bedrock Enterprizes, Inc. PVC - Schedule 40
BOREHOLE DIAMETER: 11"
TYPE OF BACKFILL: Cement grout
ELEVATION / DEPTH TOP OF SEAL: -1' GS
TYPE OF SEAL: Bentonite Pellets
DEPTH TOP OF SAND PACK: -3' GS
ELEVATION / DEPTH TOP OF SCREEN: -5' GS
TYPE OF SCREEN: PVC - Schedule 40
SLOT SIZE x LENGTH: 1020" x 10'
I.D. OF SCREEN: 4"
TYPE OF SAND PACK: #2 morie Sand
ELEVATION / DEPTH BOTTOM OF SCREEN: -15' GS
ELEVATION / DEPTH BOTTOM OF SAND PACK: -15.5' GS
TYPE OF BACKFILL BELOW OBSERVATION WELL: #2 morie Sand
ELEVATION / DEPTH OF HOLE: -15.5' GS

HALLIBURTON NUS
Environmental Corporation

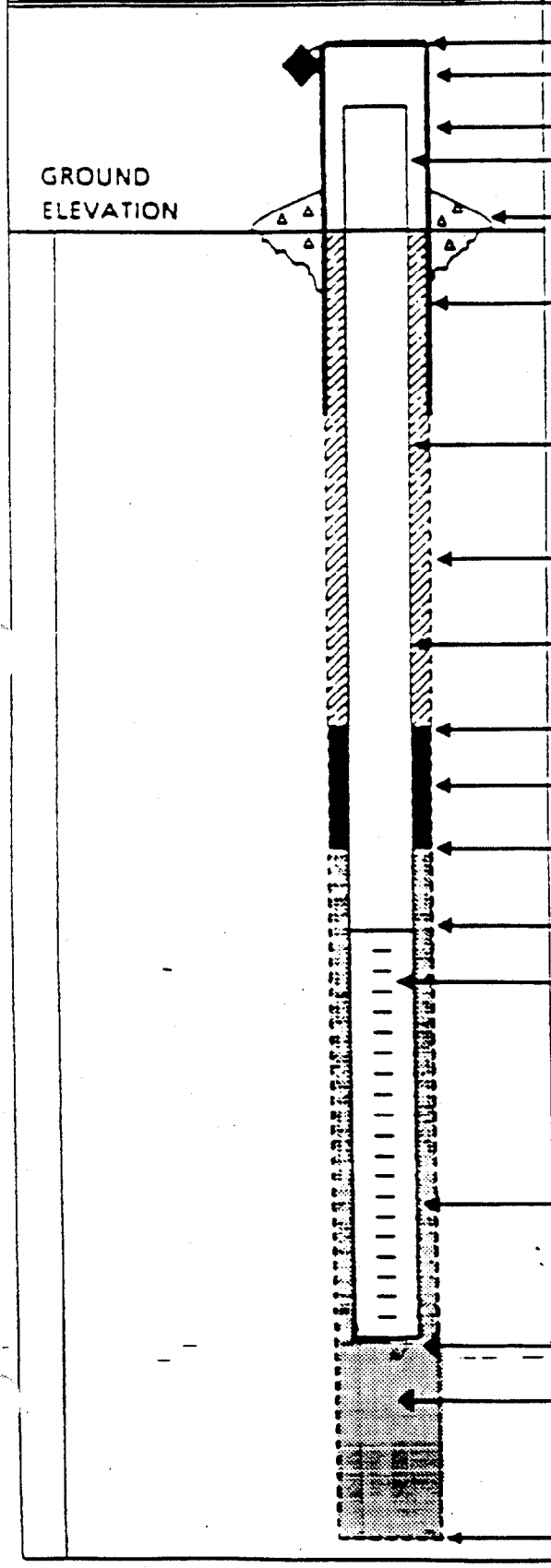
BORING NO. FC-MW01-I

OVERBURDEN MONITORING WELL SHEET

PROJECT: NWIRP- Calverton
PROJECT NO.: 0206
ELEVATION:
FIELD GEOLOGIST: Paul Davis

LOCATION: Calverton, N.Y.
BORING: FC- MW01-I
DATE: 7-25-94

DRILLER: ADT
DRILLING METHOD: HSA
DEVELOPMENT METHOD: Submersible Pump



ELEVATION OF TOP OF SURFACE CASING: 48.65
ELEVATION OF TOP OF RISER PIPE: 48.41
STICK - UP TOP OF SURFACE CASING: +2.38'
STICK - UP RISER PIPE: +2.13'
TYPE OF SURFACE SEAL: Cement
I.D. OF SURFACE CASING: 6"
TYPE OF SURFACE CASING: Steel
RISER PIPE I.D. 4"
TYPE OF RISER PIPE: Bedrock Enterprizes, Inc. PVC - Schedule 40
BOREHOLE DIAMETER: 11"
TYPE OF BACKFILL: Cement grout
ELEVATION / DEPTH TOP OF SEAL: -41' GS
TYPE OF SEAL: Bentonite Pellets
DEPTH TOP OF SAND PACK: -44' GS
ELEVATION / DEPTH TOP OF SCREEN: -48' GS
TYPE OF SCREEN: PVC - Schedule 40
SLOT SIZE x LENGTH: .020" x 10'
I.D. OF SCREEN: 4"
TYPE OF SAND PACK: #2 morie Sand
ELEVATION / DEPTH BOTTOM OF SCREEN: -58' GS
ELEVATION / DEPTH BOTTOM OF SAND PACK: -58' GS
TYPE OF BACKFILL BELOW OBSERVATION WELL: #2 morie Sand and Collapsed natural material
ELEVATION / DEPTH OF HOLE: -80' GS

HALLIBURTON NUS
Environmental Corporation

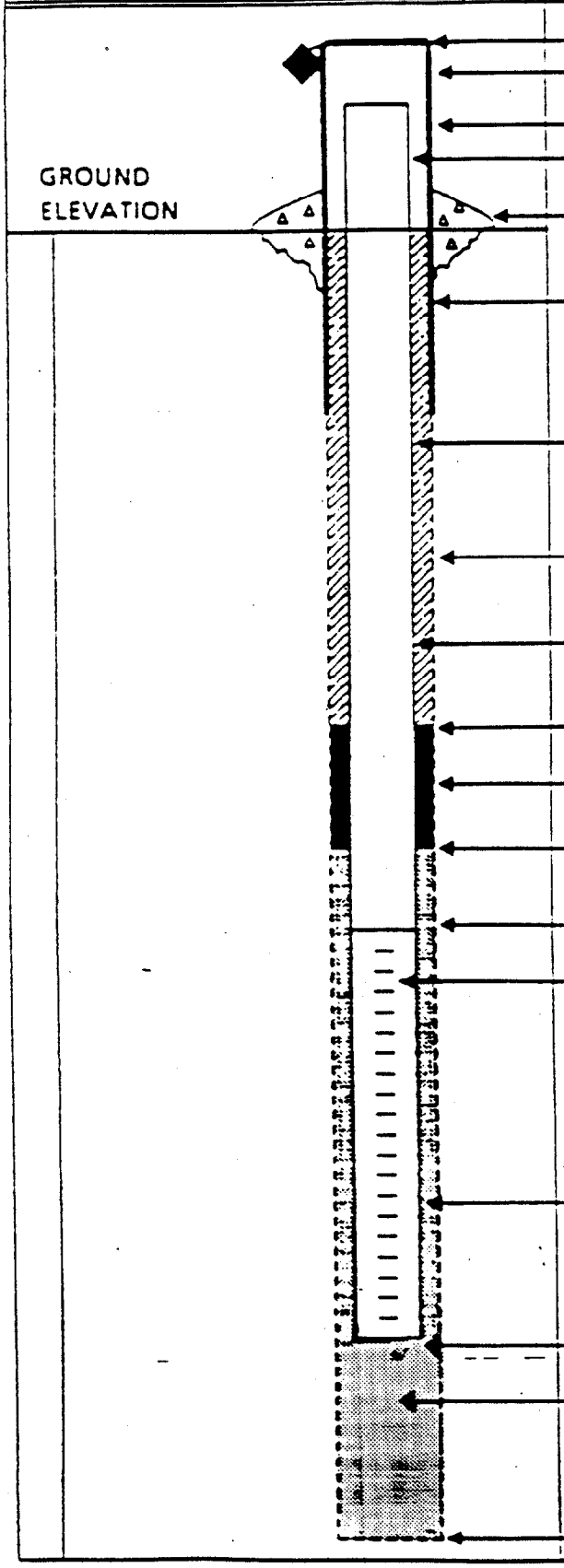
BORING NO. FC-MW02-S

OVERBURDEN MONITORING WELL SHEET

PROJECT: NWIRP- Calverton
PROJECT NO.: 0206
ELEVATION:
FIELD GEOLOGIST: Paul Davis

LOCATION: Calverton, N.Y.
BORING: FC-MW02-S
DATE: 7-28-94

DRILLER: ADT
DRILLING METHOD: HSA
DEVELOPMENT METHOD: Submersible pump



ELEVATION OF TOP OF SURFACE CASING: 49.17
ELEVATION OF TOP OF RISER PIPE: 48.35
STICK - UP TOP OF SURFACE CASING: + 3.11'
STICK - UP RISER PIPE: + 2.31'
TYPE OF SURFACE SEAL: Cement
I.D. OF SURFACE CASING: 6"
TYPE OF SURFACE CASING: Steel
RISER PIPE I.D.: 4"
TYPE OF RISER PIPE: Bedrock Enterprizes, Inc. PVC - Schedule 40
BOREHOLE DIAMETER: 11"
TYPE OF BACKFILL: Cement grout
ELEVATION / DEPTH TOP OF SEAL: -0.5' GS
TYPE OF SEAL: Bentonite Pellets
DEPTH TOP OF SAND PACK: -1.5' GS
ELEVATION / DEPTH TOP OF SCREEN: -3' GS
TYPE OF SCREEN: PVC - Schedule 40
SLOT SIZE x LENGTH: .020" x 10'
I.D. OF SCREEN: 4"
TYPE OF SAND PACK: #2 morie Sand
ELEVATION / DEPTH BOTTOM OF SCREEN: -13' GS
ELEVATION / DEPTH BOTTOM OF SAND PACK: -13.5'
TYPE OF BACKFILL BELOW OBSERVATION WELL: #2 morie Sand
ELEVATION / DEPTH OF HOLE: -13.5' GS

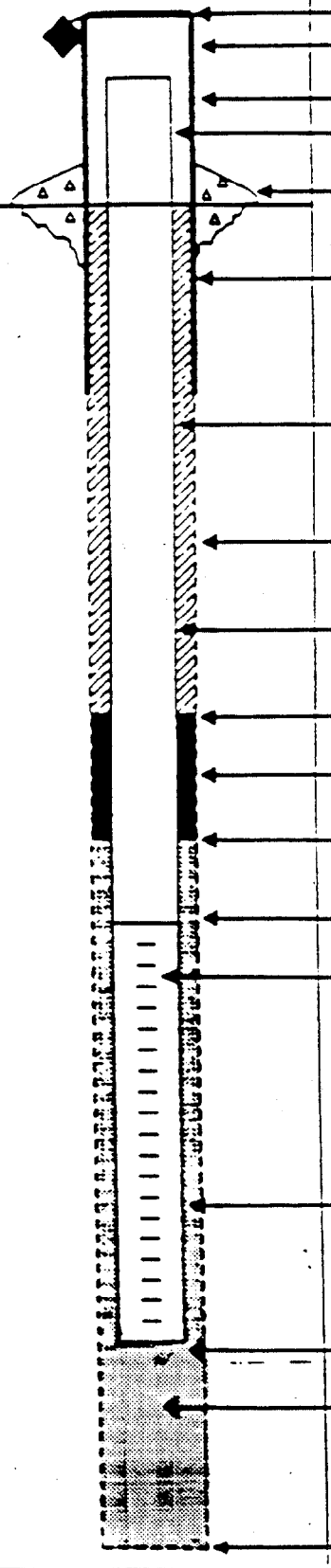
HALLIBURTON NUS
Environmental Corporation

BORING NO.

OVERBURDEN
MONITORING WELL SHEET

PROJECT: NWIRP- Calverton
LOCATION: Calverton, N.Y.
PROJECT NO.: 0206
BORING: FC- MW 02- I
ELEVATION:
DATE: 7-27-94
FIELD GEOLOGIST: Paul Davis

DRILLER: AOT
DRILLING METHOD: HSA
DEVELOPMENT METHOD: Submersible Pump



ELEVATION OF TOP OF SURFACE CASING: 48.17
ELEVATION OF TOP OF RISER PIPE: 47.80
STICK - UP TOP OF SURFACE CASING: + 2.18'
STICK - UP RISER PIPE: + 1.86'
TYPE OF SURFACE SEAL: Cement
I.D. OF SURFACE CASING: 6"
TYPE OF SURFACE CASING: Steel
RISER PIPE I.D.: 4"
TYPE OF RISER PIPE: Bedrock Enterprizes, Inc. PVC- Schedule 40
BOREHOLE DIAMETER: 11"
TYPE OF BACKFILL: Cement grout
ELEVATION / DEPTH TOP OF SEAL: -38' GS
TYPE OF SEAL: Bentonite Pellets
DEPTH TOP OF SAND PACK: -40' GS
ELEVATION / DEPTH TOP OF SCREEN: -42' GS
TYPE OF SCREEN: PVC- Schedule 40
SLOT SIZE x LENGTH: .020" x 10'
I.D. OF SCREEN: 4"
TYPE OF SAND PACK: # 2 morie Sand
ELEVATION / DEPTH BOTTOM OF SCREEN: -52' GS
ELEVATION / DEPTH BOTTOM OF SAND PACK: -52.5' GS
TYPE OF BACKFILL BELOW OBSERVATION WELL: # 2 morie sand and collapsed natural material
ELEVATION / DEPTH OF HOLE: -52.5' GS

HALLIBURTON NUS
Environmental Corporation

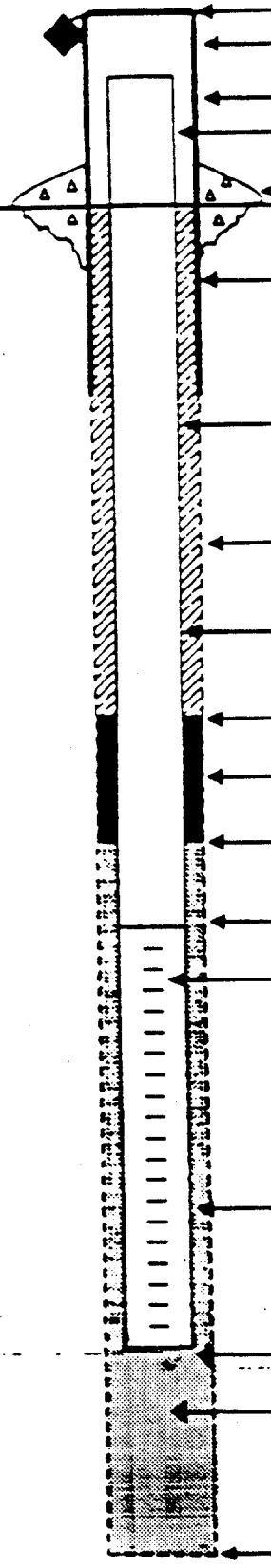
BORING NO. FC-MW03-S

OVERBURDEN
MONITORING WELL SHEET

PROJECT: NWIRP - Calverton
PROJECT NO.: 0206
ELEVATION:
FIELD GEOLOGIST: Paul Davis

LOCATION: Calverton, N.Y.
BORING: FC-MW03-S
DATE: 7-28-94

DRILLER: ADT
DRILLING METHOD: HSA
DEVELOPMENT METHOD: Submersible Pump



ELEVATION OF TOP OF SURFACE CASING: 48.15
ELEVATION OF TOP OF RISER PIPE: 47.86
STICK - UP TOP OF SURFACE CASING: + 3.04' GS
STICK - UP RISER PIPE: + 2.79' GS
TYPE OF SURFACE SEAL: Cement
I.D. OF SURFACE CASING: 6"
TYPE OF SURFACE CASING: Steel
RISER PIPE I.D. 4"
TYPE OF RISER PIPE: Bedrock Enterprizes, Inc. PVC - Schedule 40
BOREHOLE DIAMETER: 11"
TYPE OF BACKFILL: Cement grout
ELEVATION / DEPTH TOP OF SEAL: -0.5' GS
TYPE OF SEAL: Bentonite Pellets
DEPTH TOP OF SAND PACK: -1.5' GS
ELEVATION / DEPTH TOP OF SCREEN: -3.0' GS
TYPE OF SCREEN: PVC - Schedule 40
SLOT SIZE x LENGTH: .020" x 10'
I.D. OF SCREEN: 4"
TYPE OF SAND PACK: #2 morie Sand
ELEVATION / DEPTH BOTTOM OF SCREEN: -13' GS
ELEVATION / DEPTH BOTTOM OF SAND PACK: -13.5' GS
TYPE OF BACKFILL BELOW OBSERVATION WELL: #2 morie Sand
ELEVATION / DEPTH OF HOLE: -13.5' GS

HALLIBURTON NUS
Environmental Corporation

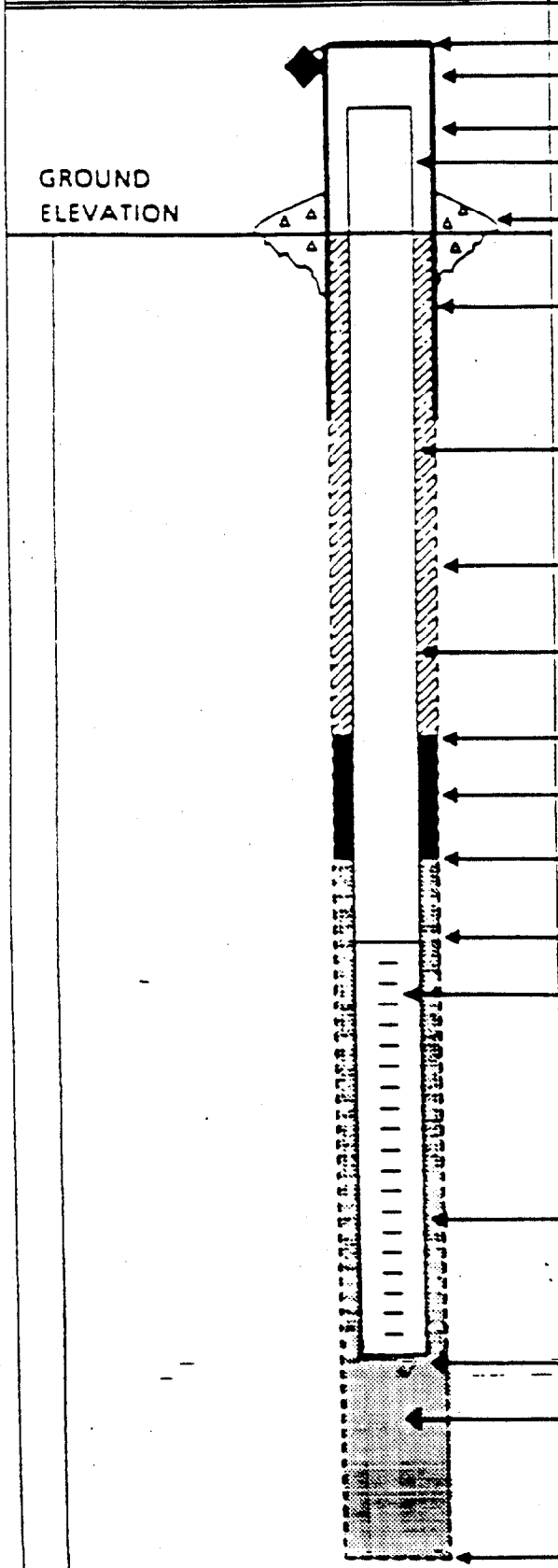
BORING NO

OVERBURDEN
MONITORING WELL SHEET

PROJECT NWIRP- Calverton
PROJECT NO. 0206
ELEVATION
FIELD GEOLOGIST Paul Davis

LOCATION Calverton, NY
BORING FC-MW04-S
DATE 7-22-94

DRILLER AOT
DRILLING METHOD HSA
DEVELOPMENT METHOD Submersible Pump



ELEVATION OF TOP OF SURFACE CASING: 46.73
ELEVATION OF TOP OF RISER PIPE: 46.46
STICK - UP TOP OF SURFACE CASING: +2.52'
STICK - UP RISER PIPE: +2.25'
TYPE OF SURFACE SEAL: Cement
I.D. OF SURFACE CASING: 6"
TYPE OF SURFACE CASING: Steel
RISER PIPE I.D. 4"
TYPE OF RISER PIPE: Bedrock Enterprizes, Inc. PVC - Schedule 40
BOREHOLE DIAMETER: 11"
TYPE OF BACKFILL: Cement grout
ELEVATION / DEPTH TOP OF SEAL: -0.5' GS
TYPE OF SEAL: Bentonite Pellets
DEPTH TOP OF SAND PACK: -1.5' GS
ELEVATION / DEPTH TOP OF SCREEN: -3' GS
TYPE OF SCREEN: PVC - Schedule 40
SLOT SIZE x LENGTH: .020" x 10'
I.D. OF SCREEN: 4"
TYPE OF SAND PACK: #2 morie Sand
ELEVATION / DEPTH BOTTOM OF SCREEN: -13' GS
ELEVATION / DEPTH BOTTOM OF SAND PACK: -13.5' GS
TYPE OF BACKFILL BELOW OBSERVATION WELL: #2 morie Sand
ELEVATION / DEPTH OF HOLE: -13.5' GS

HALLIBURTON NUS
Environmental Corporation

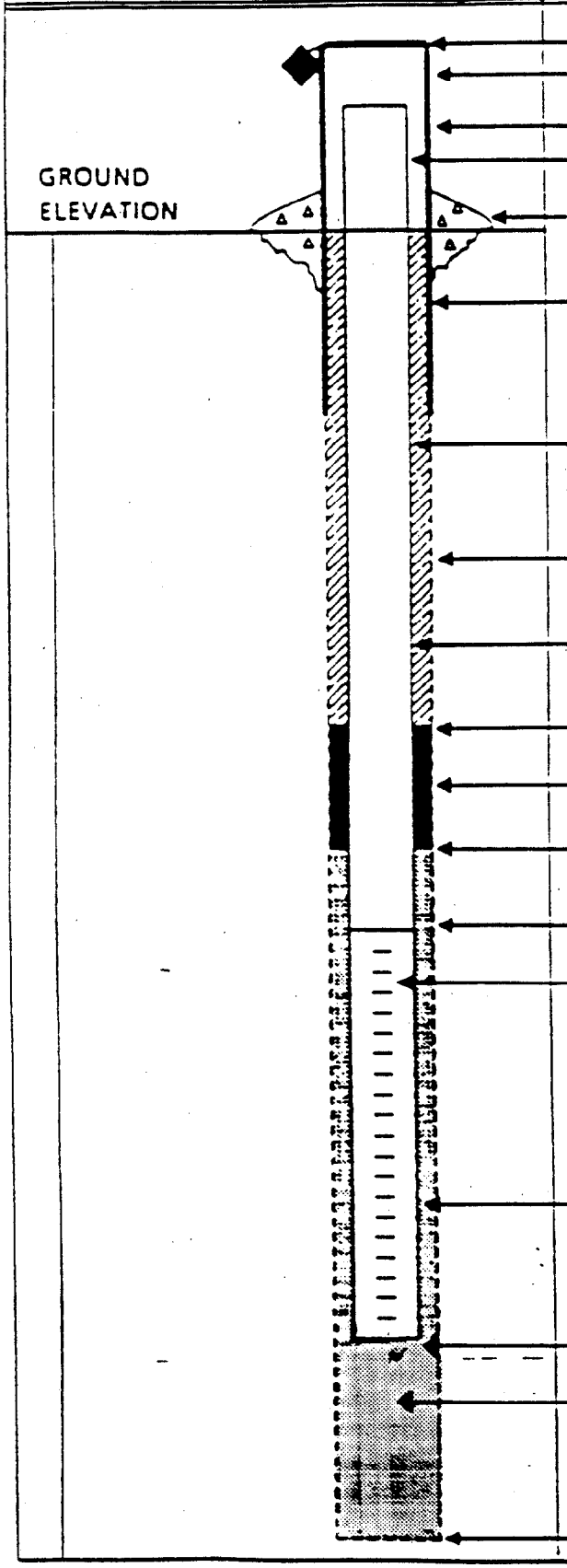
BORING NO FC-MW04-

OVERBURDEN
MONITORING WELL SHEET

PROJECT NWIRP- Calverton
PROJECT NO. 0206
ELEVATION
FIELD GEOLOGIST Paul Davis

LOCATION Calverton, N.Y.
BORING FC- MW04-I
DATE 7-26-94

DRILLER ADT
DRILLING METHOD HSA
DEVELOPMENT METHOD Submersible pump



ELEVATION OF TOP OF SURFACE CASING: 46.85
ELEVATION OF TOP OF RISER PIPE: 46.37

STICK - UP TOP OF SURFACE CASING: +2.56'
STICK - UP RISER PIPE: +2.08'

TYPE OF SURFACE SEAL: Cement

I.D. OF SURFACE CASING: 6"
TYPE OF SURFACE CASING: Steel

RISER PIPE I.D. 4"
TYPE OF RISER PIPE: Bedrock Enterprizes, Inc. PVC - Schedule 40

BOREHOLE DIAMETER: 11"

TYPE OF BACKFILL: Cement grout

ELEVATION / DEPTH TOP OF SEAL: -34.5' GS

TYPE OF SEAL: Bentonite Pellets

DEPTH TOP OF SAND PACK: -38' GS

ELEVATION / DEPTH TOP OF SCREEN: -40' GS

TYPE OF SCREEN: PVC - Schedule 40

SLOT SIZE x LENGTH: .020" x 10'

I.D. OF SCREEN: 4"

TYPE OF SAND PACK: #2 morie Sand

ELEVATION / DEPTH BOTTOM OF SCREEN: -50' GS

ELEVATION / DEPTH BOTTOM OF SAND PACK: -50.5' G.

TYPE OF BACKFILL BELOW OBSERVATION WELL: Collapsed natural material and #2 morie Sand

ELEVATION / DEPTH OF HOLE: -80' GS

HALLIBURTON NUS
Environmental Corporation

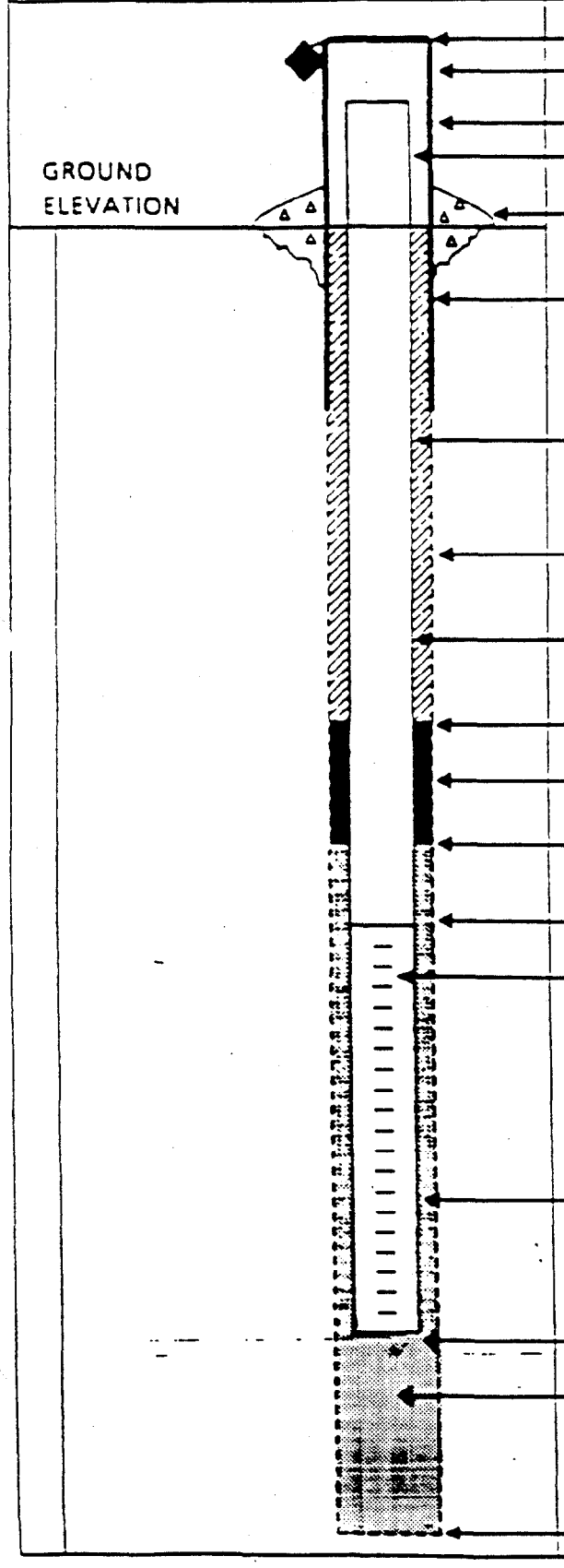
BORING NO. FC-MW05-S

OVERBURDEN
MONITORING WELL SHEET

PROJECT: NWIRP- Calverton
PROJECT NO.: 0206
ELEVATION:
FIELD GEOLOGIST: T. Rolahn

LOCATION: Calverton, NY.
BORING: FC- MW05-S
DATE: 7-15-94.

DRILLER: ADT
DRILLING METHOD: HSA
DEVELOPMENT METHOD: Submersible Pump



ELEVATION OF TOP OF SURFACE CASING: 49.35
ELEVATION OF TOP OF RISER PIPE: 49.09

STICK - UP TOP OF SURFACE CASING: + 2.79'
STICK - UP RISER PIPE: + 2.54'

TYPE OF SURFACE SEAL: Cement

I.D. OF SURFACE CASING: 6"
TYPE OF SURFACE CASING: Steel

RISER PIPE I.D. 4"
TYPE OF RISER PIPE: Bedrock Enterprizes, Inc. PVC - Schedule 40

BOREHOLE DIAMETER: 11"

TYPE OF BACKFILL: Cement grout

ELEVATION / DEPTH TOP OF SEAL: -2' GS

TYPE OF SEAL: Bentonite Pellets

DEPTH TOP OF SAND PACK: -4' GS

ELEVATION / DEPTH TOP OF SCREEN: -6' GS

TYPE OF SCREEN: PVC - Schedule 40

SLOT SIZE x LENGTH: .020" x 10'

I.D. OF SCREEN: 4"

TYPE OF SAND PACK: # 2 morie Sand

ELEVATION / DEPTH BOTTOM OF SCREEN: -16' GS

ELEVATION / DEPTH BOTTOM OF SAND PACK: -16.5' GS

TYPE OF BACKFILL BELOW OBSERVATION WELL: # 2 morie Sand

ELEVATION / DEPTH OF HOLE: -16.5' GS

HALLIBURTON NUS
Environmental Corporation

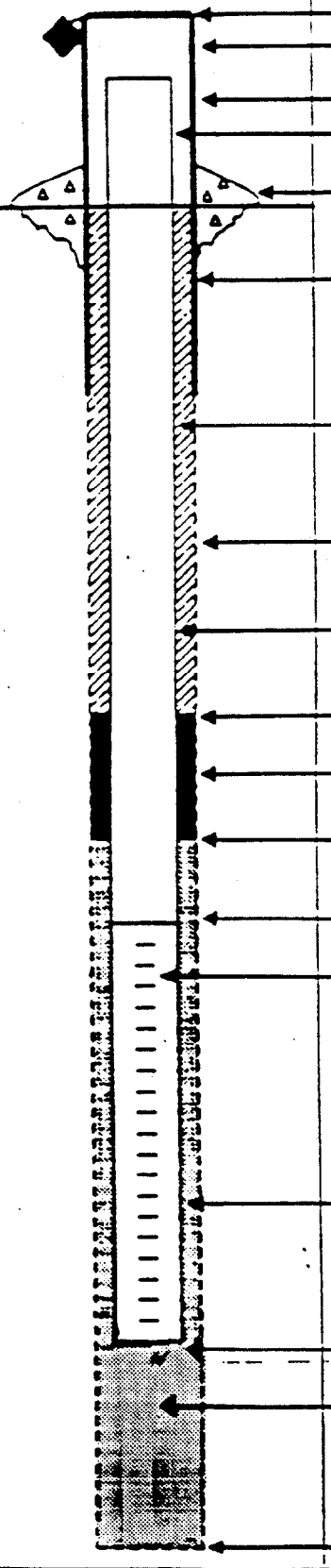
BORING NO. FC-MW05

OVERBURDEN MONITORING WELL SHEET

PROJECT: NWIRP- Calverton
PROJECT NO.: 0206
ELEVATION:
FIELD GEOLOGIST: Paul Davis

LOCATION: Calverton, N.Y.
BORING: FC-MW05-I
DATE: 7-21-94

DRILLER: ADT
DRILLING METHOD: HSA
DEVELOPMENT METHOD: Submersible pump



ELEVATION OF TOP OF SURFACE CASING: 48.54
ELEVATION OF TOP OF RISER PIPE: 48.40
STICK - UP TOP OF SURFACE CASING: +2.04'
STICK - UP RISER PIPE: +1.90'
TYPE OF SURFACE SEAL: Cement
I.D. OF SURFACE CASING: 6"
TYPE OF SURFACE CASING: Steel
RISER PIPE I.D. 4"
TYPE OF RISER PIPE: Bedrock Enterprizes, inc PVC - Schedule 40
BOREHOLE DIAMETER: 11"
TYPE OF BACKFILL: Cement grout
ELEVATION / DEPTH TOP OF SEAL: -40' GS
TYPE OF SEAL: Bentonite Pellets
DEPTH TOP OF SAND PACK: -43' GS
ELEVATION / DEPTH TOP OF SCREEN: -48' GS
TYPE OF SCREEN: PVC - Schedule 40
SLOT SIZE x LENGTH: .020" x 10'
I.D. OF SCREEN: 4"
TYPE OF SAND PACK: #2 morie Sand
ELEVATION / DEPTH BOTTOM OF SCREEN: -58' GS
ELEVATION / DEPTH BOTTOM OF SAND PACK: -58' GS
TYPE OF BACKFILL BELOW OBSERVATION WELL: #2 morie Sand and Collapsed natural material
ELEVATION / DEPTH OF HOLE: -80' GS

HALLIBURTON NUS
Environmental Corporation

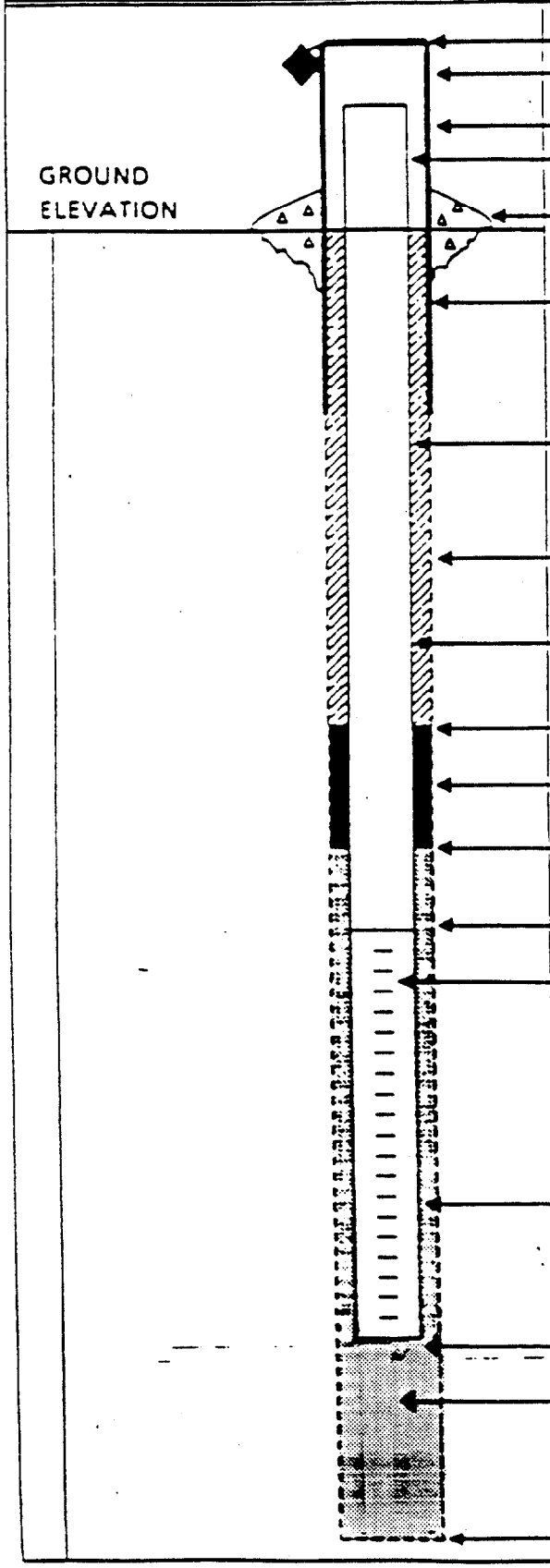
BORING NO.: [illegible]

OVERBURDEN
MONITORING WELL SHEET

PROJECT: NWIRP- Calverton
PROJECT NO.: 0206
ELEVATION:
FIELD GEOLOGIST: Paul Davis

LOCATION: Calverton, N.Y.
BORING: FC- mw 06-S
DATE: 7-20-94

DRILLER: ADT
DRILLING METHOD: HSA
DEVELOPMENT METHOD: Submersible Pump



ELEVATION OF TOP OF SURFACE CASING: 52.08
ELEVATION OF TOP OF RISER PIPE: 51.72
STICK - UP TOP OF SURFACE CASING: + 2.54'
STICK - UP RISER PIPE: + 2.21'
TYPE OF SURFACE SEAL: Cement
I.D. OF SURFACE CASING: 6"
TYPE OF SURFACE CASING: Steel
RISER PIPE I.D.: 4"
TYPE OF RISER PIPE: Bedrock Enterprizes, Inc. PVC- Schedule 40
BOREHOLE DIAMETER: 11"
TYPE OF BACKFILL: Cement grout
ELEVATION / DEPTH TOP OF SEAL: -4' GS
TYPE OF SEAL: Bentonite Pellets
DEPTH TOP OF SAND PACK: -6' GS
ELEVATION / DEPTH TOP OF SCREEN: -9' GS
TYPE OF SCREEN: PVC - Schedule 40
SLOT SIZE x LENGTH: .020" X 10'
I.D. OF SCREEN: 4"
TYPE OF SAND PACK: # 2 morie Sand
ELEVATION / DEPTH BOTTOM OF SCREEN: -19' GS
ELEVATION / DEPTH BOTTOM OF SAND PACK: -19.5' GS
TYPE OF BACKFILL BELOW OBSERVATION WELL: #2 morie Sand
ELEVATION / DEPTH OF HOLE: -19.5' GS

HALLIBURTON NUS
Environmental Corporation

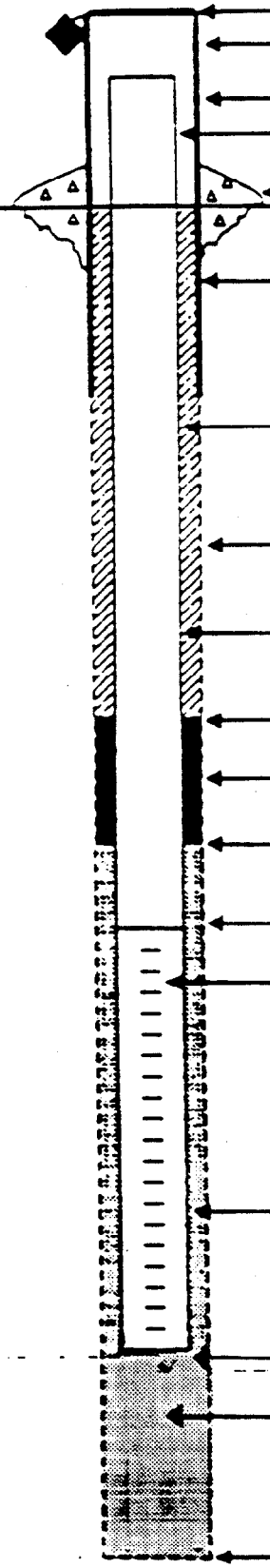
BORING NO. FD-MW01-S

OVERBURDEN
MONITORING WELL SHEET

PROJECT: NWIRP- Calverton
PROJECT NO.: 0206
ELEVATION:
FIELD GEOLOGIST: Paul Davis

LOCATION: Calverton, N.Y.
BORING: FD-MW01-S
DATE: 8-01-94

DRILLER: ADT
DRILLING METHOD: HSA
DEVELOPMENT METHOD: Submersible Pump



ELEVATION OF TOP OF SURFACE CASING: 60.50 ~~51.79~~
ELEVATION OF TOP OF RISER PIPE: 60.21 ~~51.50~~
STICK - UP TOP OF SURFACE CASING: +2.54'
STICK - UP RISER PIPE: +2.25'
TYPE OF SURFACE SEAL: Cement
I.D. OF SURFACE CASING: 6"
TYPE OF SURFACE CASING: Steel
RISER PIPE I.D.: 4"
TYPE OF RISER PIPE: Bedrock Enterprizes, Inc. PVC - Schedule 40
BOREHOLE DIAMETER: 11"
TYPE OF BACKFILL: Cement grout
ELEVATION / DEPTH TOP OF SEAL: -11' GS
TYPE OF SEAL: Bentonite Pellets
DEPTH TOP OF SAND PACK: -13' GS
ELEVATION / DEPTH TOP OF SCREEN: -15' GS
TYPE OF SCREEN: PVC - Schedule 40
SLOT SIZE x LENGTH: .020" x 10'
I.D. OF SCREEN: 4"
TYPE OF SAND PACK: #2 morie Sand
ELEVATION / DEPTH BOTTOM OF SCREEN: -25' GS
ELEVATION / DEPTH BOTTOM OF SAND PACK: -25.5' G
TYPE OF BACKFILL BELOW OBSERVATION WELL: #2 morie Sand
ELEVATION / DEPTH OF HOLE: -25.5' GS

HALLIBURTON NUS
Environmental Corporation

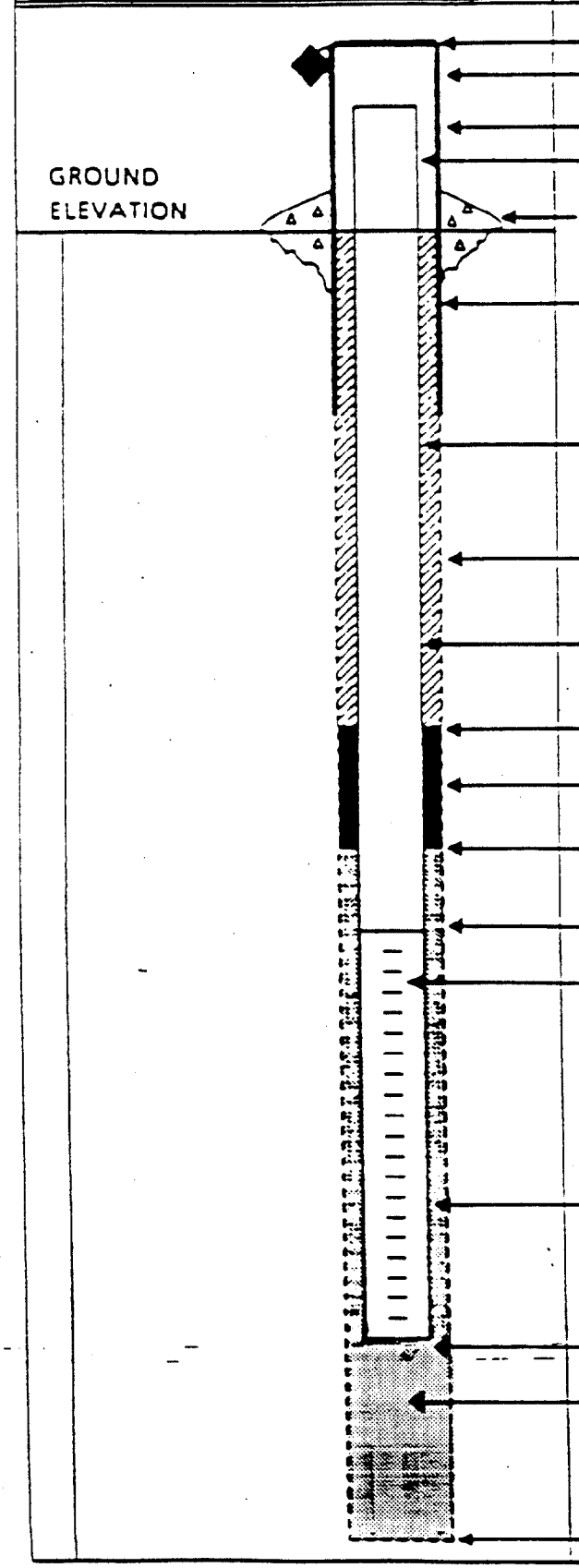
BORING NO.

OVERBURDEN MONITORING WELL SHEET

PROJECT: NWIRP-Calverton
PROJECT NO.: 0206
ELEVATION:
FIELD GEOLOGIST: Paul Davis

LOCATION: Calverton, N.Y.
BORING: FD-mw01-I
DATE: 7-29-94

DRILLER: ADT
DRILLING METHOD: HSA
DEVELOPMENT METHOD: Submersible Pump



ELEVATION OF TOP OF SURFACE CASING: 60.20
ELEVATION OF TOP OF RISER PIPE: 59.89
STICK - UP TOP OF SURFACE CASING: +1.94'
STICK - UP RISER PIPE: +1.67'
TYPE OF SURFACE SEAL: Cement
I.D. OF SURFACE CASING: 6"
TYPE OF SURFACE CASING: Steel
RISER PIPE I.D.: 4"
TYPE OF RISER PIPE: Bedrock Enterprizes, Inc. PVC - Schedule 40
BOREHOLE DIAMETER: 11"
TYPE OF BACKFILL: Cement grout
ELEVATION / DEPTH TOP OF SEAL: -40' GS
TYPE OF SEAL: Bentonite Pellets
DEPTH TOP OF SAND PACK: -42' GS
ELEVATION / DEPTH TOP OF SCREEN: -44' GS
TYPE OF SCREEN: PVC Schedule 40
SLOT SIZE x LENGTH: .020" x 10'
I.D. OF SCREEN: 4"
TYPE OF SAND PACK: #2 morie Sand
ELEVATION / DEPTH BOTTOM OF SCREEN: -54' GS
ELEVATION / DEPTH BOTTOM OF SAND PACK: -54' GS
TYPE OF BACKFILL BELOW OBSERVATION WELL: #2 morie Sand and Collapsed natural material
ELEVATION / DEPTH OF HOLE: -80' GS

HALLIBURTON NUS
Environmental Corporation

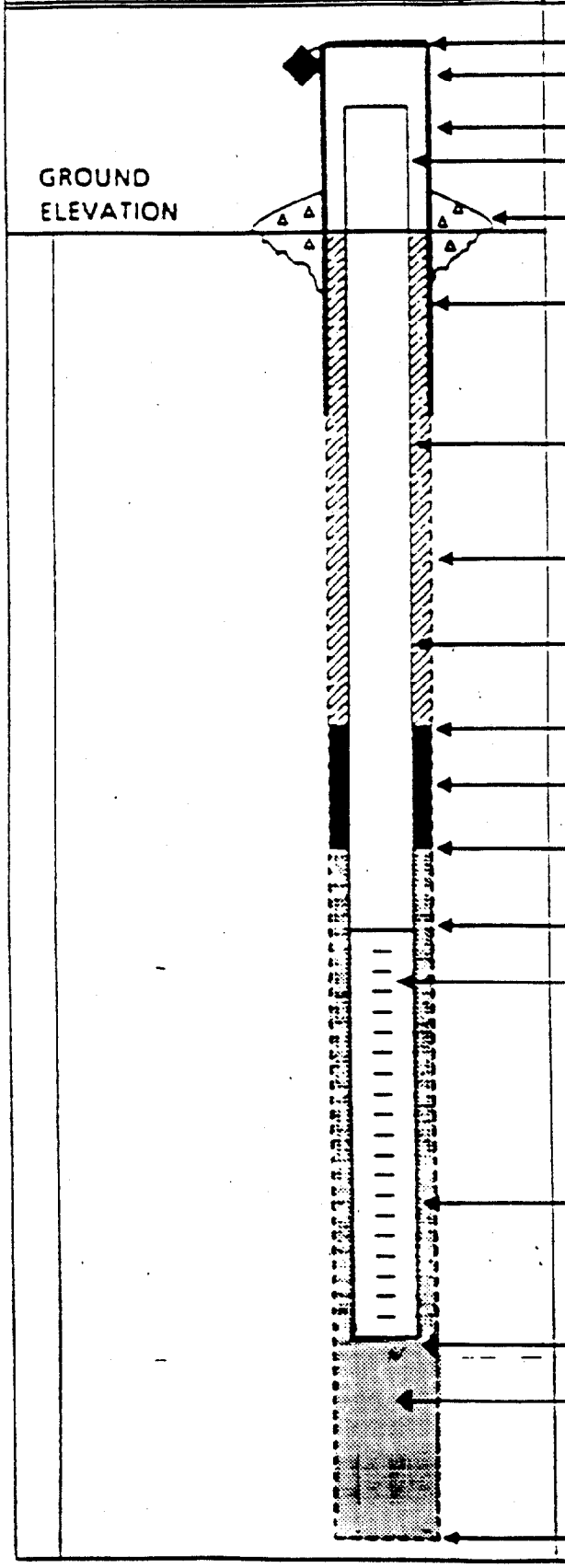
BORING NO FD-MW02-

OVERBURDEN MONITORING WELL SHEET

PROJECT: NWIRP- Calverton
PROJECT NO.: 0206
ELEVATION:
FIELD GEOLOGIST: Paul Davis

LOCATION: Calverton, N.Y.
BORING: FD-mw02-S
DATE: 8-02-94

DRILLER: ADT
DRILLING METHOD: HSA
DEVELOPMENT METHOD: Submersible Pump



ELEVATION OF TOP OF SURFACE CASING: 59.07
ELEVATION OF TOP OF RISER PIPE: 58.66
STICK - UP TOP OF SURFACE CASING: +2.54'
STICK - UP RISER PIPE: +2.16'
TYPE OF SURFACE SEAL: Cement
I.D. OF SURFACE CASING: 6"
TYPE OF SURFACE CASING: Steel
RISER PIPE I.D.: 4"
TYPE OF RISER PIPE: Bedrock Enterprizes, inc PVC Schedule 40
BOREHOLE DIAMETER: 11"
TYPE OF BACKFILL: Cement grout
ELEVATION / DEPTH TOP OF SEAL: -9' GS
TYPE OF SEAL: Bentonite Pellets
DEPTH TOP OF SAND PACK: -11' GS
ELEVATION / DEPTH TOP OF SCREEN: -13' GS
TYPE OF SCREEN: PVC Schedule 40
SLOT SIZE x LENGTH: .020" x 10'
I.D. OF SCREEN: 4"
TYPE OF SAND PACK: #2 morie Sand
ELEVATION / DEPTH BOTTOM OF SCREEN: -23' GS
ELEVATION / DEPTH BOTTOM OF SAND PACK: -23.5' G
TYPE OF BACKFILL BELOW OBSERVATION WELL: #2 morie Sand
ELEVATION / DEPTH OF HOLE: -23.5' GS

HALLIBURTON NUS
Environmental Corporation

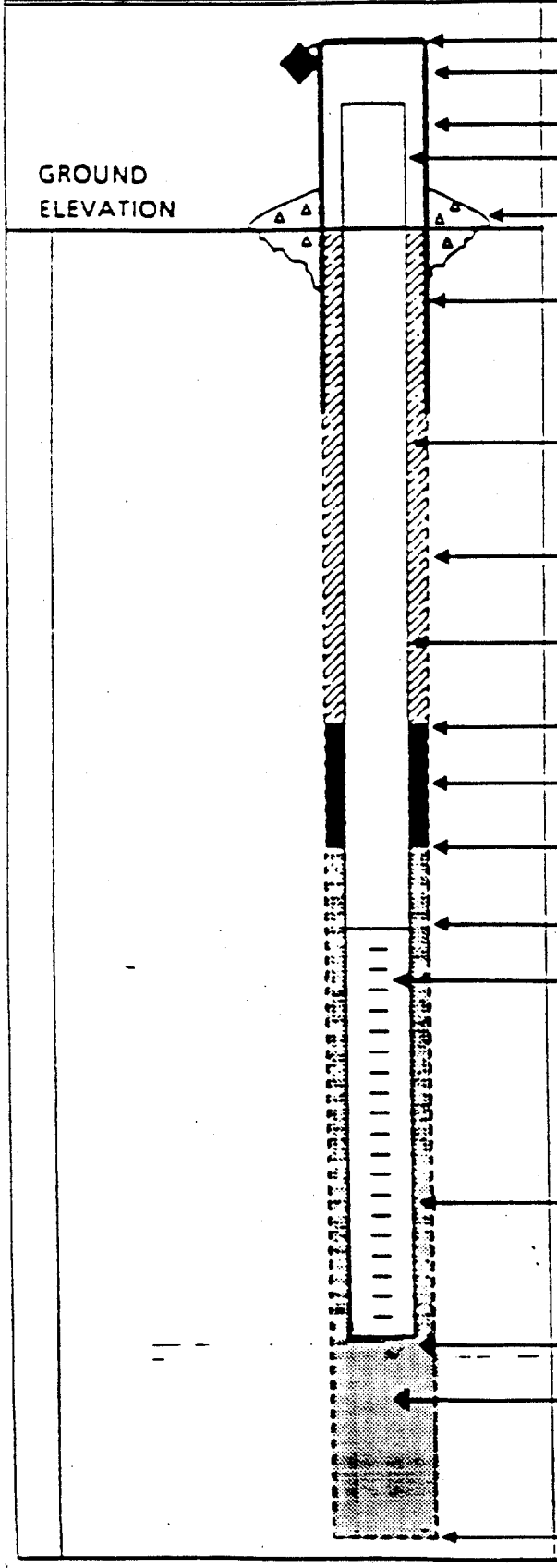
BORING NO FD-MW02

OVERBURDEN
MONITORING WELL SHEET

PROJECT NWIRP- Calverton
PROJECT NO. 0206
ELEVATION
FIELD GEOLOGIST Paul Davis

LOCATION Calverton, N.Y.
BORING FD-MW02-I
DATE 8-05-94

DRILLER ADT
DRILLING METHOD HSA
DEVELOPMENT METHOD Submersible Pump



ELEVATION OF TOP OF SURFACE CASING: 58.76
ELEVATION OF TOP OF RISER PIPE: 58.49
STICK - UP TOP OF SURFACE CASING: + 2.19'
STICK - UP RISER PIPE: + 1.94'
TYPE OF SURFACE SEAL: Cement
I.D. OF SURFACE CASING: 6"
TYPE OF SURFACE CASING: Steel
RISER PIPE I.D. 4"
TYPE OF RISER PIPE: Bedrock Enterprizes, Inc. PVC - Schedule 40
BOREHOLE DIAMETER: 11"
TYPE OF BACKFILL: Cement grout
ELEVATION / DEPTH TOP OF SEAL: -36' GS
TYPE OF SEAL: Bentonite Pellets
DEPTH TOP OF SAND PACK: -38' GS
ELEVATION / DEPTH TOP OF SCREEN: -41' GS
TYPE OF SCREEN: PVC Schedule 40
SLOT SIZE x LENGTH: 1020" x 10'
I.D. OF SCREEN: 4"
TYPE OF SAND PACK: #2 morie Sand
ELEVATION / DEPTH BOTTOM OF SCREEN: -51' GS
ELEVATION / DEPTH BOTTOM OF SAND PACK: -51' GS
TYPE OF BACKFILL BELOW OBSERVATION WELL: Collapsed natural material
ELEVATION / DEPTH OF HOLE: -51' GS

HALLIBURTON NUS
Environmental Corporation

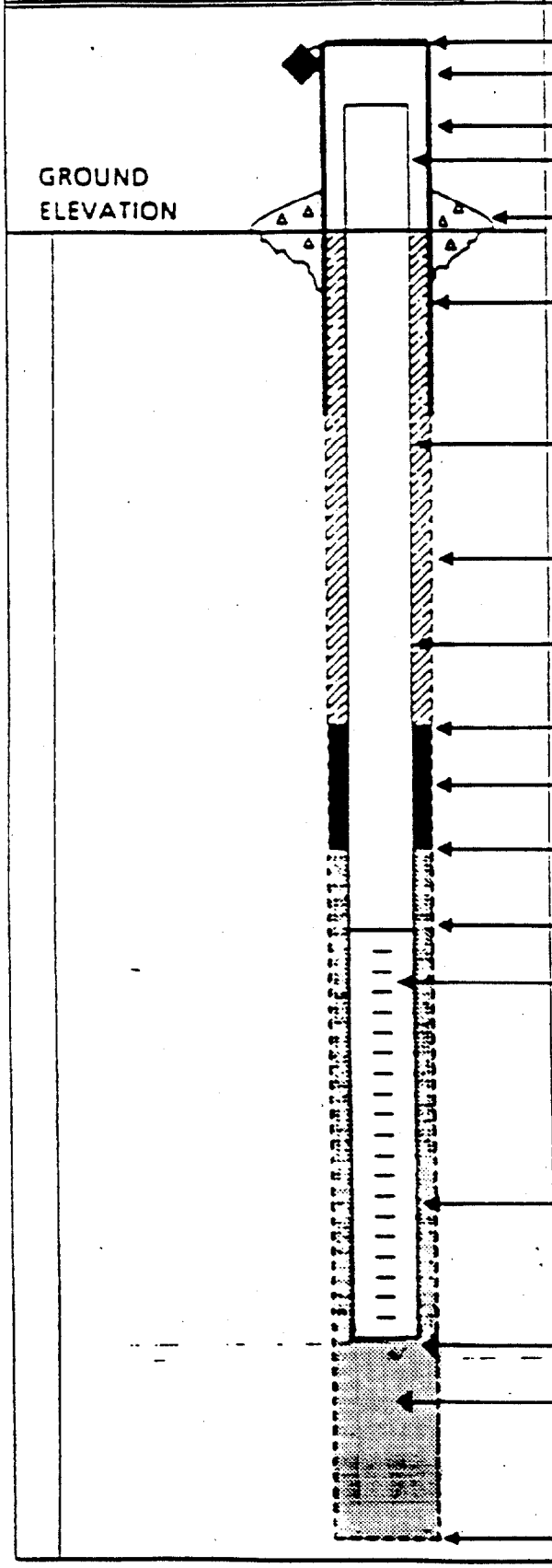
BORING NO. FD-MW03-S

OVERBURDEN
MONITORING WELL SHEET

PROJECT: NWIRP- Calverton
PROJECT NO.: 0206
ELEVATION:
FIELD GEOLOGIST: Paul Davis

LOCATION: Calverton, N.Y.
BORING: FD-MW03-S
DATE: 8-01-94

DRILLER: ADT
DRILLING METHOD: HSA
DEVELOPMENT METHOD: Submersible pump



ELEVATION OF TOP OF SURFACE CASING: 60.98
ELEVATION OF TOP OF RISER PIPE: 60.72
STICK - UP TOP OF SURFACE CASING: +2.67'
STICK - UP RISER PIPE: +2.42'
TYPE OF SURFACE SEAL: Cement
I.D. OF SURFACE CASING: 6"
TYPE OF SURFACE CASING: Steel
RISER PIPE I.D. 4"
TYPE OF RISER PIPE: Bedrock Enterprizes, Inc. PVC Schedule 40
BOREHOLE DIAMETER: 11"
TYPE OF BACKFILL: Cement grout
ELEVATION / DEPTH TOP OF SEAL: -12' GS
TYPE OF SEAL: Bentonite Pellets
DEPTH TOP OF SAND PACK: -14' GS
ELEVATION / DEPTH TOP OF SCREEN: -16' GS
TYPE OF SCREEN: PVC - Schedule 40
SLOT SIZE x LENGTH: .020" x 10'
I.D. OF SCREEN: 4"
TYPE OF SAND PACK: #2 morie Sand
ELEVATION / DEPTH BOTTOM OF SCREEN: -26' GS
ELEVATION / DEPTH BOTTOM OF SAND PACK: -26.5'
TYPE OF BACKFILL BELOW OBSERVATION WELL: #2 morie Sand
ELEVATION / DEPTH OF HOLE: -26.5' GS

HALLIBURTON NUS
Environmental Corporation

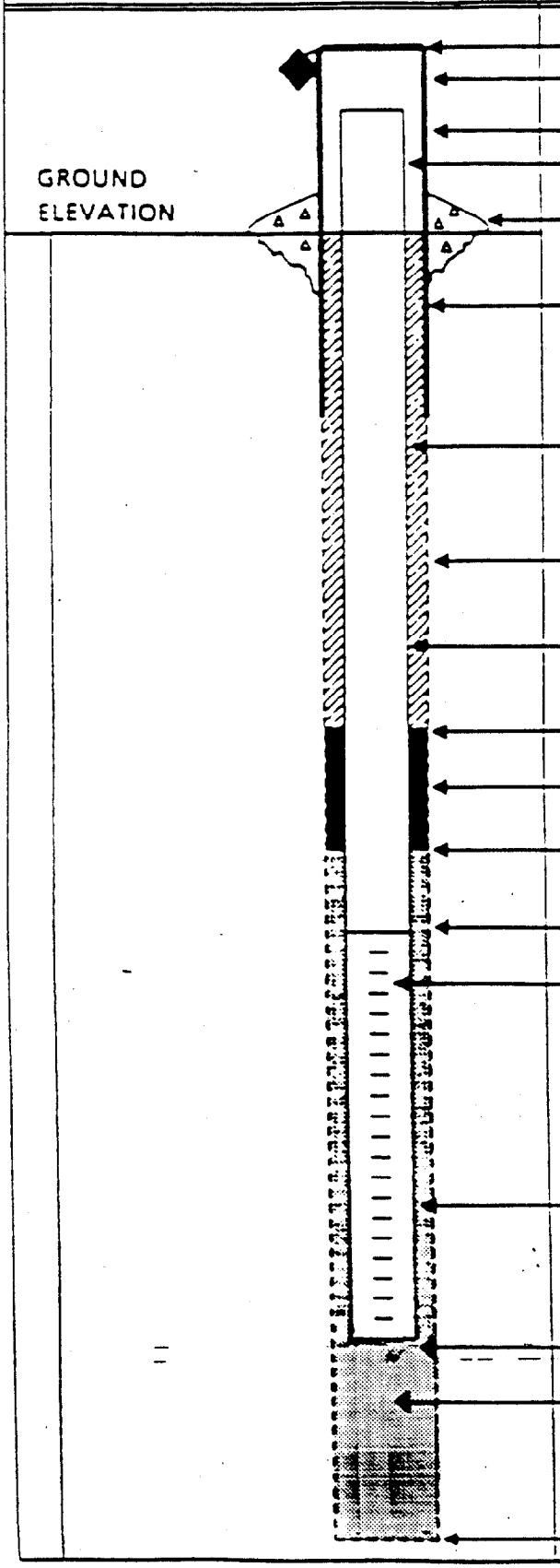
BORING NO

OVERBURDEN MONITORING WELL SHEET

PROJECT NWIRP- Calverton
PROJECT NO. 0206
ELEVATION
FIELD GEOLOGIST Paul Davis

LOCATION Calverton, N.Y.
BORING FD-MW03-I
DATE 8-04-94

DRILLER ADT
DRILLING METHOD HSA
DEVELOPMENT METHOD Submersible Pump



ELEVATION OF TOP OF SURFACE CASING: 61.07
ELEVATION OF TOP OF RISER PIPE: 60.75
STICK - UP TOP OF SURFACE CASING: +2.44'
STICK - UP RISER PIPE: +2.13'
TYPE OF SURFACE SEAL: Cement
I.D. OF SURFACE CASING: 6"
TYPE OF SURFACE CASING: Steel
RISER PIPE I.D. 4"
TYPE OF RISER PIPE: Bedrock Enterprizes, Inc. PVC - Schedule 40
BOREHOLE DIAMETER: 11"
TYPE OF BACKFILL: Cement grout
ELEVATION / DEPTH TOP OF SEAL: -45' GS
TYPE OF SEAL: Bentonite Pellets
DEPTH TOP OF SAND PACK: -47' GS
ELEVATION / DEPTH TOP OF SCREEN: -50' GS
TYPE OF SCREEN: PVC - Schedule 40
SLOT SIZE x LENGTH: .020" x 10'
I.D. OF SCREEN: 4"
TYPE OF SAND PACK: #2 morie Sand
ELEVATION / DEPTH BOTTOM OF SCREEN: -60' G
ELEVATION / DEPTH BOTTOM OF SAND PACK: -60' GS
TYPE OF BACKFILL BELOW OBSERVATION WELL: Collapsed natural material
ELEVATION / DEPTH OF HOLE: -80' GS

HALLIBURTON NUS
Environmental Corporation

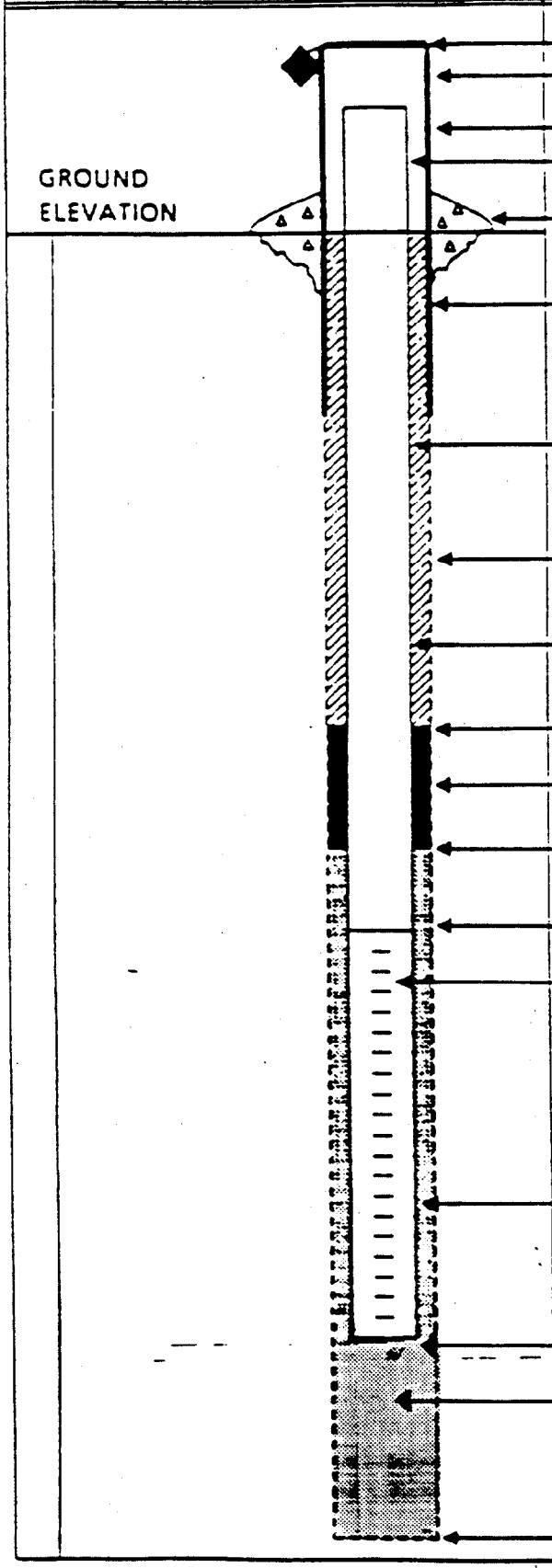
BORING NO FD-MW

OVERBURDEN
MONITORING WELL SHEET

PROJECT NWIRP- Calverton
PROJECT NO. 0206
ELEVATION
FIELD GEOLOGIST Paul Davis

LOCATION Calverton, NY.
BORING FD-MW04-S
DATE 8-01-94

DRILLER ADT
DRILLING METHOD HSA
DEVELOPMENT METHOD Submersible Pump



ELEVATION OF TOP OF SURFACE CASING: 59.97
ELEVATION OF TOP OF RISER PIPE: 59.70
STICK - UP TOP OF SURFACE CASING: +2.46'
STICK - UP RISER PIPE: +2.21'
TYPE OF SURFACE SEAL: Cement
I.D. OF SURFACE CASING: 6"
TYPE OF SURFACE CASING: steel
RISER PIPE I.D. 4"
TYPE OF RISER PIPE: Bedrock Enterprizes, inc PVC - Schedule 40
BOREHOLE DIAMETER: 11"
TYPE OF BACKFILL: Cement grout
ELEVATION/DEPTH TOP OF SEAL: -9.5' GS
TYPE OF SEAL: Bentonite Pellets
DEPTH TOP OF SAND PACK: -12' GS
ELEVATION/DEPTH TOP OF SCREEN: -14' GS
TYPE OF SCREEN: PVC - Schedule 40
SLOT SIZE x LENGTH: .020" x 10'
I.D. OF SCREEN: 4"
TYPE OF SAND PACK: #2 morie Sand
ELEVATION/DEPTH BOTTOM OF SCREEN: -24' GS
ELEVATION/DEPTH BOTTOM OF SAND PACK: -24.5'
TYPE OF BACKFILL BELOW OBSERVATION WELL: #2 morie Sand
ELEVATION/DEPTH OF HOLE: -24.5' G

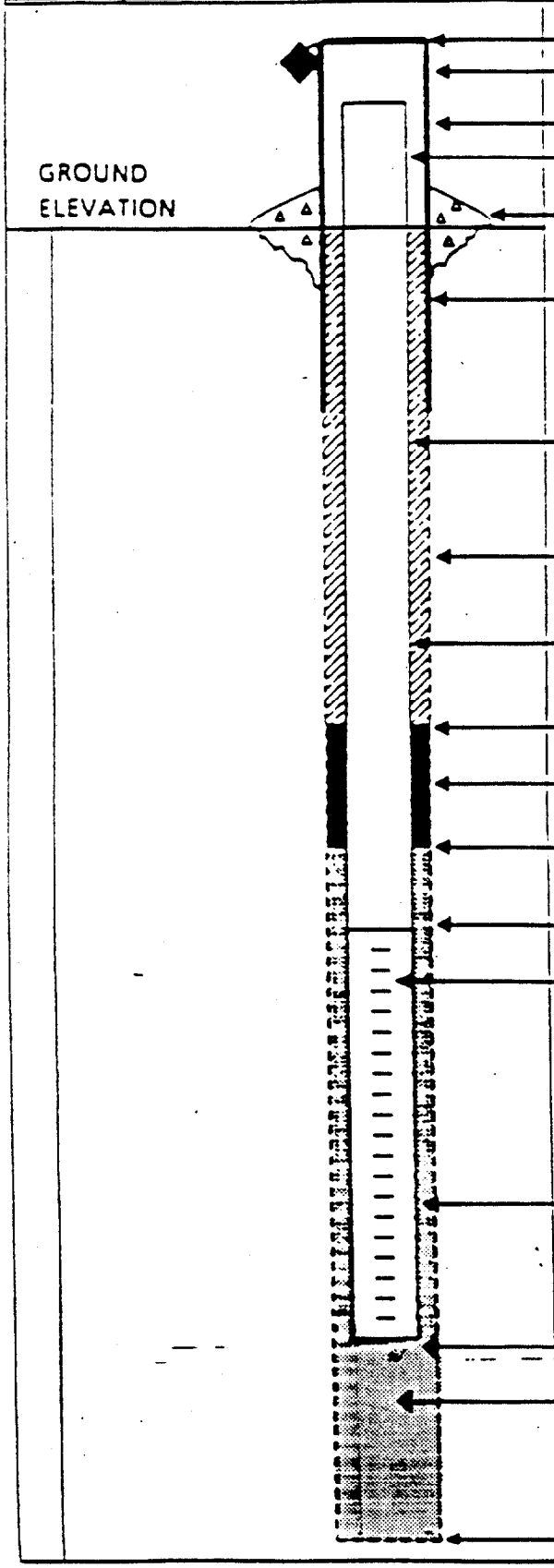
HALLIBURTON NUS
Environmental Corporation

OVERBURDEN MONITORING WELL SHEET

PROJECT: NWIRP- Calverton
PROJECT NO.: 0206
ELEVATION:
FIELD GEOLOGIST: Paul Davis

LOCATION: Calverton, N.Y.
BORING: FD-MW04-I
DATE: 8-03-94

DRILLER: ADT
DRILLING METHOD: HSA
DEVELOPMENT METHOD: Submersible pump



ELEVATION OF TOP OF SURFACE CASING: 59.60
ELEVATION OF TOP OF RISER PIPE: 59.29
STICK - UP TOP OF SURFACE CASING: +1.81'
STICK - UP RISER PIPE: +1.50'
TYPE OF SURFACE SEAL: Cement
I.D. OF SURFACE CASING: 6"
TYPE OF SURFACE CASING: Steel
RISER PIPE I.D. 4"
TYPE OF RISER PIPE: Bedrock Enterprizes, inc. PVC - Schedule 40
BOREHOLE DIAMETER: 11"
TYPE OF BACKFILL: Cement grout
ELEVATION / DEPTH TOP OF SEAL: -38' GS
TYPE OF SEAL: Bentonite Pellets
DEPTH TOP OF SAND PACK: -41' GS
ELEVATION / DEPTH TOP OF SCREEN: -46' GS
TYPE OF SCREEN: PVC Schedule 40
SLOT SIZE x LENGTH: .020" x 10'
I.D. OF SCREEN: 4"
TYPE OF SAND PACK: #2 Sand (morie)
ELEVATION / DEPTH BOTTOM OF SCREEN: -56' GS
ELEVATION / DEPTH BOTTOM OF SAND PACK: -56' GS
TYPE OF BACKFILL BELOW OBSERVATION WELL: Collapsed natural material
ELEVATION / DEPTH OF HOLE: -80' GS

HALLIBURTON NUS
Environmental Corporation

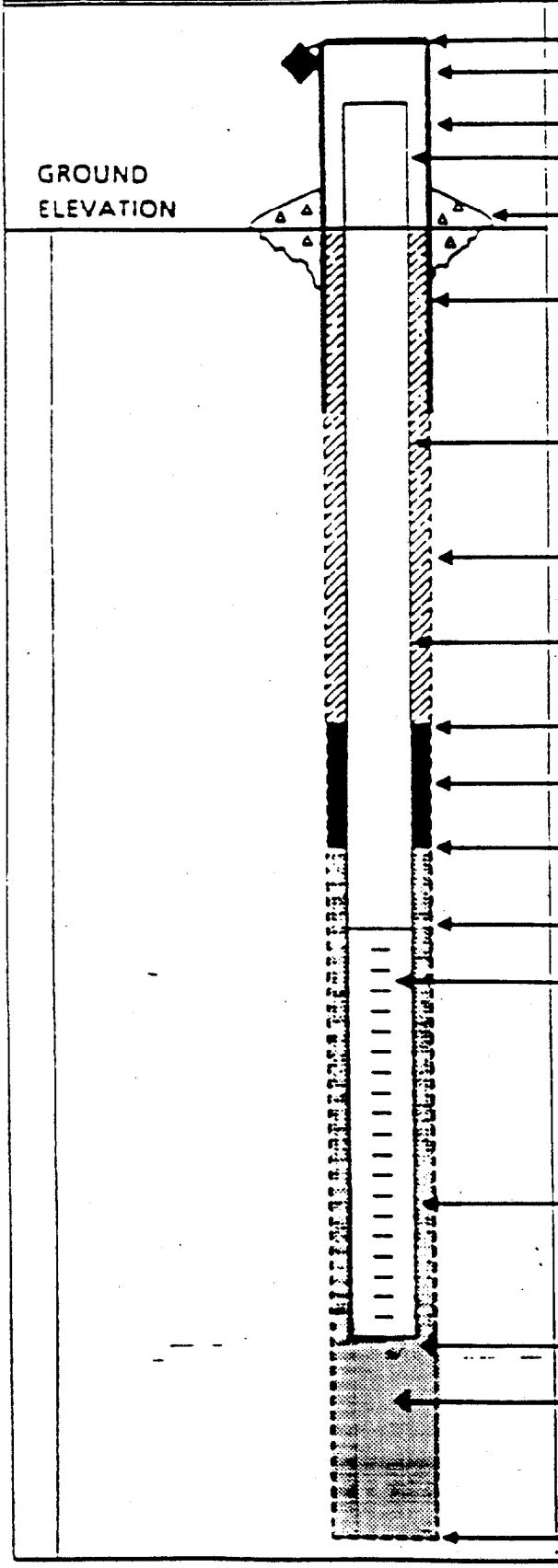
BORING NO. _____

OVERBURDEN
MONITORING WELL SHEET

PROJECT: NWIRP- Calverton
PROJECT NO.: 0206
ELEVATION: _____
FIELD GEOLOGIST: P

LOCATION: Calverton, N.Y.
BORING: FD-MW05-S
DATE: 8-02-94

DRILLER: ADT
DRILLING METHOD: HSA
DEVELOPMENT METHOD: Submersible Pump



ELEVATION OF TOP OF SURFACE CASING: 58.83
ELEVATION OF TOP OF RISER PIPE: 58.45
STICK - UP TOP OF SURFACE CASING: 0' GS
STICK - UP RISER PIPE: -3.8' GS
TYPE OF SURFACE SEAL: Cement
I.D. OF SURFACE CASING: 6"
TYPE OF SURFACE CASING: Steel
RISER PIPE I.D.: 4"
TYPE OF RISER PIPE: Bedrock Enterprises, Inc. PVC - Schedule 40
BOREHOLE DIAMETER: 11"
TYPE OF BACKFILL: Cement grout
ELEVATION / DEPTH TOP OF SEAL: -12' GS
TYPE OF SEAL: Bentonite Pellets
DEPTH TOP OF SAND PACK: -14' GS
ELEVATION / DEPTH TOP OF SCREEN: -16' GS
TYPE OF SCREEN: PVC Schedule 40
SLOT SIZE x LENGTH: .020" x 10'
I.D. OF SCREEN: 4"
TYPE OF SAND PACK: #2 morie Sand
ELEVATION / DEPTH BOTTOM OF SCREEN: -26' GS
ELEVATION / DEPTH BOTTOM OF SAND PACK: -26.5'
TYPE OF BACKFILL BELOW OBSERVATION WELL: #2 morie Sand
ELEVATION / DEPTH OF HOLE: -26.5' GS

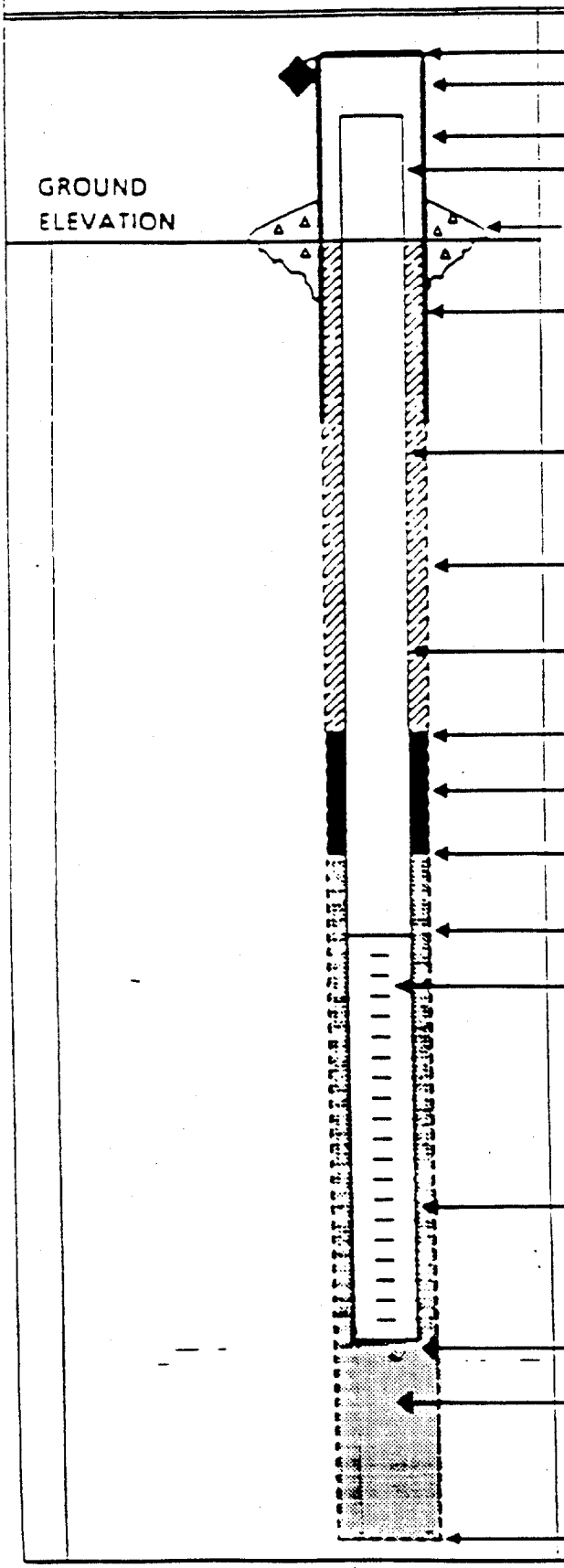
HALLIBURTON NUS
Environmental Corporation

OVERBURDEN
MONITORING WELL SHEET

PROJECT: NWIRP- Calverton
PROJECT NO.: 0206
ELEVATION:
FIELD GEOLOGIST: Paul Davis

LOCATION: Calverton, N.Y.
BORING: FD- mw06-5
DATE: 8-03-94

DRILLER: ADT
DRILLING METHOD: HSA
DEVELOPMENT METHOD: Submersible Pump



ELEVATION OF TOP OF SURFACE CASING: 58.76
ELEVATION OF TOP OF RISER PIPE: 58.51

STICK - UP TOP OF SURFACE CASING: 0' GS
STICK - UP RISER PIPE: -.29' GS

TYPE OF SURFACE SEAL: Cement

I.D. OF SURFACE CASING: 6"
TYPE OF SURFACE CASING: Steel

RISER PIPE I.D.: 4"
TYPE OF RISER PIPE: Bedrock Enterprizes, Inc. PVC - Schedule 40

BOREHOLE DIAMETER: 11"

TYPE OF BACKFILL: Cement grout

ELEVATION / DEPTH TOP OF SEAL: -11' GS

TYPE OF SEAL: Bentonite Pellets

DEPTH TOP OF SAND PACK: -14' GS

ELEVATION / DEPTH TOP OF SCREEN: -16' GS

TYPE OF SCREEN: PVC Schedule 40

SLOT SIZE x LENGTH: .020" X 10'

I.D. OF SCREEN: 4"

TYPE OF SAND PACK: #2 morie Sand

ELEVATION / DEPTH BOTTOM OF SCREEN: -26' GS

ELEVATION / DEPTH BOTTOM OF SAND PACK: -26.5' GS

TYPE OF BACKFILL BELOW OBSERVATION WELL: #2 morie Sand

ELEVATION / DEPTH OF HOLE: -26.5' G

APPENDIX F

SLUG TESTS / PUMP TESTS

SLUG TEST CALCULATIONS

HALLIBURTON NUS Environmental Corporation and Subsidiaries	STANDARD CALCULATION SHEET

CLIENT: U.S. NAVY	FILE NO: 0206	BY: Paul Davis	PAGE 1 OF 1
SUBJECT: HYDRAULIC CONDUCTIVITY CALCULATIONS		CHECKED BY:	DATE:

HVORSLEV METHOD FOR DETERMINING HYDRAULIC CONDUCTIVITY OF FORMATION FROM FULLY OR PARTIALLY PENETRATING PIEZOMETERS (FETTER, C.W., 1988. APPLIED HYDROGEOLOGY, SECOND EDITION. MACMILLAN PUBLISHING COMPANY, NEW YORK: PAGES 196 - 199.)

$$K = \frac{r^2 \ln(L/R)}{2 L T_0}$$ APPLIES WHEN $L/R > 8$

WHERE:
- K = HYDRAULIC CONDUCTIVITY
- r = WELL CASING RADIUS
- R = GRAVEL-PACK FILLED BOREHOLE RADIUS
- L = LENGTH OF SATURATED WELL SCREEN OR GRAVEL-PACK
- T_0 = TIME FOR WATER LEVEL TO RISE OR FALL TO 37 PERCENT OF INITIAL CHANGE.

T_0 FROM SEMI-LOG PLOT OF HEAD RATIO (LOGARITHMIC AXIS) VERSUS ELAPSED TIME SINCE START OF SLUG TEST (LINEAR AXIS).

h/h_0 = HEAD RATIO, WHERE

- h_0 = INITIAL DRAWDOWN FROM STATIC LEVEL UPON SLUG REMOVAL FOR RISING HEAD TEST; MEASURED OR CALCULATED FROM SLUG VOLUME.
- h = DRAWDOWN MEASURED AFTER ELAPSED TIME, T.

SHIFT TIME DRAWDOWN STRAIGHT-LINE SEGMENT FOR FORMATION TO INTERCEPT $h/h_0 = 1$ BEFORE DETERMINING T_0 AT $h/h_0 = 0.37$

CALCULATION WORKSHEET Order No. 19116 (01-91)

PAGE _____ OF _____

CLIENT US Navy	JOB NUMBER 0366
SUBJECT Hydraulic Conductivity Calculations	
BASED ON	DRAWING NUMBER
BY Paul Davis / CHECKED BY MLM 4/24/95	APPROVED BY / DATE 11/94

$$K = \frac{r^2 \ln (L/R)}{2 (L) (T_0)}$$

where: $r = 2$ in. $= 0.1666$ ft.
$R = 5\frac{1}{2}$ in. $= 0.46$ ft.
$L = 44.23'$ $(52.08' - 7.85')$
$T_0 =$ ~~0.13 min.~~ 0.119 min.

FC-MW04-I
(F.H.)

$$K = \frac{(0.1666 \text{ ft})^2 \ln (44.23'/0.46')}{2 (44.23 \text{ ft.}) (\cancel{0.13 \text{ min.}}\ 0.119 \text{ min})}$$

~~K = 0.011 ft/min.~~
$K = 0.012$ ft/min (17.28 ft/day)

FC-MW04-I
(R.H.)

$$K = \frac{(0.1666 \text{ ft})^2 \ln (44.23'/0.46')}{2 (44.23') (0.116 \text{ min.})}$$

$K = 0.012$ ft/min. (17.28 ft/day

CALCULATION WORKSHEET Order No. 19116 (01-91)

PAGE _____ OF _____

CLIENT US NAVY	JOB NUMBER 0206
SUBJECT Hydraulic Conductivity Calculations	
BASED ON	DRAWING NUMBER

BY	CHECKED BY	APPROVED BY	DATE
Paul Davies	MLM 4/24/95		11/94

NP-MW03 (F.H.)

$$K = \frac{r^2 \ln (L/R)}{2 L T_0}$$

Where:
$r = 2$ in. $= 0.1666$ ft.
$R = 5\frac{1}{2}$ in. $= 0.46$ ft.
$L = 7.81$ ft. (T.D: 25.08' - W.L: 17.27')
$T_0 = 0.109$ min.

$$K = \frac{(0.1666 \text{ ft})^2 \ln (7.81/0.46 \text{ ft})}{2 (7.81 \text{ ft}) (0.109 \text{ min.})}$$

$K = 0.046$ ft/min.

NP-MW03 (R.H.)

$$K = \frac{(0.1666 \text{ ft.})^2 \ln (7.81 \text{ ft.}/0.46 \text{ ft}}{2 (7.81 \text{ ft.}) (0.131 \text{ min.})}$$

$K = 0.0384$ ft/min.

35.30

CALCULATION WORKSHEET Order No. 19116 (01-91)

PAGE _____ OF _____

CLIENT: US NAVY	JOB NUMBER: 0206
SUBJECT: Hydraulic Conductivity Calculations	
BASED ON	DRAWING NUMBER
BY: Paul Davis / CHECKED BY: MLM 4/24/95	APPROVED BY / DATE: 11/94

$$K = \frac{r^2 \ln (L/R)}{2 (L)(T_0)}$$

where: $r = 2$ in. $= 0.1666$ ft.
$R = 5\frac{1}{2}$ in. $= 0.46$ ft
$L = 7.31$ ft. $(15.25' - 7.94')$
$T_0 = 0.056$ min.

FC-MW04-S
F.H.

$$K = \frac{(0.1666 \text{ ft})^2 \ \ln (7.31 \text{ ft}/0.46 \text{ ft})}{2 (7.31 \text{ ft.}) (0.056 \text{ min.})}$$

$K = 0.094$ ft/min. (135.36 ft/d

FC-MW04-S
R.H.

$$K = \frac{(0.1666 \text{ ft})^2 \ \ln (7.31 \text{ ft}/0.46 \text{ ft})}{2 (7.31 \text{ ft.}) (0.053)}$$

$K = 0.099$ ft/min. (142.56 ft/d

CALCULATION WORKSHEET Order No. 19116 (01-91)

PAGE _____ OF _____

CLIENT	JOB NUMBER
U.S. NAVY	0206

SUBJECT	
Hydraulic Conductivity Calculations	

BASED ON	DRAWING NUMBER

BY	CHECKED BY	APPROVED BY	DATE
Paul Davis	MLM 4/24/95		11/94

NP-MW04
RH.

$$K = \frac{r^2 \ln (L/R)}{2 L T_0}$$

where: $r = 2$ in. $= 0.1666$ ft.
$R = 5\ 1/2$ in $= 0.46$ ft.
$L = 5.87$ ft. (47.33' - 41.46')
$T_0 = \cancel{1.05}$ ~~min~~ 0.105 min

$$K = \frac{(0.1666 \text{ ft})^2 \ \ln (5.87 \text{ ft}/0.46 \text{ ft})}{2 (5.87 \text{ ft.}) (0.105 \text{ min.})}$$

$K = 0.057$ ft/min

NP-MW04
F.H.

CALCULATION WORKSHEET Order No. 19116 (01-91)

PAGE _____ OF _____

CLIENT US Navy	JOB NUMBER 0206
SUBJECT Hydraulic Conductivity Calculations	
BASED ON	DRAWING NUMBER
BY Paul Davis / CHECKED BY MLM 4/24/95	APPROVED BY / DATE 11/94

$$K = \frac{r^2 \ln (L/R)}{2 L T_0}$$

where: $r = 2$ in. $= 0.1666$ ft.
$R = 5\frac{1}{2}$ in. $= 0.46$ ft
$L = 56.76'$ $(79.79' - 23.03')$
$T_0 = 0.021$ min.

FT-MW01-I
F.H.

$$K = \frac{(0.1666 \text{ ft})^2 \ln (56.76'/0.46')}{2 (56.76 \text{ ft.}) (0.021 \text{ min.})}$$

$K = 0.056$ ft/min. 80.64 ft/day

FT-MW01-I
RH

$$K = \frac{(0.1666 \text{ ft})^2 \ln (56.76'/0.46')}{2 (56.76 \text{ ft.}) (0.05 \text{ min.})}$$

$K = 0.024$ ft/min 34.56 ft/day

CALCULATION WORKSHEET Order No. 19116 (01-91)

PAGE _____ OF _____

CLIENT U.S. Navy		JOB NUMBER 0206	
SUBJECT Hydraulic Conductivity Calculations			
BASED ON		DRAWING NUMBER	
BY Paul Davis	CHECKED BY MLM 4/24/95	APPROVED BY	DATE 11/94

$$K = \frac{r^2 \ln (L/R)}{2 (L)(T_0)}$$

where: r = 2 in. = 0.1666 ft.
R = 5 1/2 in. = 0.46 ft
L = 6.71' (30.02' - 23.31')
T_0 = 0.144 min.

FT-MW01-S
F.H.

$$K = \frac{(0.1666 \text{ ft})^2 \ln (6.71'/0.46')}{2 (6.71') (0.144 \text{ min.})}$$

K = 0.038 ft/min. 54.72 ft/day

FT-MW01-S
R.H.

$$K = \frac{(0.1666 \text{ ft})^2 \ln (6.71 \text{ ft}/0.46 \text{ ft})}{2 (6.71 \text{ ft}) (0.0716 \text{ min.})}$$

K = 0.077 ft/min. 110.88 ft/day

CALCULATION WORKSHEET Order No. 19116 (01-91)

PAGE _____ OF _____

CLIENT U.S Navy	JOB NUMBER 0206
SUBJECT Hydraulic Conductivity Calculations	
BASED ON	DRAWING NUMBER
BY Paul Davis / CHECKED BY MLM 4/24/95	APPROVED BY / DATE 11/94

$$K = \frac{r^2 \ln (L/R)}{2 L T_0}$$

FO-MW04-S
RH.

where: $r = 2$ in. $= 0.1666$ ft
$R = 5\frac{1}{2}$ in. $= 0.46$ ft
$L =$ ~~39.35~~ $7.35'$ $(26.21' - 18.86')$
$T_0 = 0.043$

$$K = \frac{(0.1666 \text{ ft})^2 \ln (7.35'/0.46')}{2 (7.35 \text{ ft.}) (0.043 \text{ min.})}$$

$K = 0.122$ ft/min.

FO-MW04-S
(FM)

$$K = \frac{(0.1666 \text{ ft.})^2 \ln (7.35'/0.46')}{2 (7.35 \text{ ft.}) (0.133 \text{ min.})}$$

$K = 0.039$ ft/min. (56.16 ft/day)

CALCULATION WORKSHEET Order No. 19116 (01-91)

PAGE _____ OF _____

CLIENT	JOB NUMBER
U.S. Navy	0266
SUBJECT: Hydraulic Conductivity Calculations	
BASED ON	DRAWING NUMBER

BY	CHECKED BY	APPROVED BY	DATE
Paul Davis	MLM 4/24/95		11/94

$$K = \frac{r^2 \ln (L/R)}{2 L T_0}$$

FD-MW04-I
(R.H.)

where: $r = 2$ in. $= 0.1666$ ft
$R = 5\frac{1}{2}$ in. $= 0.46$ ft.
$L = 39.05'$ $(57.5' - 18.45')$
$T_0 = 0.044$ min.

$$K = \frac{(0.1666 \text{ ft})^2 \ \ln (39.05'/0.46')}{2 \ (39.05' \text{ ft}) \ (0.044 \text{ min.})}$$

$K = 0.036$ ft/min.

FD-MW04-I
(F.H.)

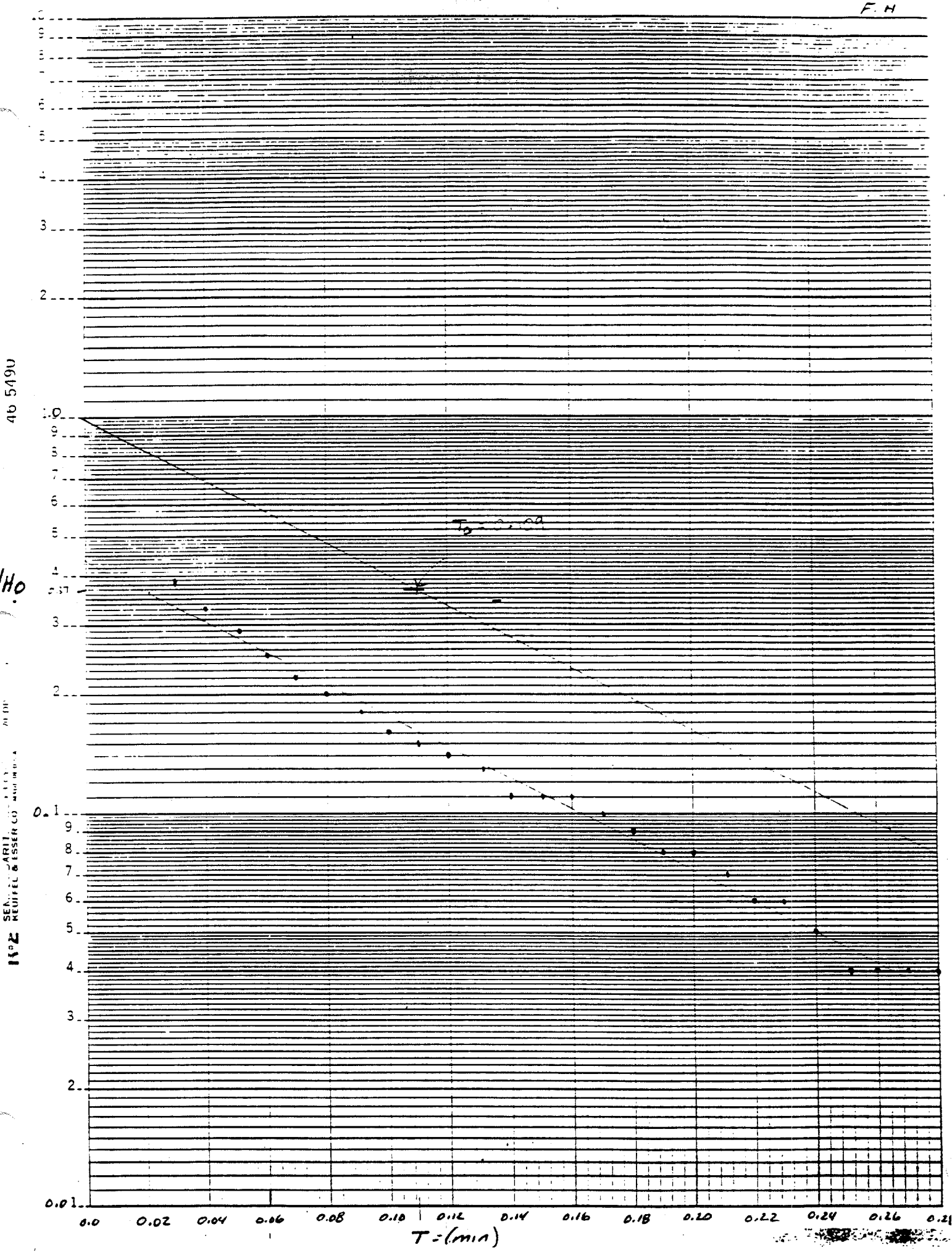
$$K = \frac{(0.1666 \text{ ft})^2 \ \ln (39.05 \text{ ft}/0.46 \text{ ft.})}{2 \ (39.05' \text{ ft}) \ (0.055 \text{ min.})}$$

$K = 0.029$ ft/min.

HYDRAULIC CONDUCTIVITY TESTING DATA SHEET **NUS CORPORATION**

PROJECT NAME: NWIRP- Calverton WELL/BORING NO.: NP- MW 03
PROJECT NO.: 0206 GEOLOGIST: P. Davis
WELL DIAMETER: 4-inch SCREEN LENGTH/DEPTH: 10.0' / 25.08' TEST NO.:
STATIC WATER LEVEL (Depth/Elevation): 17.27' (L = 7.81') DATE:
TEST TYPE (Rising/Falling/Constant Head): Falling Head CHECKED: MLM 4/24/95
METHOD OF INDUCING WATER LEVEL CHANGE: Slug 43½" x 1¼" (Ho = 0.35') PAGE ___ OF ___

TIME	ELAPSED TIME (min or sec.)	MEASURED DEPTH TO WATER (ft.)	CORRECTION	DEPTH TO WATER (ft.)	DRAWDOWN OR HEAD (ft.)	h/H_o	REMARKS
	0.03				-0.132	-0.38	
	0.04				-0.116	-0.33	
	0.05				-0.100	-0.29	
	0.06				-0.088	-0.25	
	0.07				-0.078	0.22	
	0.08				-0.069	0.20	
	0.09				-0.063	0.18	
	0.10				-0.056	0.16	
	0.11				-0.053	0.15	
	0.12				-0.050	0.14	
	0.13				-0.044	0.13	
	0.14				-0.040	0.11	
	0.15				-0.037	0.11	
	0.16				-0.037	0.11	
	0.17				-0.034	0.10	
	0.18				-0.031	0.09	
	0.19				-0.028	0.08	
	0.20				-0.028	0.08	
	0.21				-0.025	0.07	
	0.22				-0.022	0.06	
	0.23				-0.022	0.06	
	0.24				-0.018	0.05	
	0.25				-0.015	0.04	
	0.26				-0.015	0.04	
	0.27				-0.015	0.04	
	0.28				-0.015	0.04	
	0.29				-0.012	0.03	
	0.30				-0.012	0.03	
	0.31				-0.012	0.03	


F. H
h/Ho
T = (min)
0.0
0.02
0.04
0.06
0.08
0.10
0.12
0.14
0.16
0.18
0.20
0.22
0.24
0.26
1.0
0.1
0.01
46 5490
K&E SEMI-LOGARITHMIC
KEUFFEL & ESSER CO.

10-MW03
Falling Head

SE1000C
Environmental Logger
09/16 15:18

Unit# 00143 Test 3

PUT 1: Level (F) TOC

ference	0.000
nearity	0.000
ale factor	9.990
fset	0.040
lay mSEC	50.000

ep 0 09/14 14:49:08

apsed Time	INPUT 1
0.0000	-0.286
0.0033	-0.769
0.0066	-0.993
0.0100	-0.274
0.0133	0.069
0.0166	0.072
0.0200	-0.066
0.0233	-0.160
0.0266	-0.129
0.0300	-0.132
0.0333	-0.122
0.0366	-0.119
0.0400	-0.116
0.0433	-0.113
0.0466	-0.104
0.0500	-0.100
0.0533	-0.094
0.0566	-0.091
0.0600	-0.088
0.0633	-0.081
0.0666	-0.078
0.0700	-0.078
0.0733	-0.072
0.0766	-0.069
0.0800	-0.069
0.0833	-0.066
0.0866	-0.063
0.0900	-0.063
0.0933	-0.059
0.0966	-0.059
0.1000	-0.056
0.1033	-0.053
0.1066	-0.053
0.1100	-0.053
0.1133	-0.050
0.1166	-0.050
0.1200	-0.050
0.1233	-0.047
0.1266	-0.044
0.1300	-0.044
0.1333	-0.044
0.1366	-0.044
0.1400	-0.040
0.1433	-0.040
0.1466	-0.040
0.1500	-0.037
0.1533	-0.037

0.1566	-0.040
0.1600	-0.037
0.1633	-0.034
0.1666	-0.034
0.1700	-0.034
0.1733	-0.031
0.1766	-0.031
0.1800	-0.031
0.1833	-0.031
0.1866	-0.028
0.1900	-0.028
0.1933	-0.028
0.1966	-0.028
0.2000	-0.028
0.2033	-0.025
0.2066	-0.025
0.2100	-0.025
0.2133	-0.025
0.2166	-0.022
0.2200	-0.022
0.2233	-0.022
0.2266	-0.022
0.2300	-0.022
0.2333	-0.022
0.2366	-0.018
0.2400	-0.018
0.2433	-0.018
0.2466	-0.018
0.2500	-0.015
0.2533	-0.018
0.2566	-0.012
0.2600	-0.015
0.2633	-0.015
0.2666	-0.015
0.2700	-0.015
0.2733	-0.015
0.2766	-0.015
0.2800	-0.015
0.2833	-0.015
0.2866	-0.015
0.2900	-0.012
0.2933	-0.012
0.2966	-0.012
0.3000	-0.012
0.3033	-0.012
0.3066	-0.012
0.3100	-0.012
0.3133	-0.012
0.3166	-0.012
0.3200	-0.012
0.3233	-0.009
0.3266	-0.009
0.3300	-0.009
0.3333	-0.009
0.3500	-0.009
0.3666	-0.006
0.3833	-0.006
0.4000	-0.006
0.4166	-0.006
0.4333	-0.003
0.4500	-0.003
0.4666	-0.003
0.4833	-0.003
0.5000	-0.003
0.5166	0.000
0.5333	0.000

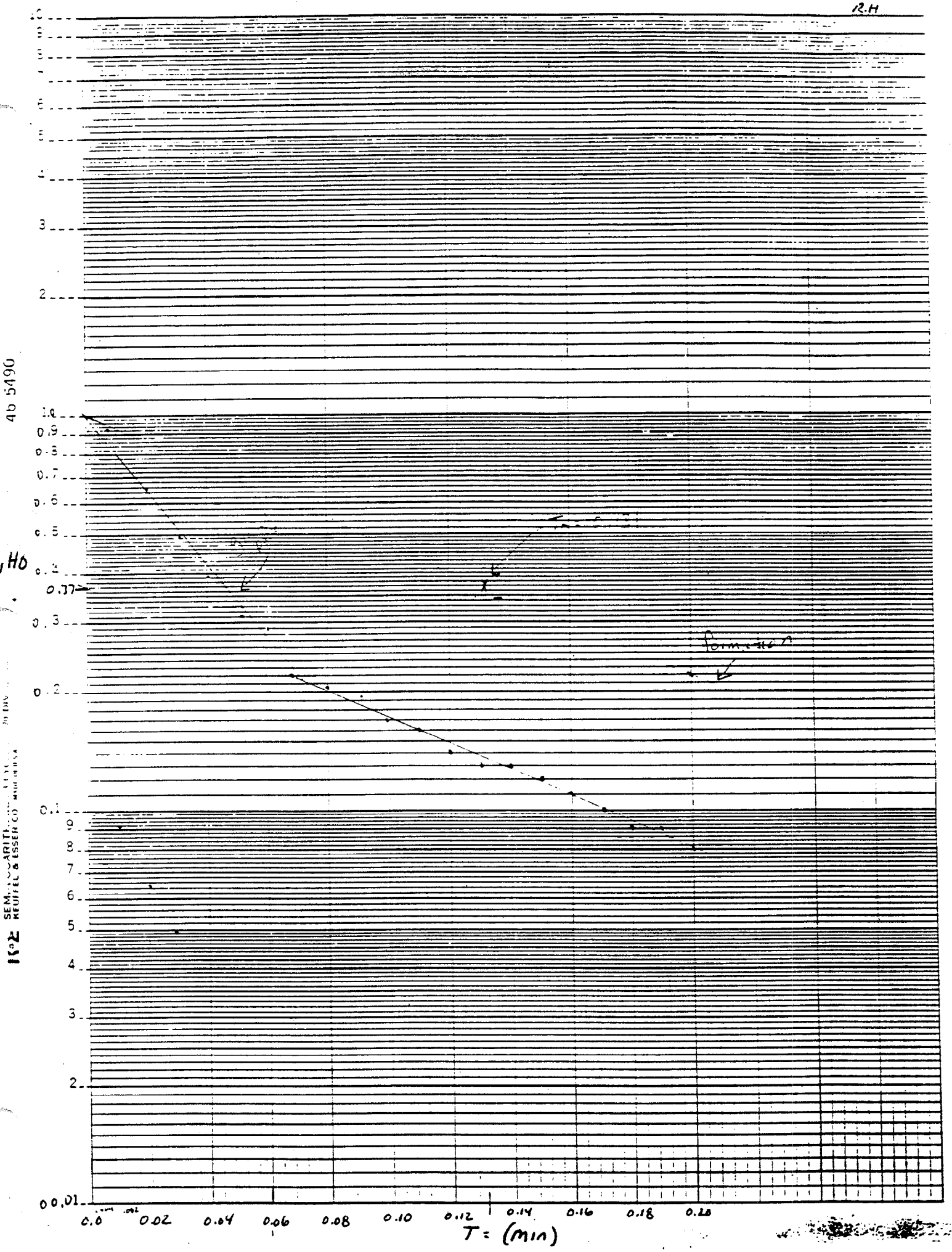
0.5500	0.000
0.5666	0.000
0.5833	0.000
0.6000	0.000
0.6166	0.000
0.6333	0.000
0.6500	0.003
0.6666	0.003
0.6833	0.003
0.7000	0.003
0.7166	0.003
0.7333	0.003
0.7500	0.003
0.7666	0.003
0.7833	0.003
0.8000	0.003
0.8166	0.003
0.8333	0.003
0.8500	0.003
0.8666	0.003
0.8833	0.003
0.9000	0.006
0.9166	0.003
0.9333	0.003
0.9500	0.006
0.9666	0.006
0.9833	0.006
1.0000	0.006
1.2000	0.006
1.4000	0.006
1.6000	0.006
1.8000	0.006
2.0000	0.006
2.2000	0.006
2.4000	0.006
2.6000	0.006
2.8000	0.006
3.0000	0.006
3.2000	0.006
3.4000	0.009
3.6000	0.006
3.8000	0.006
4.0000	0.006
4.2000	0.006
4.4000	0.006
4.6000	0.006
4.8000	0.009
5.0000	0.006
5.2000	0.006
5.4000	0.006
5.6000	0.006
5.8000	0.006
6.0000	0.006
6.2000	0.006
6.4000	0.006
6.6000	0.006
6.8000	0.006
7.0000	0.006
7.2000	0.006
7.4000	0.006
7.6000	0.006
7.8000	0.006
8.0000	0.006
8.2000	0.006
8.4000	0.006
8.6000	0.006

8.8000	0.006
9.0000	0.006
9.2000	0.006
9.4000	0.006
9.6000	0.006
9.8000	0.006
0.0000	0.006

HYDRAULIC CONDUCTIVITY TESTING DATA SHEET — NUS CORPORATION

PROJECT NAME: NWIRP- Calverton WELL/BORING NO.: NP- MW03
PROJECT NO.: 0206 GEOLOGIST: P. Davis
WELL DIAMETER: 4-inch SCREEN LENGTH/DEPTH: 10.0' / 25.08' TEST NO.:
STATIC WATER LEVEL (Depth/Elevation): 17.27' (L= 7.81') DATE:
TEST TYPE (Rising/Falling/Constant Head): Rising Head CHECKED: MLM 4/24/95
METHOD OF INDUCING WATER LEVEL CHANGE: Slug : 43½" x 1¼" (Ho = 0.35 ft) PAGE ___ OF ___

TIME	ELAPSED TIME (min or sec.)	MEASURED DEPTH TO WATER (ft.)	CORRECTION	DEPTH TO WATER (ft.)	DRAWDOWN OR HEAD (ft.)	h/Ho	REMARKS
	0.01				0.321	0.92	
	0.02				0.227	0.65	
	0.03				0.170	0.49	
	0.04				0.138	0.39	
	0.05				0.113	0.32	
	0.06				0.097	0.28	
	0.07				0.085	0.24	
	0.08				0.075	0.21	
	0.09				0.066	0.19	
	0.10				0.059	0.17	
	0.11				0.056	0.16	
	0.12				0.050	0.14	
	0.13				0.047	0.13	
	0.14				0.044	0.13	
	0.15				0.041	0.12	
	0.16				0.037	0.11	
	0.17				0.034	0.10	
	0.18				0.031	0.09	
	0.19				0.031	0.09	
	0.20				0.028	0.08	
	0.21				0.028	0.08	
	0.22				0.025	0.07	
	0.23				0.022	0.06	
	0.24				0.022	0.06	
	0.25				0.022	0.06	
	0.26				0.018	0.05	
	0.27				0.018	0.05	
	0.28				0.018	0.05	
	0.29				0.015	0.04	


10
9
8
7
6
5
4
3
2
1.0
0.9
0.8
0.7
0.6
0.5
0.4
0.37
0.3
0.2
0.1
9
8
7
6
5
4
3
2
0.01
0.0
0.02
0.04
0.06
0.08
0.10
0.12
0.14
0.16
0.18
0.20
T = (min)
46 5490
SEMI-LOGARITHMIC
KEUFFEL & ESSER CO.

MW-MW-3
Rising Head

SE1000C
Environmental Logger
09/16 15:12

Unit# 00143 Test 2

NPUT 1: Level (F) TOC

eference	0.000
inearity	0.000
cale factor	9.990
ffset	0.040
elay mSEC	50.000

tep 0 09/14 14:24:31

lapsed Time	INPUT 1
0.0000	0.545
0.0033	-0.419
0.0066	0.435
0.0100	0.321
0.0133	0.283
0.0166	0.255
0.0200	0.227
0.0233	0.211
0.0266	0.186
0.0300	0.170
0.0333	0.160
0.0366	0.145
0.0400	0.138
0.0433	0.126
0.0466	0.119
0.0500	0.113
0.0533	0.104
0.0566	0.104
0.0600	0.097
0.0633	0.094
0.0666	0.088
0.0700	0.085
0.0733	0.082
0.0766	0.078
0.0800	0.075
0.0833	0.072
0.0866	0.072
0.0900	0.066
0.0933	0.059
0.0966	0.063
0.1000	0.059
0.1033	0.059
0.1066	0.056
0.1100	0.056
0.1133	0.053
0.1166	0.053
0.1200	0.050
0.1233	0.050
0.1266	0.047
0.1300	0.047
0.1333	0.047
0.1366	0.047
0.1400	0.044
0.1433	0.041
0.1466	0.041
0.1500	0.041
0.1533	0.037

0.1566	0.037
0.1600	0.037
0.1633	0.037
0.1666	0.034
0.1700	0.034
0.1733	0.034
0.1766	0.034
0.1800	0.031
0.1833	0.031
0.1866	0.031
0.1900	0.031
0.1933	0.028
0.1966	0.031
0.2000	0.028
0.2033	0.028
0.2066	0.028
0.2100	0.028
0.2133	0.025
0.2166	0.025
0.2200	0.025
0.2233	0.025
0.2266	0.025
0.2300	0.022
0.2333	0.025
0.2366	0.025
0.2400	0.022
0.2433	0.022
0.2466	0.022
0.2500	0.022
0.2533	0.022
0.2566	0.022
0.2600	0.018
0.2633	0.018
0.2666	0.018
0.2700	0.018
0.2733	0.018
0.2766	0.018
0.2800	0.018
0.2833	0.018
0.2866	0.018
0.2900	0.015
0.2933	0.015
0.2966	0.018
0.3000	0.015
0.3033	0.015
0.3066	0.015
0.3100	0.015
0.3133	0.015
0.3166	0.015
0.3200	0.015
0.3233	0.015
0.3266	0.015
0.3300	0.012
0.3333	0.015
0.3500	0.012
0.3666	0.012
0.3833	0.012
0.4000	0.009
0.4166	0.009
0.4333	0.009
0.4500	0.009
0.4666	0.006
0.4833	0.006
0.5000	0.006
0.5166	0.006
0.5333	0.006

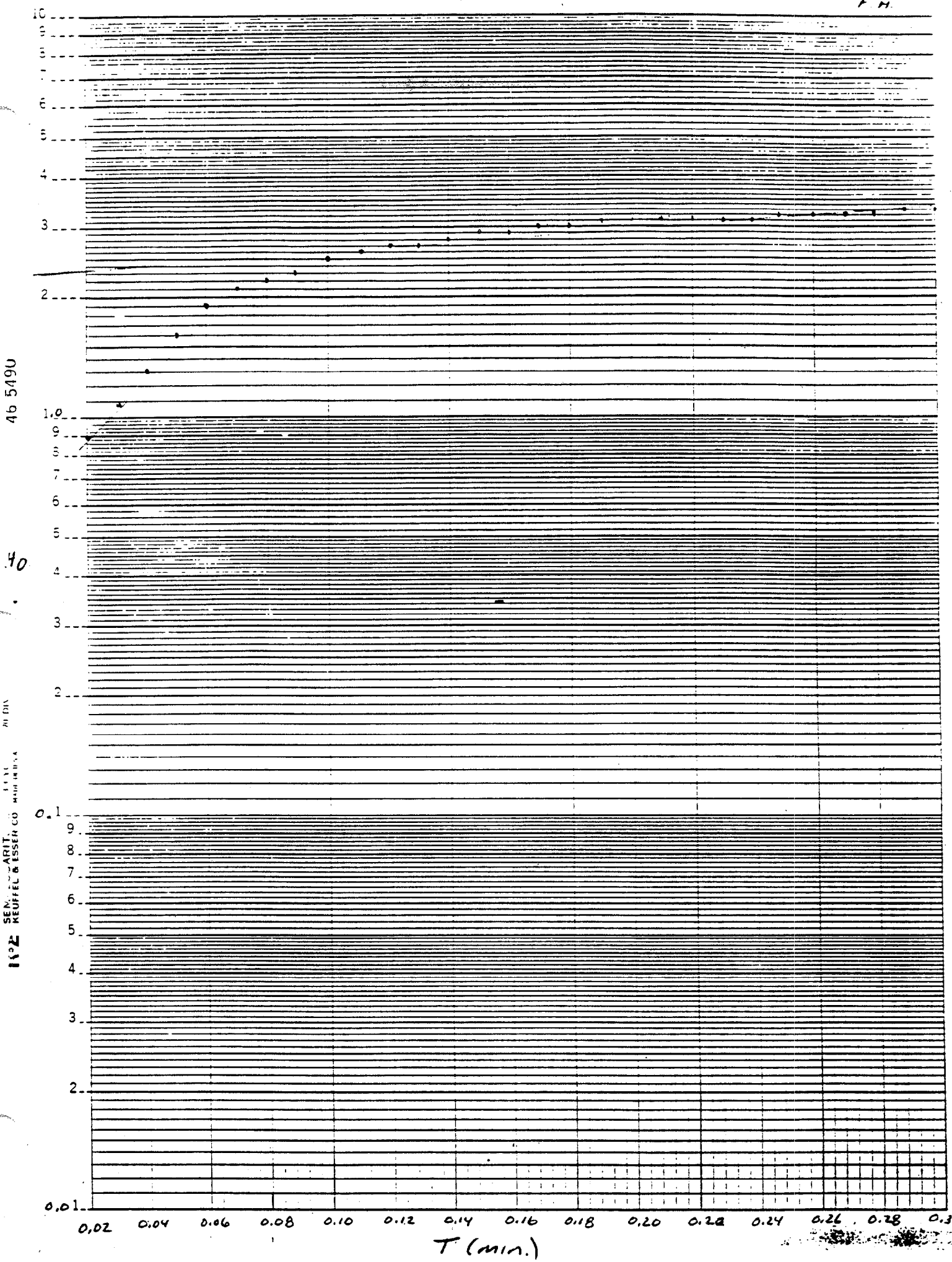
0.5500	0.006
0.5666	0.006
0.5833	0.006
0.6000	0.003
0.6166	0.003
0.6333	0.003
0.6500	0.003
0.6666	0.003
0.6833	0.003
0.7000	0.003
0.7166	0.003
0.7333	0.003
0.7500	0.003
0.7666	0.003
0.7833	0.003
0.8000	0.003
0.8166	0.003
0.8333	0.003
0.8500	0.003
0.8666	0.003
0.8833	0.003
0.9000	0.003
0.9166	0.003
0.9333	0.000
0.9500	0.003
0.9666	0.003
0.9833	0.003
1.0000	0.003
1.2000	0.000
1.4000	0.000
1.6000	0.000
1.8000	0.000
2.0000	0.000
2.2000	0.000
2.4000	0.000
2.6000	0.000
2.8000	0.000
3.0000	0.000
3.2000	0.000
3.4000	0.000
3.6000	0.000
3.8000	0.000
4.0000	0.000
4.2000	0.000
4.4000	0.000
4.6000	0.000
4.8000	0.000
5.0000	0.000
5.2000	0.000
5.4000	0.000
5.6000	0.000
5.8000	0.000
6.0000	0.000
6.2000	0.000
6.4000	0.000
6.6000	0.000
6.8000	0.000
7.0000	0.000
7.2000	-0.003
7.4000	0.000
7.6000	-0.003
7.8000	-0.003
8.0000	-0.003
8.2000	-0.003
8.4000	-0.003
8.6000	-0.003

8.8000	-0.003
9.0000	-0.003
9.2000	0.000
9.4000	-0.003
9.6000	-0.003
9.8000	-0.003
10.0000	-0.003

HYDRAULIC CONDUCTIVITY TESTING DATA SHEET **NUS CORPORATION**

PROJECT NAME: NWIRP- Calverton WELL/BORING NO.: NP-MW 04
PROJECT NO.: 0206 GEOLOGIST: P. Davis
WELL DIAMETER: 4-inch SCREEN LENGTH/DEPTH: 10.0' / 47.33' TEST NO.:
STATIC WATER LEVEL (Depth/Elevation): 41.46' (L=5.87') DATE:
TEST TYPE (Rising/Falling/Constant Head): Falling Head CHECKED: MLM 4/24/95
METHOD OF INDUCING WATER LEVEL CHANGE: Slug: 43½" x 1¼" (Ho = 0.35') PAGE ___ OF ___

TIME	ELAPSED TIME (min or sec.)	MEASURED DEPTH TO WATER (ft.)	CORRECTION	DEPTH TO WATER (ft.)	DRAWDOWN OR HEAD (ft.)	h/Ho REMARKS
	0.02				0.312	0.89
	0.03				0.378	1.08
	0.04				0.394	1.13
	0.05				0.406	1.16
	0.06				0.416	1.19
	0.07				0.422	1.21
	0.08				0.428	1.22
	0.09				0.432	1.23
	0.10				0.438	1.25
	0.11				0.441	1.26
	0.12				0.444	1.27
	0.13				0.444	1.27
	0.14				0.447	1.28
	0.15				0.450	1.29
	0.16				0.450	1.29
	0.17				0.454	1.30
	0.18				0.454	1.30
	0.19				0.457	1.31
	0.20				0.457	1.31
	0.21				0.460	1.31
	0.22				0.460	1.31
	0.23				0.460	1.31
	0.24				0.460	1.31
	0.25				0.463	1.32
	0.26				0.463	1.32
	0.27				0.463	1.32
	0.28				0.463	1.32
	0.29				0.466	1.33
	0.30				0.466	1.33


F H
46 5490
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1.0
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0.04
0.06
0.08
0.10
0.12
0.14
0.16
0.18
0.20
0.22
0.24
0.26
0.28
T (min.)

NP-mw04
Falling Head

SE1000C
Environmental Logger
09/16 15:07

Unit# 00143 Test 1

PUT 1: Level (F) TOC

ference	0.000
nearity	0.000
ale factor	9.990
fset	0.040
lay mSEC	50.000

ep 0 09/14 13:49:06

apsed Time	INPUT 1
0.0000	0.438
0.0033	0.081
0.0066	-0.170
0.0100	-0.009
0.0133	0.801
0.0166	0.413
0.0200	0.312
0.0233	0.353
0.0266	0.365
0.0300	0.378
0.0333	0.387
0.0366	0.387
0.0400	0.394
0.0433	0.400
0.0466	0.403
0.0500	0.406
0.0533	0.409
0.0566	0.413
0.0600	0.416
0.0633	0.419
0.0666	0.419
0.0700	0.422
0.0733	0.425
0.0766	0.425
0.0800	0.428
0.0833	0.432
0.0866	0.432
0.0900	0.432
0.0933	0.435
0.0966	0.435
0.1000	0.438
0.1033	0.438
0.1066	0.438
0.1100	0.441
0.1133	0.441
0.1166	0.441
0.1200	0.444
0.1233	0.444
0.1266	0.444
0.1300	0.444
0.1333	0.447
0.1366	0.447
0.1400	0.447
0.1433	0.447
0.1466	0.447
0.1500	0.450
0.1533	0.450

0.1566	0.450
0.1600	0.450
0.1633	0.454
0.1666	0.454
0.1700	0.454
0.1733	0.454
0.1766	0.454
0.1800	0.454
0.1833	0.454
0.1866	0.457
0.1900	0.457
0.1933	0.457
0.1966	0.457
0.2000	0.457
0.2033	0.457
0.2066	0.457
0.2100	0.460
0.2133	0.460
0.2166	0.460
0.2200	0.460
0.2233	0.460
0.2266	0.460
0.2300	0.460
0.2333	0.460
0.2366	0.460
0.2400	0.460
0.2433	0.460
0.2466	0.463
0.2500	0.463
0.2533	0.463
0.2566	0.463
0.2600	0.463
0.2633	0.463
0.2666	0.463
0.2700	0.463
0.2733	0.463
0.2766	0.463
0.2800	0.463
0.2833	0.463
0.2866	0.463
0.2900	0.466
0.2933	0.466
0.2966	0.466
0.3000	0.466
0.3033	0.466
0.3066	0.466
0.3100	0.466
0.3133	0.466
0.3166	0.466
0.3200	0.466
0.3233	0.466
0.3266	0.466
0.3300	0.466
0.3333	0.466
0.3500	0.466
0.3666	0.469
0.3833	0.469
0.4000	0.469
0.4166	0.469
0.4333	0.469
0.4500	0.469
0.4666	0.473
0.4833	0.473
0.5000	0.473
0.5166	0.473
0.5333	0.473

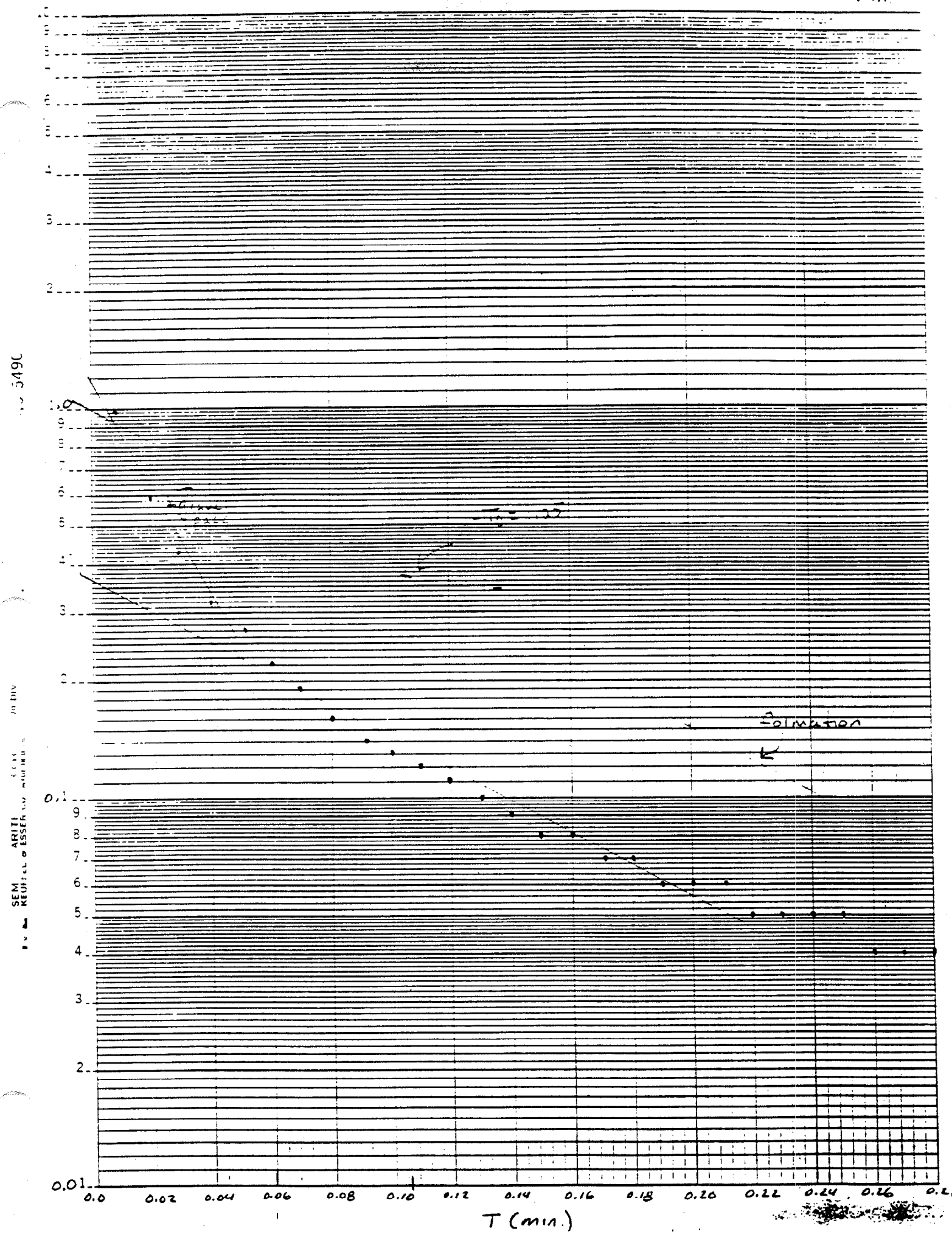
0.5500	0.473
0.5666	0.473
0.5833	0.473
0.6000	0.473
0.6166	0.476
0.6333	0.473
0.6500	0.476
0.6666	0.476
0.6833	0.476
0.7000	0.476
0.7166	0.476
0.7333	0.476
0.7500	0.476
0.7666	0.476
0.7833	0.476
0.8000	0.476
0.8166	0.476
0.8333	0.476
0.8500	0.476
0.8666	0.476
0.8833	0.476
0.9000	0.476
0.9166	0.476
0.9333	0.476
0.9500	0.476
0.9666	0.476
0.9833	0.476
1.0000	0.476
1.2000	0.476
1.4000	0.476
1.6000	0.476
1.8000	0.476
2.0000	0.476
2.2000	0.476
2.4000	0.476
2.6000	0.476
2.8000	0.476
3.0000	0.476
3.2000	0.476
3.4000	0.476
3.6000	0.476
3.8000	0.476
4.0000	0.476
4.2000	0.476
4.4000	0.476
4.6000	0.476
4.8000	0.476
5.0000	0.476
5.2000	0.479
5.4000	0.476
5.6000	0.476
5.8000	0.476
6.0000	0.479
6.2000	0.479
6.4000	0.479
6.6000	0.479
6.8000	0.479
7.0000	0.479
7.2000	0.479
7.4000	0.479
7.6000	0.479
7.8000	0.479
8.0000	0.479
8.2000	0.479
8.4000	0.479
8.6000	0.479

8.8000	0.479
9.0000	0.479
9.2000	0.479
9.4000	0.479
9.6000	0.479
9.8000	0.479
10.0000	0.479

HYDRAULIC CONDUCTIVITY TESTING DATA SHEET **NUS CORPORATION**

PROJECT NAME: NWIRP- Calverton WELL/BORING NO.: NP-MW04
PROJECT NO.: 0206 GEOLOGIST: P. Davis
WELL DIAMETER: 4-inch SCREEN LENGTH/DEPTH: 10.0' / 47.33' TEST NO.:
STATIC WATER LEVEL (Depth/Elevation): 41.46' (L = 5.87') DATE:
TEST TYPE (Rising/Falling/Constant Head): Rising Head CHECKED: MLM 4/24/95
METHOD OF INDUCING WATER LEVEL CHANGE: Slug: 43½" x 1¼" (H_0 = 0.35') PAGE ___ OF ___

TIME	ELAPSED TIME (min or sec.)	MEASURED DEPTH TO WATER (ft.)	CORRECTION	DEPTH TO WATER (ft.)	DRAWDOWN OR HEAD (ft.)	h/H_0	REMARKS
	0.01				0.343	0.98	
	0.02				0.208	0.59	
	0.03				0.151	0.43	
	0.04				0.113	0.32	
	0.05				0.094	0.27	
	0.06				0.078	0.22	
	0.07				0.066	0.19	
	0.08				0.056	0.16	
	0.09				0.050	0.14	
	0.10				0.044	0.13	
	0.11				0.041	0.12	
	0.12				0.037	0.11	
	0.13				0.034	0.10	
	0.14				0.031	0.09	
	0.15				0.028	0.08	
	0.16				0.028	0.08	
	0.17				0.025	0.07	
	0.18				0.025	0.07	
	0.19				0.022	0.06	
	0.20				0.022	0.06	
	0.21				0.022	0.06	
	0.22				0.018	0.05	
	0.23				0.018	0.05	
	0.24				0.018	0.05	
	0.25				0.018	0.05	
	0.26				0.015	0.04	
	0.27				0.015	0.04	
	0.28				0.015	0.04	
	0.29				0.015	0.04	


R.H
Formation
T (min.)
0.0
0.02
0.04
0.06
0.08
0.10
0.12
0.14
0.16
0.18
0.20
0.22
0.24
0.26
0.01
0.1
1.0
2
3
4
5
6
7
8
9

NP-MW04
Rising Head

SE1000C
Environmental Logger
09/16 14:41

Unit# 00143 Test 0

NPUT 1: Level (F) TOC

eference	0.000
inearity	0.000
cale factor	9.990
ffset	0.040
elay mSEC	50.000

tep 0 09/14 13:20:54

lapsed Time	INPUT 1
0.0000	0.936
0.0033	-0.126
0.0066	0.331
0.0100	0.343
0.0133	0.277
0.0166	0.236
0.0200	0.208
0.0233	0.179
0.0266	0.163
0.0300	0.151
0.0333	0.135
0.0366	0.126
0.0400	0.113
0.0433	0.107
0.0466	0.094
0.0500	0.094
0.0533	0.085
0.0566	0.085
0.0600	0.078
0.0633	0.072
0.0666	0.069
0.0700	0.066
0.0733	0.063
0.0766	0.059
0.0800	0.056
0.0833	0.056
0.0866	0.053
0.0900	0.050
0.0933	0.050
0.0966	0.047
0.1000	0.044
0.1033	0.044
0.1066	0.041
0.1100	0.041
0.1133	0.041
0.1166	0.037
0.1200	0.037
0.1233	0.034
0.1266	0.034
0.1300	0.034
0.1333	0.034
0.1366	0.031
0.1400	0.031
0.1433	0.031
0.1466	0.031
0.1500	0.028
0.1533	0.028

0.1566	0.025
0.1600	0.028
0.1633	0.028
0.1666	0.028
0.1700	0.025
.1733	0.025
0.1766	0.025
0.1800	0.025
0.1833	0.025
0.1866	0.022
0.1900	0.022
0.1933	0.022
0.1966	0.022
0.2000	0.022
0.2033	0.022
0.2066	0.022
0.2100	0.022
0.2133	0.018
0.2166	0.018
0.2200	0.018
0.2233	0.018
0.2266	0.018
0.2300	0.018
0.2333	0.018
0.2366	0.018
0.2400	0.018
0.2433	0.018
0.2466	0.018
0.2500	0.018
0.2533	0.018
0.2566	0.015
0.2600	0.015
0.2633	0.015
0.2666	0.015
.2700	0.015
0.2733	0.015
0.2766	0.015
0.2800	0.015
0.2833	0.015
0.2866	0.015
0.2900	0.015
0.2933	0.015
0.2966	0.015
0.3000	0.015
0.3033	0.015
0.3066	0.015
0.3100	0.015
0.3133	0.015
0.3166	0.015
0.3200	0.015
0.3233	0.015
0.3266	0.012
0.3300	0.012
0.3333	0.012
0.3500	0.012
0.3666	0.012
0.3833	0.012
0.4000	0.009
0.4166	0.009
0.4333	0.009
0.4500	0.009
0.4666	0.009
.4833	0.009
0.5000	0.009
0.5166	0.009
0.5333	0.009

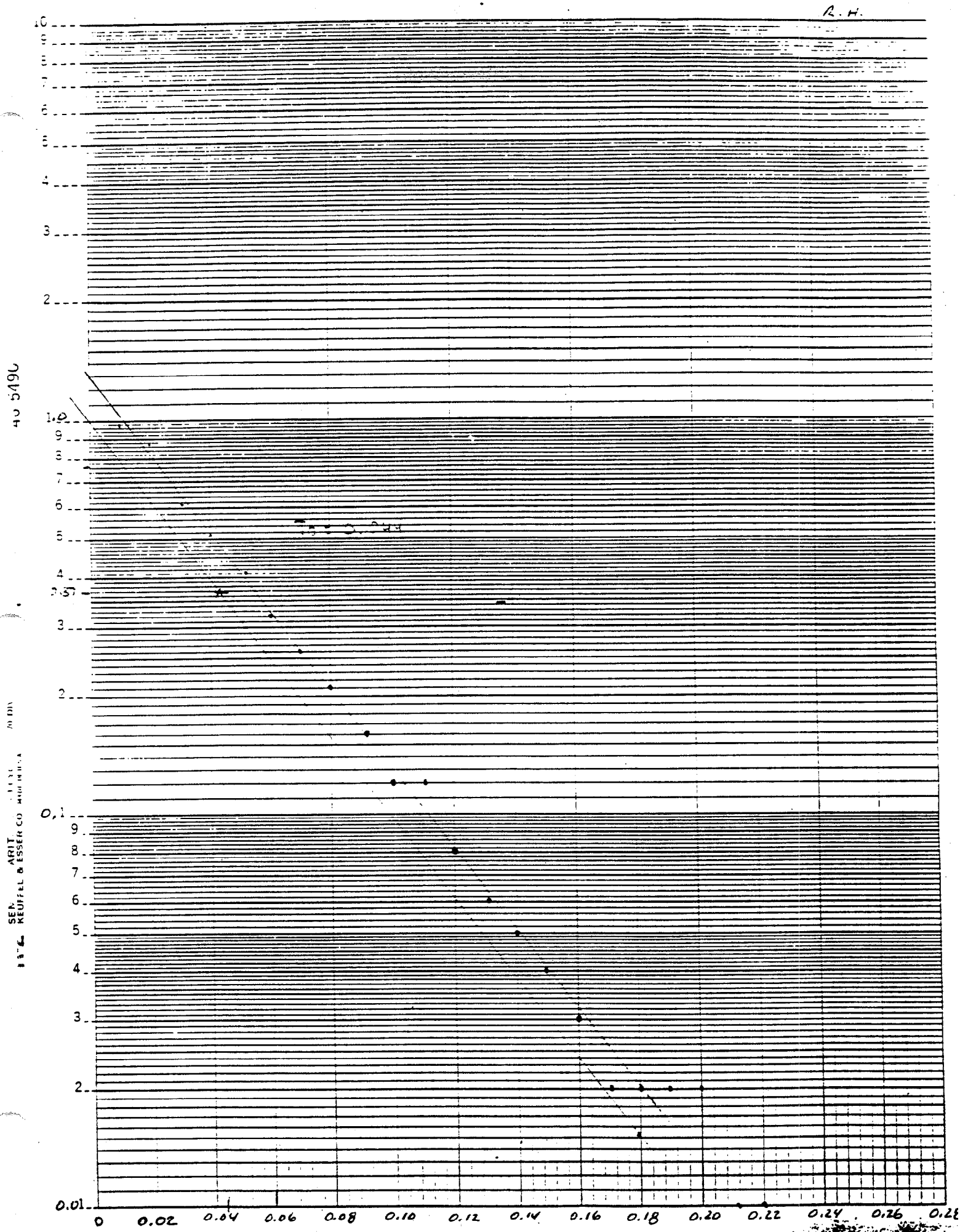
0.5500	0.009
0.5666	0.009
0.5833	0.009
0.6000	0.009
0.6166	0.006
0.6333	0.006
0.6500	0.006
0.6666	0.006
0.6833	0.006
0.7000	0.006
0.7166	0.006
0.7333	0.006
0.7500	0.006
0.7666	0.006
0.7833	0.006
0.8000	0.006
0.8166	0.006
0.8333	0.006
0.8500	0.006
0.8666	0.006
0.8833	0.006
0.9000	0.006
0.9166	0.006
0.9333	0.006
0.9500	0.006
0.9666	0.006
0.9833	0.006
1.0000	0.006
1.2000	0.006
1.4000	0.006
1.6000	0.006
1.8000	0.006
2.0000	0.006
2.2000	0.006
2.4000	0.006
2.6000	0.006
2.8000	0.006
3.0000	0.006
3.2000	0.006
3.4000	0.006
3.6000	0.006
3.8000	0.006
4.0000	0.006
4.2000	0.006
4.4000	0.006
4.6000	0.006
4.8000	0.006
5.0000	0.006
5.2000	0.006
5.4000	0.006
5.6000	0.006
5.8000	0.006
6.0000	0.006
6.2000	0.006
6.4000	0.006
6.6000	0.006
6.8000	0.006
7.0000	0.006
7.2000	0.006
7.4000	0.006
7.6000	0.006
7.8000	0.006
8.0000	0.006
8.2000	0.006
8.4000	0.006
8.6000	0.006

8.8000	0.006
9.0000	0.006
9.2000	0.006
9.4000	0.006
9.6000	0.006
9.8000	0.006
10.0000	0.006

HYDRAULIC CONDUCTIVITY TESTING DATA SHEET **NUS CORPORATION**

PROJECT NAME: NWIRP - Calverton RFI WELL/BORING NO.: FD-MW04-I
PROJECT NO.: 0206 GEOLOGIST: P. Davis
WELL DIAMETER: 4-inch SCREEN LENGTH/DEPTH: 10.0' / 57.5' TEST NO.:
STATIC WATER LEVEL (Depth/Elevation): 18.45' (L = 39.05') DATE:
TEST TYPE (Rising/Falling/Constant Head): Rising Head CHECKED: MLM 4/24/95
METHOD OF INDUCING WATER LEVEL CHANGE: Slug: 47" x 1 1/4" (Ho = 0.38') PAGE ___ OF ___

TIME	ELAPSED TIME (min or sec.)	MEASURED DEPTH TO WATER (ft.)	CORRECTION	DEPTH TO WATER (ft.)	DRAWDOWN OR HEAD (ft.)	h/H_0	REMARKS
	0.01				0.372	0.98	
	0.02				0.331	0.87	
	0.03				0.233	0.61	
	0.04				0.195	0.51	
	0.05				0.157	0.41	
	0.06				0.123	0.32	
	0.07				0.097	0.26	
	0.08				0.078	0.21	
	0.09				0.059	0.16	
	0.10				0.047	0.12	
	0.11				0.044	0.12	
	0.12				0.031	0.08	
	0.13				0.022	0.06	
	0.14				0.018	0.05	
	0.15				0.015	0.04	
	0.16				0.012	0.03	
	0.17				0.009	0.02	
	0.18				0.006	0.02	
	0.19				0.006	0.02	
	0.20				0.006	0.02	
	0.21				0.003	0.01	
	0.22				0.003	0.01	
	0.23				0.000	0	
	0.24				0.000	0	
	0.25				0.000	0	


R. H.
10
9
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1.0
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6
5
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3
2
0.1
9
8
7
6
5
4
3
2
0.01
0
0.02
0.04
0.06
0.08
0.10
0.12
0.14
0.16
0.18
0.20
0.22
0.24
0.26
0.28
SEMI-LOGARITHMIC
KEUFFEL & ESSER CO.

Rising Head

SE1000C
Environmental Logger
09/16 15:44

Unit# 00143 Test 8

IPUT 1: Level (F) TOC

eference	0.000
inearity	0.000
cale factor	9.990
ffset	0.040
elay mSEC	50.000

tep 0 09/15 08:42:20

Lapsed Time	INPUT 1
0.0000	-0.091
0.0033	0.025
0.0066	0.520
0.0100	0.372
0.0133	0.340
0.0166	0.356
0.0200	0.331
0.0233	0.302
0.0266	0.280
0.0300	0.233
0.0333	0.239
0.0366	0.205
0.0400	0.195
0.0433	0.167
0.0466	0.170
0.0500	0.157
0.0533	0.145
0.0566	0.132
0.0600	0.123
0.0633	0.113
0.0666	0.104
0.0700	0.097
0.0733	0.088
0.0766	0.081
0.0800	0.078
0.0833	0.069
0.0866	0.066
0.0900	0.059
0.0933	0.053
0.0966	0.050
0.1000	0.047
0.1033	0.040
0.1066	0.044
0.1100	0.044
0.1133	0.034
0.1166	0.031
0.1200	0.031
0.1233	0.028
0.1266	0.025
0.1300	0.022
0.1333	0.022
0.1366	0.022
0.1400	0.018
0.1433	0.018
0.1466	0.015
0.1500	0.015
0.1533	0.012

0.1566	0.012
0.1600	0.012
0.1633	0.009
0.1666	0.009
0.1700	0.009
0.1733	0.009
0.1766	0.009
0.1800	0.006
0.1833	0.006
0.1866	0.006
0.1900	0.006
0.1933	0.006
0.1966	0.006
0.2000	0.006
0.2033	0.003
0.2066	0.003
0.2100	0.003
0.2133	0.003
0.2166	0.003
0.2200	0.003
0.2233	0.003
0.2266	0.003
0.2300	0.000
0.2333	0.003
0.2366	0.003
0.2400	0.000
0.2433	0.003
0.2466	0.003
0.2500	0.000
0.2533	0.000
0.2566	0.000
0.2600	0.003
0.2633	0.003
0.2666	0.000
0.2700	0.000
0.2733	0.000
0.2766	0.000
0.2800	0.000
0.2833	0.000
0.2866	0.003
0.2900	0.000
0.2933	0.000
0.2966	0.000
0.3000	0.000
0.3033	0.000
0.3066	0.000
0.3100	0.000
0.3133	0.000
0.3166	0.000
0.3200	0.000
0.3233	0.003
0.3266	0.003
0.3300	0.000
0.3333	0.000
0.3500	0.003
0.3666	0.003
0.3833	0.003
0.4000	0.000
0.4166	0.000
0.4333	0.000
0.4500	0.000
0.4666	0.000
0.4833	0.000
0.5000	0.000
0.5166	0.000
0.5333	0.000

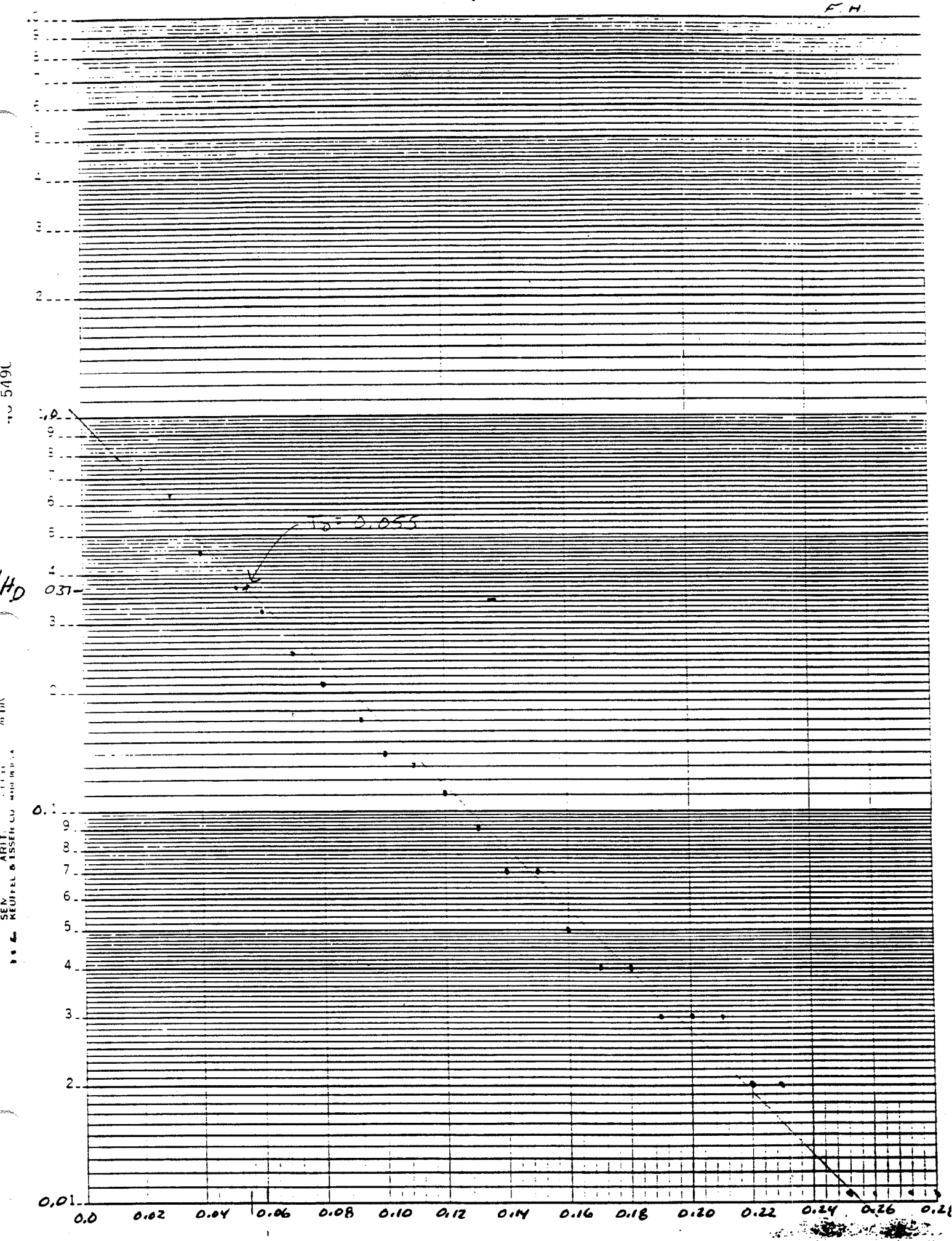
0.5500	0.000
0.5666	0.003
0.5833	0.003
0.6000	0.003
0.6166	0.003
0.6333	0.003
0.6500	0.003
0.6666	0.003
0.6833	0.003
0.7000	0.003
0.7166	0.000
0.7333	0.003
0.7500	0.003
0.7666	0.003
0.7833	0.003
0.8000	0.003
0.8166	0.000
0.8333	0.000
0.8500	0.003
0.8666	0.000
0.8833	0.000
0.9000	0.000
0.9166	0.000
0.9333	0.000
0.9500	0.003
0.9666	0.000
0.9833	0.003
1.0000	0.000
1.2000	0.000
1.4000	0.000
1.6000	0.003
1.8000	0.003
2.0000	0.003
2.2000	0.003
2.4000	0.003
2.6000	0.003
2.8000	0.003
3.0000	0.003
3.2000	0.000
3.4000	0.000
3.6000	0.000
3.8000	0.003
4.0000	0.003
4.2000	0.003
4.4000	0.000
4.6000	0.003
4.8000	0.003
5.0000	0.000
5.2000	0.003
5.4000	0.003
5.6000	0.003
5.8000	0.000
6.0000	-0.006
6.2000	-0.006
6.4000	0.006
6.6000	0.000
6.8000	0.000
7.0000	0.003
7.2000	0.003
7.4000	0.003
7.6000	0.003
7.8000	0.000
8.0000	0.000
8.2000	0.000
8.4000	0.000
8.6000	0.000

8.8000	0.000
9.0000	0.000
9.2000	0.000
9.4000	0.000
9.6000	0.000
9.8000	0.000
10.0000	0.000

HYDRAULIC CONDUCTIVITY TESTING DATA SHEET **NUS CORPORATION**

PROJECT NAME: NWIRP - Culverton WELL/BORING NO.: FD-MW04-I
PROJECT NO.: 0206 GEOLOGIST: P. Davis
WELL DIAMETER: 4-inch SCREEN LENGTH/DEPTH: 10.0' / 57.5' TEST NO.:
STATIC WATER LEVEL (Depth/Elevation): 18.45' (L = 39.05') DATE:
TEST TYPE (Rising/Falling/Constant Head): Falling Head CHECKED: MWM 4/24/95
METHOD OF INDUCING WATER LEVEL CHANGE: Slug: 47" x 1¼" (Ho = 0.38') PAGE ___ OF ___

TIME	ELAPSED TIME (min or sec.)	MEASURED DEPTH TO WATER (ft.)	CORRECTION	DEPTH TO WATER (ft.)	DRAWDOWN OR HEAD (ft.)	h/Ho	REMARKS
	0.01				-0.299	0.79	
	0.02				-0.280	0.74	
	0.03				-0.239	0.63	
	0.04				-0.170	0.45	
	0.05				-0.141	0.37	
	0.06				-0.122	0.32	
	0.07				-0.094	0.25	
	0.08				-0.078	0.21	
	0.09				-0.063	0.17	
	0.10				-0.053	0.14	
	0.11				-0.050	0.13	
	0.12				-0.040	0.11	
	0.13				-0.034	0.09	
	0.14				-0.025	0.07	
	0.15				-0.025	0.07	
	0.16				-0.018	0.05	
	0.17				-0.015	0.04	
	0.18				-0.015	0.04	
	0.19				-0.012	0.03	
	0.20				-0.012	0.03	
	0.21				-0.012	0.03	
	0.22				-0.009	0.02	
	0.23				-0.009	0.02	
	0.24				0.000	0	
	0.25				-0.006	0.016	
	0.26				-0.006	0.016	
	0.27				-0.006	0.016	
	0.28				-0.006	0.016	
	0.29				-0.006	0.016	


F.H.
$T_0 = 0.055$
h/H_D
0.31
0.1
0.01
0.0
0.02
0.04
0.06
0.08
0.10
0.12
0.14
0.16
0.18
0.20
0.22
0.24
0.26
0.28

rD-MW04-I
Falling Head

SE1000C
Environmental Logger
09/16 15:48

Unit# 00143 Test 9

IPUT 1: Level (F) TOC

eference	0.000
inearity	0.000
cale factor	9.990
ffset	0.040
elay mSEC	50.000

tep 0 09/15 09:06:00

Lapsed Time	INPUT 1
0.0000	0.778
0.0033	-0.198
0.0066	-0.327
0.0100	-0.299
0.0133	-0.321
0.0166	-0.293
0.0200	-0.280
0.0233	-0.122
0.0266	-0.233
0.0300	-0.239
0.0333	-0.198
0.0366	-0.179
0.0400	-0.170
0.0433	-0.167
0.0466	-0.154
0.0500	-0.141
0.0533	-0.135
0.0566	-0.129
0.0600	-0.122
0.0633	-0.110
0.0666	-0.104
0.0700	-0.094
0.0733	-0.088
0.0766	-0.085
0.0800	-0.078
0.0833	-0.072
0.0866	-0.066
0.0900	-0.063
0.0933	-0.066
0.0966	-0.056
0.1000	-0.053
0.1033	-0.050
0.1066	-0.050
0.1100	-0.050
0.1133	-0.037
0.1166	-0.040
0.1200	-0.040
0.1233	-0.047
0.1266	-0.034
0.1300	-0.034
0.1333	-0.028
0.1366	-0.034
0.1400	-0.025
0.1433	-0.025
0.1466	-0.025
0.1500	-0.025
0.1533	-0.025

0.1566	-0.022
0.1600	-0.018
0.1633	-0.018
0.1666	-0.018
0.1700	-0.015
0.1733	-0.015
0.1766	-0.015
0.1800	-0.015
0.1833	-0.015
0.1866	-0.012
0.1900	-0.012
0.1933	-0.012
0.1966	-0.012
0.2000	-0.012
0.2033	-0.012
0.2066	-0.009
0.2100	-0.012
0.2133	-0.009
0.2166	-0.009
0.2200	-0.009
0.2233	-0.009
0.2266	-0.009
0.2300	-0.009
0.2333	-0.009
0.2366	-0.003
0.2400	0.000
0.2433	-0.003
0.2466	-0.003
0.2500	-0.006
0.2533	-0.006
0.2566	-0.009
0.2600	-0.006
0.2633	-0.006
0.2666	-0.006
0.2700	-0.006
0.2733	-0.006
0.2766	-0.006
0.2800	-0.006
0.2833	-0.006
0.2866	-0.006
0.2900	-0.006
0.2933	-0.006
0.2966	-0.006
0.3000	-0.006
0.3033	-0.006
0.3066	-0.006
0.3100	-0.006
0.3133	-0.006
0.3166	-0.006
0.3200	-0.006
0.3233	-0.006
0.3266	-0.003
0.3300	-0.006
0.3333	-0.006
0.3500	-0.003
0.3666	-0.006
0.3833	-0.006
0.4000	-0.006
0.4166	-0.003
0.4333	-0.006
0.4500	-0.003
0.4666	-0.006
0.4833	-0.006
0.5000	-0.006
0.5166	-0.006
0.5333	-0.006

0.5500	-0.006
0.5666	-0.006
0.5833	-0.006
0.6000	-0.006
0.6166	-0.006
0.6333	-0.006
0.6500	-0.006
0.6666	-0.006
0.6833	-0.006
0.7000	-0.006
0.7166	-0.006
0.7333	-0.006
0.7500	-0.006
0.7666	-0.006
0.7833	-0.006
0.8000	-0.006
0.8166	-0.006
0.8333	-0.006
0.8500	-0.006
0.8666	-0.006
0.8833	-0.006
0.9000	-0.009
0.9166	-0.003
0.9333	-0.009
0.9500	-0.003
0.9666	-0.006
0.9833	-0.012
1.0000	-0.009
1.2000	-0.006
1.4000	-0.006
1.6000	-0.006
1.8000	-0.006
2.0000	-0.006
2.2000	-0.006
2.4000	-0.003
2.6000	-0.006
2.8000	-0.006
3.0000	-0.006
3.2000	-0.009
3.4000	-0.006
3.6000	-0.006
3.8000	-0.009
4.0000	-0.006
4.2000	-0.006
4.4000	-0.006
4.6000	-0.006
4.8000	-0.006
5.0000	-0.006
5.2000	-0.006
5.4000	-0.006
5.6000	-0.006
5.8000	-0.006
6.0000	-0.006
6.2000	-0.006
6.4000	-0.006
6.6000	-0.006
6.8000	-0.006
7.0000	-0.006
7.2000	-0.009
7.4000	-0.009
7.6000	-0.006
7.8000	0.000
8.0000	-0.006
8.2000	-0.009
8.4000	-0.006
8.6000	-0.006

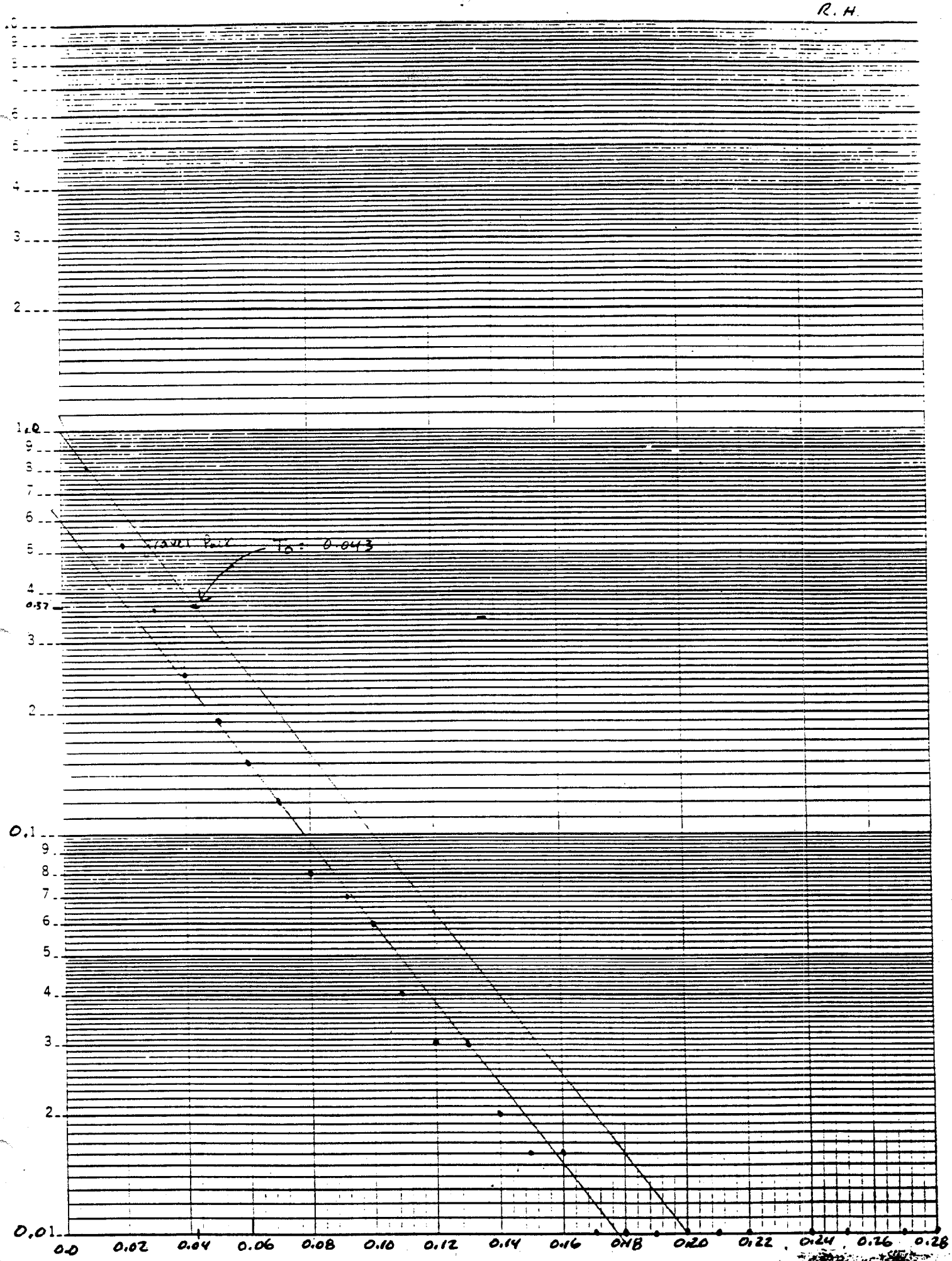
8.8000	-0.009
9.0000	-0.003
9.2000	-0.006
9.4000	-0.006
9.6000	-0.006
9.8000	-0.003
10.0000	-0.006

HYDRAULIC CONDUCTIVITY TESTING DATA SHEET **NUS CORPORATION**

PROJECT NAME: NWIRP - Calverton RFI WELL/BORING NO.: FD-MW04-S
PROJECT NO.: 0206 GEOLOGIST: P. Davis
WELL DIAMETER: 4-inch SCREEN LENGTH/DEPTH: 10.0' / 26.21' TEST NO.:
STATIC WATER LEVEL (Depth/Elevation): 18.86' (L = 7.35') DATE:
TEST TYPE (Rising/Falling/Constant Head): Rising Head CHECKED: MLM 4/24/95
METHOD OF INDUCING WATER LEVEL CHANGE: Slug: 47" x 1¼" (H_0 = 0.38') PAGE ___ OF ___

TIME	ELAPSED TIME (min or sec.)	MEASURED DEPTH TO WATER (ft.)	CORRECTION	DEPTH TO WATER (ft.)	DRAWDOWN OR HEAD (ft.)	h/H_0	REMARKS
	0.01				0.309	0.81	
	0.02				0.198	0.52	
	0.03				0.135	0.36	
	0.04				0.094	0.25	
	0.05				0.072	0.19	
	0.06				0.056	0.15	
	0.07				0.044	0.12	
	0.08				0.031	0.08	
	0.09				0.028	0.07	
	0.10				0.022	0.06	
	0.11				0.015	0.04	
	0.12				0.012	0.03	
	0.13				0.012	0.03	
	0.14				0.009	0.02	
	0.15				0.006	0.016	
	0.16				0.006	0.016	
	0.17				0.003	0.01	
	0.18				0.003	0.01	
	0.19				0.003	0.01	
	0.20				0.003	0.01	
	0.21				0.003	0.01	
	0.22				0.003	0.01	
	0.23				0.000	0	
	0.24				0.003	0.01	
	0.25				0.003	0.01	
	0.26				0.000	0	
	0.27				0.003	0.01	
	0.28				0.003	0.01	
	0.29				0.000	0	

R. H.



46 5490

4c

K+E SEMI-LOGARITHMIC

FD-MW04-S
Rising Head

SE1000C
Environmental Logger
09/16 15:51

Unit# 00143 Test 10

PUT 1: Level (F) TOC

ference	0.000
nearity	0.000
ale factor	9.990
fset	0.040
lay mSEC	50.000

ep 0 09/15 09:31:08

apsed Time	INPUT 1
0.0000	-0.116
0.0033	0.403
0.0066	0.365
0.0100	0.309
0.0133	0.258
0.0166	0.230
0.0200	0.198
0.0233	0.173
0.0266	0.151
0.0300	0.135
0.0333	0.119
0.0366	0.107
0.0400	0.094
0.0433	0.088
0.0466	0.078
0.0500	0.072
0.0533	0.063
0.0566	0.059
0.0600	0.056
0.0633	0.050
0.0666	0.047
0.0700	0.044
0.0733	0.044
0.0766	0.044
0.0800	0.031
0.0833	0.031
0.0866	0.028
0.0900	0.028
0.0933	0.025
0.0966	0.025
0.1000	0.022
0.1033	0.018
0.1066	0.018
0.1100	0.015
0.1133	0.015
0.1166	0.012
0.1200	0.012
0.1233	0.012
0.1266	0.012
0.1300	0.012
0.1333	0.009
0.1366	0.009
0.1400	0.009
0.1433	0.009
0.1466	0.006
0.1500	0.006
0.1533	0.006

0.1566	0.006
0.1600	0.006
0.1633	0.006
0.1666	0.006
0.1700	0.003
0.1733	0.003
0.1766	0.003
0.1800	0.003
0.1833	0.003
0.1866	0.003
0.1900	0.003
0.1933	0.003
0.1966	0.003
0.2000	0.003
0.2033	0.003
0.2066	0.003
0.2100	0.003
0.2133	0.003
0.2166	0.003
0.2200	0.003
0.2233	0.003
0.2266	0.000
0.2300	0.000
0.2333	0.003
0.2366	0.003
0.2400	0.003
0.2433	0.003
0.2466	0.003
0.2500	0.003
0.2533	0.000
0.2566	0.000
0.2600	0.000
0.2633	0.000
0.2666	0.000
0.2700	0.003
0.2733	0.000
0.2766	0.000
0.2800	0.003
0.2833	0.000
0.2866	0.000
0.2900	0.000
0.2933	0.000
0.2966	0.000
0.3000	0.000
0.3033	0.000
0.3066	0.000
0.3100	0.000
0.3133	0.000
0.3166	0.000
0.3200	0.000
0.3233	0.000
0.3266	0.000
0.3300	0.000
0.3333	0.000
0.3500	0.000
0.3666	0.000
0.3833	0.000
0.4000	0.000
0.4166	0.000
0.4333	0.000
0.4500	0.000
0.4666	0.000
0.4833	0.000
0.5000	0.000
0.5166	0.000
0.5333	0.000

0.5500	0.000
0.5666	0.000
0.5833	0.000
0.6000	0.000
0.6166	0.000
0.6333	0.000
0.6500	0.000
0.6666	0.000
0.6833	-0.003
0.7000	0.000
0.7166	0.000
0.7333	0.000
0.7500	0.000
0.7666	0.000
0.7833	0.000
0.8000	0.000
0.8166	0.000
0.8333	0.000
0.8500	0.000
0.8666	0.000
0.8833	0.000
0.9000	0.000
0.9166	-0.003
0.9333	0.000
0.9500	0.000
0.9666	-0.003
0.9833	-0.003
1.0000	-0.003
1.2000	-0.003
1.4000	-0.003
1.6000	-0.003
1.8000	-0.003
2.0000	0.000
2.2000	0.000
2.4000	-0.003
2.6000	-0.003
2.8000	-0.003
3.0000	-0.003
3.2000	-0.003
3.4000	-0.003
3.6000	-0.003
3.8000	0.000
4.0000	-0.003
4.2000	-0.003
4.4000	-0.003
4.6000	-0.003
4.8000	-0.003
5.0000	-0.003
5.2000	-0.003
5.4000	-0.003
5.6000	-0.003
5.8000	-0.003
6.0000	-0.003
6.2000	-0.003
6.4000	-0.003
6.6000	-0.003
6.8000	-0.003
7.0000	-0.006
7.2000	-0.003
7.4000	-0.003
7.6000	-0.003
7.8000	-0.003
8.0000	-0.003
8.2000	-0.003
8.4000	-0.003
8.6000	-0.003

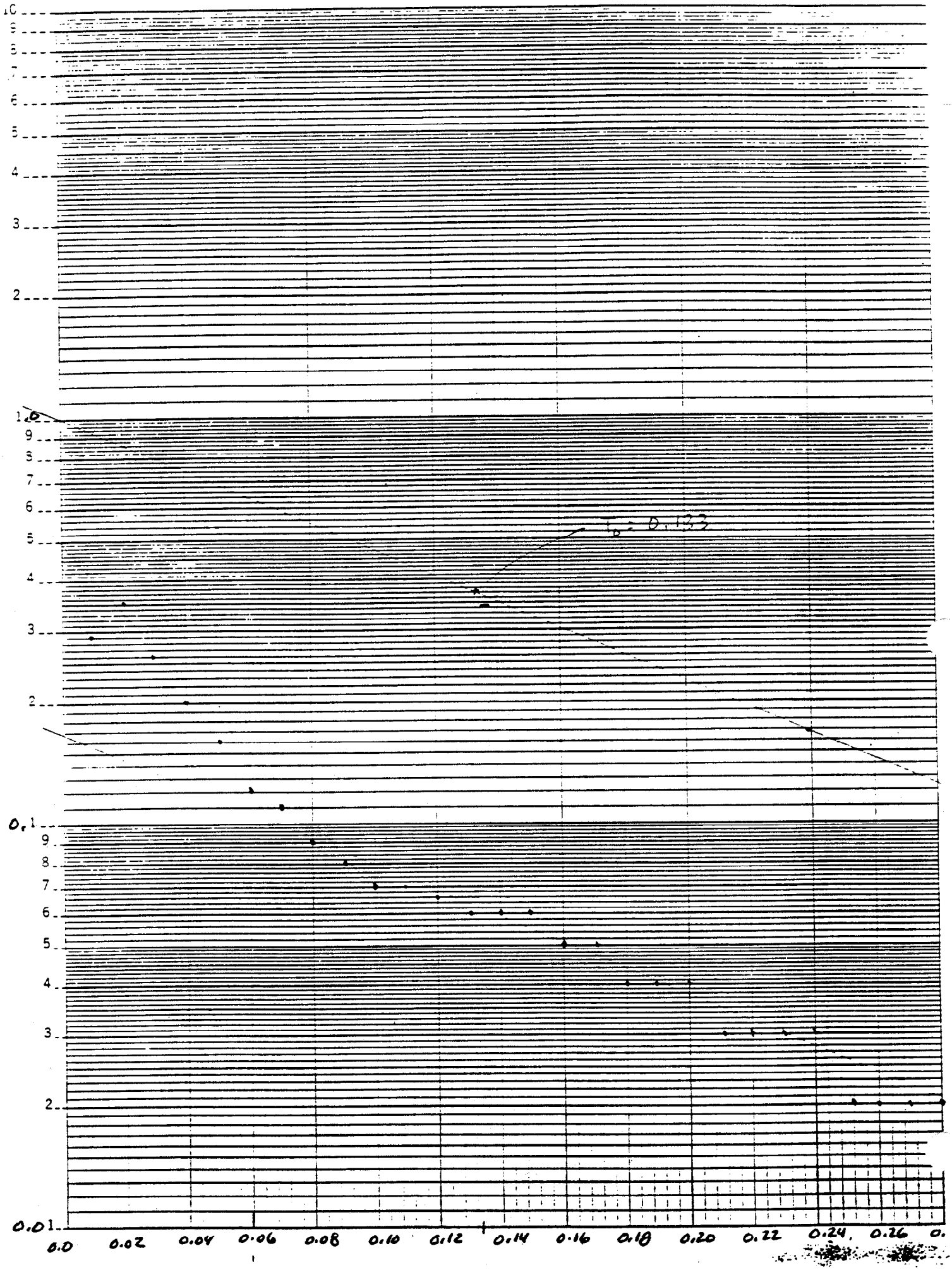
8.8000	-0.003
9.0000	-0.003
9.2000	-0.006
9.4000	-0.006
9.6000	-0.006
.8000	-0.006
0.0000	-0.006

HYDRAULIC CONDUCTIVITY TESTING DATA SHEET — NUS CORPORATION

PROJECT NAME: NWIAP - Culverton WELL/BORING NO.: FD-MW04-S
PROJECT NO.: 0206 GEOLOGIST: P. Davis
WELL DIAMETER: 4-inch SCREEN LENGTH/DEPTH: 10.0'/26.21' TEST NO.:
STATIC WATER LEVEL (Depth/Elevation): 18.86' (L = 7.35') DATE:
TEST TYPE (Rising/Falling/Constant Head): Falling Head CHECKED: MLM 4/24/95
METHOD OF INDUCING WATER LEVEL CHANGE: Slug: 47" x 1¼" (H_0 = 0.38') PAGE ___ OF ___

TIME	ELAPSED TIME (min or sec.)	MEASURED DEPTH TO WATER (ft.)	CORRECTION	DEPTH TO WATER (ft.)	DRAWDOWN OR HEAD (ft.)	h/H_0	REMARKS
	0.01				-0.110	0.29	
	0.02				-0.132	0.35	
	0.03				-0.100	0.26	
	0.04				-0.075	0.20	
	0.05				-0.059	0.16	
	0.06				-0.047	0.12	
	0.07				-0.040	0.11	
	0.08				-0.034	0.09	
	0.09				-0.031	0.08	
	0.10				-0.028	0.07	
	0.11				-0.028	0.07	
	0.12				-0.025	0.066	
	0.13				-0.022	0.06	
	0.14				-0.022	0.06	
	0.15				-0.022	0.06	
	0.16				-0.018	0.05	
	0.17				-0.018	0.05	
	0.18				-0.015	0.04	
	0.19				-0.015	0.04	
	0.20				-0.015	0.04	
	0.21				-0.012	0.03	
	0.22				-0.012	0.03	
	0.23				-0.012	0.03	
	0.24				-0.012	0.03	
	0.25				-0.009	0.02	
	0.26				-0.009	0.02	
	0.27				-0.009	0.02	
	0.28				-0.009	0.02	
	0.29				-0.006	0.016	

F.H.



46 5490
K+E SEMI-LOGARITHMIC 3 CYCLES X 70 DIVISIONS
KEUFFEL & ESSER CO. MADE IN U.S.A.

FD-MW04-S
Falling Head

SE1000C
Environmental Logger
09/16 15:54

Unit# 00143 Test 11

INPUT 1: Level (F) TOC

Reference	0.000
Linearity	0.000
Scale factor	9.990
Offset	0.040
Delay mSEC	50.000

Step 0 09/15 09:53:50

Elapsed Time	INPUT 1
0.0000	-0.782
0.0033	-0.368
0.0066	0.204
0.0100	-0.110
0.0133	-0.189
0.0166	-0.154
0.0200	-0.132
0.0233	-0.116
0.0266	-0.107
0.0300	-0.100
0.0333	-0.088
0.0366	-0.081
0.0400	-0.075
0.0433	-0.069
0.0466	-0.059
0.0500	-0.059
0.0533	-0.053
0.0566	-0.050
0.0600	-0.047
0.0633	-0.044
0.0666	-0.040
0.0700	-0.040
0.0733	-0.037
0.0766	-0.034
0.0800	-0.034
0.0833	-0.034
0.0866	-0.031
0.0900	-0.031
0.0933	-0.031
0.0966	-0.028
0.1000	-0.028
0.1033	-0.028
0.1066	-0.028
0.1100	-0.028
0.1133	-0.025
0.1166	-0.025
0.1200	-0.025
0.1233	-0.025
0.1266	-0.022
0.1300	-0.022
0.1333	-0.025
0.1366	-0.022
0.1400	-0.022
0.1433	-0.022
0.1466	-0.022
0.1500	-0.022
0.1533	-0.018

0.1566	-0.022
0.1600	-0.018
0.1633	-0.018
0.1666	-0.018
0.1700	-0.018
0.1733	-0.018
0.1766	-0.018
0.1800	-0.015
0.1833	-0.015
0.1866	-0.015
0.1900	-0.015
0.1933	-0.015
0.1966	-0.015
0.2000	-0.015
0.2033	-0.015
0.2066	-0.012
0.2100	-0.012
0.2133	-0.012
0.2166	-0.012
0.2200	-0.012
0.2233	-0.012
0.2266	-0.012
0.2300	-0.012
0.2333	-0.012
0.2366	-0.009
0.2400	-0.012
0.2433	-0.009
0.2466	-0.009
0.2500	-0.009
0.2533	-0.009
0.2566	-0.009
0.2600	-0.009
0.2633	-0.009
0.2666	-0.006
0.2700	-0.009
0.2733	-0.009
0.2766	-0.009
0.2800	-0.009
0.2833	-0.009
0.2866	-0.009
0.2900	-0.006
0.2933	-0.006
0.2966	-0.006
0.3000	-0.006
0.3033	-0.006
0.3066	-0.006
0.3100	-0.006
0.3133	-0.006
0.3166	-0.006
0.3200	-0.006
0.3233	-0.006
0.3266	-0.006
0.3300	-0.006
0.3333	-0.003
0.3500	-0.003
0.3666	-0.003
0.3833	-0.003
0.4000	-0.003
0.4166	-0.003
0.4333	-0.003
0.4500	-0.003
0.4666	-0.003
0.4833	-0.003
0.5000	-0.003
0.5166	0.000
0.5333	-0.003

0.5500	0.000
0.5666	-0.003
0.5833	-0.003
0.6000	-0.003
0.6166	-0.003
0.6333	-0.003
0.6500	0.000
0.6666	-0.003
0.6833	-0.003
0.7000	-0.003
0.7166	0.000
0.7333	0.000
0.7500	0.000
0.7666	0.000
0.7833	0.000
0.8000	-0.003
0.8166	0.000
0.8333	0.000
0.8500	0.000
0.8666	0.000
0.8833	0.000
0.9000	0.000
0.9166	0.000
0.9333	0.000
0.9500	0.000
0.9666	0.000
0.9833	0.000
1.0000	0.000
1.2000	0.000
1.4000	0.000
1.6000	0.000
1.8000	0.000
2.0000	0.000
2.2000	0.000
2.4000	0.003
2.6000	0.000
2.8000	0.000
3.0000	0.000
3.2000	0.000
3.4000	0.000
3.6000	0.000
3.8000	0.000
4.0000	0.000
4.2000	-0.003
4.4000	0.000
4.6000	0.000
4.8000	-0.003
5.0000	0.000
5.2000	0.000
5.4000	0.000
5.6000	0.000
5.8000	0.000
6.0000	0.000
6.2000	-0.003
6.4000	0.000
6.6000	0.000
6.8000	0.000
7.0000	-0.003
7.2000	-0.003
7.4000	-0.003
7.6000	-0.003
7.8000	-0.003
8.0000	-0.003
8.2000	-0.003
8.4000	-0.003
8.6000	-0.003

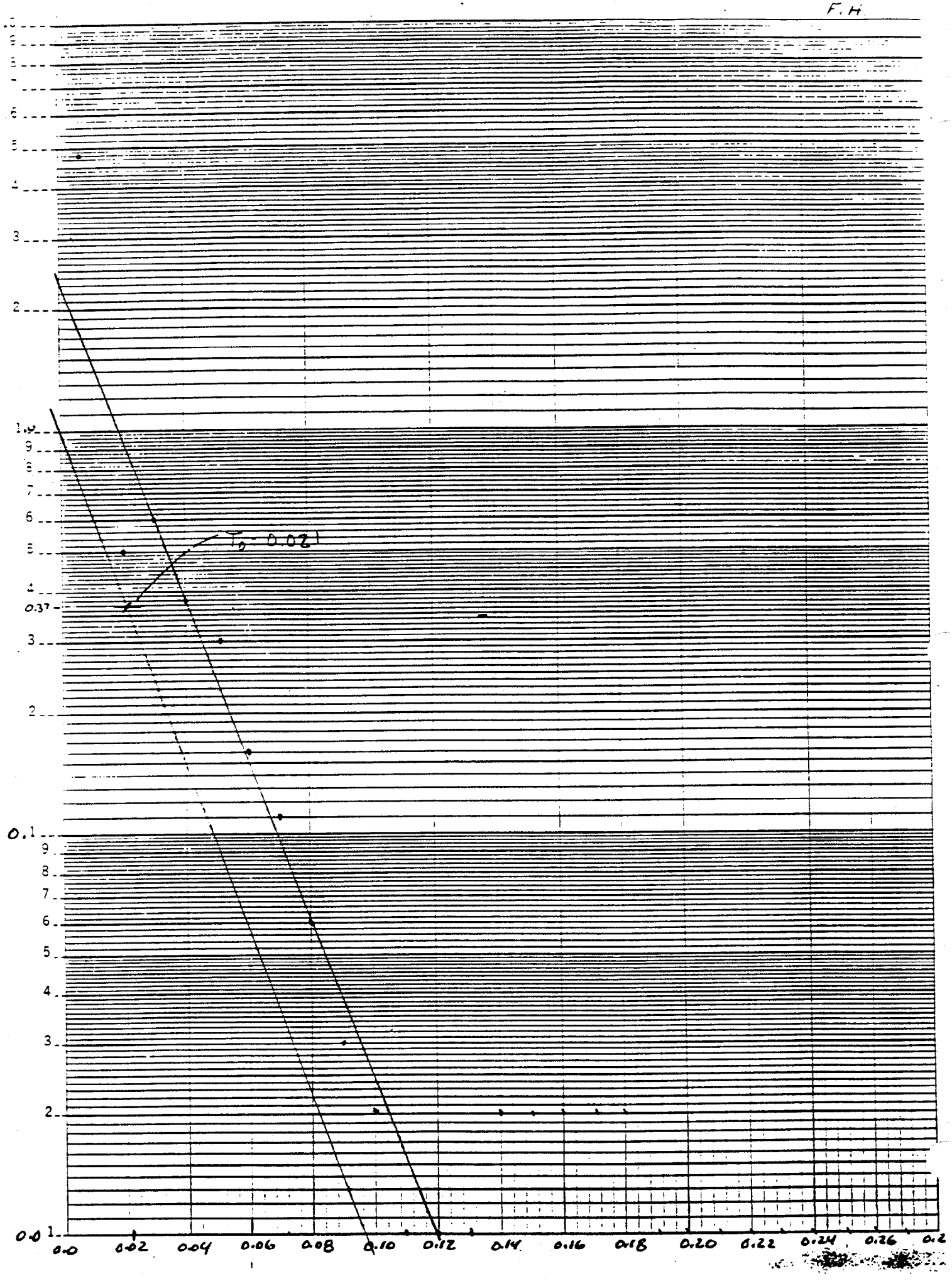
8.8000	0.000
9.0000	0.000
9.2000	0.000
9.4000	0.000
9.6000	-0.003
9.8000	-0.003
10.0000	-0.003

HYDRAULIC CONDUCTIVITY TESTING DATA SHEET **NUS CORPORATION**

PROJECT NAME: NWIRP- Calverton RFI WELL/BORING NO.: FT-MW01-I
PROJECT NO.: 0206 GEOLOGIST: P. Davis
WELL DIAMETER: 4-inch SCREEN LENGTH/DEPTH: 10.0' / 79.79' TEST NO.:
STATIC WATER LEVEL (Depth/Elevation): 23.03' (L = 56.76') DATE:
TEST TYPE (Rising/Falling/Constant Head): Falling Head CHECKED: MLM 4/24/95
METHOD OF INDUCING WATER LEVEL CHANGE: Slug: 47" x 1¼" (H_0 = 0.38) PAGE ___ OF ___

TIME	ELAPSED TIME (min or sec.)	MEASURED DEPTH TO WATER (ft.)	CORRECTION	DEPTH TO WATER (ft.)	DRAWDOWN OR HEAD (ft.)	h/H_0	REMARKS
	0.01				-0.561	1.48	
	0.02				-0.189	0.50	
	0.03				-0.227	0.60	
	0.04				-0.145	0.38	
	0.05				-0.113	0.30	
	0.06				-0.054	0.16	
	0.07				-0.040	0.11	
	0.08				-0.022	0.06	
	0.09				-0.012	0.03	
	0.10				-0.006	0.02	
	0.11				-0.003	0.01	
	0.12				-0.003	0.01	
	0.13				-0.003	0.01	
	0.14				-0.006	0.02	
	0.15				-0.006	0.02	
	0.16				-0.006	0.02	
	0.17				0.006	0.02	
	0.18				-0.006	0.02	
	0.19				-0.003	0.01	
	0.20				-0.003	0.01	
	0.21				-0.003	0.01	
	0.22				-0.003	0.01	
	0.23				-0.003	0.01	
	0.24				-0.003	0.01	
	0.25				-0.003	0.01	
	0.26				-0.003	0.01	
	0.27				-0.003	0.01	
	0.28				0.000	0	
	0.29				0.000	0	

F.H



46 5490
K&E SEMI-LOGARITHMIC 3 CYCLES X 70 DIVISIONS
KEUFFEL & ESSER CO. MADE IN U.S.A.

r1-mw01-I
Falling Head

SE1000C
Environmental Logger
09/16 16:02

Unit# 00143 Test 13

INPUT 1: Level (F) TOC

Reference	0.000
Linearity	0.000
Scale factor	9.990
Offset	0.040
Delay mSEC	50.000

Step 0 09/15 10:49:55

Elapsed Time	INPUT 1
0.0000	-0.838
0.0033	-0.287
0.0066	0.334
0.0100	-0.561
0.0133	-0.299
0.0166	-0.466
0.0200	-0.189
0.0233	-0.271
0.0266	-0.182
0.0300	-0.227
0.0333	-0.220
0.0366	-0.182
0.0400	-0.145
0.0433	-0.129
0.0466	-0.123
0.0500	-0.113
0.0533	-0.100
0.0566	-0.082
0.0600	-0.059
0.0633	-0.050
0.0666	-0.044
0.0700	-0.040
0.0733	-0.034
0.0766	-0.028
0.0800	-0.022
0.0833	-0.018
0.0866	-0.015
0.0900	-0.012
0.0933	-0.009
0.0966	-0.009
0.1000	-0.006
0.1033	-0.003
0.1066	-0.003
0.1100	-0.003
0.1133	-0.003
0.1166	-0.006
0.1200	-0.003
0.1233	-0.003
0.1266	-0.003
0.1300	-0.003
0.1333	-0.009
0.1366	-0.006
0.1400	-0.006
0.1433	-0.006
0.1466	0.012
0.1500	-0.006
0.1533	-0.009

0.1566	-0.009
0.1600	-0.006
0.1633	-0.012
0.1666	0.006
0.1700	0.006
0.1733	-0.003
0.1766	-0.006
0.1800	-0.006
0.1833	-0.003
0.1866	-0.003
0.1900	-0.003
0.1933	-0.003
0.1966	-0.003
0.2000	-0.003
0.2033	-0.003
0.2066	-0.003
0.2100	-0.003
0.2133	-0.003
0.2166	-0.003
0.2200	-0.003
0.2233	-0.003
0.2266	-0.003
0.2300	-0.003
0.2333	-0.003
0.2366	-0.003
0.2400	-0.003
0.2433	-0.003
0.2466	-0.003
0.2500	-0.003
0.2533	-0.003
0.2566	-0.003
0.2600	-0.003
0.2633	-0.003
0.2666	-0.003
0.2700	-0.003
0.2733	-0.003
0.2766	0.000
0.2800	0.000
0.2833	0.022
0.2866	0.025
0.2900	0.000
0.2933	-0.012
0.2966	-0.009
0.3000	-0.003
0.3033	0.000
0.3066	0.000
0.3100	0.000
0.3133	0.000
0.3166	0.003
0.3200	-0.025
0.3233	0.003
0.3266	0.012
0.3300	-0.037
0.3333	-0.012
0.3500	0.006
0.3666	-0.006
0.3833	0.000
0.4000	0.000
0.4166	0.000
0.4333	0.000
0.4500	0.000
0.4666	0.000
0.4833	0.000
0.5000	0.000
0.5166	0.000
0.5333	0.003

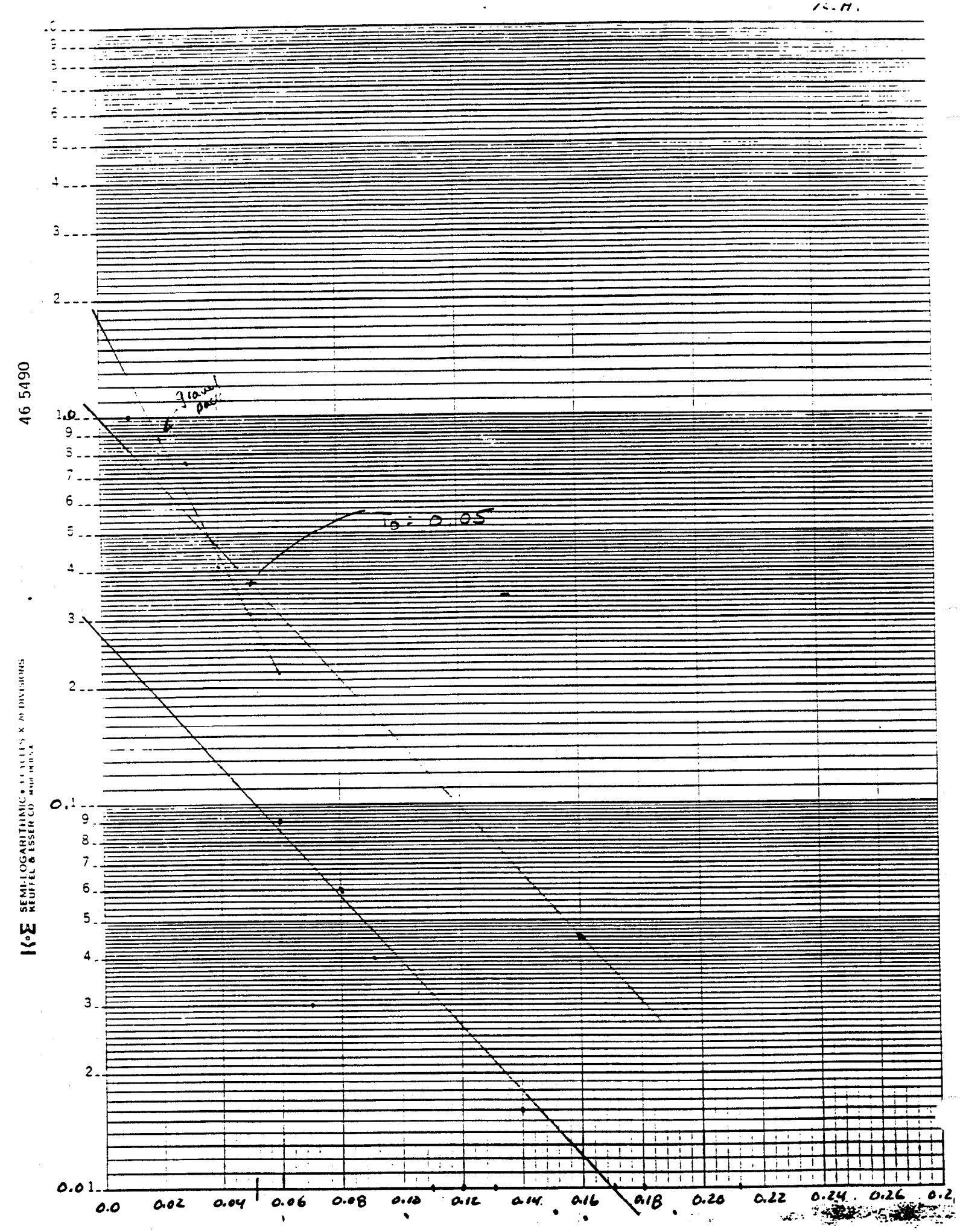
0.5500	0.000
0.5666	0.000
0.5833	0.003
0.6000	0.000
0.6166	0.003
0.6333	0.000
0.6500	0.003
0.6666	0.000
0.6833	0.003
0.7000	0.000
0.7166	0.003
0.7333	0.003
0.7500	0.000
0.7666	0.003
0.7833	0.000
0.8000	0.000
0.8166	0.000
0.8333	0.000
0.8500	0.000
0.8666	0.000
0.8833	0.000
0.9000	0.000
0.9166	0.000
0.9333	0.000
0.9500	0.000
0.9666	0.000
0.9833	-0.003
1.0000	0.000
1.2000	-0.003
1.4000	0.000
1.6000	0.000
1.8000	0.000
2.0000	-0.003
2.2000	-0.003
2.4000	0.000
2.6000	0.000
2.8000	0.000
3.0000	0.000
3.2000	0.000
3.4000	0.000
3.6000	0.000
3.8000	0.000
4.0000	0.003
4.2000	0.003
4.4000	0.000
4.6000	0.000
4.8000	0.000
5.0000	0.000
5.2000	0.000
5.4000	0.000
5.6000	0.000
5.8000	0.000
6.0000	0.000
6.2000	0.000
6.4000	-0.003
6.6000	-0.003
6.8000	0.000
7.0000	0.000
7.2000	-0.003
7.4000	0.000
7.6000	0.000
7.8000	-0.003
8.0000	-0.003
8.2000	-0.003
8.4000	0.000
8.6000	0.000

8.8000	-0.003
9.0000	0.000
9.2000	0.000
9.4000	0.000
9.6000	-0.003
9.8000	-0.003
10.0000	-0.003

HYDRAULIC CONDUCTIVITY TESTING DATA SHEET — NUS CORPORATION

PROJECT NAME: NWIRP- Calverton WELL/BORING NO.: FT-MW01-I
PROJECT NO.: 0206 GEOLOGIST: P. Davis
WELL DIAMETER: 4-inch SCREEN LENGTH/DEPTH: 10.0' / 79.79' TEST NO.:
STATIC WATER LEVEL (Depth/Elevation): 23.03' (L = 56.76') DATE:
TEST TYPE (Rising/Falling/Constant Head): Rising Head CHECKED: MLM 4/24/95
METHOD OF INDUCING WATER LEVEL CHANGE: Slug 47" x 1¼" (Ho = 0.38') PAGE ___ OF ___

TIME	ELAPSED TIME (min or sec.)	MEASURED DEPTH TO WATER (ft.)	CORRECTION	DEPTH TO WATER (ft.)	DRAWDOWN OR HEAD (ft.)	h/Ho	REMARKS
	0.01				0.381	1.00	
	0.02				0.334	0.88	
	0.03				0.290	0.76	
	0.04				0.154	0.41	
	0.05				0.116	0.31	
	0.06				0.034	0.09	
	0.07				0.012	0.03	
	0.08				0.022	0.06	
	0.09				0.015	0.04	
	0.10				0.000	0	
	0.11				-0.003	0.01	
	0.12				0.003	0.01	
	0.13				0.003	0.01	
	0.14				0.006	0.016	
	0.15				0.000	0	
	0.16				0.000	0	
	0.17				0.003	0.01	
	0.18				0.003	0.01	
	0.19				0.000	0	
	0.20				0.000	0	
	0.21				0.003	0.01	
	0.22				0.000	0	
	0.23				0.000	0	
	0.24				0.000	0	
	0.25				0.000	0	



46 5490
K+E SEMI-LOGARITHMIC • 3 CYCLES X 70 DIVISIONS
KEUFFEL & ESSER CO. MADE IN U.S.A.

r1-mw01-1

Rising Head

SE1000C
Environmental Logger
09/16 15:58

Unit# 00143 Test 12

INPUT 1: Level (F) TOC

Reference	0.000
Linearity	0.000
Scale factor	9.990
Offset	0.040
Delay mSEC	50.000

Step 0 09/15 10:26:49

Elapsed Time	INPUT 1
0.0000	-0.009
0.0033	-0.334
0.0066	0.532
0.0100	0.381
0.0133	0.375
0.0166	0.327
0.0200	0.334
0.0233	0.305
0.0266	0.274
0.0300	0.290
0.0333	0.214
0.0366	0.186
0.0400	0.154
0.0433	0.148
0.0466	0.126
0.0500	0.116
0.0533	0.088
0.0566	0.072
0.0600	0.034
0.0633	0.031
0.0666	0.040
0.0700	0.012
0.0733	0.031
0.0766	0.012
0.0800	0.022
0.0833	0.018
0.0866	0.012
0.0900	0.015
0.0933	0.009
0.0966	0.003
0.1000	0.000
0.1033	0.006
0.1066	0.003
0.1100	-0.003
0.1133	0.003
0.1166	0.006
0.1200	0.003
0.1233	0.009
0.1266	0.012
0.1300	0.003
0.1333	0.003
0.1366	0.006
0.1400	0.006
0.1433	0.003
0.1466	0.003
0.1500	0.000
0.1533	0.000

0.1566	0.000
0.1600	0.000
0.1633	0.000
0.1666	0.000
0.1700	0.003
0.1733	0.003
0.1766	0.000
0.1800	0.003
0.1833	0.003
0.1866	0.003
0.1900	0.000
0.1933	0.000
0.1966	0.000
0.2000	0.000
0.2033	0.003
0.2066	0.000
0.2100	0.003
0.2133	0.000
0.2166	0.000
0.2200	0.000
0.2233	0.000
0.2266	0.000
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0.2333	0.000
0.2366	0.000
0.2400	0.000
0.2433	0.000
0.2466	0.000
0.2500	0.000
0.2533	0.000
0.2566	0.000
0.2600	0.000
0.2633	0.000
0.2666	0.000
0.2700	0.000
0.2733	0.000
0.2766	0.000
0.2800	0.000
0.2833	0.000
0.2866	0.000
0.2900	0.000
0.2933	0.000
0.2966	0.000
0.3000	0.000
0.3033	0.000
0.3066	0.000
0.3100	0.000
0.3133	0.000
0.3166	0.000
0.3200	0.000
0.3233	0.000
0.3266	0.000
0.3300	0.000
0.3333	0.000
0.3500	0.000
0.3666	0.000
0.3833	0.000
0.4000	0.000
0.4166	0.000
0.4333	0.000
0.4500	0.000
0.4666	0.000
0.4833	0.000
0.5000	0.000
0.5166	0.003
0.5333	0.000

0.5500	0.000
0.5666	0.000
0.5833	0.000
0.6000	0.000
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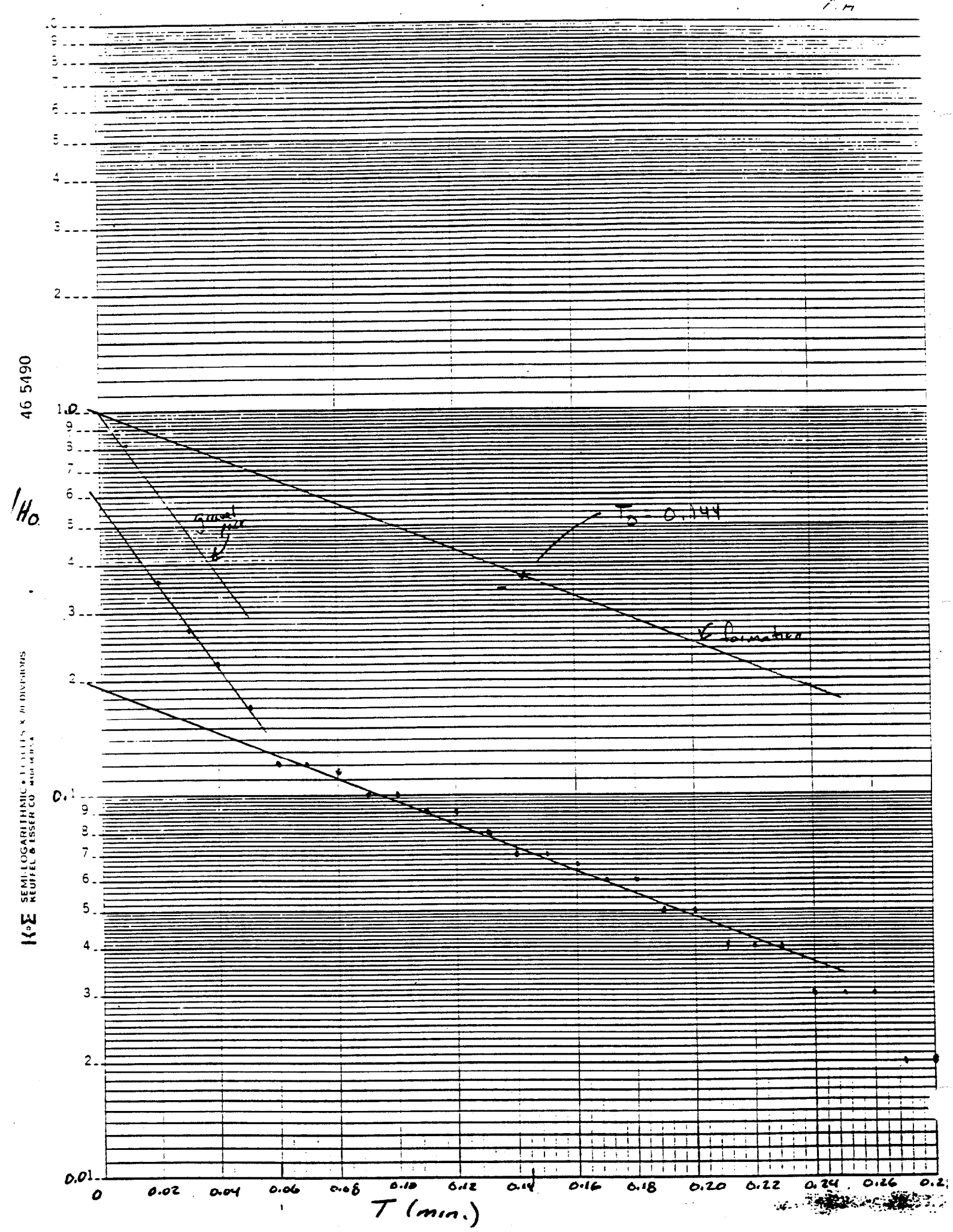
0.6666	0.000
0.6833	0.000
0.7000	0.000
0.7166	0.000
0.7333	0.000
0.7500	0.003
0.7666	0.000
0.7833	0.000
0.8000	0.000
0.8166	0.000
0.8333	0.000
0.8500	0.003
0.8666	0.003
0.8833	0.000
0.9000	0.000
0.9166	0.003
0.9333	0.003
0.9500	0.003
0.9666	0.003
0.9833	0.003
1.0000	0.003
1.2000	0.000
1.4000	0.003
1.6000	0.003
1.8000	0.003
2.0000	0.003
2.2000	0.003
2.4000	0.003
2.6000	0.003
2.8000	0.003
3.0000	0.003
3.2000	0.003
3.4000	0.003
3.6000	0.003
3.8000	0.003
4.0000	0.003
4.2000	0.003
4.4000	0.003
4.6000	0.003
4.8000	0.003
5.0000	0.003
5.2000	0.006
5.4000	0.003
5.6000	0.006
5.8000	0.003
6.0000	0.003
6.2000	0.006
6.4000	0.003
6.6000	0.003
6.8000	0.006
7.0000	0.006
7.2000	0.003
7.4000	0.003
7.6000	0.003
7.8000	0.003
8.0000	0.003
8.2000	0.003
8.4000	0.003
8.6000	0.003

8.8000	0.003
9.0000	0.003
9.2000	0.003
9.4000	0.003
9.6000	0.003
9.8000	0.003
10.0000	0.003

HYDRAULIC CONDUCTIVITY TESTING DATA SHEET — NUS CORPORATION

PROJECT NAME: NWIRP- Calverton RFI WELL/BORING NO.: FT-MW01-S
PROJECT NO.: 0206 GEOLOGIST: P. Davis
WELL DIAMETER: 4-inch SCREEN LENGTH/DEPTH: 10.0' / 30.02' TEST NO.:
STATIC WATER LEVEL (Depth/Elevation): 23.31' (L: 6.71') DATE:
TEST TYPE (Rising/Falling/Constant Head): Falling Head CHECKED: MLM 4/24/95
METHOD OF INDUCING WATER LEVEL CHANGE: Slug; 47" x 1¼" (H_0 = 0.38') PAGE ___ OF ___

TIME	ELAPSED TIME (min or sec.)	MEASURED DEPTH TO WATER (ft.)	CORRECTION	DEPTH TO WATER (ft.)	DRAWDOWN OR HEAD (ft.)	h/h_0	REMARKS
	0.01				-0.312	0.82	
	0.02				-0.135	0.36	
	0.03				-0.104	0.27	
	0.04				-0.082	0.22	
	0.05				-0.066	0.17	
	0.06				-0.047	0.12	
	0.07				-0.047	0.12	
	0.08				-0.044	0.116	
	0.09				-0.037	0.10	
	0.10				-0.037	0.10	
	0.11				-0.034	0.09	
	0.12				-0.034	0.09	
	0.13				-0.031	0.08	
	0.14				-0.028	0.07	
	0.15				-0.028	0.07	
	0.16				-0.025	0.066	
	0.17				-0.022	0.06	
	0.18				-0.022	0.06	
	0.19				-0.018	0.05	
	0.20				-0.018	0.05	
	0.21				-0.015	0.04	
	0.22				-0.015	0.04	
	0.23				-0.015	0.04	
	0.24				-0.012	0.03	
	0.25				-0.012	0.03	
	0.26				-0.012	0.03	
	0.27				-0.009	0.02	
	0.28				-0.009	0.02	
	0.29				-0.009	0.02	



1.0
0.1
0.01
$/H_0$
gravel pack
$T_0 = 0.144$
formation
0
0.02
0.04
0.06
0.08
0.10
0.12
0.14
0.16
0.18
0.20
0.22
0.24
0.26
T (min.)
46 5490
K+E SEMI-LOGARITHMIC 5 CYCLES X 70 DIVISIONS
KEUFFEL & ESSER CO. MADE IN U.S.A.

T1-MW01-S
Falling Head

SE1000C
Environmental Logger
09/16 16:12

Unit# 00143 Test 15

INPUT 1: Level (F) TOC

Reference	0.000
Linearity	0.000
Scale factor	9.990
Offset	0.040
Delay mSEC	50.000

Sep 0 09/15 11:34:31

Elapsed Time	INPUT 1
0.0000	-0.794
0.0033	-0.387
0.0066	0.204
0.0100	-0.312
0.0133	-0.148
0.0166	-0.141
0.0200	-0.135
0.0233	-0.135
0.0266	-0.126
0.0300	-0.104
0.0333	-0.094
0.0366	-0.091
0.0400	-0.082
0.0433	-0.078
0.0466	-0.078
0.0500	-0.066
0.0533	-0.063
0.0566	-0.059
0.0600	-0.047
0.0633	-0.056
0.0666	-0.056
0.0700	-0.047
0.0733	-0.047
0.0766	-0.047
0.0800	-0.044
0.0833	-0.044
0.0866	-0.044
0.0900	-0.037
0.0933	-0.037
0.0966	-0.037
0.1000	-0.037
0.1033	-0.037
0.1066	-0.034
0.1100	-0.034
0.1133	-0.034
0.1166	-0.034
0.1200	-0.034
0.1233	-0.034
0.1266	-0.031
0.1300	-0.031
0.1333	-0.031
0.1366	-0.031
0.1400	-0.028
0.1433	-0.028
0.1466	-0.028
0.1500	-0.028
0.1533	-0.028

0.1566	-0.025
0.1600	-0.025
0.1633	-0.025
0.1666	-0.025
0.1700	-0.022
0.1733	-0.022
0.1766	-0.022
0.1800	-0.022
0.1833	-0.025
0.1866	-0.022
0.1900	-0.018
0.1933	-0.018
0.1966	-0.018
0.2000	-0.018
0.2033	-0.018
0.2066	-0.018
0.2100	-0.015
0.2133	-0.015
0.2166	-0.015
0.2200	-0.015
0.2233	-0.015
0.2266	-0.015
0.2300	-0.015
0.2333	-0.015
0.2366	-0.012
0.2400	-0.012
0.2433	-0.012
0.2466	-0.012
0.2500	-0.012
0.2533	-0.012
0.2566	-0.012
0.2600	-0.012
0.2633	-0.009
0.2666	-0.009
0.2700	-0.009
0.2733	-0.009
0.2766	-0.009
0.2800	-0.009
0.2833	-0.009
0.2866	-0.009
0.2900	-0.009
0.2933	-0.009
0.2966	-0.009
0.3000	-0.006
0.3033	-0.006
0.3066	-0.006
0.3100	-0.006
0.3133	-0.006
0.3166	-0.006
0.3200	-0.006
0.3233	-0.006
0.3266	-0.006
0.3300	-0.006
0.3333	-0.006
0.3500	-0.006
0.3666	-0.006
0.3833	-0.003
0.4000	-0.003
0.4166	-0.003
0.4333	-0.003
0.4500	-0.003
0.4666	-0.003
0.4833	0.000
0.5000	0.000
0.5166	0.000
0.5333	0.000

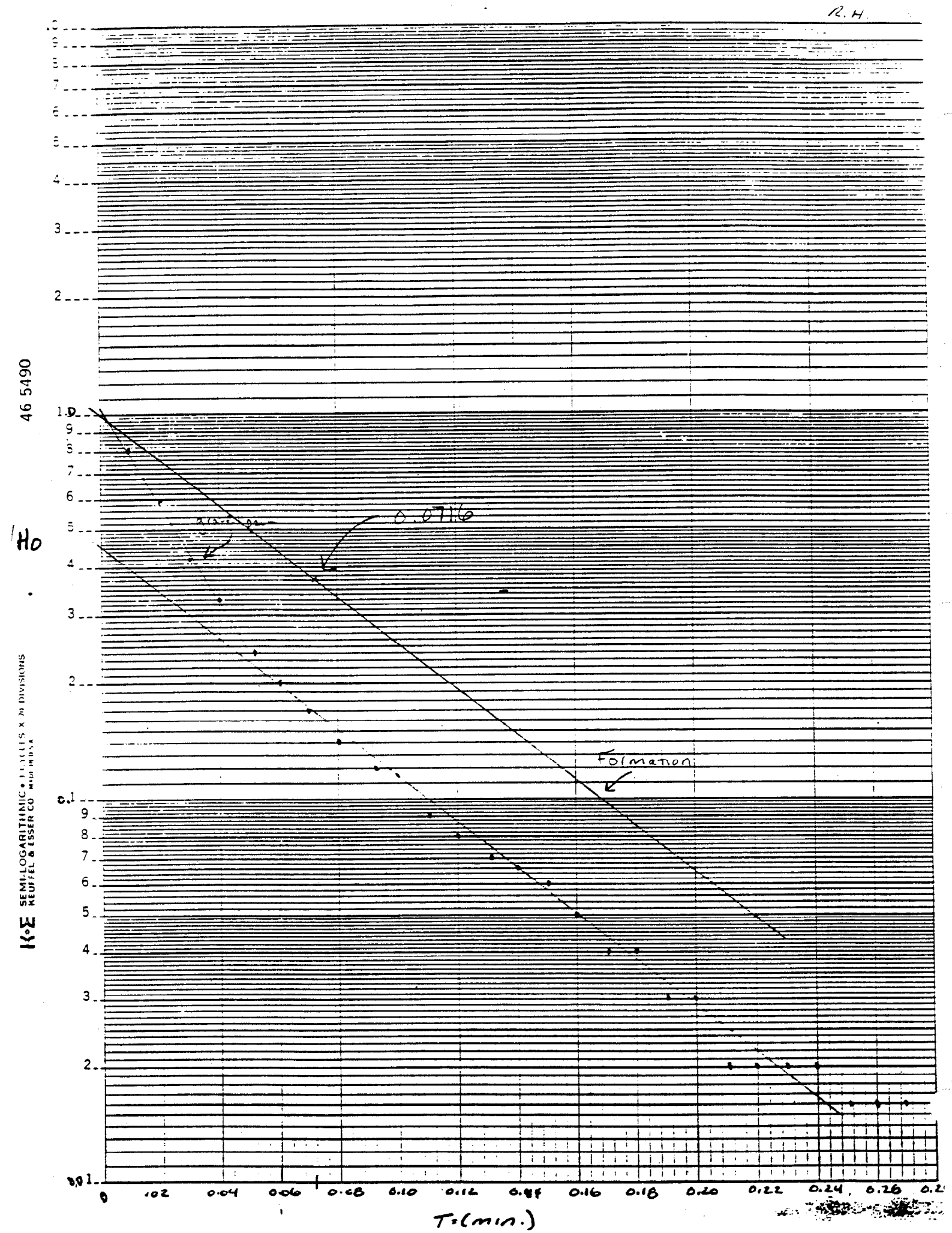
0.5500	0.000
0.5666	0.000
0.5833	0.000
0.6000	0.000
0.6166	0.000
0.6333	0.000
0.6500	0.000
0.6666	0.000
0.6833	0.000
0.7000	0.000
0.7166	0.000
0.7333	0.000
0.7500	0.000
0.7666	0.000
0.7833	0.000
0.8000	0.000
0.8166	0.000
0.8333	0.000
0.8500	0.000
0.8666	0.000
0.8833	0.000
0.9000	0.000
0.9166	0.003
0.9333	0.003
0.9500	0.003
0.9666	0.003
0.9833	0.003
1.0000	0.003
1.2000	0.000
1.4000	0.000
1.6000	0.000
1.8000	0.000
2.0000	0.000
2.2000	0.003
2.4000	0.003
2.6000	0.003
2.8000	0.003
3.0000	0.000
3.2000	0.000
3.4000	0.000
3.6000	0.003
3.8000	0.003
4.0000	0.000
4.2000	0.000
4.4000	0.003
4.6000	0.003
4.8000	0.003
5.0000	0.003
5.2000	0.003
5.4000	0.003
5.6000	0.003
5.8000	0.003
6.0000	0.003
6.2000	0.006
6.4000	0.003
6.6000	0.006
6.8000	0.003
7.0000	0.003
7.2000	0.006
7.4000	0.003
7.6000	0.003
7.8000	0.003
8.0000	0.003
8.2000	0.003
8.4000	0.006
8.6000	0.003

8.8000	0.003
9.0000	0.003
9.2000	0.000
9.4000	0.000
9.6000	0.003
9.8000	0.003
10.0000	0.003

HYDRAULIC CONDUCTIVITY TESTING DATA SHEET — NUS CORPORATION

PROJECT NAME: NWIRP- Calverton WELL/BORING NO.: FT- MW01-S
PROJECT NO.: 0206 GEOLOGIST: P. Davis
WELL DIAMETER: 4- inch SCREEN LENGTH/DEPTH: 10.0' / 30.02' TEST NO.:
STATIC WATER LEVEL (Depth/Elevation): 23.31' (L = 6.71') DATE:
TEST TYPE (Rising/Falling/Constant Head): Rising Head CHECKED: MLM 4/24/95
METHOD OF INDUCING WATER LEVEL CHANGE: Slug: 47" x 1 1/4" (Ho = 0.38') PAGE ___ OF ___

TIME	ELAPSED TIME (min or sec.)	MEASURED DEPTH TO WATER (ft.)	CORRECTION	DEPTH TO WATER (ft.)	DRAWDOWN OR HEAD (ft.)	h/H_o	REMARKS
	0.01				0.305	0.80	
	0.02				0.223	0.59	
	0.03				0.160	0.42	
	0.04				0.126	0.33	
	0.05				0.091	0.24	
	0.06				0.075	0.20	
	0.07				0.066	0.17	
	0.08				0.053	0.14	
	0.09				0.047	0.12	
	0.10				0.044	0.115	
	0.11				0.034	0.09	
	0.12				0.031	0.08	
	0.13				0.028	0.07	
	0.14				0.025	0.066	
	0.15				0.022	0.06	
	0.16				0.018	0.05	
	0.17				0.015	0.04	
	0.18				0.015	0.04	
	0.19				0.012	0.03	
	0.20				0.012	0.03	
	0.21				0.009	0.02	
	0.22				0.009	0.02	
	0.23				0.009	0.02	
	0.24				0.009	0.02	
	0.25				0.006	0.016	
	0.26				0.006	0.016	
	0.27				0.006	0.016	
	0.28				0.006	0.016	
	0.29				0.006	0.016	


R. H.
Ho
0.0716
Formation
T=(min.)
0
.02
0.04
0.06
0.08
0.10
0.12
0.14
0.16
0.18
0.20
0.22
0.24
0.26
46 5490
K+E SEMI-LOGARITHMIC • 3 CYCLES X 70 DIVISIONS
KEUFFEL & ESSER CO. MADE IN U.S.A.

Rising Head

SE1000C
Environmental Logger
09/16 16:06

Unit# 00143 Test 14

INPUT 1: Level (F) TOC

Reference	0.000
Linearity	0.000
Scale factor	9.990
Offset	0.040
Delay mSEC	50.000

Step 0 09/15 11:14:03

Elapsed Time	INPUT 1
0.0000	0.075
0.0033	-0.163
0.0066	0.517
0.0100	0.305
0.0133	0.277
0.0166	0.252
0.0200	0.223
0.0233	0.201
0.0266	0.182
0.0300	0.160
0.0333	0.145
0.0366	0.135
0.0400	0.126
0.0433	0.110
0.0466	0.107
0.0500	0.091
0.0533	0.097
0.0566	0.085
0.0600	0.075
0.0633	0.075
0.0666	0.072
0.0700	0.066
0.0733	0.059
0.0766	0.059
0.0800	0.053
0.0833	0.056
0.0866	0.050
0.0900	0.047
0.0933	0.047
0.0966	0.041
0.1000	0.044
0.1033	0.041
0.1066	0.037
0.1100	0.034
0.1133	0.034
0.1166	0.031
0.1200	0.031
0.1233	0.028
0.1266	0.028
0.1300	0.028
0.1333	0.028
0.1366	0.025
0.1400	0.025
0.1433	0.022
0.1466	0.022
0.1500	0.022
0.1533	0.022

0.1566	0.018
0.1600	0.018
0.1633	0.018
0.1666	0.018
0.1700	0.015
0.1733	0.015
0.1766	0.015
0.1800	0.015
0.1833	0.015
0.1866	0.015
0.1900	0.012
0.1933	0.012
0.1966	0.012
0.2000	0.012
0.2033	0.012
0.2066	0.012
0.2100	0.009
0.2133	0.012
0.2166	0.009
0.2200	0.009
0.2233	0.009
0.2266	0.009
0.2300	0.009
0.2333	0.009
0.2366	0.009
0.2400	0.009
0.2433	0.006
0.2466	0.006
0.2500	0.006
0.2533	0.006
0.2566	0.006
0.2600	0.006
0.2633	0.006
0.2666	0.006
0.2700	0.006
0.2733	0.006
0.2766	0.006
0.2800	0.006
0.2833	0.006
0.2866	0.006
0.2900	0.006
0.2933	0.006
0.2966	0.006
0.3000	0.003
0.3033	0.003
0.3066	0.006
0.3100	0.003
0.3133	0.003
0.3166	0.003
0.3200	0.003
0.3233	0.003
0.3266	0.003
0.3300	0.003
0.3333	0.003
0.3500	0.003
0.3666	0.003
0.3833	0.003
0.4000	0.003
0.4166	0.003
0.4333	0.000
0.4500	0.003
0.4666	0.000
0.4833	0.000
0.5000	0.000
0.5166	0.000
0.5333	0.000

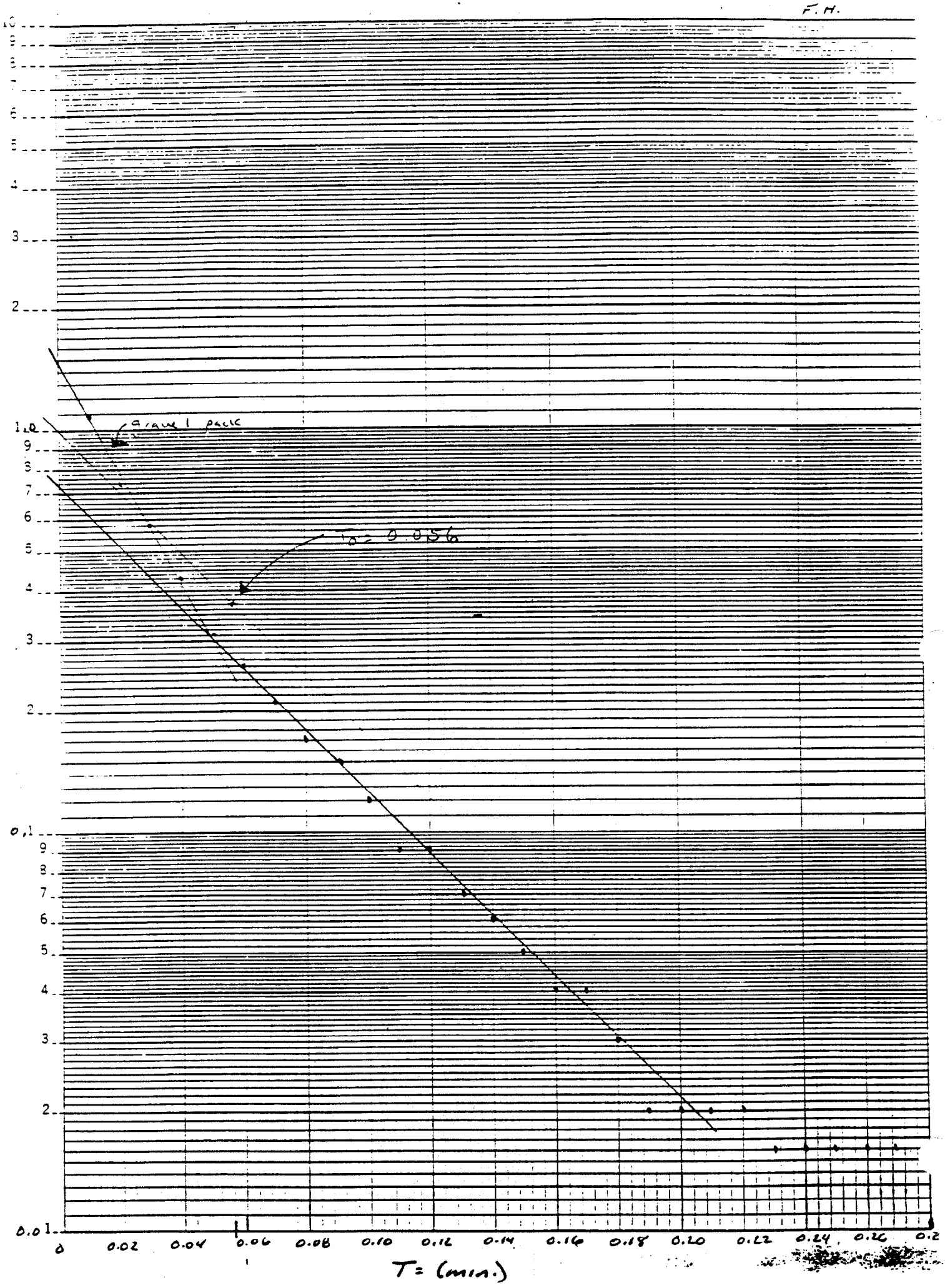
0.5500	0.000
0.5666	0.000
0.5833	0.000
0.6000	0.000
0.6166	0.000
0.6333	0.000
0.6500	0.000
0.6666	0.000
0.6833	0.000
0.7000	0.000
0.7166	0.000
0.7333	0.000
0.7500	0.000
0.7666	0.000
0.7833	0.000
0.8000	0.000
0.8166	0.000
0.8333	0.000
0.8500	0.000
0.8666	0.000
0.8833	0.000
0.9000	0.000
0.9166	0.000
0.9333	0.000
0.9500	0.000
0.9666	0.000
0.9833	0.000
1.0000	0.000
1.2000	0.000
1.4000	0.003
1.6000	0.003
1.8000	0.003
2.0000	0.003
2.2000	0.003
2.4000	0.003
2.6000	0.003
2.8000	0.003
3.0000	0.003
3.2000	0.000
3.4000	0.000
3.6000	0.000
3.8000	0.000
4.0000	0.003
4.2000	0.003
4.4000	0.000
4.6000	0.000
4.8000	0.000
5.0000	0.000
5.2000	0.000
5.4000	0.000
5.6000	0.000
5.8000	-0.003
6.0000	0.000
6.2000	0.000
6.4000	0.000
6.6000	0.000
6.8000	0.000
7.0000	0.000
7.2000	0.000
7.4000	0.000
7.6000	-0.003
7.8000	-0.003
8.0000	-0.003
8.2000	-0.003
8.4000	-0.003
8.6000	-0.003

8.8000	-0.003
9.0000	-0.003
9.2000	-0.003
9.4000	-0.003
9.6000	-0.003
9.8000	-0.003
10.0000	-0.003

HYDRAULIC CONDUCTIVITY TESTING DATA SHEET **NUS CORPORATION**

PROJECT NAME: NWIRP- Calverton RFI WELL/BORING NO.: FC-MW04-S
PROJECT NO.: 0206 GEOLOGIST: P. Davis
WELL DIAMETER: 4-inch SCREEN LENGTH/DEPTH: 10.0' / 15.25' TEST NO.:
STATIC WATER LEVEL (Depth/Elevation): 7.94' (L = 7.31') DATE:
TEST TYPE (Rising/Falling/Constant Head): Falling Head CHECKED: MCM 4/24/95
METHOD OF INDUCING WATER LEVEL CHANGE: Slug: 47" x 1¼" (H_o = 0.38') PAGE ___ OF ___

TIME	ELAPSED TIME (min or sec.)	MEASURED DEPTH TO WATER (ft.)	CORRECTION	DEPTH TO WATER (ft.)	DRAWDOWN OR HEAD (ft.)	h/H_o	REMARKS
	0.01				-0.416	1.09	
	0.02				-0.280	0.74	
	0.03				-0.220	0.58	
	0.04				-0.163	0.43	
	0.05				-0.123	0.32	
	0.06				-0.097	0.26	
	0.07				-0.081	0.21	
	0.08				-0.066	0.17	
	0.09				-0.056	0.15	
	0.10				-0.044	0.12	
	0.11				-0.034	0.09	
	0.12				-0.034	0.09	
	0.13				-0.025	0.07	
	0.14				-0.022	0.06	
	0.15				-0.018	0.05	
	0.16				-0.015	0.04	
	0.17				-0.015	0.04	
	0.18				-0.012	0.03	
	0.19				-0.009	0.02	
	0.20				-0.009	0.02	
	0.21				-0.009	0.02	
	0.22				-0.009	0.02	
	0.23				-0.006	0.016	
	0.24				-0.006	0.016	
	0.25				-0.006	0.016	
	0.26				-0.006	0.016	
	0.27				-0.006	0.016	
	0.28				-0.003	0.01	
	0.29				-0.003	0.01	


F. H.
gravel pack
$T_0 = 0.056$
$/H_0$
T = (min.)
0
0.02
0.04
0.06
0.08
0.10
0.12
0.14
0.16
0.18
0.20
0.22
0.24
0.26
0.2
0.01
0.1
1.0
2
3
4
5
6
7
8
9
10
46 5490
K&E SEMI-LOGARITHMIC 10 CYCLES X 70 DIVISIONS
KEUFFEL & ESSER CO. MADE IN U.S.A.

FC-mw04-S
Falling Head

SE1000C
Environmental Logger
09/16 15:41

Unit# 00143 Test 7

INPUT 1: Level (F) TOC

Reference	0.000
Linearity	0.000
Scale factor	9.990
Offset	0.040
Delay mSEC	50.000

Step 0 09/14 17:33:52

Elapsed Time	INPUT 1
0.0000	-0.548
0.0033	-0.261
0.0066	0.119
0.0100	-0.416
0.0133	-0.277
0.0166	-0.258
0.0200	-0.280
0.0233	-0.192
0.0266	-0.163
0.0300	-0.220
0.0333	-0.195
0.0366	-0.126
0.0400	-0.163
0.0433	-0.141
0.0466	-0.132
0.0500	-0.123
0.0533	-0.119
0.0566	-0.107
0.0600	-0.097
0.0633	-0.091
0.0666	-0.085
0.0700	-0.081
0.0733	-0.075
0.0766	-0.072
0.0800	-0.066
0.0833	-0.063
0.0866	-0.059
0.0900	-0.056
0.0933	-0.047
0.0966	-0.050
0.1000	-0.044
0.1033	-0.041
0.1066	-0.041
0.1100	-0.034
0.1133	-0.037
0.1166	-0.037
0.1200	-0.034
0.1233	-0.034
0.1266	-0.022
0.1300	-0.025
0.1333	-0.025
0.1366	-0.025
0.1400	-0.022
0.1433	-0.022
0.1466	-0.022
0.1500	-0.018
0.1533	-0.015

0.1566	-0.018
0.1600	-0.015
0.1633	-0.015
0.1666	-0.015
0.1700	-0.015
0.1733	-0.015
0.1766	-0.012
0.1800	-0.012
0.1833	-0.012
0.1866	-0.012
0.1900	-0.009
0.1933	-0.012
0.1966	-0.009
0.2000	-0.009
0.2033	-0.009
0.2066	-0.009
0.2100	-0.009
0.2133	-0.009
0.2166	-0.009
0.2200	-0.009
0.2233	-0.009
0.2266	-0.006
0.2300	-0.006
0.2333	-0.006
0.2366	-0.006
0.2400	-0.006
0.2433	-0.006
0.2466	-0.006
0.2500	-0.006
0.2533	-0.006
0.2566	-0.006
0.2600	-0.006
0.2633	-0.003
0.2666	-0.006
0.2700	-0.006
0.2733	-0.006
0.2766	-0.006
0.2800	-0.003
0.2833	-0.006
0.2866	-0.003
0.2900	-0.003
0.2933	-0.003
0.2966	-0.003
0.3000	-0.003
0.3033	-0.003
0.3066	-0.003
0.3100	-0.003
0.3133	-0.003
0.3166	-0.003
0.3200	-0.003
0.3233	-0.003
0.3266	-0.003
0.3300	-0.003
0.3333	-0.003
0.3500	-0.003
0.3666	-0.003
0.3833	-0.003
0.4000	-0.003
0.4166	-0.003
0.4333	-0.003
0.4500	-0.003
0.4666	-0.003
0.4833	-0.003
0.5000	-0.003
0.5166	-0.003
0.5333	-0.003

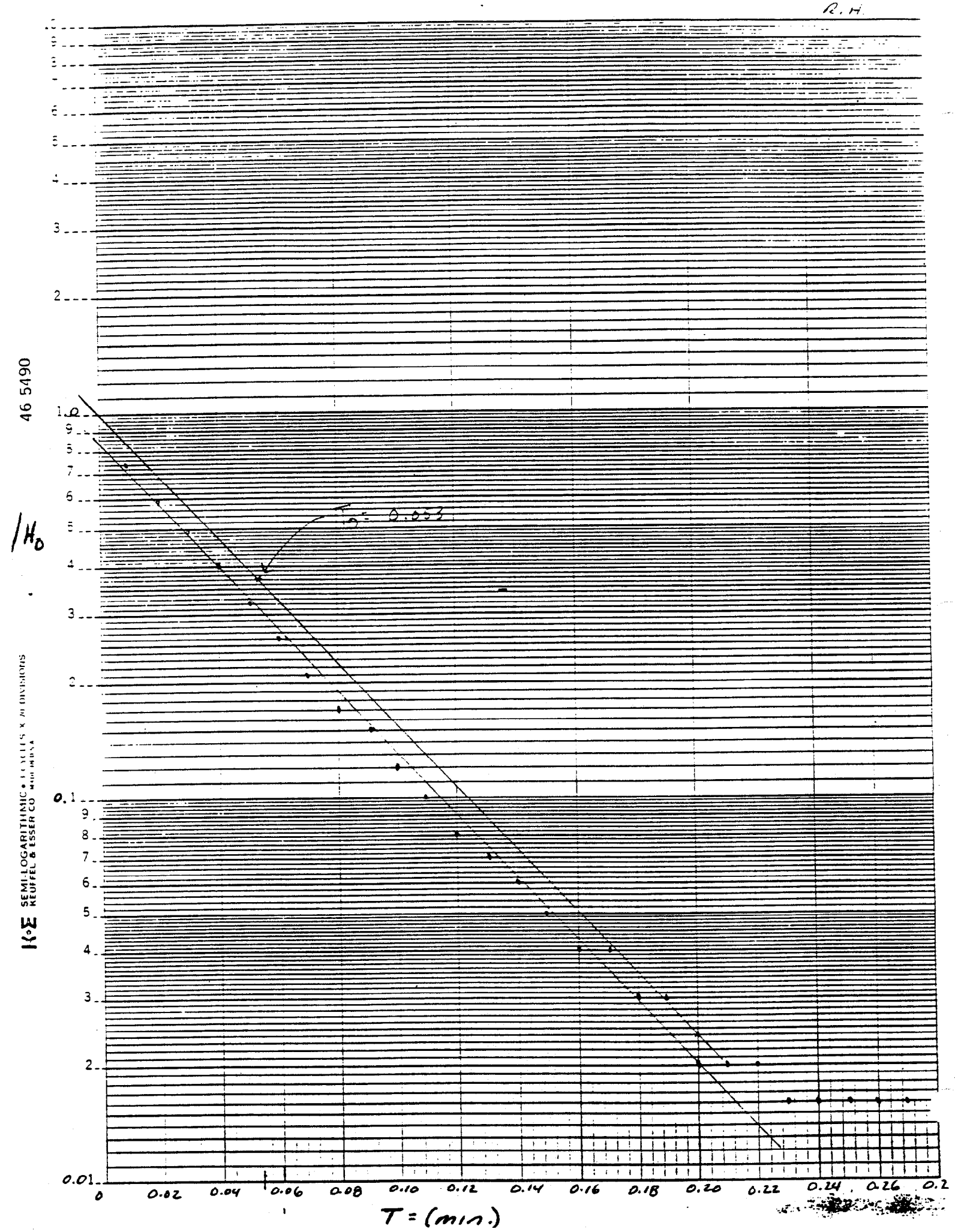
0.5500	-0.003
0.5666	-0.003
0.5833	-0.003
0.6000	-0.003
0.6166	-0.003
0.6333	-0.003
0.6500	-0.003
0.6666	-0.003
0.6833	-0.003
0.7000	-0.003
0.7166	-0.003
0.7333	-0.003
0.7500	-0.003
0.7666	-0.003
0.7833	-0.003
0.8000	-0.003
0.8166	-0.003
0.8333	-0.003
0.8500	-0.003
0.8666	-0.003
0.8833	-0.003
0.9000	-0.003
0.9166	-0.003
0.9333	-0.003
0.9500	-0.003
0.9666	-0.003
0.9833	-0.003
1.0000	-0.003
1.2000	-0.003
1.4000	-0.003
1.6000	-0.003
1.8000	-0.003
2.0000	-0.003
2.2000	-0.003
2.4000	-0.003
2.6000	-0.003
2.8000	-0.003
3.0000	-0.003
3.2000	-0.003
3.4000	-0.003
3.6000	-0.003
3.8000	-0.003
4.0000	-0.003
4.2000	-0.003
4.4000	-0.003
4.6000	-0.003
4.8000	-0.003
5.0000	-0.003
5.2000	-0.003
5.4000	-0.003
5.6000	-0.003
5.8000	-0.003
6.0000	-0.003
6.2000	-0.003
6.4000	-0.003
6.6000	-0.003
6.8000	-0.003
7.0000	-0.003
7.2000	0.000
7.4000	-0.003
7.6000	-0.003
7.8000	-0.003
8.0000	-0.003
8.2000	-0.003
8.4000	-0.003
8.6000	-0.003

8.8000	-0.003
9.0000	-0.003
9.2000	-0.003
9.4000	-0.003
9.6000	-0.003
9.8000	-0.003
10.0000	0.000

HYDRAULIC CONDUCTIVITY TESTING DATA SHEET — NUS CORPORATION

PROJECT NAME: NWIRP - Calverton RFI WELL/BORING NO.: FC-MW04-S
PROJECT NO.: 0206 GEOLOGIST: Paul Davis
WELL DIAMETER: 4" SCREEN LENGTH/DEPTH: 10.0' / 15.25' TEST NO.:
STATIC WATER LEVEL (Depth/Elevation): 7.94' (L = 7.31') DATE:
TEST TYPE (Rising/Falling/Constant Head): Rising head CHECKED: 4/24/95
METHOD OF INDUCING WATER LEVEL CHANGE: Slug: 4.7" x 1 1/4" (Ho = 0.38') PAGE ___ OF ___

TIME	ELAPSED TIME (min or sec.)	MEASURED DEPTH TO WATER (ft.)	CORRECTION	DEPTH TO WATER (ft.)	DRAWDOWN OR HEAD (ft.)	h/Ho	REMARKS
	0.01				0.283	0.74	
	0.02				0.223	0.59	
	0.03				0.186	0.49	
	0.04				0.151	0.40	
	0.05				0.123	0.32	
	0.06				0.097	0.26	
	0.07				0.078	0.21	
	0.08				0.066	0.17	
	0.09				0.056	0.15	
	0.10				0.044	0.12	
	0.11				0.037	0.10	
	0.12				0.031	0.08	
	0.13				0.025	0.07	
	0.14				0.022	0.06	
	0.15				0.018	0.05	
	0.16				0.015	0.04	
	0.17				0.015	0.04	
	0.18				0.012	0.03	
	0.19				0.012	0.03	
	0.20				0.009	0.02	
	0.21				0.009	0.02	
	0.22				0.009	0.02	
	0.23				0.006	0.016	
	0.24				0.006	0.016	
	0.25				0.006	0.016	
	0.26				0.006	0.016	
	0.27				0.006	0.016	
	0.28				0.006	0.016	
	0.29				0.006	0.016	


R. H.
$T_0 = 0.053$
$/H_0$
1.0
0.1
0.01
0
0.02
0.04
0.06
0.08
0.10
0.12
0.14
0.16
0.18
0.20
0.22
0.24
0.26
0.2
T = (min.)
46 5490
K+E SEMI-LOGARITHMIC • 1 CYCLES X 70 DIVISIONS
KEUFFEL & ESSER CO. MADE IN U.S.A.

FC-MW04-S
Rising Head

SE1000C
Environmental Logger
09/16 15:37

Unit# 00143 Test 6

INPUT 1: Level (F) TOC

Reference	0.000
Linearity	0.000
Scale factor	9.990
Offset	0.040
Delay mSEC	50.000

Step 0 09/14 17:10:56

Elapsed Time	INPUT 1
0.0000	0.129
0.0033	0.391
0.0066	0.321
0.0100	0.283
0.0133	0.268
0.0166	0.245
0.0200	0.223
0.0233	0.208
0.0266	0.198
0.0300	0.186
0.0333	0.170
0.0366	0.160
0.0400	0.151
0.0433	0.141
0.0466	0.132
0.0500	0.123
0.0533	0.113
0.0566	0.107
0.0600	0.097
0.0633	0.091
0.0666	0.085
0.0700	0.078
0.0733	0.075
0.0766	0.069
0.0800	0.066
0.0833	0.063
0.0866	0.059
0.0900	0.056
0.0933	0.050
0.0966	0.047
0.1000	0.044
0.1033	0.040
0.1066	0.037
0.1100	0.037
0.1133	0.037
0.1166	0.034
0.1200	0.031
0.1233	0.028
0.1266	0.028
0.1300	0.025
0.1333	0.025
0.1366	0.022
0.1400	0.022
0.1433	0.018
0.1466	0.018
0.1500	0.018
0.1533	0.018

0.1566	0.015
0.1600	0.015
0.1633	0.015
0.1666	0.015
0.1700	0.015
0.1733	0.012
0.1766	0.012
0.1800	0.012
0.1833	0.012
0.1866	0.012
0.1900	0.012
0.1933	0.009
0.1966	0.009
0.2000	0.009
0.2033	0.009
0.2066	0.009
0.2100	0.009
0.2133	0.009
0.2166	0.006
0.2200	0.009
0.2233	0.006
0.2266	0.006
0.2300	0.006
0.2333	0.006
0.2366	0.006
0.2400	0.006
0.2433	0.006
0.2466	0.006
0.2500	0.006
0.2533	0.006
0.2566	0.006
0.2600	0.006
0.2633	0.006
0.2666	0.006
0.2700	0.006
0.2733	0.006
0.2766	0.006
0.2800	0.006
0.2833	0.006
0.2866	0.006
0.2900	0.006
0.2933	0.006
0.2966	0.006
0.3000	0.006
0.3033	0.003
0.3066	0.006
0.3100	0.006
0.3133	0.003
0.3166	0.003
0.3200	0.003
0.3233	0.006
0.3266	0.003
0.3300	0.006
0.3333	0.003
0.3500	0.006
0.3666	0.003
0.3833	0.003
0.4000	0.003
0.4166	0.003
0.4333	0.003
0.4500	0.003
0.4666	0.003
0.4833	0.003
0.5000	0.006
0.5166	0.003
0.5333	0.003

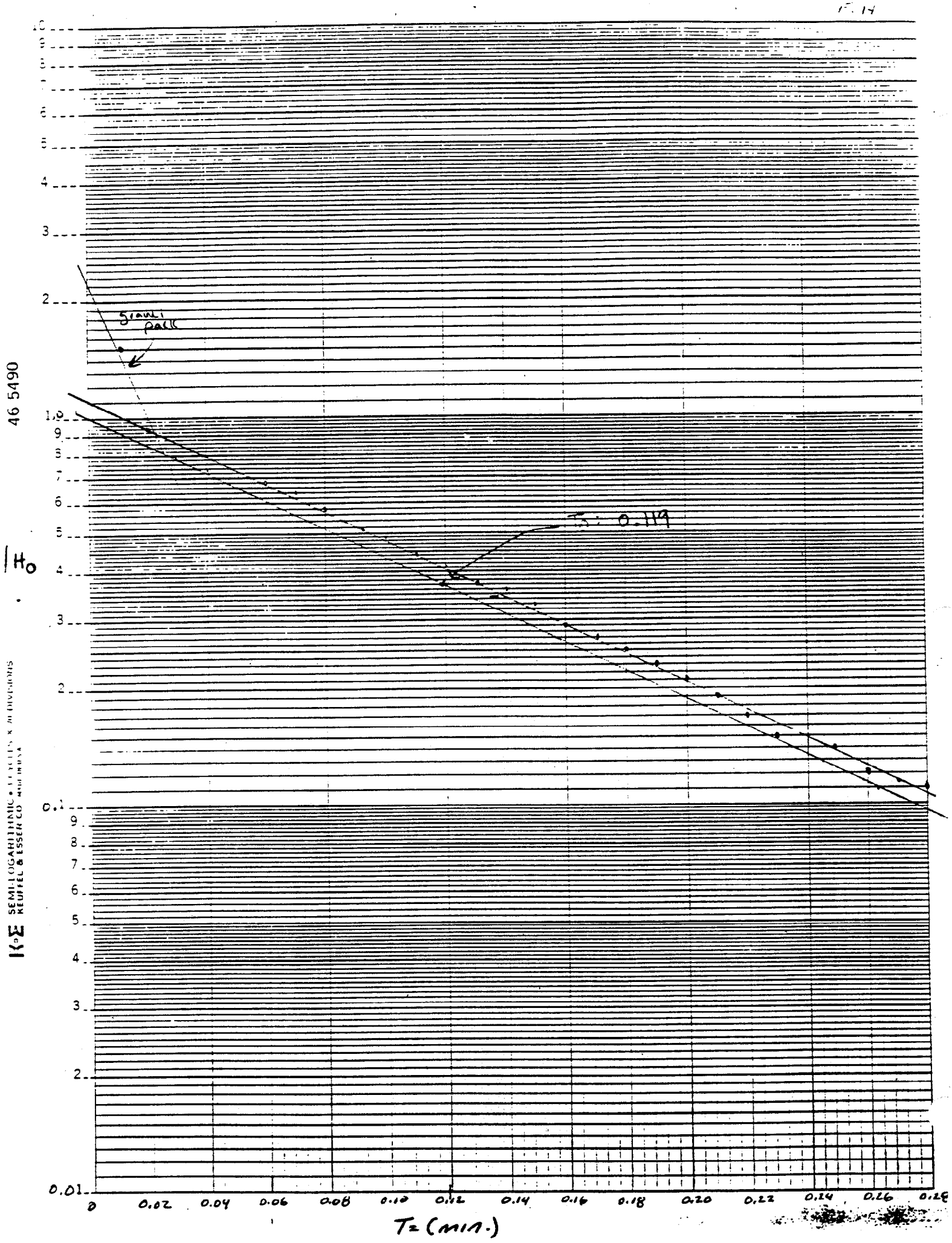
0.5500	0.003
0.5666	0.003
0.5833	0.006
0.6000	0.003
0.6166	0.003
0.6333	0.003
0.6500	0.003
0.6666	0.003
0.6833	0.003
0.7000	0.003
0.7166	0.003
0.7333	0.003
0.7500	0.003
0.7666	0.003
0.7833	0.003
0.8000	0.003
0.8166	0.000
0.8333	0.003
0.8500	0.000
0.8666	0.003
0.8833	0.003
0.9000	0.003
0.9166	0.000
0.9333	0.000
0.9500	0.000
0.9666	0.003
0.9833	0.003
1.0000	0.003
1.2000	0.003
1.4000	0.000
1.6000	0.003
1.8000	0.000
2.0000	0.000
2.2000	0.003
2.4000	0.000
2.6000	0.003
2.8000	0.000
3.0000	0.000
3.2000	0.000
3.4000	-0.003
3.6000	-0.003
3.8000	0.000
4.0000	0.000
4.2000	0.000
4.4000	0.000
4.6000	0.000
4.8000	0.000
5.0000	0.000
5.2000	0.000
5.4000	0.003
5.6000	0.003
5.8000	0.000
6.0000	0.003
6.2000	0.003
6.4000	0.003
6.6000	0.003
6.8000	0.003
7.0000	0.003
7.2000	0.003
7.4000	0.003
7.6000	0.003
7.8000	0.003
8.0000	0.003
8.2000	0.000
8.4000	0.000
8.6000	0.000

8.8000	0.000
9.0000	0.000
9.2000	0.000
9.4000	0.000
9.6000	0.000
9.8000	0.000
10.0000	0.000

HYDRAULIC CONDUCTIVITY TESTING DATA SHEET — NUS CORPORATION

PROJECT NAME: NWIRP- Calverton WELL/BORING NO.: FC-MW04-I
PROJECT NO.: 0206 GEOLOGIST: P. Davis
WELL DIAMETER: 4-inch SCREEN LENGTH/DEPTH: 10.0' / 52.08' TEST NO.:
STATIC WATER LEVEL (Depth/Elevation): 7.85' (L = 44.23') DATE:
TEST TYPE (Rising/Falling/Constant Head): Falling Head CHECKED: MLM 4/24/95
METHOD OF INDUCING WATER LEVEL CHANGE: Slug: 47" x 1 1/4" (H_0 = 0.38') PAGE ___ OF ___

TIME	ELAPSED TIME (min or sec.)	MEASURED DEPTH TO WATER (ft.)	CORRECTION	DEPTH TO WATER (ft.)	DRAWDOWN OR HEAD (ft.)	h/H_0	REMARKS
	0.01				-0.438	1.15	
	0.02				-0.356	0.94	
	0.03				-0.340	0.89	
	0.04				-0.277	0.73	
	0.05				-0.268	0.71	
	0.06				-0.258	0.68	
	0.07				-0.242	0.64	
	0.08				-0.220	0.58	
	0.09				-0.195	0.51	
	0.10				-0.186	0.49	
	0.11				-0.167	0.44	
	0.12				-0.154	0.41	
	0.13				-0.141	0.37	
	0.14				-0.135	0.36	
	0.15				-0.126	0.33	
	0.16				-0.110	0.29	
	0.17				-0.104	0.27	
	0.18				-0.094	0.25	
	0.19				-0.088	0.23	
	0.20				-0.078	0.21	
	0.21				-0.072	0.19	
	0.22				-0.066	0.17	
	0.23				-0.056	0.15	
	0.24				-0.097	0.26	
	0.25				-0.053	0.14	
	0.26				-0.047	0.12	
	0.27				-0.044	0.116	
	0.28				-0.040	0.11	
	0.29				-0.037	0.10	



Granite pack
T_0: 0.119
H_0
T= (min.)
0
0.02
0.04
0.06
0.08
0.10
0.12
0.14
0.16
0.18
0.20
0.22
0.24
0.26
0.28
0.01
0.1
1.0
2
3
4
5
6
7
8
9
10
46 5490
K+E SEMI-LOGARITHMIC 5 CYCLES X 70 DIVISIONS
KEUFFEL & ESSER CO. MADE IN U.S.A.

rc-mw 04-I
Falling Head

SE1000C
Environmental Logger
09/16 15:34

nit# 00143 Test 5

I PUT 1: Level (F) TOC

Reference	0.000
I nearity	0.000
S ale factor	9.990
Offset	0.040
Delay mSEC	50.000

S ep 0 09/14 16:43:07

F'apsed Time	INPUT 1
0.0000	-0.577
0.0033	-0.356
0.0066	-0.293
0.0100	-0.438
0.0133	-0.201
0.0166	-0.435
0.0200	-0.356
0.0233	-0.359
0.0266	-0.324
0.0300	-0.340
0.0333	-0.327
0.0366	-0.296
0.0400	-0.277
0.0433	-0.302
0.0466	-0.296
0.0500	-0.268
0.0533	-0.268
0.0566	-0.264
0.0600	-0.258
0.0633	-0.268
0.0666	-0.249
0.0700	-0.242
0.0733	-0.255
0.0766	-0.236
0.0800	-0.220
0.0833	-0.208
0.0866	-0.201
0.0900	-0.195
0.0933	-0.192
0.0966	-0.186
0.1000	-0.186
0.1033	-0.176
0.1066	-0.167
0.1100	-0.167
0.1133	-0.164
0.1166	-0.157
0.1200	-0.154
0.1233	-0.151
0.1266	-0.148
0.1300	-0.141
0.1333	-0.138
0.1366	-0.135
0.1400	-0.135
0.1433	-0.122
0.1466	-0.129
0.1500	-0.126
0.1533	-0.119

0.1566	-0.113
0.1600	-0.110
0.1633	-0.107
0.1666	-0.104
0.1700	-0.104
0.1733	-0.100
0.1766	-0.097
0.1800	-0.094
0.1833	-0.091
0.1866	-0.088
0.1900	-0.088
0.1933	-0.085
0.1966	-0.081
0.2000	-0.078
0.2033	-0.078
0.2066	-0.075
0.2100	-0.072
0.2133	-0.072
0.2166	-0.069
0.2200	-0.066
0.2233	-0.053
0.2266	-0.050
0.2300	-0.056
0.2333	-0.059
0.2366	-0.037
0.2400	-0.097
0.2433	-0.072
0.2466	-0.063
0.2500	-0.053
0.2533	-0.050
0.2566	-0.047
0.2600	-0.047
0.2633	-0.047
0.2666	-0.044
0.2700	-0.044
0.2733	-0.044
0.2766	-0.040
0.2800	-0.040
0.2833	-0.040
0.2866	-0.040
0.2900	-0.037
0.2933	-0.037
0.2966	-0.037
0.3000	-0.037
0.3033	-0.034
0.3066	-0.034
0.3100	-0.031
0.3133	-0.031
0.3166	-0.031
0.3200	-0.031
0.3233	-0.028
0.3266	-0.028
0.3300	-0.028
0.3333	-0.028
0.3500	-0.022
0.3666	-0.018
0.3833	-0.015
0.4000	-0.012
0.4166	-0.012
0.4333	-0.012
0.4500	-0.009
0.4666	-0.006
0.4833	-0.006
0.5000	-0.003
0.5166	-0.003
0.5333	-0.003

0.5500	-0.003
0.5666	-0.003
0.5833	-0.003
0.6000	0.000
0.6166	0.000
0.6333	0.000
0.6500	0.000
0.6666	0.000
0.6833	0.000
0.7000	0.000
0.7166	0.000
0.7333	0.000
0.7500	0.000
0.7666	0.003
0.7833	0.003
0.8000	0.003
0.8166	0.003
0.8333	0.003
0.8500	0.003
0.8666	0.003
0.8833	0.003
0.9000	0.003
0.9166	0.003
0.9333	0.003
0.9500	0.003
0.9666	0.003
0.9833	0.003
1.0000	0.003
1.2000	0.003
1.4000	0.003
1.6000	0.003
1.8000	0.003
2.0000	0.003
2.2000	0.000
2.4000	0.003
2.6000	0.000
2.8000	0.003
3.0000	0.003
3.2000	0.003
3.4000	0.000
3.6000	0.003
3.8000	0.003
4.0000	0.003
4.2000	0.003
4.4000	0.003
4.6000	0.000
4.8000	0.000
5.0000	0.003
5.2000	0.003
5.4000	0.003
5.6000	0.003
5.8000	0.000
6.0000	0.000
6.2000	0.000
6.4000	0.000
6.6000	0.000
6.8000	0.000
7.0000	0.000
7.2000	-0.003
7.4000	-0.003
7.6000	0.000
7.8000	0.000
8.0000	0.000
8.2000	0.000
8.4000	-0.003
8.6000	-0.003

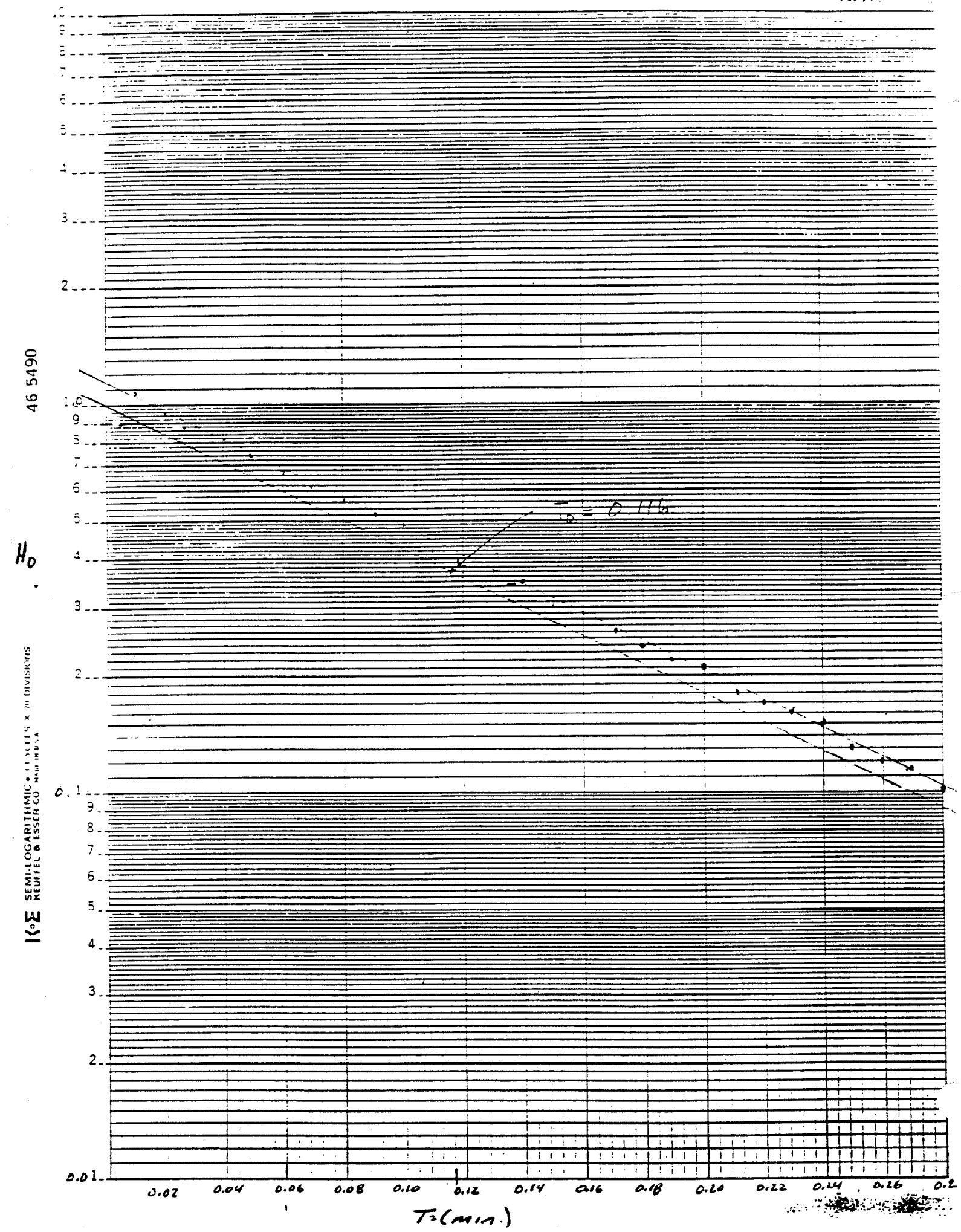
8.8000	-0.003
9.0000	-0.003
9.2000	-0.003
9.4000	-0.003
9.6000	-0.003
9.8000	-0.003
10.0000	-0.003
12.0000	-0.003

HYDRAULIC CONDUCTIVITY TESTING DATA SHEET **NUS CORPORATION**

PROJECT NAME: NWIRP- Calverton WELL/BORING NO.: FC-MW04-I
PROJECT NO.: 0206 GEOLOGIST: P. Davis
WELL DIAMETER: 4-inch SCREEN LENGTH/DEPTH: 10.0' / 52.08' TEST NO.:
STATIC WATER LEVEL (Depth/Elevation): 7.85' (L = 44.23') DATE:
TEST TYPE (Rising/Falling/Constant Head): Rising Head CHECKED: MCM 4/24/95
METHOD OF INDUCING WATER LEVEL CHANGE: Slug: 47" x 1 1/4" (Ho = 0.38') PAGE ___ OF ___

TIME	ELAPSED TIME (min or sec.)	MEASURED DEPTH TO WATER (ft.)	CORRECTION	DEPTH TO WATER (ft.)	DRAWDOWN OR HEAD (ft.)	h/Ho	REMARKS
	0.01				0.409	1.08	
	0.02				0.365	0.96	
	0.03				0.334	0.88	
	0.04				0.312	0.82	
	0.05				0.280	0.74	
	0.06				0.255	0.67	
	0.07				0.233	0.61	
	0.08				0.217	0.57	
	0.09				0.198	0.52	
	0.10				0.182	0.48	
	0.11				0.167	0.44	
	0.12				0.154	0.41	
	0.13				0.141	0.37	
	0.14				0.132	0.35	
	0.15				0.119	0.31	
	0.16				0.110	0.29	
	0.17				0.100	0.26	
	0.18				0.091	0.24	
	0.19				0.085	0.22	
	0.20				0.078	0.21	
	0.21				0.069	0.18	
	0.22				0.066	0.17	
	0.23				0.059	0.16	
	0.24				0.056	0.15	
	0.25				0.050	0.13	
	0.26				0.047	0.12	
	0.27				0.044	0.116	
	0.28				0.037	0.10	
	0.29				0.034	0.09	

R. 14


46 5490
K+E SEMI-LOGARITHMIC • 11 CYCLES X 70 DIVISIONS
KEUFFEL & ESSER CO. MADE IN U.S.A.
H_0
$\bar{T}_0 = 0.116$
10
9
8
7
6
5
4
3
2
1.0
0.1
0.01
0.02
0.04
0.06
0.08
0.10
0.12
0.14
0.16
0.18
0.20
0.22
0.24
0.26
0.2
T=(min.)

~~MW-MW~~
FC-MW04-I Rising Head

SE1000C
Environmental Logger
09/16 15:25

Unit# 00143 Test 4

INPUT 1: Level (F) TOC

Reference	0.000
Linearity	0.000
Scale factor	9.990
Offset	0.040
Delay mSEC	50.000

Step 0 09/14 16:19:56

Elapsed Time	INPUT 1
0.0000	0.132
0.0033	0.457
0.0066	0.447
0.0100	0.409
0.0133	0.397
0.0166	0.387
0.0200	0.365
0.0233	0.356
0.0266	0.346
0.0300	0.334
0.0333	0.321
0.0366	0.321
0.0400	0.312
0.0433	0.302
0.0466	0.290
0.0500	0.280
0.0533	0.274
0.0566	0.264
0.0600	0.255
0.0633	0.249
0.0666	0.239
0.0700	0.233
0.0733	0.236
0.0766	0.223
0.0800	0.217
0.0833	0.211
0.0866	0.204
0.0900	0.198
0.0933	0.192
0.0966	0.186
0.1000	0.182
0.1033	0.176
0.1066	0.173
0.1100	0.167
0.1133	0.164
0.1166	0.160
0.1200	0.154
0.1233	0.151
0.1266	0.148
0.1300	0.141
0.1333	0.138
0.1366	0.135
0.1400	0.132
0.1433	0.126
0.1466	0.123
0.1500	0.119
0.1533	0.116

0.1566	0.113
0.1600	0.110
0.1633	0.107
0.1666	0.104
0.1700	0.100
0.1733	0.097
0.1766	0.094
0.1800	0.091
0.1833	0.091
0.1866	0.088
0.1900	0.085
0.1933	0.082
0.1966	0.078
0.2000	0.078
0.2033	0.075
0.2066	0.072
0.2100	0.069
0.2133	0.069
0.2166	0.066
0.2200	0.066
0.2233	0.063
0.2266	0.063
0.2300	0.059
0.2333	0.056
0.2366	0.056
0.2400	0.056
0.2433	0.053
0.2466	0.050
0.2500	0.050
0.2533	0.047
0.2566	0.047
0.2600	0.047
0.2633	0.044
0.2666	0.044
0.2700	0.044
0.2733	0.041
0.2766	0.041
0.2800	0.037
0.2833	0.037
0.2866	0.037
0.2900	0.034
0.2933	0.034
0.2966	0.034
0.3000	0.031
0.3033	0.031
0.3066	0.031
0.3100	0.028
0.3133	0.028
0.3166	0.028
0.3200	0.025
0.3233	0.025
0.3266	0.025
0.3300	0.025
0.3333	0.022
0.3500	0.018
0.3666	0.015
0.3833	0.012
0.4000	0.009
0.4166	0.006
0.4333	0.006
0.4500	0.006
0.4666	0.003
0.4833	0.000
0.5000	0.000
0.5166	0.000
0.5333	-0.003

0.5500	-0.003
0.5666	-0.003
0.5833	-0.003
0.6000	-0.003
0.6166	-0.006
0.6333	-0.006
0.6500	-0.006
0.6666	-0.006
0.6833	-0.006
0.7000	-0.006
0.7166	-0.006
0.7333	-0.006
0.7500	-0.006
0.7666	-0.006
0.7833	-0.006
0.8000	-0.006
0.8166	-0.006
0.8333	-0.006
0.8500	-0.006
0.8666	-0.006
0.8833	-0.006
0.9000	-0.006
0.9166	-0.006
0.9333	-0.006
0.9500	-0.006
0.9666	-0.006
0.9833	-0.006
1.0000	-0.006
1.2000	-0.006
1.4000	-0.003
1.6000	-0.003
1.8000	-0.003
2.0000	-0.006
2.2000	-0.006
2.4000	-0.003
2.6000	-0.003
2.8000	-0.003
3.0000	-0.003
3.2000	-0.003
3.4000	-0.003
3.6000	-0.003
3.8000	-0.003
4.0000	-0.003
4.2000	-0.003
4.4000	0.000
4.6000	-0.003
4.8000	-0.003
5.0000	0.000
5.2000	0.000
5.4000	-0.003
5.6000	-0.006
5.8000	-0.006
6.0000	-0.006
6.2000	-0.006
6.4000	-0.006
6.6000	-0.006
6.8000	-0.006
7.0000	-0.003
7.2000	-0.003
7.4000	0.000
7.6000	0.000
7.8000	0.000
8.0000	-0.003
8.2000	-0.003
8.4000	-0.003
8.6000	-0.006

8.8000	-0.006
9.0000	-0.006
9.2000	-0.006
9.4000	-0.006
9.6000	-0.003
9.8000	-0.003
10.0000	-0.003

PUMPING TEST CALCULATIONS

PUMP TEST TREATMENT SYSTEM
SET UP AND RESULTS, SITE 2 - FIRE TRAINING AREA
NWIRP CALVERTON, NY

The Navy is conducting a RFI at the NWIRP Calverton. In support of this investigation, a pump test at the fire training area is planned. To conduct this test, up to 180,000 gallons of water has to be discharged to the ground surface for infiltration over a two day period. This volume of water corresponds to an average flow rate of approximately 60 gpm. After discussions with the NYSDEC, and a submittal of historic groundwater data and planned actions, the state issued a temporary discharge permit for groundwater infiltration. The permit number is DHWR No. 1-52-136, with an effective period of September 1, 1994 to January 1, 1995. This permit requires compliance with numerical standards for volatile organics, semivolatile organics, pesticides, and two metals. The permit also requires sampling of the effluent prior to the discharge. This letter presents the findings of the pre-trial sampling event.

The proposed well to be used for the pump test is an existing groundwater extraction well, which was shut down in 1992. Based on a comparison of the historic analytical data for this well and the limitations in the temporary discharge permit, treatment of the extracted groundwater during the pump test may not be required. However, because of known groundwater contamination adjacent to the planned groundwater extraction well and the possibility that this groundwater may be captured during the pump test, Halliburton NUS procured and installed a temporary groundwater treatment plant at the site. The treatment system consists of filtration with 25 micron bag filters and activated carbon adsorption.

The groundwater extraction and treatment system was installed on 9/13/94 to 09/15/94. Attached is a sketch of the system. On 09/15/94, groundwater was used to slowly fill the system with water and then the flow rate was gradually increased. After treatment, the groundwater was discharged to a 2000-gallon holding tank. As the flow rate was being increased during this testing, it was discovered that the two 1000-pound carbon could handle a combined flow rate of only about 30 gpm, instead of the anticipated combined flow rate of 60 gpm. This reduced capacity is believed to result from the relatively high discharge head on the carbon filter outlet (required to discharge to the top of the holding tank), coupled with the fact that the carbon units were not designed for high pressures. For a short period of time, the system was operated at 60 gpm, (water was accumulated in the carbon units during this period). No other problems were noted with the operation of the system at 60 gpm. As a result of the flow rate limitations on the carbon units, the treatment system was evaluated at 30 gpm for the pre-pump test trial and sample collection. The use of two 1000-pound carbon units is expected to provide equivalent treatment as four 1000-pound carbon units for 60 gpm of flow. Therefore, for the pump test, two additional 1000-pound carbon units will be added to increase the capacity of the treatment system to 60 gpm.

The results of the untreated and treated groundwater are presented in the attached table. For comparison, the permit discharge limitations are also presented. Please note that because of the piping network, two results are presented for the volatile organics, one for each carbon unit. The combined discharge for the system would be the average of these concentrations. As presented in the table, the only positive organic result detected was 1,1,1-trichloroethane (TCA)

at a concentration of 6 ug/l in one of the two carbon unit discharges. Based on a MDL of 2 ug/l, the average discharge concentration for TCA would be 4 ug/l or less, which is below the discharge limit. Also note that the presence of TCA in one effluent sample is puzzling since TCA was not detected in the influent sample or in the other effluent sample. This finding could be a result of laboratory contamination.

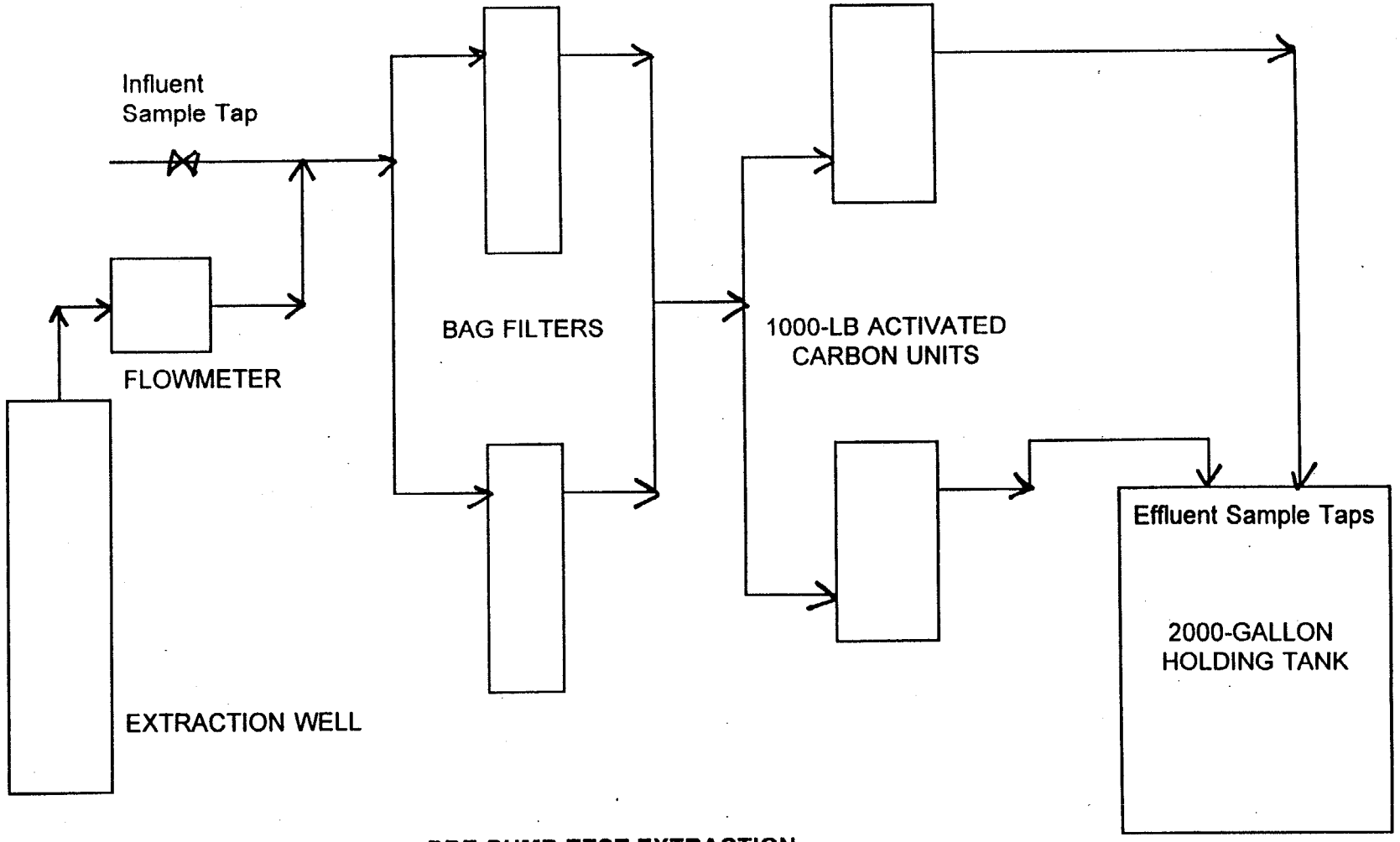
Based on the successful results of the pre-pump test analysis, Halliburton NUS is planning on conducting the pump test the week of October 17, 1994. Prior to running the pump test, two additional 1000-lb carbon units will be installed to allow a maximum flow rate of 60 gpm.

TABLE

ANALYTICAL RESULTS (ug/l)
PRE-PUMP TEST TRIAL, FIRE TRAINING AREA
NWIRP CALVERTON, NY

Chemical	MDL	Discharge Limitation (maximum)	Influent Conc.	Effluent Conc.[1]
Chloroethane	2	5	ND	ND/ND
1,1-Dichloroethane	2	5	ND	ND/ND
1,1-Dichloroethene	2	5	ND	ND/ND
1,1,1-Trichloroethane	2	5	ND	ND/6
Benzene		0.7	<0.2	<0.2/<0.02
Ethylbenzene	1	5	ND	ND/ND
Toluene	1	5	ND	ND/ND
Xylene, m-	0.5, combined	5	ND	ND/ND
Xylene, o-		5		
Xylene, p-		5		
Phenolics, Total	2	1	ND	ND
1,2,4-Trichlorobenzene	0.8	5	ND	ND
Endrin aldehyde	0.023	0.7	ND	ND
gamma-BHC	0.004	0.02	ND	ND
Iron, Total	NA	600	98	73
Manganese, Total	NA	600	<5	<5

ND: Not Detected
1. Two results are presented for VOCs, one for each carbon unit.



**PRE-PUMP TEST EXTRACTION
AND TREATMENT SYSTEM SCHEMATIC
FIRE TRAINING AREA - NWIRP CALVERTON**

CLIENT		JOB NUMBER	
SUBJECT Calverton Pump Test Site 2		Observation Well RW	
BASED ON		DRAWING NUMBER	
BY JAH	CHECKED BY SJC 1/20/95	APPROVED BY	DATE JAH 12/22/94

PTD. BAS INPUTS:

Aquifer Discharge = 65 gpm

Storage = 0.1 (assumed for unconfined aquifer)

Kh = 580 gpd/ft² (assumed)

Kv = 58 gpd/ft² (assumed)

10:1 ratio

Radial distance to well (obs.) = 7.45 ft

Aquifer thickness = ~~68~~ ft 70 (assume clay layer at 80' b.g. and water level in RW at 10' bg)

Distance from aquifer top to bottom of prod. well = 36 ft (TD prod. well is 46' and water level in prod well is 10')

Distance from aquifer top to top of prod well screen = 20 ft. (top of screen is at 30' and top of aquifer is at 10')

Distance from aquifer top to bottom of obs. well = 5 ft (water level in RW is at 10' and TD of RW is assumed to be 15')

Distance from aquifer top to top of obs. well screen = -5 ft. (top of aquifer in RW is at 10' and top of screen is assumed to be 5 ft.)

RW T.D. 15' bg assumed

" 10' bg "

screen 5-~~10~~ 15' bg assumed

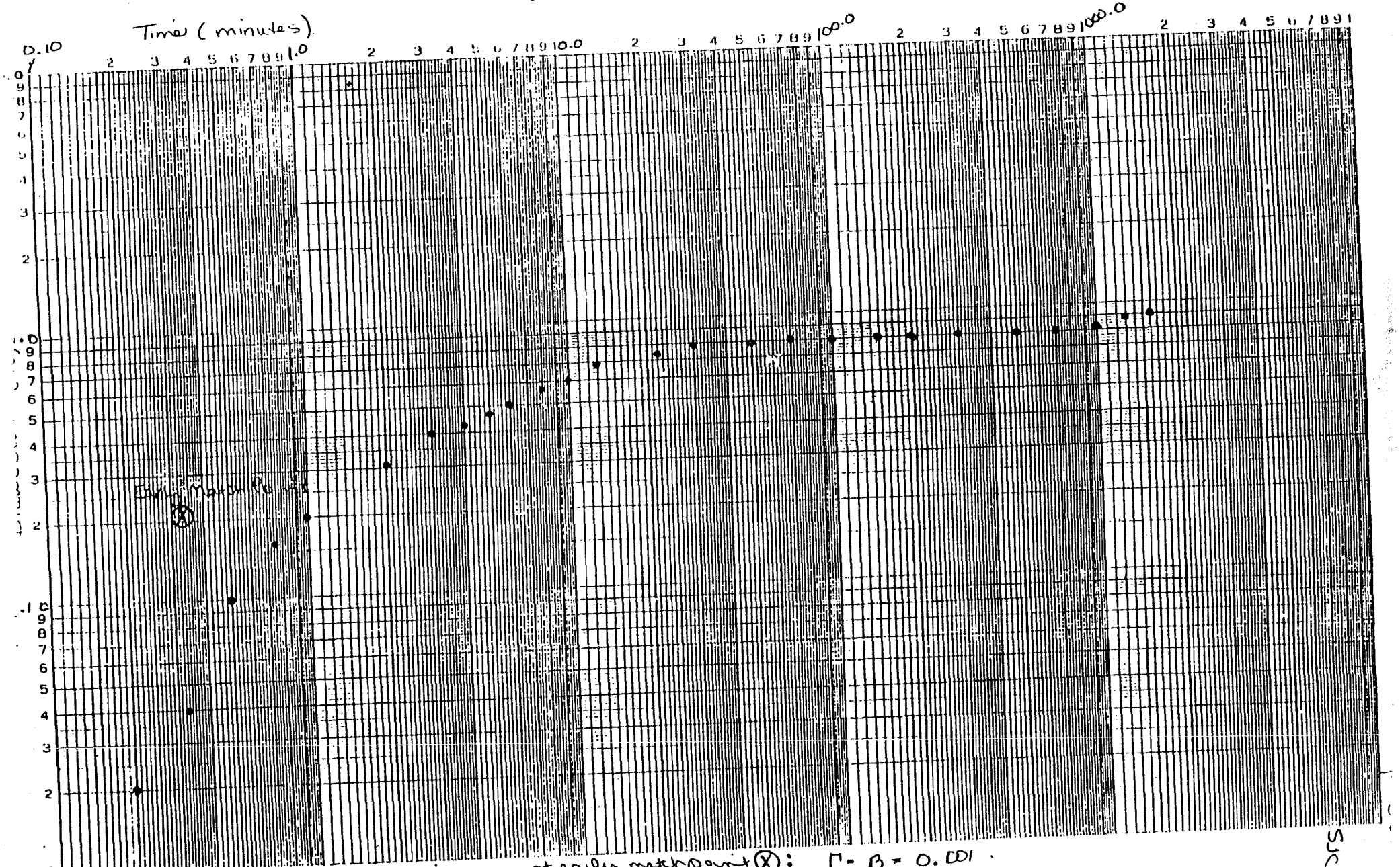
CALCULATION WORKSHEET

Order No. 19116 (01-91)

CLIENT		JOB NUMBER	
SUBJECT Calverton Pump Test - Site 2		Observation Well RW	
BASED ON		DRAWING NUMBER	
BY JAH	CHECKED BY SJC 1-20-95	APPROVED BY	DATE 12/22/94

Elapsed Time (min)	Measured Drawdown (ft)	Corrected Drawdown (ft)
0.1	0	0
0.3333	-0.01	-0.04
0.2	-0.01	-0.02
0.5	-0.04	-0.10
0.75	-0.06	-0.16
1.0	-0.06	-0.20
2.0	-0.08	-0.32
3.0	-0.09	-0.40
4.0	-0.09	-0.43
5.0	-0.09	-0.47
6.0	-0.09	-0.50
8.0	-0.11	-0.57
10.0	-0.12	-0.61
16.0	-0.12	-0.68
20.0	-0.14	-0.74
30.0	-0.16	-0.78
50.0	-0.17	-0.79
70.0	-0.19	-0.81
100.0	-0.19	-0.79
150.0	-0.20	-0.79
200	-0.22	-0.80
300 ~~400~~	-0.24	-0.81
500.	-0.24	-0.81
700.	-0.25	-0.82
1000 ~~1000~~.	~~-0.30~~ 0.27	-0.84
1300.	-0.32	-0.89
1600.	-0.35	-0.92

Observation Well RW Time Drawdown Plot
(Corrected for Partial Penetration Effects)



Using Unconfined Aq w/ Delayed Gravity Response Curve (after Neuman, 1975)

at early match point (X): $\Gamma = \beta = 0.001$
$W(u_A, \Gamma) = 1.0$
$S = 0.01$
$t = 0.34$ min $= 0.00024$ day

55

CLIENT		JOB NUMBER	
SUBJECT Calverton Pump Test Site 2		Observation Well RW	
BASED ON		DRAWING NUMBER	
BY JAH	CHECKED BY SJC	APPROVED BY	DATE JAH 12/28/94

Neuman Curve Fitting - Early Time, Corrected for Partial Penetration Effects

K_h = horizontal hydraulic conductivity (Kruseman 1989 Eqn 5.2

$$s = \frac{Q}{4\pi K_h D}$$

where s = drawdown (ft) from early match pt. = 0.21
Q = discharge rate (ft^3/d) = 12,512.5*
D = aquifer thickness (ft) = 70
$W(u_A, \beta) = 1.0$

$$\boxed{K_h} = \frac{Q}{4\pi s D} = \frac{12{,}512.5}{4(3.14)(0.21)(70)} = \boxed{67.77 \text{ ft/day}}$$

S_A = storativity (Kruseman 1989 Eqn. 5.3)

$$u_A = \frac{r^2 S_A}{4 K_h D t}$$

where r = radial distance to obs. well (ft) = 7.45
D = 70 ft
t = time (days) from early match pt. = 0.00024
u_A = 1.0
K_h = 67.77 ft/day

$$\boxed{S_A} = \frac{u_A 4 K_h D t}{r^2} = \frac{(1.0)(4)(67.77)(70)(0.00024)}{(7.45)^2} = \boxed{0.082}$$

* 65 gpm = 12512.5 ft^3/day ; conversion factor 1 gpm = 192.5 ft^3/

CALCULATION WORKSHEET

Order No. 19116 (01-91)

CLIENT	JOB NUMBER
SUBJECT Calverton Pump Test Site 2	Observation Well RW
BASED ON	DRAWING NUMBER
BY JAH / CHECKED BY SJC 1/20/95	APPROVED BY / DATE JH 12/29/94

K_v = vertical hydraulic conductivity (Kruseman 1989 Eqn. 5.6)

$$\beta = \frac{r^2 K_v}{D^2 K_h}$$

where $\beta = \Gamma = 0.001$ from early match points
$D = 70$ ft
$r = 7.45$ ft
$K_h = 67.77$ ft/day

$$\boxed{K_v =} \frac{\beta K_h D^2}{r^2} = \frac{(0.001)(67.77)(70)^2}{(7.45)^2} = \boxed{5.98 \text{ ft/day}}$$

T = transmissivity (Fetter 1988 Eqn 6-48)

$$T = \frac{Q}{4\pi S}$$

where S = drawdown (ft) from early match pt = c
Q = discharge = 12512.5
$W(u_A, \beta) = 1.0$

$$\boxed{T =} = \frac{12512.5}{4(3.14)(0.21)} = \boxed{\cancel{4774} \text{ ft}^2/\text{day}}$$

4744 ft²/day SJC 1/20/95

CALCULATION WORKSHEET

Order No. 19116 (01-91)

CLIENT		JOB NUMBER	
SUBJECT Calverton Pump Test - Site 2		Observation Well 1 (Old Well)	
BASED ON		DRAWING NUMBER	
BY JAN	CHECKED BY SJC	APPROVED BY	DATE 12/22/99

Same parameters as for well Rw except radial distance = 40.15 ft

Obs. well T.D. 15' bg (assumed)
▼ 10' bg "
screen 5-15' bg "

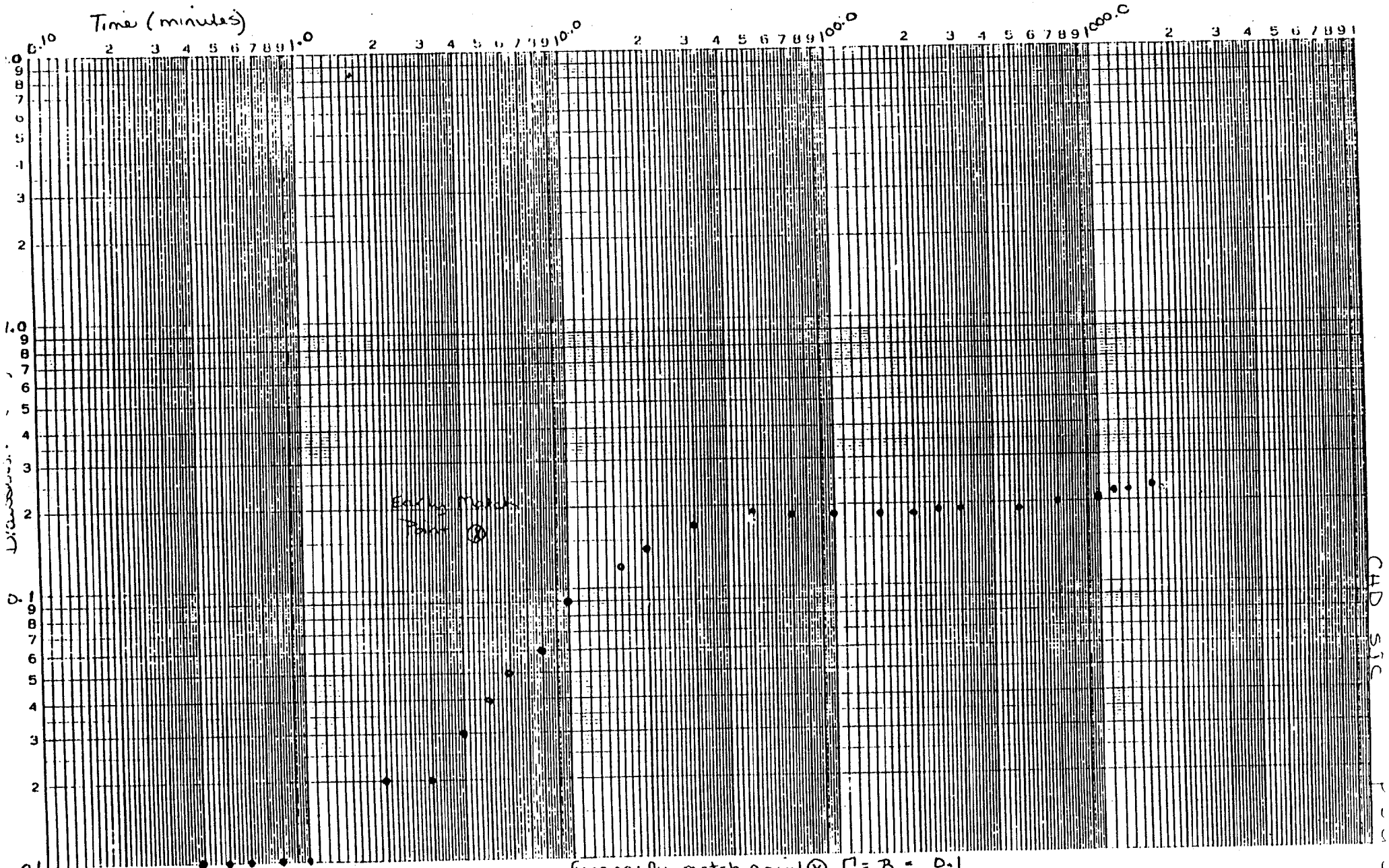
CALCULATION WORKSHEET

Order No. 19116 (01-91)

CLIENT		JOB NUMBER	
SUBJECT Colleyton Pump Test - Site 2		Observation Well 1 (Old Well)	
BASED ON		DRAWING NUMBER	
BY JAH	CHECKED BY SJC	APPROVED BY	DATE JH 12/22/94

Elapsed Time (min)	Measured Drawdown (ft)	Corrected Drawdown (ft)
0.1	~~0.006~~	
0.2	~~0.003~~	
0.3	-0.003	0
0.4	-0.006	-0.01
0.5	-0.009	-0.01
0.6	-0.009	-0.01
0.8	-0.015	-0.01
1.0	-0.015	-0.01
2.0	-0.022	-0.02
3.0	-0.028	-0.02
4.0	-0.034	-0.03
5.0	-0.037	-0.04
6.0	-0.040	-0.05
8.0	-0.040	-0.06
10.0	-0.047	-0.09
16.0	-0.053	-0.12
20.0	-0.059	-0.14
30.0	-0.062	-0.17
50.0	-0.069	-0.18
70.0	-0.072	-0.17
100.0	-0.081	-0.17
150.0	-0.091	-0.17
200.0	-0.100	-0.17
250.0	-0.107	-0.18
300.0	-0.110	-0.18
500.0	-0.119	-0.18
700.0	-0.135	-0.20
1000.0	-0.151	-0.21
1150.0	-0.157	-0.22
1300.0	-0.160	-0.22
1600.	-0.170	-0.23

Observation Well 1 (Old Well) Time Drawdown Plot
(Corrected for Partial Penetration Effects)



Using Unconfined Aq. w/ Delayed Grav. Response Curve (after N. '75)

from early match point ⊗ $\Gamma = \beta = 0.1$

$W(u_A, \Gamma) = 1.0$

$1/u_A =$

$s = 0.16$ ft.

$t = \cancel{4.3}\ m = 0.00298$ days

$u_A\ m = 00319$ days

Sje 1/2 '75

CALCULATION WORKSHEET

Order No. 19116 (01-91)

CLIENT	JOB NUMBER
SUBJECT Calverton Pump Test Site 2	Observation Well 1 (Old Well)
BASED ON	DRAWING NUMBER
BY JAH / CHECKED BY SJC	APPROVED BY / DATE 12/29/94

Newman Curve Fitting - Early Time, Corrected for Partial Penetration Effects

K_h = horizontal hydraulic conductivity (Kruseman 1989 Eqn 5.2)

$$s = \frac{Q}{4\pi K_h D}$$

where
s = drawdown (ft) from early match pt. = 0.16
Q = discharge rate (ft^3/d) = 12,512.5*
D = aquifer thickness (ft) = 70
$W(u_A, \beta) = 1.0$

$$K_h = \frac{Q}{4\pi s D} = \frac{12512.5}{4(3.14)(.16)(70)} = 88.95 \text{ ft/day}$$

S_A = storativity (Kruseman 1989 Eqn. 5.3)

$$u_A = \frac{r^2 S_A}{4 K_h D t}$$

where
r = radial distance to obs. well (ft) = 40.15
D = 70 ft
t = time (day) from early match pt. = 0.00298 ~~.00319~~
u_A = 1.0
K_h = 88.95 ft/day

$$S_A = \frac{u_A 4 K_h D t}{r^2} = \frac{(1.0)(4)(88.95)(70)(0.00298)}{(40.15)^2} = \cancel{0.046}\ 0.049$$

SJC 12/20/94

* 65 gpm = 12512.5 ft^3/day ; conversion factor 1 gpm = 192.5 ft^3/

CLIENT		JOB NUMBER	
SUBJECT Calverton Pump Test Site 2		Observation Well 1 (Old Well)	
BASED ON		DRAWING NUMBER	
BY JAH	CHECKED BY SJC	APPROVED BY	DATE JAH 12/28/94

K_v = vertical hydraulic conductivity (Kruseman 1989 Eqn. 5.6)

$$\beta = \frac{r^2 K_v}{D^2 K_h}$$

where $\beta = 0.1$ from early match points.
$D = 70$ ft
$r = 40.15$ ft.
$K_h = 88.95$ ft/day

$$\boxed{K_v =} \frac{\beta K_h D^2}{r^2} = \frac{0.1(88.95)(70)^2}{(40.15)^2} = \boxed{27.04 \text{ ft/day}}$$

T = transmissivity (Fetter 1988 Eqn. 6-48)

$$T = \frac{Q}{4\pi s}$$

where $Q = 12512.5$ ft³/d
$s = 0.16$ ft
$W(u_A, \beta) = 1.0$

$$\boxed{T =} \frac{12512.5}{(4)(3.14)(0.16)} = \boxed{6226 \text{ ft}^2/\text{day}}$$

CALCULATION WORKSHEET

Order No. 19116 (01-91)

CLIENT	JOB NUMBER
SUBJECT Calverton Pump Test Site 2 -	Observation Well 8 (Old Well)
BASED ON	DRAWING NUMBER
BY JAH / CHECKED BY SJC	APPROVED BY / DATE JAH 12/22/94

Same parameters as for well RW except radial distance to well = 20.50 ft :

obs. well TD - 15' bg (assumed)
" 10' bg "
screen 5-15' bg "

CALCULATION WORKSHEET

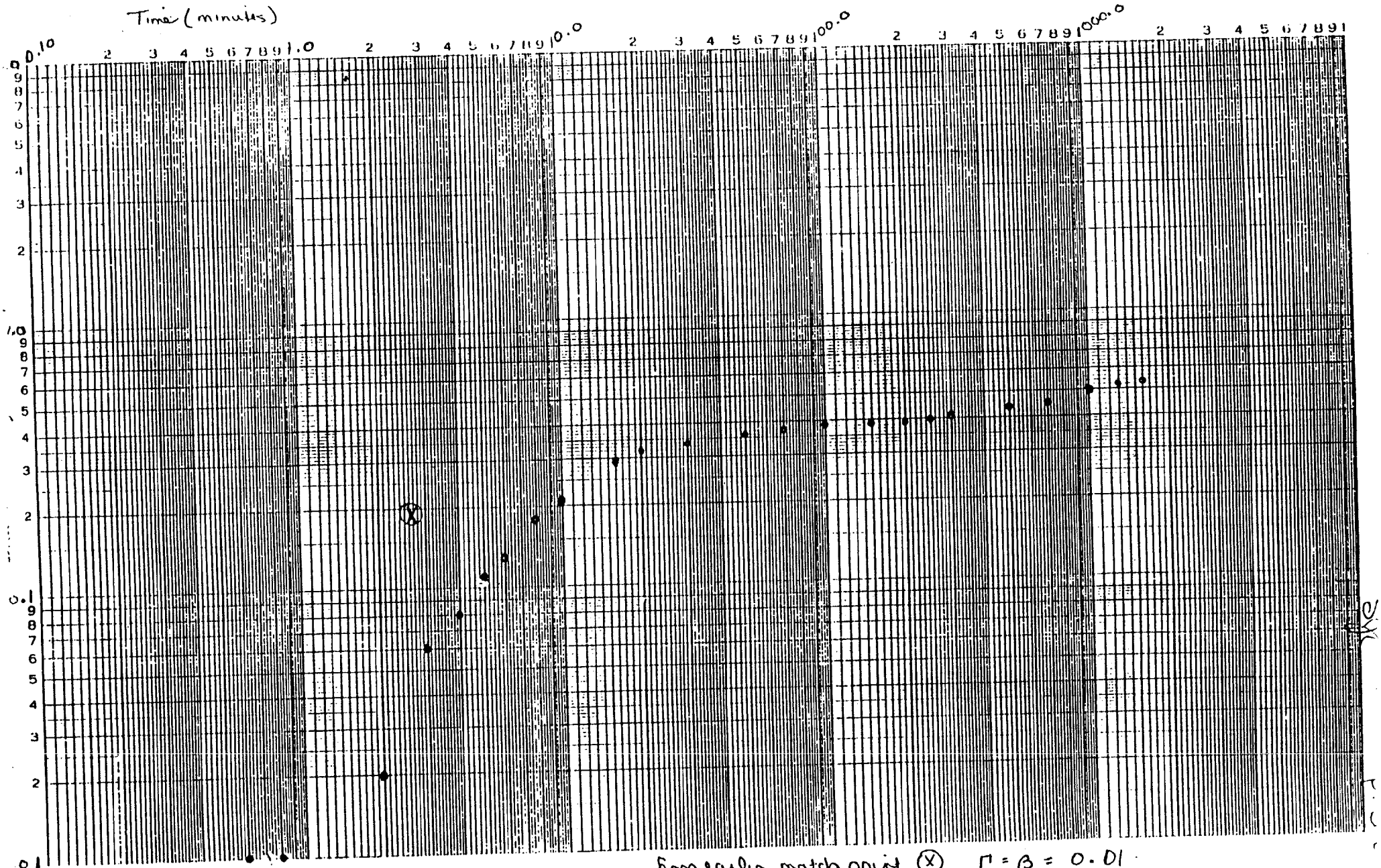
Order No. 19116 (01-91)

CLIENT	JOB NUMBER
SUBJECT Calverton Pump Test - Site 2 Observation Well 8 (Old Well)	
BASED ON	DRAWING NUMBER

BY	CHECKED BY	APPROVED BY	DATE
JH	SJC		JH 8/22/94

Elapsed Time (min)	Measured Drawdown (ft)	Corrected Drawdown (ft)
0.1	~~0.015~~	~~0~~
0.2	0.0	0
0.3	0.0	0
0.4	0.0	0
0.5	0.0	0
0.6	0.0	-0.01
0.8	0.0	-0.01
1.0	~~0.015~~	
2.0	0.0	-0.02
3.0	-0.015	-0.06
4.0	-0.015	-0.08
5.0	-0.015	-0.11
6.0	-0.015	-0.13
8.0	-0.031	-0.18
10.0	-0.047	-0.22
16.	-0.063	-0.29
20.	-0.079	-0.32
30	-0.079	-0.34
50	-0.095	-0.36
70	-0.111	~~+.0~~ -0.37
100	-0.127	-0.38
150	-0.143	-0.38
200	-0.159	-0.39
250	-0.175	-0.40
300	-0.191	-0.41
500	-0.223	-0.44
700	-0.239	-0.45
1000	-0.287	-0.50
1150	-0.287	-0.~~49~~.50
1350	-0.303	-0.52
1600	-0.319	-0.53

Observation Well 8 (Old Well) Time Drawdown Plot
(Corrected for Partial Penetration Effects)



Using Unconfined Aq. w/ Delayed Gravity Response Curve (after

from early match point (X) $W(u_A, \Gamma) = 1.0$

$u_A = 1.0$

$\Gamma = \beta = 0.01$

$S = 0.19$ ft

$t = 2.6$ m $= 0.0018$ days

CALCULATION WORKSHEET

Order No. 19116 (01-91)

CLIENT	JOB NUMBER
SUBJECT Calverton Pump Test Site 2	Observation Well 8 (Old Well)
BASED ON	DRAWING NUMBER
BY JAH / CHECKED BY SJC	APPROVED BY / DATE 12/20/94

Newman Curve Fitting - Early Time, Corrected for Partial Penetration Effects

K_h = horizontal hydraulic conductivity (Kruseman 1989 Eqn 5.2

$$s = \frac{Q}{4\pi K_h D}$$

where
s = drawdown (ft) from early match pt. = 0.1
Q = discharge rate (ft^3/d) = 12,512.5*
D = aquifer thickness (ft) = 70
$W(u_A, \beta) = 1.0$

$$\boxed{K_h =} \frac{Q}{4\pi s D} = \frac{12512.5}{(4)(3.14)(0.19)(70)} = \boxed{74.90 \text{ ft/day}}$$

S_A = storativity (Kruseman 1989 Eqn. 5.3)

$$u_A = \frac{r^2 S_A}{4 K_h D t}$$

where
r = radial distance to obs. well (ft) = 20.80
D = 70 ft
t = time (day) from early match pt. = 0.0018
u_A = 1.0
K_h = 74.90 ft/day

$$\boxed{S_A =} \frac{u_A 4 K_h D t}{r^2} = \frac{(1.0)(4)(74.90)(70)(0.0018)}{(20.80)^2} = \boxed{0.087}$$

* 65 gpm = 12512.5 ft^3/day ; conversion factor 1 gpm = 192.5 ft^3/d

CLIENT		JOB NUMBER	
SUBJECT Calverton Pump Test Site 2		Observation Well 8 (Old Well)	
BASED ON		DRAWING NUMBER	
BY JAH	CHECKED BY SJC	APPROVED BY	DATE 12/28/94

K_v = vertical hydraulic conductivity (Kruseman 1989 Eqn. 5.6)

$$\beta = \frac{r^2 K_v}{D^2 K_h}$$

where $\beta = 0.01$ from early match points.
$D = 70$ ft
$r = 20.80$ ft.
$K_h = 74.90$ ft/day

$$K_v = \frac{\beta K_h D^2}{r^2} = \frac{0.01(74.90)(70)^2}{(20.80)^2} = 8.48 \text{ ft/day}$$

T = transmissivity (Fetter 1988 Eqn. 6-48)

$$T = \frac{Q}{4\pi s}$$

where $Q = 12512.5$ ft³/d
$s = 0.19$ ft
$W(u_A, \beta) = 1.0$

$$T = \frac{12512.5}{(4)(3.14)(0.19)} = 5243 \text{ ft}^2/\text{day}$$

CALCULATION WORKSHEET

Order No. 19116 (01-91)

CLIENT	JOB NUMBER
SUBJECT Calverton Pump Test Site 2	Observation Well 9 (Old Well)
BASED ON	DRAWING NUMBER

BY	CHECKED BY	APPROVED BY	DATE
JAH	SJC		JH 12/22/94

same parameters as for well RW except radial distance to obs. well = 47.85 ft.

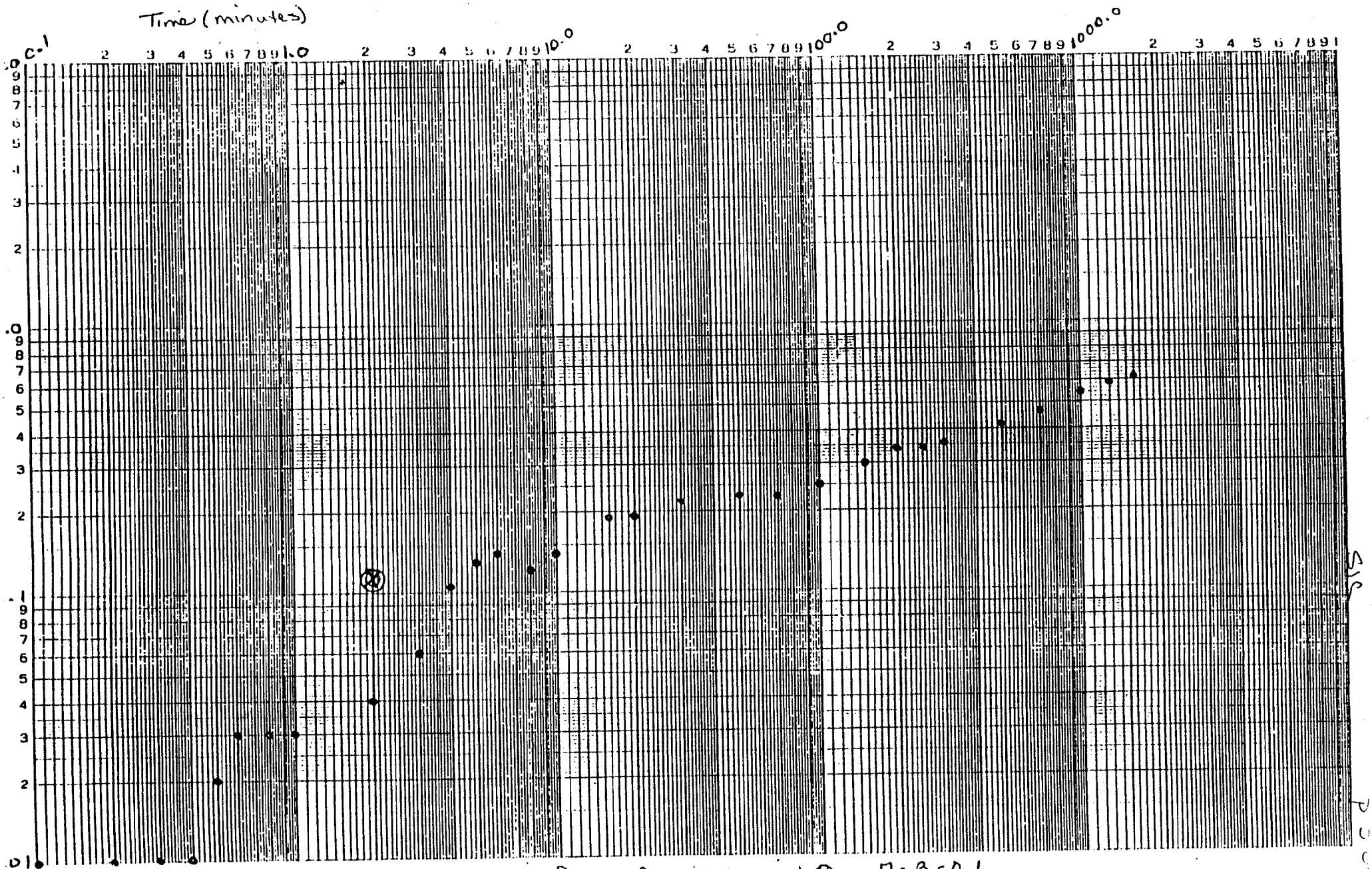
obs. well TD 15' bg (assumed)
▼ 10' bg "
screen 5-15' bg "

CALCULATION WORKSHEET Order No. 19116 (01-91)

CLIENT		JOB NUMBER	
SUBJECT Calverton Pump Test - Sub 2		Observation (Old well) Well 9	
BASED ON		DRAWING NUMBER	
BY JAD	CHECKED BY SJC	APPROVED BY	DATE 12/22/94

Elapsed Time (min)	Measured Drawdown (ft)	Corrected Drawdown (ft)
0.1	-0.006	-0.01
0.2	-0.012	-0.01
0.3	-0.012	-0.01
0.4	-0.012	-0.01
0.5	-0.019	-0.02
0.6	-0.025	-0.03
0.8	-0.031	-0.03
1.0	-0.031	-0.03
2.0	-0.044	-0.04
3.0	-0.063	-0.06
4.0	-0.095	-0.11
5.0	-0.107	-0.13
6.0	-0.114	-0.14
8.0	-0.095	-0.12
10.0	-0.107	-0.14
16.0	-0.145	-0.19
20.0	-0.145	-0.19
30.	-0.171	-0.22
50	-0.183	-0.23
70	-0.190	-0.23
100	-0.222	-0.25
150	-0.285	-0.30
200	-0.323	-0.34
250	-0.329	-0.34
300	-0.348	-0.36
500	-0.42	-0.42
700	-0.469	-0.47
1000	-0.532	-0.54
1150	-0.551	-0.55
1300	-0.583	-0.59
~~1500~~ 1600	-0.615	-0.62

Observation Well 9 (Old Well) Time Drawdown Plot
(Corrected for Partial Penetration Effects)



Using Unconfined Aq. w/ Delayed
[illegible] Curve (after
[illegible])

from early match point ⊗
$W(U_A, \Gamma) = 1.0$
$1/u_A = 1.0$

$\Gamma = \beta = 0.1$
$s = 0.12$ ft
t 2.0 = 0.014 days

CLIENT		JOB NUMBER	
SUBJECT Calverton Pump Test Site 2		Observation Well 9 (Old Well)	
BASED ON		DRAWING NUMBER	
BY JAH	CHECKED BY SJC	APPROVED BY	DATE 12/29/94

Neuman Curve Fitting - Early Time, Corrected for Partial Penetration Effects

K_h = horizontal hydraulic conductivity (Kruseman 1989 Eqn 5.2)

$$s = \frac{Q}{4\pi K_h D}$$

where s = drawdown (ft) from early match pt. = 0.12
Q = discharge rate (ft^3/d) = 12,512.5*
D = aquifer thickness (ft) = 70
$W(u_A, \beta) = 1.0$

$$\boxed{K_h} = \frac{Q}{4\pi s D} = \frac{12512.5}{(4)(3.14)(0.12)(70)} = \boxed{118.60 \text{ ft/day}}$$

S_A = storativity (Kruseman 1989 Eqn. 5.3)

$$u_A = \frac{r^2 S_A}{4 K_h D t}$$

where r = radial distance to obs. well (ft) = 47.85
D = 70 ft
t = time (day) from early match pt. = 0.0014
u_A = 1.0
K_h = 118.60 ft/day

$$\boxed{S_A} = \frac{u_A 4 K_h D t}{r^2} = \frac{(1.0)(4)(118.60)(70)(0.0014)}{(47.85)^2} = \boxed{0.020}$$

* 65 gpm = 12512.5 ft^3/day ; conversion factor 1 gpm = 192.5 ft^3/

CLIENT		JOB NUMBER	
SUBJECT Calverton Pump Test Site 2		Observation Well 9 (Old Well)	
BASED ON		DRAWING NUMBER	
BY JAH	CHECKED BY SJC	APPROVED BY	DATE 12/29/94

K_v = vertical hydraulic conductivity (Kruseman 1989 Eqn. 5.6)

$$\beta = \frac{r^2 K_v}{D^2 K_h}$$

where $\beta = 0.1$ from early match points.
$D = 70$ ft
$r = 47.85$ ft.
$K_h = 118.60$ ft/day

$$\boxed{K_v =} \frac{\beta K_h D^2}{r^2} = \frac{(0.1)(118.60)(70)^2}{(47.85)^2} = \boxed{25.38 \text{ ft/day}}$$

T = transmissivity (Fetter 1988 Eqn. 6-48)

$$T = \frac{Q}{4\pi s}$$

where $Q = 12512.5$ ft³/d
$s = 0.12$ ft.
$W(u_A, \beta) = 1.0$

$$\boxed{T =} \frac{12512.5}{(4)(3.14)(0.12)} = \boxed{8302 \text{ ft}^2/\text{day}}$$

CLIENT		JOB NUMBER	
SUBJECT Calverton Pump Test - Site 2		Observation Well FT mw-02-I	
BASED ON		DRAWING NUMBER	
BY JAH	CHECKED BY SJC	APPROVED BY	DATE 12/23/94

PT2.BAS. INPUTS:

Aquifer Discharge = 65 gpm
Storage = 0.1 (assumed for unconfined aq.)
K_h = 580 gpd/ft² (assumed) >10:1 ratio
K_v = 58 gpd/ft² (")
Radial distance to obs. well = 81.40 ft.
Aquifer thickness = 65.5 ft
Distance from top of aq. to bottom of prod well = 36 ft (see FT-mw-02-S for details of these calcul
Distance from top of aq. to top of prod well screen = 30 ft)
Distance from top of aq. to bottom of obs. well = ~~55.5~~ 67.5 ft (top of aq is at 12.5' and bottom of obs well ~~screen~~ is at 80 ~~68~~')
Distance from top of aq. to top of obs. well screen = 45.5 ft. (top of aq. is at 12.5' and top of obs. well screen is at 58')

02 - I T.D. 80' bg
12.5' bg
screen 58 - 68' bg

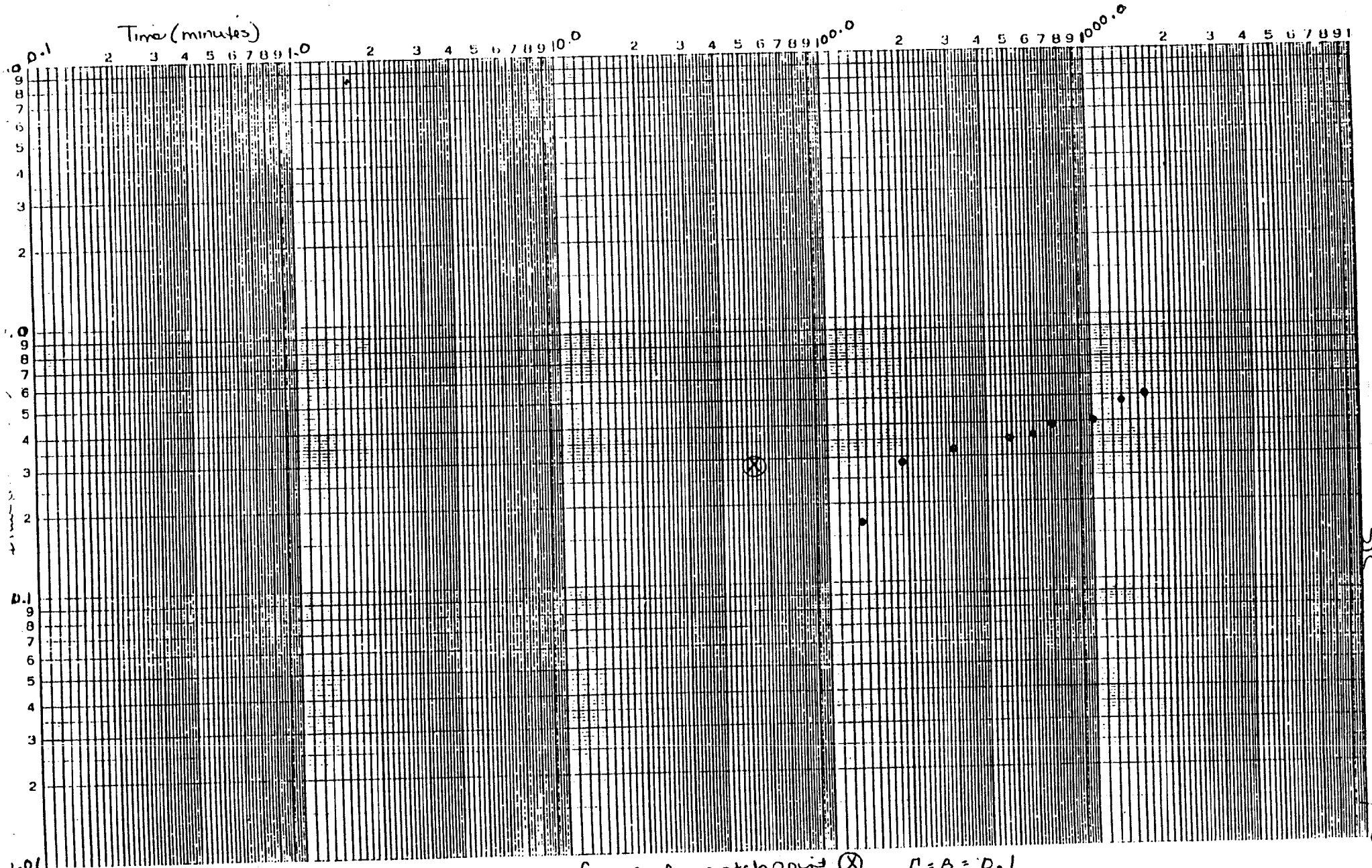
CALCULATION WORKSHEET

Order No. 19116 (01-91)

CLIENT	JOB NUMBER
SUBJECT Calverton Pump Test - Site 2	Observation Well FT-MW-02-I
BASED ON	DRAWING NUMBER
BY JAH / CHECKED BY SJC	APPROVED BY / DATE 12/23/94

Elapsed Time (min)	Measured Drawdown (ft)	Corrected Drawdown (ft)
0	0	
15	0	
30	-0.01	
45	0	
60	-0.005	
75 ~~105~~	0.005	
135	-0.157	-0.17
195	-0.24	-0.29
300	-0.27	-0.32
495	-0.291	-0.35
705	-0.332	-0.39
600	-0.301	~~0.39~~ -0.36
1005	-0.342	-0.40
1305	-0.353	-0.44
1605	-0.393	-0.45

Observation well FT-MW-02-I
(Corrected for Partial Penetration Effects)



Using Unconfined Aq. w/ Delayed
Lowering Response Curve (after

from early match point ⊗
$W(u_A, \Gamma) = 1.0$

$\Gamma = \beta = 0.1$
$s = 0.29$ ft
0.0368 days

CLIENT	JOB NUMBER
SUBJECT Calverton Pump Test Site 2	Observation Well FT-MW-02-I
BASED ON	DRAWING NUMBER
BY JAH / CHECKED BY SJC	APPROVED BY / DATE 12/29/94

Neuman Curve Fitting - Early Time, Corrected for Partial Penetration Effects

K_h = horizontal hydraulic conductivity (Kruseman 1989 Eqn 5.2)

$$s = \frac{Q}{4\pi K_h D}$$

where s = drawdown (ft) from early match pt. = 0.29
Q = discharge rate (ft^3/d) = 12,512.5*
D = aquifer thickness (ft) = 65.5
$W(u_A, \beta) = 1.0$

$$K_h = \frac{Q}{4\pi s D} = \frac{12512.5}{(4)(3.14)(0.29)(65.5)} = 52.45 \text{ ft/day}$$

S_A = storativity (Kruseman 1989 Eqn. 5.3)

$$u_A = \frac{r^2 S_A}{4 K_h D t}$$

where r = radial distance to obs. well (ft) = 81.40
D = 65.5 ft
t = time (min) from early match pt. = 0.0368
u_A = 1.0
K_h = 52.45 ft/day

$$S_A = \frac{u_A 4 K_h D t}{r^2} = \frac{(1.0)(4)(52.45)(65.5)(0.0368)}{(81.40)^2} = 0.076$$

* 65 gpm = 12512.5 ft^3/day ; conversion factor 1 gpm = 192.5 ft^3/d

CLIENT		JOB NUMBER	
SUBJECT Calverton Pump Test Site 2		Observation Well FT-MW-02-I	
BASED ON		DRAWING NUMBER	
BY JAH	CHECKED BY SJC	APPROVED BY	DATE 12/29/94

K_v = vertical hydraulic conductivity (Kruseman 1989 Eqn. 5.6)

$$\beta = \frac{r^2 K_v}{D^2 K_h}$$

where $\beta = 0.1$ from early match points
$D = 65.5$ ft
$r = 81.40$ ft
$K_h = 52.45$ ft/day

$$K_v = \frac{\beta K_h D^2}{r^2} = \frac{0.1(52.45)(65.5)^2}{(81.40)^2} = 3.396 \text{ ft/day}$$

T = transmissivity (Fetter 1988 Eqn. 6-48)

$$T = \frac{Q}{4\pi s}$$

where $Q = 12512.5$ ft³/d
$s = 0.29$ ft
$W(u_A, \beta) = 1.0$

$$T = \frac{12512.5}{(4)(3.14)(0.29)} = 3435 \text{ ft}^2/\text{day}$$

CALCULATION WORKSHEET

Order No. 19116 (01-91)

CLIENT		JOB NUMBER	
SUBJECT Calverton Pump Test - Site 2		Observation Well FT-MW-02-S	
BASED ON		DRAWING NUMBER	
BY JAH	CHECKED BY SJC	APPROVED BY	DATE 12/28/94

PT2. BAS INPUTS:

Aquifer Discharge 65 gpm

Storage = 0.1 (assumed for unconfined aquifer)

K_h = 580 gpd/ft² (assumed) > 10:1 ratio

K_v = 58 (")

Radial distance to obs. well = 86.20 ft

Aquifer thickness = 65.5 ft. (clay layer is at 78 ft in FT-MW-02-I and water level is at 12.5' bg in 02-S)

Distance from top of aquifer to bottom of prod well = 36 ft. (TD of prod well is 46' and water level was measured at 10')

Distance from top of aquifer to top of prod well screen = 20 ft (top of screen in prod well is 30' and water level is at 10')

Distance from aquifer top to bottom of obs. well = 8 ft (top of aq. in obs well is at 12.5' and bottom of obs. well is at 20.5')

Distance from aquifer top to top of obs. well screen = -2.5 ft. (top of aq. in obs. well is at 12.5' and top of well screen is at 10')

02-S T.D. 20.5' bg.

▼ 12.5' bg

screen 10'-20' bg.

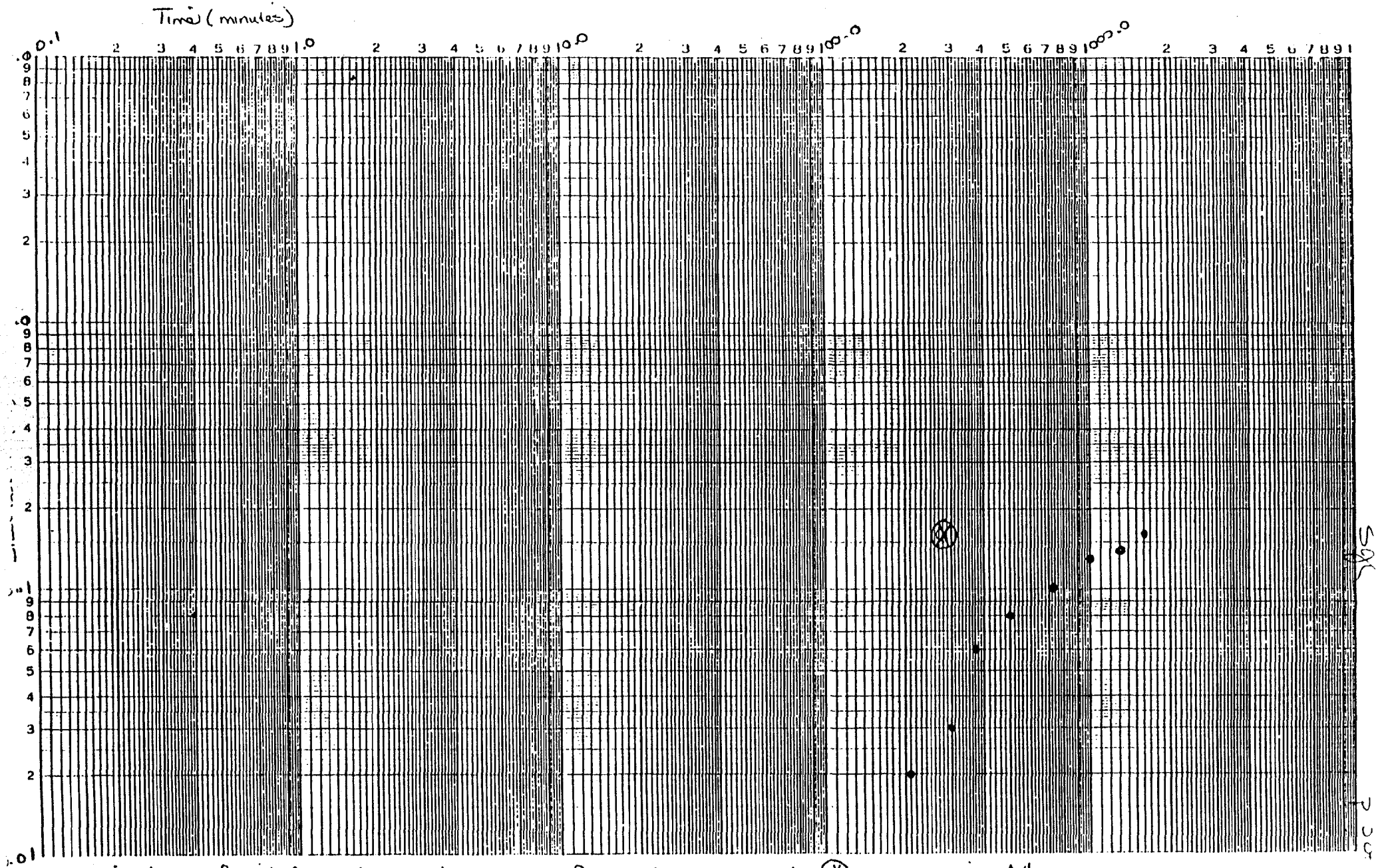
CALCULATION WORKSHEET

Order No. 19116 (01-91)

CLIENT		JOB NUMBER	
SUBJECT Calverton Pump Test - Site 2		Observation Well FT-MW-02-5	
BASED ON		DRAWING NUMBER	
BY JAH	CHECKED BY SJC	APPROVED BY	DATE JAH 12/28/94

Elapsed Time (min)	Measured Drawdown (ft)	Corrected Drawdown (ft)
0	0	
15	0.021	
30	0.021	
60	0.015	
120	0.005	
165	-0.016	0
210	-0.047	-0.02
300	-0.057	-0.03
360	-0.087	-0.06
510	-0.108	-0.08
~~785~~ 720	-0.128	-0.10
1005	-0.159	-0.13
1320	-0.169	-0.14
1605	-0.189	-0.16

Observation Well FT-MW-02-5
(Corrected for Partial Penetration Effects)



Using Unconfined Aq. w/ Delayed Gravi Response Curve (after Neuman 1975)

from early match point (X).
W/U$_a$, 1.0
[illegible]

$\Gamma = \beta = 0.11$
$S = 0.16$ ft
[illegible]

CLIENT		JOB NUMBER	
SUBJECT Calverton Pump Test Site 2		Observation Well FT-MW-02-5	
BASED ON		DRAWING NUMBER	
BY JAH	CHECKED BY sge	APPROVED BY	DATE 12/29/94

Neuman Curve Fitting - Early Time, Corrected for Partial Penetration Effects

K_h = horizontal hydraulic conductivity (Kruseman 1989 Eqn 5.2)

$$s = \frac{Q}{4\pi K_h D}$$

where s = drawdown (ft) from early match pt. = 0.16
Q = discharge rate (ft^3/d) = 12,512.5*
D = aquifer thickness (ft) = 65.5
$W(u_A, \beta) = 1.0$

$$K_h = \frac{Q}{4\pi s D} = \frac{12512.5}{(4)(3.14)(0.16)(65.5)} = 95.06 \text{ ft/day}$$

S_A = storativity (Kruseman 1989 Eqn. 5.3)

$$u_A = \frac{r^2 S_A}{4 K_h D t}$$

where r = radial distance to obs. well (ft) = 86.20
D = 65.5 ft
t = time (min) from early match pt. = 0.194
u_A = 1.0
K_h = 95.06 ft/day

$$S_A = \frac{u_A 4 K_h D t}{r^2} = \frac{(1.0)(4)(95.06)(65.5)(0.194)}{(86.20)^2} = 0.65$$

* 65 gpm = 12512.5 ft^3/day ; conversion factor 1 gpm = 192.5 ft^3/

CLIENT		JOB NUMBER	
SUBJECT Calverton Pump Test Site 2		Observation Well FT-MW-02-S	
BASED ON		DRAWING NUMBER	
BY JAH	CHECKED BY SJC	APPROVED BY	DATE 12/29/04

K_v = vertical hydraulic conductivity (Kruseman 1989 Eqn. 5.6)

$$\beta = \frac{r^2 K_v}{D^2 K_h}$$

where $\beta = 0.1$ from early match points
$D = 65.5$ ft
$r = 86.20$ ft
$K_h = 95.06$ ft/day

$$\boxed{K_v =} \frac{\beta K_h D^2}{r^2} = \frac{(0.1 \times 95.06)(65.5)^2}{(86.20)^2} = \boxed{5.49 \text{ ft/day}}$$

T = transmissivity (Fetter 1988 Eqn. 6-48)

$$T = \frac{Q}{4\pi s}$$

where $Q = 12512.5$ ft³/d
$s = 0.16$ ft
$W(u_A, \beta) = 1.0$

$$\boxed{T =} \frac{12512.5}{(4)(3.14)(0.16)} = \boxed{6226 \text{ ft}^2/\text{day}}$$

CLIENT		JOB NUMBER	
SUBJECT Calverton Pump Test - Site 2		Observation Well FT-MW-04-S	
BASED ON Walton Partial Penetration Correction Program PT2.BAS, Walton, 1989		DRAWING NUMBER	
BY JAH	CHECKED BY SJC	APPROVED BY	DATE 12/28/94 JAH

PT2.BAS INPUTS:

Aquifer Discharge = 65 gpm

Storage = 0.1 (assumed for unconfined aquifer)

K_h = 580 gpd/ft² (assumed)

K_v = 58 gpd/ft² (assumed)

10:1 ratio (standard in literature for Long Island)

Radial distance to observation well = 118.90 ft

Aquifer thickness = 60 ft. (clay layer assumed to be at 78' b.g., and water level in obs. well meas. at 18' b.g.)

Distance from aquifer top to bottom of prod. well = 36 ft. (T.D. of prod well is 46' and water level in prod. well was meas. at 10')

Distance from aquifer top to top of prod well screen = 20 ft. (~~46, and~~ (top of screen in prod. well is at 30' bg and top aq. is at 10' b.g.)

Distance from aquifer top to bottom of ~~prod~~ obs. well = 8.5 ft. (top of aquifer in obs. well is at 18' b.g., and bottom of obs. well is at 26.5 ft.)

Distance from aquifer top to top of obs. well screen = 1.5 ft. (top of aquifer in obs. well is at 18' b.g. and ~~bottom~~ top of screen is at 16.5')

Time = minutes

Drawdown = negative #

04-S T.D. 27' b.g.

∇ 18' b.g.

Screen 16.5' - 26.5' b.g.

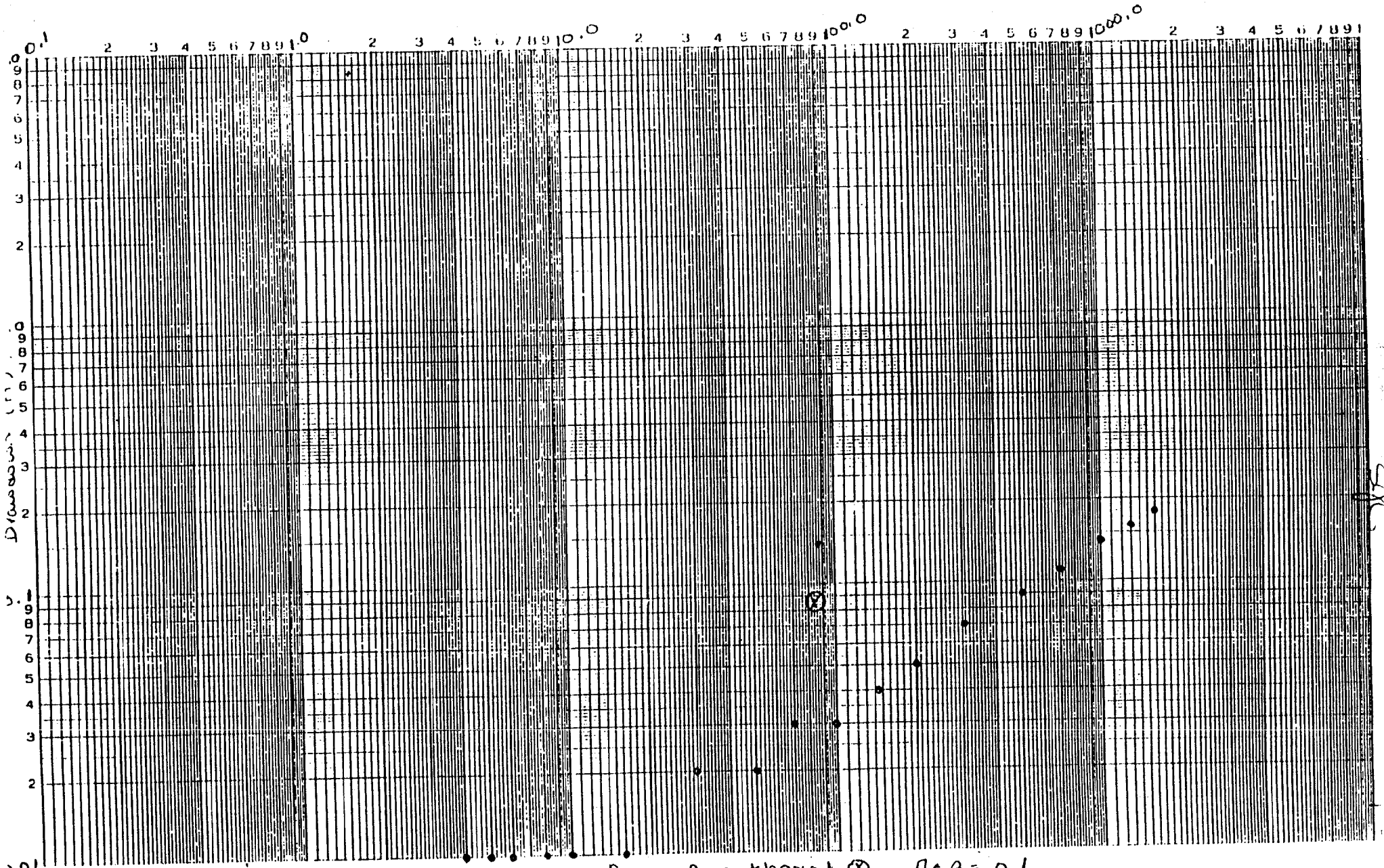
CALCULATION WORKSHEET

Order No. 19116 (01-91)

CLIENT	JOB NUMBER
SUBJECT Calverton Pump Test - Site 2	Observation Well FT-MW-04-S
BASED ON	DRAWING NUMBER
BY JAH / CHECKED BY SJC	APPROVED BY / DATE 12/28/94

Elapsed Time (min)	Measured Drawdown (ft.)	Corrected Drawdown (ft.)
0.35	0	0
0.5	0	0
0.75	0	0
1.0	0	0
2.0	-0.003	0
3.0	-0.003	0
4.0	-0.006	-0.01
5.0	-0.006	-0.01
6.0	-0.006	-0.01
8.0	-0.006	-0.01
10.0	-0.006	-0.01
16.0	-0.009	-0.01
30.0	-0.018	-0.02
50.0	-0.018	-0.02
70.0	-0.025	-0.03
100.0	-0.034	-0.03
145.0	-0.041	-0.04
205.0	-0.053	-0.05
310.0	-0.072	-0.07
505.0	-0.098	-0.09
700.0	-0.120	-0.11
1000.0	-0.145	-0.14
1300.0	-0.170	-0.16
1600.0	-0.190	-0.18

Observation Well FT-MW-04-S
(Corrected for Partial Penetration Effects)



Using Unconfined Aq. w/ Delayed

from early matchpoint (X)

$\Gamma = \beta = 0.1$

$W(u_a, \Gamma) = 1.0$

$S = 0.087$ Ft

CALCULATION WORKSHEET

Order No. 19116 (01-91)

CLIENT	JOB NUMBER
SUBJECT Calverton Pump Test Site 2	Observation Well FT-MW-04-S
BASED ON	DRAWING NUMBER
BY JAH / CHECKED BY SJC	APPROVED BY / DATE 12/24/94

Neuman Curve Fitting - Early Time, Corrected for Partial Penetration Effects

K_h = horizontal hydraulic conductivity (Kruseman 1989 Eqn 5.2)

$$s = \frac{Q}{4\pi K_h D}$$

where
s = drawdown (ft) from early match pt. = 0.087
Q = discharge rate (ft^3/d) = 12,512.5*
D = aquifer thickness (ft) = 60
$W(u_A, \beta) = 1.0$

$$\boxed{K_h} = \frac{Q}{4\pi s D} = \frac{12512.5}{(4)(3.14)(0.087)(60)} = \boxed{190.85 \text{ ft/day}}$$

S_A = storativity (Kruseman 1989 Eqn. 5.3)

$$u_A = \frac{r^2 S_A}{4 K_h D t}$$

where
r = radial distance to obs. well (ft) = 118.90
D = 60 ft
t = time (min) from early match pt. = 0.0583
$u_A = 1.0$
K_h = 190.85 ft/day

$$\boxed{S_A} = \frac{u_A 4 K_h D t}{r^2} = \frac{(1.0)(4)(190.85)(60)(0.0583)}{(118.90)^2} = \boxed{0.189}$$

* 65 gpm = 12512.5 ft^3/day ; conversion factor 1 gpm = 192.5 ft^3/day

CLIENT		JOB NUMBER	
SUBJECT Calverton Pump Test Site 2		Observation Well FT-MW-04-S	
BASED ON		DRAWING NUMBER	
BY JAH	CHECKED BY SJC	APPROVED BY	DATE 12/28/94

K_v = vertical hydraulic conductivity (Kruseman 1989 Eqn. 5.6)

$$\beta = \frac{r^2 K_v}{D^2 K_h}$$

where $\beta = 0.1$ from early match points
$D = 60$ ft
$r = 118.90$ ft
$K_h = 190.85$ ft/day

$$K_v = \frac{\beta K_h D^2}{r^2} = \frac{(0.1)(190.85)(60)^2}{(118.90)^2} = 4.86 \text{ ft/day}$$

T = transmissivity (Fetter 1988 Eqn. 6-48)

$$T = \frac{Q}{4\pi s}$$

where $Q = 12{,}512.5$ ft³/d
$s = .087$ ft
$W(u_A, \beta) = 1.0$

$$T = \frac{12512.5}{(4)(3.14)(0.087)} = 11451 \text{ ft}^2/\text{day}$$

CLIENT		JOB NUMBER	
SUBJECT Calverton Pump Test - Site 2		Observation Well FT-MW-01-S	
BASED ON		DRAWING NUMBER	
BY JAH	CHECKED BY SJC	APPROVED BY	DATE 12/28/94 JH

PT2.BAS INPUTS:

Aquifer Discharge = 65 gpm

Storage = 0.1 (assumed for unconfined aquifer)

K_h = 580 gpd/ft² (assumed) > 10:1 ratio

K_v = 58 gpd/ft² (")

Radial distance to obs. well = 379 ft

Aquifer thickness = 60.5 ft. (clay layer @ 80' bg, esti., and water level is at 19.5' bg)

Distance from top of aquifer to bottom of prod well = 36 ft (TD of prod. well is 46' and water level is measured at 10')

Distance from aquifer top to top of prod well screen = 20 ft. (top of screen in prod well is at 30' and water level is at 10')

Distance from aquifer top to bottom of obs. well = 9 ft (top of aq. in obs. well is at 19.5' and bottom of obs. well is at 28')

Distance from aquifer top to top of obs. well screen = -1.5 ft. (top of aq. in obs. well is at 19.5' and top of well screen is at 18')

01-S	T.D.	28.5' b.g.
	▼	19.5' b.g.
	screen	18 - 28' bg

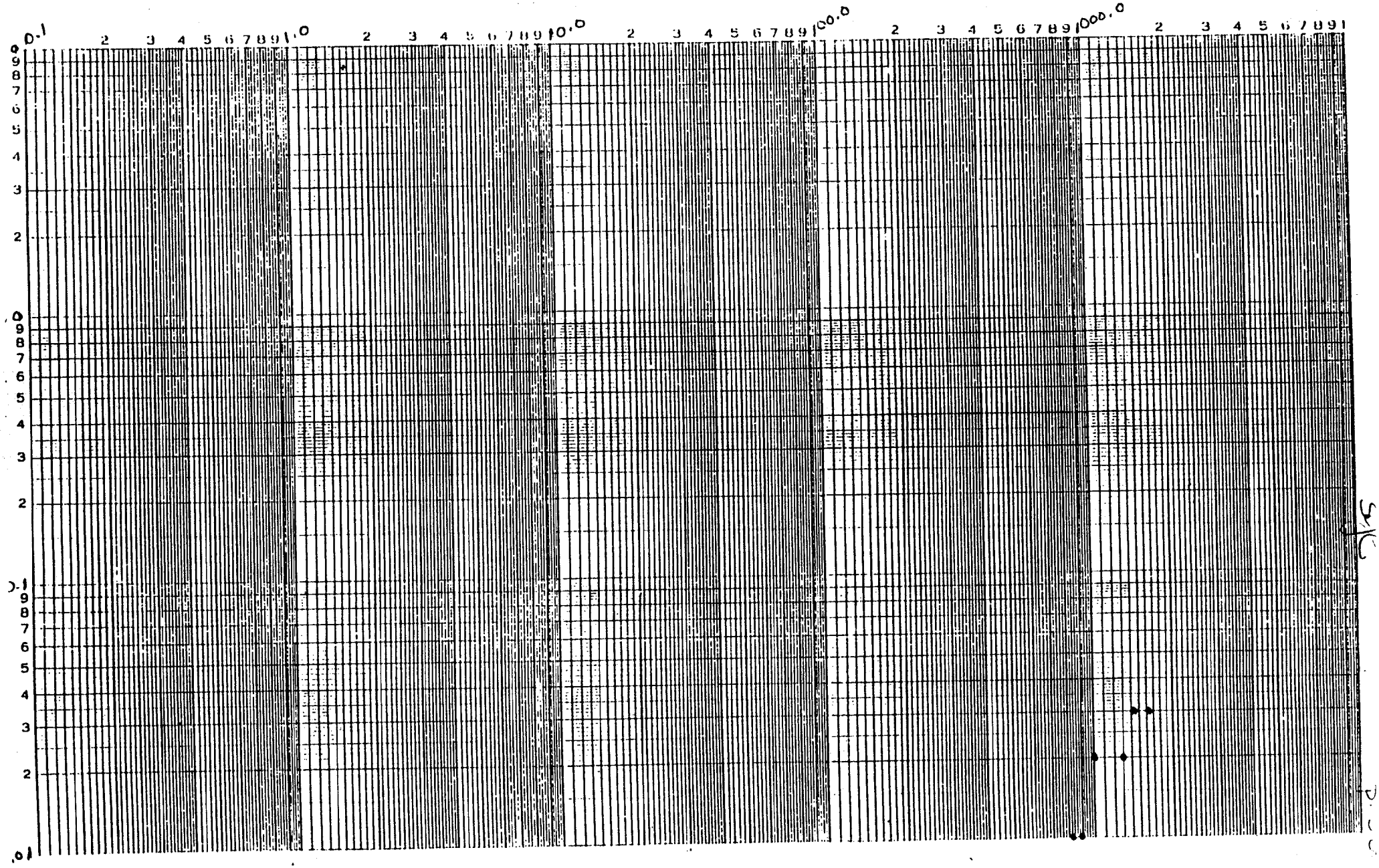
CALCULATION WORKSHEET

Order No. 19116 (01-91)

CLIENT		JOB NUMBER	
SUBJECT Calverton Pump Test - Site 2		Observation Well FT-MW-01-S	
BASED ON		DRAWING NUMBER	
BY JAH	CHECKED BY SJC	APPROVED BY	DATE 12/28/94

Elapsed Time (min)	Measured Drawdown (ft)	Corrected Drawdown (ft)
0	0	
15	0.01	
30	0.01	
60	0.012	
105	0.002	
135	0.002	
195	0.012	
300	0.002	
510	0.012	
705	0.012	
840	-0.008	-0.01
900	-0.008	-0.01
1005	-0.019	-0.02
1305	-0.019	-0.02
1425	-0.029	-0.03
1620	-0.029	-0.03
~~1500~~	~~-0.029~~	

Observation Well FT-MW-01-5
(Corrected for Partial Penetration Effects)



Pump Test basically did not affect this well
(led ter 0 wt)

CLIENT		JOB NUMBER	
SUBJECT Calverton Pump Test - Site 2		Observation Well FT-MW-01-I	
BASED ON		DRAWING NUMBER	
BY JAH	CHECKED BY SJC	APPROVED BY	DATE JAH 4/28/94

PT2. BAS INPUTS:

Aquifer Discharge = 65 gpm
Storage = 0.1 (assumed for unconfined aq.)
K_h = 580 gpd/ft² (assumed) } 10:1
K_v = 58 gpd/ft²
Radial distance to obs. well = 388 ft
Aquifer thickness = 60.5 ft } See FT-MW-01-S for details of these calculation
Distance from top of aq. to bottom of prod. well = 36 ft.
Distance from top of aq. to top of prod well screen = 20 ft.
Distance from top of aq. to bottom of obs. well = 58.5 ft. (top of aq. is at 19.5 ft and bottom of obs. well is at 78
Distance from top of aq. to top of obs. well screen = 48.5 ft. (top o aq is at 19.5' and top of obs. well screen is at (

01-I T.D. 78' bg
▽ 19.5' bg
screen 68-78' bg

CALCULATION WORKSHEET

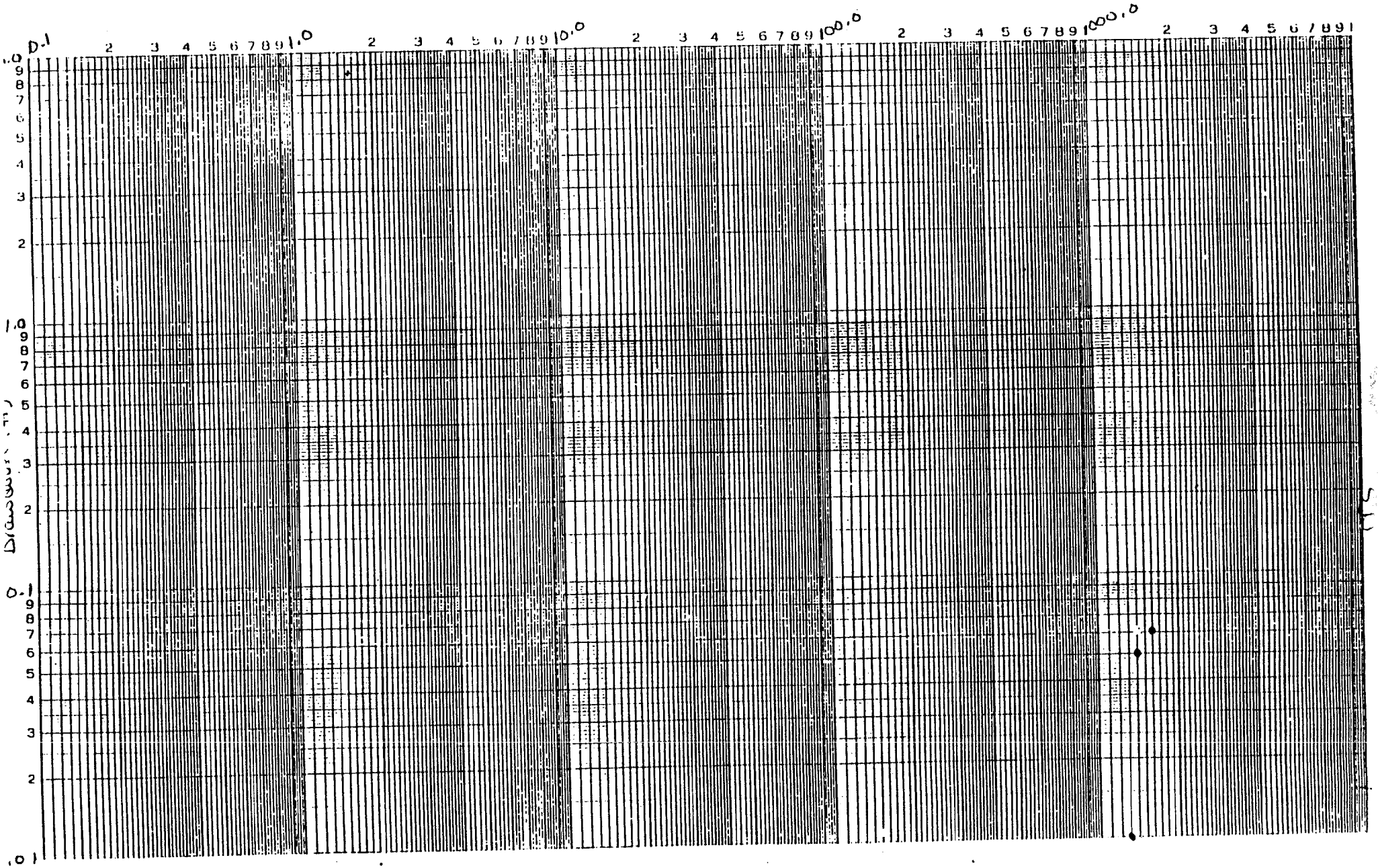
Order No. 19116 (01-91)

CLIENT	JOB NUMBER
SUBJECT Calverton Pump Test- Site 2	Observation well FT-MW-01-I
BASED ON	DRAWING NUMBER

BY	CHECKED BY	APPROVED BY	DATE
JAH	SJC		JAH 12/28/94

Elapsed Time (min)	Measured Drawdown (ft)	Corrected Drawdown (ft)
0	0	
15	0.015	
30	0	
60	0.001	
180	0.001	
360	0.017	
510	0.032	
705	0.017	
1005	0.017	
1305	-0.014	-0.01
1435	-0.045	-0.05
~~1590~~ 1620	-0.06	-0.06

Observation Well FT-MW-01-I
(Corrected for Partial Penetration Effects)



Pump Test basically did not affect this well

CLIENT		JOB NUMBER	
SUBJECT Calverton Pump Test Site 2		Observation Well RW	
BASED ON		DRAWING NUMBER	
BY JAH	CHECKED BY SSG 1/20/95	APPROVED BY	DATE JAH 12/22/94

PT2. BAS INPUTS:

Aquifer Discharge = 65 gpm

Storage = 0.1 (assumed for unconfined aquifer)

K_h = 580 gpd/ft² (assumed)

K_v = 58 gpd/ft² (assumed)

10:1 ratio

Radial distance to well (obs.) = 7.45 ft

Aquifer thickness = ~~68~~ ft 70 (assume clay layer at 80' b.g. and water level in RW at 10' bg)

Distance from aquifer top to bottom of prod. well = 36 ft (TD prod. well is 46' and water level in prod well is 10')

Distance from aquifer top to top of prod well screen = 20 ft. (top of screen is at 30' and top of aquifer is at 10')

Distance from aquifer top to bottom of obs. well = 5 ft (water level in RW is at 10' and TD of RW is assumed to be 15')

Distance from aquifer top to top of obs. well screen = 5 ft. (top of aquifer in RW is at 10' and top of screen is assumed to be 5 ft.)

RW T.D. 15' bg assumed

" 10' bg "

screen 5-~~10~~ 15 bg assumed

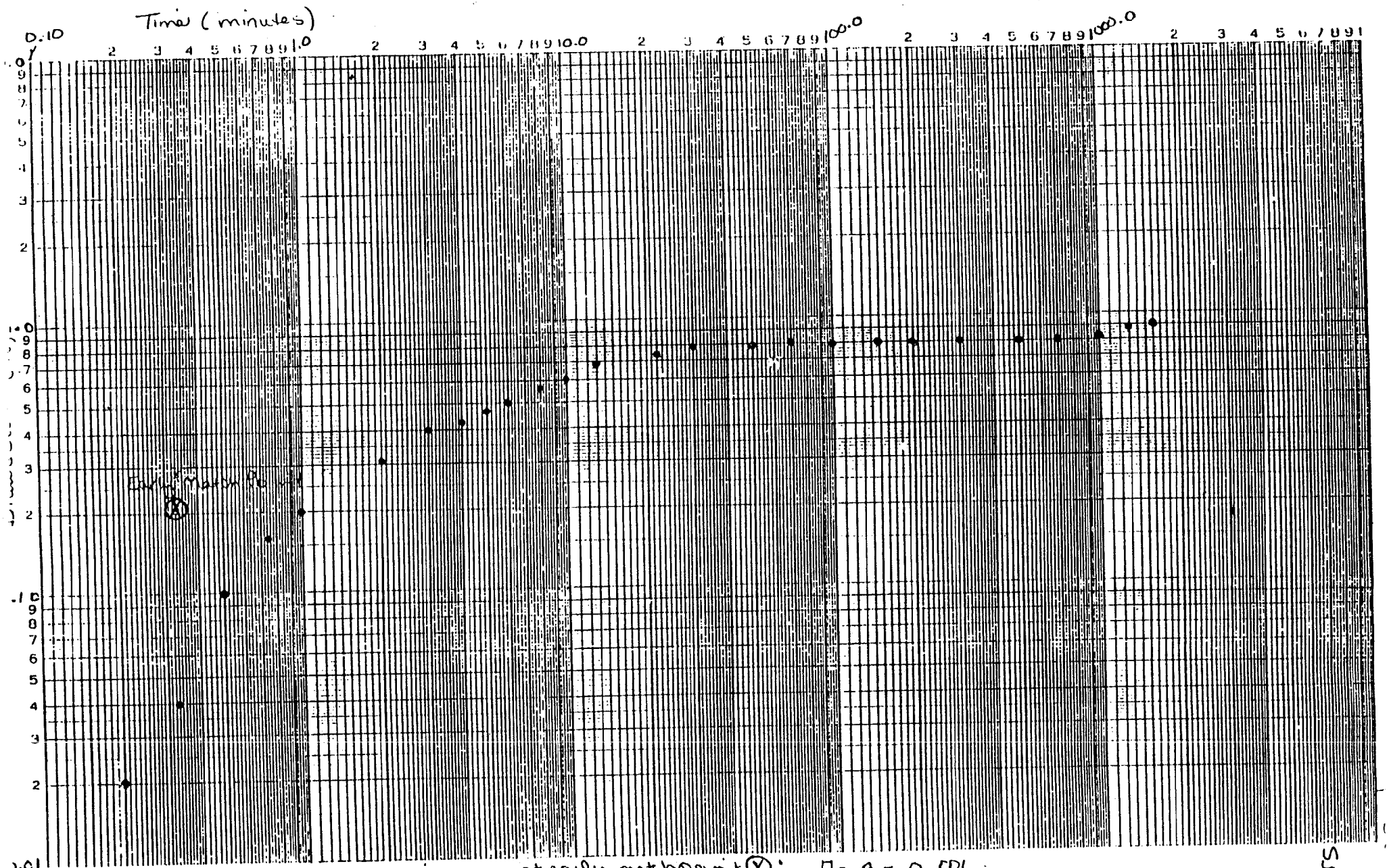
CALCULATION WORKSHEET

Order No. 19116 (01-91)

CLIENT		JOB NUMBER	
SUBJECT Calverton Pump Test - Site 2		Observation Well RW	
BASED ON		DRAWING NUMBER	
BY JAH	CHECKED BY SJC 1-20-95	APPROVED BY	DATE 12/20/94

Elapsed Time (min)	Measured Drawdown (ft)	Corrected Drawdown (ft)
0.1	0	0
0.3333	-0.01	-0.04
0.2	-0.01	-0.02
0.5	-0.04	-0.10
0.75	-0.06	-0.16
1.0	-0.06	-0.20
2.0	-0.08	-0.32
3.0	-0.09	-0.40
4.0	-0.09	-0.43
5.0	-0.09	-0.47
6.0	-0.09	-0.50
8.0	-0.11	-0.57
10.0	-0.12	-0.61
16.0	-0.12	-0.68
20.0	-0.14	-0.74
30.0	-0.16	-0.78
50.0	-0.17	-0.79
70.0	-0.19	-0.81
100.0	-0.19	-0.79
150.0	-0.20	-0.79
200	-0.22	-0.80
300 ~~400~~	-0.24	-0.81
500.	-0.24	-0.81
700.	-0.25	-0.82
1000.	~~-0.30~~ 0.27	-0.84
1300.	-0.32	-0.89
1600.	-0.35	-0.92

Observation Well RW Time Drawdown Plot
(Corrected for Partial Penetration Effects)



Using Unconfined Aq w/ Delayed Gravity Response Curve (after Neuman, 1975)

at early match point (X): $\Gamma - \beta = 0.001$
$W(u_A, \Gamma) = 1.0$
$S = 0.01$

CLIENT		JOB NUMBER	
SUBJECT Calverton Pump Test Site 2		Observation Well RW	
BASED ON		DRAWING NUMBER	
BY JAH	CHECKED BY SJC	APPROVED BY	DATE JAH 12/29/94

Neuman Curve Fitting - Early Time, corrected for Partial Penetration Effects

K_h = horizontal hydraulic conductivity (Kruseman 1989 Eqn 5.2)

$$s = \frac{Q}{4\pi K_h D}$$

where s = drawdown (ft) from early match pt. = 0.21
Q = discharge rate (ft^3/d) = 12,512.5*
D = aquifer thickness (ft) = 70
$W(u_A, \beta) = 1.0$

$$\boxed{K_h} = \frac{Q}{4\pi s D} = \frac{12{,}512.5}{4(3.14)(0.21)(70)} = \boxed{67.77 \text{ ft/day}}$$

S_A = storativity (Kruseman 1989 Eqn. 5.3)

$$u_A = \frac{r^2 S_A}{4 K_h D t}$$

where r = radial distance to obs. well (ft) = 7.45
D = 70 ft
t = time (days) from early match pt. = 0.00024
u_A = 1.0
K_h = 67.77 ft/day

$$\boxed{S_A} = \frac{u_A\, 4 K_h D t}{r^2} = \frac{(1.0)(4)(67.77)(70)(0.00024)}{(7.45)^2} = \boxed{0.082}$$

* 65 gpm = 12512.5 ft^3/day ; conversion factor 1 gpm = 192.5 ft^3/

CALCULATION WORKSHEET

Order No. 19116 (01-91)

CLIENT		JOB NUMBER	
SUBJECT Calverton Pump Test Site 2		Observation Well RW	
BASED ON		DRAWING NUMBER	
BY JAH	CHECKED BY SJC 1/20/95	APPROVED BY	DATE JAH 12/29/94

K_v = vertical hydraulic conductivity (Kruseman 1989 Eqn. 5.6)

$$\beta = \frac{r^2 K_v}{D^2 K_h}$$

where $\beta = \Gamma = 0.001$ from early match points
$D = 70$ ft
$r = 7.45$ ft
$K_h = 67.77$ ft/day

$$\boxed{K_v =} \frac{\beta K_h D^2}{r^2} = \frac{(0.001)(67.77)(70)^2}{(7.45)^2} = \boxed{5.98 \text{ ft/day}}$$

T = transmissivity (Fetter 1988 Eqn 6-48)

$$T = \frac{Q}{4\pi s}$$

where s = drawdown (ft) from early match pt = 0
Q = discharge = 12512.5
$W(u_A, \beta) = 1.0$

$$\boxed{T =} = \frac{12512.5}{4(3.14)(0.21)} = \boxed{\cancel{4774} \text{ ft}^2/\text{day}}$$

4744 ft²/day SJC 1/20/95

CLIENT		JOB NUMBER	
SUBJECT Calverton Pump Test - Site 2		Observation Well 1 (Old Well)	
BASED ON		DRAWING NUMBER	
BY JAN	CHECKED BY SJC	APPROVED BY	DATE 12/22/94

Same parameters as for well Rw except radial distance = 40.15 ft

Obs. well T.D. 15' bg (assumed)
▼ 10' bg "
screen 5-15' bg "

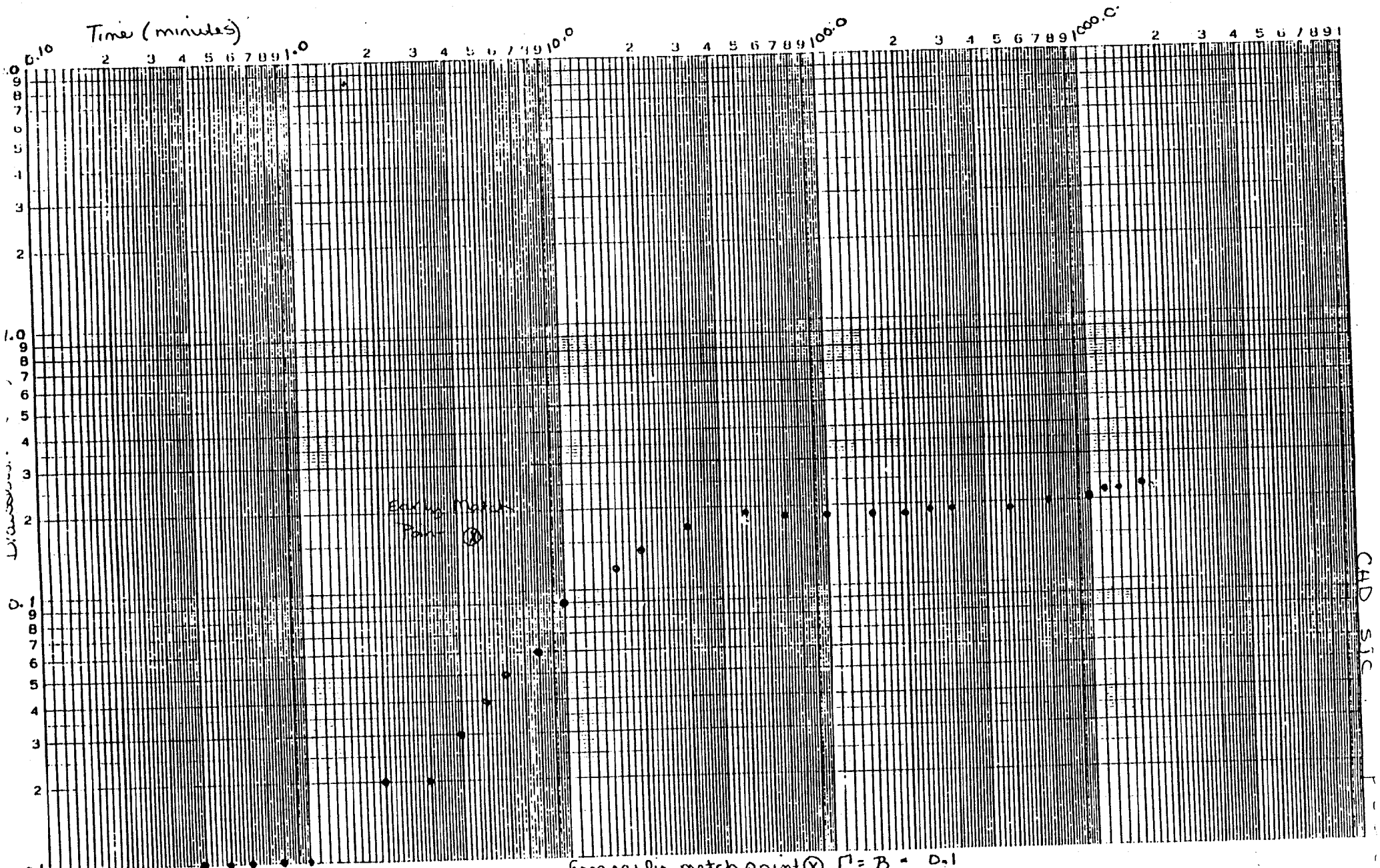
CALCULATION WORKSHEET

Order No. 19116 (01-91)

CLIENT		JOB NUMBER	
SUBJECT Calverton Pump Test - Site 2		Observation Well 1 (Old Well)	
BASED ON		DRAWING NUMBER	
BY JAH	CHECKED BY SJC	APPROVED BY	DATE JAH 12/22/94

Elapsed Time (min)	Measured Drawdown (ft)	Corrected Drawdown (ft)
0.1	~~0.006~~	
0.2	~~0.003~~	
0.3	-0.003	0
0.4	-0.006	-0.01
0.5	-0.009	-0.01
0.6	-0.009	-0.01
0.8	-0.015	-0.01
1.0	-0.015	-0.01
2.0	-0.022	-0.02
3.0	-0.028	-0.02
4.0	-0.034	-0.03
5.0	-0.037	-0.04
6.0	-0.040	-0.05
8.0	-0.040	-0.06
10.0	-0.047	-0.09
16.0	-0.053	-0.12
20.0	-0.059	-0.14
30.0	-0.062	-0.17
50.0	-0.069	-0.18
70.0	-0.072	-0.17
100.0	-0.081	-0.17
150.0	-0.091	-0.17
200.0	-0.100	-0.17
250.0	-0.107	-0.18
300.0	-0.110	-0.18
500.0	-0.119	-0.18
700.0	-0.135	-0.20
1000.0	-0.151	-0.21
1150.0	-0.157	-0.22
1300.0	-0.160	-0.22
1600.	-0.170	-0.23

Observation Well 1 (Old Well) Time Drawdown Plot
(Corrected for Partial Penetration Effects)



Using Unconfined Aq. w/ Delayed Grav. Response Curve (after N. '75'

from early match point ⊗ $\Gamma = \beta = 0.1$

$W(u_A, \Gamma) = 1.0$

$1/u_A =$

$s = 0.16$ ft.

$t = \cancel{4.3}\ m = 0.00298$ days

$u_A\ m = 00319$ days SJC 1/2 '95

CALCULATION WORKSHEET

Order No. 19116 (01-91)

CLIENT	JOB NUMBER
SUBJECT Calverton Pump Test Site 2	Observation Well 1 (Old Well)
BASED ON	DRAWING NUMBER
BY JAH / CHECKED BY SJC	APPROVED BY / DATE 12/29/94

Newman Curve Fitting - Early Time, Corrected for Partial Penetration Effects

K_h = horizontal hydraulic conductivity (Kruseman 1989 Eqn 5.2)

$$s = \frac{Q}{4\pi K_h D}$$

where
s = drawdown (ft) from early match pt. = 0.16
Q = discharge rate (ft^3/d) = 12,512.5*
D = aquifer thickness (ft) = 70
$W(u_A, \beta) = 1.0$

$$K_h = \frac{Q}{4\pi s D} = \frac{12512.5}{4(3.14)(.16)(70)} = 88.95 \text{ ft/day}$$

S_A = storativity (Kruseman 1989 Eqn. 5.3)

$$u_A = \frac{r^2 S_A}{4 K_h D t}$$

where
r = radial distance to obs. well (ft) = 40.15
D = 70 ft
t = time (day) from early match pt. = 0.00298 ~~-00319~~
u_A = 1.0
K_h = 88.95 ft/day

$$S_A = \frac{u_A 4 K_h D t}{r^2} = \frac{(1.0)(4)(88.95)(70)(0.00298)}{(40.15)^2} = \cancel{0.046}\ 0.049$$

12/20/94

* 65 gpm = 12512.5 ft^3/day ; conversion factor 1 gpm = 192.5 ft^3/

CLIENT		JOB NUMBER	
SUBJECT Calverton Pump Test Site 2		Observation Well 1 (Old Well)	
BASED ON		DRAWING NUMBER	
BY JAH	CHECKED BY SJC	APPROVED BY	DATE JAH 12/29/94

K_v = vertical hydraulic conductivity (Kruseman 1989 Eqn. 5.6)

$$\beta = \frac{r^2 K_v}{D^2 K_h}$$

where $\beta = 0.1$ from early match points.
$D = 70$ ft
$r = 40.15$ ft
$K_h = 88.95$ ft/day

$$\boxed{K_v =} \frac{\beta K_h D^2}{r^2} = \frac{0.1(88.95)(70)^2}{(40.15)^2} = \boxed{27.04 \text{ ft/day}}$$

T = transmissivity (Fetter 1988 Eqn. 6-48)

$$T = \frac{Q}{4\pi s}$$

where $Q = 12{,}512.5$ ft³/d
$s = 0.16$ ft
$W(u_A, \beta) = 1.0$

$$\boxed{T =} \frac{12512.5}{(4)(3.14)(0.16)} = \boxed{6226 \text{ ft}^2/\text{day}}$$

CALCULATION WORKSHEET

Order No. 19116 (01-91)

CLIENT	JOB NUMBER
SUBJECT Calverton Pump Test Site 2 -	Observation Well 8 (Old Well)
BASED ON	DRAWING NUMBER
BY JAH / CHECKED BY SJC	APPROVED BY / DATE 12/22/94

Same parameters as for well RW except radial distance to well = 20.80 ft :

obs. well TD - 15' bg (assumed)
∇ 10' bg "
screen 5-15' bg "

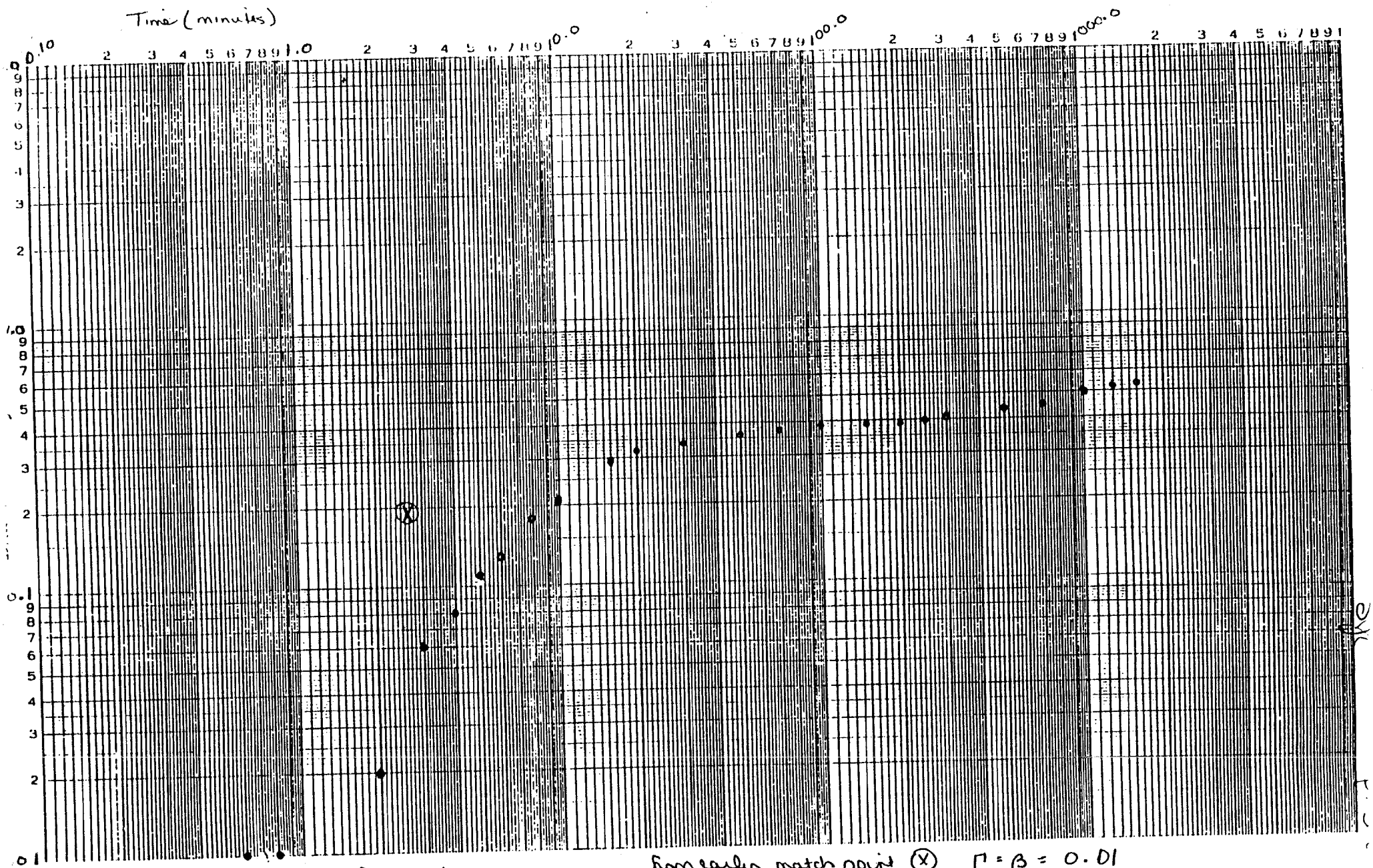
CALCULATION WORKSHEET

Order No. 19116 (01-91)

CLIENT		JOB NUMBER	
SUBJECT Calverton Pump Test - Site 2		Observation Well 8 (Old Well)	
BASED ON		DRAWING NUMBER	
BY JH	CHECKED BY SJC	APPROVED BY	DATE JH 8/22/94

Elapsed Time (min)	Measured Drawdown (ft)	Corrected Drawdown (ft)
0.1	~~0.015~~	~~0~~
0.2	0.0	0
0.3	0.0	0
0.4	0.0	0
0.5	0.0	0
0.6	0.0	-0.01
0.8	0.0	-0.01
1.0	~~0.015~~	
2.0	0.0	-0.02
3.0	-0.015	-0.06
4.0	-0.015	-0.08
5.0	-0.015	-0.11
6.0	-0.015	-0.13
8.0	-0.031	-0.18
10.0	-0.047	-0.22
16.	-0.063	-0.29
20.	-0.079	-0.32
30	-0.079	-0.34
50	-0.095	-0.36
70	-0.111	~~+.0~~ -0.37
100	-0.127	-0.38
150	-0.143	-0.38
200	-0.159	-0.39
250	-0.175	-0.40
300	-0.191	-0.41
500	-0.223	-0.44
700	-0.239	-0.45
1000	-0.287	-0.50
1150	-0.287	-0.~~49~~.50
1300	-0.303	-0.52
1600	-0.319	-0.53

Observation Well 8 (Old Well) Time Drawdown Plot
(Corrected for Partial Penetration Effects)



Using Unconfined Aq. w/ Delayed Gravity Response Curve (after

from early match point (X)
$W(u_A, \Gamma) = 1.0$
$1/u_A = 1.0$

$\Gamma = \beta = 0.01$
$s = 0.19$ ft
$t = 2.6\ m = 0.0018$ days

CALCULATION WORKSHEET

Order No. 19116 (01-91)

CLIENT		JOB NUMBER	
SUBJECT Calverton Pump Test Site 2		Observation Well 8 (Old Well)	
BASED ON		DRAWING NUMBER	
BY JAH	CHECKED BY SJC	APPROVED BY	DATE 12/29/94

Neuman Curve Fitting - Early Time, Corrected for Partial Penetration Effects

K_h = horizontal hydraulic conductivity (Kruseman 1989 Eqn 5.2)

$$s = \frac{Q}{4\pi K_h D}$$

where
s = drawdown (ft) from early match pt. = 0.19
Q = discharge rate (ft^3/d) = 12,512.5*
D = aquifer thickness (ft) = 70
$W(u_A, \beta) = 1.0$

$$\boxed{K_h} = \frac{Q}{4\pi s D} = \frac{12512.5}{(4)(3.14)(0.19)(70)} = \boxed{74.90 \text{ ft/day}}$$

S_A = storativity (Kruseman 1989 Eqn. 5.3)

$$u_A = \frac{r^2 S_A}{4 K_h D t}$$

where
r = radial distance to obs. well (ft) = 20.80
D = 70 ft
t = time (day) from early match pt. = 0.0018
u_A = 1.0
K_h = 74.90 ft/day

$$\boxed{S_A} = \frac{u_A 4 K_h D t}{r^2} = \frac{(1.0)(4)(74.90)(70)(0.0018)}{(20.80)^2} = \boxed{0.087}$$

* 65 gpm = 12512.5 ft^3/day ; conversion factor 1 gpm = 192.5 ft^3/

CLIENT		JOB NUMBER	
SUBJECT Calverton Pump Test Site 2		Observation Well 8 (Old Well)	
BASED ON		DRAWING NUMBER	
BY JAH	CHECKED BY SJC	APPROVED BY	DATE 12/29/94

K_v = vertical hydraulic conductivity (Kruseman 1989 Eqn. 5.6)

$$\beta = \frac{r^2 K_v}{D^2 K_h}$$

where $\beta = 0.01$ from early match points
$D = 70$ ft
$r = 20.80$ ft.
$K_h = 74.90$ ft/day

$$\boxed{K_v =} \frac{\beta K_h D^2}{r^2} = \frac{0.01(74.90)(70)^2}{(20.80)^2} = \boxed{8.48 \text{ ft/day}}$$

T = transmissivity (Fetter 1988 Eqn. 6-48)

$$T = \frac{Q}{4\pi s}$$

where $Q = 12{,}512.5$ ft³/d
$s = 0.19$ ft
$W(u_A, \beta) = 1.0$

$$\boxed{T =} \frac{12512.5}{(4)(3.14)(0.19)} = \boxed{5243 \text{ ft}^2/\text{day}}$$

CALCULATION WORKSHEET

Order No. 19116 (01-91)

CLIENT		JOB NUMBER	
SUBJECT Calverton Pump Test Site 2		Observation Well 9 (Old Well)	
BASED ON		DRAWING NUMBER	
BY JAH	CHECKED BY SJC	APPROVED BY	DATE JH 12/22/94

same parameters as for well RW except radial distance to obs. well = 47.85 ft.

obs. well TD 15' bg (assumed)
▼ 10' bg "
screen 5-15 bg "

CALCULATION WORKSHEET

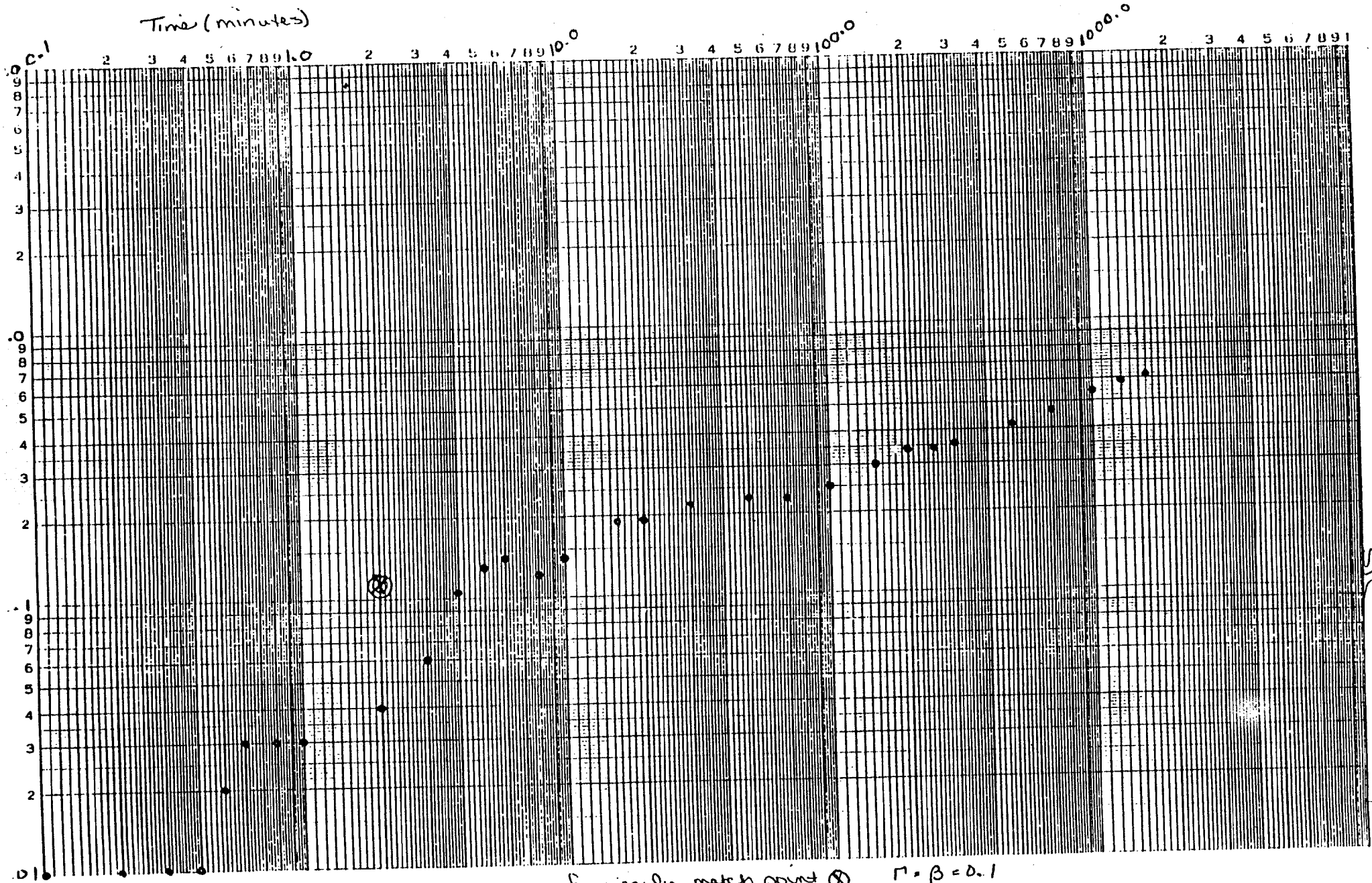
Order No. 19116 (01-91)

CLIENT	JOB NUMBER
SUBJECT: Calverton Pump Test - Step 2	Observation (Old well) Well 9
BASED ON	DRAWING NUMBER

BY	CHECKED BY	APPROVED BY	DATE
JAD	SJC		12/22/94

Elapsed Time (min)	Measured Drawdown (ft)	Corrected Drawdown (ft)
0.1	-0.006	-0.01
0.2	-0.012	-0.01
0.3	-0.012	-0.01
0.4	-0.012	-0.01
0.5	-0.019	-0.02
0.6	-0.025	-0.03
0.8	-0.031	-0.03
1.0	-0.031	-0.03
2.0	-0.044	-0.04
3.0	-0.063	-0.06
4.0	-0.095	-0.11
5.0	-0.107	-0.13
6.0	-0.114	-0.14
8.0	-0.095	-0.12
10.0	-0.107	-0.14
16.0	-0.145	-0.19
20.0	-0.145	-0.19
30.	-0.171	-0.22
50	-0.183	-0.23
70	-0.190	-0.23
100	-0.222	-0.25
150	-0.285	-0.30
200	-0.323	-0.34
250	-0.329	-0.34
300	-0.348	-0.36
500	-0.42	-0.42
700	-0.469	-0.47
1000	-0.532	-0.54
1150	-0.551	-0.55
1300	-0.583	-0.59
~~1500~~ 1600	-0.615	-0.62

Observation Well 9 (Old Well) Time Drawdown Plot
(Corrected for Partial Penetration Effects)



Using 'unconfined Aq. w/ Delayed
[illegible]

from early match point ⊗
$W(U_A, \Gamma)$ 1.0
[illegible] 1.0

$\Gamma = \beta = 0.1$
s = 0.12 ft
t 2.0 [illegible] old days

CLIENT	JOB NUMBER
SUBJECT Calverton Pump Test Site 2	Observation Well 9 (Old Well)
BASED ON	DRAWING NUMBER
BY JAH / CHECKED BY SJC	APPROVED BY / DATE JH 12/29/94

Neuman Curve Fitting - Early Time, Corrected for Partial Penetration Effects

K_h = horizontal hydraulic conductivity (Kruseman 1989 Eqn. 5.2)

$$s = \frac{Q}{4\pi K_h D}$$

where
s = drawdown (ft) from early match pt. = 0.12
Q = discharge rate (ft^3/d) = 12,512.5*
D = aquifer thickness (ft) = 70
$W(u_A, \beta) = 1.0$

$$K_h = \frac{Q}{4\pi s D} = \frac{12512.5}{(4)(3.14)(0.12)(70)} = 118.60 \text{ ft/day}$$

S_A = storativity (Kruseman 1989 Eqn. 5.3)

$$u_A = \frac{r^2 S_A}{4 K_h D t}$$

where
r = radial distance to obs. well (ft) = 47.85
D = 70 ft
t = time (day) from early match pt. = 0.0014
u_A = 1.0
K_h = 118.60 ft/day

$$S_A = \frac{u_A 4 K_h D t}{r^2} = \frac{(1.0)(4)(118.60)(70)(0.0014)}{(47.85)^2} = 0.020$$

* 65 gpm = 12512.5 ft^3/day ; conversion factor 1 gpm = 192.5 ft^3/

CLIENT		JOB NUMBER	
SUBJECT Calverton Pump Test Site 2		Observation Well 9 (Old Well)	
BASED ON		DRAWING NUMBER	
BY JAH	CHECKED BY SJC	APPROVED BY	DATE 12/29/94

K_v = vertical hydraulic conductivity (Kruseman 1989 Eqn. 5.6)

$$\beta = \frac{r^2 K_v}{D^2 K_h}$$

where $\beta = 0.1$ from early match points
$D = 70$ ft
$r = 47.85$ ft.
$K_h = 118.60$ ft/day

$$K_v = \frac{\beta K_h D^2}{r^2} = \frac{(0.1)(118.60)(70)^2}{(47.85)^2} = 25.38 \text{ ft/day}$$

T = transmissivity (Fetter 1988 Eqn. 6-48)

$$T = \frac{Q}{4\pi s}$$

where $Q = 12{,}512.5$ ft³/d
$s = 0.12$ ft
$W(u_A, \beta) = 1.0$

$$T = \frac{12512.5}{(4)(3.14)(0.12)} = 8302 \text{ ft}^2/\text{day}$$

CLIENT		JOB NUMBER	
SUBJECT Calverton Pump Test - Site 2		Observation Well FT mw-02-I	
BASED ON		DRAWING NUMBER	
BY JAH	CHECKED BY SJC	APPROVED BY	DATE 12/23/94

PT2.BAS. INPUTS:

Aquifer Discharge = 65 gpm
Storage = 0.1 (assumed for unconfined aq.)
K_h = 580 gpd/ft² (assumed) >10:1 ratio
K_v = 58 gpd/ft² (")
Radial distance to obs. well = 81.40 ft.
Aquifer thickness = 65.5 ft
Distance from top of aq. to bottom of prod well = 36 ft
Distance from top of aq. to top of prod well screen = 20 ft
Distance from top of aq. to bottom of obs. well = ~~58.5~~ 67.5 ft (top of aq is at 12.5' and bottom of obs well ~~screen~~ is at 80 ~~68'~~)
Distance from top of aq. to top of obs. well screen = 45.5 ft. (top of aq. is at 12.5' and top of obs. well screen is at 58')

See FT-mw-02-S for details of these calcul

02 - I T.D. 80' bg
▼ 12.5' bg
screen 58 - 68' bg

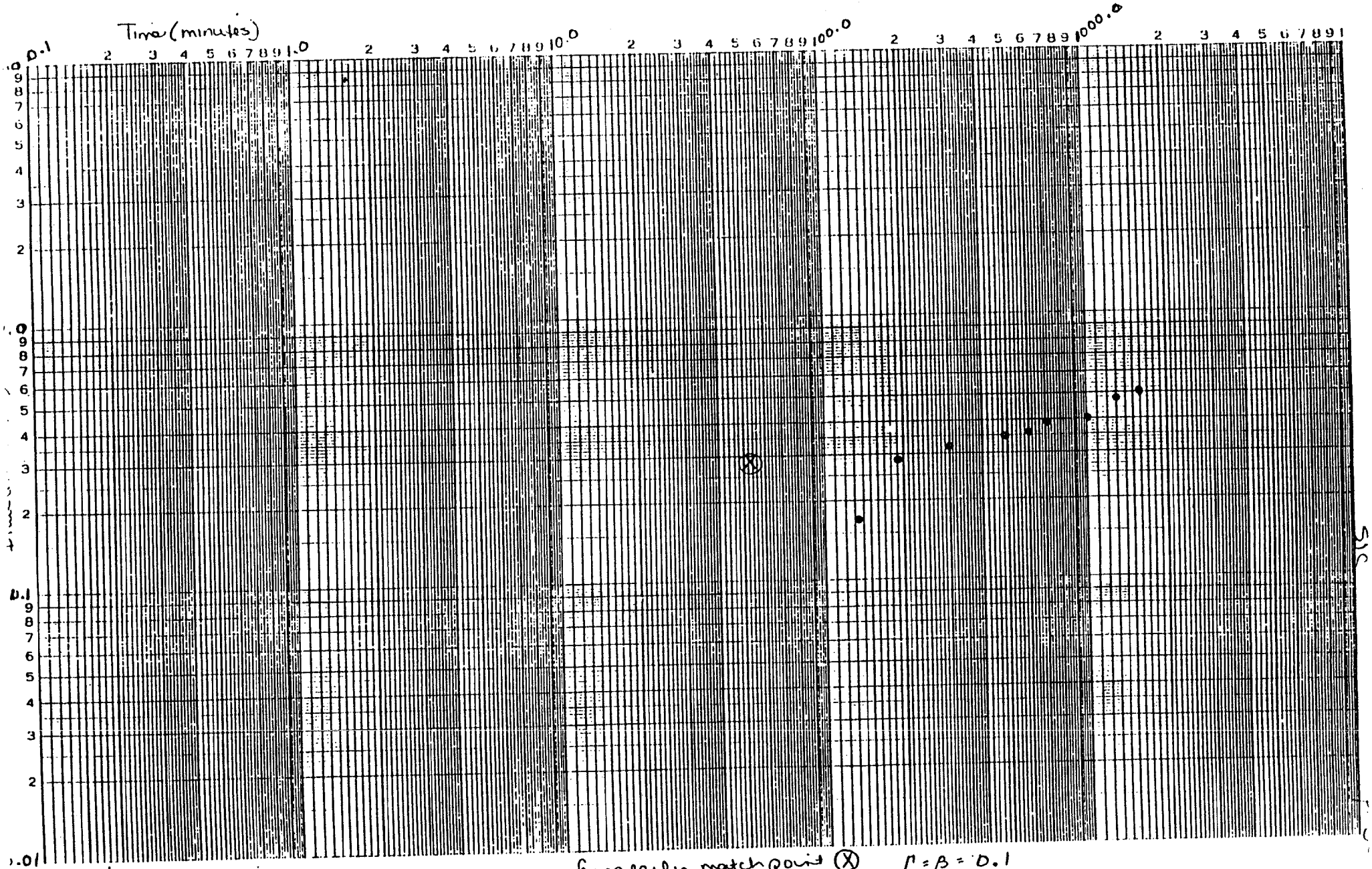
CALCULATION WORKSHEET

Order No. 19116 (01-91)

CLIENT	JOB NUMBER
SUBJECT Calverton Pump Test - Site 2	Observation Well FT-MW-02-I
BASED ON	DRAWING NUMBER
BY JAH / CHECKED BY SJC	APPROVED BY / DATE 12/23/94

Elapsed Time (min)	Measured Drawdown (ft)	Corrected Drawdown (ft)
0	0	
15	0	
30	-0.01	
45	0	
60	-0.005	
75 ~~105~~	0.005	
135	-0.157	-0.17
195	-0.24	-0.29
300	-0.27	-0.32
495	-0.291	-0.35
705	-0.332	-0.39
600	-0.301	~~0.39~~ -0.36
1005	-0342	-0.40
1305	-0.383	-0.44
1605	-0.393	-0.45

Observation well FT-MW-02-I
(Corrected for Partial Penetration Effects)



Using Unconfined Aq. w/ Delayed

from early match point ⊗

$\Gamma = \beta = 0.1$

$W(u, \Gamma) = 1.0$

$s = 0.29$ ft

CALCULATION WORKSHEET

Order No. 19116 (01-91)

CLIENT		JOB NUMBER	
SUBJECT Calverton Pump Test Site 2		Observation Well FT-MW-02-I	
BASED ON		DRAWING NUMBER	
BY JAH	CHECKED BY SJC	APPROVED BY	DATE 12/29/94

Neuman Curve Fitting - Early Time, Corrected for Partial Penetration Effects

K_h = horizontal hydraulic conductivity (Kruseman 1989 Eqn 5.2

$$s = \frac{Q}{4\pi K_h D}$$

where s = drawdown (ft) from early match pt. = 0.29
Q = discharge rate (ft^3/d) = 12,512.5*
D = aquifer thickness (ft) = 65.5
$W(u_A, \beta) = 1.0$

$$K_h = \frac{Q}{4\pi s D} = \frac{12512.5}{(4)(3.14)(0.29)(65.5)} = 52.45 \text{ ft/day}$$

S_A = storativity (Kruseman 1989 Eqn. 5.3)

$$u_A = \frac{r^2 S_A}{4 K_h D t}$$

where r = radial distance to obs. well (ft) = 81.40
D = 65.5 ft
t = time (min) from early match pt. = 0.0368
u_A = 1.0
K_h = 52.45 ft/day

$$S_A = \frac{u_A 4 K_h D t}{r^2} = \frac{(1.0)(4)(52.45)(65.5)(0.0368)}{(81.40)^2} = 0.076$$

* 65 gpm = 12512.5 ft^3/day ; conversion factor 1 gpm = 192.5 ft^3 b

CLIENT		JOB NUMBER	
SUBJECT Calverton Pump Test Site 2		Observation Well FT-MW-02-I	
BASED ON		DRAWING NUMBER	
BY JAH	CHECKED BY SJC	APPROVED BY	DATE 12/29/94

K_v = vertical hydraulic conductivity (Kruseman 1989 Eqn. 5.6)

$$\beta = \frac{r^2 K_v}{D^2 K_h}$$

where $\beta = 0.1$ from early match points
$D = 65.5$ ft
$r = 81.40$ ft
$K_h = 52.45$ ft/day

$$K_v = \frac{\beta K_h D^2}{r^2} = \frac{0.1(52.45)(65.5)^2}{(81.40)^2} = 3.396 \text{ ft/day}$$

T = transmissivity (Fetter 1988 Eqn. 6-48)

$$T = \frac{Q}{4\pi s}$$

where $Q = 12512.5$ ft³/d
$s = 0.29$ ft
$W(u_A, \beta) = 1.0$

$$T = \frac{12512.5}{(4)(3.14)(0.29)} = 3435 \text{ ft}^2/\text{day}$$

CLIENT		JOB NUMBER	
SUBJECT Caleverton Pump Test - Site 2		Observation Well FT-MW-02-S	
BASED ON		DRAWING NUMBER	
BY JAH	CHECKED BY SJC	APPROVED BY	DATE JAH 12/28/94

PT2. BAS INPUTS:

Aquifer Discharge 65 gpm

Storage = 0.1 (assumed for unconfined aquifer)

K_h = 580 gpd/ft² (assumed) > 10:1 ratio

K_v = 58 (")

Radial distance to obs. well = 86.20 ft

Aquifer thickness = 65.5 ft. (clay layer is at 78 ft in FT-MW-02-I and water level is at 12.5' bg in 02-S)

Distance from top of aquifer to bottom of prod well = 36 ft. (TD of prod well is 46' and water level was measured at 10')

Distance from top of aquifer to top of prod well screen = 20 ft (top of screen in prod well is 30' and water level is at 10')

Distance from aquifer top to bottom of obs. well = 8 ft (top of aq. in obs well is at 12.5' and bottom of obs. well is at 20.5')

Distance from aquifer top to top of obs. well screen = -2.5 ft. (top of aq. in obs. well is at 12.5' and top of well screen is at 10')

02-S T.D. 20.5' bg.

▼ 12.5' bg

screen 10'-20' bg.

CALCULATION WORKSHEET

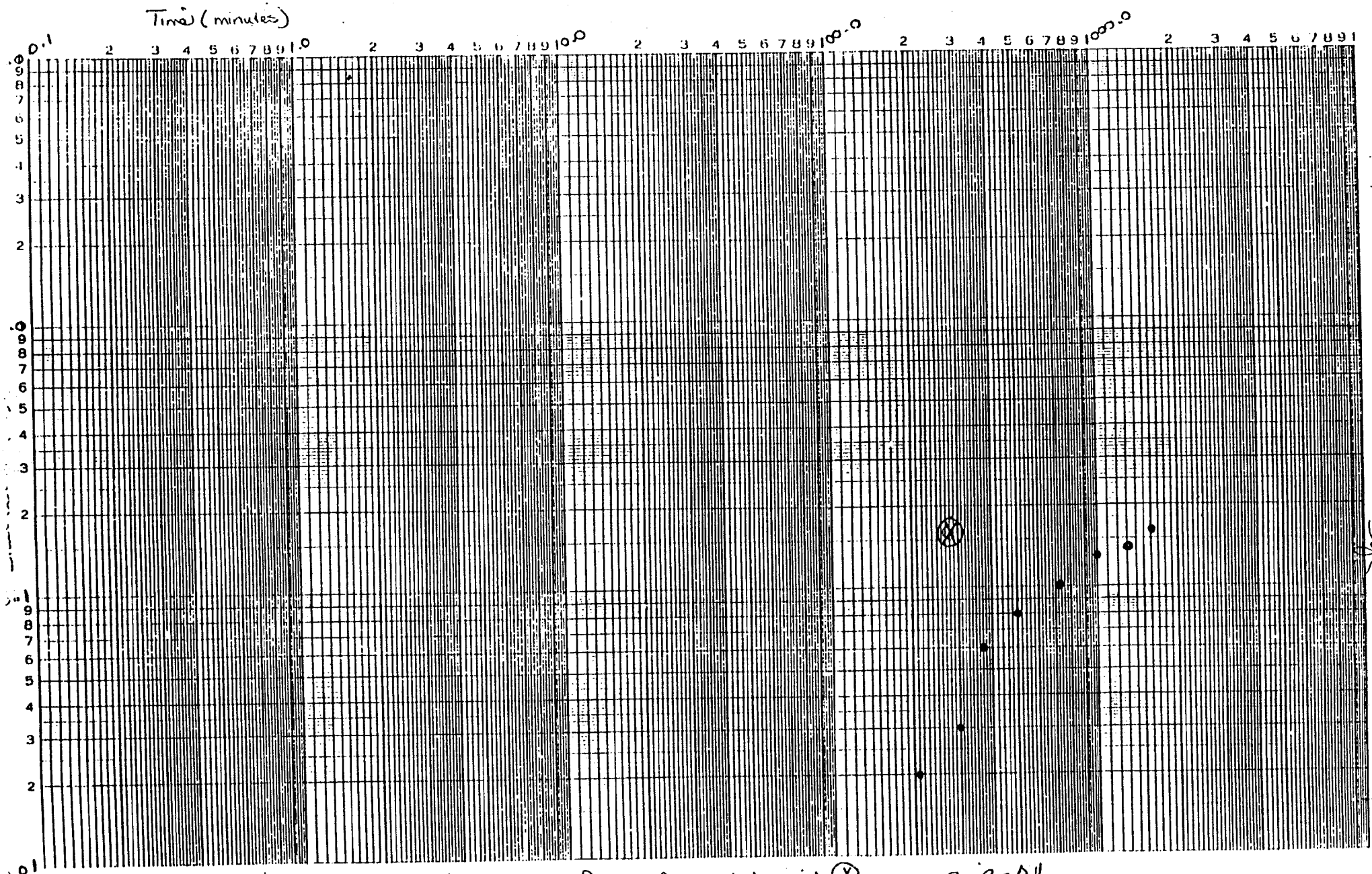
Order No. 19116 (01-91)

CLIENT	JOB NUMBER
SUBJECT Calverton Pump Test - Site 2	Observation Well FT-MW-02-S
BASED ON	DRAWING NUMBER

BY	CHECKED BY	APPROVED BY	DATE
JAH	SJC		12/28/94

Elapsed Time (min)	Measured Drawdown (ft)	Corrected Drawdown (ft)
0	0	
15	0.021	
30	0.021	
60	0.015	
120	0.005	
165	-0.016	0
210	-0.047	-0.02
300	-0.057	-0.03
360	-0.087	-0.06
510	-0.108	-0.08
~~735~~ 720	-0.128	-0.10
1005	-0.159	-0.13
1320	-0.169	-0.14
1605	-0.189	-0.16

Observation Well FT-MW-02-S
(Corrected for Partial Penetration Effects)



Using Unconfined Aq. w/ Delayed
Gr[illegible] Response Curve (after
[illegible])

from early match point (X).
W/[illegible] = 1.0
[illegible] = 1.0

$\Gamma = \beta = 0.11$
$S = 0.16$ ft
$t = .280$ [illegible]

CLIENT	JOB NUMBER
SUBJECT Calverton Pump Test Site 2	Observation Well FT-MW-02-S
BASED ON	DRAWING NUMBER
BY JAH / CHECKED BY sgc	APPROVED BY / DATE 4/29/94

Neuman Curve Fitting - Early Time, Corrected for Partial Penetration Effects

K_h = horizontal hydraulic conductivity (Kruseman 1989 Eqn 5.2)

$$s = \frac{Q}{4\pi K_h D}$$

where s = drawdown (ft) from early match pt. = 0.16
Q = discharge rate (ft^3/d) = 12,512.5*
D = aquifer thickness (ft) = 65.5
$W(u_A, \beta) = 1.0$

$$K_h = \frac{Q}{4\pi s D} = \frac{12512.5}{(4)(3.14)(0.16)(65.5)} = 95.06 \text{ ft/day}$$

S_A = storativity (Kruseman 1989 Eqn. 5.3)

$$u_A = \frac{r^2 S_A}{4 K_h D t}$$

where r = radial distance to obs. well (ft) = 86.20
D = 65.5 ft
t = time (min) from early match pt. = 0.194
u_A = 1.0
K_h = 95.06 ft/day

$$S_A = \frac{u_A 4 K_h D t}{r^2} = \frac{(1.0)(4)(95.06)(65.5)(0.194)}{(86.20)^2} = 0.65$$

* 65 gpm = 12512.5 ft^3/day ; conversion factor 1 gpm = 192.5 ft^3/d

CLIENT		JOB NUMBER	
SUBJECT Calverton Pump Test Site 2		Observation Well FT-MW-02-S	
BASED ON		DRAWING NUMBER	
BY JAH	CHECKED BY SJC	APPROVED BY	DATE 12/29/94

K_v = vertical hydraulic conductivity (Kruseman 1989 Eqn. 5.6)

$$\beta = \frac{r^2 K_v}{D^2 K_h}$$

where $\beta = 0.1$ from early match points.
$D = 65.5$ ft
$r = 86.20$ ft.
$K_h = 95.06$ ft/day

$$\boxed{K_v =} \frac{\beta K_h D^2}{r^2} = \frac{(0.1 \times 95.06)(65.5)^2}{(86.20)^2} = \boxed{5.49 \text{ ft/day}}$$

T = transmissivity (Fetter 1988 Eqn. 6-48)

$$T = \frac{Q}{4\pi s}$$

where $Q = 12{,}512.5$ ft³/d
$s = 0.16$ ft
$W(u_A, \beta) = 1.0$

$$\boxed{T =} \frac{12512.5}{(4)(3.14)(0.16)} = \boxed{6226 \text{ ft}^2/\text{day}}$$

CALCULATION WORKSHEET

Order No. 19116 (01-91)

CLIENT	JOB NUMBER
SUBJECT Calverton Pump Test - Site 2	Observation Well FT-MW-04-5
BASED ON Walton Partial Penetration Correction Program PT2.BAS, Walton, 1989	DRAWING NUMBER

BY	CHECKED BY	APPROVED BY	DATE
JAH	SJC		12/28/94 JAH

PT2.BAS INPUTS:

Aquifer Discharge = 65 gpm

Storage = 0.1 (assumed for unconfined aquifer)

K_h = 580 gpd/ft² (assumed)

K_v = 58 gpd/ft² (assumed)

10:1 ratio (standard in literature) for Long Island

Radial distance to observation well = 118.90 ft

Aquifer thickness = 60 ft. (clay layer assumed to be at 78' b.g., and water level in obs. well meas. at 18' b.g.

Distance from aquifer top to bottom of prod. well = 36 ft. (T.D. of prod well is 46' and water level in prod. well wa meas. at 10')

Distance from aquifer top to top of prod well screen = 20 ft. (~~46, and~~ (top of screen in prod. well is at 30' bg and top. aq. is at 10' b.g.)

Distance from aquifer top to bottom of ~~prod.~~ obs. well = 8.5 ft. (top of aquifer in obs. well is at 18' b.g., and bottom of obs. well is at 26.5 ft.)

Distance from aquifer top to top of obs. well screen = -1.5 ft. (top of aquifer in obs. well is at 18' b.g. and ~~bottom~~ top of screen is at 16.5')

Time = minutes

Drawdown = negative #

04-5 T.D. 27' b.g.

18' b.g.

Screen 16.5' - 26.5' b.g.

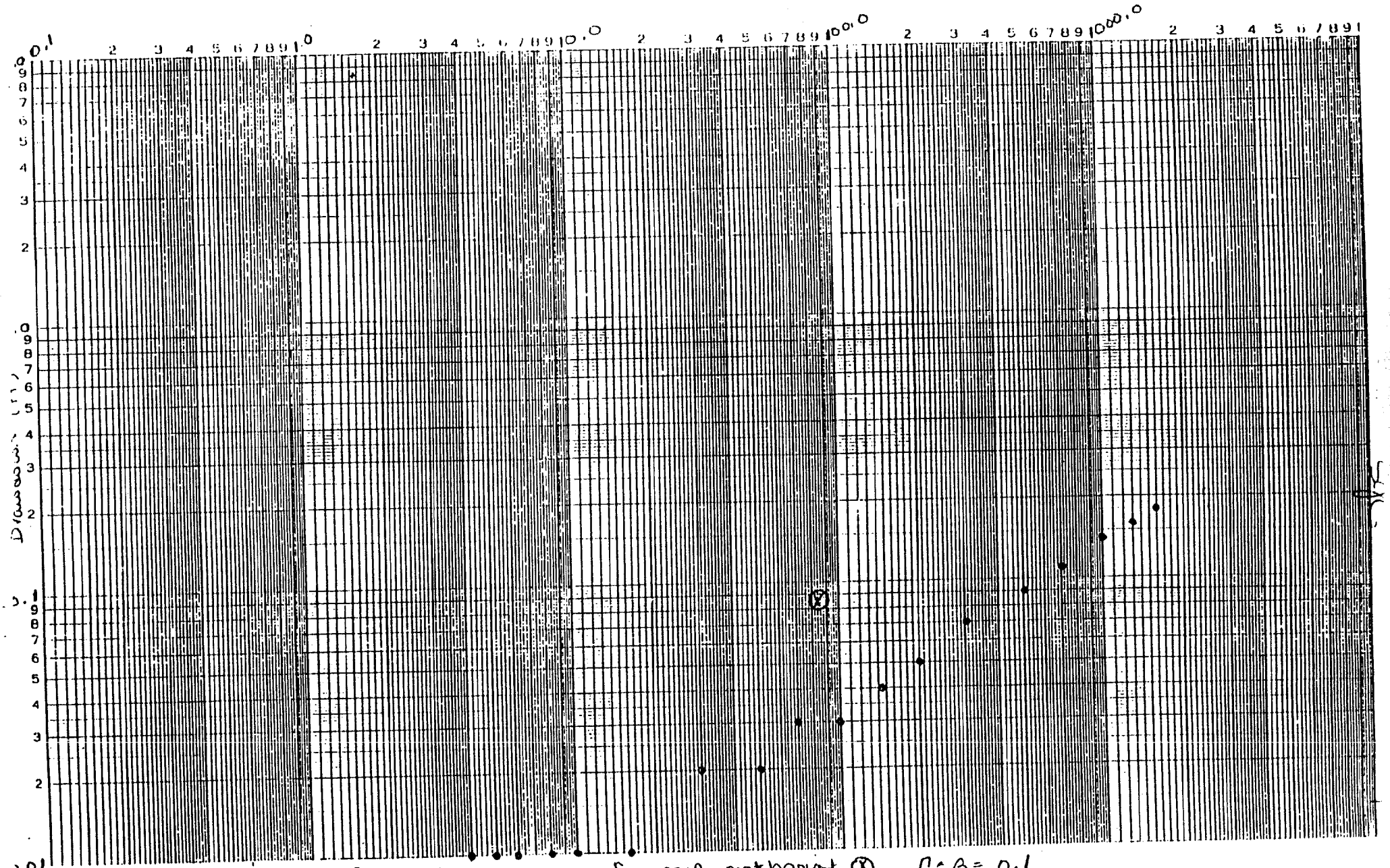
CALCULATION WORKSHEET

Order No. 19116 (01-91)

CLIENT		JOB NUMBER	
SUBJECT Calverton Pump Test - Site 2		Observation Well FT-MW-04-S	
BASED ON		DRAWING NUMBER	
BY JAH	CHECKED BY SJC	APPROVED BY	DATE 12/28/94

Elapsed Time (min)	Measured Drawdown (ft.)	Corrected Drawdown (ft)
0.35	0	0
0.5	0	0
0.75	0	0
1.0	0	0
2.0	-0.003	0
3.0	-0.003	0
4.0	-0.006	-0.01
5.0	-0.006	-0.01
6.0	-0.006	-0.01
8.0	-0.006	-0.01
10.0	-0.006	-0.01
16.0	-0.009	-0.01
30.0	-0.018	-0.02
50.0	-0.018	-0.02
70.0	-0.025	-0.03
100.0	-0.034	-0.03
145.0	-0.041	-0.04
205.0	-0.053	-0.05
310.0	-0.072	-0.07
505.0	-0.098	-0.09
700.0	-0.120	-0.11
1000.0	-0.145	-0.14
1300.0	-0.170	-0.16
1600.0	-0.190	-0.18

Observation Well FT-MW-04-S
(Corrected for Partial Penetration Effects)



Young Unconfined Aq. w/ Delayed
Yield Response Curve (after

from early matchpoint ⊗
$W(u_A, \Gamma) = 1.0$

$\Gamma = \beta = 0.1$
$S = 0.087$ ft
$t = 0.0587$ days

CLIENT	JOB NUMBER
SUBJECT Calverton Pump Test Site 2	Observation Well FT-MW-04-S
BASED ON	DRAWING NUMBER
BY JAH / CHECKED BY SJC	APPROVED BY / DATE 12/28/94

Newman Curve Fitting - Early Time, corrected for Partial Penetration Effects

K_h = horizontal hydraulic conductivity (Kruseman 1989 Eqn 5.2)

$$s = \frac{Q}{4\pi K_h D}$$

where s = drawdown (ft) from early match pt. = 0.087
Q = discharge rate (ft^3/d) = 12,512.5*
D = aquifer thickness (ft) = 60
$W(u_A, \beta) = 1.0$

$$K_h = \frac{Q}{4\pi s D} = \frac{12512.5}{(4)(3.14)(0.087)(60)} = 190.85 \text{ ft/day}$$

S_A = storativity (Kruseman 1989 Eqn. 5.3)

$$u_A = \frac{r^2 S_A}{4 K_h D t}$$

where r = radial distance to obs. well (ft) = 118.90
D = 60 ft
t = time (min) from early match pt. = 0.0583
$u_A = 1.0$
K_h = 190.85 ft/day

$$S_A = \frac{u_A 4 K_h D t}{r^2} = \frac{(1.0)(4)(190.85)(60)(0.0583)}{(118.90)^2} = 0.189$$

* 65 gpm = 12512.5 ft^3/day ; conversion factor 1 gpm = 192.5 ft^3/day

CLIENT		JOB NUMBER	
SUBJECT Calverton Pump Test Site 2		Observation Well FT-MW-04-S	
BASED ON		DRAWING NUMBER	
BY JAH	CHECKED BY SJC	APPROVED BY	DATE 12/2/94

K_V = vertical hydraulic conductivity (Kruseman 1989 Eqn. 5.6)

$$\beta = \frac{r^2 K_V}{D^2 K_h}$$

where $\beta = 0.1$ from early match points
$D = 60$ ft
$r = 118.90$ ft
$K_h = 190.85$ ft/day

$$K_V = \frac{\beta K_h D^2}{r^2} = \frac{(0.1)(190.85)(60)^2}{(118.90)^2} = 4.86 \text{ ft/day}$$

T = transmissivity (Fetter 1988 Eqn. 6-48)

$$T = \frac{Q}{4\pi s}$$

where $Q = 12512.5$ ft³/d
$s = .087$ ft
$W(u_A, \beta) = 1.0$

$$T = \frac{12512.5}{(4)(3.14)(0.087)} = 11451 \text{ ft}^2/\text{day}$$

CLIENT		JOB NUMBER	
SUBJECT Calverton Pump Test - Site 2		Observation Well FT-MW-01-S	
BASED ON		DRAWING NUMBER	
BY JAH	CHECKED BY SJC	APPROVED BY	DATE 12/28/94 JAH

PT2.BAS INPUTS:

Aquifer Discharge = 65 gpm

Storage = 0.1 (assumed for unconfined aquifer)

K_h = 580 gpd/ft² (assumed) > 10:1 ratio

K_v = 58 gpd/ft² (")

Radial distance to obs. well = 379 ft

Aquifer thickness = 60.5 ft. (clay layer @ 80' bg, esti., and water level is at 19.5' bg)

Distance from top of aquifer to bottom of prod well = 36 ft (TD of prod. well is 46' and water level was measured at 10')

Distance from aquifer top to top of prod well screen = 20 ft. (top of screen in prod well is at 30' and water level is at 10')

Distance from aquifer top to bottom of obs. well = 9 ft (top of aq. in obs. well is at 19.5' and bottom of obs. well is at 28')

Distance from aquifer top to top of obs. well screen = -1.5 ft. (top of aq. in obs. well is at 19.5' and top of well screen is at 18')

01-S	T.D.	28.5' b.g.
	▼	19.5' b.g.
	screen	18 - 28' bg

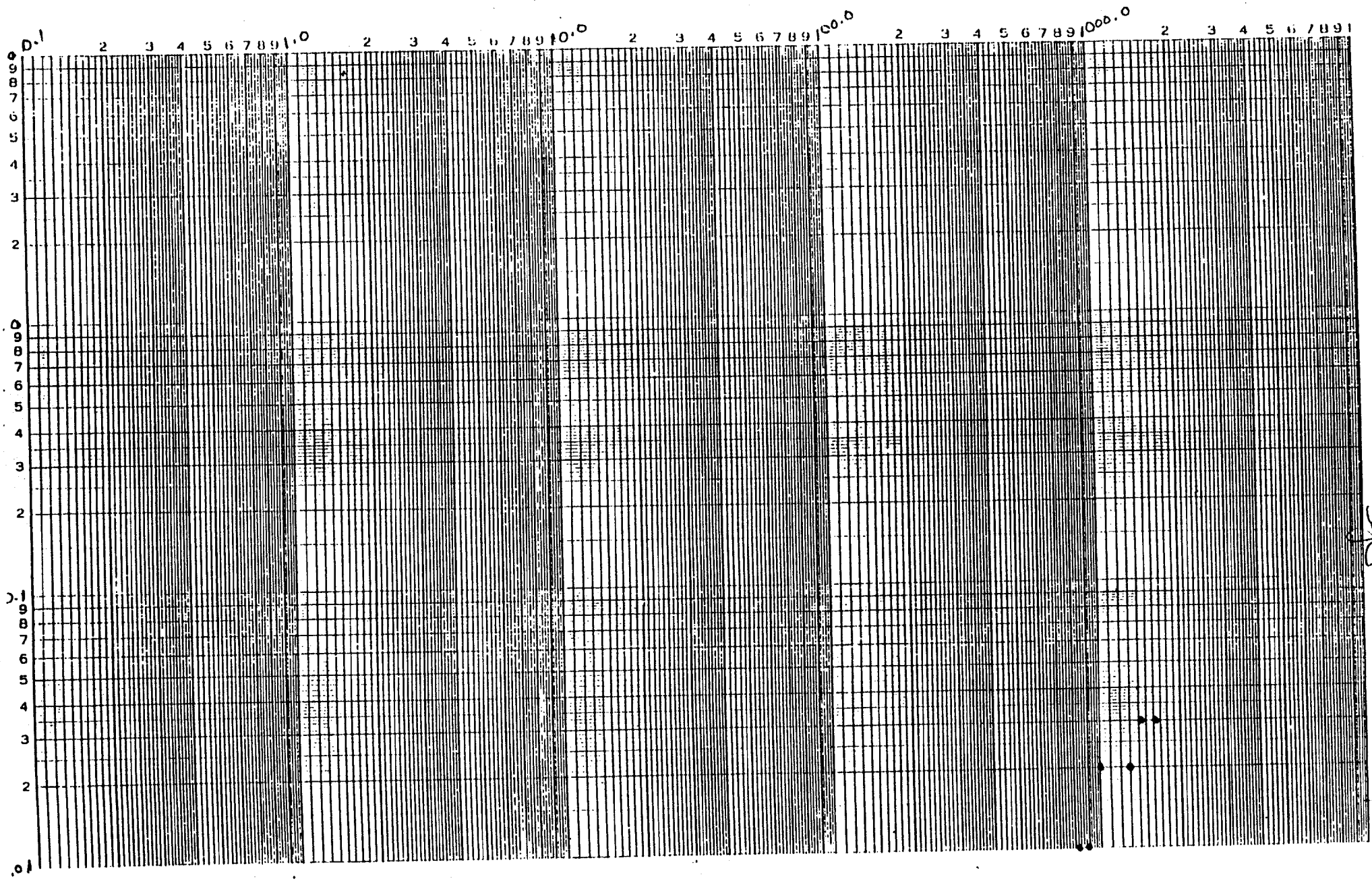
CALCULATION WORKSHEET

Order No. 19116 (01-91)

CLIENT		JOB NUMBER	
SUBJECT Calverton Pump Test- Site 2		Observation Well FT-MW-01-S	
BASED ON		DRAWING NUMBER	
BY JAH	CHECKED BY SJC	APPROVED BY	DATE 12/28/94

Elapsed Time (min)	Measured Drawdown (ft)	Corrected Drawdown (ft)
0	0	
15	0.01	
30	0.01	
60	0.012	
105	0.002	
135	0.002	
195	0.012	
300	0.002	
510	0.012	
705	0.012	
840	-0.008	-0.01
900	-0.008	-0.01
1005	-0.019	-0.02
1305	-0.019	-0.02
1425	-0.029	-0.03
1620	-0.029	-0.03
~~1500~~	~~-0.029~~	

Observation Well FT-MW-01-S
(Corrected for Partial Penetration Effects)



Pump Test basically did not affect this well

CLIENT		JOB NUMBER	
SUBJECT Calverton Pump Test - Site 2		Observation Well FT-MW-01-I	
BASED ON		DRAWING NUMBER	
BY JAH	CHECKED BY SJC	APPROVED BY	DATE 4/28/94

PT 2. BAS INPUTS:

Aquifer Discharge = 65 gpm
Storage = 0.1 (assumed for unconfined aq.)
K_h = 580 gpd/ft² (assumed) } 10:1
K_v = 58 gpd/ft²
Radial distance to obs. well = 388 ft
Aquifer thickness = 60.5 ft
Distance from top of aq. to bottom of prod. well = 36 ft.
Distance from top of aq. to top of prod well screen = 20 ft.
} See FT-MW-01-S for details of these calculations
Distance from top of aq. to bottom of obs. well = 58.5 ft. (top of aq. is at 19.5 ft and bottom of obs. well is at 78'
Distance from top of aq. to top of obs. well screen = 48.5 ft. (top of aq is at 19.5' and top of obs. well screen is at 6

01-I T.D. 78' bg
▽ 19.5' bg
screen 68-78' bg

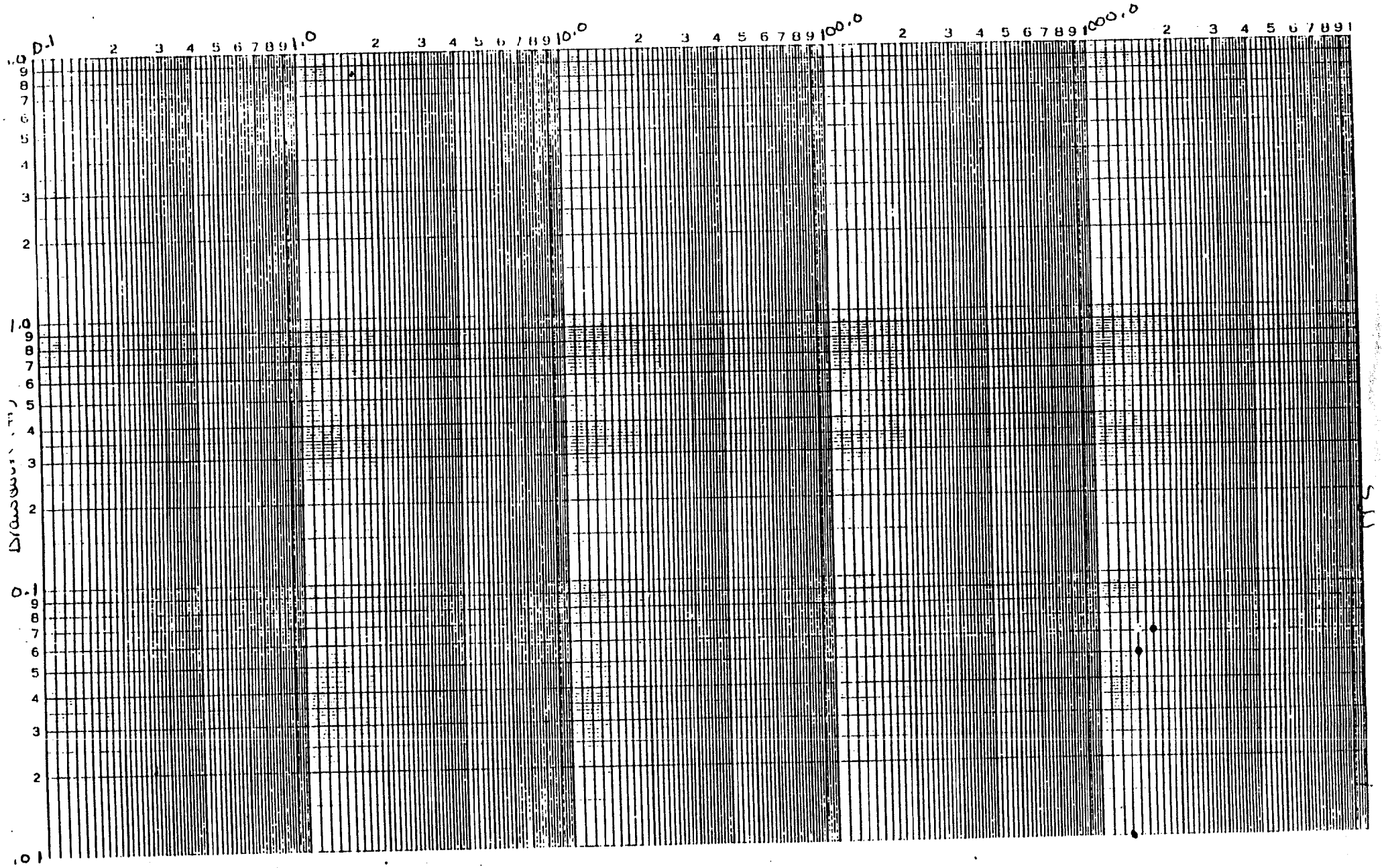
CALCULATION WORKSHEET

Order No. 19116 (01-91)

CLIENT		JOB NUMBER	
SUBJECT Calverton Pump Test - Site 2		Observation well FT-MW-01-I	
BASED ON		DRAWING NUMBER	
BY JAH	CHECKED BY SJC	APPROVED BY	DATE JAH 12/28/94

Elapsed Time (min)	Measured Drawdown (ft)	Corrected Drawdown (ft)
0	0	
15	0.015	
30	0	
60	0.001	
180	0.001	
360	0.017	
510	0.032	
705	0.017	
1005	0.017	
1305	-0.014	-0.01
1425	-0.045	-0.05
~~1590~~ 1620	-0.06	-0.06

Observation Well FT-MW-01-I
(Corrected for Partial Penetration Effects)



Pump Test basically did not affect this well

Raw Data

WELL RW DRAWDOWN DATA

Elapsed Time (min)	Well RW Drawdown (ft)
0.0000	0.01
0.0033	0.00
0.0066	0.00
0.0099	0.00
0.0133	-0.01
0.0166	-0.01
0.0200	0.00
0.0233	-0.01
0.0266	0.00
0.0300	-0.01
0.0333	0.00
0.0500	0.00
0.0666	-0.01
0.0833	0.00
0.1000	0.00
0.1166	-0.01
0.1333	0.00
0.1500	0.00
0.1666	0.00
0.1833	0.00
0.2000	-0.01
0.2166	-0.01
0.2333	-0.01
0.2500	-0.01
0.2666	-0.01
0.2833	-0.01
0.3000	-0.01
0.3166	-0.01
0.3333	-0.01
0.4167	-0.04
0.5000	-0.04
0.5833	-0.04
0.6667	-0.04
0.7500	-0.06
0.8333	-0.04
0.9167	-0.04
1.0000	-0.06
1.0833	-0.06
1.1667	-0.04

WELL RW DRAWDOWN DATA

Elapsed Time (min)	Well RW Drawdown (ft)
1.2500	-0.06
1.3333	-0.04
1.4166	-0.04
1.5000	-0.06
1.5833	-0.06
1.6667	-0.06
1.7500	-0.06
1.8333	-0.08
1.9167	-0.08
2.0	-0.08
2.5	-0.06
3.0	-0.09
3.5	-0.08
4.0	-0.09
4.5	-0.09
5.0	-0.09
5.5	-0.11
6.0	-0.09
6.5	-0.11
7.0	-0.11
7.5	-0.11
8.0	-0.11
8.5	-0.11
9.0	-0.12
9.5	-0.11
10	-0.12
12	-0.12
14	-0.12
16	-0.12
18	-0.14
20	-0.12
22	-0.14
24	-0.14
26	-0.14
28	-0.14
30	-0.16
32	-0.16
34	-0.16
36	-0.16

WELL RW DRAWDOWN DATA

Elapsed Time (min)	Well RW Drawdown (ft)
38	-0.16
40	-0.16
42	-0.14
44	-0.16
46	-0.17
48	-0.17
50	-0.17
52	-0.17
54	-0.16
56	-0.16
58	-0.17
60	-0.16
62	-0.17
64	-0.19
66	-0.17
68	-0.16
70	-0.19
72	-0.17
74	-0.19
76	-0.17
78	-0.17
80	-0.17
82	-0.17
84	-0.17
86	-0.19
88	-0.19
90	-0.17
92	-0.17
94	-0.17
96	-0.19
98	-0.17
100	-0.19
110	-0.19
120	-0.19
130	-0.19
140	-0.20
150	-0.20
160	-0.20
170	-0.20

WELL RW DRAWDOWN DATA

Elapsed Time (min)	Well RW Drawdown (ft)
180	-0.20
190	-0.20
200	-0.22
210	-0.22
220	-0.22
230	-0.22
240	-0.24
250	-0.22
260	-0.25
270	-0.24
280	-0.22
290	-0.24
300	-0.24
310	-0.24
320	-0.25
330	-0.24
340	-0.24
350	-0.25
360	-0.24
370	-0.24
380	-0.24
390	-0.24
400	-0.24
410	-0.25
420	-0.25
430	-0.24
440	-0.24
450	-0.24
460	-0.24
470	-0.24
480	-0.24
490	-0.24
500	-0.24
510	-0.24
520	-0.24
530	-0.24
540	-0.25
550	-0.24
560	-0.25

WELL RW DRAWDOWN DATA

Elapsed Time (min)	Well RW Drawdown (ft)
570	-0.25
580	-0.25
590	-0.24
600	-0.25
610	-0.25
620	-0.25
630	-0.25
640	-0.24
650	-0.24
660	-0.25
670	-0.25
680	-0.25
690	-0.25
700	-0.25
710	-0.25
720	-0.25
730	-0.27
740	-0.25
750	-0.25
760	-0.25
770	-0.25
780	-0.19
790	-0.17
800	-0.17
810	-0.16
820	-0.14
830	-0.14
840	-0.14
850	-0.12
860	-0.11
870	-0.11
880	-0.09
890	-0.27
900	-0.27
910	-0.27
920	-0.27
930	-0.27
940	-0.27
950	-0.27

WELL RW DRAWDOWN DATA

Elapsed Time (min)	Well RW Drawdown (ft)
960	-0.27
970	-0.28
980	-0.28
990	-0.27
1000	-0.30
1015	-0.27
1030	-0.28
1045	-0.28
1060	-0.28
1075	-0.28
1090	-0.28
1105	-0.28
1120	-0.28
1135	-0.28
1150	-0.28
1165	-0.30
1180	-0.30
1195	-0.30
1210	-0.30
1225	-0.30
1240	-0.30
1255	-0.30
1270	-0.30
1285	-0.30
1300	-0.32
1315	-0.30
1330	-0.32
1345	-0.32
1360	-0.32
1375	-0.32
1390	-0.32
1405	-0.33
1420	-0.33
1435	-0.33
1450	-0.33
1465	-0.35
1480	-0.33
1495	-0.33
1510	-0.35

WELL RW DRAWDOWN DATA

Elapsed Time (min)	Well RW Drawdown (ft)
1525	-0.35
1540	-0.35
1555	-0.35
1570	-0.35
1585	-0.33
1600	-0.35

Raw Data

WELL RW DRAWDOWN DATA

Elapsed Time (min)	Well RW Drawdown (ft)
0.0000	0.01
0.0033	0.00
0.0066	0.00
0.0099	0.00
0.0133	-0.01
0.0166	-0.01
0.0200	0.00
0.0233	-0.01
0.0266	0.00
0.0300	-0.01
0.0333	0.00
0.0500	0.00
0.0666	-0.01
0.0833	0.00
0.1000	0.00
0.1166	-0.01
0.1333	0.00
0.1500	0.00
0.1666	0.00
0.1833	0.00
0.2000	-0.01
0.2166	-0.01
0.2333	-0.01
0.2500	-0.01
0.2666	-0.01
0.2833	-0.01
0.3000	-0.01
0.3166	-0.01
0.3333	-0.01
0.4167	-0.04
0.5000	-0.04
0.5833	-0.04
0.6667	-0.04
0.7500	-0.06
0.8333	-0.04
0.9167	-0.04
1.0000	-0.06
1.0833	-0.06
1.1667	-0.04

WELL RW DRAWDOWN DATA

Elapsed Time (min)	Well RW Drawdown (ft)
1.2500	-0.06
1.3333	-0.04
1.4166	-0.04
1.5000	-0.06
1.5833	-0.06
1.6667	-0.06
1.7500	-0.06
1.8333	-0.08
1.9167	-0.08
2.0	-0.08
2.5	-0.06
3.0	-0.09
3.5	-0.08
4.0	-0.09
4.5	-0.09
5.0	-0.09
5.5	-0.11
6.0	-0.09
6.5	-0.11
7.0	-0.11
7.5	-0.11
8.0	-0.11
8.5	-0.11
9.0	-0.12
9.5	-0.11
10	-0.12
12	-0.12
14	-0.12
16	-0.12
18	-0.14
20	-0.12
22	-0.14
24	-0.14
26	-0.14
28	-0.14
30	-0.16
32	-0.16
34	-0.16
36	-0.16

WELL RW DRAWDOWN DATA

Elapsed Time (min)	Well RW Drawdown (ft)
38	-0.16
40	-0.16
42	-0.14
44	-0.16
46	-0.17
48	-0.17
50	-0.17
52	-0.17
54	-0.16
56	-0.16
58	-0.17
60	-0.16
62	-0.17
64	-0.19
66	-0.17
68	-0.16
70	-0.19
72	-0.17
74	-0.19
76	-0.17
78	-0.17
80	-0.17
82	-0.17
84	-0.17
86	-0.19
88	-0.19
90	-0.17
92	-0.17
94	-0.17
96	-0.19
98	-0.17
100	-0.19
110	-0.19
120	-0.19
130	-0.19
140	-0.20
150	-0.20
160	-0.20
170	-0.20

WELL RW DRAWDOWN DATA

Elapsed Time (min)	Well RW Drawdown (ft)
180	-0.20
190	-0.20
200	-0.22
210	-0.22
220	-0.22
230	-0.22
240	-0.24
250	-0.22
260	-0.25
270	-0.24
280	-0.22
290	-0.24
300	-0.24
310	-0.24
320	-0.25
330	-0.24
340	-0.24
350	-0.25
360	-0.24
370	-0.24
380	-0.24
390	-0.24
400	-0.24
410	-0.25
420	-0.25
430	-0.24
440	-0.24
450	-0.24
460	-0.24
470	-0.24
480	-0.24
490	-0.24
500	-0.24
510	-0.24
520	-0.24
530	-0.24
540	-0.25
550	-0.24
560	-0.25

WELL RW DRAWDOWN DATA

Elapsed Time (min)	Well RW Drawdown (ft)
570	-0.25
580	-0.25
590	-0.24
600	-0.25
610	-0.25
620	-0.25
630	-0.25
640	-0.24
650	-0.24
660	-0.25
670	-0.25
680	-0.25
690	-0.25
700	-0.25
710	-0.25
720	-0.25
730	-0.27
740	-0.25
750	-0.25
760	-0.25
770	-0.25
780	-0.19
790	-0.17
800	-0.17
810	-0.16
820	-0.14
830	-0.14
840	-0.14
850	-0.12
860	-0.11
870	-0.11
880	-0.09
890	-0.27
900	-0.27
910	-0.27
920	-0.27
930	-0.27
940	-0.27
950	-0.27

WELL RW DRAWDOWN DATA

Elapsed Time (min)	Well RW Drawdown (ft)
960	-0.27
970	-0.28
980	-0.28
990	-0.27
1000	-0.30
1015	-0.27
1030	-0.28
1045	-0.28
1060	-0.28
1075	-0.28
1090	-0.28
1105	-0.28
1120	-0.28
1135	-0.28
1150	-0.28
1165	-0.30
1180	-0.30
1195	-0.30
1210	-0.30
1225	-0.30
1240	-0.30
1255	-0.30
1270	-0.30
1285	-0.30
1300	-0.32
1315	-0.30
1330	-0.32
1345	-0.32
1360	-0.32
1375	-0.32
1390	-0.32
1405	-0.33
1420	-0.33
1435	-0.33
1450	-0.33
1465	-0.35
1480	-0.33
1495	-0.33
1510	-0.35

WELL RW DRAWDOWN DATA

Elapsed Time (min)	Well RW Drawdown (ft)
1525	-0.35
1540	-0.35
1555	-0.35
1570	-0.35
1585	-0.33
1600	-0.35

Raw Data

PW AND WELLS 1, 8, AND 9 DRAWDOWN DATA

Elapsed Time (min)	Pumping Well Drawdown (ft)	Well 1 Drawdown (ft)	Well 9 Drawdown (ft)	Well 8 Drawdown (ft)
0.0000	-2.189	0.006	0	0.031
0.0083	-4.013	0.006	-0.012	0.031
0.0166	-2.95	0.006	-0.012	0.015
0.0250	-2.379	0.006	-0.012	0.031
0.0333	-2.744	0.006	-0.012	0.031
0.0416	-2.728	0.006	-0.012	0.015
0.0500	-3.014	0.006	-0.012	0.015
0.0583	-3.252	0.003	-0.012	0.015
0.0666	-3.633	0.006	-0.006	0.015
0.0750	-3.569	0.006	-0.006	0.015
0.0833	-3.823	0.006	-0.012	0.015
0.0916	-3.855	0.003	-0.012	0.015
0.1000	-3.744	0.006	-0.006	0.015
0.1083	-3.759	0.003	-0.006	0.015
0.1166	-3.886	0.003	-0.012	0.015
0.1250	-3.839	0.003	-0.012	0.015
0.1333	-3.982	0.003	-0.012	0.015
0.1416	-3.87	0.003	-0.012	0.015
0.1500	-3.886	0.003	-0.006	0.015
0.1583	-3.728	0.003	-0.006	0.015
0.1666	-3.902	0.003	-0.012	0.015
0.1750	-3.839	0.003	-0.012	0
0.1833	-3.648	0.003	-0.012	0.015
0.1916	-3.902	0.003	-0.006	0
0.2000	-3.966	0.003	-0.012	0
0.2083	-3.696	0.003	-0.012	0
0.2166	-3.315	0	-0.012	0
0.2250	-3.474	0.003	-0.012	0
0.2333	-3.791	0	-0.012	0
0.2416	-3.363	0	-0.012	0
0.2500	-3.299	0	-0.012	0
0.2583	-3.315	0	-0.012	0
0.2666	-3.315	0	-0.012	0
0.2750	-3.014	0	-0.012	0
0.2833	-3.014	0	-0.012	0
0.2916	-3.03	-0.003	-0.012	0

PW AND WELLS 1, 8, AND 9 DRAWDOWN DATA

Elapsed Time (min)	Pumping Well Drawdown (ft)	Well 1 Drawdown (ft)	Well 9 Drawdown (ft)	Well 8 Drawdown (ft)
0.3000	-3.061	-0.003	-0.012	0
0.3083	-2.934	-0.003	-0.012	0
0.3166	-3.014	-0.003	-0.012	0
0.3250	-2.855	-0.003	-0.012	0
0.3333	-2.697	-0.003	-0.012	0
0.3500	-2.697	-0.003	-0.012	0
0.3666	-2.697	-0.006	-0.012	0
0.3833	-2.934	-0.006	-0.012	0
0.4000	-2.792	-0.006	-0.012	0
0.4166	-2.95	-0.006	-0.019	0
0.4333	-2.744	-0.006	-0.019	0
0.4500	-2.681	-0.006	-0.019	0
0.4666	-2.744	-0.009	-0.019	0
0.4833	-2.728	-0.009	-0.019	0
0.5000	-2.903	-0.009	-0.019	0
0.5166	-2.697	-0.009	-0.019	0
0.5333	-2.966	-0.009	-0.019	0
0.5500	-2.585	-0.009	-0.025	0
0.5666	-2.792	-0.009	-0.025	0
0.5833	-2.919	-0.009	-0.025	0
0.6000	-3.157	-0.009	-0.025	0
0.6166	-2.934	-0.012	-0.025	0
0.6333	-2.712	-0.012	-0.025	0
0.6500	-2.522	-0.012	-0.025	0
0.6666	-3.03	-0.012	-0.025	0
0.6833	-3.061	-0.012	-0.025	0
0.7000	-2.712	-0.012	-0.025	0
0.7166	-2.601	-0.012	-0.031	0
0.7333	-2.728	-0.012	-0.031	0
0.7500	-3.077	-0.012	-0.025	0
0.7666	-2.871	-0.012	-0.031	0
0.7833	-2.823	-0.012	-0.031	0
0.8000	-2.823	-0.015	-0.031	0
0.8166	-3.093	-0.015	-0.031	0
0.8333	-2.554	-0.012	-0.031	0
0.8500	-3.014	-0.015	-0.031	0

PW AND WELLS 1, 8, AND 9 DRAWDOWN DATA

Elapsed Time (min)	Pumping Well Drawdown (ft)	Well 1 Drawdown (ft)	Well 9 Drawdown (ft)	Well 8 Drawdown (ft)
0.8666	-2.919	-0.015	-0.031	0
0.8833	-2.823	-0.015	-0.031	0
0.9000	-2.903	-0.015	-0.031	0
0.9166	-2.919	-0.015	-0.025	0
0.9333	-2.998	-0.015	-0.031	0
0.9500	-2.839	-0.015	-0.031	0
0.9666	-2.919	-0.015	-0.025	0.015
0.9833	-3.109	-0.015	-0.025	0.015
1.0	-3.109	-0.015	-0.031	0.015
1.2	-2.903	-0.015	-0.031	0.015
1.4	-3.109	-0.018	-0.031	0.015
1.6	-2.982	-0.018	-0.031	0
1.8	-3.093	-0.018	-0.031	0
2.0	-2.998	-0.022	-0.044	0
2.2	-3.759	-0.022	-0.05	-0.015
2.4	-3.569	-0.025	-0.057	-0.015
2.6	-3.474	-0.028	-0.063	-0.015
2.8	-3.442	-0.028	-0.057	-0.015
3.0	-3.744	-0.028	-0.063	-0.015
3.2	-3.41	-0.028	-0.063	0
3.4	-3.712	-0.031	-0.076	-0.015
3.6	-3.633	-0.031	-0.082	-0.015
3.8	-3.442	-0.034	-0.088	-0.015
4.0	-3.664	-0.034	-0.095	-0.015
4.2	-3.617	-0.034	-0.101	-0.015
4.4	-3.49	-0.037	-0.101	-0.015
4.6	-3.537	-0.034	-0.095	-0.015
4.8	-3.807	-0.034	-0.101	-0.015
5.0	-3.664	-0.037	-0.107	-0.015
5.2	-3.95	-0.037	-0.107	-0.015
5.4	-4.188	-0.037	-0.107	-0.015
5.6	-4.14	-0.04	-0.107	-0.031
5.8	-4.124	-0.04	-0.107	-0.031
6.0	-4.219	-0.04	-0.114	-0.015
6.2	-4.013	-0.04	-0.114	-0.031
6.4	-4.108	-0.04	-0.107	-0.015

PW AND WELLS 1, 8, AND 9 DRAWDOWN DATA

Elapsed Time (min)	Pumping Well Drawdown (ft)	Well 1 Drawdown (ft)	Well 9 Drawdown (ft)	Well 8 Drawdown (ft)
6.6	-4.029	-0.04	-0.101	-0.031
6.8	-3.95	-0.04	-0.114	-0.031
7.0	-4.029	-0.044	-0.12	-0.031
7.2	-4.029	-0.04	-0.107	-0.031
7.4	-4.394	-0.04	-0.107	-0.031
7.6	-4.013	-0.04	-0.101	-0.031
7.8	-4.013	-0.044	-0.101	-0.031
8.0	-4.156	-0.04	-0.095	-0.031
8.2	-3.997	-0.044	-0.095	-0.031
8.4	-4.235	-0.044	-0.095	-0.031
8.6	-4.061	-0.044	-0.101	-0.031
8.8	-4.188	-0.044	-0.101	-0.031
9	-4.204	-0.044	-0.101	-0.031
9.2	-3.982	-0.044	-0.101	-0.031
9.4	-4.267	-0.047	-0.107	-0.031
9.6	-3.982	-0.047	-0.107	-0.031
9.8	-4.14	-0.047	-0.107	-0.031
10	-4.267	-0.047	-0.107	-0.047
12	-4.093	-0.053	-0.133	-0.063
14	-4.077	-0.059	-0.158	-0.079
16	-4.077	-0.053	-0.145	-0.063
18	-4.204	-0.059	-0.145	-0.079
20	-4.14	-0.059	-0.145	-0.079
22	-4.156	-0.059	-0.145	-0.079
24	-4.108	-0.059	-0.158	-0.063
26	-4.267	-0.062	-0.171	-0.095
28	-4.093	-0.059	-0.152	-0.079
30	-4.315	-0.062	-0.171	-0.079
32	-4.093	-0.066	-0.196	-0.095
34	-3.934	-0.066	-0.177	-0.079
36	-4.394	-0.066	-0.171	-0.079
38	-4.235	-0.066	-0.171	-0.095
40	-4.156	-0.066	-0.177	-0.095
42	-4.188	-0.072	-0.202	-0.095
44	-4.41	-0.066	-0.177	-0.095
46	-4.156	-0.066	-0.171	-0.095

PW AND WELLS 1, 8, AND 9 DRAWDOWN DATA

Elapsed Time (min)	Pumping Well Drawdown (ft)	Well 1 Drawdown (ft)	Well 9 Drawdown (ft)	Well 8 Drawdown (ft)
48	-4.156	-0.069	-0.196	-0.095
50	-4.521	-0.069	-0.183	-0.095
52	-4.093	-0.072	-0.19	-0.095
54	-4.204	-0.075	-0.228	-0.111
56	-4.267	-0.072	-0.222	-0.111
58	-4.077	-0.072	-0.202	-0.111
60	-4.14	-0.069	-0.183	-0.079
62	-4.124	-0.072	-0.209	-0.111
64	-4.267	-0.072	-0.196	-0.095
66	-4.346	-0.072	-0.202	-0.095
68	-4.14	-0.072	-0.196	-0.111
70	-3.95	-0.072	-0.19	-0.111
72	-4.204	-0.075	-0.215	-0.095
74	-4.108	-0.078	-0.253	-0.111
76	-4.045	-0.078	-0.222	-0.111
78	-4.204	-0.075	-0.209	-0.111
80	-4.204	-0.078	-0.241	-0.111
82	-4.235	-0.078	-0.241	-0.111
84	-4.442	-0.078	-0.228	-0.127
86	-4.188	-0.078	-0.234	-0.111
88	-4.267	-0.078	-0.222	-0.111
90	-4.251	-0.078	-0.234	-0.111
92	-4.077	-0.078	-0.241	-0.111
94	-4.172	-0.078	-0.209	-0.111
96	-4.283	-0.078	-0.209	-0.127
98	-3.966	-0.081	-0.253	-0.111
100	-4.299	-0.081	-0.222	-0.127
110	-4.108	-0.085	-0.247	-0.127
120	-4.108	-0.085	-0.26	-0.127
130	-4.315	-0.088	-0.26	-0.127
140	-4.473	-0.088	-0.253	-0.127
150	-4.124	-0.091	-0.285	-0.143
160	-4.267	-0.094	-0.298	-0.143
170	-4.204	-0.094	-0.291	-0.143
180	-4.045	-0.097	-0.304	-0.159
190	-4.061	-0.097	-0.31	-0.159

PW AND WELLS 1, 8, AND 9 DRAWDOWN DATA

Elapsed Time (min)	Pumping Well Drawdown (ft)	Well 1 Drawdown (ft)	Well 9 Drawdown (ft)	Well 8 Drawdown (ft)
200	-4.013	-0.1	-0.323	-0.159
210	-4.362	-0.1	-0.336	-0.159
220	-4.267	-0.103	-0.317	-0.175
230	-4.331	-0.103	-0.317	-0.175
240	-4.283	-0.103	-0.31	-0.159
250	-4.299	-0.107	-0.329	-0.175
260	-4.505	-0.107	-0.336	-0.175
270	-4.251	-0.107	-0.342	-0.175
280	-4.489	-0.11	-0.342	-0.175
290	-4.315	-0.11	-0.342	-0.191
300	-4.061	-0.11	-0.348	-0.191
310	-4.331	-0.11	-0.348	-0.191
320	-4.41	-0.113	-0.361	-0.175
330	-4.093	-0.113	-0.361	-0.191
340	-4.331	-0.113	-0.361	-0.191
350	-4.283	-0.116	-0.367	-0.191
360	-4.442	-0.116	-0.367	-0.207
370	-4.346	-0.116	-0.367	-0.207
380	-4.267	-0.116	-0.374	-0.207
390	-4.251	-0.119	-0.234	-0.207
400	-4.315	-0.113	-0.38	-0.207
410	-4.188	-0.113	-0.386	-0.207
420	-4.299	-0.113	-0.386	-0.207
430	-4.156	-0.116	-0.386	-0.207
440	-4.077	-0.116	-0.393	-0.207
450	-4.489	-0.116	-0.399	-0.207
460	-4.362	-0.116	-0.405	-0.207
470	-4.077	-0.119	-0.399	-0.223
480	-4.473	-0.119	-0.405	-0.223
490	-4.394	-0.119	-0.412	-0.223
500	-4.124	-0.119	-0.412	-0.223
510	-4.204	-0.122	-0.412	-0.223
520	-4.108	-0.122	-0.418	-0.223
530	-4.188	-0.122	-0.418	-0.223
540	-4.251	-0.125	-0.425	-0.223
550	-4.188	-0.125	-0.425	-0.239

PW AND WELLS 1, 8, AND 9 DRAWDOWN DATA

Elapsed Time (min)	Pumping Well Drawdown (ft)	Well 1 Drawdown (ft)	Well 9 Drawdown (ft)	Well 8 Drawdown (ft)
560	-4.299	-0.125	-0.431	-0.223
570	-4.315	-0.122	-0.418	-0.207
580	-4.362	-0.125	-0.437	-0.223
590	-4.362	-0.125	-0.437	-0.223
600	-4.442	-0.129	-0.437	-0.239
610	-4.267	-0.129	-0.444	-0.239
620	-4.442	-0.129	-0.444	-0.239
630	-4.283	-0.132	-0.45	-0.239
640	-4.235	-0.129	-0.45	-0.239
650	-4.457	-0.132	-0.456	-0.239
660	-4.315	-0.132	-0.456	-0.239
670	-4.251	-0.132	-0.463	-0.239
680	-4.315	-0.132	-0.463	-0.239
690	-4.505	-0.135	-0.463	-0.239
700	-4.267	-0.135	-0.469	-0.239
710	-4.188	-0.135	-0.463	-0.255
720	-4.093	-0.135	-0.475	-0.255
730	-4.362	-0.135	-0.469	-0.255
740	-4.299	-0.138	-0.469	-0.255
750	-4.219	-0.138	-0.482	-0.255
760	-4.267	-0.138	-0.482	-0.255
770	-4.473	-0.138	-0.482	-0.255
780	-4.553	-0.138	-0.482	-0.255
790	-4.584	-0.138	-0.488	-0.255
800	-4.394	-0.138	-0.482	-0.271
810	-4.204	-0.141	-0.488	-0.271
820	-4.346	-0.141	-0.494	-0.255
830	-4.346	-0.138	-0.488	-0.239
840	-4.442	-0.141	-0.501	-0.255
850	-4.315	-0.141	-0.507	-0.271
860	-4.394	-0.141	-0.501	-0.271
870	-4.457	-0.144	-0.501	-0.271
880	-4.219	-0.144	-0.507	-0.271
890	-4.378	-0.144	-0.507	-0.271
900	-4.331	-0.144	-0.513	-0.271
910	-4.331	-0.144	-0.513	-0.271

PW AND WELLS 1, 8, AND 9 DRAWDOWN DATA

Elapsed Time (min)	Pumping Well Drawdown (ft)	Well 1 Drawdown (ft)	Well 9 Drawdown (ft)	Well 8 Drawdown (ft)
920	-4.346	-0.144	-0.513	-0.271
930	-4.426	-0.144	-0.513	-0.271
940	-4.331	-0.148	-0.52	-0.271
950	-4.378	-0.148	-0.52	-0.271
960	-4.299	-0.148	-0.52	-0.271
970	-4.156	-0.148	-0.526	-0.271
980	-4.331	-0.148	-0.526	-0.271
990	-4.378	-0.148	-0.52	-0.287
1000	-4.41	-0.151	-0.532	-0.287
1010	-4.204	-0.151	-0.526	-0.287
1020	-4.315	-0.151	-0.532	-0.287
1030	-4.457	-0.151	-0.532	-0.287
1040	-4.457	-0.151	-0.539	-0.287
1050	-4.632	-0.151	-0.539	-0.287
1060	-4.394	-0.151	-0.539	-0.287
1070	-4.442	-0.151	-0.545	-0.287
1080	-4.362	-0.154	-0.545	-0.287
1090	-4.568	-0.154	-0.545	-0.287
1100	-4.283	-0.154	-0.545	-0.287
1110	-4.521	-0.154	-0.545	-0.287
1120	-4.315	-0.154	-0.551	-0.287
1130	-4.299	-0.154	-0.551	-0.287
1140	-4.394	-0.154	-0.551	-0.287
1150	-4.426	-0.157	-0.551	-0.287
1160	-4.489	-0.157	-0.558	-0.287
1170	-4.442	-0.154	-0.558	-0.287
1180	-4.093	-0.157	-0.558	-0.287
1190	-4.299	-0.157	-0.564	-0.287
1200	-4.473	-0.157	-0.551	-0.303
1210	-4.473	-0.157	-0.564	-0.287
1220	-4.489	-0.157	-0.558	-0.303
1230	-4.568	-0.157	-0.57	-0.287
1240	-4.442	-0.157	-0.564	-0.303
1250	-4.521	-0.16	-0.577	-0.303
1260	-4.378	-0.157	-0.564	-0.287
1270	-4.331	-0.16	-0.577	-0.303

PW AND WELLS 1, 8, AND 9 DRAWDOWN DATA

Elapsed Time (min)	Pumping Well Drawdown (ft)	Well 1 Drawdown (ft)	Well 9 Drawdown (ft)	Well 8 Drawdown (ft)
1280	-4.378	-0.16	-0.583	-0.303
1290	-4.378	-0.16	-0.583	-0.319
1300	-4.204	-0.16	-0.583	-0.303
1310	-4.283	-0.163	-0.583	-0.303
1320	-4.394	-0.16	-0.583	-0.303
1330	-4.346	-0.163	-0.589	-0.303
1340	-4.219	-0.163	-0.589	-0.303
1350	-4.267	-0.163	-0.589	-0.303
1360	-4.553	-0.163	-0.596	-0.319
1370	-4.378	-0.163	-0.589	-0.303
1380	-4.346	-0.163	-0.596	-0.303
1390	-4.41	-0.163	-0.596	-0.303
1400	-4.331	-0.166	-0.596	-0.319
1410	-4.457	-0.166	-0.602	-0.319
1420	-4.41	-0.166	-0.602	-0.319
1430	-4.362	-0.166	-0.596	-0.319
1440	-4.394	-0.166	-0.596	-0.319
1450	-4.759	-0.166	-0.602	-0.303
1460	-4.394	-0.17	-0.602	-0.319
1470	-4.315	-0.166	-0.608	-0.319
1480	-4.489	-0.17	-0.615	-0.319
1490	-4.346	-0.17	-0.608	-0.319
1500	-4.362	-0.166	-0.615	-0.319
1510	-4.426	-0.17	-0.615	-0.319
1520	-4.521	-0.17	-0.621	-0.319
1530	-4.346	-0.17	-0.615	-0.319
1540	-4.568	-0.17	-0.608	-0.319
1550	-4.41	-0.17	-0.608	-0.319
1560	-4.537	-0.17	-0.608	-0.319
1570	-4.315	-0.173	-0.634	-0.319
1580	-4.505	-0.17	-0.608	-0.319
1590	-4.473	-0.17	-0.621	-0.319
1600	-4.489	-0.17	-0.615	-0.319

Raw Data

PW AND WELLS 1, 8, AND 9 DRAWDOWN DATA

Elapsed Time (min)	Pumping Well Drawdown (ft)	Well 1 Drawdown (ft)	Well 9 Drawdown (ft)	Well 8 Drawdown (ft)
0.0000	-2.189	0.006	0	0.031
0.0083	-4.013	0.006	-0.012	0.031
0.0166	-2.95	0.006	-0.012	0.015
0.0250	-2.379	0.006	-0.012	0.031
0.0333	-2.744	0.006	-0.012	0.031
0.0416	-2.728	0.006	-0.012	0.015
0.0500	-3.014	0.006	-0.012	0.015
0.0583	-3.252	0.003	-0.012	0.015
0.0666	-3.633	0.006	-0.006	0.015
0.0750	-3.569	0.006	-0.006	0.015
0.0833	-3.823	0.006	-0.012	0.015
0.0916	-3.855	0.003	-0.012	0.015
0.1000	-3.744	0.006	-0.006	0.015
0.1083	-3.759	0.003	-0.006	0.015
0.1166	-3.886	0.003	-0.012	0.015
0.1250	-3.839	0.003	-0.012	0.015
0.1333	-3.982	0.003	-0.012	0.015
0.1416	-3.87	0.003	-0.012	0.015
0.1500	-3.886	0.003	-0.006	0.015
0.1583	-3.728	0.003	-0.006	0.015
0.1666	-3.902	0.003	-0.012	0.015
0.1750	-3.839	0.003	-0.012	0
0.1833	-3.648	0.003	-0.012	0.015
0.1916	-3.902	0.003	-0.006	0
0.2000	-3.966	0.003	-0.012	0
0.2083	-3.696	0.003	-0.012	0
0.2166	-3.315	0	-0.012	0
0.2250	-3.474	0.003	-0.012	0
0.2333	-3.791	0	-0.012	0
0.2416	-3.363	0	-0.012	0
0.2500	-3.299	0	-0.012	0
0.2583	-3.315	0	-0.012	0
0.2666	-3.315	0	-0.012	0
0.2750	-3.014	0	-0.012	0
0.2833	-3.014	0	-0.012	0
0.2916	-3.03	-0.003	-0.012	0

PW AND WELLS 1, 8, AND 9 DRAWDOWN DATA

Elapsed Time (min)	Pumping Well Drawdown (ft)	Well 1 Drawdown (ft)	Well 9 Drawdown (ft)	Well 8 Drawdown (ft)
0.3000	-3.061	-0.003	-0.012	0
0.3083	-2.934	-0.003	-0.012	0
0.3166	-3.014	-0.003	-0.012	0
0.3250	-2.855	-0.003	-0.012	0
0.3333	-2.697	-0.003	-0.012	0
0.3500	-2.697	-0.003	-0.012	0
0.3666	-2.697	-0.006	-0.012	0
0.3833	-2.934	-0.006	-0.012	0
0.4000	-2.792	-0.006	-0.012	0
0.4166	-2.95	-0.006	-0.019	0
0.4333	-2.744	-0.006	-0.019	0
0.4500	-2.681	-0.006	-0.019	0
0.4666	-2.744	-0.009	-0.019	0
0.4833	-2.728	-0.009	-0.019	0
0.5000	-2.903	-0.009	-0.019	0
0.5166	-2.697	-0.009	-0.019	0
0.5333	-2.966	-0.009	-0.019	0
0.5500	-2.585	-0.009	-0.025	0
0.5666	-2.792	-0.009	-0.025	0
0.5833	-2.919	-0.009	-0.025	0
0.6000	-3.157	-0.009	-0.025	0
0.6166	-2.934	-0.012	-0.025	0
0.6333	-2.712	-0.012	-0.025	0
0.6500	-2.522	-0.012	-0.025	0
0.6666	-3.03	-0.012	-0.025	0
0.6833	-3.061	-0.012	-0.025	0
0.7000	-2.712	-0.012	-0.025	0
0.7166	-2.601	-0.012	-0.031	0
0.7333	-2.728	-0.012	-0.031	0
0.7500	-3.077	-0.012	-0.025	0
0.7666	-2.871	-0.012	-0.031	0
0.7833	-2.823	-0.012	-0.031	0
0.8000	-2.823	-0.015	-0.031	0
0.8166	-3.093	-0.015	-0.031	0
0.8333	-2.554	-0.012	-0.031	0
0.8500	-3.014	-0.015	-0.031	0

PW AND WELLS 1, 8, AND 9 DRAWDOWN DATA

Elapsed Time (min)	Pumping Well Drawdown (ft)	Well 1 Drawdown (ft)	Well 9 Drawdown (ft)	Well 8 Drawdown (ft)
0.8666	-2.919	-0.015	-0.031	0
0.8833	-2.823	-0.015	-0.031	0
0.9000	-2.903	-0.015	-0.031	0
0.9166	-2.919	-0.015	-0.025	0
0.9333	-2.998	-0.015	-0.031	0
0.9500	-2.839	-0.015	-0.031	0
0.9666	-2.919	-0.015	-0.025	0.015
0.9833	-3.109	-0.015	-0.025	0.015
1.0	-3.109	-0.015	-0.031	0.015
1.2	-2.903	-0.015	-0.031	0.015
1.4	-3.109	-0.018	-0.031	0.015
1.6	-2.982	-0.018	-0.031	0
1.8	-3.093	-0.018	-0.031	0
2.0	-2.998	-0.022	-0.044	0
2.2	-3.759	-0.022	-0.05	-0.015
2.4	-3.569	-0.025	-0.057	-0.015
2.6	-3.474	-0.028	-0.063	-0.015
2.8	-3.442	-0.028	-0.057	-0.015
3.0	-3.744	-0.028	-0.063	-0.015
3.2	-3.41	-0.028	-0.063	0
3.4	-3.712	-0.031	-0.076	-0.015
3.6	-3.633	-0.031	-0.082	-0.015
3.8	-3.442	-0.034	-0.088	-0.015
4.0	-3.664	-0.034	-0.095	-0.015
4.2	-3.617	-0.034	-0.101	-0.015
4.4	-3.49	-0.037	-0.101	-0.015
4.6	-3.537	-0.034	-0.095	-0.015
4.8	-3.807	-0.034	-0.101	-0.015
5.0	-3.664	-0.037	-0.107	-0.015
5.2	-3.95	-0.037	-0.107	-0.015
5.4	-4.188	-0.037	-0.107	-0.015
5.6	-4.14	-0.04	-0.107	-0.031
5.8	-4.124	-0.04	-0.107	-0.031
6.0	-4.219	-0.04	-0.114	-0.015
6.2	-4.013	-0.04	-0.114	-0.031
6.4	-4.108	-0.04	-0.107	-0.015

PW AND WELLS 1, 8, AND 9 DRAWDOWN DATA

Elapsed Time (min)	Pumping Well Drawdown (ft)	Well 1 Drawdown (ft)	Well 9 Drawdown (ft)	Well 8 Drawdown (ft)
6.6	-4.029	-0.04	-0.101	-0.031
6.8	-3.95	-0.04	-0.114	-0.031
7.0	-4.029	-0.044	-0.12	-0.031
7.2	-4.029	-0.04	-0.107	-0.031
7.4	-4.394	-0.04	-0.107	-0.031
7.6	-4.013	-0.04	-0.101	-0.031
7.8	-4.013	-0.044	-0.101	-0.031
8.0	-4.156	-0.04	-0.095	-0.031
8.2	-3.997	-0.044	-0.095	-0.031
8.4	-4.235	-0.044	-0.095	-0.031
8.6	-4.061	-0.044	-0.101	-0.031
8.8	-4.188	-0.044	-0.101	-0.031
9	-4.204	-0.044	-0.101	-0.031
9.2	-3.982	-0.044	-0.101	-0.031
9.4	-4.267	-0.047	-0.107	-0.031
9.6	-3.982	-0.047	-0.107	-0.031
9.8	-4.14	-0.047	-0.107	-0.031
10	-4.267	-0.047	-0.107	-0.047
12	-4.093	-0.053	-0.133	-0.063
14	-4.077	-0.059	-0.158	-0.079
16	-4.077	-0.053	-0.145	-0.063
18	-4.204	-0.059	-0.145	-0.079
20	-4.14	-0.059	-0.145	-0.079
22	-4.156	-0.059	-0.145	-0.079
24	-4.108	-0.059	-0.158	-0.063
26	-4.267	-0.062	-0.171	-0.095
28	-4.093	-0.059	-0.152	-0.079
30	-4.315	-0.062	-0.171	-0.079
32	-4.093	-0.066	-0.196	-0.095
34	-3.934	-0.066	-0.177	-0.079
36	-4.394	-0.066	-0.171	-0.079
38	-4.235	-0.066	-0.171	-0.095
40	-4.156	-0.066	-0.177	-0.095
42	-4.188	-0.072	-0.202	-0.095
44	-4.41	-0.066	-0.177	-0.095
46	-4.156	-0.066	-0.171	-0.095

PW AND WELLS 1, 8, AND 9 DRAWDOWN DATA

Elapsed Time (min)	Pumping Well Drawdown (ft)	Well 1 Drawdown (ft)	Well 9 Drawdown (ft)	Well 8 Drawdown (ft)
48	-4.156	-0.069	-0.196	-0.095
50	-4.521	-0.069	-0.183	-0.095
52	-4.093	-0.072	-0.19	-0.095
54	-4.204	-0.075	-0.228	-0.111
56	-4.267	-0.072	-0.222	-0.111
58	-4.077	-0.072	-0.202	-0.111
60	-4.14	-0.069	-0.183	-0.079
62	-4.124	-0.072	-0.209	-0.111
64	-4.267	-0.072	-0.196	-0.095
66	-4.346	-0.072	-0.202	-0.095
68	-4.14	-0.072	-0.196	-0.111
70	-3.95	-0.072	-0.19	-0.111
72	-4.204	-0.075	-0.215	-0.095
74	-4.108	-0.078	-0.253	-0.111
76	-4.045	-0.078	-0.222	-0.111
78	-4.204	-0.075	-0.209	-0.111
80	-4.204	-0.078	-0.241	-0.111
82	-4.235	-0.078	-0.241	-0.111
84	-4.442	-0.078	-0.228	-0.127
86	-4.188	-0.078	-0.234	-0.111
88	-4.267	-0.078	-0.222	-0.111
90	-4.251	-0.078	-0.234	-0.111
92	-4.077	-0.078	-0.241	-0.111
94	-4.172	-0.078	-0.209	-0.111
96	-4.283	-0.078	-0.209	-0.127
98	-3.966	-0.081	-0.253	-0.111
100	-4.299	-0.081	-0.222	-0.127
110	-4.108	-0.085	-0.247	-0.127
120	-4.108	-0.085	-0.26	-0.127
130	-4.315	-0.088	-0.26	-0.127
140	-4.473	-0.088	-0.253	-0.127
150	-4.124	-0.091	-0.285	-0.143
160	-4.267	-0.094	-0.298	-0.143
170	-4.204	-0.094	-0.291	-0.143
180	-4.045	-0.097	-0.304	-0.159
190	-4.061	-0.097	-0.31	-0.159

PW AND WELLS 1, 8, AND 9 DRAWDOWN DATA

Elapsed Time (min)	Pumping Well Drawdown (ft)	Well 1 Drawdown (ft)	Well 9 Drawdown (ft)	Well 8 Drawdown (ft)
200	-4.013	-0.1	-0.323	-0.159
210	-4.362	-0.1	-0.336	-0.159
220	-4.267	-0.103	-0.317	-0.175
230	-4.331	-0.103	-0.317	-0.175
240	-4.283	-0.103	-0.31	-0.159
250	-4.299	-0.107	-0.329	-0.175
260	-4.505	-0.107	-0.336	-0.175
270	-4.251	-0.107	-0.342	-0.175
280	-4.489	-0.11	-0.342	-0.175
290	-4.315	-0.11	-0.342	-0.191
300	-4.061	-0.11	-0.348	-0.191
310	-4.331	-0.11	-0.348	-0.191
320	-4.41	-0.113	-0.361	-0.175
330	-4.093	-0.113	-0.361	-0.191
340	-4.331	-0.113	-0.361	-0.191
350	-4.283	-0.116	-0.367	-0.191
360	-4.442	-0.116	-0.367	-0.207
370	-4.346	-0.116	-0.367	-0.207
380	-4.267	-0.116	-0.374	-0.207
390	-4.251	-0.119	-0.234	-0.207
400	-4.315	-0.113	-0.38	-0.207
410	-4.188	-0.113	-0.386	-0.207
420	-4.299	-0.113	-0.386	-0.207
430	-4.156	-0.116	-0.386	-0.207
440	-4.077	-0.116	-0.393	-0.207
450	-4.489	-0.116	-0.399	-0.207
460	-4.362	-0.116	-0.405	-0.207
470	-4.077	-0.119	-0.399	-0.223
480	-4.473	-0.119	-0.405	-0.223
490	-4.394	-0.119	-0.412	-0.223
500	-4.124	-0.119	-0.412	-0.223
510	-4.204	-0.122	-0.412	-0.223
520	-4.108	-0.122	-0.418	-0.223
530	-4.188	-0.122	-0.418	-0.223
540	-4.251	-0.125	-0.425	-0.223
550	-4.188	-0.125	-0.425	-0.239

PW AND WELLS 1, 8, AND 9 DRAWDOWN DATA

Elapsed Time (min)	Pumping Well Drawdown (ft)	Well 1 Drawdown (ft)	Well 9 Drawdown (ft)	Well 8 Drawdown (ft)
560	-4.299	-0.125	-0.431	-0.223
570	-4.315	-0.122	-0.418	-0.207
580	-4.362	-0.125	-0.437	-0.223
590	-4.362	-0.125	-0.437	-0.223
600	-4.442	-0.129	-0.437	-0.239
610	-4.267	-0.129	-0.444	-0.239
620	-4.442	-0.129	-0.444	-0.239
630	-4.283	-0.132	-0.45	-0.239
640	-4.235	-0.129	-0.45	-0.239
650	-4.457	-0.132	-0.456	-0.239
660	-4.315	-0.132	-0.456	-0.239
670	-4.251	-0.132	-0.463	-0.239
680	-4.315	-0.132	-0.463	-0.239
690	-4.505	-0.135	-0.463	-0.239
700	-4.267	-0.135	-0.469	-0.239
710	-4.188	-0.135	-0.463	-0.255
720	-4.093	-0.135	-0.475	-0.255
730	-4.362	-0.135	-0.469	-0.255
740	-4.299	-0.138	-0.469	-0.255
750	-4.219	-0.138	-0.482	-0.255
760	-4.267	-0.138	-0.482	-0.255
770	-4.473	-0.138	-0.482	-0.255
780	-4.553	-0.138	-0.482	-0.255
790	-4.584	-0.138	-0.488	-0.255
800	-4.394	-0.138	-0.482	-0.271
810	-4.204	-0.141	-0.488	-0.271
820	-4.346	-0.141	-0.494	-0.255
830	-4.346	-0.138	-0.488	-0.239
840	-4.442	-0.141	-0.501	-0.255
850	-4.315	-0.141	-0.507	-0.271
860	-4.394	-0.141	-0.501	-0.271
870	-4.457	-0.144	-0.501	-0.271
880	-4.219	-0.144	-0.507	-0.271
890	-4.378	-0.144	-0.507	-0.271
900	-4.331	-0.144	-0.513	-0.271
910	-4.331	-0.144	-0.513	-0.271

PW AND WELLS 1, 8, AND 9 DRAWDOWN DATA

Elapsed Time (min)	Pumping Well Drawdown (ft)	Well 1 Drawdown (ft)	Well 9 Drawdown (ft)	Well 8 Drawdown (ft)
920	-4.346	-0.144	-0.513	-0.271
930	-4.426	-0.144	-0.513	-0.271
940	-4.331	-0.148	-0.52	-0.271
950	-4.378	-0.148	-0.52	-0.271
960	-4.299	-0.148	-0.52	-0.271
970	-4.156	-0.148	-0.526	-0.271
980	-4.331	-0.148	-0.526	-0.271
990	-4.378	-0.148	-0.52	-0.287
1000	-4.41	-0.151	-0.532	-0.287
1010	-4.204	-0.151	-0.526	-0.287
1020	-4.315	-0.151	-0.532	-0.287
1030	-4.457	-0.151	-0.532	-0.287
1040	-4.457	-0.151	-0.539	-0.287
1050	-4.632	-0.151	-0.539	-0.287
1060	-4.394	-0.151	-0.539	-0.287
1070	-4.442	-0.151	-0.545	-0.287
1080	-4.362	-0.154	-0.545	-0.287
1090	-4.568	-0.154	-0.545	-0.287
1100	-4.283	-0.154	-0.545	-0.287
1110	-4.521	-0.154	-0.545	-0.287
1120	-4.315	-0.154	-0.551	-0.287
1130	-4.299	-0.154	-0.551	-0.287
1140	-4.394	-0.154	-0.551	-0.287
1150	-4.426	-0.157	-0.551	-0.287
1160	-4.489	-0.157	-0.558	-0.287
1170	-4.442	-0.154	-0.558	-0.287
1180	-4.093	-0.157	-0.558	-0.287
1190	-4.299	-0.157	-0.564	-0.287
1200	-4.473	-0.157	-0.551	-0.303
1210	-4.473	-0.157	-0.564	-0.287
1220	-4.489	-0.157	-0.558	-0.303
1230	-4.568	-0.157	-0.57	-0.287
1240	-4.442	-0.157	-0.564	-0.303
1250	-4.521	-0.16	-0.577	-0.303
1260	-4.378	-0.157	-0.564	-0.287
1270	-4.331	-0.16	-0.577	-0.303

PW AND WELLS 1, 8, AND 9 DRAWDOWN DATA

Elapsed Time (min)	Pumping Well Drawdown (ft)	Well 1 Drawdown (ft)	Well 9 Drawdown (ft)	Well 8 Drawdown (ft)
1280	-4.378	-0.16	-0.583	-0.303
1290	-4.378	-0.16	-0.583	-0.319
1300	-4.204	-0.16	-0.583	-0.303
1310	-4.283	-0.163	-0.583	-0.303
1320	-4.394	-0.16	-0.583	-0.303
1330	-4.346	-0.163	-0.589	-0.303
1340	-4.219	-0.163	-0.589	-0.303
1350	-4.267	-0.163	-0.589	-0.303
1360	-4.553	-0.163	-0.596	-0.319
1370	-4.378	-0.163	-0.589	-0.303
1380	-4.346	-0.163	-0.596	-0.303
1390	-4.41	-0.163	-0.596	-0.303
1400	-4.331	-0.166	-0.596	-0.319
1410	-4.457	-0.166	-0.602	-0.319
1420	-4.41	-0.166	-0.602	-0.319
1430	-4.362	-0.166	-0.596	-0.319
1440	-4.394	-0.166	-0.596	-0.319
1450	-4.759	-0.166	-0.602	-0.303
1460	-4.394	-0.17	-0.602	-0.319
1470	-4.315	-0.166	-0.608	-0.319
1480	-4.489	-0.17	-0.615	-0.319
1490	-4.346	-0.17	-0.608	-0.319
1500	-4.362	-0.166	-0.615	-0.319
1510	-4.426	-0.17	-0.615	-0.319
1520	-4.521	-0.17	-0.621	-0.319
1530	-4.346	-0.17	-0.615	-0.319
1540	-4.568	-0.17	-0.608	-0.319
1550	-4.41	-0.17	-0.608	-0.319
1560	-4.537	-0.17	-0.608	-0.319
1570	-4.315	-0.173	-0.634	-0.319
1580	-4.505	-0.17	-0.608	-0.319
1590	-4.473	-0.17	-0.621	-0.319
1600	-4.489	-0.17	-0.615	-0.319

Raw Data

FT-MW-02-I DRAWDOWN DATA

Date & Time	Depth (ft)	Elapsed Time (min)	Drawdown (ft)
10-25 08:48	-1.26	0	0
10-25 09:03	-1.26	15	0
10-25 09:18	-1.25	30	-0.01
10-25 09:33	-1.26	45	0
10-25 09:48	-1.255	60	-0.005
10-25 10:03	-1.265	75	0.005
10-25 10:18	-1.265	90	0.005
10-25 10:33	-1.276	105	0.016
10-25 10:48	-1.286	120	0.026
10-25 11:03	-1.133	135	-0.127
10-25 11:18	-1.153	150	-0.107
10-25 11:33	-1.041	165	-0.219
10-25 11:48	-1.031	180	-0.229
10-25 12:03	-1.02	195	-0.24
10-25 12:18	-1.02	210	-0.24
10-25 12:33	-1.01	225	-0.25
10-25 12:48	-1.031	240	-0.229
10-25 13:03	-1.01	255	-0.25
10-25 13:18	-1.01	270	-0.25
10-25 13:33	-1	285	-0.26
10-25 13:48	-0.99	300	-0.27
10-25 14:03	-1	315	-0.26
10-25 14:18	-0.99	330	-0.27
10-25 14:33	-0.99	345	-0.27
10-25 14:48	-0.979	360	-0.281
10-25 15:03	-0.979	375	-0.281
10-25 15:18	-0.979	390	-0.281
10-25 15:33	-0.969	405	-0.291
10-25 15:48	-0.969	420	-0.291
10-25 16:03	-0.979	435	-0.281
10-25 16:18	-0.979	450	-0.281
10-25 16:33	-0.979	465	-0.281
10-25 16:48	-0.959	480	-0.301
10-25 17:03	-0.969	495	-0.291
10-25 17:18	-0.979	510	-0.281
10-25 17:33	-0.969	525	-0.291
10-25 17:48	-0.969	540	-0.291
10-25 18:03	-0.969	555	-0.291
10-25 18:18	-0.969	570	-0.291

FT-MW-02-I DRAWDOWN DATA

Date & Time	Depth (ft)	Elapsed Time (min)	Drawdown (ft)
10-25 18:33	-0.959	585	-0.301
10-25 18:48	-0.959	600	-0.301
10-25 19:03	-0.949	615	-0.311
10-25 19:18	-0.949	630	-0.311
10-25 19:33	-0.928	645	-0.332
10-25 19:48	-0.939	660	-0.321
10-25 20:03	-0.928	675	-0.332
10-25 20:18	-0.928	690	-0.332
10-25 20:33	-0.928	705	-0.332
10-25 20:48	-0.949	720	-0.311
10-25 21:03	-0.949	735	-0.311
10-25 21:18	-0.918	750	-0.342
10-25 21:33	-0.918	765	-0.342
10-25 21:48	-0.918	780	-0.342
10-25 22:03	-0.928	795	-0.332
10-25 22:18	-0.908	810	-0.352
10-25 22:33	-0.928	825	-0.332
10-25 22:48	-0.928	840	-0.332
10-25 23:03	-0.928	855	-0.332
10-25 23:18	-0.918	870	-0.342
10-25 23:33	-0.918	885	-0.342
10-25 23:48	-0.908	900	-0.352
10-26 00:03	-0.908	915	-0.352
10-26 00:18	-0.918	930	-0.342
10-26 00:33	-0.898	945	-0.362
10-26 00:48	-0.908	960	-0.352
10-26 01:03	-0.908	975	-0.352
10-26 01:18	-0.898	990	-0.362
10-26 01:33	-0.918	1005	-0.342
10-26 01:48	-0.908	1020	-0.352
10-26 02:03	-0.898	1035	-0.362
10-26 02:18	-0.898	1050	-0.362
10-26 02:33	-0.898	1065	-0.362
10-26 02:48	-0.908	1080	-0.352
10-26 03:03	-0.898	1095	-0.362
10-26 03:18	-0.898	1110	-0.362
10-26 03:33	-0.898	1125	-0.362
10-26 03:48	-0.898	1140	-0.362
10-26 04:03	-0.898	1155	-0.362

FT-MW-02-I DRAWDOWN DATA

Date & Time	Depth (ft)	Elapsed Time (min)	Drawdown (ft)
10-26 04:18	-0.898	1170	-0.362
10-26 04:33	-0.888	1185	-0.372
10-26 04:48	-0.898	1200	-0.362
10-26 05:03	-0.888	1215	-0.372
10-26 05:18	-0.888	1230	-0.372
10-26 05:33	-0.877	1245	-0.383
10-26 05:48	-0.877	1260	-0.383
10-26 06:03	-0.888	1275	-0.372
10-26 06:18	-0.888	1290	-0.372
10-26 06:33	-0.877	1305	-0.383
10-26 06:48	-0.877	1320	-0.383
10-26 07:03	-0.877	1335	-0.383
10-26 07:18	-0.888	1350	-0.372
10-26 07:33	-0.888	1365	-0.372
10-26 07:48	-0.888	1380	-0.372
10-26 08:03	-0.877	1395	-0.383
10-26 08:18	-0.877	1410	-0.383
10-26 08:33	-0.888	1425	-0.372
10-26 08:48	-0.877	1440	-0.383
10-26 09:03	-0.877	1455	-0.383
10-26 09:18	-0.857	1470	-0.403
10-26 09:33	-0.857	1485	-0.403
10-26 09:48	-0.862	1500	-0.398
10-26 10:03	-0.872	1515	-0.388
10-26 10:18	-0.872	1530	-0.388
10-26 10:33	-0.862	1545	-0.398
10-26 10:48	-0.867	1560	-0.393
10-26 11:03	-0.877	1575	-0.383
10-26 11:18	-0.867	1590	-0.393
10-26 11:33	-0.867	1605	-0.393
10-26 11:48	-0.857	1620	-0.403

Raw Data

FT-MW-02-I DRAWDOWN DATA

Date & Time	Depth (ft)	Elapsed Time (min)	Drawdown (ft)
10-25 08:48	-1.26	0	0
10-25 09:03	-1.26	15	0
10-25 09:18	-1.25	30	-0.01
10-25 09:33	-1.26	45	0
10-25 09:48	-1.255	60	-0.005
10-25 10:03	-1.265	75	0.005
10-25 10:18	-1.265	90	0.005
10-25 10:33	-1.276	105	0.016
10-25 10:48	-1.286	120	0.026
10-25 11:03	-1.133	135	-0.127
10-25 11:18	-1.153	150	-0.107
10-25 11:33	-1.041	165	-0.219
10-25 11:48	-1.031	180	-0.229
10-25 12:03	-1.02	195	-0.24
10-25 12:18	-1.02	210	-0.24
10-25 12:33	-1.01	225	-0.25
10-25 12:48	-1.031	240	-0.229
10-25 13:03	-1.01	255	-0.25
10-25 13:18	-1.01	270	-0.25
10-25 13:33	-1	285	-0.26
10-25 13:48	-0.99	300	-0.27
10-25 14:03	-1	315	-0.26
10-25 14:18	-0.99	330	-0.27
10-25 14:33	-0.99	345	-0.27
10-25 14:48	-0.979	360	-0.281
10-25 15:03	-0.979	375	-0.281
10-25 15:18	-0.979	390	-0.281
10-25 15:33	-0.969	405	-0.291
10-25 15:48	-0.969	420	-0.291
10-25 16:03	-0.979	435	-0.281
10-25 16:18	-0.979	450	-0.281
10-25 16:33	-0.979	465	-0.281
10-25 16:48	-0.959	480	-0.301
10-25 17:03	-0.969	495	-0.291
10-25 17:18	-0.979	510	-0.281
10-25 17:33	-0.969	525	-0.291
10-25 17:48	-0.969	540	-0.291
10-25 18:03	-0.969	555	-0.291
10-25 18:18	-0.969	570	-0.291

FT-MW-02-I DRAWDOWN DATA

Date & Time	Depth (ft)	Elapsed Time (min)	Drawdown (ft)
10-25 18:33	-0.959	585	-0.301
10-25 18:48	-0.959	600	-0.301
10-25 19:03	-0.949	615	-0.311
10-25 19:18	-0.949	630	-0.311
10-25 19:33	-0.928	645	-0.332
10-25 19:48	-0.939	660	-0.321
10-25 20:03	-0.928	675	-0.332
10-25 20:18	-0.928	690	-0.332
10-25 20:33	-0.928	705	-0.332
10-25 20:48	-0.949	720	-0.311
10-25 21:03	-0.949	735	-0.311
10-25 21:18	-0.918	750	-0.342
10-25 21:33	-0.918	765	-0.342
10-25 21:48	-0.918	780	-0.342
10-25 22:03	-0.928	795	-0.332
10-25 22:18	-0.908	810	-0.352
10-25 22:33	-0.928	825	-0.332
10-25 22:48	-0.928	840	-0.332
10-25 23:03	-0.928	855	-0.332
10-25 23:18	-0.918	870	-0.342
10-25 23:33	-0.918	885	-0.342
10-25 23:48	-0.908	900	-0.352
10-26 00:03	-0.908	915	-0.352
10-26 00:18	-0.918	930	-0.342
10-26 00:33	-0.898	945	-0.362
10-26 00:48	-0.908	960	-0.352
10-26 01:03	-0.908	975	-0.352
10-26 01:18	-0.898	990	-0.362
10-26 01:33	-0.918	1005	-0.342
10-26 01:48	-0.908	1020	-0.352
10-26 02:03	-0.898	1035	-0.362
10-26 02:18	-0.898	1050	-0.362
10-26 02:33	-0.898	1065	-0.362
10-26 02:48	-0.908	1080	-0.352
10-26 03:03	-0.898	1095	-0.362
10-26 03:18	-0.898	1110	-0.362
10-26 03:33	-0.898	1125	-0.362
10-26 03:48	-0.898	1140	-0.362
10-26 04:03	-0.898	1155	-0.362

FT-MW-02-I DRAWDOWN DATA

Date & Time	Depth (ft)	Elapsed Time (min)	Drawdown (ft)
10-26 04:18	-0.898	1170	-0.362
10-26 04:33	-0.888	1185	-0.372
10-26 04:48	-0.898	1200	-0.362
10-26 05:03	-0.888	1215	-0.372
10-26 05:18	-0.888	1230	-0.372
10-26 05:33	-0.877	1245	-0.383
10-26 05:48	-0.877	1260	-0.383
10-26 06:03	-0.888	1275	-0.372
10-26 06:18	-0.888	1290	-0.372
10-26 06:33	-0.877	1305	-0.383
10-26 06:48	-0.877	1320	-0.383
10-26 07:03	-0.877	1335	-0.383
10-26 07:18	-0.888	1350	-0.372
10-26 07:33	-0.888	1365	-0.372
10-26 07:48	-0.888	1380	-0.372
10-26 08:03	-0.877	1395	-0.383
10-26 08:18	-0.877	1410	-0.383
10-26 08:33	-0.888	1425	-0.372
10-26 08:48	-0.877	1440	-0.383
10-26 09:03	-0.877	1455	-0.383
10-26 09:18	-0.857	1470	-0.403
10-26 09:33	-0.857	1485	-0.403
10-26 09:48	-0.862	1500	-0.398
10-26 10:03	-0.872	1515	-0.388
10-26 10:18	-0.872	1530	-0.388
10-26 10:33	-0.862	1545	-0.398
10-26 10:48	-0.867	1560	-0.393
10-26 11:03	-0.877	1575	-0.383
10-26 11:18	-0.867	1590	-0.393
10-26 11:33	-0.867	1605	-0.393
10-26 11:48	-0.857	1620	-0.403

Raw Data

FT-MW-02-S DRAWDOWN DATA

Date & Time	Depth (ft)	Elapsed Time (min)	Drawdown (ft)
10-25 08:43	1.253	0	0
10-25 08:58	1.232	15	0.021
10-25 09:13	1.232	30	0.021
10-25 09:28	1.242	45	0.011
10-25 09:43	1.238	60	0.015
10-25 09:58	1.248	75	0.005
10-25 10:13	1.238	90	0.015
10-25 10:28	1.228	105	0.025
10-25 10:43	1.248	120	0.005
10-25 10:58	1.248	135	0.005
10-25 11:13	1.248	150	0.005
10-25 11:28	1.269	165	-0.016
10-25 11:43	1.289	180	-0.036
10-25 11:58	1.279	195	-0.026
10-25 12:13	1.3	210	-0.047
10-25 12:28	1.289	225	-0.036
10-25 12:43	1.289	240	-0.036
10-25 12:58	1.31	255	-0.057
10-25 13:13	1.289	270	-0.036
10-25 13:28	1.3	285	-0.047
10-25 13:43	1.31	300	-0.057
10-25 13:58	1.32	315	-0.067
10-25 14:13	1.33	330	-0.077
10-25 14:28	1.33	345	-0.077
10-25 14:43	1.34	360	-0.087
10-25 14:58	1.34	375	-0.087
10-25 15:13	1.34	390	-0.087
10-25 15:28	1.34	405	-0.087
10-25 15:43	1.34	420	-0.087
10-25 15:58	1.35	435	-0.097
10-25 16:13	1.34	450	-0.087
10-25 16:28	1.35	465	-0.097
10-25 16:43	1.35	480	-0.097
10-25 16:58	1.35	495	-0.097
10-25 17:13	1.361	510	-0.108
10-25 17:28	1.371	525	-0.118
10-25 17:43	1.361	540	-0.108
10-25 17:58	1.371	555	-0.118
10-25 18:13	1.361	570	-0.108

FT-MW-02-S DRAWDOWN DATA

Date & Time	Depth (ft)	Elapsed Time (min)	Drawdown (ft)
10-25 18:28	1.381	585	-0.128
10-25 18:43	1.361	600	-0.108
10-25 18:58	1.361	615	-0.108
10-25 19:13	1.371	630	-0.118
10-25 19:28	1.371	645	-0.118
10-25 19:43	1.371	660	-0.118
10-25 19:58	1.361	675	-0.108
10-25 20:13	1.351	690	-0.098
10-25 20:28	1.371	705	-0.118
10-25 20:43	1.381	720	-0.128
10-25 20:58	1.391	735	-0.138
10-25 21:13	1.391	750	-0.138
10-25 21:28	1.371	765	-0.118
10-25 21:43	1.391	780	-0.138
10-25 21:58	1.391	795	-0.138
10-25 22:13	1.391	810	-0.138
10-25 22:28	1.402	825	-0.149
10-25 22:43	1.381	840	-0.128
10-25 22:58	1.391	855	-0.138
10-25 23:13	1.391	870	-0.138
10-25 23:28	1.402	885	-0.149
10-25 23:43	1.422	900	-0.169
10-25 23:58	1.402	915	-0.149
10-26 00:13	1.412	930	-0.159
10-26 00:28	1.412	945	-0.159
10-26 00:43	1.402	960	-0.149
10-26 00:58	1.402	975	-0.149
10-26 01:13	1.412	990	-0.159
10-26 01:28	1.412	1005	-0.159
10-26 01:43	1.412	1020	-0.159
10-26 01:58	1.432	1035	-0.179
10-26 02:13	1.422	1050	-0.169
10-26 02:28	1.422	1065	-0.169
10-26 02:43	1.422	1080	-0.169
10-26 02:58	1.412	1095	-0.159
10-26 03:13	1.412	1110	-0.159
10-26 03:28	1.402	1125	-0.149
10-26 03:43	1.422	1140	-0.169
10-26 03:58	1.402	1155	-0.149

FT-MW-02-S DRAWDOWN DATA

Date & Time	Depth (ft)	Elapsed Time (min)	Drawdown (ft)
10-26 04:13	1.422	1170	-0.169
10-26 04:28	1.402	1185	-0.149
10-26 04:43	1.432	1200	-0.179
10-26 04:58	1.412	1215	-0.159
10-26 05:13	1.422	1230	-0.169
10-26 05:28	1.432	1245	-0.179
10-26 05:43	1.402	1260	-0.149
10-26 05:58	1.422	1275	-0.169
10-26 06:13	1.402	1290	-0.149
10-26 06:28	1.412	1305	-0.159
10-26 06:43	1.422	1320	-0.169
10-26 06:58	1.422	1335	-0.169
10-26 07:13	1.432	1350	-0.179
10-26 07:28	1.412	1365	-0.159
10-26 07:43	1.432	1380	-0.179
10-26 07:58	1.453	1395	-0.2
10-26 08:13	1.442	1410	-0.189
10-26 08:28	1.422	1425	-0.169
10-26 08:43	1.432	1440	-0.179
10-26 08:58	1.432	1455	-0.179
10-26 09:13	1.432	1470	-0.179
10-26 09:28	1.442	1485	-0.189
10-26 09:43	1.457	1500	-0.204
10-26 09:58	1.447	1515	-0.194
10-26 10:13	1.436	1530	-0.183
10-26 10:28	1.447	1545	-0.194
10-26 10:43	1.442	1560	-0.189
10-26 10:58	1.473	1575	-0.22
10-26 11:13	1.442	1590	-0.189
10-26 11:28	1.442	1605	-0.189
10-26 11:43	1.442	1620	-0.189

Raw Data

FT-MW-02-S DRAWDOWN DATA

Date & Time	Depth (ft)	Elapsed Time (min)	Drawdown (ft)
10-25 08:43	1.253	0	0
10-25 08:58	1.232	15	0.021
10-25 09:13	1.232	30	0.021
10-25 09:28	1.242	45	0.011
10-25 09:43	1.238	60	0.015
10-25 09:58	1.248	75	0.005
10-25 10:13	1.238	90	0.015
10-25 10:28	1.228	105	0.025
10-25 10:43	1.248	120	0.005
10-25 10:58	1.248	135	0.005
10-25 11:13	1.248	150	0.005
10-25 11:28	1.269	165	-0.016
10-25 11:43	1.289	180	-0.036
10-25 11:58	1.279	195	-0.026
10-25 12:13	1.3	210	-0.047
10-25 12:28	1.289	225	-0.036
10-25 12:43	1.289	240	-0.036
10-25 12:58	1.31	255	-0.057
10-25 13:13	1.289	270	-0.036
10-25 13:28	1.3	285	-0.047
10-25 13:43	1.31	300	-0.057
10-25 13:58	1.32	315	-0.067
10-25 14:13	1.33	330	-0.077
10-25 14:28	1.33	345	-0.077
10-25 14:43	1.34	360	-0.087
10-25 14:58	1.34	375	-0.087
10-25 15:13	1.34	390	-0.087
10-25 15:28	1.34	405	-0.087
10-25 15:43	1.34	420	-0.087
10-25 15:58	1.35	435	-0.097
10-25 16:13	1.34	450	-0.087
10-25 16:28	1.35	465	-0.097
10-25 16:43	1.35	480	-0.097
10-25 16:58	1.35	495	-0.097
10-25 17:13	1.361	510	-0.108
10-25 17:28	1.371	525	-0.118
10-25 17:43	1.361	540	-0.108
10-25 17:58	1.371	555	-0.118
10-25 18:13	1.361	570	-0.108

FT-MW-02-S DRAWDOWN DATA

Date & Time	Depth (ft)	Elapsed Time (min)	Drawdown (ft)
10-25 18:28	1.381	585	-0.128
10-25 18:43	1.361	600	-0.108
10-25 18:58	1.361	615	-0.108
10-25 19:13	1.371	630	-0.118
10-25 19:28	1.371	645	-0.118
10-25 19:43	1.371	660	-0.118
10-25 19:58	1.361	675	-0.108
10-25 20:13	1.351	690	-0.098
10-25 20:28	1.371	705	-0.118
10-25 20:43	1.381	720	-0.128
10-25 20:58	1.391	735	-0.138
10-25 21:13	1.391	750	-0.138
10-25 21:28	1.371	765	-0.118
10-25 21:43	1.391	780	-0.138
10-25 21:58	1.391	795	-0.138
10-25 22:13	1.391	810	-0.138
10-25 22:28	1.402	825	-0.149
10-25 22:43	1.381	840	-0.128
10-25 22:58	1.391	855	-0.138
10-25 23:13	1.391	870	-0.138
10-25 23:28	1.402	885	-0.149
10-25 23:43	1.422	900	-0.169
10-25 23:58	1.402	915	-0.149
10-26 00:13	1.412	930	-0.159
10-26 00:28	1.412	945	-0.159
10-26 00:43	1.402	960	-0.149
10-26 00:58	1.402	975	-0.149
10-26 01:13	1.412	990	-0.159
10-26 01:28	1.412	1005	-0.159
10-26 01:43	1.412	1020	-0.159
10-26 01:58	1.432	1035	-0.179
10-26 02:13	1.422	1050	-0.169
10-26 02:28	1.422	1065	-0.169
10-26 02:43	1.422	1080	-0.169
10-26 02:58	1.412	1095	-0.159
10-26 03:13	1.412	1110	-0.159
10-26 03:28	1.402	1125	-0.149
10-26 03:43	1.422	1140	-0.169
10-26 03:58	1.402	1155	-0.149

FT-MW-02-S DRAWDOWN DATA

Date & Time	Depth (ft)	Elapsed Time (min)	Drawdown (ft)
10-26 04:13	1.422	1170	-0.169
10-26 04:28	1.402	1185	-0.149
10-26 04:43	1.432	1200	-0.179
10-26 04:58	1.412	1215	-0.159
10-26 05:13	1.422	1230	-0.169
10-26 05:28	1.432	1245	-0.179
10-26 05:43	1.402	1260	-0.149
10-26 05:58	1.422	1275	-0.169
10-26 06:13	1.402	1290	-0.149
10-26 06:28	1.412	1305	-0.159
10-26 06:43	1.422	1320	-0.169
10-26 06:58	1.422	1335	-0.169
10-26 07:13	1.432	1350	-0.179
10-26 07:28	1.412	1365	-0.159
10-26 07:43	1.432	1380	-0.179
10-26 07:58	1.453	1395	-0.2
10-26 08:13	1.442	1410	-0.189
10-26 08:28	1.422	1425	-0.169
10-26 08:43	1.432	1440	-0.179
10-26 08:58	1.432	1455	-0.179
10-26 09:13	1.432	1470	-0.179
10-26 09:28	1.442	1485	-0.189
10-26 09:43	1.457	1500	-0.204
10-26 09:58	1.447	1515	-0.194
10-26 10:13	1.436	1530	-0.183
10-26 10:28	1.447	1545	-0.194
10-26 10:43	1.442	1560	-0.189
10-26 10:58	1.473	1575	-0.22
10-26 11:13	1.442	1590	-0.189
10-26 11:28	1.442	1605	-0.189
10-26 11:43	1.442	1620	-0.189

FT-MW-04-S DRAWDOWN DATA

Elapsed Time (min)	Drawdown (ft)
0.1433	0
0.1466	0
0.1500	0
0.1533	0
0.1566	0
0.1600	0
0.1633	0
0.1666	0
0.1700	0
0.1733	0
0.1766	0
0.1800	0
0.1833	0
0.1866	0
0.1900	0
0.1933	0
0.1966	0
0.2000	0
0.2033	0
0.2066	0
0.2100	0
0.2133	0
0.2166	0
0.2200	0
0.2233	0
0.2266	0
0.2300	0
0.2333	0
0.2366	0
0.2400	0
0.2433	0
0.2466	0
0.2500	0
0.2533	0
0.2566	0
0.2600	0
0.2633	0
0.2666	0
0.2700	0
0.2733	0
0.2766	0
0.2800	0
0.2833	0

FT-MW-04-S DRAWDOWN DATA

Elapsed Time (min)	Drawdown (ft)
0.2866	0
0.2900	0
0.2933	0
0.2966	0
0.3000	0
0.3033	0
0.3066	0
0.3100	0
0.3133	0
0.3166	0
0.3200	-0.003
0.3233	0
0.3266	0
0.3300	0
0.3333	0
0.3500	0
0.3666	-0.003
0.3833	-0.003
0.4000	-0.003
0.4166	-0.003
0.4333	-0.003
0.4500	0
0.4666	0
0.4833	-0.003
0.5000	0
0.5166	0
0.5333	0
0.5500	-0.003
0.5666	0
0.5833	0
0.6000	-0.003
0.6166	0
0.6333	0
0.6500	0
0.6666	-0.003
0.6833	-0.003
0.7000	0
0.7166	-0.003
0.7333	-0.003
0.7500	0
0.7666	0
0.7833	0
0.8000	0

FT-MW-04-S DRAWDOWN DATA

Elapsed Time (min)	Drawdown (ft)
0.8166	-0.003
0.8333	0
0.8500	0
0.8666	-0.003
0.8833	0
0.9000	0
0.9166	-0.003
0.9333	0
0.9500	0
0.9666	0
0.9833	0
1.0	0
1.2	0
1.4	-0.003
1.6	0
1.8	-0.003
2.0	-0.003
2.2	-0.003
2.4	-0.003
2.6	-0.003
2.8	-0.003
3.0	-0.003
3.2	-0.003
3.4	-0.006
3.6	-0.006
3.8	-0.003
4.0	-0.006
4.2	-0.006
4.4	-0.006
4.6	-0.006
4.8	-0.006
5.0	-0.006
5.2	-0.006
5.4	-0.006
5.6	-0.006
5.8	-0.006
6.0	-0.006
6.2	-0.006
6.4	-0.006
6.6	-0.006
6.8	-0.006
7.0	-0.006
7.2	-0.006

FT-MW-04-S DRAWDOWN DATA

Elapsed Time (min)	Drawdown (ft)
7.4	-0.006
7.6	-0.006
7.8	-0.006
8.0	-0.006
8.2	-0.006
8.4	-0.006
8.6	-0.006
8.8	-0.006
9.0	-0.006
9.2	-0.006
9.4	-0.006
9.6	-0.006
9.8	-0.009
10	-0.006
12	-0.009
14	-0.009
16	-0.009
18	-0.009
20	-0.012
22	-0.012
24	-0.015
26	-0.012
28	-0.015
30	-0.018
32	-0.018
34	-0.015
36	-0.015
38	-0.018
40	-0.018
42	-0.015
44	-0.018
46	-0.022
48	-0.018
50	-0.018
52	-0.025
54	-0.025
56	-0.025
58	-0.022
60	-0.028
62	-0.025
64	-0.022
66	-0.022
68	-0.025

FT-MW-04-S DRAWDOWN DATA

Elapsed Time (min)	Drawdown (ft)
70	-0.025
72	-0.028
74	-0.028
76	-0.025
78	-0.028
80	-0.028
82	-0.025
84	-0.025
86	-0.028
88	-0.031
90	-0.031
92	-0.031
94	-0.031
96	-0.031
98	-0.031
100	-0.034
115	-0.034
130	-0.037
145	-0.041
160	-0.047
175	-0.047
190	-0.05
205	-0.053
220	-0.056
235	-0.06
250	-0.063
265	-0.066
280	-0.069
295	-0.072
310	-0.072
325	-0.075
340	-0.075
355	-0.079
370	-0.082
385	-0.082
400	-0.085
415	-0.088
430	-0.088
445	-0.091
460	-0.094
475	-0.094
490	-0.098
505	-0.098

FT-MW-04-S DRAWDOWN DATA

Elapsed Time (min)	Drawdown (ft)
520	-0.101
535	-0.104
550	-0.104
565	-0.107
580	-0.107
595	-0.11
610	-0.11
625	-0.113
640	-0.113
655	-0.117
670	-0.117
685	-0.12
700	-0.12
715	-0.12
730	-0.123
745	-0.126
760	-0.126
775	-0.126
790	-0.129
805	-0.129
820	-0.132
835	-0.132
850	-0.136
865	-0.136
880	-0.136
895	-0.139
910	-0.139
925	-0.142
940	-0.142
955	-0.142
970	-0.145
985	-0.145
1000	-0.145
1015	-0.148
1030	-0.152
1045	-0.152
1060	-0.152
1075	-0.152
1090	-0.155
1105	-0.155
1120	-0.155
1135	-0.158
1150	-0.158

FT-MW-04-S DRAWDOWN DATA

Elapsed Time (min)	Drawdown (ft)
1165	-0.161
1180	-0.161
1195	-0.161
1210	-0.161
1225	-0.164
1240	-0.164
1255	-0.167
1270	-0.167
1285	-0.167
1300	-0.17
1315	-0.17
1330	-0.17
1345	-0.174
1360	-0.174
1375	-0.174
1390	-0.177
1405	-0.177
1420	-0.18
1435	-0.18
1450	-0.18
1465	-0.18
1480	-0.18
1495	-0.183
1510	-0.183
1525	-0.186
1540	-0.186
1555	-0.186
1570	-0.186
1585	-0.186
1600	-0.19

FT-MW-04-S DRAWDOWN DATA

Elapsed Time (min)	Drawdown (ft)
520	-0.101
535	-0.104
550	-0.104
565	-0.107
580	-0.107
595	-0.11
610	-0.11
625	-0.113
640	-0.113
655	-0.117
670	-0.117
685	-0.12
700	-0.12
715	-0.12
730	-0.123
745	-0.126
760	-0.126
775	-0.126
790	-0.129
805	-0.129
820	-0.132
835	-0.132
850	-0.136
865	-0.136
880	-0.136
895	-0.139
910	-0.139
925	-0.142
940	-0.142
955	-0.142
970	-0.145
985	-0.145
1000	-0.145
1015	-0.148
1030	-0.152
1045	-0.152
1060	-0.152
1075	-0.152
1090	-0.155
1105	-0.155
1120	-0.155
1135	-0.158
1150	-0.158

FT-MW-04-S DRAWDOWN DATA

Elapsed Time (min)	Drawdown (ft)
1165	-0.161
1180	-0.161
1195	-0.161
1210	-0.161
1225	-0.164
1240	-0.164
1255	-0.167
1270	-0.167
1285	-0.167
1300	-0.17
1315	-0.17
1330	-0.17
1345	-0.174
1360	-0.174
1375	-0.174
1390	-0.177
1405	-0.177
1420	-0.18
1435	-0.18
1450	-0.18
1465	-0.18
1480	-0.18
1495	-0.183
1510	-0.183
1525	-0.186
1540	-0.186
1555	-0.186
1570	-0.186
1585	-0.186
1600	-0.19

FT-MW-04-S DRAWDOWN DATA

Elapsed Time (min)	Drawdown (ft)
0.1433	0
0.1466	0
0.1500	0
0.1533	0
0.1566	0
0.1600	0
0.1633	0
0.1666	0
0.1700	0
0.1733	0
0.1766	0
0.1800	0
0.1833	0
0.1866	0
0.1900	0
0.1933	0
0.1966	0
0.2000	0
0.2033	0
0.2066	0
0.2100	0
0.2133	0
0.2166	0
0.2200	0
0.2233	0
0.2266	0
0.2300	0
0.2333	0
0.2366	0
0.2400	0
0.2433	0
0.2466	0
0.2500	0
0.2533	0
0.2566	0
0.2600	0
0.2633	0
0.2666	0
0.2700	0
0.2733	0
0.2766	0
0.2800	0
0.2833	0

FT-MW-04-S DRAWDOWN DATA

Elapsed Time (min)	Drawdown (ft)
0.2866	0
0.2900	0
0.2933	0
0.2966	0
0.3000	0
0.3033	0
0.3066	0
0.3100	0
0.3133	0
0.3166	0
0.3200	-0.003
0.3233	0
0.3266	0
0.3300	0
0.3333	0
0.3500	0
0.3666	-0.003
0.3833	-0.003
0.4000	-0.003
0.4166	-0.003
0.4333	-0.003
0.4500	0
0.4666	0
0.4833	-0.003
0.5000	0
0.5166	0
0.5333	0
0.5500	-0.003
0.5666	0
0.5833	0
0.6000	-0.003
0.6166	0
0.6333	0
0.6500	0
0.6666	-0.003
0.6833	-0.003
0.7000	0
0.7166	-0.003
0.7333	-0.003
0.7500	0
0.7666	0
0.7833	0
0.8000	0

FT-MW-04-S DRAWDOWN DATA

Elapsed Time (min)	Drawdown (ft)
0.8166	-0.003
0.8333	0
0.8500	0
0.8666	-0.003
0.8833	0
0.9000	0
0.9166	-0.003
0.9333	0
0.9500	0
0.9666	0
0.9833	0
1.0	0
1.2	0
1.4	-0.003
1.6	0
1.8	-0.003
2.0	-0.003
2.2	-0.003
2.4	-0.003
2.6	-0.003
2.8	-0.003
3.0	-0.003
3.2	-0.003
3.4	-0.006
3.6	-0.006
3.8	-0.003
4.0	-0.006
4.2	-0.006
4.4	-0.006
4.6	-0.006
4.8	-0.006
5.0	-0.006
5.2	-0.006
5.4	-0.006
5.6	-0.006
5.8	-0.006
6.0	-0.006
6.2	-0.006
6.4	-0.006
6.6	-0.006
6.8	-0.006
7.0	-0.006
7.2	-0.006

FT-MW-04-S DRAWDOWN DATA

Elapsed Time (min)	Drawdown (ft)
7.4	-0.006
7.6	-0.006
7.8	-0.006
8.0	-0.006
8.2	-0.006
8.4	-0.006
8.6	-0.006
8.8	-0.006
9.0	-0.006
9.2	-0.006
9.4	-0.006
9.6	-0.006
9.8	-0.009
10	-0.006
12	-0.009
14	-0.009
16	-0.009
18	-0.009
20	-0.012
22	-0.012
24	-0.015
26	-0.012
28	-0.015
30	-0.018
32	-0.018
34	-0.015
36	-0.015
38	-0.018
40	-0.018
42	-0.015
44	-0.018
46	-0.022
48	-0.018
50	-0.018
52	-0.025
54	-0.025
56	-0.025
58	-0.022
60	-0.028
62	-0.025
64	-0.022
66	-0.022
68	-0.025

FT-MW-01-I DRAWDOWN DATA

Date & Time	Depth (ft)	Elapsed Time (min)	Drawdown (ft)
10-26 04:29	-0.744	1170	0.017
10-26 04:44	-0.728	1185	0.001
10-26 04:59	-0.713	1200	-0.014
10-26 05:14	-0.728	1215	0.001
10-26 05:29	-0.744	1230	0.017
10-26 05:44	-0.728	1245	0.001
10-26 05:59	-0.728	1260	0.001
10-26 06:14	-0.728	1275	0.001
10-26 06:29	-0.713	1290	-0.014
10-26 06:44	-0.713	1305	-0.014
10-26 06:59	-0.728	1320	0.001
10-26 07:14	-0.728	1335	0.001
10-26 07:29	-0.728	1350	0.001
10-26 07:44	-0.728	1365	0.001
10-26 07:59	-0.728	1380	0.001
10-26 08:14	-0.728	1395	0.001
10-26 08:29	-0.728	1410	0.001
10-26 08:44	-0.682	1425	-0.045
10-26 08:59	-0.667	1440	-0.06
10-26 09:14	-0.667	1455	-0.06
10-26 09:29	-0.667	1470	-0.06
10-26 09:44	-0.682	1485	-0.045
10-26 09:59	-0.666	1500	-0.061
10-26 10:14	-0.666	1515	-0.061
10-26 10:29	-0.681	1530	-0.046
10-26 10:44	-0.666	1545	-0.061
10-26 10:59	-0.667	1560	-0.06
10-26 11:14	-0.667	1575	-0.06
10-26 11:29	-0.667	1590	-0.06
10-26 11:44	-0.682	1605	-0.045
10-26 11:59	-0.667	1620	-0.06

Raw Data

FT-MW-01-I DRAWDOWN DATA

Date & Time	Depth (ft)	Elapsed Time (min)	Drawdown (ft)
10-25 08:59	-0.727	0	0
10-25 09:14	-0.742	15	0.015
10-25 09:29	-0.727	30	0
10-25 09:44	-0.727	45	0
10-25 09:59	-0.728	60	0.001
10-25 10:14	-0.744	75	0.017
10-25 10:29	-0.744	90	0.017
10-25 10:44	-0.744	105	0.017
10-25 10:59	-0.728	120	0.001
10-25 11:14	-0.728	135	0.001
10-25 11:29	-0.744	150	0.017
10-25 11:44	-0.728	165	0.001
10-25 11:59	-0.728	180	0.001
10-25 12:14	-0.744	195	0.017
10-25 12:29	-0.744	210	0.017
10-25 12:44	-0.744	225	0.017
10-25 12:59	-0.728	240	0.001
10-25 13:14	-0.728	255	0.001
10-25 13:29	-0.744	270	0.017
10-25 13:44	-0.728	285	0.001
10-25 13:59	-0.744	300	0.017
10-25 14:14	-0.744	315	0.017
10-25 14:29	-0.744	330	0.017
10-25 14:44	-0.728	345	0.001
10-25 14:59	-0.744	360	0.017
10-25 15:14	-0.744	375	0.017
10-25 15:29	-0.744	390	0.017
10-25 15:44	-0.728	405	0.001
10-25 15:59	-0.744	420	0.017
10-25 16:14	-0.744	435	0.017
10-25 16:29	-0.728	450	0.001
10-25 16:44	-0.728	465	0.001
10-25 16:59	-0.759	480	0.032
10-25 17:14	-0.759	495	0.032
10-25 17:29	-0.759	510	0.032
10-25 17:44	-0.744	525	0.017
10-25 17:59	-0.759	540	0.032
10-25 18:14	-0.744	555	0.017
10-25 18:29	-0.759	570	0.032

FT-MW-01-I DRAWDOWN DATA

Date & Time	Depth (ft)	Elapsed Time (min)	Drawdown (ft)
10-25 18:44	-0.759	585	0.032
10-25 18:59	-0.759	600	0.032
10-25 19:14	-0.744	615	0.017
10-25 19:29	-0.744	630	0.017
10-25 19:44	-0.744	645	0.017
10-25 19:59	-0.759	660	0.032
10-25 20:14	-0.744	675	0.017
10-25 20:29	-0.744	690	0.017
10-25 20:44	-0.744	705	0.017
10-25 20:59	-0.759	720	0.032
10-25 21:14	-0.744	735	0.017
10-25 21:29	-0.744	750	0.017
10-25 21:44	-0.728	765	0.001
10-25 21:59	-0.728	780	0.001
10-25 22:14	-0.744	795	0.017
10-25 22:29	-0.728	810	0.001
10-25 22:44	-0.744	825	0.017
10-25 22:59	-0.728	840	0.001
10-25 23:14	-0.744	855	0.017
10-25 23:29	-0.759	870	0.032
10-25 23:44	-0.744	885	0.017
10-25 23:59	-0.744	900	0.017
10-26 00:14	-0.744	915	0.017
10-26 00:29	-0.728	930	0.001
10-26 00:44	-0.728	945	0.001
10-26 00:59	-0.744	960	0.017
10-26 01:14	-0.728	975	0.001
10-26 01:29	-0.744	990	0.017
10-26 01:44	-0.744	1005	0.017
10-26 01:59	-0.713	1020	-0.014
10-26 02:14	-0.728	1035	0.001
10-26 02:29	-0.728	1050	0.001
10-26 02:44	-0.728	1065	0.001
10-26 02:59	-0.728	1080	0.001
10-26 03:14	-0.744	1095	0.017
10-26 03:29	-0.744	1110	0.017
10-26 03:44	-0.744	1125	0.017
10-26 03:59	-0.744	1140	0.017
10-26 04:14	-0.744	1155	0.017

FT-MW-01-I DRAWDOWN DATA

Date & Time	Depth (ft)	Elapsed Time (min)	Drawdown (ft)
10-26 04:29	-0.744	1170	0.017
10-26 04:44	-0.728	1185	0.001
10-26 04:59	-0.713	1200	-0.014
10-26 05:14	-0.728	1215	0.001
10-26 05:29	-0.744	1230	0.017
10-26 05:44	-0.728	1245	0.001
10-26 05:59	-0.728	1260	0.001
10-26 06:14	-0.728	1275	0.001
10-26 06:29	-0.713	1290	-0.014
10-26 06:44	-0.713	1305	-0.014
10-26 06:59	-0.728	1320	0.001
10-26 07:14	-0.728	1335	0.001
10-26 07:29	-0.728	1350	0.001
10-26 07:44	-0.728	1365	0.001
10-26 07:59	-0.728	1380	0.001
10-26 08:14	-0.728	1395	0.001
10-26 08:29	-0.728	1410	0.001
10-26 08:44	-0.682	1425	-0.045
10-26 08:59	-0.667	1440	-0.06
10-26 09:14	-0.667	1455	-0.06
10-26 09:29	-0.667	1470	-0.06
10-26 09:44	-0.682	1485	-0.045
10-26 09:59	-0.666	1500	-0.061
10-26 10:14	-0.666	1515	-0.061
10-26 10:29	-0.681	1530	-0.046
10-26 10:44	-0.666	1545	-0.061
10-26 10:59	-0.667	1560	-0.06
10-26 11:14	-0.667	1575	-0.06
10-26 11:29	-0.667	1590	-0.06
10-26 11:44	-0.682	1605	-0.045
10-26 11:59	-0.667	1620	-0.06

Raw Data

FT-MW-01-I DRAWDOWN DATA

Date & Time	Depth (ft)	Elapsed Time (min)	Drawdown (ft)
10-25 08:59	-0.727	0	0
10-25 09:14	-0.742	15	0.015
10-25 09:29	-0.727	30	0
10-25 09:44	-0.727	45	0
10-25 09:59	-0.728	60	0.001
10-25 10:14	-0.744	75	0.017
10-25 10:29	-0.744	90	0.017
10-25 10:44	-0.744	105	0.017
10-25 10:59	-0.728	120	0.001
10-25 11:14	-0.728	135	0.001
10-25 11:29	-0.744	150	0.017
10-25 11:44	-0.728	165	0.001
10-25 11:59	-0.728	180	0.001
10-25 12:14	-0.744	195	0.017
10-25 12:29	-0.744	210	0.017
10-25 12:44	-0.744	225	0.017
10-25 12:59	-0.728	240	0.001
10-25 13:14	-0.728	255	0.001
10-25 13:29	-0.744	270	0.017
10-25 13:44	-0.728	285	0.001
10-25 13:59	-0.744	300	0.017
10-25 14:14	-0.744	315	0.017
10-25 14:29	-0.744	330	0.017
10-25 14:44	-0.728	345	0.001
10-25 14:59	-0.744	360	0.017
10-25 15:14	-0.744	375	0.017
10-25 15:29	-0.744	390	0.017
10-25 15:44	-0.728	405	0.001
10-25 15:59	-0.744	420	0.017
10-25 16:14	-0.744	435	0.017
10-25 16:29	-0.728	450	0.001
10-25 16:44	-0.728	465	0.001
10-25 16:59	-0.759	480	0.032
10-25 17:14	-0.759	495	0.032
10-25 17:29	-0.759	510	0.032
10-25 17:44	-0.744	525	0.017
10-25 17:59	-0.759	540	0.032
10-25 18:14	-0.744	555	0.017
10-25 18:29	-0.759	570	0.032

FT-MW-01-I DRAWDOWN DATA

Date & Time	Depth (ft)	Elapsed Time (min)	Drawdown (ft)
10-25 18:44	-0.759	585	0.032
10-25 18:59	-0.759	600	0.032
10-25 19:14	-0.744	615	0.017
10-25 19:29	-0.744	630	0.017
10-25 19:44	-0.744	645	0.017
10-25 19:59	-0.759	660	0.032
10-25 20:14	-0.744	675	0.017
10-25 20:29	-0.744	690	0.017
10-25 20:44	-0.744	705	0.017
10-25 20:59	-0.759	720	0.032
10-25 21:14	-0.744	735	0.017
10-25 21:29	-0.744	750	0.017
10-25 21:44	-0.728	765	0.001
10-25 21:59	-0.728	780	0.001
10-25 22:14	-0.744	795	0.017
10-25 22:29	-0.728	810	0.001
10-25 22:44	-0.744	825	0.017
10-25 22:59	-0.728	840	0.001
10-25 23:14	-0.744	855	0.017
10-25 23:29	-0.759	870	0.032
10-25 23:44	-0.744	885	0.017
10-25 23:59	-0.744	900	0.017
10-26 00:14	-0.744	915	0.017
10-26 00:29	-0.728	930	0.001
10-26 00:44	-0.728	945	0.001
10-26 00:59	-0.744	960	0.017
10-26 01:14	-0.728	975	0.001
10-26 01:29	-0.744	990	0.017
10-26 01:44	-0.744	1005	0.017
10-26 01:59	-0.713	1020	-0.014
10-26 02:14	-0.728	1035	0.001
10-26 02:29	-0.728	1050	0.001
10-26 02:44	-0.728	1065	0.001
10-26 02:59	-0.728	1080	0.001
10-26 03:14	-0.744	1095	0.017
10-26 03:29	-0.744	1110	0.017
10-26 03:44	-0.744	1125	0.017
10-26 03:59	-0.744	1140	0.017
10-26 04:14	-0.744	1155	0.017

FT-MW-04-S DRAWDOWN DATA

Elapsed Time (min)	Drawdown (ft)
70	-0.025
72	-0.028
74	-0.028
76	-0.025
78	-0.028
80	-0.028
82	-0.025
84	-0.025
86	-0.028
88	-0.031
90	-0.031
92	-0.031
94	-0.031
96	-0.031
98	-0.031
100	-0.034
115	-0.034
130	-0.037
145	-0.041
160	-0.047
175	-0.047
190	-0.05
205	-0.053
220	-0.056
235	-0.06
250	-0.063
265	-0.066
280	-0.069
295	-0.072
310	-0.072
325	-0.075
340	-0.075
355	-0.079
370	-0.082
385	-0.082
400	-0.085
415	-0.088
430	-0.088
445	-0.091
460	-0.094
475	-0.094
490	-0.098
505	-0.098

FT-MW-04-S DRAWDOWN DATA

Elapsed Time (min)	Drawdown (ft)
520	-0.101
535	-0.104
550	-0.104
565	-0.107
580	-0.107
595	-0.11
610	-0.11
625	-0.113
640	-0.113
655	-0.117
670	-0.117
685	-0.12
700	-0.12
715	-0.12
730	-0.123
745	-0.126
760	-0.126
775	-0.126
790	-0.129
805	-0.129
820	-0.132
835	-0.132
850	-0.136
865	-0.136
880	-0.136
895	-0.139
910	-0.139
925	-0.142
940	-0.142
955	-0.142
970	-0.145
985	-0.145
1000	-0.145
1015	-0.148
1030	-0.152
1045	-0.152
1060	-0.152
1075	-0.152
1090	-0.155
1105	-0.155
1120	-0.155
1135	-0.158
1150	-0.158

FT-MW-04-S DRAWDOWN DATA

Elapsed Time (min)	Drawdown (ft)
1165	-0.161
1180	-0.161
1195	-0.161
1210	-0.161
1225	-0.164
1240	-0.164
1255	-0.167
1270	-0.167
1285	-0.167
1300	-0.17
1315	-0.17
1330	-0.17
1345	-0.174
1360	-0.174
1375	-0.174
1390	-0.177
1405	-0.177
1420	-0.18
1435	-0.18
1450	-0.18
1465	-0.18
1480	-0.18
1495	-0.183
1510	-0.183
1525	-0.186
1540	-0.186
1555	-0.186
1570	-0.186
1585	-0.186
1600	-0.19

FT-MW-04-S DRAWDOWN DATA

Elapsed Time (min)	Drawdown (ft)
520	-0.101
535	-0.104
550	-0.104
565	-0.107
580	-0.107
595	-0.11
610	-0.11
625	-0.113
640	-0.113
655	-0.117
670	-0.117
685	-0.12
700	-0.12
715	-0.12
730	-0.123
745	-0.126
760	-0.126
775	-0.126
790	-0.129
805	-0.129
820	-0.132
835	-0.132
850	-0.136
865	-0.136
880	-0.136
895	-0.139
910	-0.139
925	-0.142
940	-0.142
955	-0.142
970	-0.145
985	-0.145
1000	-0.145
1015	-0.148
1030	-0.152
1045	-0.152
1060	-0.152
1075	-0.152
1090	-0.155
1105	-0.155
1120	-0.155
1135	-0.158
1150	-0.158

FT-MW-04-S DRAWDOWN DATA

Elapsed Time (min)	Drawdown (ft)
1165	-0.161
1180	-0.161
1195	-0.161
1210	-0.161
1225	-0.164
1240	-0.164
1255	-0.167
1270	-0.167
1285	-0.167
1300	-0.17
1315	-0.17
1330	-0.17
1345	-0.174
1360	-0.174
1375	-0.174
1390	-0.177
1405	-0.177
1420	-0.18
1435	-0.18
1450	-0.18
1465	-0.18
1480	-0.18
1495	-0.183
1510	-0.183
1525	-0.186
1540	-0.186
1555	-0.186
1570	-0.186
1585	-0.186
1600	-0.19

Raw Data.

FT-MW-01-S DRAWDOWN DATA

Date & Time	Depth (ft)	Elapsed Time (min)	Drawdown (ft)
10-25 09:05	1.375	0	0
10-25 09:20	1.365	15	0.01
10-25 09:35	1.365	30	0.01
10-25 09:50	1.365	45	0.01
10-25 10:05	1.363	60	0.012
10-25 10:20	1.363	75	0.012
10-25 10:35	1.373	90	0.002
10-25 10:50	1.373	105	0.002
10-25 11:05	1.363	120	0.012
10-25 11:20	1.373	135	0.002
10-25 11:35	1.373	150	0.002
10-25 11:50	1.373	165	0.002
10-25 12:05	1.363	180	0.012
10-25 12:20	1.363	195	0.012
10-25 12:35	1.373	210	0.002
10-25 12:50	1.373	225	0.002
10-25 13:05	1.363	240	0.012
10-25 13:20	1.373	255	0.002
10-25 13:35	1.363	270	0.012
10-25 13:50	1.373	285	0.002
10-25 14:05	1.373	300	0.002
10-25 14:20	1.363	315	0.012
10-25 14:35	1.373	330	0.002
10-25 14:50	1.373	345	0.002
10-25 15:05	1.373	360	0.002
10-25 15:20	1.373	375	0.002
10-25 15:35	1.383	390	-0.008
10-25 15:50	1.394	405	-0.019
10-25 16:05	1.383	420	-0.008
10-25 16:20	1.373	435	0.002
10-25 16:35	1.383	450	-0.008
10-25 16:50	1.373	465	0.002
10-25 17:05	1.373	480	0.002
10-25 17:20	1.363	495	0.012
10-25 17:35	1.363	510	0.012
10-25 17:50	1.373	525	0.002
10-25 18:05	1.373	540	0.002
10-25 18:20	1.363	555	0.012
10-25 18:35	1.363	570	0.012

FT-MW-01-S DRAWDOWN DATA

Date & Time	Depth (ft)	Elapsed Time (min)	Drawdown (ft)
10-25 18:50	1.363	585	0.012
10-25 19:05	1.373	600	0.002
10-25 19:20	1.353	615	0.022
10-25 19:35	1.363	630	0.012
10-25 19:50	1.363	645	0.012
10-25 20:05	1.363	660	0.012
10-25 20:20	1.373	675	0.002
10-25 20:35	1.363	690	0.012
10-25 20:50	1.363	705	0.012
10-25 21:05	1.373	720	0.002
10-25 21:20	1.373	735	0.002
10-25 21:35	1.363	750	0.012
10-25 21:50	1.363	765	0.012
10-25 22:05	1.363	780	0.012
10-25 22:20	1.373	795	0.002
10-25 22:35	1.373	810	0.002
10-25 22:50	1.373	825	0.002
10-25 23:05	1.383	840	-0.008
10-25 23:20	1.383	855	-0.008
10-25 23:35	1.383	870	-0.008
10-25 23:50	1.373	885	0.002
10-26 00:05	1.383	900	-0.008
10-26 00:20	1.383	915	-0.008
10-26 00:35	1.383	930	-0.008
10-26 00:50	1.383	945	-0.008
10-26 01:05	1.394	960	-0.019
10-26 01:20	1.383	975	-0.008
10-26 01:35	1.394	990	-0.019
10-26 01:50	1.394	1005	-0.019
10-26 02:05	1.383	1020	-0.008
10-26 02:20	1.404	1035	-0.029
10-26 02:35	1.394	1050	-0.019
10-26 02:50	1.394	1065	-0.019
10-26 03:05	1.394	1080	-0.019
10-26 03:20	1.394	1095	-0.019
10-26 03:35	1.383	1110	-0.008
10-26 03:50	1.383	1125	-0.008
10-26 04:05	1.383	1140	-0.008
10-26 04:20	1.383	1155	-0.008

FT-MW-01-S DRAWDOWN DATA

Date & Time	Depth (ft)	Elapsed Time (min)	Drawdown (ft)
10-26 04:35	1.394	1170	-0.019
10-26 04:50	1.394	1185	-0.019
10-26 05:05	1.394	1200	-0.019
10-26 05:20	1.383	1215	-0.008
10-26 05:35	1.383	1230	-0.008
10-26 05:50	1.394	1245	-0.019
10-26 06:05	1.383	1260	-0.008
10-26 06:20	1.394	1275	-0.019
10-26 06:35	1.394	1290	-0.019
10-26 06:50	1.394	1305	-0.019
10-26 07:05	1.394	1320	-0.019
10-26 07:20	1.394	1335	-0.019
10-26 07:35	1.404	1350	-0.029
10-26 07:50	1.394	1365	-0.019
10-26 08:05	1.404	1380	-0.029
10-26 08:20	1.404	1395	-0.029
10-26 08:35	1.394	1410	-0.019
10-26 08:50	1.404	1425	-0.029
10-26 09:05	1.404	1440	-0.029
10-26 09:20	1.404	1455	-0.029
10-26 09:35	1.404	1470	-0.029
10-26 09:50	1.394	1485	-0.019
10-26 10:05	1.396	1500	-0.021
10-26 10:20	1.396	1515	-0.021
10-26 10:35	1.406	1530	-0.031
10-26 10:50	1.396	1545	-0.021
10-26 11:05	1.404	1560	-0.029
10-26 11:20	1.404	1575	-0.029
10-26 11:35	1.394	1590	-0.019
10-26 11:50	1.414	1605	-0.039
10-26 12:05	1.404	1620	-0.029

Raw Data

FT-MW-01-S DRAWDOWN DATA

Date & Time	Depth (ft)	Elapsed Time (min)	Drawdown (ft)
10-25 09:05	1.375	0	0
10-25 09:20	1.365	15	0.01
10-25 09:35	1.365	30	0.01
10-25 09:50	1.365	45	0.01
10-25 10:05	1.363	60	0.012
10-25 10:20	1.363	75	0.012
10-25 10:35	1.373	90	0.002
10-25 10:50	1.373	105	0.002
10-25 11:05	1.363	120	0.012
10-25 11:20	1.373	135	0.002
10-25 11:35	1.373	150	0.002
10-25 11:50	1.373	165	0.002
10-25 12:05	1.363	180	0.012
10-25 12:20	1.363	195	0.012
10-25 12:35	1.373	210	0.002
10-25 12:50	1.373	225	0.002
10-25 13:05	1.363	240	0.012
10-25 13:20	1.373	255	0.002
10-25 13:35	1.363	270	0.012
10-25 13:50	1.373	285	0.002
10-25 14:05	1.373	300	0.002
10-25 14:20	1.363	315	0.012
10-25 14:35	1.373	330	0.002
10-25 14:50	1.373	345	0.002
10-25 15:05	1.373	360	0.002
10-25 15:20	1.373	375	0.002
10-25 15:35	1.383	390	-0.008
10-25 15:50	1.394	405	-0.019
10-25 16:05	1.383	420	-0.008
10-25 16:20	1.373	435	0.002
10-25 16:35	1.383	450	-0.008
10-25 16:50	1.373	465	0.002
10-25 17:05	1.373	480	0.002
10-25 17:20	1.363	495	0.012
10-25 17:35	1.363	510	0.012
10-25 17:50	1.373	525	0.002
10-25 18:05	1.373	540	0.002
10-25 18:20	1.363	555	0.012
10-25 18:35	1.363	570	0.012

FT-MW-01-S DRAWDOWN DATA

Date & Time	Depth (ft)	Elapsed Time (min)	Drawdown (ft)
10-25 18:50	1.363	585	0.012
10-25 19:05	1.373	600	0.002
10-25 19:20	1.353	615	0.022
10-25 19:35	1.363	630	0.012
10-25 19:50	1.363	645	0.012
10-25 20:05	1.363	660	0.012
10-25 20:20	1.373	675	0.002
10-25 20:35	1.363	690	0.012
10-25 20:50	1.363	705	0.012
10-25 21:05	1.373	720	0.002
10-25 21:20	1.373	735	0.002
10-25 21:35	1.363	750	0.012
10-25 21:50	1.363	765	0.012
10-25 22:05	1.363	780	0.012
10-25 22:20	1.373	795	0.002
10-25 22:35	1.373	810	0.002
10-25 22:50	1.373	825	0.002
10-25 23:05	1.383	840	-0.008
10-25 23:20	1.383	855	-0.008
10-25 23:35	1.383	870	-0.008
10-25 23:50	1.373	885	0.002
10-26 00:05	1.383	900	-0.008
10-26 00:20	1.383	915	-0.008
10-26 00:35	1.383	930	-0.008
10-26 00:50	1.383	945	-0.008
10-26 01:05	1.394	960	-0.019
10-26 01:20	1.383	975	-0.008
10-26 01:35	1.394	990	-0.019
10-26 01:50	1.394	1005	-0.019
10-26 02:05	1.383	1020	-0.008
10-26 02:20	1.404	1035	-0.029
10-26 02:35	1.394	1050	-0.019
10-26 02:50	1.394	1065	-0.019
10-26 03:05	1.394	1080	-0.019
10-26 03:20	1.394	1095	-0.019
10-26 03:35	1.383	1110	-0.008
10-26 03:50	1.383	1125	-0.008
10-26 04:05	1.383	1140	-0.008
10-26 04:20	1.383	1155	-0.008

FT-MW-01-S DRAWDOWN DATA

Date & Time	Depth (ft)	Elapsed Time (min)	Drawdown (ft)
10-26 04:35	1.394	1170	-0.019
10-26 04:50	1.394	1185	-0.019
10-26 05:05	1.394	1200	-0.019
10-26 05:20	1.383	1215	-0.008
10-26 05:35	1.383	1230	-0.008
10-26 05:50	1.394	1245	-0.019
10-26 06:05	1.383	1260	-0.008
10-26 06:20	1.394	1275	-0.019
10-26 06:35	1.394	1290	-0.019
10-26 06:50	1.394	1305	-0.019
10-26 07:05	1.394	1320	-0.019
10-26 07:20	1.394	1335	-0.019
10-26 07:35	1.404	1350	-0.029
10-26 07:50	1.394	1365	-0.019
10-26 08:05	1.404	1380	-0.029
10-26 08:20	1.404	1395	-0.029
10-26 08:35	1.394	1410	-0.019
10-26 08:50	1.404	1425	-0.029
10-26 09:05	1.404	1440	-0.029
10-26 09:20	1.404	1455	-0.029
10-26 09:35	1.404	1470	-0.029
10-26 09:50	1.394	1485	-0.019
10-26 10:05	1.396	1500	-0.021
10-26 10:20	1.396	1515	-0.021
10-26 10:35	1.406	1530	-0.031
10-26 10:50	1.396	1545	-0.021
10-26 11:05	1.404	1560	-0.029
10-26 11:20	1.404	1575	-0.029
10-26 11:35	1.394	1590	-0.019
10-26 11:50	1.414	1605	-0.039
10-26 12:05	1.404	1620	-0.029

APPENDIX G

TEST PIT LOG SHEETS

SITE 1

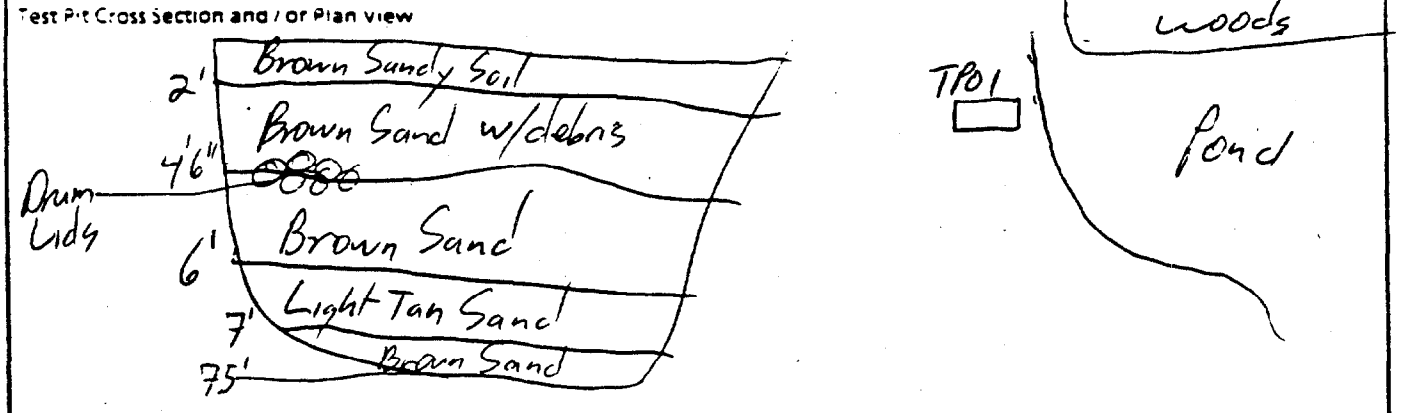
TEST PIT LOGS

TEST PIT LOG **HALLIBURTON NUS**

PROJECT: NWIRP Calverton TEST PIT NO.: TP01
PROJECT NO.: 0206-0300 DATE: 4/18/94
LOCATION: NPDA (Site 1)
FIELD GEOLOGIST: Eric Huss

DEPTH (ft.)	LITHOLOGY CHANGE (Depth ft.)	MATERIAL DESCRIPTION (Soil Density / Consistency, Color)	USCS	REMARKS
0		Brown Sandy Soil w/well rounded pebbles		
2'		" " " " " " and		
4.5'		construction debris + Asphalt debris		at 4.5' Several Drum lids uncovered
		Brown Sand w/ well rounded pebbles.		OVA-3ppm in soil Sample
6'				NP-S101-0506 collected
		Light Tan Sand w/well rounded pebbles		
7'				
7.5'		Brown Sand ~~Soil~~ w/Rocks & Pebbles		

Test Pit Cross Section and / or Plan View



REMARKS OVA Reading of 3ppm in Soil Sampled - No other OVA readings in Excavation Material

PHOTO LOG

TEST PIT TP01

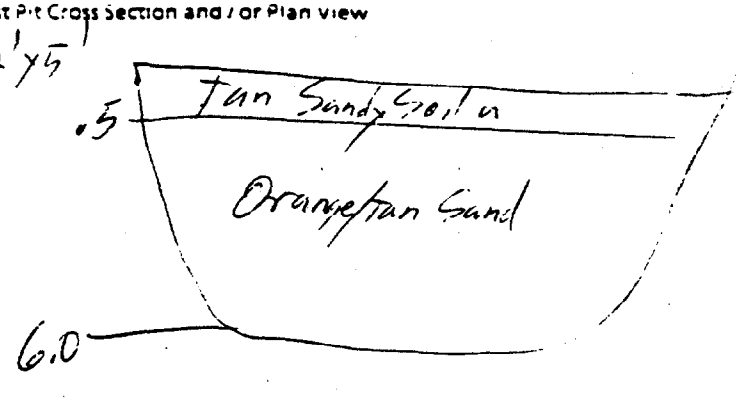
PAGE ____ OF

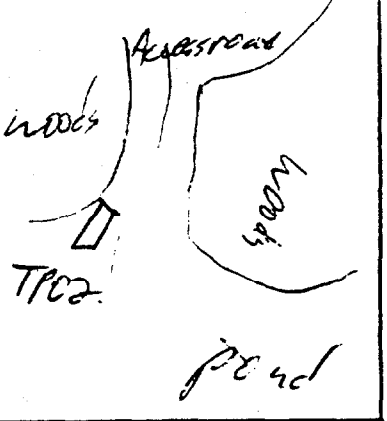
TEST PIT LOG **HALLIBURTON NUS**

PROJECT: NWIRP Calverton TEST PIT NO.: TP02
PROJECT NO.: 0206-0300 DATE: 4/20/94
LOCATION: NPDA (Site 1)
FIELD GEOLOGIST: Eric Huss

DEPTH (Ft.)	LITHOLOGY CHANGE (Depth, Ft.)	MATERIAL DESCRIPTION (Soil Density / Consistency, Color)	USCS	REMARKS
0		Tan Sandy Soil w/well rounded pebbles		
.5				Engr.
		Orange Tan Sand w/well rounded pebbles		Sample collected from
				4'-5' Below Surface
6.0				-NP-ST02-0405
				Stopped digging at 6' appeared
				to be all natural material

Test Pit Cross Section and / or Plan View





REMARKS NO OVA Readings in Excavation Material
Engr. Parameter Sample Collected

PHOTO LOG

TEST PIT TP02

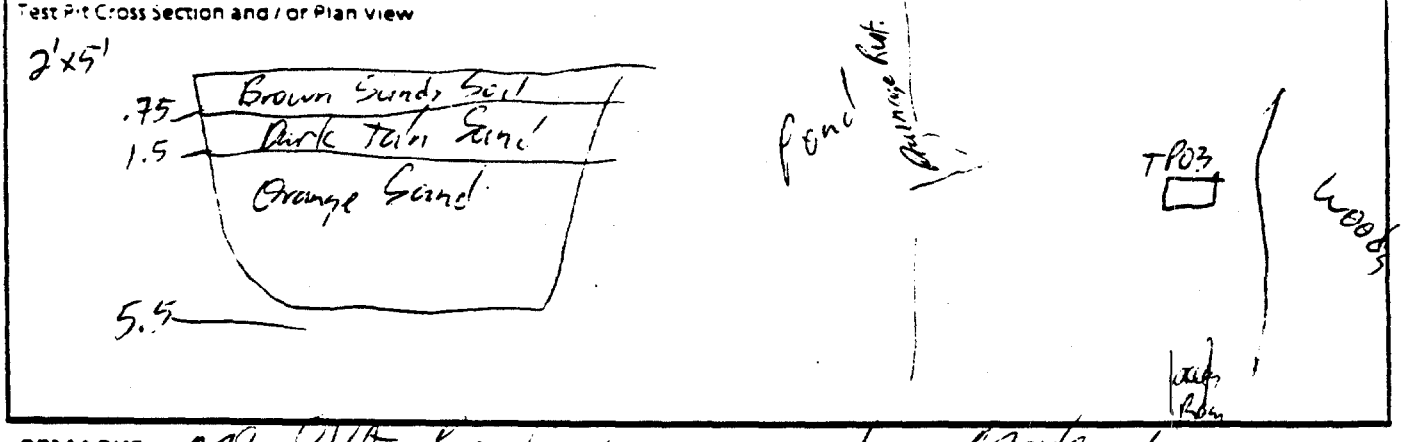
PAGE ____ OF

TEST PIT LOG **HALLIBURTON NUS**

PROJECT: NWIRP Calverton TEST PIT NO.: TP03
PROJECT NO.: 0206-0300 DATE: 4/20/94
LOCATION: NPDA Site 1
FIELD GEOLOGIST: Eric Huss

DEPTH (ft.)	LITHOLOGY CHANGE (Depth, ft.)	MATERIAL DESCRIPTION (Soil Density / Consistency, Color)	USCS	REMARKS
0		Brown Sandy Soil w/well rounded pebbles		
.75				
1.5		Dark Tan Sand " " "		
		Orange Sand w/well round pebbles		Natural Soil
5.5				Excavation Stopped

Test Pit Cross Section and / or Plan View



REMARKS NO OVA Readings in excavation Material
Natural Material Appeared to start 1.5 feet below surface

PHOTO LOG

TEST PIT TP03

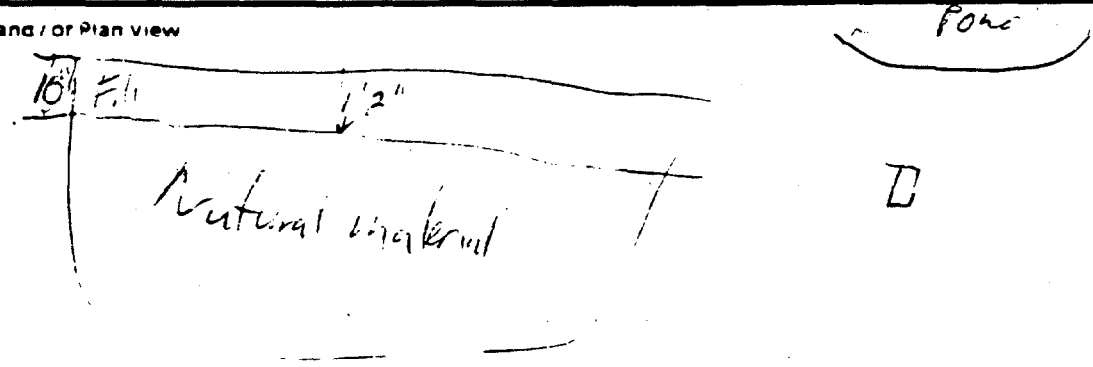
PAGE ..... OF

TEST PIT LOG **HALLIBURTON NUS**

PROJECT: NWIRI Culverton TEST PIT NO.: TPC4
PROJECT NO.: 0266-0300 DATE: 4/19/94
LOCATION: North Pond Disposal Area (Site 1)
FIELD GEOLOGIST: Eric Hudy

DEPTH (ft)	LITHOLOGY CHANGE (Depth, ft.)	MATERIAL DESCRIPTION (Soil Density / Consistency, Color)	USCS	REMARKS
0		Sandy Brown Soil with Asphalt Debris		
1'		and well Rounded pebbles		
1'2"		Natural Soil Tan Sand		
↓		with some Small well rounded		
↓		pebbles		
4'6"				

Test Pit Cross Section and / or Plan View



REMARKS No OVA Readings ~~[illegible]~~ during excavation

PHOTO LOG

TEST PIT

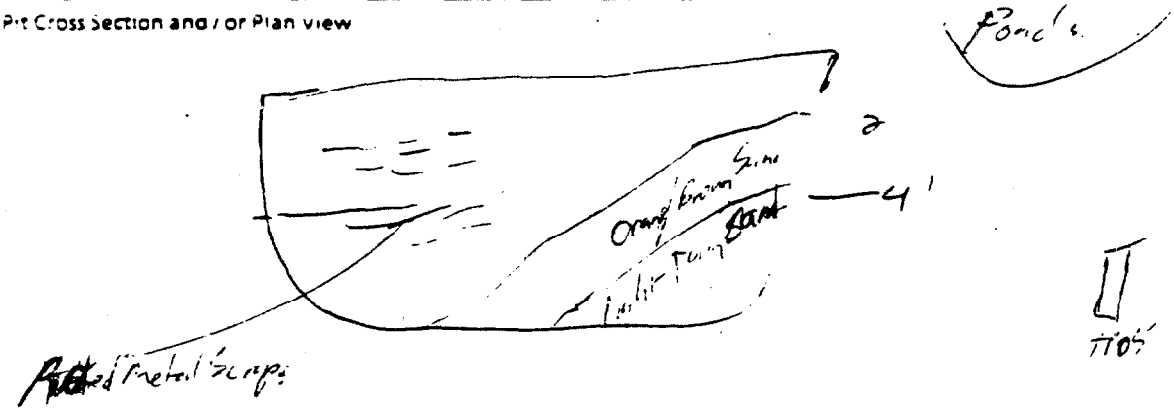
PAGE 1 OF 1

TEST PIT LOG **HALLIBURTON NUS**

PROJECT: NW RP Culverto TEST PIT NO.: TP05
PROJECT NO. 0206-0306 DATE: 4/19/94
LOCATION: N.P.R.A. (Site 1)
FIELD GEOLOGIST: Eric Hass

DEPTH (ft.)	LITHOLOGY CHANGE (Depth, ft.)	MATERIAL DESCRIPTION (Soil Density / Consistency, Color)	USCS	REMARKS
0		Brown Sandy Soil with well Rounded pebbles		
2.5		" Sand with well Rounded pebbles		Encounter Aluminum Materials
[illegible]		" " " " " "		Possible Aircraft fuselage
4		Grey/" " " " " "		Scrap rusted steel
5'		" " " " " "		Scrap wood / Ceramic form
5.5'		" " " " " "		
6.5'		" " " " " "		
7.5'		Grey Brown / Orange / Light tan Sandy. w/ well rounded pebbles		

Test Pit Cross Section and / or Plan view



REMARKS No EVA readings during excavation

PHOTO LOG

TEST PIT TP05

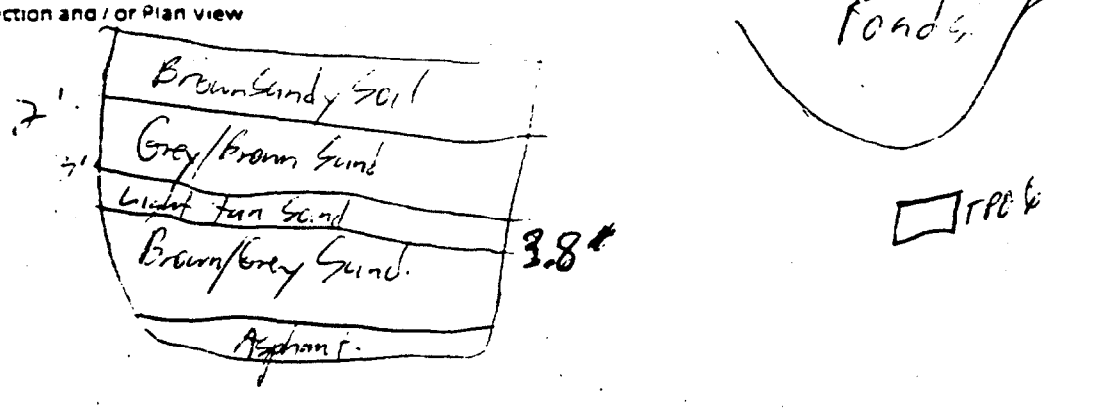
PAGE 1 OF 1

TEST PIT LOG **HALLIBURTON NUS**

PROJECT: NWIRY Culverton TEST PIT NO.: TPC 6
PROJECT NO.: 0706-0300 DATE: 4/19/94
LOCATION: N.P.R.A (Site 1)
FIELD GEOLOGIST: Eric Huss

DEPTH (ft.)	LITHOLOGY CHANGE (Depth, ft.)	MATERIAL DESCRIPTION (Soil Density / Consistency, Color)	USCS	REMARKS
0		Brown Sandy Soil w/well Rounded Pebbles		
2		" " " " " "		
2		Grey/" Sand w/well Rounded Pebbles		
2		and Charred Debris.		
		Light tan Sand w/well Rounded Pebbles		
3.8'		+ Charred Debris		
		Brown/Grey Sand w/small well Rounded Pebbles		
5.0'		and Asphault Debris		Refusal Total Depth 5.5'
5.5'		Asphault Debris / Layer to solid to Break through		Asphault Layer

Test Pit Cross Section and / or Plan View



REMARKS No OVA Readings ~~[illegible]~~ from Excavation or Material

PHOTO LOG

TEST PIT TPC6

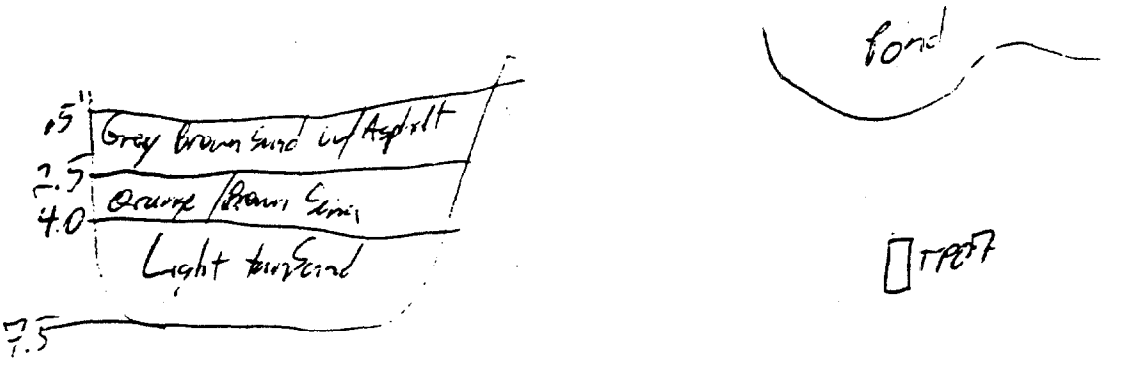
PAGE 1 OF

TEST PIT LOG **HALLIBURTON NUS**

PROJECT: NWIRP Calverton TEST PIT NO.: TP07
PROJECT NO.: 0206-0300 DATE: 4/19/94
LOCATION: N. P. P. A (Site 1)
FIELD GEOLOGIST: Eric Hass

DEPTH (ft.)	LITHOLOGY CHANGE (Depth, ft.)	MATERIAL DESCRIPTION (Soil Density / Consistency, Color)	USCS	REMARKS
0		Brown Sandy Soil w/well Rounded Pebbles		
.5				
2		Grey Brown Sand w/well Round Pebbles		
2.5		and Asphalt debris/Black Ash		Waste Sample NP-ST07-0102
		Orange/Brown Sand w/well Rounded Pebbles		
4.		Light tan Sand w/well Rounded Pebbles		Natural Soil
7.5		" " " " "		Sample ST07-06-07

Test Pit Cross Section and / or Plan view



REMARKS

PHOTO LOG

TEST PIT TP07

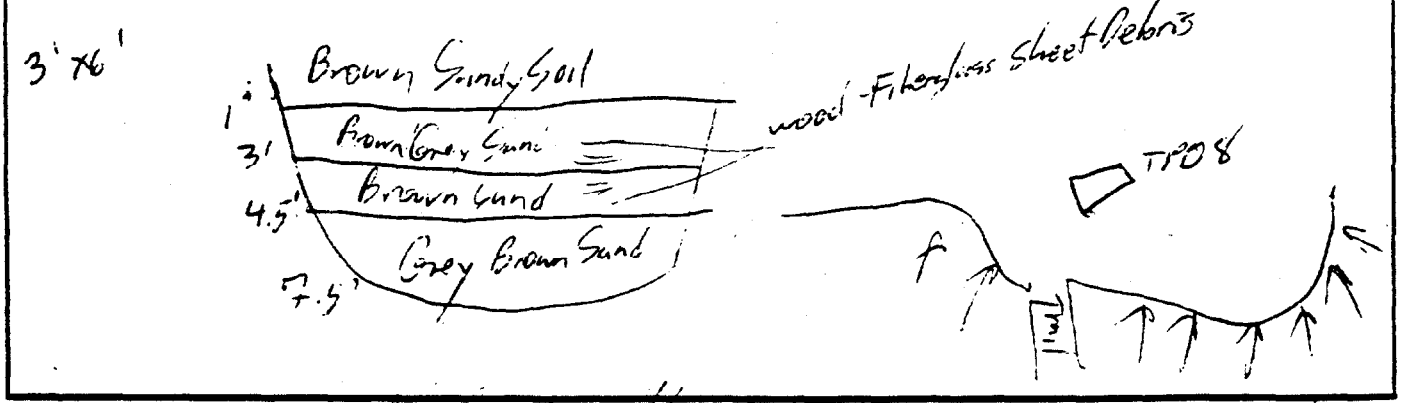
PAGE 1 OF

TEST PIT LOG **HALLIBURTON NUS**

PROJECT: NWIRP Calverton TEST PIT NO.: TP 08
PROJECT NO. 0206-030C DATE: 4/14/94
LOCATION: NPPA (Site 1)
FIELD GEOLOGIST: Eric Huss

DEPTH (ft.)	LITHOLOGY CHANGE (Depth, ft.)	MATERIAL DESCRIPTION (Soil Density / Consistency, Color)	USCS	REMARKS
0				
1.2		Red Brown Sandy Soil w/well Rounded Pebbles		
		Brown/Grey Sand w/Pebbles & Metal Debris		
3'		wood debris		
4.5'		Brown Sand w/wood & Fiberglass Debris		
7.5'		Grey Brown Sand w/well Rounded Pebbles		

Test Pit Cross Section and / or Plan view



REMARKS ND OVM Readings ~~[illegible]~~ in excavation or material

PHOTO LOG

TEST PIT TP08

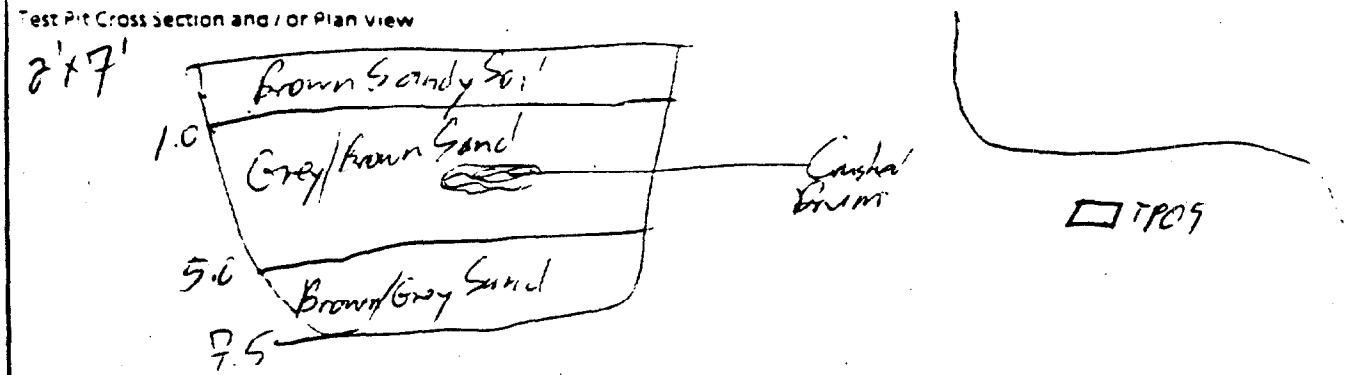
PAGE 1 OF

TEST PIT LOG **HALLIBURTON NUS**

PROJECT: NWIRP Calverton TEST PIT NO.: TP09
PROJECT NO.: 0206 - 0300 DATE: 4/19/94
LOCATION: NPDA (Site 1)
FIELD GEOLOGIST: Erik Huss

DEPTH (ft.)	LITHOLOGY CHANGE (Depth, ft.)	MATERIAL DESCRIPTION (Soil Density / Consistency, Color)	USCS	REMARKS
0		Brown Sandy Soil w/well rounded Pebbles		
1.0				
6		Grey/Brown Sand w/well rounded Pebbles		NP-ST09-0304 Collected
5.0		and Misc. Debris Plastic Steel, Aluminum Crushed Drum		off Crushed Drum found w/ dr
		Brown Grey Sand w/well rounded Pebbles		
7.5		+ rocks		

Test Pit Cross Section and / or Plan View



REMARKS No OVA Readings from excavation / material

PHOTO LOG

TEST PIT TP09

PAGE 1 OF

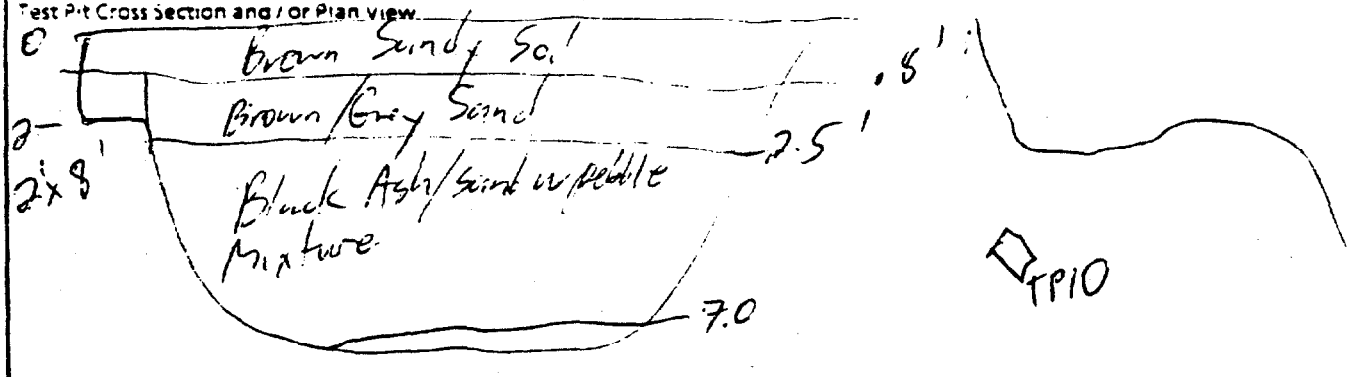
TEST PIT LOG **HALLIBURTON NUS**

PROJECT: NW IRP Calverton TEST PIT NO.: TP10
PROJECT NO.: 0266 - 0300 DATE: 4/19/94
LOCATION: NPDA Site D
FIELD GEOLOGIST: Eric Huss

DEPTH (ft.)	LITHOLOGY CHANGE (Depth, ft.)	MATERIAL DESCRIPTION (Soil Density / Consistency, Color)	USCS	REMARKS
0				
1		Brown Sandy Soil w/ well Rounded Pebbles		
2.5'		Brown/Grey Sand w/ well Rounded Pebbles		Refusal
		unable to break through Black Ash/Sand mixture		
0		Brown Sandy Soil w/ Pebbles		
.8		Brown Grey Sand " "		
2.5		Black Ash/Sand material with Pebbles		
7.0		(3) old 'D' size Battery's - plastic Carpet & Sm. Orange Bottle full of Solid white material		
7.5'		Brown Sand w/ Pebbles		

2nd Pit.
0' west of 1st Pit location

Test Pit Cross Section and / or Plan View



REMARKS NO OVA Readings ~~Above Background~~ Off in Excavation Materials

PHOTO LOG

TEST PIT TP10

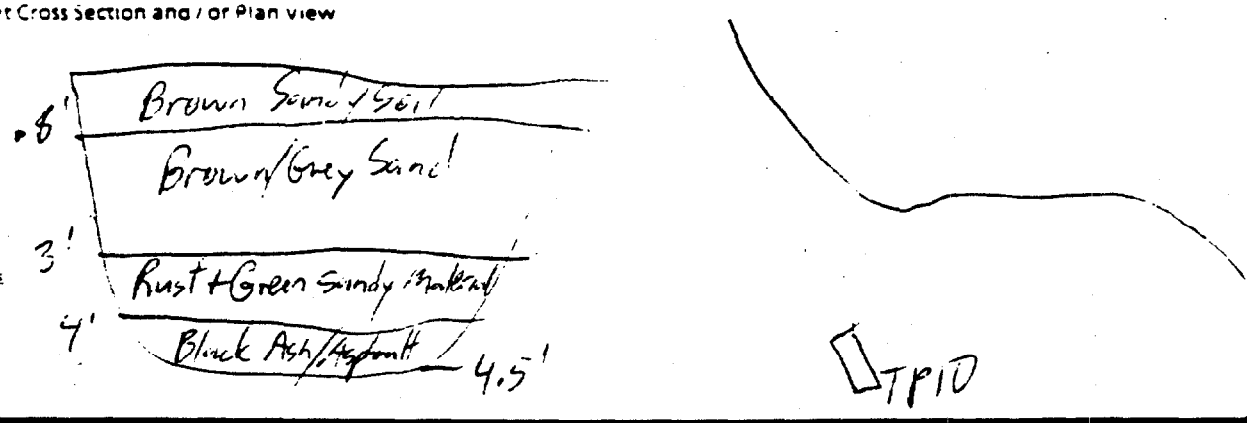
PAGE 1 OF

TEST PIT LOG **HALLIBURTON NUS**

PROJECT: NWIRP Calverton TEST PIT NO.: TP11
PROJECT NO. 0206-0300 DATE: 4/19/94
LOCATION: NPOA (Site 1)
FIELD GEOLOGIST: Eric Huss

DEPTH (Ft.)	LITHOLOGY CHANGE (Depth, Ft.)	MATERIAL DESCRIPTION (Soil Density / Consistency, Color)	USCS	REMARKS
0		Brown Sandy Soil w/ Rounded Pebbles		
.8				
.8		Brown Grey Sand w/ Pebbles, Brick &		
3		Rusted Debris		
4'		Rust + Green Sandy material w/ chunks		Sample NJF-ST11-0304 collected
		of Rusted metal & Glass		OVA Reading 2ppm
4.5'		Black layer - unable to excavate		Refusal

Test Pit Cross Section and / or Plan view



REMARKS OVA reading at 2ppm in bucket. Sampled. Sample included VOA, TAL Metals, Pest/PCB SemiVOA Sampling

PHOTO LOG TEST PIT TP11

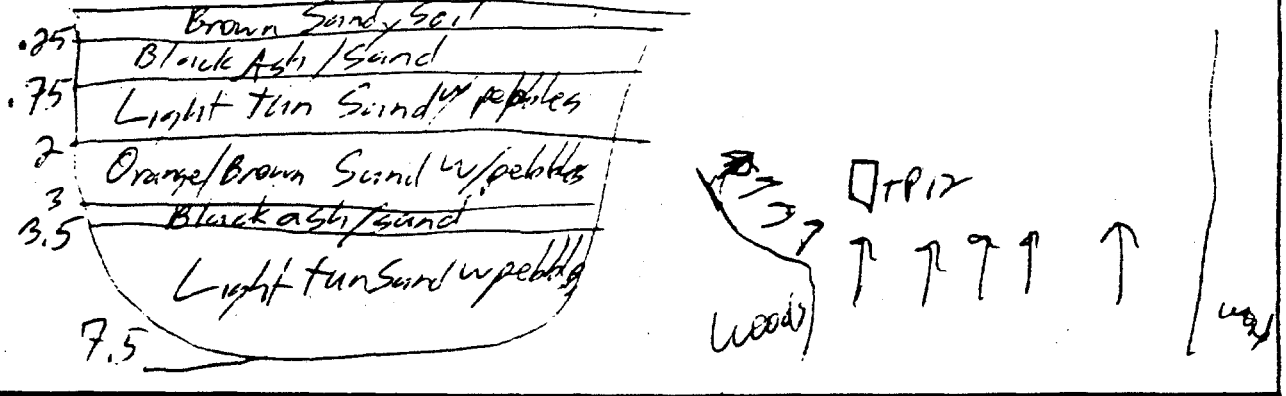
PAGE ____ OF ____

TEST PIT LOG **HALLIBURTON NUS**

PROJECT: NWIRP Calverton TEST PIT NO.: TP12
PROJECT NO.: 0206-0300 DATE: 4/20/94
LOCATION: NPDA (Site 1)
FIELD GEOLOGIST: Eric Hess

DEPTH (Ft.)	LITHOLOGY CHANGE (Depth, Ft.)	MATERIAL DESCRIPTION (Soil Density / Consistency, Color)	USCS	REMARKS
0				
.25		Brown Sandy Soil w pebbles		Tire excavated
.75		Black Ash/Sand material		
2		Light tan Sand w/well rounded pebbles		
3		Orange/Brown Sand " " "		
3.5		Black Ash/Sand material		
7.5		Light tan Sand w/well rounded pebbles		

Test Pit Cross Section and / or Plan View



REMARKS No OVA Readings in Excavated material

PHOTO LOG

TEST PIT TP12

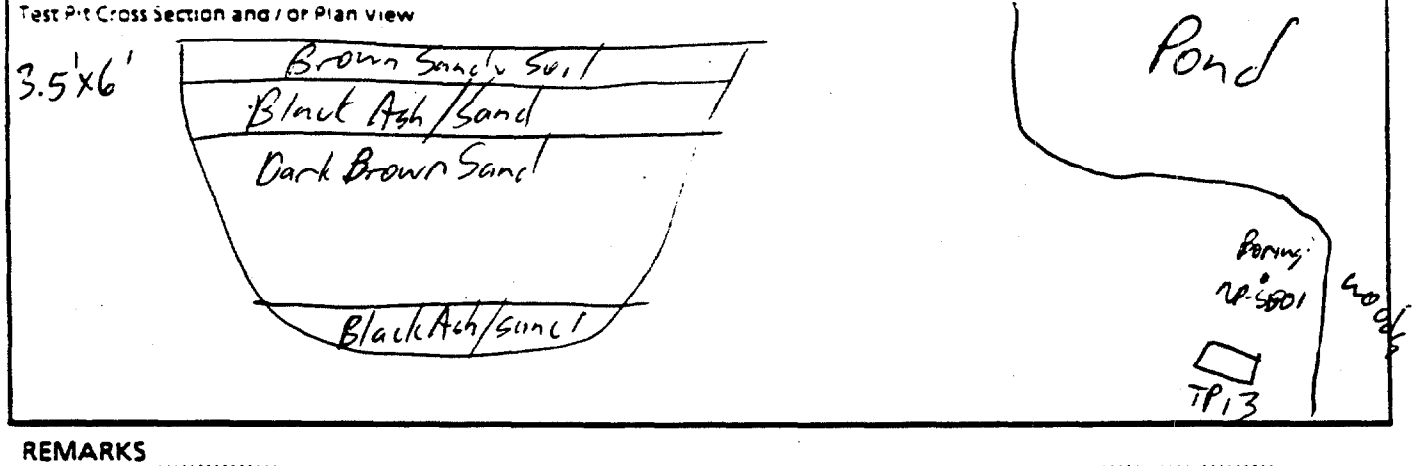
PAGE 1 OF

TEST PIT LOG **HALLIBURTON NUS**

PROJECT: NWIRP Calverton TEST PIT NO.: TP13
PROJECT NO.: 0206-0300 DATE: 4/20/94
LOCATION: N.P.D.A. (Site 1)
FIELD GEOLOGIST: Eric Huss

DEPTH (Ft.)	LITHOLOGY CHANGE (Depth, Ft.)	MATERIAL DESCRIPTION (Soil Density / Consistency, Color)	USCS	REMARKS
		Brown Sandy Soil w/well rounded pebbles		
.75		Black Ash/Sand w Construction/Demolition Debris		
1.5		Dark Brown Sand w/Construction/Demolition Debris		
5.5		& Some Black Ash and / railroad Tie w/pebbles		
6.5		Black-Ash /sand mixture w well rounded pebbles		Maximum Depth Obtained

Test Pit Cross Section and / or Plan View



REMARKS

PHOTO LOG

TEST PIT TP13

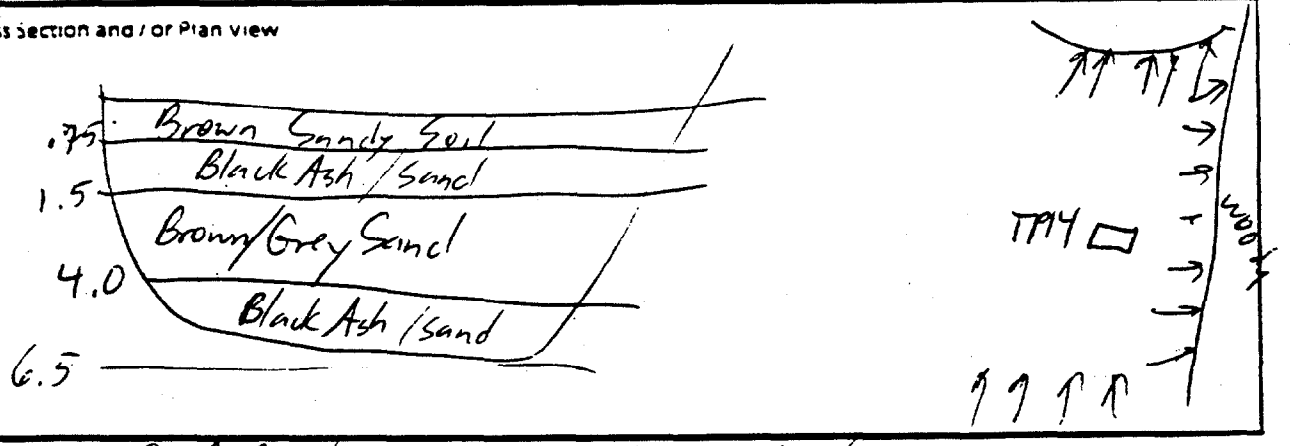
PAGE ____ OF

TEST PIT LOG **HALLIBURTON NUS**

PROJECT: NWIRP Calverton TEST PIT NO.: TP14
PROJECT NO.: 0206-0300 DATE: 4/20/94
LOCATION: N.P.O.A. (Site1)
FIELD GEOLOGIST: Eric Huss

DEPTH (Ft.)	LITHOLOGY CHANGE (Depth ft.)	MATERIAL DESCRIPTION (Soil Density / Consistency, Color)	USCS	REMARKS
0		Brown Sandy Soil w/wellrounded pebbles		
.75		~~Black Ash/Sand w/Asphalt debris~~		
1.5		Brown/Grey Sand w wellrounded pebbles		
4.0		wood + construction debris		
		Black Ash/Sand material		
6.5				unable to excavate any deeper at this Location

Test Pit Cross Section and / or Plan View



REMARKS No OVA Readings in excavation Material

PHOTO LOG TEST PIT TP14

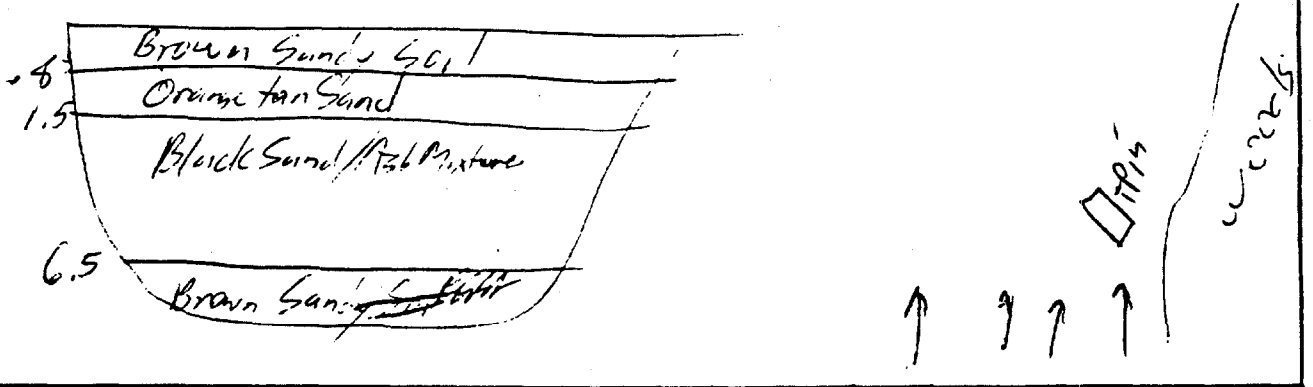
PAGE ____ OF

TEST PIT LOG **HALLIBURTON NUS**

PROJECT: NWIRP Calverton TEST PIT NO.: TP15
PROJECT NO. 0206-0300 DATE: 4/20/94
LOCATION: N.P.D.A. (Site 1)
FIELD GEOLOGIST: Eric Huss

DEPTH (ft.)	LITHOLOGY CHANGE (Depth, ft.)	MATERIAL DESCRIPTION (Soil Density / Consistency, Color)	USCS	REMARKS
0				
.8		Brown Sandy Soil w/well Rounded Pebbles		
1.5		Orange Tan Sand w/well Rounded Pebbles + Small Roots		
		Black Sand/Ash with Asphault Debris		
6.5		Wood Debris Concrete + Cinderblock debris		sample NP-ST15-060 [illegible]
7.5		Brown Sand ~~[illegible]~~ w/well Rounded Pebbles		from mixture of material at interface

Test Pit Cross Section and / or Plan view



REMARKS NO OVA Readings in excavation Material.

PHOTO LOG

TEST PIT TP15

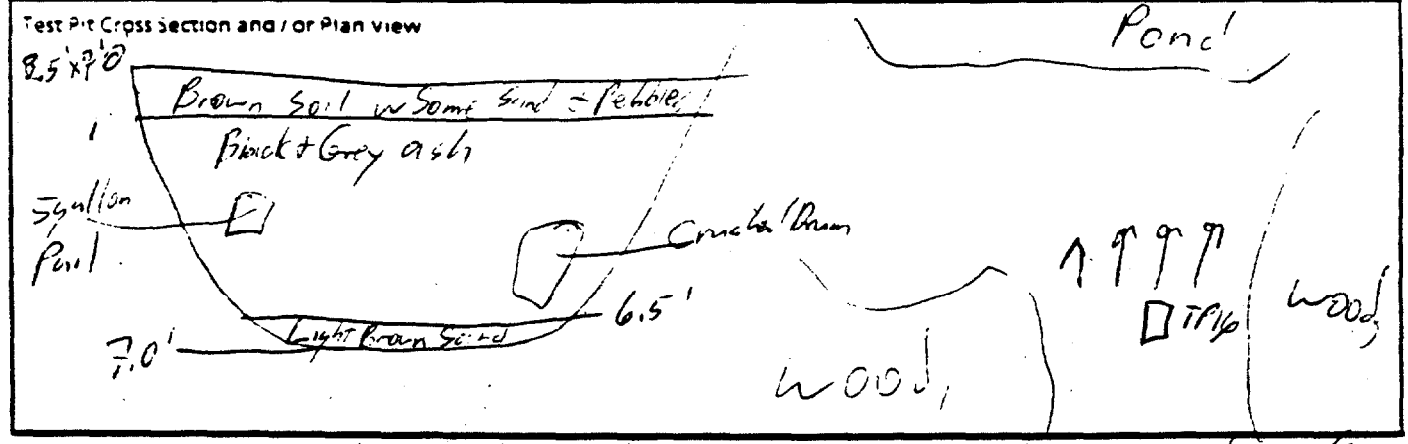
PAGE ..... OF

TEST PIT LOG **HALLIBURTON NUS**

PROJECT: NWIRP Calverton TEST PIT NO.: TP16
PROJECT NO.: 0206-0300 DATE: 4/20/94
LOCATION: NPDA (Site 1)
FIELD GEOLOGIST: Eric Hass

DEPTH (FT.)	LITHOLOGY CHANGE (DOWN FT.)	MATERIAL DESCRIPTION (Soil Density / Consistency, Color)	USCS	REMARKS
0				
1		Brown Soil w/ some sand + pebbles		
		Black + Grey Ash with Sand! Metal		
4'		Debris Concrete Debris old beverage Cans + Bottles		Encounter Crushed Drum 4'
6.5		Plastic material + 1-55 gallon Crushed Drum		
		1- 5 gallon Pail Crushed		
7.0		Light Brown Sand ~~w/ some~~ w/ well rounded pebbles		Total Depth

Test Pit Cross Section and / or Plan View



REMARKS OVA Reading of 4ppm at side of 5 gallon pail no readings off any other excavation material

PHOTO LOG TEST PIT TP16

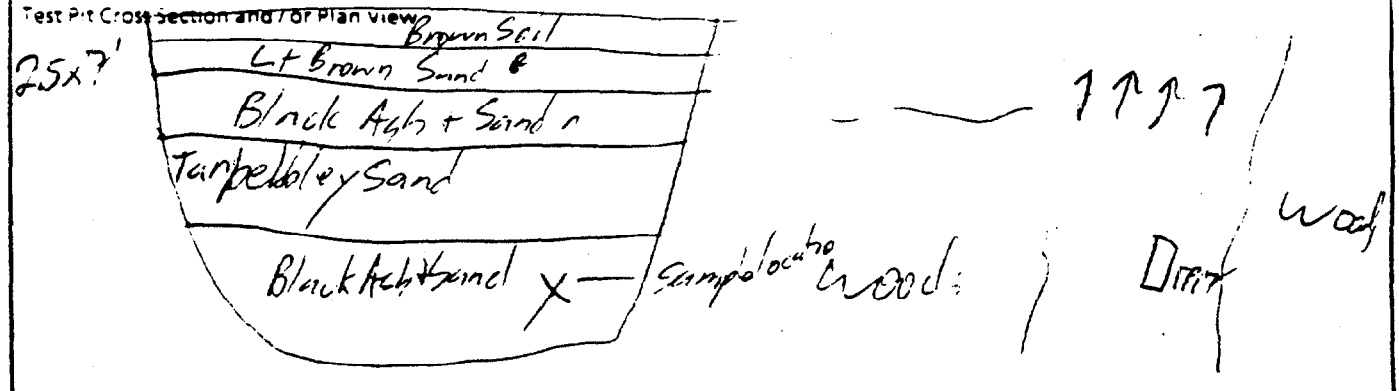
PAGE ..... OF

TEST PIT LOG **HALLIBURTON NUS**

PROJECT: NWIRP Calverton TEST PIT NO.: TP17
PROJECT NO.: 0206-0300 DATE: 4/20/94
LOCATION: N.P. DA. (Site 1)
FIELD GEOLOGIST: Eric Huss

DEPTH (FT.)	LITHOLOGY CHANGE (Depth, ft.)	MATERIAL DESCRIPTION (Soil Density / Consistency, Color)	USCS	REMARKS
0		Brown soil w/some sand + pebbles		
.5				
1		Lt Brown Sand w/well rounded pebbles		
2		Black Ash + Sand mixture		
4		Round pebbley Sand w concrete debris		
		Black Ash + sand mixture		OVA reading 5ppm in bucket
7		" " "		Sample NP-ST17-0506 collected

Test Pit Cross Section and / or Plan View



REMARKS OVA Reading of 5 ppm in backhoe bucket sampled
No OVA readings in other excavated materials

PHOTO LOG

TEST PIT TP17

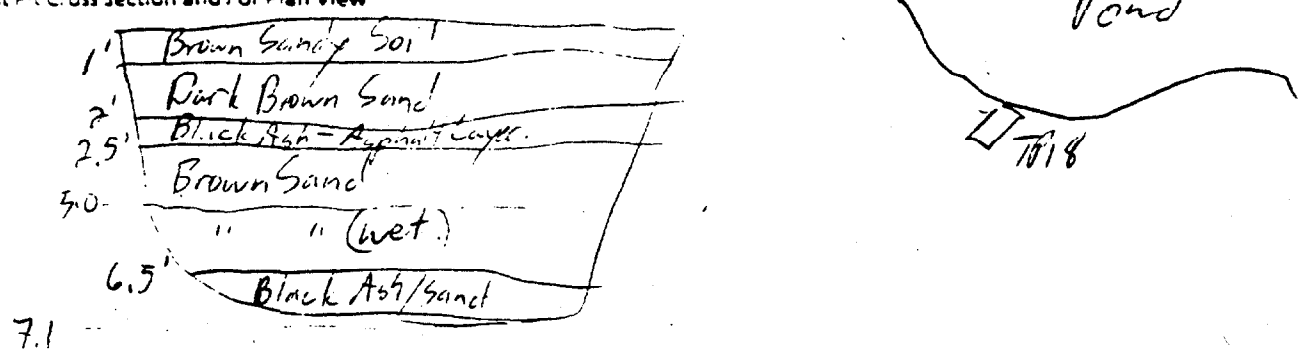
PAGE ____ OF ____

TEST PIT LOG **HALLIBURTON NUS**

PROJECT: NWIRP Calverton TEST PIT NO.: TP18
PROJECT NO.: 0206-0300 DATE: 4/30/94
LOCATION: N.P. DA. (Site 1)
FIELD GEOLOGIST: Eric Hass

DEPTH (ft.)	LITHOLOGY CHANGE (Depth ft.)	MATERIAL DESCRIPTION (Soil Density / Consistency, Color)	USCS	REMARKS
0		Brown Sandy Soil w/ rounded pebbles		
1				
2		Dark Brown Sand w/ well rounded pebbles		
2.5		Black Ash - Asphalt Layer		
5.0		Brown Sand w/ well rounded pebbles		At 5.0 feet Sand becomes wet
6.5		Construction Debris		remained wet to Black Ash layer
7.1		Black Ash/Sand Layer is unable to break through		

Test Pit Cross Section and / or Plan View



REMARKS No OVA Readings in excavation material

PHOTO LOG

TEST PIT TP18

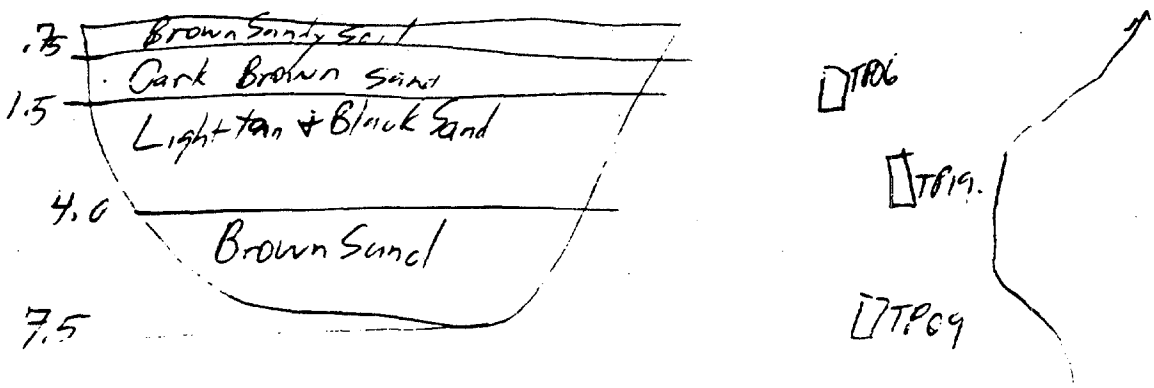
PAGE ..... OF

TEST PIT LOG **HALLIBURTON NUS**

PROJECT: NWIRP Calverton. TEST PIT NO.: TP19
PROJECT NO.: 0206-0300 DATE: 4/20/94
LOCATION: N.P.D.A. (S.L.I.)
FIELD GEOLOGIST: Eric Hass

DEPTH (ft.)	LITHOLOGY CHANGE (Depth ft.)	MATERIAL DESCRIPTION (Soil Density / Consistency, Color)	USCS	REMARKS
0		Brown Sandy Soil w/well Rounded pebbles		
.75				
1.5		Dark Brown Sand w/ " " " "		
		Mixed Light tan & Black Sands w/well Rounded pebbles		
4.0		and construction Debris		
		Brown Sand w/well Rounded Pebbles &		
7.5		Construction Debris, Plastic & Rubber Tubing Debris		

Test Pit Cross Section and / or Plan View



REMARKS No OVA Readings in excavation Material

PHOTO LOG

TEST PIT TP19

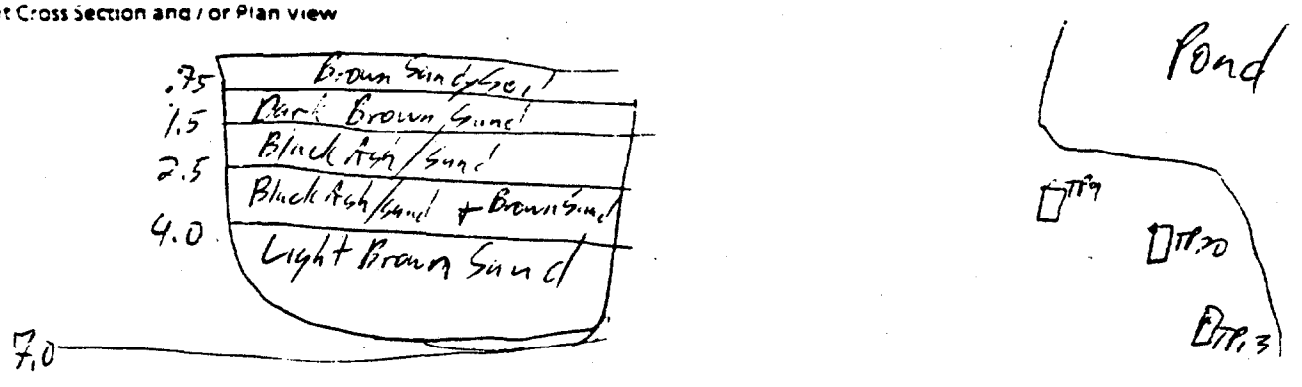
PAGE ..... OF

TEST PIT LOG **HALLIBURTON NUS**

PROJECT: NWIRP Calverton TEST PIT NO.: TP20
PROJECT NO.: 0206-0300 DATE: 4/20/94
LOCATION: NPDA (Site 1)
FIELD GEOLOGIST: Eric Hass

DEPTH (Ft.)	LITHOLOGY CHANGE (Depth, Ft.)	MATERIAL DESCRIPTION (Soil Density / Consistency, Color)	USCS	REMARKS
0		Brown Sandy Soil w/well rounded pebbles		
.75				
1.5		Dark Brown Sand w/well rounded Pebbles		
		Black Ash/Sand with Construction Debris		
2.5				
		Black Ash/Sand + Brown Sand w/pebbles		
4.0		in thin Layers / intermixed w/construction Debris mainly Scrap metal		
		Brown Sand w/pebbles + Construction debris		
7.0				

Test Pit Cross Section and / or Plan View



REMARKS No Ova Readings in Excavation Material

PHOTO LOG

TEST PIT TP20

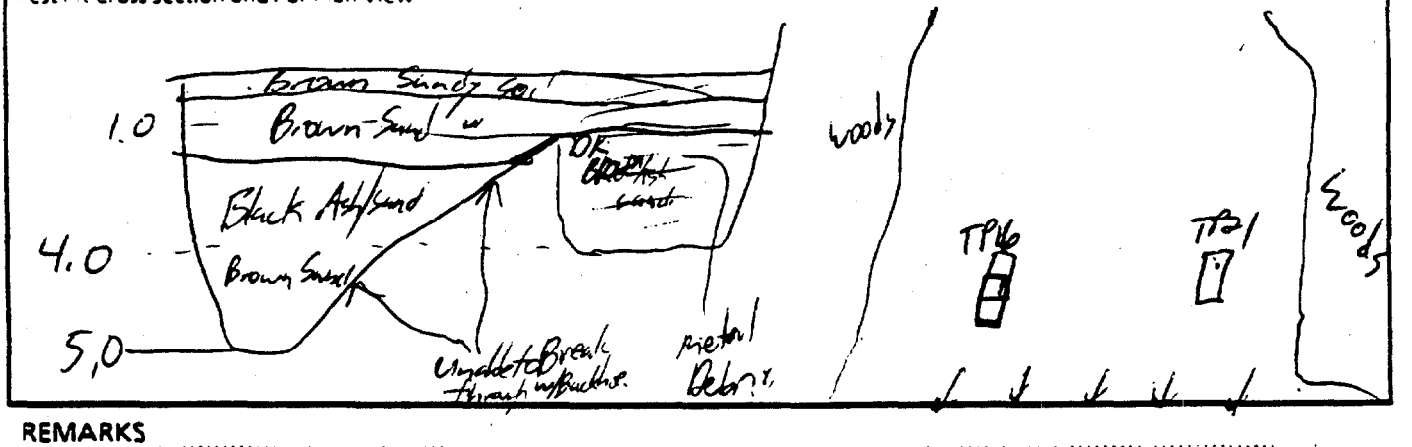
PAGE ..... OF

TEST PIT LOG **HALLIBURTON NUS**

PROJECT: NWIRP Calverton TEST PIT NO.: TP21
PROJECT NO.: 0206-0300 DATE: 4/21/94
LOCATION: NPDA (Site 1)
FIELD GEOLOGIST: Eric Huss

DEPTH (ft.)	LITHOLOGY CHANGE (Depth ft.)	MATERIAL DESCRIPTION (Soil Density / Consistency, Color)	USCS	REMARKS
0		Brown Sandy Soil w/ rounded pebbles		
.5				
1.5		Brown Sand w/ rounded pebbles + Construction Debris		
4.0		Black Ash/Sand		
5.0		Brown Sand w/ Rounded pebbles		
0		Brown Sandy Soil w/ rounded pebbles		
.5				
1.0		Brown Sand w/ Metal Debris		
4.0		Dark Brown Sand w/ Metal Debris		

Test Pit Cross Section and / or Plan view



REMARKS

PHOTO LOG

TEST PIT TP21

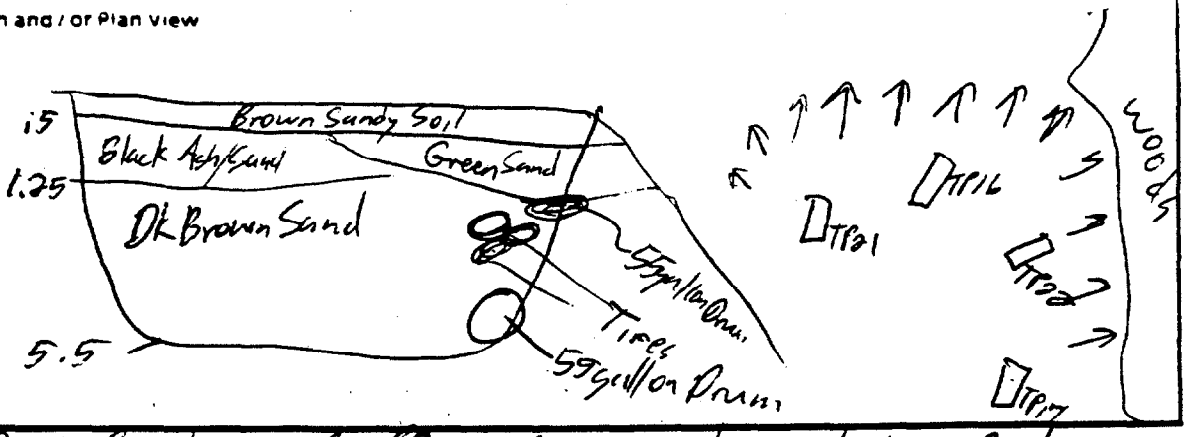
PAGE ____ OF ____

TEST PIT LOG **HALLIBURTON NUS**

PROJECT: NWIRP Calverton TEST PIT NO.: TP22
PROJECT NO.: 0206 - 0300 DATE: 4/21/94
LOCATION: NPDA (Site 1)
FIELD GEOLOGIST: Eric Hass

DEPTH (Ft.)	LITHOLOGY CHANGE (Depth Ft.)	MATERIAL DESCRIPTION (Soil Density / Consistency, Color)	USCS	REMARKS
0		Brown Sandy Soil w/well Rounded Pebbles		
.5				
		Green Sand. w/a few well Rounded Pebbles		5 gallon Pail Crushed
1.25		+ Black Ash/Sand		
				55 gallon Drum Crushed
		Dark Brown Sand w/some Black Ash/Sand +		
5.0		Greyash + rounded pebbles		Hit 55 gallon Drum Leaks Oil into
5.5				Hole - Sample Oily Soil.

Test Pit Cross Section and / or Plan View



REMARKS OVA Readings of 0 ppm over oily soil NO Readings in other excavation materials.

PHOTO LOG

TEST PIT TP22

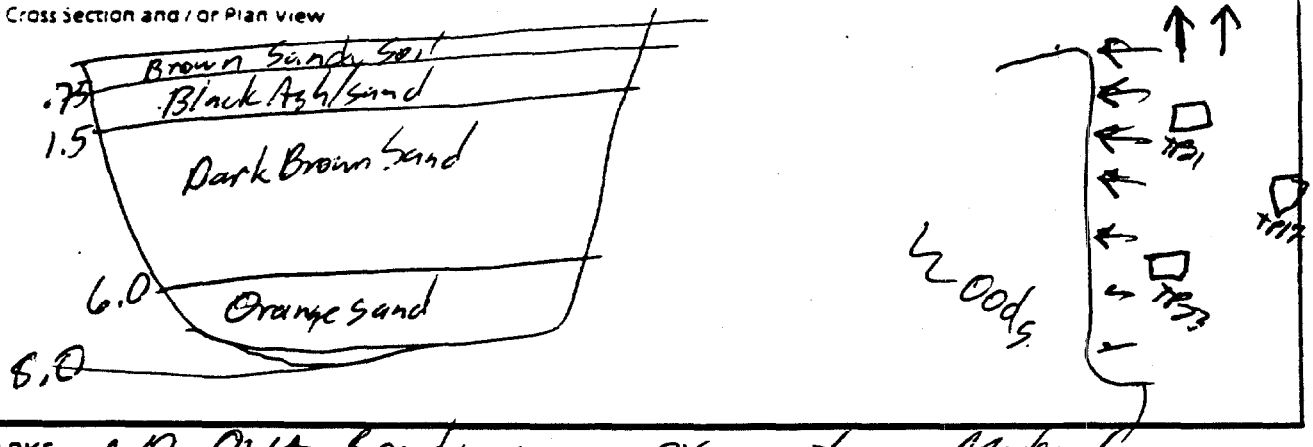
PAGE ____ OF

TEST PIT LOG **HALLIBURTON NUS**

PROJECT: NWIRP Calverton TEST PIT NO.: TP23
PROJECT NO.: 0206-0300 DATE: 4/21/94
LOCATION: NPDA (Site 1)
FIELD GEOLOGIST: Eric Hugg

DEPTH (ft.)	LITHOLOGY CHANGE (Depth, ft.)	MATERIAL DESCRIPTION (Soil Density / Consistency, Color)	USCS	REMARKS
0		Brown Sandy Soil w/rounded pebbles		
.75				
1.5		Black Ash/Sand w/rounded pebbles		
		OK. Brown Sand w/rounded pebbles + Construction Debris		
6.0				Sample MPST23-0607
		Orange Sand w/well rounded pebbles		
8.0				

Test Pit Cross Section and / or Plan View



REMARKS No OVA Readings in excavation Materials

PHOTO LOG

TEST PIT TP23

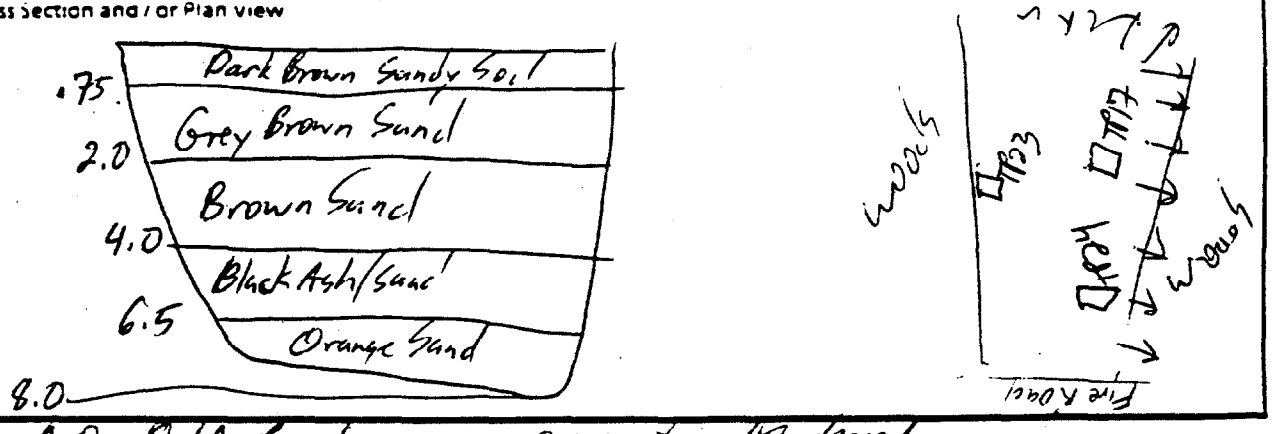
PAGE ____ OF ____

TEST PIT LOG **HALLIBURTON NUS**

PROJECT: NWIRP Calverton TEST PIT NO.: TP24
PROJECT NO.: 0206-0300 DATE: 4/21/94
LOCATION: NPDA (Site 1)
FIELD GEOLOGIST: Eric Huss

DEPTH (ft.)	LITHOLOGY CHANGE (Depth, ft.)	MATERIAL DESCRIPTION (Soil Density / Consistency, Color)	USCS	REMARKS
0		Dark Brown Sandy Soil w/rounded pebbles		
.75				
		Grey Brown Sand w/well rounded pebbles		
2.0				
		Brown Sand w/well rounded pebbles		
4.0				NP-ST24-0405 & Dup
		Black Ash/Sand w/well rounded pebbles		Engineering Sample & Dup. collected
6.5				
		Orange Sand w/rounded pebbles		
8.0				

Test Pit Cross Section and / or Plan View



REMARKS NO OVA Readings in excavation Material
Engr. Sample + Dup Collected

PHOTO LOG

TEST PIT TP24

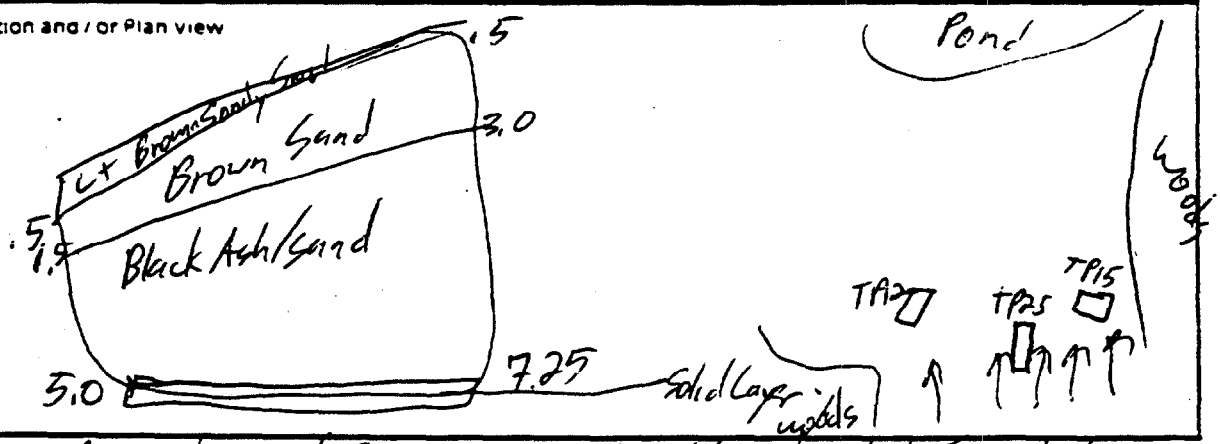
PAGE ..... OF

TEST PIT LOG **HALLIBURTON NUS**

PROJECT: NWIRP Calverton
PROJECT NO.: 0206 - 0300 DATE: 4/21/94
LOCATION: NPDA (Site 1)
FIELD GEOLOGIST: Eric Huss
TEST PIT NO.: TP25

Shallow end of test pit	DEPTH (Ft.)	LITHOLOGY CHANGE (Depth, Ft.)	MATERIAL DESCRIPTION (Soil Density / Consistency, Color)	USCS	REMARKS
0	0		Lt. Brown Sandy Soil w/ rounded pebbles		
.5	.5				
			Brown Sand w/ rounded pebbles.		
1.5	3.0				Sample NP-ST25-0304
					Collected + Dup.
			Black Ash/Sand w/ rounded pebbles +		
			Some Lt tan Sand + Rust + Green Material		
5.0	7.25				Unable to break through Solid
					material at 7.25 feet.

Test Pit Cross Section and / or Plan View



REMARKS: OVA readings of 2.5 ppm in backhoe bucket sampled
no Readings in other excavation material

PHOTO LOG

TEST PIT TP25

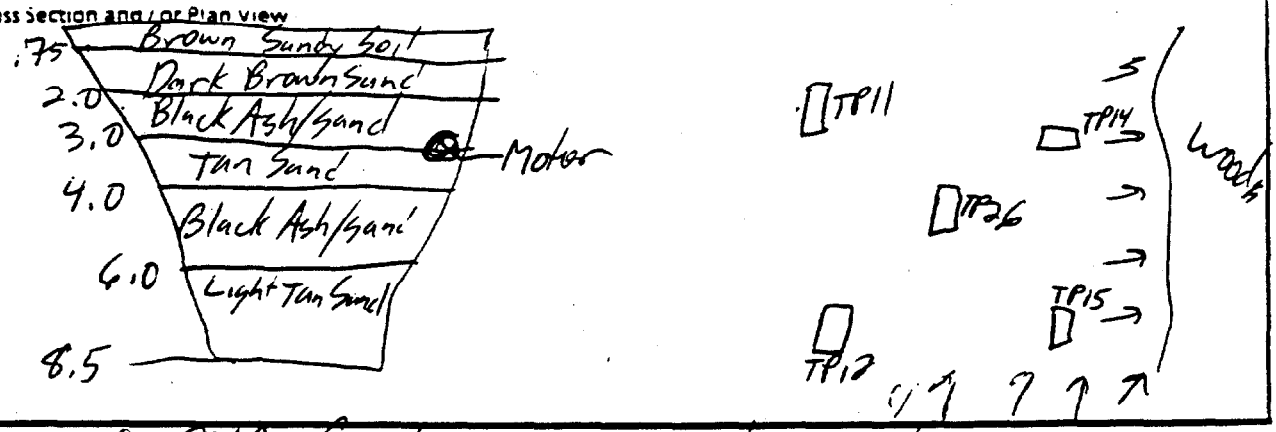
PAGE ____ OF ____

TEST PIT LOG **HALLIBURTON NUS**

PROJECT: NWIRP Calverton TEST PIT NO.: TP26
PROJECT NO.: 0206-0300 DATE: 4/21/94
LOCATION: MPOA (Site 1)
FIELD GEOLOGIST: Eric Hess

DEPTH (Ft.)	LITHOLOGY CHANGE (Depth, ft.)	MATERIAL DESCRIPTION (Soil Density / Consistency, Color)	USCS	REMARKS
0		Brown Sandy Soil w/rounded pebbles		
.75				
		Dark Brown Sand w/rounded pebbles		
2.0				
		Black Ash/Sand w/rounded pebbles		
3.0				Excavate old Motor
		Tan Sand w/rounded pebbles		
4.0				
		Black Ash/Sand w/rounded pebbles & cobbles		
6.0				
		Light Tan Sand w/rounded pebbles		
8.5				

Test Pit Cross Section and / or Plan View



REMARKS No OVA Readings in excavation Material

PHOTO LOG TEST PIT TP26

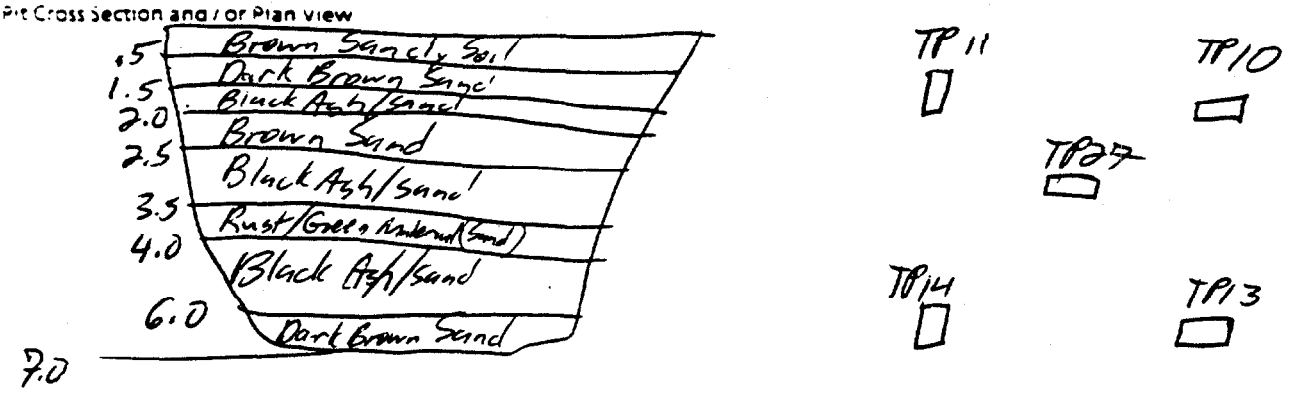
PAGE ____ OF

TEST PIT LOG **HALLIBURTON NUS**

PROJECT: NWIRP Calverton TEST PIT NO.: TP27
PROJECT NO.: 0206-0300 DATE: 4/21/94
LOCATION: NPDA (Site 1)
FIELD GEOLOGIST: Eric Huss

DEPTH (Ft.)	LITHOLOGY CHANGE (Depth Ft.)	MATERIAL DESCRIPTION (Soil Density / Consistency, Color)	USCS	REMARKS
0		Brown Sandy Soil w/rounded Pebbles		
.5				
		Dark Brown Sand w/rounded Pebbles &		
1.5		Construction Debris (wood mainly)		
		Black Ash Sand w/wood Debris &		
2.0		rounded Pebbles		
2.5		Brown Sand w/rounded Pebbles		
3.5		Black Ash/Sand w/pebbles & wires		
4.0		Rust/Green Material (Sand) with pebbles & wires		
		Black Ash/Sand w pebbles & wood Debris		
6.0				
7.0		Dark Brown Sand W/rounded Pebbles		

Test Pit Cross Section and / or Plan View



REMARKS No OVA Readings in Excavation Material

PHOTO LOG TEST PIT TP27

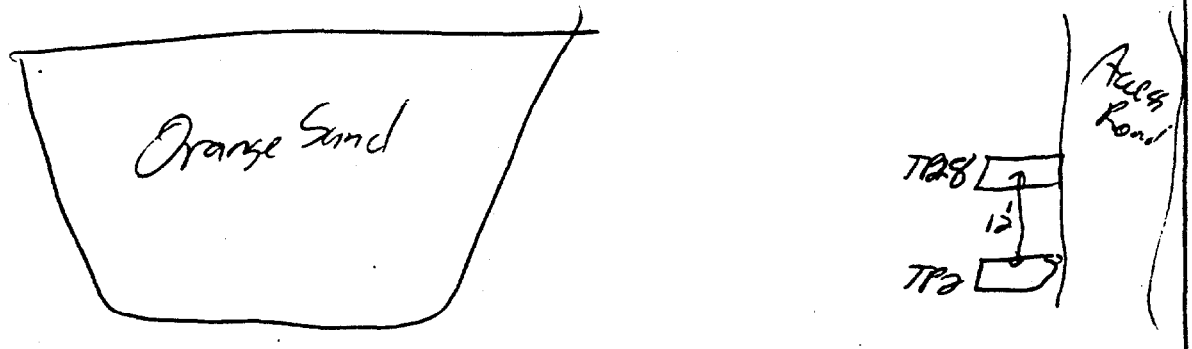
PAGE ____ OF

TEST PIT LOG **HALLIBURTON NUS**

PROJECT: NWIRP Calverton TEST PIT NO.: TP28
PROJECT NO.: 0706-0300 DATE: 4/26/94
LOCATION: NPDA - Calverton
FIELD GEOLOGIST: Eric Huss

DEPTH (FT.)	LITHOLOGY CHANGE (Depth ft.)	MATERIAL DESCRIPTION (Soil Density / Consistency, Color)	USCS	REMARKS
0				
		Orange Sand w/rounded Pebbles & Cobble		
				Sample NP-ST26-0405
5.0				collected.

Test Pit Cross Section and / or Plan View



REMARKS NO OVA Readings in excavation Material
Sample collected at approx depth of NP-ST02-0405 Engr. Parameters Sample from Natural Materials

PHOTO LOG

TEST PIT TP28

PAGE ____ OF

SITE 2

TEST PIT LOGS

TEST PIT LOG **HALLIBURTON NUS**

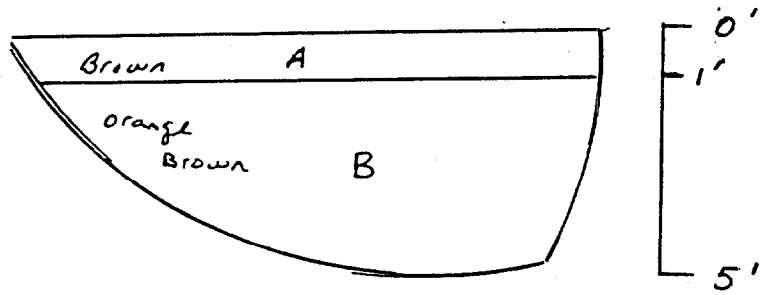
PROJECT: NWIRP - Calverton TEST PIT NO.: FT-TP01
PROJECT NO.: 0206 DATE: 6-13-94
LOCATION: Fire Training Area
FIELD GEOLOGIST: Eric Huss

DEPTH (ft.)	LITHOLOGY CHANGE (Depth, ft.)	MATERIAL DESCRIPTION (Soil Density / Consistency, Color)	USCS	REMARKS
1	A	Brown Silty Fine grained Sand	SM	
		with some organic matter		
	B			
5		orange brown Fine grained Sand	SP	
		with trace rounded pebbles		

Test Pit Cross Section and / or Plan View

A = Silty fine grained sand

B = Fine grained Sand - trace of rounded pebbles



REMARKS

PHOTO LOG

TEST PIT FT-TP01

PAGE 1 OF 1

TEST PIT LOG **HALLIBURTON NUS**

PROJECT: NWIRP- Calverton TEST PIT NO.: FT- TP02
PROJECT NO.: 0206 DATE: 6-13-94
LOCATION: Fire Training Area
FIELD GEOLOGIST: Eric Huss

DEPTH (ft.)	LITHOLOGY CHANGE (Depth,ft.)	MATERIAL DESCRIPTION (Soil Density / Consistency, Color)	USCS	REMARKS
0'	A	Brown Fine grained Sand with	SP	
1'		Some pebbles		
2'	B	Orange brown Fine grained Sand	SP	
4'	C	light brown Fine to medium grained	SP	
	D	Sand - many Subround pebbles		
6'		light brown - Fine to medium grained	SP	
		Sand with some SR pebbles		

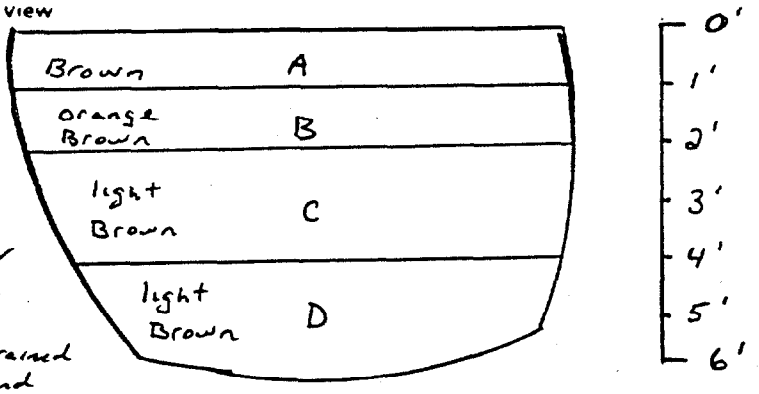
Test Pit Cross Section and / or Plan view

A = Fine grained Sand some pebbles

B = Fine grained Sand

C = Fine to medium grained sand - many Subrounded pebbles

D = Fine to medium grained Sand - Some Subround Pebbles



REMARKS

PHOTO LOG

TEST PIT FT- TP02

PAGE 1 OF 1

TEST PIT LOG **HALLIBURTON NUS**

PROJECT: NWIRP- Calverton TEST PIT NO.: FT-TP03
PROJECT NO.: 0206 DATE: 6-13-94
LOCATION: Fire Training Area
FIELD GEOLOGIST: Eric Huss

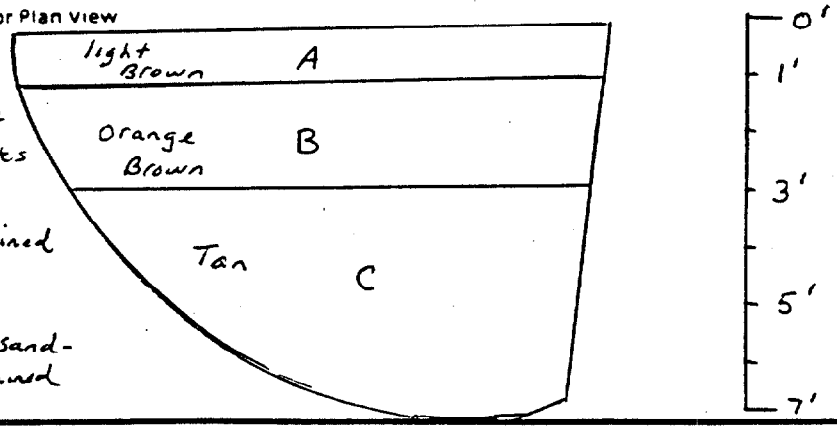
DEPTH (ft.)	LITHOLOGY CHANGE (Depth, ft.)	MATERIAL DESCRIPTION (Soil Density / Consistency, Color)	USCS	REMARKS
0	A	light Brown Fine grained sand	SM	
1.0		with some silt and SR pebbles		
	B	Orange brown Silty fine grained	SM	
3.0		Sand		
	C	Tan Fine grained Sand - Some	SP	
		medium grained sand - trace of		
7.0		Subround pebbles		

Test Pit Cross Section and / or Plan View

A= Fine grained Sand - Some silt and Subround pebbles

B= Silty Fine grained Sand

C= Fine grained sand - Some medium grained



REMARKS

PHOTO LOG

TEST PIT FT-TP03

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TEST PIT LOG **HALLIBURTON NUS**

PROJECT: NWIRP- Calverton TEST PIT NO.: FT-TP04

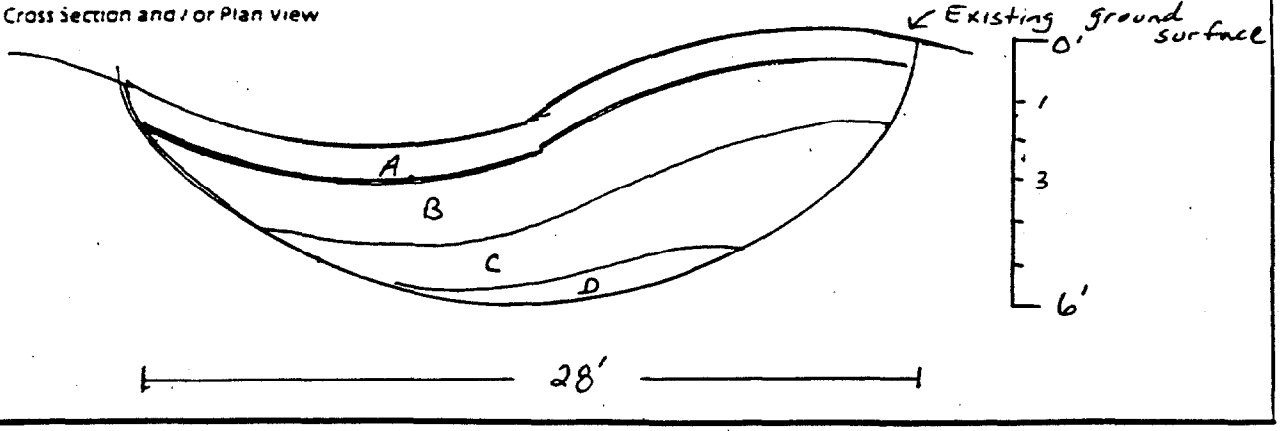
PROJECT NO.: 0206 DATE: 6-13-94

LOCATION: Fire Training Area

FIELD GEOLOGIST: Eric Huss

DEPTH (ft.)	LITHOLOGY CHANGE (Depth, ft.)	MATERIAL DESCRIPTION (Soil Density / Consistency, Color)	USCS	REMARKS
0'	A	light brown Fine to medium grained	SP	
1'		Sand with some Subround pebbles		
2'	B	Orange brown Silty Fine to med. grained	SM	
		Sand - Some Subround pebbles		
4'	C	Tan - Fine to medium grained	SP	
		Sand - Some Subround pebbles		
6'	D	light brown - Fine to medium	SP	
		grained Sand Some Subrnd. pebbles		

Test Pit Cross Section and / or Plan View



REMARKS

PHOTO LOG

TEST PIT FT-TP04

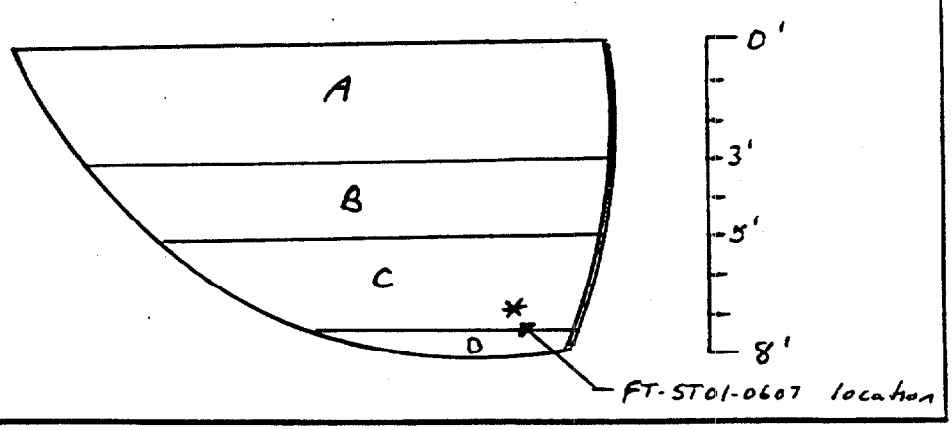
PAGE 1 OF 1

TEST PIT LOG **HALLIBURTON NUS**

PROJECT: NWIRP- Calverton TEST PIT NO.: FT-TP05
PROJECT NO.: 0206 DATE: 6-13-94
LOCATION: Fire Training Area
FIELD GEOLOGIST: Eric Huss

DEPTH (Ft.)	LITHOLOGY CHANGE (Depth, Ft.)	MATERIAL DESCRIPTION (Soil Density / Consistency, Color)	USCS	REMARKS
0				
1'	A	Tan Fine grained Sand with sub-	SP	
		round pebbles and organic matter		
3'	B	light brown Fine to medium grained	SP	
		Sand with Some pebbles		
5'		Brown Fine to med. Grained Sand	SP	
	C	with Construction debris	Fill	Sample FT-ST01-0607
				OVA: 15 ppm
8'	D	Tan- Fine to med. grain Sand	SP	
		with rounded pebbles		

Test Pit Cross Section and / or Plan View



REMARKS

PHOTO LOG

TEST PIT FT-TP05

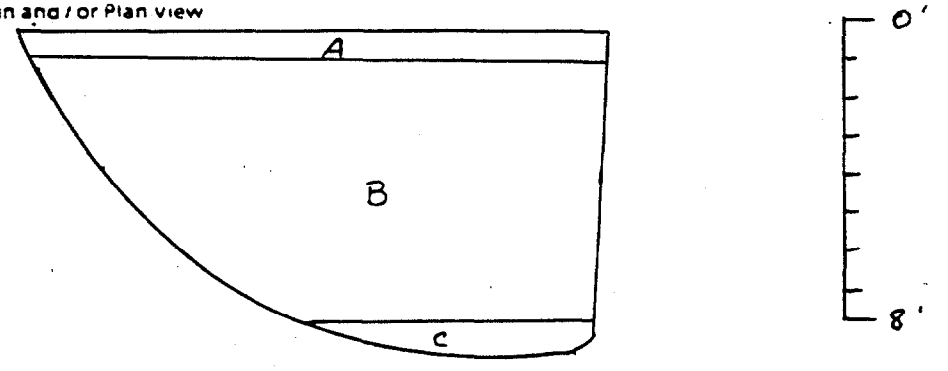
PAGE 1 OF 1

TEST PIT LOG **HALLIBURTON NUS**

PROJECT: NWIRP- Calverton TEST PIT NO.: FT-TP06
PROJECT NO.: 0206 DATE: 6-13-94
LOCATION: Fire Training Area
FIELD GEOLOGIST: Eric Huss

DEPTH (ft.)	LITHOLOGY CHANGE (Depth ft.)	MATERIAL DESCRIPTION (Soil Density / Consistency, Color)	USCS	REMARKS
0				
1'	A	Tan - Fine grained sand with	SP	
		Subrounded pebbles & roots		
4'	B	Dark brown to black fine grained	SP	
		Sand with demolition fill: Scrap	Fill	
		metal, wood, plastic, metal door,	Fill	
		Iron pipes and insulation.		
8'	C	light tan fine grained sand	SP	
		with rounded pebbles		

Test Pit Cross Section and / or Plan view



REMARKS

PHOTO LOG

TEST PIT FT-TP06

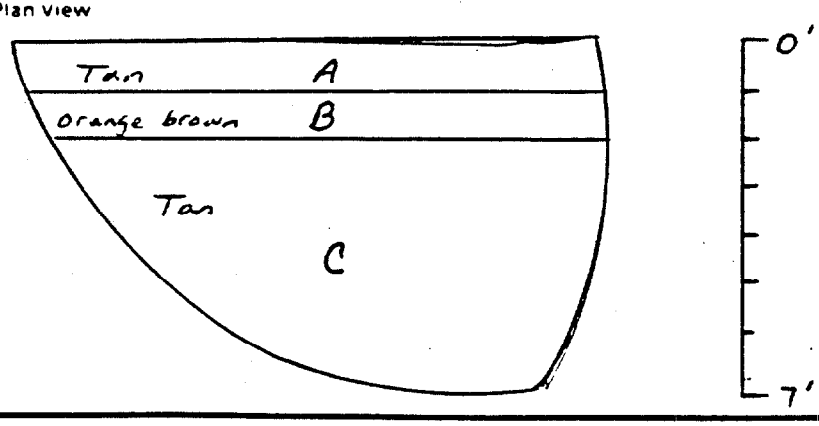
PAGE 1 OF 1

TEST PIT LOG **HALLIBURTON NUS**

PROJECT: NWIRP- Calverton TEST PIT NO.: FT-TP07
PROJECT NO.: 0206 DATE: 6-13-94
LOCATION: Fire Training Area
FIELD GEOLOGIST: Eric Huss

DEPTH (ft.)	LITHOLOGY CHANGE (Depth ft.)	MATERIAL DESCRIPTION (Soil Density / Consistency, Color)	USCS	REMARKS
1'	A	Tan - Fine grained Sand w/ organic matter	SP	
2'	B	orange brown - Silty Fine to med. grained	SM	
		Sand with Subround pebbles		
			SP	
	C			
			SP	
7'		Tan - Fine to medium grained		
		Sand with Some Subround pebbles		

Test Pit Cross Section and / or Plan View



REMARKS

PHOTO LOG

TEST PIT FT-TP07

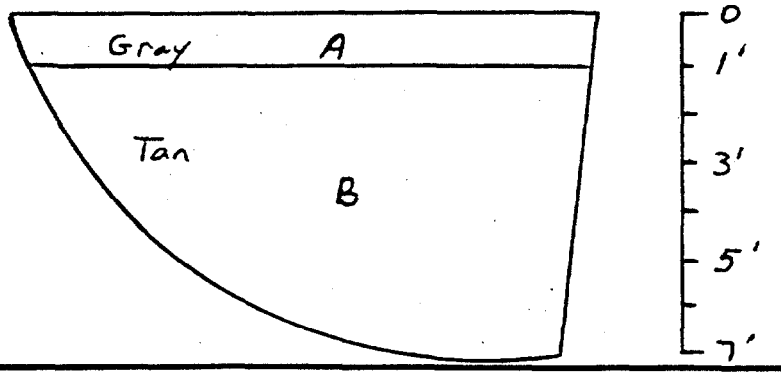
PAGE 1 OF 1

TEST PIT LOG **HALLIBURTON NUS**

PROJECT: NWIRP- Calverton TEST PIT NO.: FT-TP08
PROJECT NO.: 0206 DATE: 6-13-94
LOCATION: Fire Training Area
FIELD GEOLOGIST: Eric Huss

DEPTH (ft.)	LITHOLOGY CHANGE (Depth,ft.)	MATERIAL DESCRIPTION (Soil Density / Consistency, Color)	USCS	REMARKS
1'	A	Gray Fine grained sand - some fill material wood & metal	SP	
			SP	
	B	Tan - Fine to medium grained with subrnd pebbles	SP	
7'				

Test Pit Cross Section and / or Plan View



REMARKS

PHOTO LOG

TEST PIT FT-TP08

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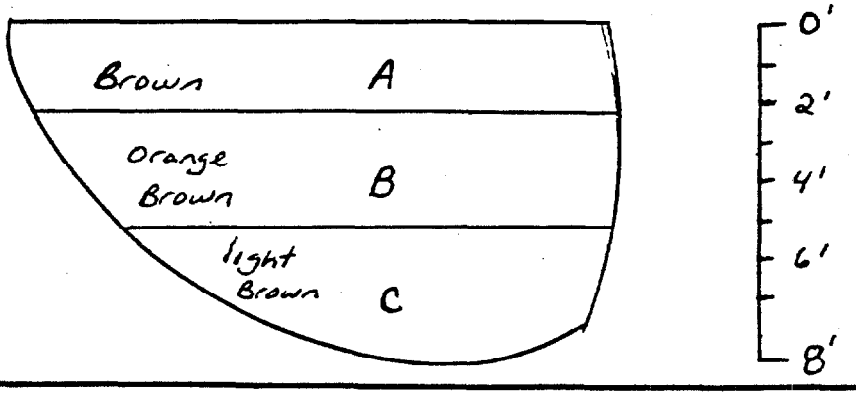
TEST PIT LOG **HALLIBURTON NUS**

PROJECT: NWIRP- Calverton TEST PIT NO.: FT-TP09
PROJECT NO.: 0206 DATE: 6-14-94
LOCATION: Fire Training Area
FIELD GEOLOGIST: Eric Huss

DEPTH (ft.)	LITHOLOGY CHANGE (Depth, ft.)	MATERIAL DESCRIPTION (Soil Density / Consistency, Color)	USCS	REMARKS
0				
	A	Brown - Silty Fine grained	SM	
2'		Sand with roots		
	B	Orange brown Silty Fine grained	SM	
5'		Sand - Some subround pebbles		
	C	light brown - Fine grained Sand	SP	
8'		trace subround pebbles.		

Test Pit Cross Section and / or Plan View



REMARKS

PHOTO LOG

TEST PIT FT-TP09

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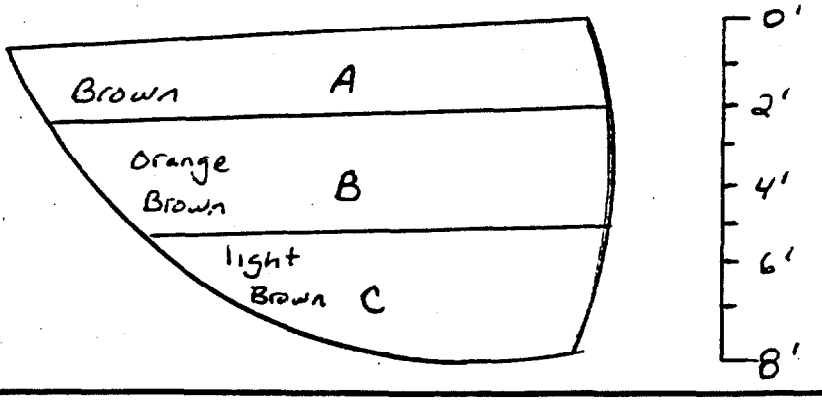
TEST PIT LOG **HALLIBURTON NUS**

PROJECT: NWIRP- Calverton TEST PIT NO.: FT-TP10
PROJECT NO.: 0206 DATE: 6-14-94
LOCATION: Fire Training Area
FIELD GEOLOGIST: Eric Huss

DEPTH (ft.)	LITHOLOGY CHANGE (Depth ft.)	MATERIAL DESCRIPTION (Soil Density / Consistency, Color)	USCS	REMARKS
0				
	A	Brown - Silty Fine grained Sand	SM	
2'		with organic matter & roots		
	B	orange brown - Silty Fine grained	SM	
5'		Sand with trace SR pebbles		
	C	light brown - Fine grained Sand	SP	
8'		with trace Subround pebbles		

Test Pit Cross Section and / or Plan View



REMARKS

PHOTO LOG

TEST PIT FT-TP10

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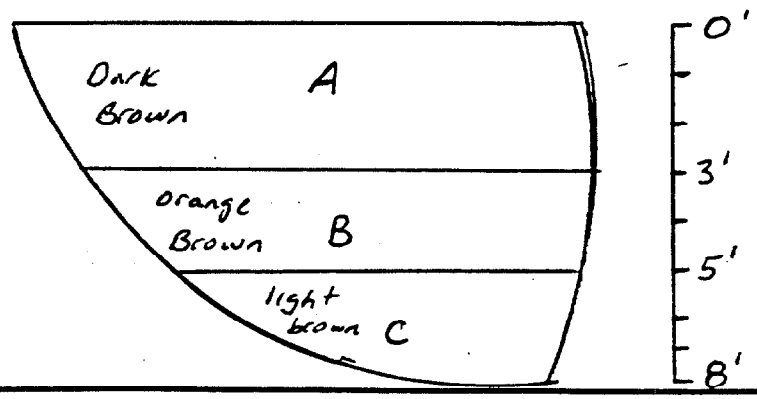
TEST PIT LOG **HALLIBURTON NUS**

PROJECT: Calverton - NWIRP TEST PIT NO.: FT-TP11
PROJECT NO.: 0206 DATE: 6-14-94
LOCATION: Fire Training Area
FIELD GEOLOGIST: Eric Huss

DEPTH (ft.)	LITHOLOGY CHANGE (Depth ft.)	MATERIAL DESCRIPTION (Soil Density / Consistency, Color)	USCS	REMARKS
	A	Dark brown silty fine grain	SM	
		sand with peat and some	PT	
3'		subround pebbles		
	B	orange brown silty fine grained	SM	
5'		sand - some subround pebbles		
	C	light brown - fine grained	SP	
		sand some rounded pebbles		
8'				

Test Pit Cross Section and / or Plan view



REMARKS A PVC - Schedule 80 (2"-dia.) pipe was found during backfilling approximately 2-feet south of test pit.

PHOTO LOG

TEST PIT FT-TP11

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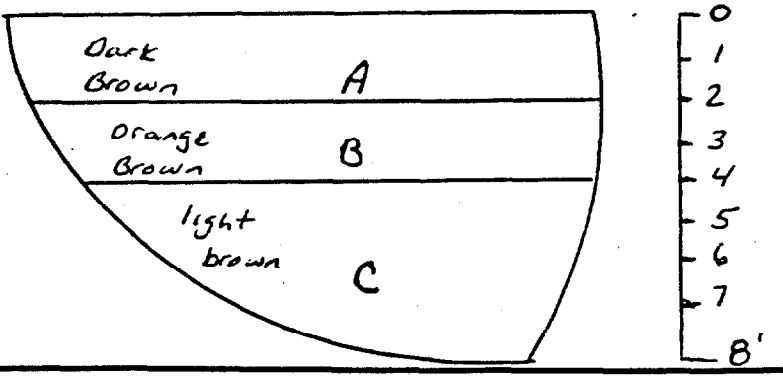
TEST PIT LOG **HALLIBURTON NUS**

PROJECT: NWIRP- Calverton TEST PIT NO.: FT-TP 12
PROJECT NO.: 0206 DATE: 6-14-94
LOCATION: Fire Training Area
FIELD GEOLOGIST: Eric Huss

DEPTH (ft.)	LITHOLOGY CHANGE (Depth ft.)	MATERIAL DESCRIPTION (Soil Density / Consistency, Color)	USCS	REMARKS
	A	Dark brown silty fine grained	SM	
2'		sand with organic material		
	B	orange brown silty fine grained	SM	
4'		sand - some subround pebbles		
	C	light brown - fine grained	SP	
		sand with some subrounded		
8'		pebbles		

Test Pit Cross Section and / or Plan View



REMARKS

PHOTO LOG TEST PIT FT-TP 12

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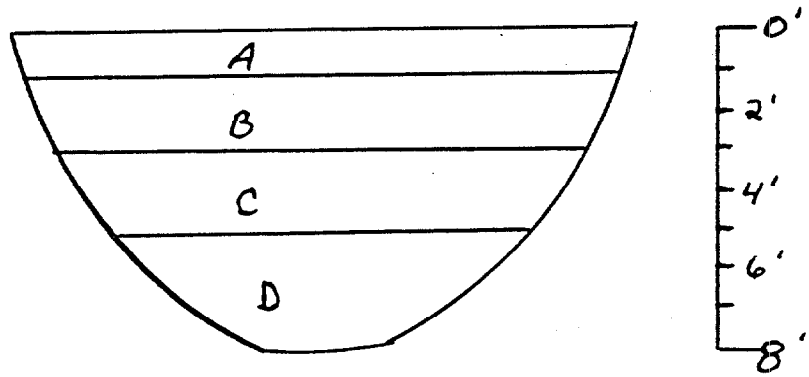
TEST PIT LOG **HALLIBURTON NUS**

PROJECT: NWIRP- Calverton TEST PIT NO.: FT- TP13
PROJECT NO.: 0206 DATE: 6-14-94
LOCATION: Fire Training Area
FIELD GEOLOGIST: Eric Huss

DEPTH (ft.)	LITHOLOGY CHANGE (Depth, ft.)	MATERIAL DESCRIPTION (Soil Density / Consistency, Color)	USCS	REMARKS
0	A	Dark brown silty clayey Sand	SC/SM	
1		with some Subround pebbles		
	B	Dark brown Organic Peat	PT	
3		material (roots, wood, weathered leaves)		
	C	Orange brown silty fine grained	SM	
5		Sand some rounded pebbles		
	D	Tan- Fine grained Sand	SP	
8'		with some Subround pebbles		

Test Pit Cross Section and / or Plan View



REMARKS

PHOTO LOG

TEST PIT FT- TP13

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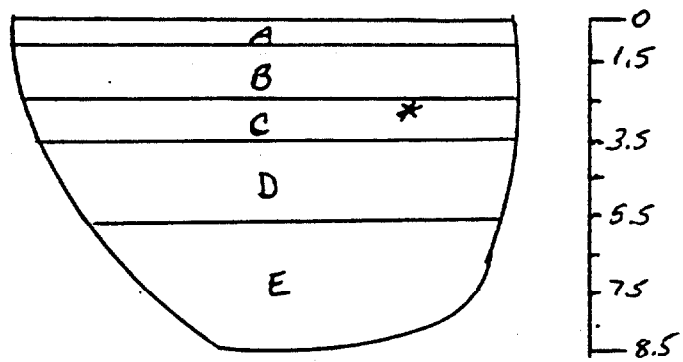
TEST PIT LOG **HALLIBURTON NUS**

PROJECT: NWIRP- Calverton TEST PIT NO.: FT-TP14
PROJECT NO.: 0206 DATE: 6-14-94
LOCATION: Fire Training Area
FIELD GEOLOGIST: Eric Huss

DEPTH (ft.)	LITHOLOGY CHANGE (Depth ft.)	MATERIAL DESCRIPTION (Soil Density / Consistency, Color)	USCS	REMARKS
0	A	Dark brown silty sand	SM	
1		with some subrounded pebbles		
	B	Brown fine grained sand	SP	
2.5		with some subround pebbles		Sample FT-ST14-0203
3.5	C	Dk. brown organic peat material	PT	OVA= 300 ppm
	D	orange brown silty fine	SM	
5.5		grained sand - some SR pebbles		
	E	Tan. Fine grained sand	SP	
8.5		with some subround pebbles		

Test Pit Cross Section and / or Plan View



*: FT-ST14-0203 location

REMARKS Sample FT-ST14-0203 collected from 2.0 feet below surface

PHOTO LOG

TEST PIT FT-TP14

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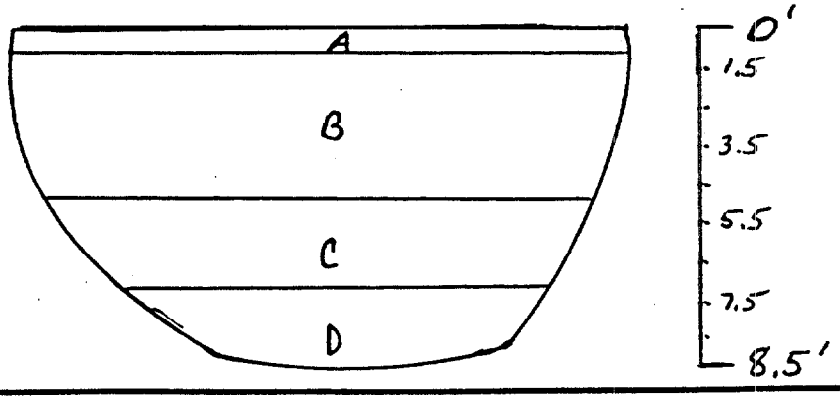
TEST PIT LOG **HALLIBURTON NUS**

PROJECT: NWIRP- Calverton TEST PIT NO.: FT- TP15
PROJECT NO.: 0206 DATE: 6-14-94
LOCATION: Fire Training Area
FIELD GEOLOGIST: Eric Huss

DEPTH (ft.)	LITHOLOGY CHANGE (Depth ft.)	MATERIAL DESCRIPTION (Soil Density / Consistency, Color)	USCS	REMARKS
0'	A	Brown - Silty Fine grained sand	SM	
1'		Some pebbles & Concrete/metal debris	Fill	
	B	multi colored - (dk. brown, gray, tan,	SP	
		and orange brown) interbedded fine		
5'		grained sand - Some fill material	Fill	
	C	Orange brown silty fine grained	SM	
7'		sand with some SR pebbles		
	D	Tan - Fine grained sand	SP	
8.5'		with some Subround pebbles		

Test Pit Cross Section and / or Plan View



REMARKS

PHOTO LOG

TEST PIT FT-TP15

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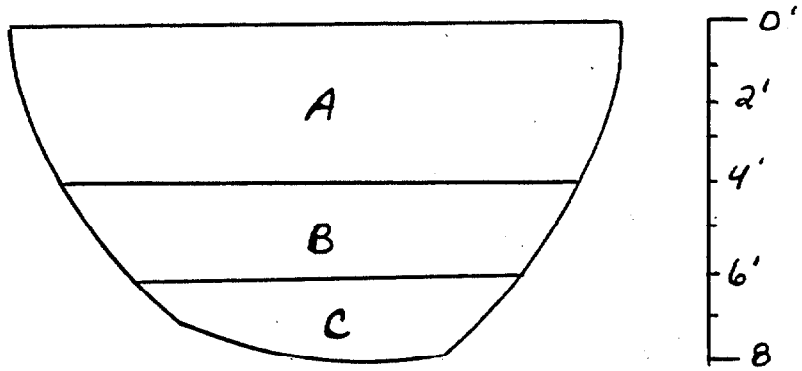
TEST PIT LOG **HALLIBURTON NUS**

PROJECT: NWIRP - Calverton TEST PIT NO.: FT-TP16
PROJECT NO.: 0206 DATE: 6-15-94
LOCATION: Fire Training Area
FIELD GEOLOGIST: Eric Huss

DEPTH (ft.)	LITHOLOGY CHANGE (Depth ft.)	MATERIAL DESCRIPTION (Soil Density / Consistency, Color)	USCS	REMARKS
0'				
	A	Dark brown - organic Peat material - (roots - weathered leaves and wood)	PT	
4'				
	B	Orange brown - Silty fine grained Sand - Some SR pebbles	SM	
6'				
	C	Tan - Fine grained sand with Some Subround pebbles	SP	
8'				

Test Pit Cross Section and / or Plan View



REMARKS

PHOTO LOG

TEST PIT FT-TP16

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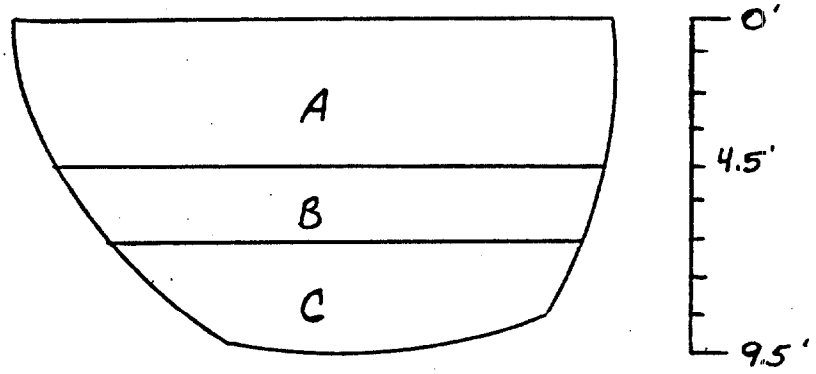
TEST PIT LOG **HALLIBURTON NUS**

PROJECT: NWIRP- Calverton TEST PIT NO.: FT-TP17
PROJECT NO.: 0206 DATE: 6-15-94
LOCATION: Fire Training Area
FIELD GEOLOGIST: Eric Huss

DEPTH (ft.)	LITHOLOGY CHANGE (Depth ft.)	MATERIAL DESCRIPTION (Soil Density / Consistency, Color)	USCS	REMARKS
0				
	A	Dark brown- organic Peat	PT	
		material - with weathered wood,		
		leaves and sticks.		
4.5'				
	B	Orange-brown Silty fine grained	SM	
6.5'		Sand with rounded pebbles		
	C	Tan- Fine grained Sand	SP	
9.5		with some Subround pebbles		

Test Pit Cross Section and / or Plan View



REMARKS

PHOTO LOG

TEST PIT FT-TP17

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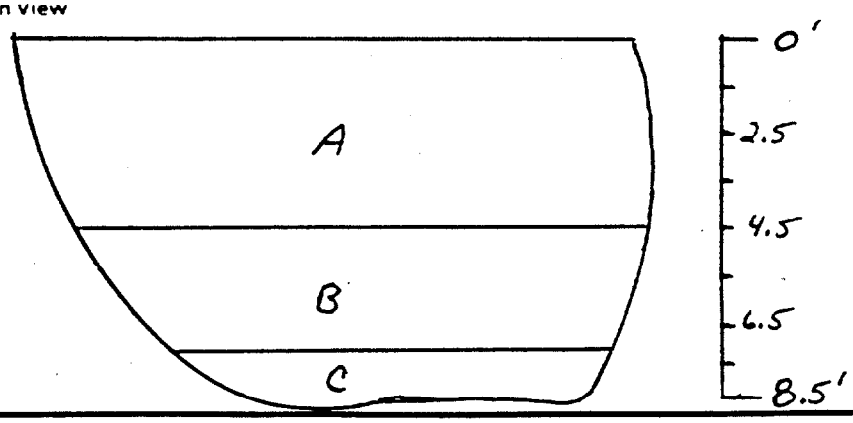
TEST PIT LOG **HALLIBURTON NUS**

PROJECT: NWIRP - Calverton TEST PIT NO.: FT-TP18
PROJECT NO.: 0206 DATE: 6-15-94
LOCATION: Fire Training Area
FIELD GEOLOGIST: Eric Huss

DEPTH (ft.)	LITHOLOGY CHANGE (Depth, ft.)	MATERIAL DESCRIPTION (Soil Density / Consistency, Color)	USCS	REMARKS
0'				
	A	Dark brown organic Peat material (weathered leaves wood & sticks)	PT	
4.5'				
	B	Orange brown silty fine grained Sand with rounded pebbles	SM	
7'				
	C	Tan - Fine grained Sand with some rounded pebbles	SP	
8.5'				

Test Pit Cross Section and / or Plan View



REMARKS

PHOTO LOG

TEST PIT FT-TP10

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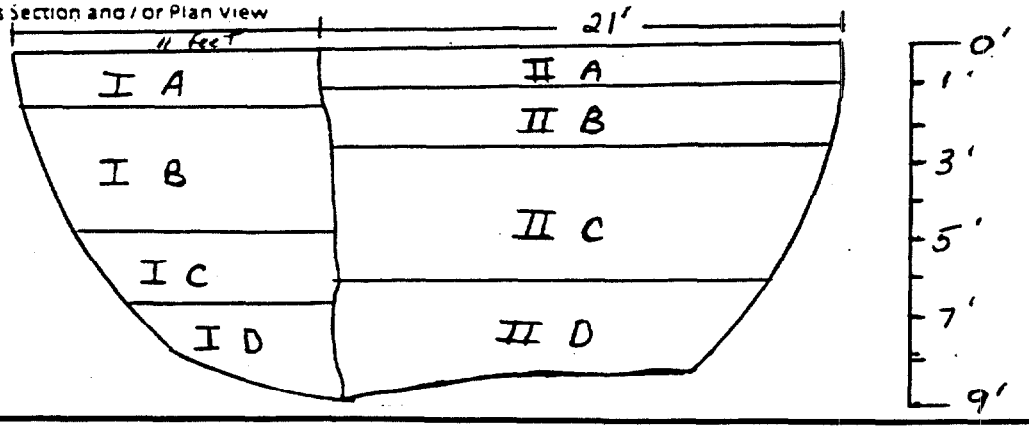
TEST PIT LOG **HALLIBURTON NUS**

PROJECT: NWIRP- Calverton TEST PIT NO.: FT-TP19
PROJECT NO.: 0206 DATE: 6-15-94
LOCATION: Fire Training Area
FIELD GEOLOGIST: Eric Huss

DEPTH (ft.)	LITHOLOGY CHANGE (Depth, ft.)	MATERIAL DESCRIPTION (Soil Density / Consistency, Color)	USCS	REMARKS
1'	I A	Brown Fine grained Sand	SP	
	I B	multi colored - (orange brown, tan brown)		
		Fine grained Sand some Subround	SP	
5'		pebbles - interbedded.		
	I C	Interbedded as above - with abt	SP/	
7.5'		of Scrap metal debris & pink/yellow insulation	Fill	
8.5'	I D	Tan - Fine grained Sand subround pebbles	SP	
0.0' 1.0'	II A	light Tan Fine grained Sand w/ roots	SP	
2.5'	II B	Dark brown Silty F.G Sand pebbles	SM	
		Orange brown Silty Fine grained		
	II C	Sand with rounded Pebbles		
6'				
	II D	Tan - Fine grained Sand some	SP	
8'		medium grains & rounded pebbles		

Test Pit Cross Section and / or Plan View



REMARKS

PHOTO LOG

TEST PIT FT-TP19

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TEST PIT LOG

HALLIBURTON NUS

PROJECT: NWIRP- Calverton

TEST PIT NO.: FT- TP20

PROJECT NO.: 0206

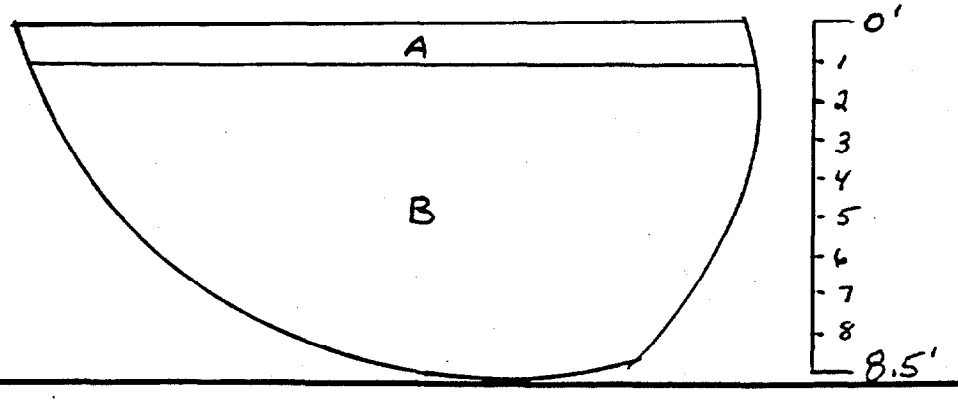
DATE: 6-15-94

LOCATION: Fire Training Area

FIELD GEOLOGIST: Eric Huss

DEPTH (ft.)	LITHOLOGY CHANGE (Depth ft.)	MATERIAL DESCRIPTION (Soil Density / Consistency, Color)	USCS	REMARKS
0'	A	Tan & orange brown interbedded	SM	
1'		fine grained sand with silt		
	B	Brown - Fine grained sand	SP	
		with subround pebbles mixed	Fill	
		with concrete rubble, wood,		
		metal scrap & steel and gen-	Fill	
		eral construction debris.		
8.5'				

Test Pit Cross Section and / or Plan view



REMARKS

PHOTO LOG

TEST PIT FT- TP20

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TEST PIT LOG **HALLIBURTON NUS**

PROJECT: NWIRP- Calverton TEST PIT NO.: FT- TP21

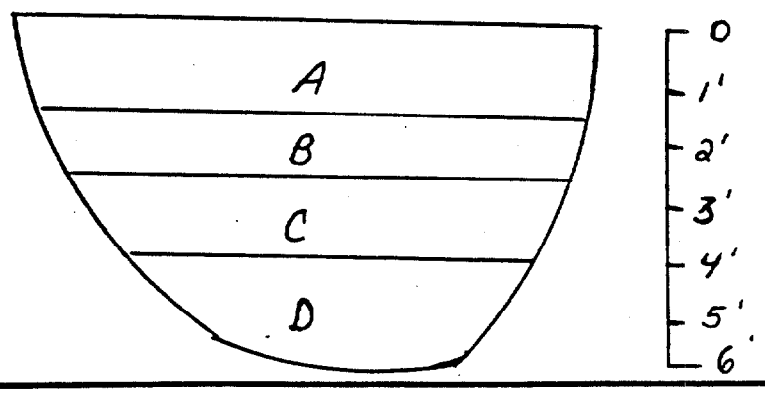
PROJECT NO.: 0206 DATE: 6-15-94

LOCATION: Fire Training Area

FIELD GEOLOGIST: Eric Huss

DEPTH (ft.)	LITHOLOGY CHANGE (Depth ft.)	MATERIAL DESCRIPTION (Soil Density / Consistency, Color)	USCS	REMARKS
1.5'	A	Tan- Fine grained sand with some subround pebbles	SP	
2.5'	B	Dark brown- organic peat material	PT	
4'	C	Orange brown- Silty fine grained sand with rounded pebbles	SM	
6'	D	Tan- Fine grained sand some medium gravas & pebbles	SP	

Test Pit Cross Section and / or Plan View



REMARKS

PHOTO LOG

TEST PIT FT- TP21

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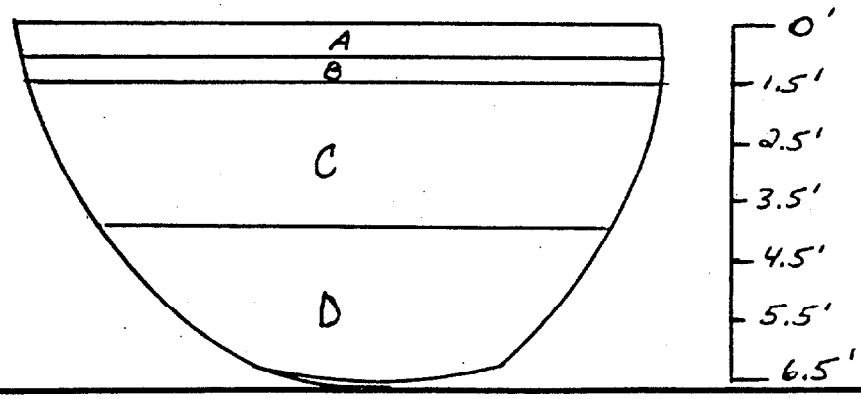
TEST PIT LOG **HALLIBURTON NUS**

PROJECT: NWIRP- Calverton TEST PIT NO.: FT-TP22
PROJECT NO.: 0206 DATE: 6-15-94
LOCATION: Fire Training Area
FIELD GEOLOGIST: Eric Huss

DEPTH (ft.)	LITHOLOGY CHANGE (Depth ft.)	MATERIAL DESCRIPTION (Soil Density / Consistency, Color)	USCS	REMARKS
0'	A	Tan - Fine grained Sand with	SP	
1'		Some Subround pebbles and roots		
1.5'	B	Drk. brn - Silty F.G. Sand & pebbs.	SM	
	C	Orange brown - Silty Fine	SM	
		grained Sand with Some		
4'		Subrounded pebbles		
	D			
		Tan - Fine grained Sand - Some	SP	
6.5'		medium grains & rounded pebbles		

Test Pit Cross Section and / or Plan View



REMARKS

PHOTO LOG

TEST PIT FT-TP22

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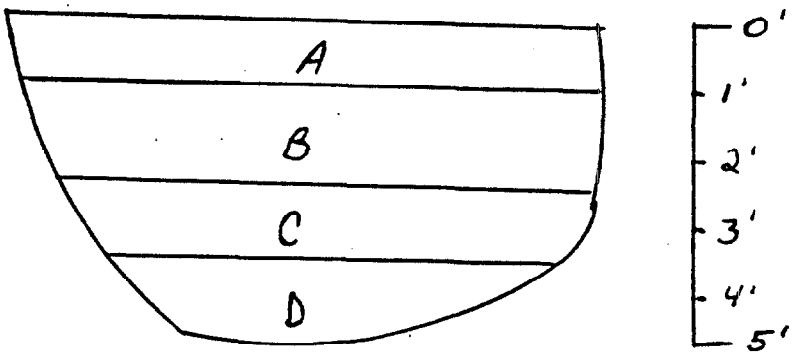
TEST PIT LOG **HALLIBURTON NUS**

PROJECT: NWIRP- Calverton TEST PIT NO.: FT-TP23
PROJECT NO.: 0206 DATE: 6-15-94
LOCATION: Fire Training Area
FIELD GEOLOGIST: Eric Hugs

DEPTH (ft.)	LITHOLOGY CHANGE (Depth ft.)	MATERIAL DESCRIPTION (Soil Density / Consistency, Color)	USCS	REMARKS
0'	A	Brown - silty fine grained sand	SM	
1'		with some rounded pebbles		
	B	light brown - Fine grained sand	SP	
2.5'		Some pebbles - Some Peat material	/PT	
	C	orange brown - silty fine	SM	
3.5'		grained sand - some rounded pebbs.		
	D	Tan - Fine grained sand some	SP	
5.0'		medium grains & pebbles Trace peat		

Test Pit Cross Section and / or Plan View



REMARKS

PHOTO LOG

TEST PIT FT-TP23

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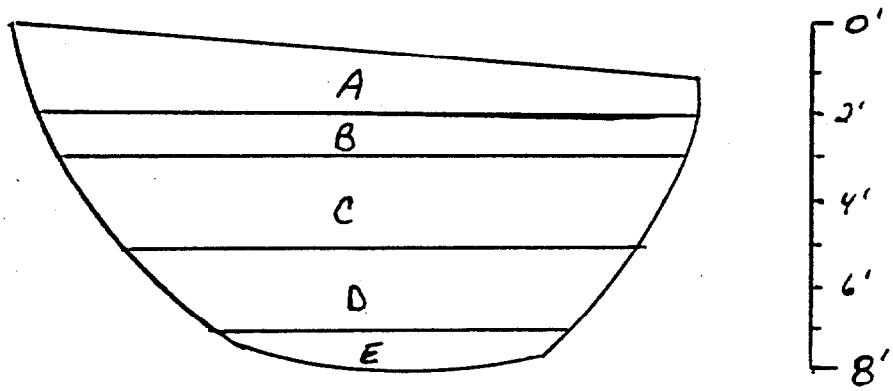
TEST PIT LOG **HALLIBURTON NUS**

PROJECT: NWIRP- Calverton TEST PIT NO.: FT- TP 24
PROJECT NO.: 0206 DATE: 6-16-94
LOCATION: Fire Training Area
FIELD GEOLOGIST: Eric Huss

DEPTH (ft.)	LITHOLOGY CHANGE (Depth ft.)	MATERIAL DESCRIPTION (Soil Density / Consistency, Color)	USCS	REMARKS
0'	A	Brown- Fine grained Sand	SP	
		Some medium grains & rounded		* Some concrete debris
2'		pebbles (roots at top)		and sheet metal scraps
3'	B	Brown- Fine to med. grained Sand	SP	
	C	Dark brown- organic Peat	PT	
5'		material.		
	D	Orange brown- silty fine	SM	
7'		grained Sand some pebbles		
8'	E	Tan- Fine to medium grained	SP	
		Sand with some rounded pebbles		

Test Pit Cross Section and / or Plan View



REMARKS Test Pit was on mild Slope

PHOTO LOG

TEST PIT FT- TP24

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TEST PIT LOG

HALLIBURTON NUS

PROJECT: NWIRP- Calverton TEST PIT NO.: FT-TP 25

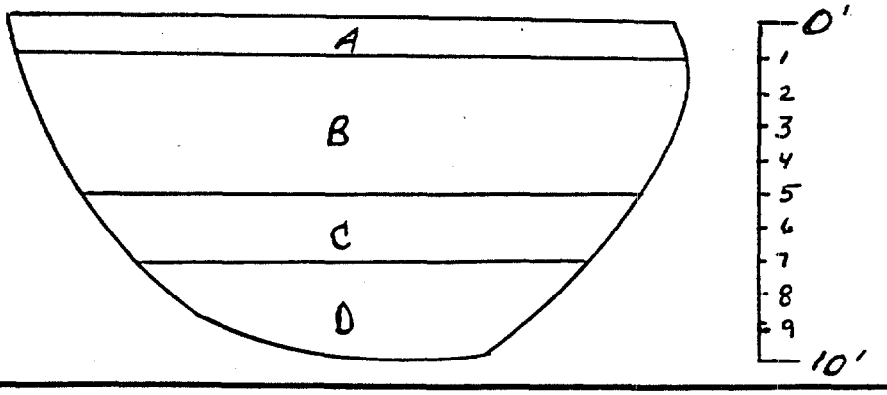
PROJECT NO.: 0206 DATE: 6-16-94

LOCATION: Fire Training Area

FIELD GEOLOGIST: Eric Huss

DEPTH (ft.)	LITHOLOGY CHANGE (Depth ft.)	MATERIAL DESCRIPTION (Soil Density / Consistency, Color)	USCS	REMARKS
0	A	Brown - Fine grained sand some	SP	
1'		medium grains & pebbles. Some peat material		
	B	Dark brown organic peat	PT	
		material (weathered roots, wood		
5'		and leaves).		
	C	Orange brown - Silty fine grained	SM	
7'		sand - Some rounded pebbles		
	D	Tan - Fine to medium grained	SP	
10'		Sand Some Subrounded pebbles		

Test Pit Cross Section and / or Plan View



REMARKS

PHOTO LOG

TEST PIT FT-TP 25

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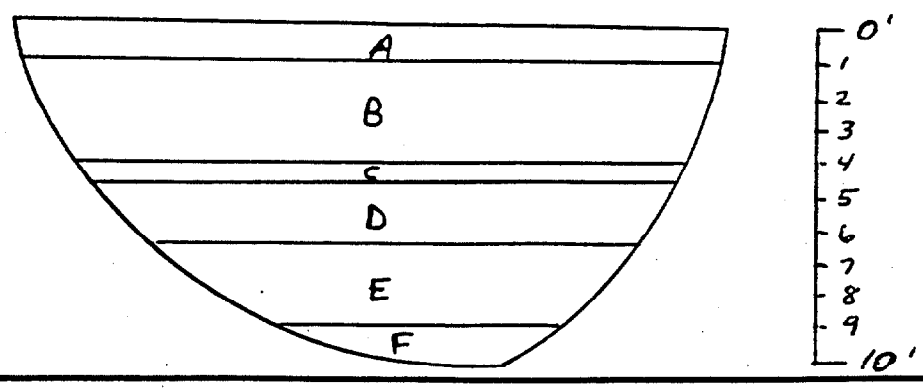
TEST PIT LOG **HALLIBURTON NUS**

PROJECT: NWIRP- Calverton TEST PIT NO.: FT-TP26
PROJECT NO.: 0206 DATE: 6-16-94
LOCATION: Fire Training Area
FIELD GEOLOGIST: Eric Huss

DEPTH (ft.)	LITHOLOGY CHANGE (Depth,ft.)	MATERIAL DESCRIPTION (Soil Density / Consistency, Color)	USCS	REMARKS
0'	A	Brown - Fine grained Sand with	SP	
1'		Some subrounded pebbles		
	B	Dark brown - fine grained	SP	
		Sand with some rounded pebbles		
4'				
4.5'	C	Orange brown silty fine grain sand	SM	
	D	Dark brown organic peat	PT	
6.5'		material.		
	E	Orange brown silty fine grained	SM	
9'		Sand with rounded pebbles		
	F	Tan - Fine to medium grained	SP	
10'		Sand with some SR pebbles		

Test Pit Cross Section and / or Plan View



REMARKS

PHOTO LOG

TEST PIT FT-TP26

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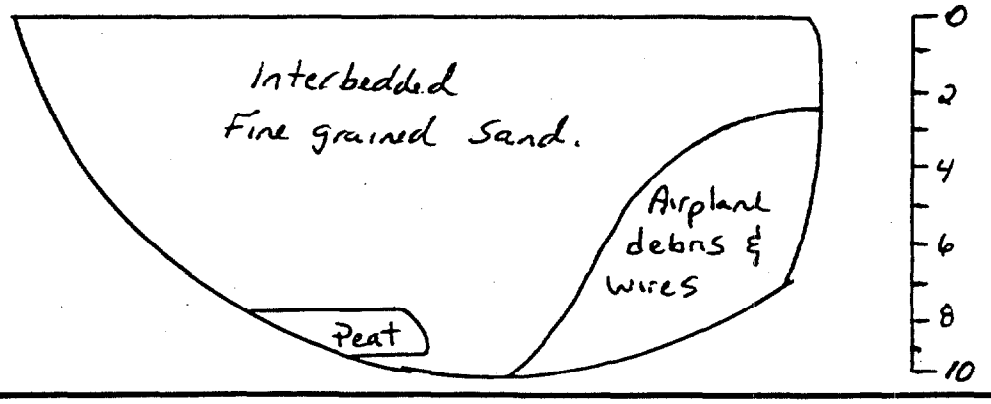
TEST PIT LOG **HALLIBURTON NUS**

PROJECT: NWIRP- Calverton TEST PIT NO.: FT-TP 27
PROJECT NO.: 0206 DATE: 6-16-94
LOCATION: Fire Training Area
FIELD GEOLOGIST: Eric Huss

DEPTH (ft.)	LITHOLOGY CHANGE (Depth, ft.)	MATERIAL DESCRIPTION (Soil Density / Consistency, Color)	USCS	REMARKS
0'		multi colored - (Tan, brown, black)		
		interbedded fine grained Sands	SP	
2.		with rounded pebbles		
			Demo	
4		(A large part of an airplane	debris	
		portion found along with wires,		
6		hydraulic lines, and sheet metal.		
9'		Tan- Fine to medium grained	SP	
10.0		Sand w/some subround pebbles		

Test Pit Cross Section and / or Plan View



REMARKS

PHOTO LOG

TEST PIT FT-TP 27

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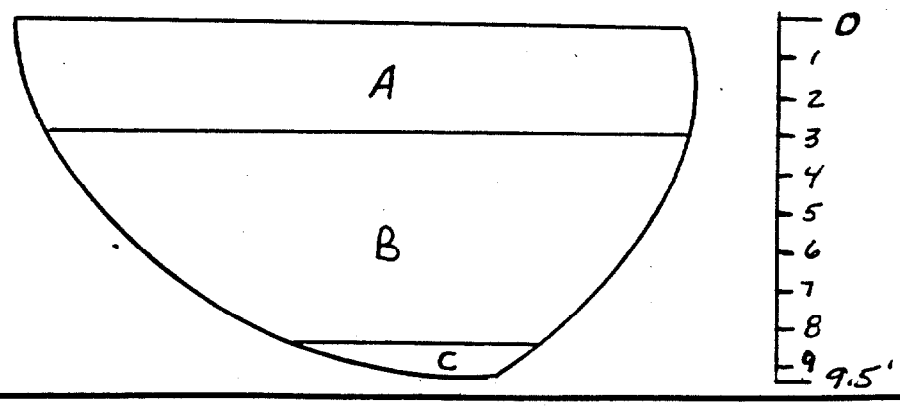
TEST PIT LOG **HALLIBURTON NUS**

PROJECT: NWIRP- Calverton TEST PIT NO.: FT-TP28
PROJECT NO.: 0206 DATE: 6-16-94
LOCATION: Fire Training Area
FIELD GEOLOGIST: Eric Huss

DEPTH (ft.)	LITHOLOGY CHANGE (Depth ft.)	MATERIAL DESCRIPTION (Soil Density / Consistency, Color)	USCS	REMARKS
0'	A	multi colored (Tan brown & dark	SP	
		brown) fine grained Sand inter-		
		bedded - Some subround pebbles		
3'	B	Concrete, scrap metal, wood,	Fill	
		wires, hydraulic lines - debris		
		mixed with interbedded Sands	Fill	
8.5'				
	C	Tan - Fine to medium grained	SP	
9.5'		Sand with Some rounded pebbles		

Test Pit Cross Section and / or Plan View



REMARKS

PHOTO LOG

TEST PIT FT-TP28

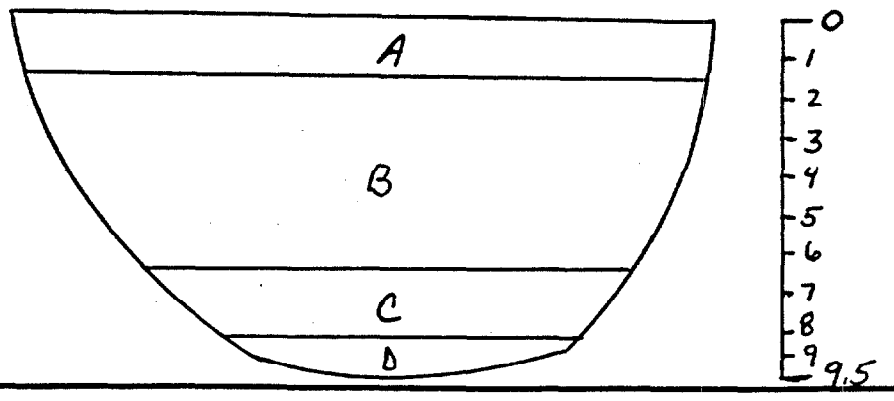
PAGE 1 OF 1

TEST PIT LOG **HALLIBURTON NUS**

PROJECT: NWIRP- Calverton TEST PIT NO.: FT-TP29
PROJECT NO.: 0206 DATE: 6-16-94
LOCATION: Fire Training Area
FIELD GEOLOGIST: Eric Huss

DEPTH (ft.)	LITHOLOGY CHANGE (Depth ft.)	MATERIAL DESCRIPTION (Soil Density / Consistency, Color)	USCS	REMARKS
0	A	Brown - Fine grained Sand	SP	
1.5'		Some med. grains & pebbles		
	B		SP/	
		Dark brown - Fine grained Sand	PT	
		mixed with organic Peat		
		material - Some Subrnd. pebbles	PT	
6.5'				
	C	Orange brown - Silty fine grained	SM	
8.5'		Sand w/ Some Subrnd. pebbles		
	D	Tan - Fine to medium grained	SP	
9.5'		Sand with some SR pebbles		

Test Pit Cross Section and / or Plan View



REMARKS

PHOTO LOG

TEST PIT FT-TP29

PAGE 1 OF 1

TEST PIT LOG

HALLIBURTON NUS

PROJECT: NWIRP- Calverton TEST PIT NO.: FT-TP30

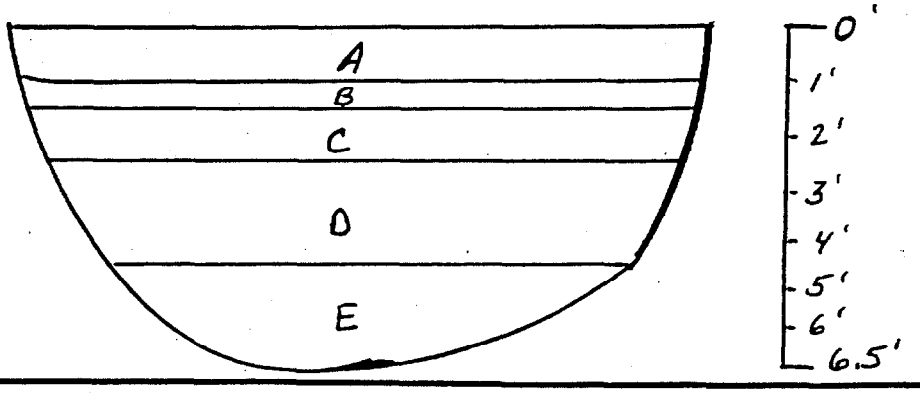
PROJECT NO.: 0206 DATE: 6-16-94

LOCATION: Fire Training Area

FIELD GEOLOGIST: Eric Huss

DEPTH (ft.)	LITHOLOGY CHANGE (Depth ft.)	MATERIAL DESCRIPTION (Soil Density / Consistency, Color)	USCS	REMARKS
0	A	Brown- Fine grained Sand	SP	
1'		with Some Subrnd. pebbles		
1.5'	B	Layer of angular Crushed Stone &	Fill	Concrete Fragments
	C	Dark brown- Organic Peat	PT	
2.5'		material		
	D	Orange brown- Silty fine grained	SM	
4.5'		Sand w/ Some Subrounded pebbles		
	E	Tan- Fine to medium grained	SP	
6.5'		Sand - Some rounded pebbles		

Test Pit Cross Section and / or Plan View



REMARKS

PHOTO LOG

TEST PIT FT-TP30

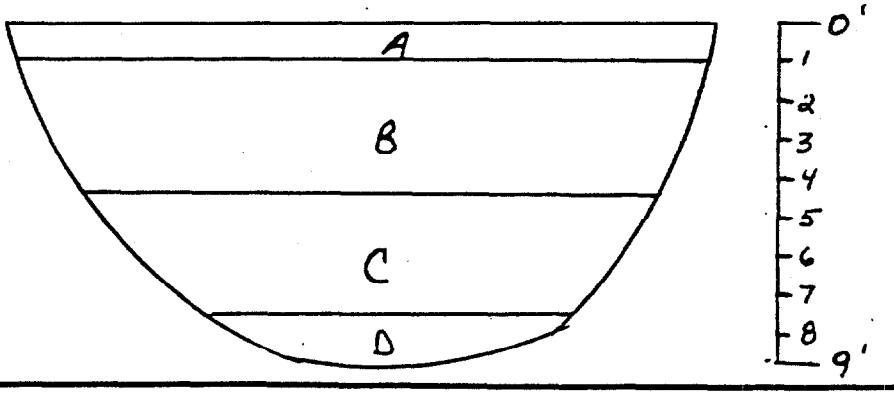
PAGE 1 OF 1

TEST PIT LOG **HALLIBURTON NUS**

PROJECT: NWIRP- Calverton TEST PIT NO.: FT-TP31
PROJECT NO.: 0206 DATE: 6-16-94
LOCATION: Fire Training Area
FIELD GEOLOGIST: Eric Huss

DEPTH (ft.)	LITHOLOGY CHANGE (Depth ft.)	MATERIAL DESCRIPTION (Soil Density / Consistency, Color)	USCS	REMARKS
0	A	Brown- Fine grained Sand	SP	
1'		with Some SR pebbles & roots		
	B	Dark brown- organic Peat	PT	
		material mixed with fine		
4.5'		grained Sand.		
	C	Orange brown- Silty fine grained	SM	
7.5'		Sand w/ Some Subrnd. pebbles		
	D	Tan- fine to medium grained	SP	
9'		Sand with Subround pebbles		

Test Pit Cross Section and / or Plan View



REMARKS

PHOTO LOG

TEST PIT FT-TP31

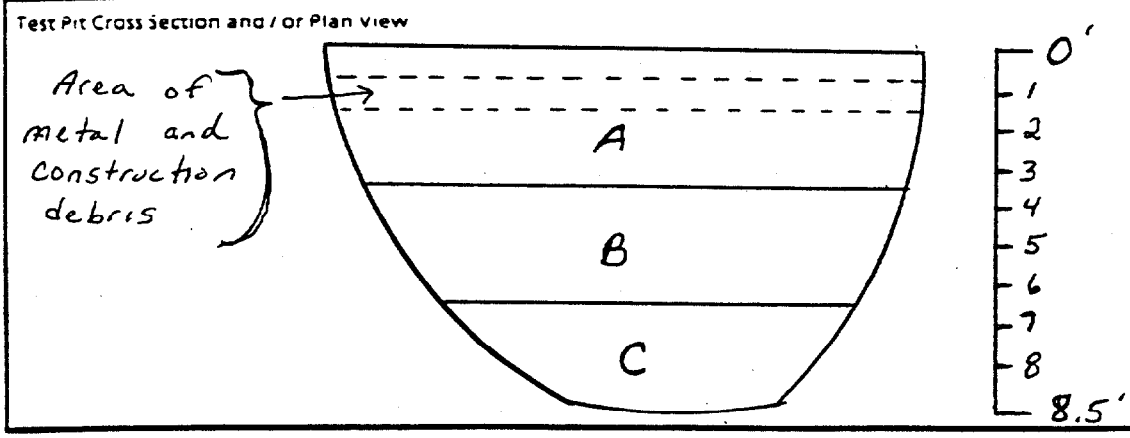
PAGE 1 OF 1

TEST PIT LOG **HALLIBURTON NUS**

PROJECT: NWIRP- Calverton TEST PIT NO.: FT-TP32
PROJECT NO.: 0206 DATE: 6-16-94
LOCATION: Fire Training Area
FIELD GEOLOGIST: Eric Huss

DEPTH (ft.)	LITHOLOGY CHANGE (Depth ft.)	MATERIAL DESCRIPTION (Soil Density / Consistency, Color)	USCS	REMARKS
0'				
	A	Dark brown - organic Peat	PT	
		material mixed with fine grained		
		sand and metal / construction	Fill	
3.5'		debris.		
	B	Orange brown - fine grained	SM	
		sand with silt and some		
6.5'		subround pebbles.		
	C	Tan - Fine to medium	SP	
8.5		grained sand w/ some pebbles		

Test Pit Cross Section and / or Plan View



REMARKS

PHOTO LOG

TEST PIT FT-TP32

PAGE 1 OF 1

TEST PIT LOG

HALLIBURTON NUS

PROJECT: NWIRP- Calverton TEST PIT NO.: FT-TP33

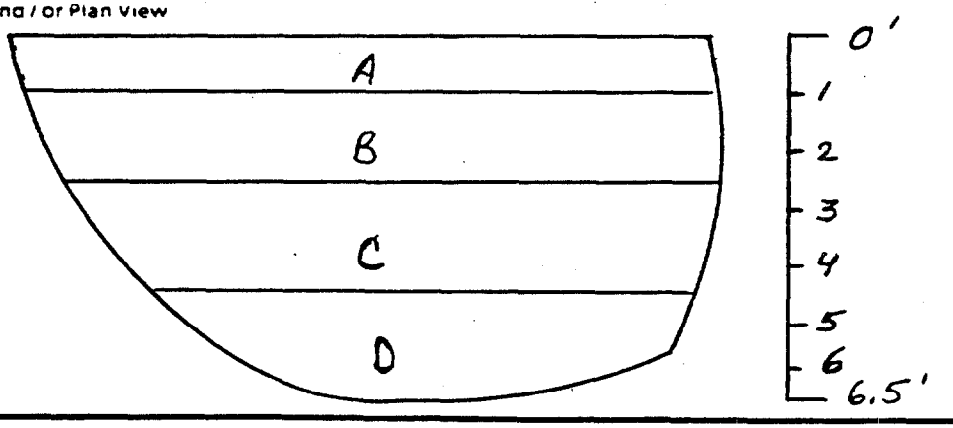
PROJECT NO.: 0206 DATE: 6-16-94

LOCATION: Fire Training Area

FIELD GEOLOGIST: Eric Huss

DEPTH (ft.)	LITHOLOGY CHANGE (Depth ft.)	MATERIAL DESCRIPTION (Soil Density / Consistency, Color)	USCS	REMARKS
0'	A	Brown - Fine grained Sand	SP	
1'		with Some Subround pebbles		
	B	Dark brown - Organic Peat	PT	
2.5'		material (Weathered roots & wood)		
	C	Orange brown - Silty fine	SM	
4.5'		grained Sand with Subrnd pebbs.		
	D	Tan - Fine to medium grained		
6.5'		Sand with Subround pebbles	SP	

Test Pit Cross Section and / or Plan View



REMARKS

PHOTO LOG

TEST PIT FT-TP33

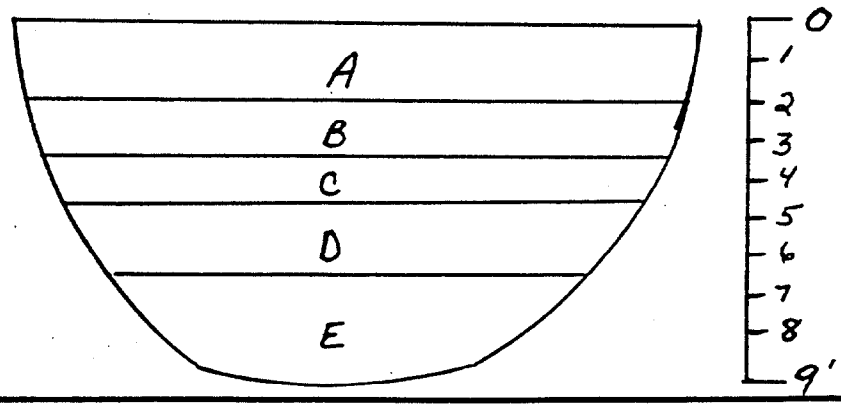
PAGE 1 OF 1

TEST PIT LOG **HALLIBURTON NUS**

PROJECT: NWIRP- Calverton TEST PIT NO.: FT-TP34
PROJECT NO.: 0206 DATE: 6-16-94
LOCATION: Fire Training Area
FIELD GEOLOGIST: Eric Huss

DEPTH (ft.)	LITHOLOGY CHANGE (Depth ft.)	MATERIAL DESCRIPTION (Soil Density / Consistency, Color)	USCS	REMARKS
0'	A	Brown- Fine grained Sand	SP	
		with Subround pebbles		
2'				
	B	Dark brown- organic Peat	PT	
3.5'		material mixed w/ F.G. Sand		
	C	Orange brown- Silty fine	SM	
4.5'		grained Sand w/ SR pebbles		
	D	Dark brown- organic	PT	
		Peat material - moist		
6.5'				
	E	Orange brown- Silty fine	SM	
		grained Sand with some		
9'		subround pebbles		

Test Pit Cross Section and / or Plan View



REMARKS

PHOTO LOG

TEST PIT FT-TP34

PAGE 1 OF 1

TEST PIT LOG **HALLIBURTON NUS**

PROJECT: NWIRP- Calverton TEST PIT NO.: FT- TP 35

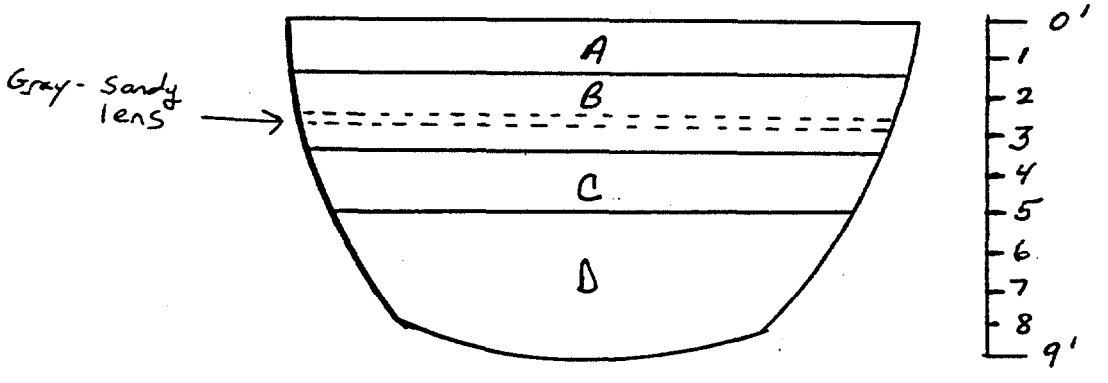
PROJECT NO.: 0206 DATE: 6-16-94

LOCATION: Fire Training Area

FIELD GEOLOGIST: Eric Huss

DEPTH (ft.)	LITHOLOGY CHANGE (Depth, ft.)	MATERIAL DESCRIPTION (Soil Density / Consistency, Color)	USCS	REMARKS
0'	A	Brown- Fine grained Sand	SP	
1.5'		with Some Subround pebbles		
	B	Dark brown- organic Peat material		
3.5'		(4" lens of gray Fine grain Sand.	PT	
	C	Orange brown- Silty fine	SM	
5'		grained sand with pebbles		
7'	D	Tan- Fine to medium	SP	
		grained Sand with Some		
9'		Subround pebbles		

Test Pit Cross Section and / or Plan View



REMARKS

PHOTO LOG

TEST PIT FT- TP 35

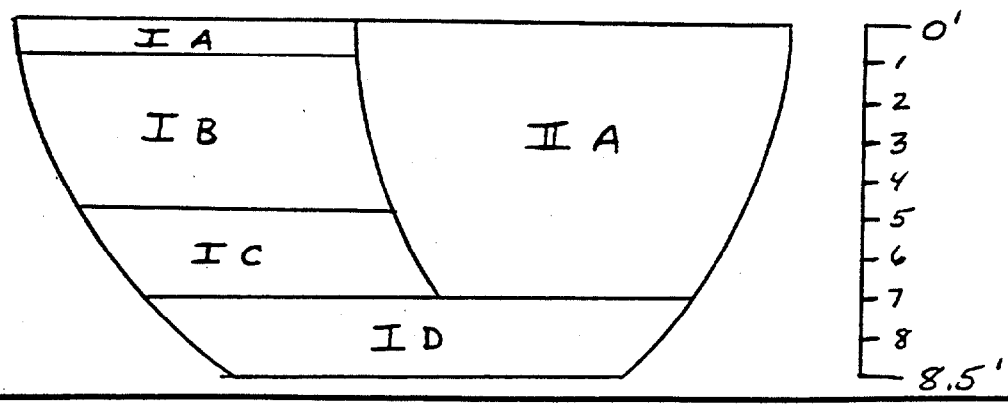
PAGE 1 OF 1

TEST PIT LOG **HALLIBURTON NUS**

PROJECT: NWIRP- Calverton TEST PIT NO.: FT-TP36
PROJECT NO.: 0206 DATE: 6-16-94
LOCATION: Fire Training Area
FIELD GEOLOGIST: Eric Huss

DEPTH (ft.)	LITHOLOGY CHANGE (Depth ft.)	MATERIAL DESCRIPTION (Soil Density / Consistency, Color)	USCS	REMARKS
0'				
1'	I A	Brown - Fine grained Sand w/ pebbles	SP	
	I B	Dark brown - organic Peat	PT	
		material - 4"- thick layer		
		of a gray fine grained Sand		
5'		lens.		
	I C	Orange brown - Silty fine	SM	
7'		grained Sand w/ some pebbles		
	I D	Tan - Fine to medium grained	SP	
8.5'		Sand with Subround pebbles		
0'	II A	multi Colored (tan, brown, orange)		
		Interbedded fine grained Sands	SP	
		with some subround pebbles		
7'				
8.5'	I D	Tan - Fine to med. grained Sand	SP	

Test Pit Cross Section and / or Plan View



REMARKS

PHOTO LOG

TEST PIT FT-TP36

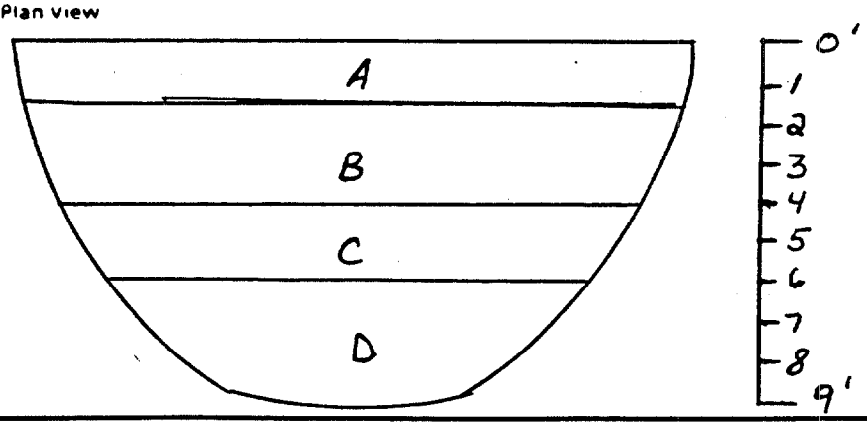
PAGE 1 OF 1

TEST PIT LOG **HALLIBURTON NUS**

PROJECT: NWIRP- Calverton TEST PIT NO.: FT-TP37
PROJECT NO.: 0206 DATE: 6-17-94
LOCATION: Fire Training Area
FIELD GEOLOGIST: Eric Huss

DEPTH (Ft.)	LITHOLOGY CHANGE (Depth, ft.)	MATERIAL DESCRIPTION (Soil Density / Consistency, Color)	USCS	REMARKS
0	A	Dark brown- organic Peat	PT/	
1.5'		material mixed with Sand	SP	
	B	Dark brown- organic Peat	PT	
		material		
4'				
	C	Orange brown- Silty fine	SM	
6'		grained Sand - Some pebbles		
	D	Tan- Fine to medium	SP	
		grained Sand with some		
9'		subround pebbles		

Test Pit Cross Section and / or Plan View



REMARKS

PHOTO LOG

TEST PIT FT-TP37

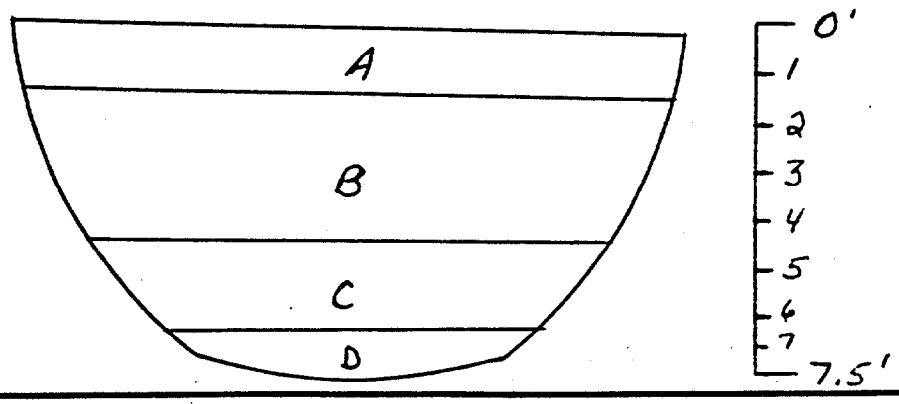
PAGE 1 OF 1

TEST PIT LOG **HALLIBURTON NUS**

PROJECT: NWIRP- Calverton TEST PIT NO.: FT-TP36
PROJECT NO.: 0206 DATE: 6-17-94
LOCATION: Fire Training Area
FIELD GEOLOGIST: Eric Huss

DEPTH (ft.)	LITHOLOGY CHANGE (Depth ft.)	MATERIAL DESCRIPTION (Soil Density / Consistency, Color)	USCS	REMARKS
0'	A	Brown - Fine grained Sand	SP	
1.5'		with Some Subround pebbles		
	B	multi colored (tan, orange, brown, bk.)		
		fine grained sand intermixed with	SP/PT	
4.5'		dark brown organic Peat		
	C	Orange brown - Silty fine grained	SM	
6.5'		Sand with Some SR pebbles		
	D	Tan - Fine to medium	SP	
7.5'		grained Sand - Some pebbles		

Test Pit Cross Section and / or Plan View



REMARKS

PHOTO LOG

TEST PIT FT-TP36

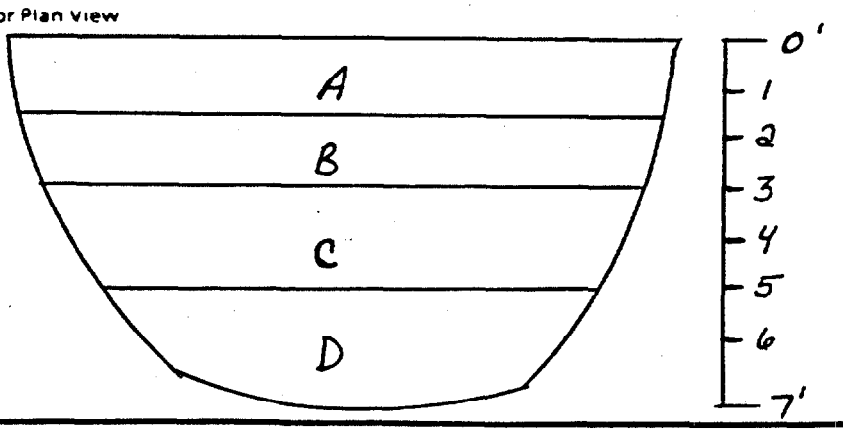
PAGE 1 OF 1

TEST PIT LOG **HALLIBURTON NUS**

PROJECT: NWIRP- Calverton TEST PIT NO.: FT-TP39
PROJECT NO.: 0206 DATE: 6-17-94
LOCATION: Fire Training Area
FIELD GEOLOGIST: Eric Huss

DEPTH (ft.)	LITHOLOGY CHANGE (Depth ft.)	MATERIAL DESCRIPTION (Soil Density / Consistency, Color)	USCS	REMARKS
0'	A	Tan, orange, gray, brown sands	SP/	
1.5'		intermixed with dk. brn. peat	PT	
	B	Dark brown - organic Peat	PT	
3'		material (weathered roots & sticks)		
	C	Orange brown - Silty fine	SM	
5'		grained Sand - Some pebbles		
	D	Tan - Fine to medium grained	SP	
7'		Sand with Some pebbles		

Test Pit Cross Section and / or Plan View



REMARKS

PHOTO LOG

TEST PIT FT-TP39

PAGE 1 OF 1

TEST PIT LOG

HALLIBURTON NUS

PROJECT: NWIRP- Calverton

TEST PIT NO.: FT-TP 40

PROJECT NO.: 0206

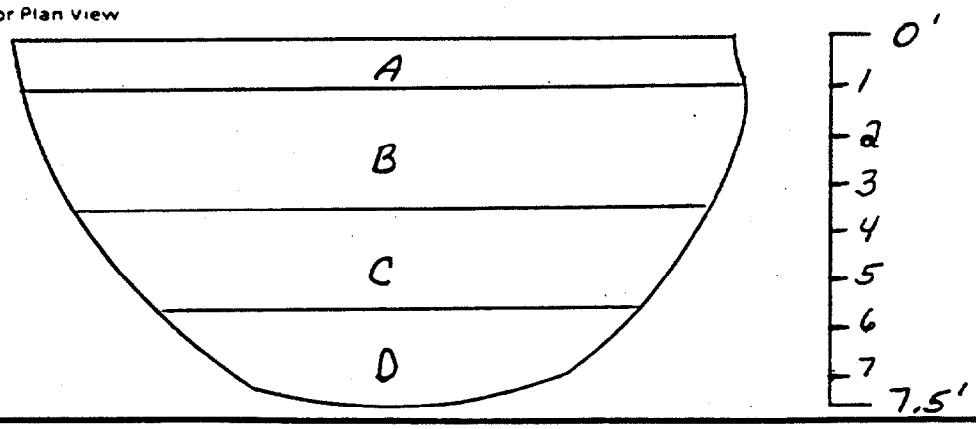
DATE: 6-17-94

LOCATION: Fire Training Area

FIELD GEOLOGIST: Eric Huss

DEPTH (ft.)	LITHOLOGY CHANGE (Depth ft.)	MATERIAL DESCRIPTION (Soil Density / Consistency, Color)	USCS	REMARKS
0'	A	Brown - Fine grained Sand	SP/PT	
1'		with some peat & pebbles		
	B	Dark Brown - organic	PT	
		Peat material		
3.5'				
	C	Orange brown - Silty fine	SM	FT-ST04-0405
		grained sand with some		Collected
5.5'		Subround pebbles		
	D			FT-ST05-0607
		Tan - Fine to medium	SP	collected
7.5'		grained sand - Some pebbles		

Test Pit Cross Section and / or Plan View



REMARKS

PHOTO LOG

TEST PIT FT-TP40

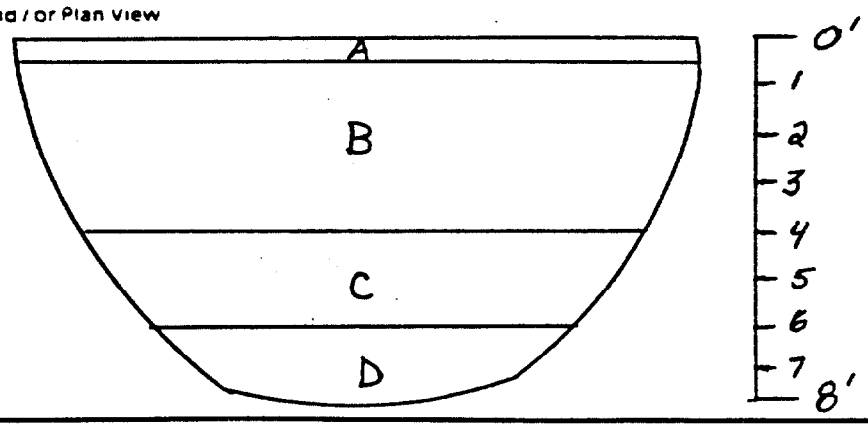
PAGE 1 OF 1

TEST PIT LOG **HALLIBURTON NUS**

PROJECT: NWIRP- Calverton TEST PIT NO.: FT-TP41
PROJECT NO.: 0206 DATE: 6-17-94
LOCATION: Fire Training Area
FIELD GEOLOGIST: Eric Muss

DEPTH (ft.)	LITHOLOGY CHANGE (Depth,ft.)	MATERIAL DESCRIPTION (Soil Density / Consistency, Color)	USCS	REMARKS
0				
0.5'	A	Light brn. - Fine grained Sand	SP	
	B	Dark brown - organic Peat material	PT	
4'				
	C	Orange brown - Silty fine grained Sand - Some pebbles	SM	
6'				
	D	Tan - Fine to medium grained Sand - Some pebbles	SP	
8'				

Test Pit Cross Section and / or Plan View



REMARKS

PHOTO LOG

TEST PIT FT-TP41

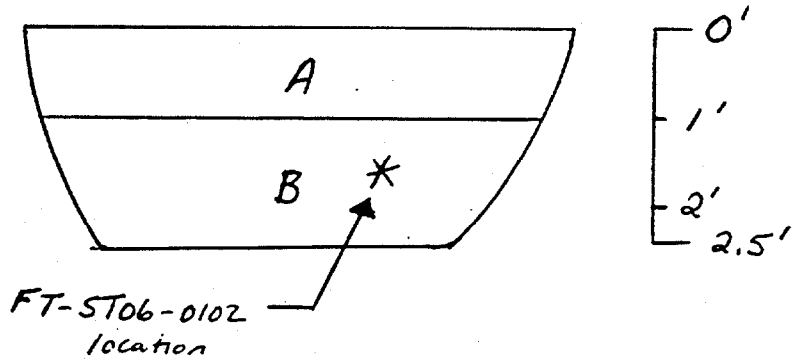
PAGE 1 OF 1

TEST PIT LOG **HALLIBURTON NUS**

PROJECT: NWIRP- Calverton TEST PIT NO.: FT-TP42
PROJECT NO.: 0206 DATE: 6-17-94
LOCATION: Fire Training Area
FIELD GEOLOGIST: Eric Huss

DEPTH (ft.)	LITHOLOGY CHANGE (Depth, ft.)	MATERIAL DESCRIPTION (Soil Density / Consistency, Color)	USCS	REMARKS
0'	A	Brown - Fine grained Sand	SP	
1'		with Subround pebbles		
	B	Dark brown to black Stained	SP	FT-ST06-0102
2.5'		fine grained Sand with pebbles		Collected
				OVA reading = 600 ppm
				fuel odors

Test Pit Cross Section and / or Plan View



REMARKS

PHOTO LOG

TEST PIT FT-TP42

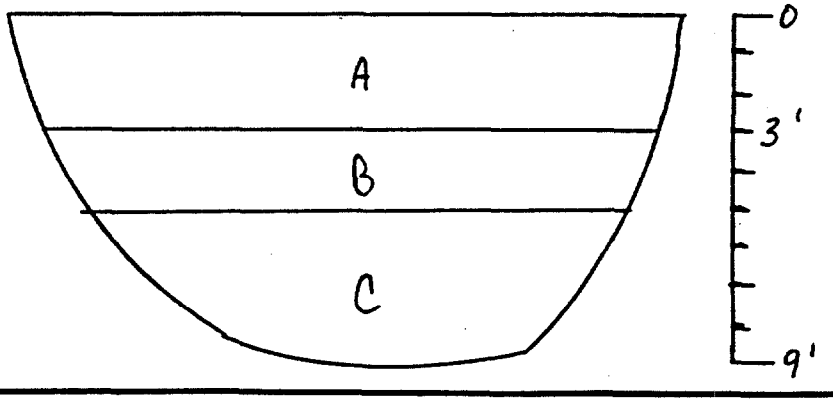
PAGE 1 OF 1

TEST PIT LOG **HALLIBURTON NUS**

PROJECT: NWIRP- Calverton TEST PIT NO.: FT-TP43
PROJECT NO.: 0206 DATE: 10-20-94
LOCATION: Fire Training Area (33' west of TP-37)
FIELD GEOLOGIST: Paul Davis

DEPTH (ft.)	LITHOLOGY CHANGE (Depth ft.)	MATERIAL DESCRIPTION (Soil Density / Consistency, Color)	USCS	REMARKS
1'	A	Dark brown - Silty fine grained	Sm	
		Sand - Some plastic & metal debris		
3'		Black Sandy Peat material	PT	
	B	Orange brown - Silty Fine	SP	
5'		grained Sand		
	C			
		light tan - Fine grained	SP	
		Sand with Subround pebbles		
9'				

Test Pit Cross Section and / or Plan View



REMARKS

PHOTO LOG

TEST PIT FT-TP43

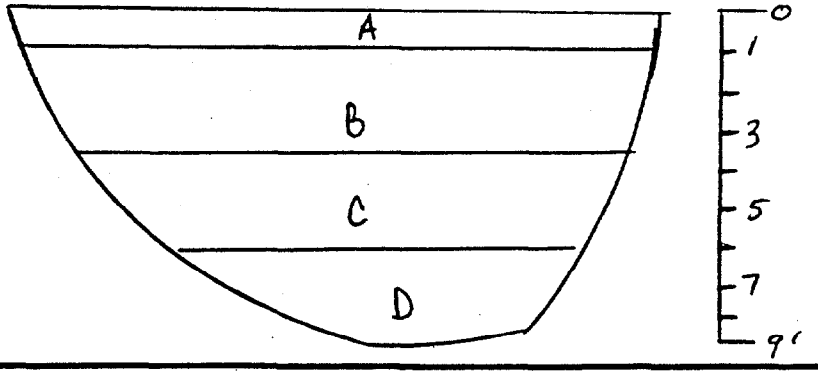
PAGE 1 OF 1

TEST PIT LOG **HALLIBURTON NUS**

PROJECT: NWIRP- Calverton TEST PIT NO.: FT-TP44
PROJECT NO.: 0206 DATE: 10-20-94
LOCATION: Fire Training Area (15' west of FT-TP43)
FIELD GEOLOGIST: Paul Davis

DEPTH (ft.)	LITHOLOGY CHANGE (Depth ft.)	MATERIAL DESCRIPTION (Soil Density / Consistency, Color)	USCS	REMARKS
1'	A	Brown Silty Sand		
	B	Dark brown to black		
		Sandy Peat material		
3.5'		(gray sand lenses)		
	C	Orange brown Silty Fine		
6'		grained Sand & Subround pebbles		
	D	light tan - Fine grained sand		
9'		with Subround pebbles		

Test Pit Cross Section and / or Plan View



REMARKS

PHOTO LOG

TEST PIT FT-TP44

PAGE 1 OF 1

APPENDIX H

GROUND PENETRATING RADAR (GPR) REPORT

GROUND PENETRATING RADAR STUDY

Naval Weapons Industrial Reserve Plant

Calverton, Long Island, New York

June 22, 1994

Prepared For:

David Brayack
Halliburton - NUS Corporation
Foster Plaza VII
661 Andersen Drive
Pittsburgh, P.A. 15220-2745

Prepared By:

U.S. Hydrogeologic, Inc.
328 Main Mall
Poughkeepsie, N.Y. 12601

Job Number: NC01410

LETTER OF TRANSMITTAL

U.S. HYDROGEOLOGIC, INC.

328 Main Mall
Poughkeepsie, New York 12601
473-0074
FAX (914) 485-5106

Job Name: NC01410

Date: 8/18/94

Attn:

Re: GPR Radargram Grid Clarification

TO: Dave Breyack
Halliburton - NUS

FAX No: 412/921-4040

Enclosed please find:

These are transmitted: 5 Total pages faxed

___ Copy of letter ___ Reports ___ For review and comment ___ For your use

___ Map, plans ___ Minutes ___ For your information X As requested

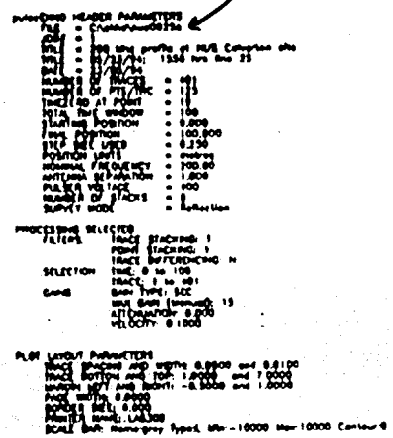
REMARKS: Dave: Enclosed is the GPR survey base map with 3 profile locations ("lines", dashed in: Lines #25 + 67 from the "Main Survey Area", and Line #21 from the "Northeast Sector". Each of the 3 radargrams are attached — I've labeled the line designation on each radargram and the north and south ends of each profile. Hope this clarifies things for you. All of these pages were copied from our final report.

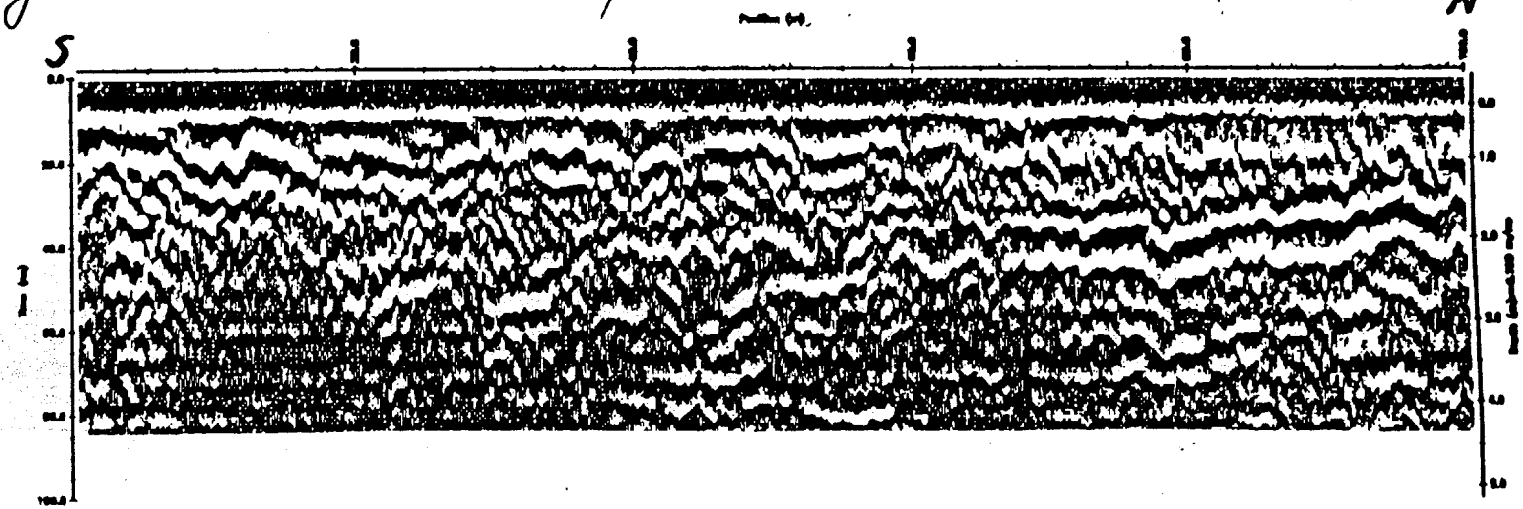
___ Please reply ___ No reply necessary

Copy to: Faxed 8/18/94 ale

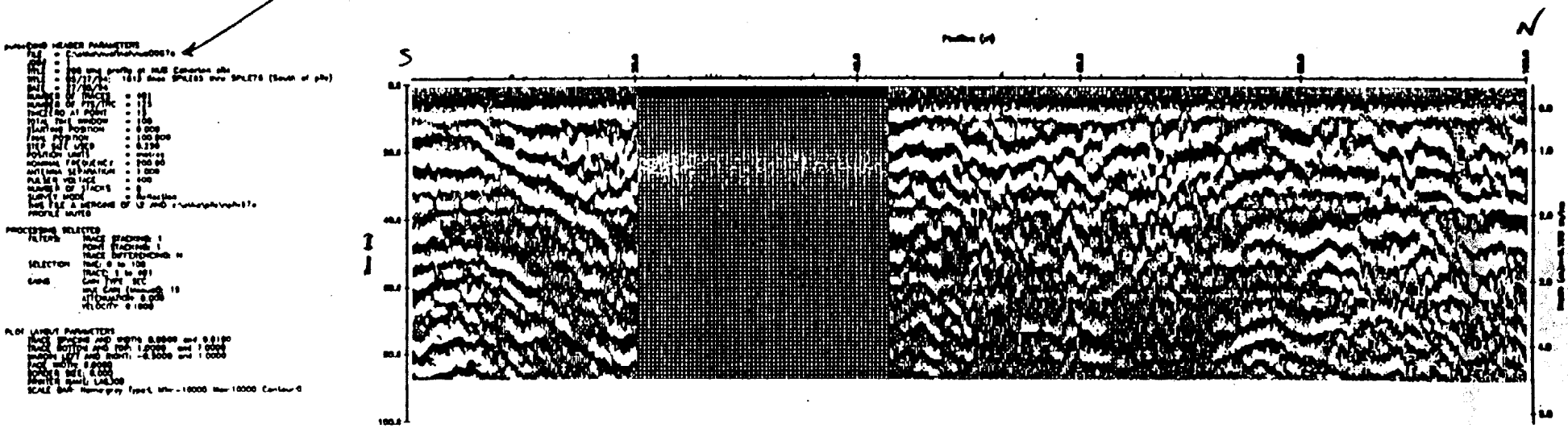
Signed: John G. Connell

Line # Designation = Line #2.5 (Main Survey Area)





Line # Designation = Line #67 (Main Survey Area)

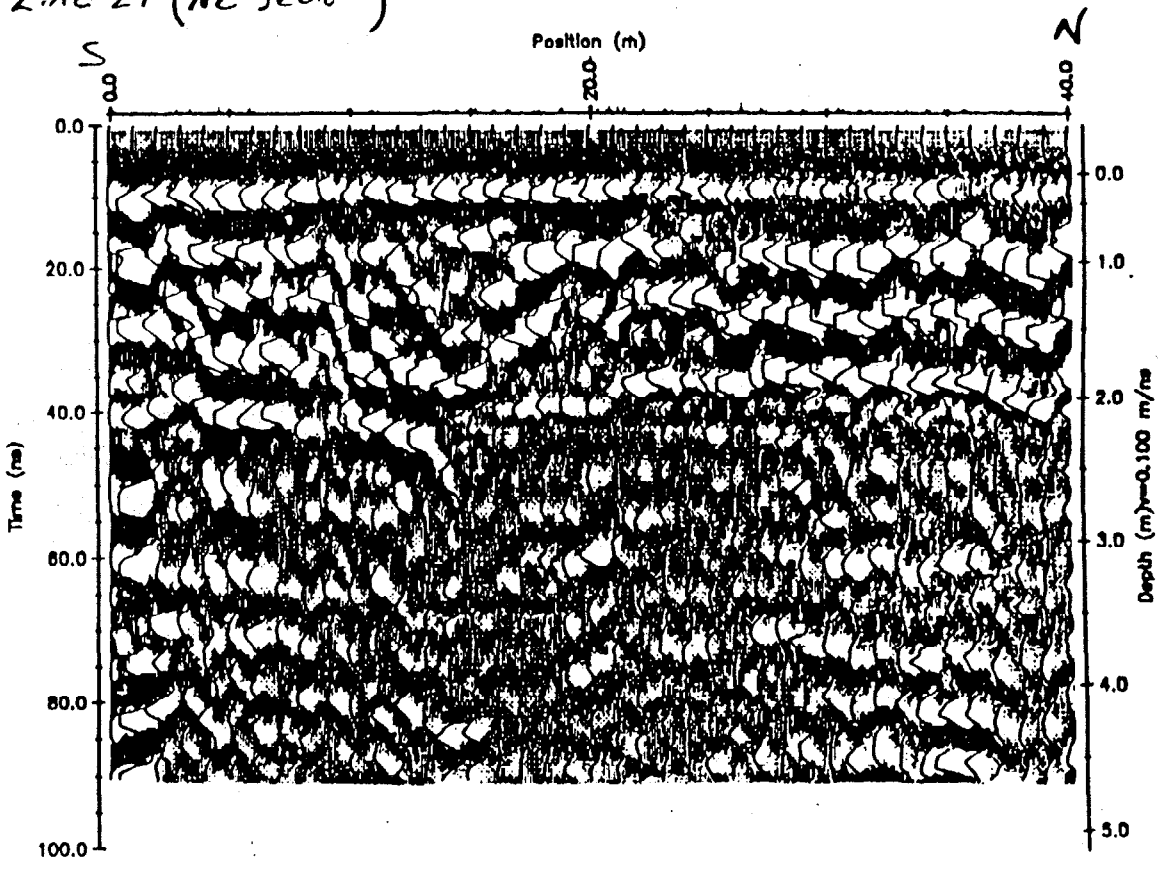


Line # Designation = Line 21 (NE Sector)

pulseEKKO HEADER PARAMETERS
- FILE = C:\ekko\ne00021o
- JOB = 1
- TITLE = 200 Mhz profile at NUS Colverton site
- TITLE = 05/27/94: 0920 lines NE00001 thru NE00051 (NE Sector)
- DATE = 27/05/94
- NUMBER OF TRACES = 161
- NUMBER OF PTS/TRC = 125
- TIMEZERO AT POINT = 11
- TOTAL TIME WINDOW = 100
- STARTING POSITION = 0.000
- FINAL POSITION = 40.000
- STEP SIZE USED = 0.250
- POSITION UNITS = metres
- NOMINAL FREQUENCY = 200.00
- ANTENNA SEPARATION = 1.000
- PULSER VOLTAGE = 400
- NUMBER OF STACKS = 8
- SURVEY MODE = Reflection

PROCESSING SELECTED
- FILTERS: TRACE STACKING 1; POINT STACKING 1; TRACE DIFFERENCING N
- SELECTION: TIME 0 to 100; TRACE: 1 to 161
- GAINS: GAIN TYPE SEC; MAX GAIN (Manual) 15; ATTENUATION 0.000; VELOCITY: 0.1000

PLOT LAYOUT PARAMETERS
- TRACE SPACING AND WIDTH 0.0500 and 0.3000
- TRACE BOTTOM AND TOP 1.0000 and 7.0000
- MARGIN LEFT AND RIGHT: -0.5000 and 1.0000
- PAGE WIDTH: 8.0000
- BORDER SIZE: 0.000
- PRINTER NAME: LAS300
- SCALE BAR: Name:grey Type:L Min:-10000 Max:10000 Contour:0



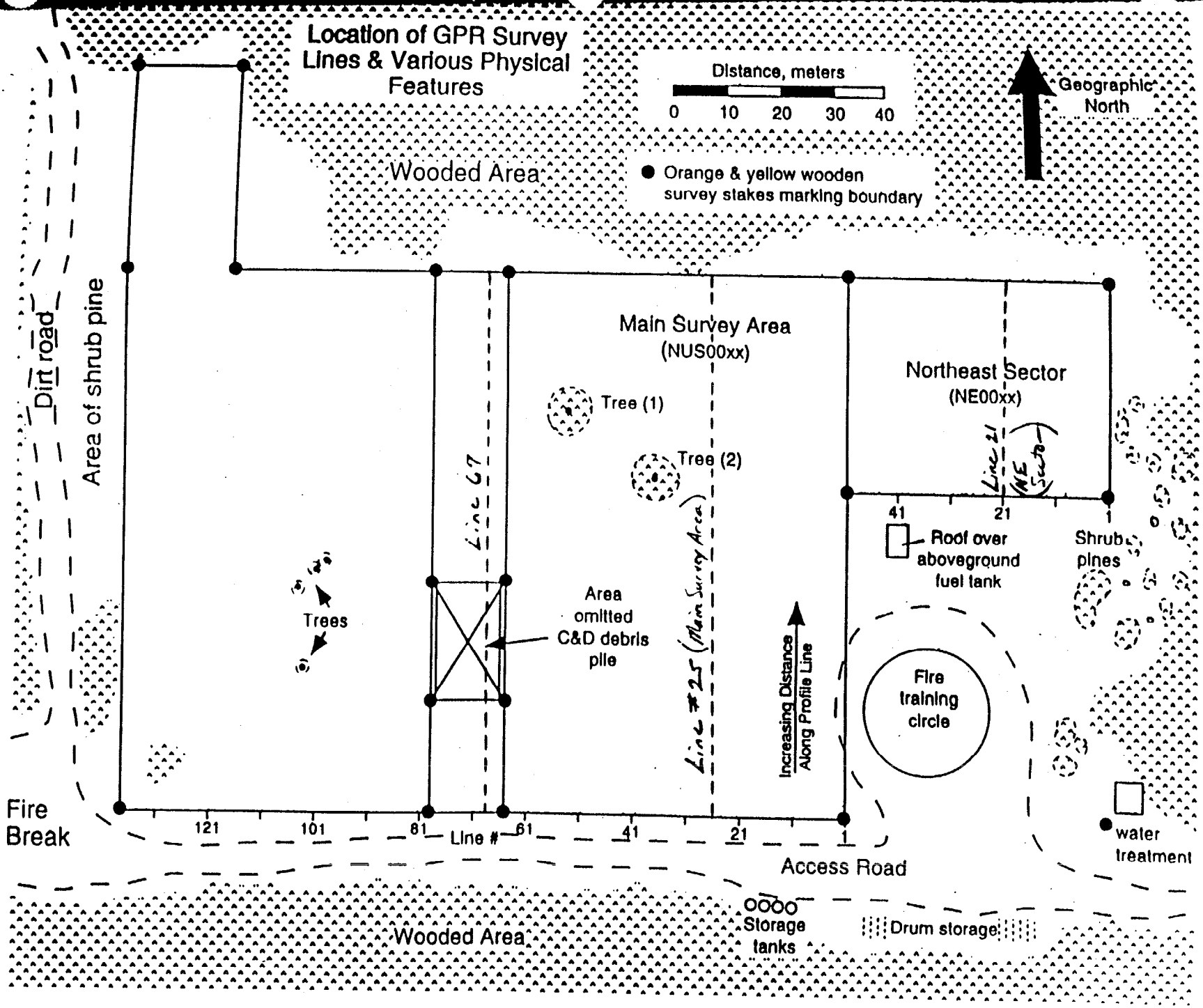


Figure 1. Map of survey area. [Prepared by U. S. Hydrogeologic, Inc.]

Introduction & Background

The Site

As part of RCRA (Resource Conservation and Recovery Act) Facility Investigation at the Naval Weapons Industrial Reserve Plant (NWIRP), Calverton, Long Island, a ground penetrating radar (GPR) survey was performed by U. S. Hydrogeologic, Inc., to locate subsurface anomalies that might represent buried drums, containers, or other waste. It was suspected that some burial of waste might have occurred in the area of interest.

The site (Figure 1) is approximately 7 acres (200 x 140 m) of relatively open terrain, underlain by a substantial thickness of glacially deposited sands and gravels, with the water table at approximately 5 to 7 meters below grade. As shown on the map in Figure 1, a fire training area was located in the southeastern sector of the survey area. For purposes of this study, the survey area was divided into two rectilinear segments: a northeast sector, north of the fire training area; and the main survey area to the west of the fire training site (Figure 1). A grid was laid out with 1 m (approx. 3.3 ft.) line spacings in each area, relative to coordinates referred to the southeast corner of each area, respectively. Profiles were oriented north-south, with distance along each line increasing from south to north. Sequential lines were numbered from 1 to 51 (east to west) for the northeast sector, and from 1 to 137 (east to west) for the main survey area. Measurements were made along each line at intervals of 0.25 m (approx. 10 in.). A small portion of the main field was covered by a pile of construction and demolition debris, and was deemed inaccessible to GPR measurements.

All accessible portions of the 7-acre study area were covered. Excluding pilot measurements and duplicate profiles, a total of 16,264 linear meters (53,346 linear feet) of GPR profiling were completed, covering an area totaling 16,101 m^2 (3.98 acres).

The Method: Ground Penetrating Radar

As the name suggests, ground penetrating radar (GPR) employs pulsed radio signals to delineate features beneath the earth's surface. In the bi-static (two antenna) mode adopted for the present study, the antennas are placed on the earth's surface parallel with each other. One antenna transmits a (monocycle) pulse of radio energy having a characteristic period, the other, located a short distance away, receives the reflected (and direct) signal. By carefully measuring the delay between the time when the signal is transmitted and the time when a reflection is received, one obtains a measure of the depth to reflecting interfaces beneath the surface. If the velocity of radio energy in the subsurface is known, one can convert the two-way travel time of the reflected wave directly to distance. A typical velocity for the earth is 0.1 meters/nanosecond (m/ns); typical frequencies range from 25 to 500 MHz (HF to UHF). At the frequency employed in the present survey, 200 MHz, a typical wavelength in the earth is

approximately 0.5 meters, which is a measure of the scale to which such signals can resolve features of interest. Because of the high rate at which data can be recorded, GPR is usually used in a profiling mode, either by dragging the antennas in a sled at a constant velocity (say, 1 m/s), or by picking up and setting down the antennas at discrete points along a line (at separations from a few tenths of a meter to a few meters, depending on the frequency).

GPR is an ideal tool for shallow studies requiring high resolution. Signals can usually penetrate to at least several meters (employing several hundred megahertz, MHz) – and beyond ten meters in exceptional cases (employing 25 to 50 MHz). However, since the recorded parameter is the travel-time of a signal from local grade, records are first-order sensitive to topographic effects, and small scale changes in elevation can directly lead to aberrations of the target image.

"Images", while visually appealing, can be quantitatively misleading. Since the reflection of radar energy at an interface between two materials is governed by the contrast between their dielectric properties, geologic contrasts can lead to as strong an effect as anthropogenic effects. In other words, one may not be able to discriminate between a large subsurface boulder and a buried metallic drum, or between blocks of concrete construction debris and containers of hazardous waste.

Specific Instrumentation: The Systems & Software PulseEKKO IV

During two pre-survey site inspections, we determined that site conditions required us to operate on foot rather than, as we had originally planned, to drag the radar sensors behind a conventional four wheel drive vehicle. The Systems & Software's pulseEKKO IV's portability, low power requirements and ease of operation made it an ideal candidate for such operations.

The configuration finally mobilized for the field was a digitally recording (16 bit) pulseEKKO IV, with full software and two antennas: 50 MHz and 200 MHz. Our production survey was executed at 200 MHz with each antenna placed on the bottom of separate pods of a small catamaran-type unit dragged along the surface by one operator. The sensor pods were followed at 4 to 5 meters by the control console and portable computer (an IBM Thinkpad 500) mounted on cushions in a two-wheeled cart pulled by a second operator.

Evolution of the Work Plan

The original Request for Proposals (RFP) called for 15 foot line spacings. In our estimation, this significantly underdesigned the strategy and procedure needed to meet the implicit requirements of the study. To adequately screen the subsurface for targets of environmental concern to depths of 3 or 4 m (approx. 10+ ft), GPR lines should be spaced at distances consistent with the ***minimum*** depth of interest not the ***maximum*** as suggested by the RFP. Thus, based on our previous experience in site assessments, and following a preliminary pilot investigation at the survey site, we decided on 1 m (3.3 ft) line spacings. While adding to the operational cost of the survey, the benefits to interpreting the data were substantial.

We implemented this plan in four phases.

Phase 1: Pre-survey site inspections (two separate days March 8 and May 4, 1994). This allowed us to optimize the survey design, and select the proper instruments for the application.

Phase 2: A small-scale, pilot survey over an area of expected targets to demonstrate "proof-of-concept" and to calibrate what we might expect in the final, production survey (1 day, May 16, 1994.)

Phase 3: The main, production survey using GPR at 1 meter line spacing. (6 days, May 17-27, 1994.)

Phase 4: Inspection of all field data by comparing records along each profile and between profiles leading to the zonation of the survey area into subareas and specific targets of interest. Interaction with client and preparation of final report. (8 days off-site, May 28-June 22, 1994.)

Typical Signatures of GPR Targets

Off-Site: Ideal Examples

Several examples of data acquired by the pulseEkko IV are presented here to illustrate the types of "signatures" from subsurface targets that might be encountered during the actual production survey. Figure 2 represents data from a 16 meter (53 ft) profile crossing above a 24 inch corrugated steel storm drain buried 6 inches (to top of pipe) below grade.

Figure 3 represents data from a 10 meter (33 ft) profile crossing above a 10 inch steel water main buried approximately 5 ft below grade. The station spacing is 25 cm (10 in). These examples emphasize that one of the prime GPR signatures of possible targets in a GPR survey of a potential hazardous waste site is a well-defined inverted hyperbola.

The Issue of Resolution

The advantage of high density 200 MHz GPR profiles, as opposed to "sparse" under-sampled profiles, is illustrated by comparing Figure 4 with the previous Figure 2. The data from the two examples are from exactly the same 16 meter (53 ft) profile crossing above a 24 inch corrugated steel storm drain buried 6 inches (to top of pipe) below grade. Figure 4, however, is an example of "undersampled" GPR data. The latter example employs data from the same profile as shown in Figure 2, but resampled at 1 m station spacing. Clearly, the resolution of the high density sampled data in Figure 2 is far superior to the under-sampled data in Figure 3, underscoring the importance of employing the highest density coverage possible.

On-Site: Examples of GPR data from Specific Targets in the Actual Survey Area

Based on the above concepts, and following our preliminary field investigation, we decided that profiles should be 1 meter apart, and samples should be taken every 0.25 m along line. To optimize signal quality and stability, each sample record (trace) represents a stack (digital average) of 8 discrete "soundings".

Figure 5 represents the signature from a scattering center (an anomalous target) beneath the northern-most section of Line 8 (from 90 - 100 meters). The length of the section is 10 meters, and the feature is located beneath an approximate horizontal position of 94 meters (indicated by the arrow to the left of the middle tic mark), and its signature arrives at a total (2-way) travel-time of 10 nanoseconds. The inverted hyperbolic signature is clear. (The zone of high attenuation just to the north of this scatterer is also of some interest.)

As another example from the actual survey area, Figure 6 contains the GPR signature of a scattering center beneath the southern-most section of Line 97 (from 0 - 20 meters). The feature is located beneath the arrow at 12.5 m. Also shown in this section is the signature of a gently dipping geologic horizon beneath the bracket on the left portion of the profile (from 2 to 10 m).

These examples illustrate one of the more important classes of targets to be identified and located in the production survey data.

Broad Features of Profile Data

Figure 7 represents data from one of the least "disturbed" profiles from the Main Survey Area (Line 1). It should be kept in mind that there is a significant vertical exaggeration in the scale (almost 4 to 1), so that even the slightest dip is grossly exaggerated. Particularly noteworthy, therefore, are the sub-horizontal "reflectors" at depth that are likely to be original glacial deposits.

In contrast, Figure 8 represents a much more disturbed section, containing a large number of small scale scatterers, and limited continuity of "geologic" horizons.

In summary, we draw the following conclusions regarding the data illustrated in Figures 5 through 8 (and those data included in the Appendix to this report):

Overall, the GPR data are of high quality and, in some areas, strongly indicate what are likely to be locally coherent geologic patterns. The contiguous sub-horizontal "reflectors" at depth are likely to be original glacial deposits.

A few disturbed areas along some profiles might represent local regrading, burial of construction and demolition debris, etc.

An undetermined contribution to the "topography" of the deeper reflectors is an artifact of the uneven nature of the surface, leading to the so-called "static effects" discussed above.

Some of the "parallelism" of the deeper reflectors is simply the effect of multiple reflections from shallow layers.

Superimposed on the signature of these "geologic" reflectors are a large number of localized scattered signals from small scale imbedded features.

Results: Site Zonation of Calverton NWIRP

Given the multitude of scatterers present at this particular site, and the stated objective of the survey being to "screen" the area with a minimum of add-on laboratory costs (e.g. data processing, interpretation and graphical visualization), we have restricted our targets of interest to two primary classes:

1) Large subareas of the survey characterized by common physical characteristics;

2) Well-defined, localized imbedded structures as represented by coherent reflection patterns in the data along a profile and/or between adjacent profiles.

By generally restricting our "flagging" of anomalies to these two classes, we are relatively assured that we are obtaining the "big picture" of the site. This survey, however, was not designed to conclusively identify *all* subsurface anomalous bodies that might be present.

Northeast Sector

As a preliminary step in our zoning of the entire survey area, we began with the Northeast Sector (Figure 1), and flagged virtually every "hit" (anomaly) of possible interest. Because of the high quality of the data, and the large number of scatterers present, a map showing the resulting pattern (see, for example, the Northeast Sector in the zoned map of Figure 9) is overly complicated for subsequent decision making in the field (e.g. locating test pits, excavations, etc.) Much of the Main Survey Area would show the same density of "hits" as the Northeast Sector, if we so indicated them. As an alternative, we decided on a more general procedure to illustrate the results of our study a brief commentary on selected subareas, with those areas, in turn, indicated on the zoned map. The following discussion adopts this format.

The eastern side of the sector seems relatively undisturbed except for a subsurface feature at a meter or so depth (a trench or erosional structure) which trends northeast to southwest from Line 1(ne) to Line 7(sw). Profile NE00004a cuts across this feature (between 12 - 15 m along the line), and is reproduced in Figure 10.

A subsurface trench-like feature seems to dominate the shallow, surficial character of Lines 8 though 15 at depths of a meter or so. The deep structure of Lines 13, 14 & 15 is dominated by a localized feature at some depth beneath the northern edge of this "trench". Profiles 13-15 are reproduced in Figures 11a through 11c with a bracket to indicate the shallow trench, and an arrow to illustrate the deeper, imbedded feature.

As indicated by arrows in Figure 12, Line 26 has a localized anomaly at a distance of 19 to 20 m, and an interesting composite feature at a distance of 27 to 34 m.

A persistent feature seems to underlie the northern edge of this sector between Profile lines 27 to 31. Profile 29, in Figure 13, illustrates the signature of this feature.

Main Survey Area: Northwest & Western Sector

The map of the Main Survey Area indicates three targets of potential interest in the northwest and west portions of the field (see Figure 9):

Within the northwest "dogleg", a zone of high attenuation that would seem to suggest trenching and sampling for chemical constituents. At the borders of this distributed feature are several imbedded structures that might be more closely scrutinized.

Along the western margin, an elongated, imbedded feature(s) that might be as deep as several meters in places.

In the west central field, a broad depression that appears to contain a manifold of small scale "scatters".

Main Survey Area: Southwest Sector

Inspection of the GPR data from the southwest section of the Main Survey Area indicates several additional targets of interest.

Two features that appear to be depressions in the original surface, now containing backfill and a multitude of small-scale, non-descript scatterers. Within the eastern-most feature, several discrete targets may be interesting.

Along the southern edge, close to the fire-break access road, a relatively large shallow imbedded feature for which we only "see" the northern segment of its signature. It may actually continue beneath the roadway to the south.

Main Survey Area: Eastern Portion

From north to south in the northeast corner of the Main Survey Area, we would emphasize the following targets of interest.

An imbedded feature, or contiguous series of features, trending east to west at a depth of less than a meter to a maximum of perhaps 2 m. The northern-most section (from 90 - 100 meters) of the radargram transecting this feature along Line 8 was referred to previously in Figure 5. The length of the section is 10 meters (between positions of 90 - 100 m), and the feature is approximately located beneath a horizontal position of 94 meters (to the left of the middle tic mark). As mentioned above, the zone of high attenuation just to the north of this scatterer is also of some interest.

A set of deep (2-3 m) parallel imbedded features between Lines 34 to 38, the northern-most member being best defined (i.e. extending across the most survey lines).

A shallow (from 0 to 1.5 m), almost pod-like, deposit in the vicinity of Lines 21 and 22 containing diffuse scatterers. While small, and of limited extent, it would be interesting to determine its physical or geological characteristics in terms of it being one end-member of the kinds of targets encountered at this site.

Conclusions

In short, the GPR data from this site are superior, local geology is amenable to our investigation, and since only a gross "screening" of the site is the primary objective of our study it is readily possible to separate a variety of shallow disturbances (e.g. trenches, extensive zones of buried material, etc.) from background geologic horizons without reprocessing and detailed interpretations of the data.

It must be recognized however, that a broad class of GPR scatterers is present:

Ubiquitous, large scale, sub-horizontal reflectors representing pre-existing geologic horizons.

Subareas of the survey grid characterized by common physical characteristics:

Well-defined subsurface "depressions" subsequently filled with a manifold of small scale, often non-descript scatters, then regraded through natural or anthropogenic processes.

Surface or shallow zones of high electromagnetic attenuation covering several hundred m^2. These might be due to natural geologic/biologic processes, but might also indicate chemical overprinting. Such zones might be trenched and chemically sampled.

A large number of poorly-defined, non-descript scatters that might represent construction and demolition debris, and/or potentially hazardous materials. In a few cases, natural boulders, natural erosional features, etc. may be responsible for such signatures, but, given the local geologic setting, this is not likely to be the case for most of these features.

Well-defined, coherent patterns in the data along profile and often between adjacent profiles that represent GPR signatures characteristic of localized imbedded structures.

We would point out once again that GPR has been quite successful in determining the variety and large number of subsurface scatterers at this site. It was our approach here to use GPR in a purely reconnaissance mode to assess whether there were *any* targets of possible interest. We have not attempted to "zone" the main field with anywhere near the fine structure that we used for the northeast sector. If interpretation of such fine structure is required in the future, it would be best to work directly from the radargrams, since, at this level of detail, much is lost in the translation from field data to a map format.

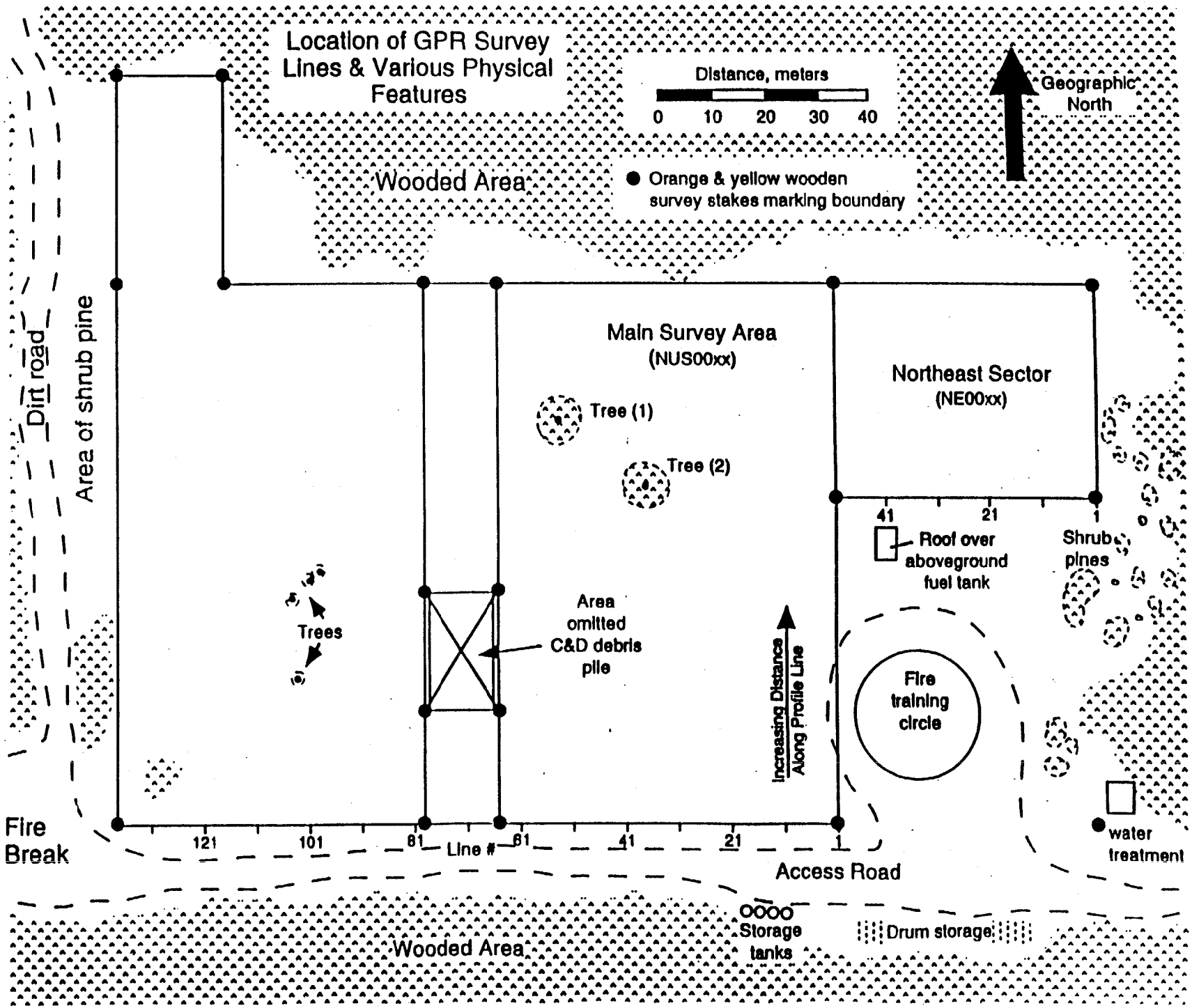


Figure 1. Map of survey area. [Prepared by U. S. Hydrogeologic, Inc.]

Station Spacing = 20 cm.

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    JOB#  = 1
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    TITLE = 05/08/94:  1438 hrs  Experiment #1
    DATE  = 08/05/94
    NUMBER OF TRACES      = 80
    NUMBER OF PTS/TRC     = 250
    TIMEZERO AT POINT     = 44
    TOTAL TIME WINDOW     = 200
    STARTING POSITION     = 0.000
    FINAL POSITION        = 15.800
    STEP SIZE USED        = 0.200
    POSITION UNITS        = metres
    NOMINAL FREQUENCY     = 200.00
    ANTENNA SEPARATION    = 1.000
    PULSER VOLTAGE        = 400
    NUMBER OF STACKS      = 16
    SURVEY MODE           = Reflection

PROCESSING SELECTED
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                POINT STACKING  1
                TRACE DIFFERENCING  N
    SELECTION   TIME  0 to 100
                TRACE  1 to 80
    GAINS       GAIN TYPE  NONE


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    TRACE BOTTOM AND TOP  1.0000  and 7.0000
    MARGIN LEFT AND RIGHT  -0.5000 and 1.0000
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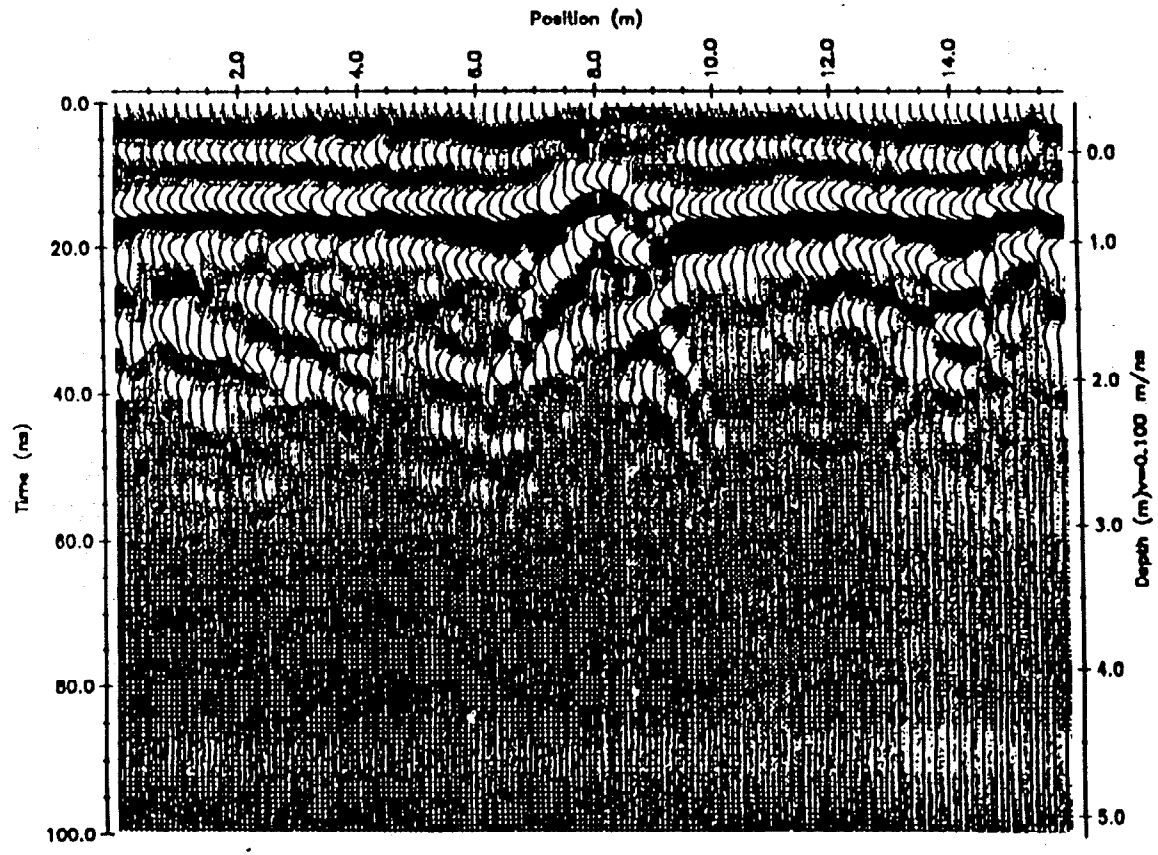

Figure 2. Example of 200 MHz ground penetrating radar (GPR) survey from a 16 meter (53 ft) profile crossing above a 24 inch corrugated steel storm drain buried 6 inches (to top of pipe) below grade. The station spacing is 20 cm (8 in) in a "continuous" mode.

```
pulseEKKO HEADER PARAMETERS
     FILE    = C:\ekko\s200_01o
     JOB#    = 1
     TITLE   = 200 Mhz profile at Seekonk well field
     TITLE   = 05/20/94; 1706 hrs profile across feeder pipeline
     DATE    = 20/05/94
     NUMBER OF TRACES      = 40
     NUMBER OF PTS/TRC     = 125
     TIMEZERO AT POINT     = 31
     TOTAL TIME WINDOW     = 100
     STARTING POSITION     = 0.000
     FINAL POSITION        = 9.750
     STEP SIZE USED        = 0.250
     POSITION UNITS        = metres
     NOMINAL FREQUENCY     = 200.00
     ANTENNA SEPARATION    = 1.000
     PULSER VOLTAGE        = 400
     NUMBER OF STACKS      = 16
     SURVEY MODE           = Reflection

PROCESSING SELECTED
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                  POINT STACKING  1
                  TRACE DIFFERENCING: N
     SELECTION    TIME  0 to 100
                  TRACE  1 to 40
     GAINS:       GAIN TYPE: NONE


PLOT LAYOUT PARAMETERS
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     TRACE BOTTOM AND TOP: 1.0000  and 7.0000
     MARGIN LEFT AND RIGHT: -0.5000 and 1.0000
     PAGE WIDTH: 8.0000
     BORDER SIZE: 0.000
     PRINTER NAME: LAS300
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```

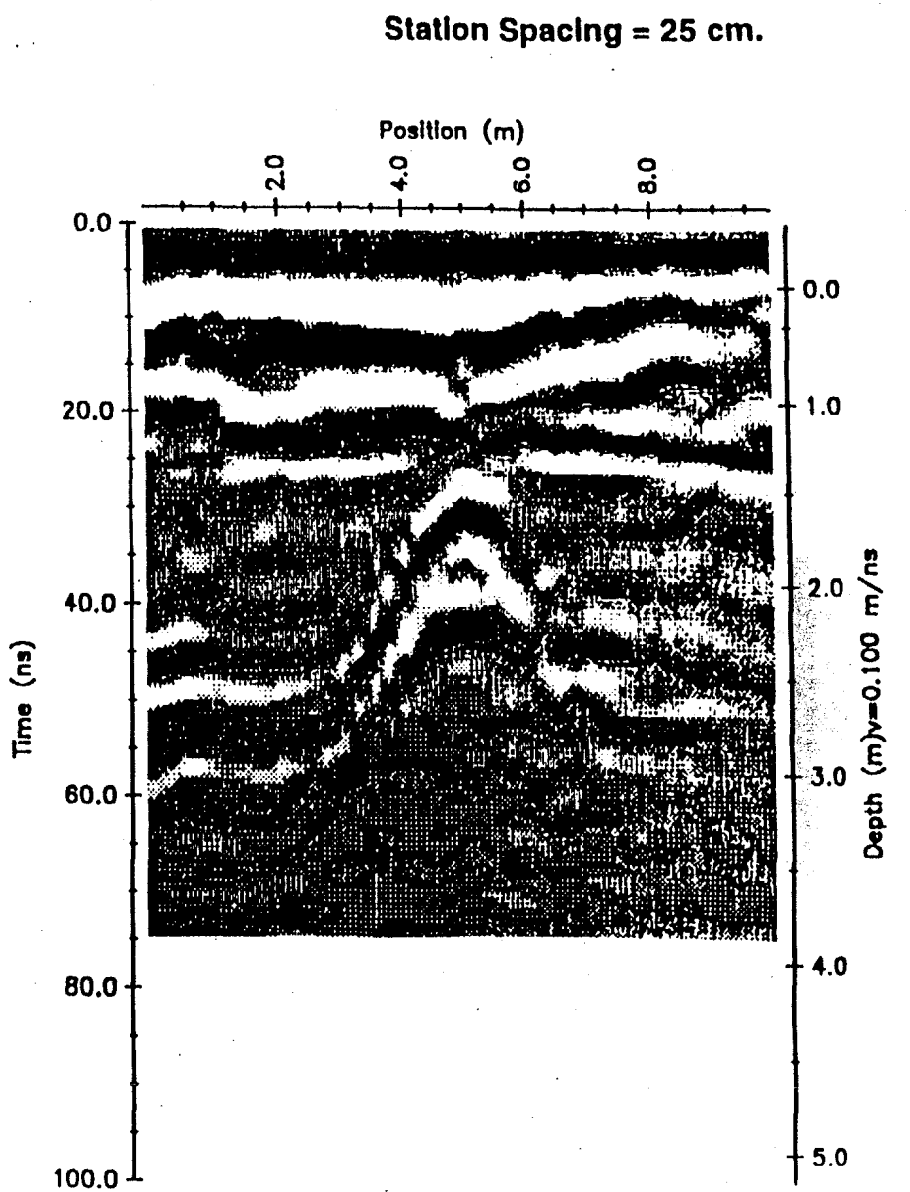

Figure 3. Example of 200 MHz ground penetrating radar (GPR) survey from a 10 meter (33 ft) profile crossing above a 10 inch steel water main buried approximately 5 ft below grade. The station spacing is 25 cm (10 in) in a "continuous" mode.

```
pulseEKKO HEADER PARAMETERS
     FILE   = C:\ekko\demos\200pro2d
     JOB#   = 1
     TITLE  = Reflection profile across culvert at 75 Ash Street
     TITLE  = 05/08/94,  1438 hrs  Experiment #1
     DATE   = 08/05/94
     NUMBER OF TRACES      = 16
     NUMBER OF PTS/TRC     = 250
     TIMEZERO AT POINT     = 44
     TOTAL TIME WINDOW     = 200
     STARTING POSITION     = 0.000
     FINAL POSITION        = 15.000
     STEP SIZE USED        = 1.000
     POSITION UNITS        = metres
     NOMINAL FREQUENCY     = 200.00
     ANTENNA SEPARATION    = 1.000
     PULSER VOLTAGE        = 400
     NUMBER OF STACKS      = 16
     SURVEY MODE           = Reflection
     SOURCE DATA FILE      = C:\EKKO\demos\200pro2
     INTERPOLATED AT 1.000 m  FROM = 0.200 m

PROCESSING SELECTED
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                  POINT STACKING  1
                  TRACE DIFFERENCING  N
     SELECTION    TIME  0 to 100
                  TRACE  1 to 16
     GAINS        GAIN TYPE  NONE


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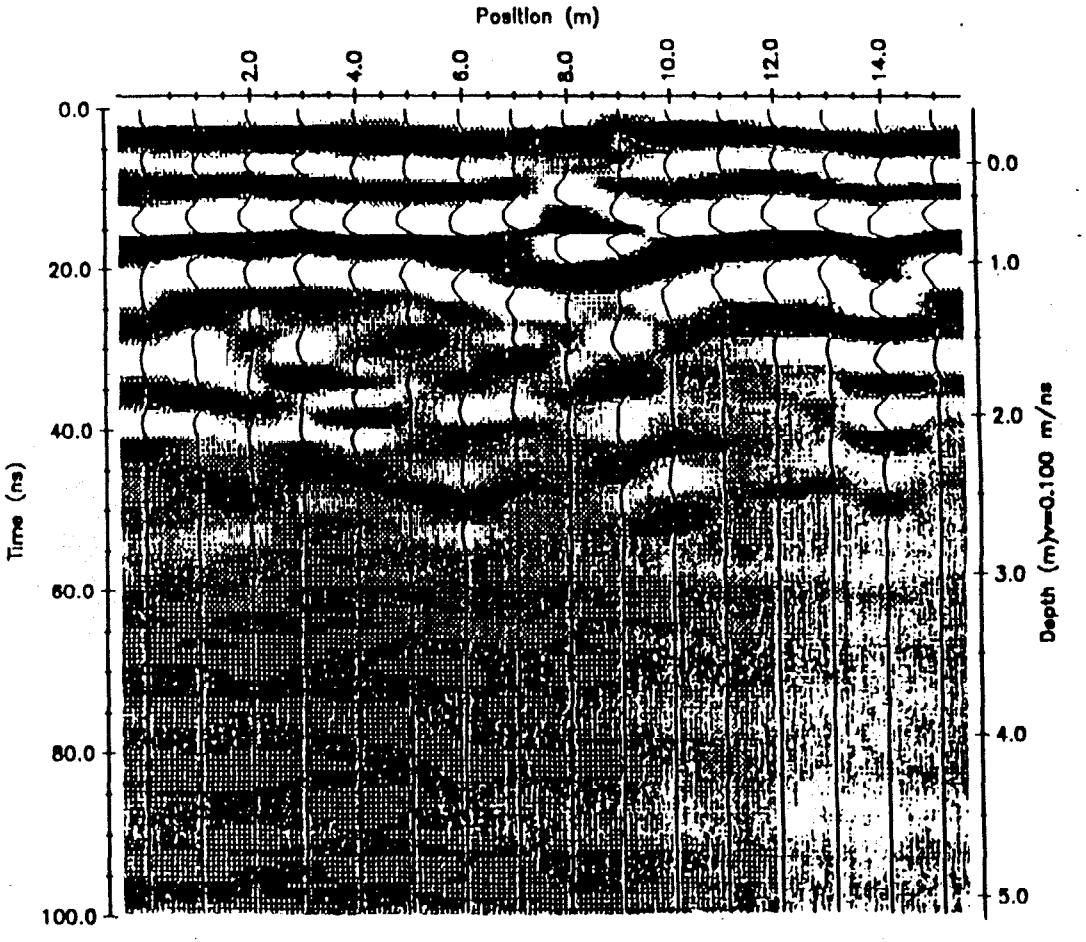

Figure 4. Example of "undersampled" GPR data. These data are from the same profile as shown in Figure 2, but resampled at 1 m station spacing.

200 MHz ground penetrating radar (GPR) survey from a 16 meter (53 ft) profile crossing above a 24 inch corrugated steel storm drain buried 6 inches (to top of pipe) below grade.

```
pulseEKKO HEADER PARAMETERS
    FILE  = C:\ekko\nus_main\nus0008a
    JOB   = 1
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    TITLE = 05/23/94:  0850 hrs line 8 (reversed)
    DATE  = 23/05/94
    NUMBER OF TRACES      = 401
    NUMBER OF PTS/TRC     = 125
    TIMEZERO AT POINT     = 23
    TOTAL TIME WINDOW     = 100
    STARTING POSITION     = 0.000
    FINAL POSITION        = 100.000
    STEP SIZE USED        = 0.250
    POSITION UNITS        = metres
    NOMINAL FREQUENCY     = 200.00
    ANTENNA SEPARATION    = 1.000
    PULSER VOLTAGE        = 400
    NUMBER OF STACKS      = 8
    SURVEY MODE           = Reflection
    POSITIONS RENUMBERED
    PROFILING DIRECTION HAS BEEN REVERSED

PROCESSING SELECTED
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                 POINT STACKING: 1
                 TRACE DIFFERENCING: N
    SELECTION    TIME: 0 to 50
                 TRACE: 360 to 401
    GAINS:       GAIN TYPE: SEC
                 MAX GAIN (Manual): 15
                 ATTENUATION: 0.000
                 VELOCITY: 0.1000

PLOT LAYOUT PARAMETERS
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    TRACE BOTTOM AND TOP: 3.0000  and 7.0000
    MARGIN LEFT AND RIGHT: -0.5000 and 1.0000
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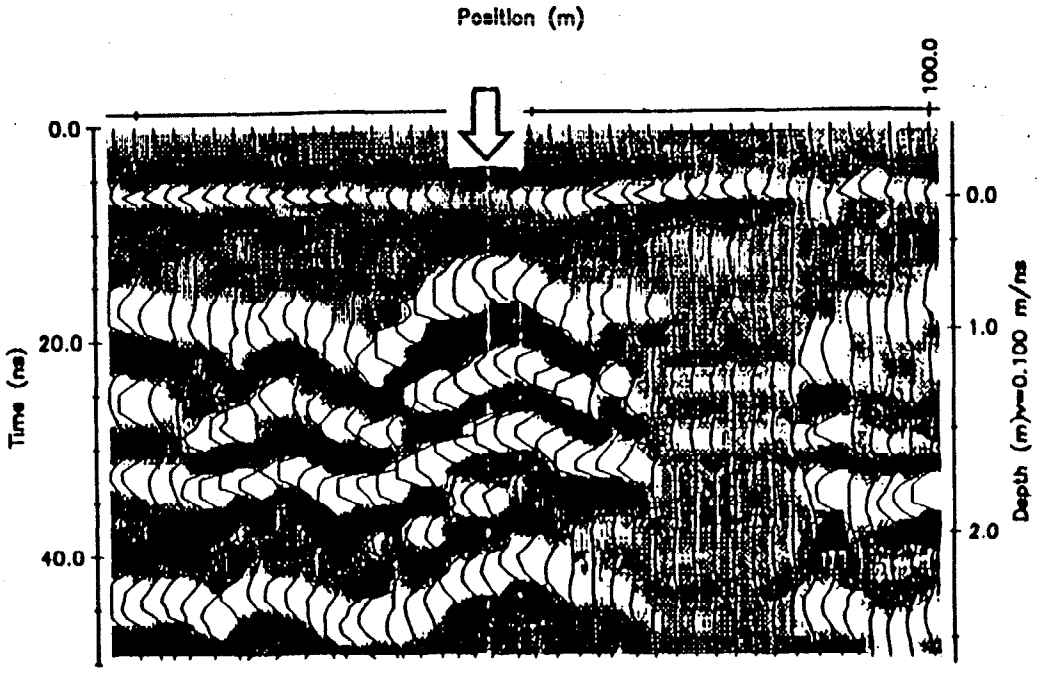

Figure 5. GPR signature from a scattering center beneath the northern-most section (from 90 - 100 meters) of line 8. The length of the section is 10 meters (90 - 100 m), and the feature is located beneath the arrow.

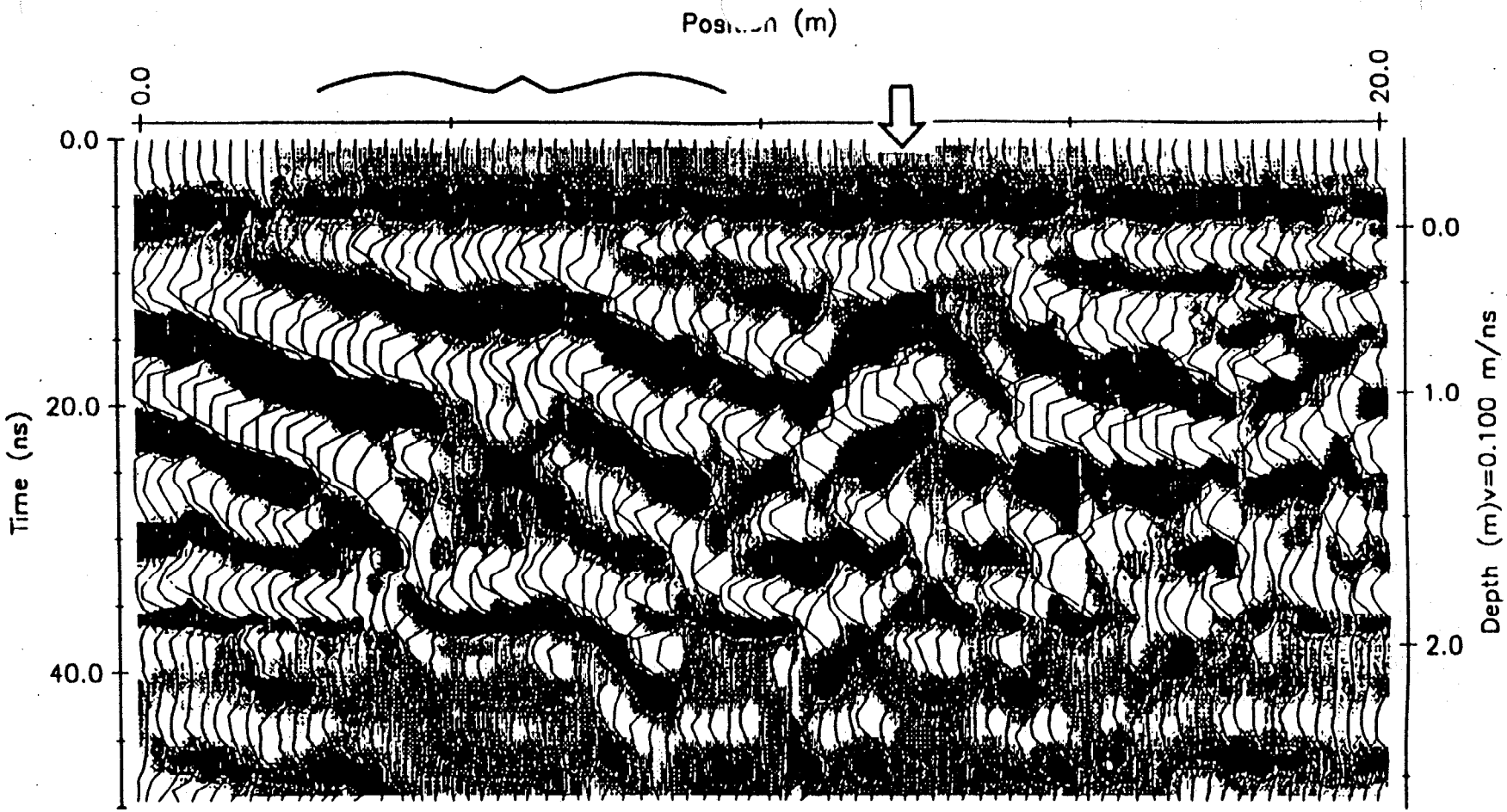

Figure 6. GPR signature of a scattering center beneath the southern-most section of line 97 (from 0 - 20 meters). The section shown is 20 meters long (from 0 - 20 m), and the feature is located beneath the arrow at 12.5 m. The signature of a gently dipping geologic horizon is indicated by the bracket on the left of the profile from 2 to 10 m.

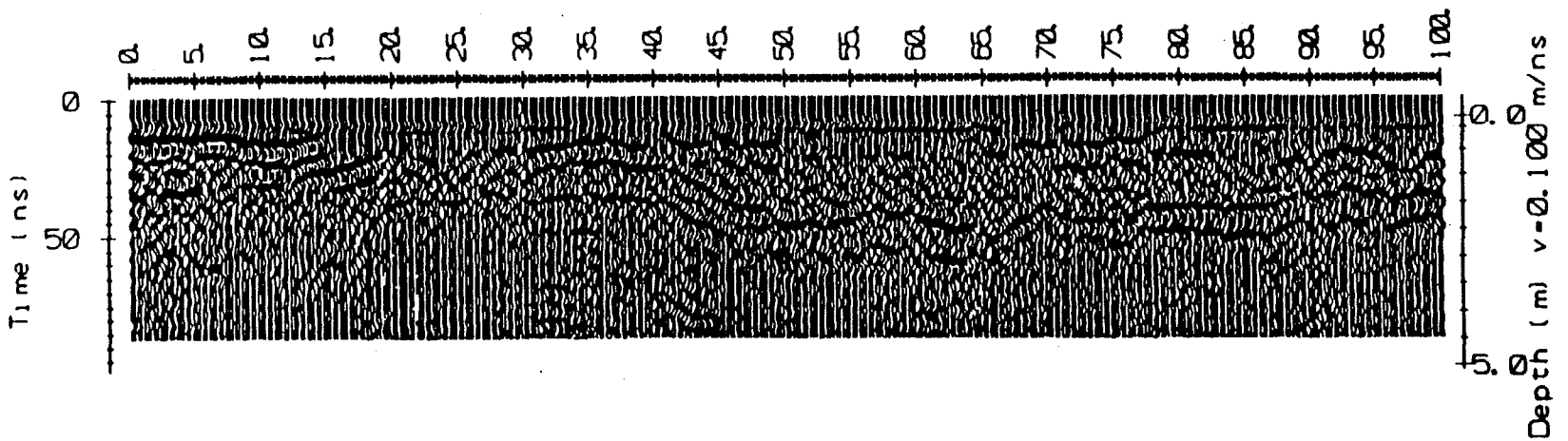

Figure 7. GPR data from one of the least "disturbed" profiles from the main survey area [Main Survey Area Line 1 (0.0 m); 200 MHz, 0.25 m station spacing]. The sub-horizontal "reflectors" at depth that are likely to be original glacial deposits.

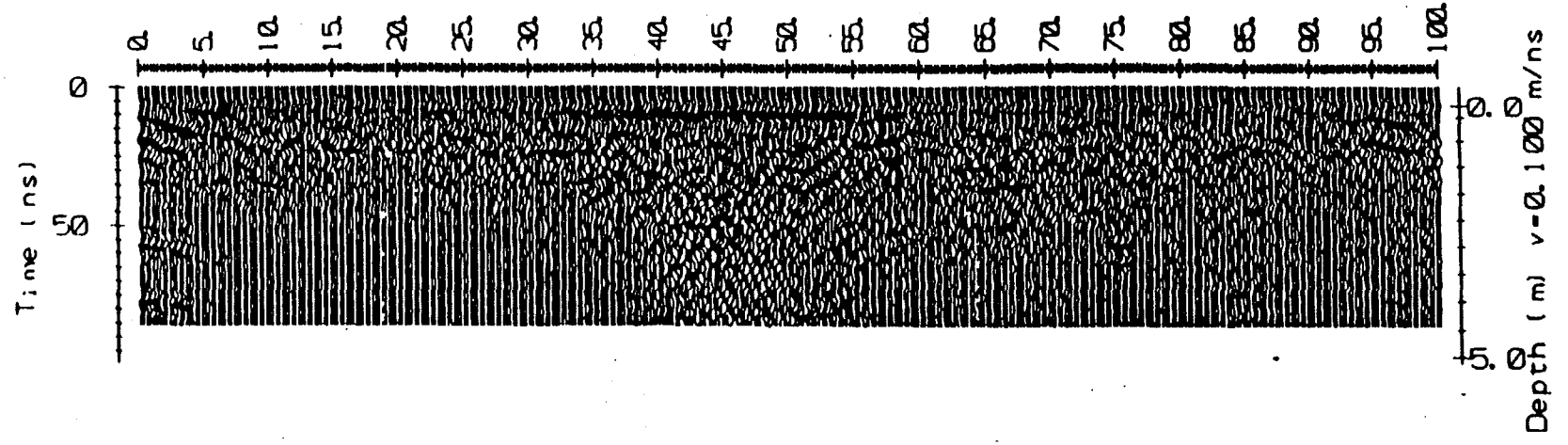

Figure 8. GPR data from a relatively "disturbed section" [Main Survey Area Line 97], containing a large number of small scale scatterers, and limited continuity of "geologic" horizons. Survey parameters similar to Figure 7.

\EKKO\nus_main\nus0097o

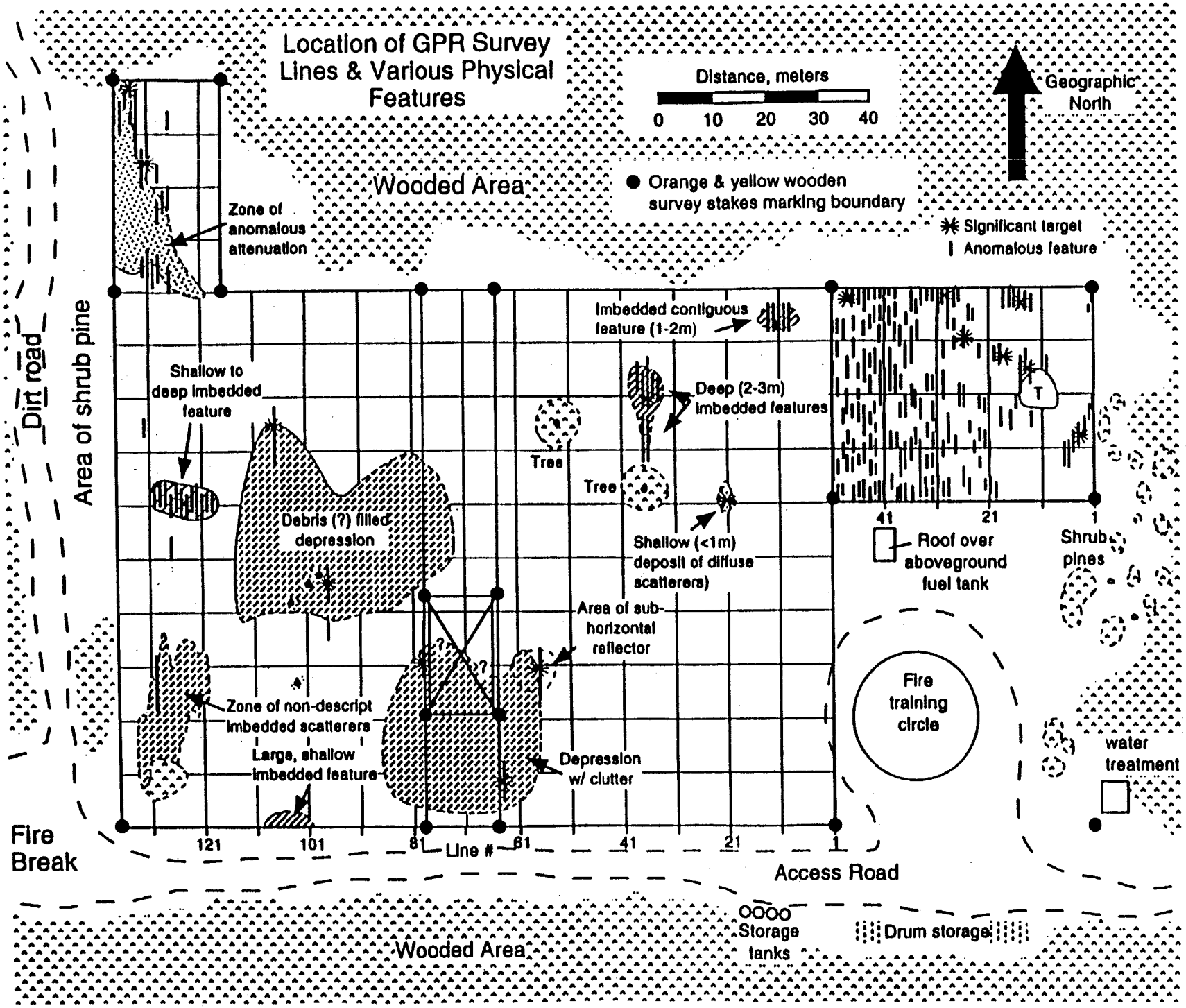

Figure 9. GPR Zo[illegible]n Map of Survey Area.

pulseEKKO HEADER PARAMETERS
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DATE = 27/05/94
NUMBER OF TRACES = 161
NUMBER OF PTS/TRC = 125
TIMEZERO AT POINT = 26
TOTAL TIME WINDOW = 100
STARTING POSITION = 0.000
FINAL POSITION = 40.000
STEP SIZE USED = 0.250
POSITION UNITS = metres
NOMINAL FREQUENCY = 200.00
ANTENNA SEPARATION = 1.000
PULSER VOLTAGE = 400
NUMBER OF STACKS = 8
SURVEY MODE = Reflection
POSITIONS RENUMBERED
PROFILING DIRECTION HAS BEEN REVERSED

PROCESSING SELECTED
FILTERS TRACE STACKING: 1
POINT STACKING: 1
TRACE DIFFERENCING: N
SELECTION TIME: 0 to 100
TRACE: 1 to 161
GAINS GAIN TYPE: SEC
MAX GAIN (Manual): 15
ATTENUATION: 0.000
VELOCITY: 0.1000

PLOT LAYOUT PARAMETERS
TRACE SPACING AND WIDTH: 0.0500 and 0.3000
TRACE BOTTOM AND TOP: 1.0000 and 7.0000
MARGIN LEFT AND RIGHT: -1.0000 and 1.0000
PAGE WIDTH: 8.0000
BORDER SIZE: 0.000
PRINTER NAME: LAS300
SCALE BAR: Name:grey Type:L Min:-10000 Max:10000 Contour:0

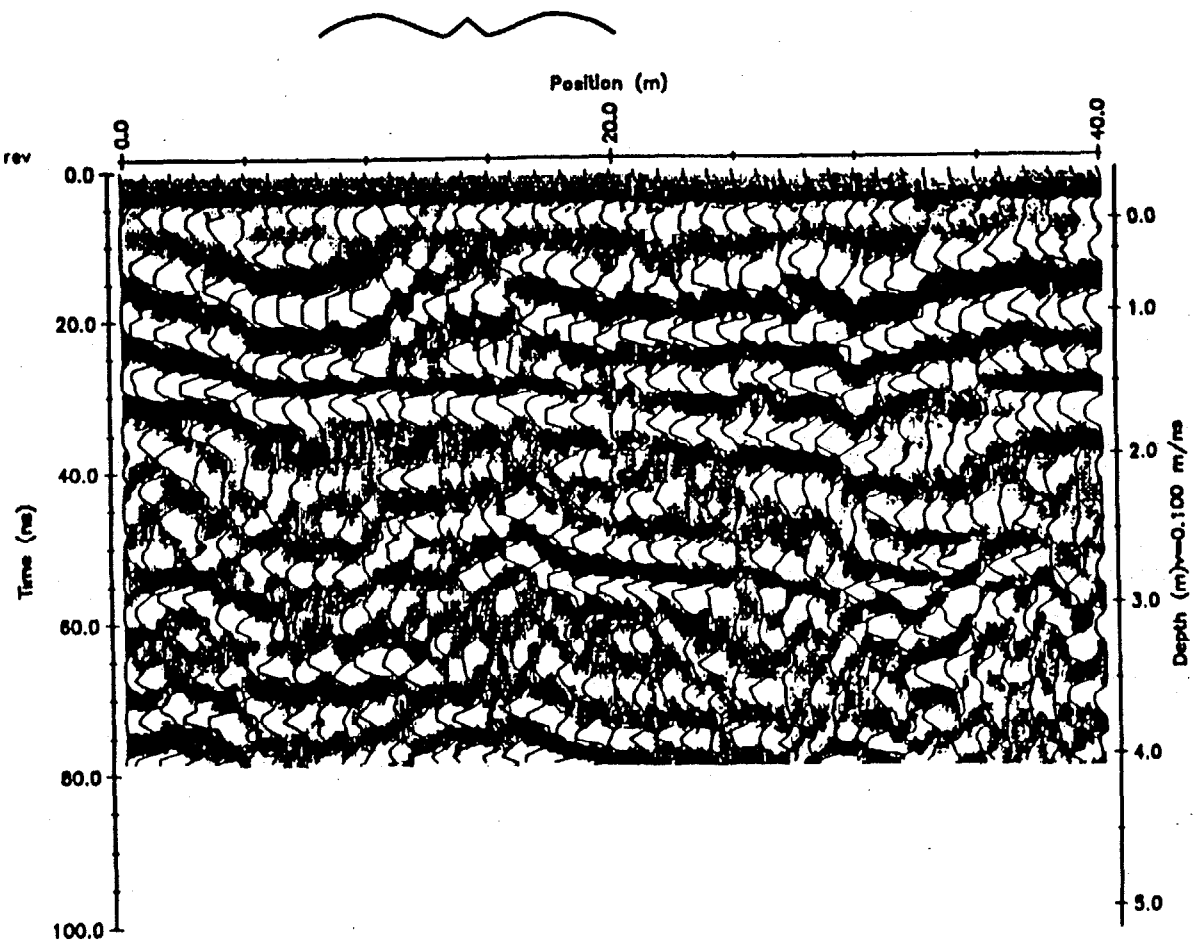


Figure 10. Northeast Sector Profile: NE00004a.

pulseEKKO HEADER PARAMETERS
FILE = C:\ekko\ne00013a
JOB# = 1
TITLE = 200 Mhz profile at NUS Colverton site
TITLE = 05/27/94; 0920 lines NE00001 thru NE00051 (NE Sector)
DATE = 27/05/94
NUMBER OF TRACES = 161
NUMBER OF PTS/TRC = 125
TIMEZERO AT POINT = 27
TOTAL TIME WINDOW = 100
STARTING POSITION = 0.000
FINAL POSITION = 40.000
STEP SIZE USED = 0.250
POSITION UNITS = metres
NOMINAL FREQUENCY = 200.00
ANTENNA SEPARATION = 1.000
PULSER VOLTAGE = 400
NUMBER OF STACKS = 8
SURVEY MODE = Reflection

PROCESSING SELECTED
FILTERS: TRACE STACKING: 1
POINT STACKING: 1
TRACE DIFFERENCING: N
SELECTION: TIME: 0 to 100
TRACE: 1 to 161
GAINS: GAIN TYPE: SEC
MAX GAIN (Manual): 15
ATTENUATION: 0.000
VELOCITY: 0.1000

PLOT LAYOUT PARAMETERS
TRACE SPACING AND WIDTH: 0.0500 and 0.3000
TRACE BOTTOM AND TOP: 1.0000 and 7.0000
MARGIN LEFT AND RIGHT: -0.5000 and 1.0000
PAGE WIDTH: 8.0000
BORDER SIZE: 0.000
PRINTER NAME: LAS300
SCALE BAR: Name:grey Type:L Min:-10000 Max:10000 Contour:0

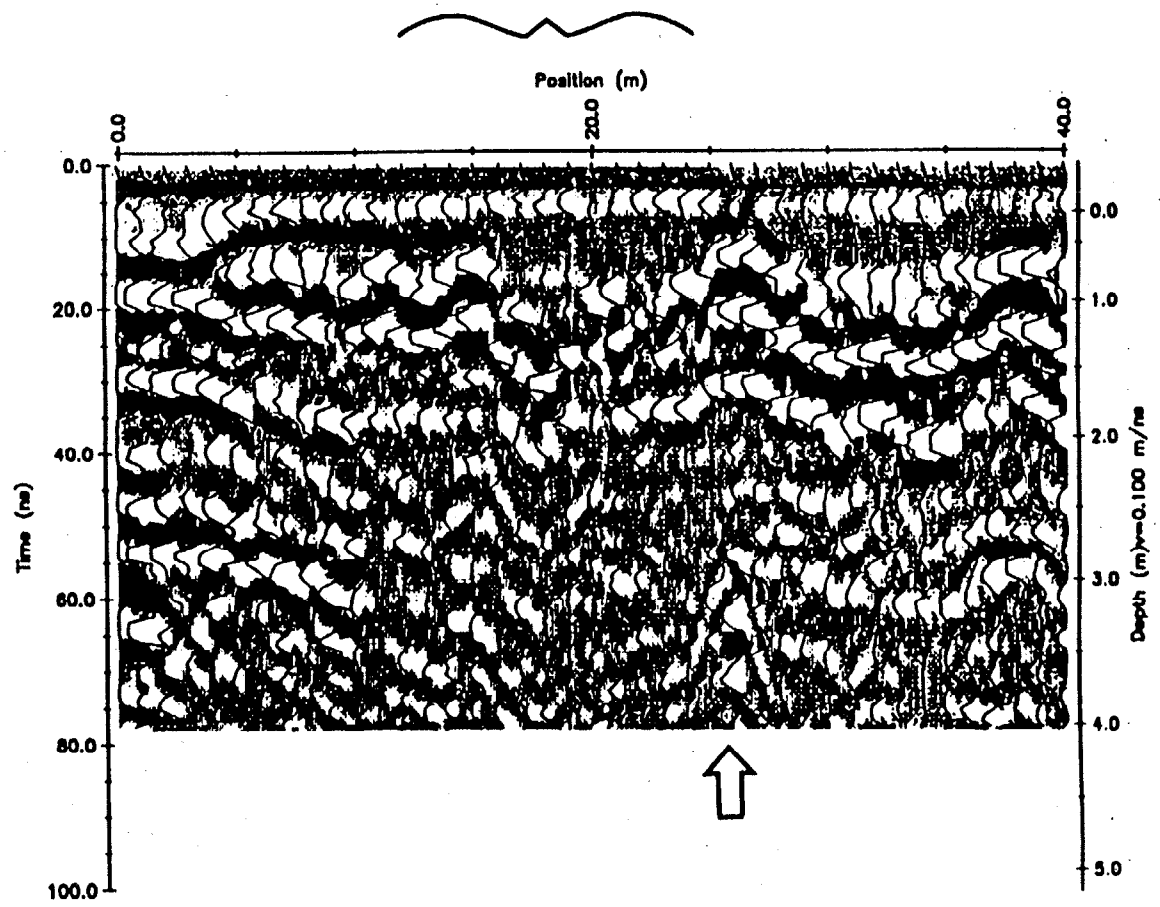


Figure 11a. Northeast Sector Profile: NE00013a. Note deep feature common to Figures 11b & c.

pulseEKKO HEADER PARAMETERS
FILE = C:\ekko\ne\ne00014a
JOB# = 1
TITLE = 200 Mhz profile at NUS Calverton site
TITLE = 05/27/94; 0920 lines NE00001 thru NE00051 (NE Sector) rev
DATE = 27/05/94
NUMBER OF TRACES = 161
NUMBER OF PTS/TRC = 125
TIMEZERO AT POINT = 26
TOTAL TIME WINDOW = 100
STARTING POSITION = 0.000
FINAL POSITION = 40.000
STEP SIZE USED = 0.250
POSITION UNITS = metres
NOMINAL FREQUENCY = 200.00
ANTENNA SEPARATION = 1.000
PULSER VOLTAGE = 400
NUMBER OF STACKS = 8
SURVEY MODE = Reflection
POSITIONS RENUMBERED
PROFILING DIRECTION HAS BEEN REVERSED

PROCESSING SELECTED
FILTERS: TRACE STACKING: 1
POINT STACKING: 1
TRACE DIFFERENCING: N
SELECTION: TIME: 0 to 100
TRACE: 1 to 161
GAINS: GAIN TYPE: SEC
MAX GAIN (Manual): 15
ATTENUATION: 0.000
VELOCITY: 0.1000

PLOT LAYOUT PARAMETERS
TRACE SPACING AND WIDTH: 0.0500 and 0.3000
TRACE BOTTOM AND TOP: 1.0000 and 7.0000
MARGIN LEFT AND RIGHT: -1.0000 and 1.0000
PAGE WIDTH: 8.0000
BORDER SIZE: 0.000
PRINTER NAME: LAS300
SCALE BAR: Name:grey Type:L Min:-10000 Max:10000 Contour:0

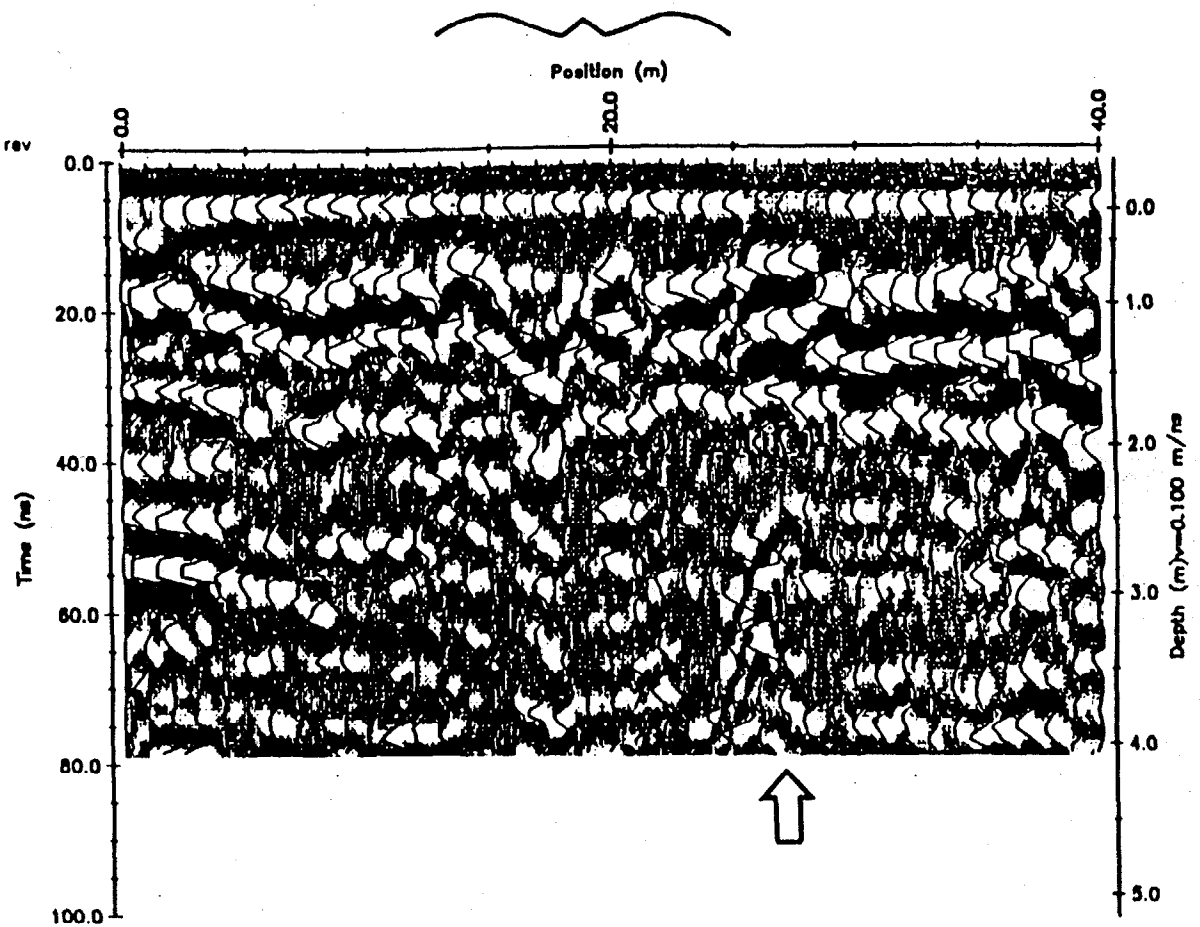


Figure 11b. Northeast Sector Profile: NE00014a. Note deep feature common to Figures 11a & c.

pulseEKKO HEADER PARAMETERS
FILE = C:\ekko\ne\ne00015a
JOB = 1
TITLE = 200 Mhz profile at NUS Calverton site
TITLE = 05/27/94: 0920 lines NE00001 thru NE00051 (NE Sector)
DATE = 27/05/94
NUMBER OF TRACES = 161
NUMBER OF PTS/TRC = 125
TIMEZERO AT POINT = 26
TOTAL TIME WINDOW = 100
STARTING POSITION = 0.000
FINAL POSITION = 40.000
STEP SIZE USED = 0.250
POSITION UNITS = metres
NOMINAL FREQUENCY = 200.00
ANTENNA SEPARATION = 1.000
PULSER VOLTAGE = 400
NUMBER OF STACKS = 8
SURVEY MODE = Reflection

PROCESSING SELECTED
FILTERS TRACE STACKING: 1
POINT STACKING: 1
TRACE DIFFERENCING: N
SELECTION TIME: 0 to 100
TRACE: 1 to 161
GAINS GAIN TYPE: SEC
MAX GAIN (Manual): 15
ATTENUATION: 0.000
VELOCITY: 0.1000

PLOT LAYOUT PARAMETERS
TRACE SPACING AND WIDTH: 0.0500 and 0.3000
TRACE BOTTOM AND TOP: 1.0000 and 7.0000
MARGIN LEFT AND RIGHT: -1.0000 and 1.0000
PAGE WIDTH: 8.0000
BORDER SIZE: 0.000
PRINTER NAME: LAS300
SCALE BAR: Name:grey Type:L Min:-10000 Max:10000 Contour:0

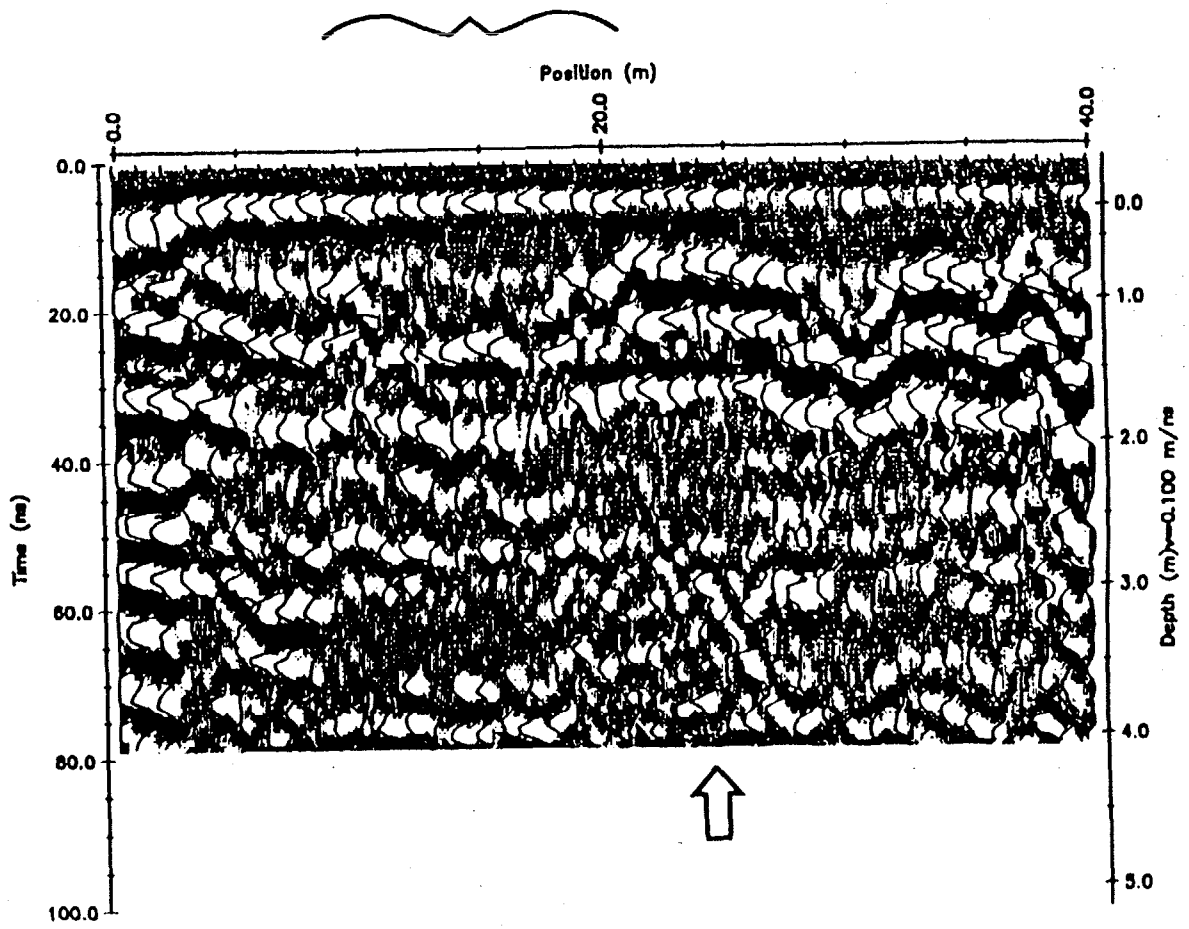


Figure 11c. Northeast Sector Profile: NE00015a. Note deep feature common to Figures 11a & b.

pulseEKKO HEADER PARAMETERS
FILE = C:\ekko\ne\ne00026a
JOB# = 1
TITLE = 200 Mhz profile at NUS Calverton site
TITLE = 05/27/94: 0920 lines NE00001 thru NE00051 (NE Sector) rev
DATE = 27/05/94
NUMBER OF TRACES = 161
NUMBER OF PTS/TRC = 125
TIMEZERO AT POINT = 14
TOTAL TIME WINDOW = 100
STARTING POSITION = 40.000
FINAL POSITION = 0.000
STEP SIZE USED = -0.250
POSITION UNITS = metres
NOMINAL FREQUENCY = 200.00
ANTENNA SEPARATION = 1.000
PULSER VOLTAGE = 400
NUMBER OF STACKS = 8
SURVEY MODE = Reflection
POSITIONS RENUMBERED

PROCESSING SELECTED
FILTERS TRACE STACKING: 1
POINT STACKING: 1
TRACE DIFFERENCING: N
SELECTION TIME: 0 to 100
TRACE: 1 to 161
GAINS GAIN TYPE: SEC
MAX GAIN (Manual): 15
ATTENUATION: 0.000
VELOCITY: 0.1000

PLOT LAYOUT PARAMETERS
TRACE SPACING AND WIDTH: 0.0500 and 0.3000
TRACE BOTTOM AND TOP: 1.0000 and 7.0000
MARGIN LEFT AND RIGHT: -1.0000 and 1.0000
PAGE WIDTH: 8.0000
BORDER SIZE: 0.000
PRINTER NAME: LAS300
SCALE BAR: Name:grey Type:L Min:-10000 Max:10000 Contour:0

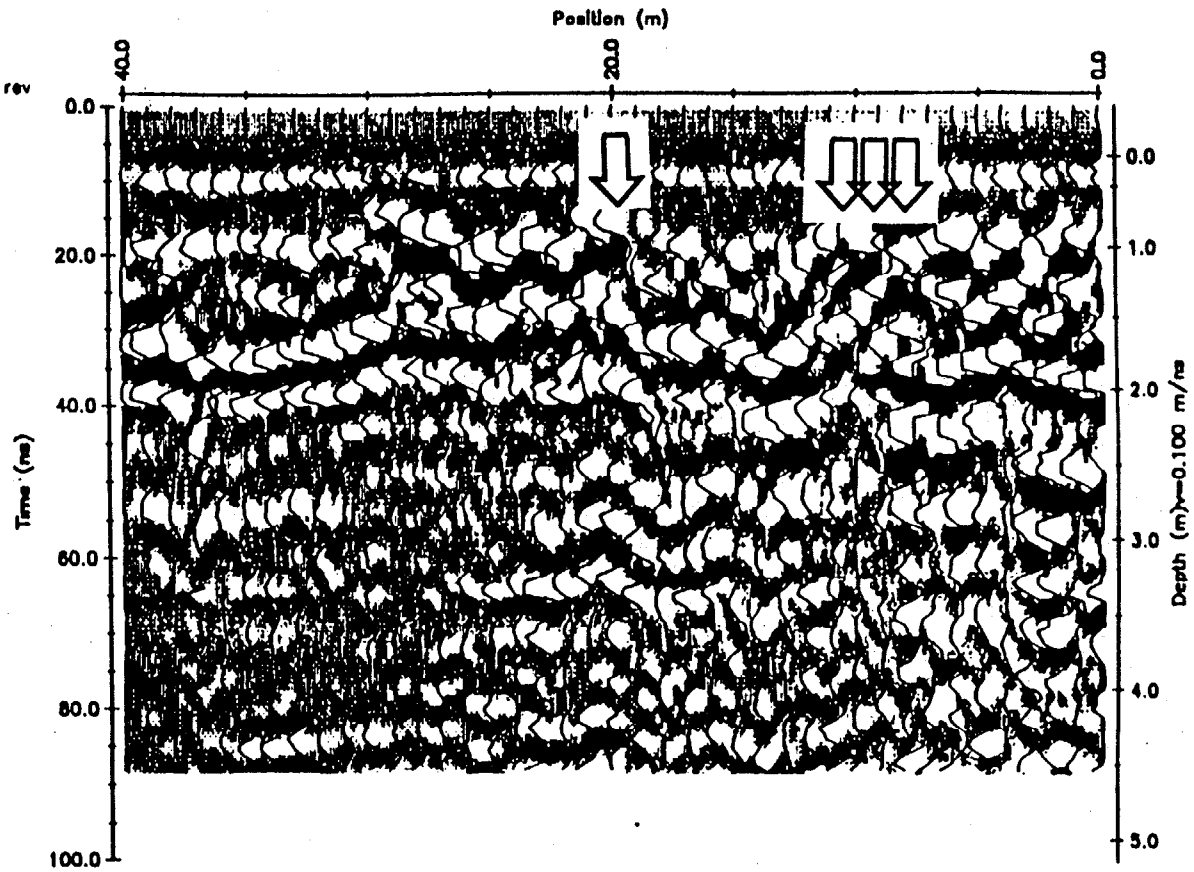


Figure 12. Northeast Sector Line 26 [NE00026a] indicating a localized anomaly at 19 to 20 m, and a composite feature at 27 to 34 m

pulseEKKO HEADER PARAMETERS
FILE = C:\ekko\ne\ne00029a
JOB# = 1
TITLE = 200 Mhz profile at NUS Calverton site
TITLE = 05/27/94; 0920 lines NE00001 thru NE00051 (NE Sector)
DATE = 27/05/94
NUMBER OF TRACES = 161
NUMBER OF PTS/TRC = 125
TIMEZERO AT POINT = 15
TOTAL TIME WINDOW = 100
STARTING POSITION = 0.000
FINAL POSITION = 40.000
STEP SIZE USED = 0.250
POSITION UNITS = metres
NOMINAL FREQUENCY = 200.00
ANTENNA SEPARATION = 1.000
PULSER VOLTAGE = 400
NUMBER OF STACKS = 8
SURVEY MODE = Reflection

PROCESSING APPLIED
FILTERS: TRACE STACKING: 1
POINT STACKING: 1
TRACE DIFFERENCING: N
SELECTION: TIME: 0 to 100
TRACE: 1 to 161
GAINS: GAIN TYPE: SEC
MAX GAIN (Manual): 15
ATTENUATION: 0.000
VELOCITY: 0.1000

PLOT LAYOUT PARAMETERS
TRACE SPACING AND WIDTH: 0.0500 and 0.3000
TRACE BOTTOM AND TOP: 1.0000 and 7.0000
MARGIN LEFT AND RIGHT: -1.0000 and 1.0000
PAGE WIDTH: 8.0000
BORDER SIZE: 0.000
PRINTER NAME: LAS300
SCALE BAR: Name:grey Type:L Min:-10000 Max:10000 Contour:0

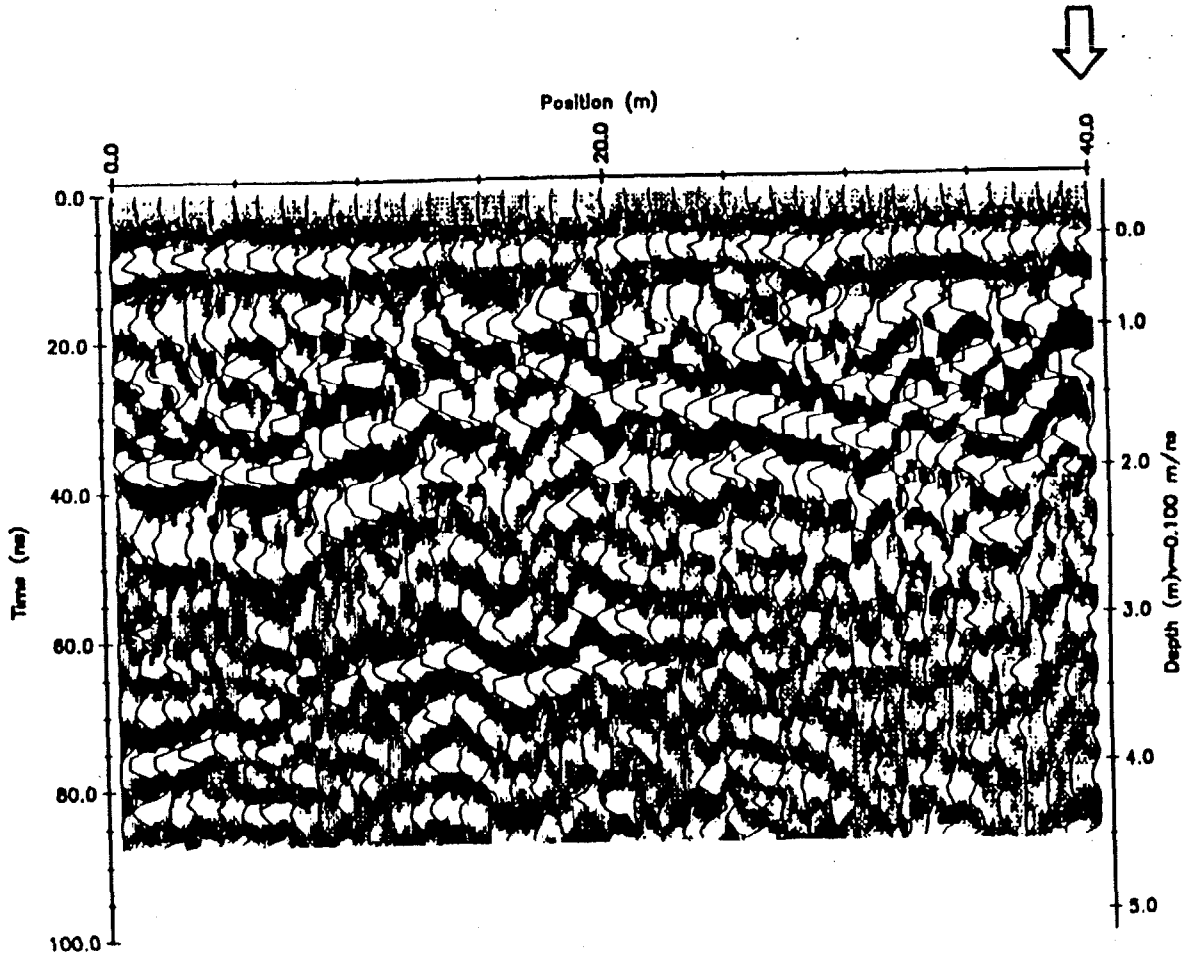


Figure 13. Northeast Sector Line 29 [NE00029a] indicating a persistent, localized anomaly along the northern edge of this area.

Appendix

Examples of Radargrams from GPR Survey of Calverton NWIRP

Radargrams from Northeast Sector of

Calverton NWIRP

pulseEKKO HEADER PARAMETERS

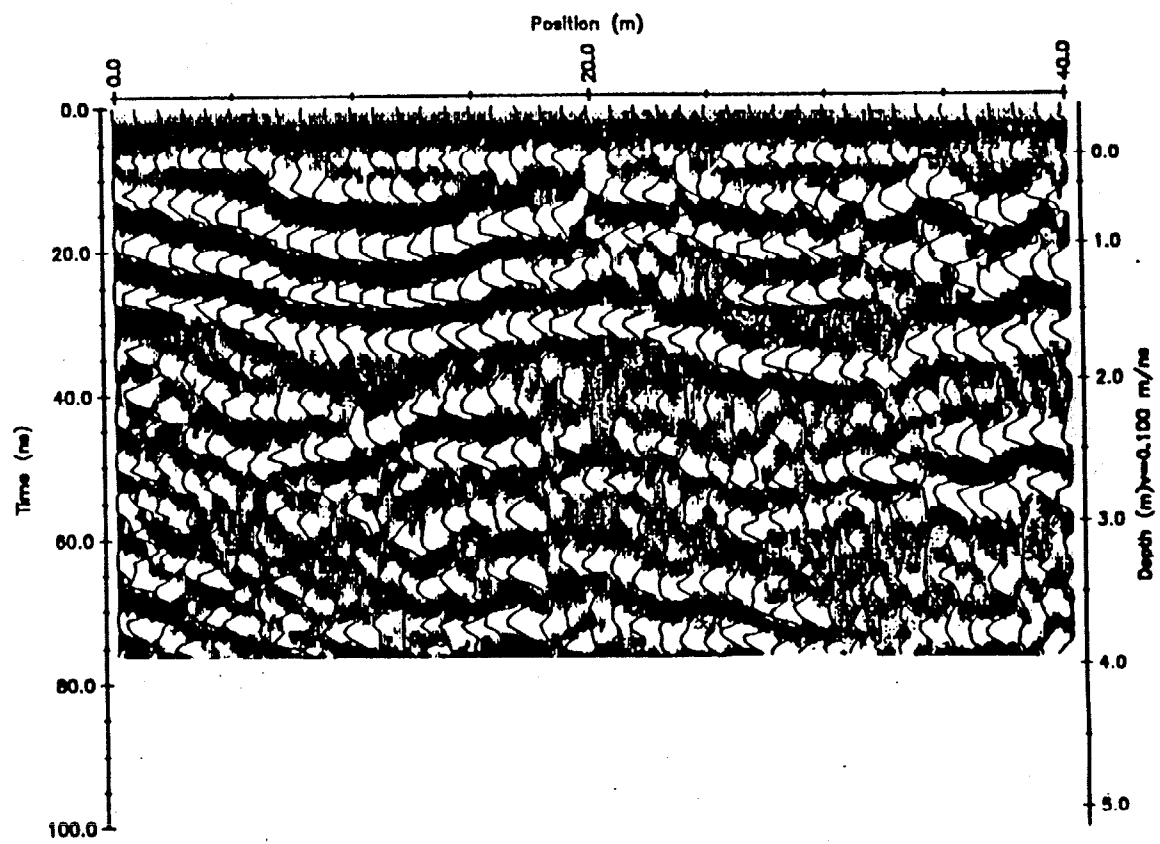
FILE	= C:\ekko\ne00001a
JOB	= 1
TITLE	= 200 Mhz profile at NUS Calverton site
TITLE	= 05/27/94: 0920 lines NE00001 thru NE00051 (NE Sector)
DATE	= 27/05/94
NUMBER OF TRACES	= 161
NUMBER OF PTS/TRC	= 125
TIMEZERO AT POINT	= 29
TOTAL TIME WINDOW	= 100
STARTING POSITION	= 0.000
FINAL POSITION	= 40.000
STEP SIZE USED	= 0.250
POSITION UNITS	= metres
NOMINAL FREQUENCY	= 200.00
ANTENNA SEPARATION	= 1.000
PULSER VOLTAGE	= 400
NUMBER OF STACKS	= 8
SURVEY MODE	= Reflection

PROCESSING SELECTED

FILTERS	TRACE STACKING 1
	POINT STACKING 1
	TRACE DIFFERENCING N
SELECTION	TIME: 0 to 100
	TRACE: 1 to 161
GAINS	GAIN TYPE: SEC
	MAX GAIN (Manual): 15
	ATTENUATION 0.000
	VELOCITY: 0.1000

PLOT LAYOUT PARAMETERS

TRACE SPACING AND WIDTH: 0.0500 and 0.3000
TRACE BOTTOM AND TOP: 1.0000 and 7.0000
MARGIN LEFT AND RIGHT: -0.5000 and 1.0000
PAGE WIDTH: 8.0000
BORDER SIZE: 0.000
PRINTER NAME: LAS300
SCALE BAR: Name:grey Type:L Min:-10000 Max:10000 Contour:0



pulseEKKO HEADER PARAMETERS

FILE = C:\ekko\ne00002a
JOB = 1
TITLE = 200 Mhz profile at NUS Calverton site
TITLE = 05/27/94; 0920 lines NE00001 thru NE00051 (NE Sector) rev
DATE = 27/05/94
NUMBER OF TRACES = 161
NUMBER OF PTS/TRC = 125
TIMEZERO AT POINT = 28
TOTAL TIME WINDOW = 100
STARTING POSITION = 0.000
FINAL POSITION = 40.000
STEP SIZE USED = 0.250
POSITION UNITS = metres
NOMINAL FREQUENCY = 200.00
ANTENNA SEPARATION = 1.000
PULSER VOLTAGE = 400
NUMBER OF STACKS = 8
SURVEY MODE = Reflection
POSITIONS RENUMBERED
PROFILING DIRECTION HAS BEEN REVERSED

PROCESSING SELECTED

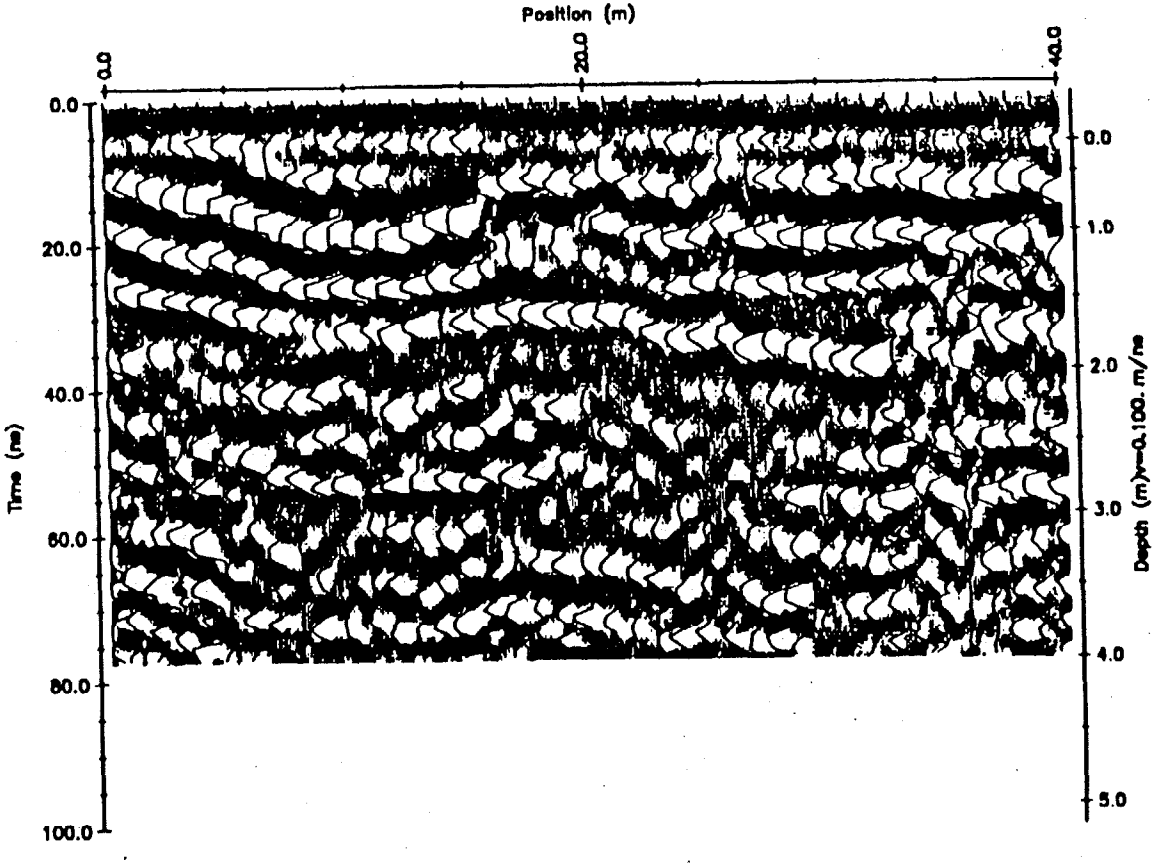
FILTERS: TRACE STACKING: 1
POINT STACKING: 1
TRACE DIFFERENCING: N

SELECTION TIME: 0 to 100
TRACE: 1 to 161

GAINS: GAIN TYPE: SEC
MAX GAIN (Manual): 15
ATTENUATION: 0.000
VELOCITY: 0.1000

PLOT LAYOUT PARAMETERS

TRACE SPACING AND WIDTH: 0.0500 and 0.3000
TRACE BOTTOM AND TOP: 1.0000 and 7.0000
MARGIN LEFT AND RIGHT: -0.5000 and 1.0000
PAGE WIDTH: 8.0000
BORDER SIZE: 0.000
PRINTER NAME: LAS300
SCALE BAR: Name:grey Type:L Min:-10000 Max:10000 Contour:0



pulseEKKO HEADER PARAMETERS

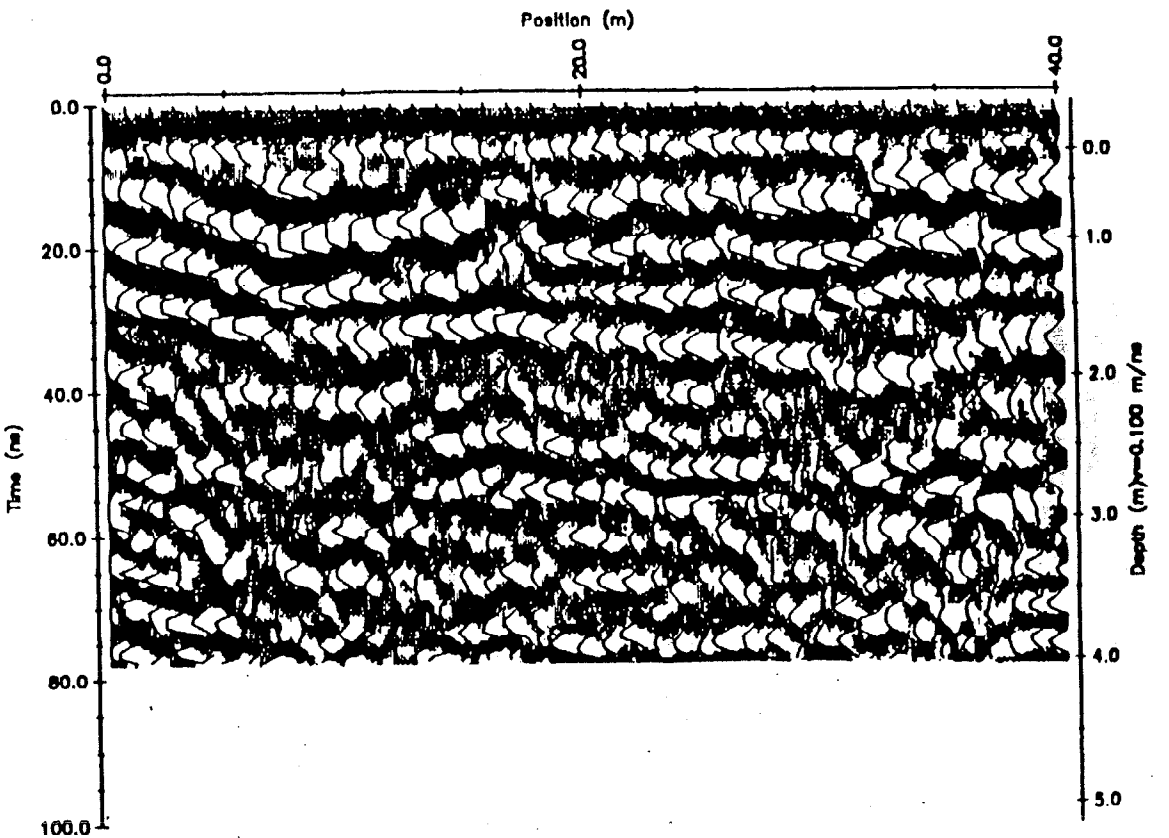
FILE = C:\ekko\ne00003a
JOB = 1
TITLE = 200 Mhz profile at NUS Calverton site
TITLE = 05/27/94: 0920 lines NE00001 thru NE00051 (NE Sector)
DATE = 27/05/94
NUMBER OF TRACES = 161
NUMBER OF PTS/TRC = 125
TIMEZERO AT POINT = 27
TOTAL TIME WINDOW = 100
STARTING POSITION = 0.000
FINAL POSITION = 40.000
STEP SIZE USED = 0.250
POSITION UNITS = metres
NOMINAL FREQUENCY = 200.00
ANTENNA SEPARATION = 1.000
PULSER VOLTAGE = 400
NUMBER OF STACKS = 8
SURVEY MODE = Reflection

PROCESSING SELECTED

FILTERS: TRACE STACKING: 1
POINT STACKING: 1
TRACE DIFFERENCING: N
SELECTION: TIME: 0 to 100
TRACE: 1 to 161
GAINS: GAIN TYPE: SEC
MAX GAIN (Manual): 15
ATTENUATION: 0.000
VELOCITY: 0.1000

PLOT LAYOUT PARAMETERS

TRACE SPACING AND WIDTH: 0.0500 and 0.3000
TRACE BOTTOM AND TOP: 1.0000 and 7.0000
MARGIN LEFT AND RIGHT: -0.5000 and 1.0000
PAGE WIDTH: 8.0000
BORDER SIZE: 0.000
PRINTER NAME: LAS300
SCALE BAR: Name:grey Type:L Min:-10000 Max:10000 Contour:0



pulseEKKO HEADER PARAMETERS

FILE = C:\ekko\ne00004a
JOB = 1
TITLE = 200 Mhz profile at NUS Calverton site
TITLE = 05/27/94: 0920 lines NE00001 thru NE00051 (NE Sector) rev
DATE = 27/05/94
NUMBER OF TRACES = 161
NUMBER OF PTS/TRC = 125
TIMEZERO AT POINT = 26
TOTAL TIME WINDOW = 100
STARTING POSITION = 0.000
FINAL POSITION = 40.000
STEP SIZE USED = 0.250
POSITION UNITS = metres
NOMINAL FREQUENCY = 200.00
ANTENNA SEPARATION = 1.000
PULSER VOLTAGE = 400
NUMBER OF STACKS = 8
SURVEY MODE = Reflection
POSITIONS RENUMBERED
PROFILING DIRECTION HAS BEEN REVERSED

PROCESSING SELECTED

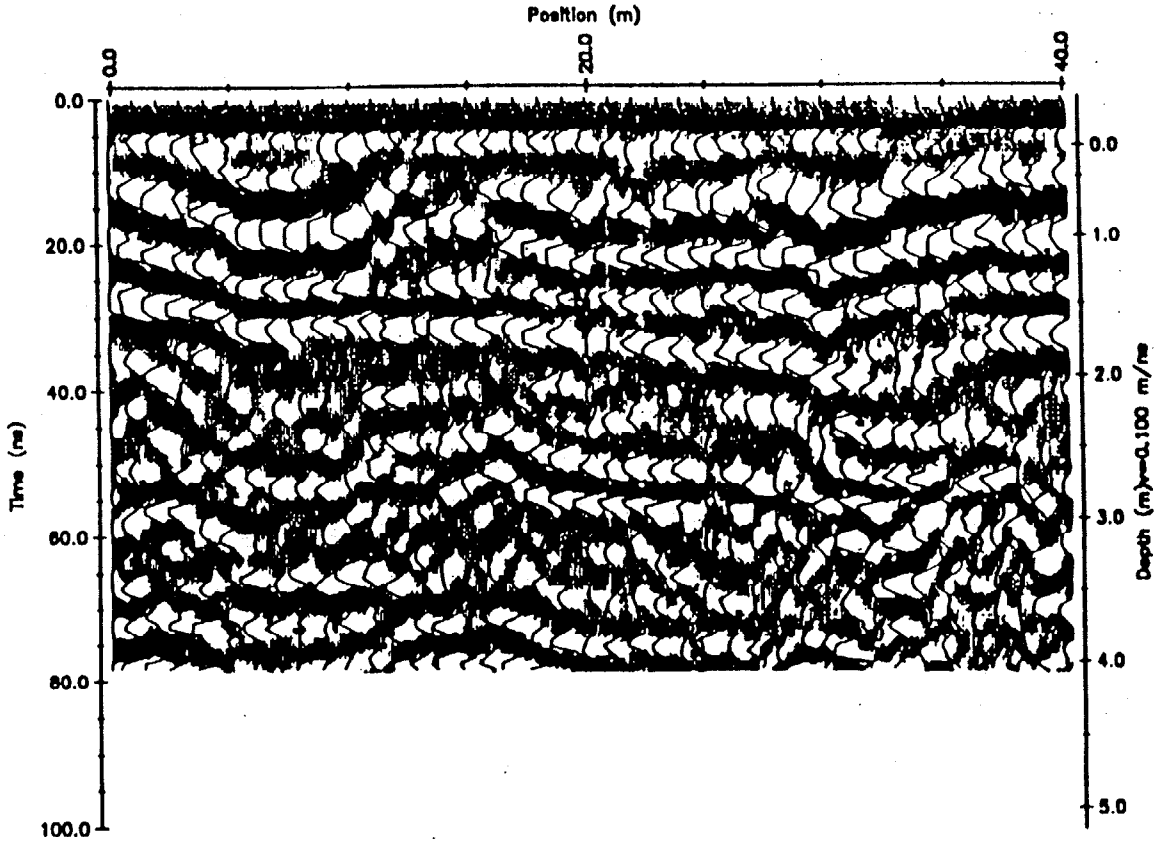
FILTERS
TRACE STACKING: 1
POINT STACKING: 1
TRACE DIFFERENCING: N

SELECTION
TIME: 0 to 100
TRACE: 1 to 161

GAINS:
GAIN TYPE: SEC
MAX GAIN (Manual): 15
ATTENUATION: 0.000
VELOCITY: 0.1000

PLOT LAYOUT PARAMETERS

TRACE SPACING AND WIDTH: 0.0500 and 0.3000
TRACE BOTTOM AND TOP: 1.0000 and 7.0000
MARGIN LEFT AND RIGHT: -0.5000 and 1.0000
PAGE WIDTH: 8.0000
BORDER SIZE: 0.000
PRINTER NAME: LAS300
SCALE BAR: Name:grey Type:L Min:-10000 Max:10000 Contour:0



pulseEKKO HEADER PARAMETERS

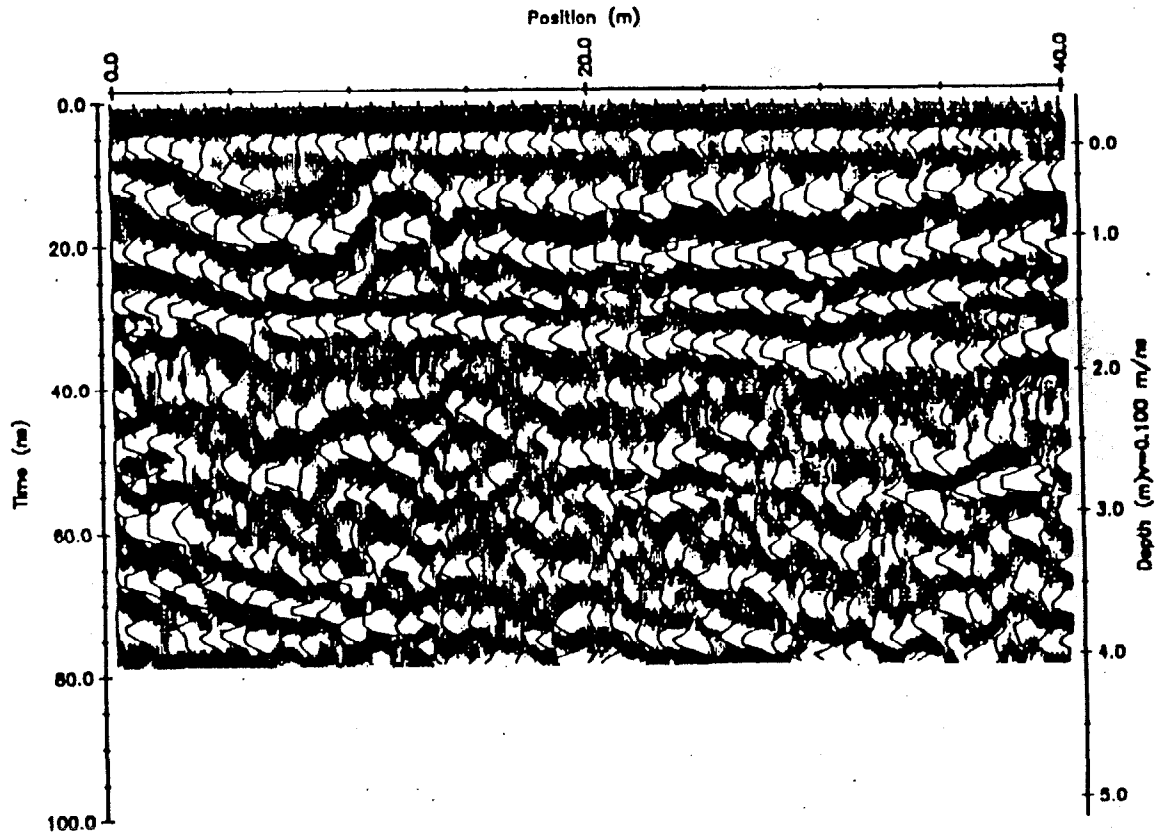
FILE = C:\ekko\ne00005a
JOB# = 1
TITLE = 200 Mhz profile at NUS Colverton site
TITLE = 05/27/94: 0920 lines NE00001 thru NE00051 (NE Sector)
DATE = 27/05/94
NUMBER OF TRACES = 161
NUMBER OF PTS/TRC = 125
TIMEZERO AT POINT = 26
TOTAL TIME WINDOW = 100
STARTING POSITION = 0.000
FINAL POSITION = 40.000
STEP SIZE USED = 0.250
POSITION UNITS = metres
NOMINAL FREQUENCY = 200.00
ANTENNA SEPARATION = 1.000
PULSER VOLTAGE = 400
NUMBER OF STACKS = 8
SURVEY MODE = Reflection

PROCESSING SELECTED

FILTERS: TRACE STACKING: 1
POINT STACKING: 1
TRACE DIFFERENCING: N
SELECTION TIME: 0 to 100
TRACE: 1 to 161
GAINS: GAIN TYPE: SEC
MAX GAIN (Manual): 15
ATTENUATION: 0.000
VELOCITY: 0.1000

PLOT LAYOUT PARAMETERS

TRACE SPACING AND WIDTH: 0.0500 and 0.3000
TRACE BOTTOM AND TOP: 1.0000 and 7.0000
MARGIN LEFT AND RIGHT: -0.5000 and 1.0000
PAGE WIDTH: 8.0000
BORDER SIZE: 0.000
PRINTER NAME: LAS300
SCALE BAR: Name:grey Type:L Min:-10000 Max:10000 Contour:0



pulseEKKO HEADER PARAMETERS

FILE = C:\ekko\ne00006a
JOB = 1
TITLE = 200 Mhz profile at NUS Calverton site
TITLE = 05/27/94; 0920 lines NE00001 thru NE00051 (NE Sector) rev
DATE = 27/05/94
NUMBER OF TRACES = 161
NUMBER OF PTS/TRC = 125
TIMEZERO AT POINT = 22
TOTAL TIME WINDOW = 100
STARTING POSITION = 0.000
FINAL POSITION = 40.000
STEP SIZE USED = 0.250
POSITION UNITS = metres
NOMINAL FREQUENCY = 200.00
ANTENNA SEPARATION = 1.000
PULSER VOLTAGE = 400
NUMBER OF STACKS = 8
SURVEY MODE = Reflection
POSITIONS RENUMBERED
PROFILING DIRECTION HAS BEEN REVERSED

PROCESSING SELECTED

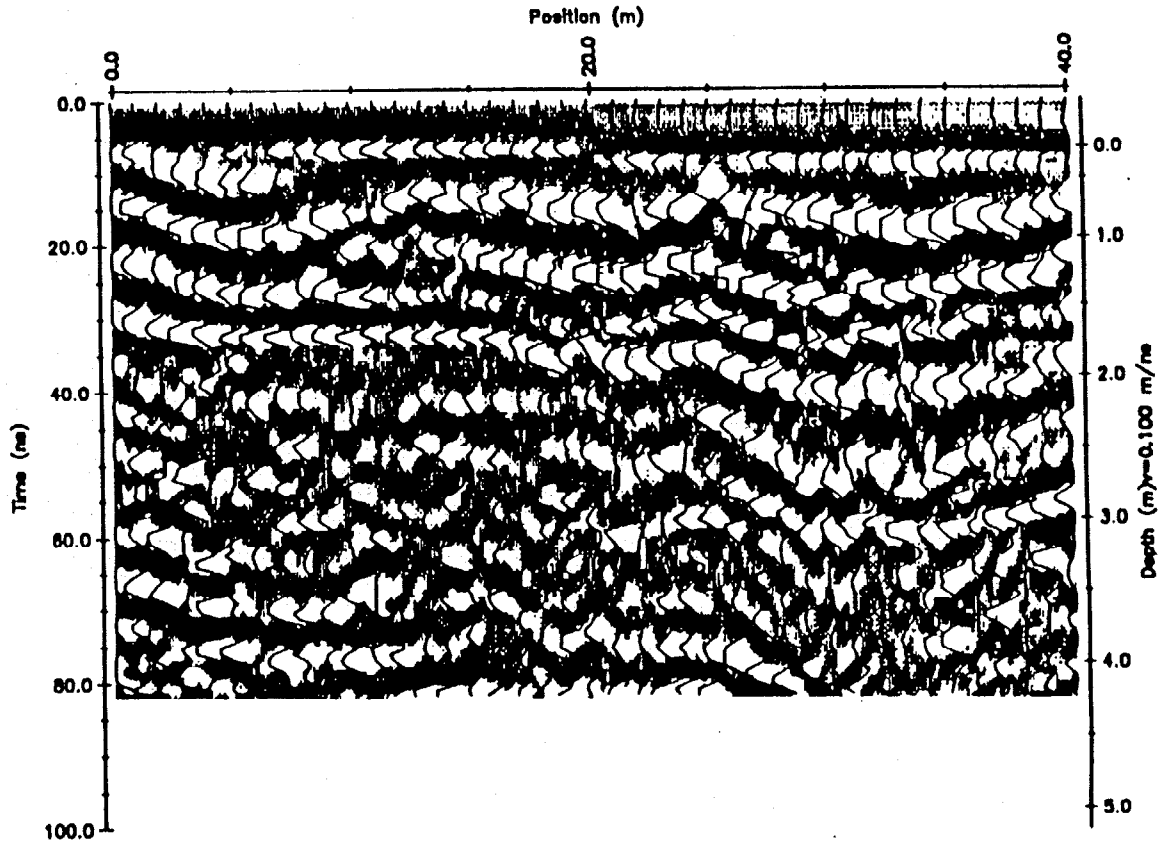
FILTERS
TRACE STACKING 1
POINT STACKING 1
TRACE DIFFERENCING N

SELECTION
TIME: 0 to 100
TRACE: 1 to 161

GAINS
GAIN TYPE: SEC
MAX GAIN (Manual): 15
ATTENUATION: 0.000
VELOCITY: 0.1000

PLOT LAYOUT PARAMETERS

TRACE SPACING AND WIDTH: 0.0500 and 0.3000
TRACE BOTTOM AND TOP: 1.0000 and 7.0000
MARGIN LEFT AND RIGHT: -0.5000 and 1.0000
PAGE WIDTH: 8.0000
BORDER SIZE: 0.000
PRINTER NAME: LAS300
SCALE BAR: Name:grey Type:L Min:-10000 Max:10000 Contour:0



pulseEKKO HEADER PARAMETERS

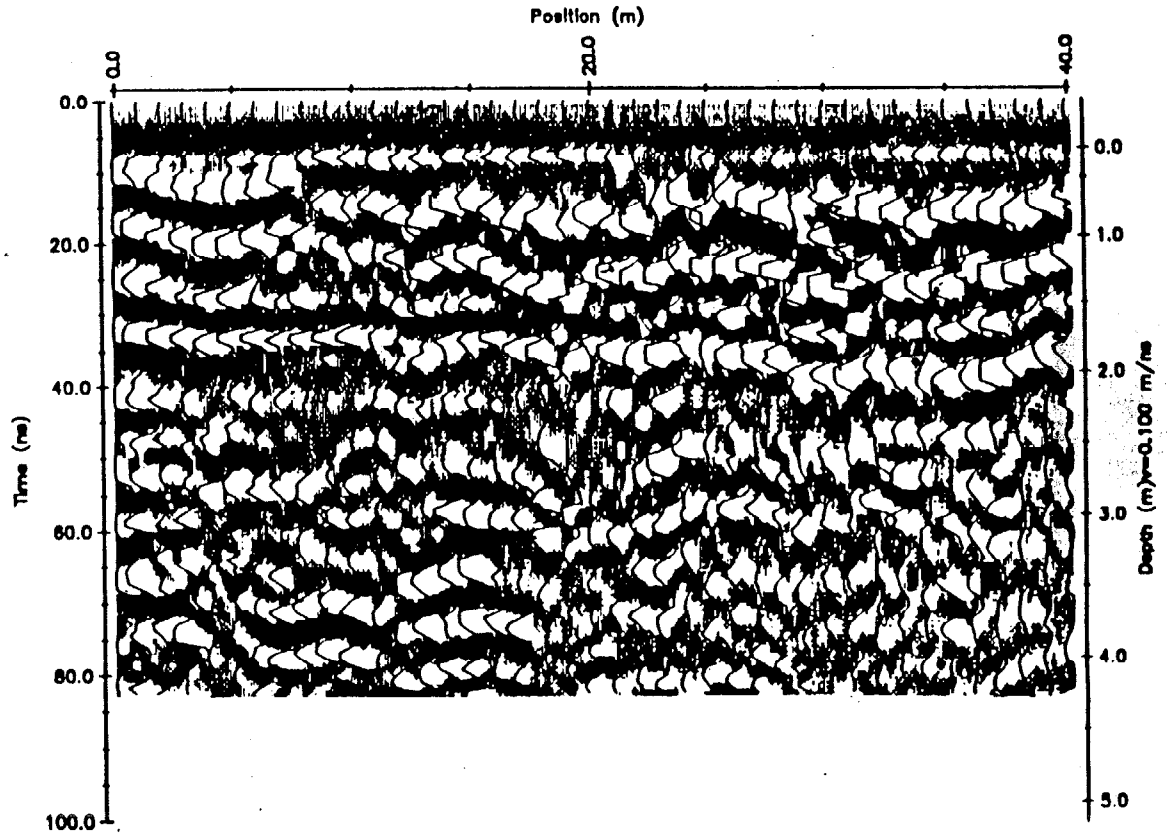
FILE	= C:\ekko\ne00007a
JOB#	= 1
TITLE	= 200 Mhz profile at NUS Calverton site
TITLE	= 05/27/94: 0920 lines NE00001 thru NE00051 (NE Sector)
DATE	= 27/05/94
NUMBER OF TRACES	= 161
NUMBER OF PTS/TRC	= 125
TIMEZERO AT POINT	= 21
TOTAL TIME WINDOW	= 100
STARTING POSITION	= 0.000
FINAL POSITION	= 40.000
STEP SIZE USED	= 0.250
POSITION UNITS	= metres
NOMINAL FREQUENCY	= 200.00
ANTENNA SEPARATION	= 1.000
PULSER VOLTAGE	= 400
NUMBER OF STACKS	= 8
SURVEY MODE	= Reflection

PROCESSING SELECTED

FILTERS	TRACE STACKING: 1
	POINT STACKING: 1
	TRACE DIFFERENCING: N
SELECTION	TIME: 0 to 100
	TRACE: 1 to 161
GAINS:	GAIN TYPE: SEC
	MAX GAIN (Manual): 15
	ATTENUATION: 0.000
	VELOCITY: 0.1000

PLOT LAYOUT PARAMETERS

TRACE SPACING AND WIDTH: 0.0500 and 0.3000
TRACE BOTTOM AND TOP: 1.0000 and 7.0000
MARGIN LEFT AND RIGHT: -0.5000 and 1.0000
PAGE WIDTH: 8.0000
BORDER SIZE: 0.000
PRINTER NAME: LAS300
SCALE BAR: Name:grey Type:L Min:-10000 Max:10000 Contour:0



pulseEKKO HEADER PARAMETERS

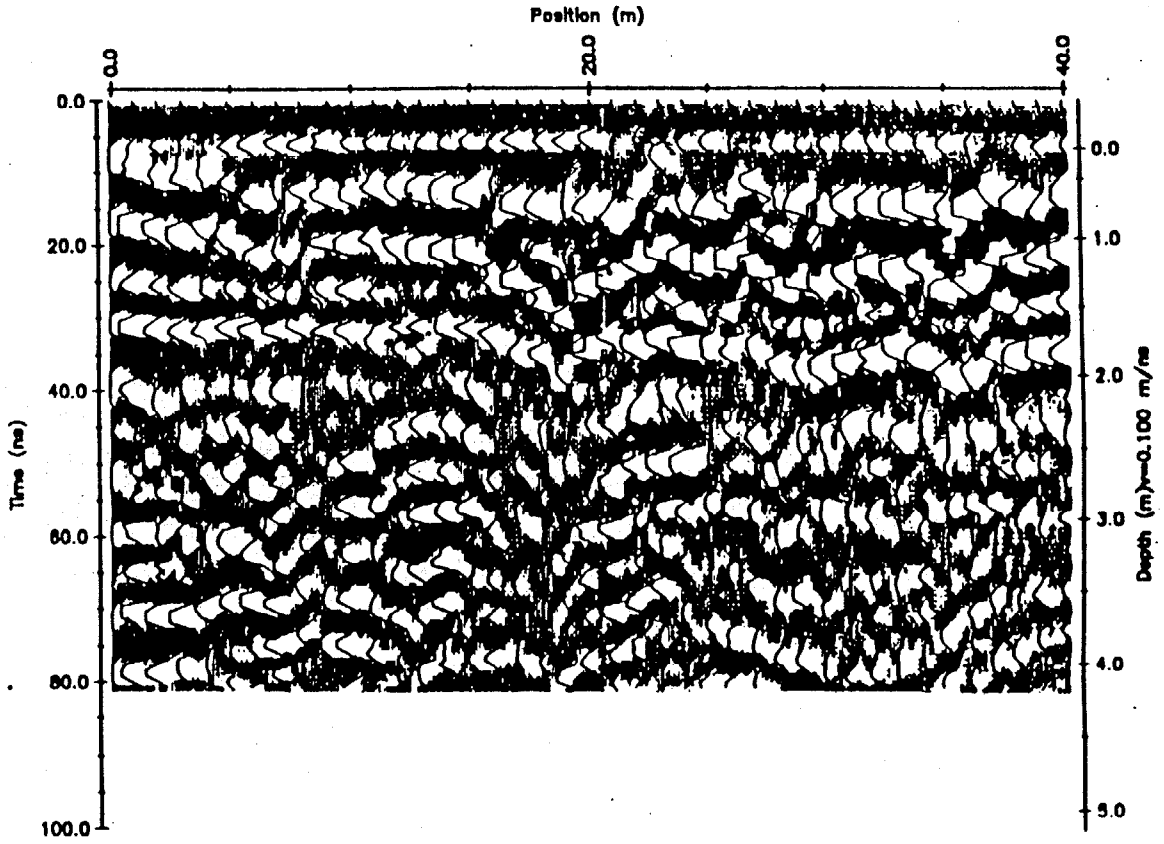
FILE = C:\ekko\ne00008a
JOB = 1
TITLE = 200 Mhz profile at NUS Calverton site
TITLE = 05/27/94; 0920 lines NE00001 thru NE00051 (NE Sector) rev
DATE = 27/05/94
NUMBER OF TRACES = 161
NUMBER OF PTS/TRC = 125
TIMEZERO AT POINT = 23
TOTAL TIME WINDOW = 100
STARTING POSITION = 0.000
FINAL POSITION = 40.000
STEP SIZE USED = 0.250
POSITION UNITS = metres
NOMINAL FREQUENCY = 200.00
ANTENNA SEPARATION = 1.000
PULSER VOLTAGE = 400
NUMBER OF STACKS = 8
SURVEY MODE = Reflection
POSITIONS RENUMBERED
PROFILING DIRECTION HAS BEEN REVERSED

PROCESSING SELECTED

FILTERS: TRACE STACKING 1
POINT STACKING 1
TRACE DIFFERENCING N
SELECTION TIME: 0 to 100
TRACE: 1 to 161
GAINS: GAIN TYPE: SEC
MAX GAIN (Manual): 15
ATTENUATION 0.000
VELOCITY: 0.1000

PLOT LAYOUT PARAMETERS

TRACE SPACING AND WIDTH: 0.0500 and 0.3000
TRACE BOTTOM AND TOP: 1.0000 and 7.0000
MARGIN LEFT AND RIGHT: -0.5000 and 1.0000
PAGE WIDTH: 8.0000
BORDER SIZE: 0.000
PRINTER NAME: LAS300
SCALE BAR: Name:grey Type:L Min:-10000 Max:10000 Contour:0



pulseEKKO HEADER PARAMETERS

FILE = C:\ekko\ne00009a
JOB = 1
TITLE = 200 Mhz profile at NUS Calverton site
TITLE = 05/27/94; 0920 lines NE00001 thru NE00051 (NE Sector)
DATE = 27/05/94
NUMBER OF TRACES = 161
NUMBER OF PTS/TRC = 125
TIMEZERO AT POINT = 29
TOTAL TIME WINDOW = 100
STARTING POSITION = 0.000
FINAL POSITION = 40.000
STEP SIZE USED = 0.250
POSITION UNITS = metres
NOMINAL FREQUENCY = 200.00
ANTENNA SEPARATION = 1.000
PULSER VOLTAGE = 400
NUMBER OF STACKS = 8
SURVEY MODE = Reflection

PROCESSING SELECTED

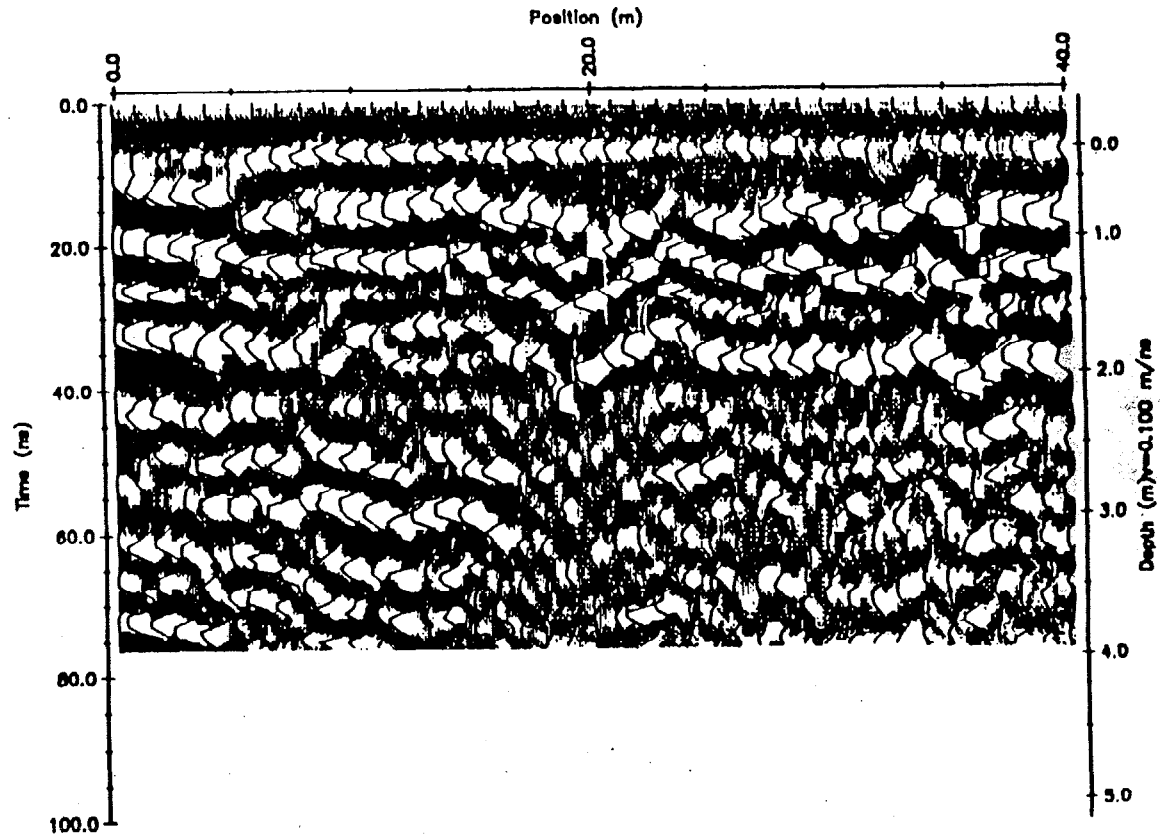
FILTERS
TRACE STACKING: 1
POINT STACKING: 1
TRACE DIFFERENCING: N

SELECTION
TIME: 0 to 100
TRACE: 1 to 161

GAINS
GAIN TYPE: SEC
MAX GAIN (Manual): 15
ATTENUATION: 0.000
VELOCITY: 0.1000

PLOT LAYOUT PARAMETERS

TRACE SPACING AND WIDTH: 0.0500 and 0.3000
TRACE BOTTOM AND TOP: 1.0000 and 7.0000
MARGIN LEFT AND RIGHT: -0.5000 and 1.0000
PAGE WIDTH: 8.0000
BORDER SIZE: 0.000
PRINTER NAME: LAS300
SCALE BAR: Name:grey Type:L Min:-10000 Max:10000 Contour:0



pulseEKKO HEADER PARAMETERS

FILE = C:\ekko\ne00010a
JOB# = 1
TITLE = 200 Mhz profile at NUS Calverton site
TITLE = 05/27/94: 0920 lines NE00001 thru NE00051 (NE Sector) rev
DATE = 27/05/94
NUMBER OF TRACES = 161
NUMBER OF PTS/TRC = 125
TIMEZERO AT POINT = 27
TOTAL TIME WINDOW = 100
STARTING POSITION = 0.000
FINAL POSITION = 40.000
STEP SIZE USED = 0.250
POSITION UNITS = metres
NOMINAL FREQUENCY = 200.00
ANTENNA SEPARATION = 1.000
PULSER VOLTAGE = 400
NUMBER OF STACKS = 8
SURVEY MODE = Reflection
POSITIONS RENUMBERED
PROFILING DIRECTION HAS BEEN REVERSED

PROCESSING SELECTED

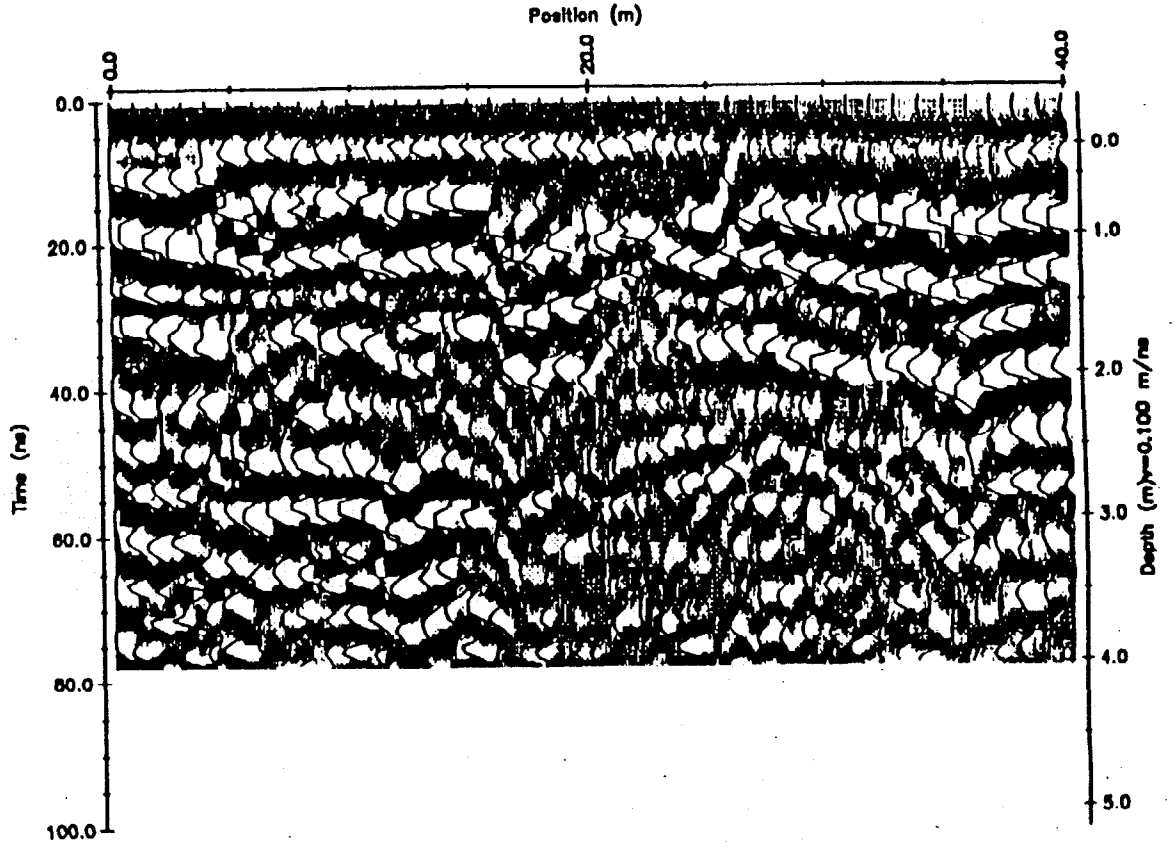
FILTERS — TRACE STACKING 1
POINT STACKING 1
TRACE DIFFERENCING N

SELECTION — TIME: 0 to 100
TRACE: 1 to 161

GAINS — GAIN TYPE: SEC
MAX GAIN (Manual): 15
ATTENUATION: 0.000
VELOCITY: 0.1000

PLOT LAYOUT PARAMETERS

TRACE SPACING AND WIDTH: 0.0500 and 0.3000
TRACE BOTTOM AND TOP: 1.0000 and 7.0000
MARGIN LEFT AND RIGHT: -0.5000 and 1.0000
PAGE WIDTH: 8.0000
BORDER SIZE: 0.000
PRINTER NAME: LAS300
SCALE BAR: Name:grey Type:L Min:-10000 Max:10000 Contour:0



pulseEKKO HEADER PARAMETERS

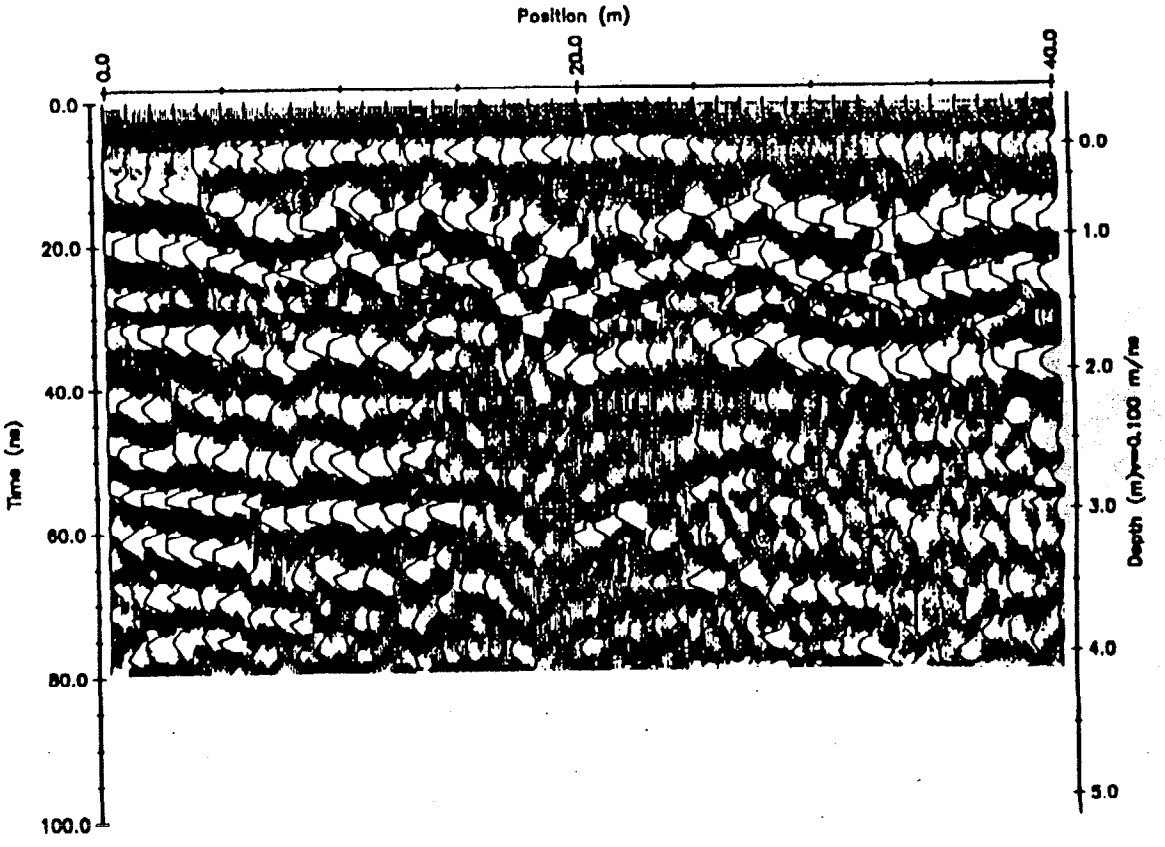
FILE	= C:\ekko\ne00011a
JOB	= 1
TITLE	= 200 Mhz profile at NUS Colverton site
TITLE	= 05/27/94: 0920 lines NE00001 thru NE00051 (NE Sector)
DATE	= 27/05/94
NUMBER OF TRACES	= 161
NUMBER OF PTS/TRC	= 125
TIMEZERO AT POINT	= 25
TOTAL TIME WINDOW	= 100
STARTING POSITION	= 0.000
FINAL POSITION	= 40.000
STEP SIZE USED	= 0.250
POSITION UNITS	= metres
NOMINAL FREQUENCY	= 200.00
ANTENNA SEPARATION	= 1.000
PULSER VOLTAGE	= 400
NUMBER OF STACKS	= 8
SURVEY MODE	= Reflection

PROCESSING SELECTED

FILTERS:	TRACE STACKING: 1
	POINT STACKING: 1
	TRACE DIFFERENCING: N
SELECTION	TIME: 0 to 100
	TRACE: 1 to 161
GAINS:	GAIN TYPE: SEC
	MAX GAIN (Manual): 15
	ATTENUATION: 0.000
	VELOCITY: 0.1000

PLOT LAYOUT PARAMETERS

TRACE SPACING AND WIDTH: 0.0500 and 0.3000
TRACE BOTTOM AND TOP: 1.0000 and 7.0000
MARGIN LEFT AND RIGHT: -0.5000 and 1.0000
PAGE WIDTH: 8.0000
BORDER SIZE: 0.000
PRINTER NAME: LAS300
SCALE BAR: Name:grey Type:L Min:-10000 Max:10000 Contour:0



pulseEKKO HEADER PARAMETERS

FILE = C:\ekko\ne00012a
JOB = 1
TITLE = 200 Mhz profile at NUS Calverton site
TITLE = 05/27/94: 0920 lines NE00001 thru NE00051 (NE Sector) rev
DATE = 27/05/94
NUMBER OF TRACES = 161
NUMBER OF PTS/TRC = 125
TIMEZERO AT POINT = 28
TOTAL TIME WINDOW = 100
STARTING POSITION = 0.000
FINAL POSITION = 40.000
STEP SIZE USED = 0.250
POSITION UNITS = metres
NOMINAL FREQUENCY = 200.00
ANTENNA SEPARATION = 1.000
PULSER VOLTAGE = 400
NUMBER OF STACKS = 8
SURVEY MODE = Reflection
POSITIONS RENUMBERED
PROFILING DIRECTION HAS BEEN REVERSED

PROCESSING SELECTED

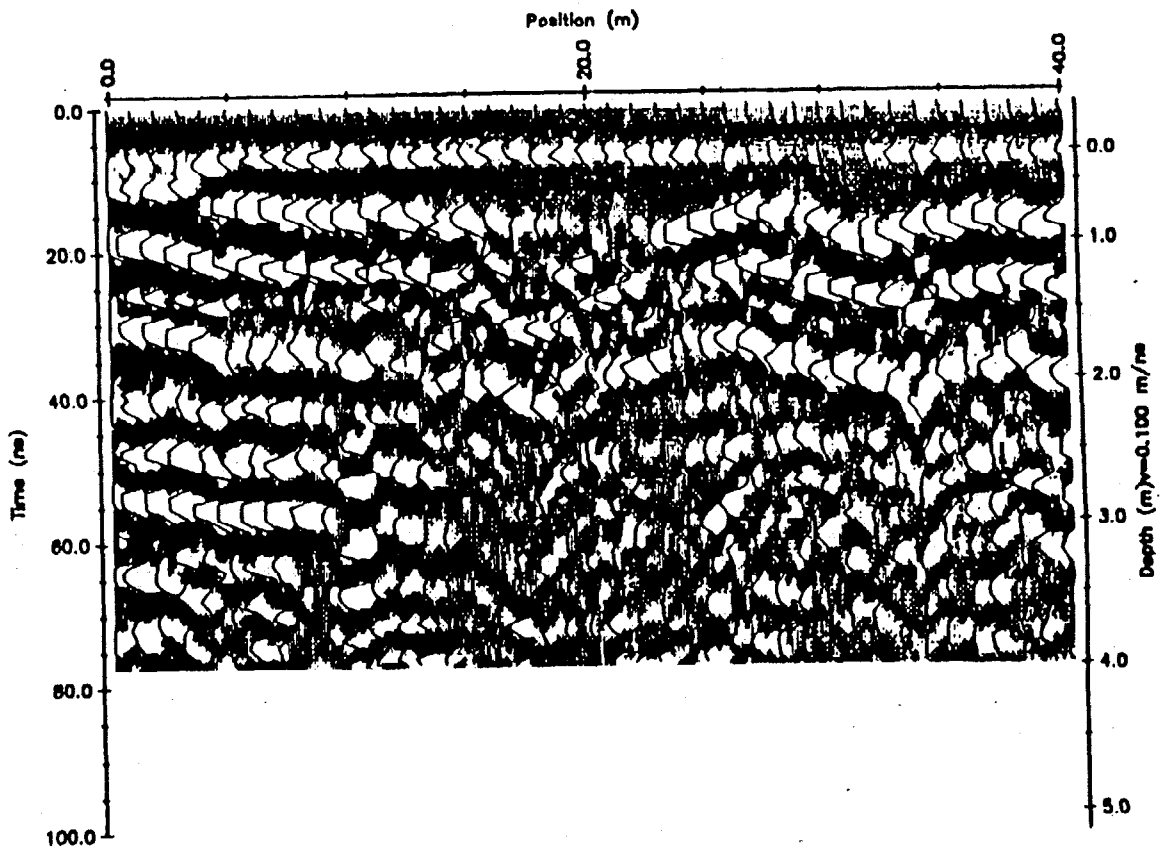
FILTERS: TRACE STACKING 1
POINT STACKING 1
TRACE DIFFERENCING N

SELECTION: TIME: 0 to 100
TRACE: 1 to 161

GAINS: GAIN TYPE: SEC
MAX GAIN (Manual): 15
ATTENUATION: 0.000
VELOCITY: 0.1000

PLOT LAYOUT PARAMETERS

TRACE SPACING AND WIDTH: 0.0500 and 0.3000
TRACE BOTTOM AND TOP: 1.0000 and 7.0000
MARGIN LEFT AND RIGHT: -0.5000 and 1.0000
PAGE WIDTH: 8.0000
BORDER SIZE: 0.000
PRINTER NAME: LAS300
SCALE BAR: Name:grey Type:L Min:-10000 Max:10000 Contour:0



pulseEKKO HEADER PARAMETERS

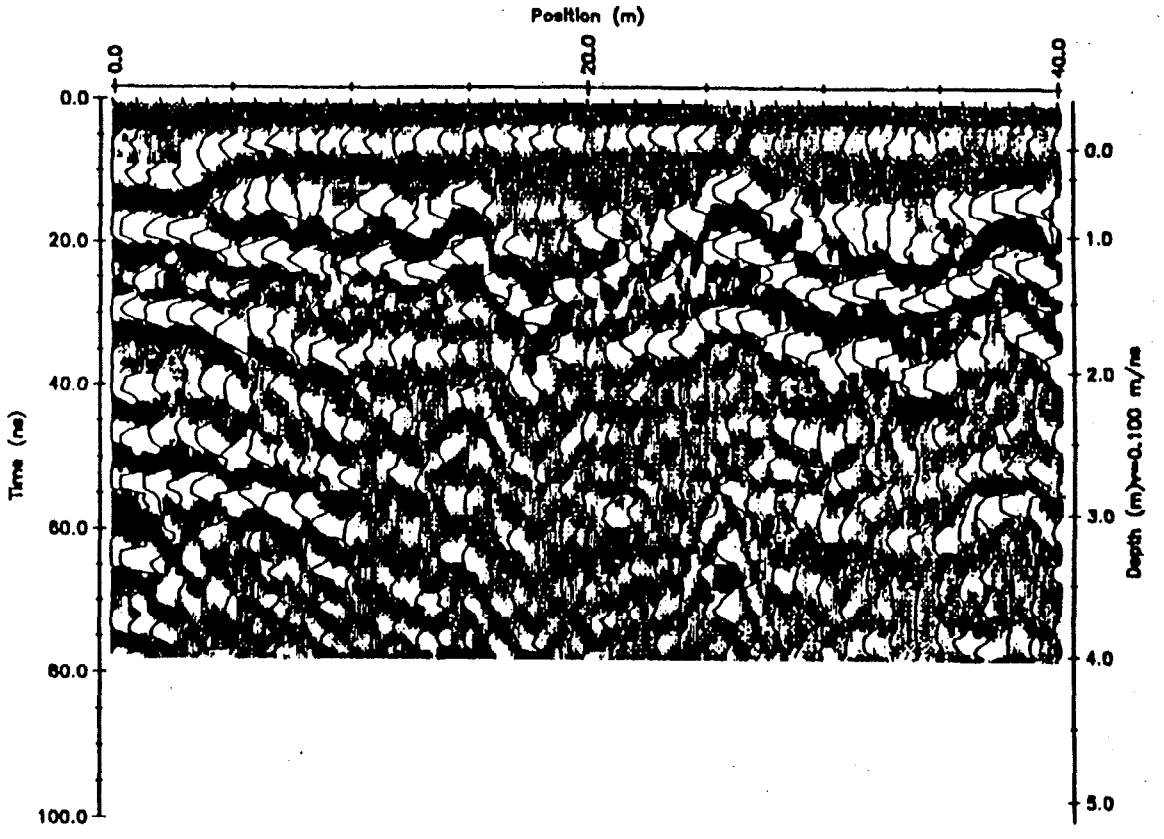
FILE	= C:\ekko\ne00013a
JOB	= 1
TITLE	= 200 Mhz profile at NUS Calverton site
TITLE	= 05/27/94: 0920 lines NE00001 thru NE00051 (NE Sector)
DATE	= 27/05/94
NUMBER OF TRACES	= 161
NUMBER OF PTS/TRC	= 125
TIMEZERO AT POINT	= 27
TOTAL TIME WINDOW	= 100
STARTING POSITION	= 0.000
FINAL POSITION	= 40.000
STEP SIZE USED	= 0.250
POSITION UNITS	= metres
NOMINAL FREQUENCY	= 200.00
ANTENNA SEPARATION	= 1.000
PULSER VOLTAGE	= 400
NUMBER OF STACKS	= 8
SURVEY MODE	= Reflection

PROCESSING SELECTED

FILTERS	TRACE STACKING: 1
	POINT STACKING: 1
	TRACE DIFFERENCING: N
SELECTION	TIME: 0 to 100
	TRACE: 1 to 161
GAINS	GAIN TYPE: SEC
	MAX GAIN (Manual): 15
	ATTENUATION: 0.000
	VELOCITY: 0.1000

PLOT LAYOUT PARAMETERS

TRACE SPACING AND WIDTH: 0.0500 and 0.3000
TRACE BOTTOM AND TOP: 1.0000 and 7.0000
MARGIN LEFT AND RIGHT: -0.5000 and 1.0000
PAGE WIDTH: 8.0000
BORDER SIZE: 0.000
PRINTER NAME: LAS300
SCALE BAR: Name:grey Type:L Min:-10000 Max:10000 Contour:0



pulseEKKO HEADER PARAMETERS

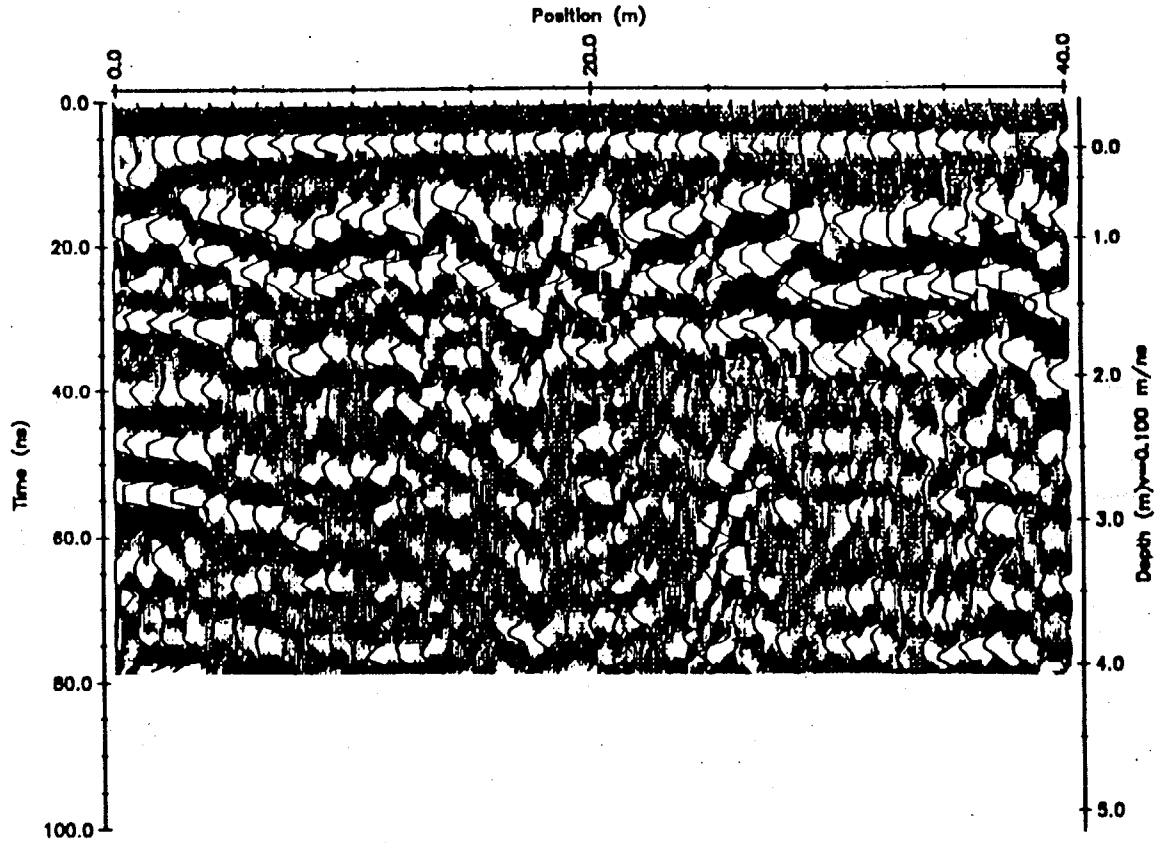
FILE	= C:\ekko\ne00014a
JOB	= 1
TITLE	= 200 Mhz profile at NUS Calverton site
TITLE	= 05/27/94; 0920 lines NE00001 thru NE00051 (NE Sector) rev
DATE	= 27/05/94
NUMBER OF TRACES	= 161
NUMBER OF PTS/TRC	= 125
TIMEZERO AT POINT	= 26
TOTAL TIME WINDOW	= 100
STARTING POSITION	= 0.000
FINAL POSITION	= 40.000
STEP SIZE USED	= 0.250
POSITION UNITS	= metres
NOMINAL FREQUENCY	= 200.00
ANTENNA SEPARATION	= 1.000
PULSER VOLTAGE	= 400
NUMBER OF STACKS	= 8
SURVEY MODE	= Reflection

POSITIONS RENUMBERED
PROFILING DIRECTION HAS BEEN REVERSED

PROCESSING SELECTED

FILTERS	TRACE STACKING: 1
	POINT STACKING: 1
	TRACE DIFFERENCING: N
SELECTION	TIME: 0 to 100
	TRACE: 1 to 161
GAINS:	GAIN TYPE: SEC
	MAX GAIN (Manual): 15
	ATTENUATION: 0.000
	VELOCITY: 0.1000

PLOT LAYOUT PARAMETERS
TRACE SPACING AND WIDTH: 0.0500 and 0.3000
TRACE BOTTOM AND TOP: 1.0000 and 7.0000
MARGIN LEFT AND RIGHT: -0.5000 and 1.0000
PAGE WIDTH: 8.0000
BORDER SIZE: 0.000
PRINTER NAME: LAS300
SCALE BAR: Name:grey Type:L Min:-10000 Max:10000 Contour:0



pulseEKKO HEADER PARAMETERS

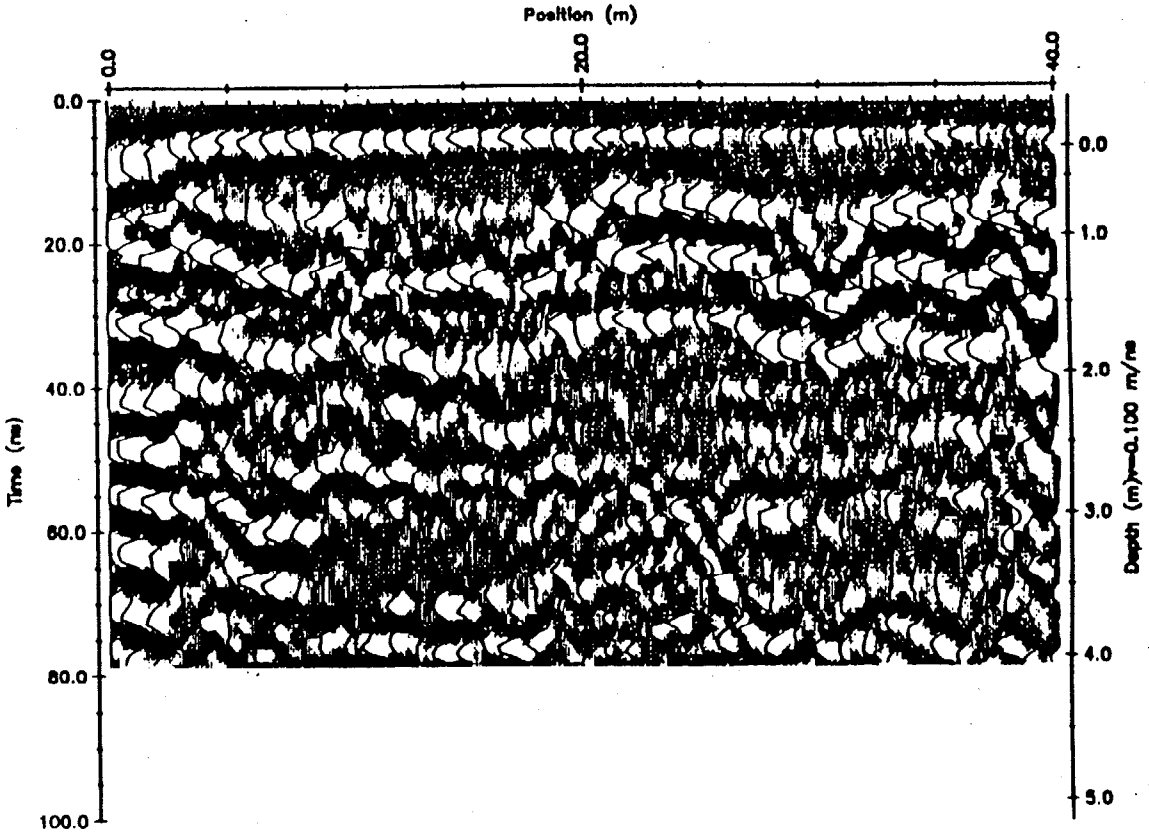
FILE	= C:\ekko\ne00015a
JOB	= 1
TITLE	= 200 Mhz profile at NUS Colverton site
TITLE	= 05/27/94; 0920 lines NE00001 thru NE00051 (NE Sector)
DATE	= 27/05/94
NUMBER OF TRACES	= 161
NUMBER OF PTS/TRC	= 125
TIMEZERO AT POINT	= 26
TOTAL TIME WINDOW	= 100
STARTING POSITION	= 0.000
FINAL POSITION	= 40.000
STEP SIZE USED	= 0.250
POSITION UNITS	= metres
NOMINAL FREQUENCY	= 200.00
ANTENNA SEPARATION	= 1.000
PULSER VOLTAGE	= 400
NUMBER OF STACKS	= 8
SURVEY MODE	= Reflection

PROCESSING SELECTED

FILTERS	TRACE STACKING 1
	POINT STACKING 1
	TRACE DIFFERENCING N
SELECTION	TIME 0 to 100
	TRACE: 1 to 161
GAINS	GAIN TYPE SEC
	MAX GAIN (Manual): 15
	ATTENUATION 0.000
	VELOCITY 0.1000

PLOT LAYOUT PARAMETERS

TRACE SPACING AND WIDTH 0.0500 and 0.3000
TRACE BOTTOM AND TOP: 1.0000 and 7.0000
MARGIN LEFT AND RIGHT: -0.5000 and 1.0000
PAGE WIDTH: 8.0000
BORDER SIZE: 0.000
PRINTER NAME: LA3300
SCALE BAR: Name.grey Type:L Min:-10000 Max:10000 Contour:0



pulseEKKO HEADER PARAMETERS

FILE = C:\ekko\ne00016a
JOB# = 1
TITLE = 200 Mhz profile at NUS Colverton site
TITLE = 05/27/94: 0920 lines NE00001 thru NE00051 (NE Sector) rev
DATE = 27/05/94
NUMBER OF TRACES = 161
NUMBER OF PTS/TRC = 125
TIMEZERO AT POINT = 25
TOTAL TIME WINDOW = 100
STARTING POSITION = 0.000
FINAL POSITION = 40.000
STEP SIZE USED = 0.250
POSITION UNITS = metres
NOMINAL FREQUENCY = 200.00
ANTENNA SEPARATION = 1.000
PULSER VOLTAGE = 400
NUMBER OF STACKS = 8
SURVEY MODE = Reflection
POSITIONS RENUMBERED
HEADING DIRECTION HAS BEEN REVERSED

PROCESSING SELECTED

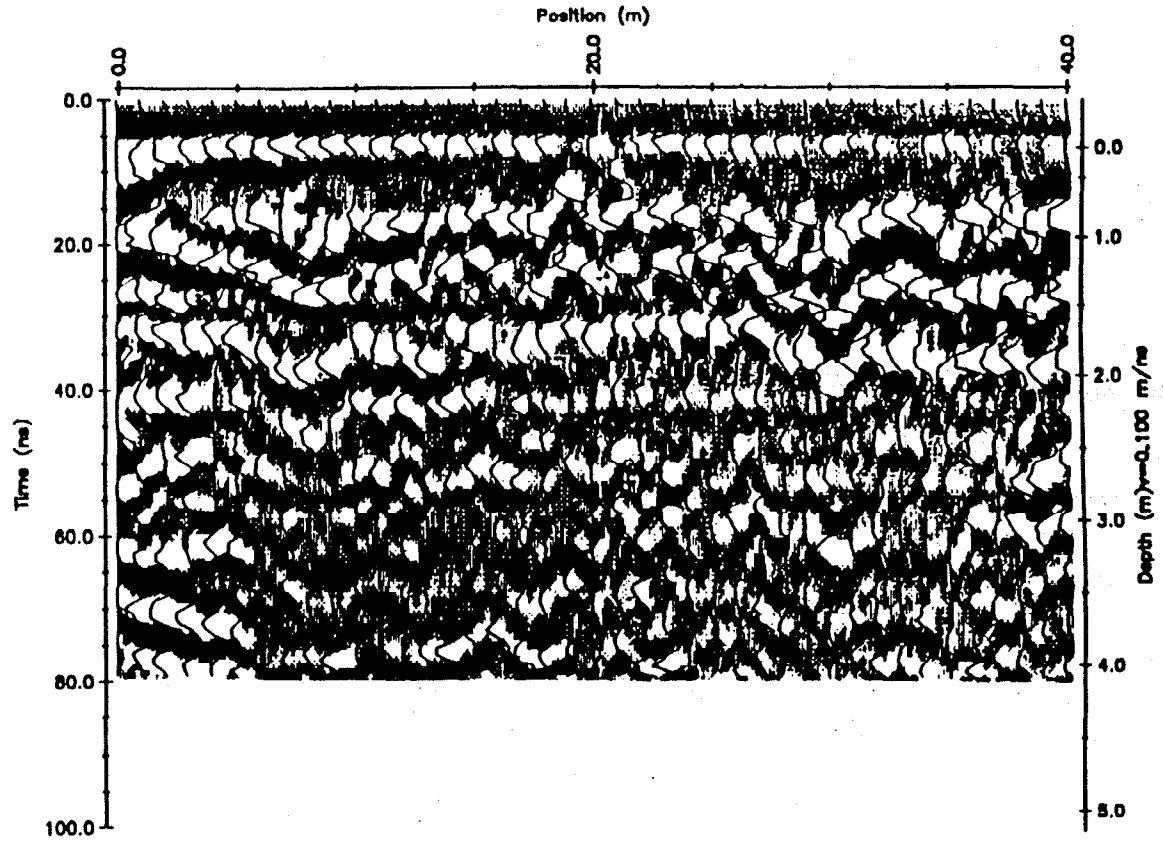
FILTERS — TRACE STACKING 1
POINT STACKING 1
TRACE DIFFERENCING N

SELECTION — TIME 0 to 100
TRACE: 1 to 161

GAINS — GAIN TYPE: SEC
MAX GAIN (Manual): 15
ATTENUATION 0.000
VELOCITY 0.1000

PLOT LAYOUT PARAMETERS

TRACE SPACING AND WIDTH: 0.0500 and 0.3000
TRACE BOTTOM AND TOP: 1.0000 and 7.0000
MARGIN LEFT AND RIGHT: -0.5000 and 1.0000
PAGE WIDTH: 8.0000
BORDER SIZE: 0.000
PRINTER NAME: LAS300
SCALE BAR: Name:grey Type:L Min:-10000 Max:10000 Contour:0



pulseEKKO HEADER PARAMETERS

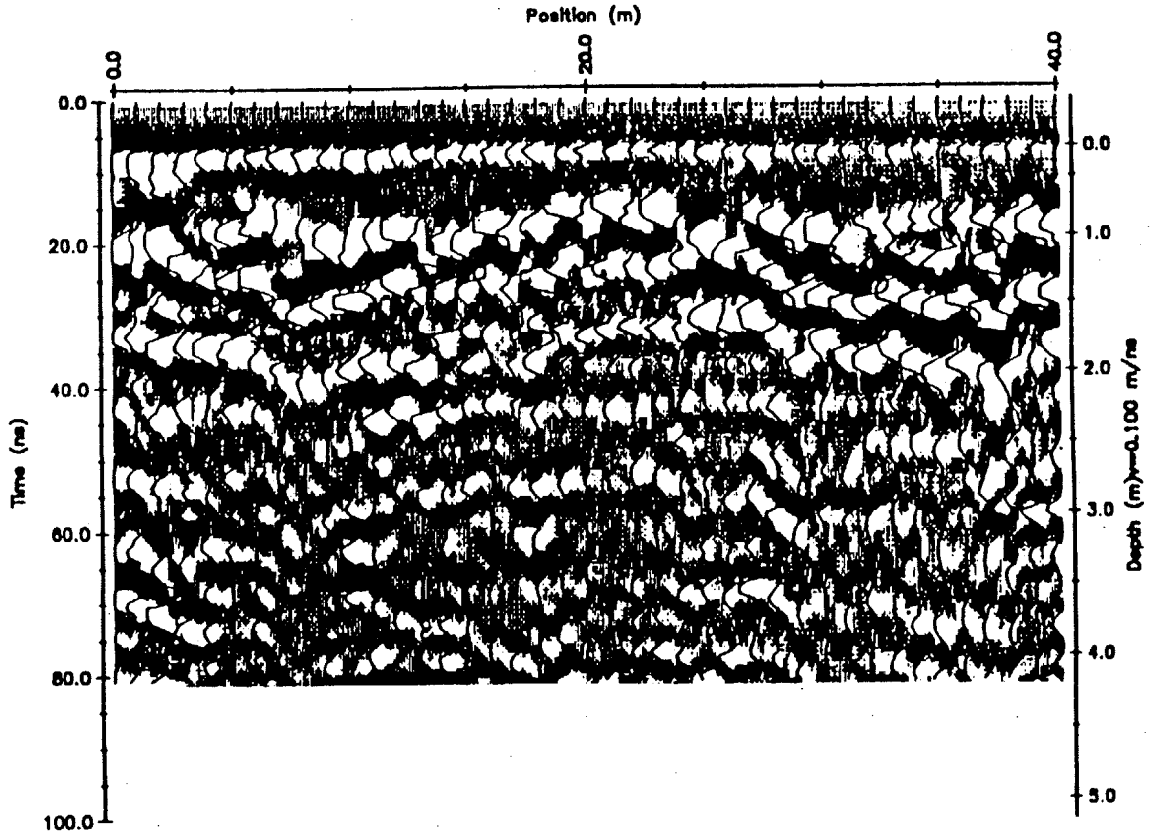
FILE = C:\ekko\ne00017a
JOB# = 1
TITLE = 200 Mhz profile at NUS Calverton site
TITLE = 05/27/94: 0920 lines NE00001 thru NE00051 (NE Sector)
DATE = 27/05/94
NUMBER OF TRACES = 161
NUMBER OF PTS/TRC = 125
TIMEZERO AT POINT = 23
TOTAL TIME WINDOW = 100
STARTING POSITION = 0.000
FINAL POSITION = 40.000
STEP SIZE USED = 0.250
POSITION UNITS = metres
NOMINAL FREQUENCY = 200.00
ANTENNA SEPARATION = 1.000
PULSER VOLTAGE = 400
NUMBER OF STACKS = 8
SURVEY MODE = Reflection

PROCESSING SELECTED

FILTERS: TRACE STACKING 1
POINT STACKING 1
TRACE DIFFERENCING N
SELECTION: TIME 0 to 100
TRACE: 1 to 161
GAINS: GAIN TYPE: SEC
MAX GAIN (Manual): 15
ATTENUATION 0.000
VELOCITY 0.1000

PLOT LAYOUT PARAMETERS

TRACE SPACING AND WIDTH 0.0500 and 0.3000
TRACE BOTTOM AND TOP: 1.0000 and 7.0000
MARGIN LEFT AND RIGHT: -0.5000 and 1.0000
PAGE WIDTH: 8.0000
BORDER SIZE: 0.000
PRINTER NAME: LAS300
SCALE BAR: Name:grey Type:L Min:-10000 Max:10000 Contour:0



pulseEKKO HEADER PARAMETERS

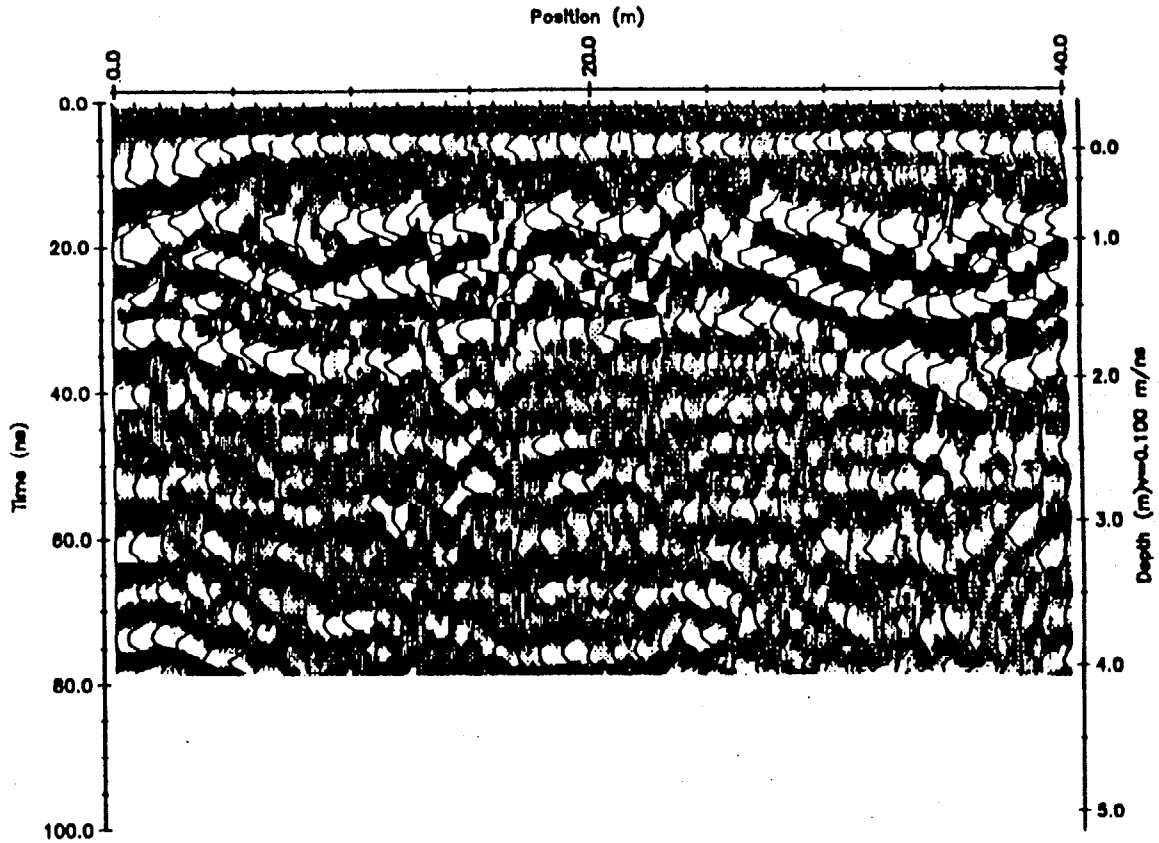
FILE = C:\ekko\ne00018a
JOB = 1
TITLE = 200 Mhz profile at NUS Calverton site
TITLE = 05/27/94: 0920 lines NE00001 thru NE00051 (NE Sector) rev
DATE = 27/05/94
NUMBER OF TRACES = 161
NUMBER OF PTS/TRC = 125
TIMEZERO AT POINT = 26
TOTAL TIME WINDOW = 100
STARTING POSITION = 0.000
FINAL POSITION = 40.000
STEP SIZE USED = 0.250
POSITION UNITS = metres
NOMINAL FREQUENCY = 200.00
ANTENNA SEPARATION = 1.000
PULSER VOLTAGE = 400
NUMBER OF STACKS = 8
SURVEY MODE = Reflection
POSITIONS RENUMBERED
PROFILING DIRECTION HAS BEEN REVERSED

PROCESSING SELECTED

FILTERS: TRACE STACKING: 1
POINT STACKING: 1
TRACE DIFFERENCING: N
SELECTION TIME: 0 to 100
TRACE: 1 to 161
GAINS: GAIN TYPE: SEC
MAX GAIN (Manual): 15
ATTENUATION: 0.000
VELOCITY: 0.1000

PLOT LAYOUT PARAMETERS

TRACE SPACING AND WIDTH: 0.0500 and 0.3000
TRACE BOTTOM AND TOP: 1.0000 and 7.0000
MARGIN LEFT AND RIGHT: -0.5000 and 1.0000
PAGE WIDTH: 8.0000
BORDER SIZE: 0.000
PRINTER NAME: LAS300
SCALE BAR: Name:grey Type:L Min:-10000 Max:10000 Contour:0



pulseEKKO HEADER PARAMETERS

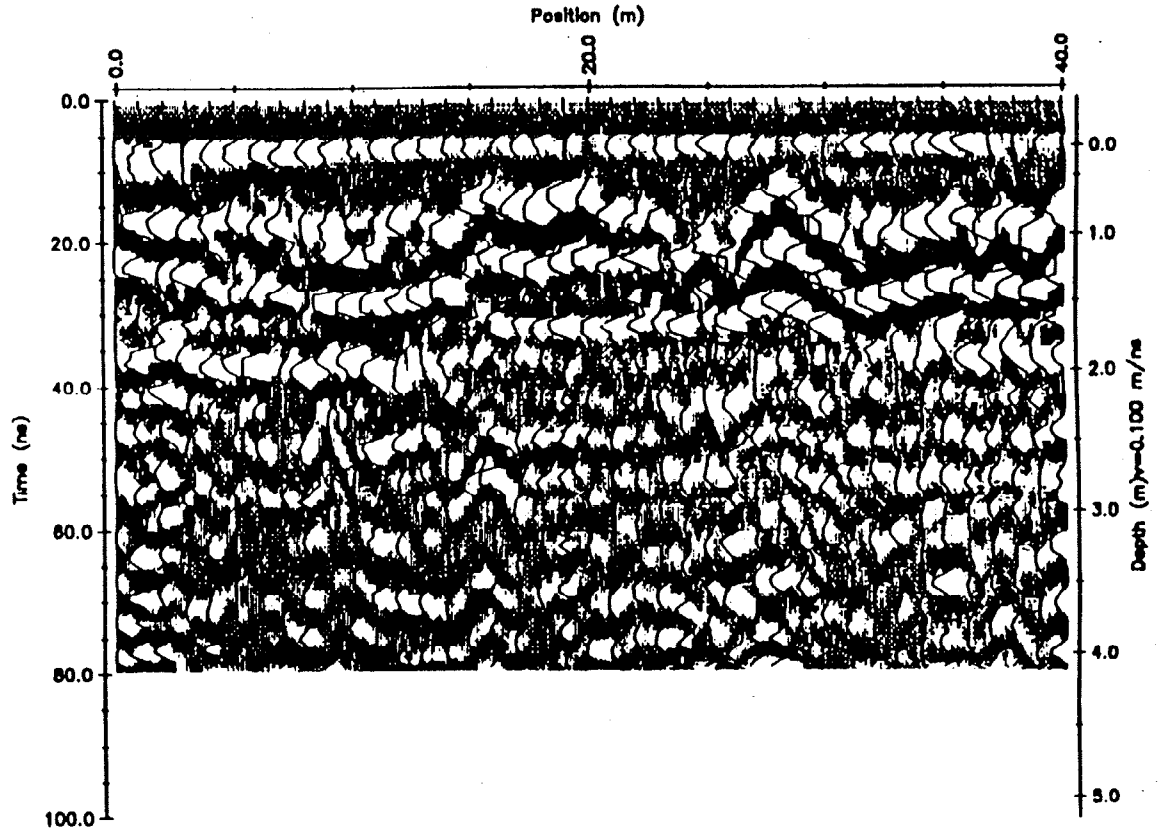
FILE	= C:\ekko\ne00019a
JOB#	= 1
TITLE	= 200 Mhz profile at NUS Calverton site
TITLE	= 05/27/94; 0920 lines NE00001 thru NE00051 (NE Sector)
DATE	= 27/05/94
NUMBER OF TRACES	= 161
NUMBER OF PTS/TRC	= 125
TIMEZERO AT POINT	= 25
TOTAL TIME WINDOW	= 100
STARTING POSITION	= 0.000
FINAL POSITION	= 40.000
STEP SIZE USED	= 0.250
POSITION UNITS	= metres
NOMINAL FREQUENCY	= 200.00
ANTENNA SEPARATION	= 1.000
PULSER VOLTAGE	= 400
NUMBER OF STACKS	= 8
SURVEY MODE	= Reflection

PROCESSING SELECTED

FILTERS	TRACE STACKING 1
	POINT STACKING 1
	TRACE DIFFERENCING N
SELECTION	TIME 0 to 100
	TRACE: 1 to 161
GAINS	GAIN TYPE SEC
	MAX GAIN (Manual) 15
	ATTENUATION 0.000
	VELOCITY: 0.1000

PLOT LAYOUT PARAMETERS

TRACE SPACING AND WIDTH 0.0500 and 0.3000
TRACE BOTTOM AND TOP: 1.0000 and 7.0000
MARGIN LEFT AND RIGHT: -0.5000 and 1.0000
PAGE WIDTH: 8.0000
BORDER SIZE: 0.000
PRINTER NAME: LAS300
SCALE BAR: Name:grey Type:L Min:-10000 Max:10000 Contour:0



pulseEKKO HEADER PARAMETERS

FILE = C:\ekko\ne00020a
JOB# = 1
TITLE = 200 Mhz profile at NUS Calverton site
TITLE = 05/27/94: 0920 lines NE00001 thru NE00051 (NE Sector) rev
DATE = 27/05/94
NUMBER OF TRACES = 161
NUMBER OF PTS/TRC = 125
TIMEZERO AT POINT = 11
TOTAL TIME WINDOW = 100
STARTING POSITION = 0.000
FINAL POSITION = 40.000
STEP SIZE USED = 0.250
POSITION UNITS = metres
NOMINAL FREQUENCY = 200.00
ANTENNA SEPARATION = 1.000
PULSER VOLTAGE = 400
NUMBER OF STACKS = 8
SURVEY MODE = Reflection
POSITIONS RENUMBERED
PROFILING DIRECTION HAS BEEN REVERSED

PROCESSING SELECTED

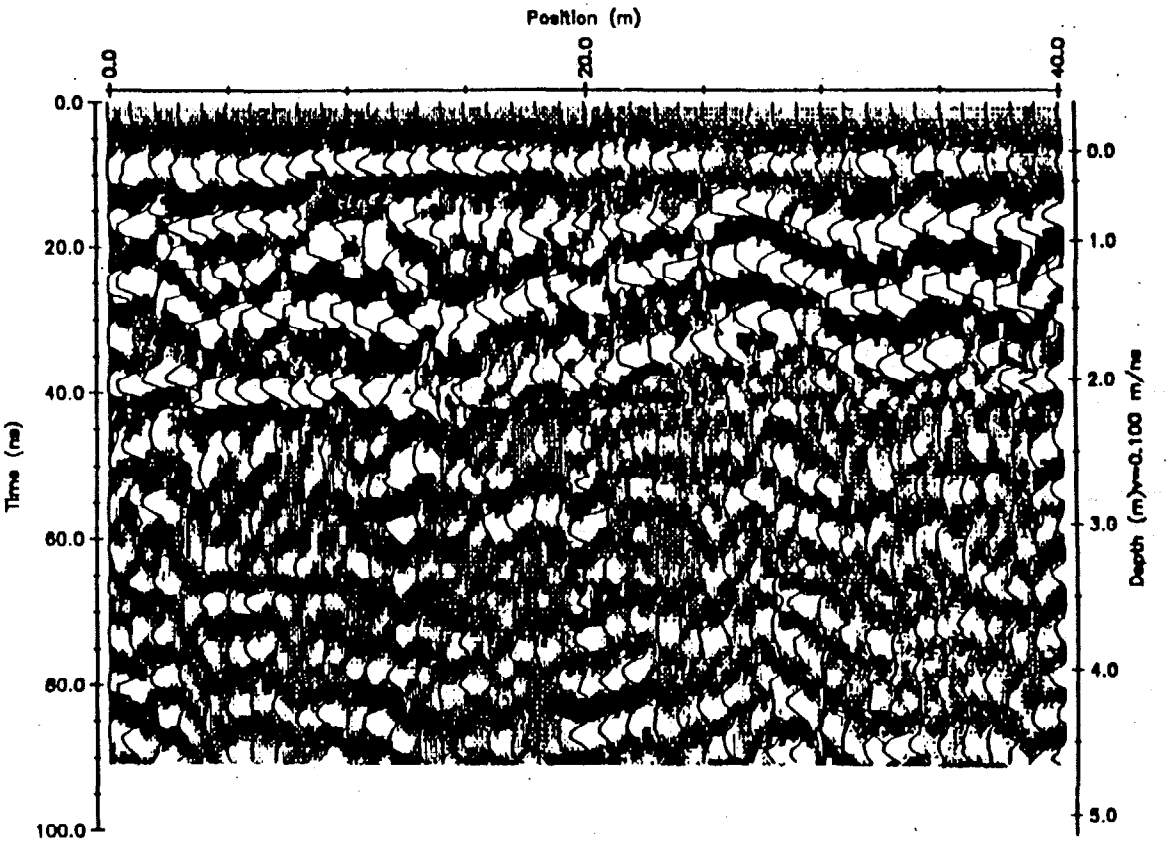
FILTERS: TRACE STACKING 1
POINT STACKING 1
TRACE DIFFERENCING N

SELECTION: TIME 0 to 100
TRACE: 1 to 161

GAINS: GAIN TYPE SEC
MAX GAIN (Manual): 15
ATTENUATION: 0.000
VELOCITY: 0.1000

PLOT LAYOUT PARAMETERS

TRACE SPACING AND WIDTH: 0.0500 and 0.3000
TRACE BOTTOM AND TOP: 1.0000 and 7.0000
MARGIN LEFT AND RIGHT: -0.5000 and 1.0000
PAGE WIDTH: 8.0000
BORDER SIZE: 0.000
PRINTER NAME: LAS300
SCALE BAR: Name grey Type:L Min:-10000 Max:10000 Contour:0



pulseEKKO HEADER PARAMETERS

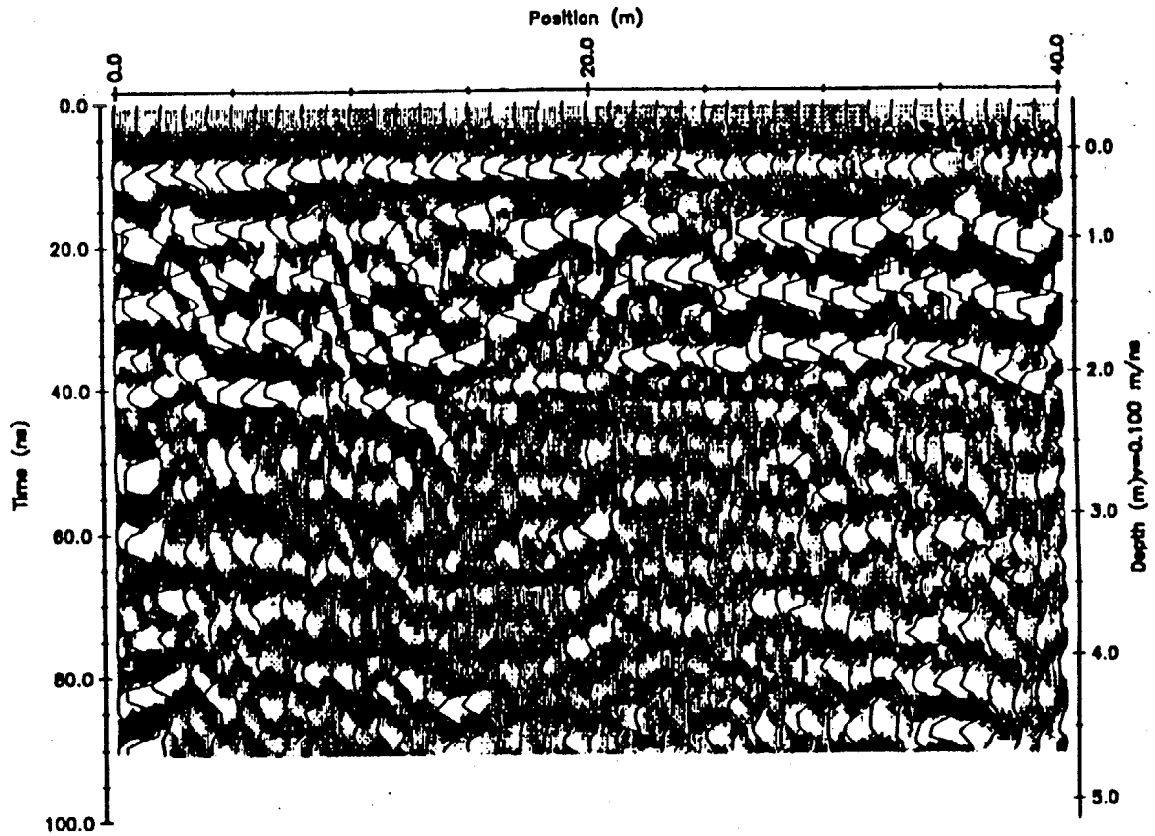
FILE	= C:\ekko\ne00021a
JOB#	= 1
TITLE	= 200 Mhz profile at NUS Colverton site
TITLE	= 05/27/94: 0920 lines NE00001 thru NE00051 (NE Sector)
DATE	= 27/05/94
NUMBER OF TRACES	= 161
NUMBER OF PTS/TRC	= 125
TIMEZERO AT POINT	= 11
TOTAL TIME WINDOW	= 100
STARTING POSITION	= 0.000
FINAL POSITION	= 40.000
STEP SIZE USED	= 0.250
POSITION UNITS	= metres
NOMINAL FREQUENCY	= 200.00
ANTENNA SEPARATION	= 1.000
PULSER VOLTAGE	= 400
NUMBER OF STACKS	= 8
SURVEY MODE	= Reflection

PROCESSING SELECTED

FILTERS	TRACE STACKING: 1
	POINT STACKING: 1
	TRACE DIFFERENCING: N
SELECTION	TIME: 0 to 100
	TRACE: 1 to 161
GAINS	GAIN TYPE: SEC
	MAX GAIN (Manual): 15
	ATTENUATION: 0.000
	VELOCITY: 0.1000

PLOT LAYOUT PARAMETERS

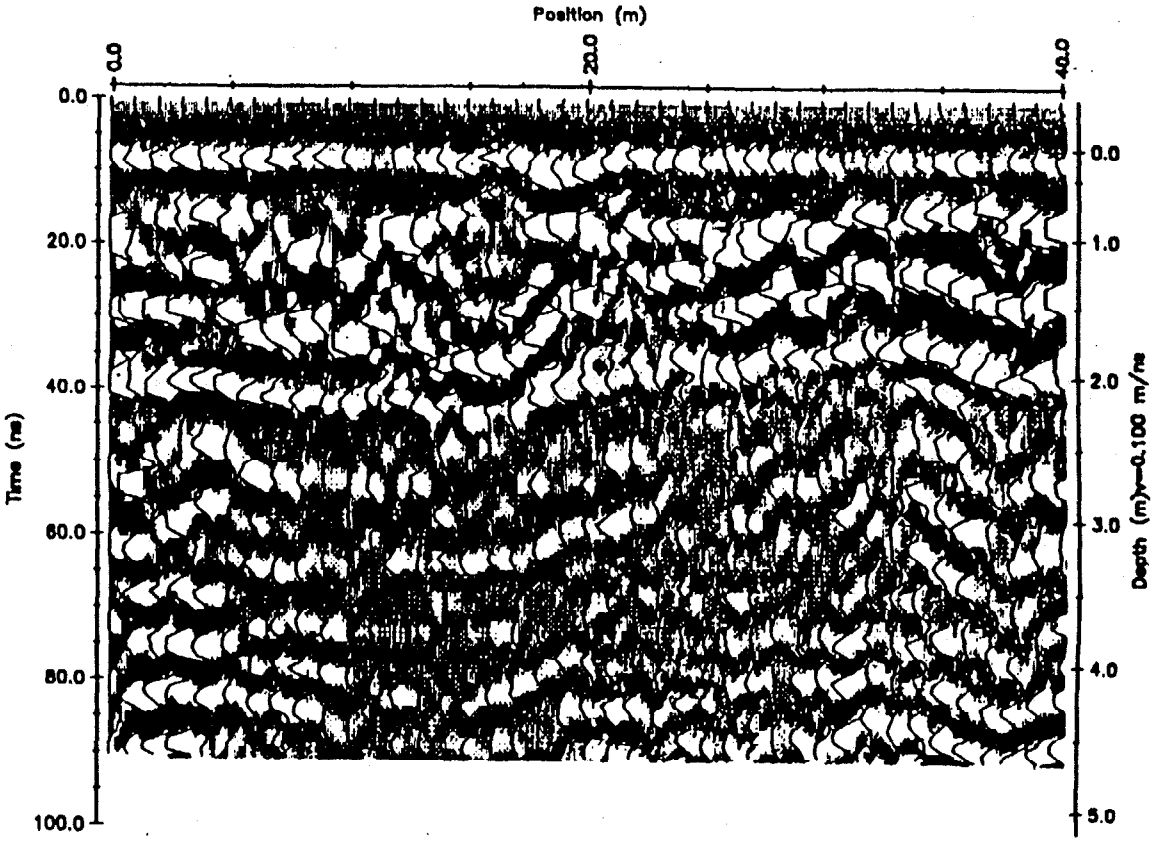
TRACE SPACING AND WIDTH: 0.0500 and 0.3000
TRACE BOTTOM AND TOP: 1.0000 and 7.0000
MARGIN LEFT AND RIGHT: -0.5000 and 1.0000
PAGE WIDTH: 8.0000
BORDER SIZE: 0.000
PRINTER NAME: LAS300
SCALE BAR: Name:grey Type:L Min:-10000 Max:10000 Contour:0



pulseEKKO HEADER PARAMETERS
FILE = C:\ekko\ne00022a
JOB# = 1
TITLE = 200 Mhz profile at NUS Calverton site
TITLE = 05/27/94: 0920 lines NE00001 thru NE00051 (NE Sector) rev
DATE = 27/05/94
NUMBER OF TRACES = 161
NUMBER OF PTS/TRC = 125
TIMEZERO AT POINT = 11
TOTAL TIME WINDOW = 100
STARTING POSITION = 0.000
FINAL POSITION = 40.000
STEP SIZE USED = 0.250
POSITION UNITS = metres
NOMINAL FREQUENCY = 200.00
ANTENNA SEPARATION = 1.000
PULSER VOLTAGE = 400
NUMBER OF STACKS = 8
SURVEY MODE = Reflection
POSITIONS RENUMBERED
PROFILING DIRECTION HAS BEEN REVERSED

PROCESSING SELECTED
FILTERS TRACE STACKING: 1
POINT STACKING: 1
TRACE DIFFERENCING: N
SELECTION TIME: 0 to 100
TRACE: 1 to 161
GAINS: GAIN TYPE: SEC
MAX GAIN (Manual): 15
ATTENUATION: 0.000
VELOCITY: 0.1000

PLOT LAYOUT PARAMETERS
TRACE SPACING AND WIDTH: 0.0500 and 0.3000
TRACE BOTTOM AND TOP: 1.0000 and 7.0000
MARGIN LEFT AND RIGHT: -0.5000 and 1.0000
PAGE WIDTH: 8.0000
BORDER SIZE: 0.000
PRINTER NAME: LAS300
SCALE BAR: Name:grey Type:L Min:-10000 Max:10000 Contour:0



pulseEKKO HEADER PARAMETERS

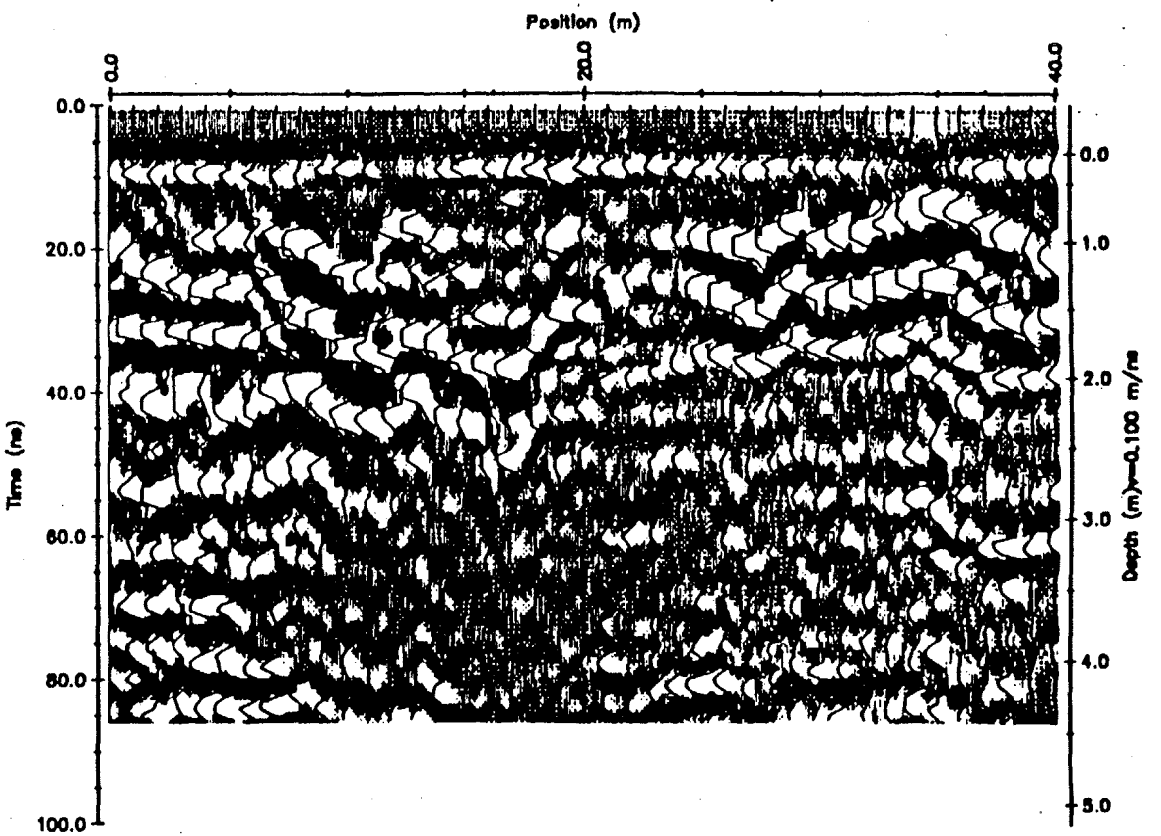
FILE	= C:\ekko\ne00023a
JOB	= 1
TITLE	= 200 Mhz profile at NUS Calverton site
TITLE	= 05/27/94; 0920 lines NE00001 thru NE00051 (NE Sector)
DATE	= 27/05/94
NUMBER OF TRACES	= 161
NUMBER OF PTS/TRC	= 125
TIMEZERO AT POINT	= 17
TOTAL TIME WINDOW	= 100
STARTING POSITION	= 0.000
FINAL POSITION	= 40.000
STEP SIZE USED	= 0.250
POSITION UNITS	= metres
NOMINAL FREQUENCY	= 200.00
ANTENNA SEPARATION	= 1.000
PULSER VOLTAGE	= 400
NUMBER OF STACKS	= 8
SURVEY MODE	= Reflection

PROCESSING SELECTED

FILTERS	TRACE STACKING: 1
	POINT STACKING: 1
	TRACE DIFFERENCING: N
SELECTION	TIME: 0 to 100
	TRACE: 1 to 161
GAINS:	GAIN TYPE: SEC
	MAX GAIN (Manual): 15
	ATTENUATION: 0.000
	VELOCITY: 0.1000

PLOT LAYOUT PARAMETERS

TRACE SPACING AND WIDTH: 0.0500 and 0.3000
TRACE BOTTOM AND TOP: 1.0000 and 7.0000
MARGIN LEFT AND RIGHT: -0.5000 and 1.0000
PAGE WIDTH: 8.0000
BORDER SIZE: 0.000
PRINTER NAME: LAS300
SCALE BAR: Name:grey Type:L Min:-10000 Max:10000 Contour:0



pulseEKKO HEADER PARAMETERS

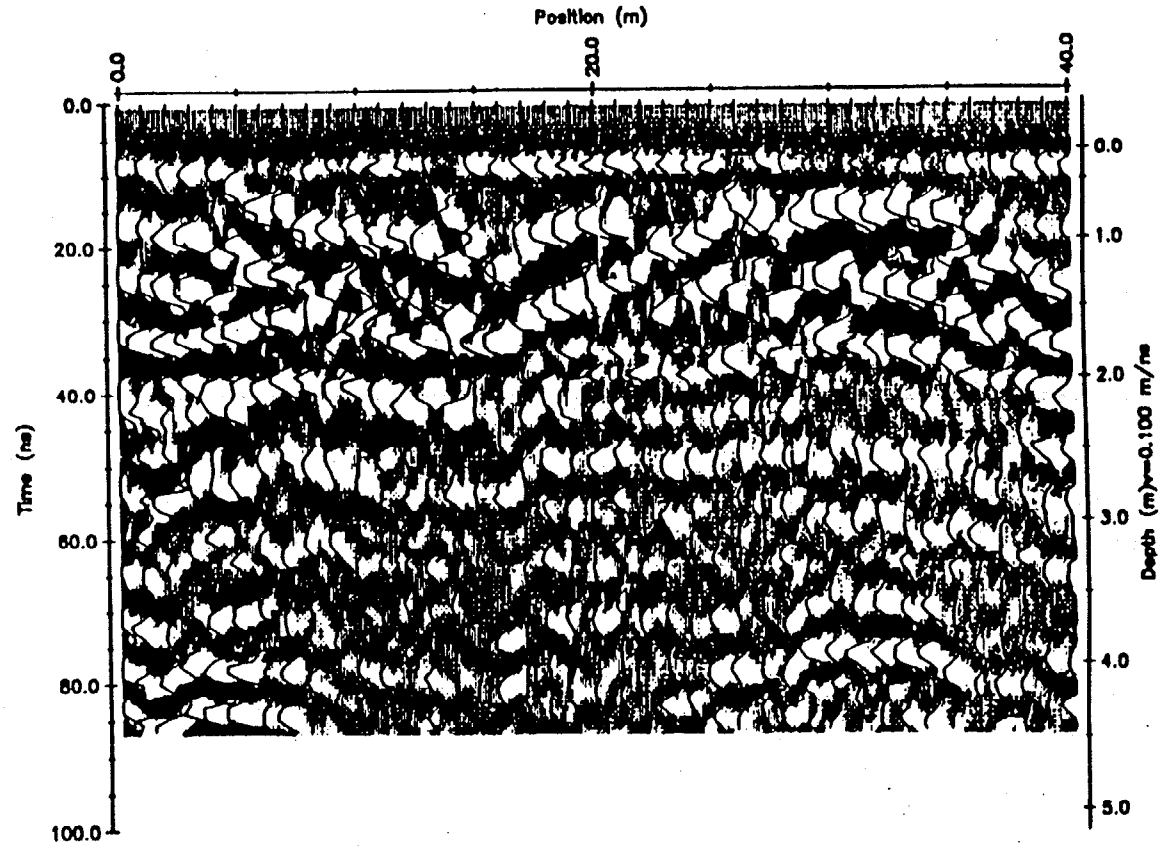
FILE	= C:\ekko\ne00024a
JOB	= 1
TITLE	= 200 Mhz profile at NUS Calverton site
TITLE	= 05/27/94; 0920 lines NE00001 thru NE00051 (NE Sector) rev
DATE	= 27/05/94
NUMBER OF TRACES	= 161
NUMBER OF PTS/TRC	= 125
TIMEZERO AT POINT	= 16
TOTAL TIME WINDOW	= 100
STARTING POSITION	= 0.000
FINAL POSITION	= 40.000
STEP SIZE USED	= 0.250
POSITION UNITS	= metres
NOMINAL FREQUENCY	= 200.00
ANTENNA SEPARATION	= 1.000
PULSER VOLTAGE	= 400
NUMBER OF STACKS	= 8
SURVEY MODE	= Reflection

POSITIONS RENUMBERED
PROFILING DIRECTION HAS BEEN REVERSED

PROCESSING SELECTED

FILTERS	TRACE STACKING: 1
	POINT STACKING: 1
	TRACE DIFFERENCING: N
SELECTION	TIME: 0 to 100
	TRACE: 1 to 161
GAINS	GAIN TYPE: SEC
	MAX GAIN (Manual): 15
	ATTENUATION: 0.000
	VELOCITY: 0.1000

PLOT LAYOUT PARAMETERS
TRACE SPACING AND WIDTH: 0.0500 and 0.3000
TRACE BOTTOM AND TOP: 1.0000 and 7.0000
MARGIN LEFT AND RIGHT: -0.5000 and 1.0000
PAGE WIDTH: 8.0000
BORDER SIZE: 0.000
PRINTER NAME: LAS300
SCALE BAR: Name:grey Type:L Min:-10000 Max:10000 Contour:0



pulseEKKO HEADER PARAMETERS

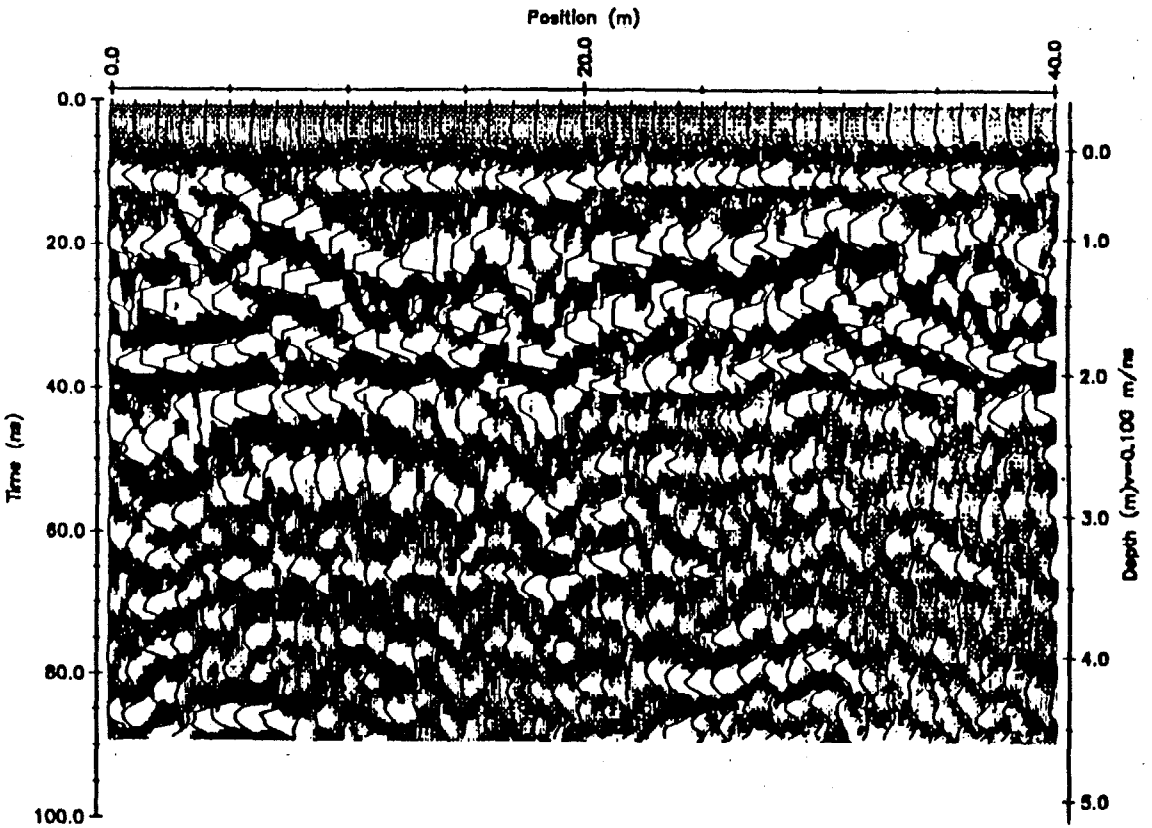
FILE	= C:\ekko\ne00025a
JOB#	= 1
TITLE	= 200 Mhz profile at NUS Calverton site
TITLE	= 05/27/94: 0920 lines NE00001 thru NE00051 (NE Sector)
DATE	= 27/05/94
NUMBER OF TRACES	= 161
NUMBER OF PTS/TRC	= 125
TIMEZERO AT POINT	= 13
TOTAL TIME WINDOW	= 100
STARTING POSITION	= 0.000
FINAL POSITION	= 40.000
STEP SIZE USED	= 0.250
POSITION UNITS	= metres
NOMINAL FREQUENCY	= 200.00
ANTENNA SEPARATION	= 1.000
PULSER VOLTAGE	= 400
NUMBER OF STACKS	= 8
SURVEY MODE	= Reflection

PROCESSING SELECTED

FILTERS	TRACE STACKING 1
	POINT STACKING 1
	TRACE DIFFERENCING N
SELECTION	TIME 0 to 100
	TRACE: 1 to 161
GAINS	GAIN TYPE SEC
	MAX GAIN (Manual): 15
	ATTENUATION 0.000
	VELOCITY 0.1000

PLOT LAYOUT PARAMETERS

TRACE SPACING AND WIDTH: 0.0500 and 0.3000
TRACE BOTTOM AND TOP: 1.0000 and 7.0000
MARGIN LEFT AND RIGHT: -0.5000 and 1.0000
PAGE WIDTH: 8.0000
BORDER SIZE: 0.000
PRINTER NAME: LAS300
SCALE BAR: Name:grey Type:L Min:-10000 Max:10000 Contour:0



pulseEKKO HEADER PARAMETERS

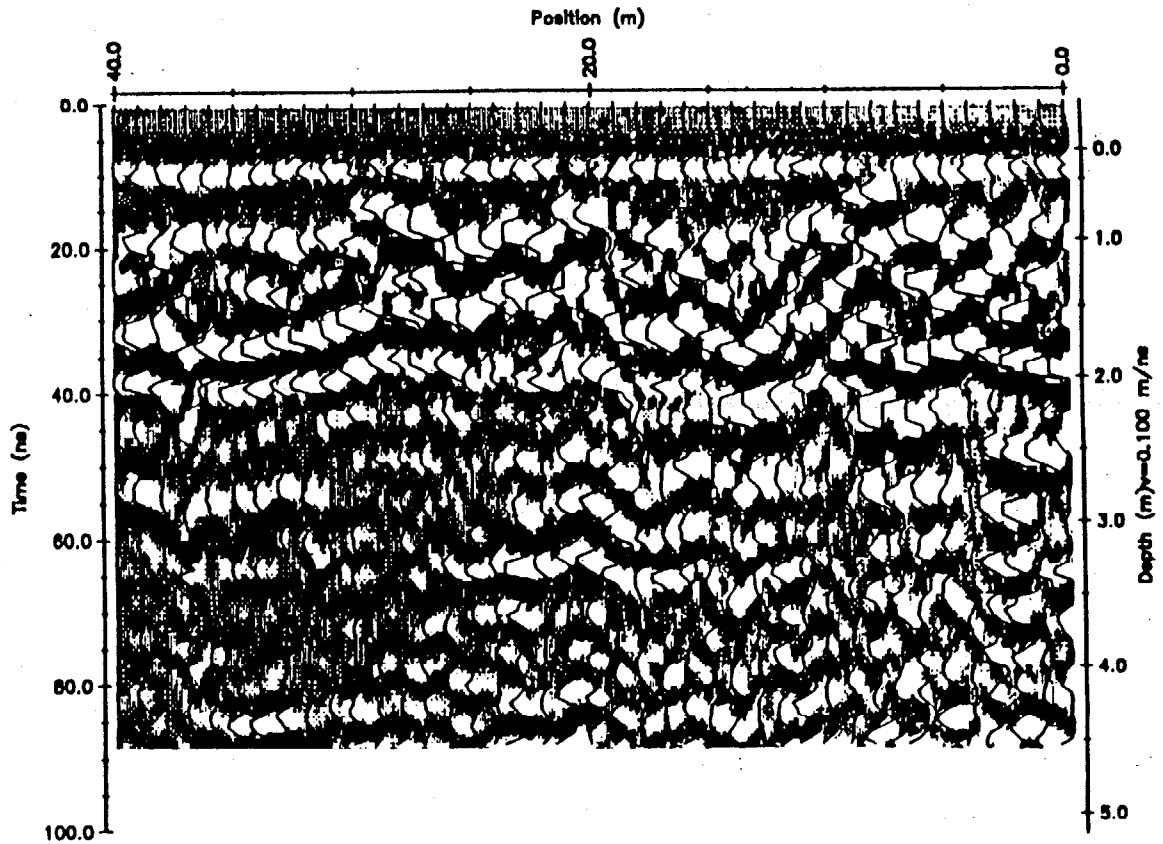
FILE	= C:\ekko\ne00026a
JOB	= 1
TITLE	= 200 Mhz profile at NUS Colverton site
TITLE	= 05/27/94: 0920 lines NE00001 thru NE00051 (NE Sector) rev
DATE	= 27/05/94
NUMBER OF TRACES	= 161
NUMBER OF PTS/TRC	= 125
TIMEZERO AT POINT	= 14
TOTAL TIME WINDOW	= 100
STARTING POSITION	= 40.000
FINAL POSITION	= 0.000
STEP SIZE USED	= -0.250
POSITION UNITS	= metres
NOMINAL FREQUENCY	= 200.00
ANTENNA SEPARATION	= 1.000
PULSER VOLTAGE	= 400
NUMBER OF STACKS	= 8
SURVEY MODE	= Reflection
POSITIONS RENUMBERED	

PROCESSING SELECTED

FILTERS	TRACE STACKING: 1
	POINT STACKING: 1
	TRACE DIFFERENCING: N
SELECTION	TIME: 0 to 100
	TRACE: 1 to 161
GAINS:	GAIN TYPE: SEC
	MAX GAIN (Manual): 15
	ATTENUATION: 0.000
	VELOCITY: 0.1000

PLOT LAYOUT PARAMETERS

TRACE SPACING AND WIDTH: 0.0500 and 0.3000
TRACE BOTTOM AND TOP: 1.0000 and 7.0000
MARGIN LEFT AND RIGHT: -0.5000 and 1.0000
PAGE WIDTH: 8.0000
BORDER SIZE: 0.000
PRINTER NAME: LAS300
SCALE BAR: Name:grey Type:L Min:-10000 Max:10000 Contour:0



pulseEKKO HEADER PARAMETERS

FILE = C:\ekko\ne00027a
JOB# = 1
TITLE = 200 Mhz profile at NUS Calverton site
TITLE = 05/27/94: 0920 lines NE00001 thru NE00051 (NE Sector)
DATE = 27/05/94
NUMBER OF TRACES = 161
NUMBER OF PTS/TRC = 125
TIMEZERO AT POINT = 17
TOTAL TIME WINDOW = 100
STARTING POSITION = 0.000
FINAL POSITION = 40.000
STEP SIZE USED = 0.250
POSITION UNITS = metres
NOMINAL FREQUENCY = 200.00
ANTENNA SEPARATION = 1.000
PULSER VOLTAGE = 400
NUMBER OF STACKS = 8
SURVEY MODE = Reflection

PROCESSING SELECTED

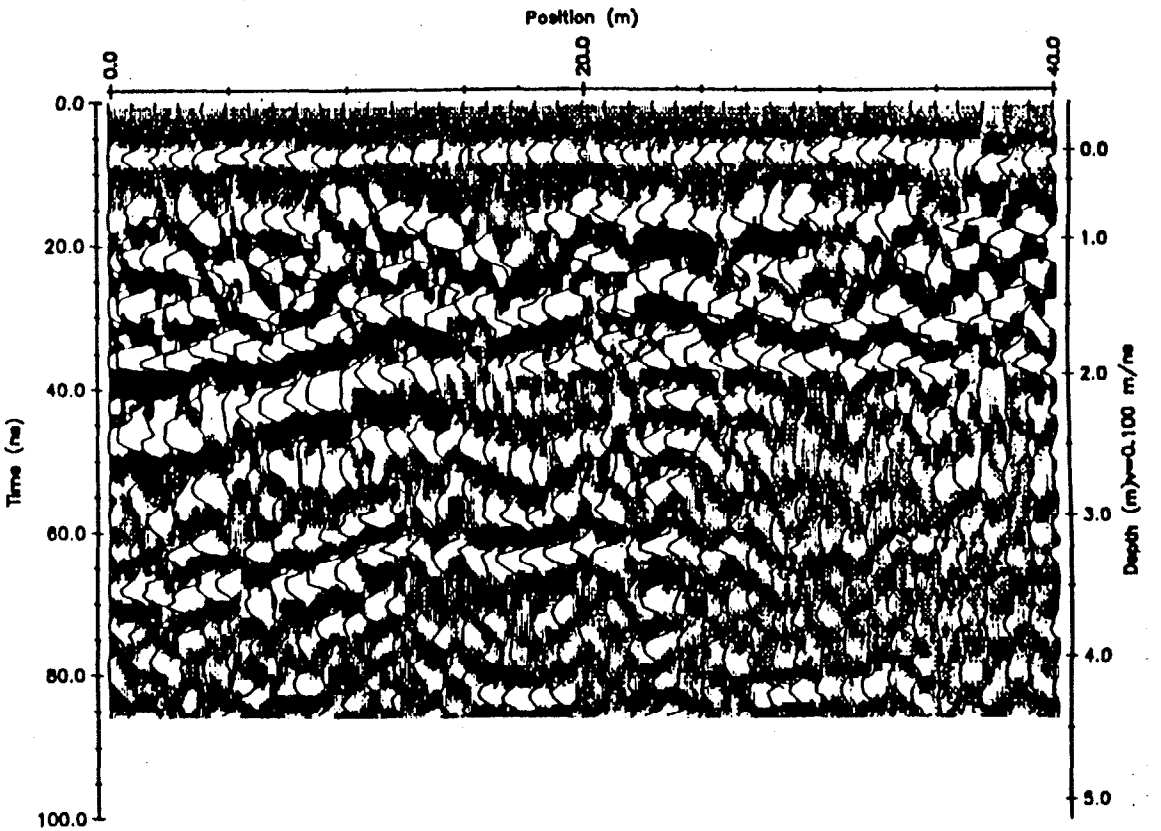
FILTERS
TRACE STACKING 1
POINT STACKING 1
TRACE DIFFERENCING N

SELECTION
TIME 0 to 100
TRACE 1 to 161

GAINS
GAIN TYPE SEC
MAX GAIN (Manual) 15
ATTENUATION 0.000
VELOCITY 0.1000

PLOT LAYOUT PARAMETERS

TRACE SPACING AND WIDTH 0.0500 and 0.3000
TRACE BOTTOM AND TOP 1.0000 and 7.0000
MARGIN LEFT AND RIGHT. -0.5000 and 1.0000
PAGE WIDTH: 8.0000
BORDER SIZE: 0.000
PRINTER NAME: LAS300
SCALE BAR: Name:grey Type:L Min:-10000 Max:10000 Contour:0



pulseEKKO HEADER PARAMETERS

FILE = C:\ekko\ne00028a
JOB = 1
TITLE = 200 Mhz profile at NUS Calverton site
TITLE = 05/27/94: 0920 lines NE00001 thru NE00051 (NE Sector) rev
DATE = 27/05/94
NUMBER OF TRACES = 161
NUMBER OF PTS/TRC = 125
TIMEZERO AT POINT = 15
TOTAL TIME WINDOW = 100
STARTING POSITION = 0.000
FINAL POSITION = 40.000
STEP SIZE USED = 0.250
POSITION UNITS = metres
NOMINAL FREQUENCY = 200.00
ANTENNA SEPARATION = 1.000
PULSER VOLTAGE = 400
NUMBER OF STACKS = 8
SURVEY MODE = Reflection
POSITIONS RENUMBERED
PROFILING DIRECTION HAS BEEN REVERSED

PROCESSING SELECTED

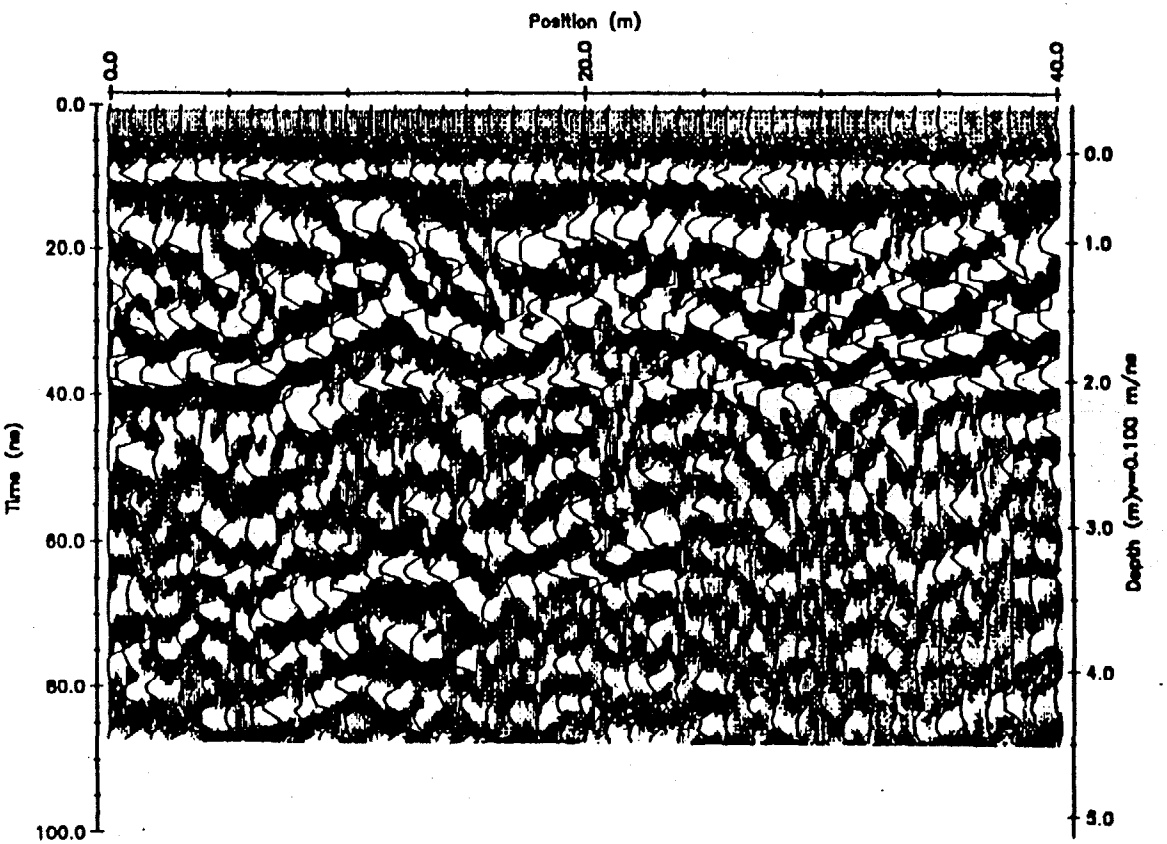
FILTERS
TRACE STACKING 1
POINT STACKING 1
TRACE DIFFERENCING N

SELECTION
TIME: 0 to 100
TRACE: 1 to 161

GAINS
GAIN TYPE SEC.
MAX GAIN (Manual) 15
ATTENUATION 0.000
VELOCITY 0.1000

PLOT LAYOUT PARAMETERS

TRACE SPACING AND WIDTH: 0.0500 and 0.3000
TRACE BOTTOM AND TOP: 1.0000 and 7.0000
MARGIN LEFT AND RIGHT: -0.5000 and 1.0000
PAGE WIDTH: 8.0000
BORDER SIZE: 0.000
PRINTER NAME: LAS300
SCALE BAR: Name:grey Type:L Min:-10000 Max:10000 Contour:0



pulseEKKO HEADER PARAMETERS

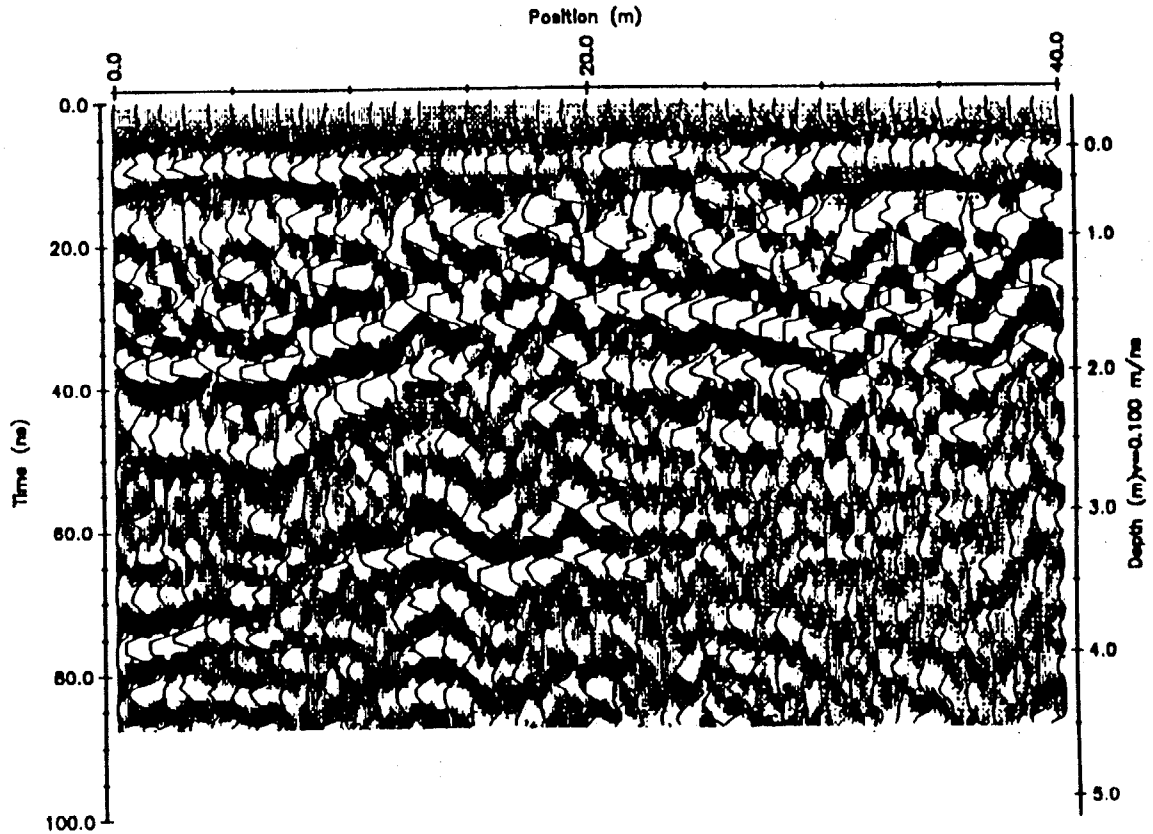
FILE	= C:\ekko\ne00029a
JOB#	= 1
TITLE	= 200 Mhz profile at NUS Colverton site
TITLE	= 05/27/94: 0920 lines NE00001 thru NE00051 (NE Sector)
DATE	= 27/05/94
NUMBER OF TRACES	= 161
NUMBER OF PTS/TRC	= 125
TIMEZERO AT POINT	= 15
TOTAL TIME WINDOW	= 100
STARTING POSITION	= 0.000
FINAL POSITION	= 40.000
STEP SIZE USED	= 0.250
POSITION UNITS	= metres
NOMINAL FREQUENCY	= 200.00
ANTENNA SEPARATION	= 1.000
PULSER VOLTAGE	= 400
NUMBER OF STACKS	= 8
SURVEY MODE	= Reflection

PROCESSING SELECTED

FILTERS	TRACE STACKING 1
	POINT STACKING 1
	TRACE DIFFERENCING N
SELECTION	TIME 0 to 100
	TRACE: 1 to 161
GAINS	GAIN TYPE SEC
	MAX GAIN (Manual): 15
	ATTENUATION: 0.000
	VELOCITY: 0.1000

PLOT LAYOUT PARAMETERS

TRACE SPACING AND WIDTH 0.0500 and 0.3000
TRACE BOTTOM AND TOP: 1.0000 and 7.0000
MARGIN LEFT AND RIGHT: -0.5000 and 1.0000
PAGE WIDTH: 8.0000
BORDER SIZE: 0.000
PRINTER NAME: LAS300
SCALE BAR: Name grey Type:L Min:-10000 Max:10000 Contour:0



pulseEKKO HEADER PARAMETERS

FILE = C:\ekko\ne00030a
JOB = 1
TITLE = 200 Mhz profile at NUS Colverton site
TITLE = 05/27/94: 0920 lines NE00001 thru NE00051 (NE Sector) rev
DATE = 27/05/94
NUMBER OF TRACES = 161
NUMBER OF PTS/TRC = 125
TIMEZERO AT POINT = 25
TOTAL TIME WINDOW = 100
STARTING POSITION = 0.000
FINAL POSITION = 40.000
STEP SIZE USED = 0.250
POSITION UNITS = metres
NOMINAL FREQUENCY = 200.00
ANTENNA SEPARATION = 1.000
PULSER VOLTAGE = 400
NUMBER OF STACKS = 8
SURVEY MODE = Reflection
POSITIONS RENUMBERED
PROFILING DIRECTION HAS BEEN REVERSED

PROCESSING SELECTED

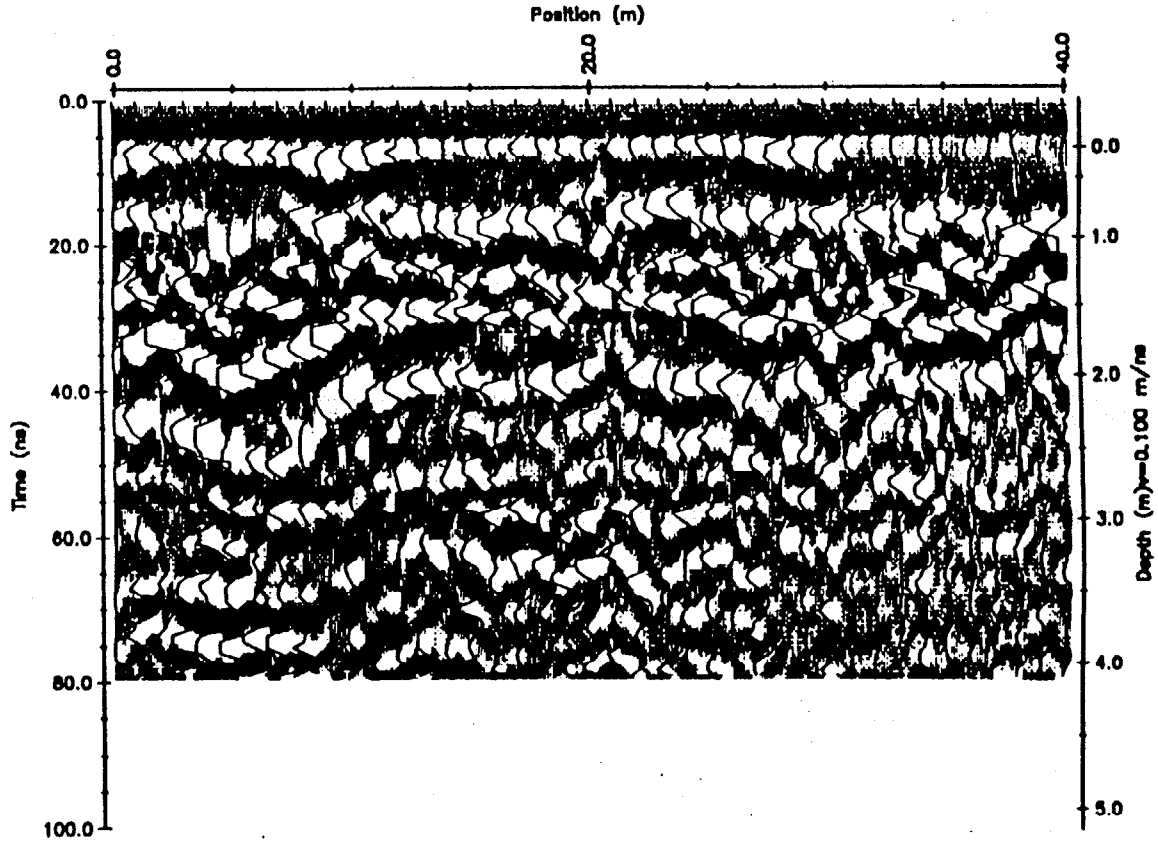
FILTERS
TRACE STACKING 1
POINT STACKING 1
TRACE DIFFERENCING: N

SELECTION
TIME: 0 to 100
TRACE: 1 to 161

GAINS:
GAIN TYPE: SEC
MAX GAIN (Manual): 15
ATTENUATION: 0.000
VELOCITY: 0.1000

PLOT LAYOUT PARAMETERS

TRACE SPACING AND WIDTH: 0.0500 and 0.3000
TRACE BOTTOM AND TOP: 1.0000 and 7.0000
MARGIN LEFT AND RIGHT: -0.5000 and 1.0000
PAGE WIDTH: 8.0000
BORDER SIZE: 0.000
PRINTER NAME: LA5300
SCALE BAR: Name:grey Type:L Min:-10000 Max:10000 Contour:0



pulseEKKO HEADER PARAMETERS

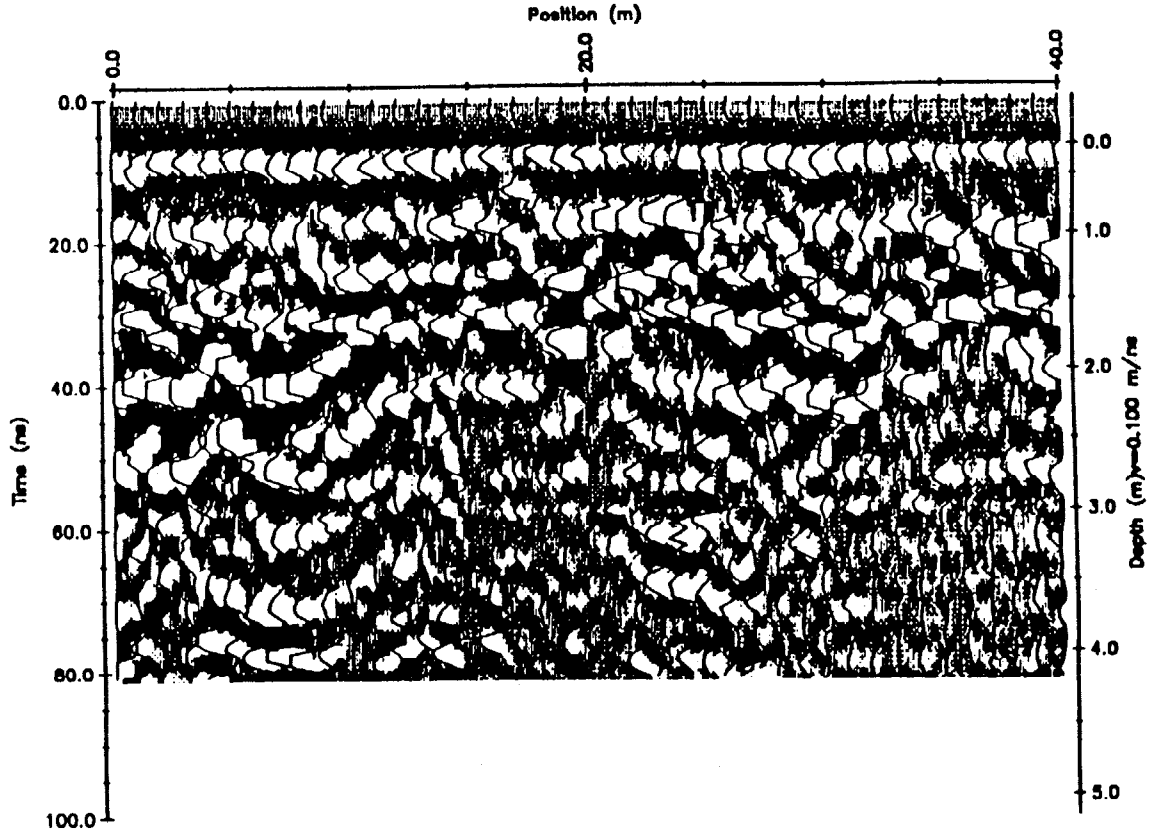
FILE	= C:\ekko\ne00031a
JOB	= 1
TITLE	= 200 Mhz profile at NUS Calverton site
TITLE	= 05/27/94; 0920 lines NE00001 thru NE00051 (NE Sector)
DATE	= 27/05/94
NUMBER OF TRACES	= 161
NUMBER OF PTS/TRC	= 125
TIMEZERO AT POINT	= 23
TOTAL TIME WINDOW	= 100
STARTING POSITION	= 0.000
FINAL POSITION	= 40.000
STEP SIZE USED	= 0.250
POSITION UNITS	= metres
NOMINAL FREQUENCY	= 200.00
ANTENNA SEPARATION	= 1.000
PULSER VOLTAGE	= 400
NUMBER OF STACKS	= 8
SURVEY MODE	= Reflection

PROCESSING SELECTED

FILTERS	TRACE STACKING 1
	POINT STACKING 1
	TRACE DIFFERENCING N
SELECTION	TIME 0 to 100
	TRACE: 1 to 161
GAINS	GAIN TYPE SEC
	MAX GAIN (Manual): 15
	ATTENUATION 0.000
	VELOCITY 0.1000

PLOT LAYOUT PARAMETERS

TRACE SPACING AND WIDTH: 0.0500 and 0.3000
TRACE BOTTOM AND TOP 1.0000 and 7.0000
MARGIN LEFT AND RIGHT: -0.5000 and 1.0000
PAGE WIDTH: 8.0000
BORDER SIZE: 0.000
PRINTER NAME: LAS300
SCALE BAR: Name:grey Type:L Min:-10000 Max:10000 Contour:0



pulseEKKO HEADER PARAMETERS

FILE = C:\ekko\ne00032a
JOB = 1
TITLE = 200 Mhz profile at NUS Calverton site
TITLE = 05/27/94; 0920 lines NE00001 thru NE00051 (NE Sector) rev
DATE = 27/05/94
NUMBER OF TRACES = 161
NUMBER OF PTS/TRC = 125
TIMEZERO AT POINT = 24
TOTAL TIME WINDOW = 100
STARTING POSITION = 0.000
FINAL POSITION = 40.000
STEP SIZE USED = 0.250
POSITION UNITS = metres
NOMINAL FREQUENCY = 200.00
ANTENNA SEPARATION = 1.000
PULSER VOLTAGE = 400
NUMBER OF STACKS = 8
SURVEY MODE = Reflection
POSITIONS RENUMBERED
PROFILING DIRECTION HAS BEEN REVERSED

PROCESSING SELECTED

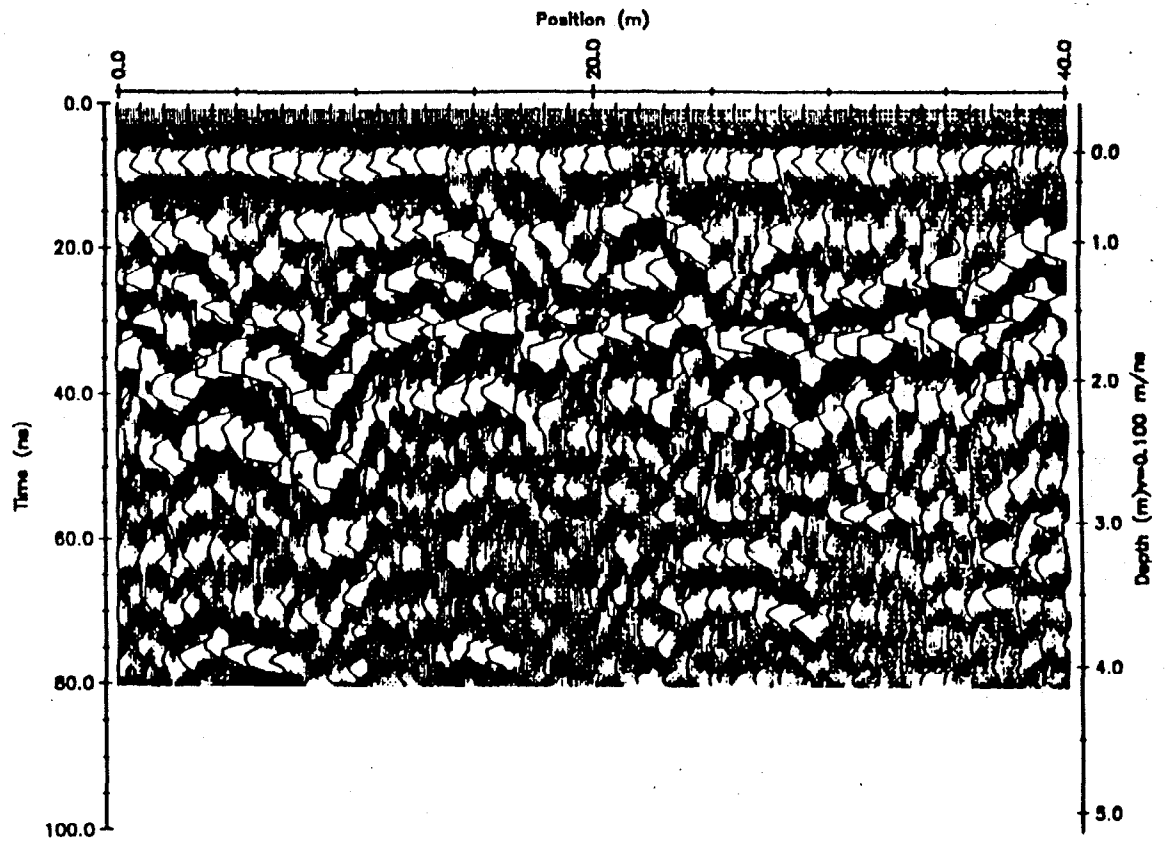
FILTERS
TRACE STACKING 1
POINT STACKING 1
TRACE DIFFERENCING N

SELECTION
TIME: 0 to 100
TRACE: 1 to 161

GAINS
GAIN TYPE SEC
MAX GAIN (Manual) 15
ATTENUATION 0.000
VELOCITY 0.1000

PLOT LAYOUT PARAMETERS

TRACE SPACING AND WIDTH: 0.0500 and 0.3000
TRACE BOTTOM AND TOP: 1.0000 and 7.0000
MARGIN LEFT AND RIGHT: -0.5000 and 1.0000
PAGE WIDTH: 8.0000
BORDER SIZE: 0.000
PRINTER NAME: LAS300
SCALE BAR: Name:grey Type:L Min:-10000 Max:10000 Contour:0



pulseEKKO HEADER PARAMETERS

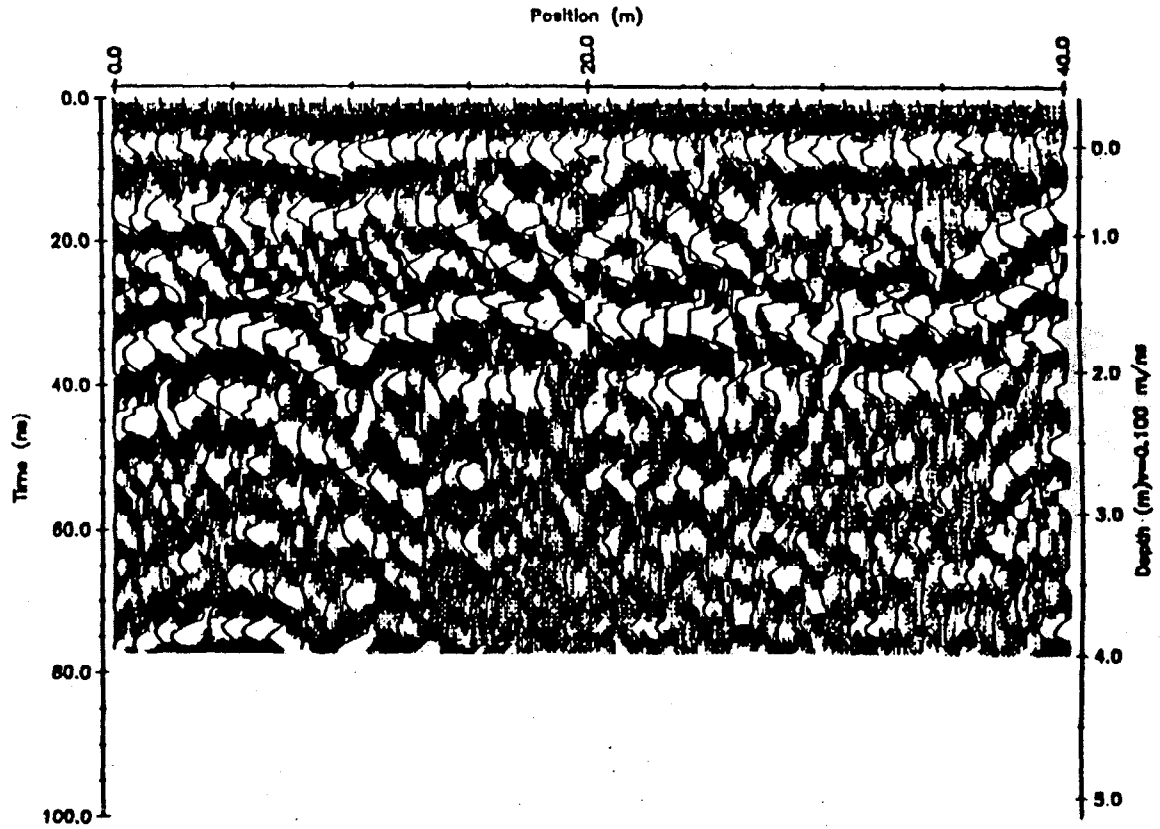
FILE	= C:\ekko\ne00033a
JOB	= 1
TITLE	= 200 Mhz profile at NUS Colverton site
TITLE	= 05/27/94; 0920 lines NE00001 thru NE00051 (NE Sector)
DATE	= 27/05/94
NUMBER OF TRACES	= 161
NUMBER OF PTS/TRC	= 125
TIMEZERO AT POINT	= 28
TOTAL TIME WINDOW	= 100
STARTING POSITION	= 0.000
FINAL POSITION	= 40.000
STEP SIZE USED	= 0.250
POSITION UNITS	= metres
NOMINAL FREQUENCY	= 200.00
ANTENNA SEPARATION	= 1.000
PULSER VOLTAGE	= 400
NUMBER OF STACKS	= 8
SURVEY MODE	= Reflection

PROCESSING SELECTED

FILTERS	TRACE STACKING 1
	POINT STACKING 1
	TRACE DIFFERENCING N
SELECTION	TIME: 0 to 100
	TRACE: 1 to 161
GAINS	GAIN TYPE: SEC
	MAX GAIN (Manual): 15
	ATTENUATION 0.000
	VELOCITY 0.1000

PLOT LAYOUT PARAMETERS

TRACE SPACING AND WIDTH 0.0500 and 0.3000
TRACE BOTTOM AND TOP: 1.0000 and 7.0000
MARGIN LEFT AND RIGHT: -0.5000 and 1.0000
PAGE WIDTH: 8.0000
BORDER SIZE: 0.000
PRINTER NAME: LAS300
SCALE BAR: Name:grey Type:L Min:-10000 Max:10000 Contour:0



pulseEKKO HEADER PARAMETERS

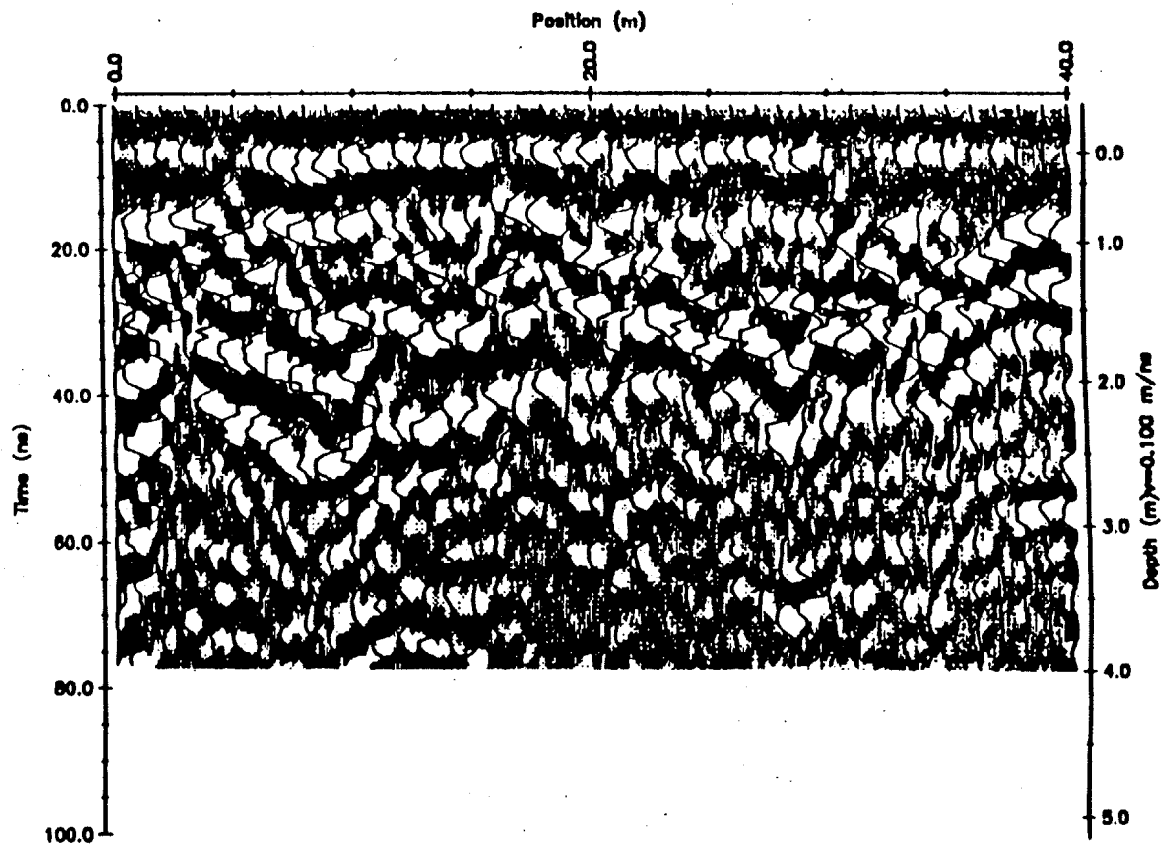
FILE = C:\ekko\ne00034a
JOB# = 1
TITLE = 200 Mhz profile at NUS Colverton site
TITLE = 05/27/94: 0920 lines NE00001 thru NE00051 (NE Sector) rev
DATE = 27/05/94
NUMBER OF TRACES = 161
NUMBER OF PTS/TRC = 125
TIMEZERO AT POINT = 28
TOTAL TIME WINDOW = 100
STARTING POSITION = 0.000
FINAL POSITION = 40.000
STEP SIZE USED = 0.250
POSITION UNITS = metres
NOMINAL FREQUENCY = 200.00
ANTENNA SEPARATION = 1.000
PULSER VOLTAGE = 400
NUMBER OF STACKS = 8
SURVEY MODE = Reflection
POSITIONS RENUMBERED
PICKING DIRECTION HAS BEEN REVERSED

PROCESSING SELECTED

FILTERS — TRACE STACKING 1
POINT STACKING 1
TRACE DIFFERENCING N
SELECTION — TIME: 0 to 100
TRACE: 1 to 161
GAINS — GAIN TYPE: SEC
MAX GAIN (Manual): 15
ATTENUATION 0.000
VELOCITY 0.1000

PLOT LAYOUT PARAMETERS

TRACE SPACING AND WIDTH: 0.0500 and 0.3000
TRACE BOTTOM AND TOP: 1.0000 and 7.0000
MARGIN LEFT AND RIGHT: -0.5000 and 1.0000
PAGE WIDTH: 8.0000
BORDER SIZE: 0.000
PRINTER NAME: LAS300
SCALE BAR: Name:grey Type:L Min:-10000 Max:10000 Contour:0



pulseEKKO HEADER PARAMETERS

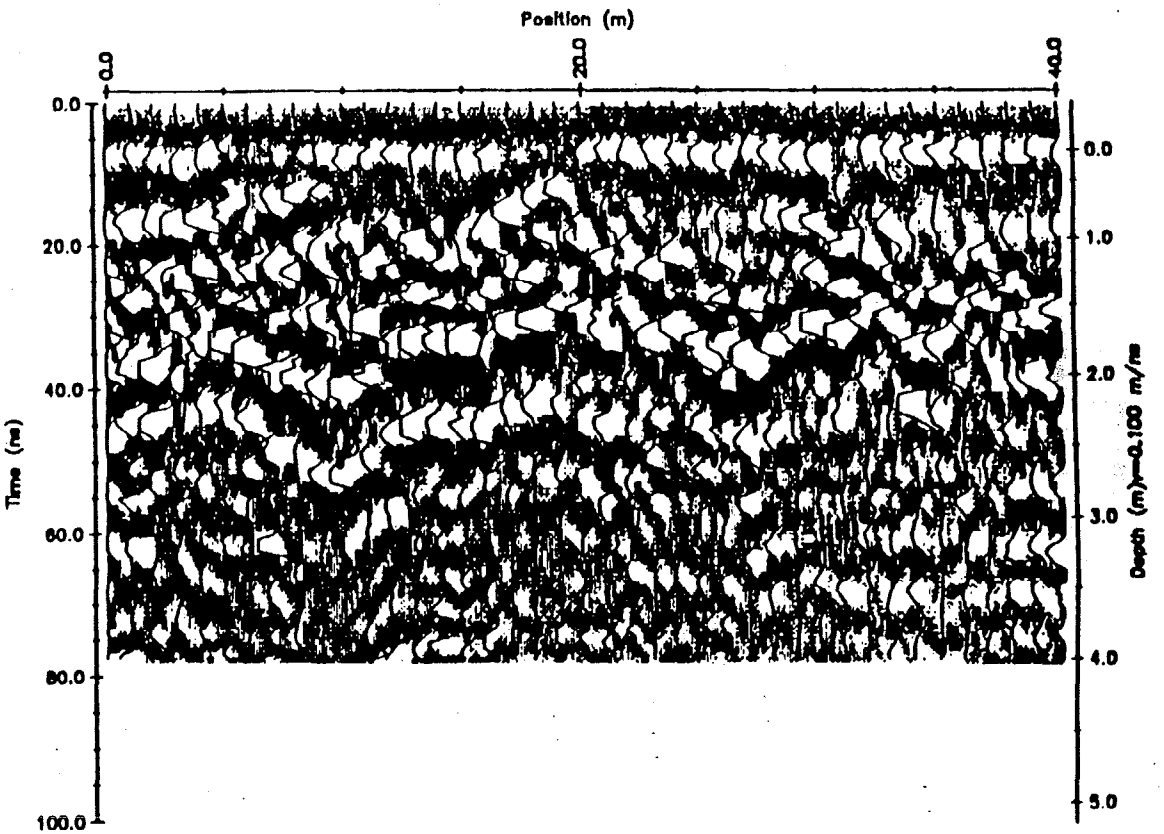
FILE	= C:\ekko\ne00035a
JOB	= 1
TITLE	= 200 Mhz profile at NUS Colverton site
TITLE	= 05/27/94: 0920 lines NE00001 thru NE00051 (NE Sector)
DATE	= 27/05/94
NUMBER OF TRACES	= 161
NUMBER OF PTS/TRC	= 125
TIMEZERO AT POINT	= 27
TOTAL TIME WINDOW	= 100
STARTING POSITION	= 0.000
FINAL POSITION	= 40.000
STEP SIZE USED	= 0.250
POSITION UNITS	= metres
NOMINAL FREQUENCY	= 200.00
ANTENNA SEPARATION	= 1.000
PULSER VOLTAGE	= 400
NUMBER OF STACKS	= 8
SURVEY MODE	= Reflection

PROCESSING SELECTED

FILTERS	TRACE STACKING 1
	POINT STACKING 1
	TRACE DIFFERENCING N
SELECTION	TIME 0 to 100
	TRACE 1 to 161
GAINS	GAIN TYPE SEC
	MAX GAIN (Manual): 15
	ATTENUATION 0.000
	VELOCITY 0.1000

PLOT LAYOUT PARAMETERS

TRACE SPACING AND WIDTH 0.0500 and 0.3000
TRACE BOTTOM AND TOP: 1.0000 and 7.0000
MARGIN LEFT AND RIGHT: -0.5000 and 1.0000
PAGE WIDTH: 8.0000
BORDER SIZE: 0.000
PRINTER NAME: LAS300
SCALE BAR: Name:grey Type:L Min:-10000 Max:10000 Contour:0



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pulseEKKO HEADER PARAMETERS
    FILE  = C:\ekko\ne00036a
    JOB   = 1
    TITLE = 200 Mhz profile at NUS Calverton site
    TITLE = 05/27/94;  0920 lines NE00001 thru NE00051 (NE Sector) rev
    DATE  = 27/05/94
    NUMBER OF TRACES    = 161
    NUMBER OF PTS/TRC   = 125
    TIMEZERO AT POINT   = 10
    TOTAL TIME WINDOW   = 100
    STARTING POSITION   = 0.000
    FINAL POSITION      = 40.000
    STEP SIZE USED      = 0.250
    POSITION UNITS      = metres
    NOMINAL FREQUENCY   = 200.00
    ANTENNA SEPARATION  = 1.000
    PULSER VOLTAGE      = 400
    NUMBER OF STACKS    = 8
    SURVEY MODE         = Reflection
    POSITIONS RENUMBERED
    PROFILING DIRECTION HAS BEEN REVERSED

PROCESSING SELECTED
    FILTERS     TRACE STACKING  1
                POINT STACKING  1
                TRACE DIFFERENCING  N
    SELECTION   TIME: 0 to 100
                TRACE: 1 to 161
    GAINS       GAIN TYPE: SEC
                MAX GAIN (Manual): 15
                ATTENUATION: 0.000
                VELOCITY: 0.1000

PLOT LAYOUT PARAMETERS
    TRACE SPACING AND WIDTH  0.0500 and 0.3000
    TRACE BOTTOM AND TOP: 1.0000  and 7.0000
    MARGIN LEFT AND RIGHT: -0.5000 and 1.0000
    PAGE WIDTH: 8.0000
    BORDER SIZE: 0.000
    PRINTER NAME: LAS300
    SCALE BAR: Name:grey Type:L Min:-10000 Max:10000 Contour:0
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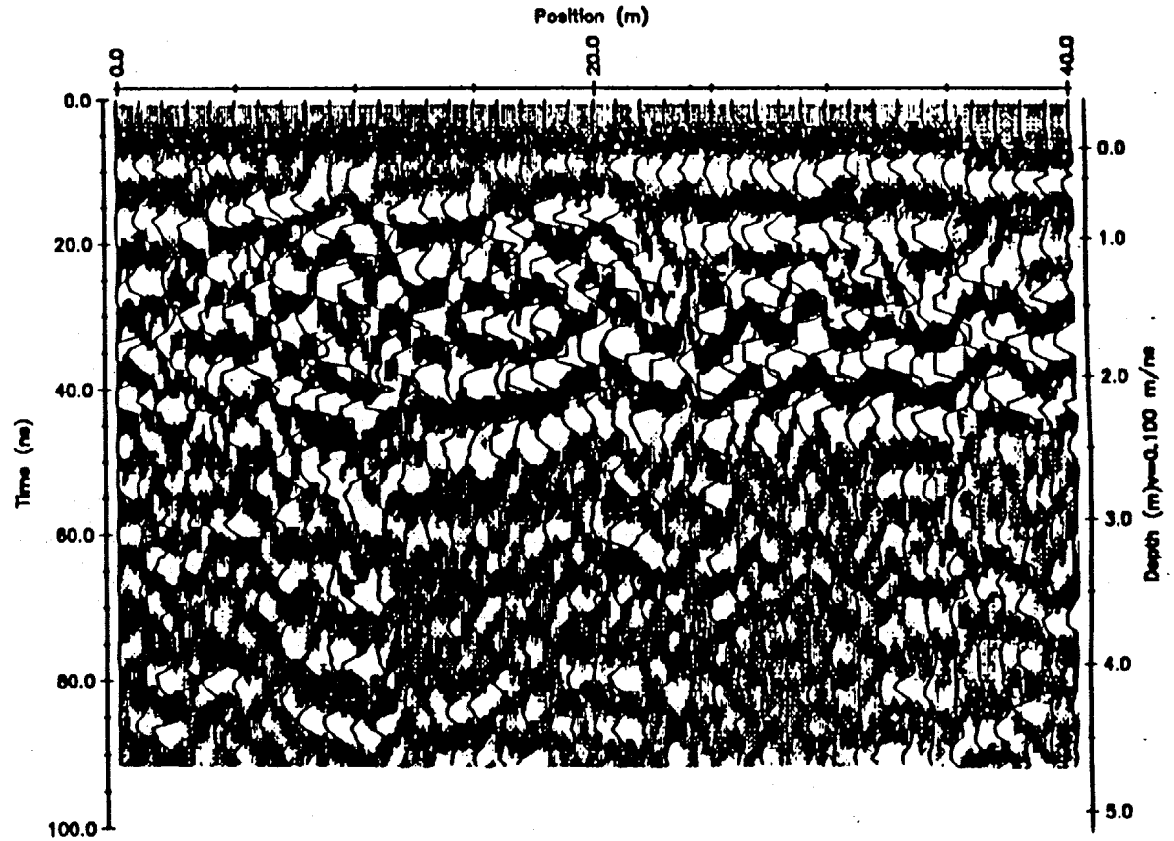


pulseEKKO HEADER PARAMETERS

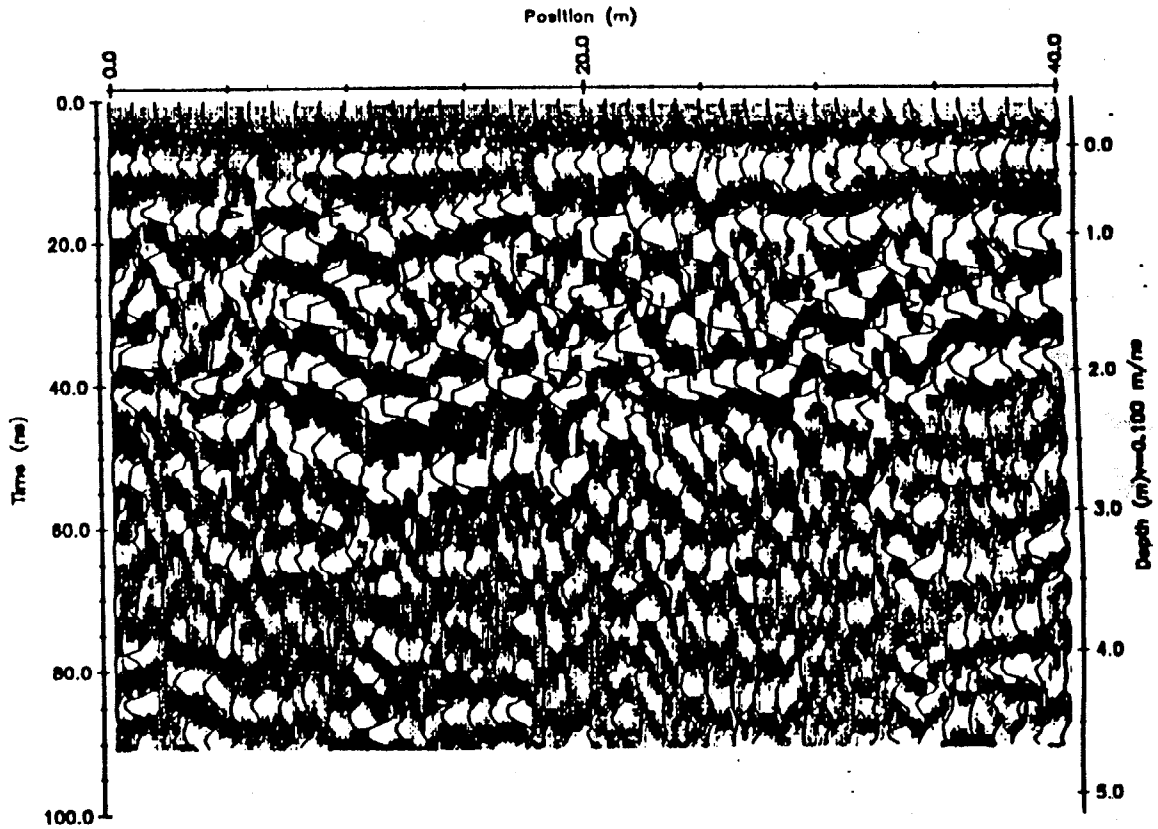
FILE	= C:\ekko\ne00037a
JOB#	= 1
TITLE	= 200 Mhz profile at NUS Calverton site
TITLE	= 05/27/94: 0920 lines NE00001 thru NE00051 (NE Sector)
DATE	= 27/05/94
NUMBER OF TRACES	= 161
NUMBER OF PTS/TRC	= 125
TIMEZERO AT POINT	= 11
TOTAL TIME WINDOW	= 100
STARTING POSITION	= 0.000
FINAL POSITION	= 40.000
STEP SIZE USED	= 0.250
POSITION UNITS	= metres
NOMINAL FREQUENCY	= 200.00
ANTENNA SEPARATION	= 1.000
PULSER VOLTAGE	= 400
NUMBER OF STACKS	= 8
SURVEY MODE	= Reflection

PROCESSING SELECTED

FILTERS	TRACE STACKING: 1
	POINT STACKING: 1
	TRACE DIFFERENCING: N
SELECTION	TIME: 0 to 100
	TRACE: 1 to 161
GAINS	GAIN TYPE: SEC
	MAX GAIN (Manual): 15
	ATTENUATION: 0.000
	VELOCITY: 0.1000

PLOT LAYOUT PARAMETERS

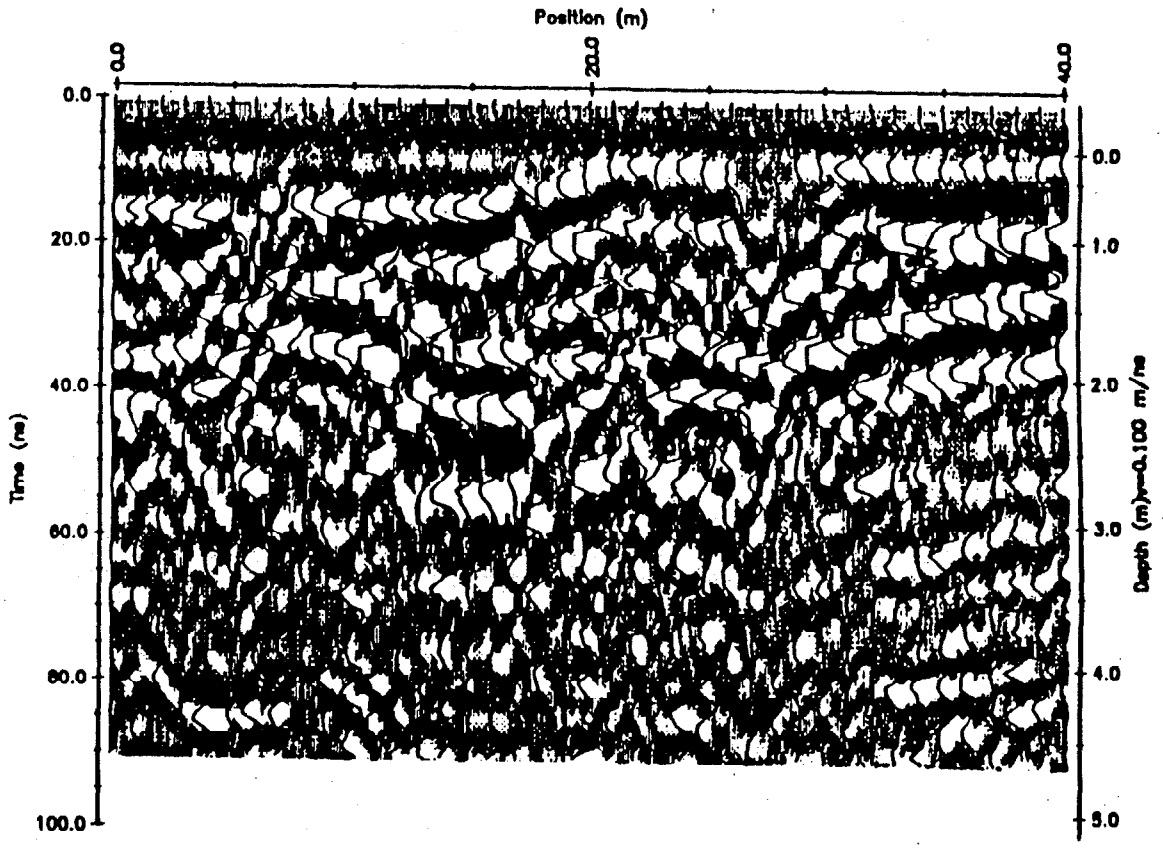
TRACE SPACING AND WIDTH: 0.0500 and 0.3000
TRACE BOTTOM AND TOP: 1.0000 and 7.0000
MARGIN LEFT AND RIGHT: -0.5000 and 1.0000
PAGE WIDTH: 8.0000
BORDER SIZE: 0.000
PRINTER NAME: LAS300
SCALE BAR: Name:grey Type:L Min:-10000 Max:10000 Contour:0



pulseEKKO HEADER PARAMETERS
FILE = C:\ekko\ne00038a
JOB# = 1
TITLE = 200 Mhz profile at NUS Calverton site
TITLE = 05/27/94: 0920 lines NE00001 thru NE00051 (NE Sector) rev
DATE = 27/05/94
NUMBER OF TRACES = 161
NUMBER OF PTS/TRC = 125
TIMEZERO AT POINT = 11
TOTAL TIME WINDOW = 100
STARTING POSITION = 0.000
FINAL POSITION = 40.000
STEP SIZE USED = 0.250
POSITION UNITS = metres
NOMINAL FREQUENCY = 200.00
ANTENNA SEPARATION = 1.000
PULSER VOLTAGE = 400
NUMBER OF STACKS = 8
SURVEY MODE = Reflection
POSITIONS RENUMBERED
PROFILING DIRECTION HAS BEEN REVERSED

PROCESSING SELECTED
FILTERS TRACE STACKING 1
POINT STACKING 1
TRACE DIFFERENCING N
SELECTION TIME 0 to 100
TRACE: 1 to 161
GAINS GAIN TYPE SEC
MAX GAIN (Manual): 15
ATTENUATION 0.000
VELOCITY 0.1000

PLOT LAYOUT PARAMETERS
TRACE SPACING AND WIDTH: 0.0500 and 0.3000
TRACE BOTTOM AND TOP: 1.0000 and 7.0000
MARGIN LEFT AND RIGHT: -0.5000 and 1.0000
PAGE WIDTH: 8.0000
BORDER SIZE: 0.000
PRINTER NAME: LAS300
SCALE BAR: Name:grey Type:L Min:-10000 Max:10000 Contour:0



pulseEKKO HEADER PARAMETERS

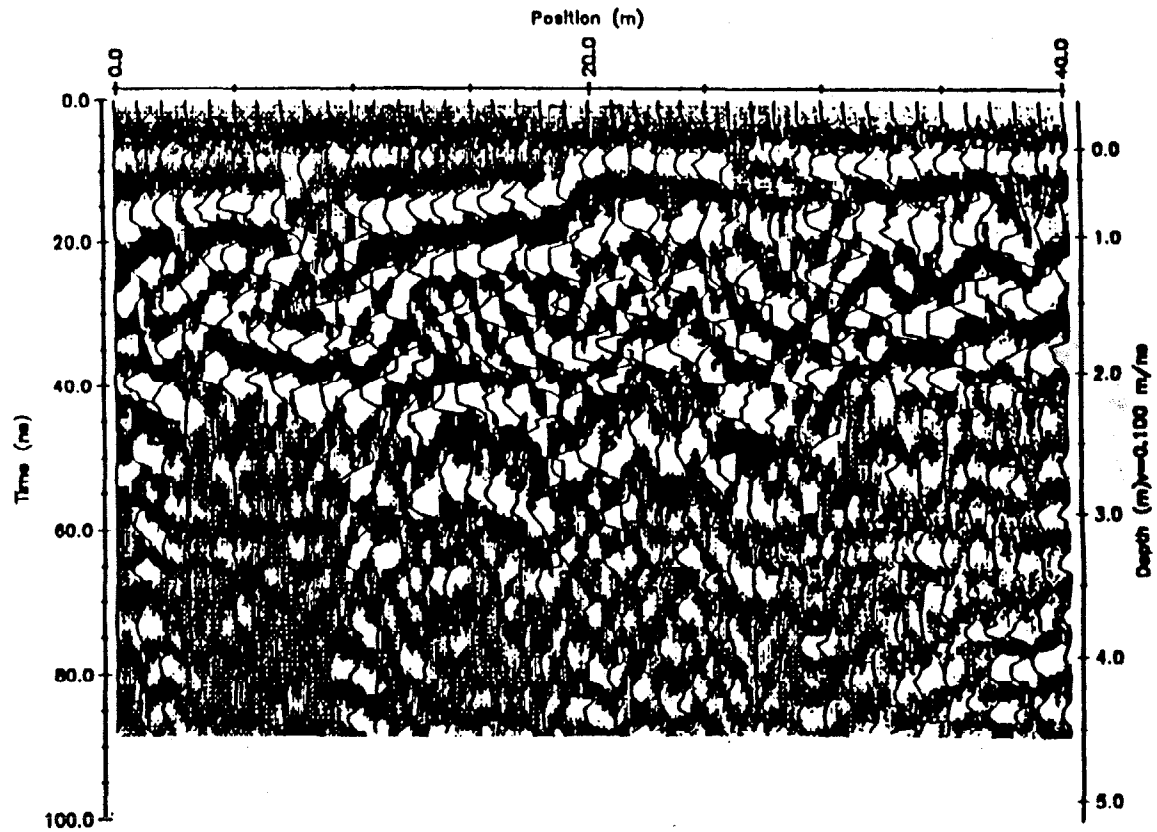
FILE	= C:\ekko\ne00039a
JOB	= 1
TITLE	= 200 Mhz profile at NUS Calverton site
TITLE	= 05/27/94: 0920 lines NE00001 thru NE00051 (NE Sector)
DATE	= 27/05/94
NUMBER OF TRACES	= 161
NUMBER OF PTS/TRC	= 125
TIMEZERO AT POINT	= 14
TOTAL TIME WINDOW	= 100
STARTING POSITION	= 0.000
FINAL POSITION	= 40.000
STEP SIZE USED	= 0.250
POSITION UNITS	= metres
NOMINAL FREQUENCY	= 200.00
ANTENNA SEPARATION	= 1.000
PULSER VOLTAGE	= 400
NUMBER OF STACKS	= 8
SURVEY MODE	= Reflection

PROCESSING SELECTED

FILTERS	TRACE STACKING 1
	POINT STACKING 1
	TRACE DIFFERENCING N
SELECTION	TIME 0 to 100
	TRACE 1 to 161
GAINS	GAIN TYPE SEC
	MAX GAIN (Manual) 15
	ATTENUATION 0.000
	VELOCITY 0.1000

PLOT LAYOUT PARAMETERS

TRACE SPACING AND WIDTH 0.0500 and 0.3000
TRACE BOTTOM AND TOP 1.0000 and 7.0000
MARGIN LEFT AND RIGHT: -0.5000 and 1.0000
PAGE WIDTH: 8.0000
BORDER SIZE: 0.000
PRINTER NAME: LAS300
SCALE BAR: Name:grey Type:L Min:-10000 Max:10000 Contour:0



pulseEKKO HEADER PARAMETERS

FILE = C:\ekko\ne00040a
JOB = 1
TITLE = 200 Mhz profile at NUS Colverton site
TITLE = 05/27/94: 0920 lines NE00001 thru NE00051 (NE Sector) rev
DATE = 27/05/94
NUMBER OF TRACES = 161
NUMBER OF PTS/TRC = 125
TIMEZERO AT POINT = 12
TOTAL TIME WINDOW = 100
STARTING POSITION = 0.000
FINAL POSITION = 40.000
STEP SIZE USED = 0.250
POSITION UNITS = metres
NOMINAL FREQUENCY = 200.00
ANTENNA SEPARATION = 1.000
PULSER VOLTAGE = 400
NUMBER OF STACKS = 8
SURVEY MODE = Reflection
POSITIONS REINUMBERED
PROFILING DIRECTION HAS BEEN REVERSED

PROCESSING SELECTED

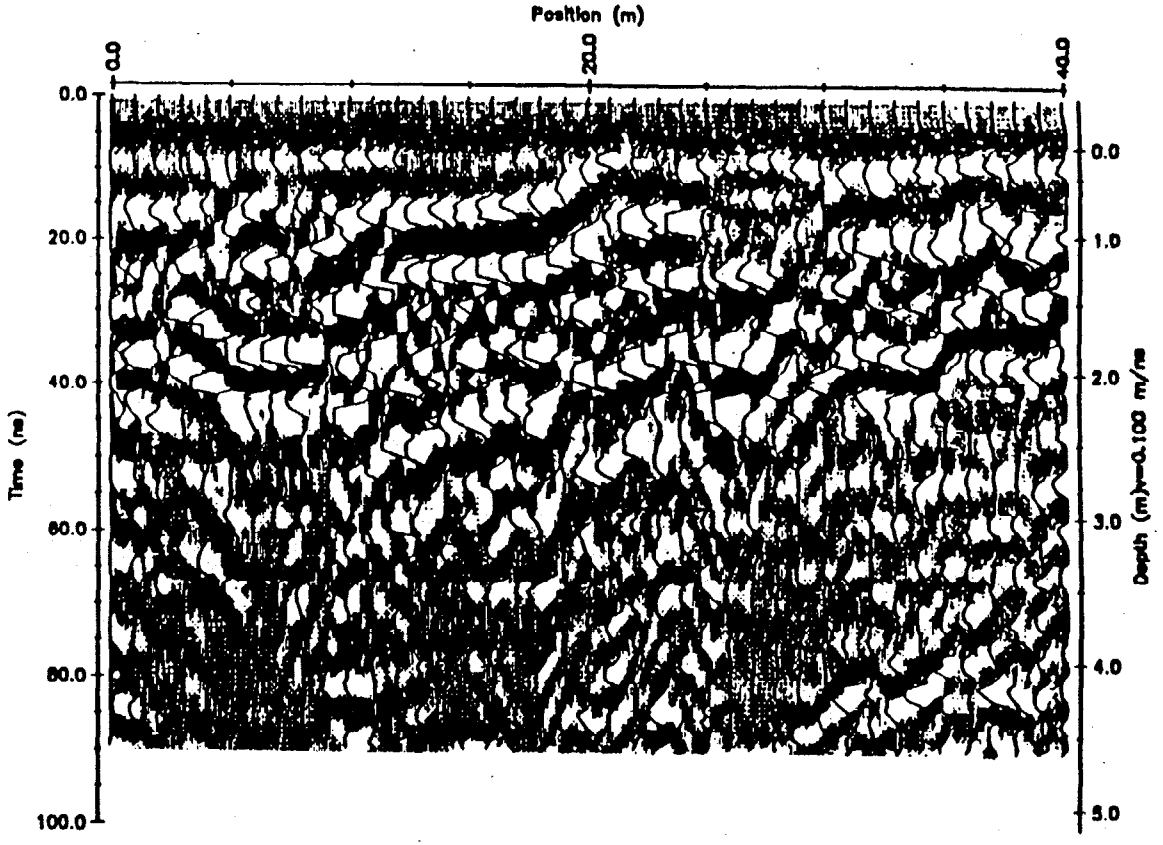
FILTERS
TRACE STACKING 1
POINT STACKING 1
TRACE DIFFERENCING N

SELECTION
TIME 0 to 100
TRACE: 1 to 181

GAINS
GAIN TYPE SEC
MAX GAIN (Manual): 15
ATTENUATION 0.000
VELOCITY 0.1000

PLOT LAYOUT PARAMETERS

TRACE SPACING AND WIDTH: 0.0500 and 0.3000
TRACE BOTTOM AND TOP: 1.0000 and 7.0000
MARGIN LEFT AND RIGHT: -0.5000 and 1.0000
PAGE WIDTH: 8.0000
BORDER SIZE: 0.000
PRINTER NAME: LAS300
SCALE BAR: Name:grey Type:L Min:-10000 Max:10000 Contour:0



pulseEKKO HEADER PARAMETERS

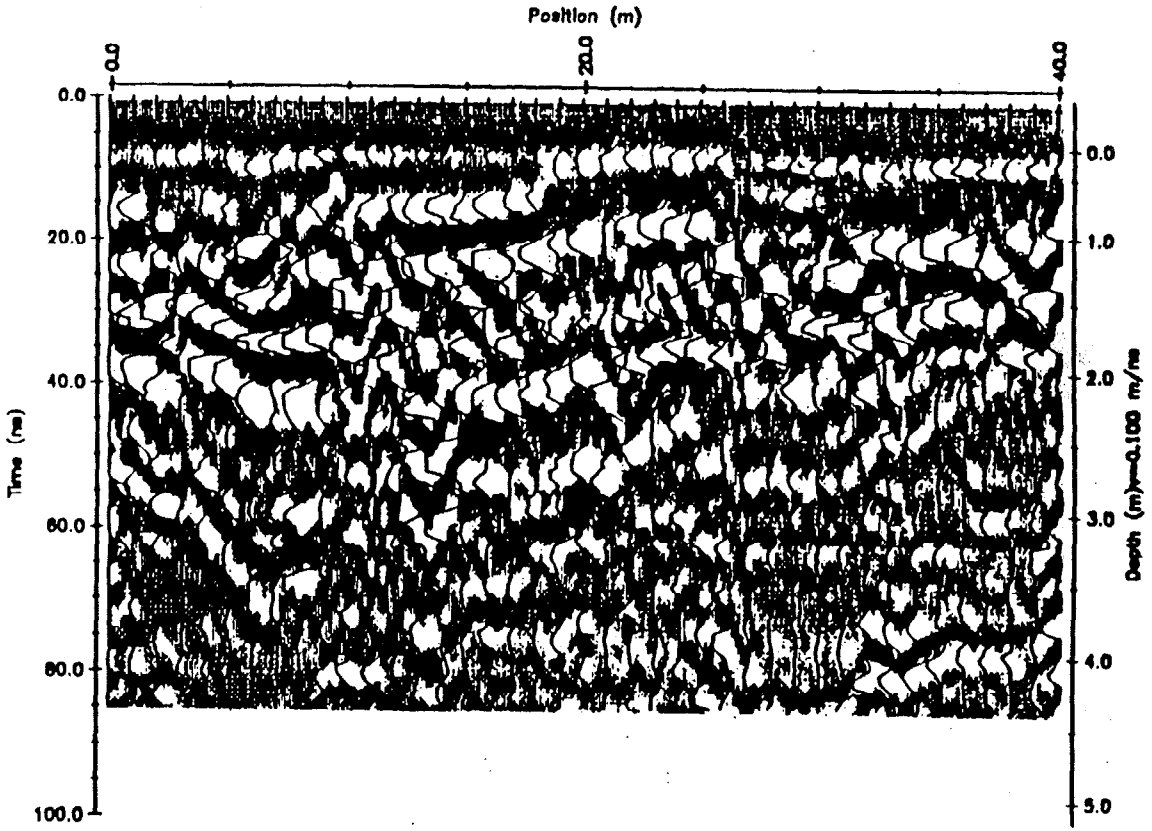
FILE	= C:\ekko\ne00041a
JOB	= 1
TITLE	= 200 Mhz profile at NUS Calverton site
TITLE	= 05/27/94: 0920 lines NE00001 thru NE00051 (NE Sector)
DATE	= 27/05/94
NUMBER OF TRACES	= 161
NUMBER OF PTS/TRC	= 125
TIMEZERO AT POINT	= 18
TOTAL TIME WINDOW	= 100
STARTING POSITION	= 0.000
FINAL POSITION	= 40.000
STEP SIZE USED	= 0.250
POSITION UNITS	= metres
NOMINAL FREQUENCY	= 200.00
ANTENNA SEPARATION	= 1.000
PULSER VOLTAGE	= 400
NUMBER OF STACKS	= 8
SURVEY MODE	= Reflection

PROCESSING SELECTED

FILTERS	TRACE STACKING 1
	POINT STACKING 1
	TRACE DIFFERENCING N
SELECTION	TIME 0 to 100
	TRACE: 1 to 161
GAINS	GAIN TYPE SEC
	MAX GAIN (Manual) 15
	ATTENUATION 0.000
	VELOCITY 0.1000

PLOT LAYOUT PARAMETERS

TRACE SPACING AND WIDTH 0.0500 and 0.3000
TRACE BOTTOM AND TOP: 1.0000 and 7.0000
MARGIN LEFT AND RIGHT: -0.5000 and 1.0000
PAGE WIDTH: 8.0000
BORDER SIZE: 0.000
PRINTER NAME: LAS300
SCALE BAR: Name:grey Type:L Min:-10000 Max:10000 Contour:0



pulseEKKO HEADER PARAMETERS

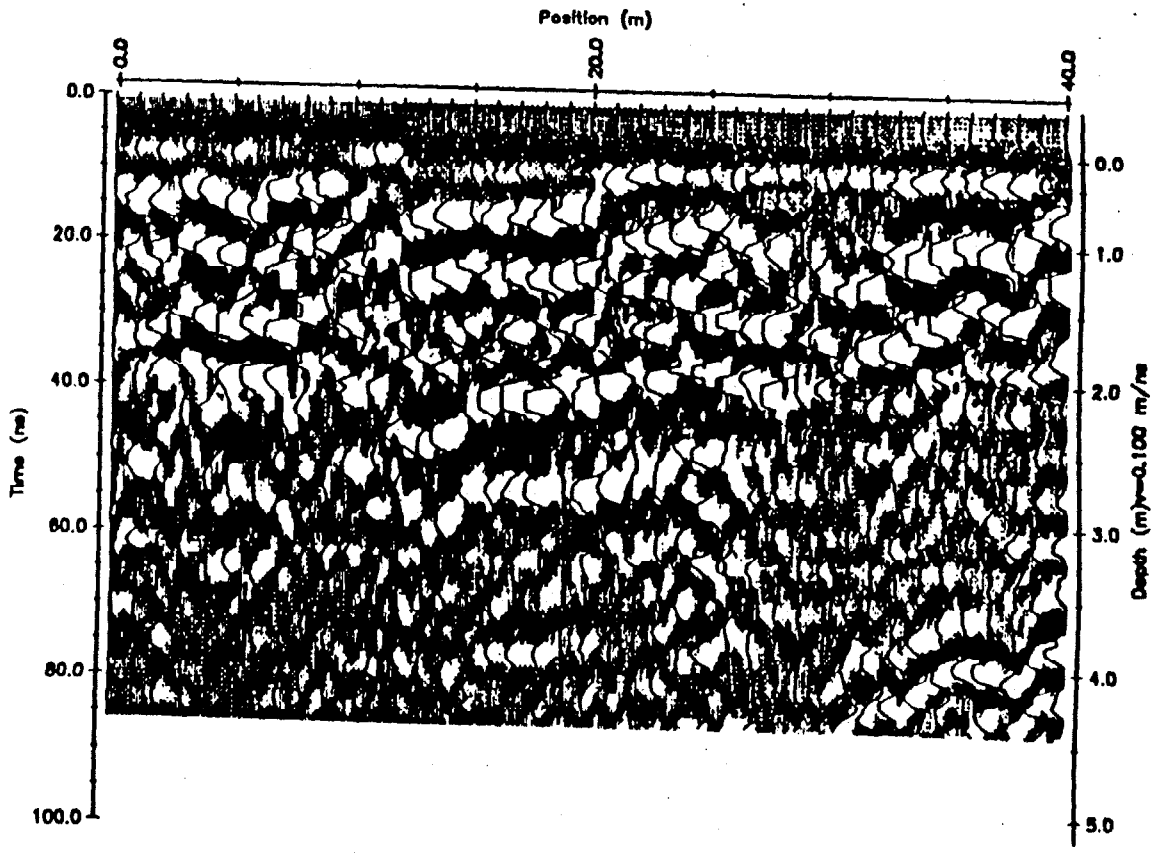
FILE = C:\ekko\ne00042a
JOB# = 1
TITLE = 200 Mhz profile at NUS Calverton site
TITLE = 05/27/94: 0920 lines NE00001 thru NE00051 (NE Sector) rev
DATE = 27/05/94
NUMBER OF TRACES = 161
NUMBER OF PTS/TRC = 125
TIMEZERO AT POINT = 17
TOTAL TIME WINDOW = 100
STARTING POSITION = 0.000
FINAL POSITION = 40 000
STEP SIZE USED = 0 250
POSITION UNITS = metres
NOMINAL FREQUENCY = 200 00
ANTENNA SEPARATION = 1 000
PULSER VOLTAGE = 400
NUMBER OF STACKS = 8
SURVEY MODE = Reflection
POSITIONS RENUMBERED
PROFILING DIRECTION HAS BEEN REVERSED

PROCESSING SELECTED

FILTERS TRACE STACKING 1
POINT STACKING 1
TRACE DIFFERENCING N
SELECTION TIME 0 to 100
TRACE: 1 to 161
GAINS GAIN TYPE SEC
MAX GAIN (Manual): 15
ATTENUATION 0 000
VELOCITY 0 1000

PLOT LAYOUT PARAMETERS

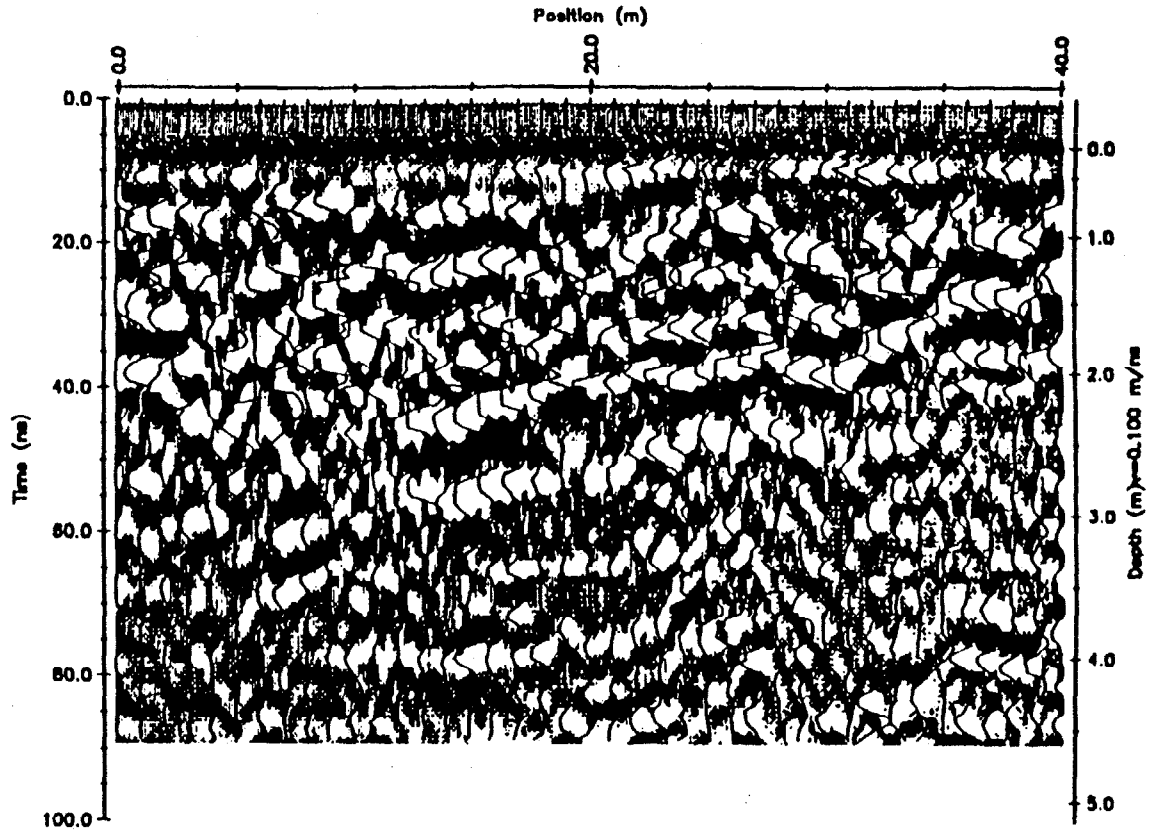
TRACE SPACING AND WIDTH 0.0500 and 0 3000
TRACE BOTTOM AND TOP: 1.0000 and 7 0000
MARGIN LEFT AND RIGHT: -0.5000 and 1.0000
PAGE WIDTH: 8.0000
BORDER SIZE: 0.000
PRINTER NAME: LAS300
SCALE BAR: Name:grey Type:L Min:-10000 Max:10000 Contour:0



pulseEKKO HEADER PARAMETERS
FILE = C:\ekko\ne00043a
JOB# = 1
TITLE = 200 Mhz profile at NUS Calverton site
TITLE = 05/27/94: 0920 lines NE00001 thru NE00051 (NE Sector)
DATE = 27/05/94
NUMBER OF TRACES = 161
NUMBER OF PTS/TRC = 125
TIMEZERO AT POINT = 13
TOTAL TIME WINDOW = 100
STARTING POSITION = 0.000
FINAL POSITION = 40.000
STEP SIZE USED = 0.250
POSITION UNITS = metres
NOMINAL FREQUENCY = 200.00
ANTENNA SEPARATION = 1.000
PULSER VOLTAGE = 400
NUMBER OF STACKS = 8
SURVEY MODE = Reflection

PROCESSING SELECTED
FILTERS: TRACE STACKING: 1
POINT STACKING: 1
TRACE DIFFERENCING: N
SELECTION TIME: 0 to 100
TRACE: 1 to 161
GAINS: GAIN TYPE: SEC
MAX GAIN (Manual): 15
ATTENUATION: 0.000
VELOCITY: 0.1000

PLOT LAYOUT PARAMETERS
TRACE SPACING AND WIDTH: 0.0500 and 0.3000
TRACE BOTTOM AND TOP: 1.0000 and 7.0000
MARGIN LEFT AND RIGHT: -0.5000 and 1.0000
PAGE WIDTH: 8.0000
BORDER SIZE: 0.000
PRINTER NAME: LAS300
SCALE BAR: Name:grey Type:L Min:-10000 Max:10000 Contour:0



pulseEKKO HEADER PARAMETERS

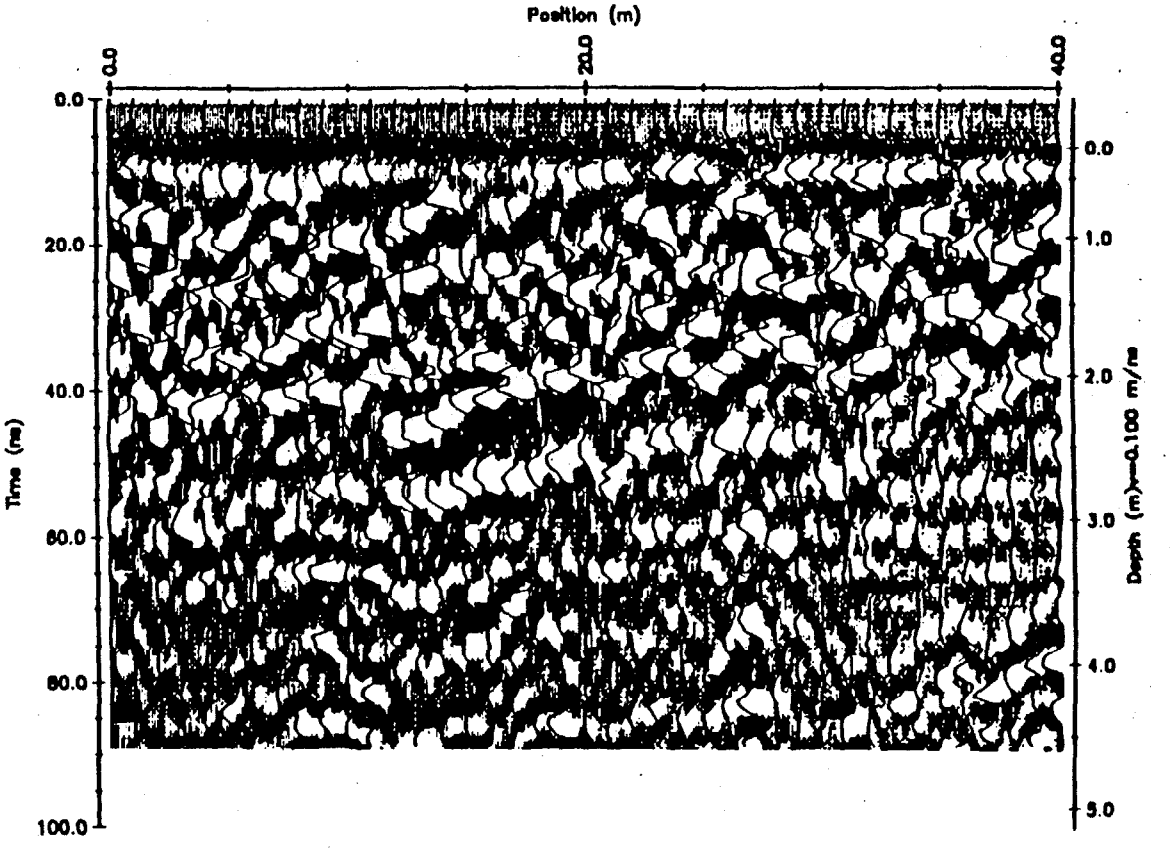
FILE = C:\ekko\ne00044a
JOB = 1
TITLE = 200 Mhz profile at NUS Colverton site
TITLE = 05/27/94: 0920 lines NE00001 thru NE00051 (NE Sector) rev
DATE = 27/05/94
NUMBER OF TRACES = 161
NUMBER OF PTS/TRC = 125
TIMEZERO AT POINT = 13
TOTAL TIME WINDOW = 100
STARTING POSITION = 0.000
FINAL POSITION = 40.000
STEP SIZE USED = 0.250
POSITION UNITS = metres
NOMINAL FREQUENCY = 200.00
ANTENNA SEPARATION = 1.000
PULSER VOLTAGE = 400
NUMBER OF STACKS = 8
SURVEY MODE = Reflection
POSITIONS RENUMBERED
PROFILING DIRECTION HAS BEEN REVERSED

PROCESSING SELECTED

FILTERS: TRACE STACKING: 1
POINT STACKING: 1
TRACE DIFFERENCING: N
SELECTION TIME: 0 to 100
TRACE: 1 to 161
GAINS: GAIN TYPE: SEC
MAX GAIN (Manual): 15
ATTENUATION: 0.000
VELOCITY: 0.1000

PLOT LAYOUT PARAMETERS

TRACE SPACING AND WIDTH: 0.0500 and 0.3000
TRACE BOTTOM AND TOP: 1.0000 and 7.0000
MARGIN LEFT AND RIGHT: -0.5000 and 1.0000
PAGE WIDTH: 8.0000
BORDER SIZE: 0.000
PRINTER NAME: LAS300
SCALE BAR: Name:grey Type:L Min:-10000 Max:10000 Contour:0



pulseEKKO HEADER PARAMETERS

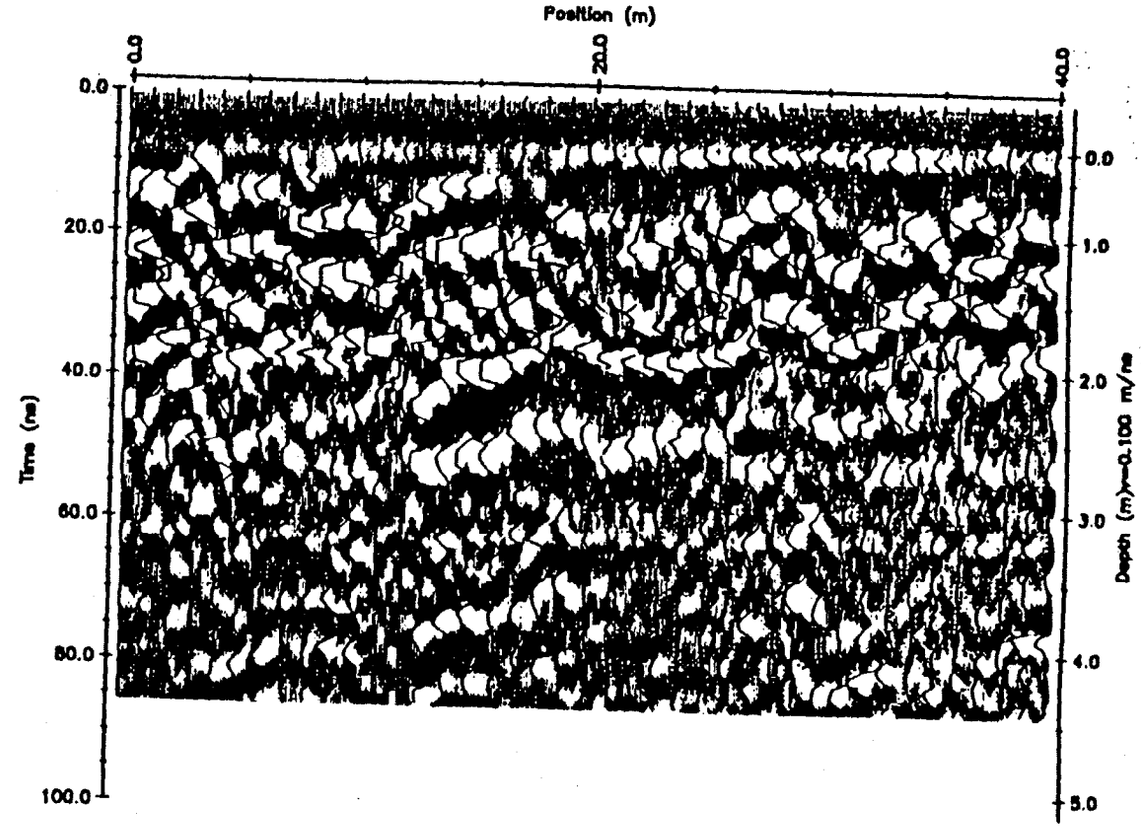
FILE	= C:\ekko\ne00045a
JOB#	= 1
TITLE	= 200 Mhz profile at NUS Calverton site
TITLE	= 05/27/94: 0920 lines NE00001 thru NE00051 (NE Sector)
DATE	= 27/05/94
NUMBER OF TRACES	= 161
NUMBER OF PTS/TRC	= 125
TIMEZERO AT POINT	= 17
TOTAL TIME WINDOW	= 100
STARTING POSITION	= 0.000
FINAL POSITION	= 40.000
STEP SIZE USED	= 0.250
POSITION UNITS	= metres
NOMINAL FREQUENCY	= 200.00
ANTENNA SEPARATION	= 1.000
PULSER VOLTAGE	= 400
NUMBER OF STACKS	= 8
SURVEY MODE	= Reflection

PROCESSING SELECTED

FILTERS	TRACE STACKING 1
	POINT STACKING 1
	TRACE DIFFERENCING N
SELECTION	TIME 0 to 100
	TRACE: 1 to 161
GAINS:	GAIN TYPE SEC
	MAX GAIN (Manual): 15
	ATTENUATION: 0.000
	VELOCITY: 0.1000

PLOT LAYOUT PARAMETERS

TRACE SPACING AND WIDTH: 0.0500 and 0.3000
TRACE BOTTOM AND TOP: 1.0000 and 7.0000
MARGIN LEFT AND RIGHT: -0.5000 and 1.0000
PAGE WIDTH: 8.0000
BORDER SIZE: 0.000
PRINTER NAME: LAS300
SCALE BAR: Name:grey Type:L Min:-10000 Max:10000 Contour:0



pulseEKKO HEADER PARAMETERS

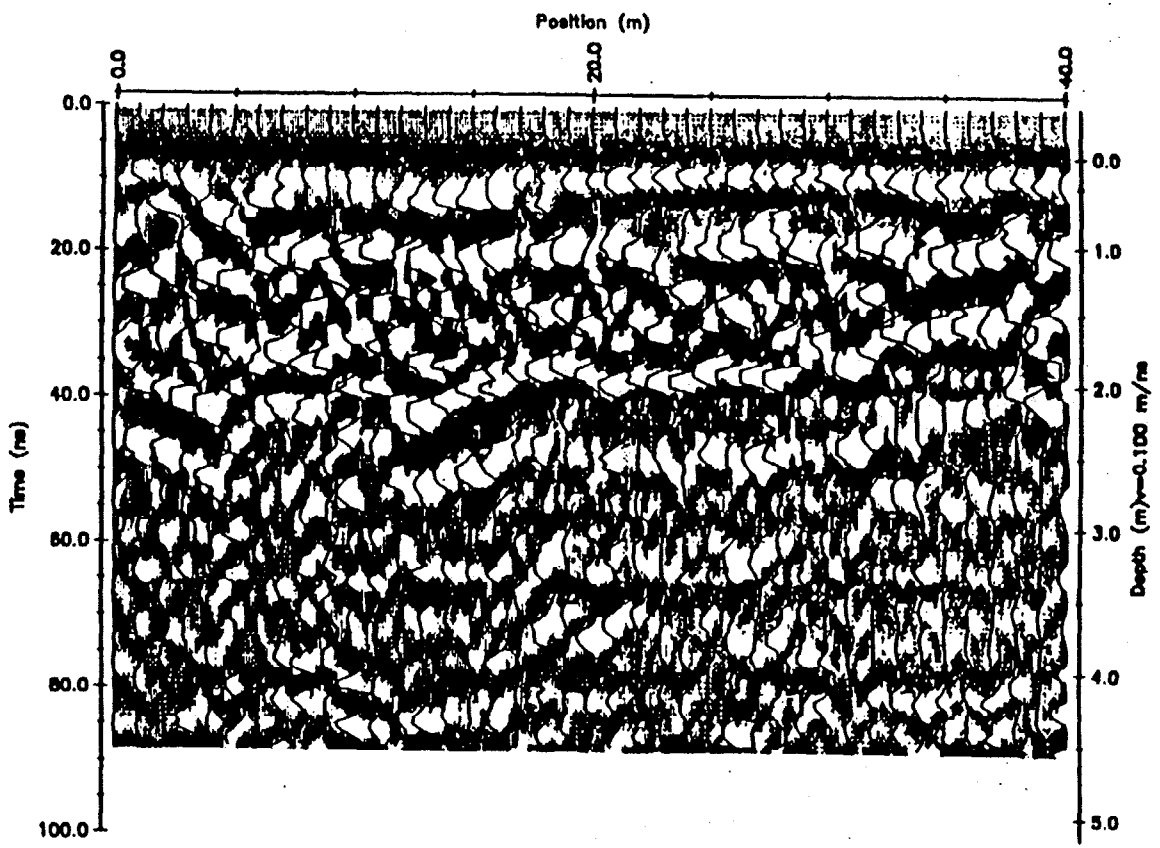
FILE = C:\ekko\ne00046a
JOB = 1
TITLE = 200 Mhz profile at NUS Calverton site
TITLE = 05/27/94: 0920 lines NE00001 thru NE00051 (NE Sector) rev
DATE = 27/05/94
NUMBER OF TRACES = 161
NUMBER OF PTS/TRC = 125
TIMEZERO AT POINT = 14
TOTAL TIME WINDOW = 100
STARTING POSITION = 0.000
FINAL POSITION = 40.000
STEP SIZE USED = 0.250
POSITION UNITS = metres
NOMINAL FREQUENCY = 200.00
ANTENNA SEPARATION = 1.000
PULSER VOLTAGE = 400
NUMBER OF STACKS = 8
SURVEY MODE = Reflection
POSITIONS RENUMBERED
PROFILING DIRECTION HAS BEEN REVERSED

PROCESSING SELECTED

FILTERS: TRACE STACKING: 1
POINT STACKING: 1
TRACE DIFFERENCING: N
SELECTION TIME: 0 to 100
TRACE: 1 to 161
GAINS: GAIN TYPE: SEC
MAX GAIN (Manual): 15
ATTENUATION: 0.000
VELOCITY: 0.1000

PLOT LAYOUT PARAMETERS

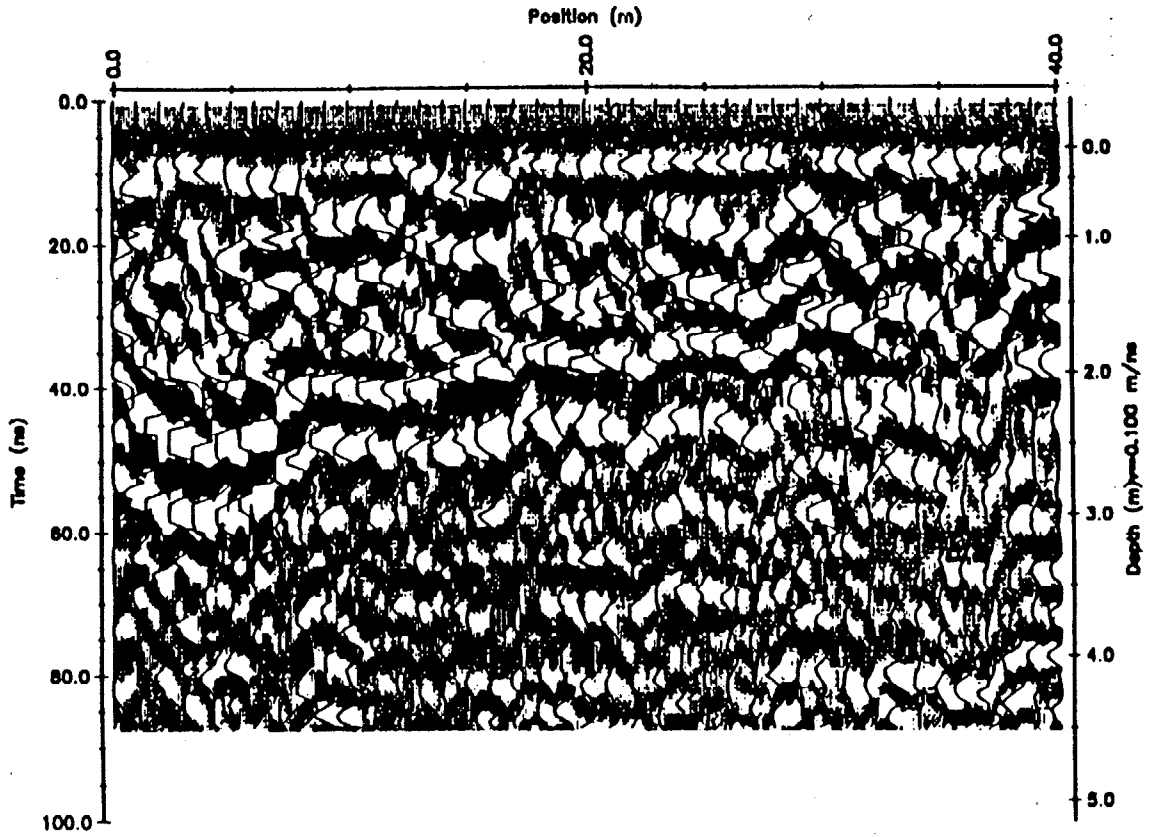
TRACE SPACING AND WIDTH: 0.0500 and 0.3000
TRACE BOTTOM AND TOP: 1.0000 and 7.0000
MARGIN LEFT AND RIGHT: -0.5000 and 1.0000
PAGE WIDTH: 8.0000
BORDER SIZE: 0.000
PRINTER NAME: LAS300
SCALE BAR: Name:grey Type:L Min:-10000 Max:10000 Contour:0



pulseEKKO HEADER PARAMETERS
FILE = C:\ekko\ne00047a
JOB# = 1
TITLE = 200 Mhz profile at NUS Calverton site
TITLE = 05/27/94; 0920 lines NE00001 thru NE00051 (NE Sector)
DATE = 27/05/94
NUMBER OF TRACES = 161
NUMBER OF PTS/TRC = 125
TIMEZERO AT POINT = 15
TOTAL TIME WINDOW = 100
STARTING POSITION = 0.000
FINAL POSITION = 40.000
STEP SIZE USED = 0.250
POSITION UNITS = metres
NOMINAL FREQUENCY = 200.00
ANTENNA SEPARATION = 1.000
PULSER VOLTAGE = 400
NUMBER OF STACKS = 8
SURVEY MODE = Reflection

PROCESSING SELECTED
FILTERS: TRACE STACKING: 1
POINT STACKING: 1
TRACE DIFFERENCING: N
SELECTION TIME: 0 to 100
TRACE: 1 to 161
GAINS: GAIN TYPE SEC
MAX GAIN (Manual): 15
ATTENUATION: 0.000
VELOCITY: 0.1000

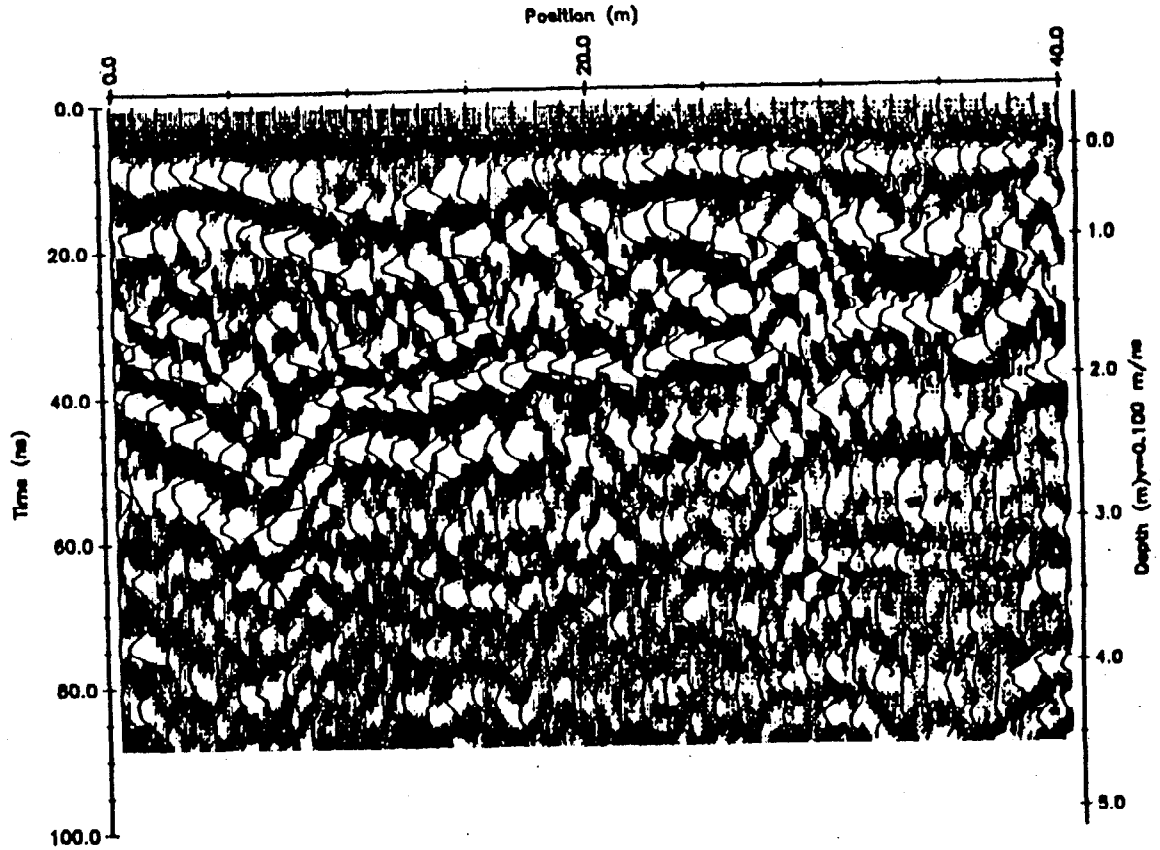
PLOT LAYOUT PARAMETERS
TRACE SPACING AND WIDTH: 0.0500 and 0.3000
TRACE BOTTOM AND TOP: 1.0000 and 7.0000
MARGIN LEFT AND RIGHT: -0.5000 and 1.0000
PAGE WIDTH: 8.0000
BORDER SIZE: 0.000
PRINTER NAME: LAS300
SCALE BAR: Name:grey Type:L Min:-10000 Max:10000 Contour:0



pulseEKKO HEADER PARAMETERS
FILE = C:\ekko\ne00048a
JOB# = 1
TITLE = 200 Mhz profile at NUS Colverton site
TITLE = 05/27/94: 0920 lines NE00001 thru NE00051 (NE Sector) rev
DATE = 27/05/94
NUMBER OF TRACES = 161
NUMBER OF PTS/TRC = 125
TIMEZERO AT POINT = 14
TOTAL TIME WINDOW = 100
STARTING POSITION = 0.000
FINAL POSITION = 40.000
STEP SIZE USED = 0.250
POSITION UNITS = metres
NOMINAL FREQUENCY = 200.00
ANTENNA SEPARATION = 1.000
PULSER VOLTAGE = 400
NUMBER OF STACKS = 8
SURVEY MODE = Reflection
POSITIONS RENUMBERED
PROFILING DIRECTION HAS BEEN REVERSED

PROCESSING SELECTED
FILTERS: TRACE STACKING: 1
POINT STACKING: 1
TRACE DIFFERENCING: N
SELECTION TIME: 0 to 100
TRACE: 1 to 161
GAINS: GAIN TYPE: SEC
MAX GAIN (Manual): 15
ATTENUATION: 0.000
VELOCITY: 0.1000

PLOT LAYOUT PARAMETERS
TRACE SPACING AND WIDTH: 0.0500 and 0.3000
TRACE BOTTOM AND TOP: 1.0000 and 7.0000
MARGIN LEFT AND RIGHT: -0.5000 and 1.0000
PAGE WIDTH: 8.0000
BORDER SIZE: 0.000
PRINTER NAME: LAS300
SCALE BAR: Name:grey Type:L Min:-10000 Max:10000 Contour:0



pulseEKKO HEADER PARAMETERS

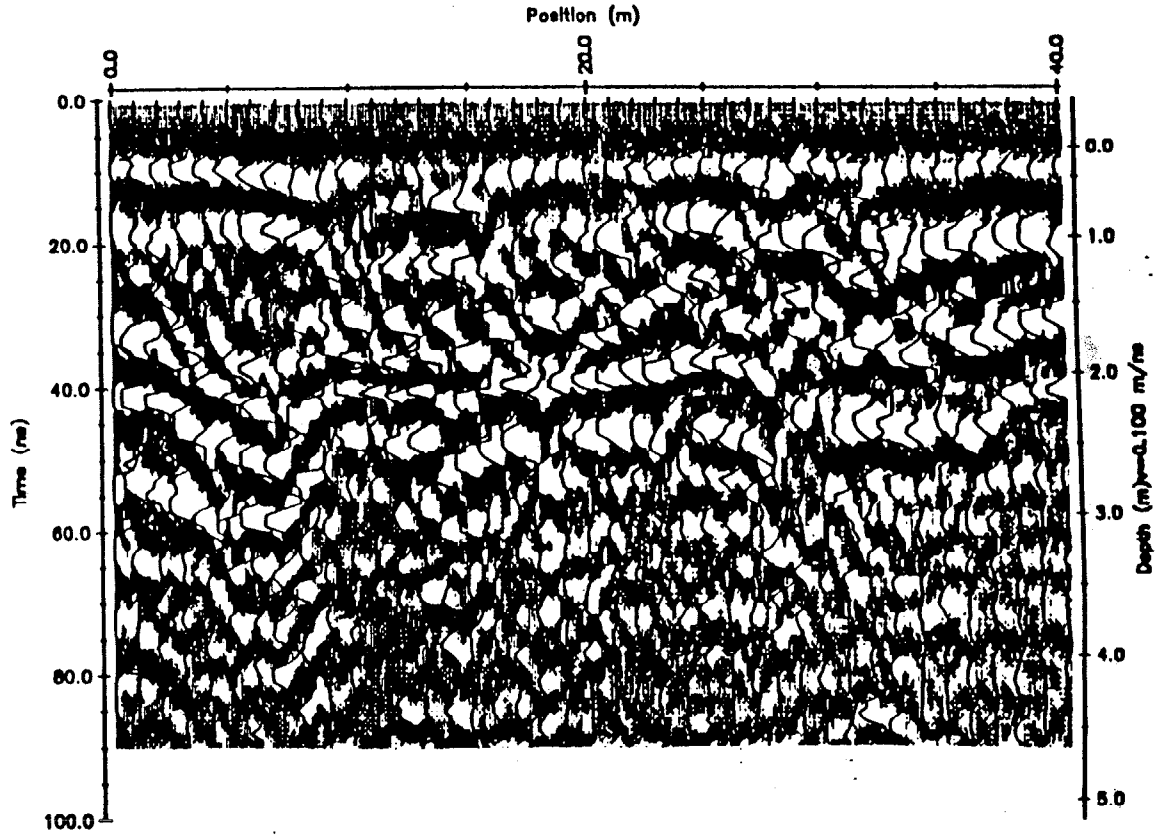
FILE	= C:\ekko\ne00049a
JOB	= 1
TITLE	= 200 Mhz profile at NUS Calverton site
TITLE	= 05/27/94: 0920 lines NE00001 thru NE00051 (NE Sector)
DATE	= 27/05/94
NUMBER OF TRACES	= 161
NUMBER OF PTS/TRC	= 125
TIMEZERO AT POINT	= 12
TOTAL TIME WINDOW	= 100
STARTING POSITION	= 0.000
FINAL POSITION	= 40.000
STEP SIZE USED	= 0.250
POSITION UNITS	= metres
NOMINAL FREQUENCY	= 200.00
ANTENNA SEPARATION	= 1.000
PULSER VOLTAGE	= 400
NUMBER OF STACKS	= 8
SURVEY MODE	= Reflection

PROCESSING SELECTED

FILTERS	TRACE STACKING: 1
	POINT STACKING: 1
	TRACE DIFFERENCING: N
SELECTION	TIME: 0 to 100
	TRACE: 1 to 161
GAINS	GAIN TYPE: SEC
	MAX GAIN (Manual): 15
	ATTENUATION: 0.000
	VELOCITY: 0.1000

PLOT LAYOUT PARAMETERS

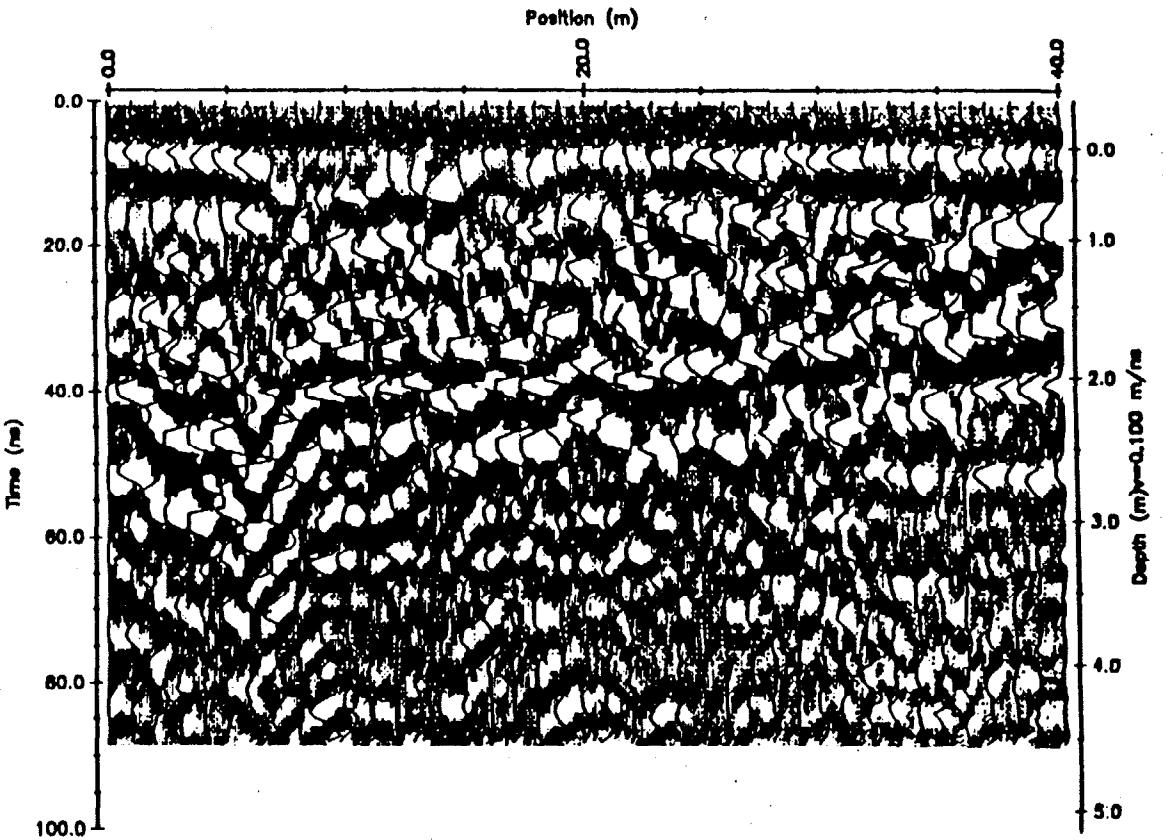
TRACE SPACING AND WIDTH: 0.0500 and 0.3000
TRACE BOTTOM AND TOP: 1.0000 and 7.0000
MARGIN LEFT AND RIGHT: -0.5000 and 1.0000
PAGE WIDTH: 8.0000
BORDER SIZE: 0.000
PRINTER NAME: LAS300
SCALE BAR: Name:grey Type:L Min:-10000 Max:10000 Contour:0



pulseEKKO HEADER PARAMETERS
FILE = C:\ekko\ne00050a
JOB# = 1
TITLE = 200 Mhz profile at NUS Calverton site
TITLE = 05/27/94: 0920 lines NE00001 thru NE00051 (NE Sector) rev
DATE = 27/05/94
NUMBER OF TRACES = 161
NUMBER OF PTS/TRC = 125
TIMEZERO AT POINT = 14
TOTAL TIME WINDOW = 100
STARTING POSITION = 0.000
FINAL POSITION = 40.000
STEP SIZE USED = 0.250
POSITION UNITS = metres
NOMINAL FREQUENCY = 200.00
ANTENNA SEPARATION = 1.000
PULSER VOLTAGE = 400
NUMBER OF STACKS = 8
SURVEY MODE = Reflection
POSITIONS RENUMBERED
PROFILING DIRECTION HAS BEEN REVERSED

PROCESSING SELECTED
FILTERS: TRACE STACKING: 1
POINT STACKING: 1
TRACE DIFFERENCING: N
SELECTION: TIME: 0 to 100
TRACE: 1 to 161
GAINS: GAIN TYPE: SEC
MAX GAIN (Manual): 15
ATTENUATION: 0.000
VELOCITY: 0.1000

PLOT LAYOUT PARAMETERS
TRACE SPACING AND WIDTH: 0.0500 and 0.3000
TRACE BOTTOM AND TOP: 1.0000 and 7.0000
MARGIN LEFT AND RIGHT: -0.5000 and 1.0000
PAGE WIDTH: 8.0000
BORDER SIZE: 0.000
PRINTER NAME: LAS300
SCALE BAR: Name:grey Type:L Min:-10000 Max:10000 Contour:0



pulseEKKO HEADER PARAMETERS

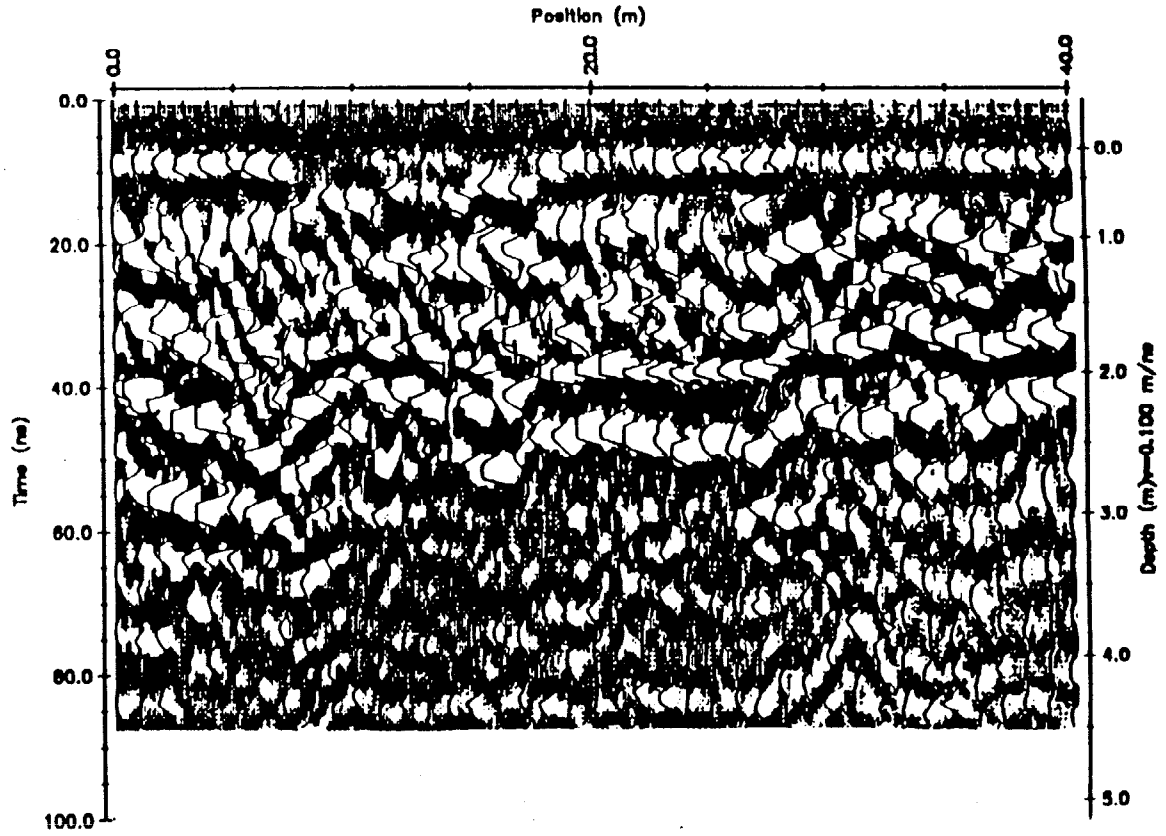
FILE	= C:\ekko\ne00051o
JOB#	= 1
TITLE	= 200 Mhz profile at NUS Colverton site
TITLE	= 05/27/94; 0920 lines NE00001 thru NE00051 (NE Sector)
DATE	= 27/05/94
NUMBER OF TRACES	= 161
NUMBER OF PTS/TRC	= 125
TIMEZERO AT POINT	= 15
TOTAL TIME WINDOW	= 100
STARTING POSITION	= 0.000
FINAL POSITION	= 40.000
STEP SIZE USED	= 0.250
POSITION UNITS	= metres
NOMINAL FREQUENCY	= 200.00
ANTENNA SEPARATION	= 1.000
PULSER VOLTAGE	= 400
NUMBER OF STACKS	= 8
SURVEY MODE	= Reflection

PROCESSING APPLIED

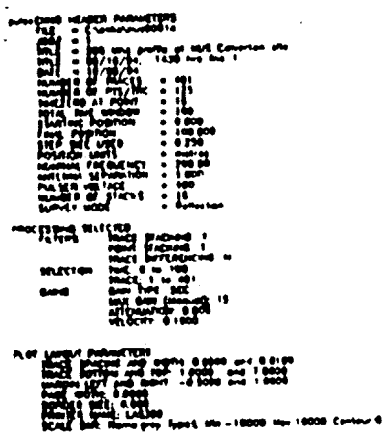
FILTERS	TRACE STACKING 1
	POINT STACKING 1
	TRACE DIFFERENCING N
SELECTION	TIME 0 to 100
	TRACE 1 to 161
GAINS	GAIN TYPE SEC
	MAX GAIN (Manual) 15
	ATTENUATION 0.000
	VELOCITY 0.1000

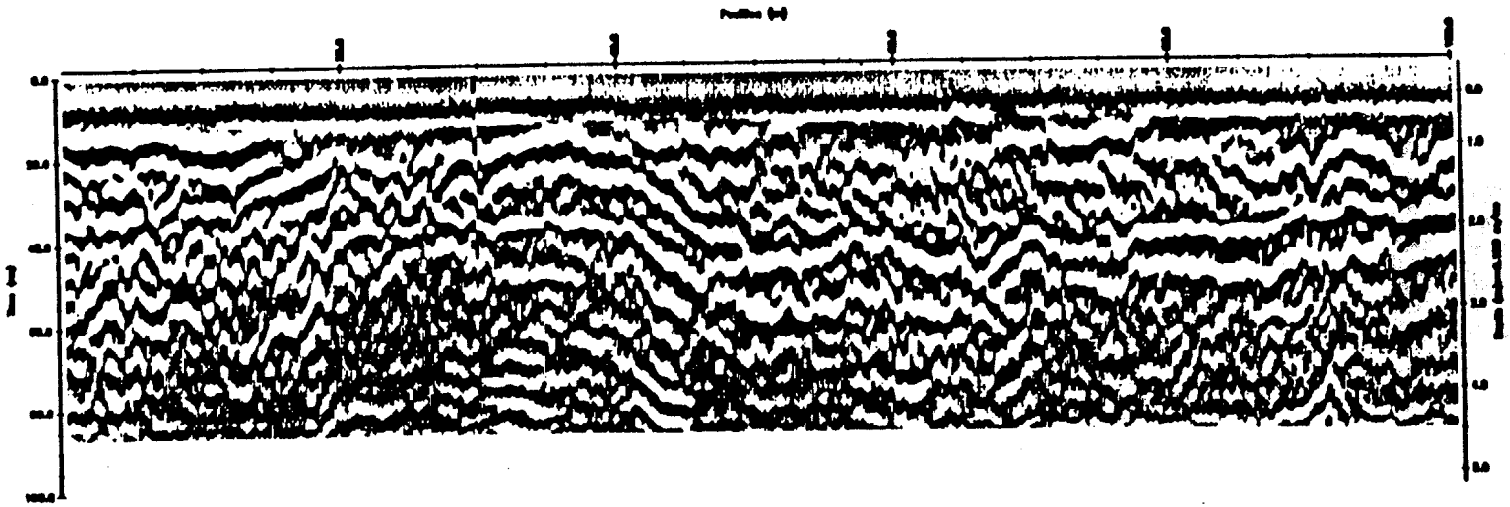
PLOT LAYOUT PARAMETERS

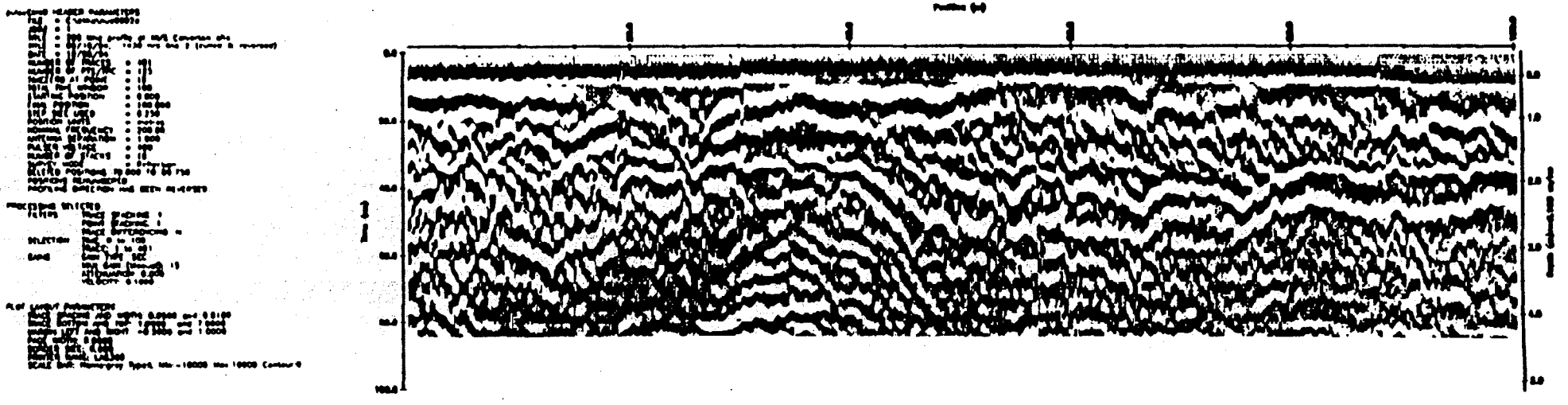
TRACE SPACING AND WIDTH 0.0500 and 0.3000
TRACE BOTTOM AND TOP 1.0000 and 7.0000
MARGIN LEFT AND RIGHT: -0.5000 and 1.0000
PAGE WIDTH: 8.0000
BORDER SIZE: 0.000
PRINTER NAME: LAS300
SCALE BAR: Name:grey Type:L Min:-10000 Max:10000 Contour:0

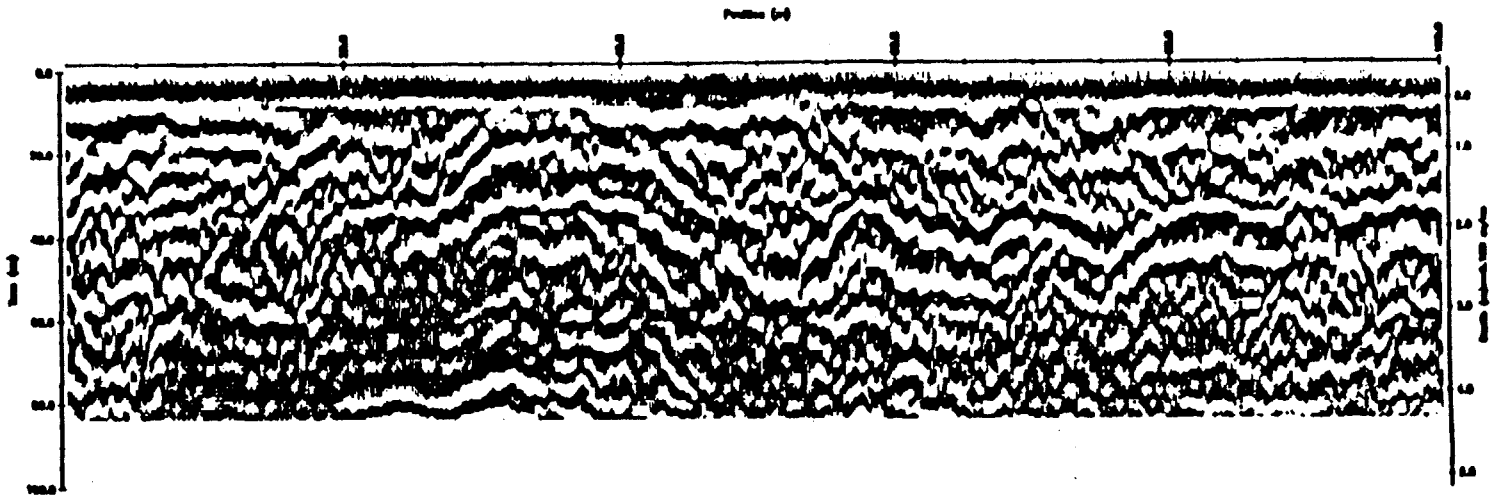


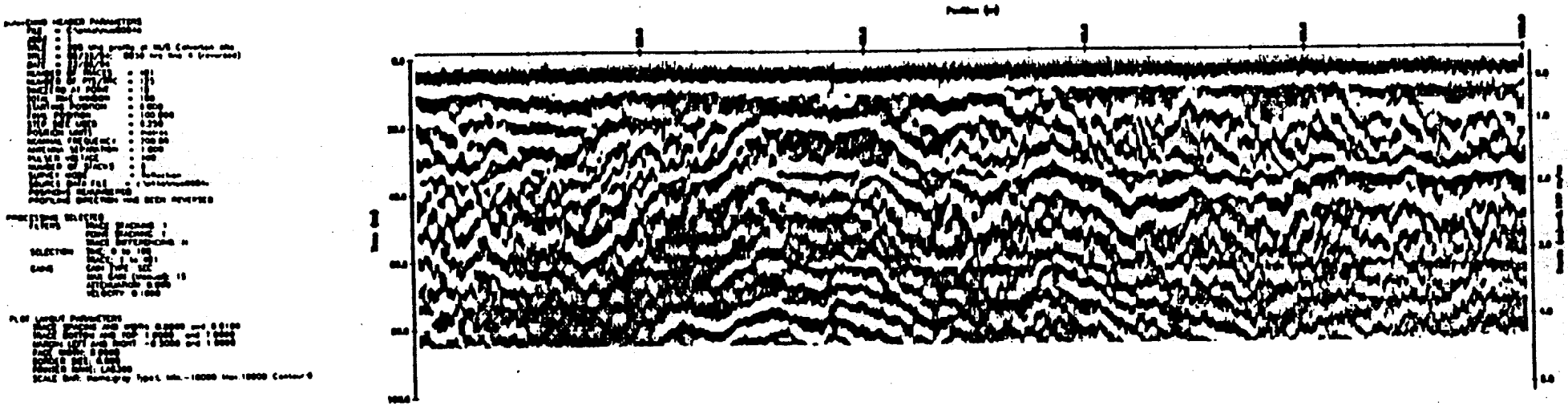
Radargrams from Main Survey Area of Calverton NWIRP

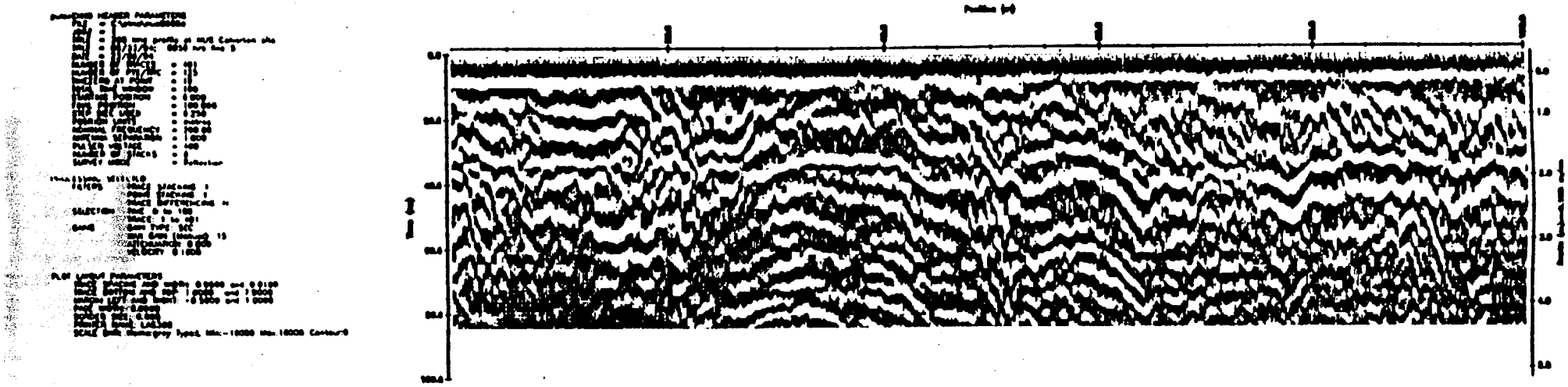


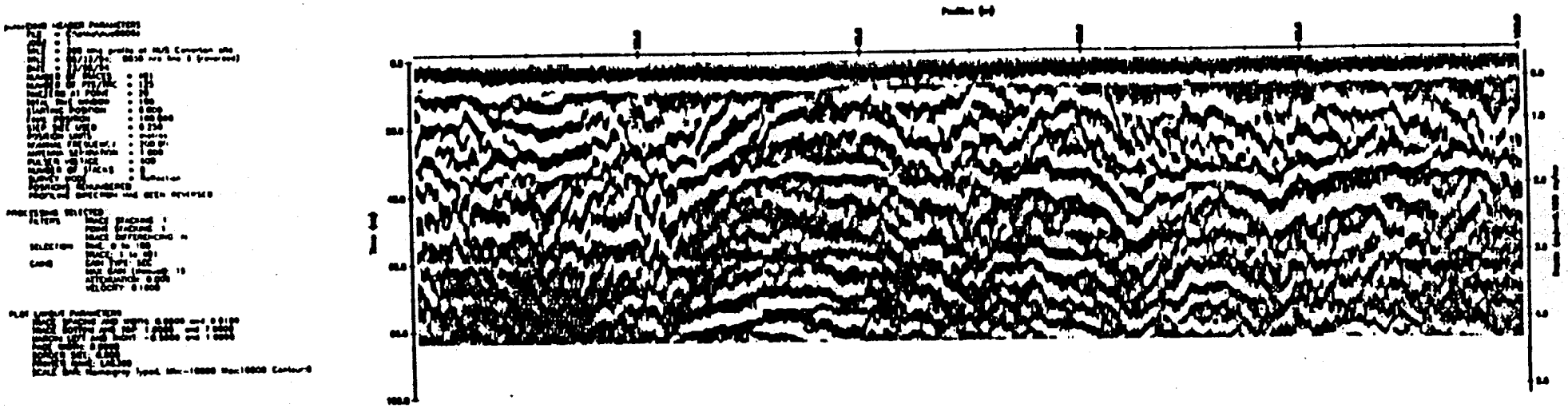


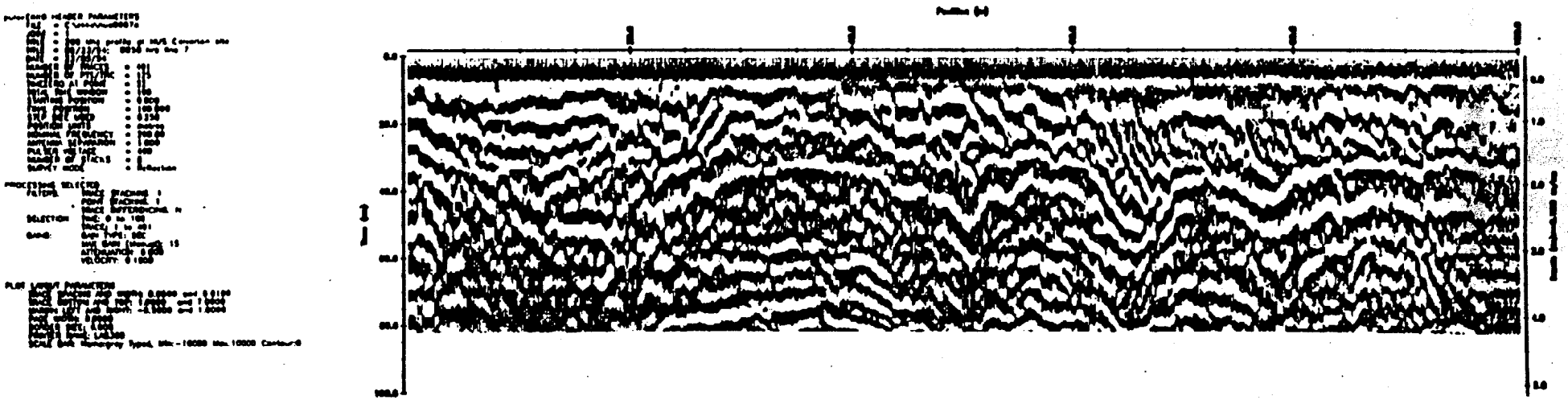


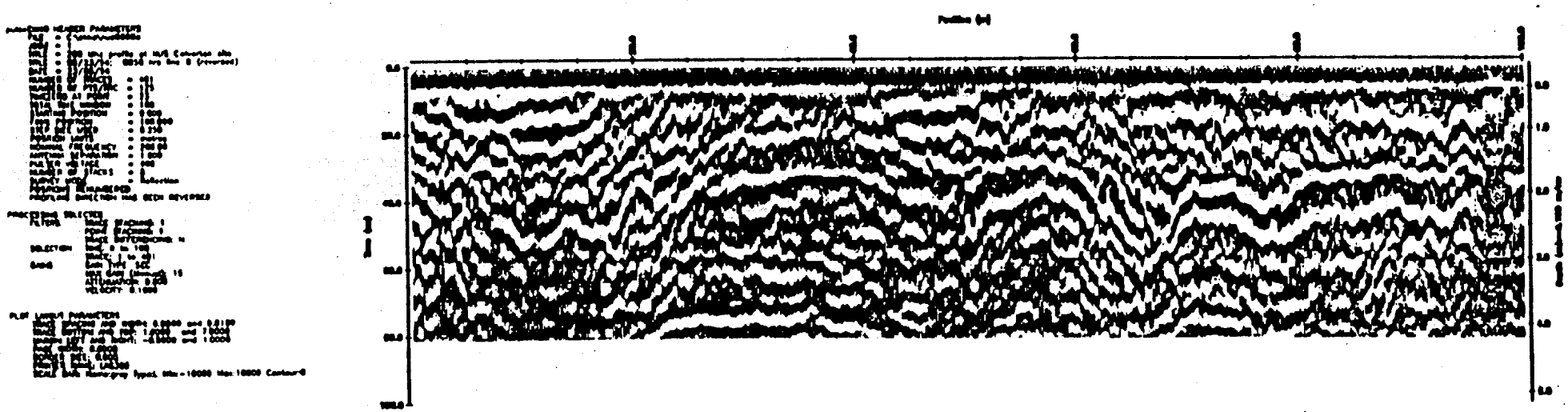


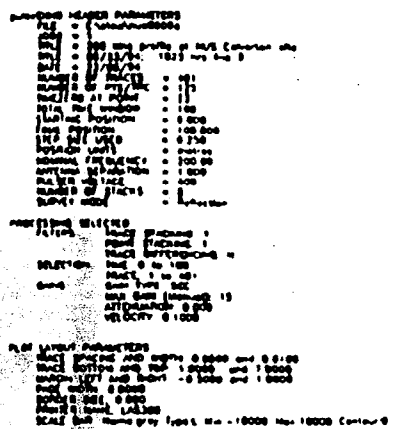


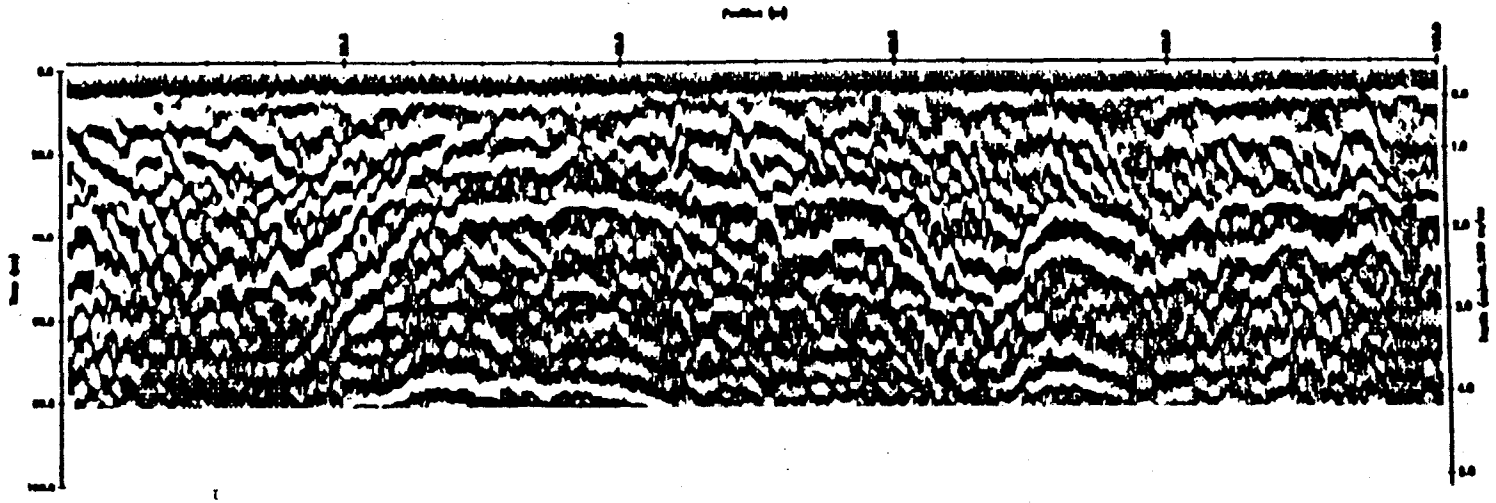


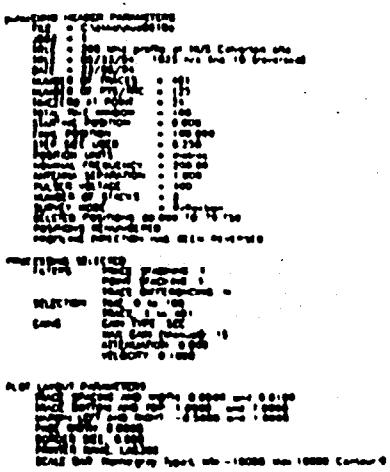


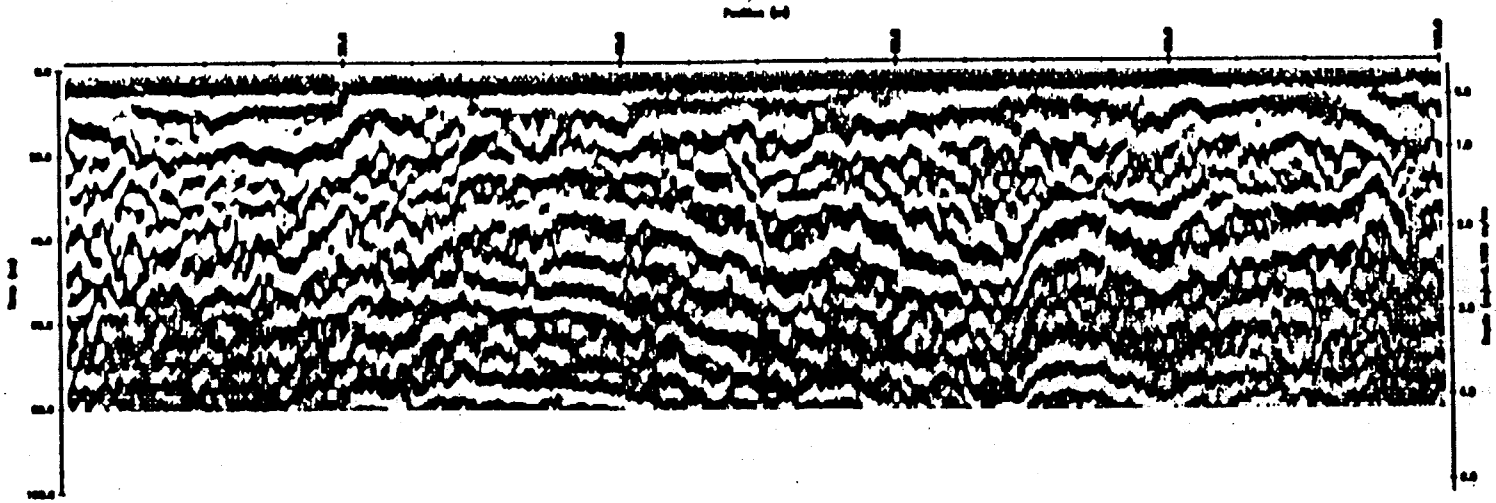


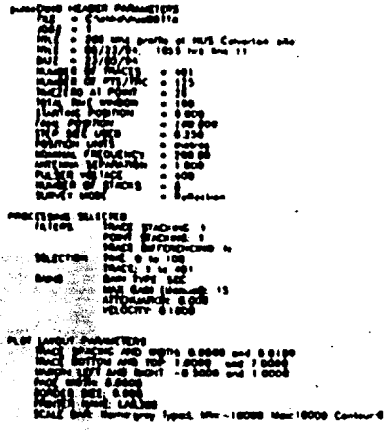


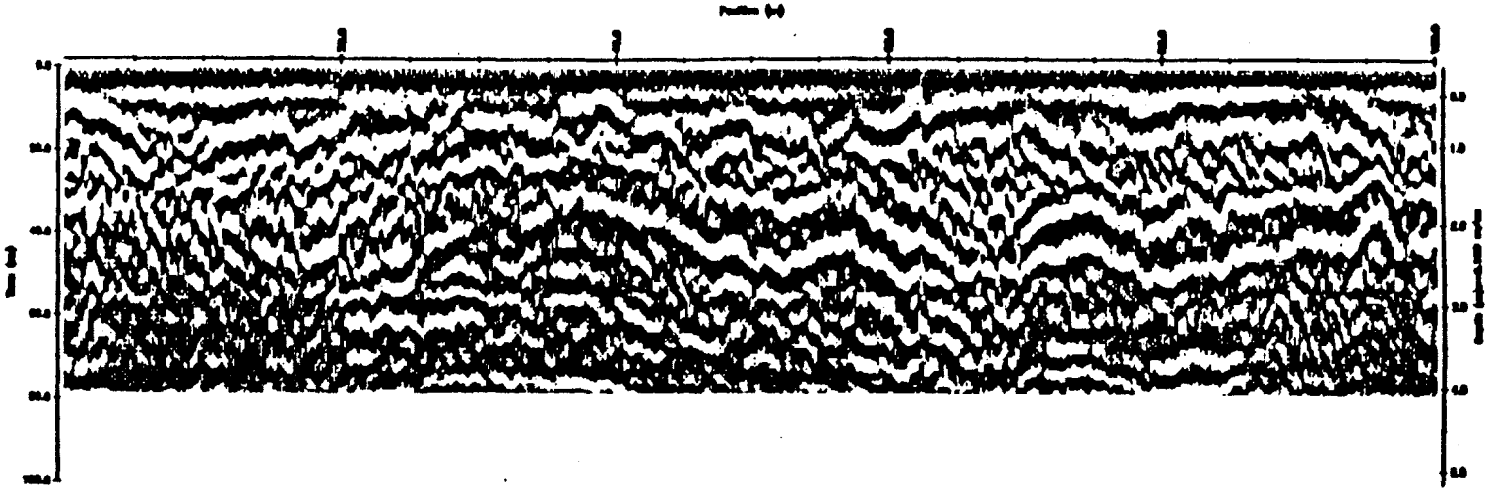


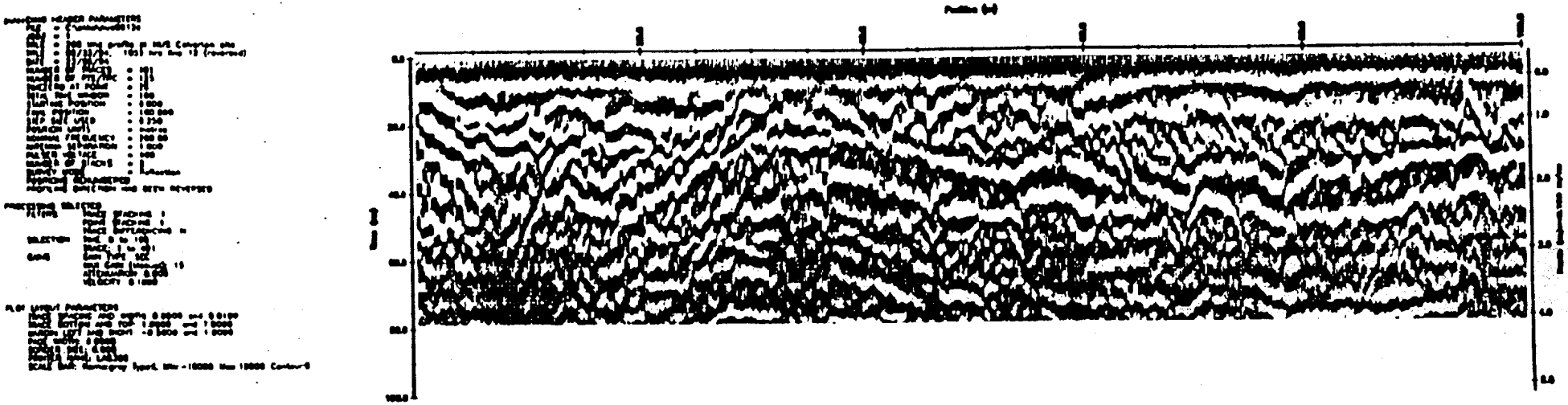


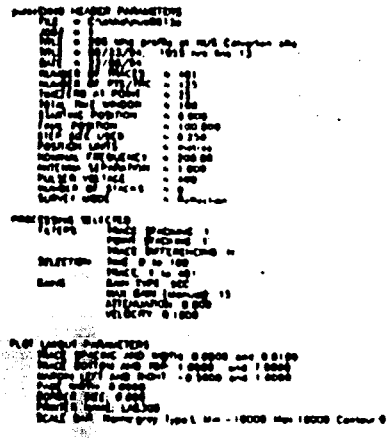


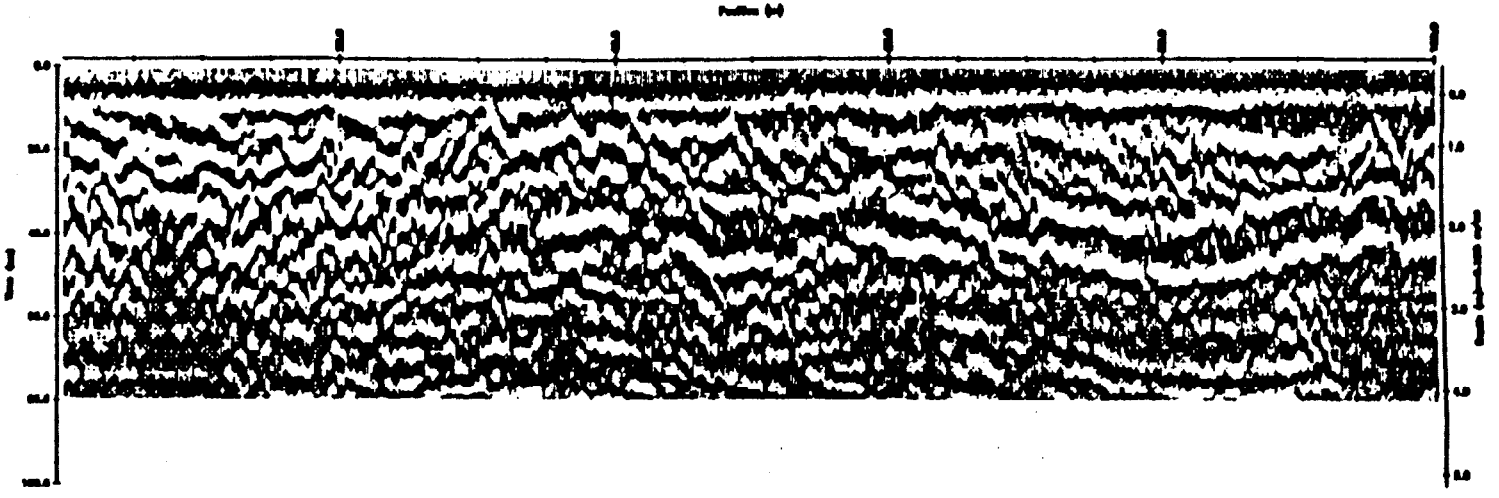


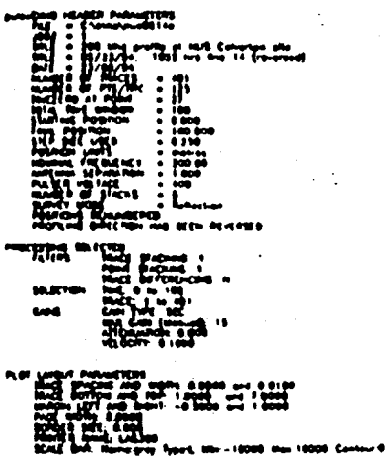


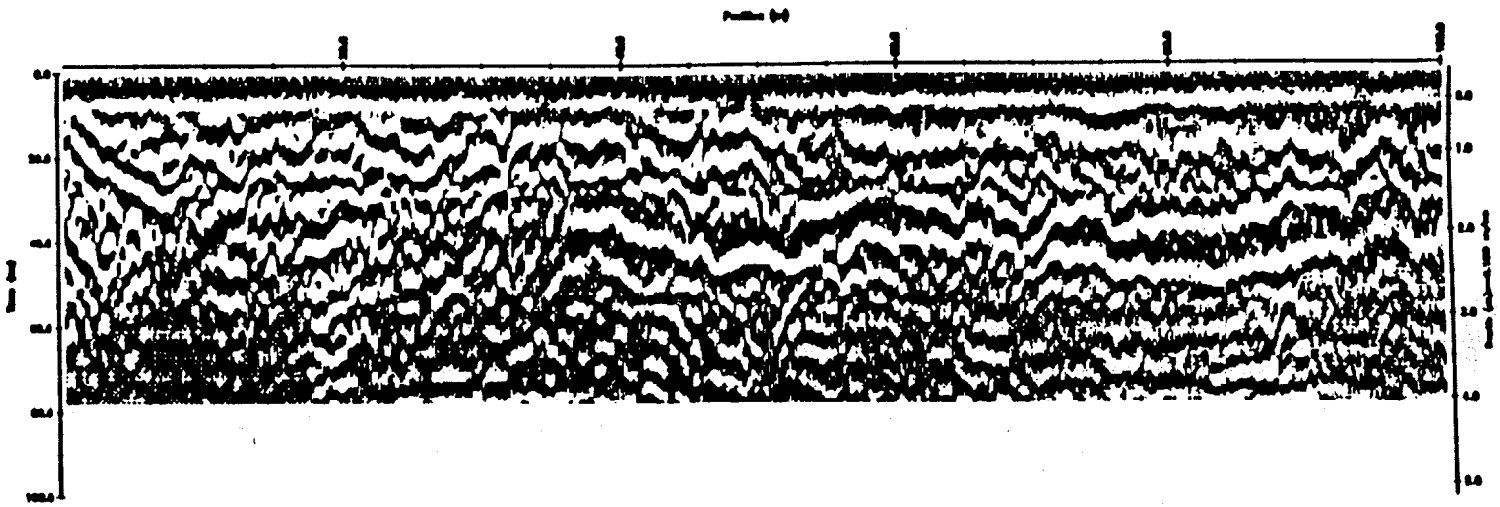


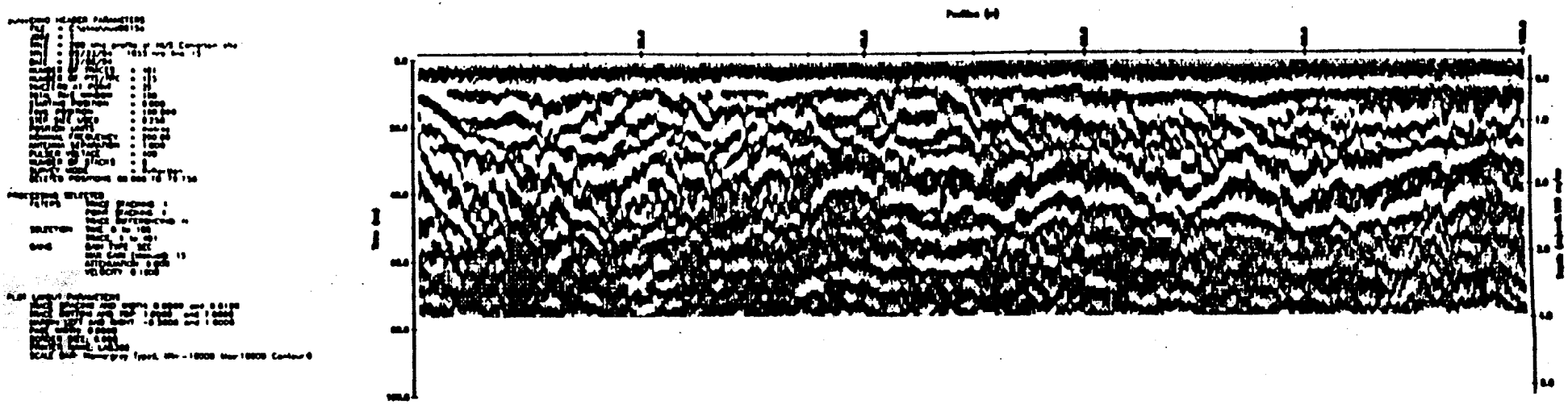


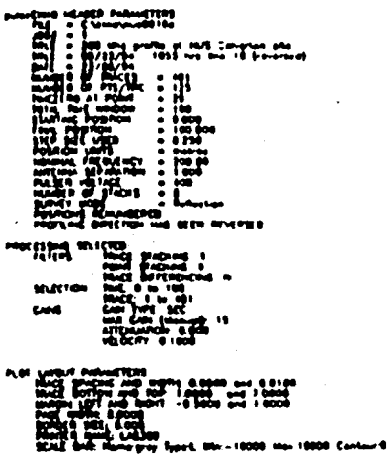


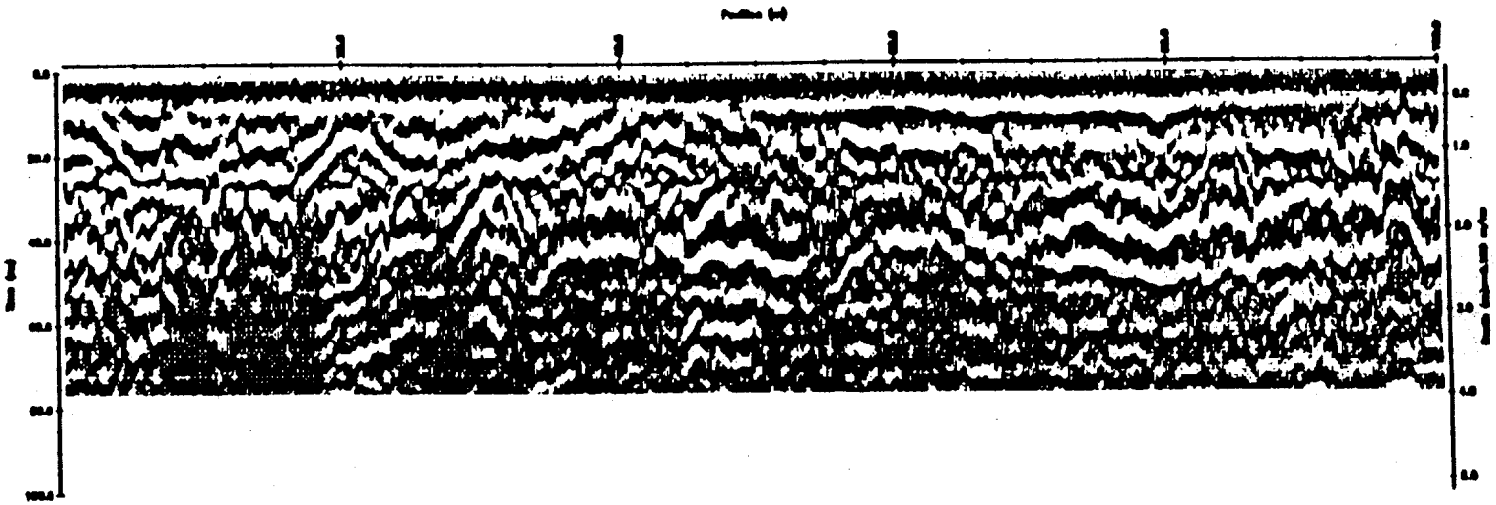


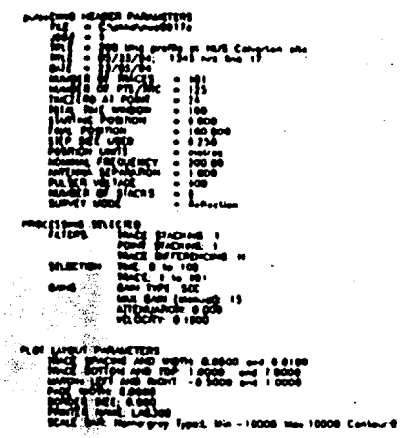


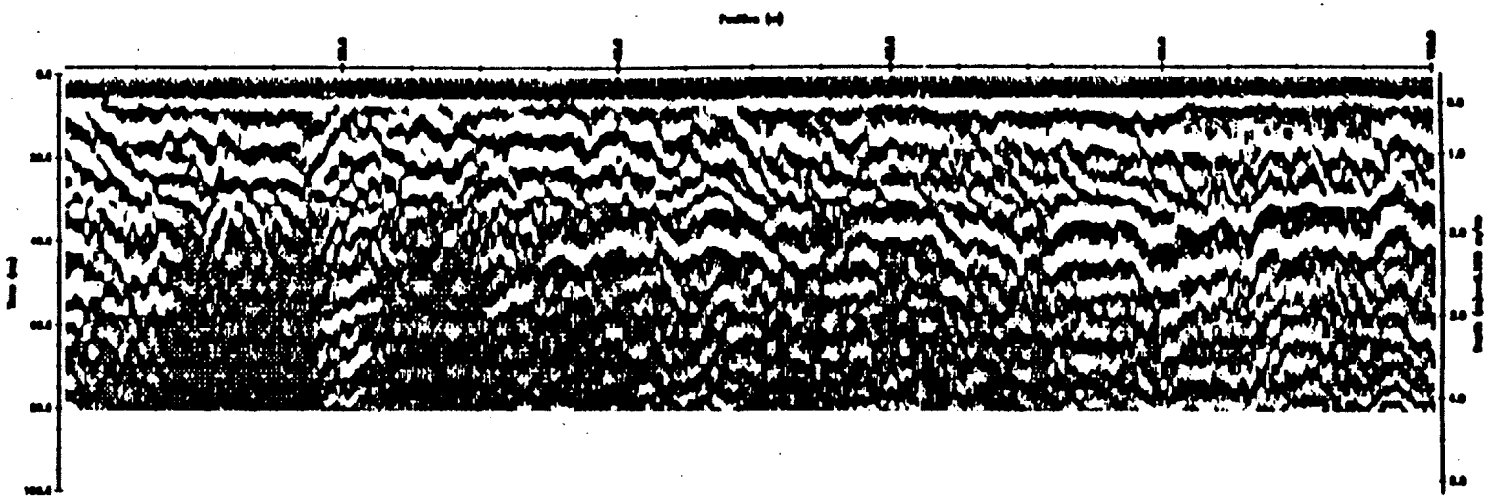


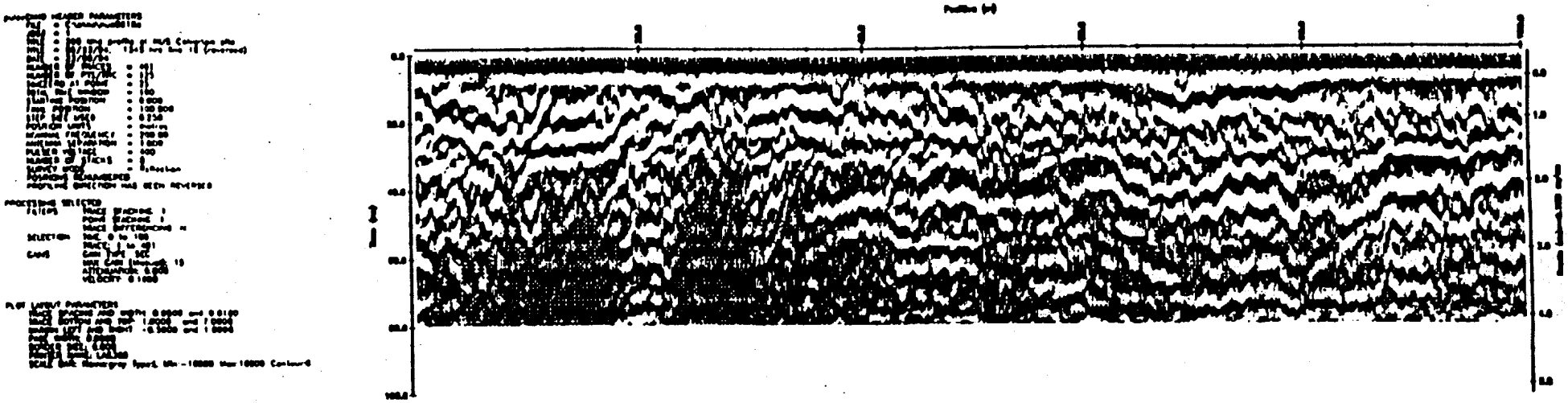


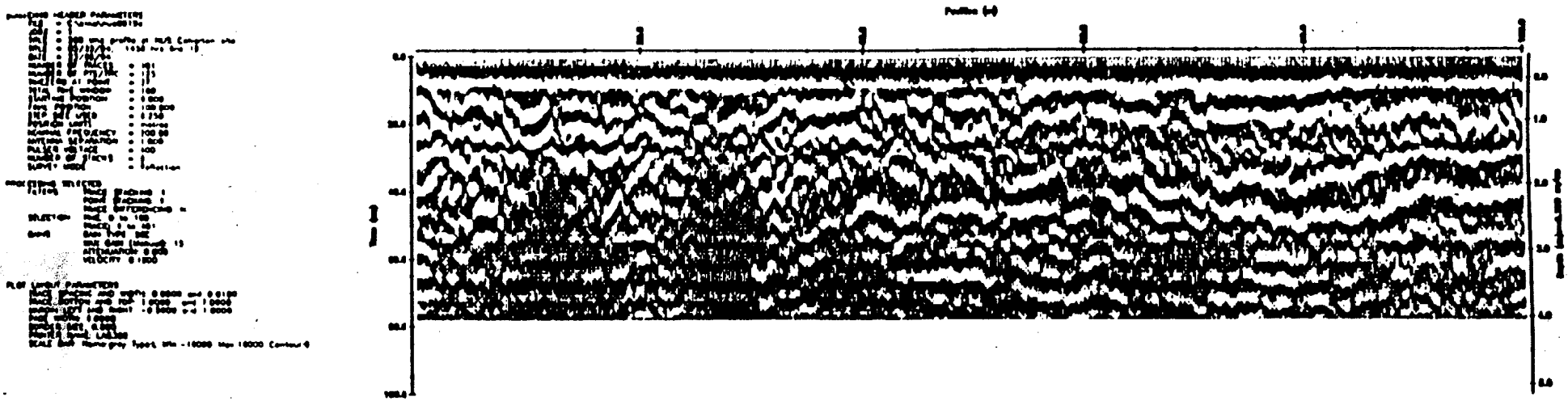


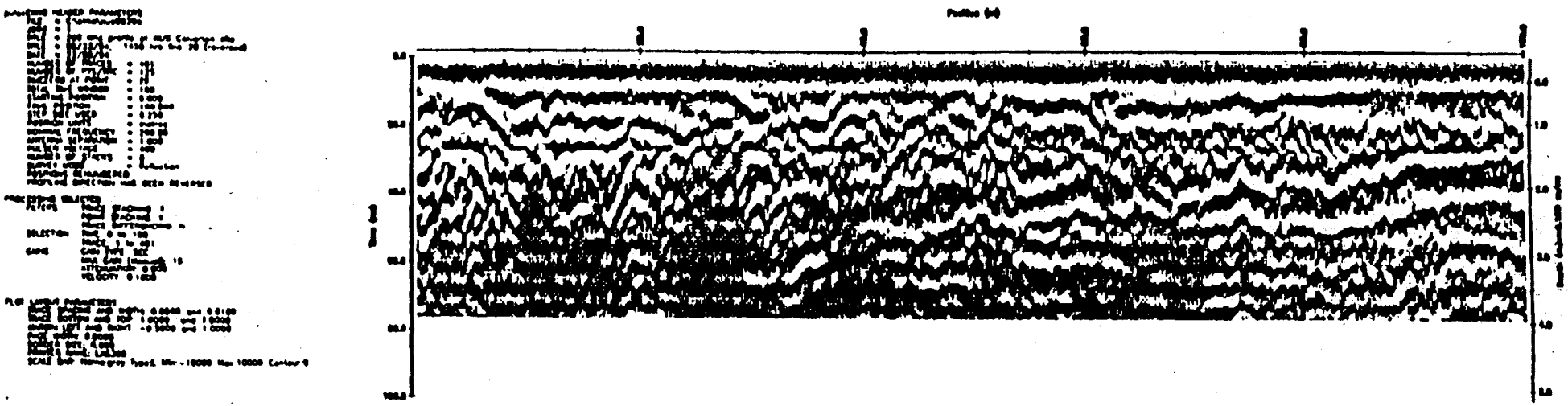


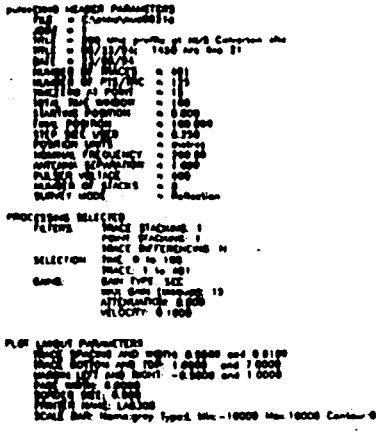


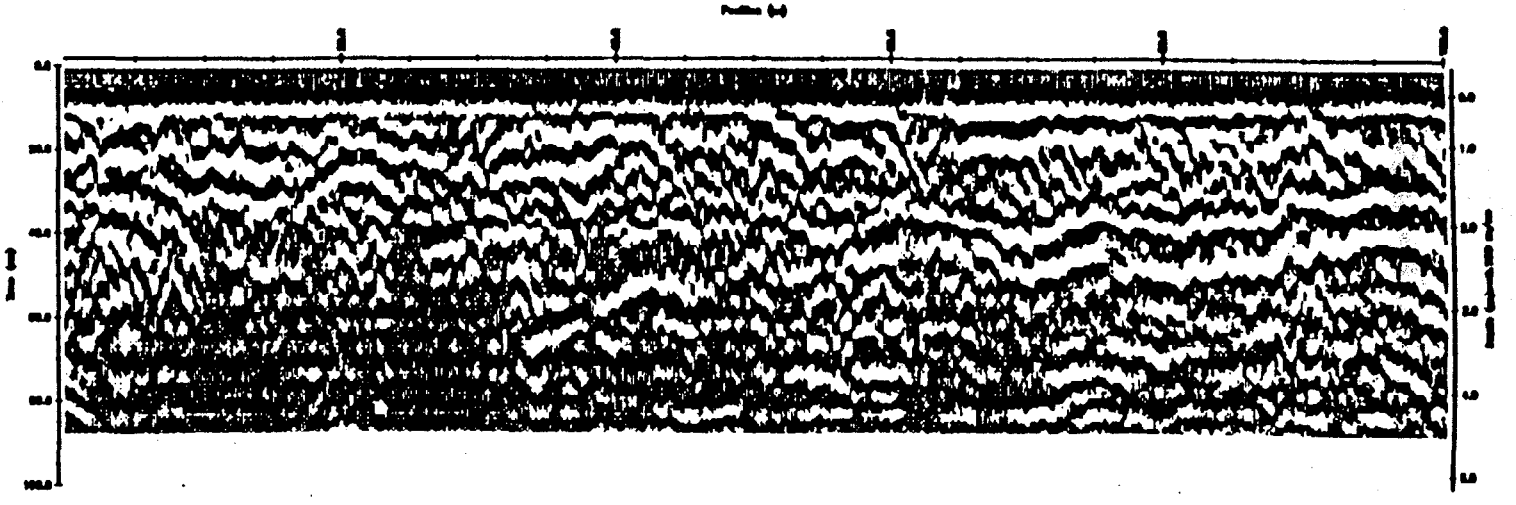


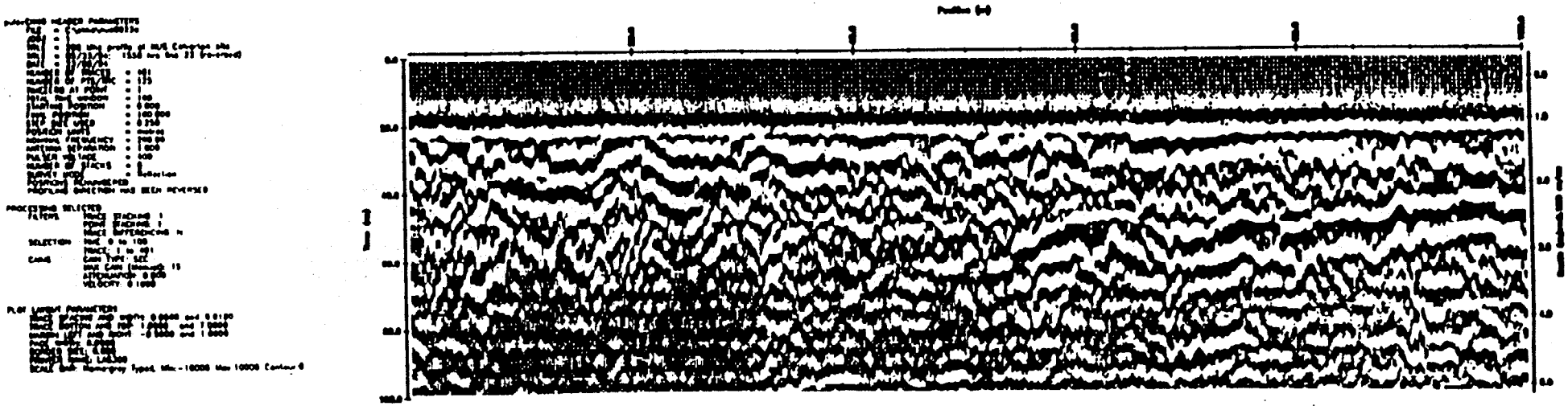


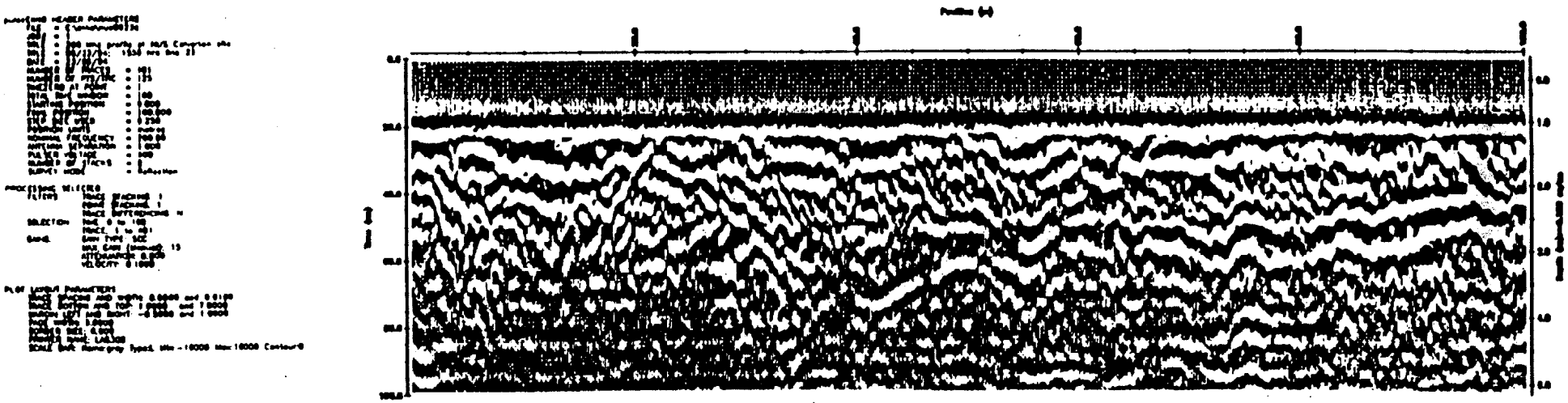


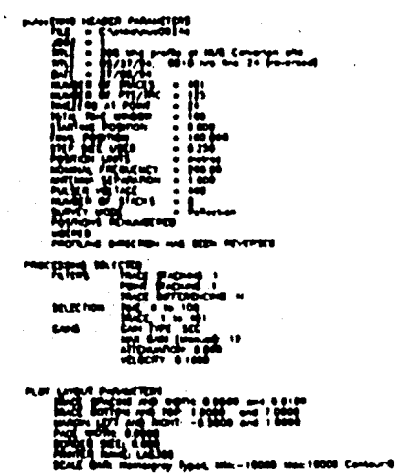


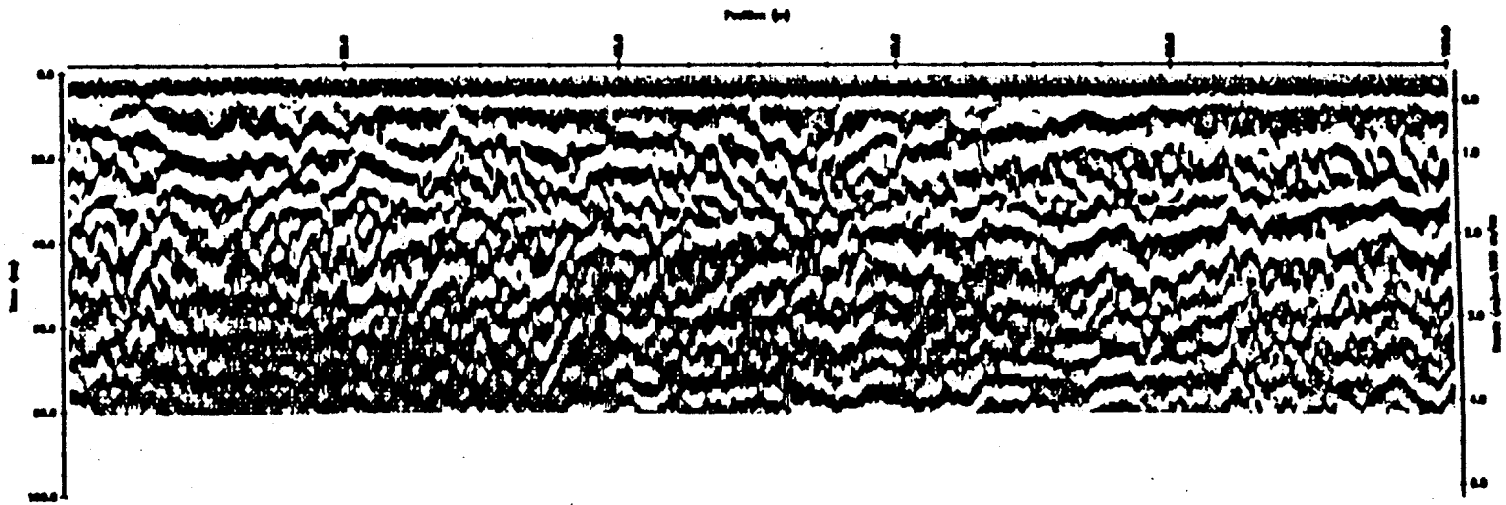


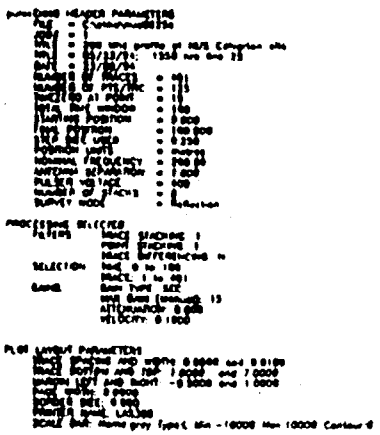


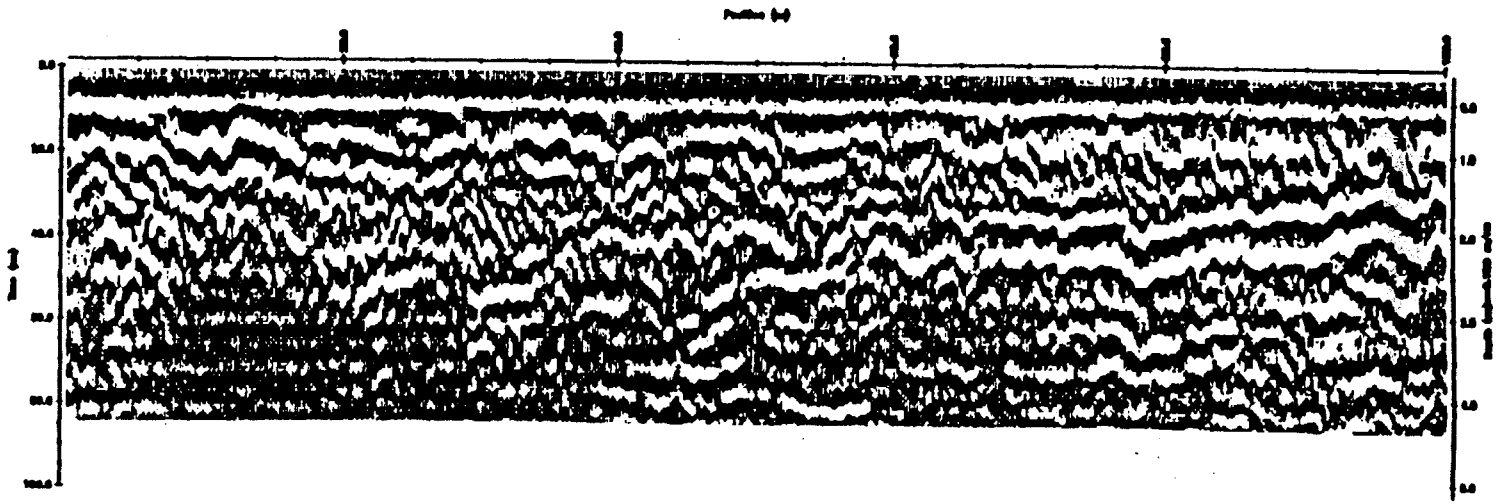


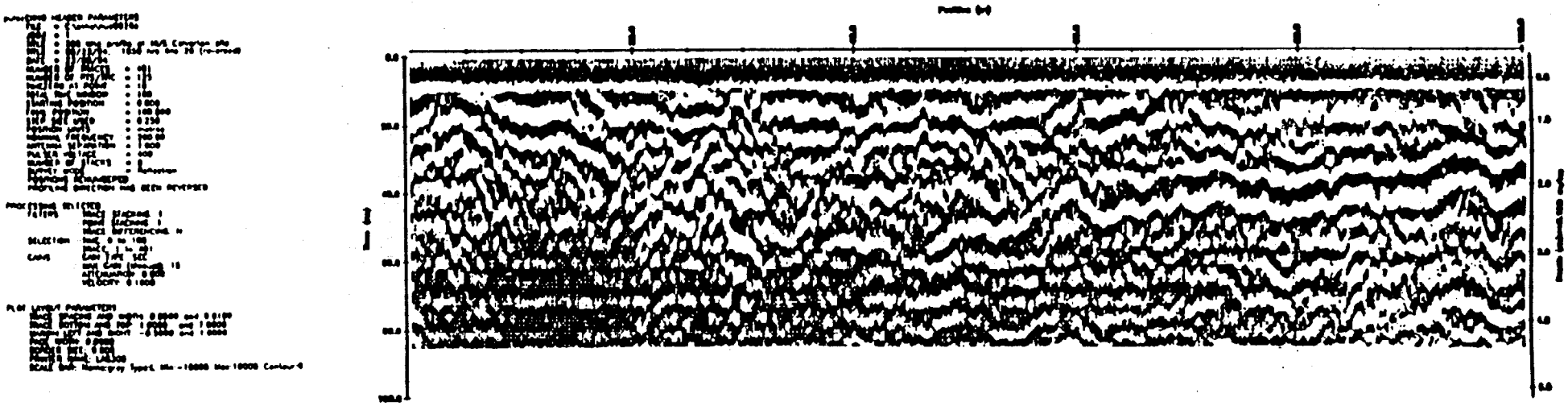


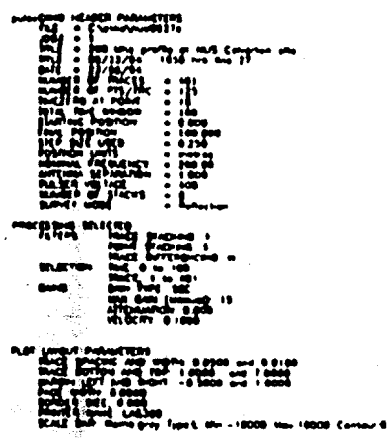


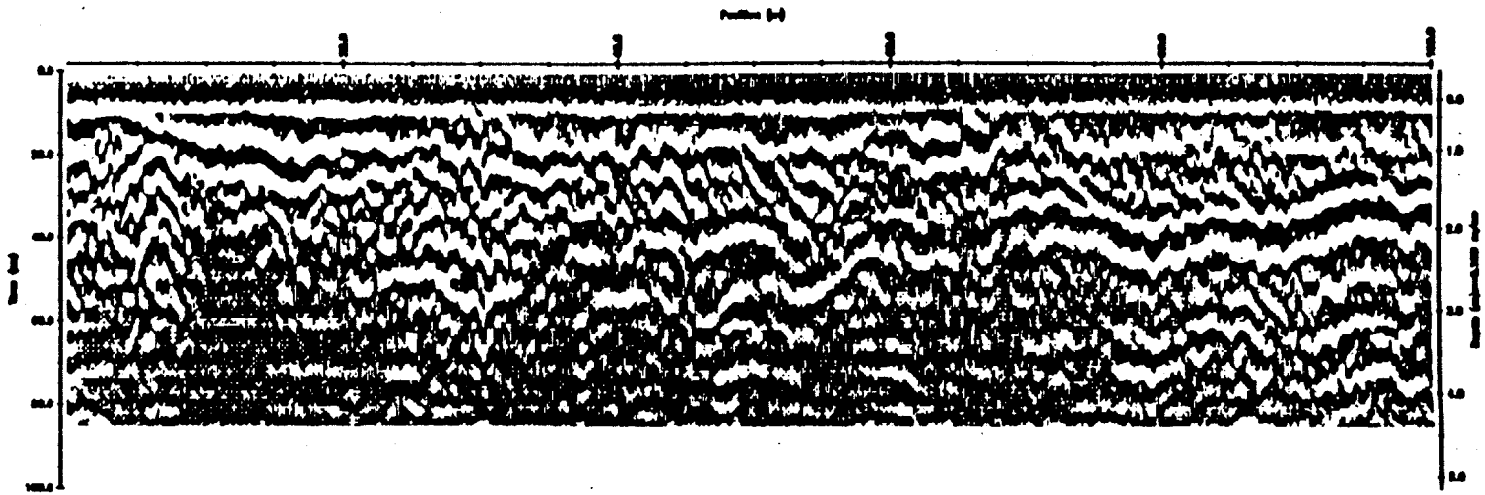


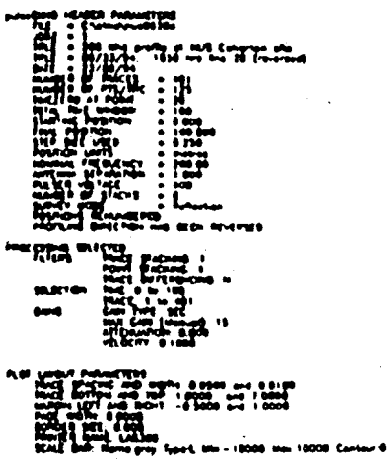


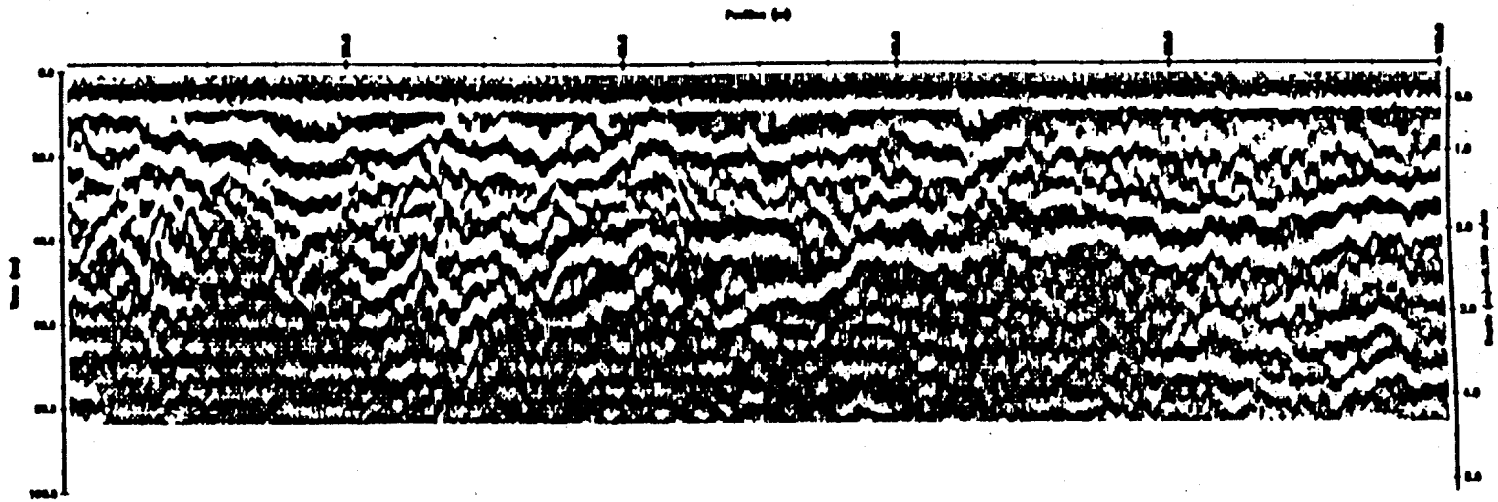


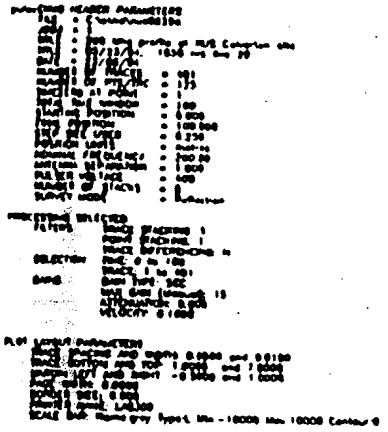


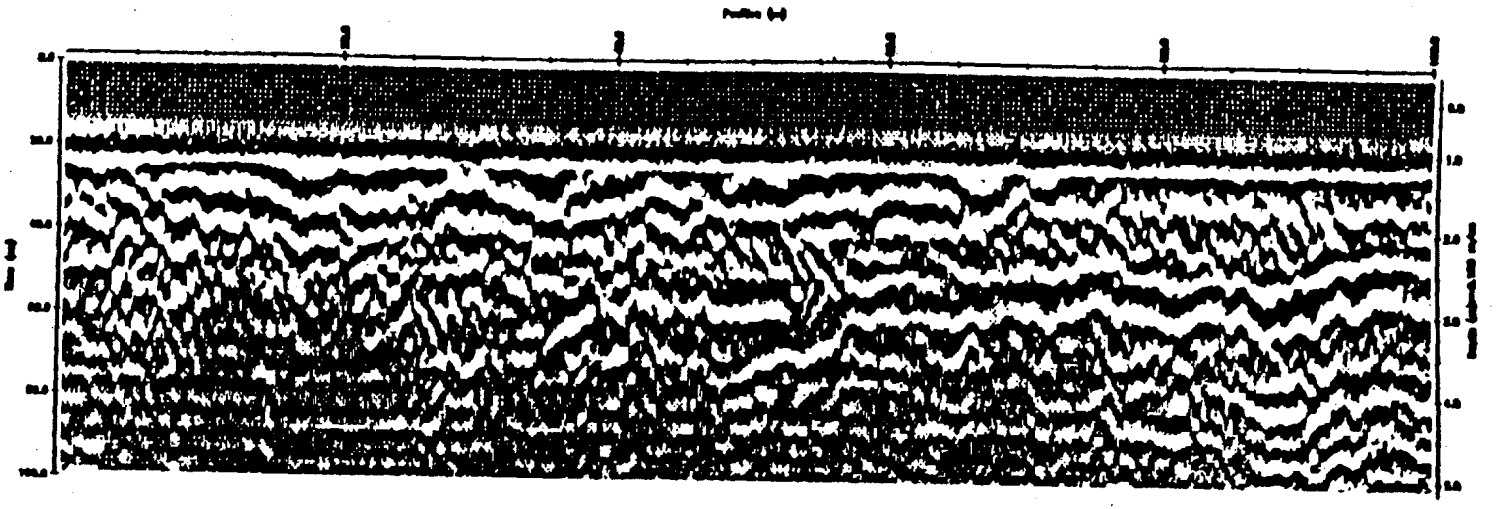


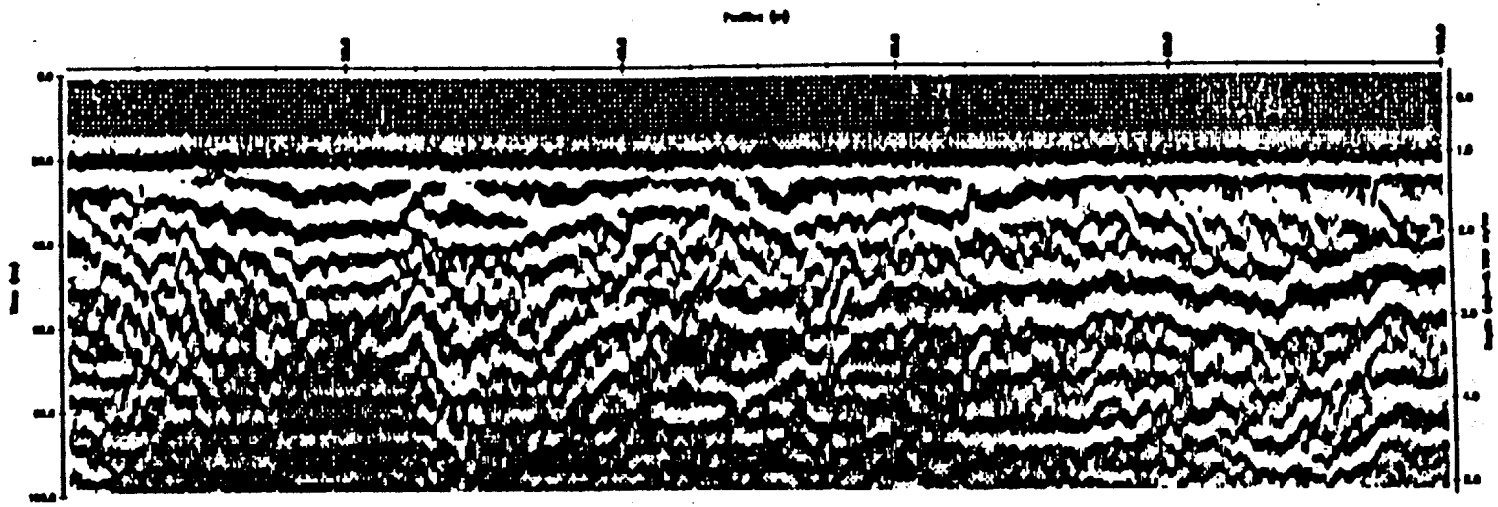


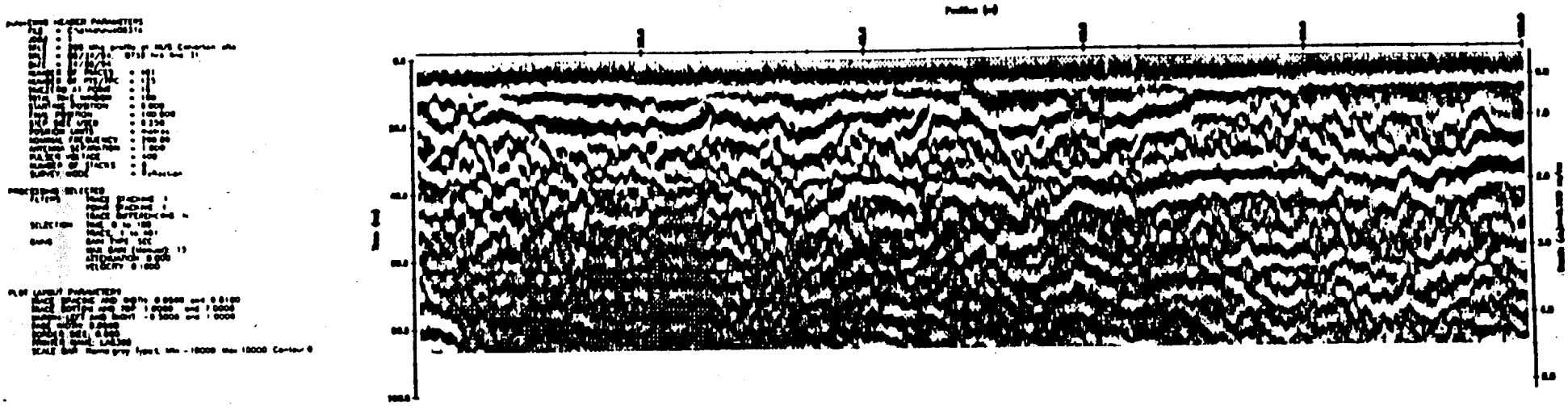


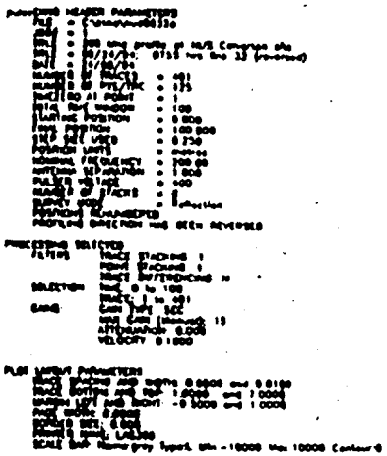


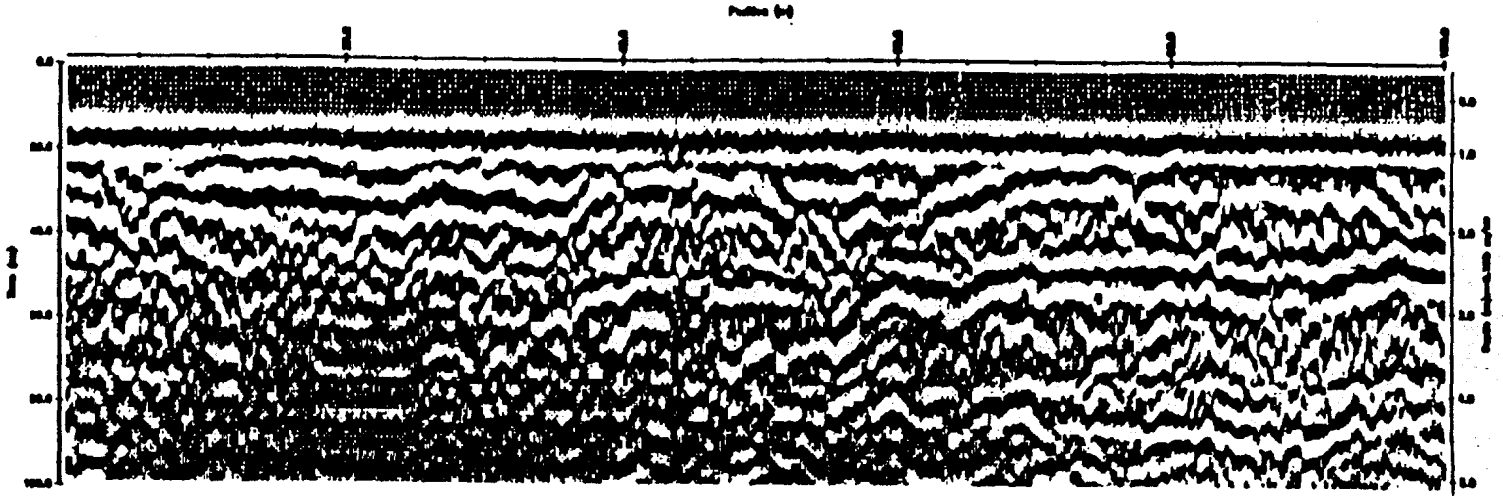


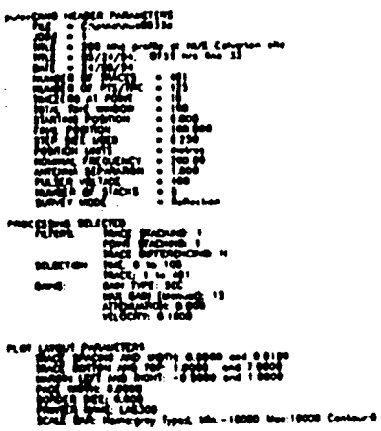


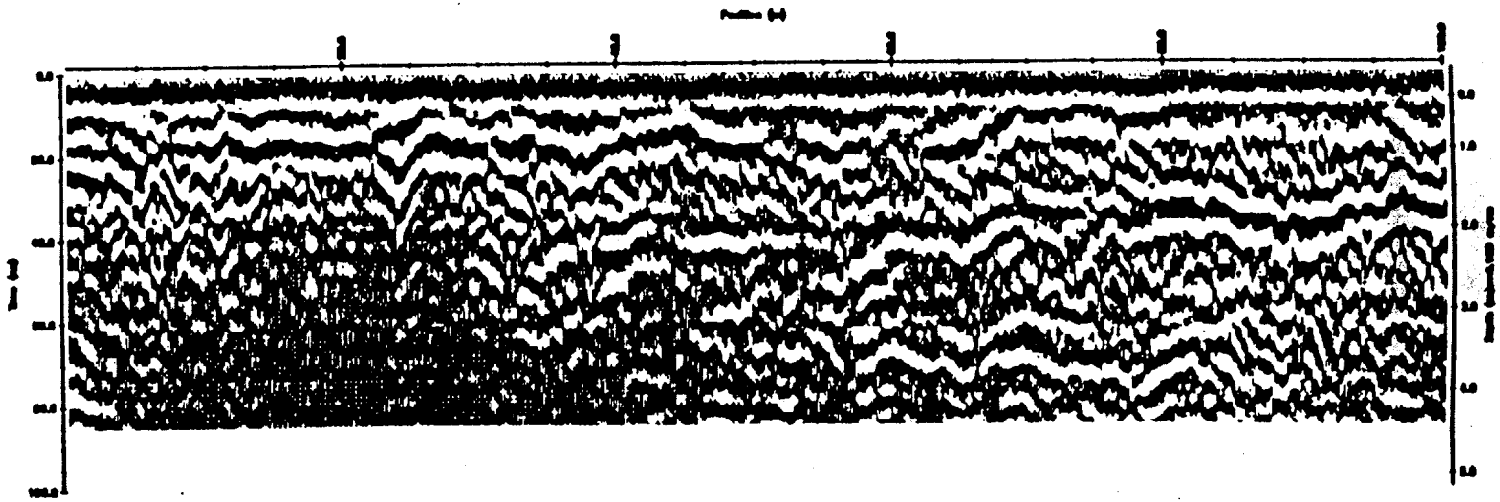


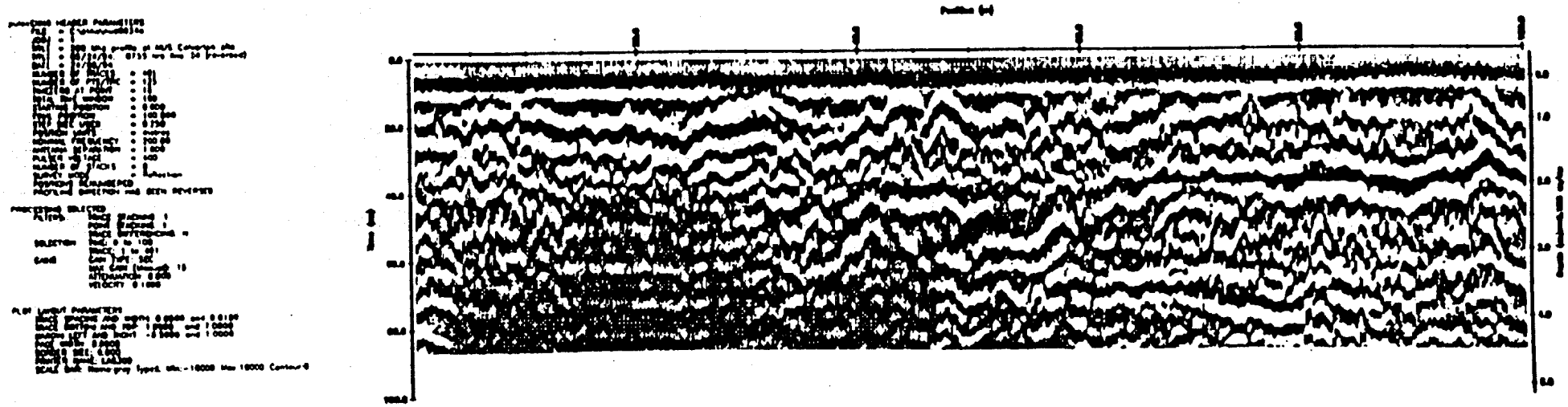


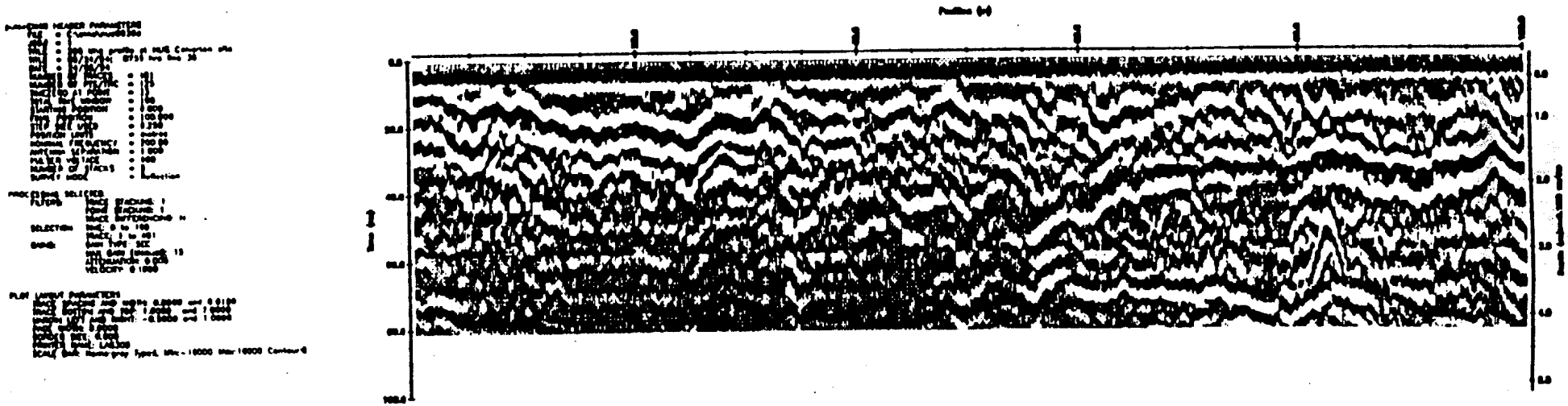


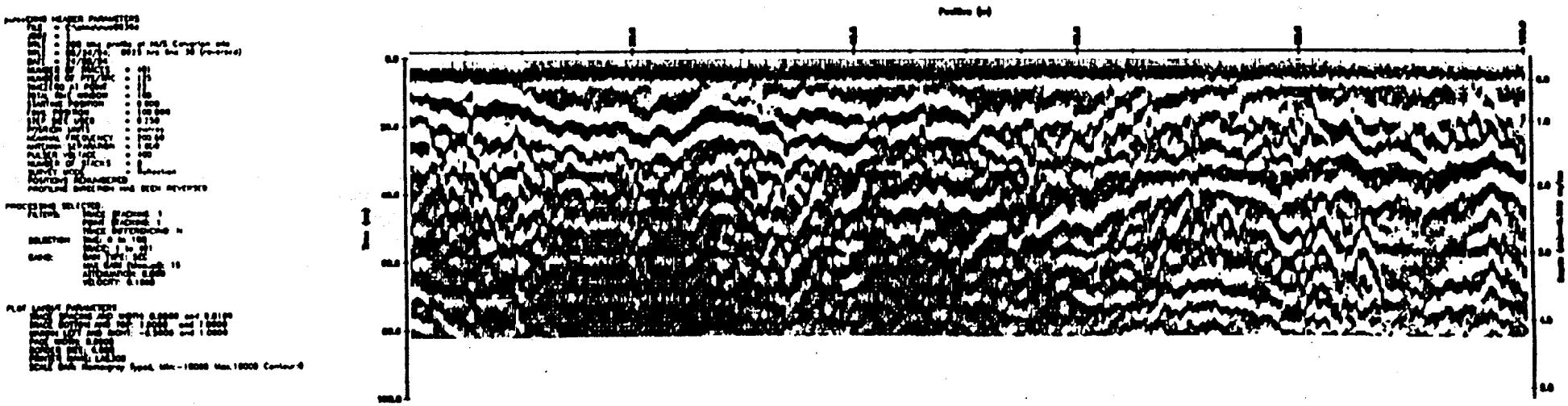


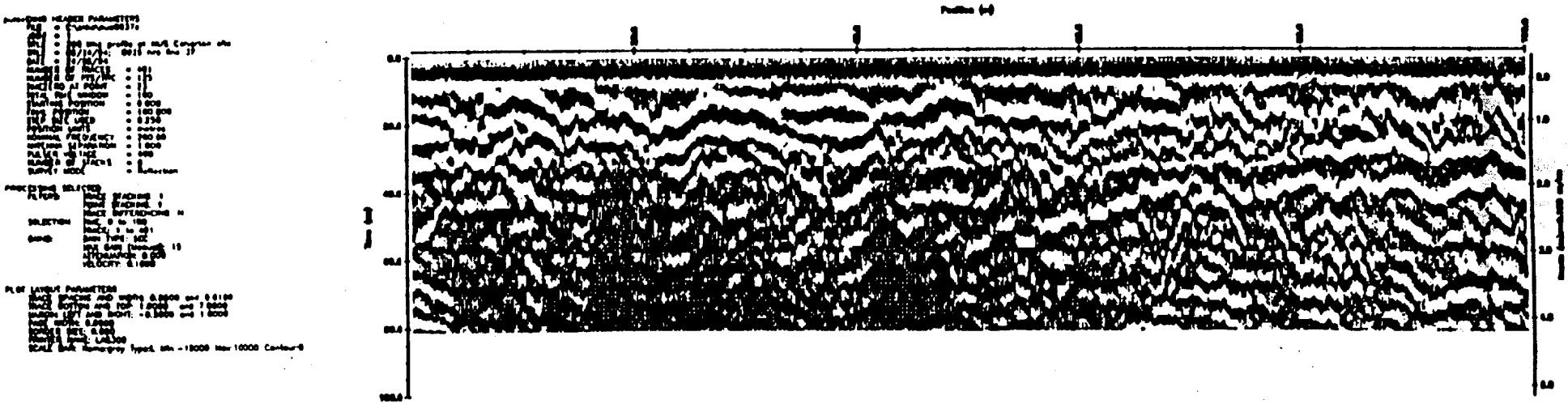


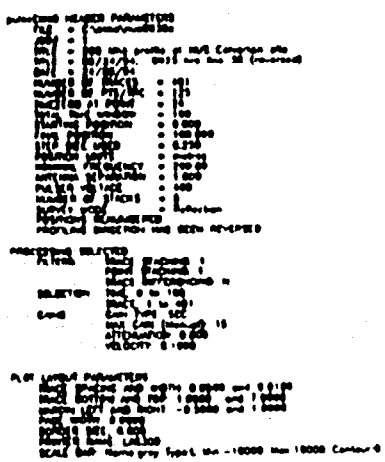


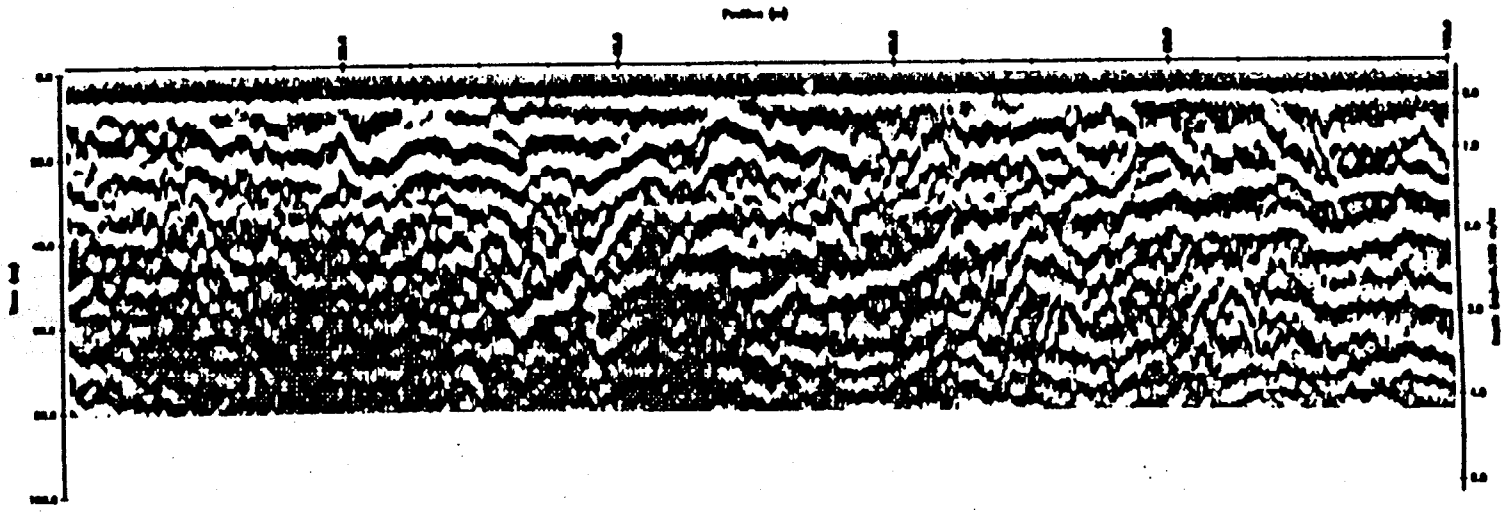


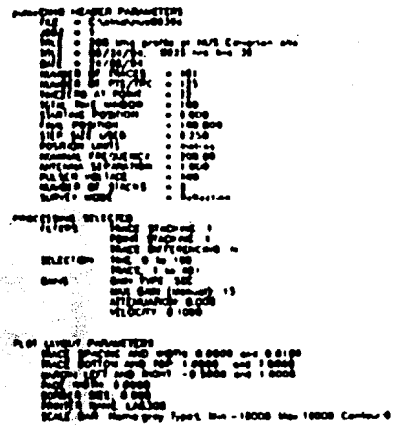


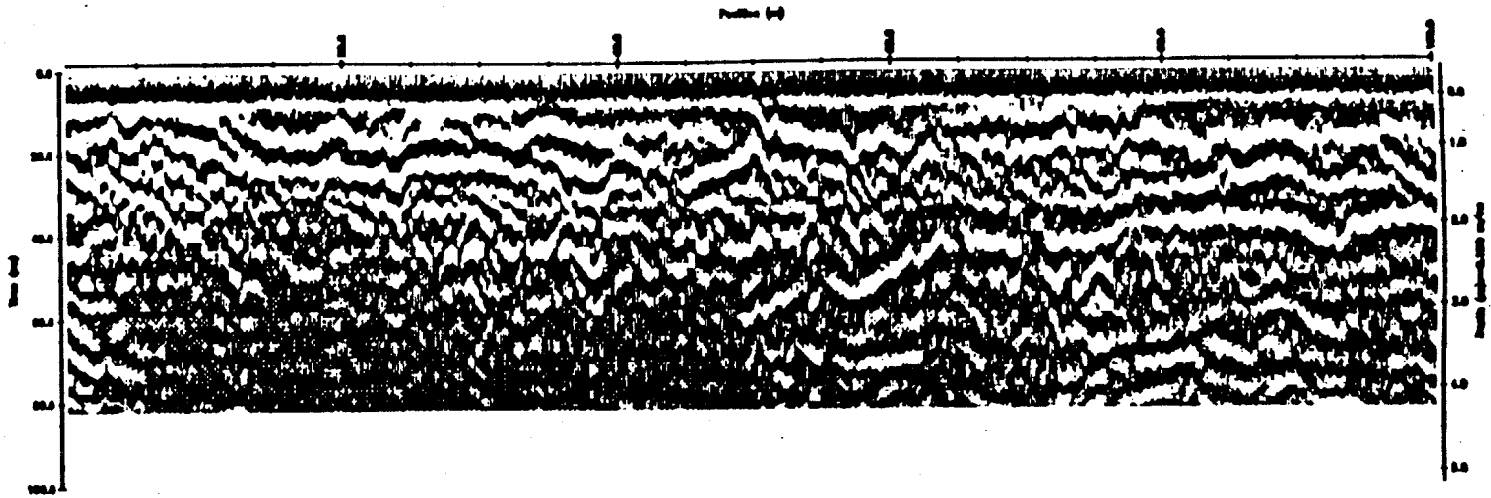


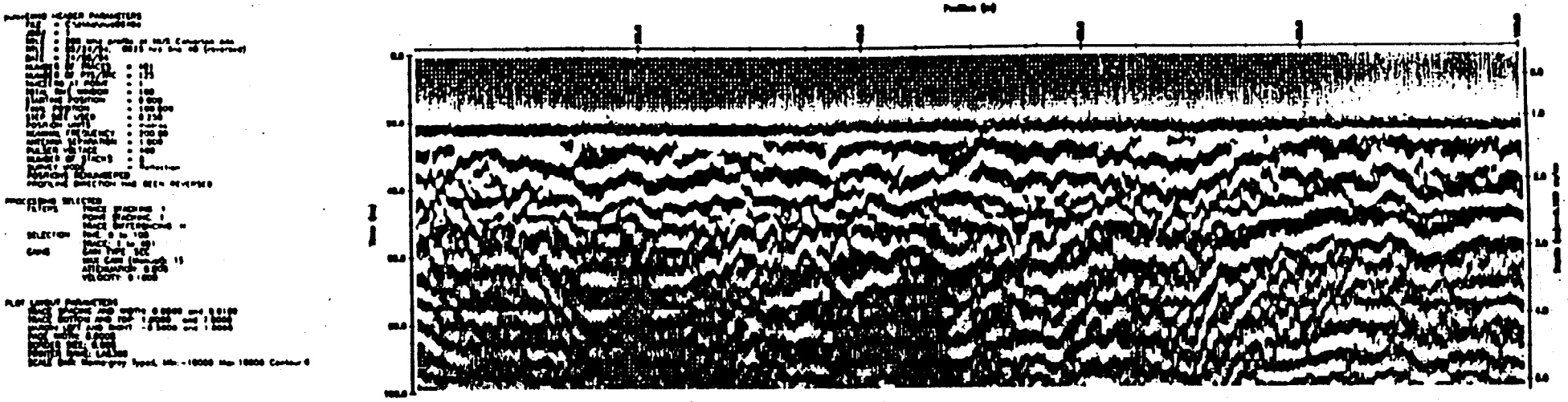


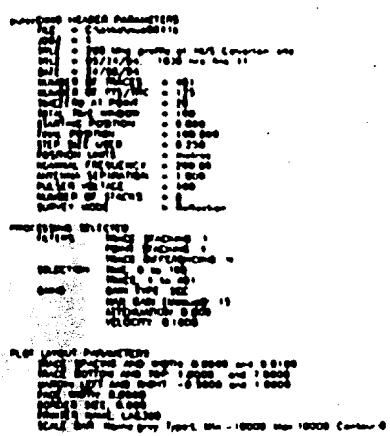


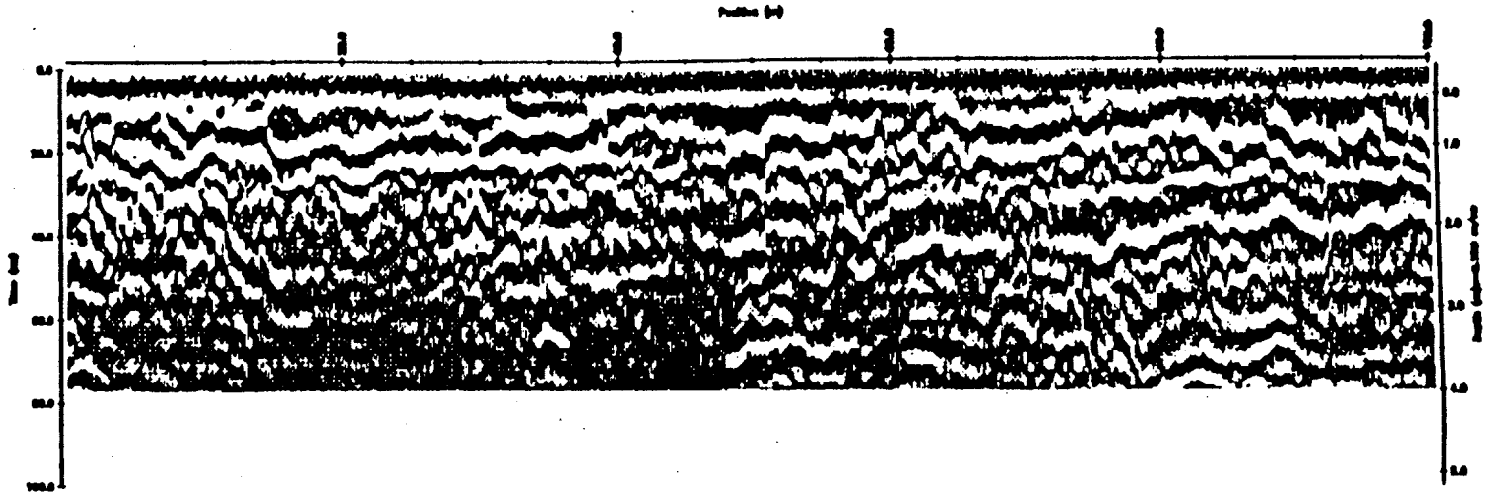


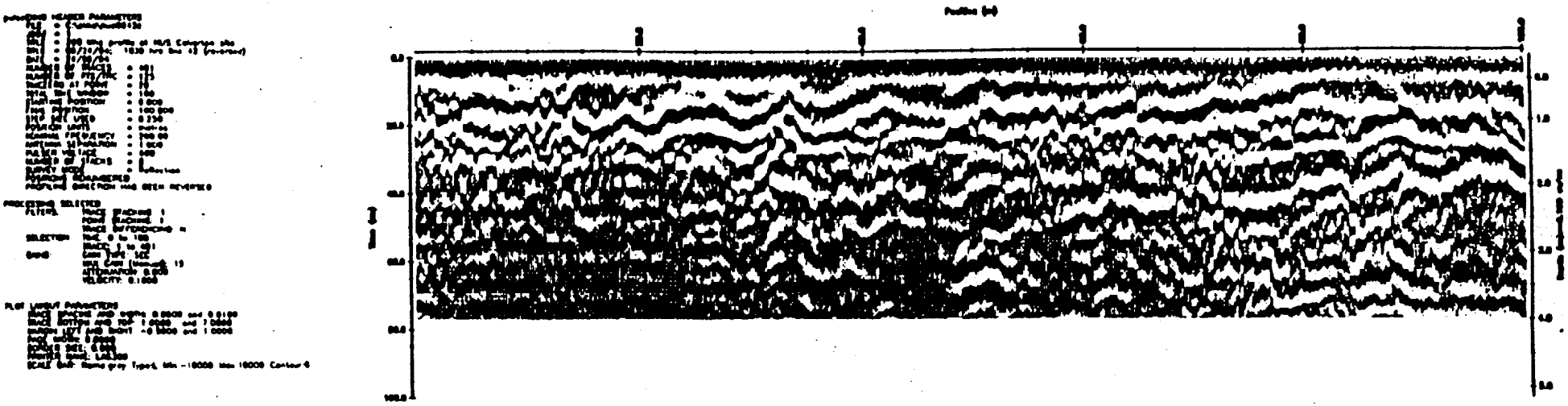


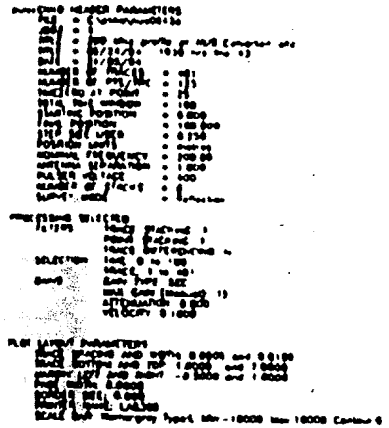


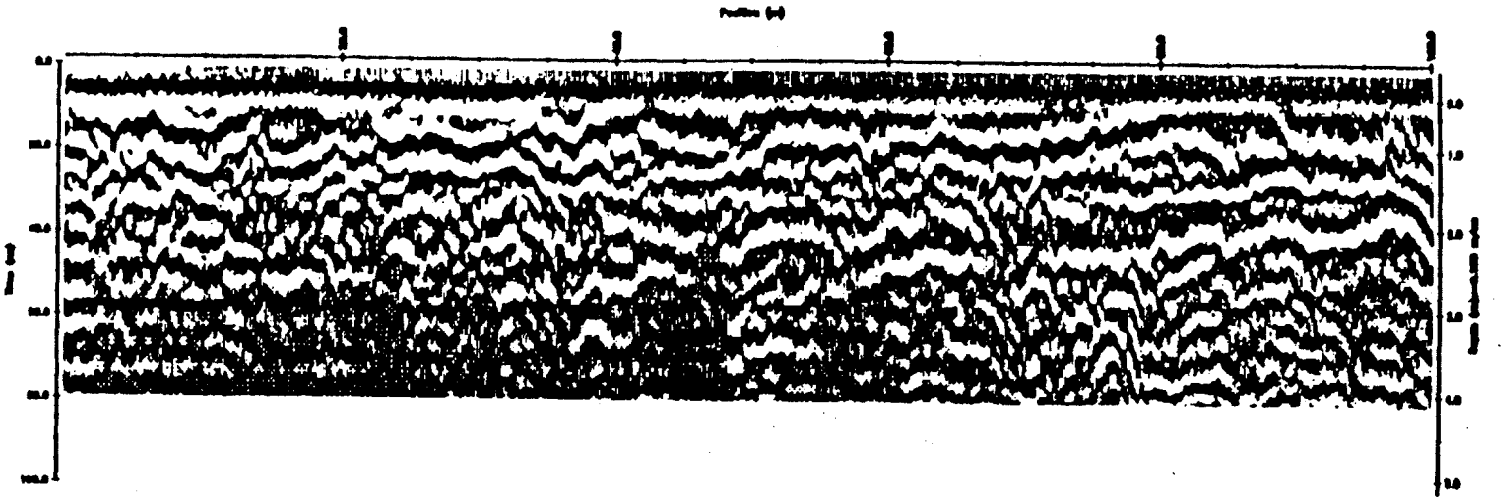


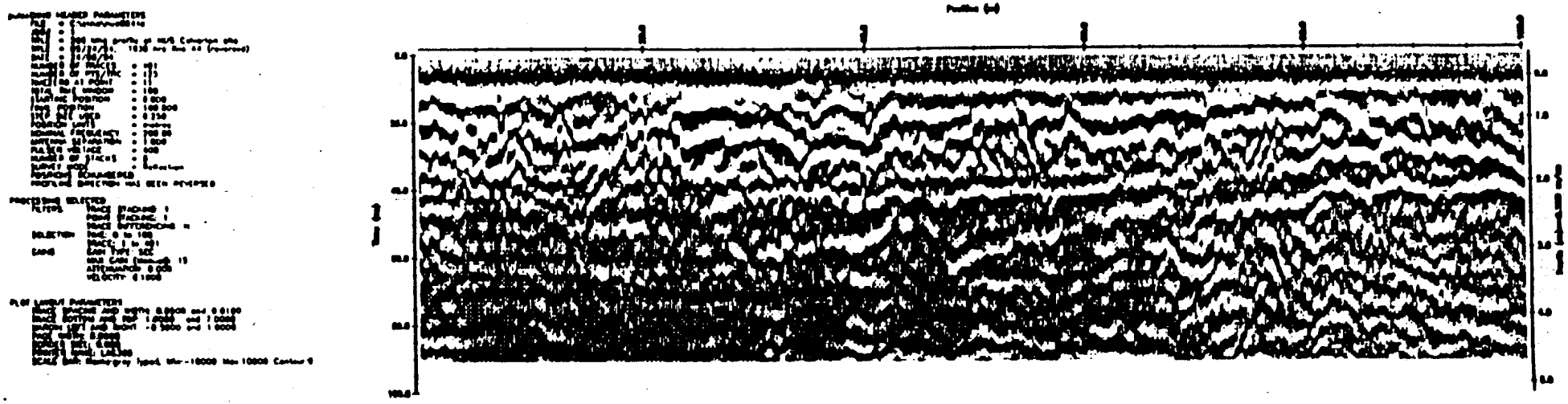


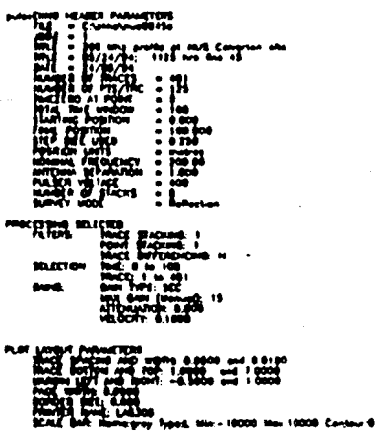


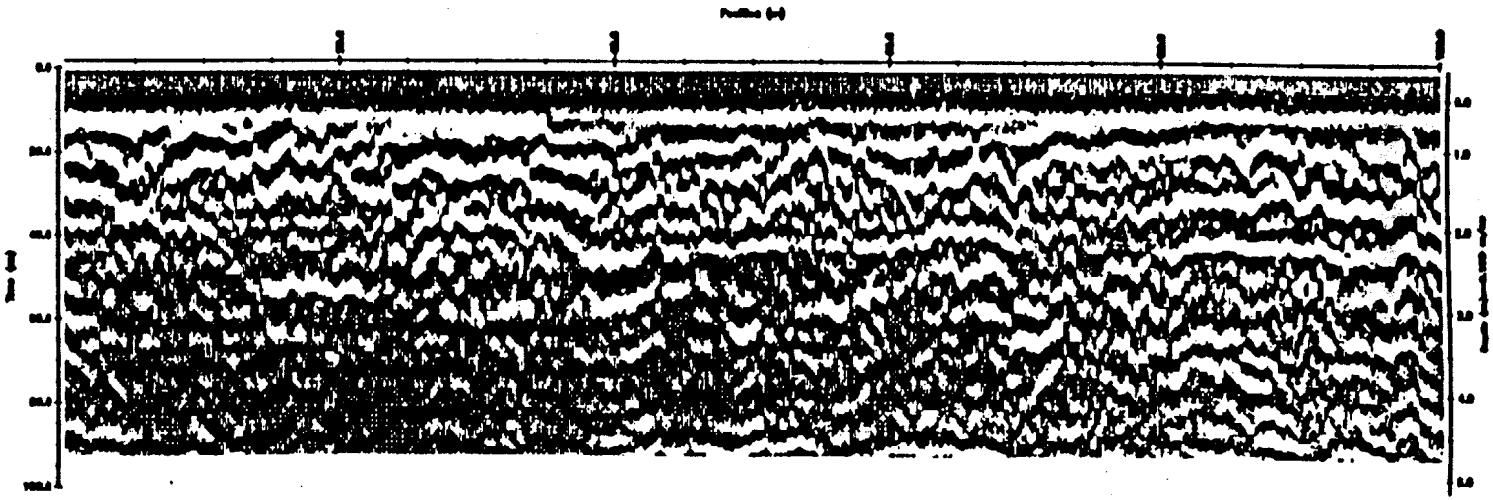


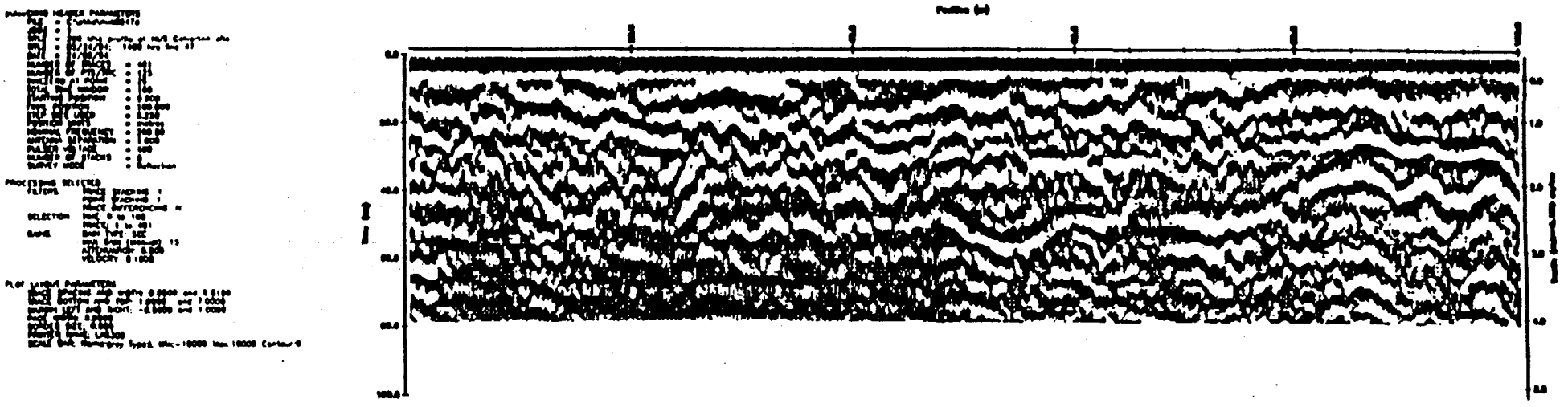


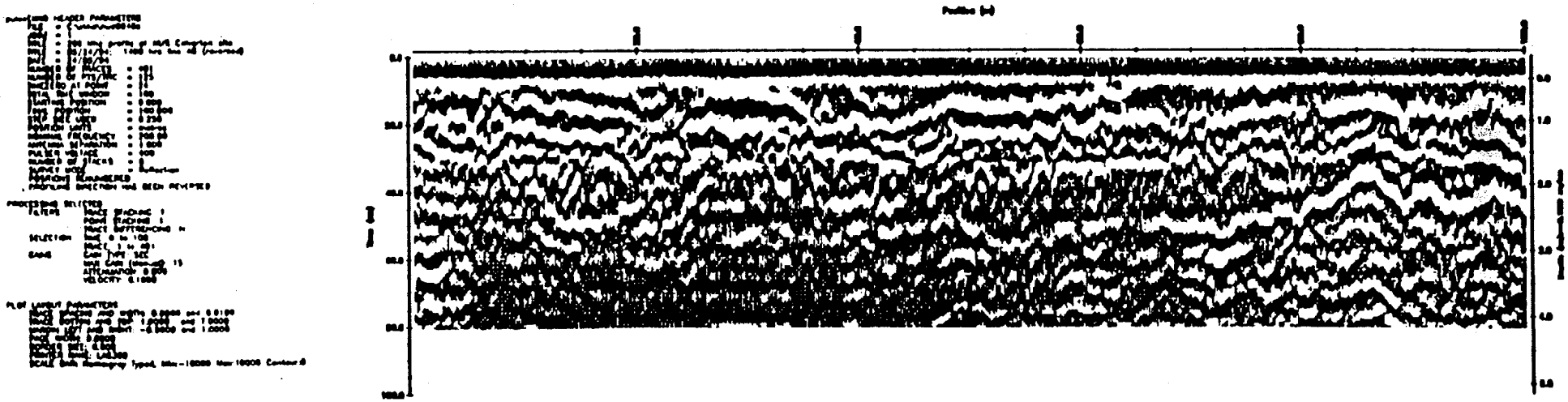


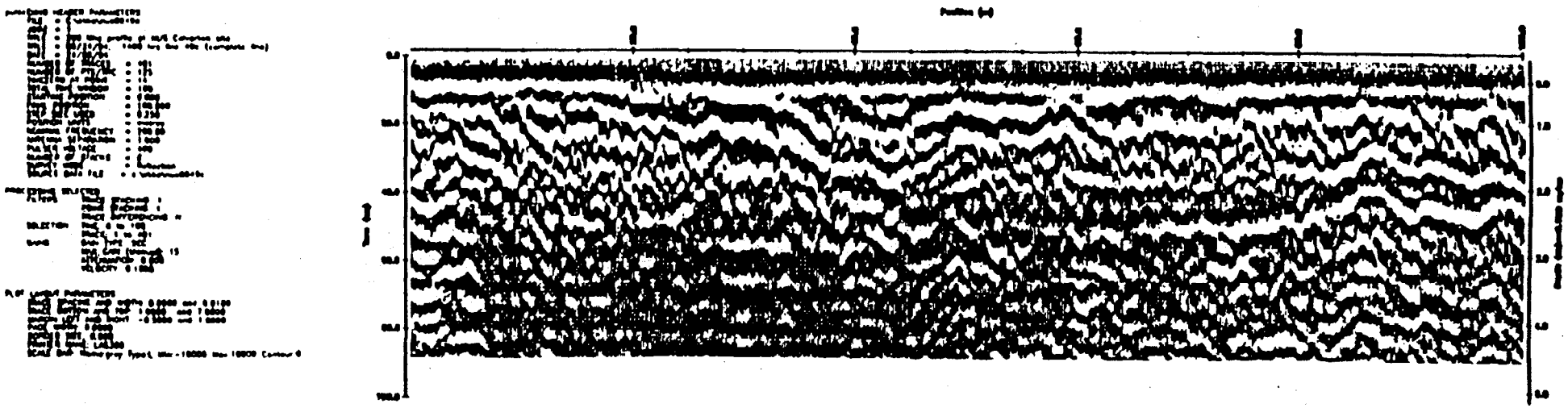


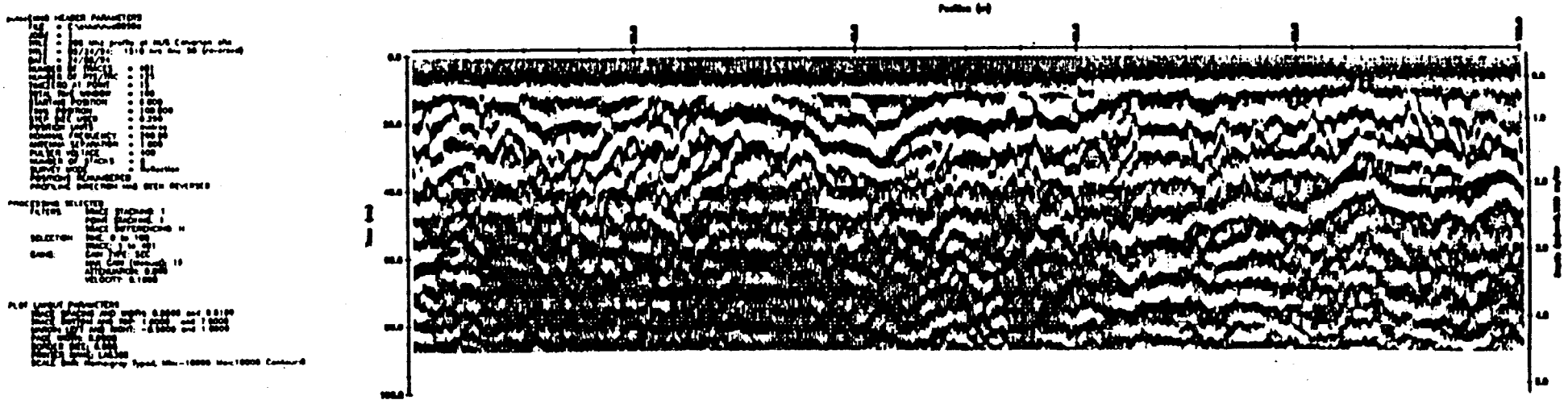


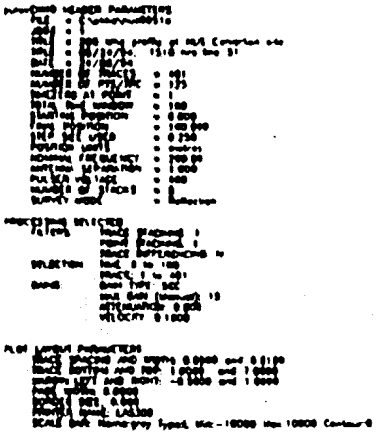


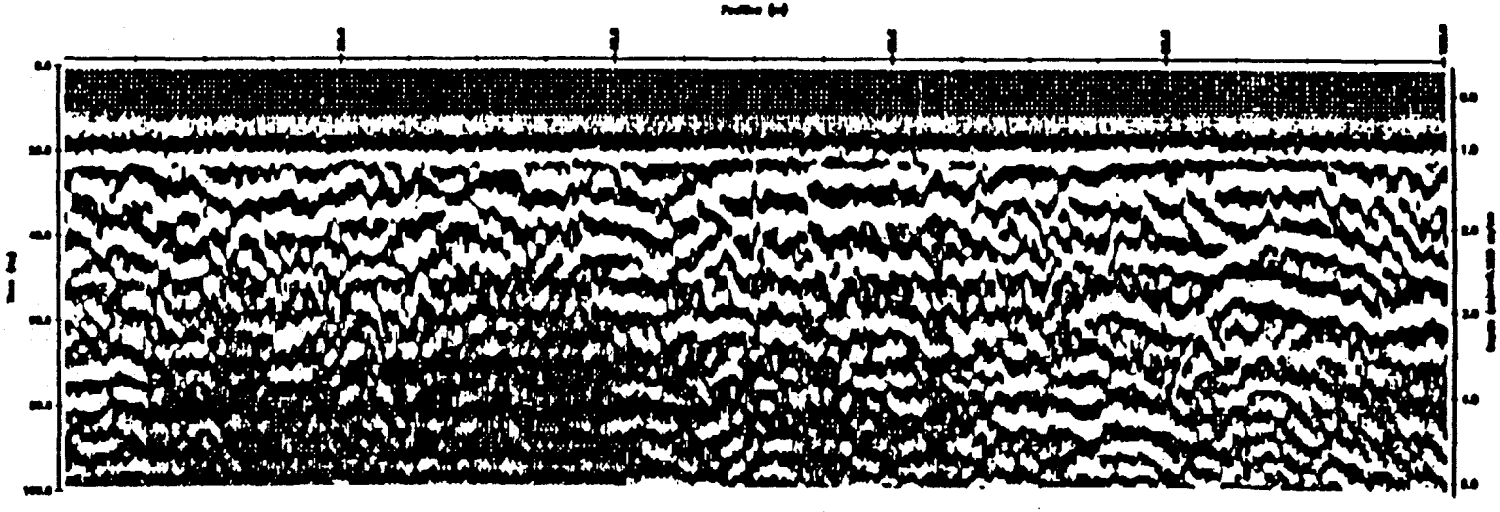


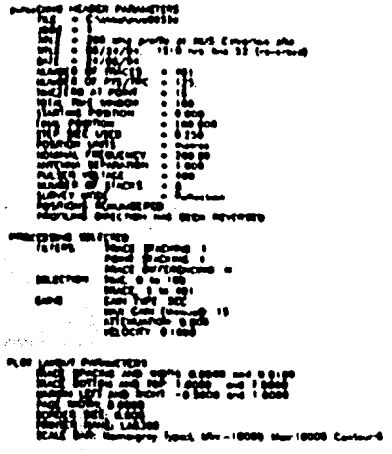


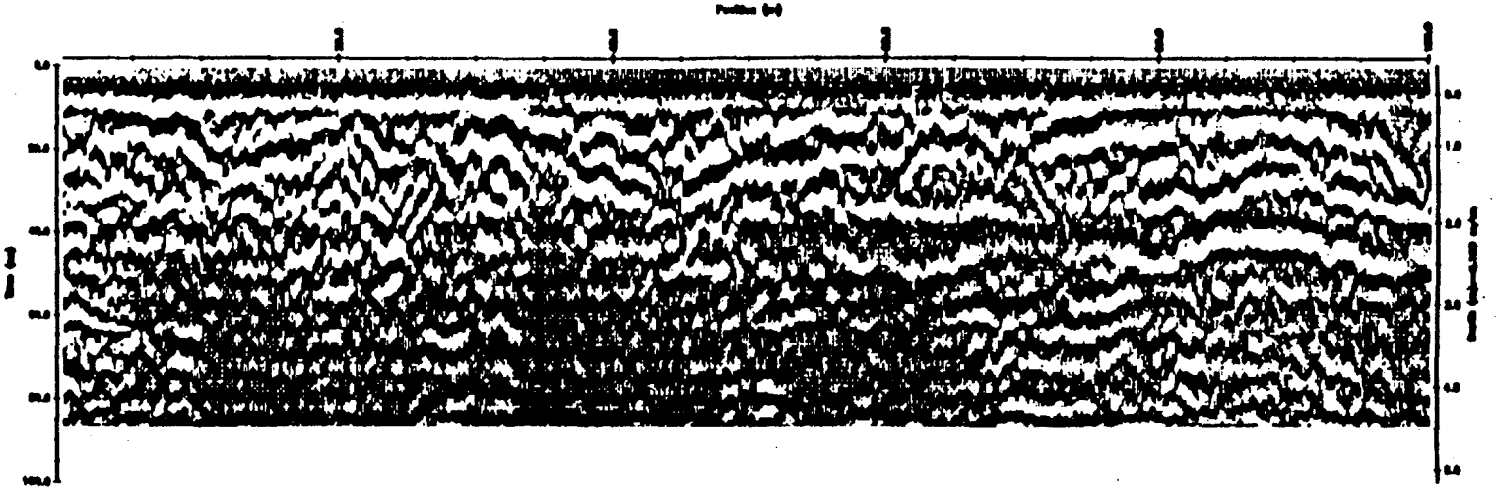


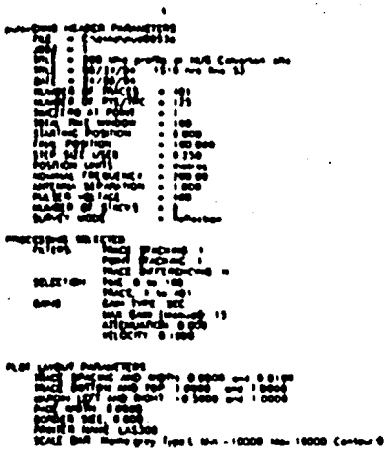


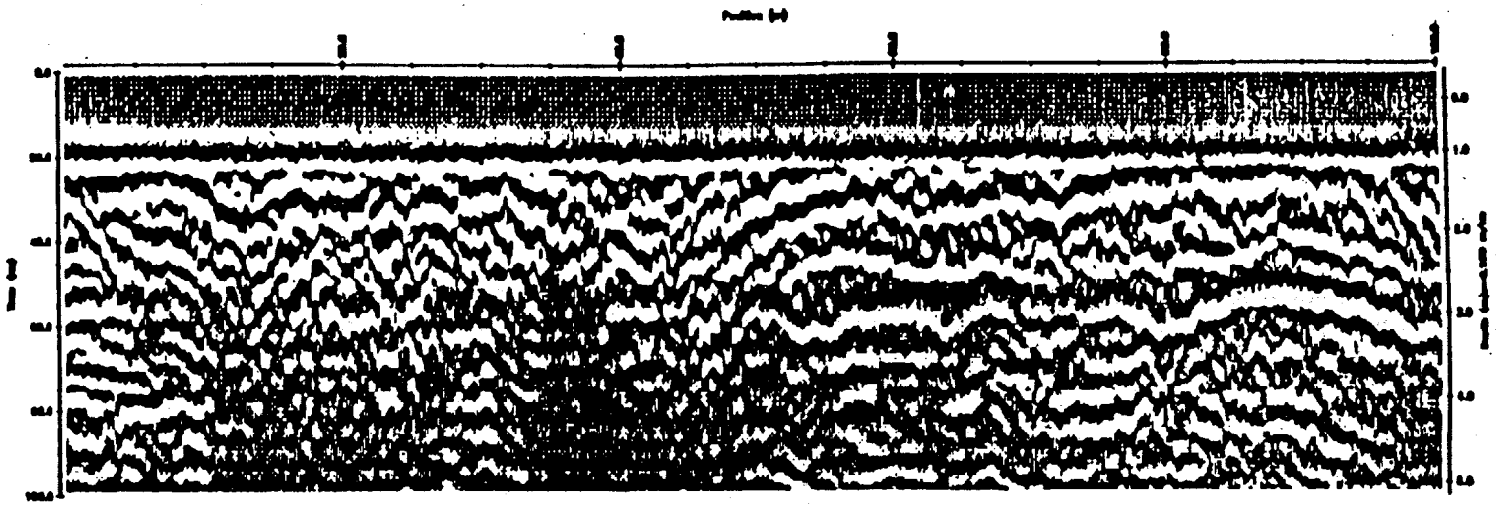


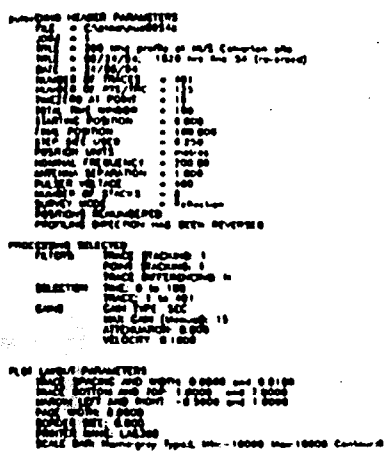


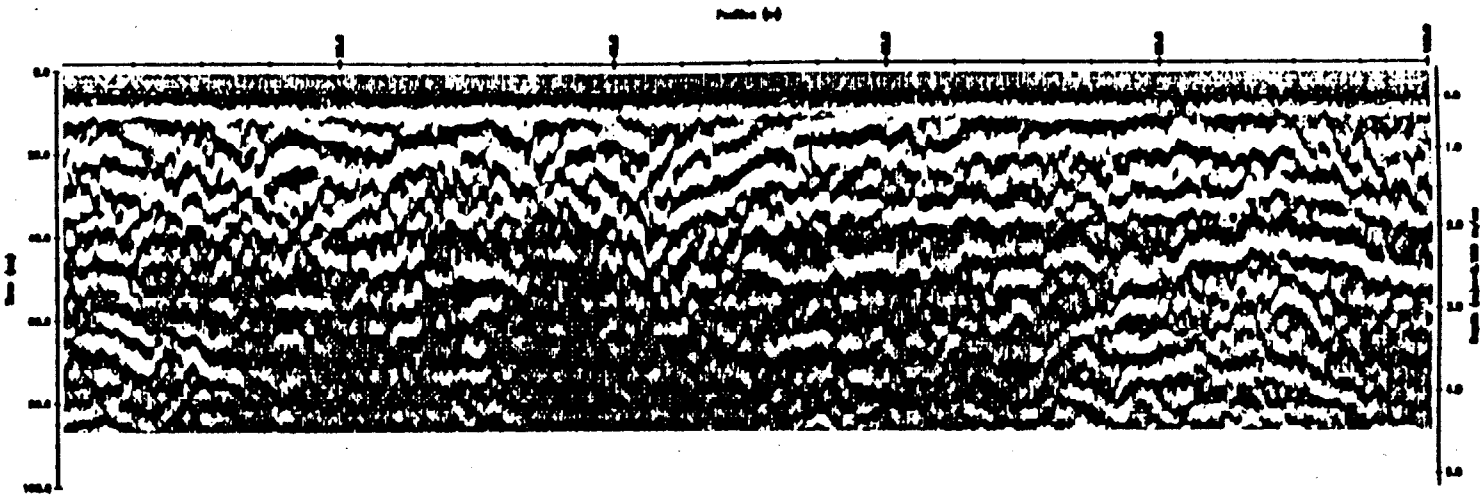


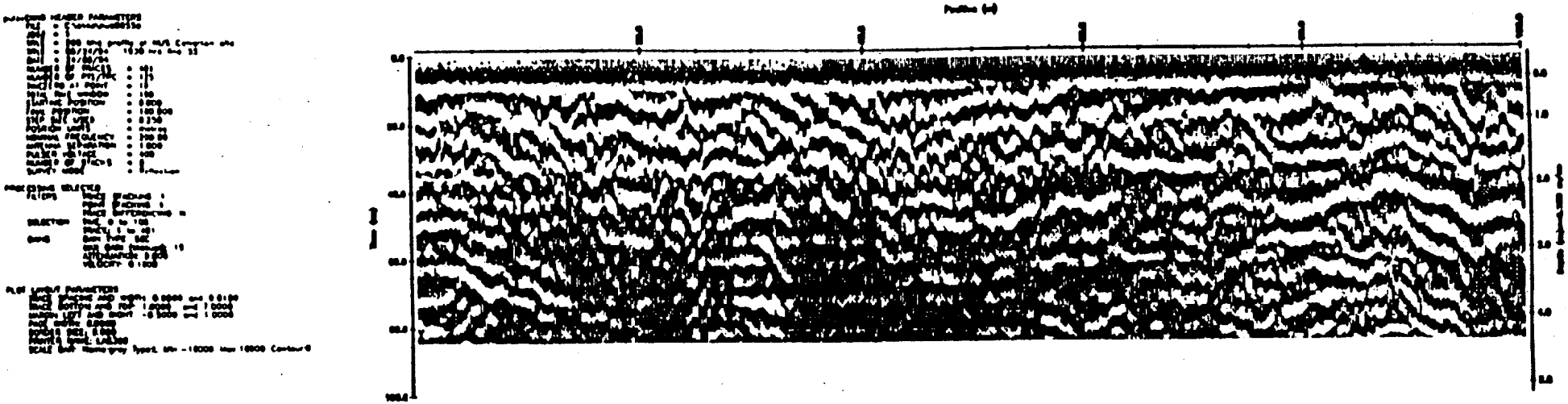


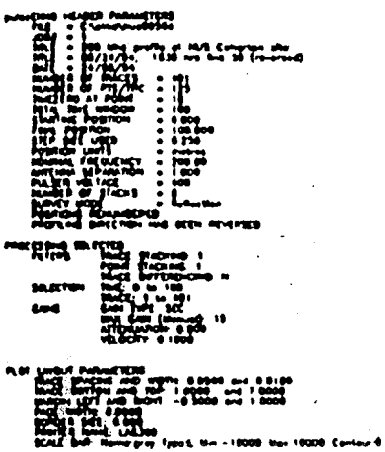


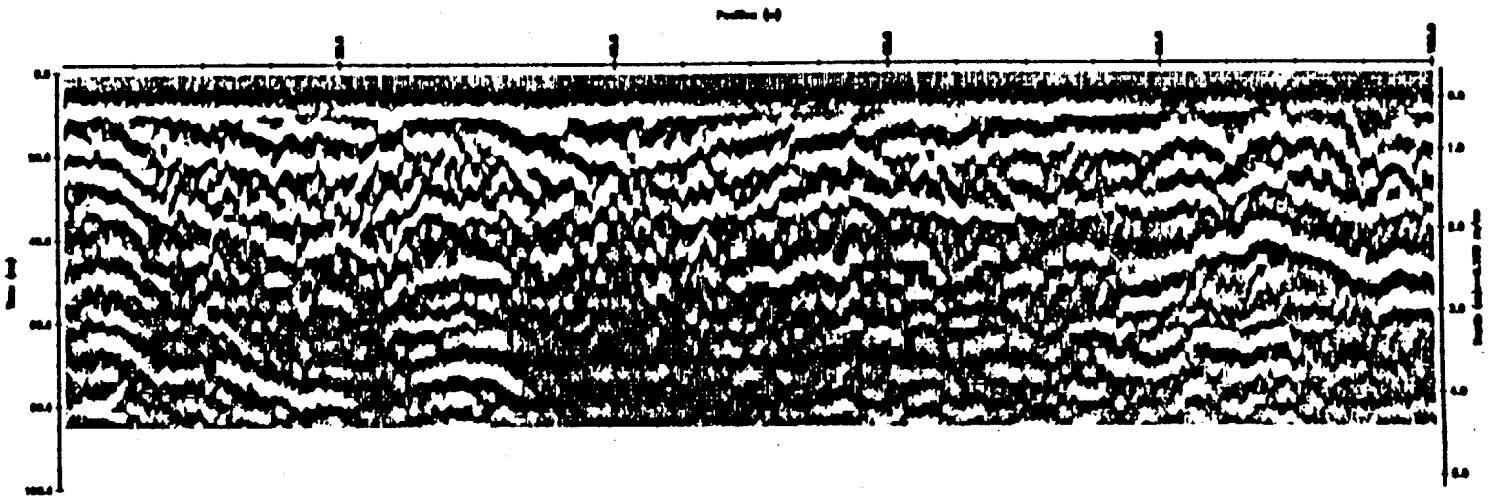


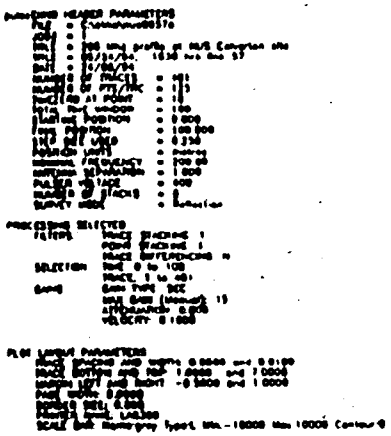


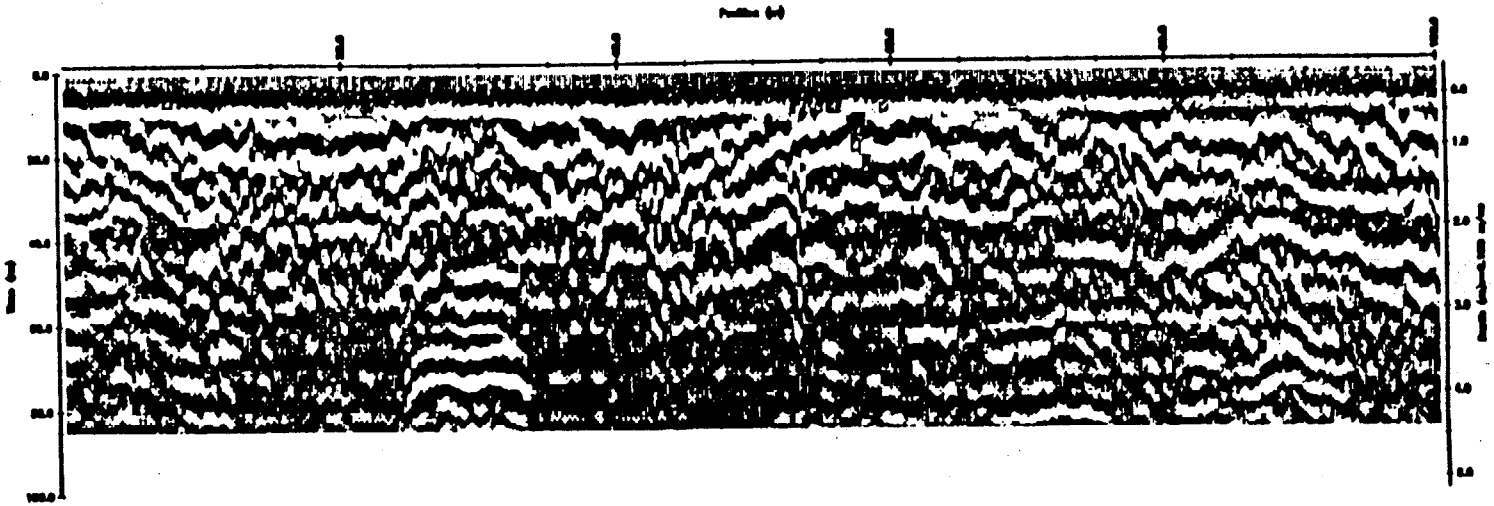


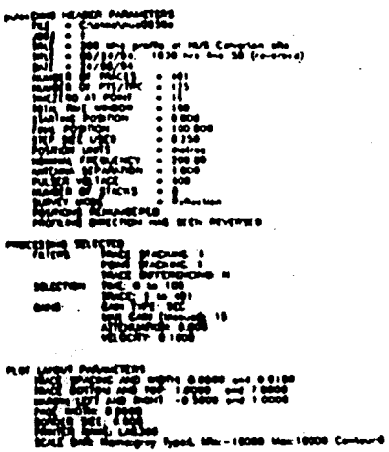


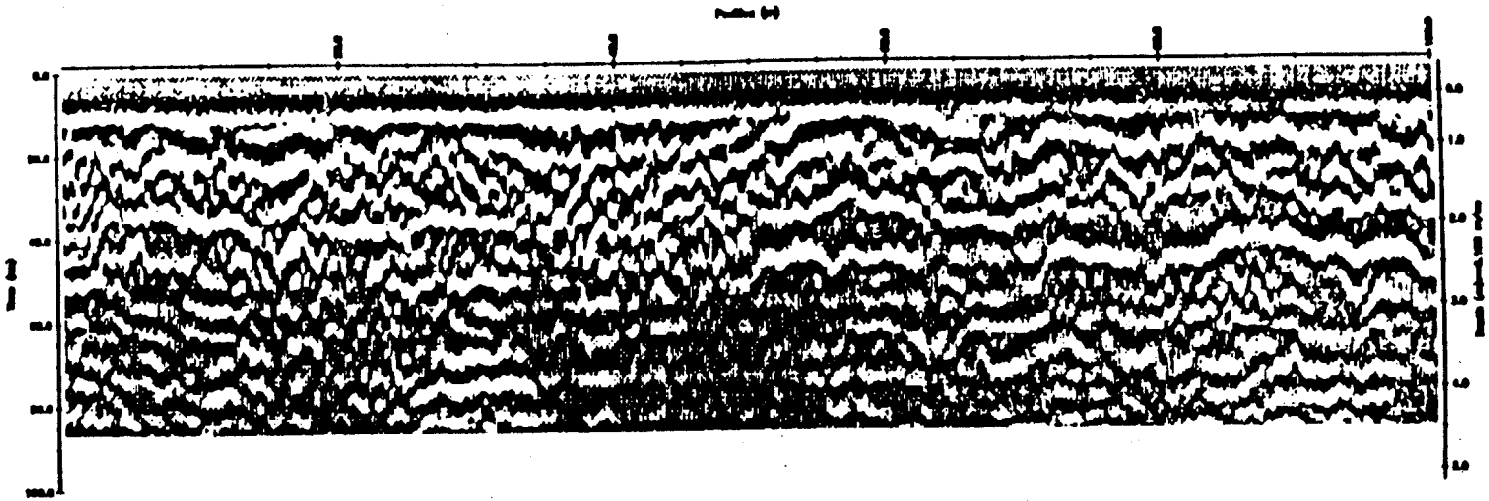


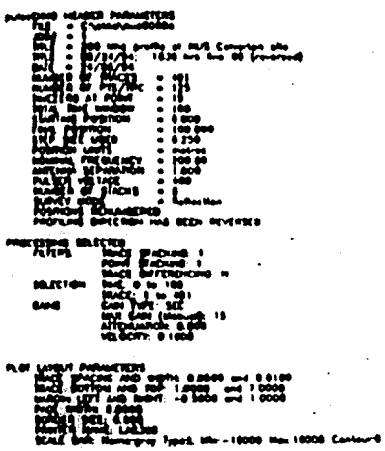


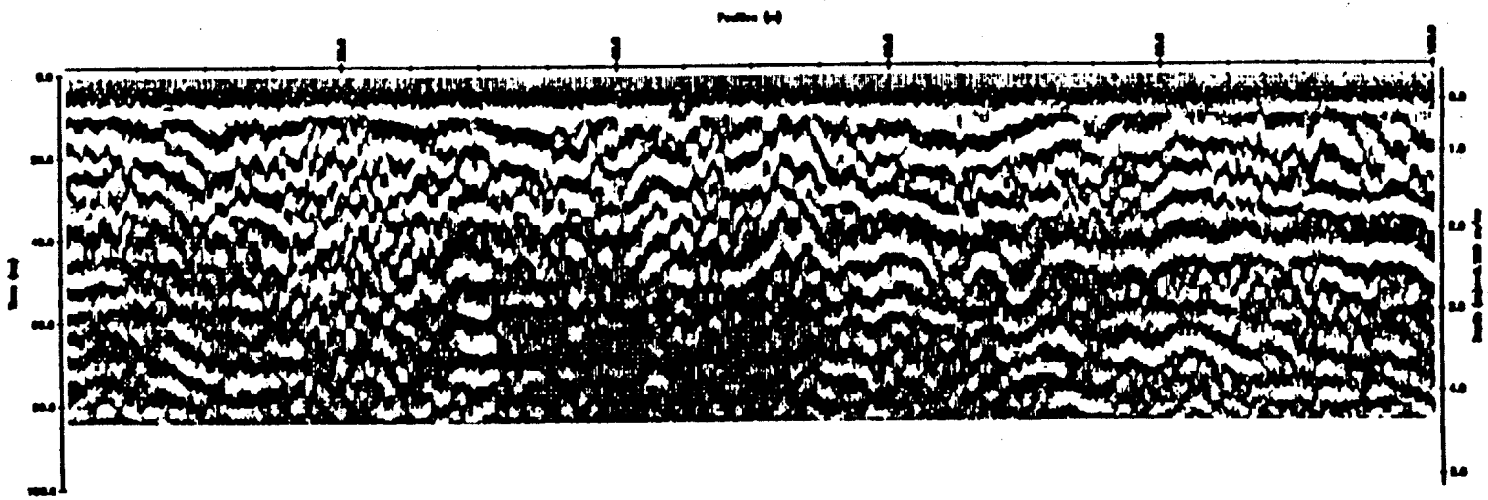


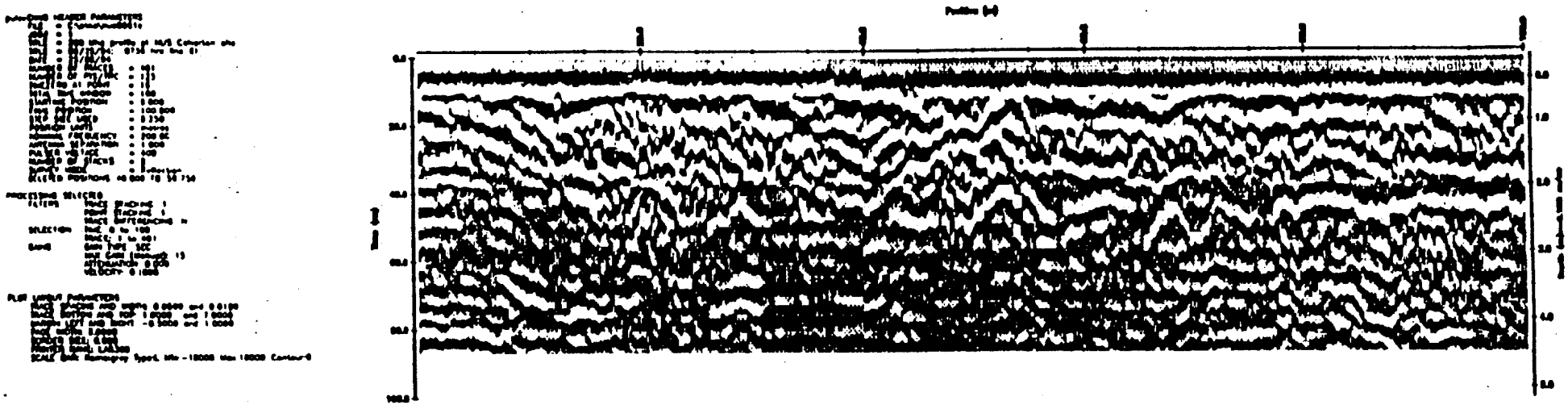


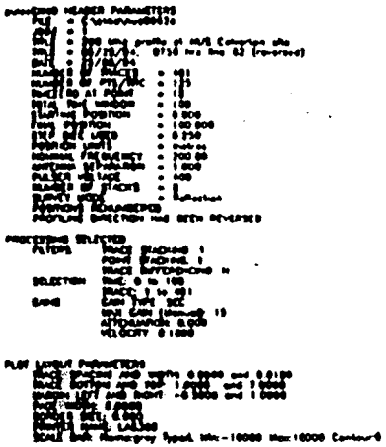


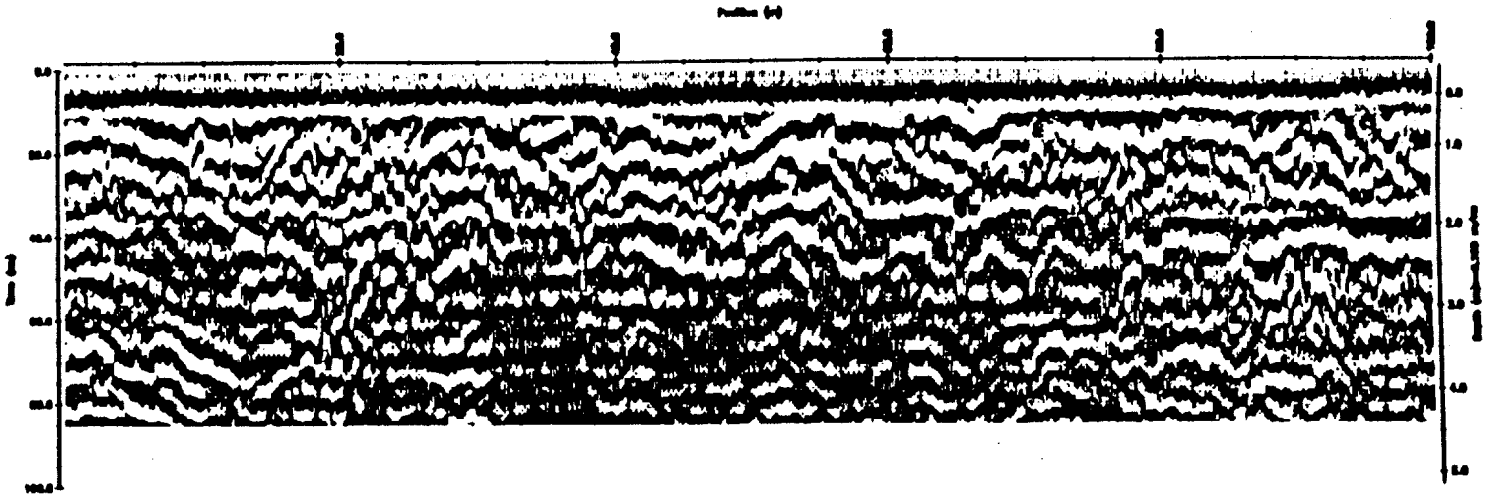


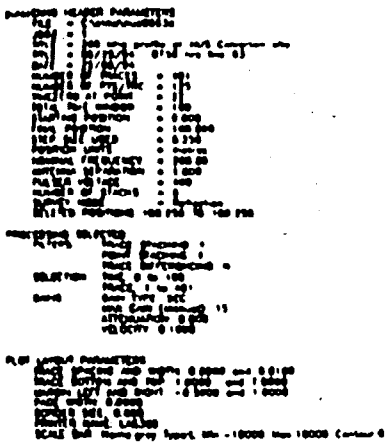


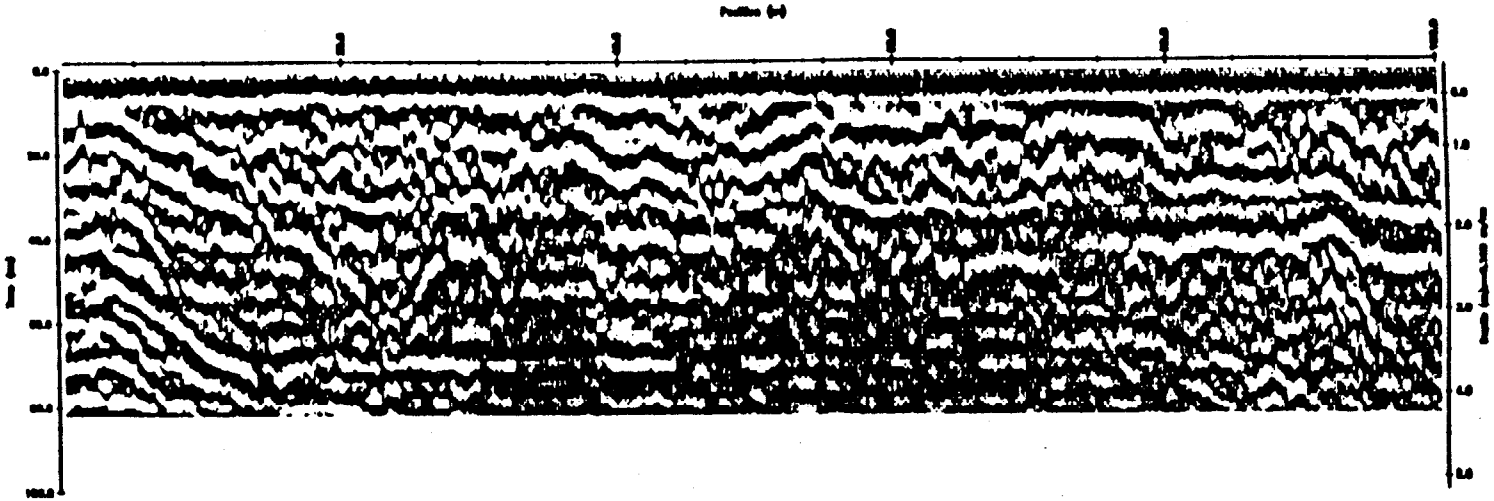


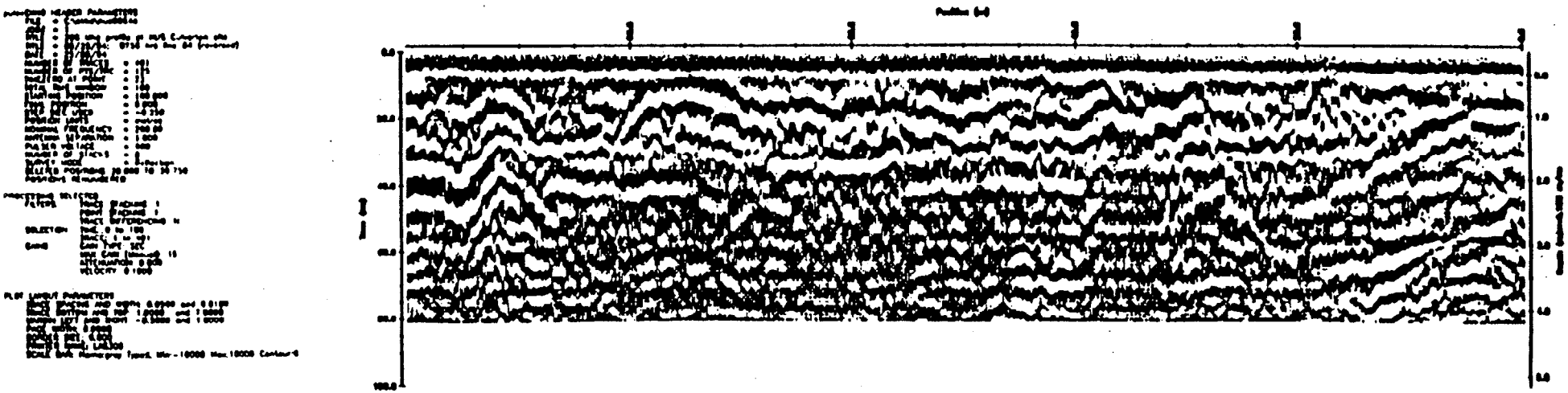


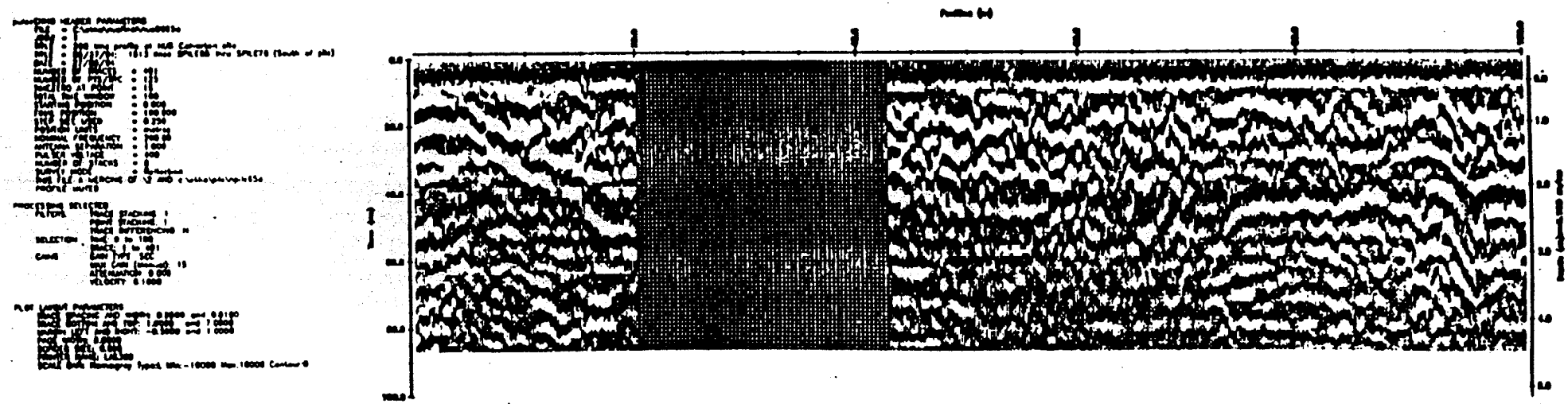


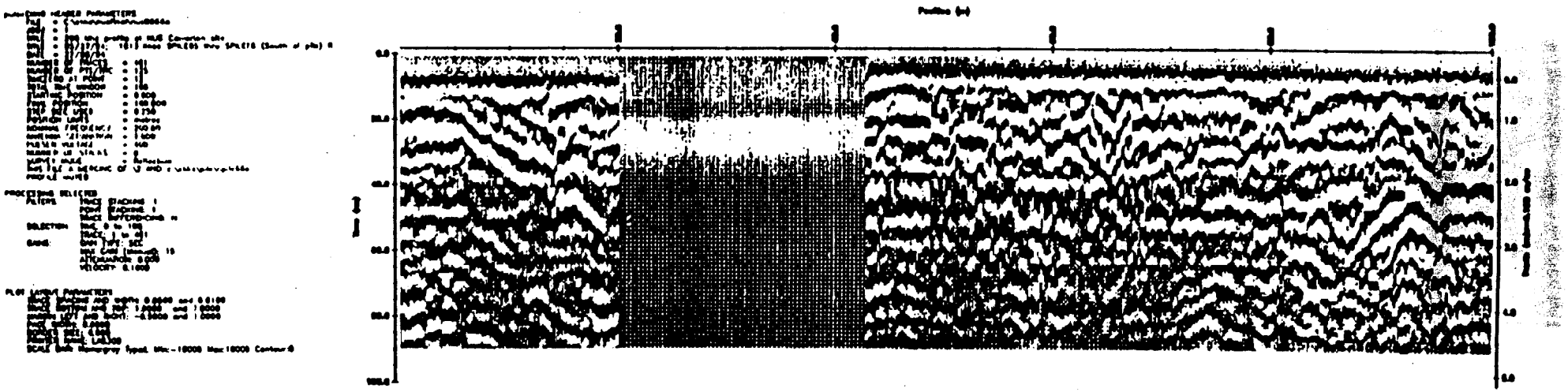


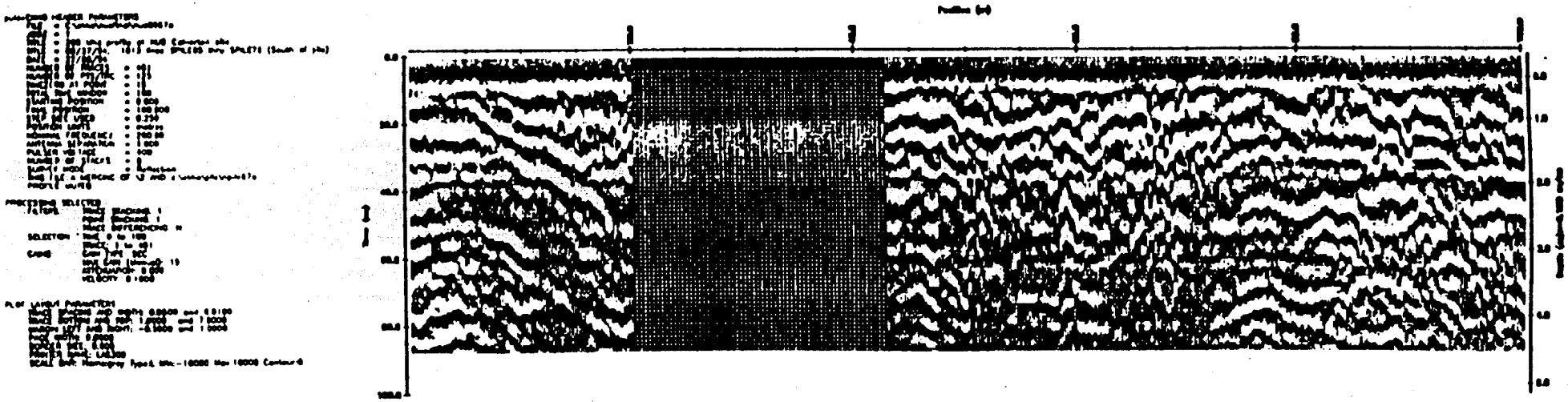


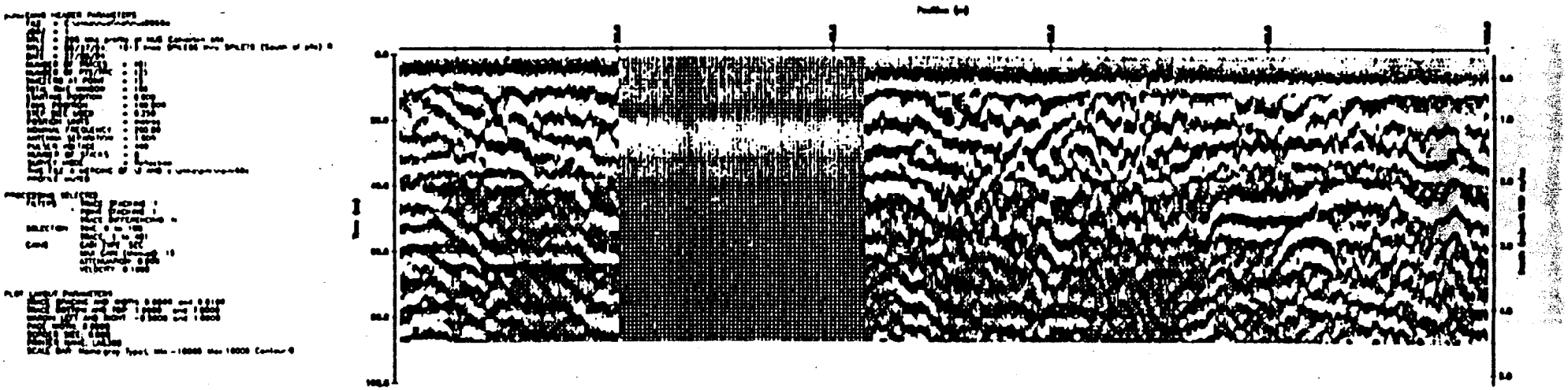


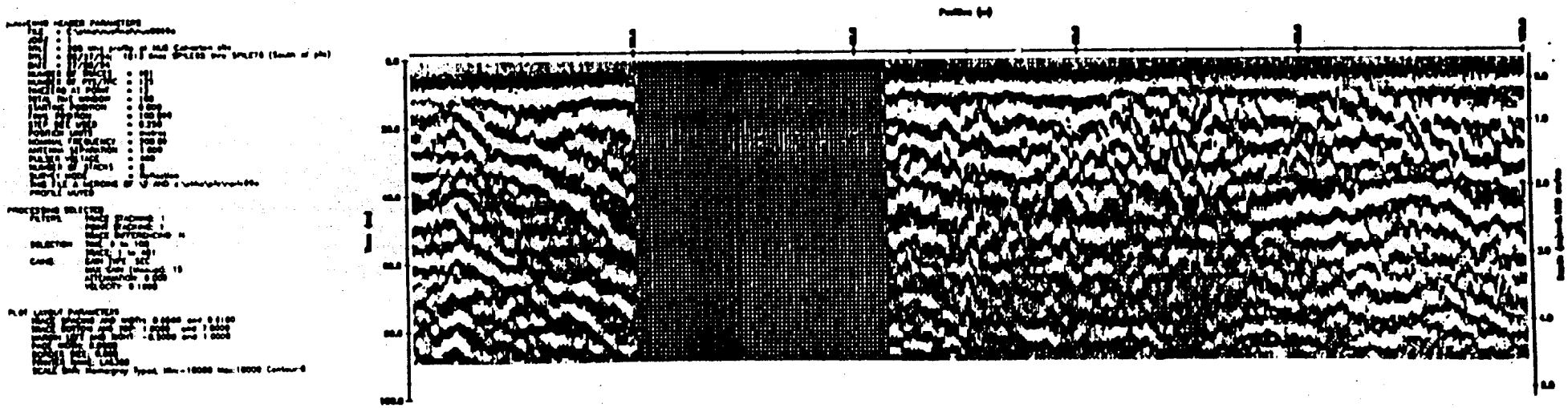


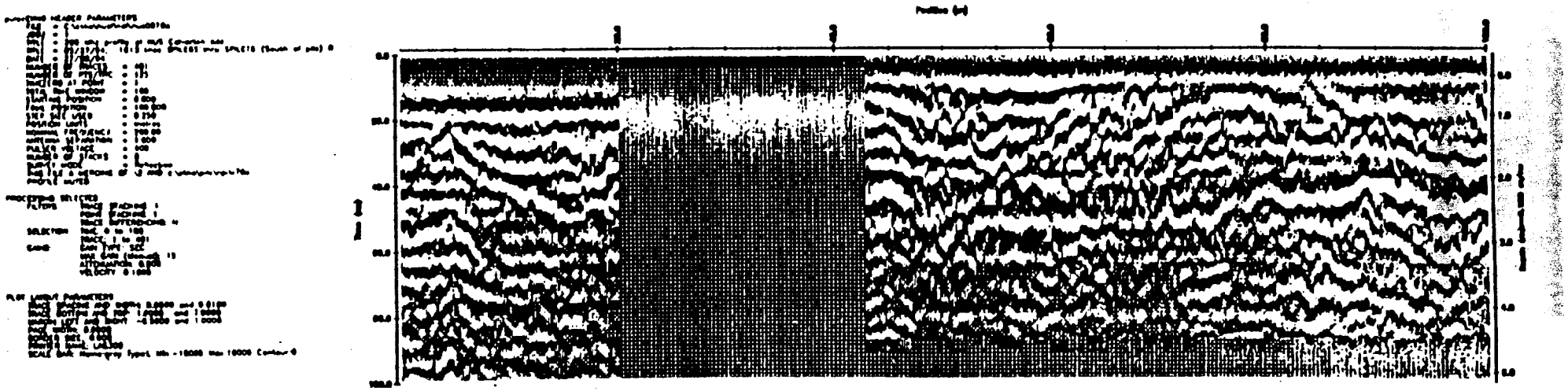


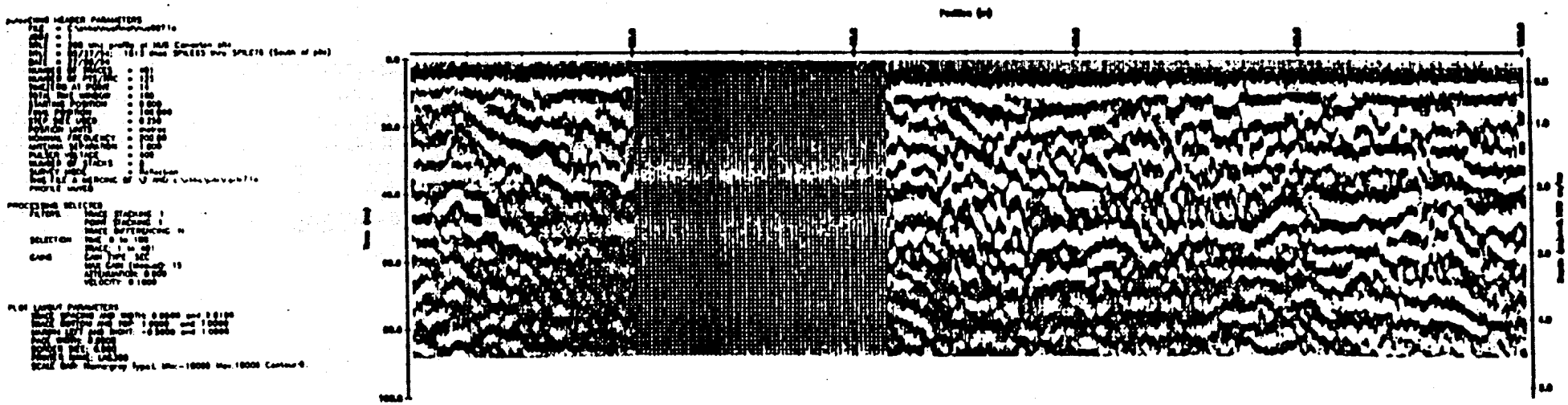


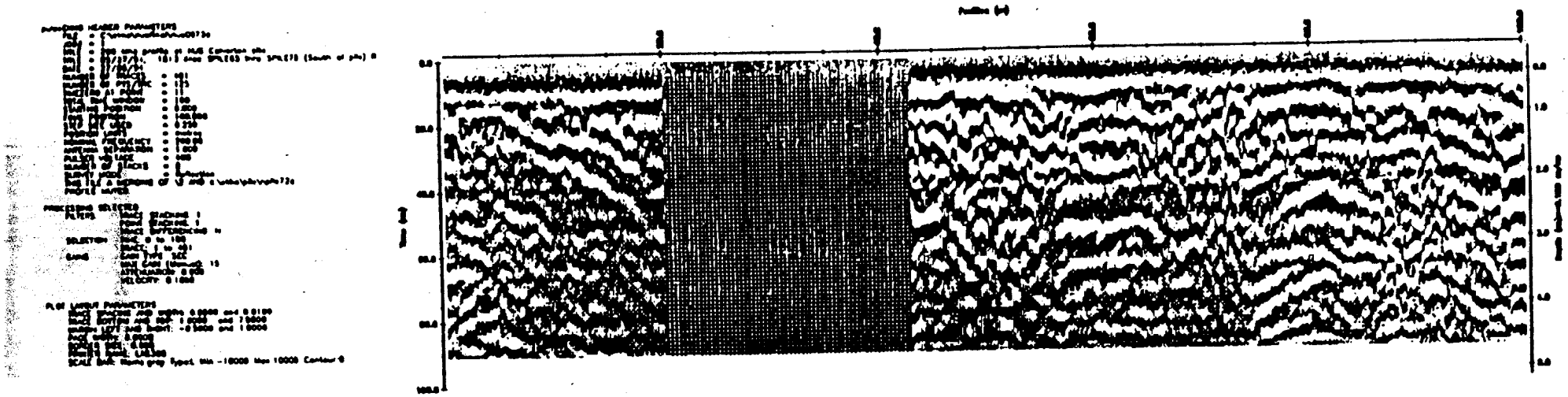


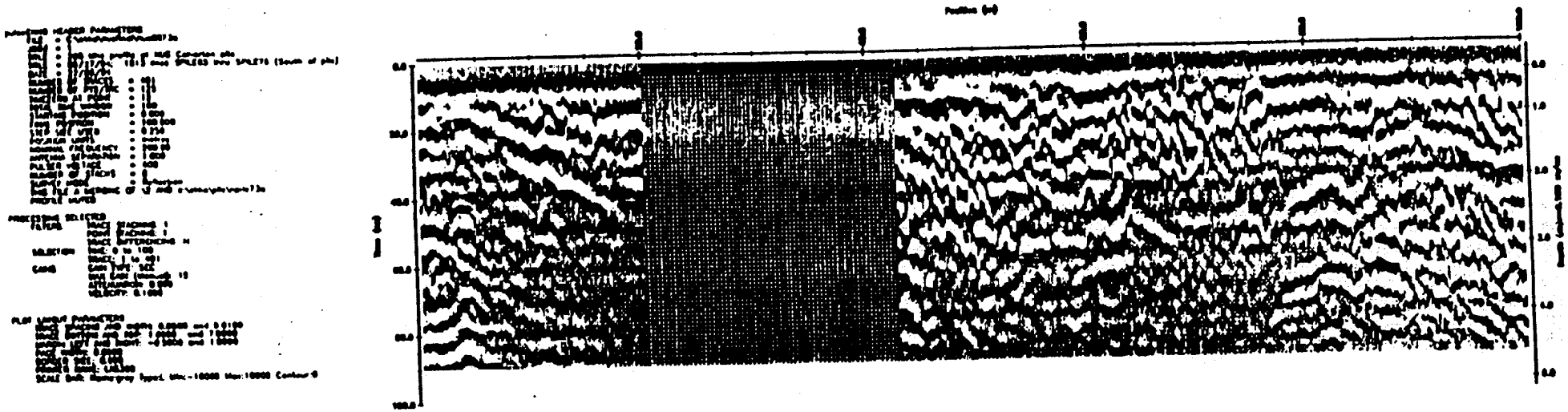


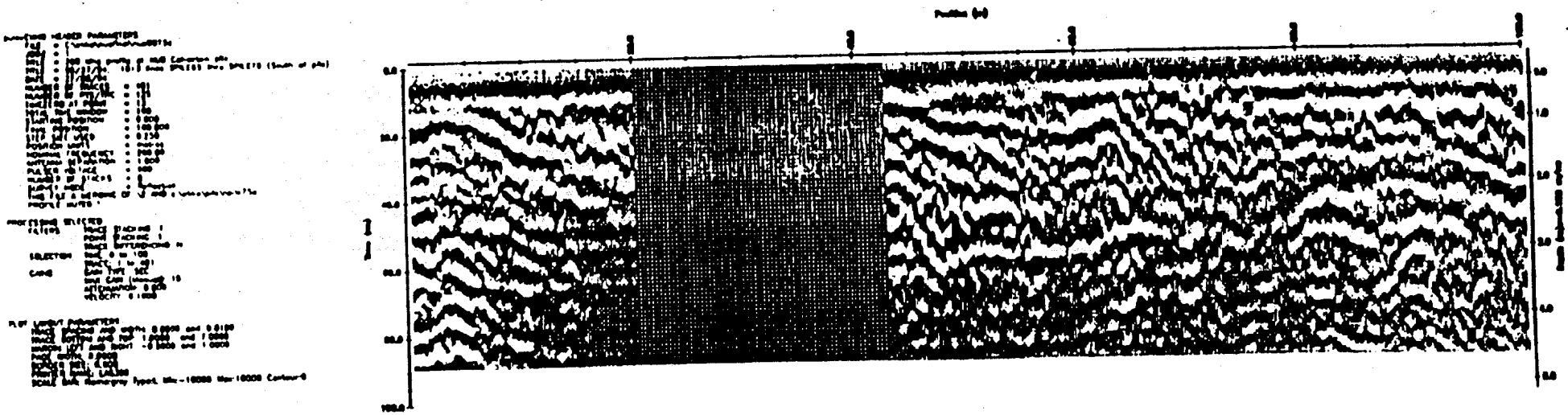


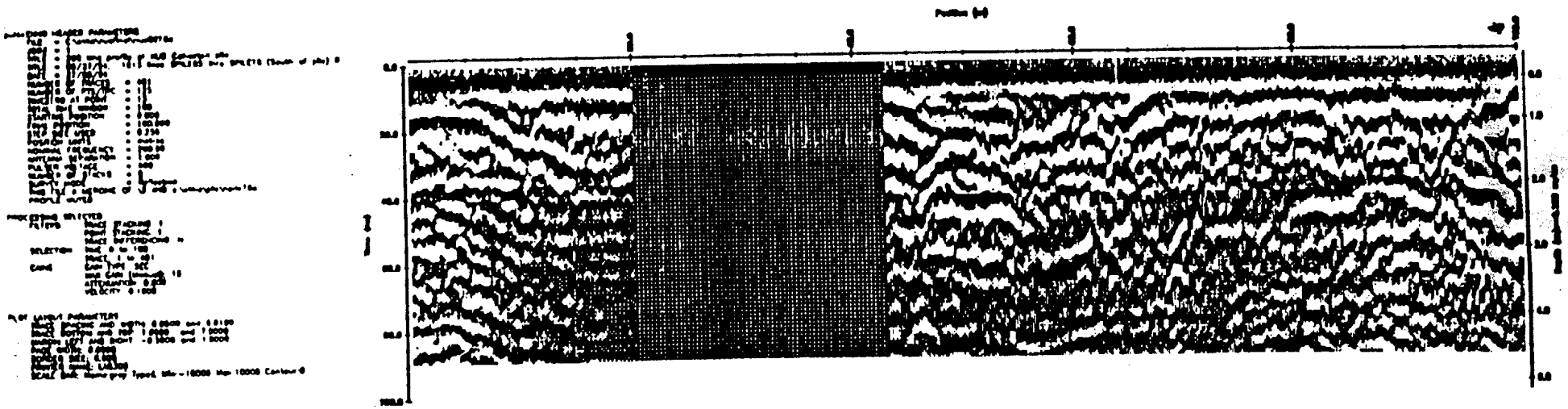


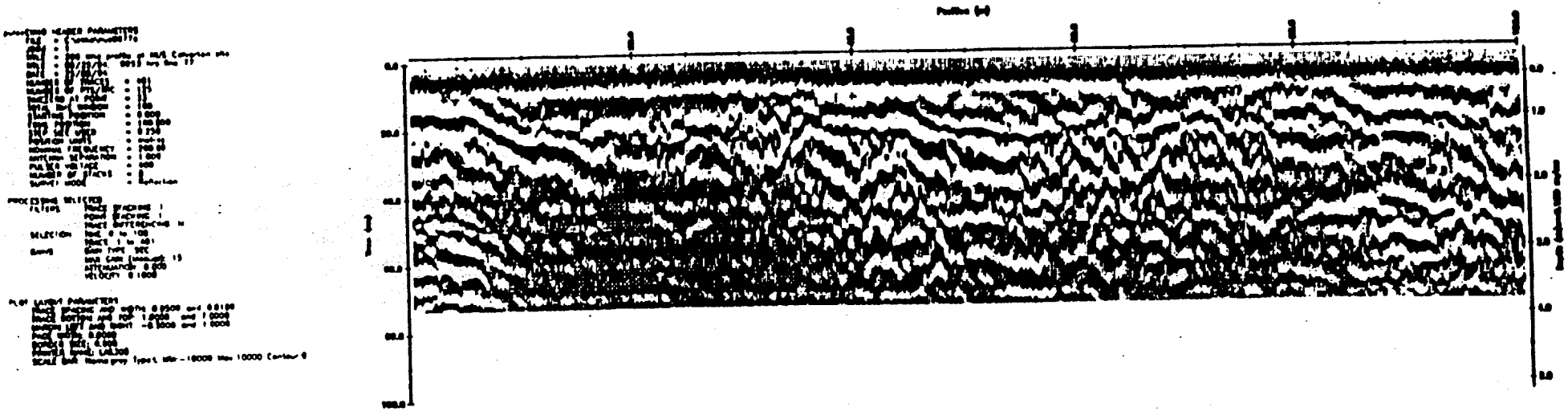


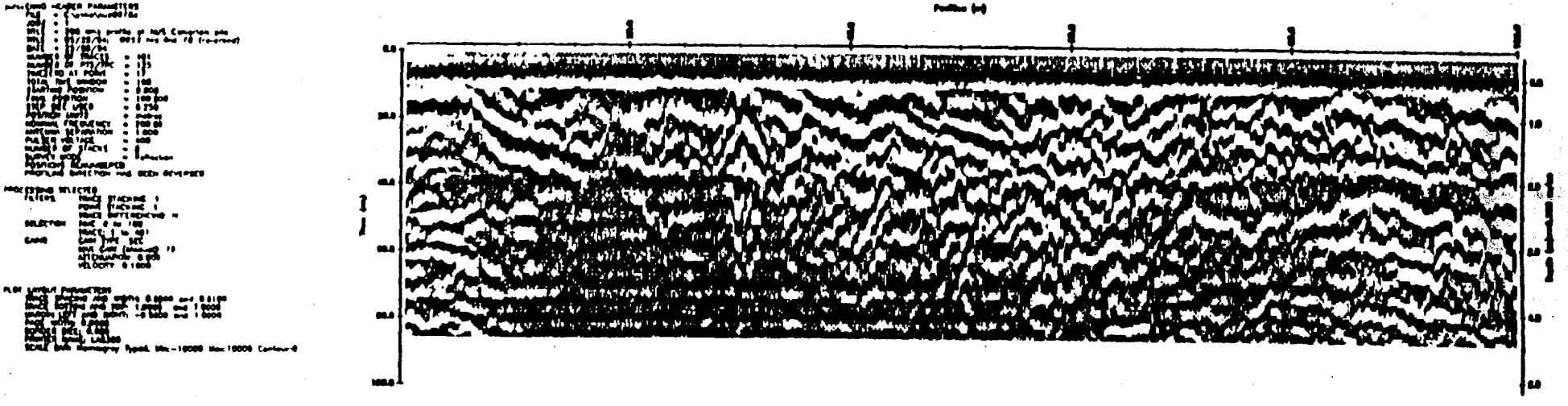


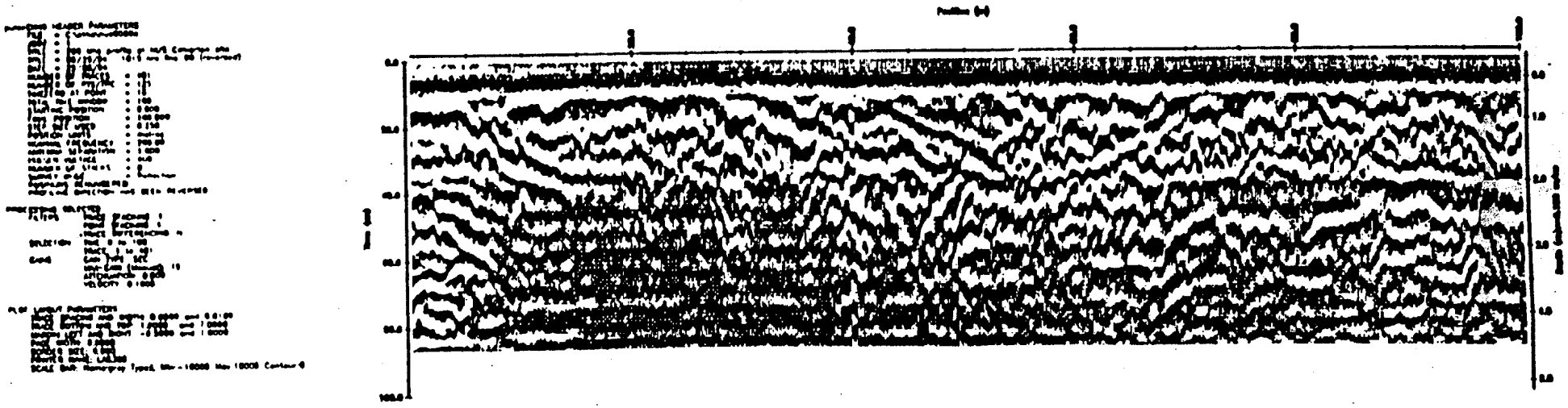


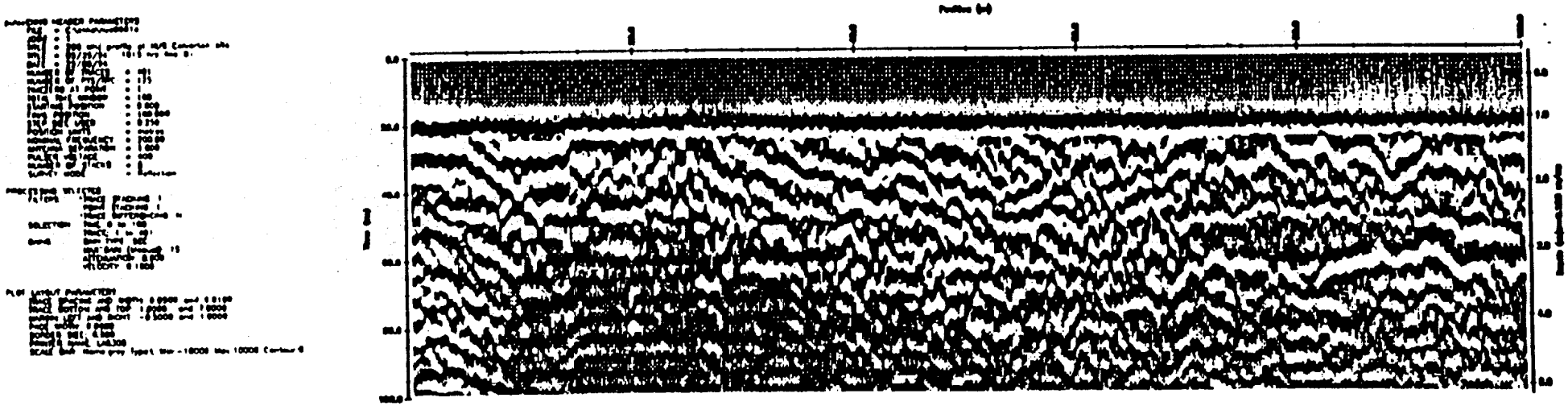


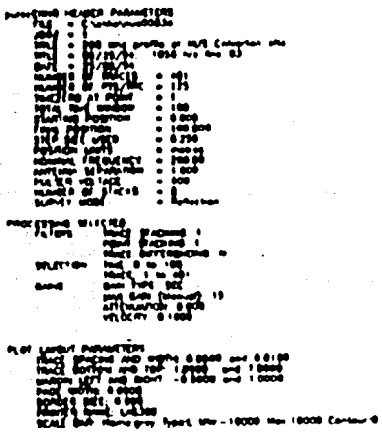


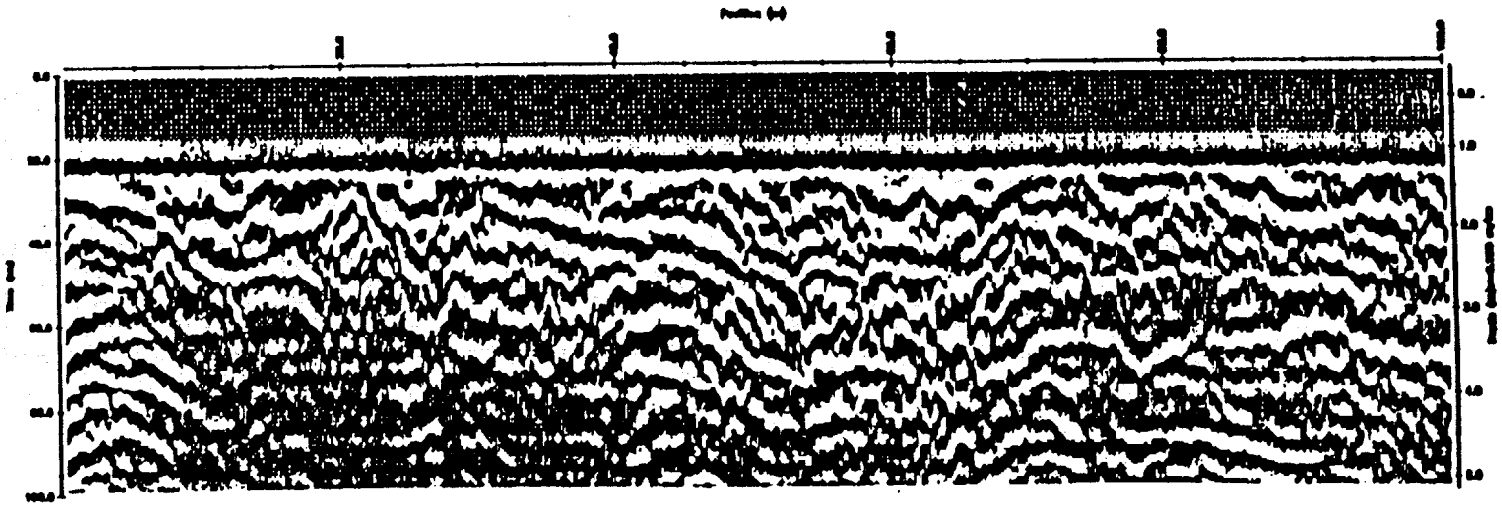


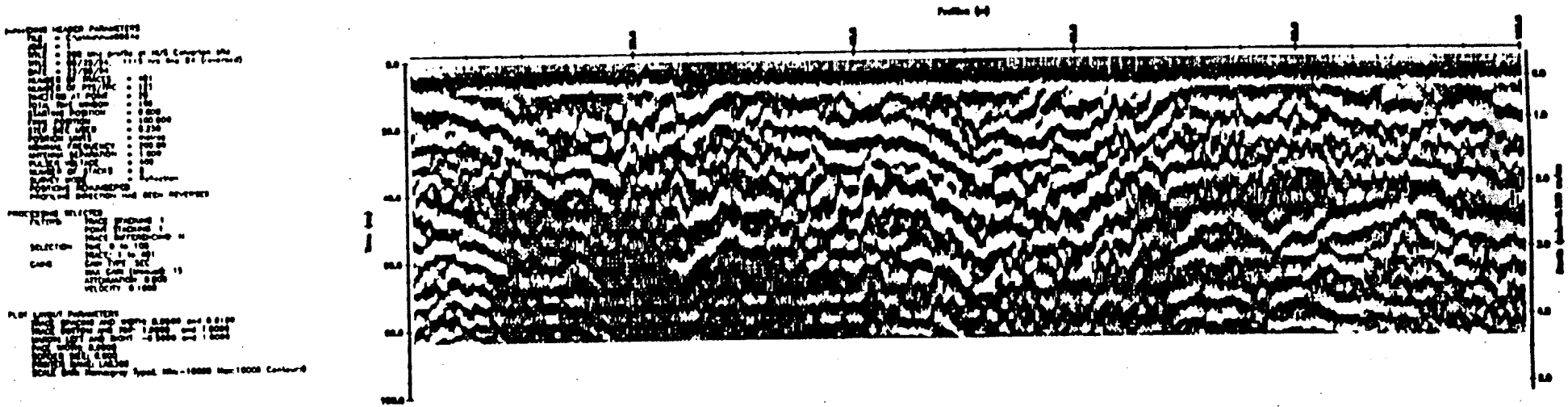


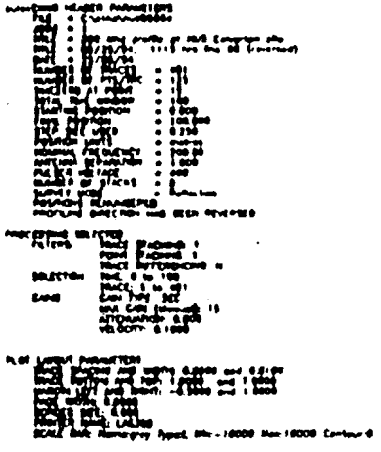


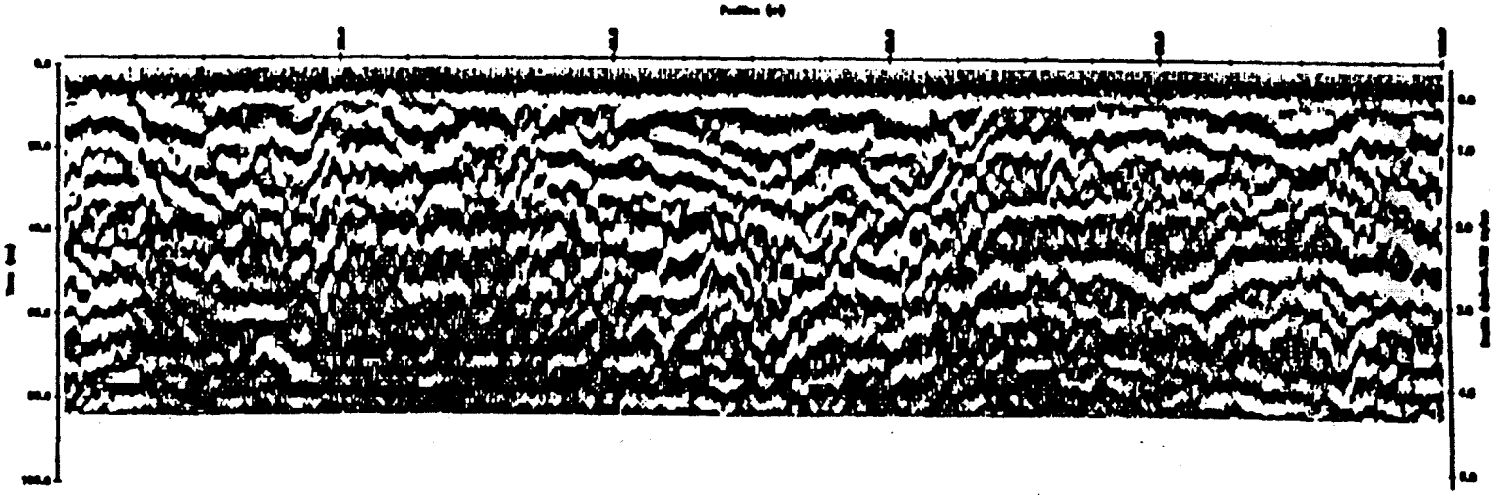


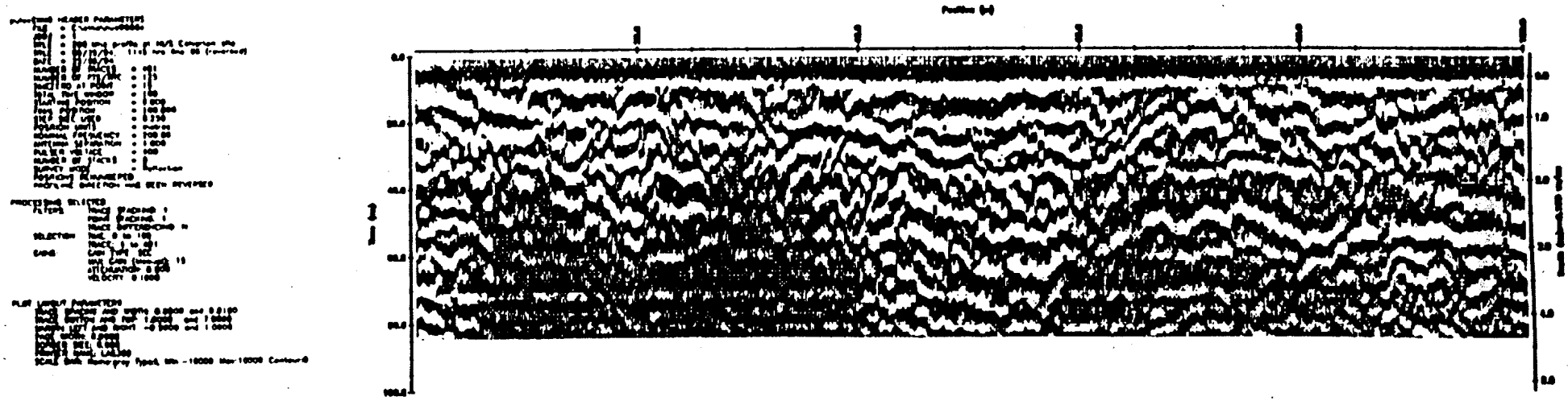


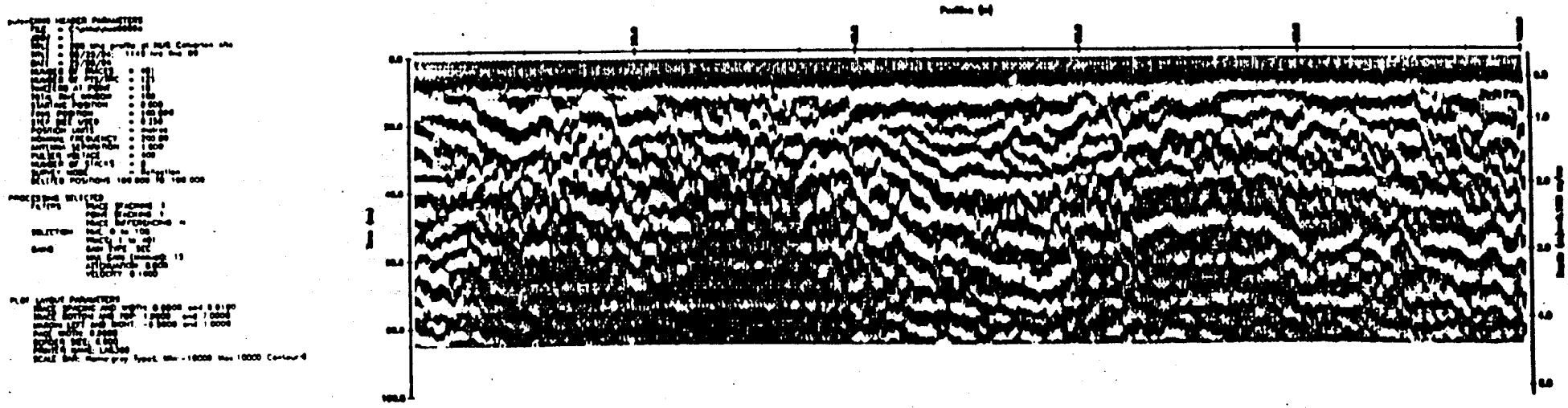


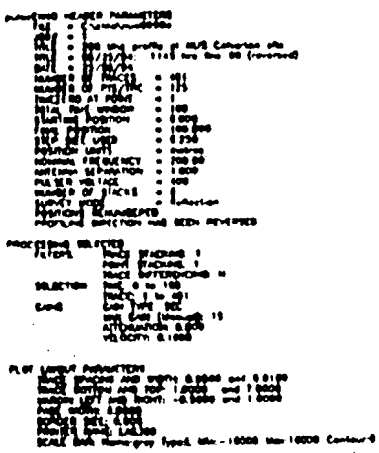


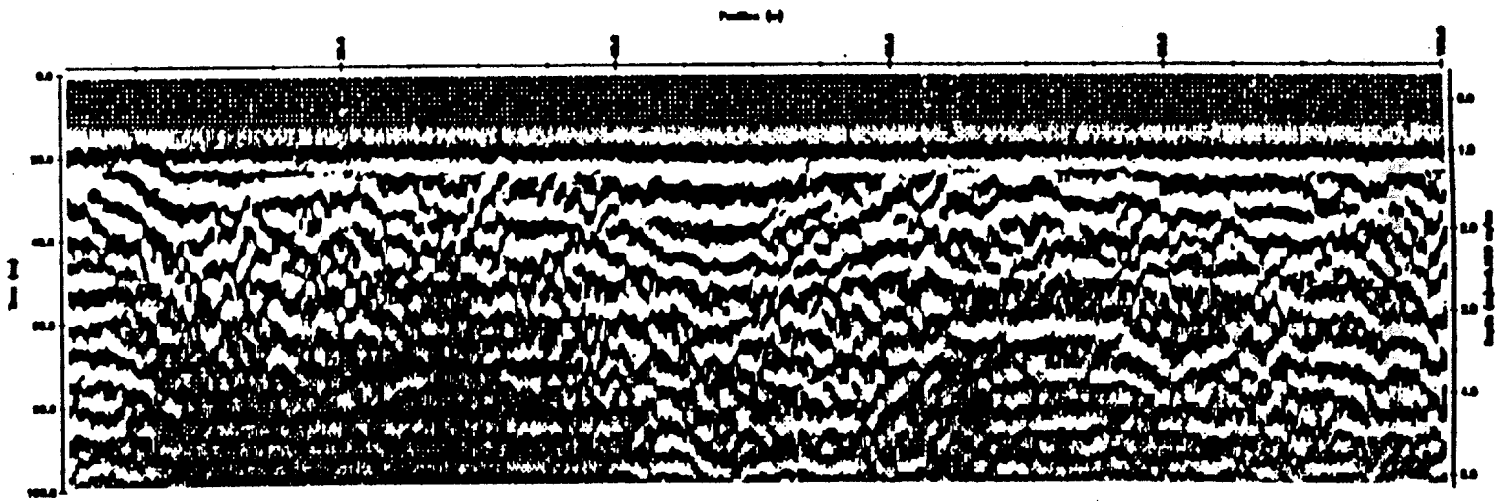


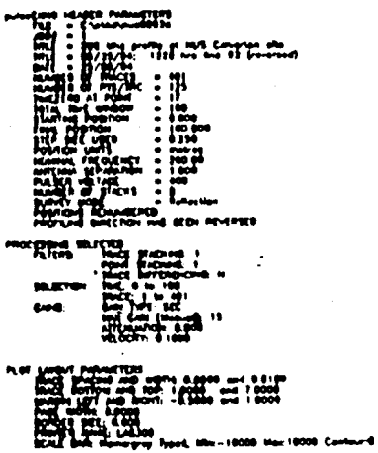


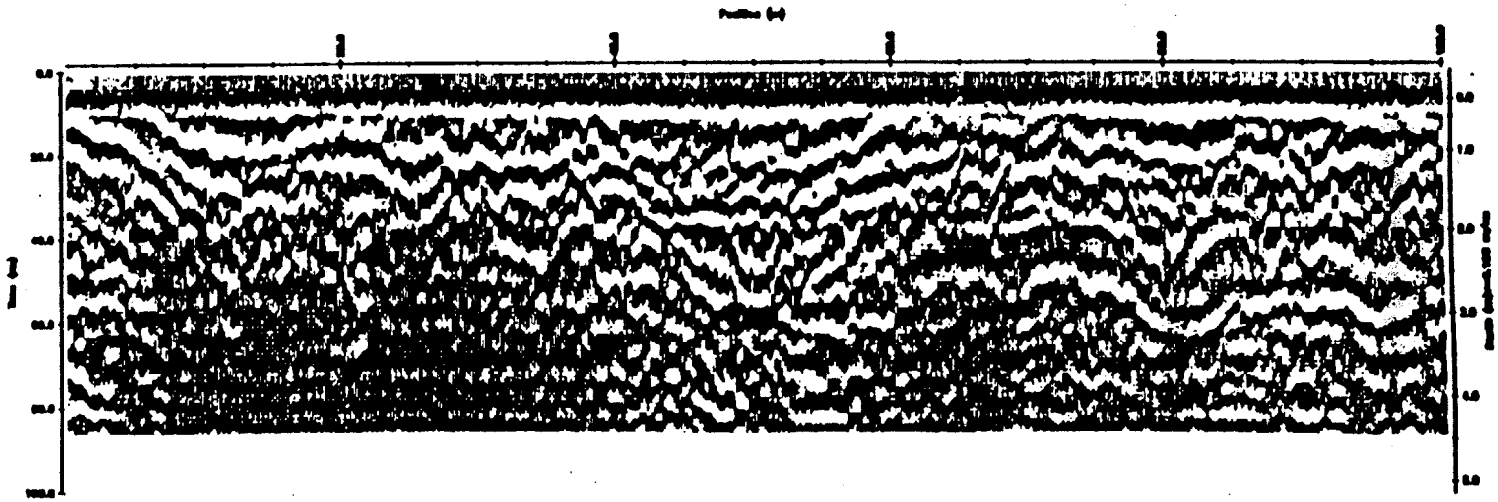


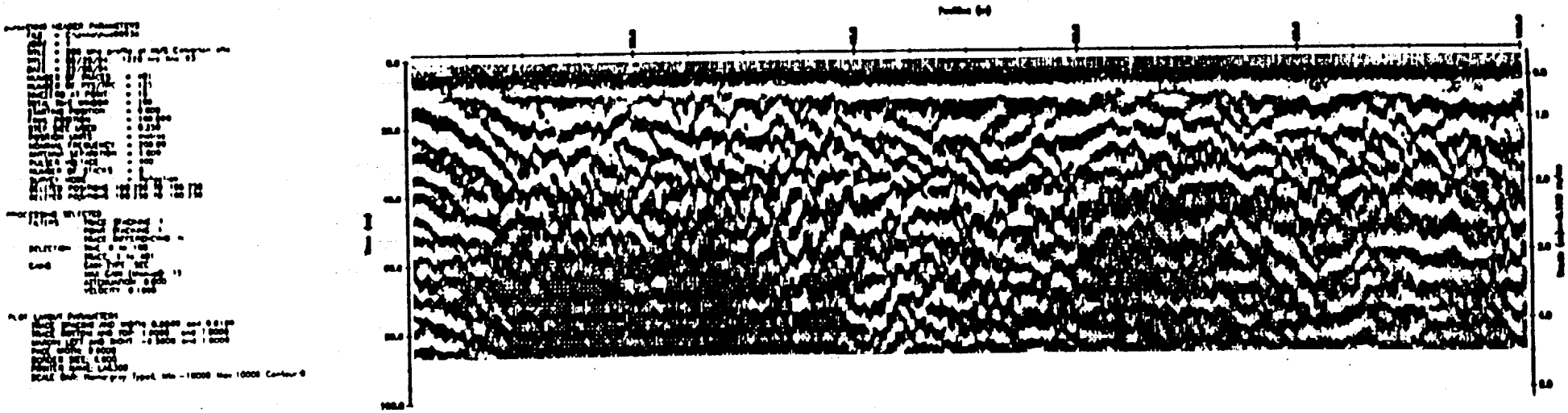


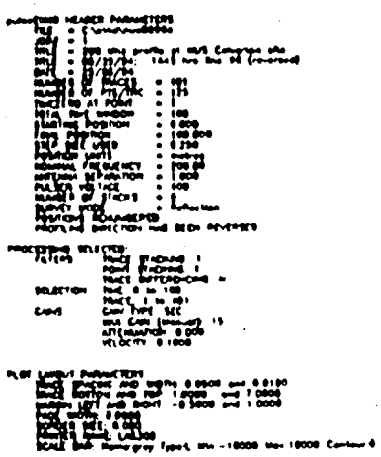


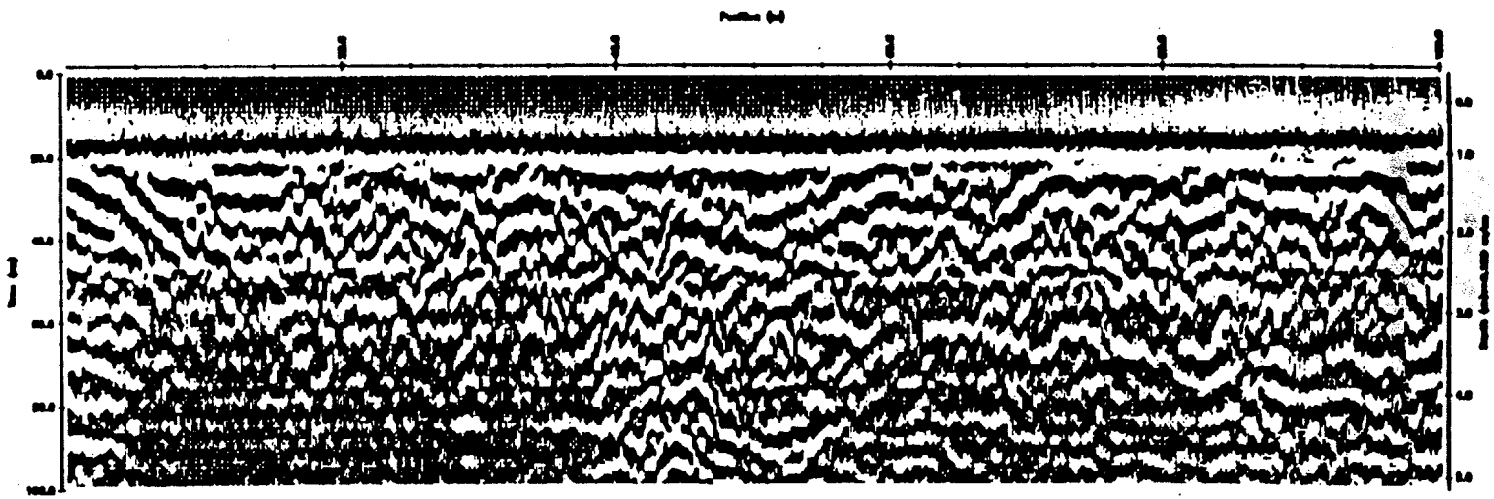


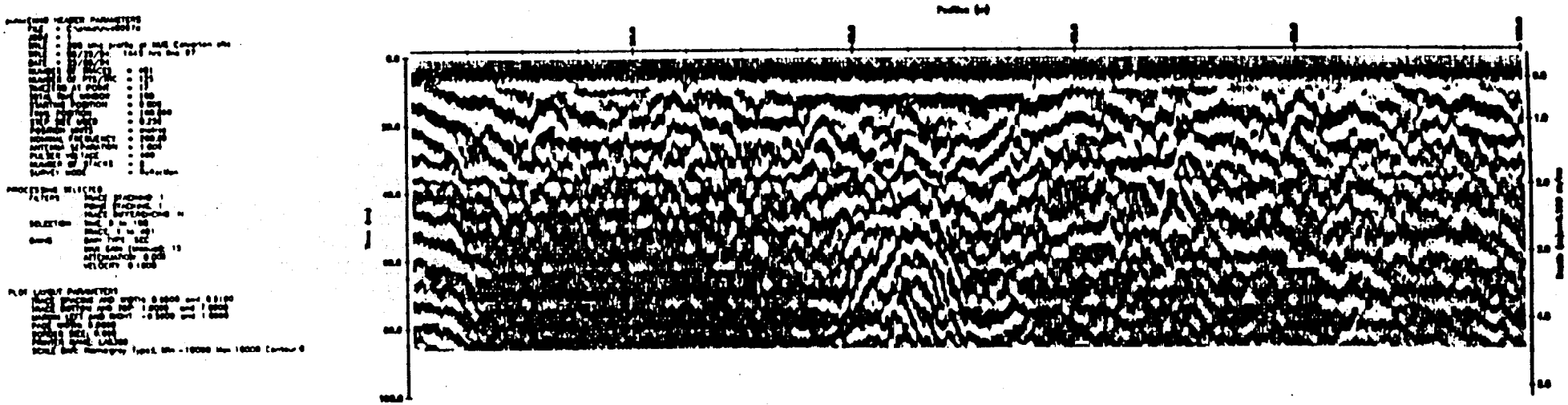


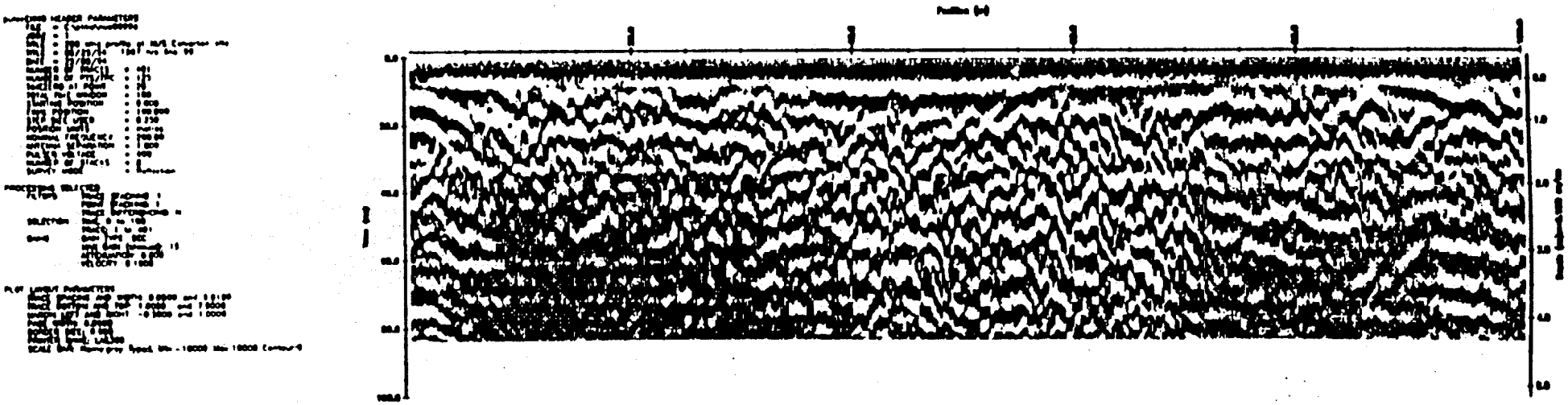


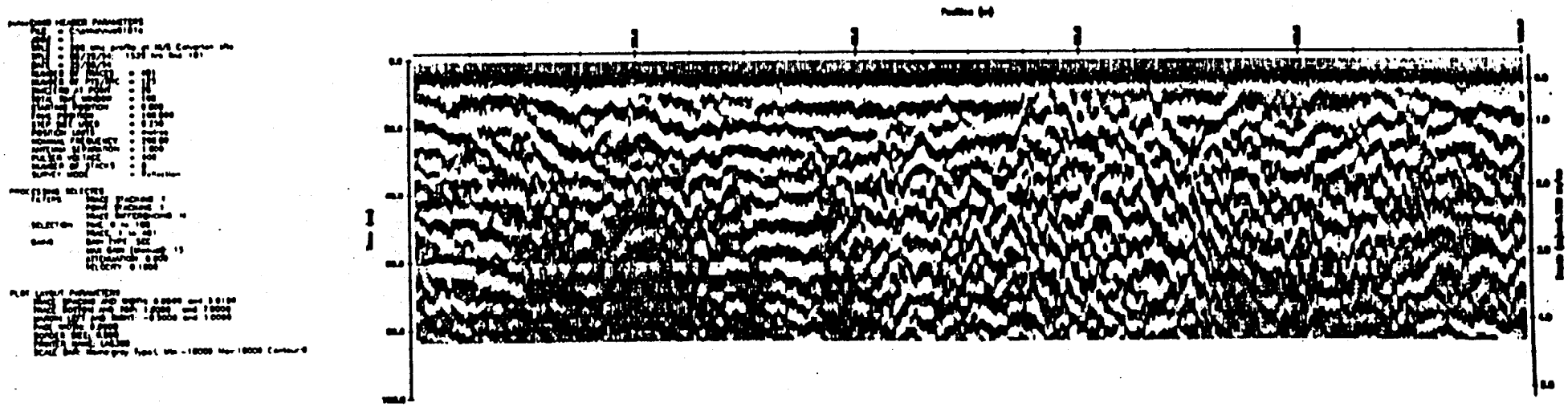


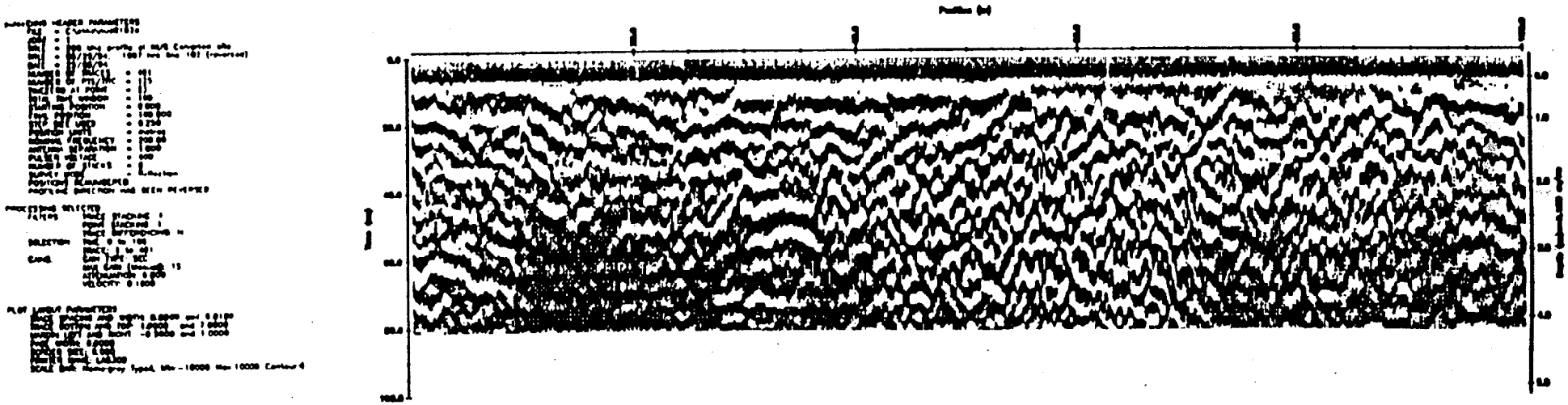


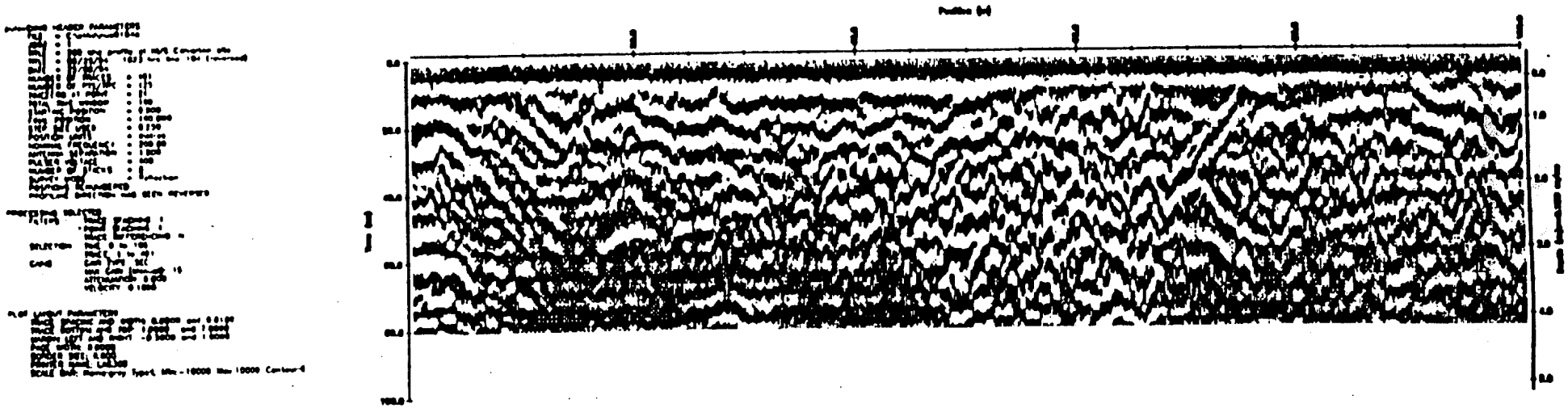


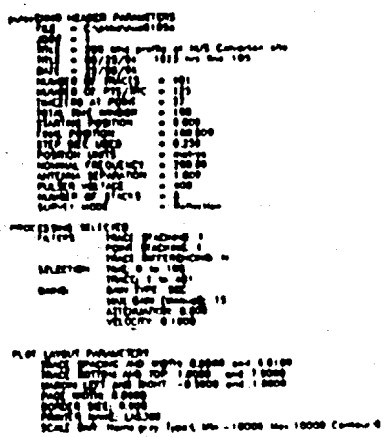


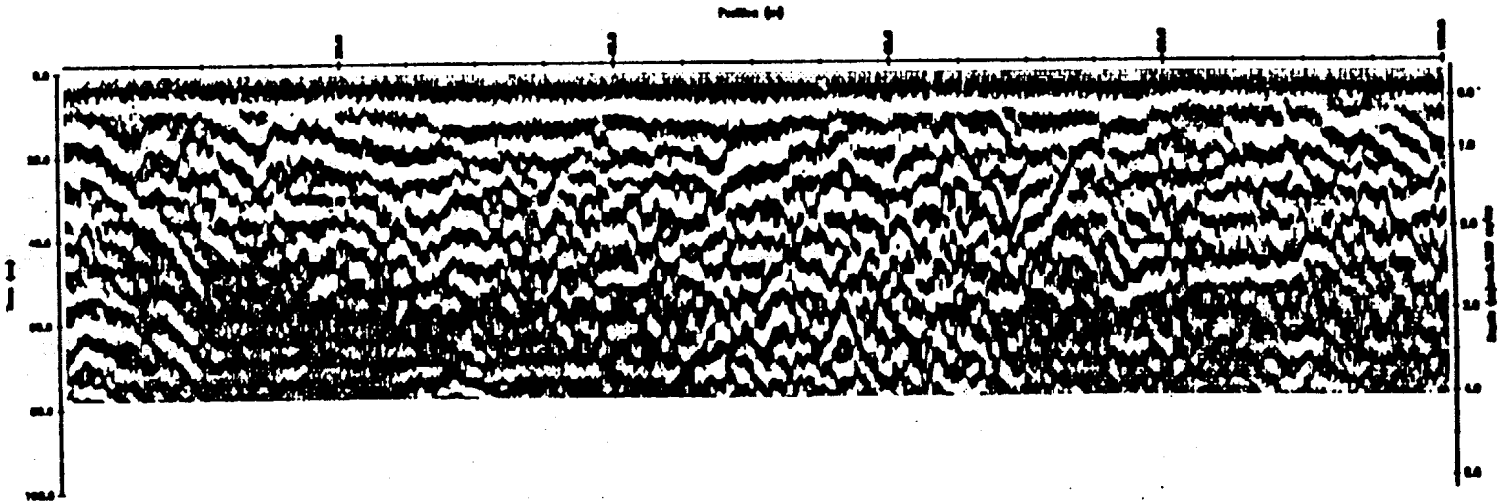


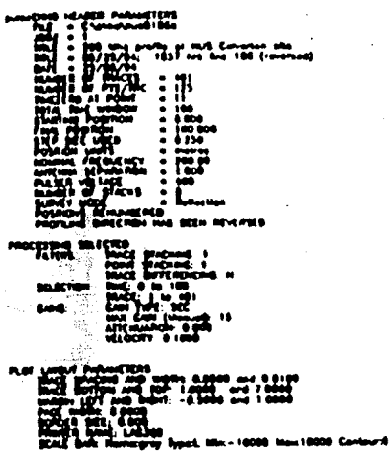


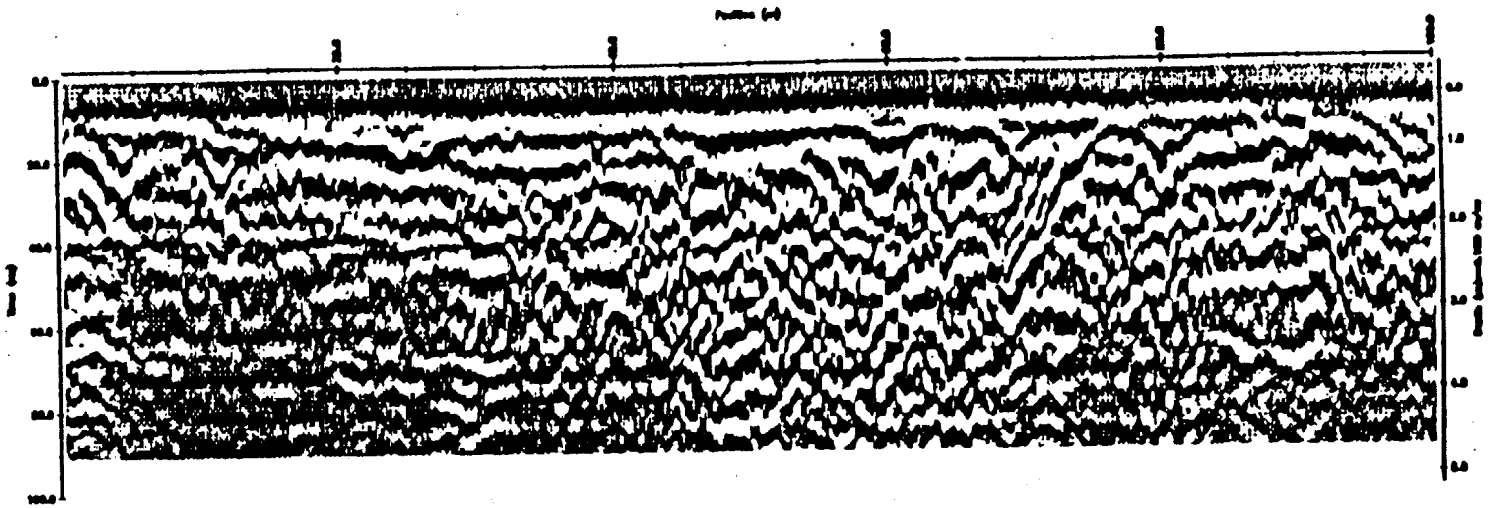


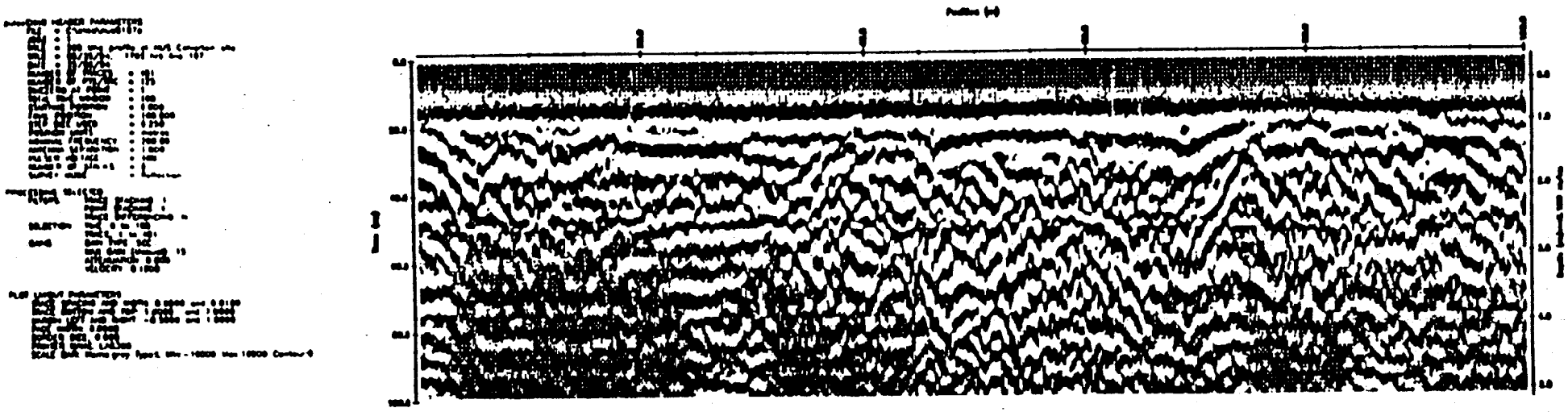


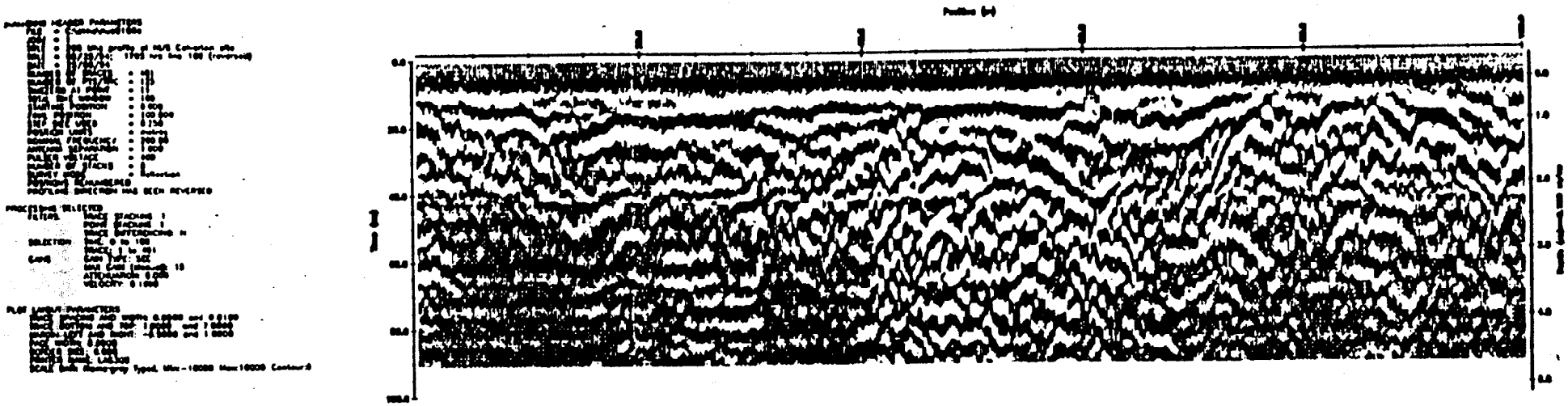


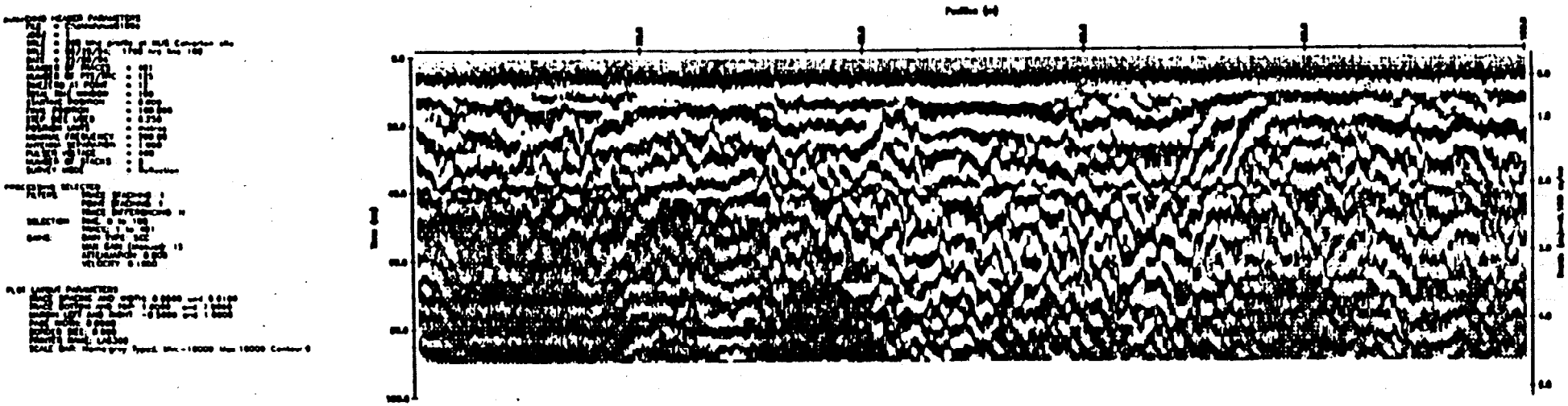


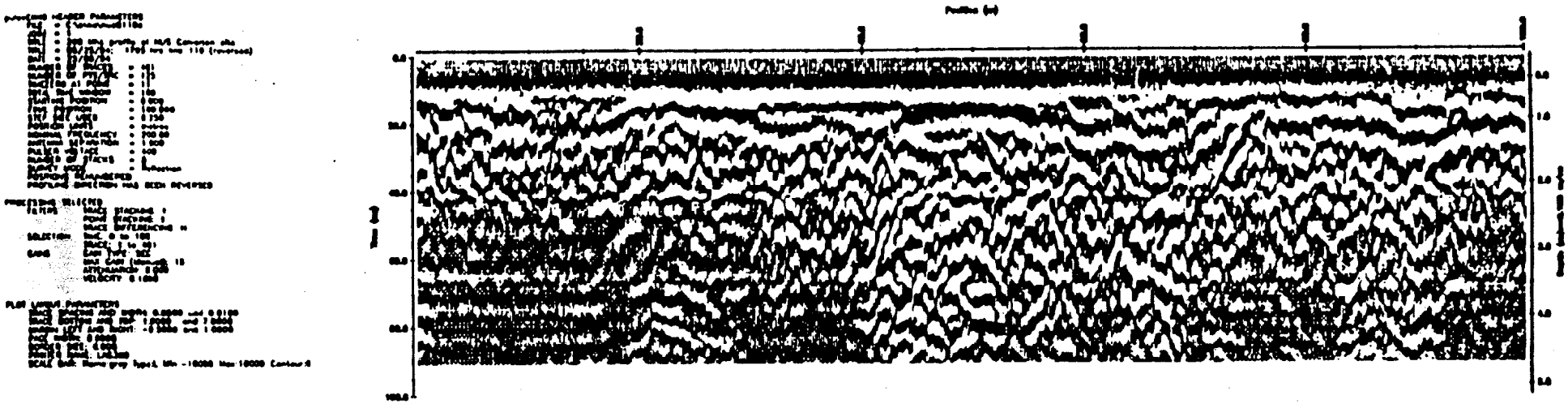


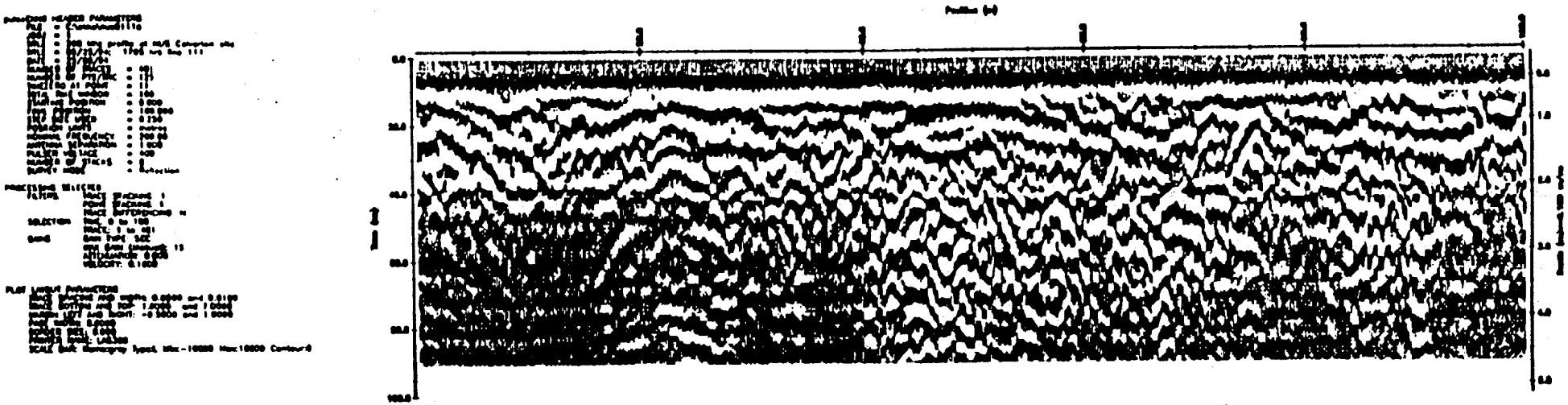


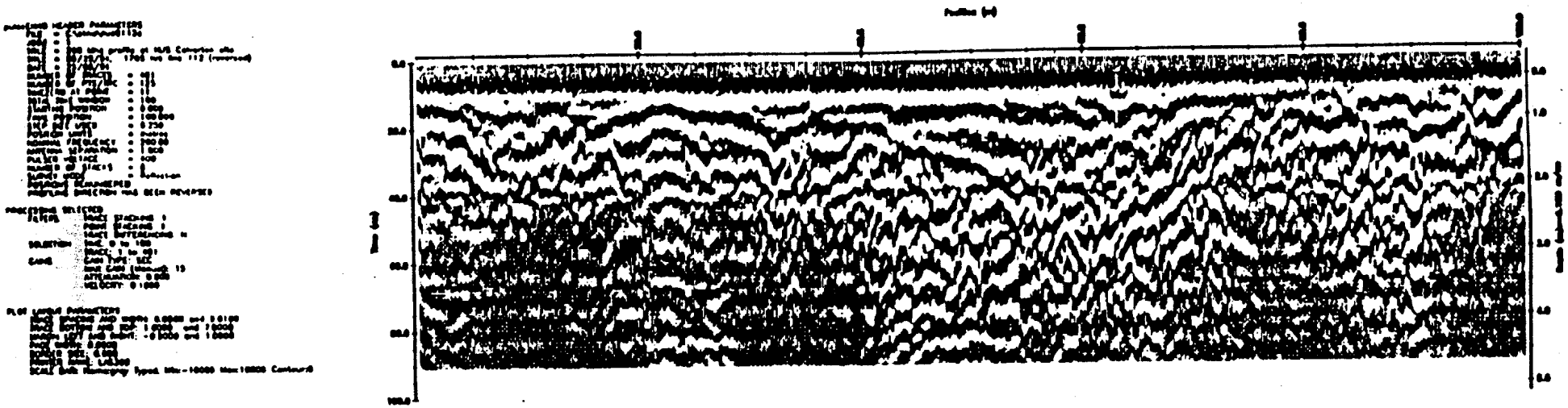


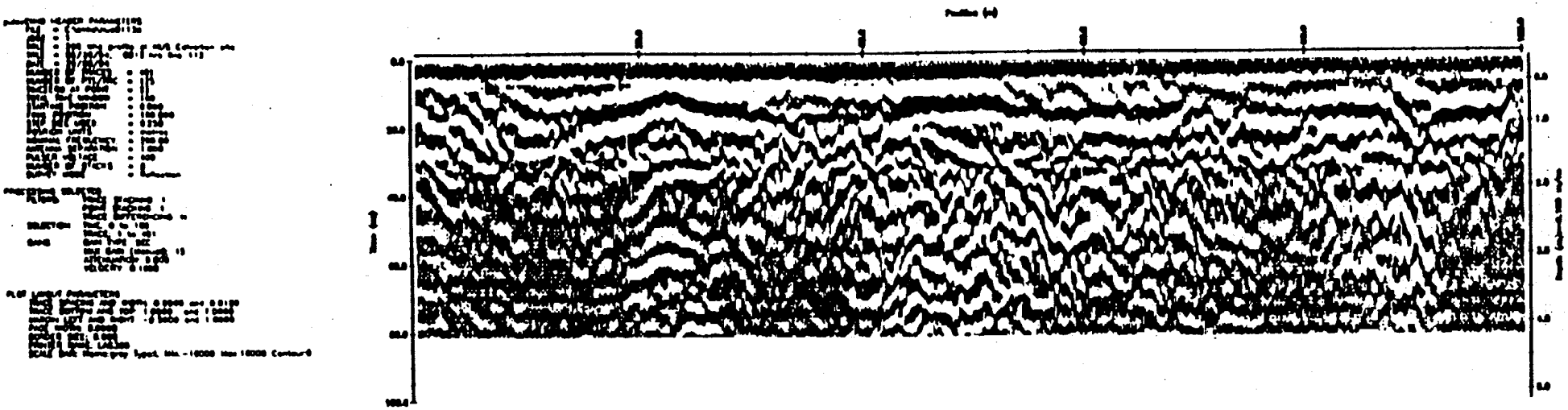


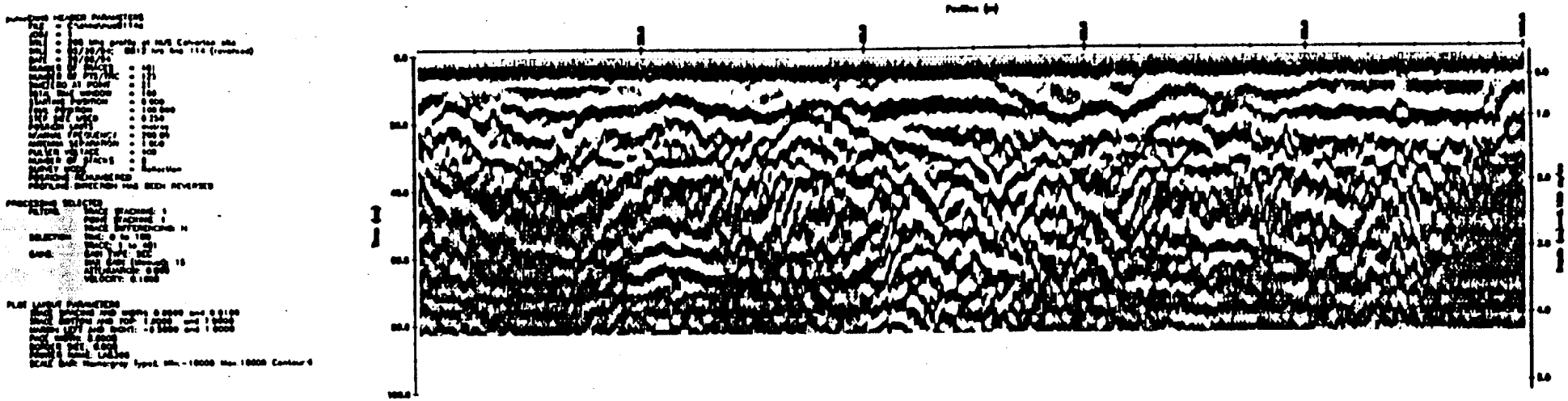


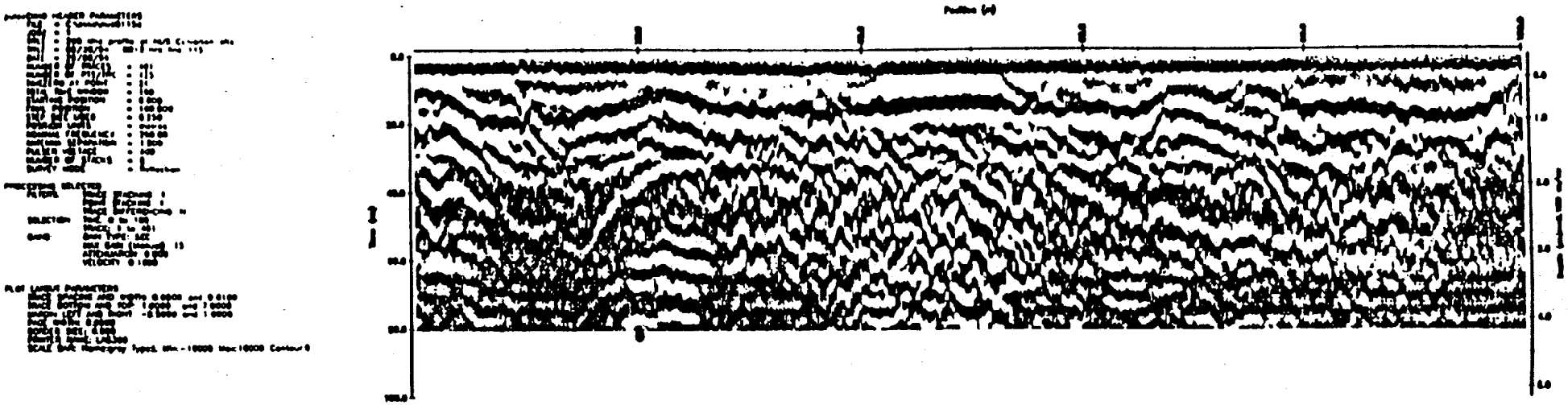


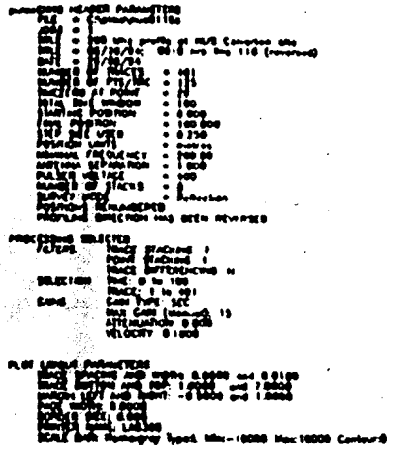


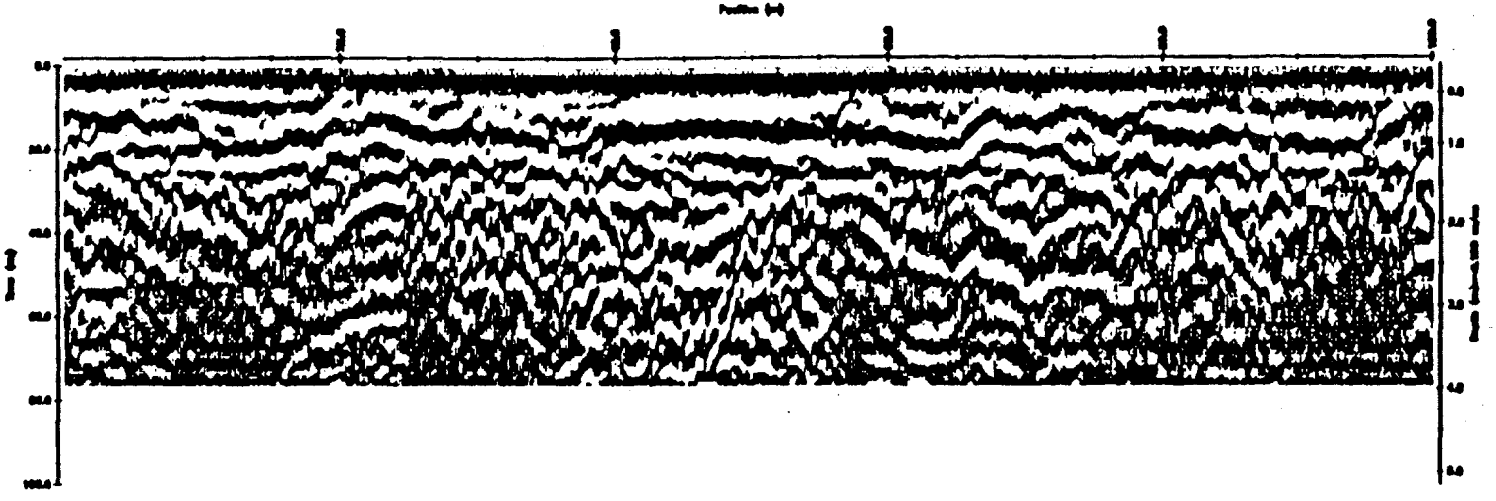


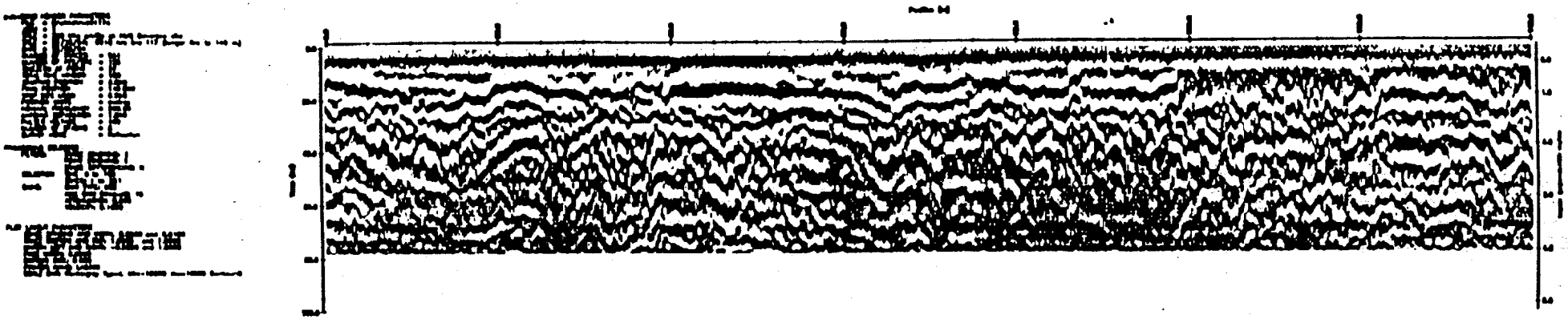


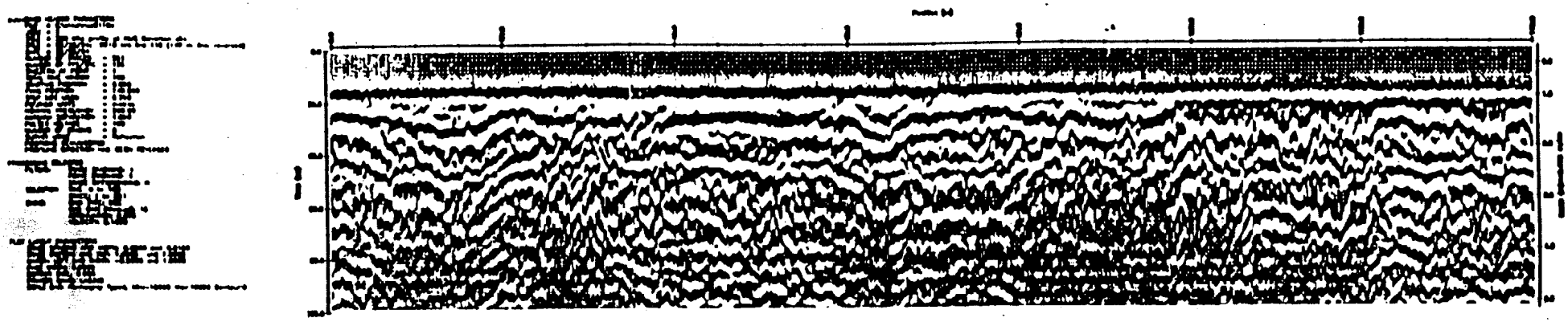


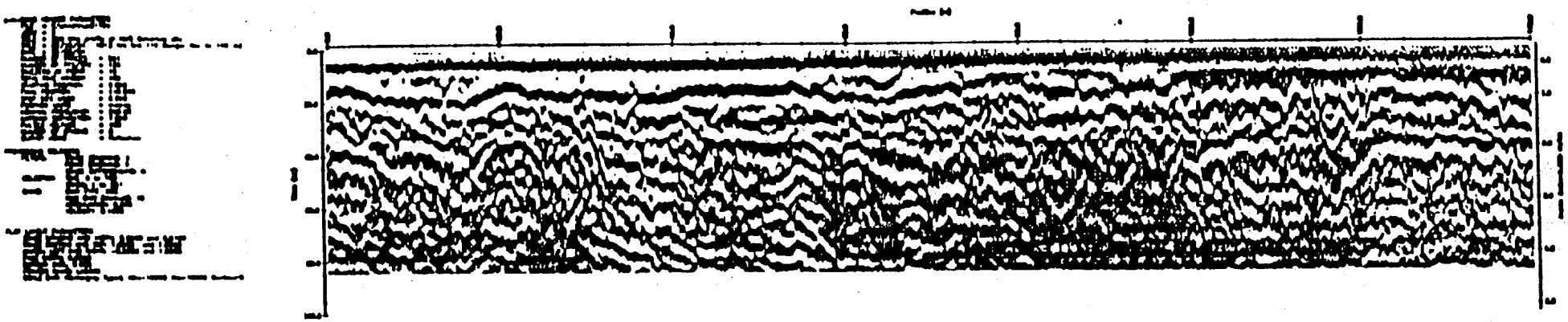


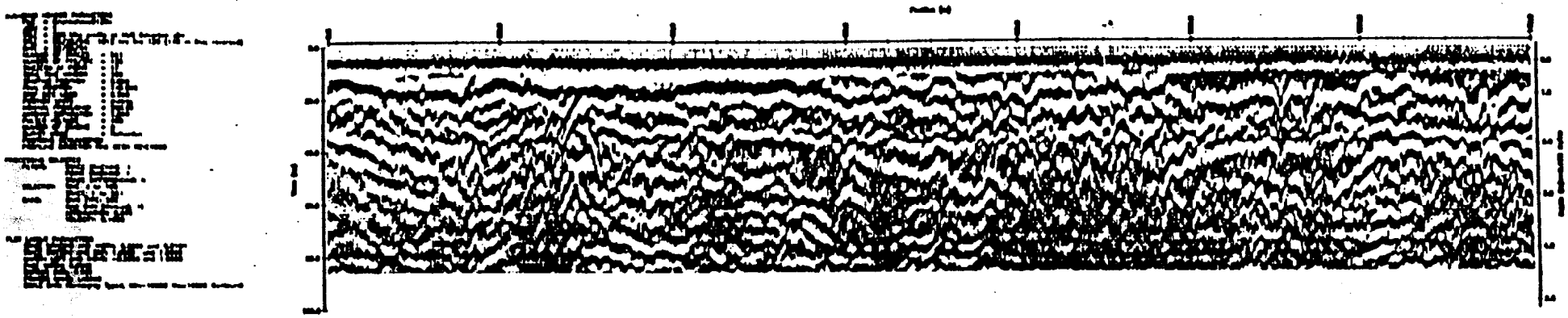


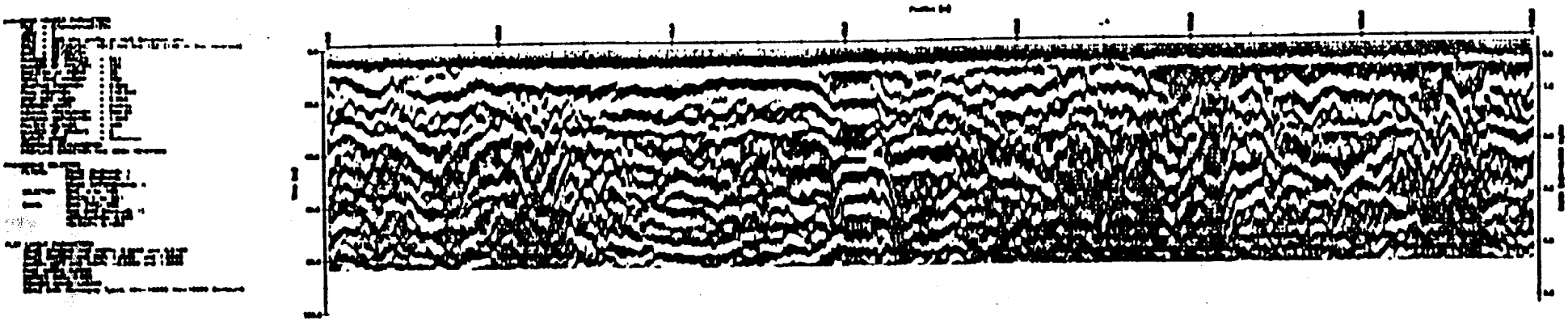


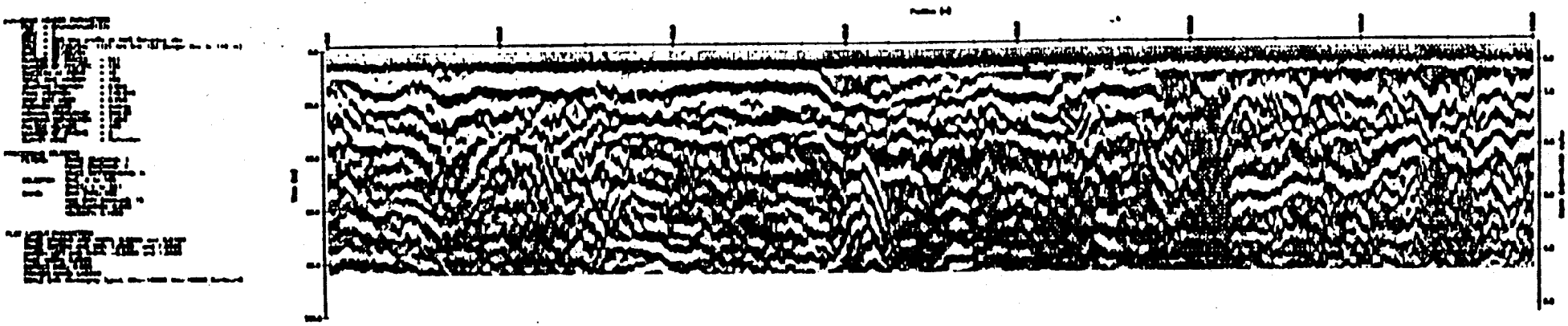


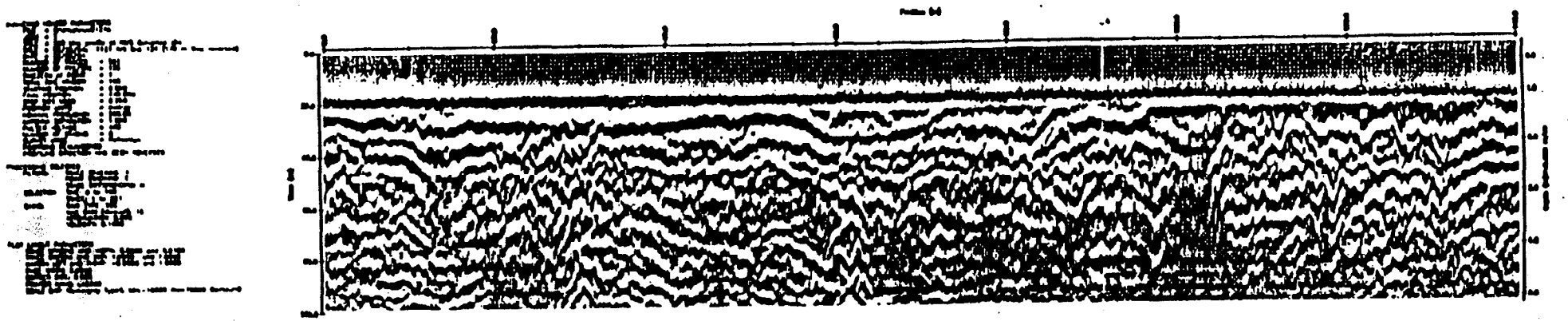


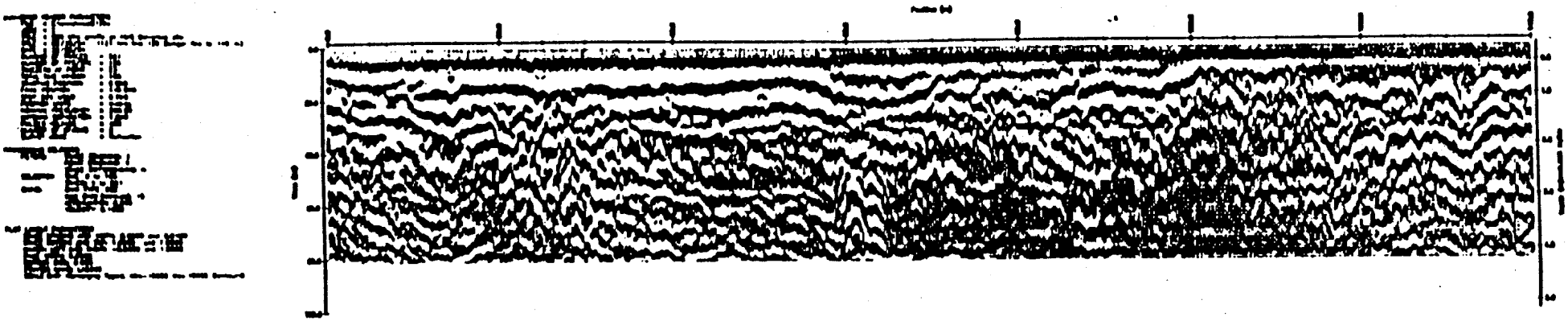


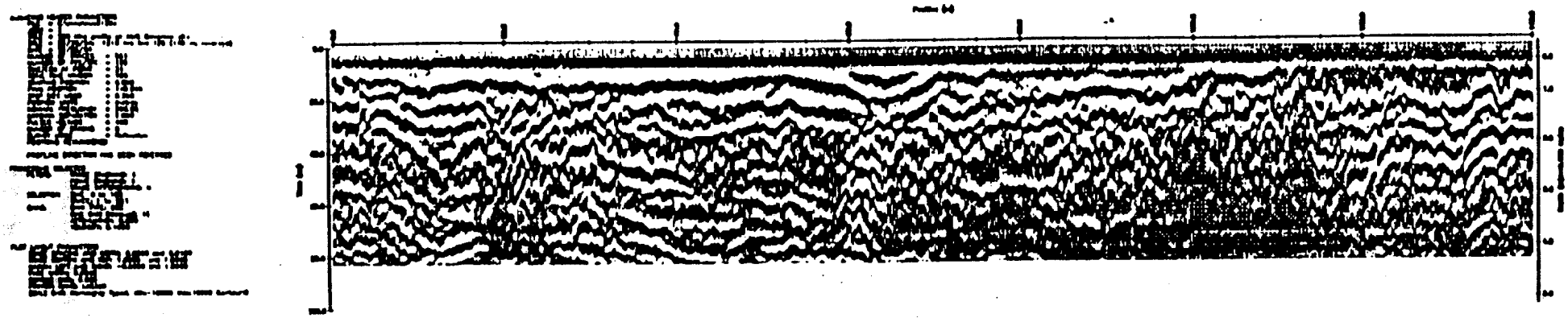


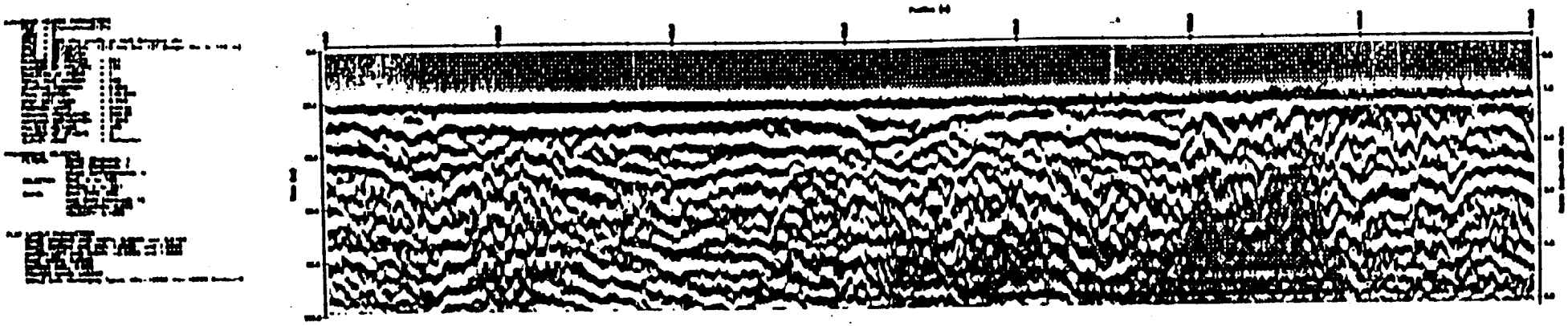


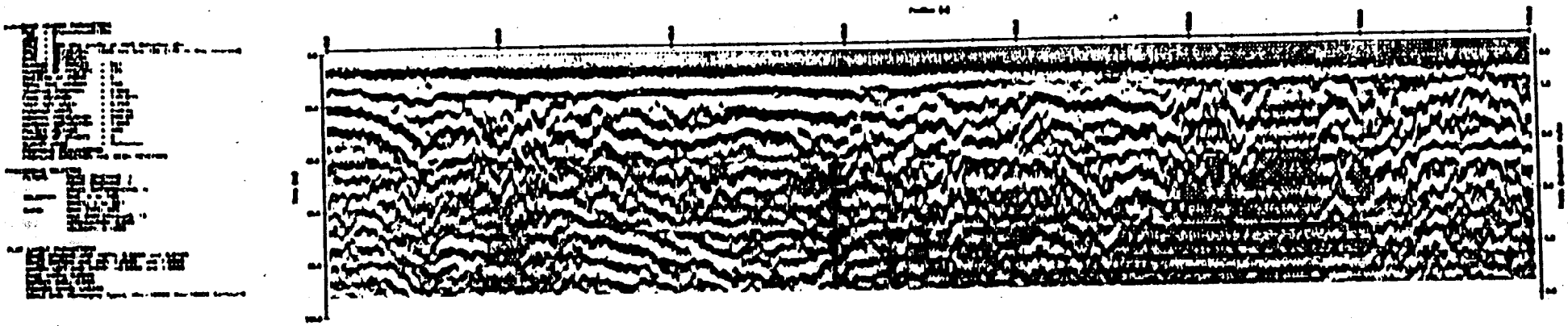


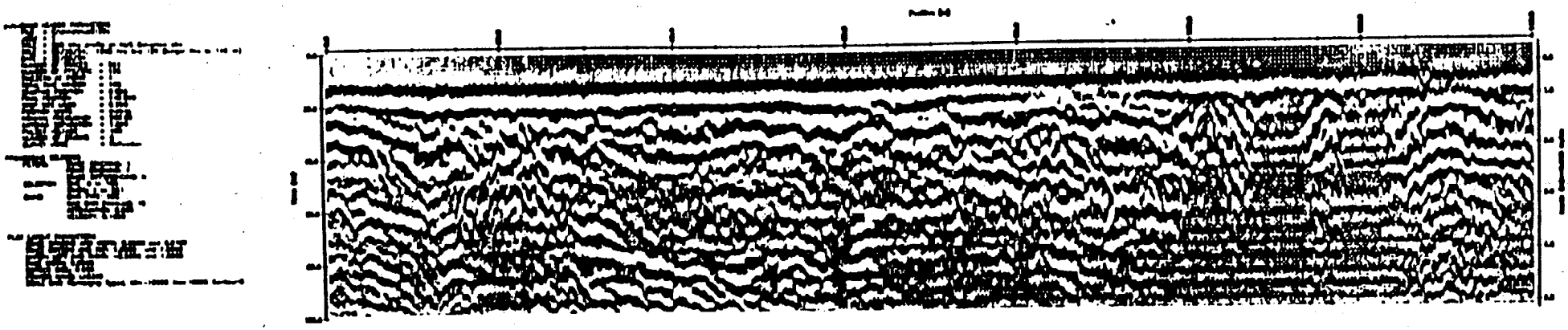


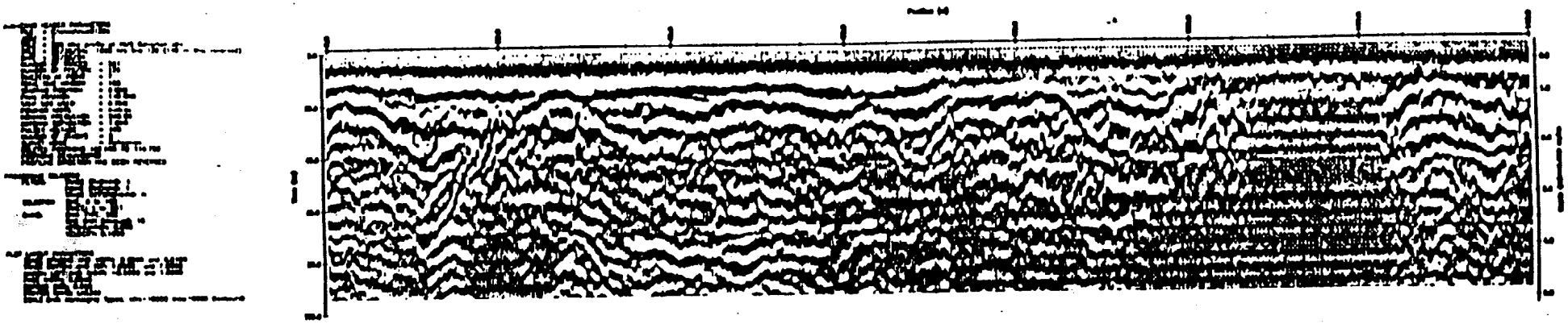


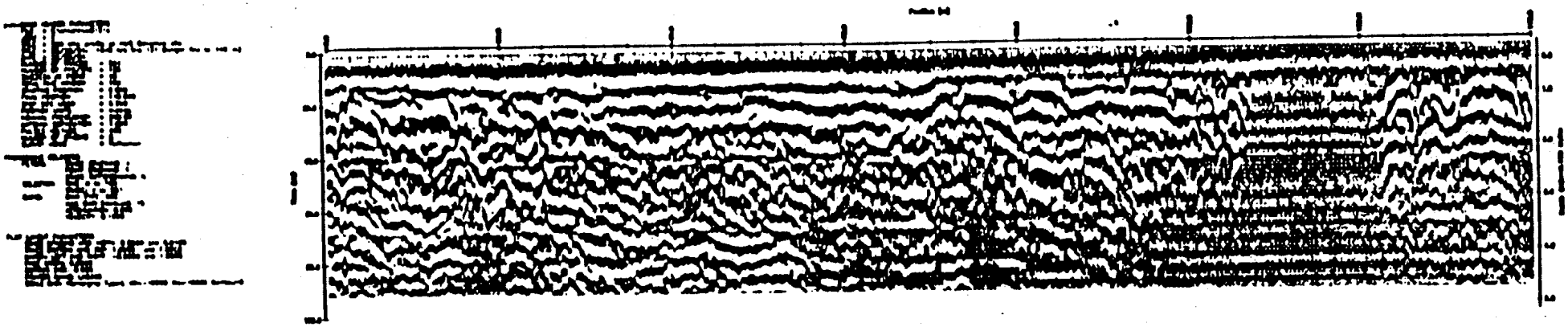


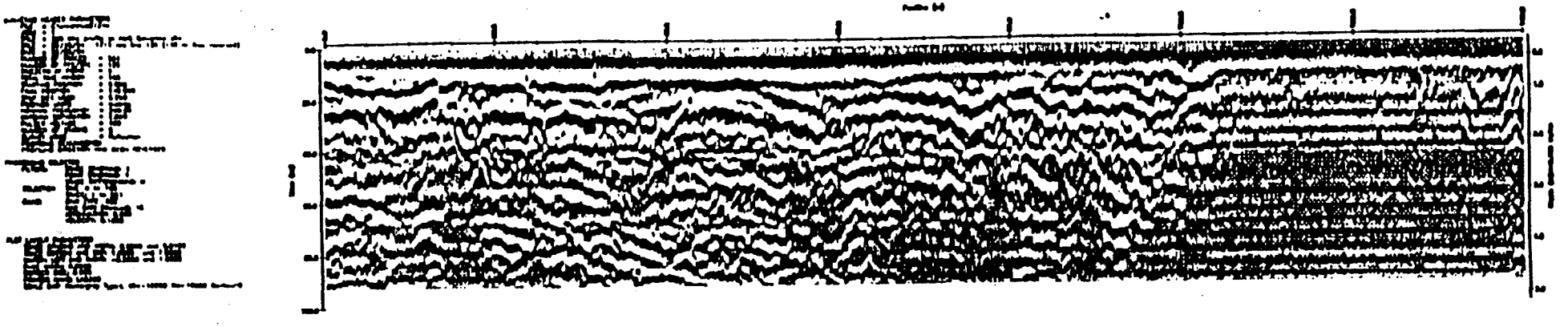


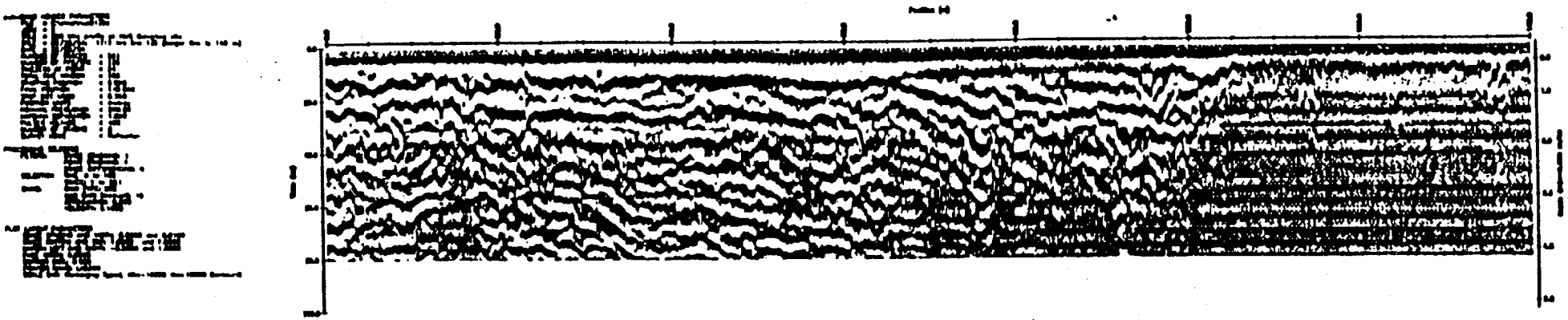


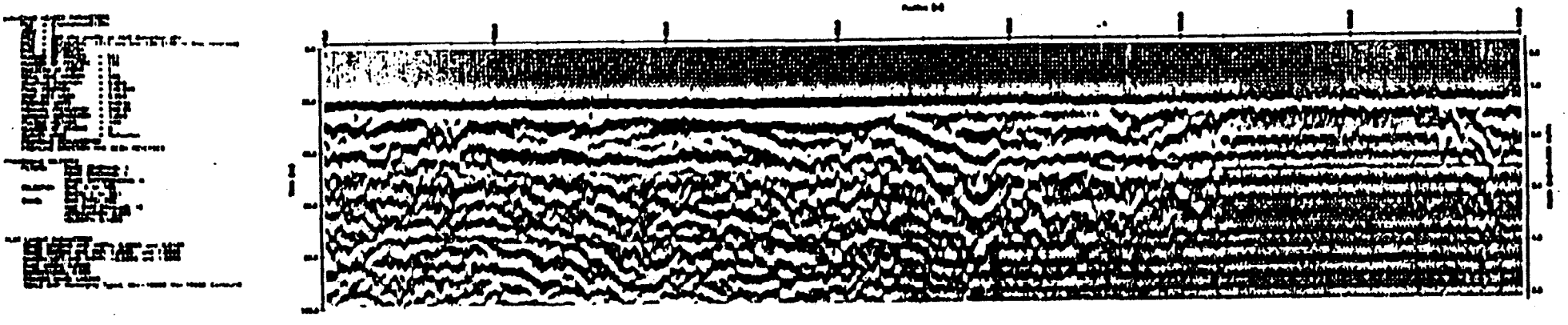


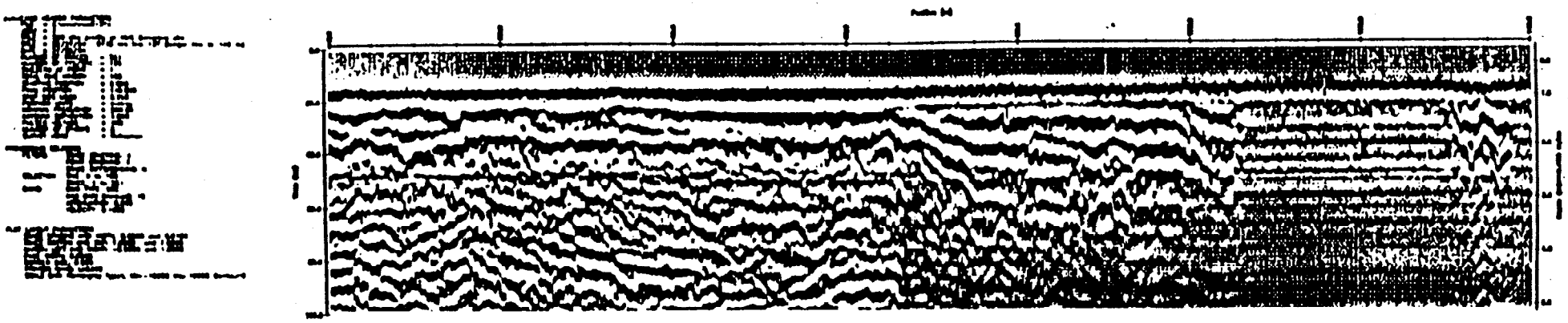












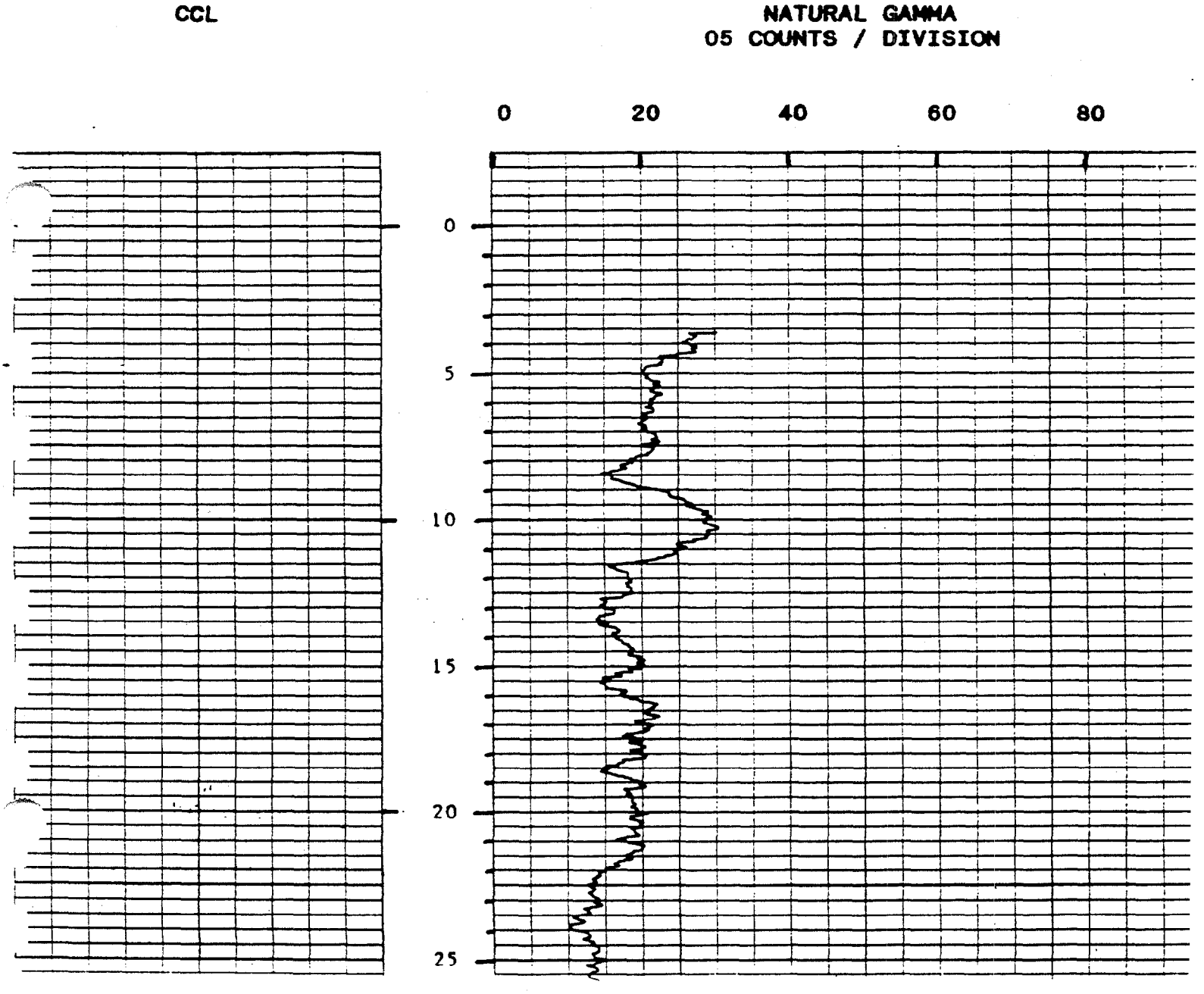
APPENDIX I

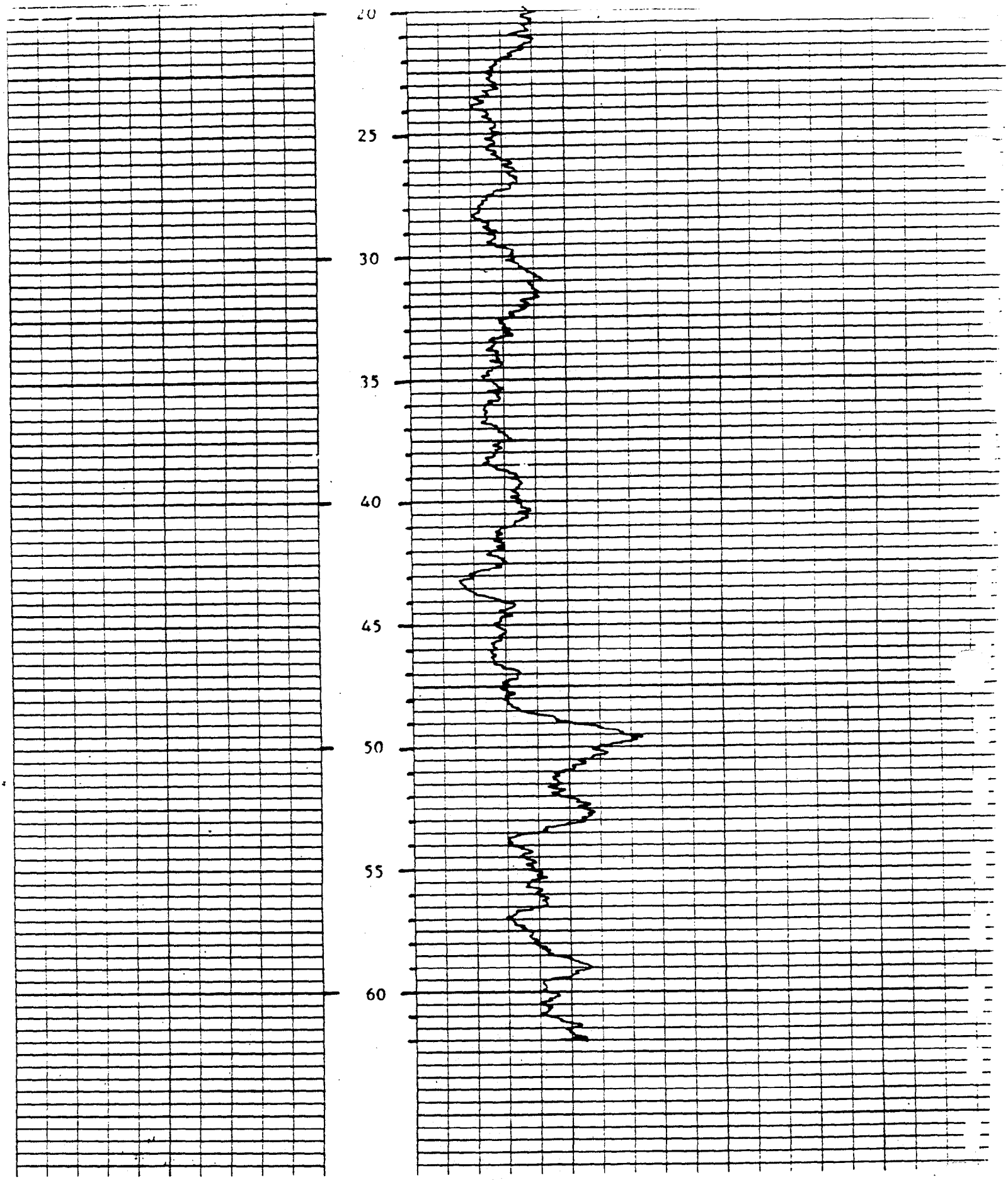
GAMMA RAY LOGS

AQUA TERRA GEOPHYSICS INC.
41 BAY ROAD
BROOKHAVEN NY 11719
(516) 286 - 7699

WELL # FT-MW 01-I
DATE : 7/8/94

CLIENT : U.S. Navy BROWN & ROOT FIELD REPRESENTATIVE : Paul Davis
WELL LOCATION : Grumman Fire Training Area, Calverton NY.
DRILLER : Aquifer Drilling & Testing Inc. DRILLED DEPTH : 80 ft.
LOGGING UNIT : MLS Widco 1502 OPERATOR : B. Rice LOGGED DEPTH : 62 ft.
HOLE DIAMETER : 8 in. CASING DIAMETER & TYPE : 3 in. H.S. Augers, 0-80 ft.
TIME CONSTANT : 3 LOGGING SPEED : 10 ft./min. RANGE : 20 counts/sec./in.
COMMENTS : Project # 0206-0600, NWIRP Calverton (Grumman)

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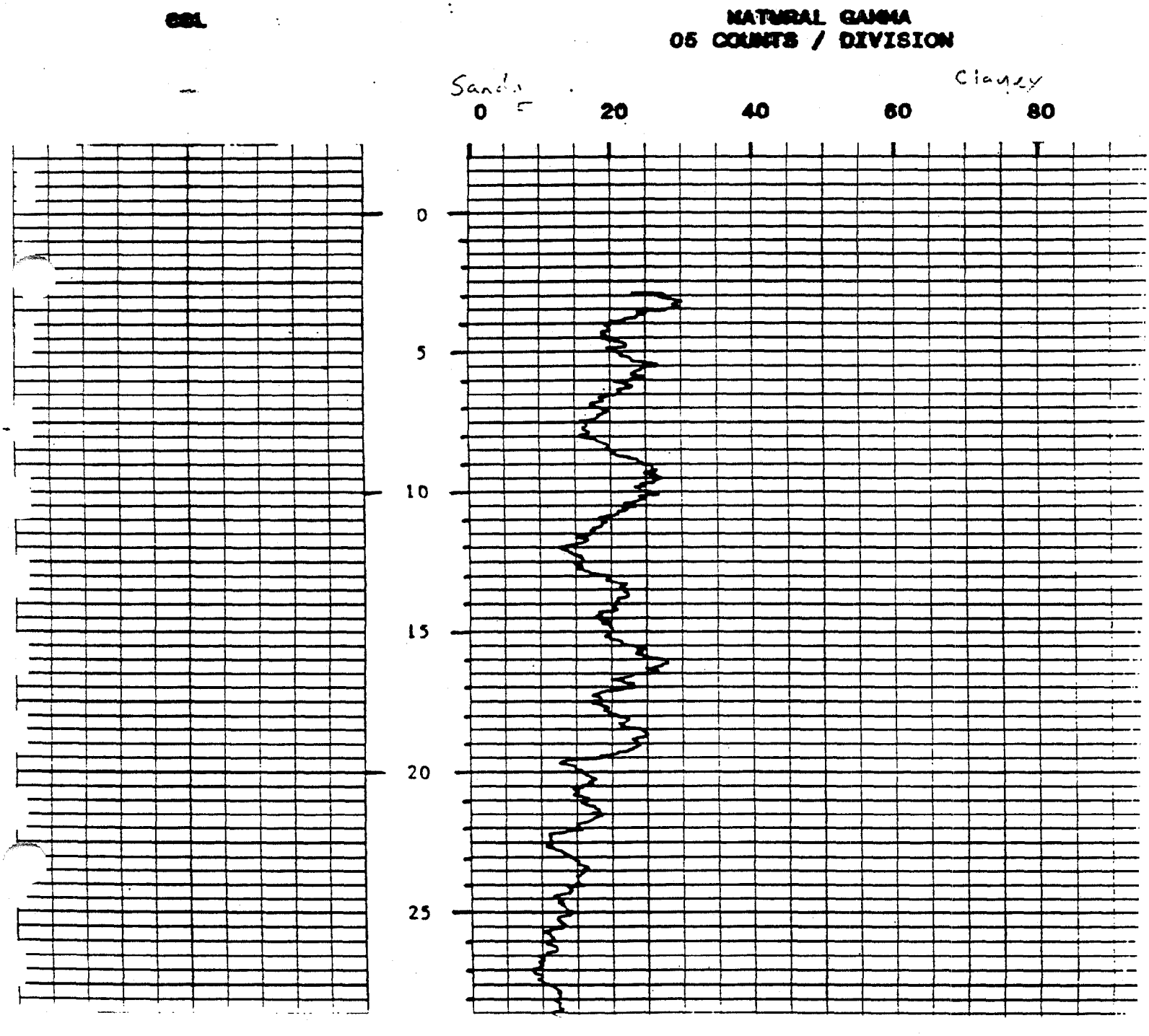
AQUA TERRA GEOPHYSICS INC.
41 BAY ROAD
BROOKHAVEN NY 11719
(516) 286 - 7699

WELL # FT-MW 01-I
DATE : 7/13/94

:LIENT : U.S.Navy BROWN & ROOT FIELD REPRESENTATIVE : Mark Mengel
.ELL LOCATION : Grumman Fire Training Area, Calverton NY.
DRILLER : Aquifer Drilling & Testing Inc. DRILLED DEPTH : 80 ft.
.OGGING UNIT : MLS Widco 1502 OPERATOR : B. Rice LOGGED DEPTH : 75 ft.
IOLE DIAMETER : 11 in. CASING DIAMETER & TYPE : 8 in. H.S. Augers, 0-80 ft.
TIME CONSTANT : 3 LOGGING SPEED : 10 ft./min. RANGE : 20 counts/sec./in.
COMMENTS : Project # 0206-0600, NWIRP Calverton (Grumman)



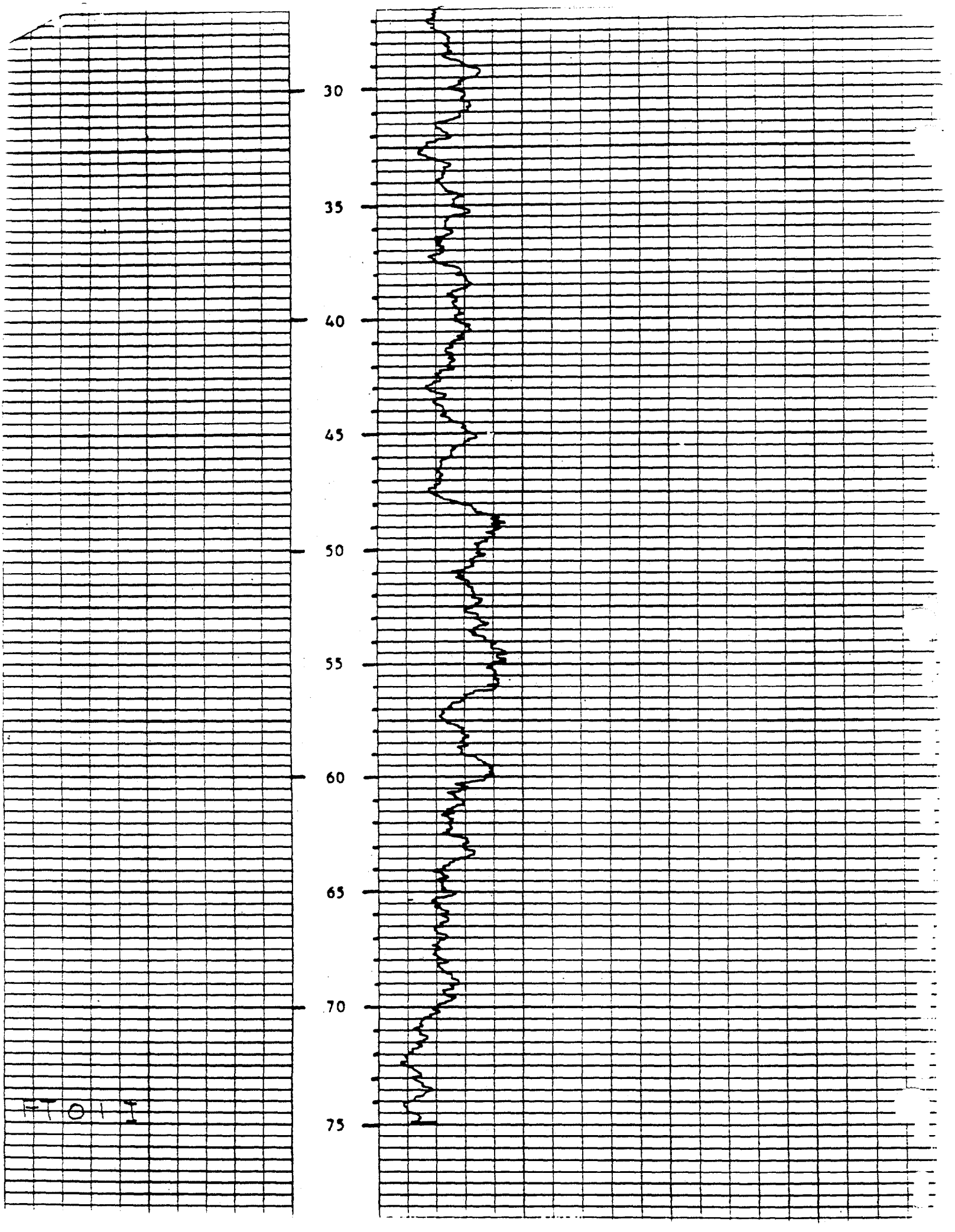

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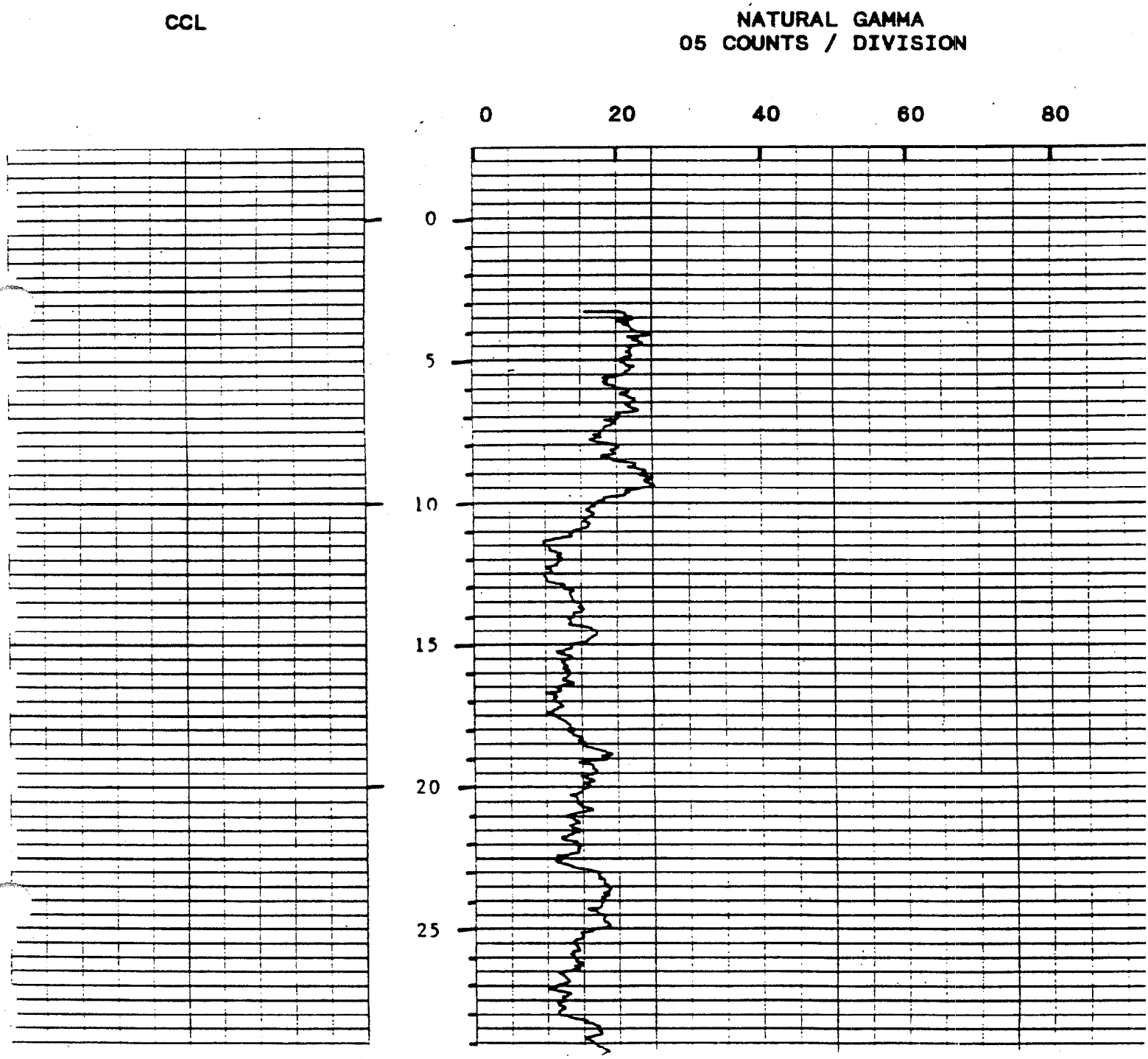
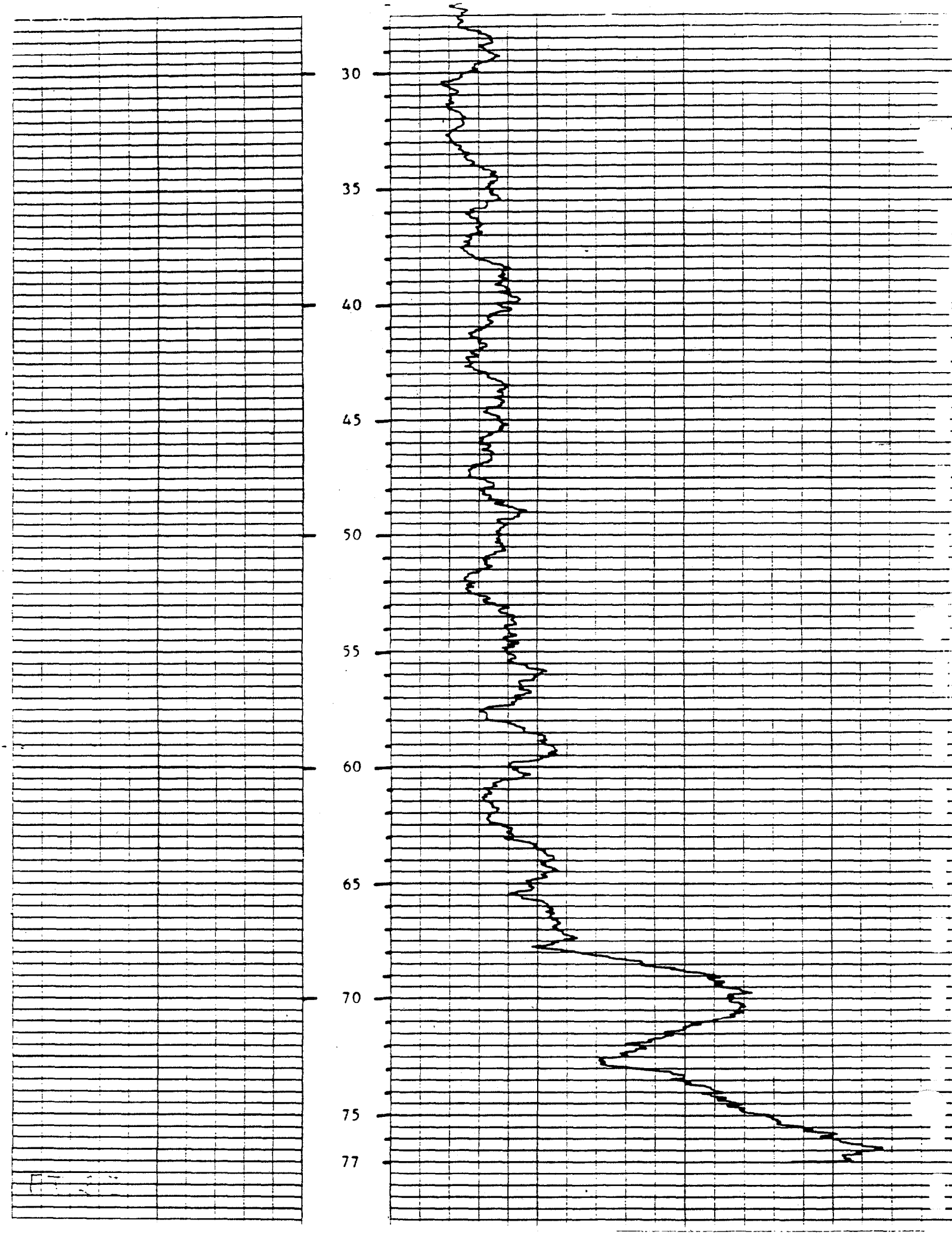
FIGURE

AQUA TERRA GEOPHYSICS INC.
41 BAY ROAD
BROOKHAVEN NY 11719
(516) 286 - 7699

WELL # FT-MW 02-I
DATE : 7/20/94

CLIENT : U.S. Navy BROWN & ROOT FIELD REPRESENTATIVE : Paul Davis
WELL LOCATION : Grumman Fire Training Area, Calverton, NY
DRILLER : Aquifer Drilling & Testing Inc. DRILLED DEPTH : 78.5 ft.
LOGGING UNIT : MLS Widco 1502 OPERATOR : B. Rice LOGGED DEPTH : 77.0 ft.
HOLE DIAMETER : 11 in. CASING DIAMETER & TYPE : 8 in. H.S. Augers, 0-78.5 ft
TIME CONSTANT : 3 LOGGING SPEED : 10 ft./min. RANGE : 20 counts/sec./in.
COMMENTS : Project # 0206-0600, NWIRP Calverton (Grumman)

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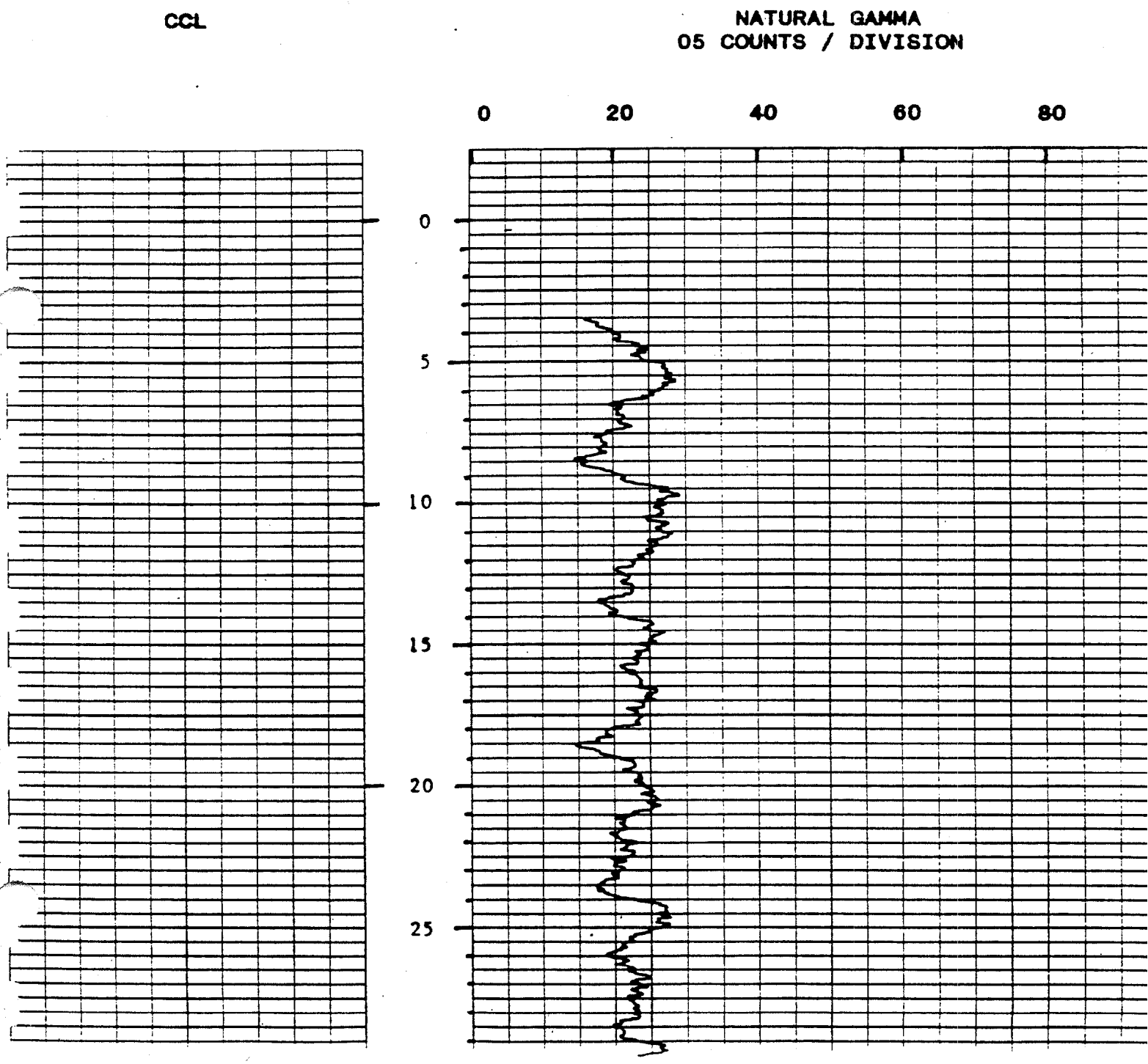
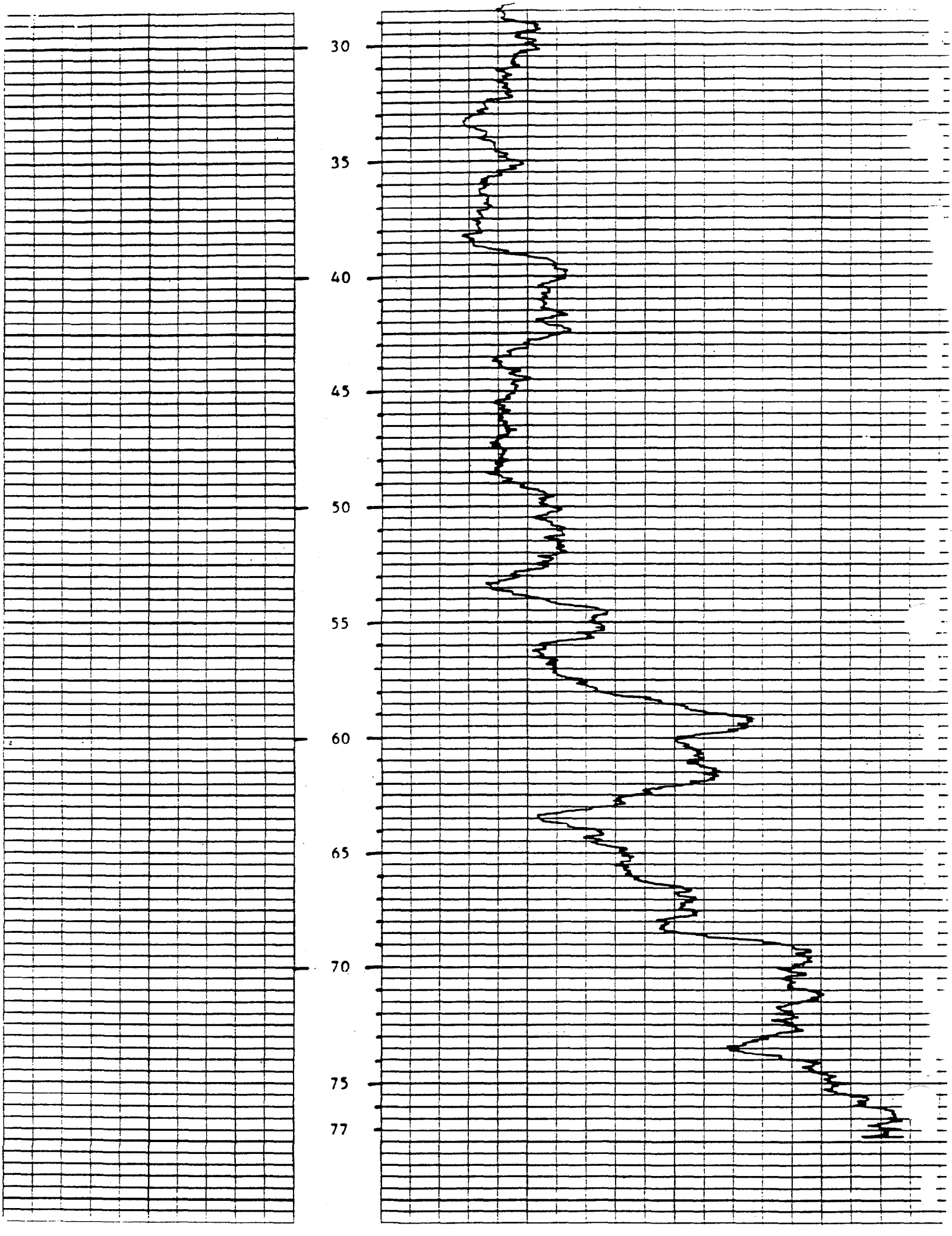
AQUA TERRA GEOPHYSICS INC.
41 BAY ROAD
BROOKHAVEN NY 11719
(516) 286 - 7699

WELL # FT-MW 05-I
DATE : 7/19/94

CLIENT : U.S. Navy BROWN & ROOT FIELD REPRESENTATIVE : Paul Davis
WELL LOCATION : Grumman Fire Training Area, S. perimeter road, Calverton, NY
DRILLER : Aquifer Drilling & Testing Inc. DRILLED DEPTH : 80 ft.
LOGGING UNIT : MLS Widco 1502 OPERATOR : B. Rice LOGGED DEPTH : 77 ft.
HOLE DIAMETER : 11 in. CASING DIAMETER & TYPE : 8 in. H.S. Augers, 0-80 ft.
TIME CONSTANT : 3 LOGGING SPEED : 10 ft./min. RANGE : 20 counts/sec./in.
COMMENTS : Project # 0206-0600, NWIRP Calverton (Grumman)

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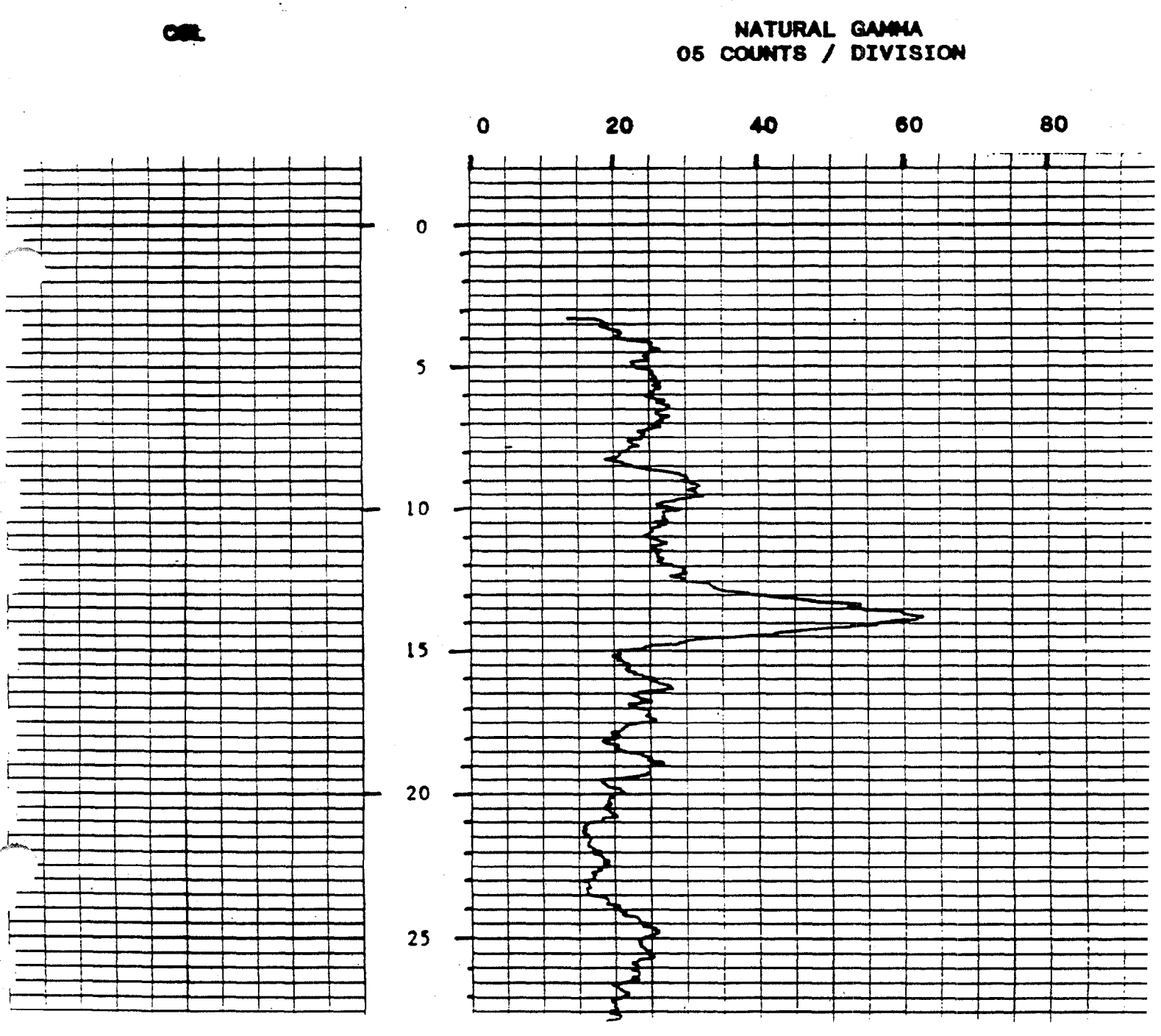
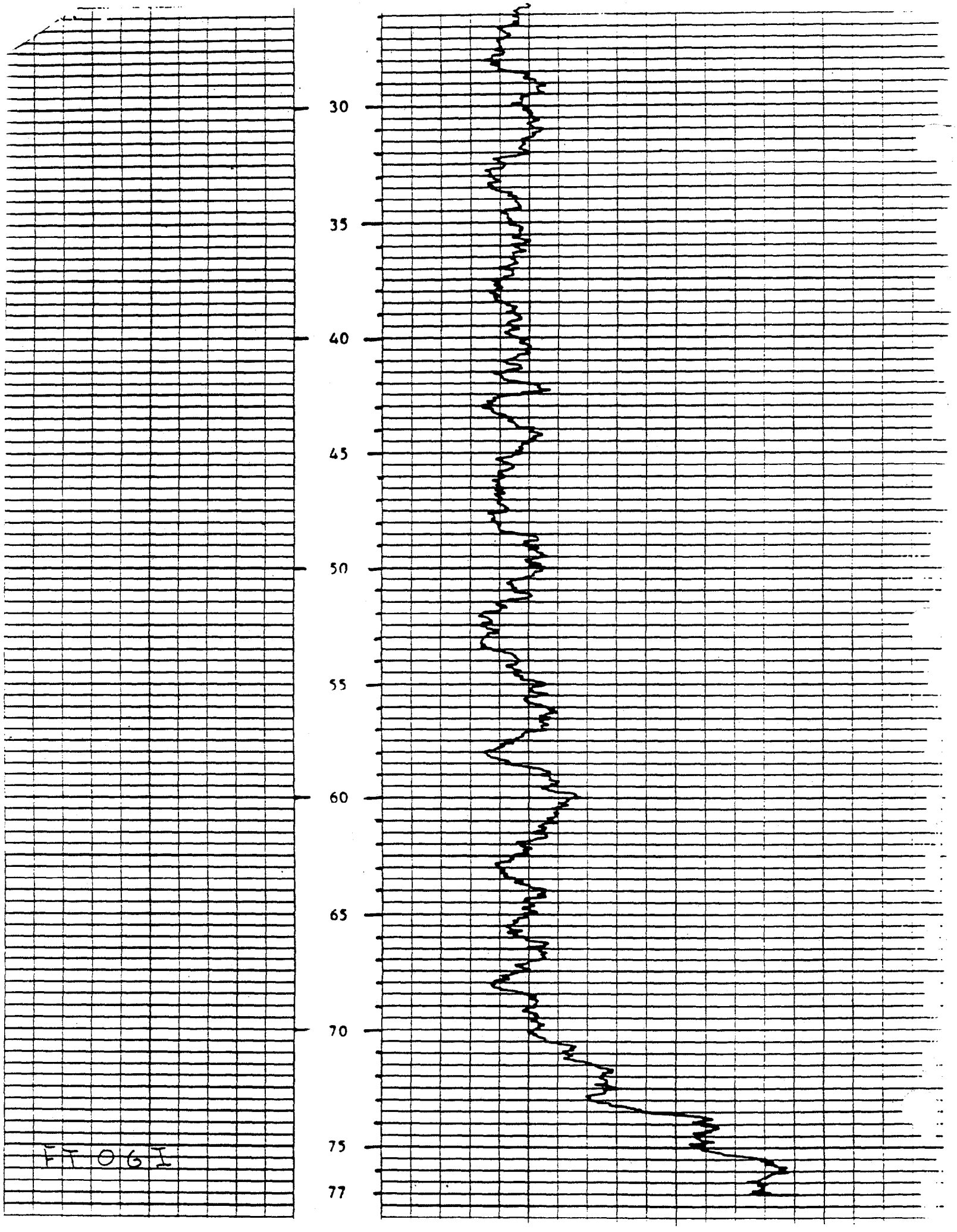
AQUA TERRA GEOPHYSICS INC.
41 BAY ROAD
BROOKHAVEN NY 11719
(516) 286 - 7699

WELL # FT-MW 06-I
DATE : 7/14/94

CLIENT : U.S.Navy BROWN & ROOT FIELD REPRESENTATIVE : Terry Rojahn
WELL LOCATION : Grumman Fire Training Area, S. perimeter road, Calverton NY.
DRILLER : Aquifer Drilling & Testing Inc. DRILLED DEPTH : 80 ft.
LOGGING UNIT : MLS Widco 1502 OPERATOR : B. Rice LOGGED DEPTH : 77 ft.
HOLE DIAMETER : 11 in. CASING DIAMETER & TYPE : 8 in. H.S. Augers, 0-80 ft.
TIME CONSTANT : 3 LOGGING SPEED : 10 ft./min. RANGE : 20 counts/sec./in.
COMMENTS : Project # 0206-0600, NWIRP Calverton (Grumman)

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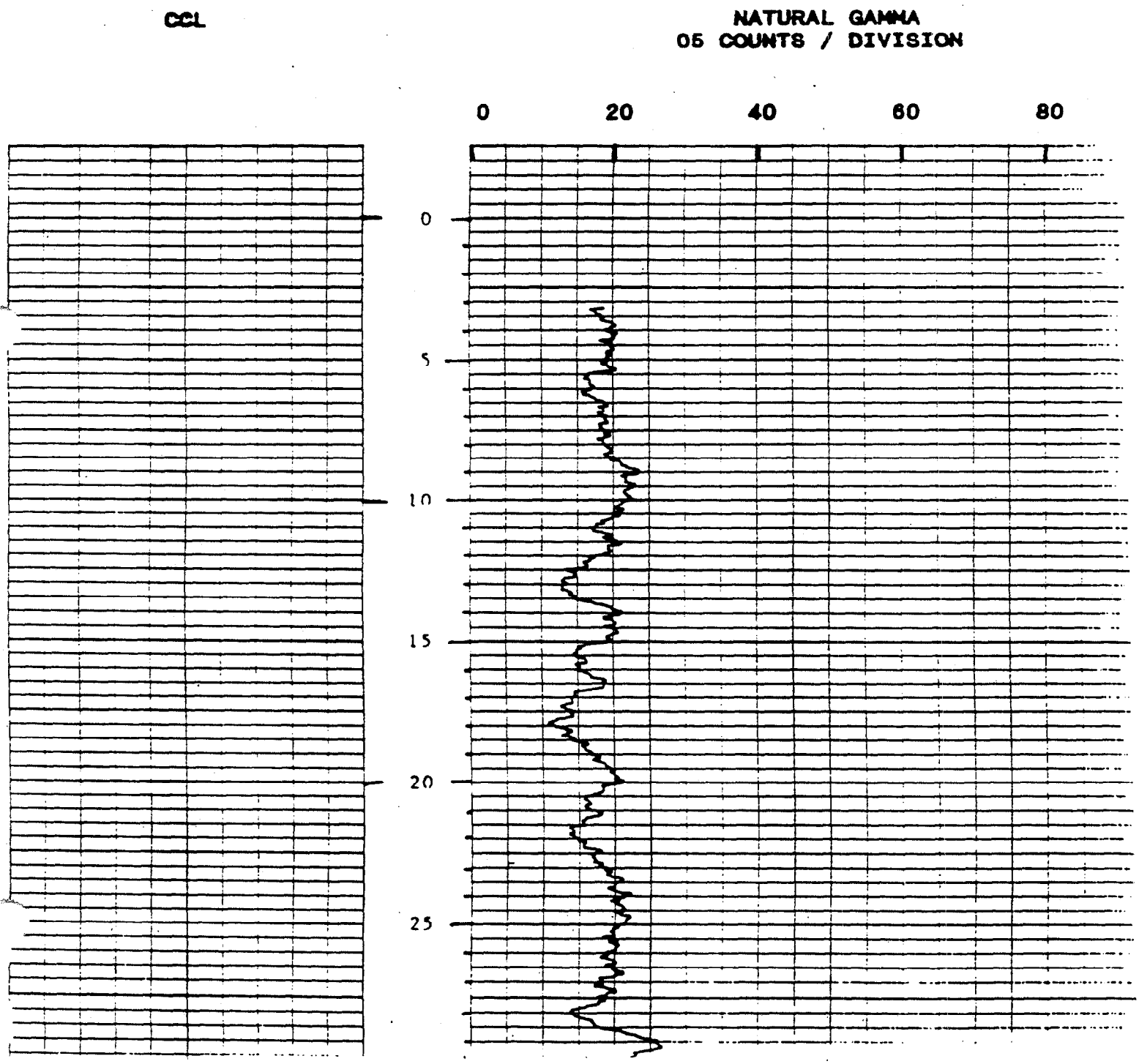
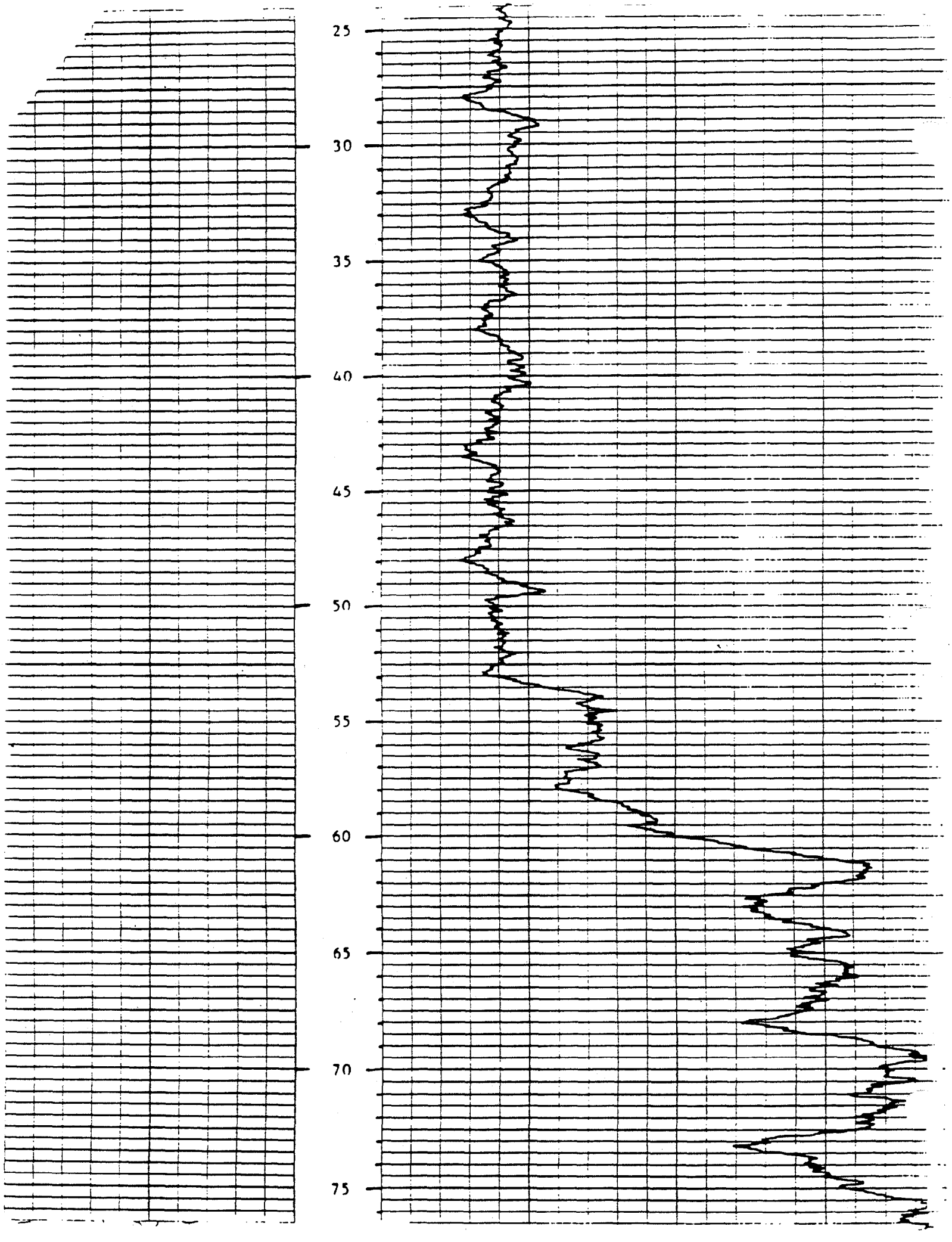
FT 06 I

AQUA TERRA GEOPHYSICS INC.
41 BAY ROAD
BROOKHAVEN NY 11719
(516) 286 - 7699

WELL # FC-MW01-I
DATE : 7/25/94

CLIENT : U.S. Navy BROWN & ROOT FIELD REPRESENTATIVE : Paul Davis
WELL LOCATION : Grumman Fuel Calibration Area, Calverton, NY.
DRILLER : Aquifer Drilling & Testing Inc. DRILLED DEPTH : 80 ft.
LOGGING UNIT : MLS Widco 1502 OPERATOR : B. Rice LOGGED DEPTH : 77 ft.
HOLE DIAMETER : 11 in. CASING DIAMETER & TYPE : 8 in. H.S. Augers, 0-80 ft.
TIME CONSTANT : 3 LOGGING SPEED : 10 ft./min. RANGE : 20 counts/sec./in.
COMMENTS : Project # 0206-0600, NWIRP Calverton (Grumman)

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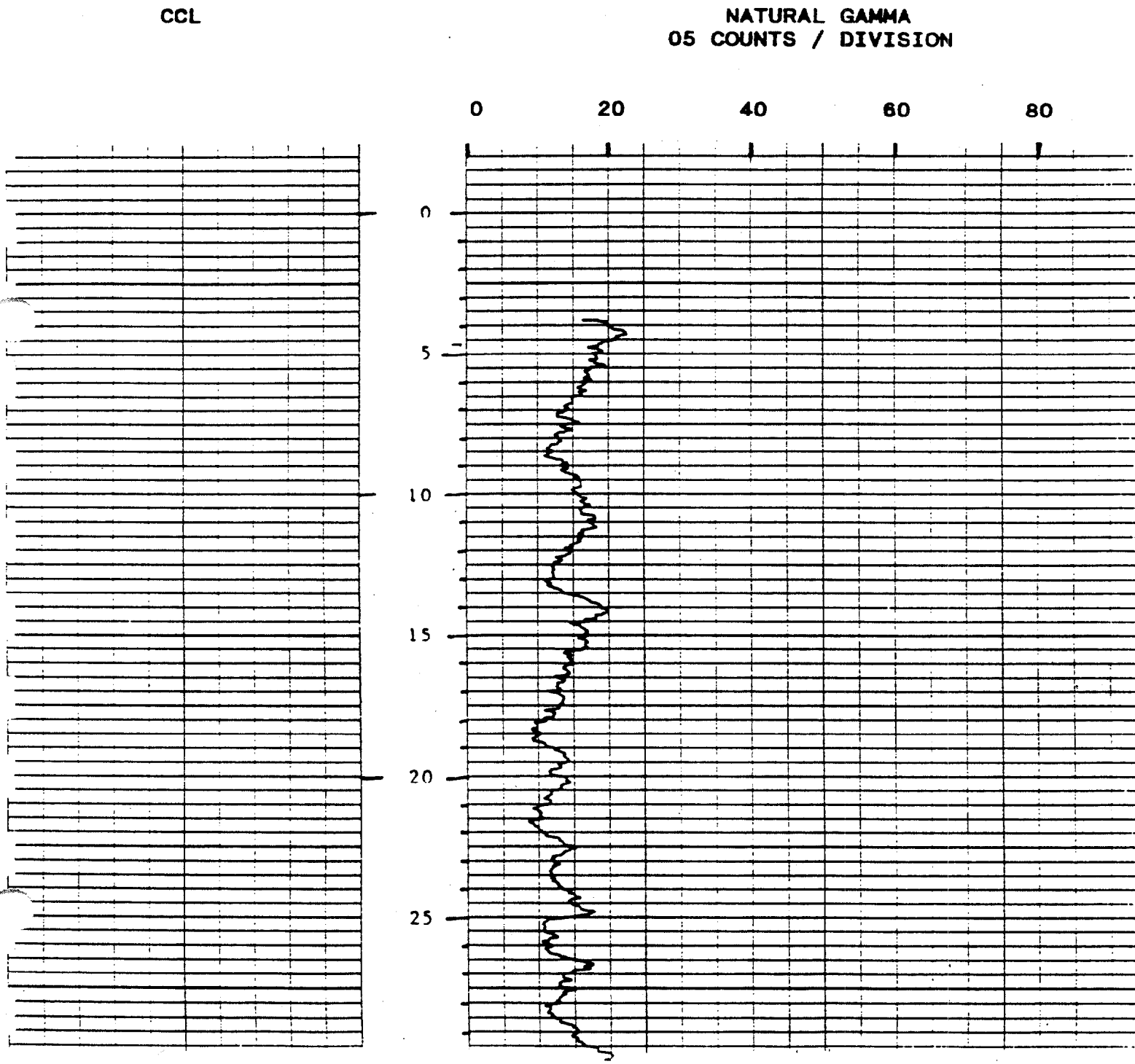
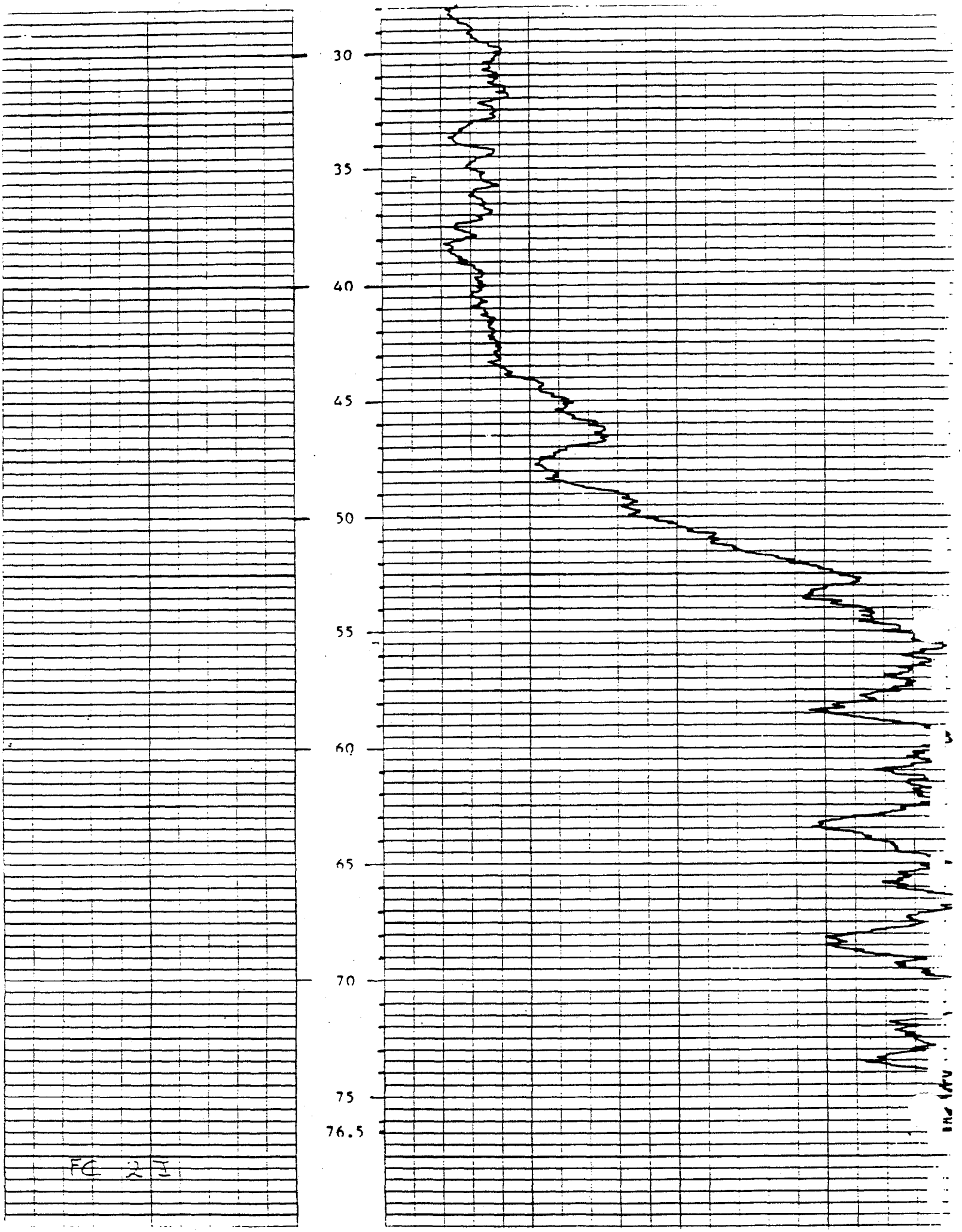
AQUA TERRA GEOPHYSICS INC.
41 BAY ROAD
BROOKHAVEN NY 11719
(516) 286 - 7699

WELL # FC-MW02-I
DATE : 7/27/94

CLIENT : U.S. Navy BROWN & ROOT FIELD REPRESENTATIVE : Paul Davis
WELL LOCATION : Grumman Fuel Calibration Area, Calverton, NY.
DRILLER : Aquifer Drilling & Testing Inc. DRILLED DEPTH : 80 ft.
LOGGING UNIT : MLS Widco 1502 OPERATOR : B. Rice LOGGED DEPTH : 76.5 ft.
HOLE DIAMETER : 8 in. CASING DIAMETER & TYPE : 3 in. H.S. Augers, 0-80 ft.
TIME CONSTANT : 3 LOGGING SPEED : 10 ft./min. RANGE : 20 counts/sec./in.
COMMENTS : Project # 0206-0600, NWIRP Calverton (Grumman)

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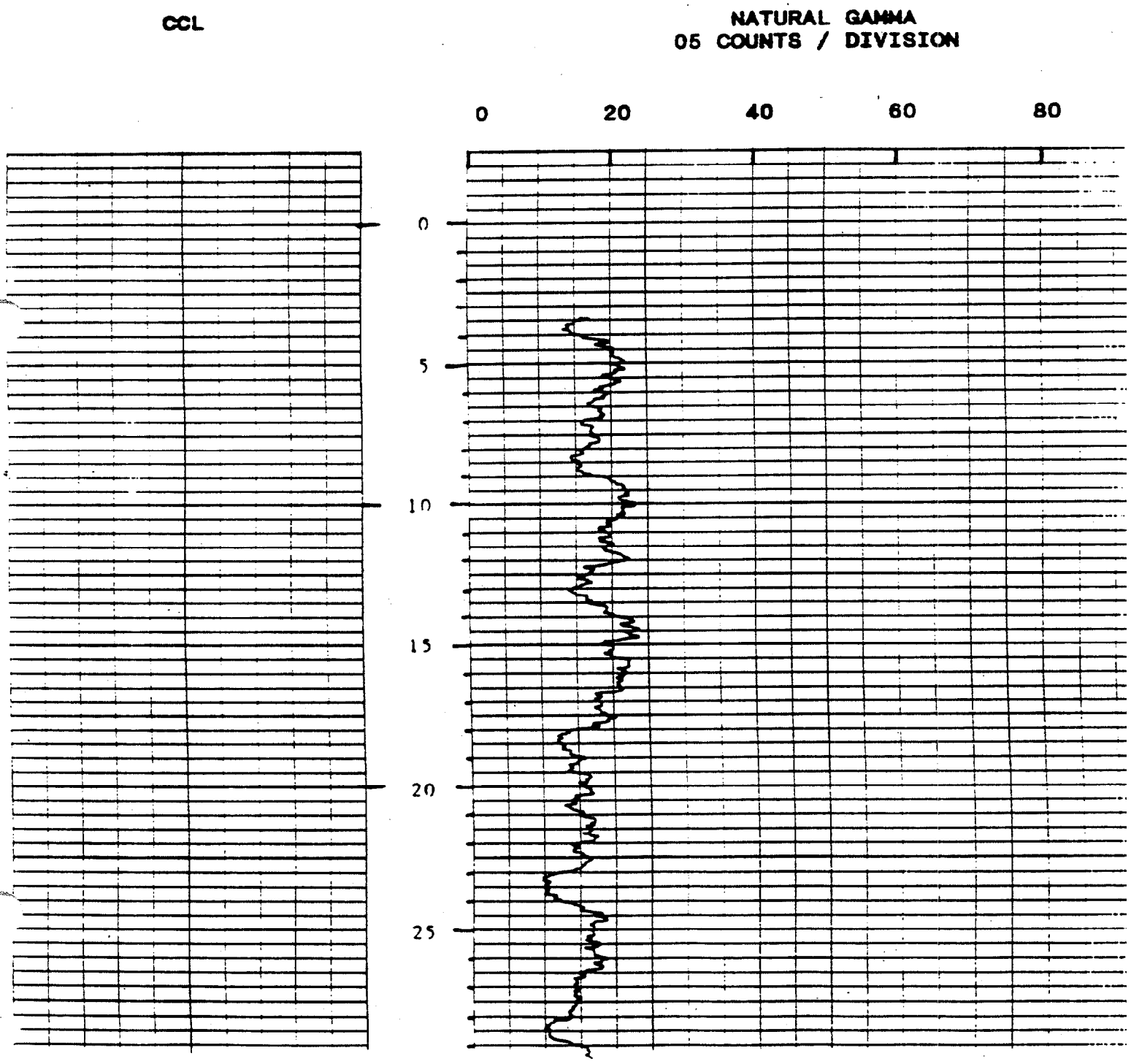
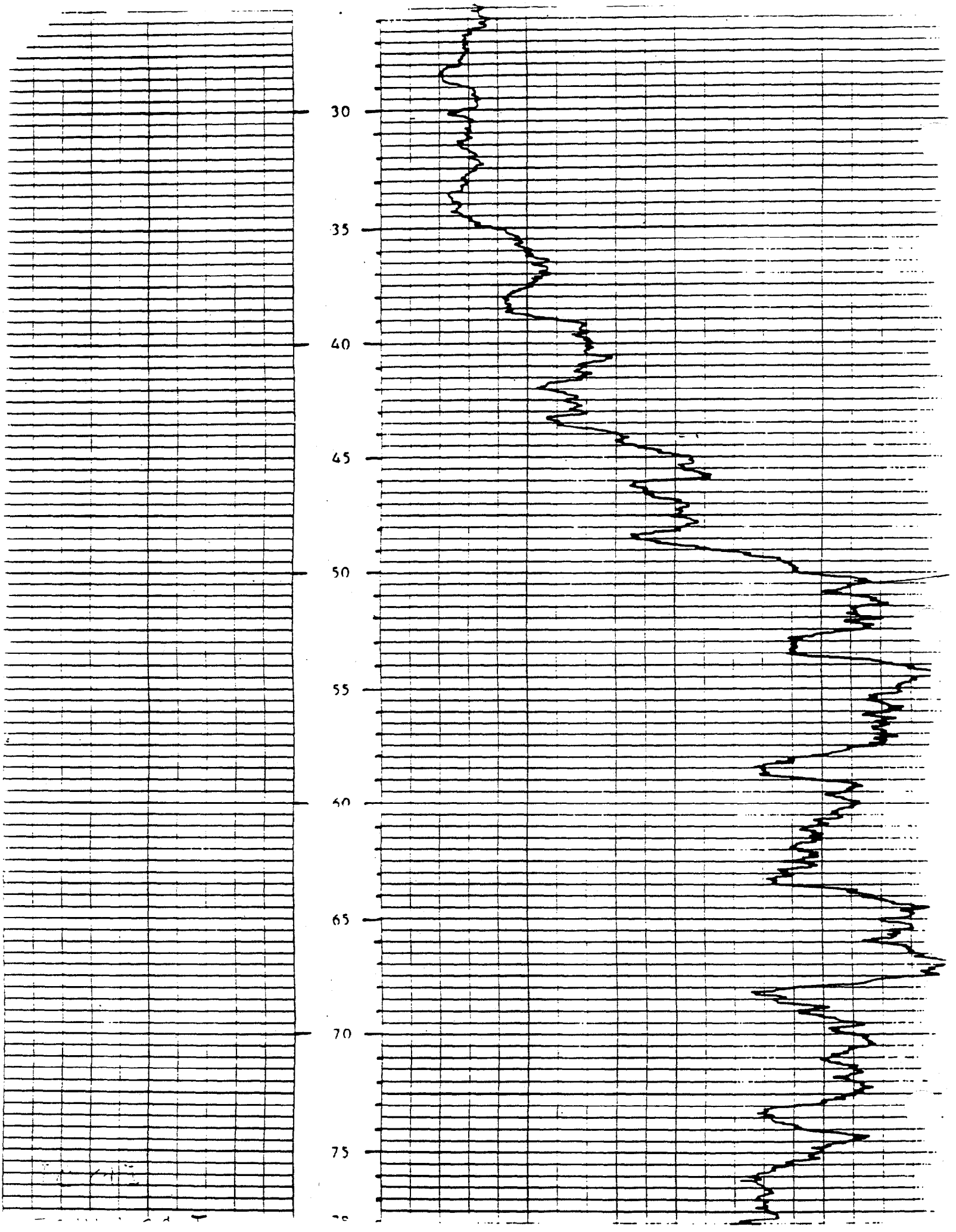
AQUA TERRA GEOPHYSICS INC.
41 BAY ROAD
BROOKHAVEN NY 11719
(516) 286 - 7699

WELL # FC-MW04-I
DATE : 7/26/94

CLIENT : U.S. Navy BROWN & ROOT FIELD REPRESENTATIVE : Paul Davis
WELL LOCATION : Grumman Fuel Calibration Area, Calverton, NY.
DRILLER : Aquifer Drilling & Testing Inc. DRILLED DEPTH : 80 ft.
LOGGING UNIT : MLS Widco 1502 OPERATOR : B. Rice LOGGED DEPTH : 78 ft.
HOLE DIAMETER : 11 in. CASING DIAMETER & TYPE : 8 in. H.S. Augers, 0-80 ft.
TIME CONSTANT : 3 LOGGING SPEED : 10 ft./min. RANGE : 20 counts/sec./in.
COMMENTS : Project # 0206-0600, NWIRP Calverton (Grumman)

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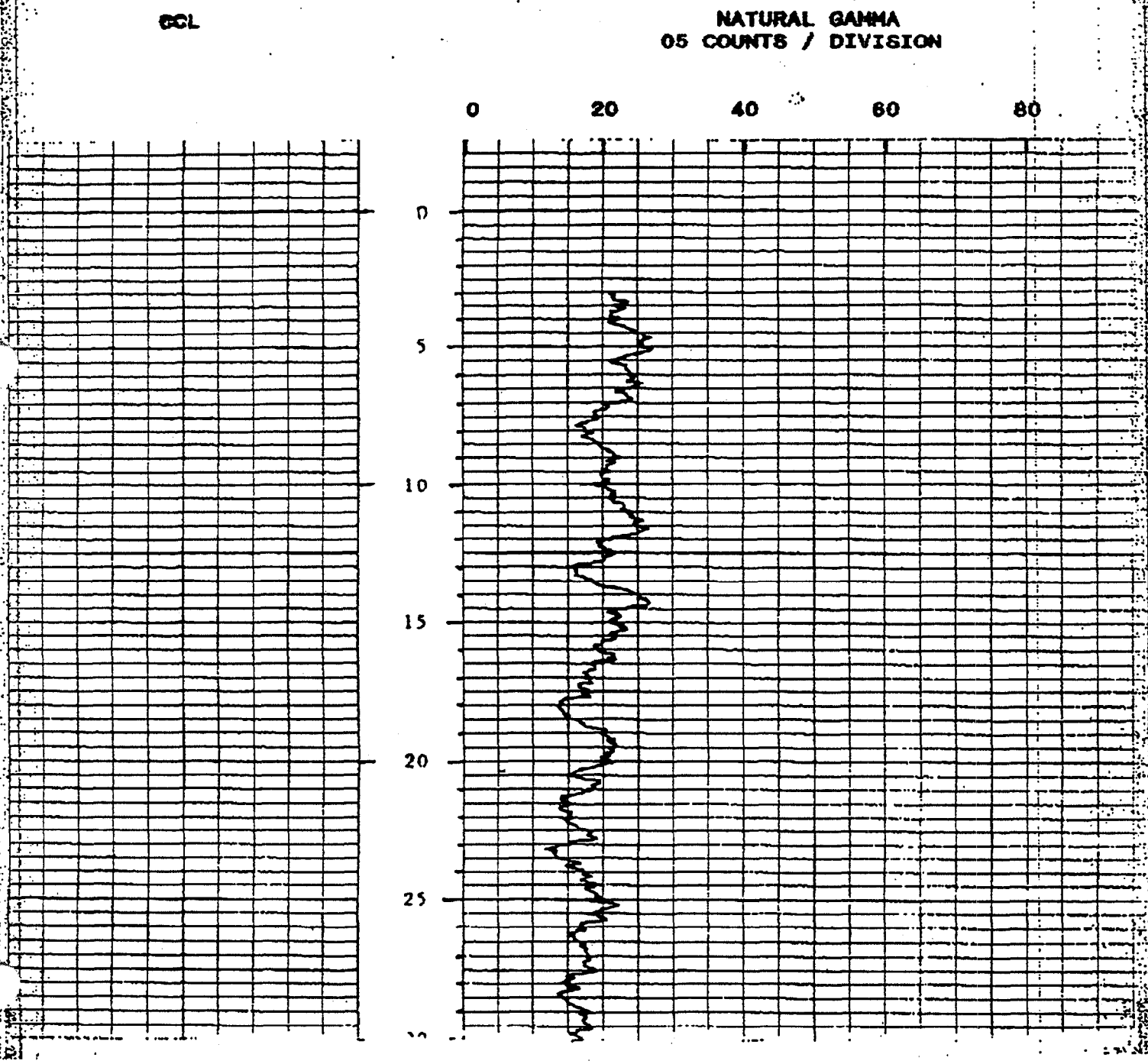
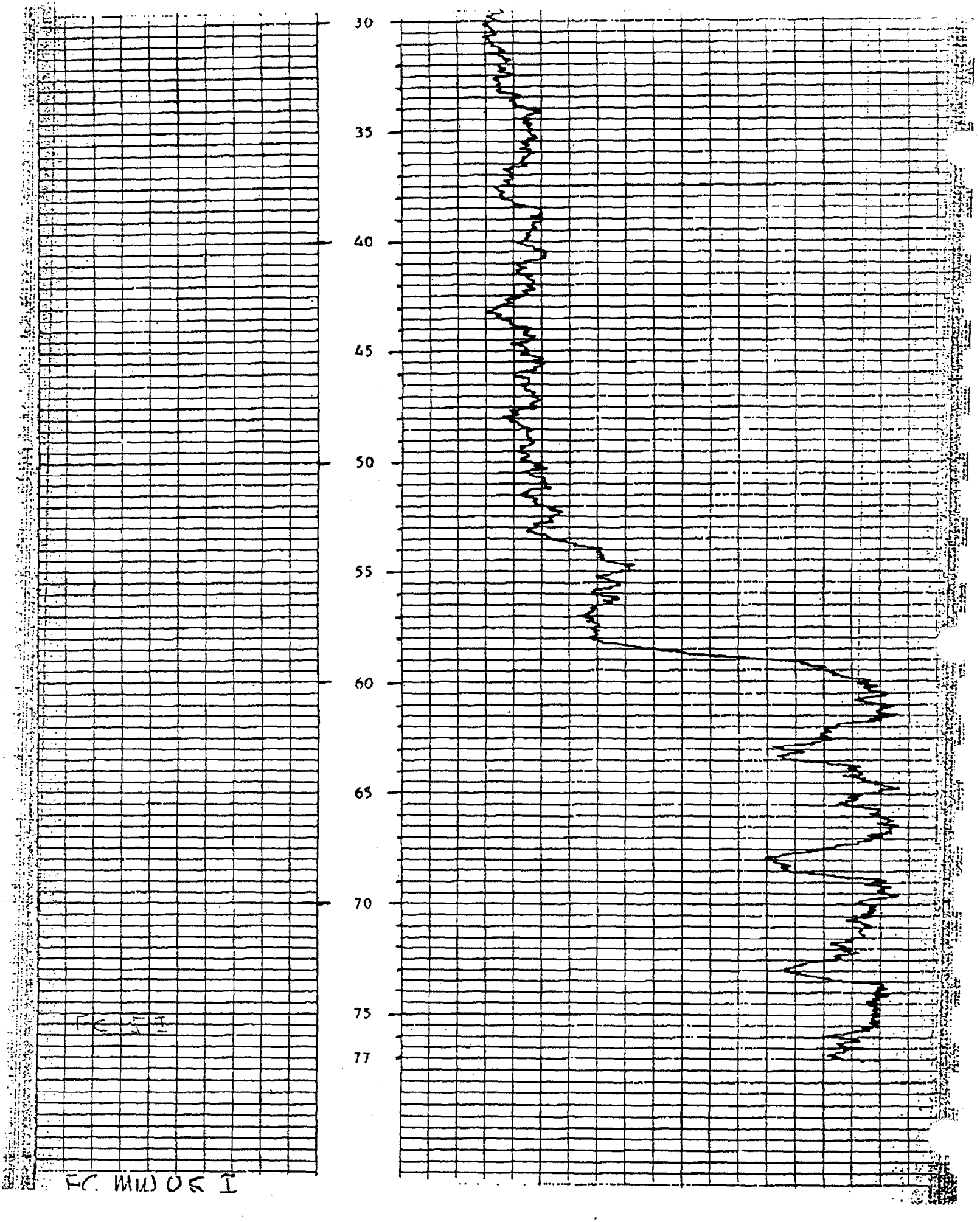
AQUA TERRA GEOPHYSICS INC.
41 BAY ROAD
BROOKHAVEN NY 11719
(516) 286 - 7699

WELL # FC-MW05-I
DATE : 7/21/94

CLIENT : U.S. Navy BROWN & ROOT FIELD REPRESENTATIVE : Paul Davis
WELL LOCATION : Grumman Fuel Calibration Area, Calverton, NY.
DRILLER : Aquifer Drilling & Testing Inc. DRILLED DEPTH : 80 ft.
LOGGING UNIT : MLS Widco 1502 OPERATOR : B. Rice LOGGED DEPTH : 77 ft.
HOLE DIAMETER : 11 in. CASING DIAMETER & TYPE : 8 in. H.S. Augers, 0-80 ft.
TIME CONSTANT : 3 LOGGING SPEED : 10 ft./min. RANGE : 20 counts/sec./in.
COMMENTS : Project # 0206-0600, NWIRP Calverton (Grumman)

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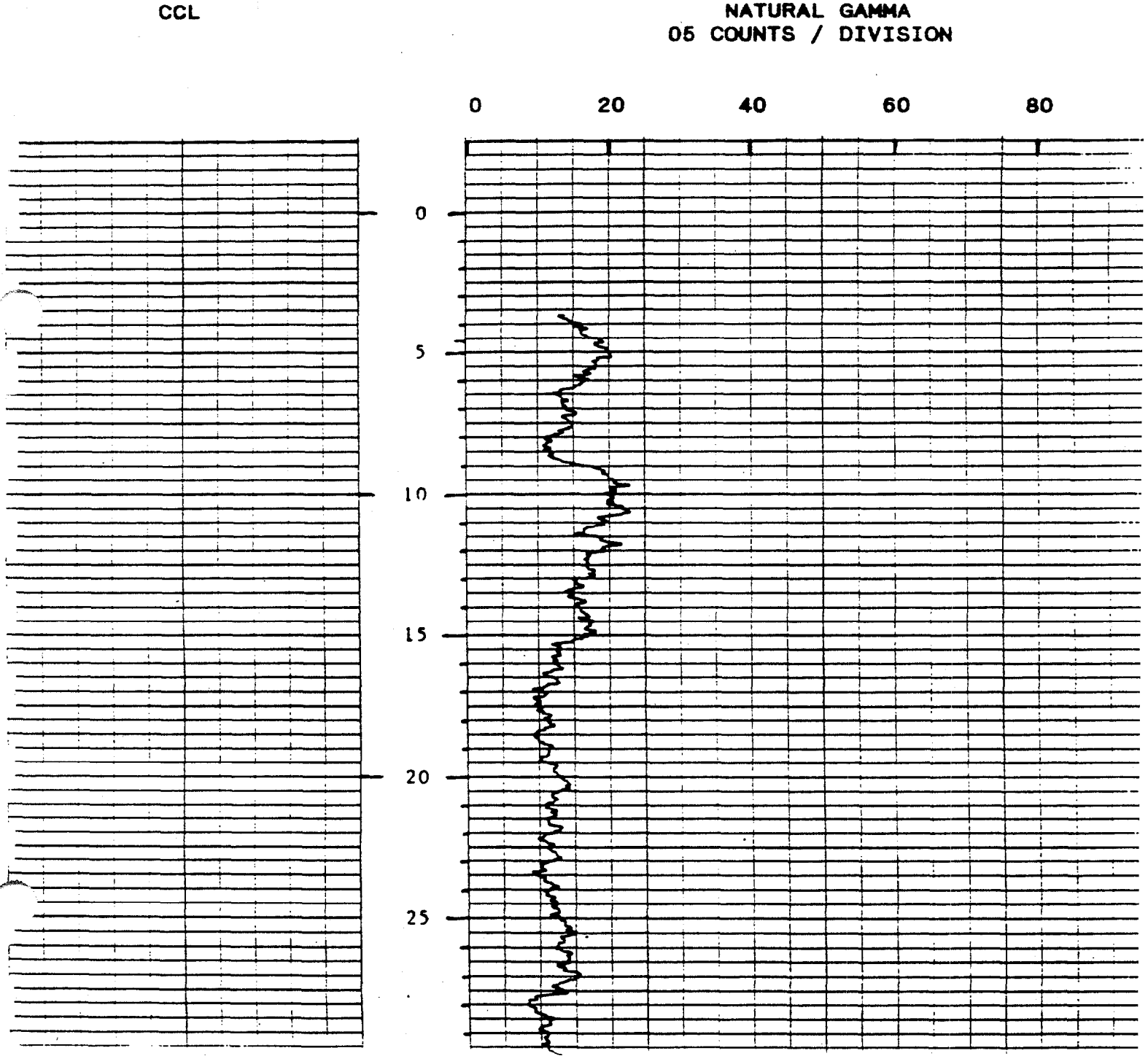
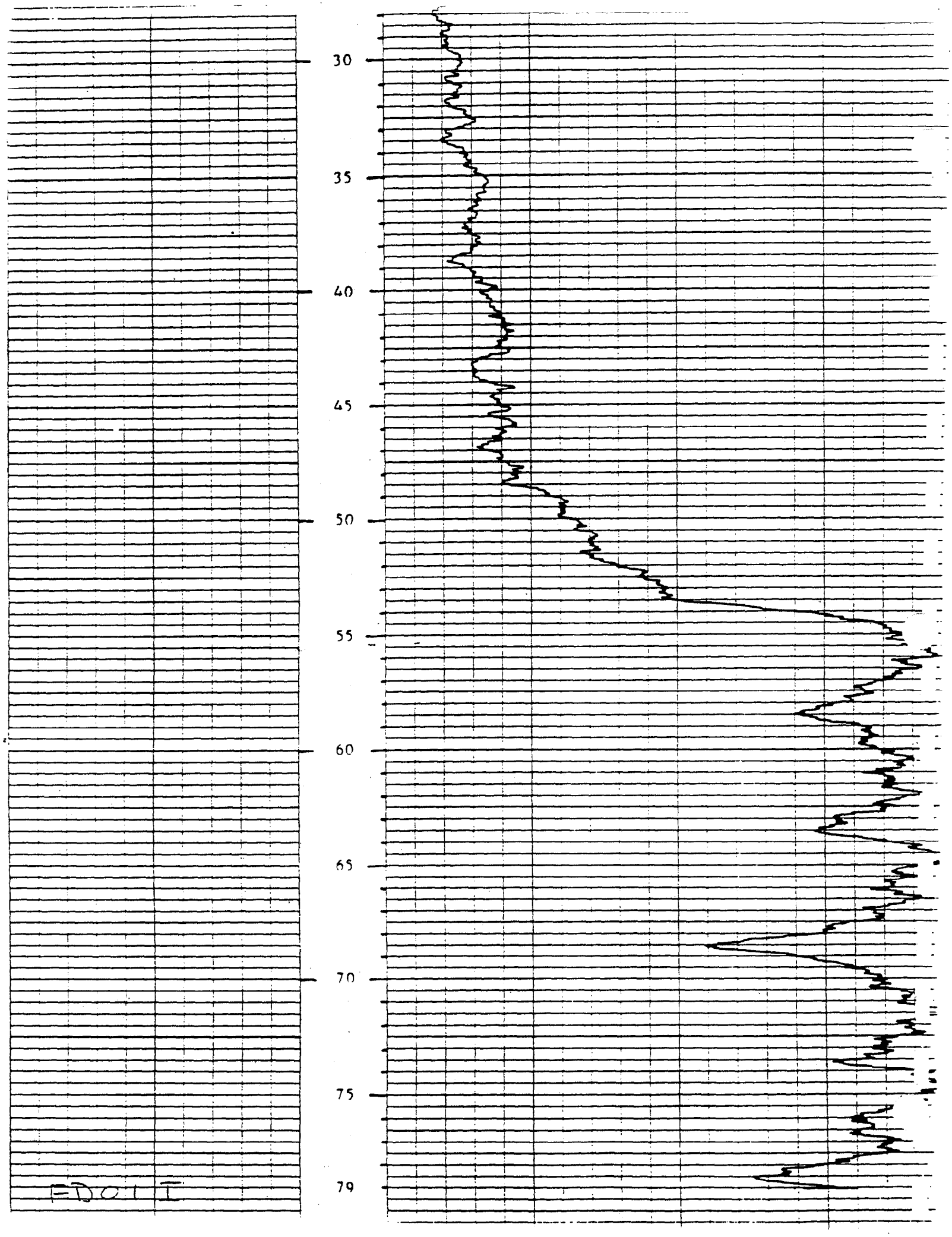
AQUA TERRA GEOPHYSICS INC.
41 BAY ROAD
BROOKHAVEN NY 11719
(516) 286 - 7699

WELL # FD-MW01-I
DATE : 7/28/94

CLIENT : U.S. Navy BROWN & ROOT FIELD REPRESENTATIVE : Paul Davis
WELL LOCATION : Grumman Fuel Depot, Calverton, NY.
DRILLER : Aquifer Drilling & Testing Inc. DRILLED DEPTH : 80 ft.
LOGGING UNIT : MLS Widco 1502 OPERATOR : B. Rice LOGGED DEPTH : 79 ft.
HOLE DIAMETER : 8 in. CASING DIAMETER & TYPE : 3 in. H.S. Augers, 0-80 ft.
TIME CONSTANT : 3 LOGGING SPEED : 10 ft./min. RANGE : 20 counts/sec./in.
COMMENTS : Project # 0206-0600, NWIRP Calverton (Grumman)

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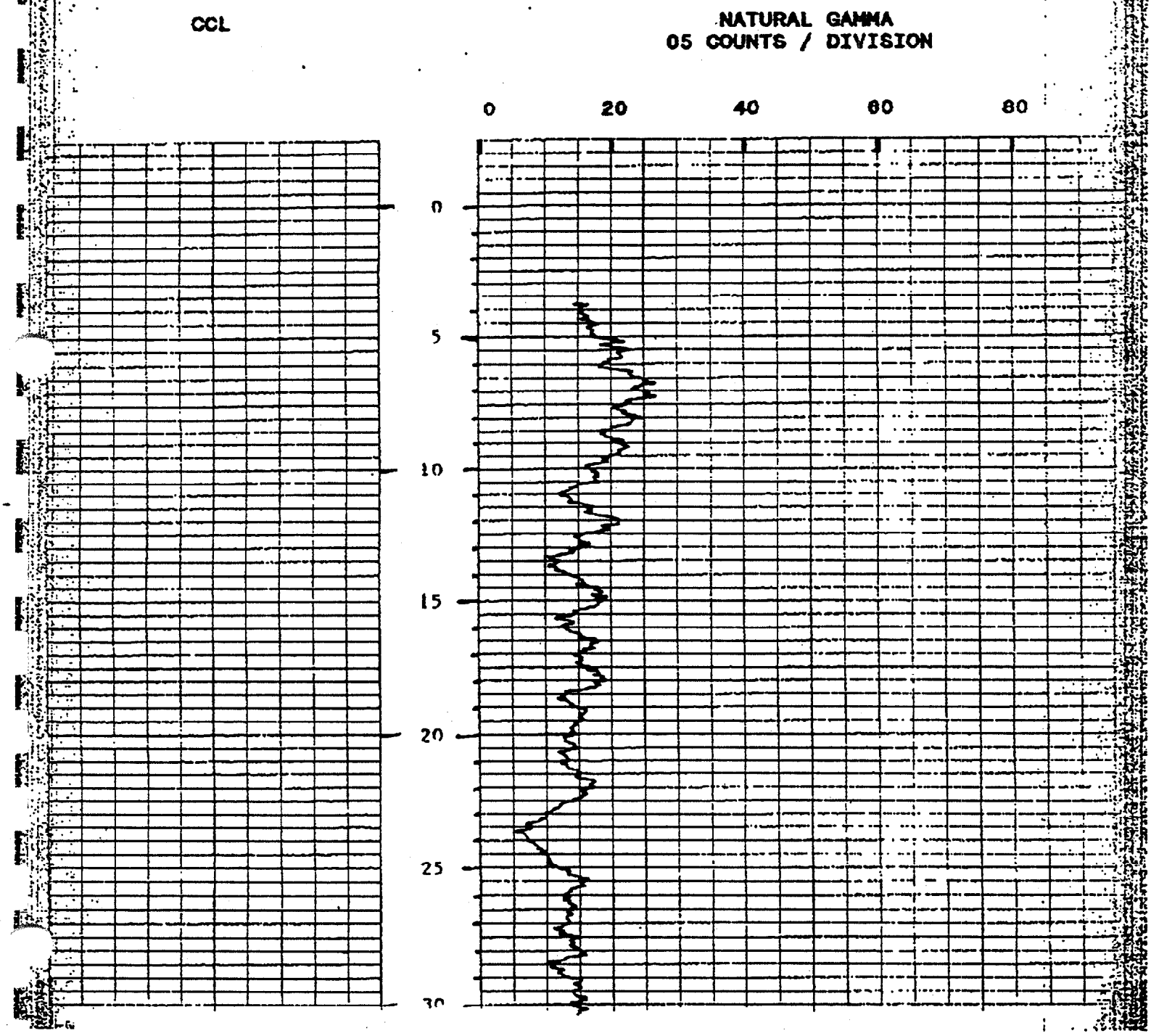
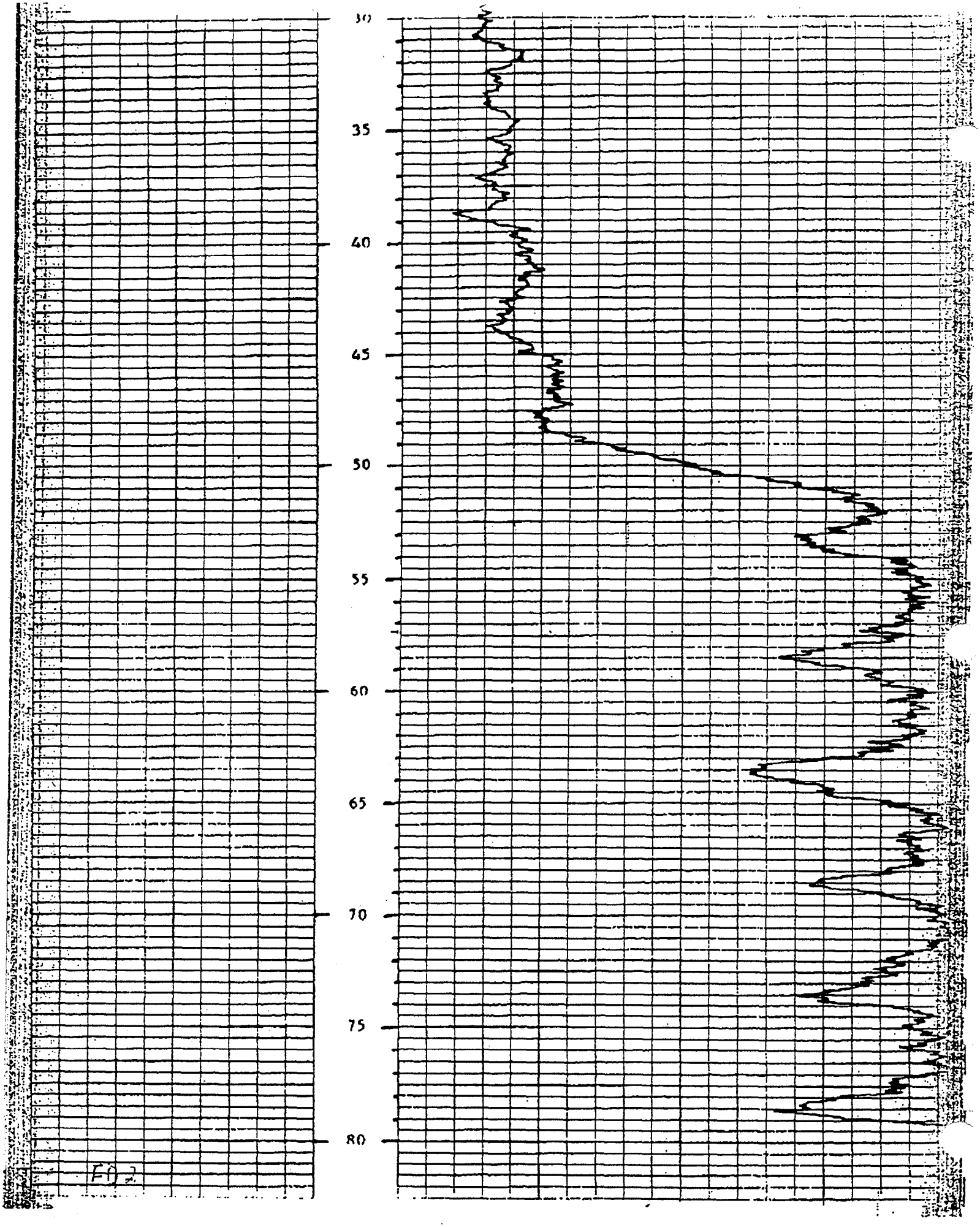
BROOKHAVEN NY 11719
(516) 286 - 7699

WELL # FD-MW02-I
DATE : 8/5/94

CLIENT : U.S. Navy BROWN & ROOT FIELD REPRESENTATIVE : Paul Davis
WELL LOCATION : Grumman Fuel Depot, Calverton, NY.
DRILLER : Aquifer Drilling & Testing Inc. DRILLED DEPTH : 80 ft.
LOGGING UNIT : MLS Widco 1502 OPERATOR : B. Rice LOGGED DEPTH : 80 ft.
HOLE DIAMETER : 8 in. CASING DIAMETER & TYPE : 3 in. H.S. Augers, 0-80 ft.
TIME CONSTANT : 3 LOGGING SPEED : 10 ft./min. RANGE : 20 counts/sec./in.
COMMENTS : Project # 0206-0600, NWIRP Calverton (Grumman)

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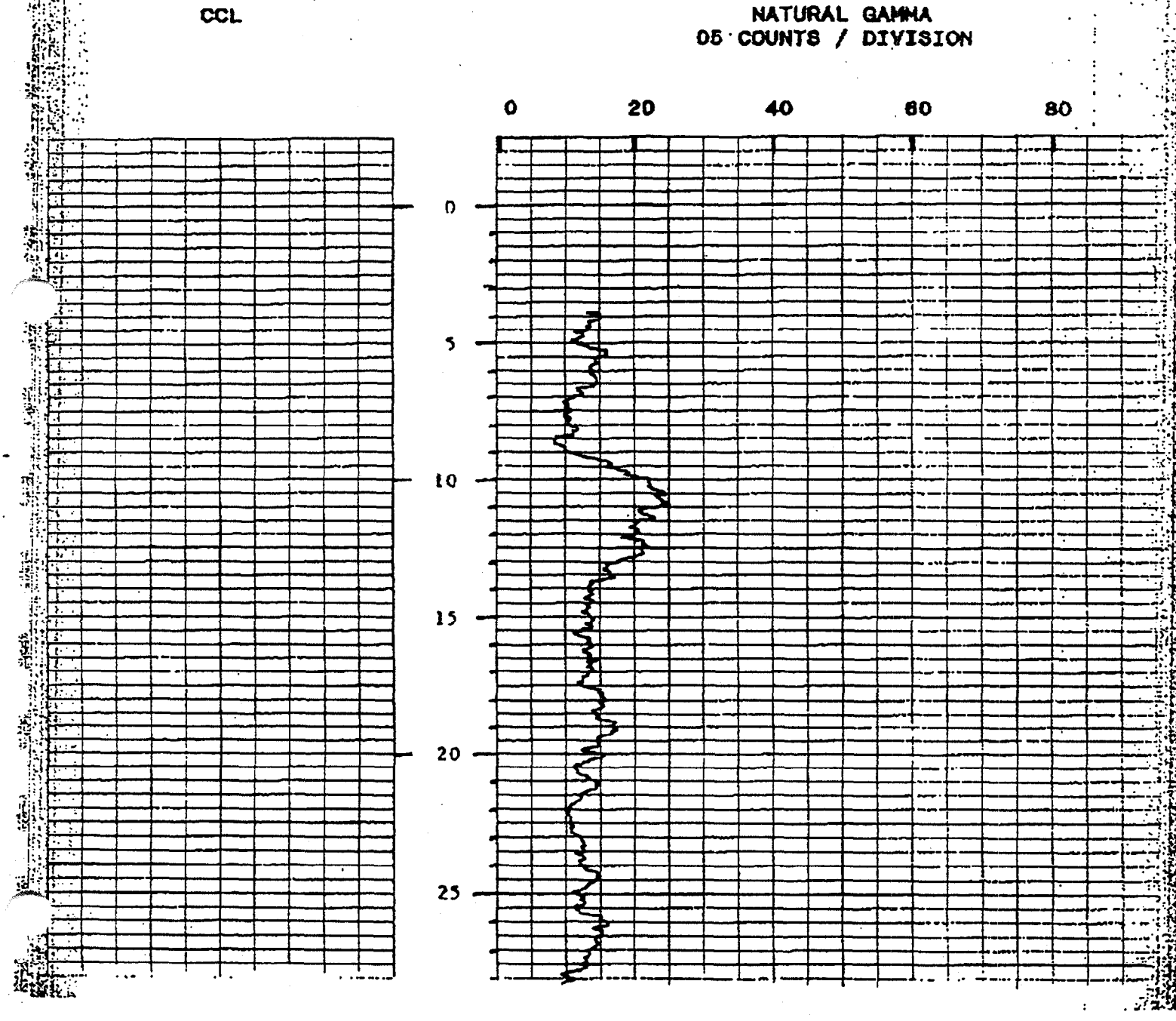
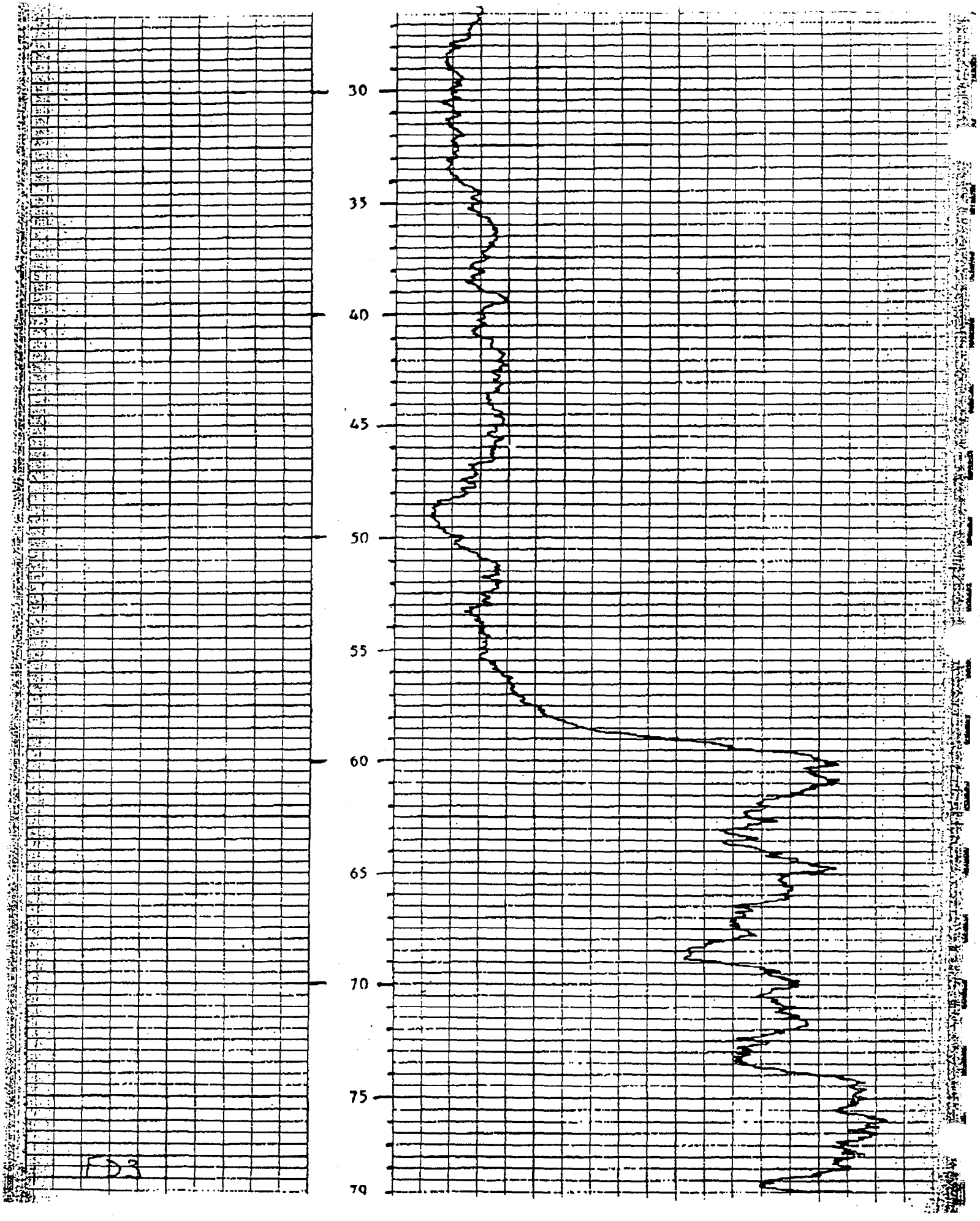
AQUA TERRA GEOPHYSICS INC.
41 BAY ROAD
BROOKHAVEN NY 11719
(516) 286 - 7699

WELL # FD-MW03-I
DATE : 8/4/94

CLIENT : U.S. Navy BROWN & ROOT FIELD REPRESENTATIVE : Paul Davis
WELL LOCATION : Grumman Fuel Depot, Calverton, NY.
DRILLER : Aquifer Drilling & Testing Inc. DRILLED DEPTH : 80 ft.
LOGGING UNIT : MLS Widco 1502 OPERATOR : B. Rice LOGGED DEPTH : 79 ft.
HOLE DIAMETER : 8 in. CASING DIAMETER & TYPE : 3 in. H.S. Augers, 0-80 ft.
TIME CONSTANT : 3 LOGGING SPEED : 10 ft./min. RANGE : 20 counts/sec./in.
COMMENTS : Project # 0206-0600, NWIRP Calverton (Grumman)

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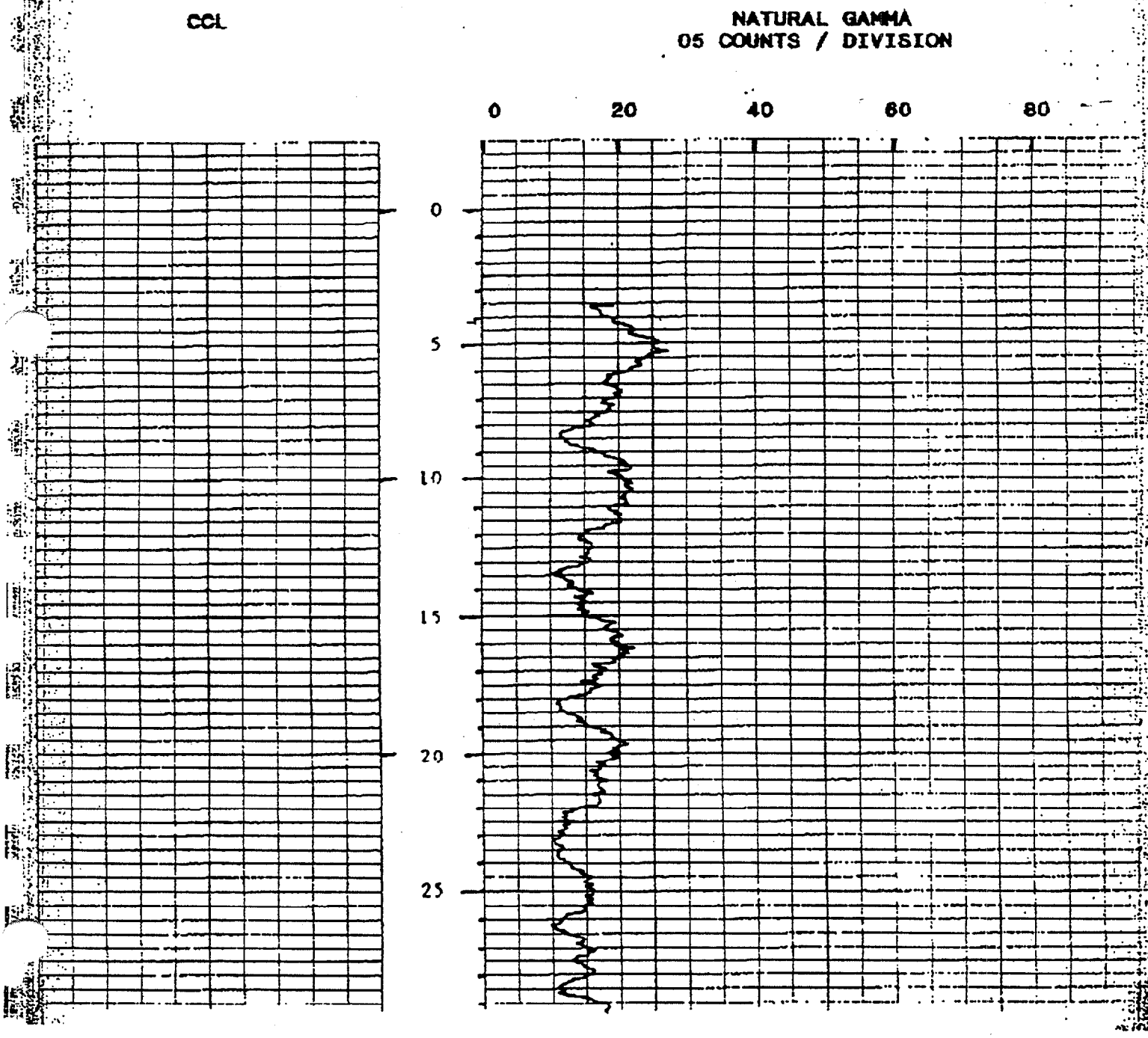
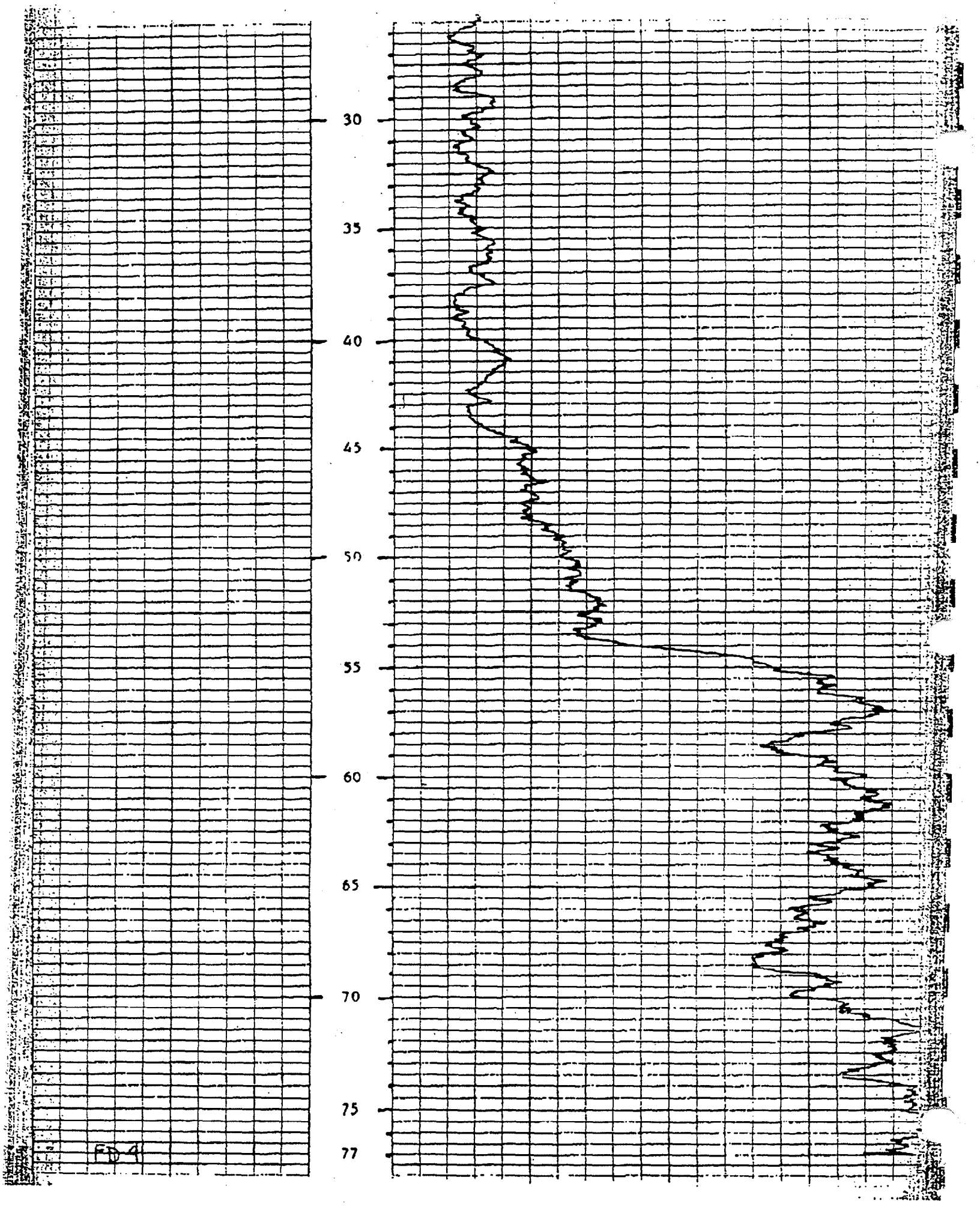
AQUA TERRA GEOPHYSICS INC.
41 BAY ROAD
BROOKHAVEN NY 11719
(516) 286 - 7699

WELL # FD-MW04-I
DATE : 8/3/94

CLIENT : U.S. Navy BROWN & ROOT FIELD REPRESENTATIVE : Paul Davis
WELL LOCATION : Grumman Fuel Depot, Calverton, NY.
DRILLER : Aquifer Drilling & Testing Inc. DRILLED DEPTH : 80 ft.
LOGGING UNIT : MLS Widco 1502 OPERATOR : B. Rice LOGGED DEPTH : 77 ft.
HOLE DIAMETER : 8 in. CASING DIAMETER & TYPE : 3 in. H.S. Augers, 0-80 ft.
TIME CONSTANT : 3 LOGGING SPEED : 10 ft./min. RANGE : 20 counts/sec./in.
COMMENTS : Project # 0206-0600, NWIRP Calverton (Grumman)

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