



Golder Associates

CONSULTING GEOTECHNICAL ENGINEERS

REPORT TO
CASSIAR ASBESTOS CORPORATION LTD.
CLINTON CREEK MINE
MOVEMENT TO MONITOR DATA
TO JULY 1980

CLINTON CREEK, YUKON TERRITORY

DISTRIBUTION:

4 copies - Cassiar Asbestos Corp. Ltd.
Vancouver, British Columbia

2 copies - Golder Associates
Vancouver, British Columbia

August 1980

772-1016

CLINTON CREEK WASTE DUMP
AND
CHANNEL CLOSURE MOVEMENT MONITOR DATA



111000N

110500N

110000N

109500N

HUDGEON
LAKE
elev 1345 approx

TOE OF ORIGINAL SLOPE

UNDISTURBED
TIMBER

Unsurveyed
& Dump area (Inactive)

MON. No. 67
REMOVED OCT. 78

MON. No. 66
REMOVED OCT. 78

MON. No. 80-11

MON. No. 80-12

MON. No. 69
REMOVED OCT. 78

MON. No. 80-13

MON. No. 68

MON. No. 80-14

MON. No. 22A

MON. No. 21A

MON. No. 20A

MON. No. 23

T3

T2

EDGE OF PIT
Inactive Pit Area

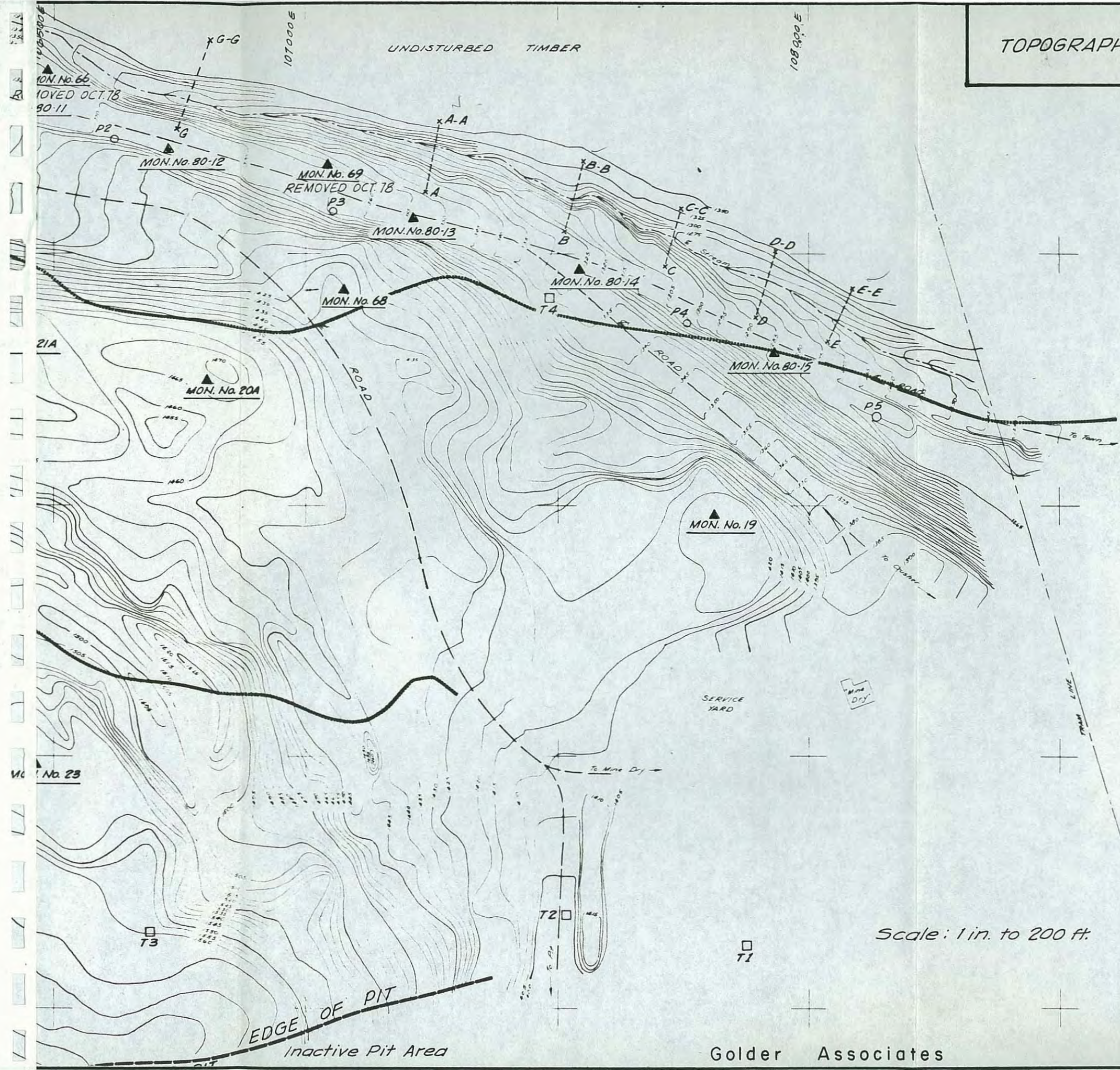
UNDISTURBED TIMBER

MON. No.

SERV
YARD

To Mine Dry

G



LEGEND:

- ▲ MON. No. 19 Surface movement survey reference point.
- *A-A Cross-channel reference line.
- T2 Thermister installation
- P4 Piezometer.

REFERENCE:

Topo. plan of Inactive Waste Dump for Clinton Cr. Mine by Underhill Engineering Ltd. - Mar. 30, 1978.
Coordinate grid from CASSIAR Asbestos Corp. Grid Origin.

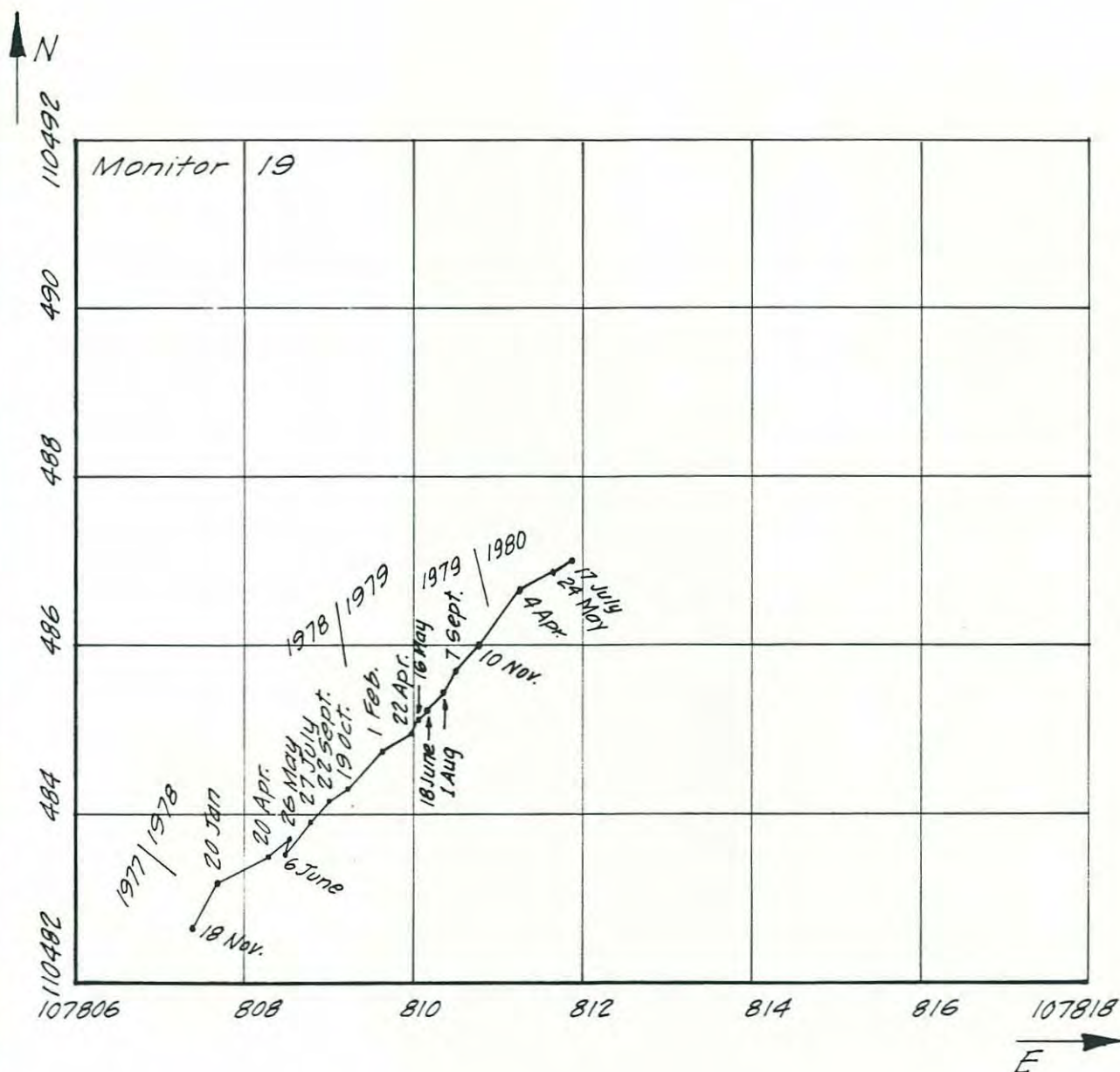
Scale: 1 in. to 200 ft.

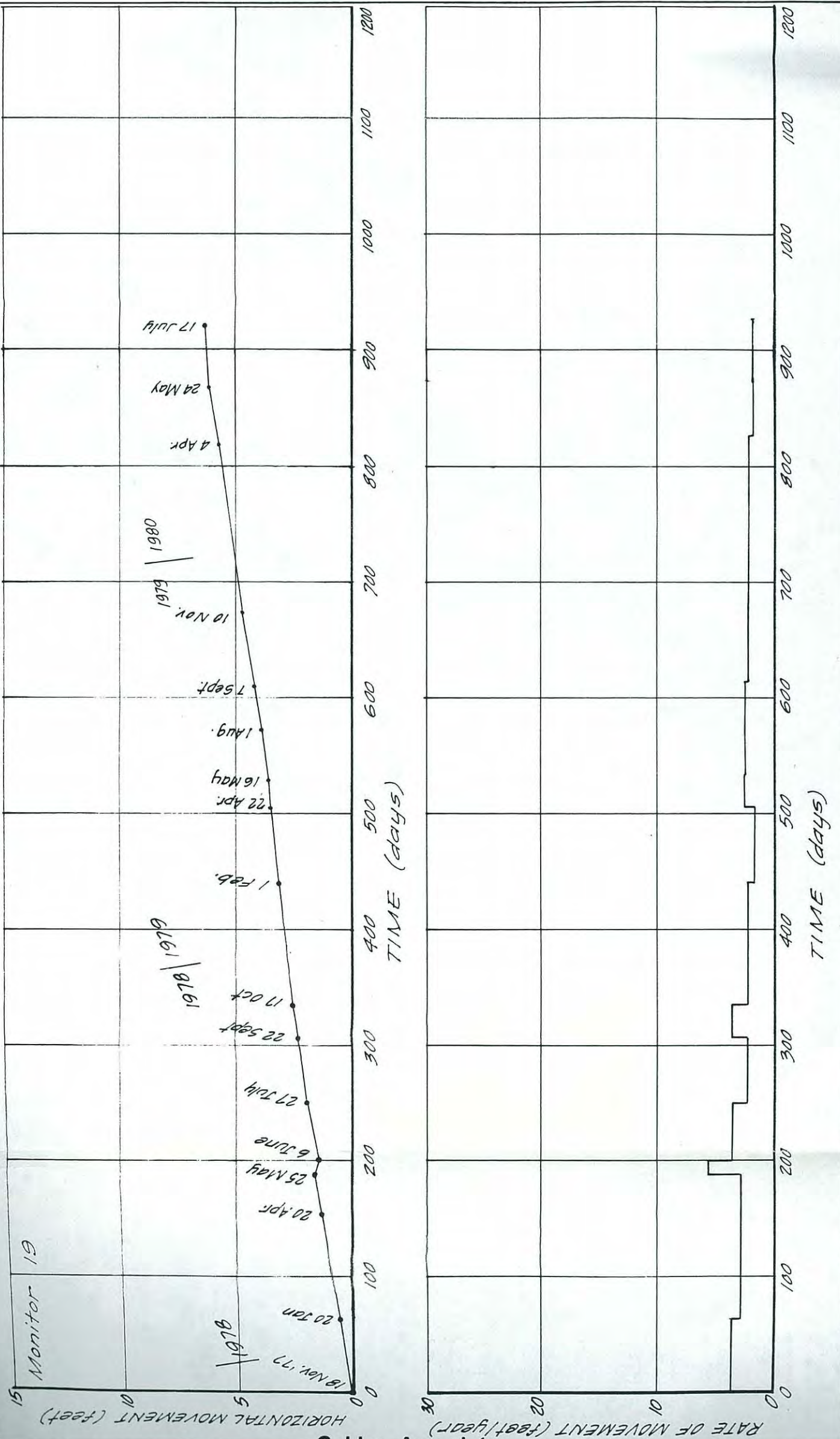
To Crusher approx.
(10,000 N. approx.)

Drawn Ing.
Reviewed Ede
Revised July '80 Date June '78

WASTE DUMP - MONITOR NO. 19

Figure 19-1

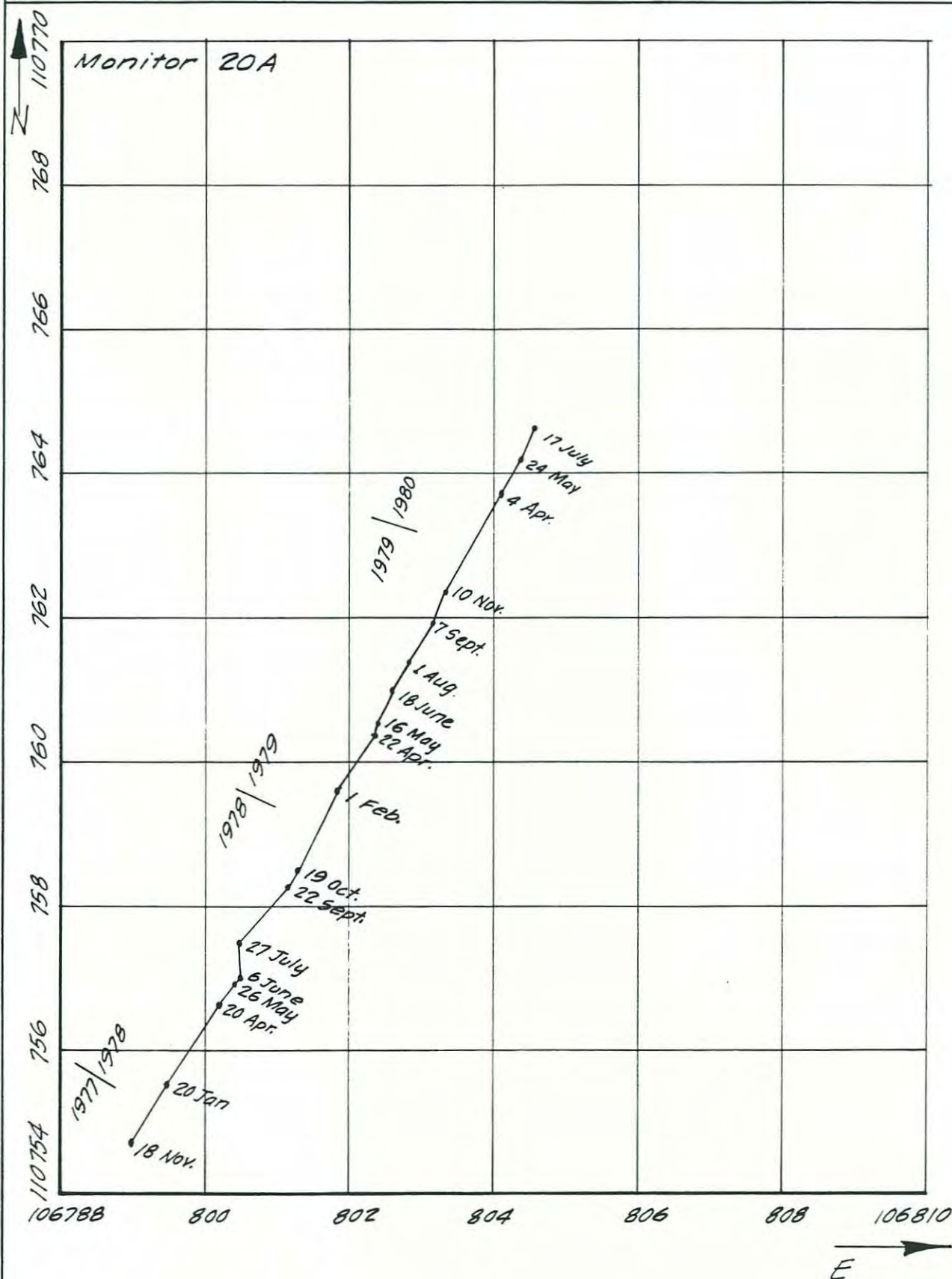


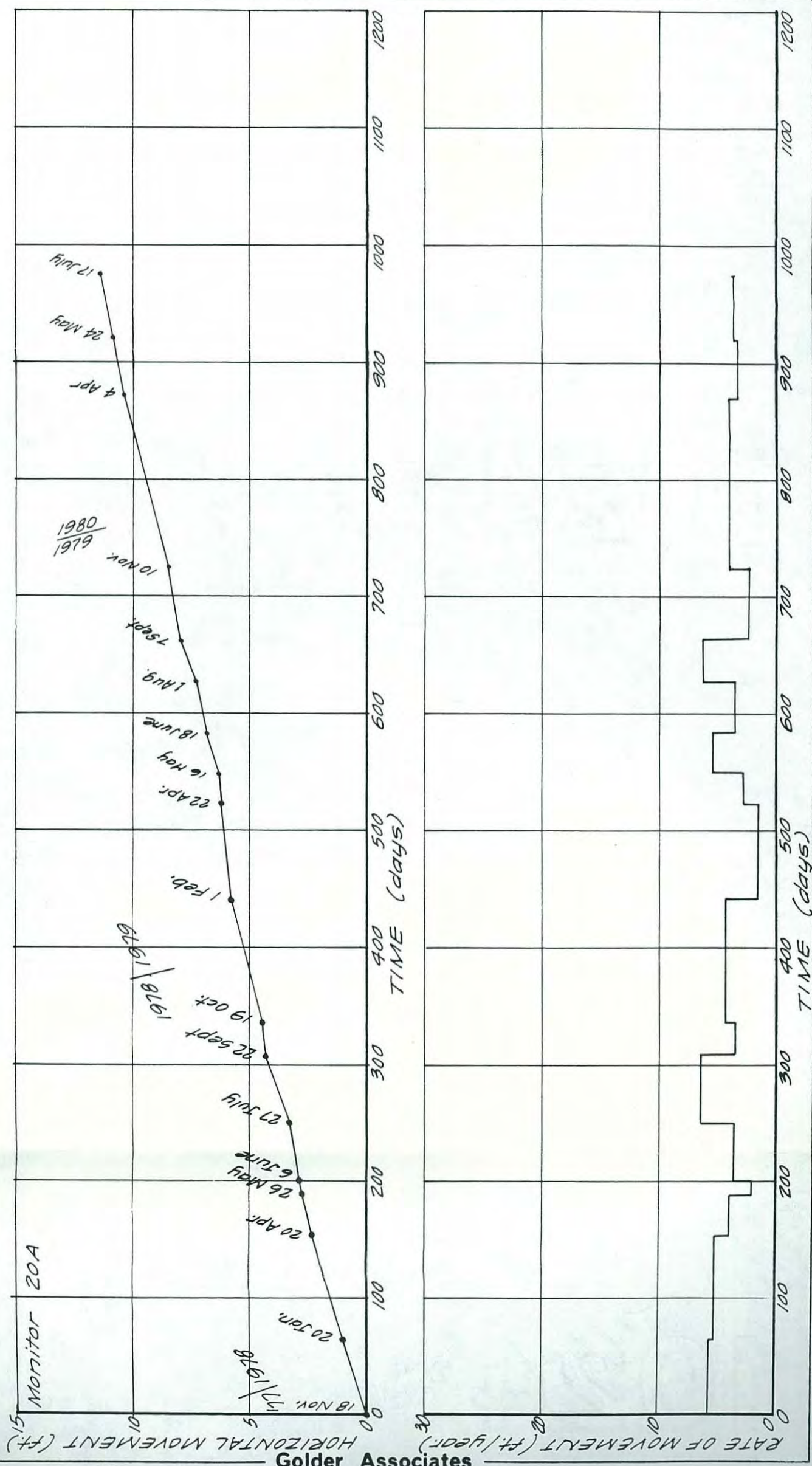


WASTE DUMP - MONITOR NO. 20 A

Figure 20 A-1

Project No. 772-1016 Drawn Ing. Reviewed Date NOV. '79; July '80

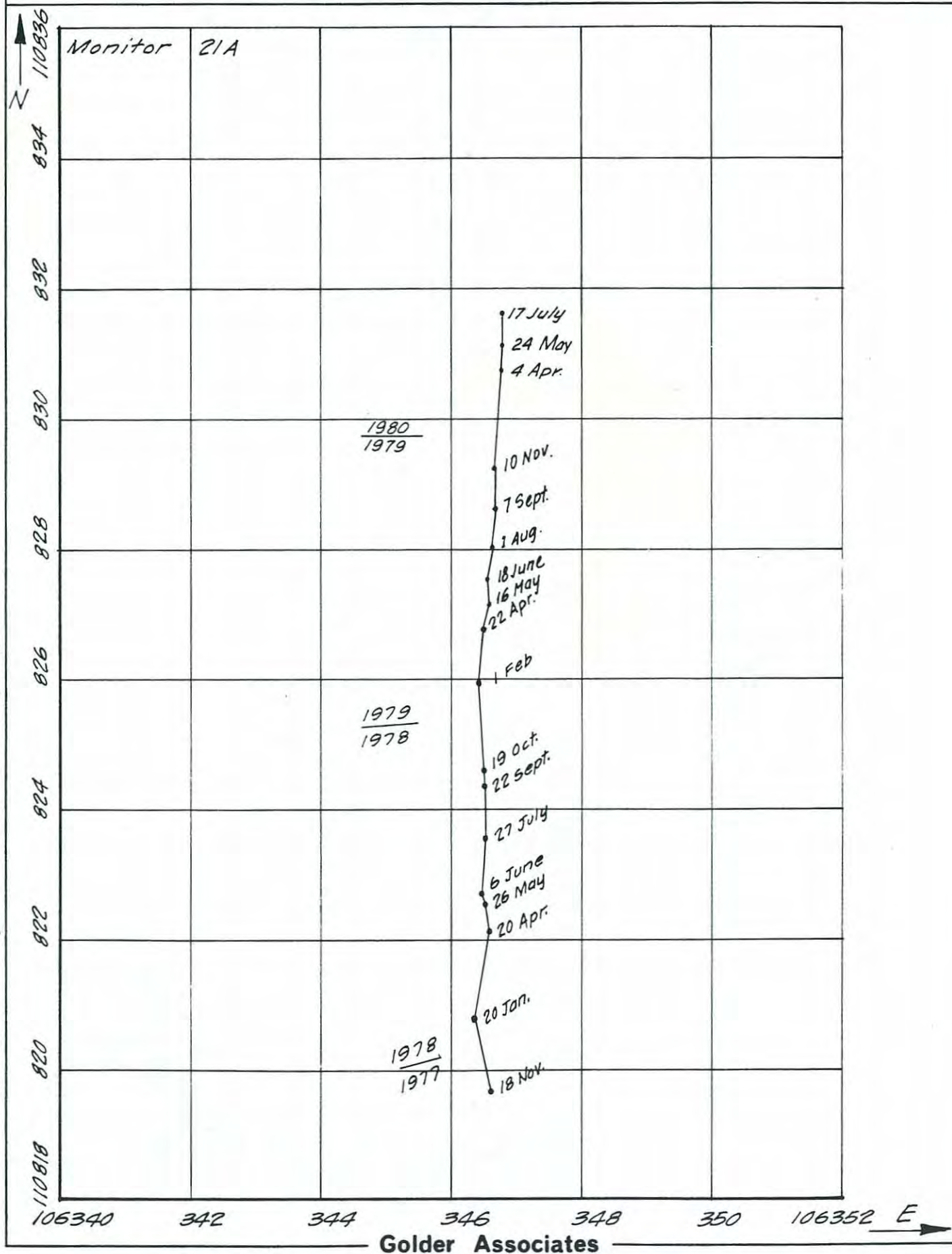


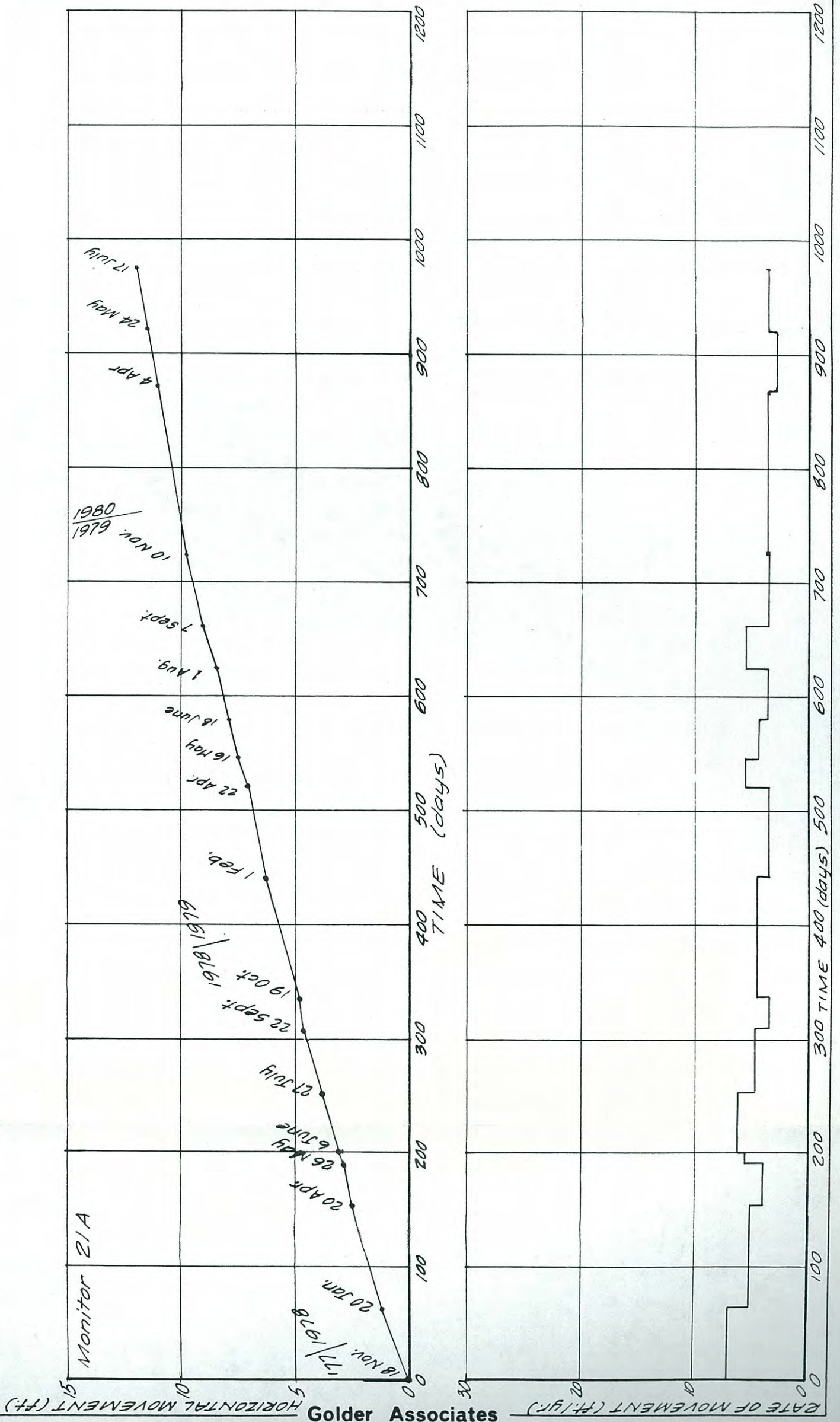


WASTE DUMP - MONITOR NO. 21A

Figure 21 A-1

Project No. 772-1016 Drawn 1/19 Reviewed Date Nov. 79, July 80

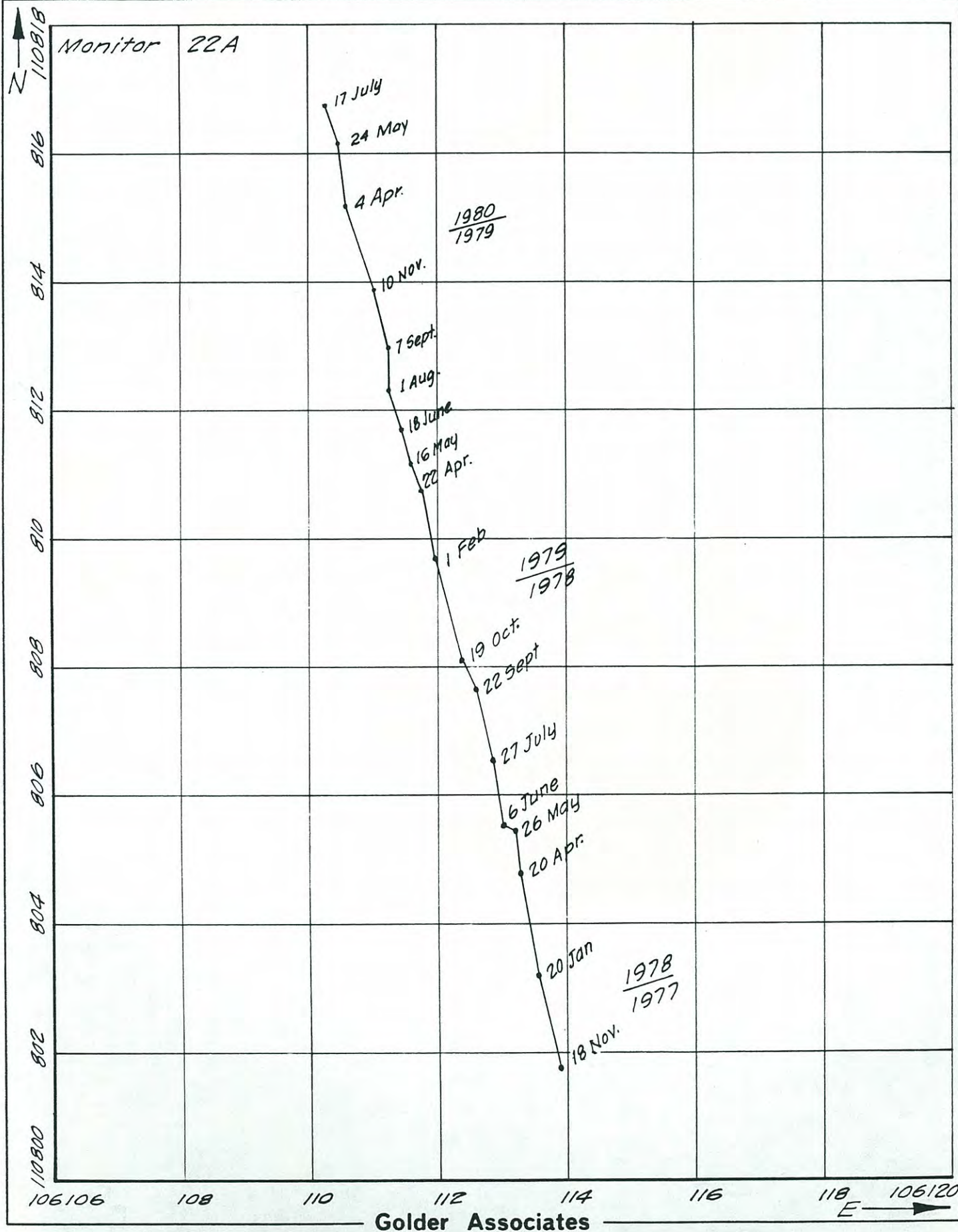


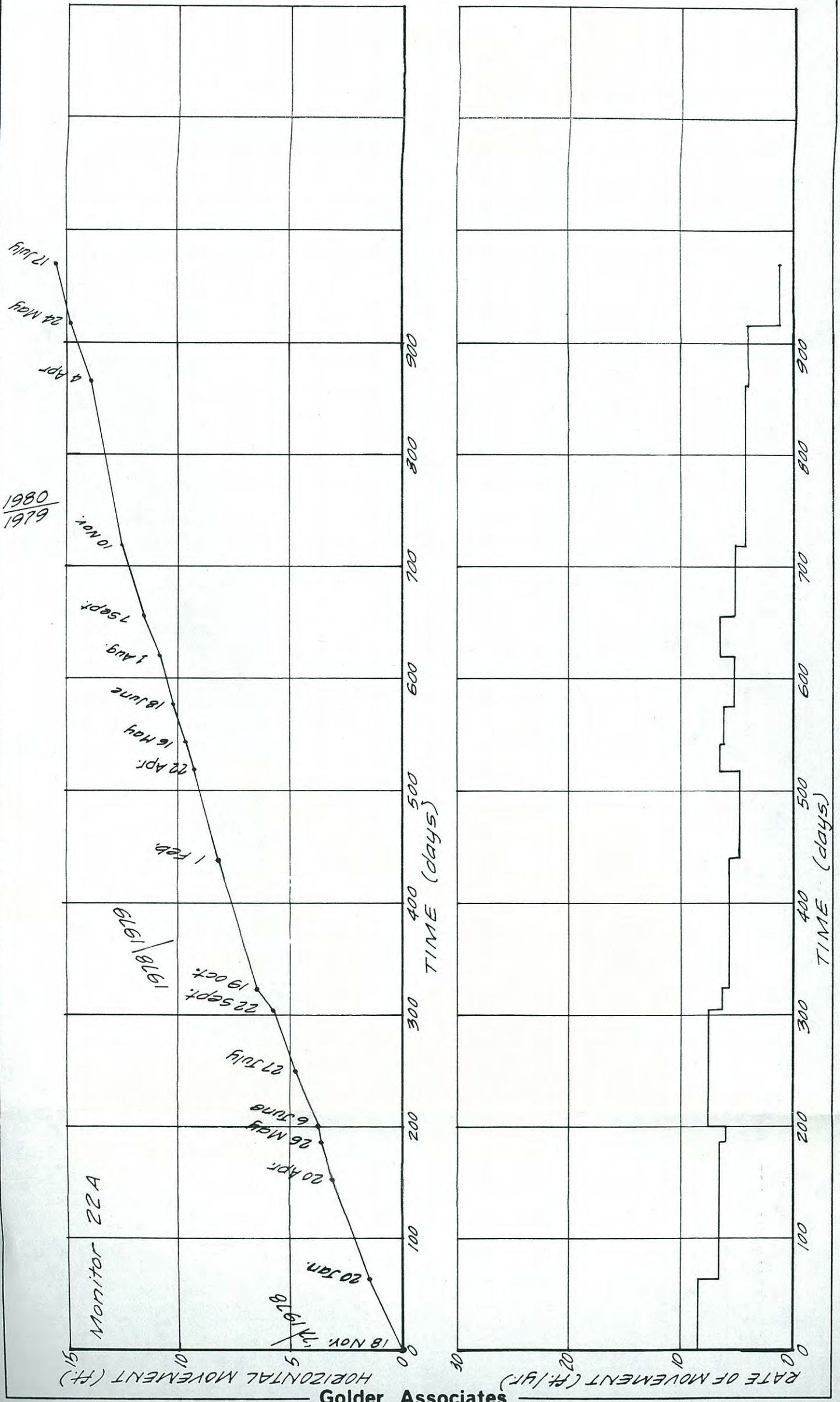


WASTE DUMP - MONITOR NO. 22A

Figure 22 A-1

Project No. 712-1016 Drawn Inq Reviewed Date Nov. '79; July '80



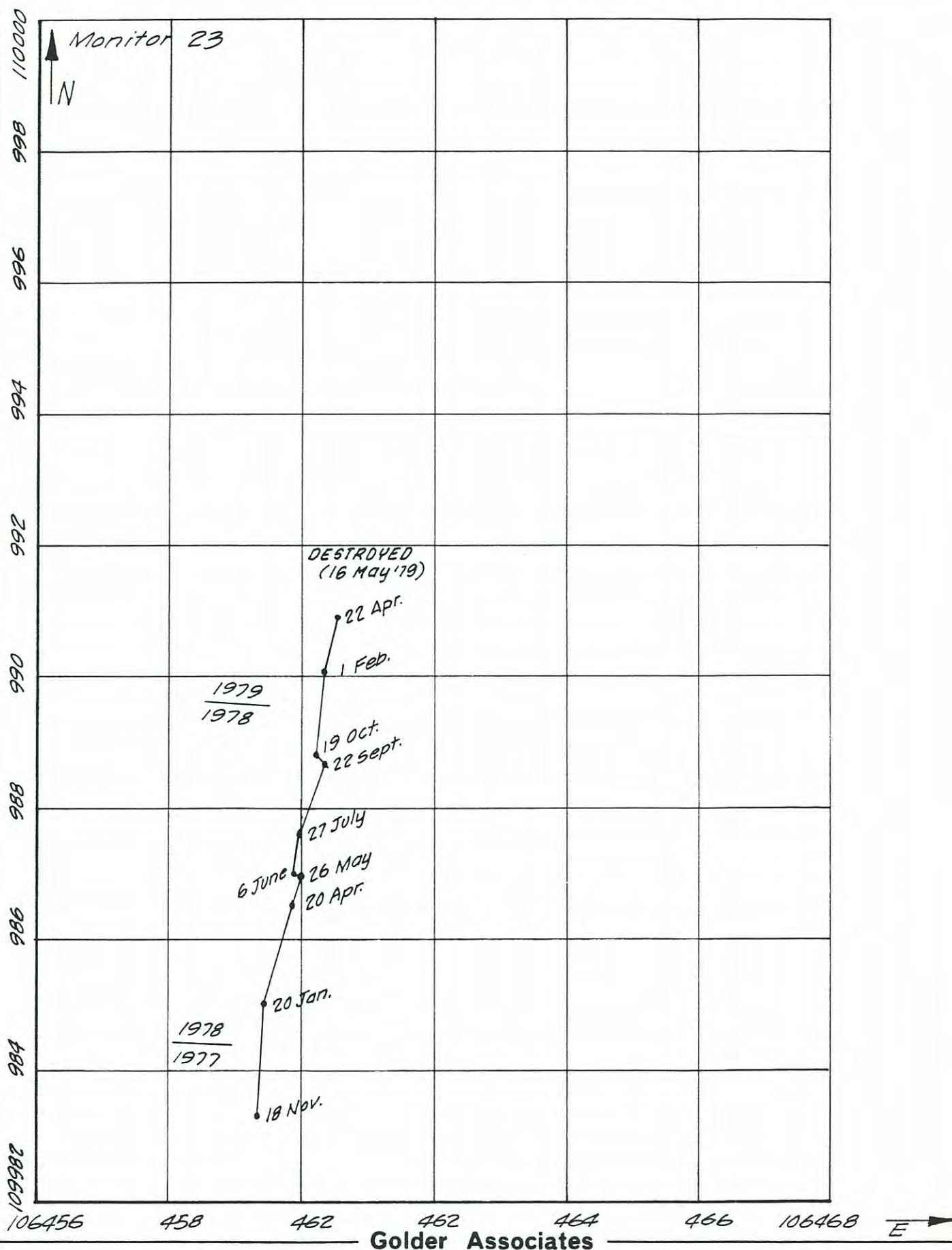


WASTE DUMP - MONITOR NO. 23

Figure 23-1

DESTROYED MAY 16 '79

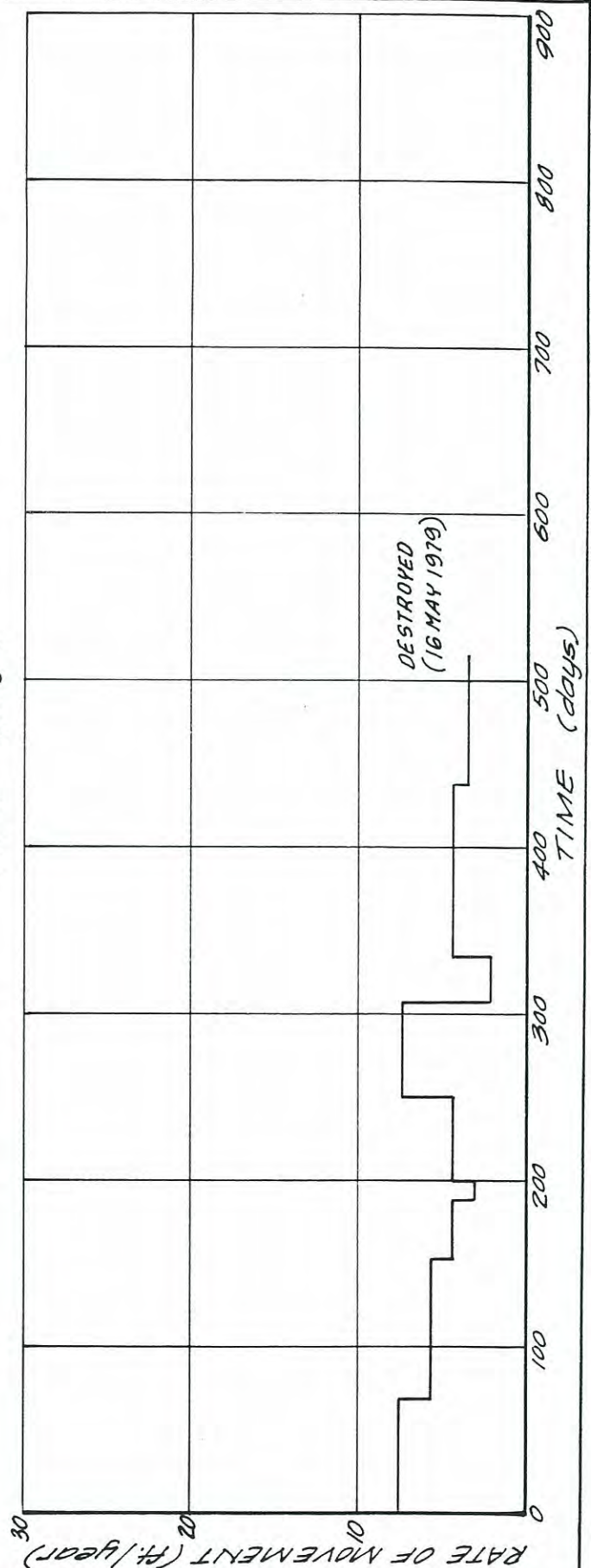
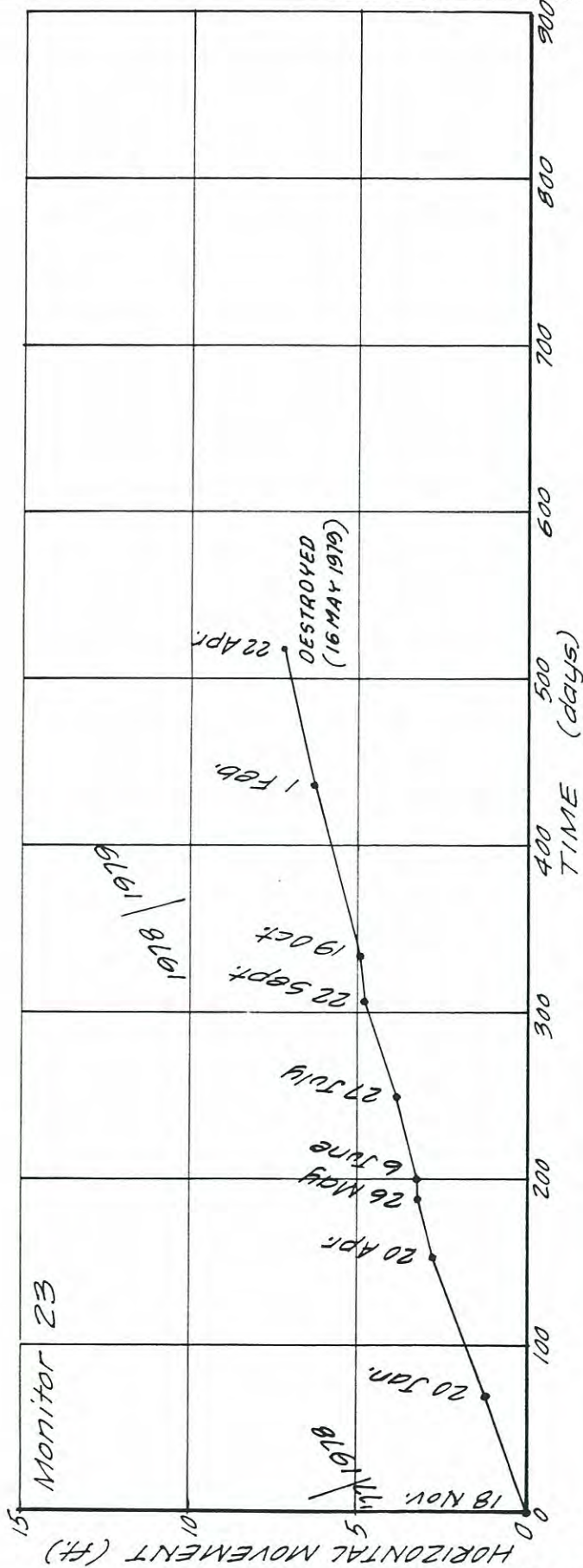
Project No. 772-1016 Drawn *mg* Reviewed *mg* Date *Nov. '79*



WASTE DUMP - MONITOR NO. 23

Figure 23-2

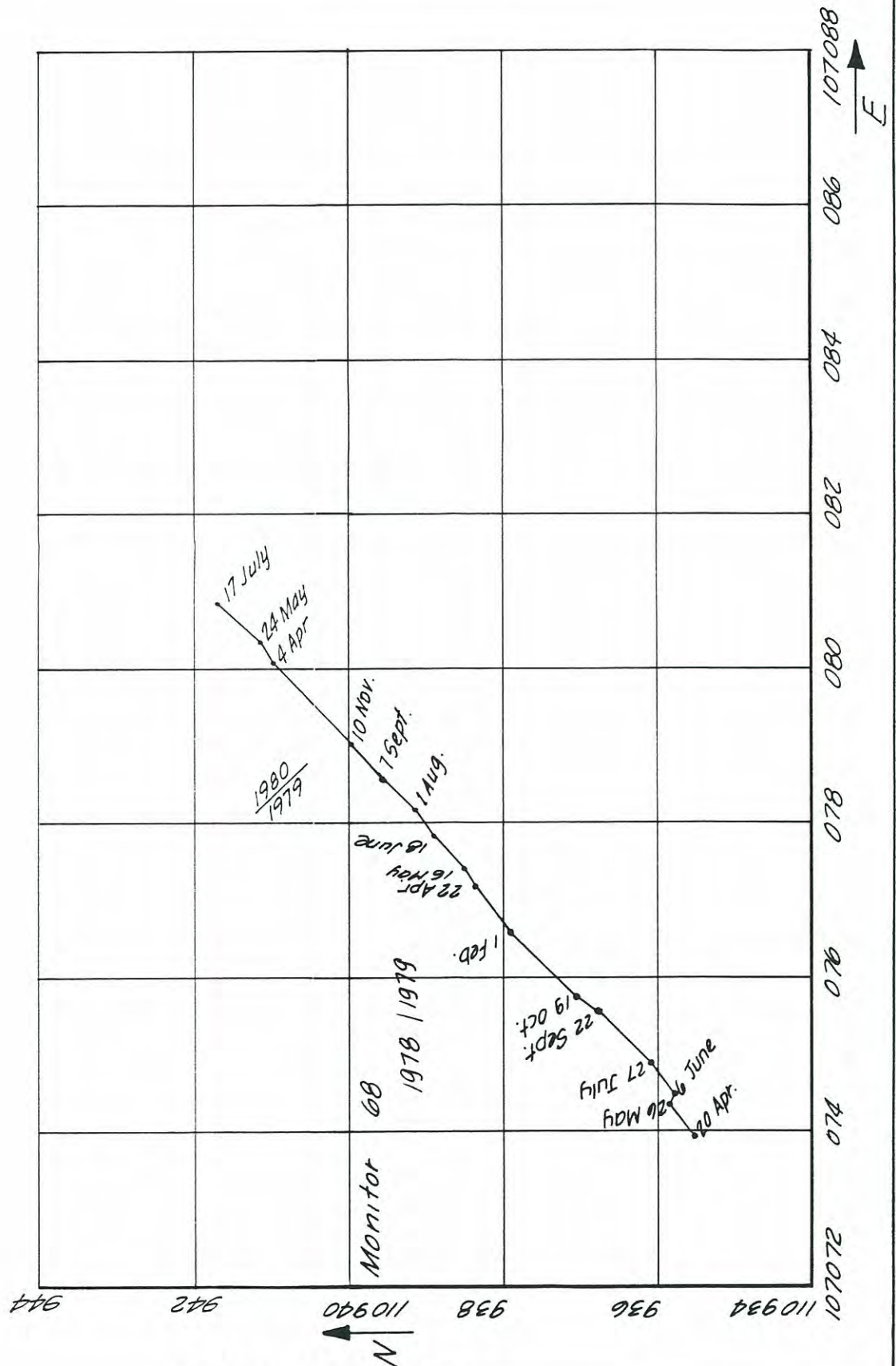
DESTROYED MAY '79



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WASTE DUMP - MONITOR NO. 68

Figure 68-1

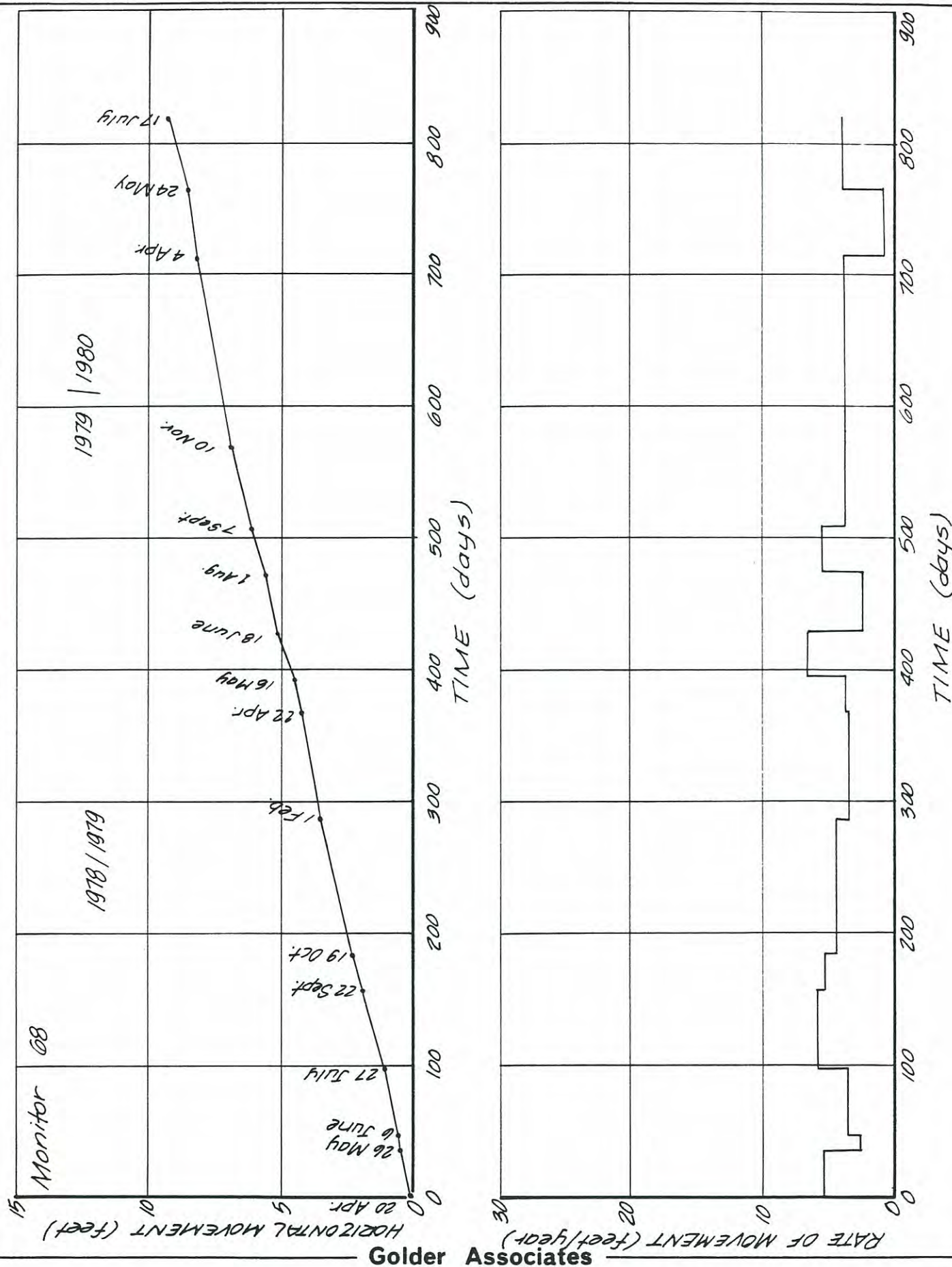


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WASTE DUMP - MONITOR NO. 68

Figure 68-2

Project No. T12-1016 Drawn SF Reviewed Date Nov '79, July '80



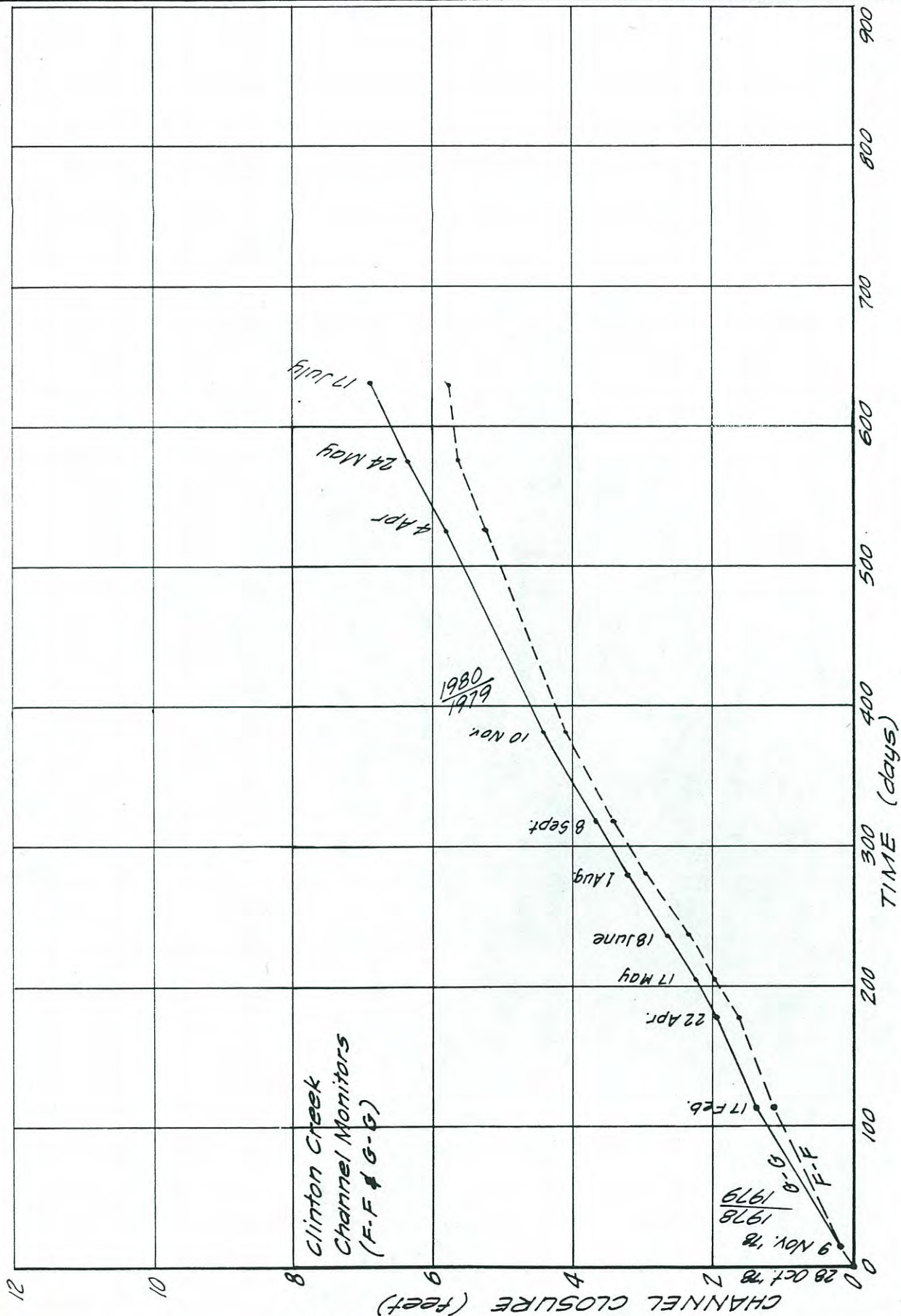
SHEET / OF 2



CLINTON CHANNEL CLOSURE MONITORS

Figure CM-1

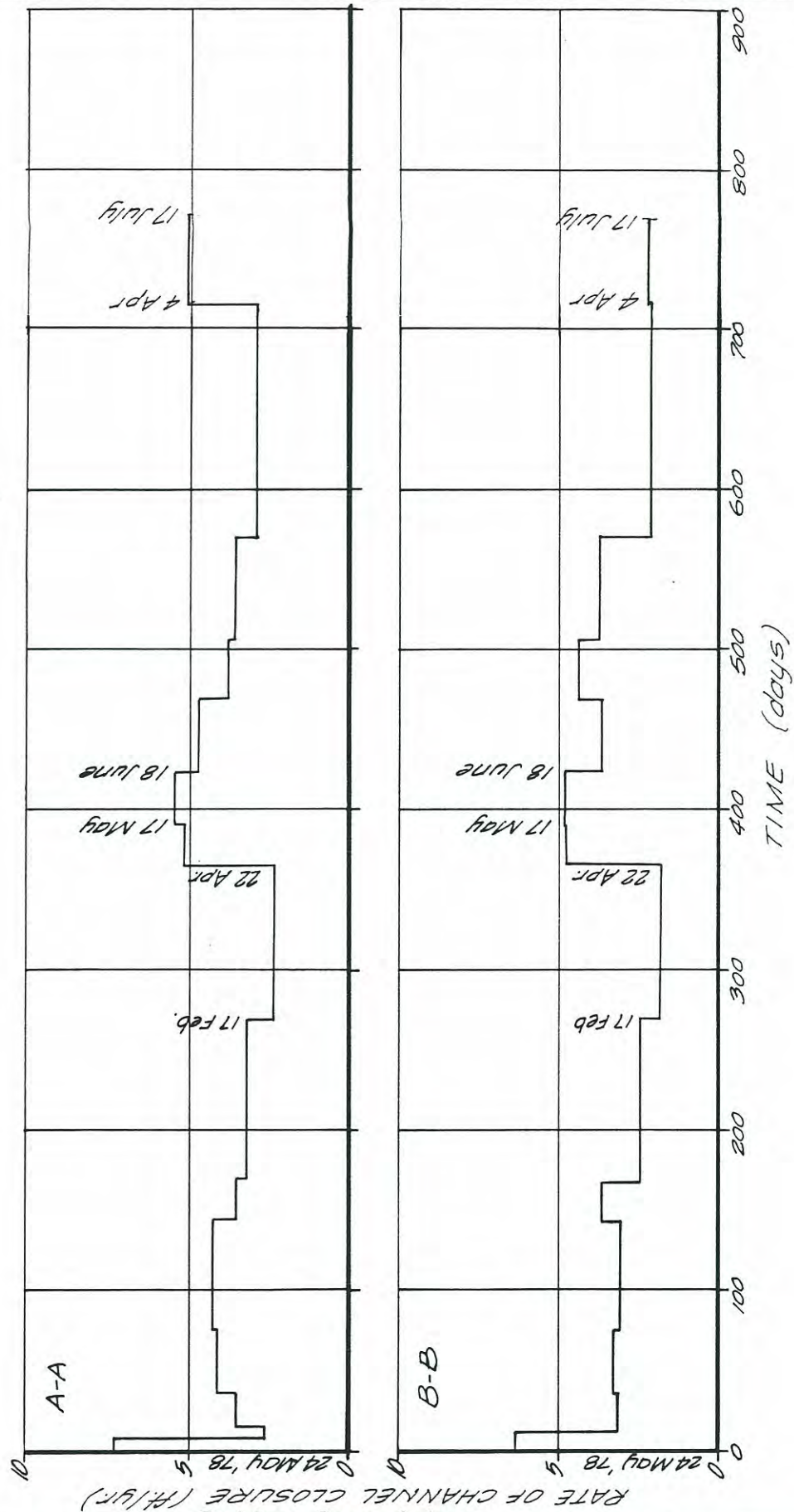
SHEET 2 OF 2



CLINTON CHANNEL CLOSURE MONITORS

Figure CM-2
SHEET 1 OF 2

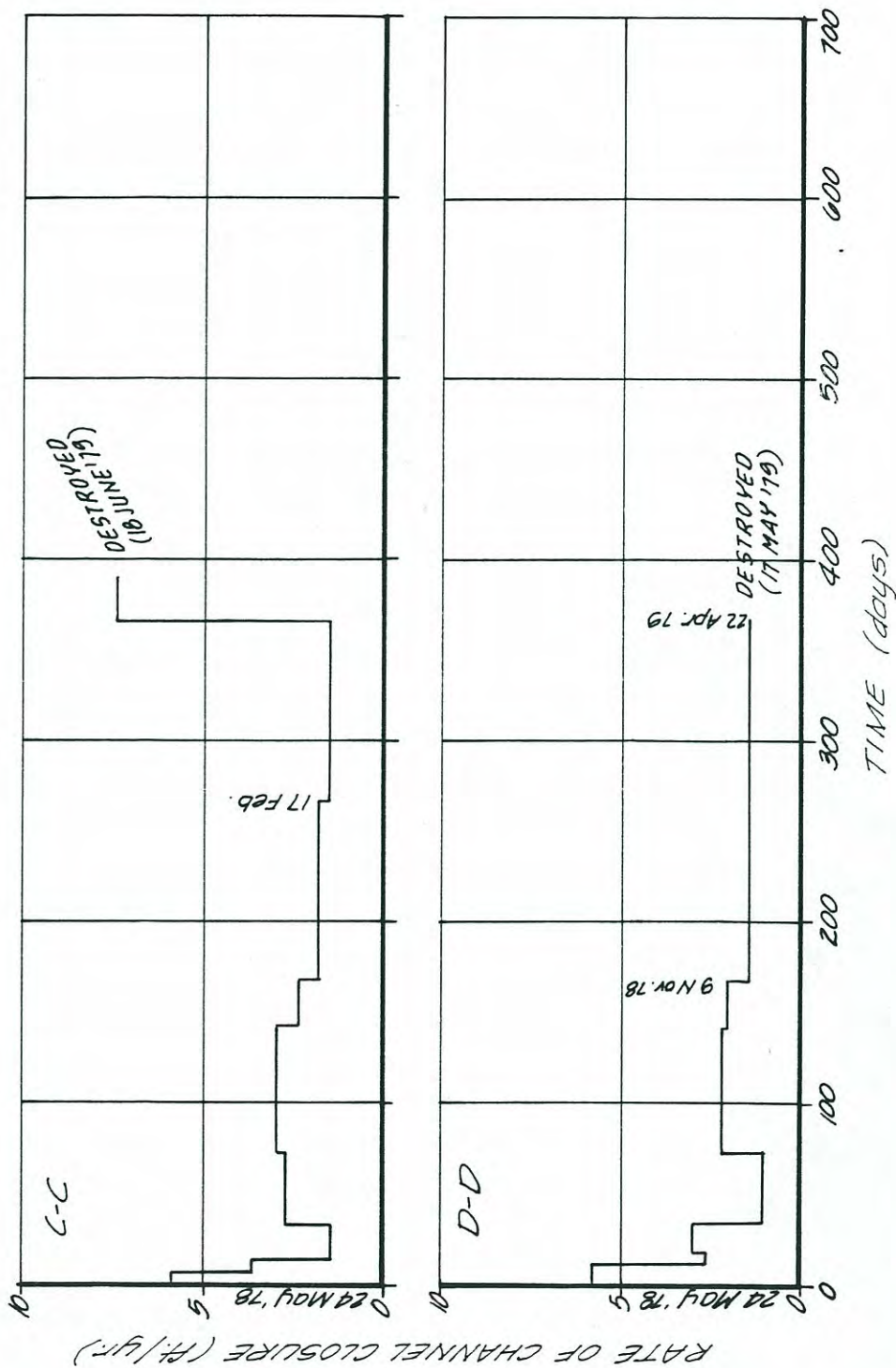
1979
1980



Project No. 772-1016 Drawn 3F Reviewed 3F Date Nov. 79, July '80

CLINTON CHANNEL CLOSURE MONITORS

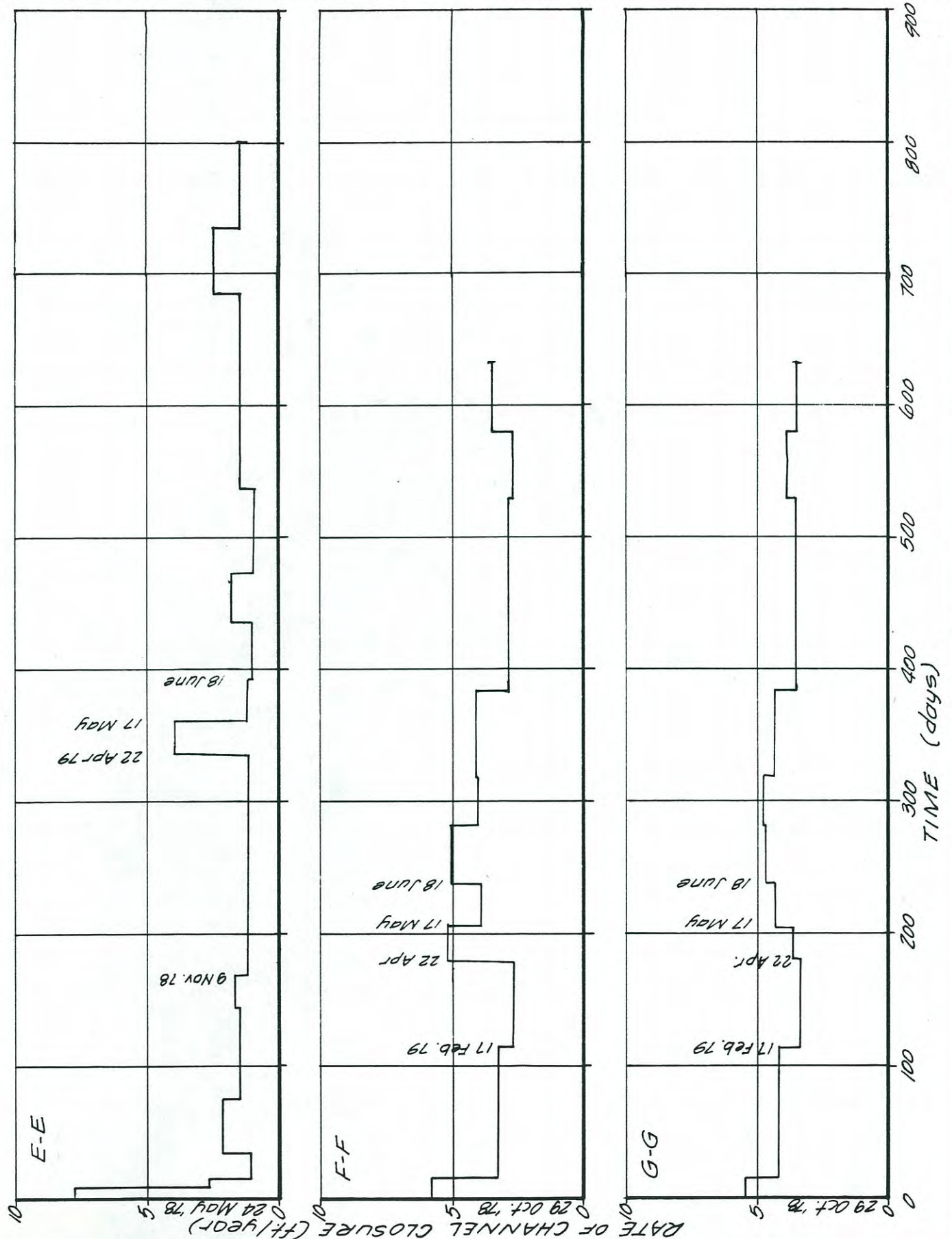
Figure CM-2
SHEET 2 OF 2



Project No. 712-1016 Drawn SF Reviewd Linto Nov. '79, July '80

CLINTON CHANNEL CLOSURE MONITORS

Figure CM-3



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WOLVERINE CREEK TAILING PILE
MOVEMENT MONITOR DATA



COMPOUND

MILL

BH No 13 (T-6)
(El. 1880.59)

BH No 12 (T-5)
(El. 1945.19)

BH No 14 (T-7)
(El. 1790.93)

BH No 16 (T-8)
(El. 1623.80)

BH No 15
(El. 1607.16)

MON. No. 650.2

MON. No. 500.1

MON. No. 80-5 (approx.)

MON. No. 20-9

1570

1550

1530

1510

1490

1470

1450

1430

1410

1390

1370

1350

1330

1310

1290

1270

1250

1230

1210

1190

1170

1150

1130

1110

1090

1070

1050

1030

1010

990

970

950

930

910

890

870

850

830

810

790

770

750

730

710

690

670

650

630

610

590

570

550

530

510

490

470

450

430

410

390

370

350

330

310

290

270

250

230

210

190

170

150

130

110

90

70

50

30

10

0

-10

-20

-30

-40

-50

-60

-70

-80

-90

-100

-110

-120

-130

-140

-150

-160

-170

-180

-190

-200

-210

-220

-230

-240

-250

-260

-270

-280

-290

-300

-310

-320

-330

-340

-350

-360

-370

-380

-390

-400

-410

-420

-430

-440

-450

-460

-470

-480

-490

-500

-510

-520

-530

-540

-550

-560

-570

-580

-590

-600

-610

-620

-630

-640

-650

-660

-670

-680

-690

-700

-710

-720

-730

-740

-750

-760

-770

-780

-790

-800

-810

-820

-830

-840

-850

-860

-870

-880

-890

-900

-910

-920

-930

-940

-950

-960

-970

-980

-990

-1000

-1010

-1020

-1030

-1040

-1050

-1060

-1070

-1080

-1090

-1100

-1110

-1120

-1130

-1140

-1150

-1160

-1170

-1180

-1190

-1200

-1210

-1220

-1230

-1240

-1250

-1260

-1270

-1280

-1290

-1300

-1310

-1320

-1330

-1340

-1350

-1360

-1370

-1380

-1390

-1400

-1410

-1420

-1430

-1440

-1450

-1460

-1470

-1480

-1490

-1500

-1510

-1520

-1530

-1540

-1550

-1560

-1570

-1580

-1590

-1600

-1610

-1620

-1630

-1640

-1650

-1660

-1670

-1680

-1690

-1700

-1710

-1720

-1730

-1740

-1750

-1760

-1770

-1780

-1790

-1800

-1810

-1820

-1830

-1840

-1850

-1860

-1870

-1880

-1890

-1900

-1910

-1920

-1930

-1940

-1950

-1960

-1970

-1980

-1990

-2000

-2010

-2020

-2030

-2040

-2050

-2060

-2070

-2080

-2090

-2100

-2110

-2120

-2130

-2140

-2150

-2160

-2170

-2180

-2190

-2200

-2210

-2220

-2230

-2240

-2250

-2260

-2270

-2280

RECONTOURED TAILING PILE.

FIGURE 2

LEGEND:

▲ Surface movement monitor moved
LEGEND, 1980 due to local cracking.

▲ Surface movement survey
reference point.
MON. No. 19

⊕ Borehole
B.H. No. 12

▲ Surface movement monitor
removed for recontouring
MON. No. 25

NOTE:

The contours shown on the 1974 failure
lobe represent the average slopes of
the recontoured area.

REFERENCE:

Topo. plan of Mill Tailings Pile for
Clinton Creek Mine. by Underhill
Engineering Ltd. - April 29, 1978.
Coordinate grid from Cassiar
Asbestos Corp. Grid Origin.

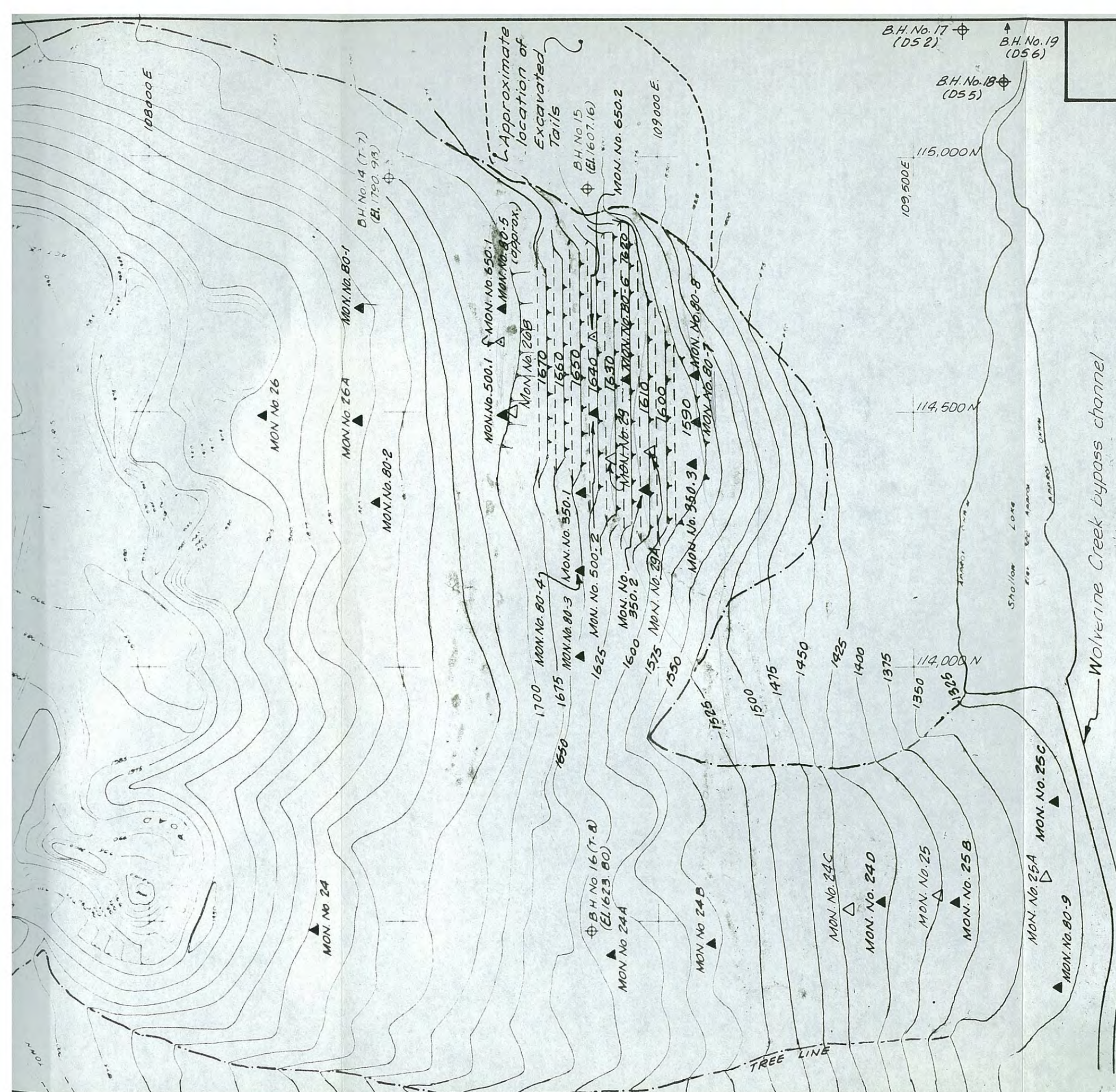
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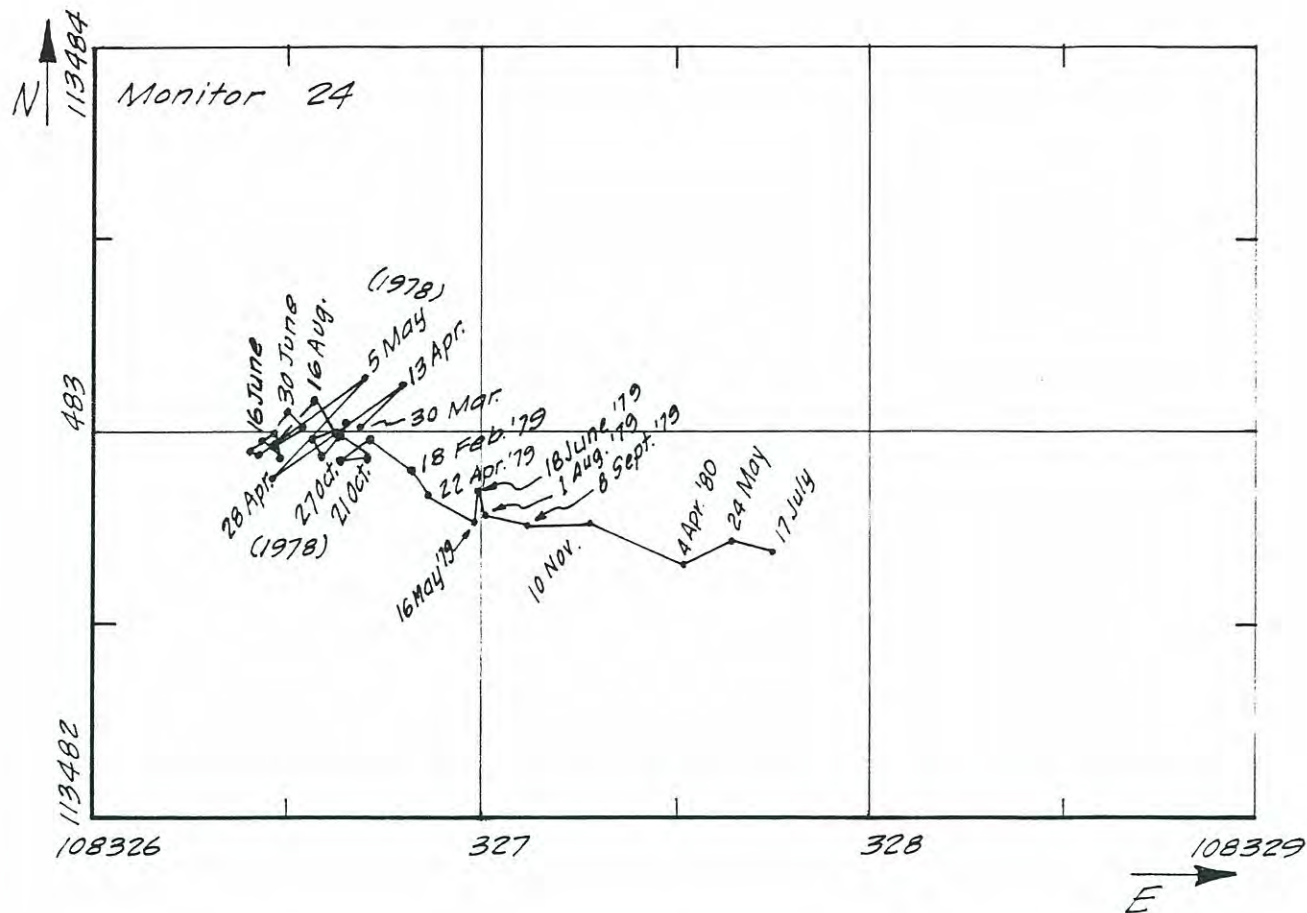
Drawn Ing

Reviewed 88

Golder Associates Revised: July '80 Date Dec. '78

V77016



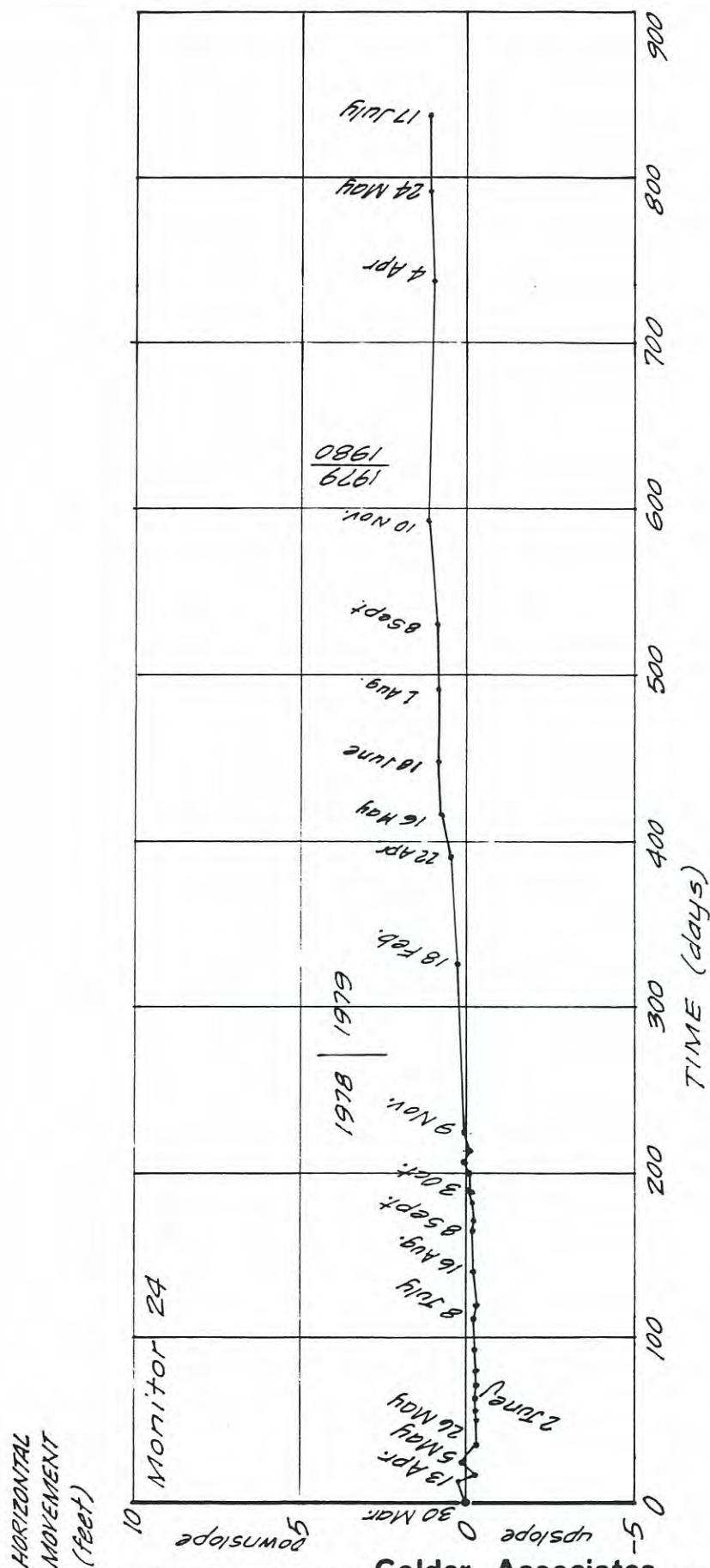


Project No. 772-1016 Drawn by [signature] Date Nov. '79, July '80

Reviewed

[signature]

Drawn

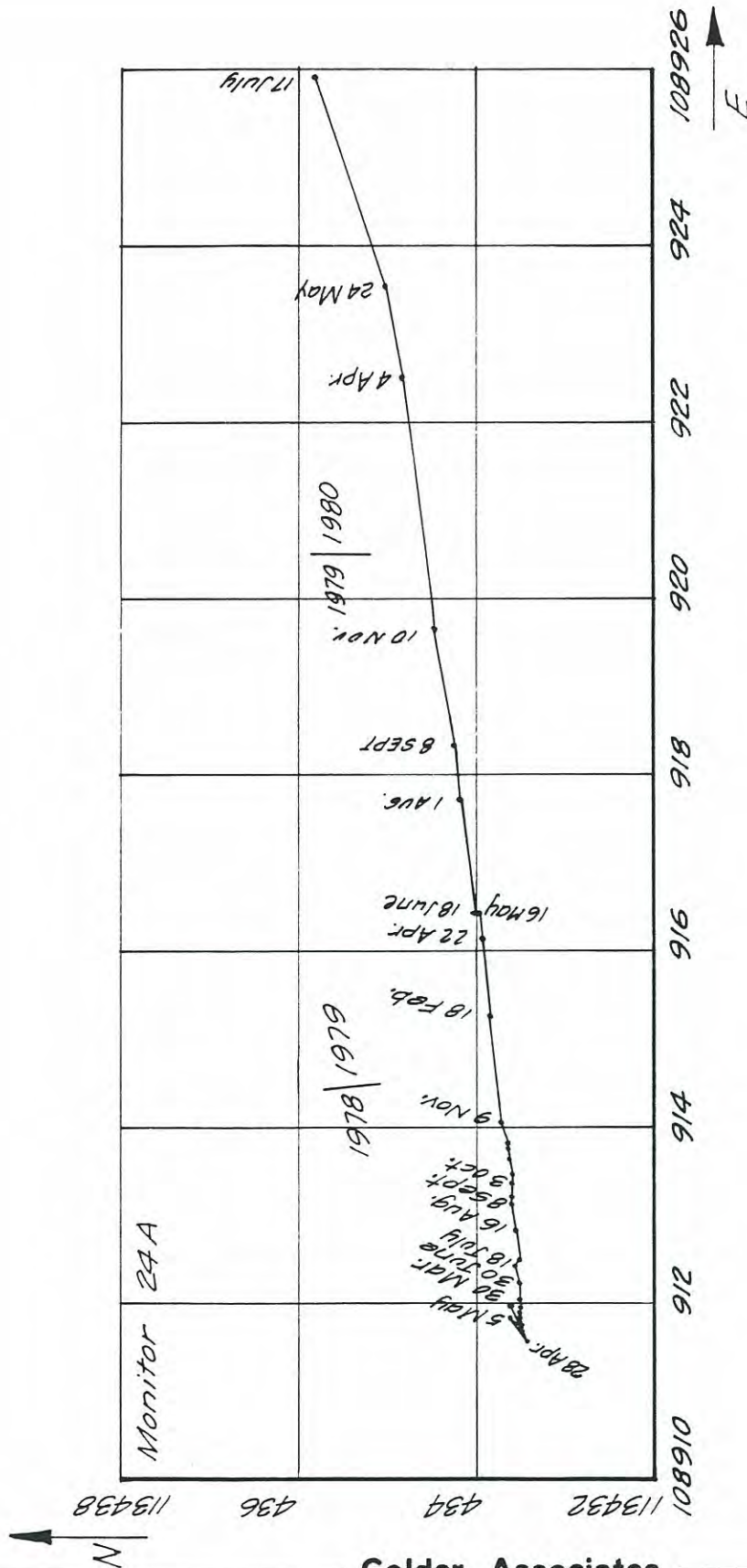


NOTE: The average rate of downslope movement of Monitor 24 between May 26, 1978 and April 22, 1979 is approximately 0.44 ft./yr.

TAILING PILE - MONITOR NO. 24A

Figure 24 A-1

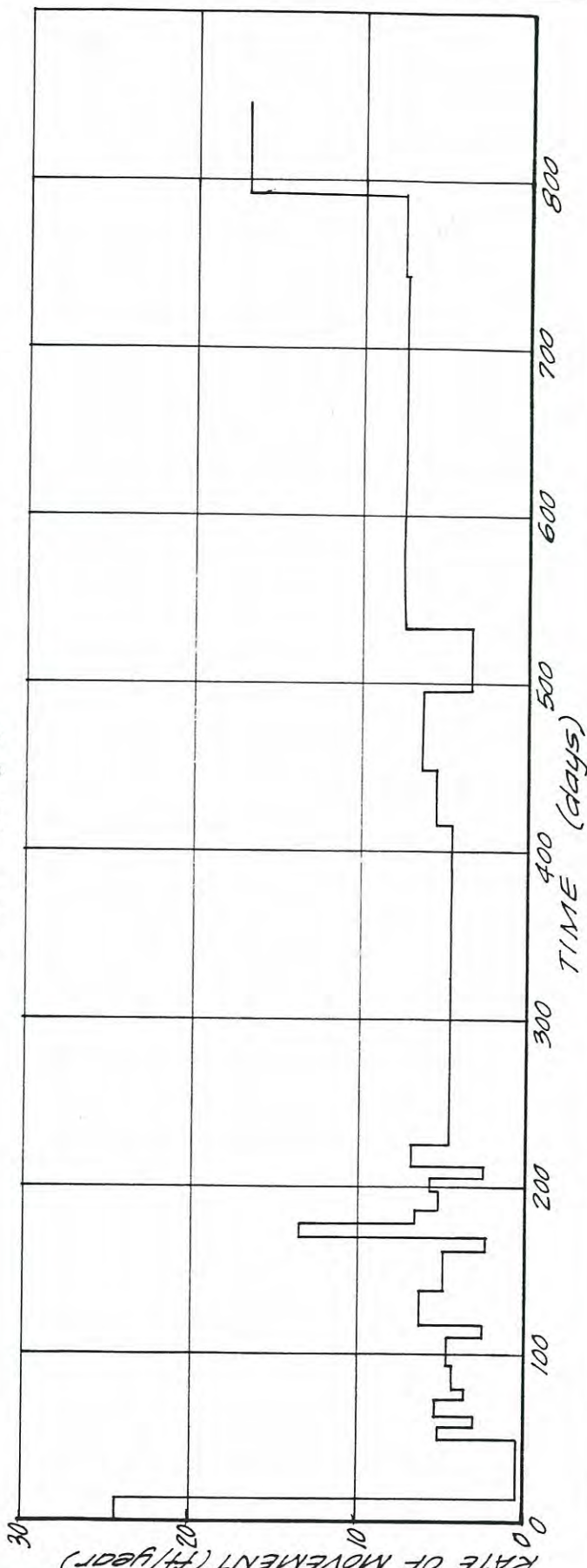
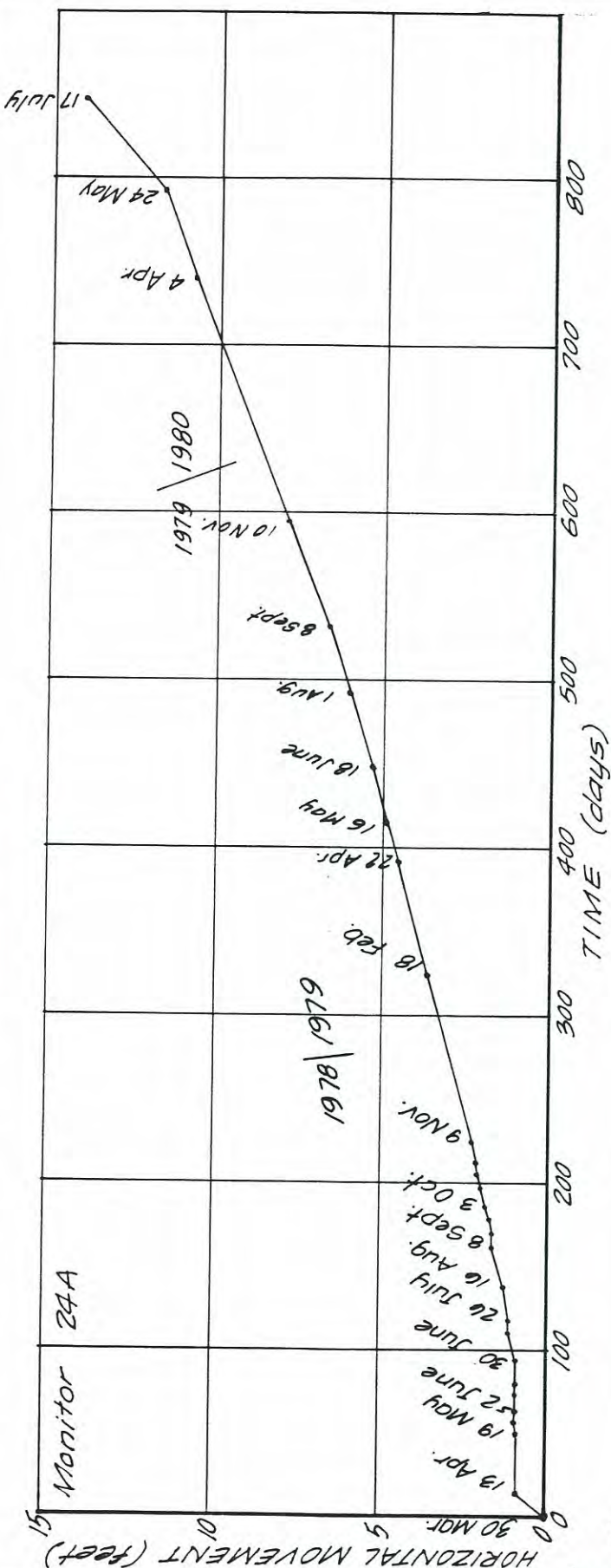
Project No. 772-1016 Drawn 1/89 Reviewed Date Nov. 79, July '80



TAILING PILE - MONITOR NO. 24A

Figure 24 A-2

Project No. 772-1016 Drawn 1/19 Reviewed Date Nov. '79, July '80

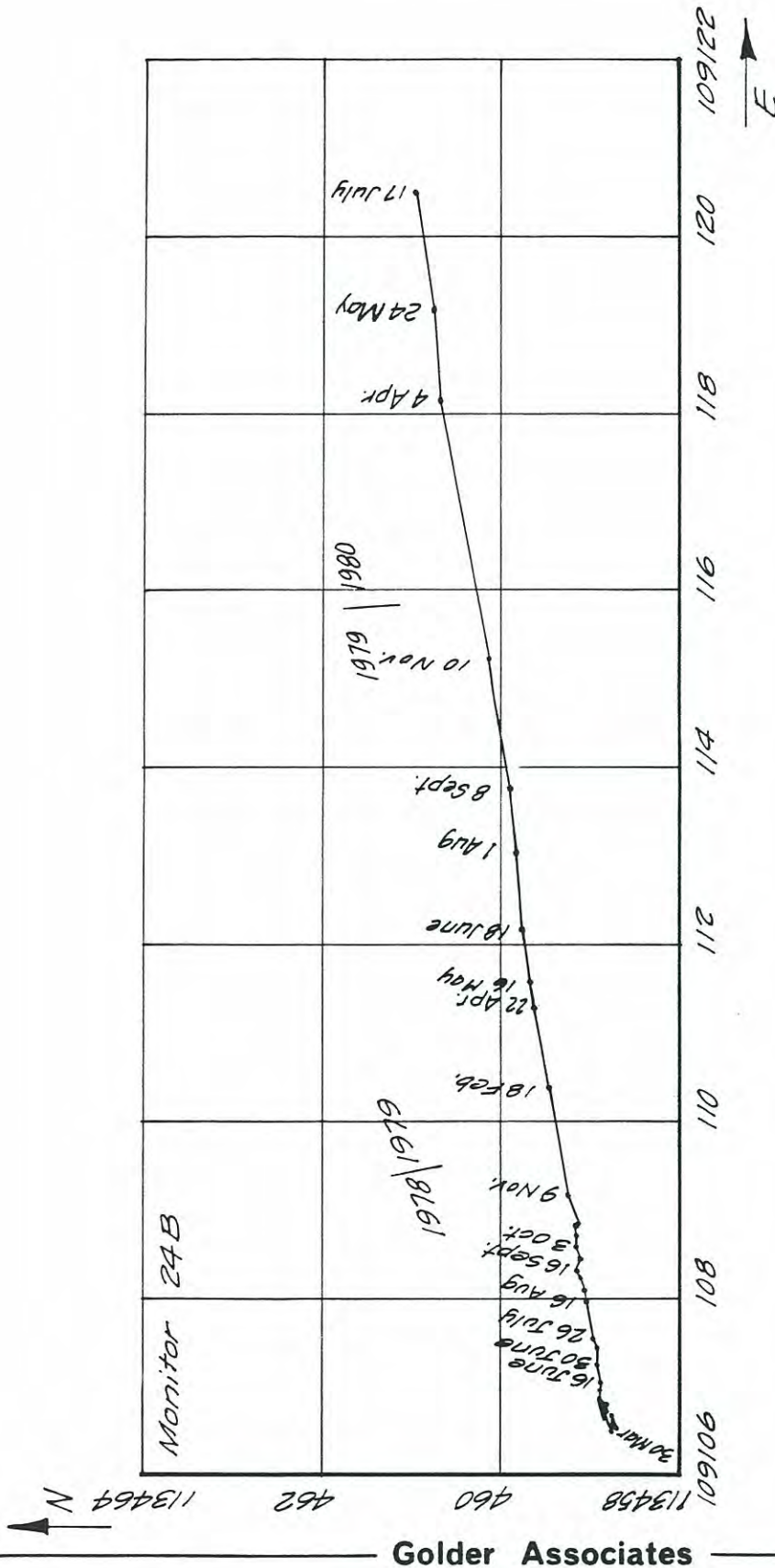


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TAILING PILE - MONITOR NO. 24B

Figure 24 B-I

Project No. 772-1016 Drawn SF Reviewed Date Nov. '79; July '80



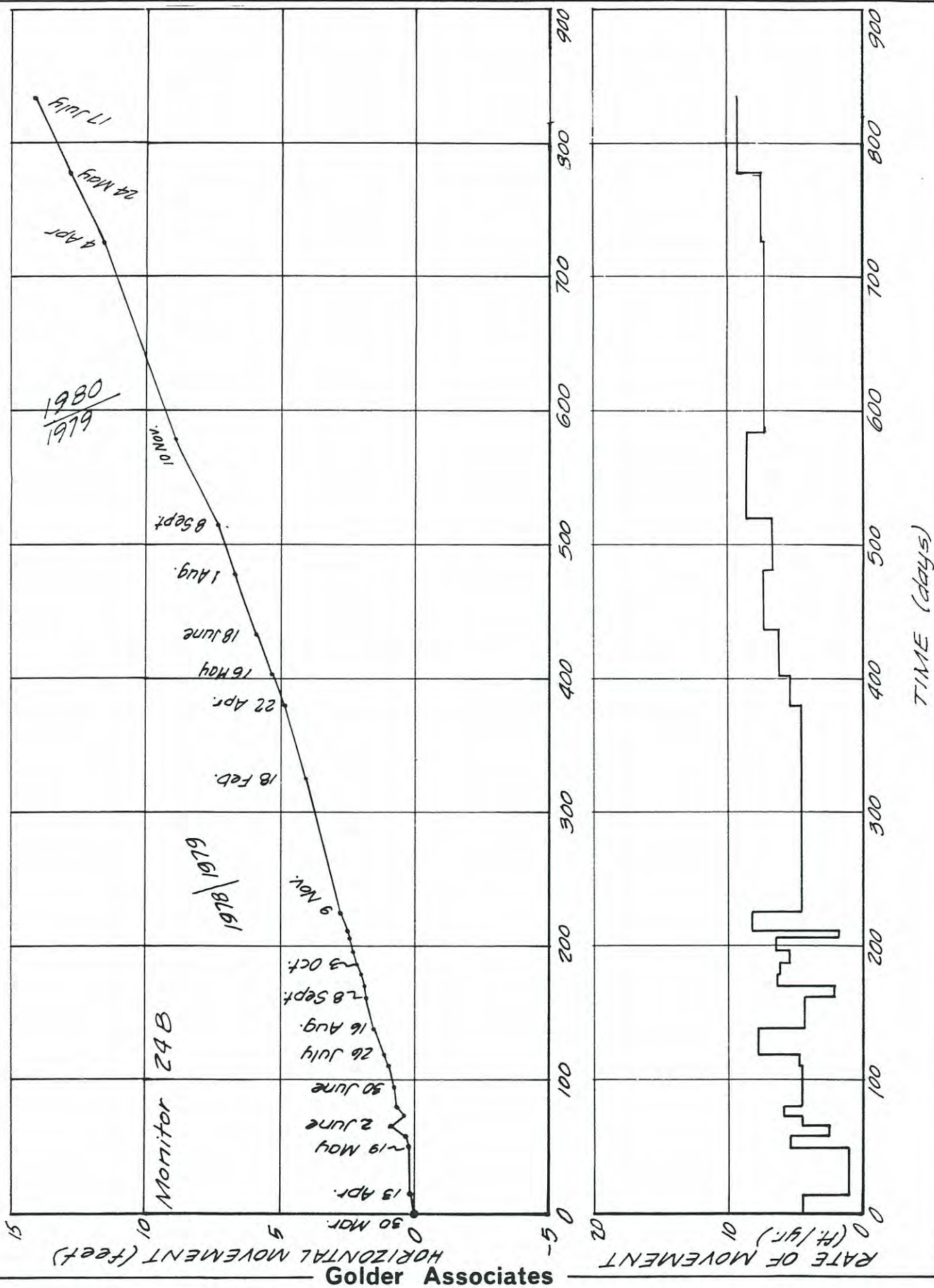
TAILING PILE - MONITOR NO. 24B

Figure 24 B-2

Project No. 772-10/16 (Drawn) Date July/80

Reviewed

1979

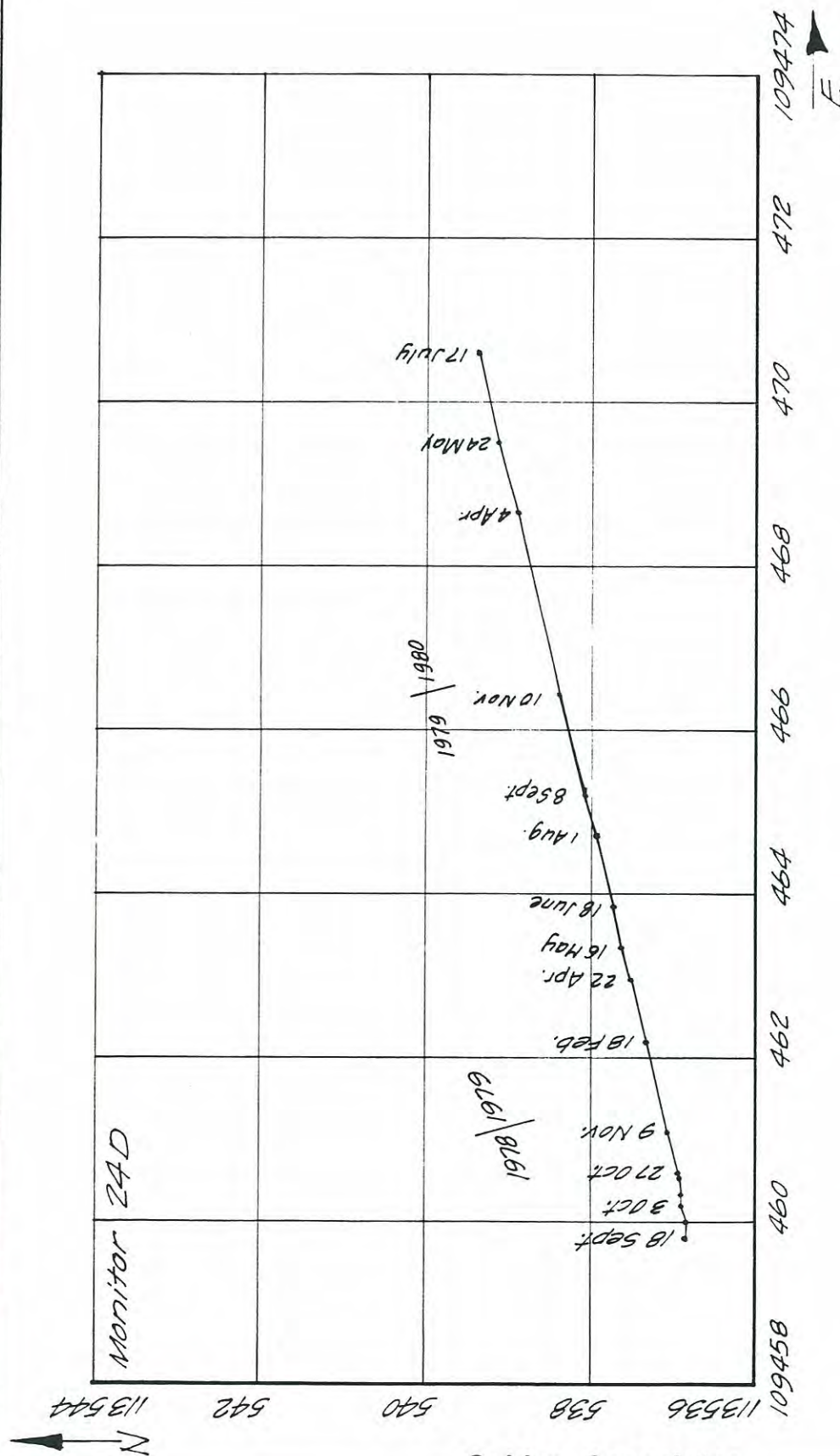


Golder Associates

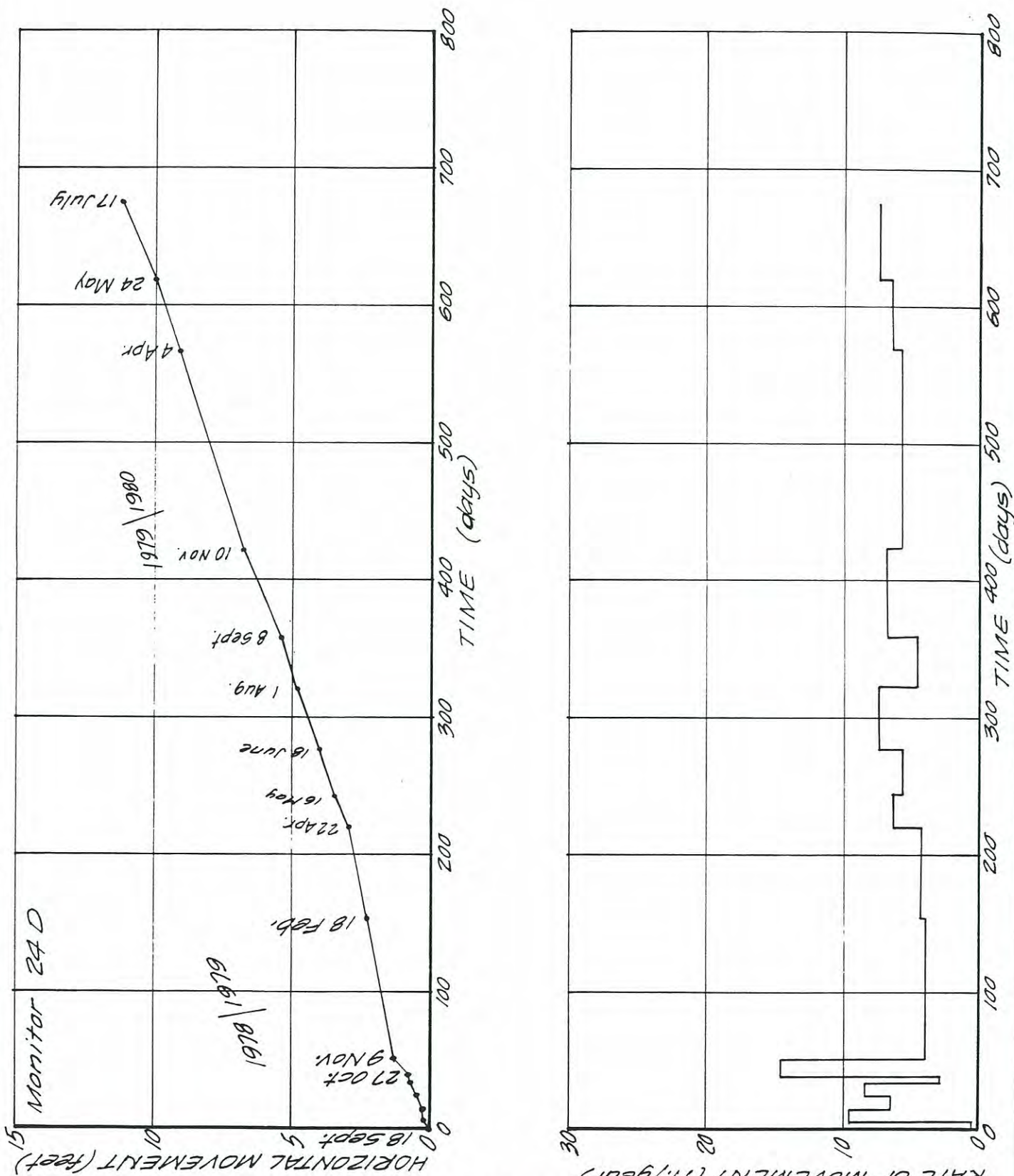
TAILING PILE - MONITOR NO. 24D

Figure 24 D-1

Project No. 772-1016 Drawn by Reviewed Date Nov. '79; July '80



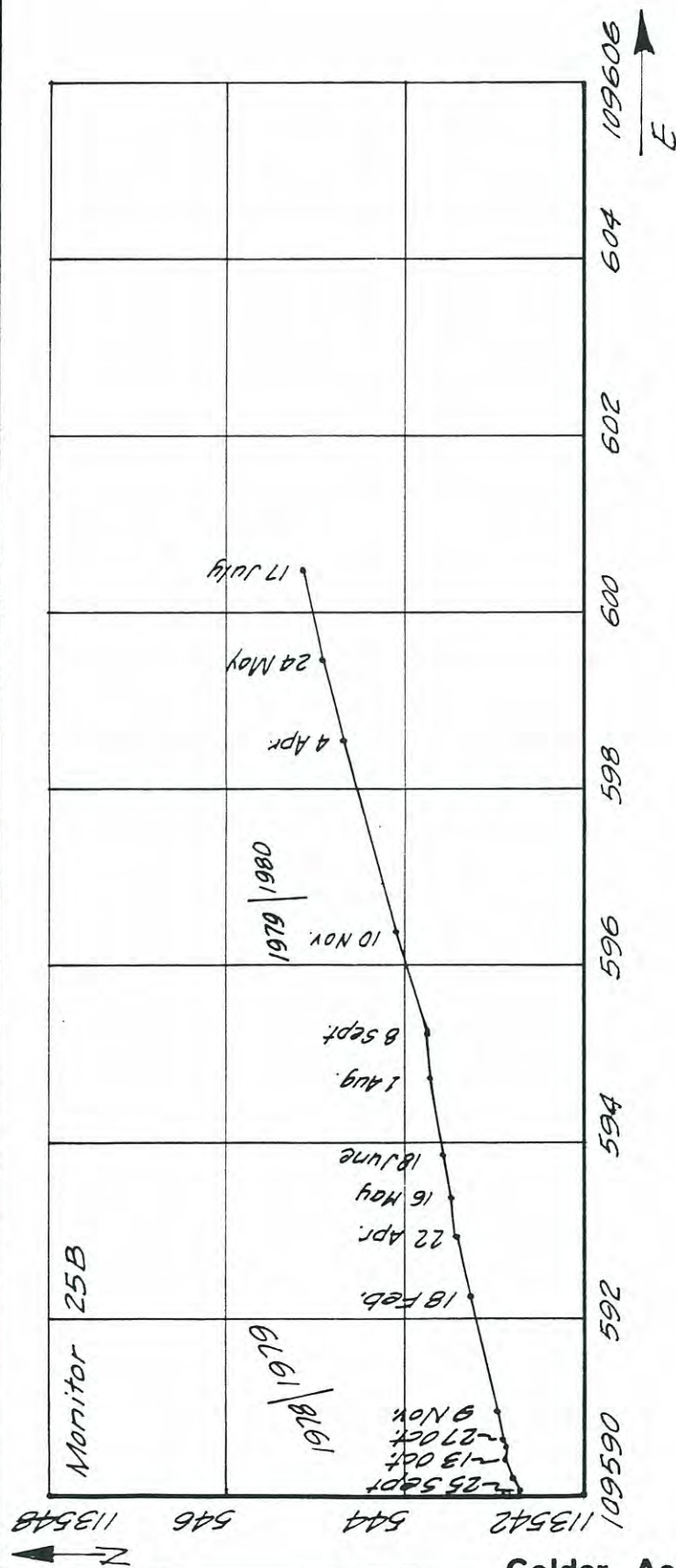
Project No. 172-1016 Drawn by mg Reviewed Date Nov. '79; July '80



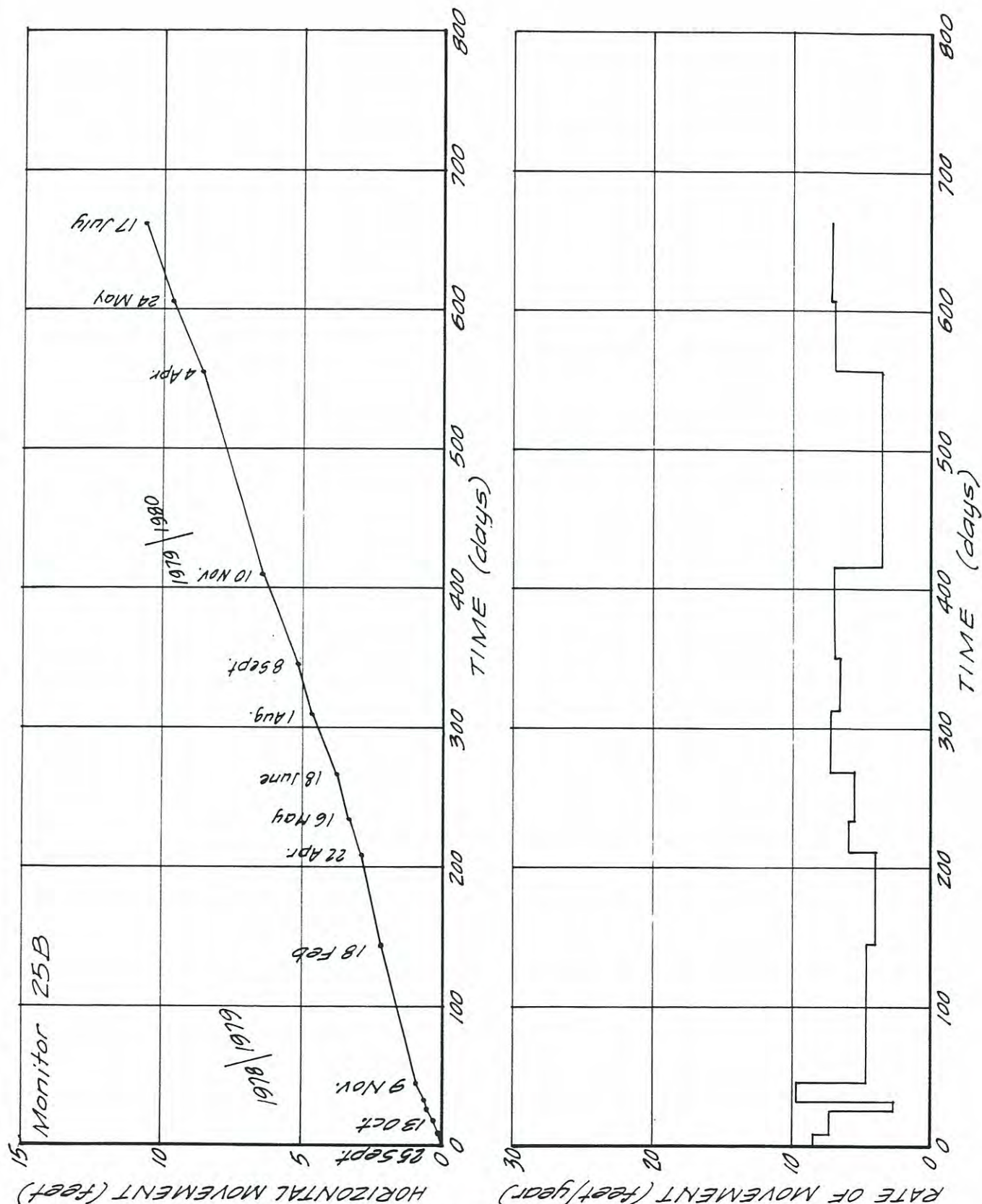
TAILING PILE - MONITOR NO. 25B

Figure 25 B-1

Project No. T12-1016 Drawn by Reviewed Date Nov. '79; July '80

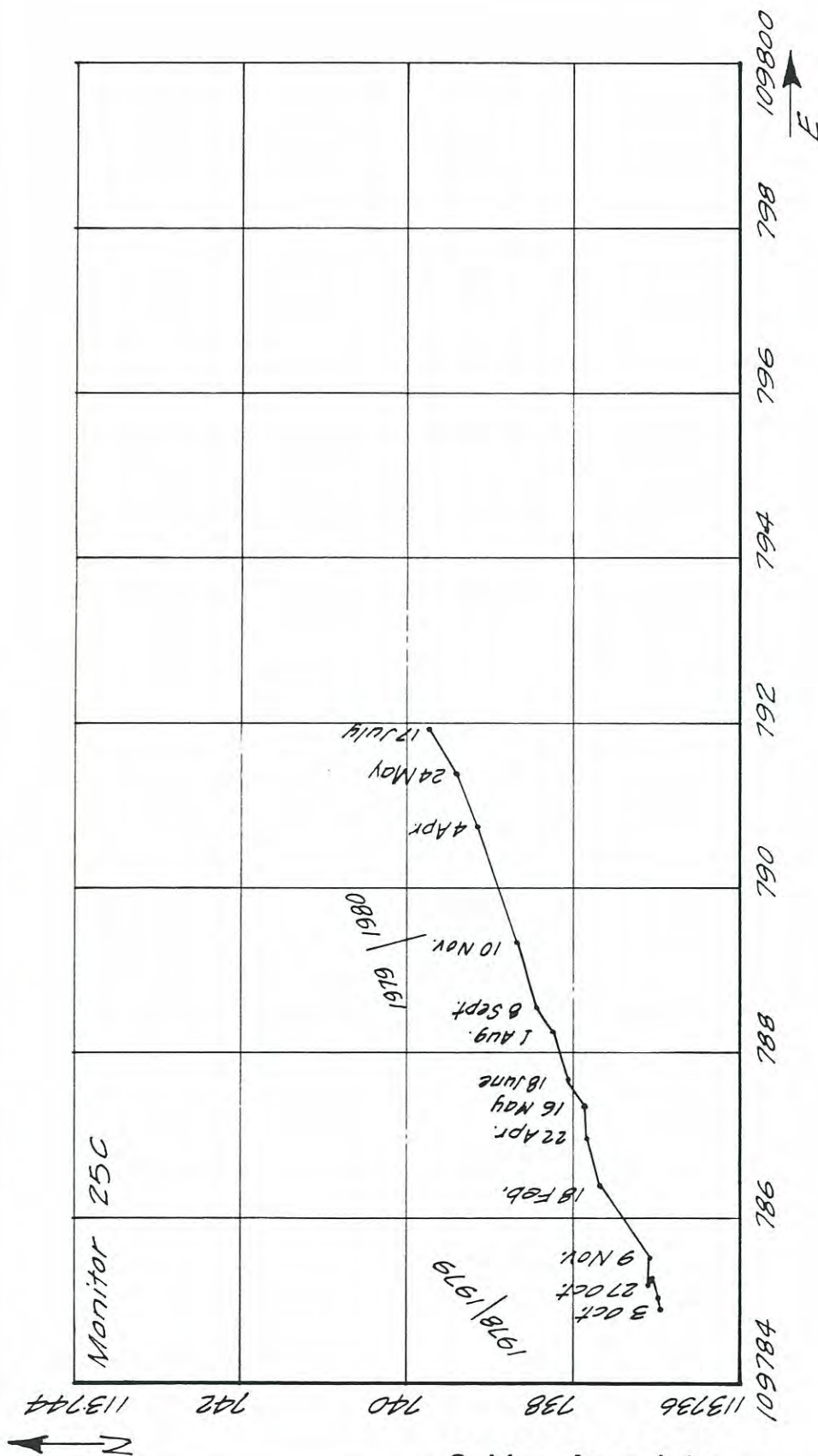


Project No. 772-1016 Drawn 11/9/80 Reviewed Date NOV. '79; July '80



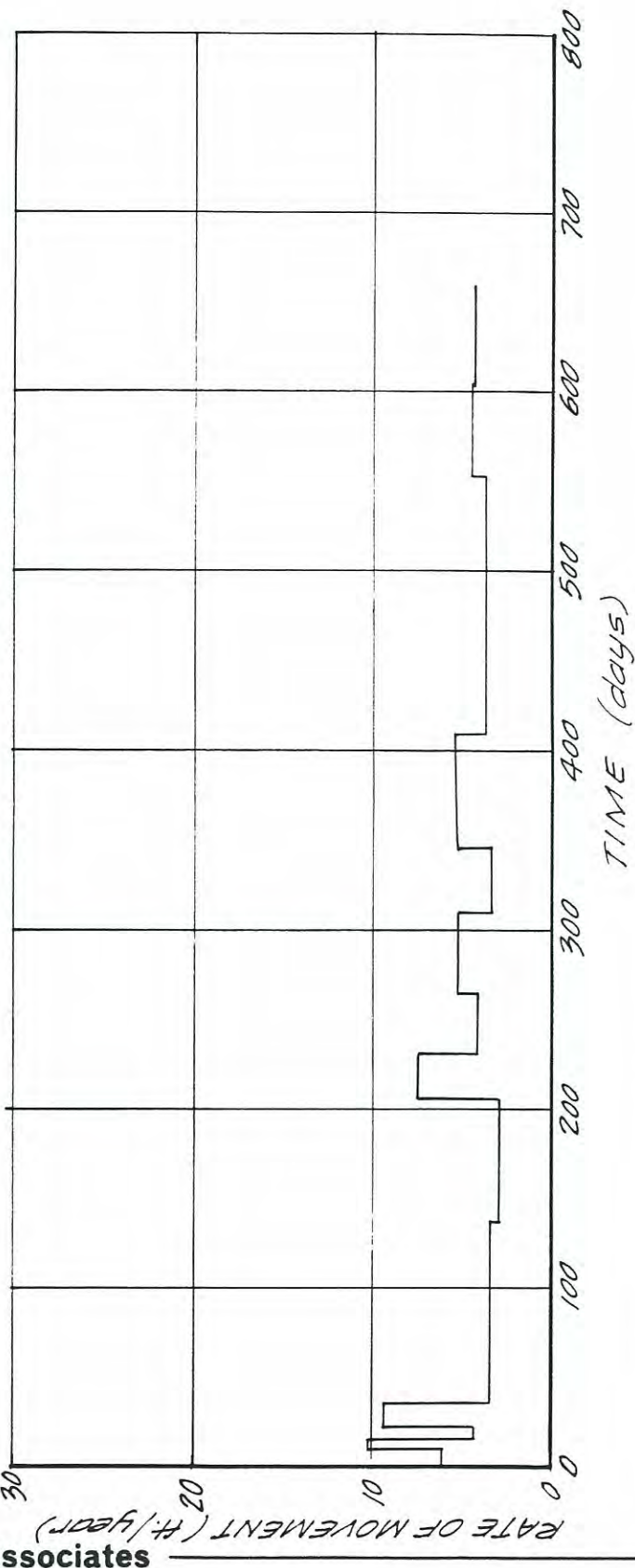
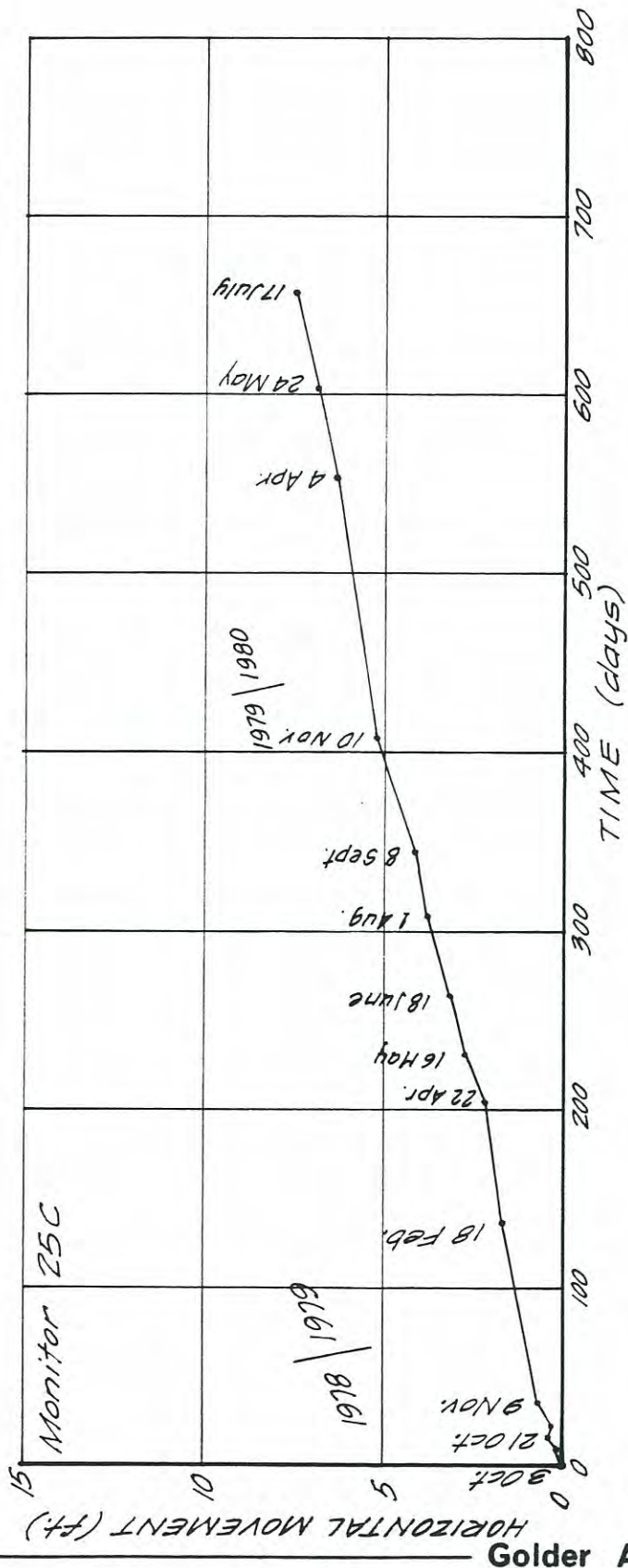
TAILING PILE - MONITOR NO. 25C

Figure 25 C-1



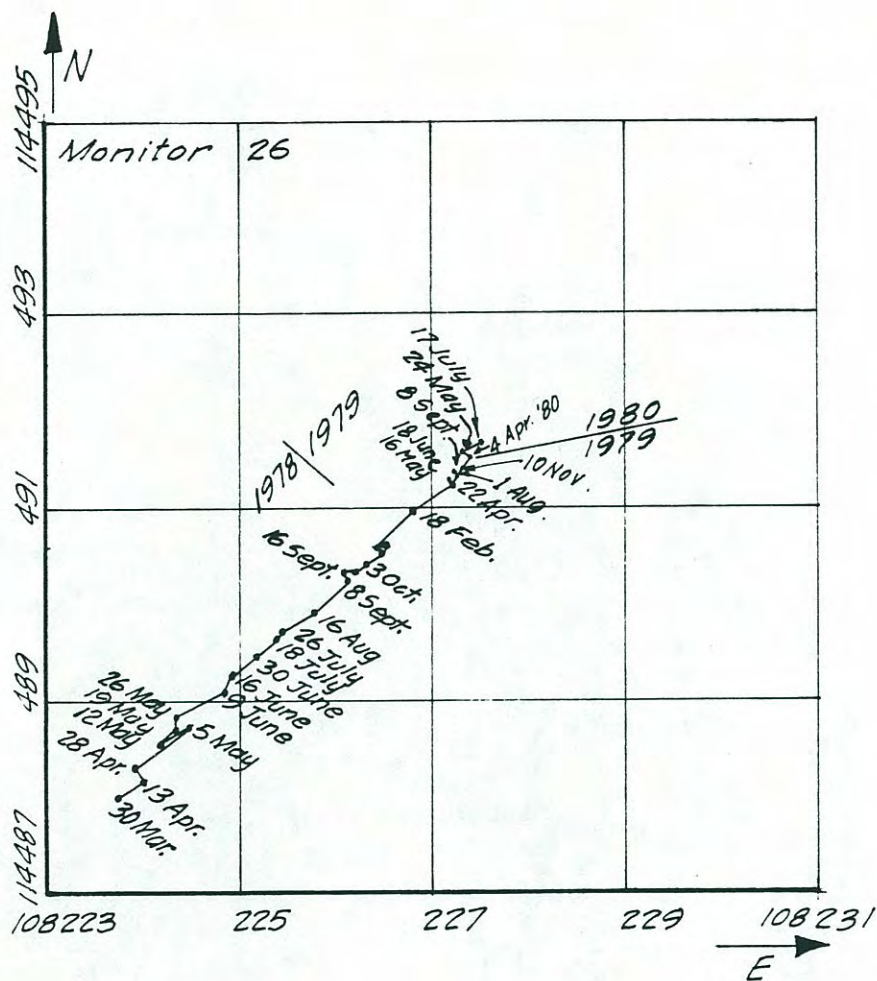
Golder Associates

Project No. 772-1016 Drawn 1/79 Reviewed Date NOV. '79; July '80



TAILING PILE - MONITOR NO. 26

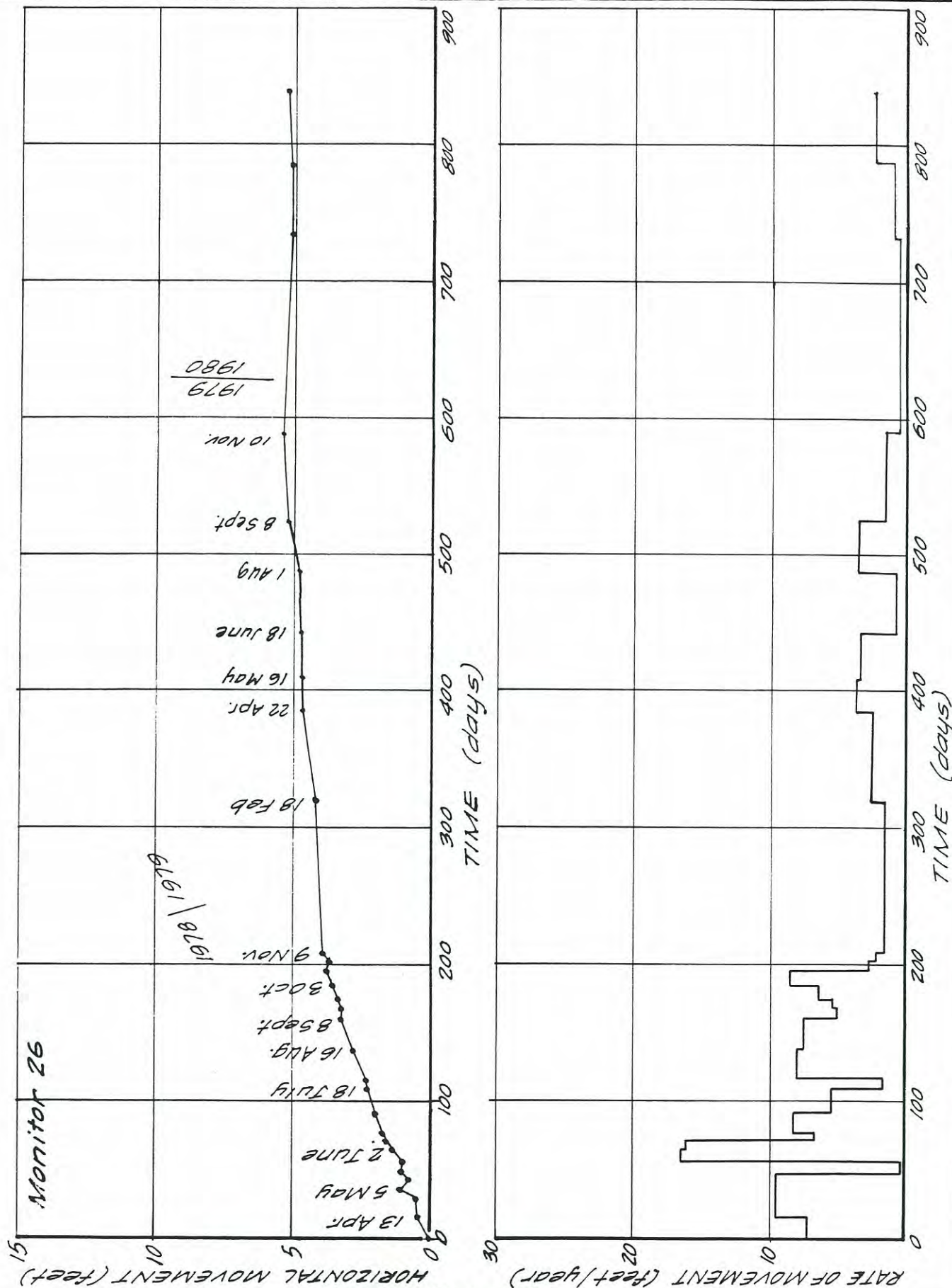
Figure 26-1



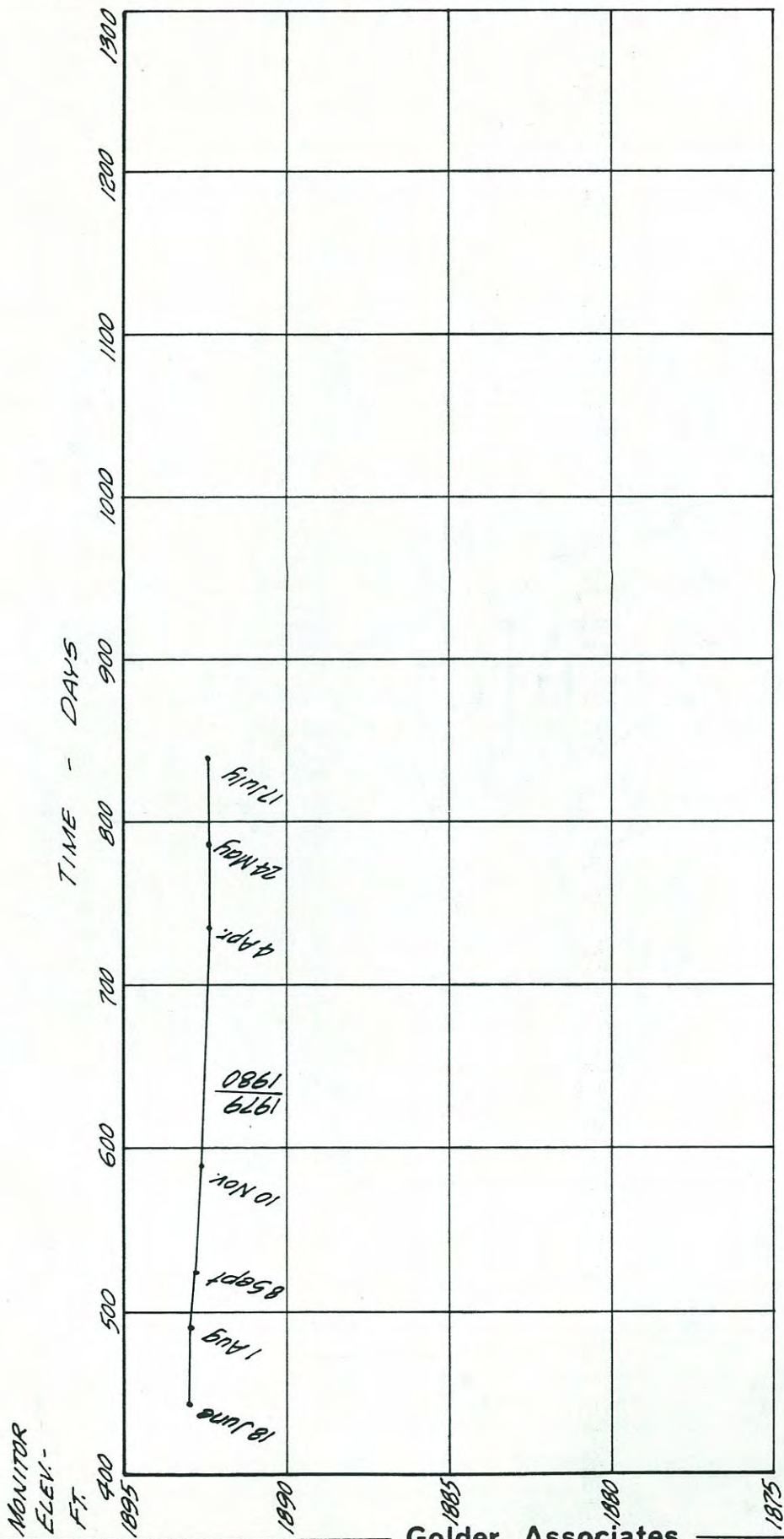
Project No. 772-1016 Drawn 1/79 Reviewed Date Nov. '79; July '80

TAILING PILE - MONITOR NO. 26

Figure 26 - 2



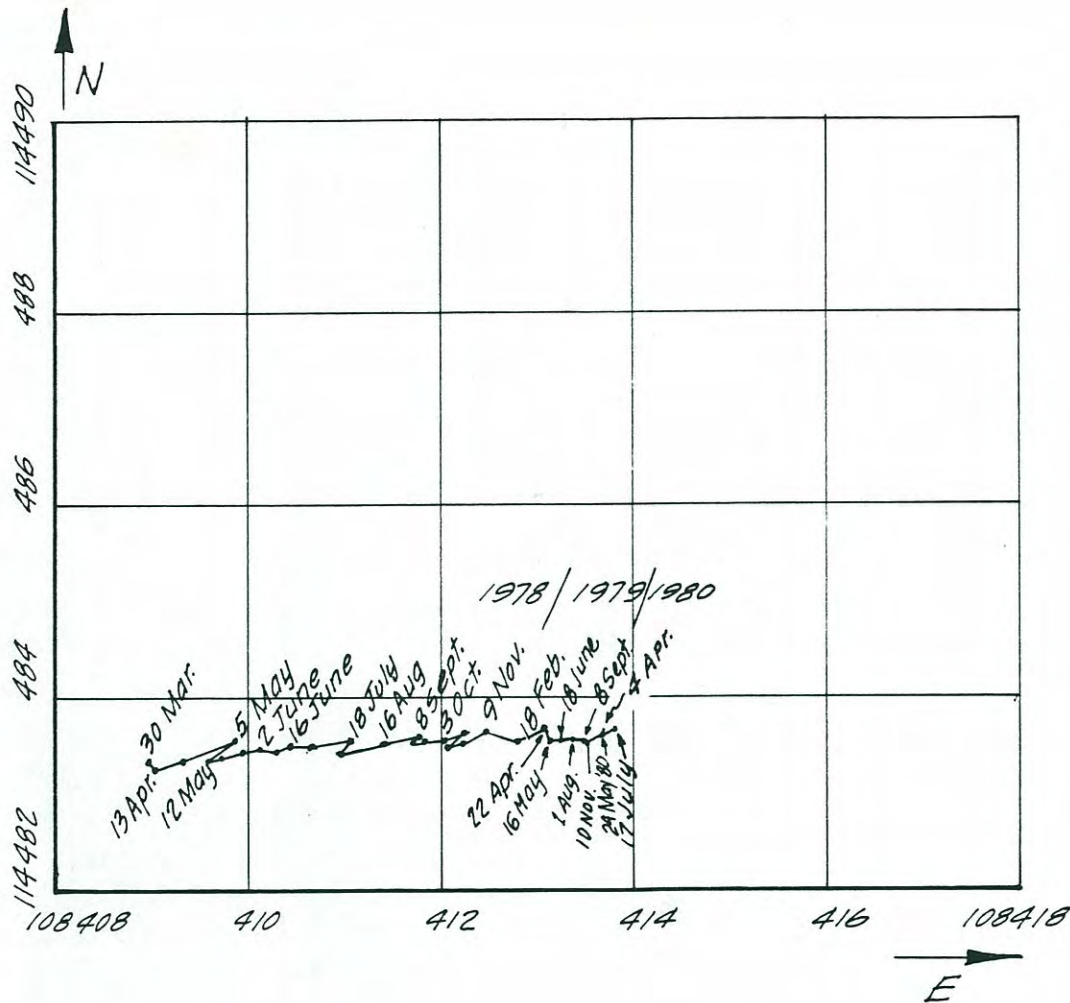
Golder Associates



Project No. 772.1016 Drawn Date July '80

Reviewed

Drawn

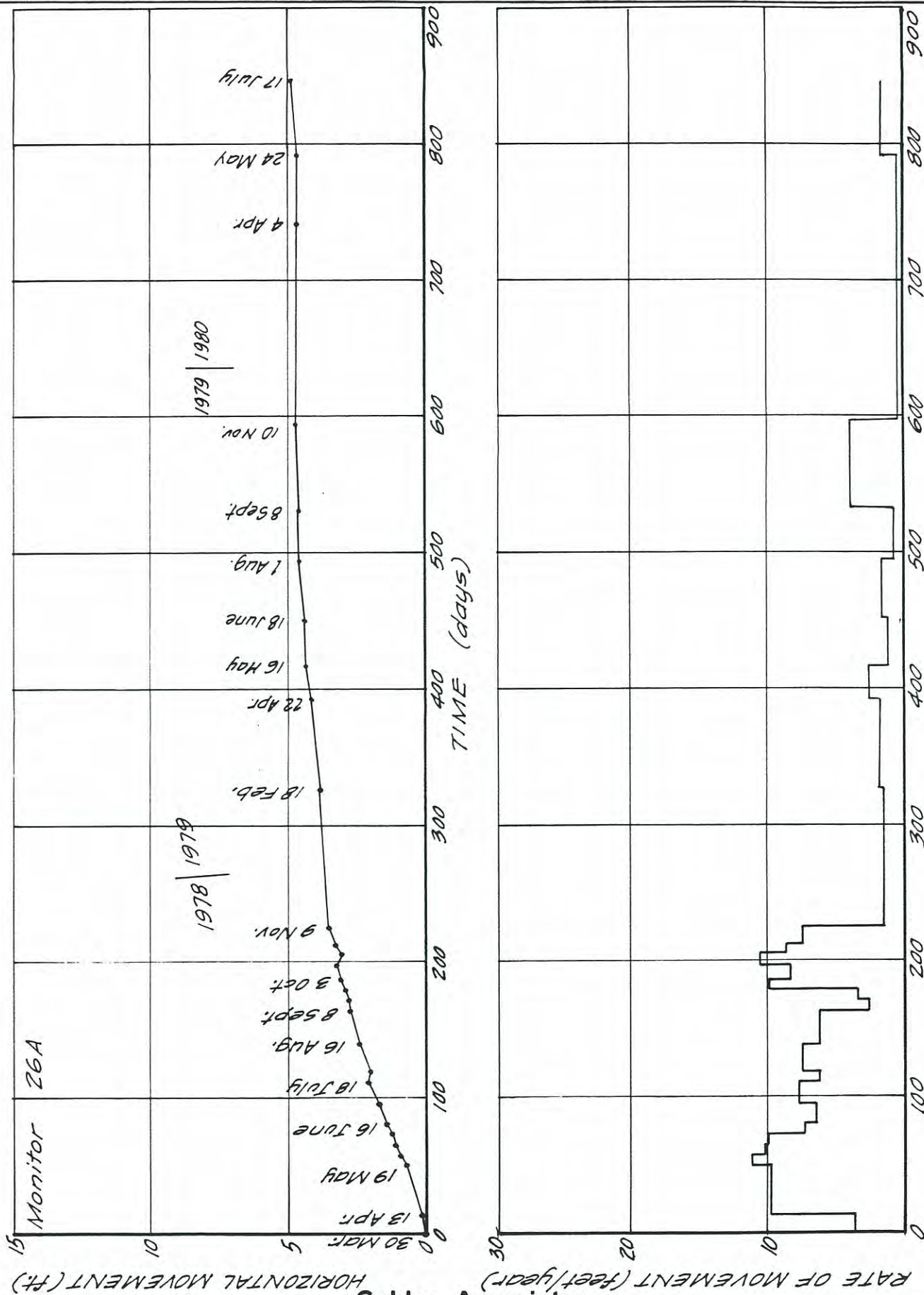


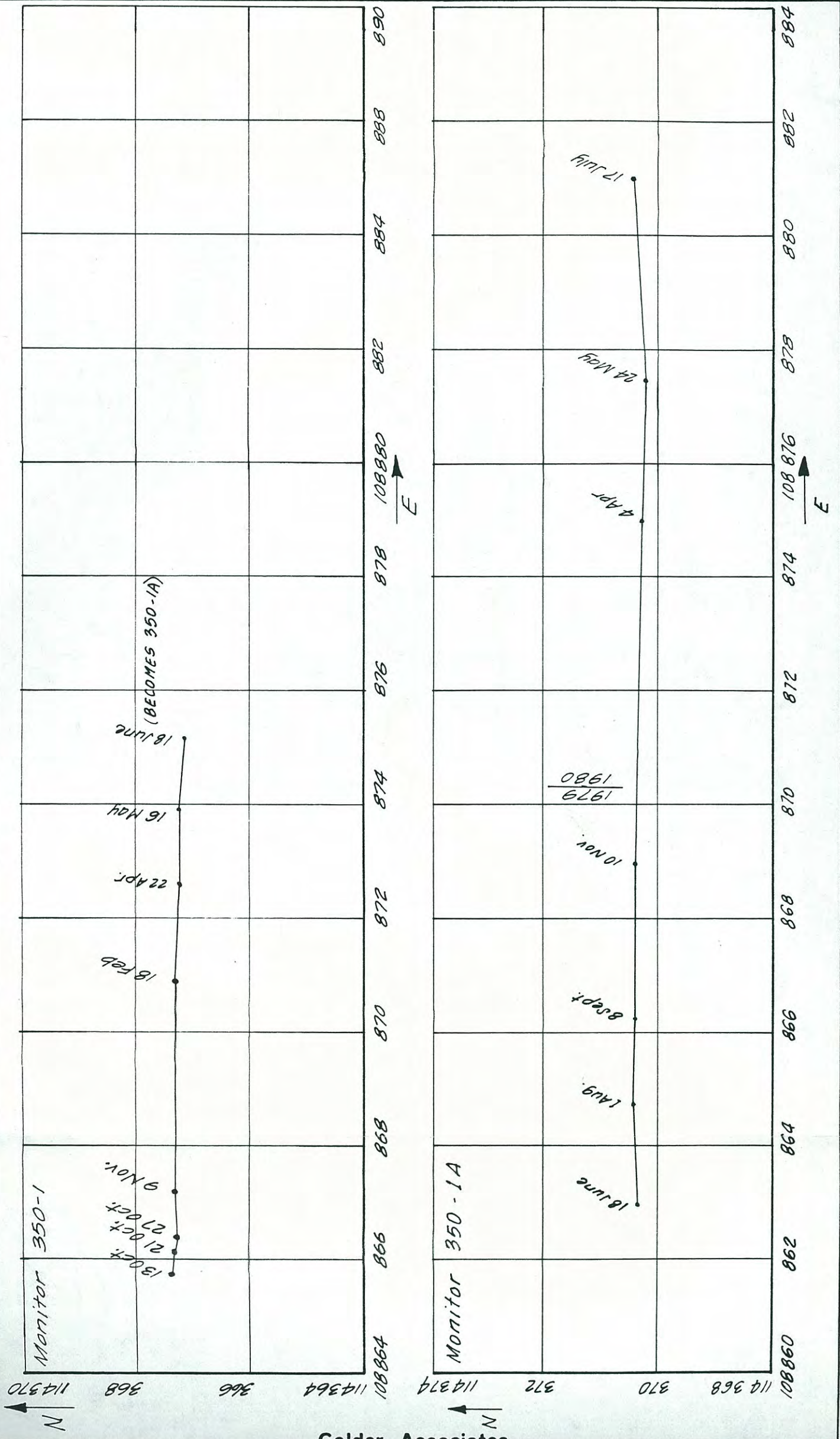
Project No. 712-1016 Drawn 1/79 Reviewed Date Nov. 79, July 80

TAILING PILE - MONITOR NO. 26A

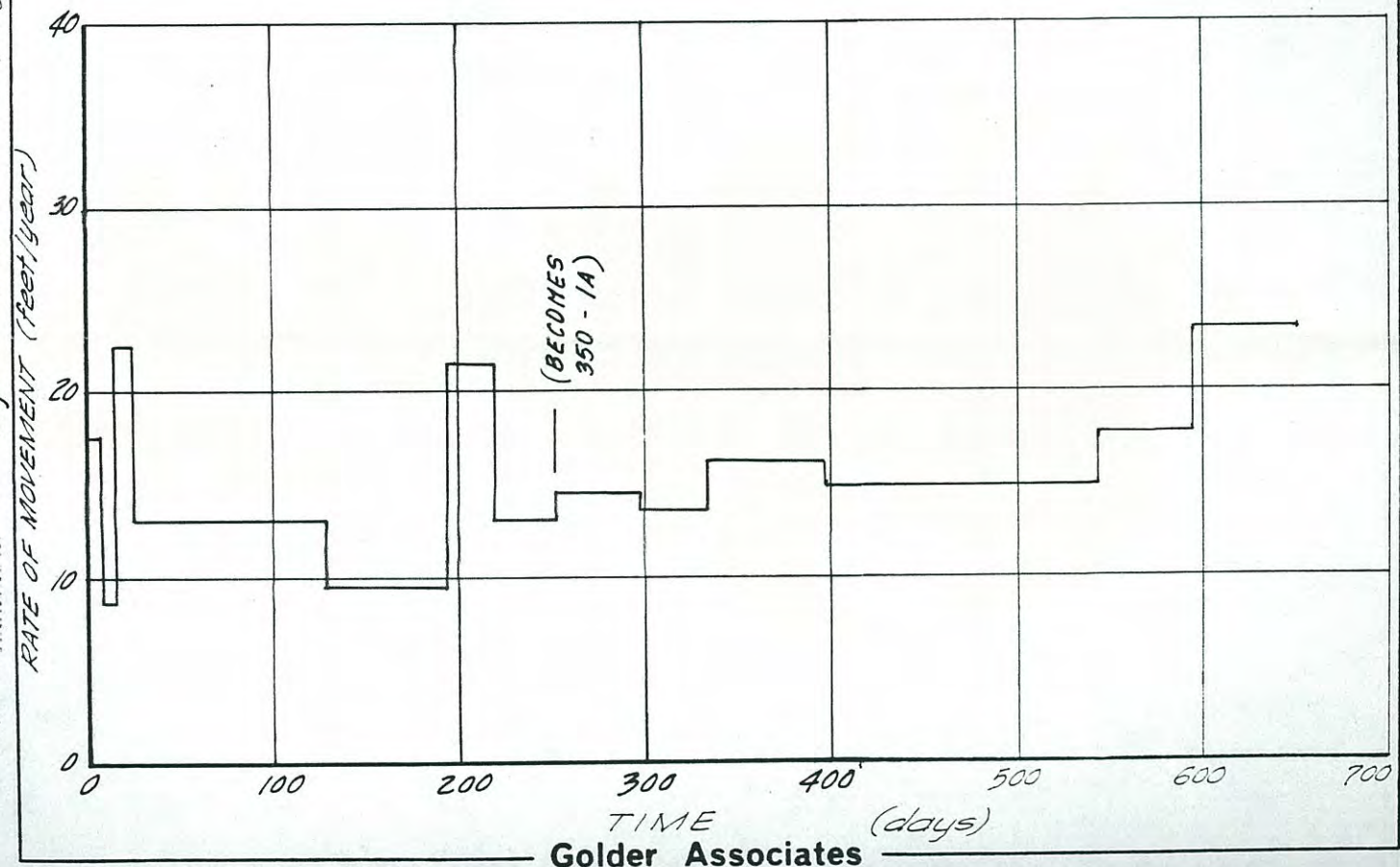
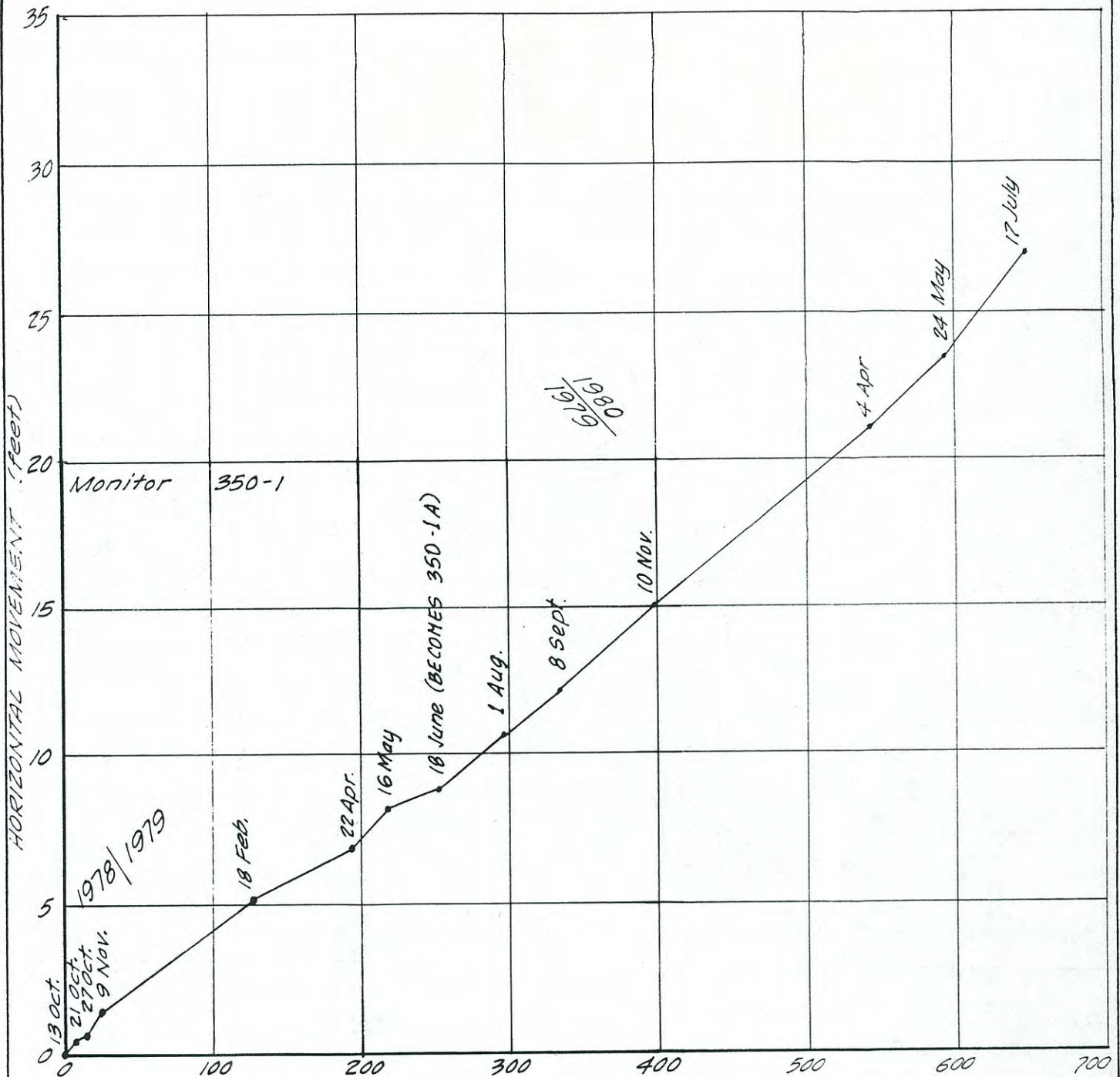
Figure 26 A-2

Project No. T72-1016 Drawn 1/19 Reviewed Date Nov. '79, July '80



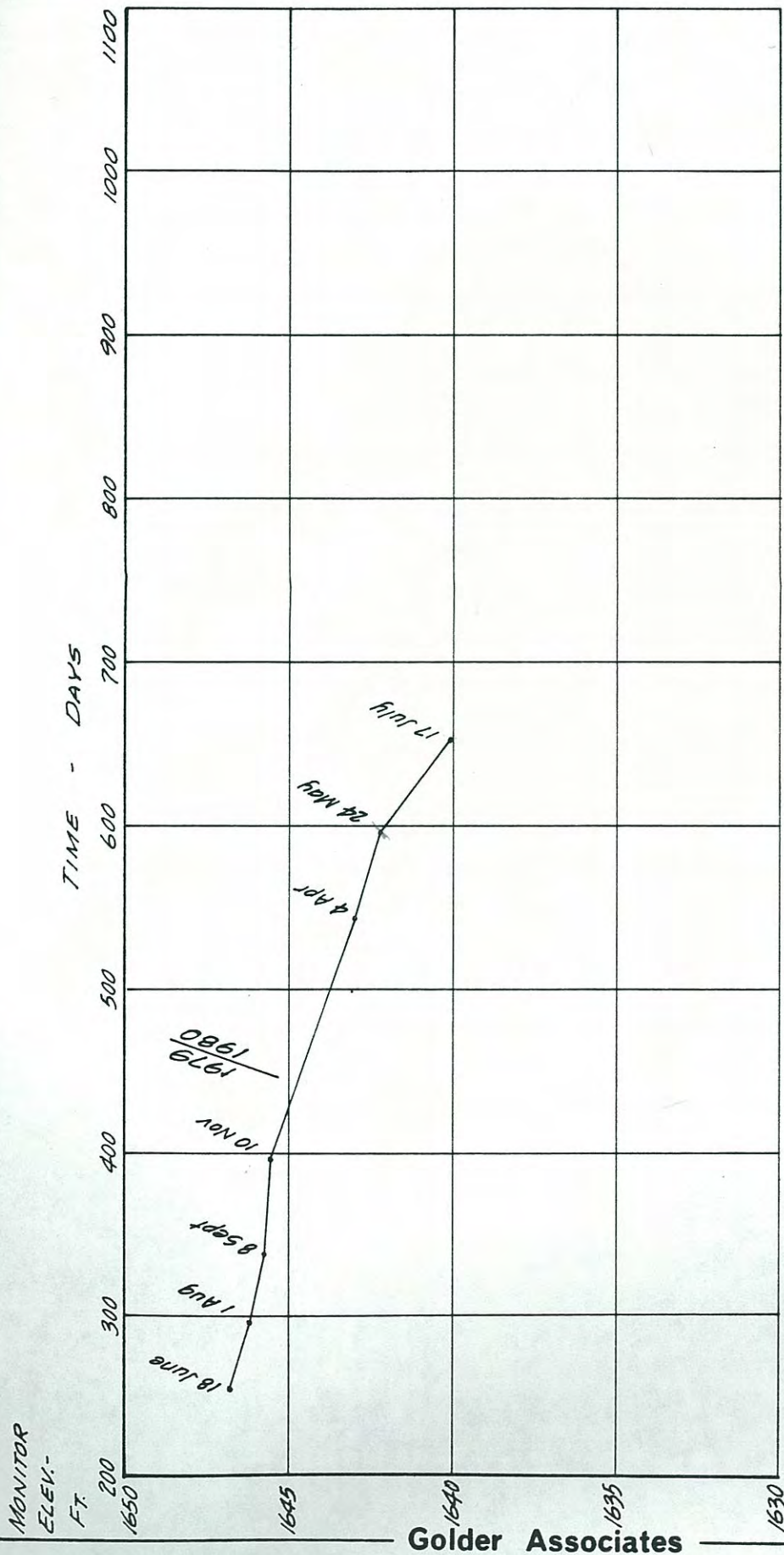


Project No. 112-1016 Drawn Inq. Reviewed Date NOV. '79; July '80



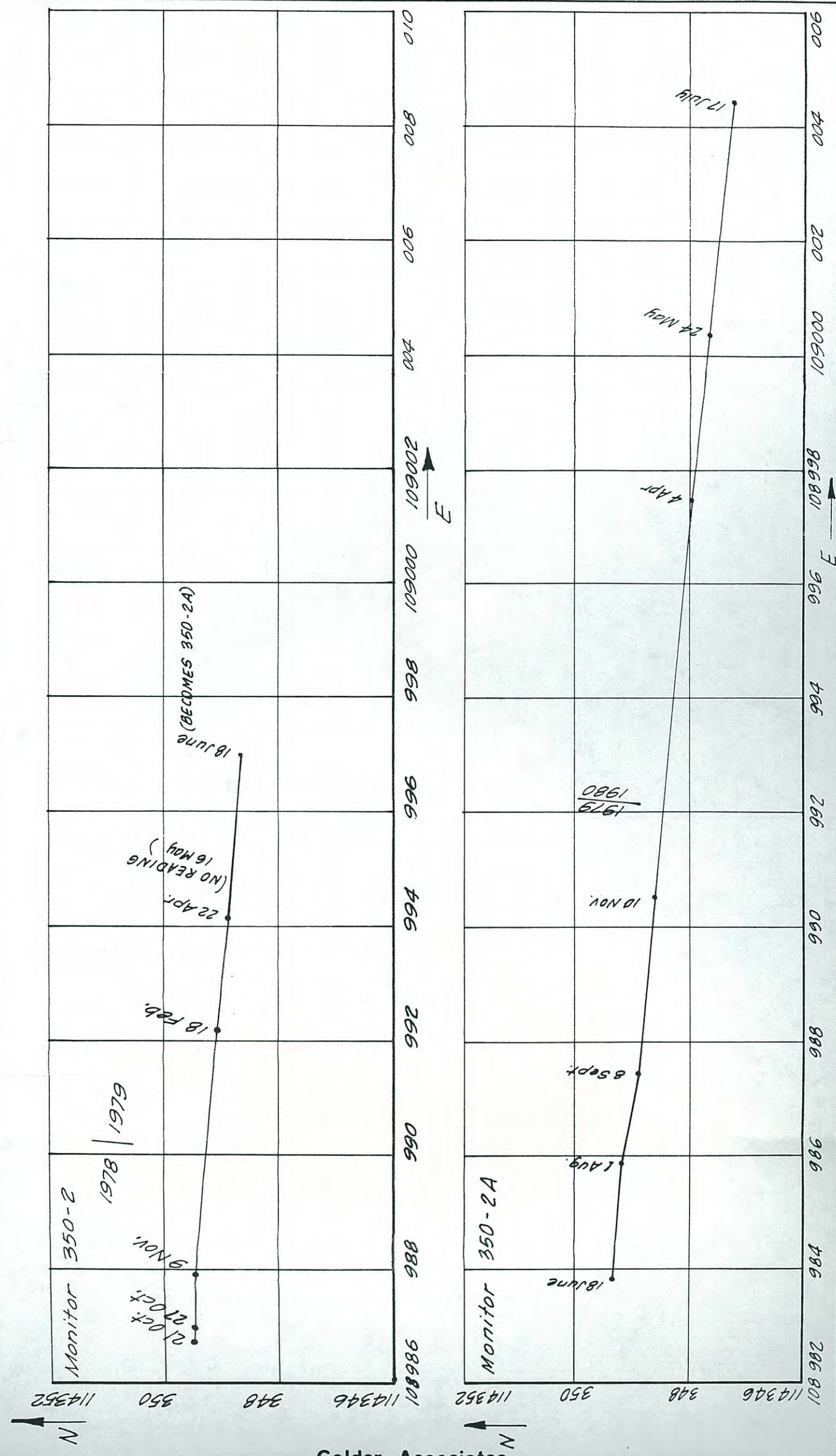
TAILING PILE - MONITOR No. 350-1A

Figure 350-1-3



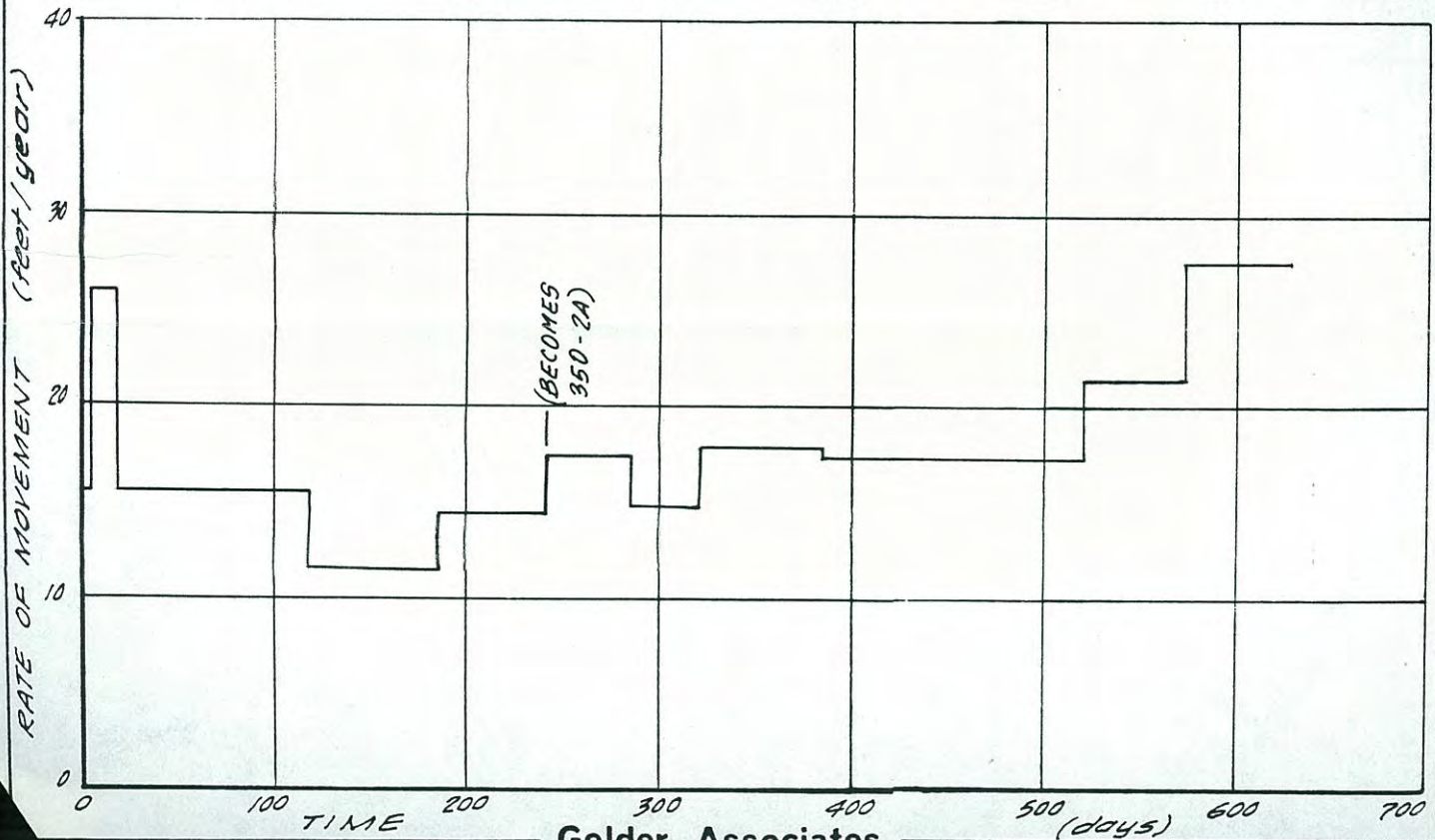
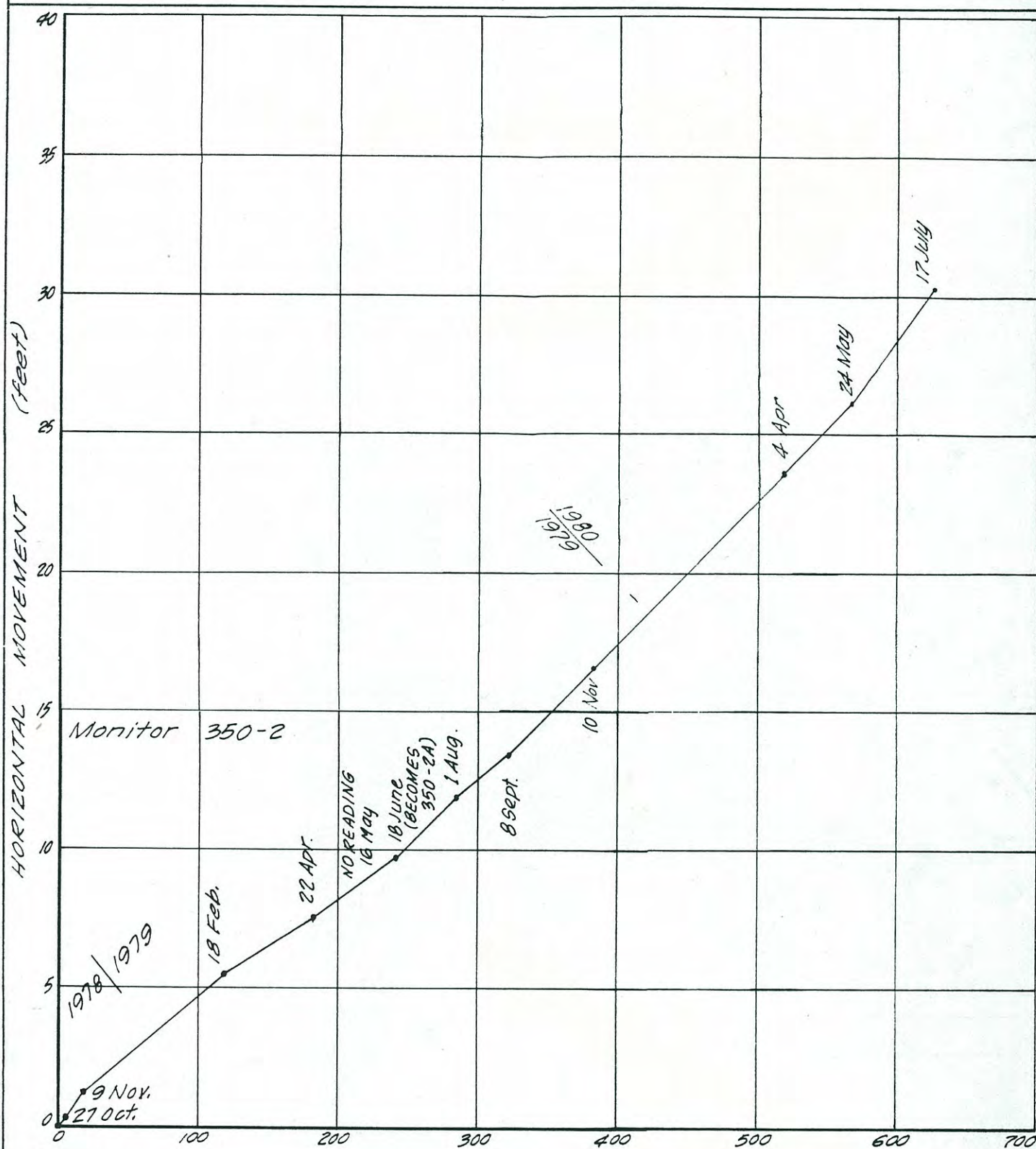
24/

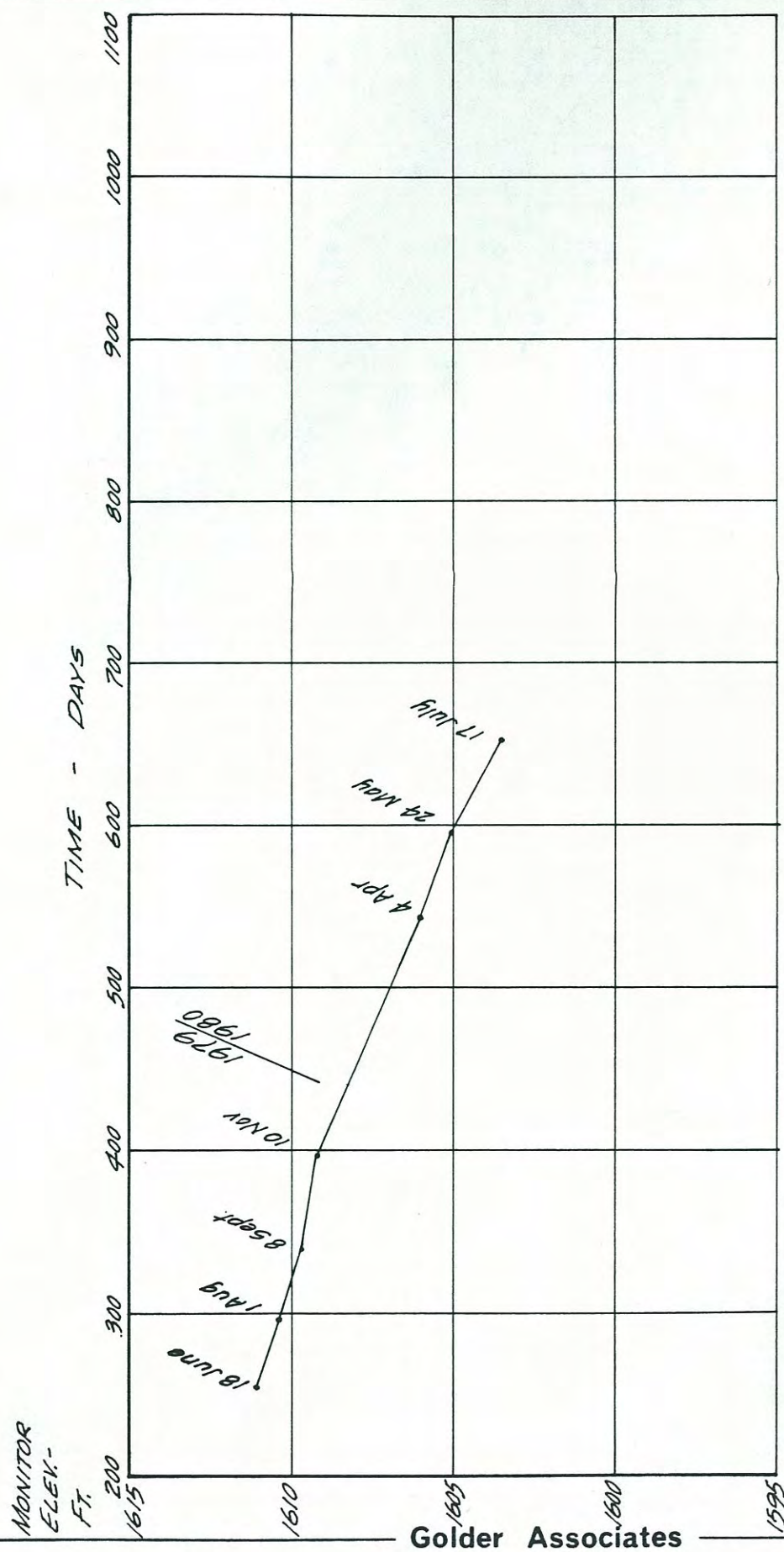
TAILING PILE - MONITOR NO. 350-2A Figure 350-2-1



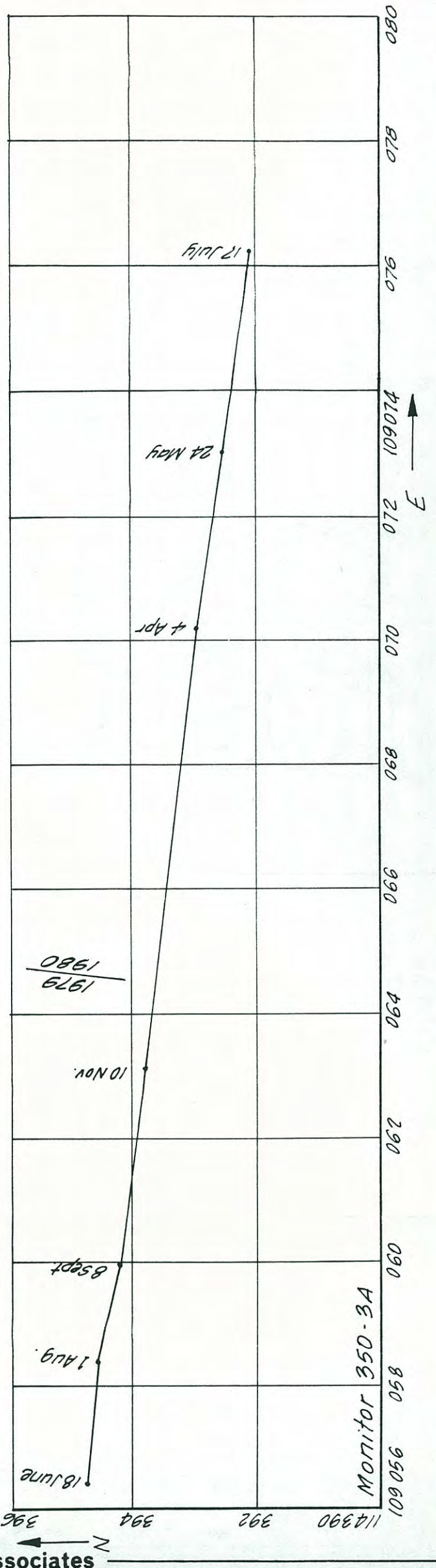
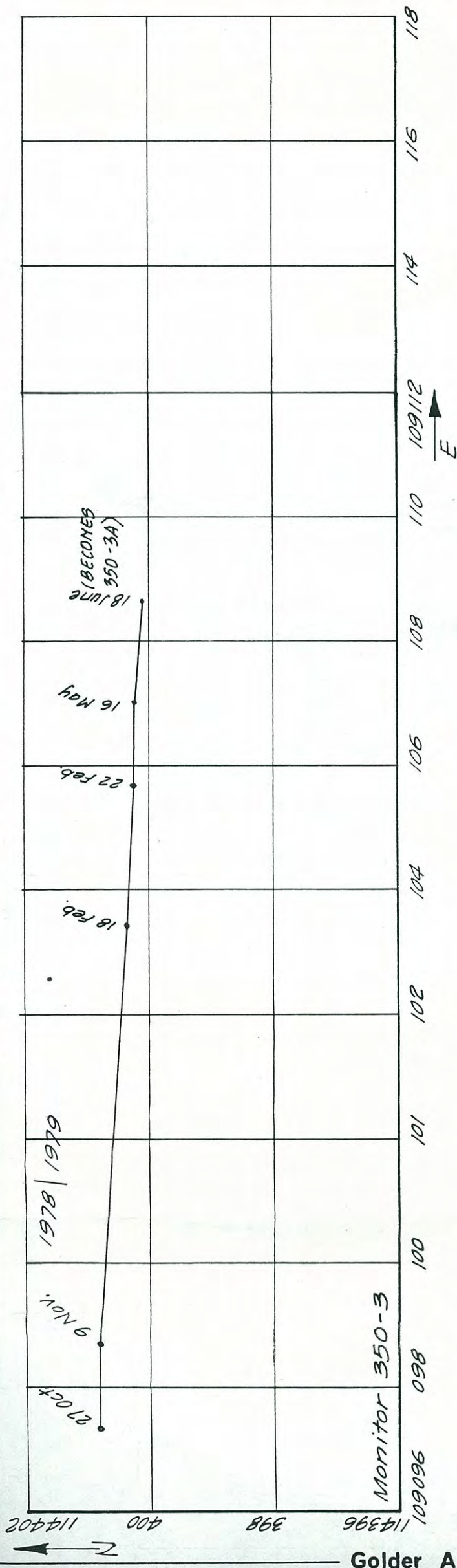
Project No. 112-1016 Drawn 10/9 Reviewed Date Nov. '79, July '80

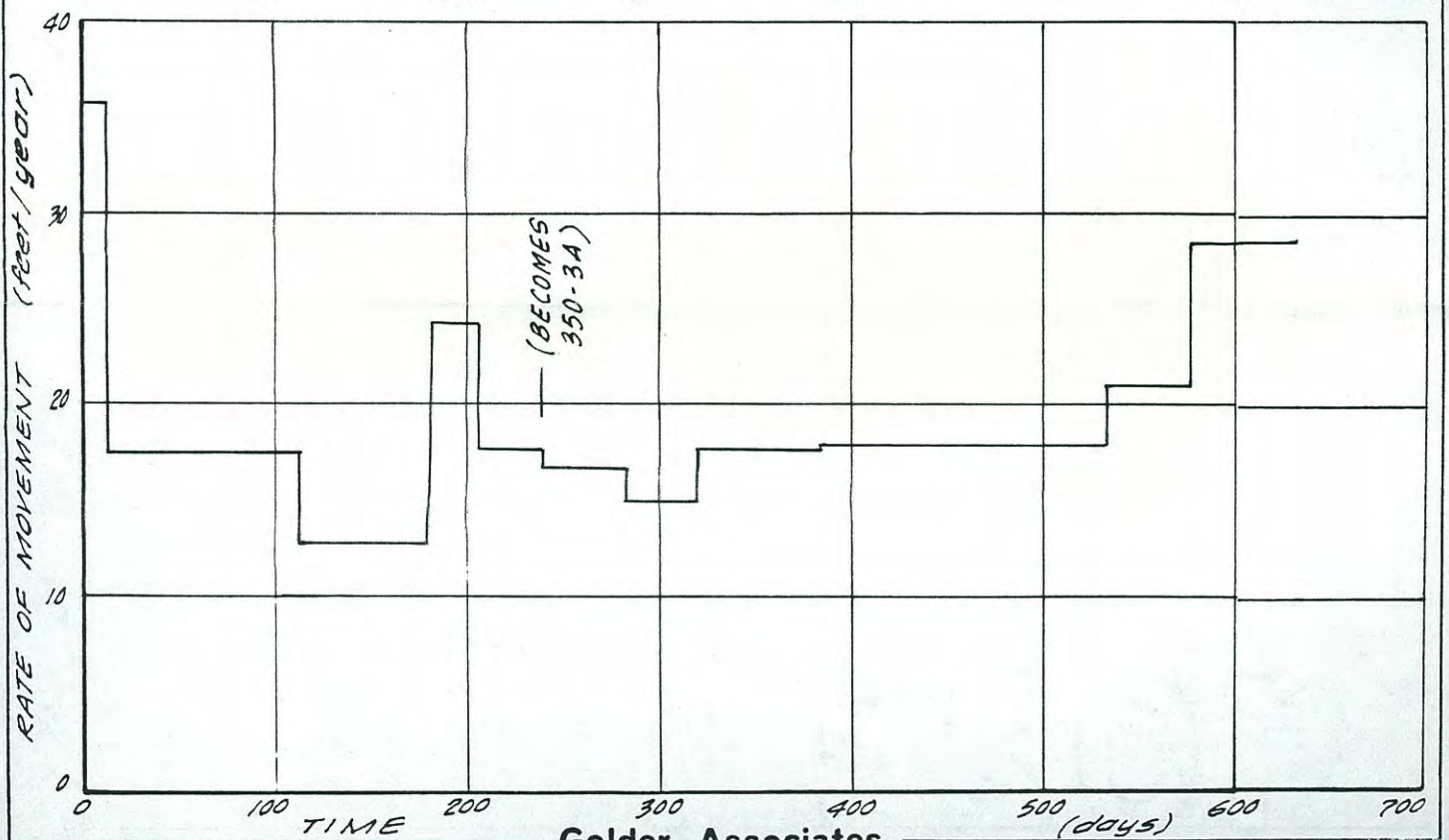
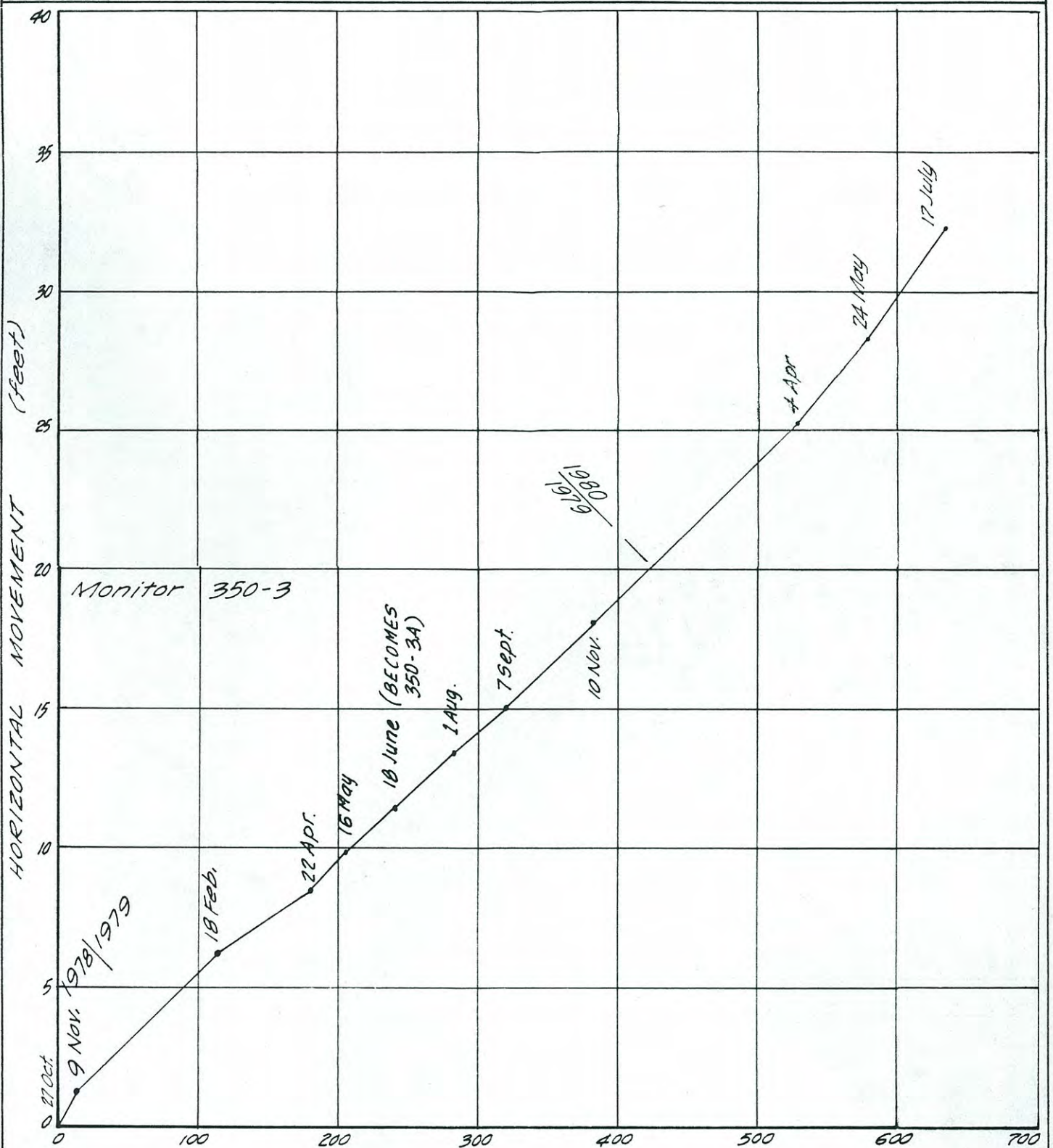
TAILING PILE - MONITOR NO. 350-2A Figure 350-2-2

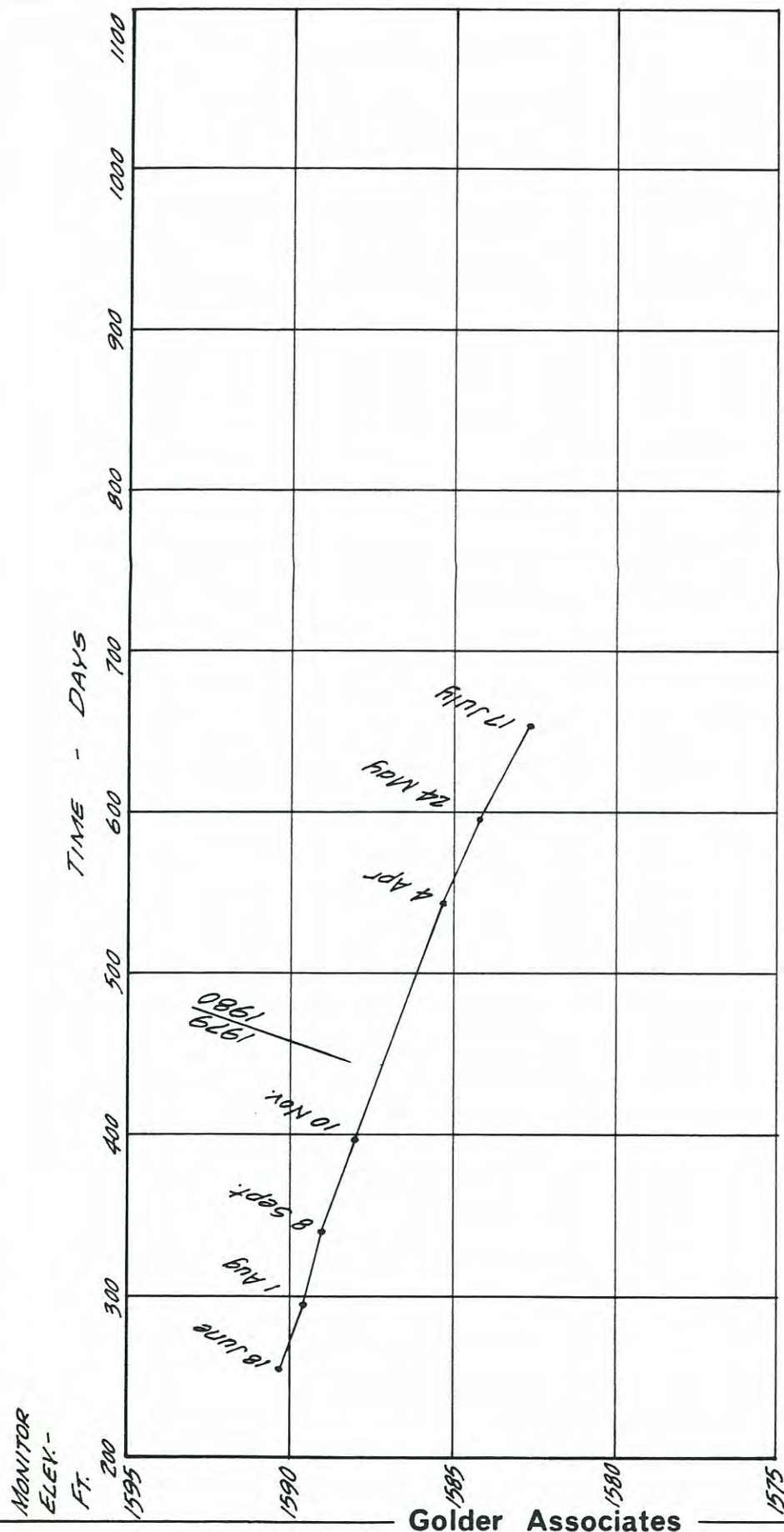




Project No. 112-1016 Drawn 129 Reviewed Date Nov. '79; July '80



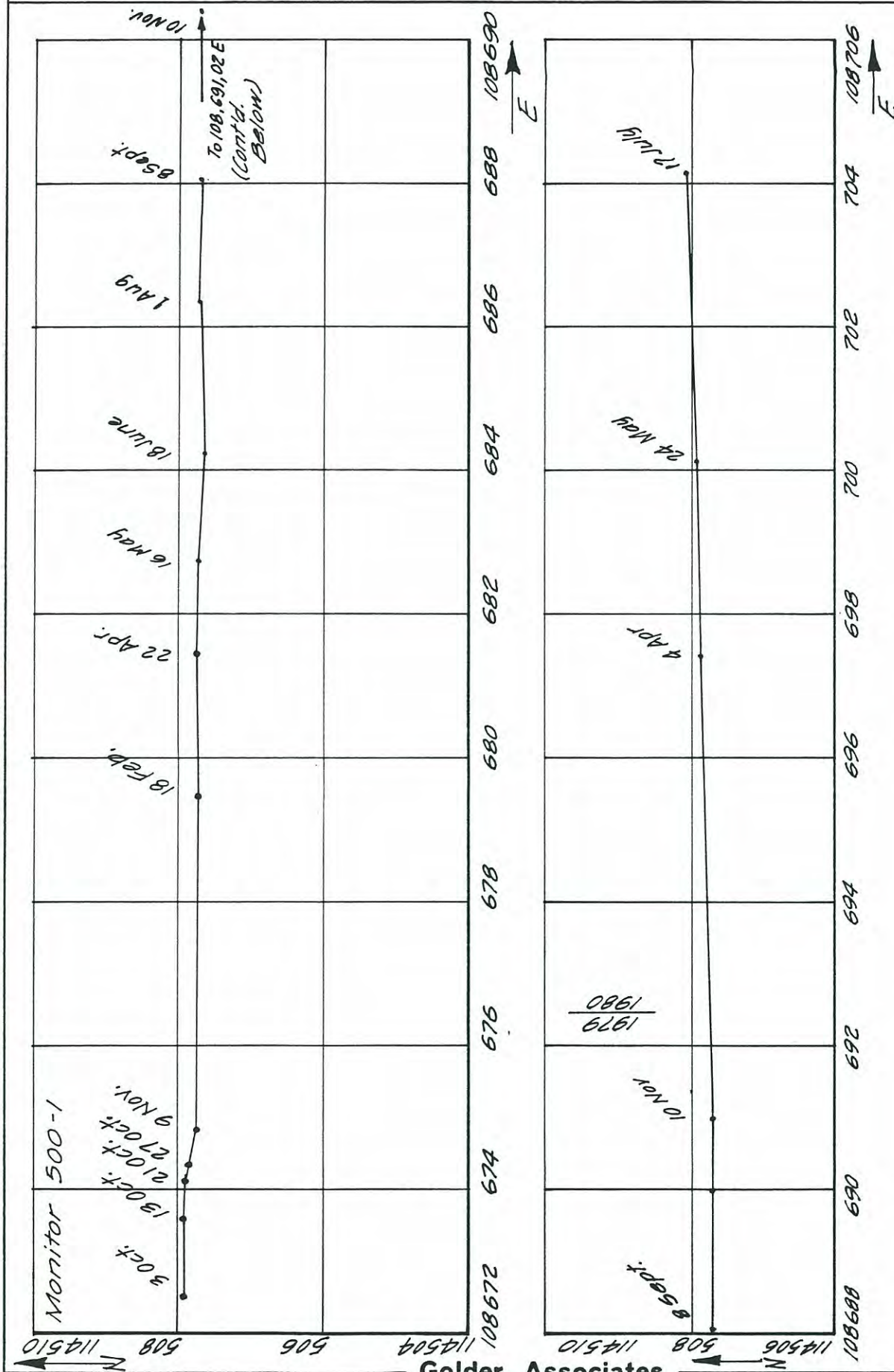




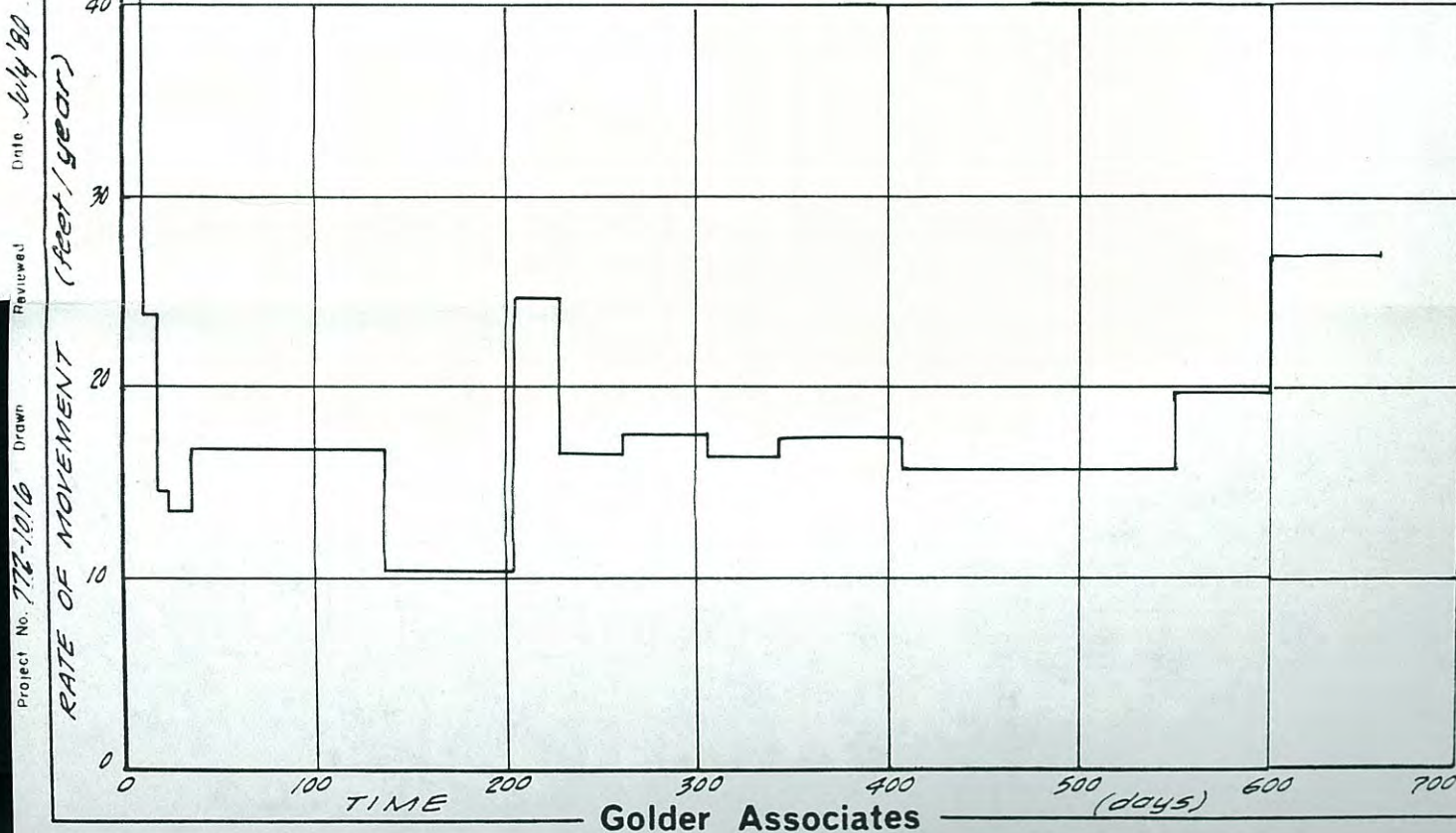
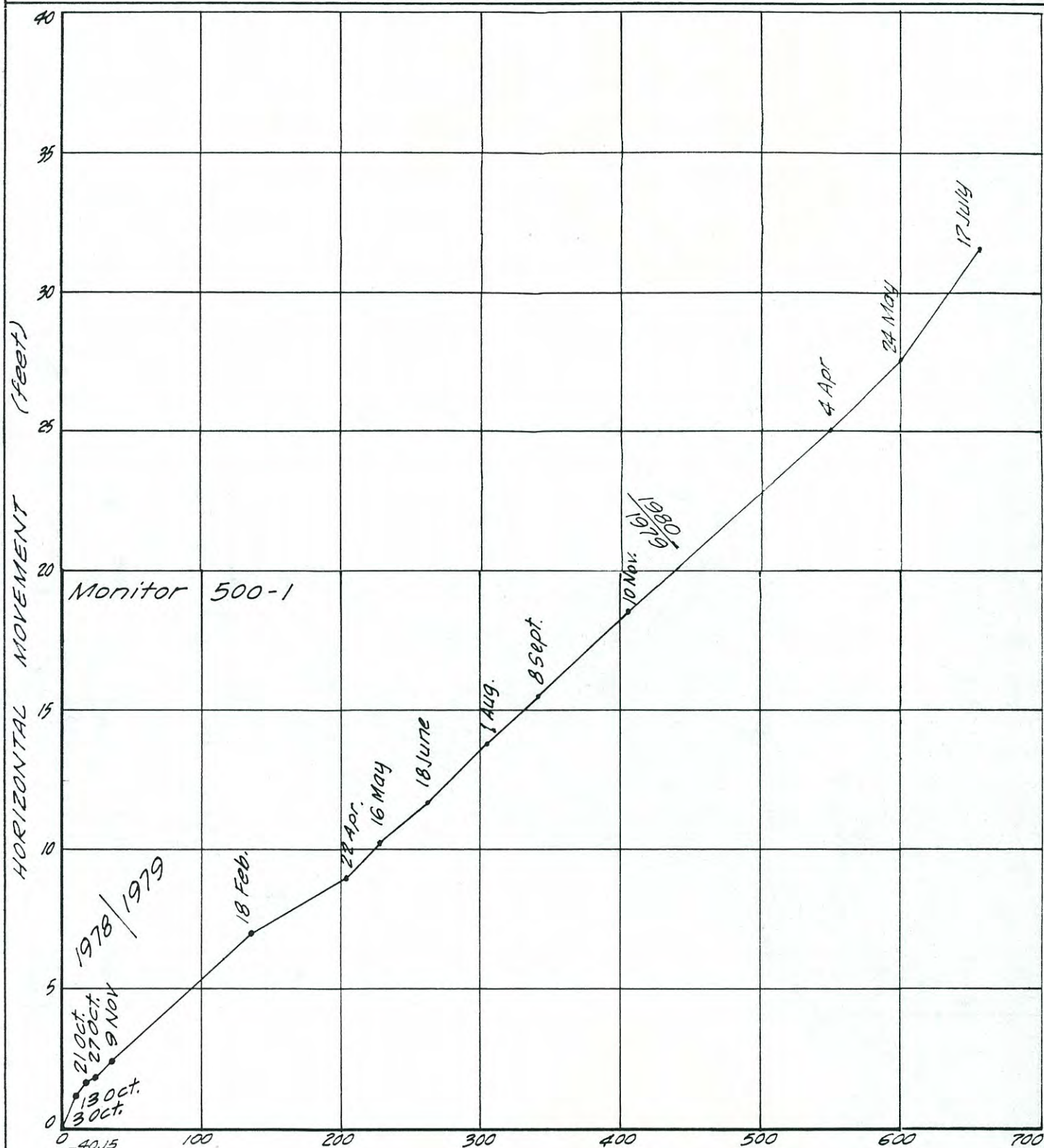
TAILING PILE - MONITOR NO. 500-1

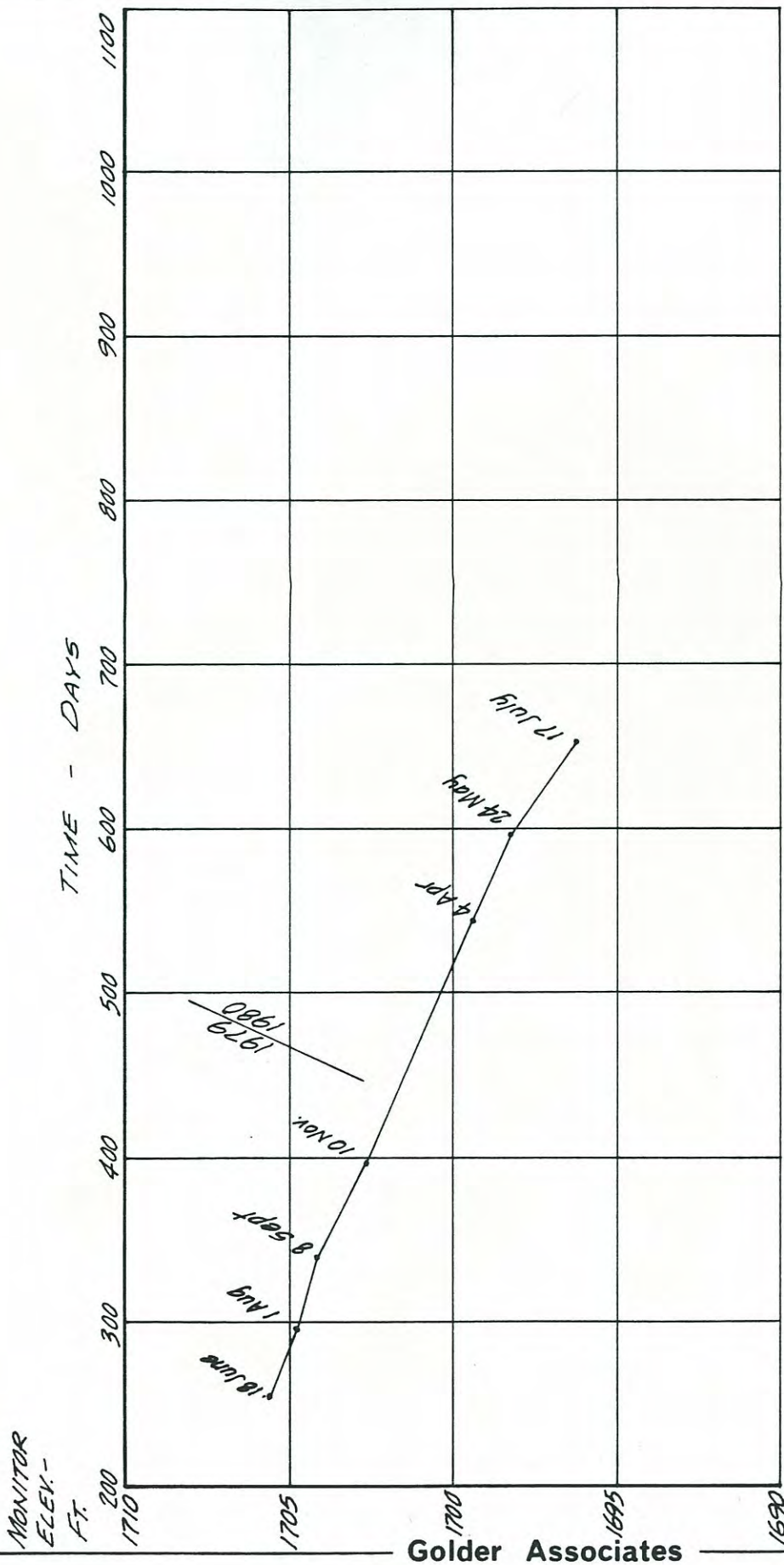
Figure 500-1-1

Project No. 772-1016 Drawn 10/10/90 Date NOV 1990



Golder Associates





Nov. 79; July '80

Date

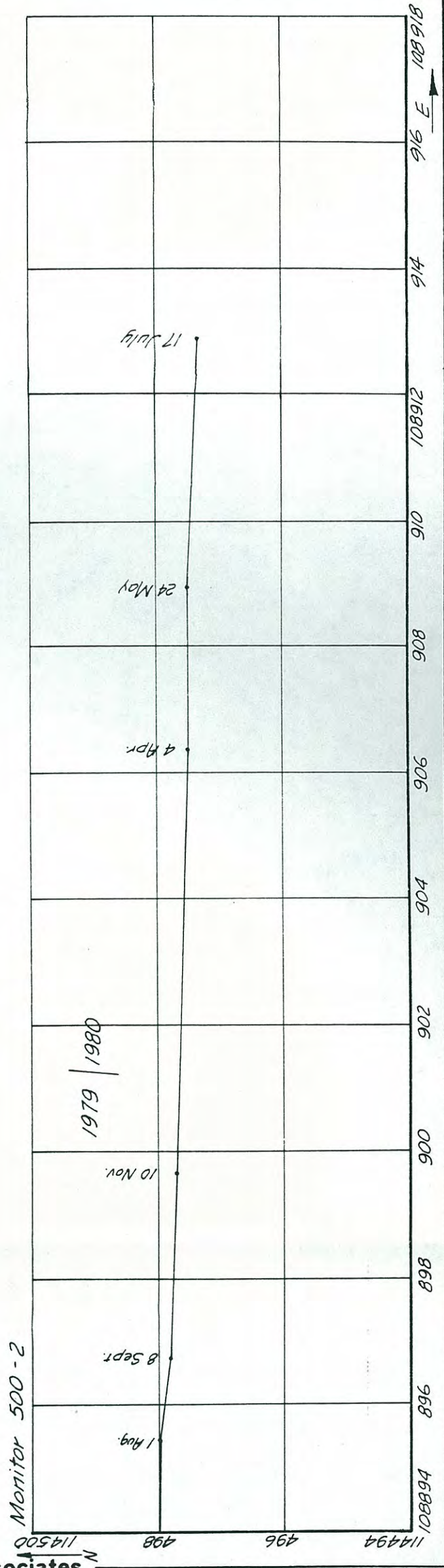
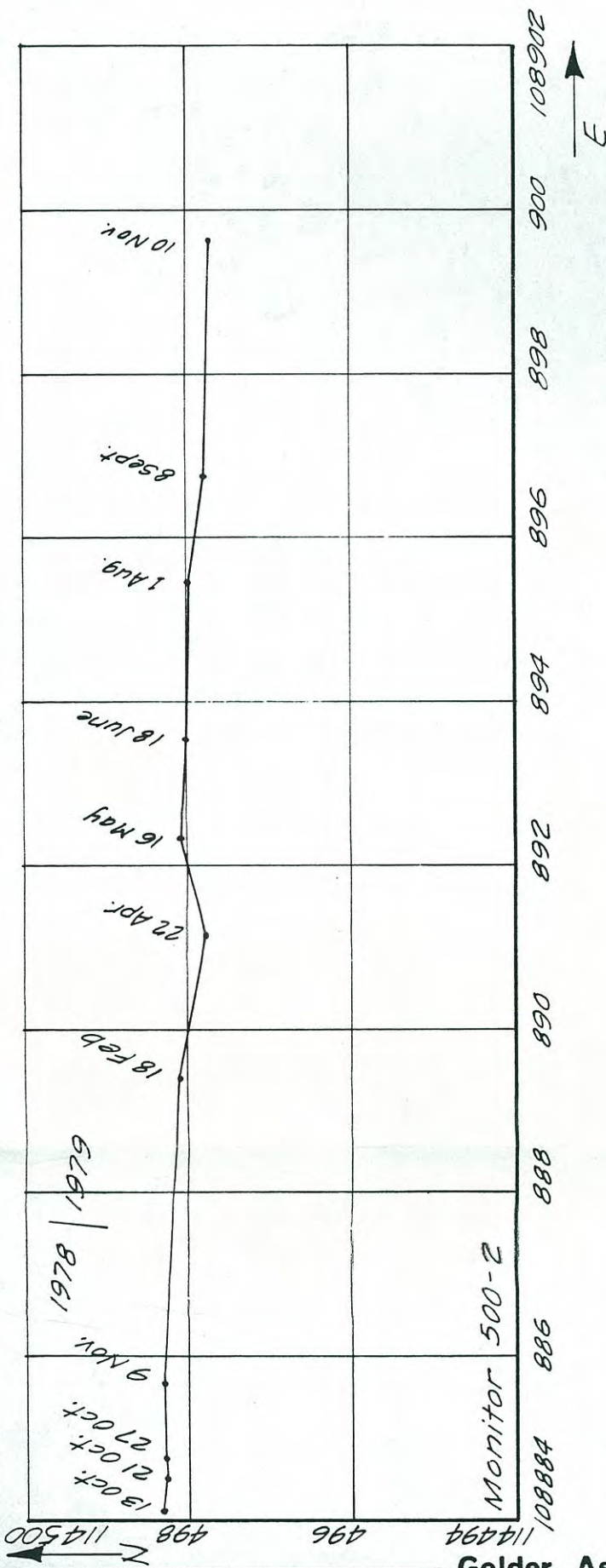
Reviewed

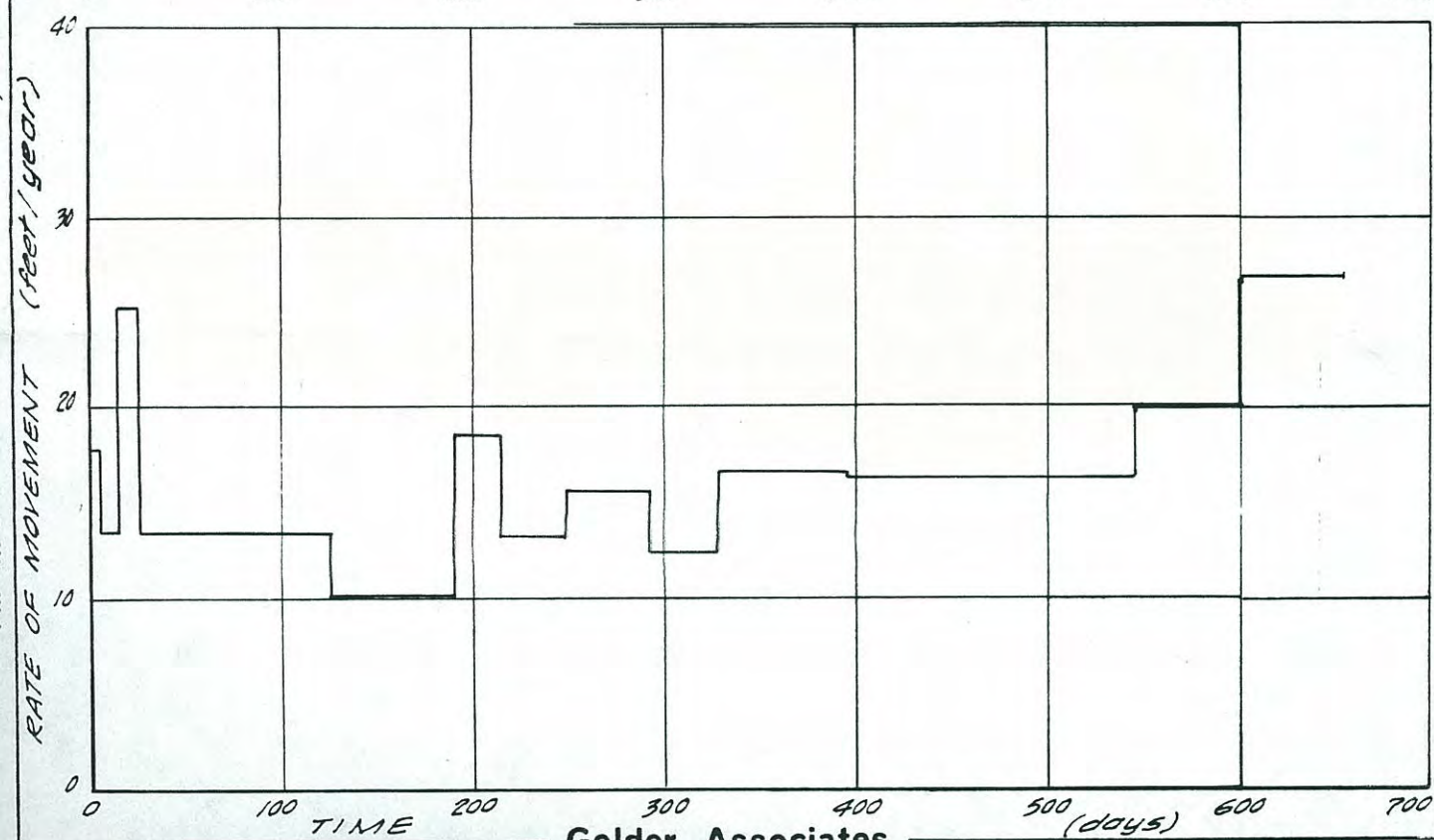
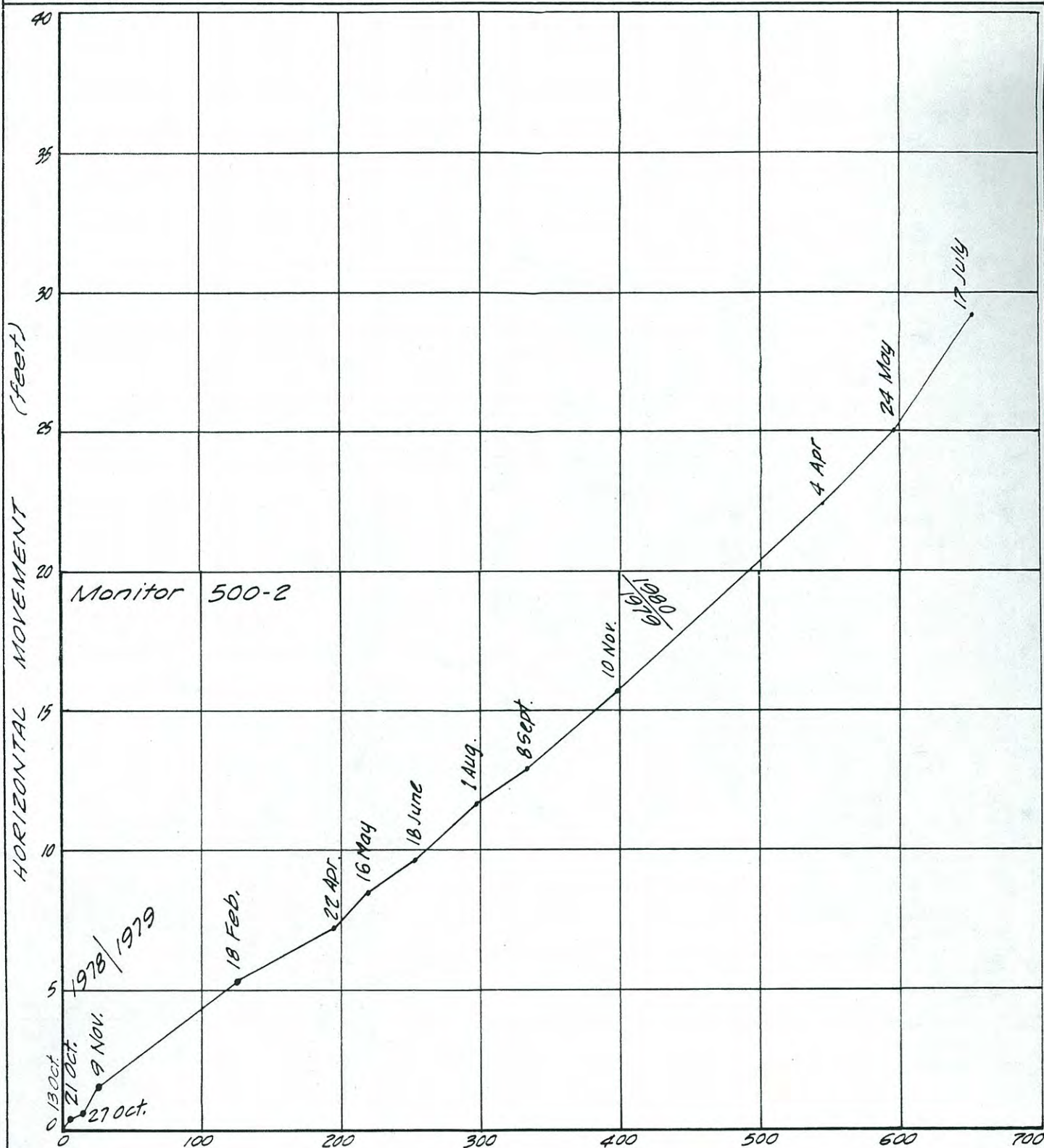
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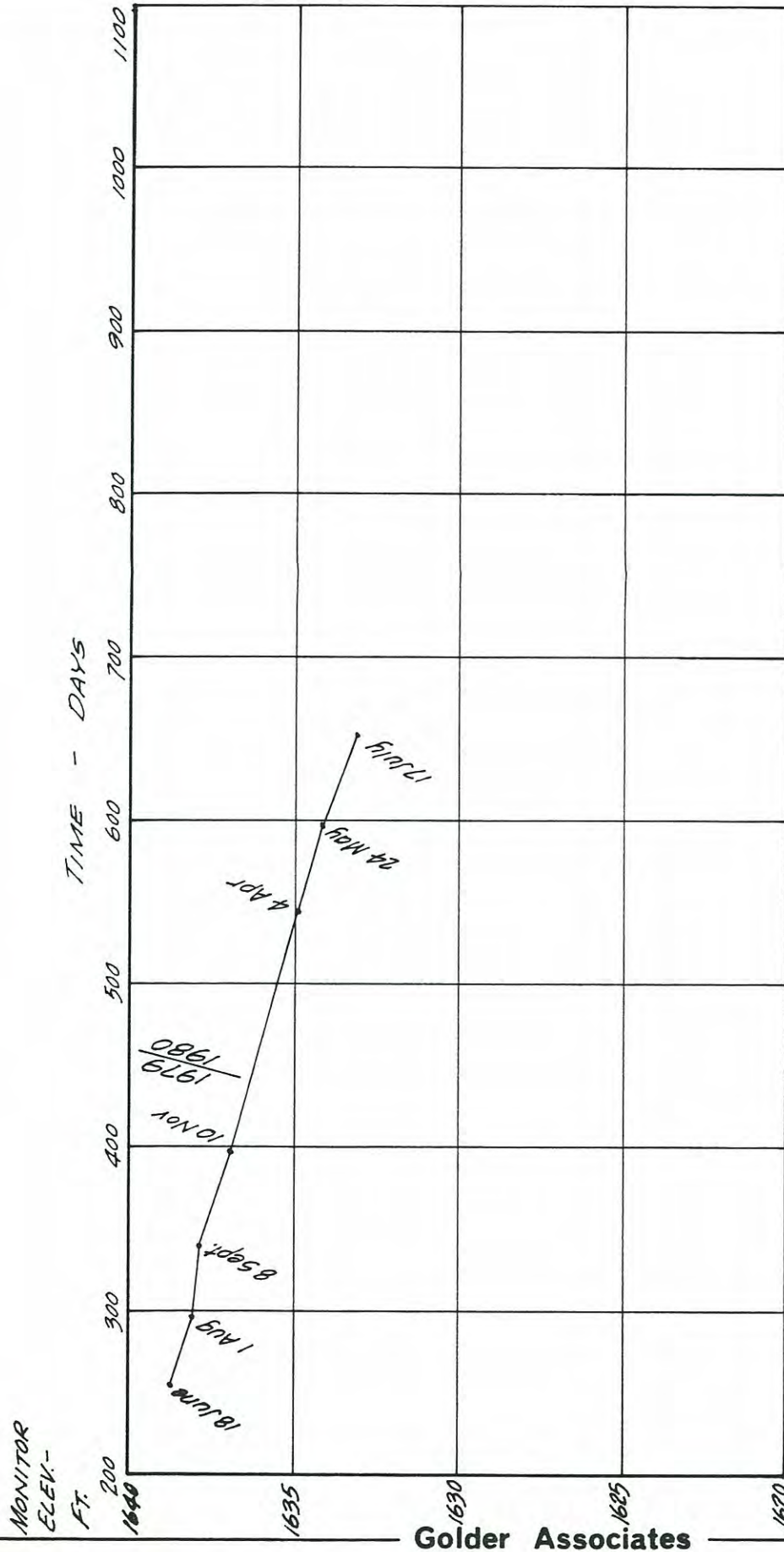
Project No. 712-016

19





Project No. 772-1016 (drawn) Reviewed Date July '80



TAILING PILE - MONITOR NO. 650-1

Figure 650-1-1

Nov. '79, July '80

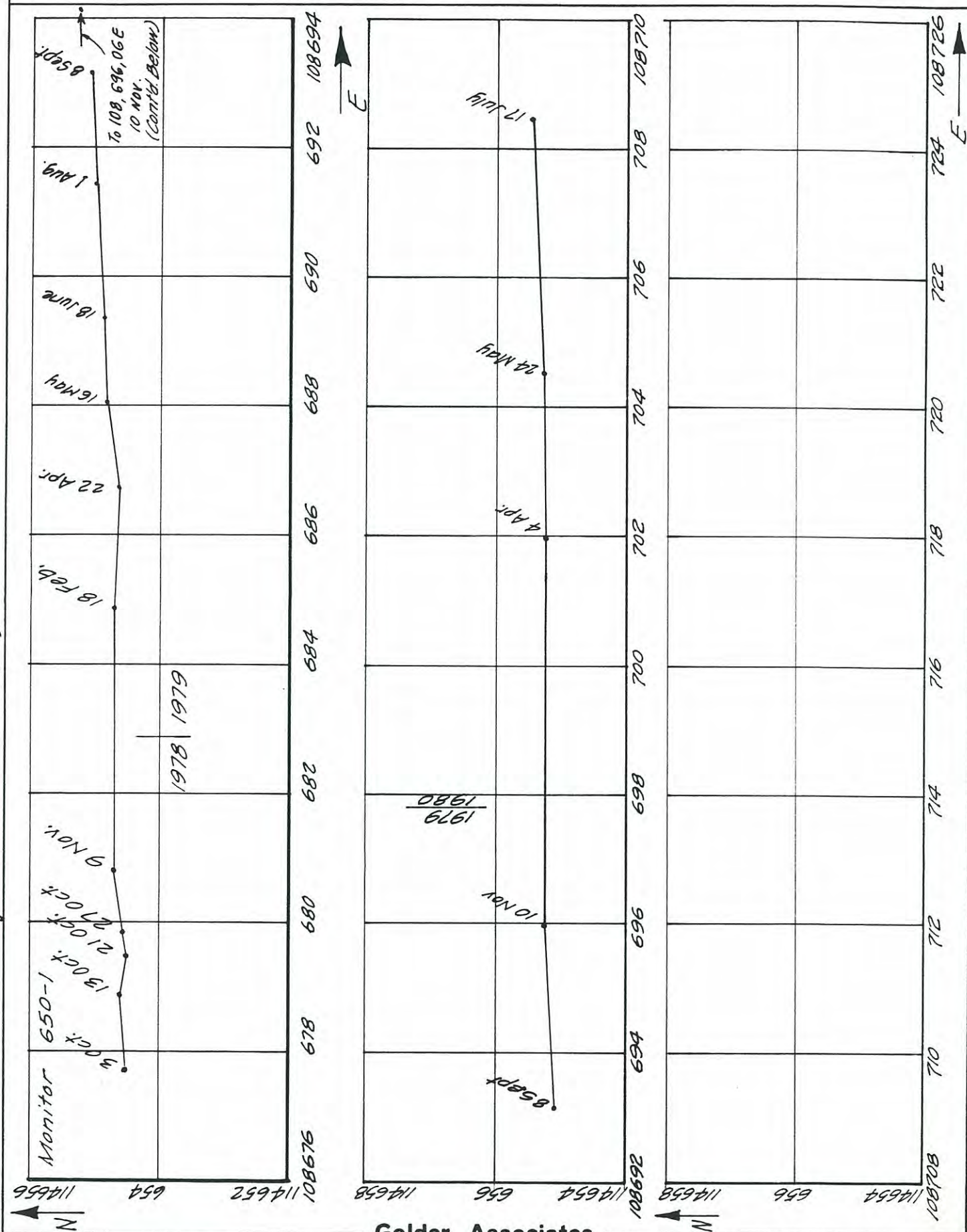
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Reviewed

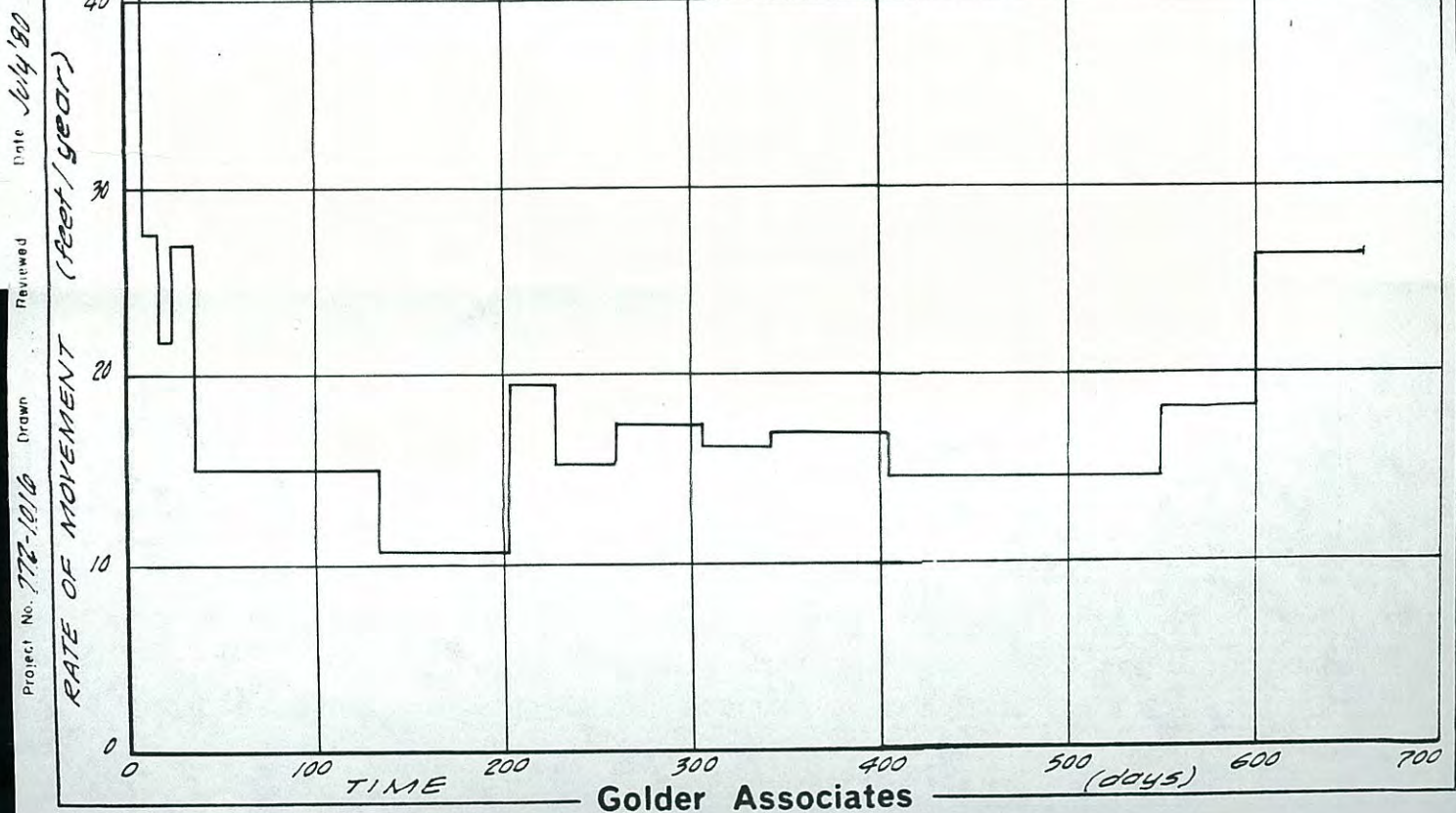
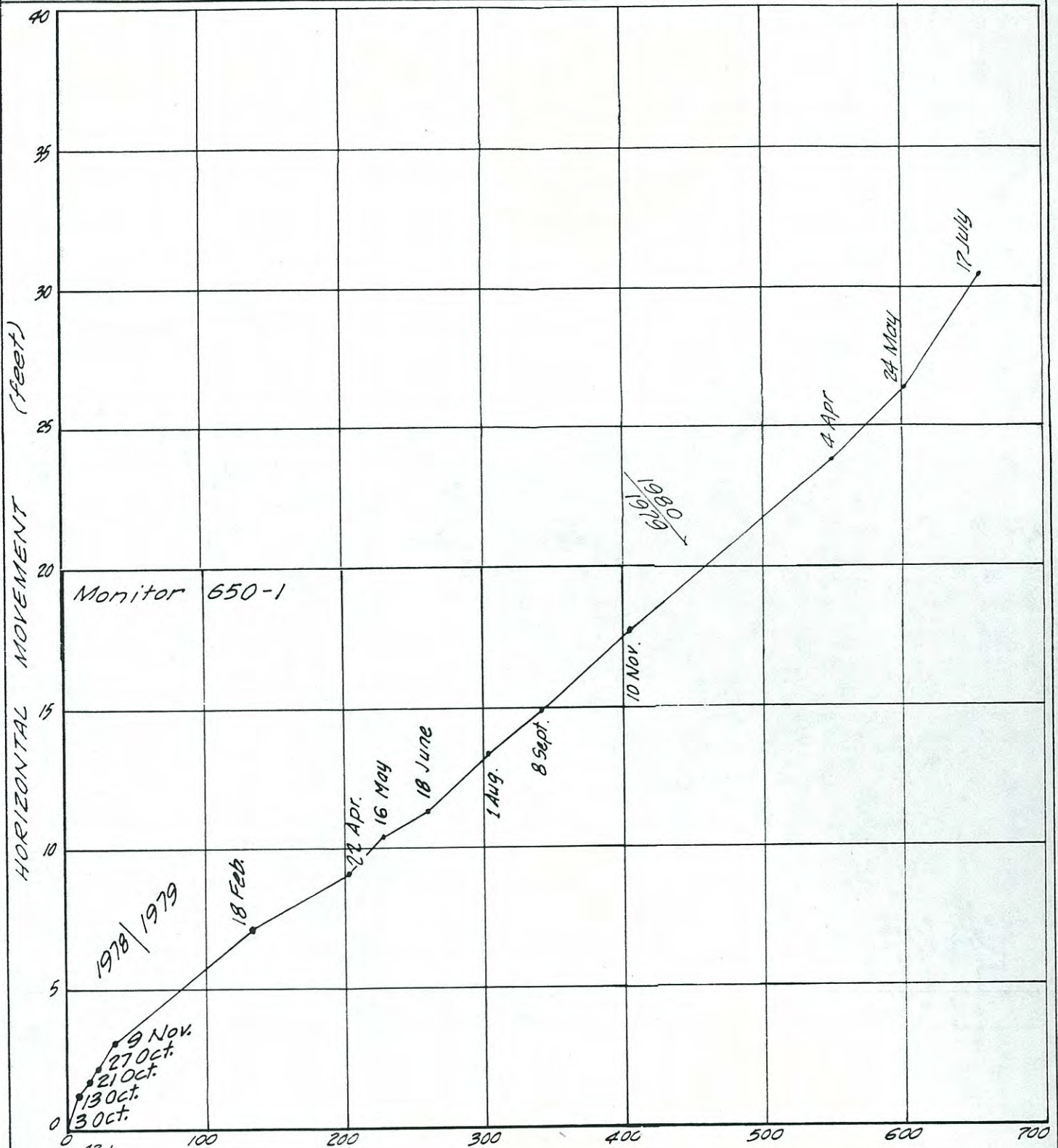
Drawn

Project No. 712-1016

Monitor 650-1



Golder Associates



TAILING PILE - MONITOR NO. 650-2 Figure 650-2-1

Project No. 172-1016 Drawn Ing Reviewed Date Nov. '79, July '80

