GW - 1

MONITORING REPORTS

DATE:
1981

SECOND MILESTONE REPORT ON MONITORING ACTIVITIES AT THE BLOOMFIELD REFINERY OPERATED BY PLATEAU, INC., SAN JUAN COUNTY, NEW MEXICO

SUBMITTED TO

PLATEAU INC.
FARMINGTON, NEW MEXICO

SUBMITTED BY

AMERICAN GROUND WATER CONSULTANTS, INC.
CONSULTING GROUND WATER GEOLOGISTS & HYDROLOGISTS
ALBUQUERQUE, NEW MEXICO

JANUARY 1981

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January 28, 1981

Mr. William Carpenter
Plateau, Inc.
4775 Indian School Road, NE
Albuquerque, NM 87110

Dear Mr. Carpenter:

American Ground Water Consultants has the honor to submit herewith our report entitled; "Second Milestone Report on Monitoring Activities at the Bloomfield Refinery Operated by Plateau, Inc."

We regard this report as quantitatively definitive.

We appreciate the opportunity to be of service to Plateau, Inc. in this matter.

Sincerely,

Dr. William M. Turner
President

WMT/sm

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ATTACHMENTS

Attachment	Following
1	Dark Pink Sheet
2	Light Pink Sheet
3	Yellow Sheet
4	Aqua Sheet

SUMMARY

The results of monitoring activities to date indicate:

1. The principal source of ground-water beneath the solar evaporation ponds is seepage from the ponds themselves as well as water contributed to bank storage by seepage away from the Hammond Ditch while it is in use.

2. An area directly north of Pond 1 behaves as a ground-water sink. In this area seepage from both the Hammond Ditch and Pond 1 enter the underlying cobble bed and the water is channeled away to the north beneath the ditch to discharge in the numerous small arroyos north of the refinery.

3. There has been no change in the moisture content of the soils penetrated by the observation holes since the preparation of the first milestone report more than one year ago.

4. Temperature data indicate a maximum amount of seepage of about 13 gallons per minute from Pond 1. This is in agreement with results of monitoring reported in the first milestone report.

5. The greatest rate of seepage appears to take place at the eastern end of Pond 1. This is confirmed by ground-water-level measurements, Thermonic analysis of subsurface temperatures to arrive at actual mass rates of percolation, and Thermonic analysis of temperature profiles along the axis of the earthen embankment.

6. At locations where mass rates of percolation have been determined, wave action has eroded the bentonite liner away and it is possible that the percolation is greater in the vicinity of the embankments than through the pond bottom.

RECOMMENDATIONS

The following recommendations are made based upon the results of the monitoring program over the past three years.

1. Neutron logging of observation holes indicates that a steady state soil moisture condition exists. No new information is being obtained by neutron logging methods and it is recommended that neutron logging of the observation holes be discontinued.

2. Results of Thermonic analysis of data collected subsequent to the first milestone report are in good agreement with seepage analyses reported in the first milestone report. It is recommended that additional temperature measurements in the observation holes be discontinued because no new information is being developed. This is because a new steady state condition has been achieved in the embankment penetrated by the observation holes.

3. Water-level measurements are of value. However, because of the significant lag of water levels in the observation holes to changing ground-water levels in the soils adjacent to the observation holes, water-level measurements have only limited value. Because present data suggests that the water levels in the observation holes are in equilibrium with the average water levels in the soils and that these water levels have not changed over a long period, it is recommended that water-level measurements be discontinued. The fact that steady state soil moisture and thermal regimes have developed in the soils adacent to the observation holes supports this recommendation.

4. Because of the development of steady-state conditions with regard to soil moisture and thermal conditions in the embankment surrounding the ponds, and because of the agreement of the results of monitoring efforts since the first milestone report, it is recommended that AQUATRACE monitoring also be discontinued.

INTRODUCTION

Plateau, Inc. operates a petroleum refinery near Bloomfield, New Mexico. The location of the refinery is shown in figure 1. In October 1977, Plateau submitted its discharge plan to the New Mexico Oil Conservation Commission (NMOCC). After supplying some additional data on April 6, 1978, their discharge plan was approved on June 5, 1977.

On January 30, 1979, American Ground Water Consultants (AGW) submitted to Plateau its report entitled; "Milestone Report on Monitoring Activities at the Bloomfield Refinery Operated by Plateau, Inc., San Juan County, New Mexico". Copies of this report were subsequently submitted to the NMOCC and the New Mexico Environmental Improvement Division (NMEID).

The present report contains all monitoring data collected since the submittal of the first milestone report. This report also reviews all monitoring data to determine whether the original monitoring plan should be modified in any way. The summary and conclusions from the first milestone report on monitoring are included in this report as attachment 1 and this report should be read in conjunction with the first milestone report. This report will not cover matters not directly related to monitoring activities which are already covered in earlier reports.

SOLAR EVAPORATION POND OPERATION

The construction details of the solar evaporation ponds are covered in the discharge plan and in the first milestone report. Since the preparation of the discharge plan and the first milestone report, construction of new facilities at the refinery has been completed.

At present, only one of the two solar evaporation ponds is actually used as a solar evaporation pond for oily water. Pond 1 shown on Plate 1 from the first milestone report (included here in pocket) has been used as a fresh water storage pond.

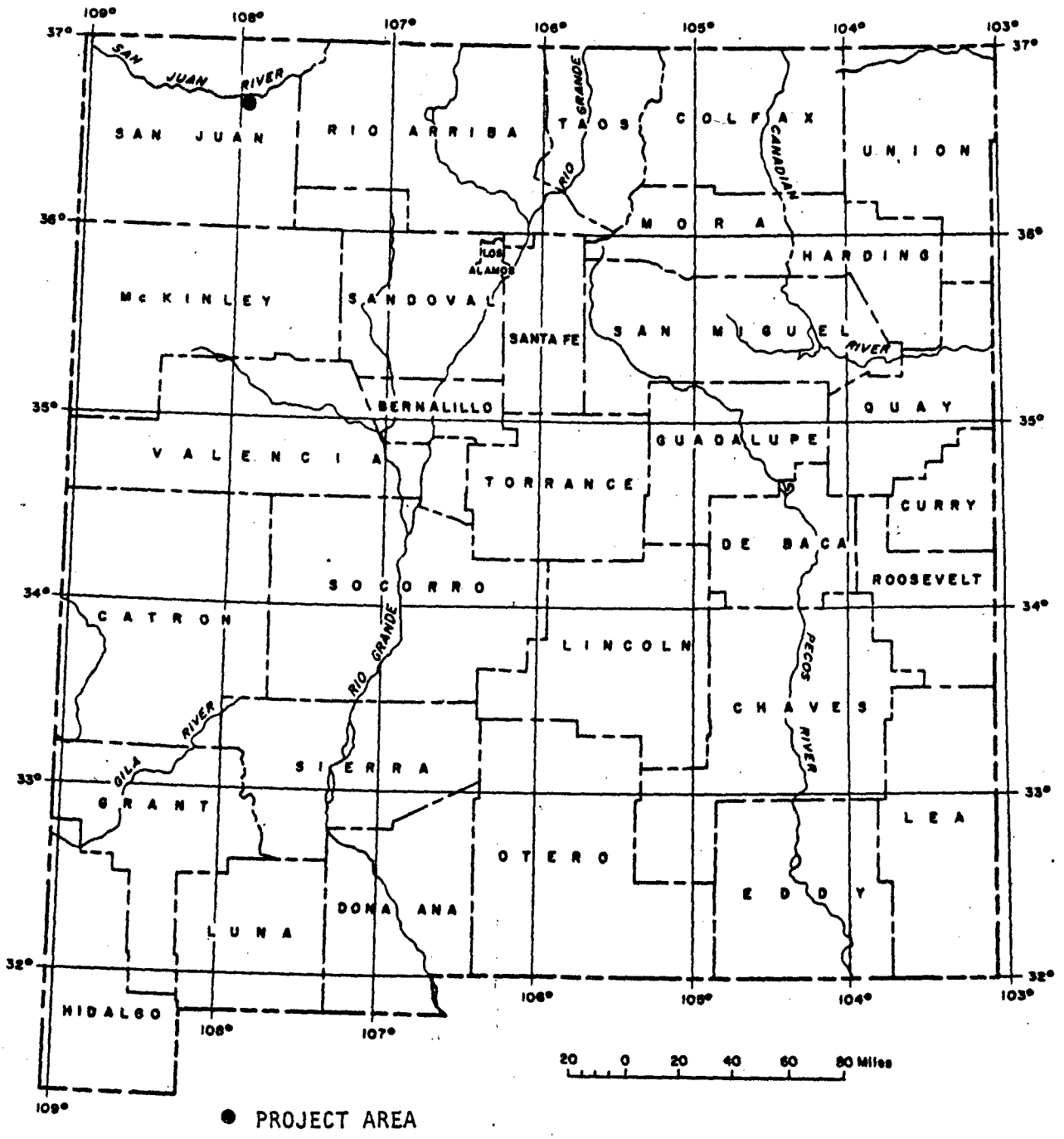


Figure 1. Map of New Mexico showing the location of the project area.

Pond 2 is used as a waste water storage and evaporation pond.

The spray system which was planned at the time of the submittal of the discharge plan was installed.

MONITORING

To detect leakage from the solar evaporation ponds, several monitoring strategies have been employed. These include neutron logging, Thermonics, ZETA-SP, AQUATRACE, and water-level measurements. Plate 1 shows the location of the nine neutron-probe access holes from which neutron logging, water level, and Thermonic information is obtained. Details on construction of these observation holes are given in the first milestone report.

Details on the monitoring methodologies used at the Bloomfield refinery are given in both the discharge and monitoring plan and the first milestone report.

MONITORING ACTIVITY

Monitoring activity at the Bloomfield refinery began shortly after construction of Pond 1 in April 1977. Not all monitoring activities began at the same time. Dates of data acquisition together with the type of data collected are given below in table 1.

Table 1. Dates of monitoring activity at the Plateau refinery and types of data collected.

Date	Data Collected[1]
26 Apr 1977	NW
6 May 1977	NW
21 May 1977	NWT
15 Jul 1977	NWTZ
11 Sep 1977	NWT
10 Jan 1977	NWTA
27 Mar 1978	NWTA
28 Jun 1978	NWA
12 Jul 1978	WTZA

Date	Data Collected[1]
25 Aug 1978	NWTZA
20 Sep 1978	NWTZA
13 Dec 1978	NWA
9 Mar 1979	NWTA
16 Jun 1979	NWA
19 Sep 1979	NWTA
12 Dec 1979	NWA
9 Jul 1980	NWA
20 Oct 1980	NWA
11 Dec 1980	NWA

WATER LEVELS

All ground-water-level data is presented in attachment 2. These data are plotted as hydrographs for each monitoring well in figures 2 through 5.

As mentioned in the first milestone report, the observation wells were constructed by drilling holes with mud-rotary methods through the Quaternary alluvium and into the green shale of the Nacimiento Formation which underlies the Quaternary deposits. The shale of the Nacimiento Formation is unctuous and of very low permeability. The holes were then cased with 2-inch diameter PVC casing to the bottom of each hole. The PVC casing was not slot-perforated and it was set onto the shale of the Nacimiento Formation. The holes were then backfilled with dry bentonite drilling compound.

Examination of the hydrographs shows that the rise of the water in the observation holes was generally quite slow. This is because that to enter the casing, the water first had to saturate the bentonite material in the annular space between the hole wall and the casing before flowing through the low permeability bentonite to the bottom of the casing (which was set in the shale of the low permeability Nacimiento Formation). Observation wells such as NP-2, NP-4, and NP-7 required up to one year to equilibrate with the water level in the ground beneath the ponds.

[1] N = Neutron Logging, W = Water-Level Measurements, T = Thermonics, Z = ZETA-SP, A = AQUATRACE

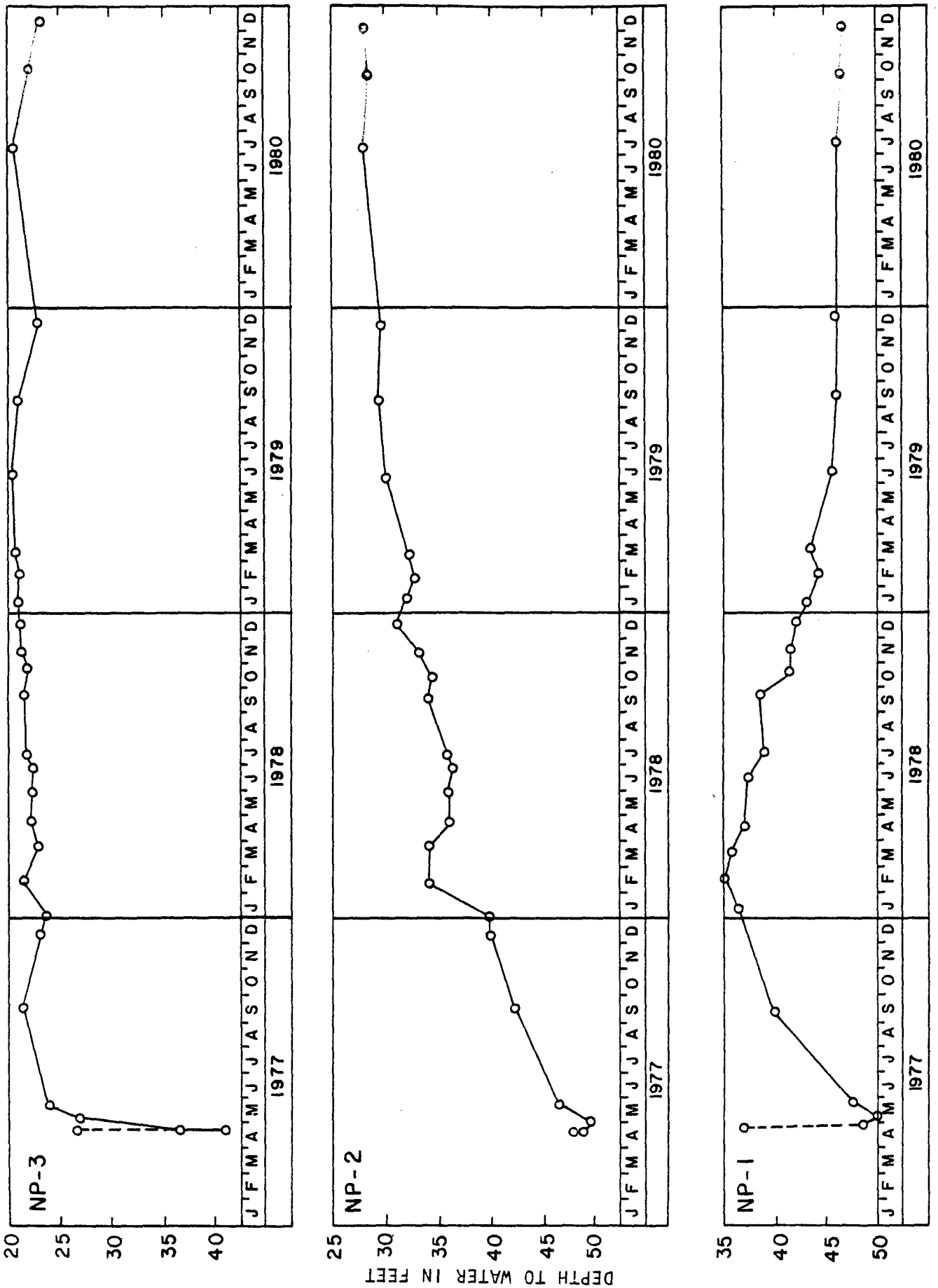


Figure 2. Hydrographs of water levels in observation holes NP-1,2,3.

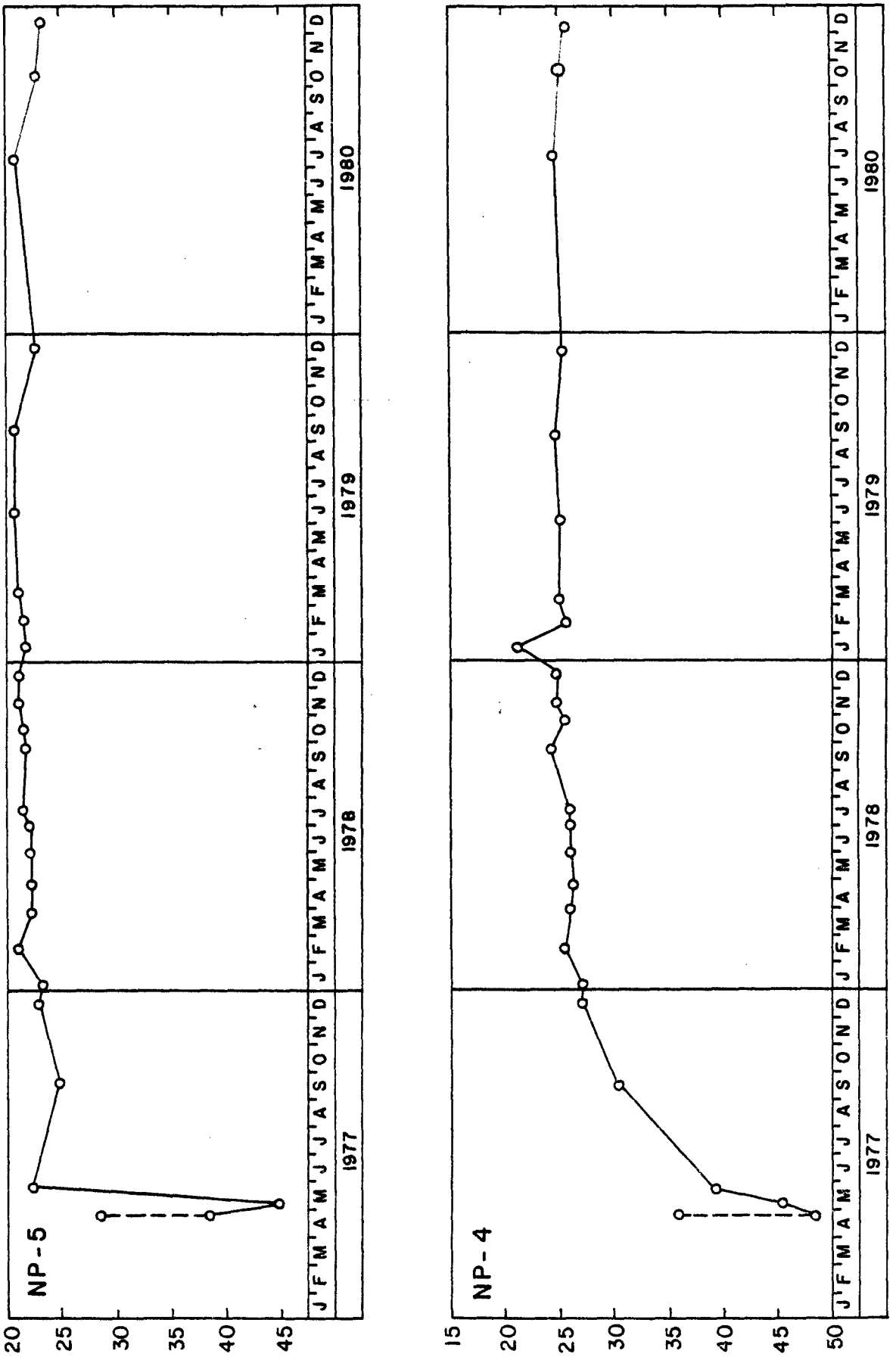


Figure 3. Hydrographs of water levels in observation holes NP-4,5.

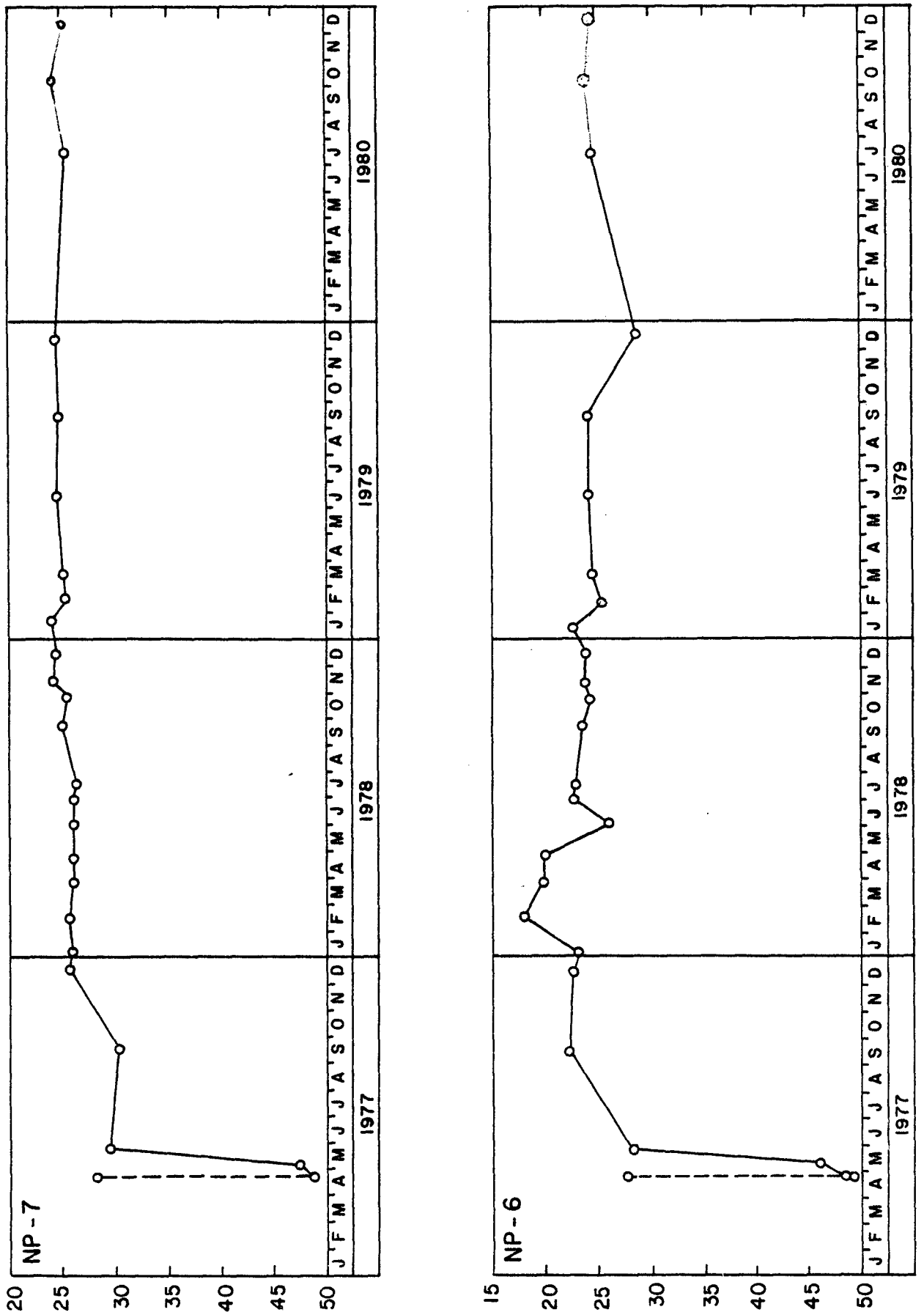


Figure 4. Hydrographs of water levels in observation holes NP-6 and 7.

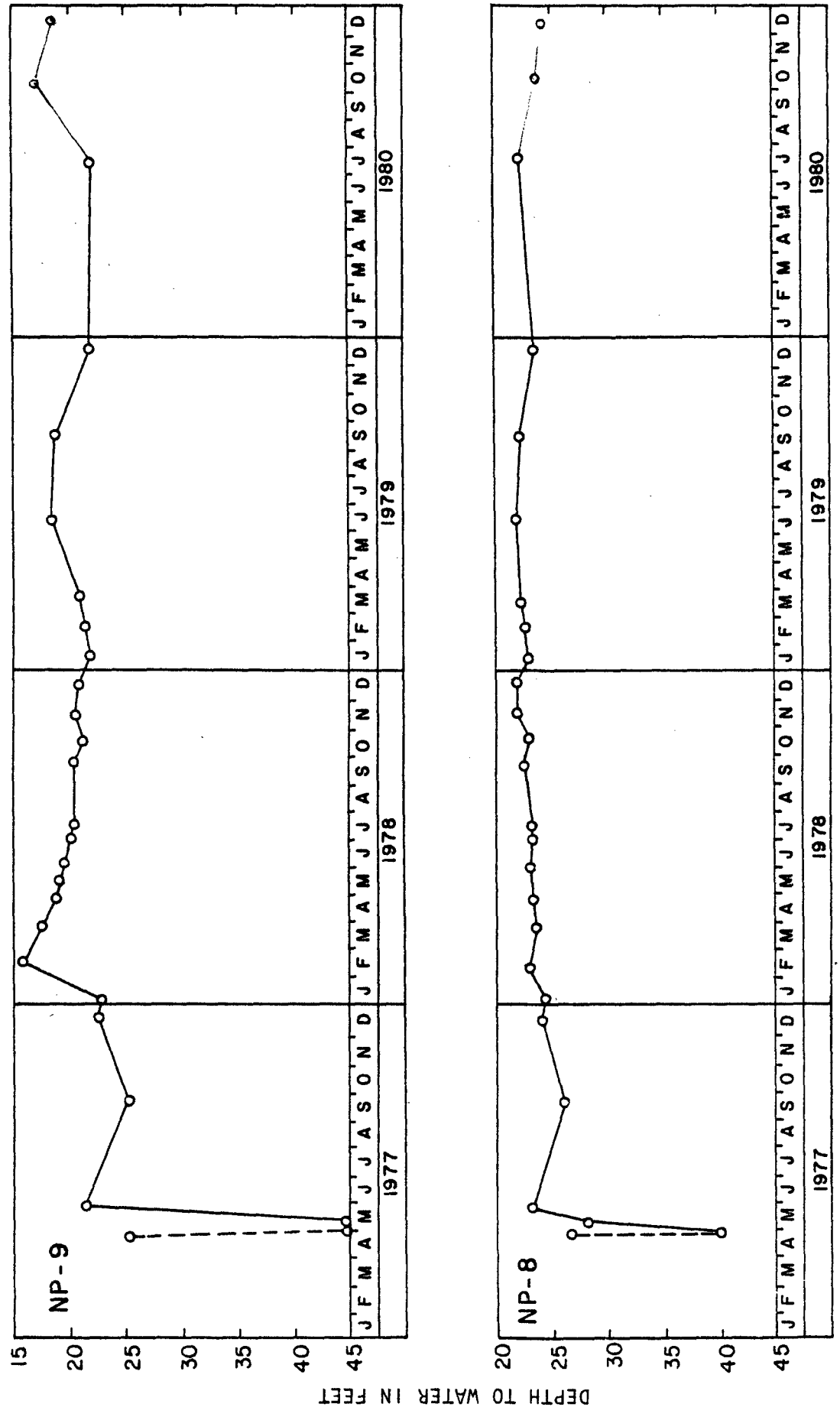


Figure 5. Hydrographs of water levels in observation holes NP-8 and 9.

Because water levels were still equilibrating in the observation holes when the first milestone report was prepared it is believed that the ground-water-level contour map, given as figure 8 in the first milestone report, and conclusions drawn from that diagram are not valid. The hydrographs contained herein indicate that the most recent measurements are nearly consistent and, therefore, are probably in equilibrium with the local ground-water levels. It is evident that because of the method of well construction the response to changes of ground-water level outside of the wells will be so slow that it will not be possible to monitor short term changes in local ground-water levels.

Figure 6 is the ground-water-level contour map prepared using data collected on July 9, 1980. This figure shows that both the ditch and solar evaporation Pond 1 are sources of recharge to the local ground-water systems. Certainly, the Hammond Ditch was always a source of recharge to the normally unsaturated Quaternary cobble bed in the area. After the construction and filling of solar evaporation Pond 1, it too became a source of recharge to this cobble bed. Surface water from the Hammond Ditch flows south towards Pond 1 and the water in Pond 1 flows to the north, east and west. As the water moves away from these recharge sources, it enters the cobble bed and flows away to the north in the cobble bed beneath the Hammond Ditch. It is water from these sources which is found in the arroyos between the refinery property and the San Juan River to the north.

Figure 7 is a cross section through the observation wells which shows both the subsurface stratigraphy and the ground-water level. This figure indicates that the rate of seepage from Pond 1 is probably greater at the east end in the vicinity of observation hole NP-1.

In summary, the water within the cobble bed beneath the solar evaporation ponds is a combination of bank storage and seepage from at least solar evaporation Pond 1.

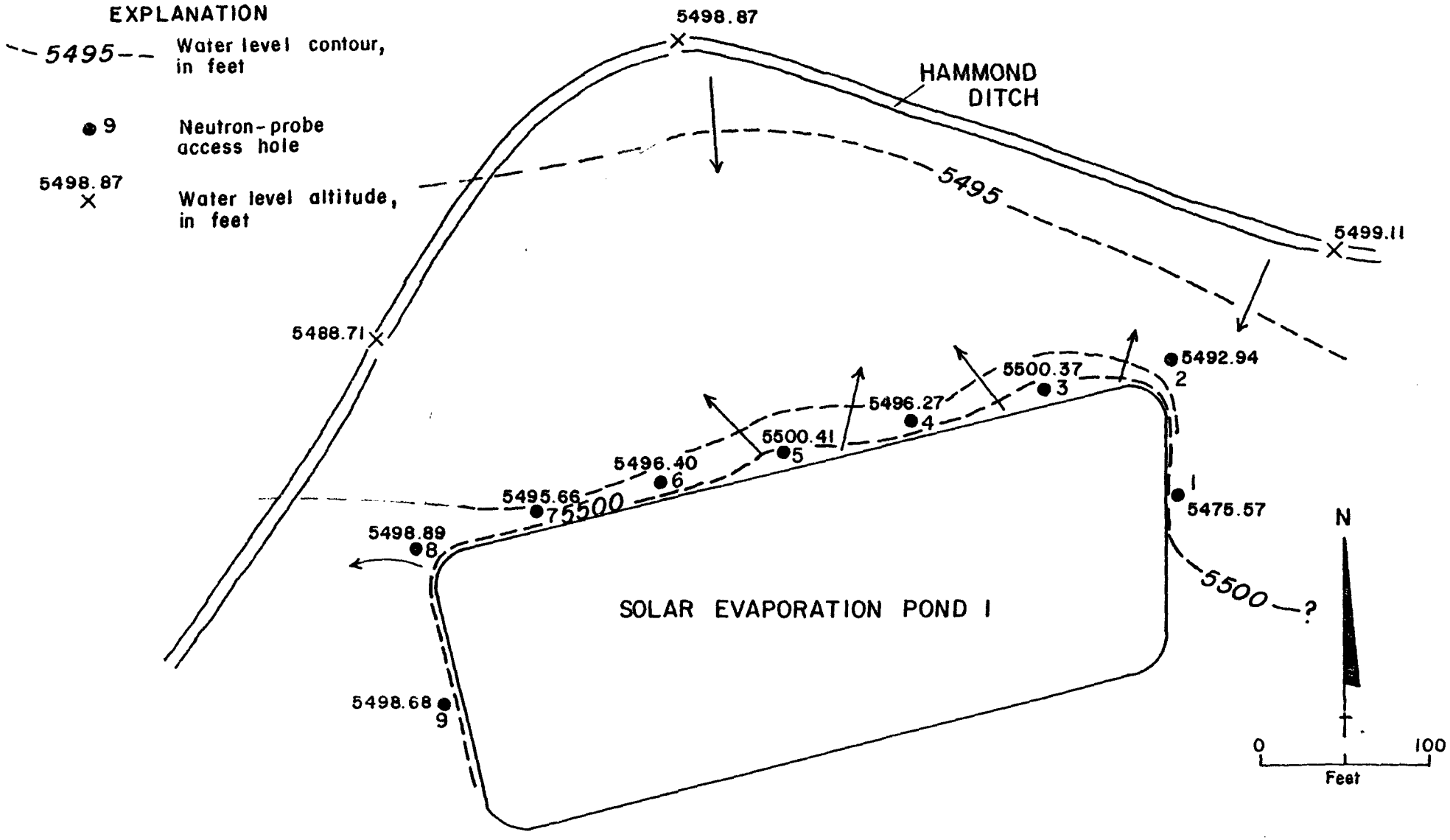


Figure 6. Ground-water-level contour map for 9 July 1980 in vicinity of solar-evaporation pond 1.

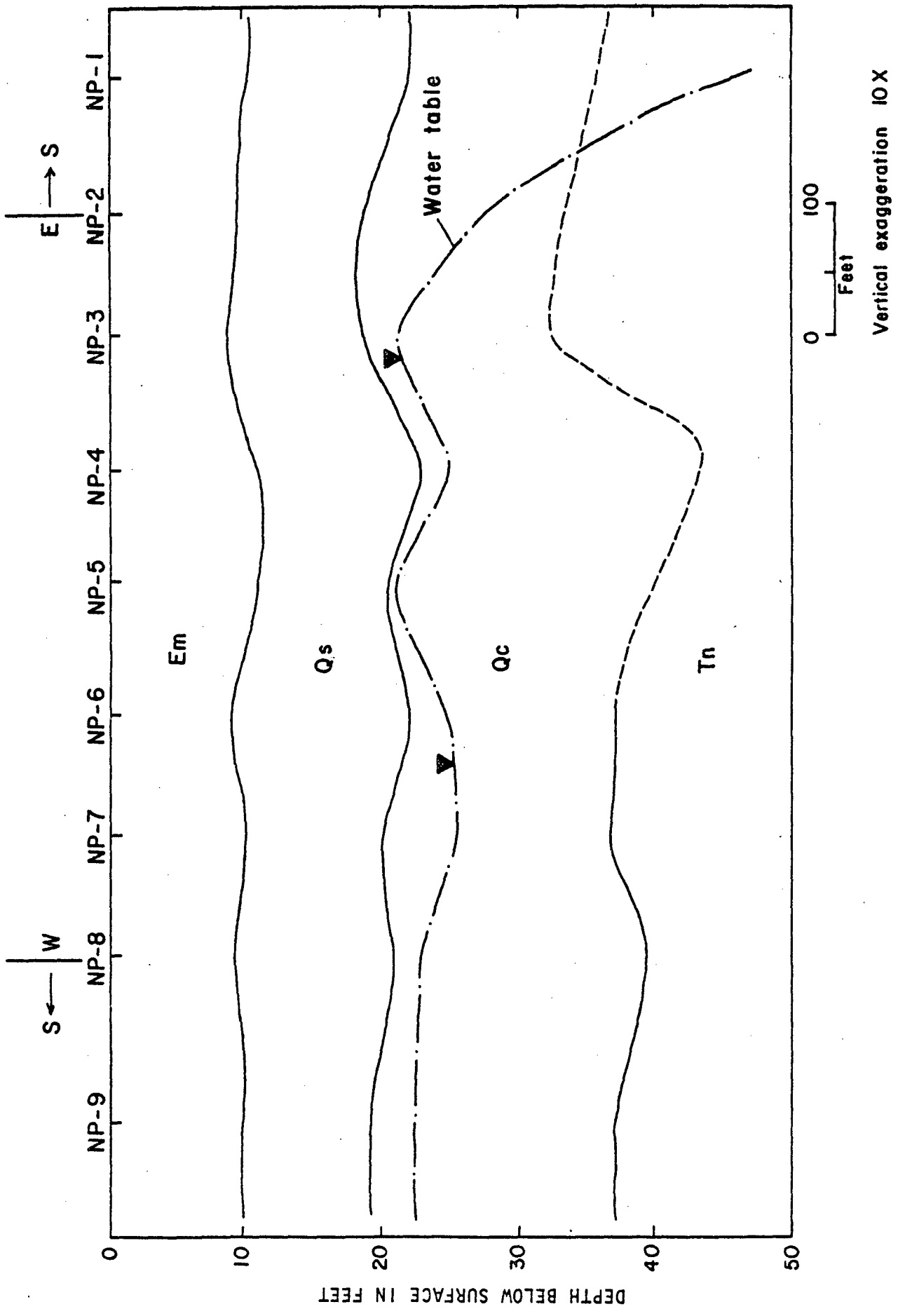


Figure 7. Cross-section through neutron-probe holes at solar evaporation pond 1.

There are no ground-water-level monitoring wells positioned to obtain similar information from Pond 2. However, it may be safely assumed that there is also some seepage from Pond 2.

NEUTRON LOGGING

The neutron probe soil-moisture profiles are used to evaluate changes in the moisture content in the embankment and subsurface soils on the north, east and west sides of solar evaporation Pond 1. Figure 8 through 16 show the results of neutron logging in each of the nine observation holes. Original profiles and data collected since the first milestone report are in attachment 3. The neutron-logging data for December 1978 was selected as the earliest neutron-logging data so that data collected since the first milestone report could be referenced to typical soil moisture profiles which were included in the first milestone report.

Examination of the moisture profiles measured in each observation hole since the first milestone report indicates that there has been no fundamental change in the moisture content of the soils surrounding the observation holes since the preparation of the first milestone report in January 1979. Therefore, the conclusions reached in the first milestone report are as valid at this writing as they were in January 1979.

THERMONICS

All temperature profiles measured to date in the observation holes including those measured after the preparation of the first milestone report are presented in figures 17 through 21. The temperature data collected since the preparation of the first milestone report was analysed to determine the approach and Darcian velocities of water seepage. The approach velocity of the ground-water flow, v_z, is given by:

$$v_z = (b^2 - a^2)\, K_{ws} / (a c_{pw} p_w)$$

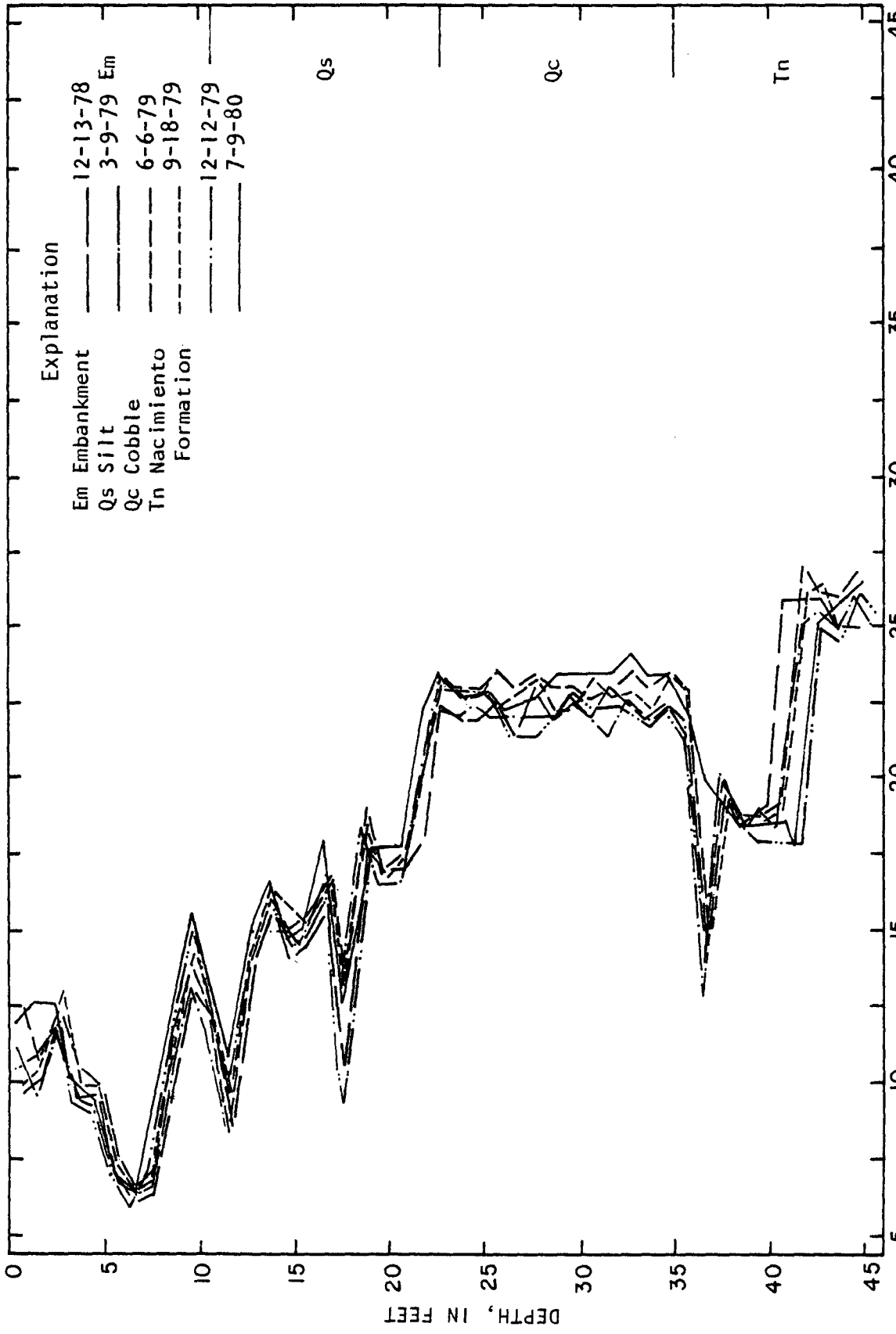


Figure 8. Soil-moisture profiles for observation hole NP-1.

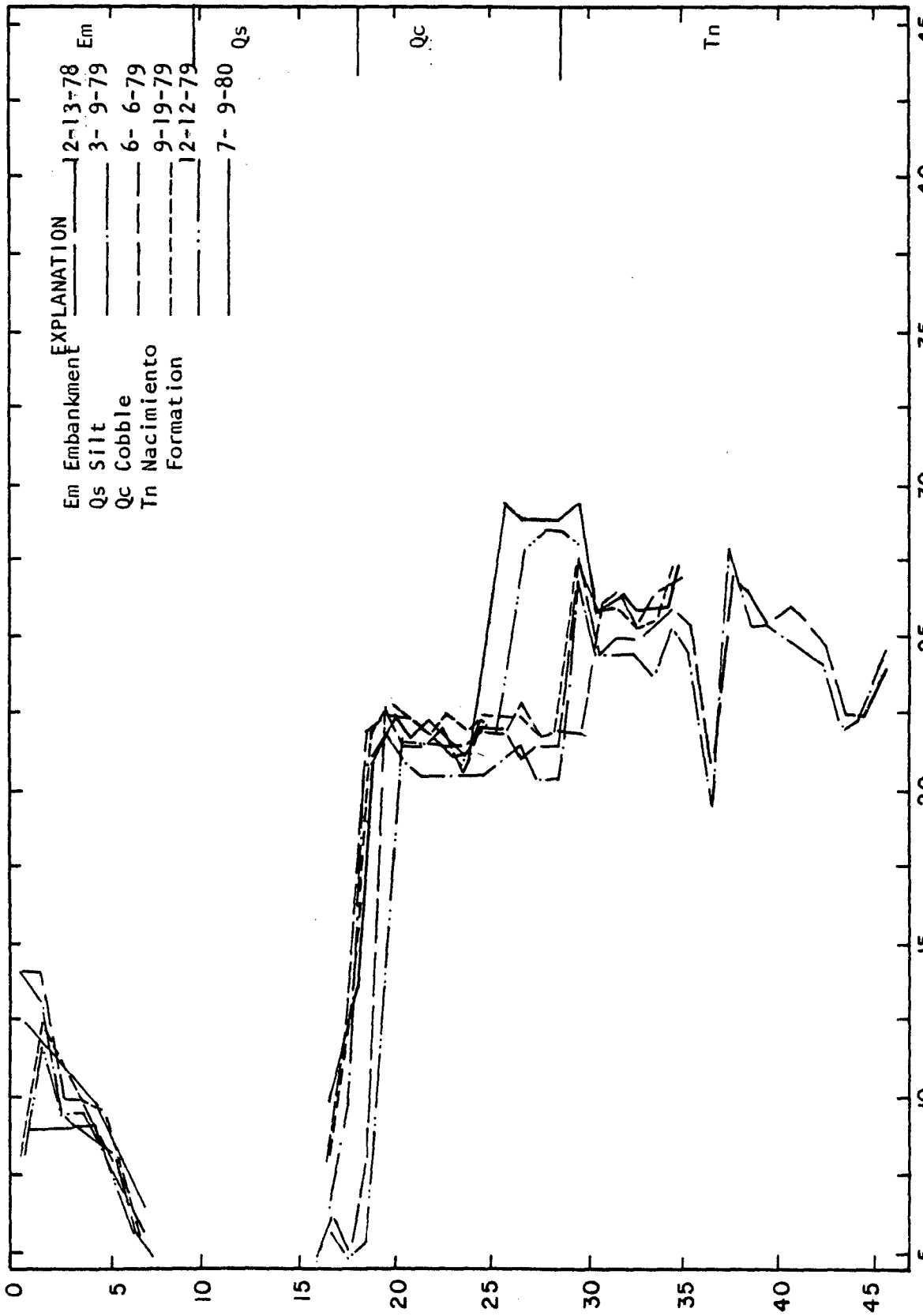


Figure 9. Soil-moisture profiles for observation hole NP-2.

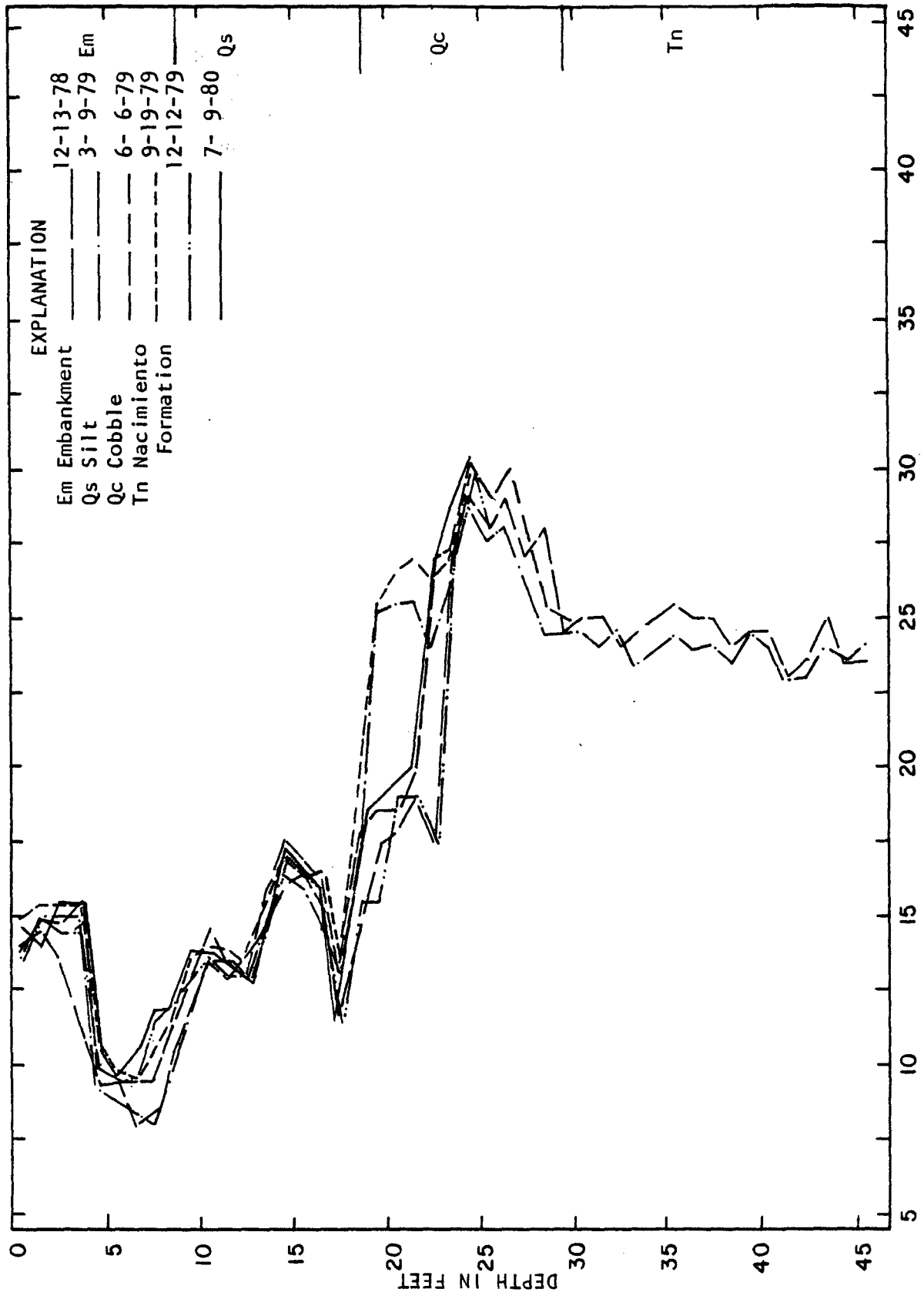


Figure 10. Soil-moisture profiles for observation hole NP-3.

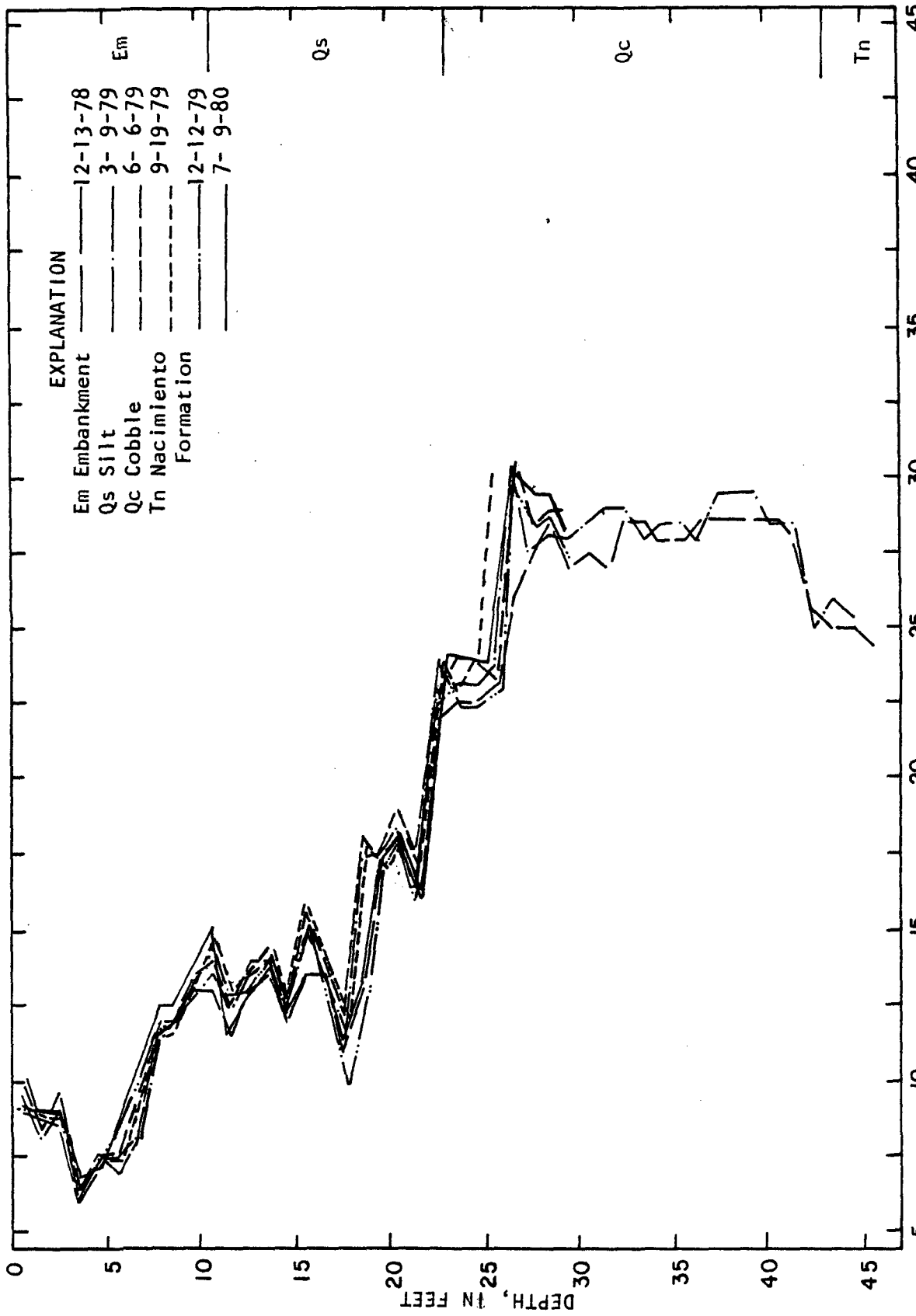


Figure 11. Soil-moisture profiles for observation hole NP-4.

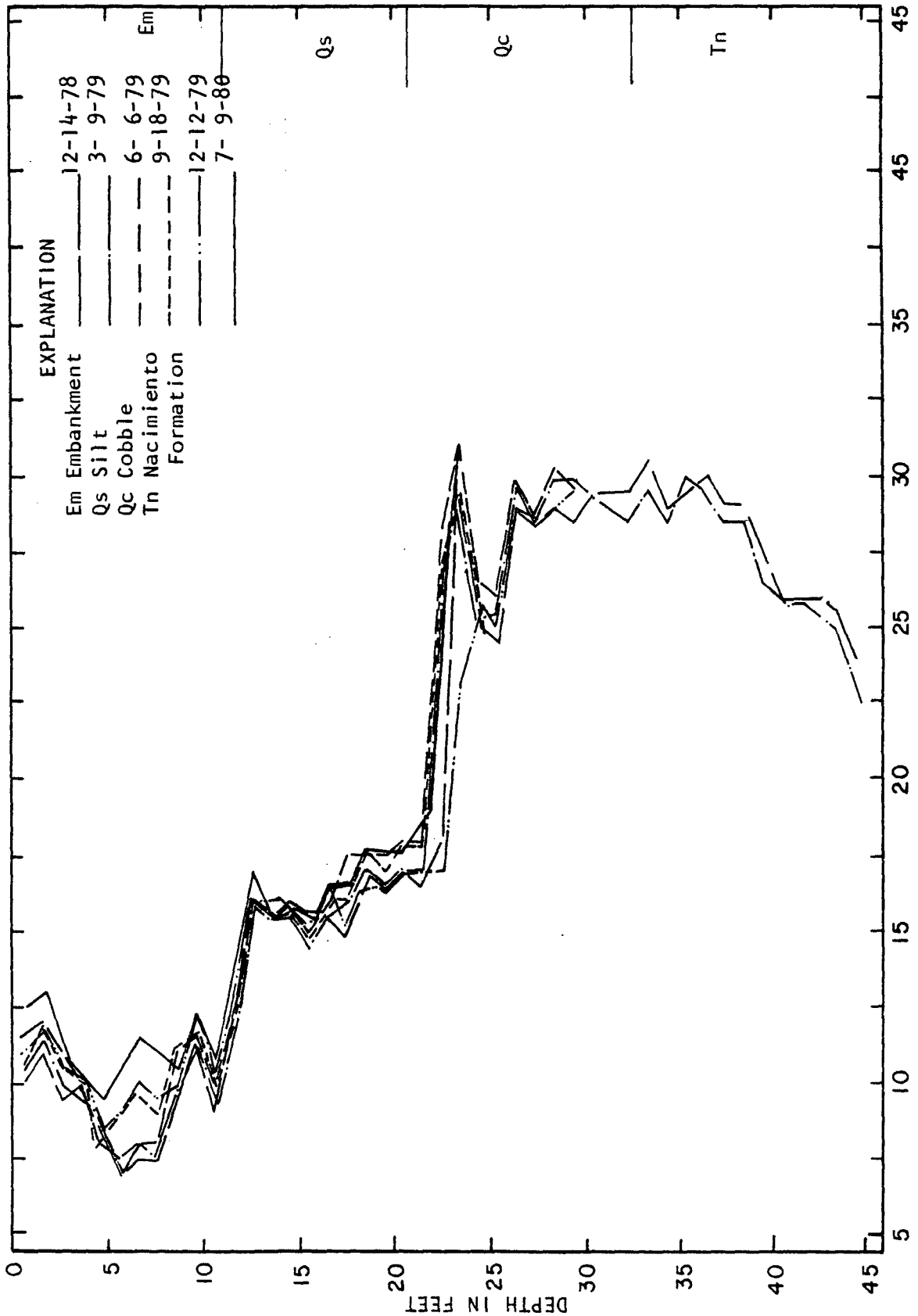


Figure 12. Soil-moisture profiles for observation hole NP-5.

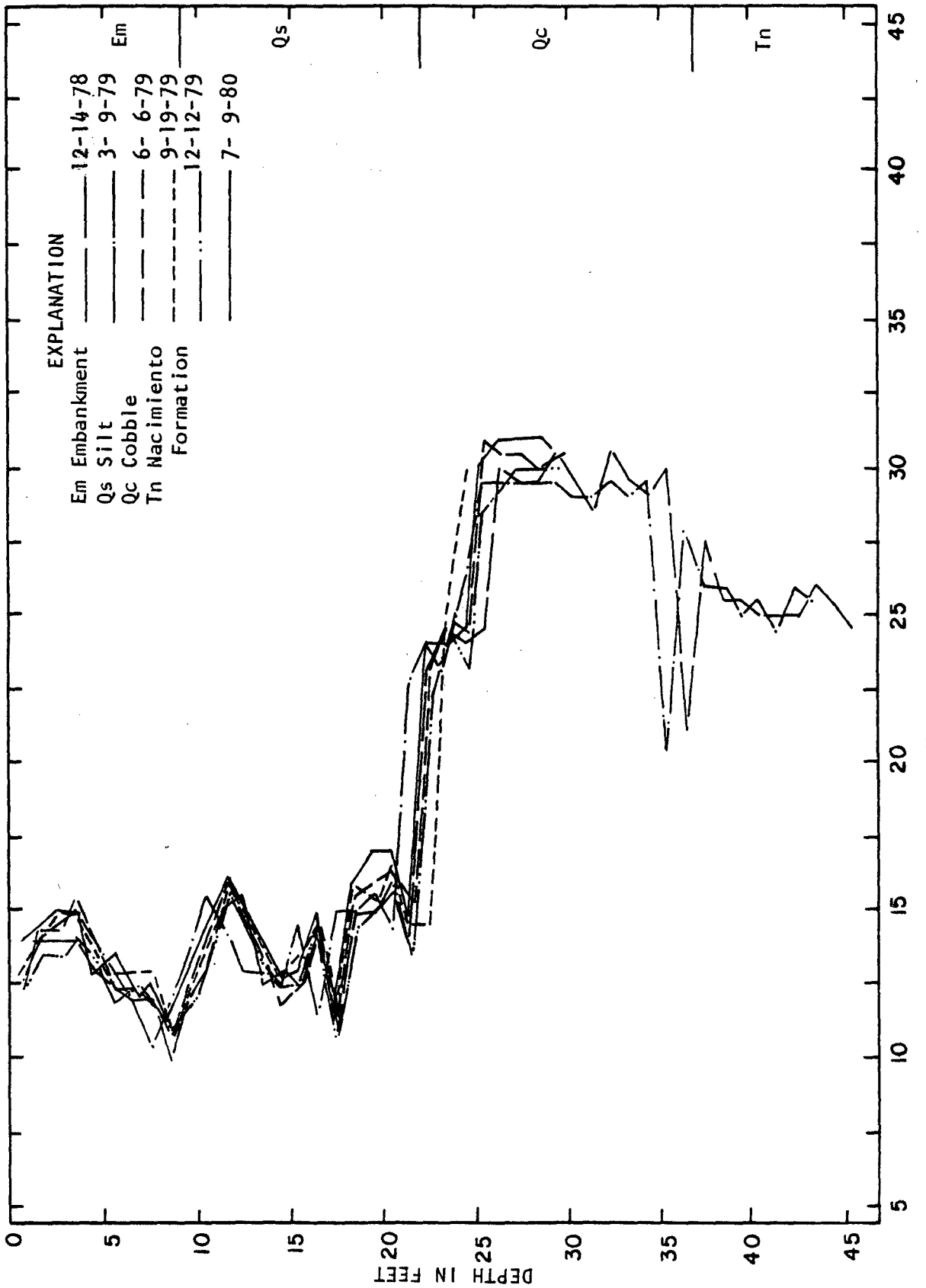


Figure 13. Soil-moisture profiles for observation hole NP-6.

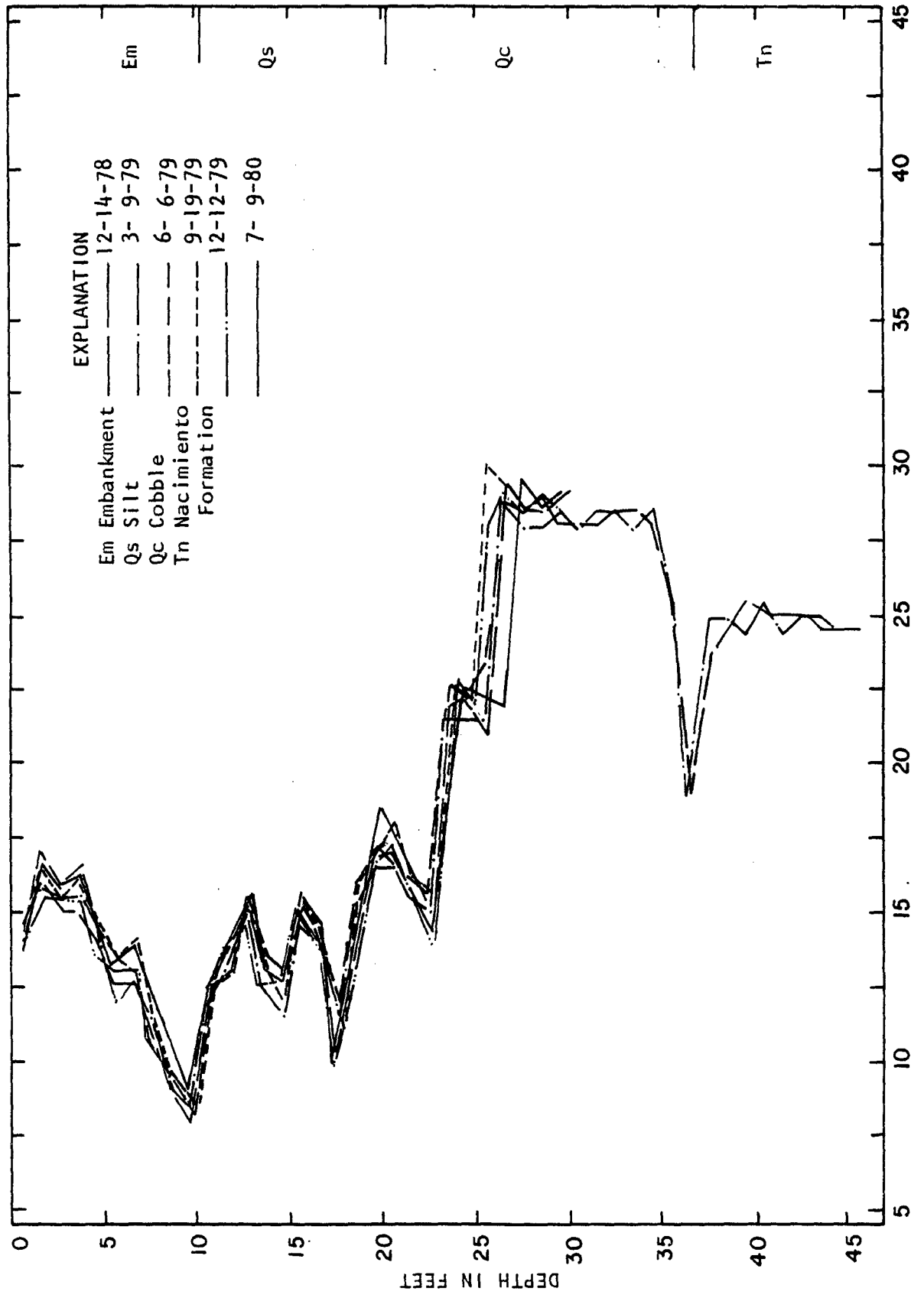


Figure 14. Soil-moisture profiles for observation hole NP-7.

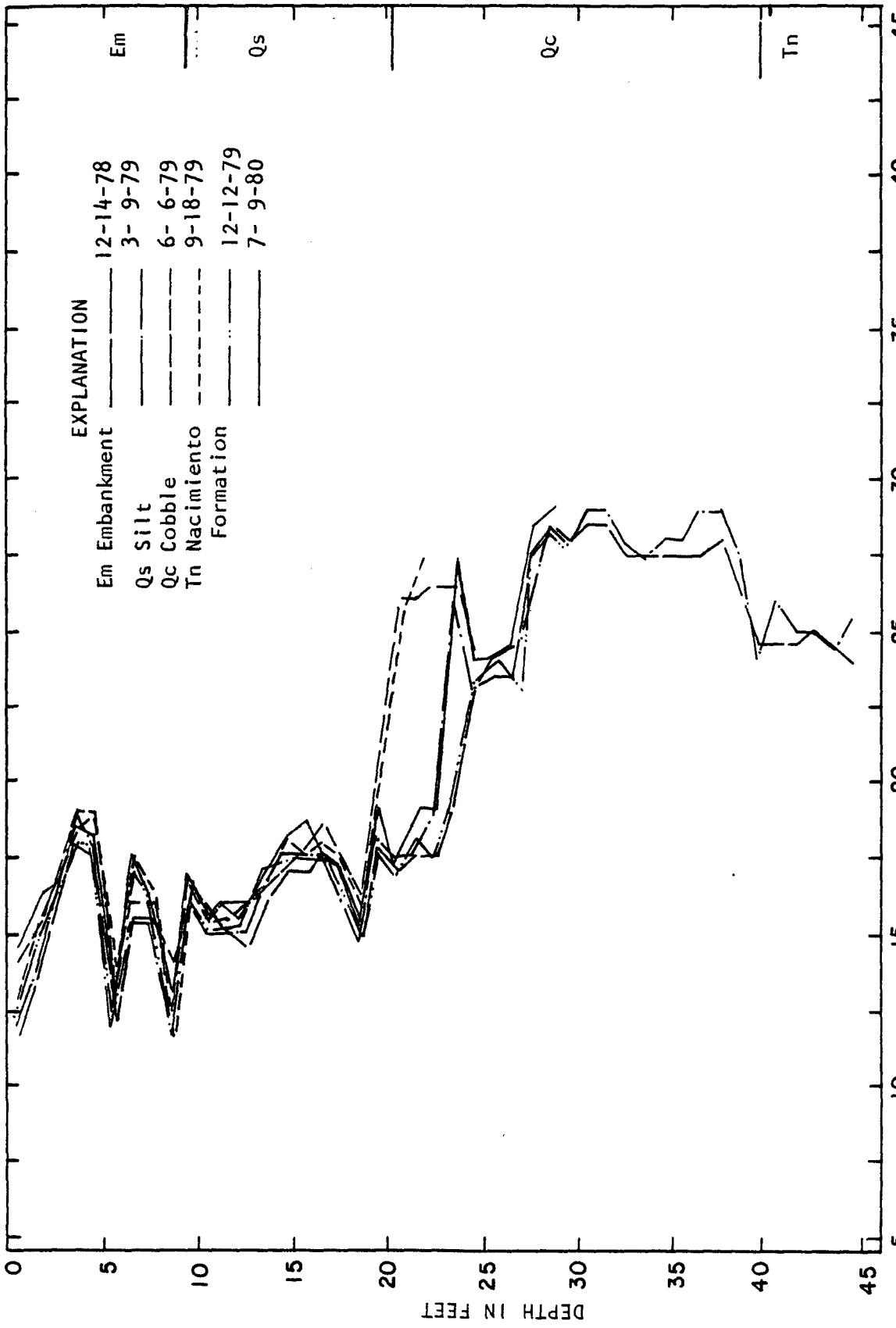


Figure 15. Soil-moisture profiles for observation hole NP-8.

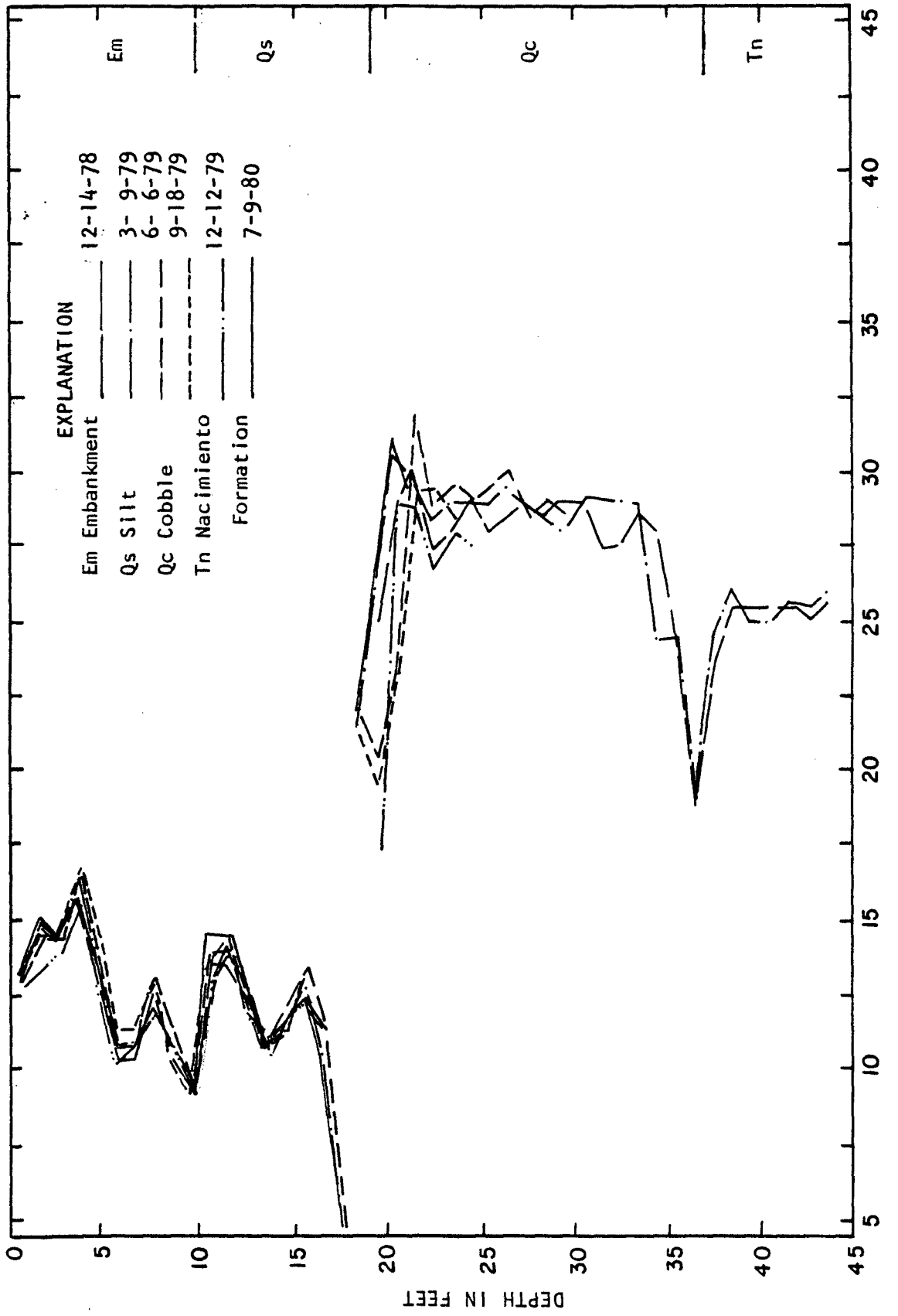


Figure 16. Soil-moisture profiles for observation hole NP-9.

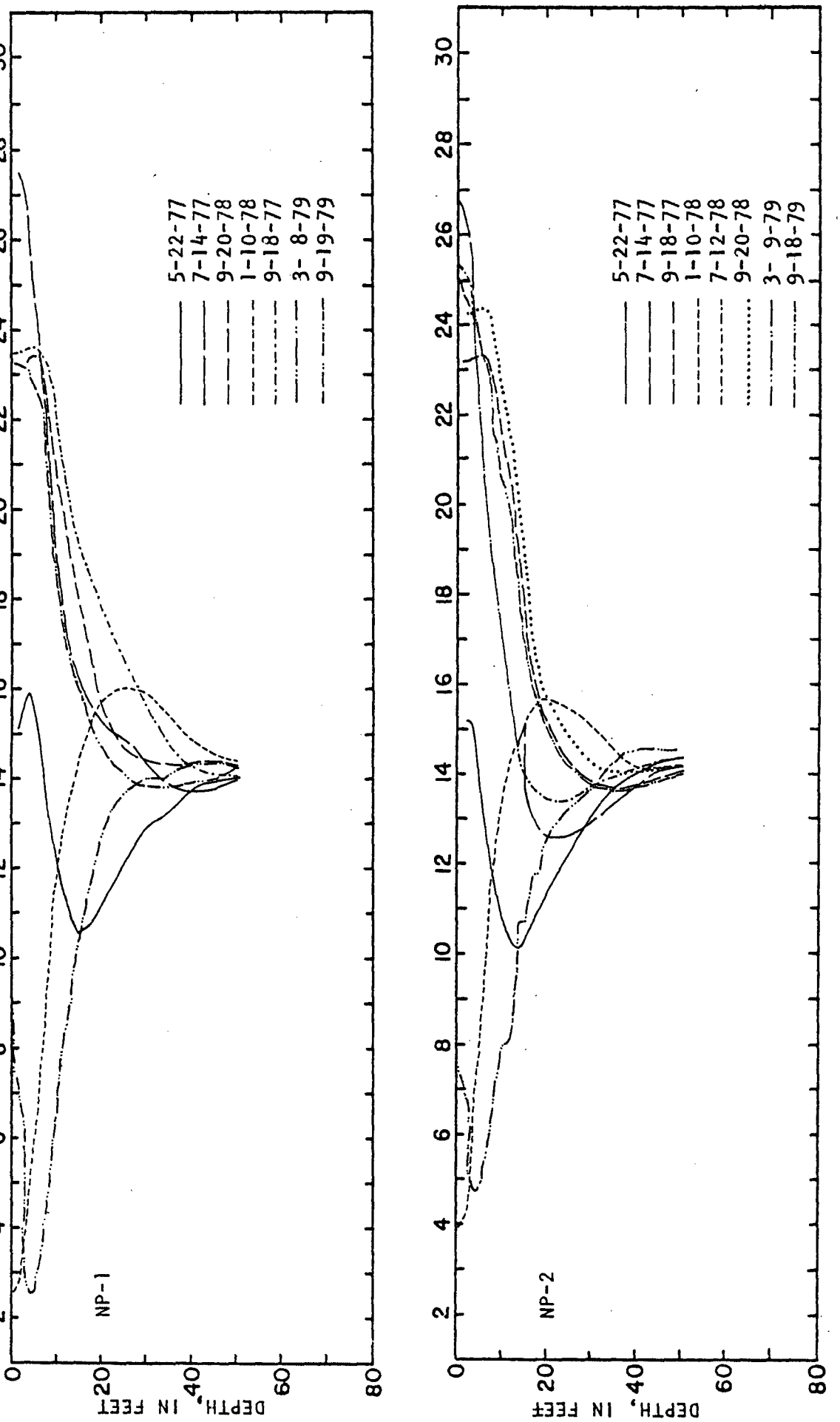


Figure 17. Temperature profiles in observation holes NP-1 and 2.

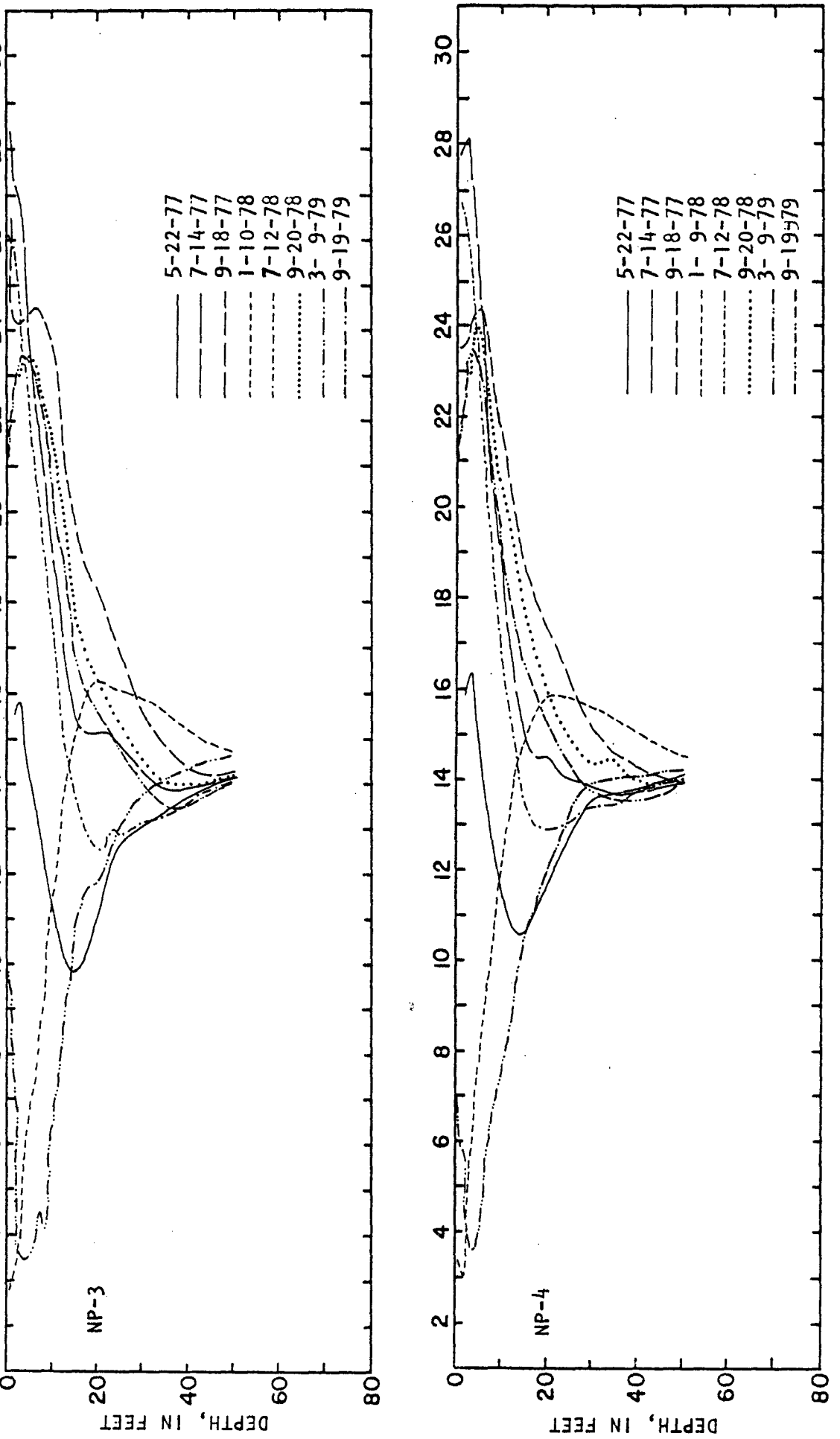


Figure 18. Temperature profiles in observation holes NP-3 and 4.

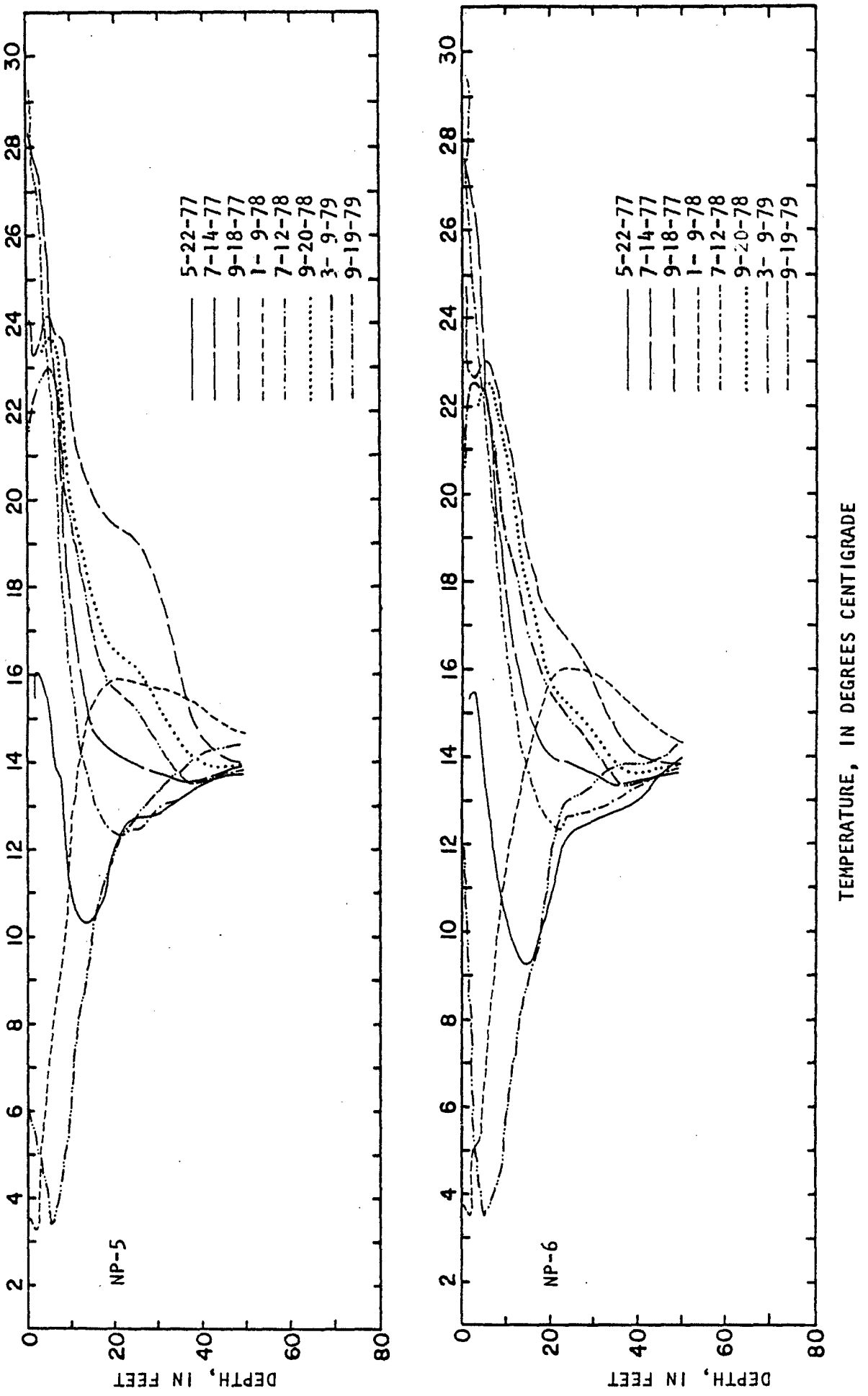


Figure 19. Temperature profiles in observation holes NP-5 and 6.

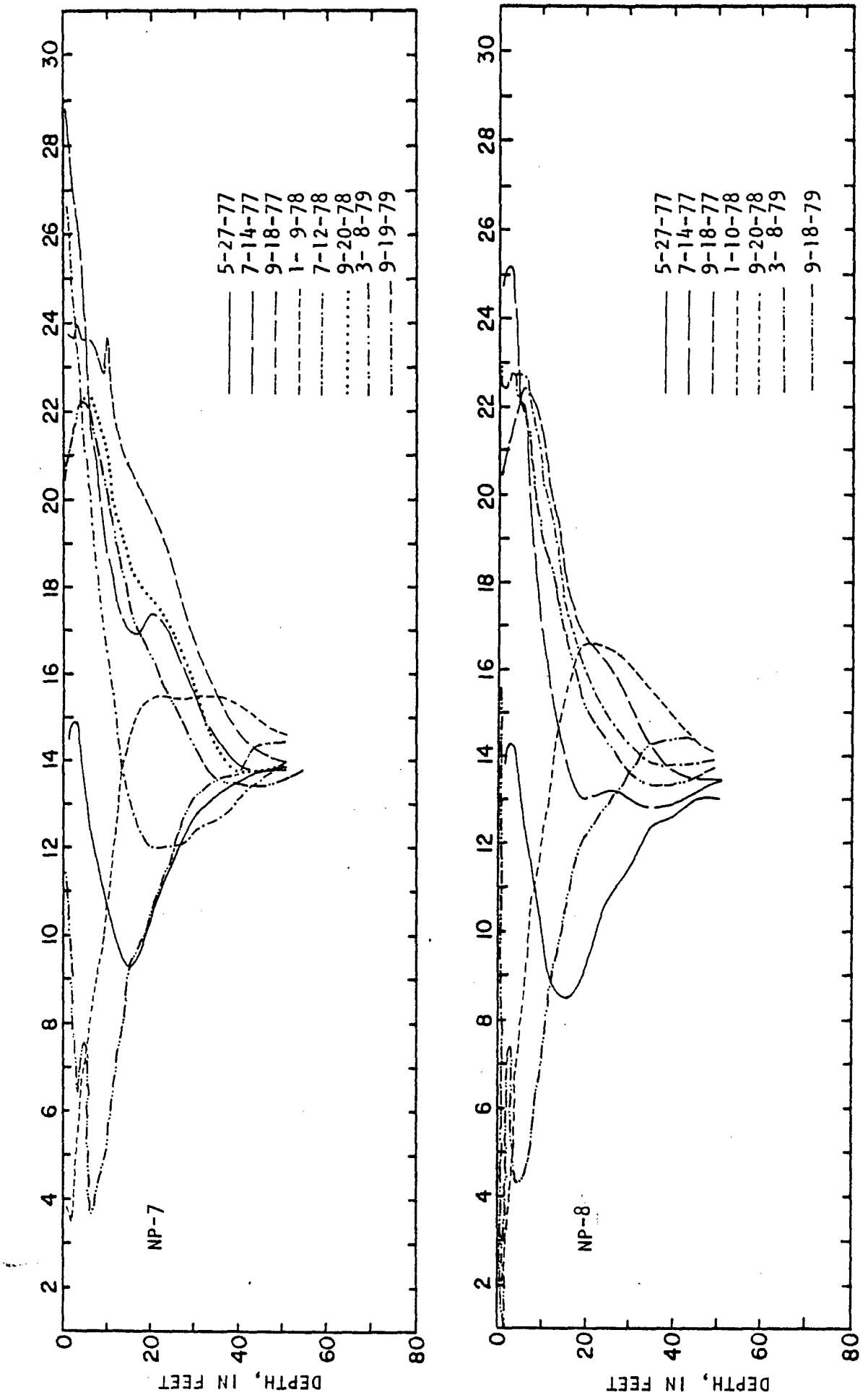


Figure 20. Temperature profiles in observation holes NP-7 and 8.

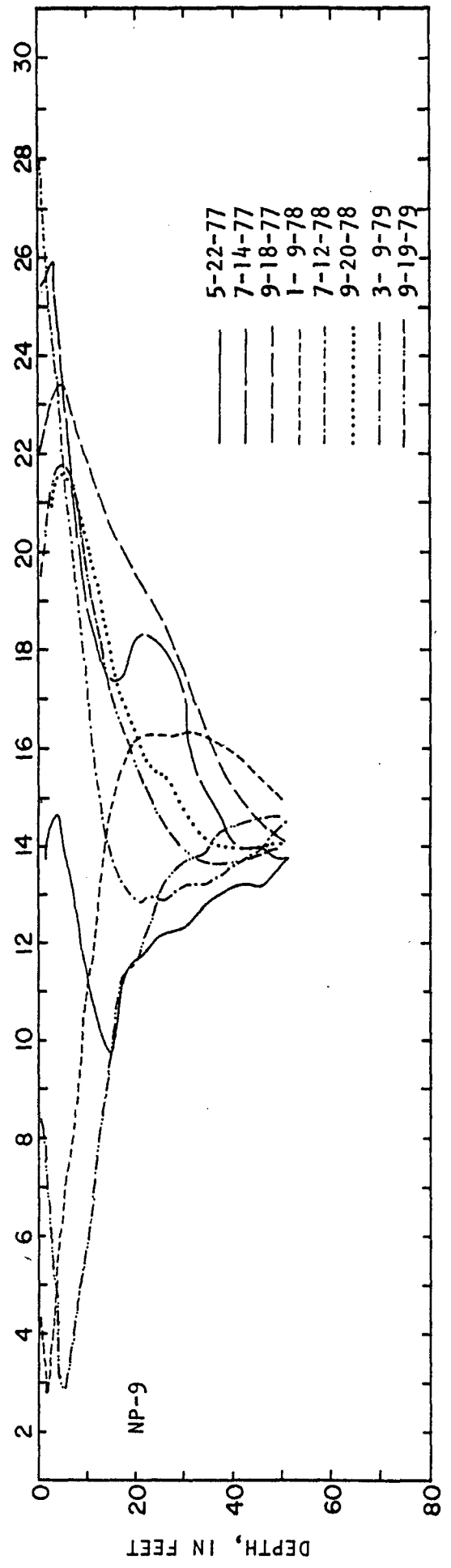


Figure 21. Temperature profile in observation hole 9.

where:

$a = (\ln(A/T_z))/z$

$b = 2\pi t_1/\tau z$

T_z = amplitude of the temperature wave at depth z

A = amplitude of the seasonal air temperature wave

z = depth of the z point on the seasonal heat wave at which the amplitude is measured, crest at a depth of about five feet

t_T = the time lag for the temperature cycle at depth z with respect to the temperature cycle at the land surface

τ = period of the seasonal heat wave.

The solution of this relationship is only valid when the transfer of heat by conduction and convection is through a medium which is homogeneous for fluid and heat flow. In actual fact, the embankment surrounding the ponds is not homogeneous for fluid flow; it may, however, approach homogeneity for heat flow. The lack of homogeneity for fluid flow is observed in figure 22 which depicts the temperature of the soils along the crest of the embankment at a depth of about 12 feet for two different times of the year. If the earthen material forming and underlying the embankment were homogeneous for fluid flow, then the temperature at any given depth along the embankment should be similar provided the observation holes in which the measurements were made are uniformly spaced with regard to the front face of the embankment and the face of the embankment which faces the pond. If this condition is not met, the thermal forcing function from each side of the embankment will not reach the observation holes in phase and the temperature data will not be comparable from hole to hole. The observation holes do have reasonably similar locations with regard to the front and back face of the embankments and it is likely that the data are comparable provided the depth to water is the same.

Examination of figure 27 from the first milestone report and figure 22 of the present report indicate that the form of the temperature profiles made at three different times over a period of one year are quite similar.

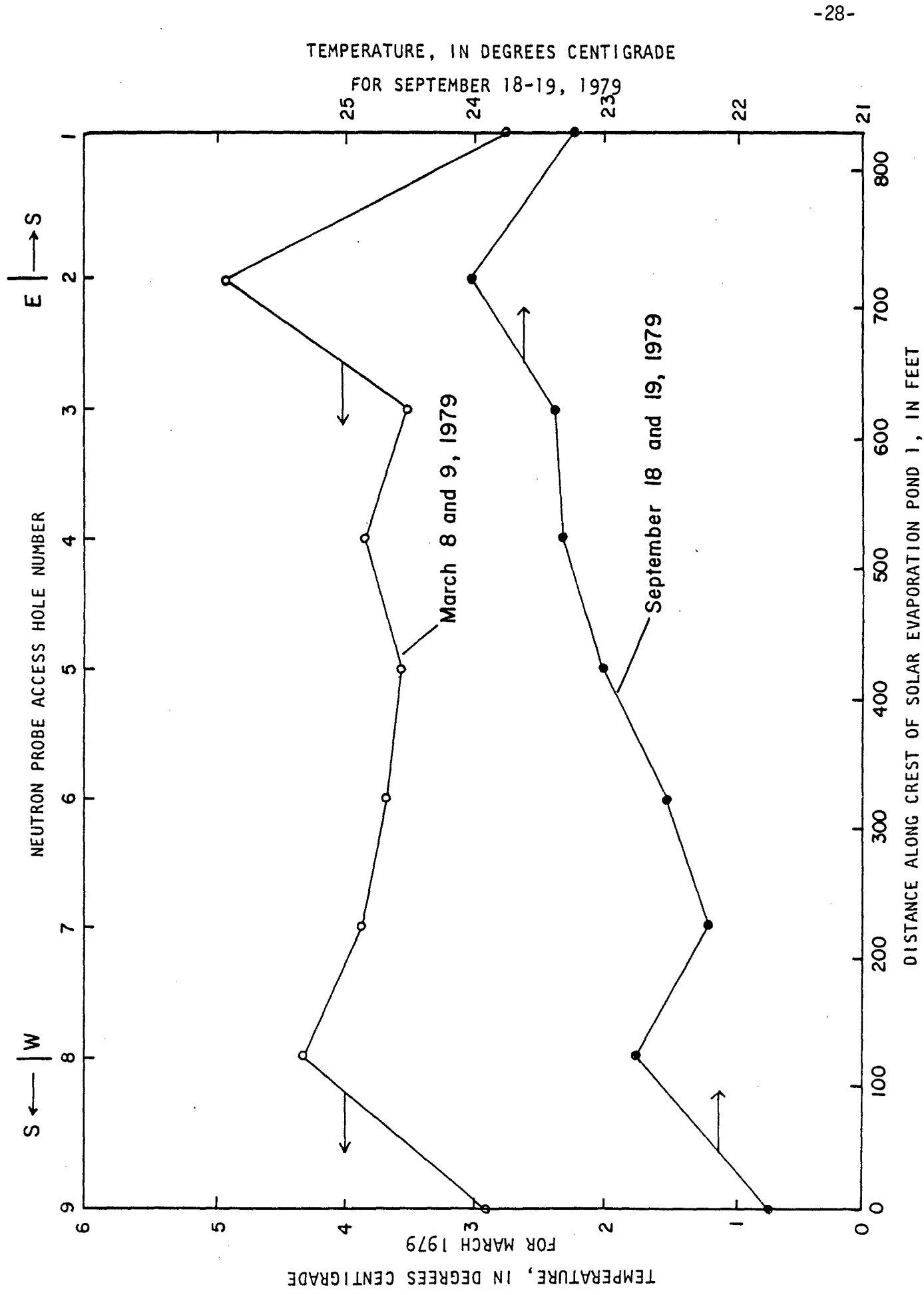


Figure 22. Subsurface temperatures at a depth of about 12 feet along the crest of solar-evaporation Pond 1.

The forcing functions responsible for the temperatures measured along the embankment are solar radiation and water seeping through the embankment. Because the solar input to the embankment is everywhere uniform though varying sinusoidally throughout the year, any variation in the temperature at depth must then be due to variations in the rate of fluid flow through the embankment. If the temperature of the water in the reservoir adjusts more readily to the seasonally varying air temperature than the soil-water mixture of the embankment then those parts of the embankment through which water moves rapidly will more closely approximate the temperature of the water in the reservoir than those parts where the water moves more slowly. That is, if water at the temperature of the annual maximum air temperature begins to seep into and through the embankment at all locations at the same time, the front of warmest water would pass the mid-line of the embankment first in those locations where the permeability was greatest. In other locations the warm water front would lag behind. Now at the same time the warm water is passing through the embankment, the air temperature is decreasing (having passed the seasonal maximum). Where the warm water seeps most rapidly, the seasonal air temperature and the temperature of the moving water will be most nearly in phase and a high temperature will be registered in the soils. Where the warm water moves most slowly, it will require the greatest time to reach the mid-line of the embankment and the temperature difference between the moving warm water and the air temperature will be greatest and the soil temperatures will be cooler. The converse is true of the winter minimum as is evident in figure 26 of the first milestone report. In that figure observation hole NP-2 is the coldest on January 10, 1978. For the March and September 1979 data observation hole NP-2 is the warmest.

It is concluded therefore, that contrary to the interpretation given in the first milestone report most seepage is taking place at the east end of the pond. This is consistent with the interpretation of water-level data.

Bearing in mind that we are dealing with non-ideal conditions, equation 1 has been solved for each temperature profile obtained on March 9, 1979. The solution is based upon the assumption that the thermal conductivity of the solid-fluid complex is 4×10^{-3} cm^{-1} $sec^{-1}{}^{o}C$. The result of this analysis is presented in table 2.

The average approach velocity of the ground water in all observation holes is about 4.91×10^{-5} cm/sec. The Darcian velocity is obtained by multiplying the approach velocity by the porosity of the soils. Soil moisture data for these observation holes suggests that the soils in the embankment and immediately below the embankment have a moisture content of about 15 percent. The average Darcian velocity is, therefore, about 0.63607 cm/day. This is somewhat less than the Darcian velocity estimated from Thermonics in the first milestone report. It may be more reliable, however for several reasons. First, data used in the computations in the first milestone report were not always measured at precisely the right time of the year to pick up the seasonal maxima and minima on the temperature profile. Second, the fluid flow-heat flow system may not have achieved a steady state at the time earlier data were collected which is necessary for the application of equation 1.

If the Darcian velocity is 0.636 cm/day and if the surface area of Pond 1 is 1.51×10^{8} square centimetres, the amount of seepage would be about 13.4 gallons per minute. This figure is in better agreement with the 22 gpm estimated from AQUATRACE methods in the first milestone report than the 94 gpm estimated by Thermonic methods. This seepage rate is also consistent with observations made in the Hammond Ditch.

Table 2. Summary of pertinent data used to calculate the approach velocity in the vicinity of solar-evaporation Pond 1.

Hole No.	ΔT_z (°C)	A^1 (°C)	z (ft)	t_1 (days)	T (days)	a (ft^{-1})	b (rad ft^{-1})	v_z (cm/day)
1	10.28	13.49	5	50	365	0.05532	.172142	5.44641
2								
3	10.45	13.49	5	50	365	.051069	.172142	6.00019
4	9.75	13.49	5	50	365	.06494	.172142	4.4376
5	9.73	13.49	5	50	365	.06535	.172142	4.40049
6	9.45	13.49	5	50	365	.071187	.172142	3.91273
7	9.34	13.49	5	50	365	.07353	.172142	3.73577
8	7.65	13.49	5	50	365	.141811	.2151776	2.09412
9	9.44	13.49	5	50	365	.071398	.172142	3.89639

[1] Calculated by Fourier analysis of daily temperature maxima and minima at Bloomfield. May differ for the actual plant site.

[2] $K_{ws} = 4 \times 10^{-3}$ cal cm^{-1} sec^{-1} ^{o}C

AQUATRACE

Since the preparation of the first milestone report, AQUATRACE monitoring of the ponds at the refinery has continued. The results of AQUATRACE analyses made since the beginning of 1979 are given in attachment 5. It is evident from examination of the results that no tracer from Pond 1 was detected in either the Hammond Ditch or the San Juan River with the exception of a sample, having no date in which 10.3 ppb were found. Inasmuch as the collection of this particular sample was not under the control of AGW personnel it is suspected that the sample was contaiminated.

Of particular interest is the presence of the tracer used in Pond 2 (south pond) in almost all samples collected, whether from upstream or from downstream of the refinery and in both the Hammond Ditch and the San Juan River. It is believed that this tracer must be a natural contaiminant of the San Juan River and that the usefulness of TRAC 3 as a tracer has been compromised. The fact that no TRAC 3 was detected in Pond 2 in several of the undated samples is not significant as these samples were not collected under the control of AGW personnel.

Samples collected on January 20, 1981 seem to indicate a connection between the north pond and the Hammond Ditch. No water was flowing in the ditch and rate of seepage cannot be quantified. Also some water from Pond 1 appears to be seeping into the depression east of Pond 1, this cannot be quantified.

The fact that TRAC 5 is absent in downstream water in the Hammond Ditch and the San Juan river seems to indicate that either very little seepage or no seepage is taking place at the present time. This is in contrast to the small amount of seepage indicated by AQUATRACE methods in the first milestone report.

The conclusion to be drawn from the results of the AQUATRACE monitoring is that little or no seepage is taking place, which is in agreement with the results from the Thermonic analysis.

Poor reasoning
no proof or data
to back up statement

ATTACHMENT 1

SUMMARY

The results of monitoring activities to date indicate:

1. The Hammond ditch is the principle source of ground-water below the solar-evaporation ponds.

2. At least while the water in the ditch is flowing, the direction of ground-water flow is to the south.

3. There are several anomalously high water levels in the observation holes which would suggest that water is moving towards the ditch. These ground-water elevations could be caused by errors in the bench-mark elevations.

4. The saturated zone in the vicinity of the Hammond ditch may extend as far as 600 feet south of the ditch and the saturated cobble may be as much as ten feet thick.

5. The neutron-probe-soil-moisture data indicates a slight increase in soil moisture in the silt beneath the embankment which surrounds the solar-evaporation ponds. A 10 volume-percent moisture increase over a pond area with dimensions of 650 x 250 feet for a depth of 10 feet beneath the pond prepresents an increase of about 1,215,584 gallons of water in storage in the soils. The results of neutron-probe studies are only strictly valid for the embankments of the pond and may not be valid for the inundated foundation of the reservoir.

6. Temperature data suggest that about 10 gpm of seepage is taking place also. The estimates based on an analysis of the temperature data are only valid for the embankment and may not be valid for the inundated reservoir foundation.

7. AQUATRACE methods indicate about 20 gpm seepage into the Hammond ditch and the San Juan River.

8. As of October 26, the Hammond ditch was empty and water in bank storage was emptying into the ditch at about one-half gallon per minute from uptstream to downstream of the refinery. The flow from bank storage must represent a maximum flow into the Hammond ditch.

9. Based upon present information, seepage is presently taking place from the pond at a very low rate.

10. At the location where seepage rates have been estimated, wave action has eroded the bentonite liner away and it is possible that the percolation is greater in the vicinity of the embankments than through the pond bottoms.

11. In conjunction with further monitoring a single water budget study should be made of the pond.

RECOMMENDATIONS

The recommendations given below deal with information on the monitoring program for improving the estimate of seepage.

1. Neutron monitoring has about fulfilled its usefulness because soil-moisture does not appear to be changing rapidly. It is therefore recommended that neutron logging be carried out semi-annually, in December and June.

2. Thermal methods are providing useful information. Data collected in September and March seems to be the most useful, and it is recommended that temperature profiles be made of all observation holes for one more year, in September and March.

3. ZETA-SP methods, while useful initially, are of little use at present because of the existence of plant growth on the pond bottom which prevents the measurement electrodes from contacting the soils on the pond bottom.

4. Water-level data is of value for evaluating the direction of ground-water flow in the cobble beneath the solar-evaporation ponds. Because water-level measurements are rapidly carried out, it is recommended that water-level measurements be carried out monthly in conjunction with other monitoring activities.

5. AQUATRACE is likely to provide the most unambiguous results in the quantification of seepage and it is recommended that samples of pond and ditch water be collected monthly and analyzed for TRAC-5.

6. The results of all monitoring activities should be presented in milestone reports at least once a year. Any change in the frequency of monitoring or the possible abandonment of a monitoring method will be recommended at that time.

7. All bench marks on the PVC casing in the observation holes should be relevelled with reference to a bench mark of known altitude. Also, the water-level surface of water in the Hammond ditch should be accurately levelled when the ditch again has water in it. All levelling should be accurate to the nearest 0.01 foot and should be carried out at the same time to minimize error.

ATTACHMENT 2

WATER LEVEL MEASUREMENTS IN NEUTRON-PROBE ACCESS HOLE NP-1

DATE	DEPTH TO WATER (ft)	W. L. ELEVATION (ft above M.S.L.)
26 April 1977	36.80	5485.02[1]
27 April 1977	48.60[2]	5473.22
6 May 1977	DRY[2]	
22 May 1977	48.16	5473.66
18 Sept. 1977	39.88	5481.94
11 Jan. 1978	36.73[3]	5485.09
14 Feb. 1978	35.04[3]	5486.78
27 March 1978	36.28[3]	5485.54
26 April 1978	37.00[3]	5484.82
2 June 1978	37.50[3]	5484.32
29 June 1978	38.13[3]	5483.69
12 July 1978	38.43[3]	5483.39
20 Sept. 1978	38.35[3]	5483.47
25 Oct. 1978	41.54[3]	5480.28
11 Nov. 1978	42.64[3]	5479.18
13 Dec. 1978	42.16[3]	5479.66
23 Jan. 1979	42.82[3]	5479.00
13 Feb. 1979	44.03[3]	5477.79
9 Mar. 1979	43.65[3]	5478.17
6 June 1979	45.40[3]	5476.42
18 Sept. 1979	45.76[3]	5476.06
12 Dec. 1979	45.61[3]	5476.21
9 July 1980	46.25[3]	5475.57

[1]B.M. 5521.82

[2]Water level taken after blowing the hole.

[3]Water level taken in undisturbed hole.

WATER LEVEL MEASUREMENTS IN NEUTRON-PROBE ACCESS HOLE NP-1

DATE	DEPTH TO WATER (ft)	W. L. ELEVATION (ft above M.S.L.)
2 Oct 1980	46.60	5475.22[1]
11 Dec 1980	46.79	5475.03

[1] B.M. 5521.82

WATER LEVEL MEASUREMENTS IN NEUTRON-PROBE ACCESS HOLE NP-2

DATE	DEPTH TO WATER (ft)	W. L. ELEVATION (ft above M.S.L.)
26 April 1977	48.17	5472.50[1]
27 April 1977	49.17[2]	5471.50
6 May 1977	DRY[2]	
22 May 1977	46.70	5473.97
19 Sept. 1977	42.40	5478.27
10 Jan. 1978	40.08[3]	5480.59
14 Feb. 1978	34.07[3]	5486.60
27 March 1978	34.17[3]	5486.50
26 April 1978	36.10[3]	5484.57
2 June 1978	36.10[3]	5484.57
29 June 1978	36.50[3]	5484.17
12 July 1978	35.85[3]	5484.82
20 Sept. 1978	34.17[3]	5486.50
25 Oct. 1978	34.03[3]	5486.64
11 Nov. 1978	32.98[3]	5487.69
13 Dec. 1978	31.24[3]	5469.13
23 Jan. 1979	32.33[3]	5488.34
13 Feb. 1979	32.64[3]	5488.03
9 March 1979	32.40[3]	5488.27
6 June 1979	30.18[3]	5490.49
19 Sept. 1979	29.45[3]	5491.22
12 Dec. 1979	29.66[3]	5491.01
9 July 1980	27.73[3]	5492.94

[1] B.M. 5520.67

[2] Water level taken after blowing the hole.

[3] Water level taken in undisturbed hole.

WATER LEVEL MEASUREMENTS IN NEUTRON-PROBE ACCESS HOLE NP-2

DATE	DEPTH TO WATER (ft)	W. L. ELEVATION (ft above M.S.L.)
2 Oct.1980	27.70	5493.47[1]
11 Dec.1980	27.24	5493.43

[1] B.M. 5520.67

WATER LEVEL MEASUREMENTS IN NEUTRON-PROBE ACCESS HOLE NP-3

DATE	DEPTH TO WATER (ft)	W. L. ELEVATION (ft above M.S.L.)
26 April 1977	26.72	5494.41[1]
27 April 1977	41.09[2]	5480.04
6 May 1977	26.98	5494.15
21 May 1977	23.95	5497.18
19 Sept. 1977	21.30	5499.83
10 Jan. 1978	23.62[3]	5497.51
14 Feb. 1978	21.52[3]	5499.61
27 March 1978	22.71[3]	5498.42
26 April 1978	22.69[3]	5498.44
2 June 1978	22.40[3]	5498.73
29 June 1978	22.43[3]	5498.70
12 July 1978	21.93[3]	5499.20
20 Sept. 1978	21.52[3]	5499.61
25 Oct. 1978	21.99[3]	5499.14
11 Nov. 1978	21.47[3]	5499.66
13 Dec. 1978	21.42[3]	5499.71
23 Jan. 1979	21.28[3]	5499.85
13 Feb. 1979	21.64[3]	5499.49
9 March 1979	21.30[3]	5499.83
6 June 1979	20.42[3]	5500.71
19 Sept. 1979	20.96[3]	5500.17
12 Dec. 1979	22.62[3]	5498.51
9 July 1980	20.76[3]	5500.37

[1]B.M. 5521.13

[2]Water level taken after blowing the hole.

[3]Water level taken in disturbed hole.

WATER LEVEL MEASUREMENTS IN NEUTRON-PROBE ACCESS HOLE NO-3

DATE	DEPTH TO WATER (ft)	W. L. ELEVATION (ft above M.S.L.)
2 Oct. 1980	22.03	5499.10[1]
11 Dec. 1980	23.42	5497.71

[1] B.M. 5521.13

WATER LEVEL MEASUREMENTS IN NEUTRON-PROBE ACCESS HOLE NP-4

DATE	DEPTH TO WATER (ft)	W. L. ELEVATION (ft above M.S.L.)
26 April 1977	35.92	5485.25[1]
27 April 1977	48.44[2]	5472.73
6 May 1977	45.54	5475.63
21 May 1977	39.39	5481.78
19 Sept. 1977	30.49	5490.68
10 Jan. 1978	27.35[3]	5493.82
14 Feb. 1978	25.76[3]	5495.41
27 March 1978	26.16[3]	5495.01
26 April 1978	26.49[3]	5494.68
2 June 1978	26.30[3]	5494.87
29 June 1978	26.40[3]	5494.77
12 July 1978	26.21[3]	5494.96
20 Sept. 1978	24.50[3]	5496.67
25 Oct. 1978	25.59[3]	5495.58
11 Nov. 1978	24.87[3]	5496.30
13 Dec. 1978	24.90[3]	5496.27
23 Jan. 1979	21.59[3]	5499.58
13 Feb. 1979	25.53[3]	5495.64
9 Mar. 1979	25.19[3]	5495.98
6 June 1979	25.14[3]	5496.03
19 Sept. 1979	24.98[3]	5496.19
12 Dec. 1979	25.53[3]	5470.66
9 July 1980	24.90[3]	5496.27

[1]B.M. 5521.17

[2]Water level taken after blowing the hole.

[3]Water level taken in undisturbed hole.

WATER LEVEL MEASUREMENTS IN NEUTRON-PROBE ACCESS HOLE NP-4

DATE	DEPTH TO WATER (ft)	W. L. ELEVATION (ft above M.S.L.)
2 Oct. 1980	25.44	5495.73
11 Dec. 1980	25.72	5495.45

[1] B.M. 5521.17

WATER LEVEL MEASUREMENTS IN NEUTRON-PROBE ACCESS HOLE NP-5

DATE	DEPTH TO WATER (ft)	W. L. ELEVATION (ft above M.S.L.)
26 April 1977	28.70	5467.97[1]
27 April 1977	38.15[2]	5482.98
6 May 1977	45.28[2]	5465.85
21 May 1977	22.45	5498.68
19 Sept. 1977	24.95	5496.18
10 Jan. 1978	23.36[3]	5497.77
14 Feb. 1978	21.09[3]	5500.04
27 March 1978	22.30[3]	5498.83
26 April 1978	22.35[3]	5498.78
2 June 1978	22.05[3]	5499.08
29 June 1978	22.26[3]	5498.87
12 July 1978	21.59[3]	5499.54
20 Sept. 1978	21.93[3]	5499.20
25 Oct. 1978	21.56[3]	5499.57
11 Nov. 1978	21.13[3]	5500.00
13 Dec. 1978	21.12[3]	5500.01
23 Jan. 1979	21.75[3]	5499.38
13 Feb. 1979	21.20[3]	5499.93
9 Mar. 1979	20.92[3]	5500.21
6 June 1979	20.70[3]	5500.43
19 Sept. 1979	20.74[3]	5500.39
12 Dec. 1979	22.52[3]	5498.61
9 July 1980	20.72[3]	5500.41

[1] B.M. 5521.13

[2] Water level taken after blowing the hole.

[3] Water level taken in undisturbed hole.

WATER LEVEL MEASUREMENTS IN NEUTRON-PROBE ACCESS HOLE NP-5

DATE	DEPTH TO WATER (ft)	W. L. ELEVATION (ft above M.S.L.)
2 Oct. 1980	22.28	5498.85[1]
11 Dec. 1980	23.24	5497.89

[1] B.M. 5521.13

WATER LEVEL MEASUREMENTS IN NEUTRON-PROBE ACCESS HOLE NP-6

DATE	DEPTH TO WATER (ft)	W. L. ELEVATION (ft above M.S.L.)
26 April 1977	27.57	5493.37[1]
27 April 1977	49.10[2]	5471.84
6 May 1977	46.04	5474.90
21 May 1977	28.23	5492.71
19 Sept. 1977	22.34	5498.60
10 Jan. 1978	23.34[3]	5497.60
14 Feb. 1978	18.10[3]	5502.84
27 March 1978	19.91[3]	5501.03
26 April 1978	20.10[3]	5500.84
2 June 1978	26.05[3]	5494.89
29 June 1978	22.63[3]	5498.31
12 July 1978	23.00[3]	5497.94
20 Sept. 1978	23.52[3]	5497.42
25 Oct. 1978	24.25[3]	5496.72
11 Nov. 1978	23.59[3]	5497.35
14 Dec. 1978	23.76[3]	5497.18
23 Jan. 1979	22.60[3]	5498.34
13 Feb. 1979	25.13[3]	5495.81
9 Mar. 1979	24.70[3]	5496.24
6 June 1979	24.26[3]	5496.68
19 Sept. 1979	24.24[3]	5496.70
12 Dec. 1979	28.47[3]	5492.47
9 July 1980	24.54[3]	5496.40

[1] B.M. 5520.94

[2] Water level taken after blowing the hole.

[3] Water level taken in undisturbed hole.

WATER LEVEL MEASUREMENTS IN NEUTRON-PROBE ACCESS HOLE NP-6

DATE	DEPTH TO WATER (ft)	W. L. ELEVATION (ft above M.S.L.)
2 Oct. 1980	24.78	5496.16[1]
11 Dec. 1980	24.90	5496.04

[1] B.M. 5520.94

WATER LEVEL MEASUREMENTS IN NEUTRON-PROBE ACCESS HOLE NP-7

DATE	DEPTH TO WATER (ft)	W. L. ELEVATION (ft above M.S.L.)
26 April 1977	28.03	5492.94[1]
27 April 1977	48.72[2]	5472.25
6 May 1977	47.64	5473.33
21 May 1977	24.46	5496.51
19 Sept. 1977	30.53	5490.44
10 Jan. 1978	26.00[3]	5494.97
14 Feb. 1978	25.74[3]	5495.23
27 March 1978	26.14[3]	5494.83
26 April 1978	26.11[3]	5494.86
2 June 1978	26.05[3]	5494.92
29 June 1978	26.47[3]	5494.50
12 July 1978	26.44[3]	5494.53
20 Sept. 1978	25.83[3]	5495.14
25 Oct. 1978	25.40[3]	5495.57
11 Nov. 1978	24.17[3]	5496.80
14 Dec. 1978	24.42[3]	5496.55
23 Jan. 1979	23.90[3]	5497.07
13 Feb. 1979	25.27[3]	5495.70
9 Mar. 1979	25.13[3]	5495.84
6 June 1979	24.52[3]	5496.45
19 Sept. 1979	24.83[3]	5496.14
12 Dec. 1979	24.32[3]	5496.65
9 July 1980	25.31[3]	5495.66

[1]B.M. 5520.97

[2]Water level taken after blowing the hole.

[3]Water level taken in undisturbed hole.

WATER LEVEL MEASUREMENTS IN NEUTRON-PROBE ACCESS HOLE NP-7

DATE	DEPTH TO WATER (ft)	W.L. ELEVATION (ft above M.S.L.)
2 Oct. 1980	25.10	5495.87[1]
11 Dec. 1980	24.91	5496.06

[1] B.M. 5520.97

WATER LEVEL MEASUREMENTS IN NEUTRON-PROBE ACCESS HOLE NP-8

DATE	DEPTH TO WATER (ft)	W. L. ELEVATION (ft above M.S.L.)
26 April 1977	26.82	5494.47[1]
27 April 1977	40.12[2]	5481.17
6 May 1977	28.25	5493.04
21 May 1977	23.11	5498.18
19 Sept. 1977	26.12	5495.17
10 Jan. 1978	24.29[3]	5497.00
14 Feb. 1978	23.02[3]	5498.27
27 March 1978	23.68[3]	5497.61
26 April 1978	23.54[3]	5497.75
2 June 1978	23.35[3]	5497.94
29 June 1978	23.44[3]	5497.85
12 July 1978	22.97[3]	5498.32
20 Sept. 1978	22.74[3]	5498.55
25 Oct. 1978	22.92[3]	5498.37
11 Nov. 1978	22.36[3]	5498.93
14 Dec. 1978	22.39[3]	5498.90
23 Jan. 1979	23.29[3]	5498.00
13 Feb. 1979	22.78[3]	5498.51
8 March 1979	22.54[3]	5498.75
6 June 1979	22.38[3]	5498.91
18 Sept. 1979	22.48[3]	5498.81
12 Dec. 1979	23.79[3]	5497.50
9 July 1980	22.40[3]	5498.89

[1]B.M. 5521.29

[2]Water level taken after blowing the hole.

[3]Water level taken in undisturbed hole.

WATER LEVEL MEASUREMENTS IN NEUTRON-PROBE ACCESS HOLE NP-8

DATE	DEPTH TO WATER (ft)	W. L. ELEVATION (ft above M.S.L.)
2 Oct. 1980	23.23	5498.06[1]
11 Dec. 1980	24.23	5497.06

[1] B.M. 5521.29

WATER LEVEL MEASUREMENTS IN NEUTRON-PROBE ACCESS HOLE NP-9

DATE	DEPTH TO WATER (ft)	W. L. ELEVATION (ft above M.S.L.)
26 April 1977	25.23	5495.67[1]
26 April 1977	45.46[2]	5475.44
6 May 1977	44.76[2]	5476.14
21 May 1977	21.41	5499.49
19 Sept. 1977	25.48	5495.42
10 Jan. 1978	22.97[3]	5497.93
14 Feb. 1978	15.86[3]	5505.04
27 March 1978	17.60[3]	5503.30
26 April 1978	19.00[3]	5501.90
2 June 1978	19.80[3]	5501.10
29 June 1978	20.19[3]	5500.17
12 July 1978	20.62[3]	5500.28
20 Sept. 1978	20.61[3]	5500.29
25 Oct. 1978	21.81[3]	5499.09
11 Nov. 1978	20.69[3]	5500.21
14 Dec. 1978	20.98[3]	5499.92
23 Jan. 1979	22.11[3]	5498.79
13 Feb. 1979	21.89[3]	5499.01
8 March 1979	21.53[3]	5499.37
6 June 1979	18.69[3]	5502.21
19 Sept. 1979	19.19[3]	5501.71
12 Dec. 1979	22.29[3]	5498.61
9 July 1980	22.22[3]	5498.68

[1] B.M. 5520.90

[2] Water level taken after blowing the hole.

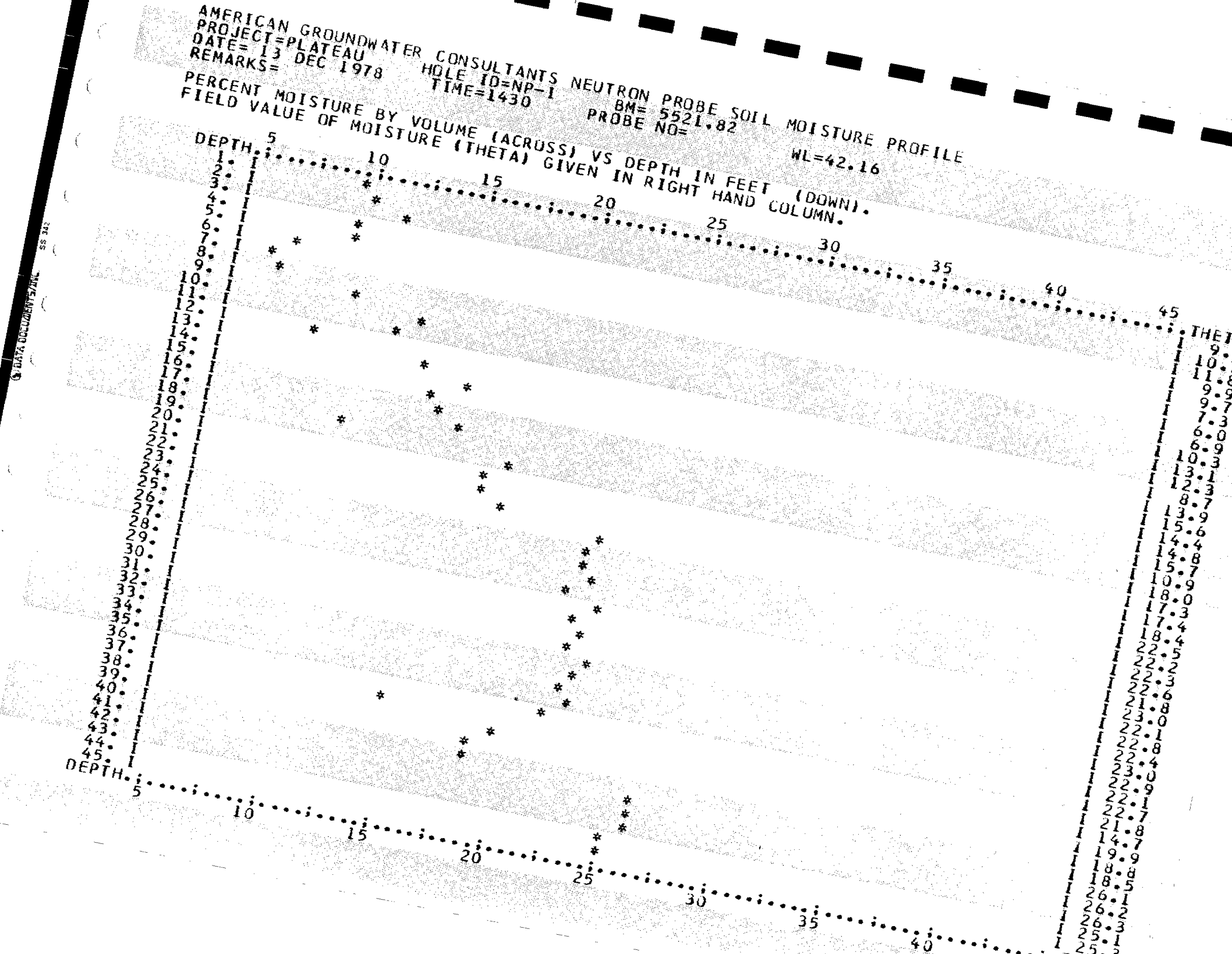
[3] Water level taken in undisturbed hole.

WATER LEVEL MEASUREMENTS IN NEUTRON-PROBE ACCESS HOLE NP-9

DATE	DEPTH TO WATER (ft)	W. L. ELEVATION (ft above M.S.L.)
2 Oct. 1980	17.00	5503.90[1]
11 Dec. 1980	18.50	5502.40

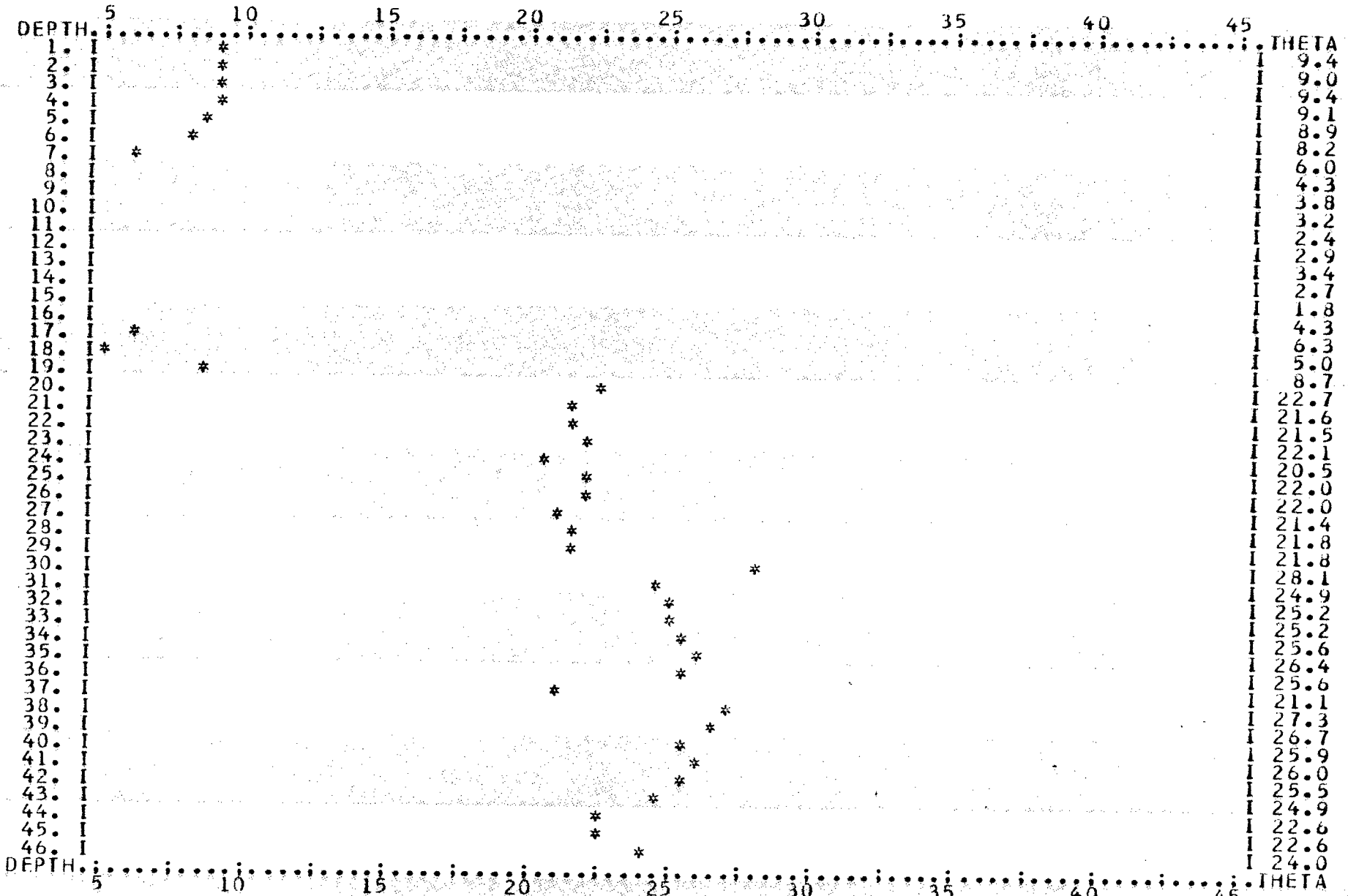
[1] B.M. 5520.90

ATTACHMENT 3


AMERICAN GROUNDWATER CONSULTANTS NEUTRON PROBE SOIL MOISTURE PROFILE
PROJECT=PLATEAU HOLE ID=NP-1 BM= 5521.82 WL=42.16
DATE= 13 DEC 1978 TIME=1430 PROBE NO=
REMARKS=
PERCENT MOISTURE BY VOLUME (ACROSS) VS DEPTH IN FEET (DOWN).
FIELD VALUE OF MOISTURE (THETA) GIVEN IN RIGHT HAND COLUMN.
DEPTH
5
10
15
20
25
30
35
40
45
THETA

AMERICAN GROUNDWATER CONSULTANTS NEUTRON PROBE SOIL MOISTURE PROFILE
PROJECT=PLATEAU HOLE ID=NP-2 BM= 5520.67
DATE= 13 DEC 1978 TIME=1515 PROBE NO= WL=31.24
REMARKS=

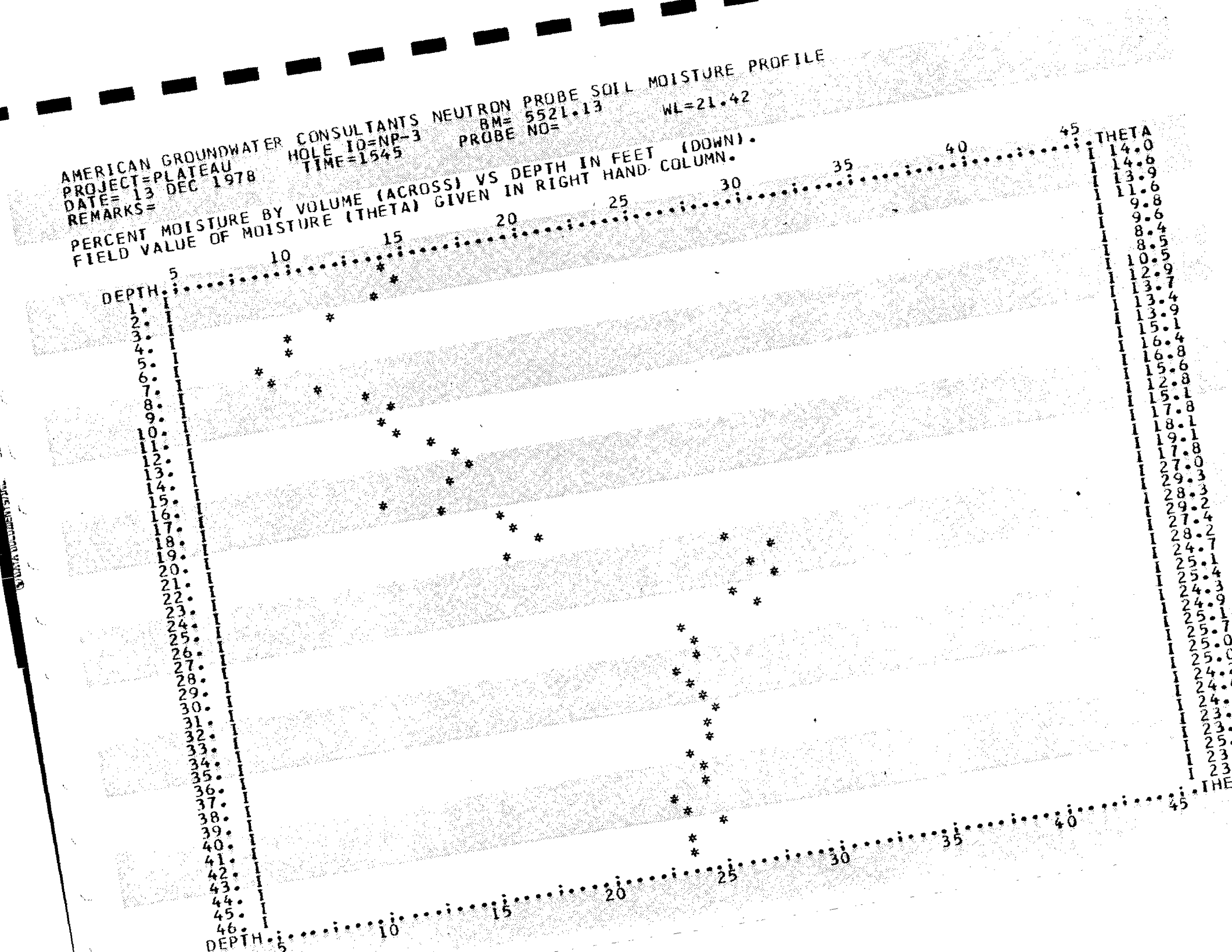
PERCENT MOISTURE BY VOLUME (ACROSS) VS DEPTH IN FEET (DOWN).
FIELD VALUE OF MOISTURE (THETA) GIVEN IN RIGHT HAND COLUMN.



DEPTH	THETA
1.	9.4
2.	9.0
3.	9.4
4.	9.1
5.	8.9
6.	8.2
7.	6.0
8.	4.3
9.	3.8
10.	3.2
11.	2.4
12.	2.9
13.	3.4
14.	2.7
15.	1.8
16.	4.3
17.	6.3
18.	5.0
19.	8.7
20.	22.7
21.	21.6
22.	21.5
23.	22.1
24.	20.5
25.	22.0
26.	22.0
27.	21.4
28.	21.8
29.	21.8
30.	28.1
31.	24.9
32.	25.2
33.	25.2
34.	25.6
35.	26.4
36.	25.6
37.	21.1
38.	27.3
39.	26.7
40.	25.9
41.	26.0
42.	25.5
43.	24.9
44.	22.6
45.	22.6
46.	24.0

AMERICAN GROUNDWATER CONSULTANTS NEUTRON PROBE SOIL MOISTURE PROFILE
PROJECT=PLATEAU HOLE ID=NP-3 BM= 5521.13 WL=21.42
DATE= 13 DEC 1978 TIME=1545 PROBE NO=
REMARKS=

PERCENT MOISTURE BY VOLUME (ACROSS) VS DEPTH IN FEET (DOWN).
FIELD VALUE OF MOISTURE (THETA) GIVEN IN RIGHT HAND COLUMN.



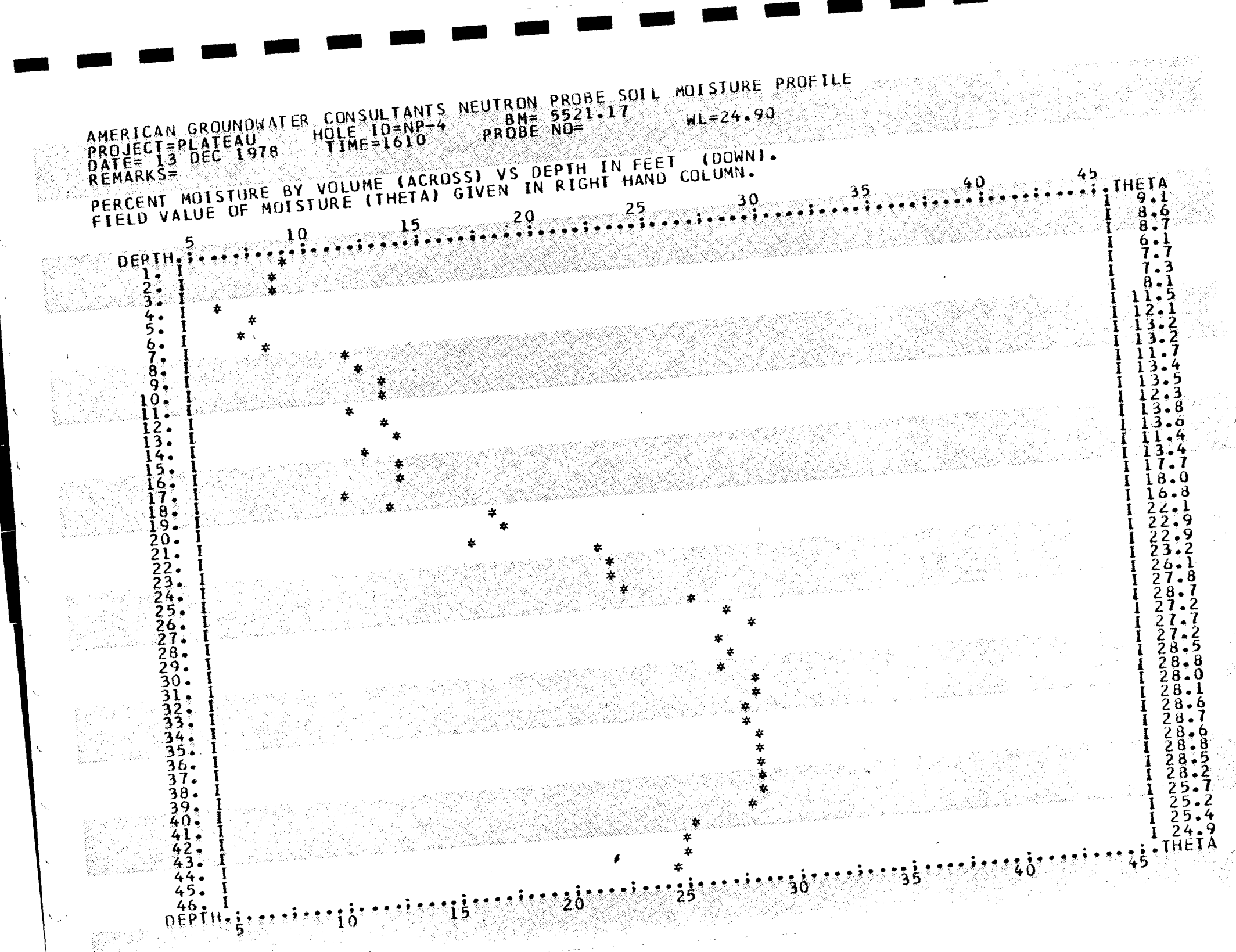
AMERICAN GROUNDWATER CONSULTANTS NEUTRON PROBE SOIL MOISTURE PROFILE

PROJECT=PLATEAU HOLE ID=NP-4 BM= 5521.17 WL=24.90

DATE= 13 DEC 1978 TIME=1610 PROBE NO=

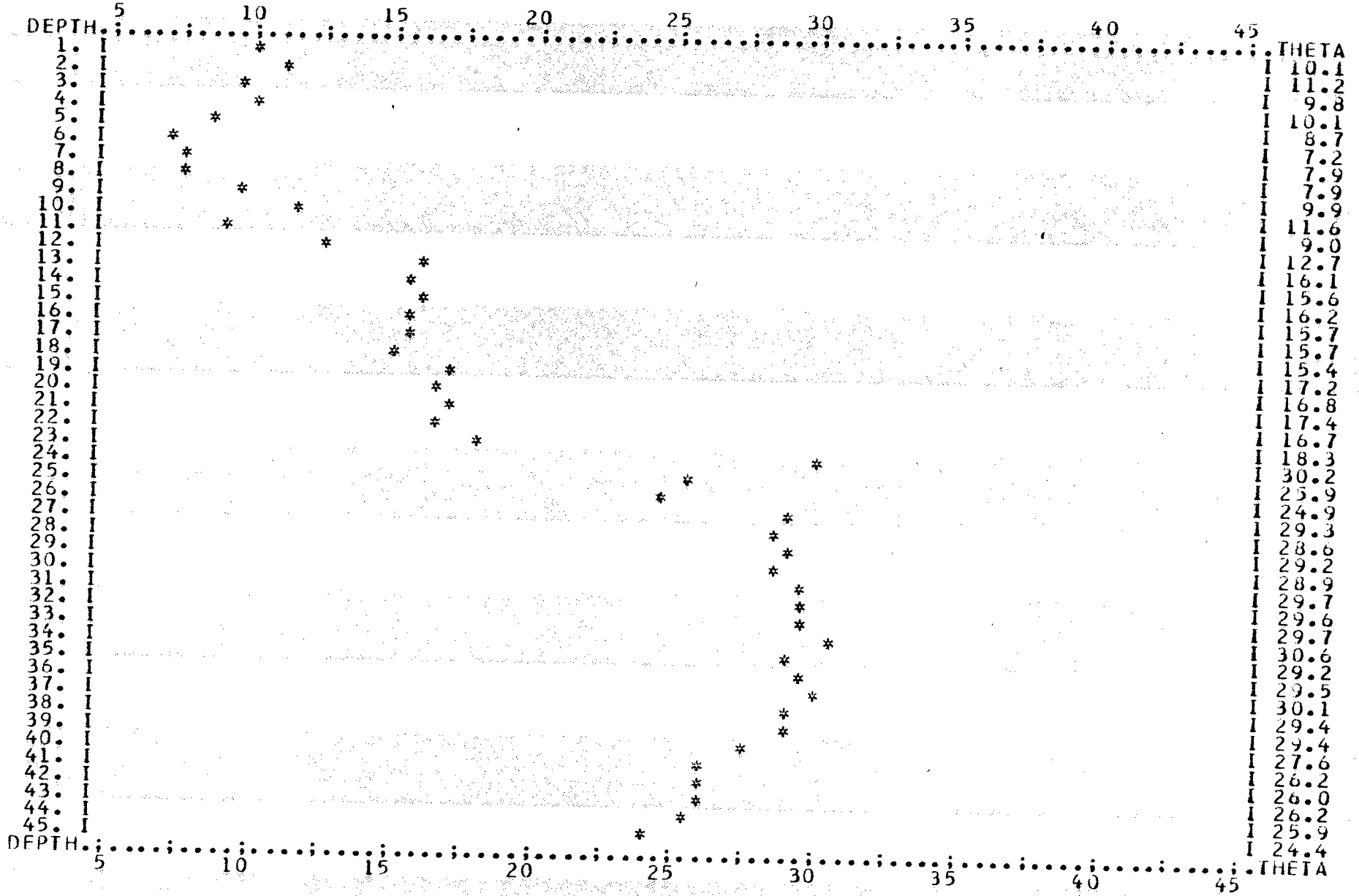
REMARKS=

PERCENT MOISTURE BY VOLUME (ACROSS) VS DEPTH IN FEET (DOWN).
FIELD VALUE OF MOISTURE (THETA) GIVEN IN RIGHT HAND COLUMN.



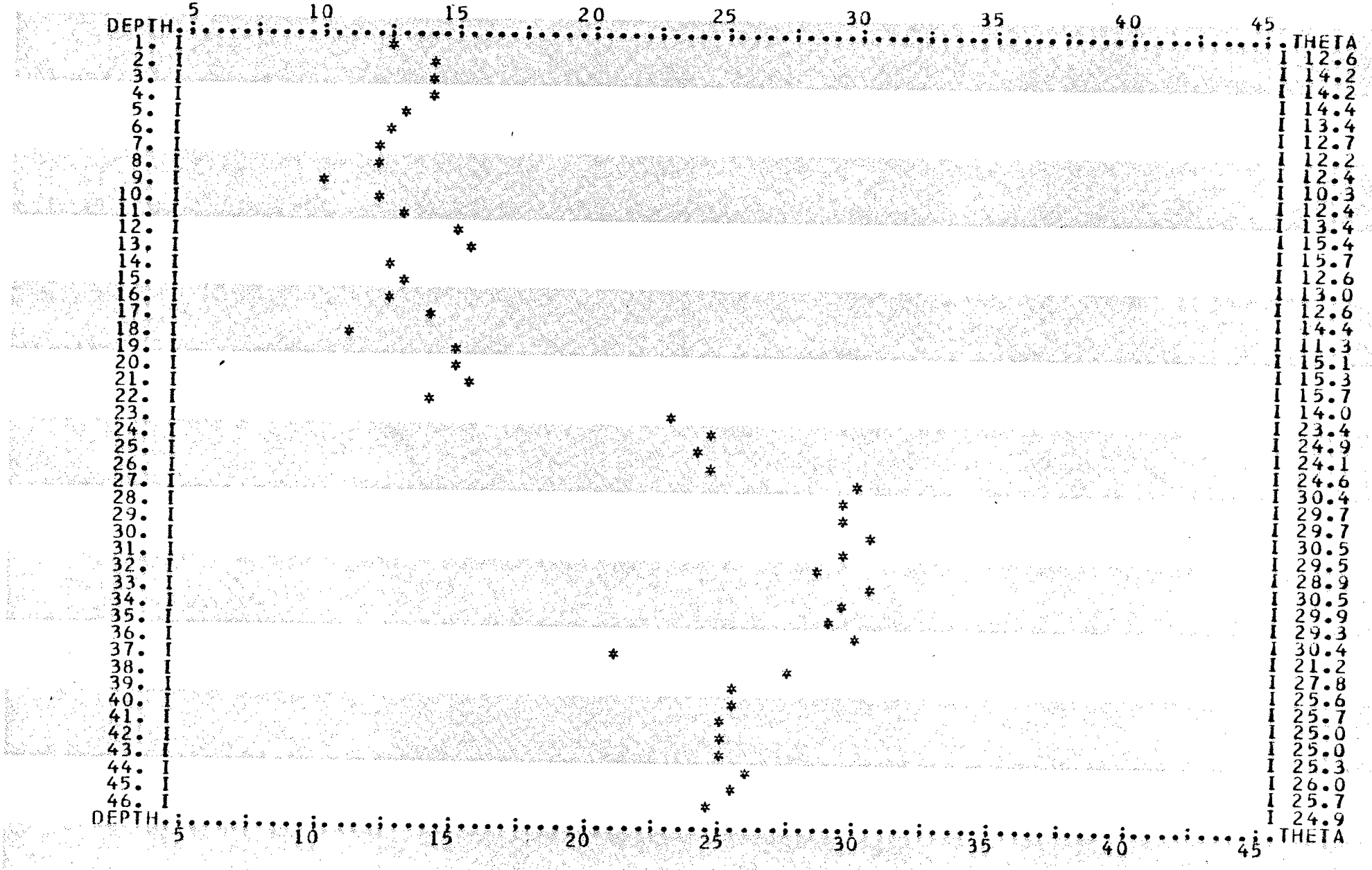
AMERICAN GROUNDWATER CONSULTANTS NEUTRON PROBE SOIL MOISTURE PROFILE
PROJECT=PLATEAU HOLE ID=NP-5 BM= 5521.13
DATE= 14 DEC 1978 TIME=1310 PROBE NO= WL=21.12
REMARKS=

PERCENT MOISTURE BY VOLUME (ACROSS) VS DEPTH IN FEET (DOWN).
FIELD VALUE OF MOISTURE (THETA) GIVEN IN RIGHT HAND COLUMN.



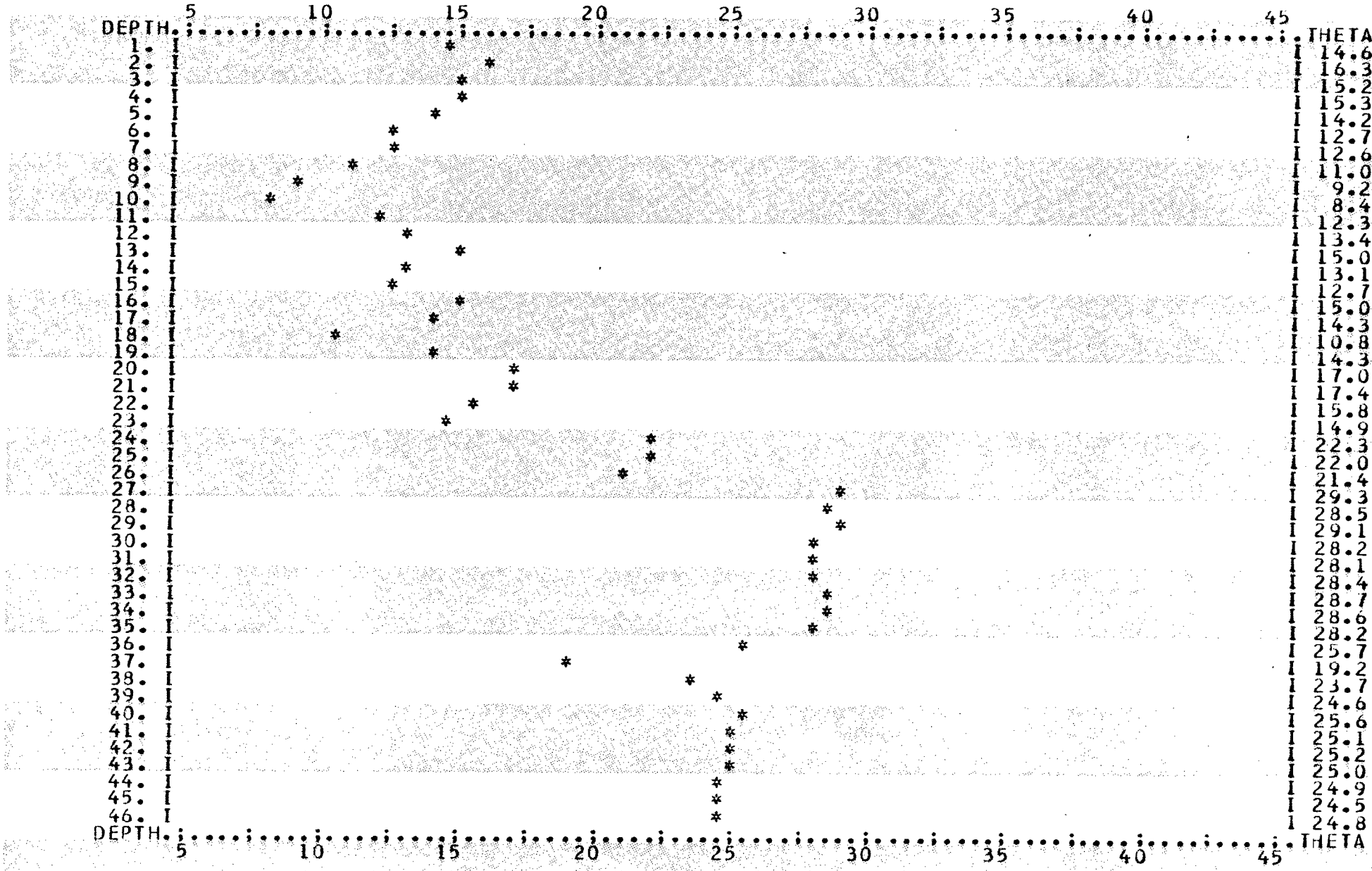
AMERICAN GROUNDWATER CONSULTANTS NEUTRON PROBE SOIL MOISTURE PROFILE
PROJECT=PLATEAU HOLE ID=NP-6 BM= 5520.94
DATE= 14 DEC 1978 TIME=1335 PROBE NO= WL=23.76
REMARKS=

PERCENT MOISTURE BY VOLUME (ACROSS) VS DEPTH IN FEET (DOWN).
FIELD VALUE OF MOISTURE (THETA) GIVEN IN RIGHT HAND COLUMN.



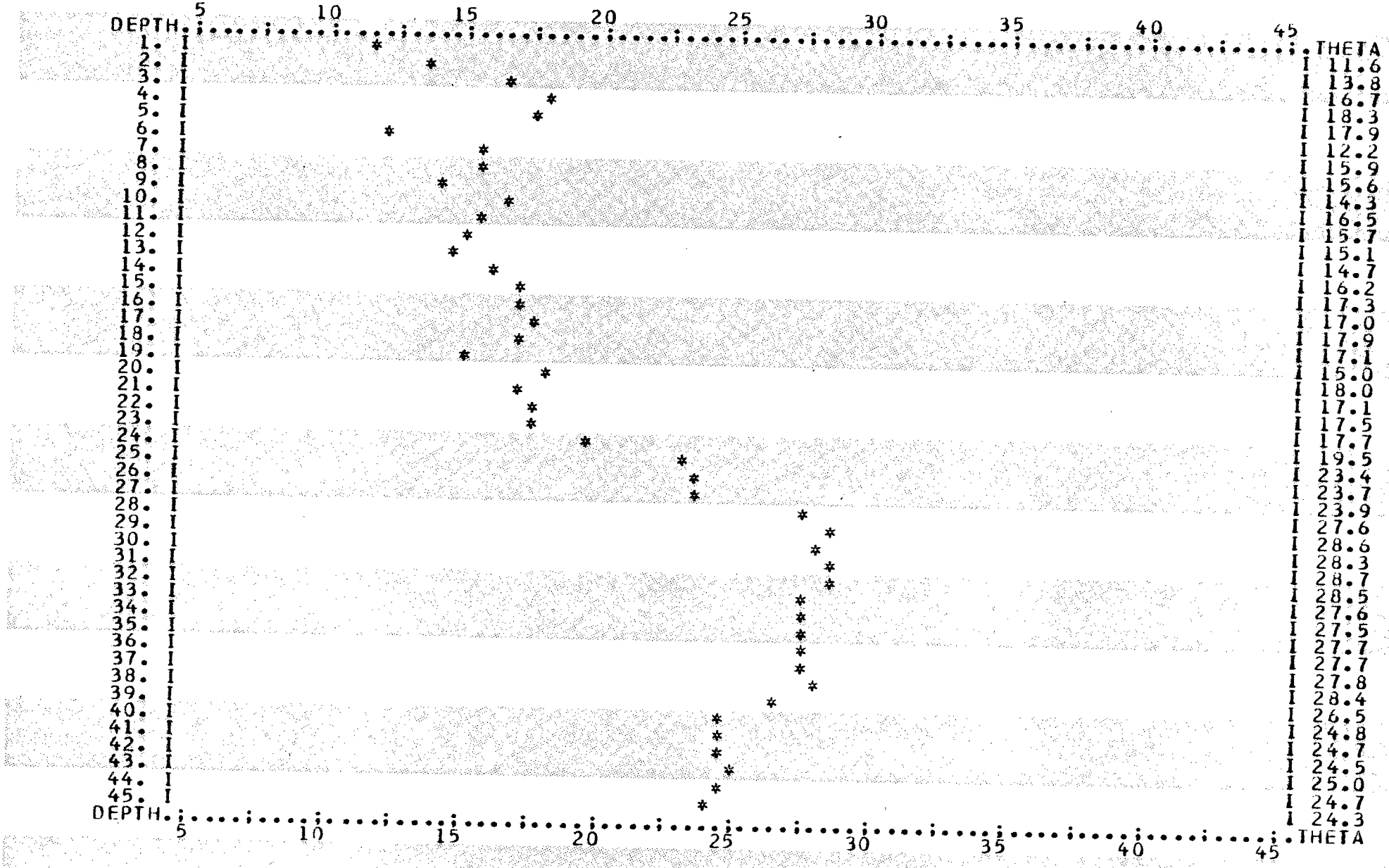
AMERICAN GROUNDWATER CONSULTANTS NEUTRON PROBE SOIL MOISTURE PROFILE
PROJECT=PLATEAU HOLE ID=NP-7 BM= 5520.97
DATE= 14 DEC 1978 TIME=1400 PROBE NO= WL=24.42
REMARKS=

PERCENT MOISTURE BY VOLUME (ACROSS) VS DEPTH IN FEET (DOWN).
FIELD VALUE OF MOISTURE (THETA) GIVEN IN RIGHT HAND COLUMN.



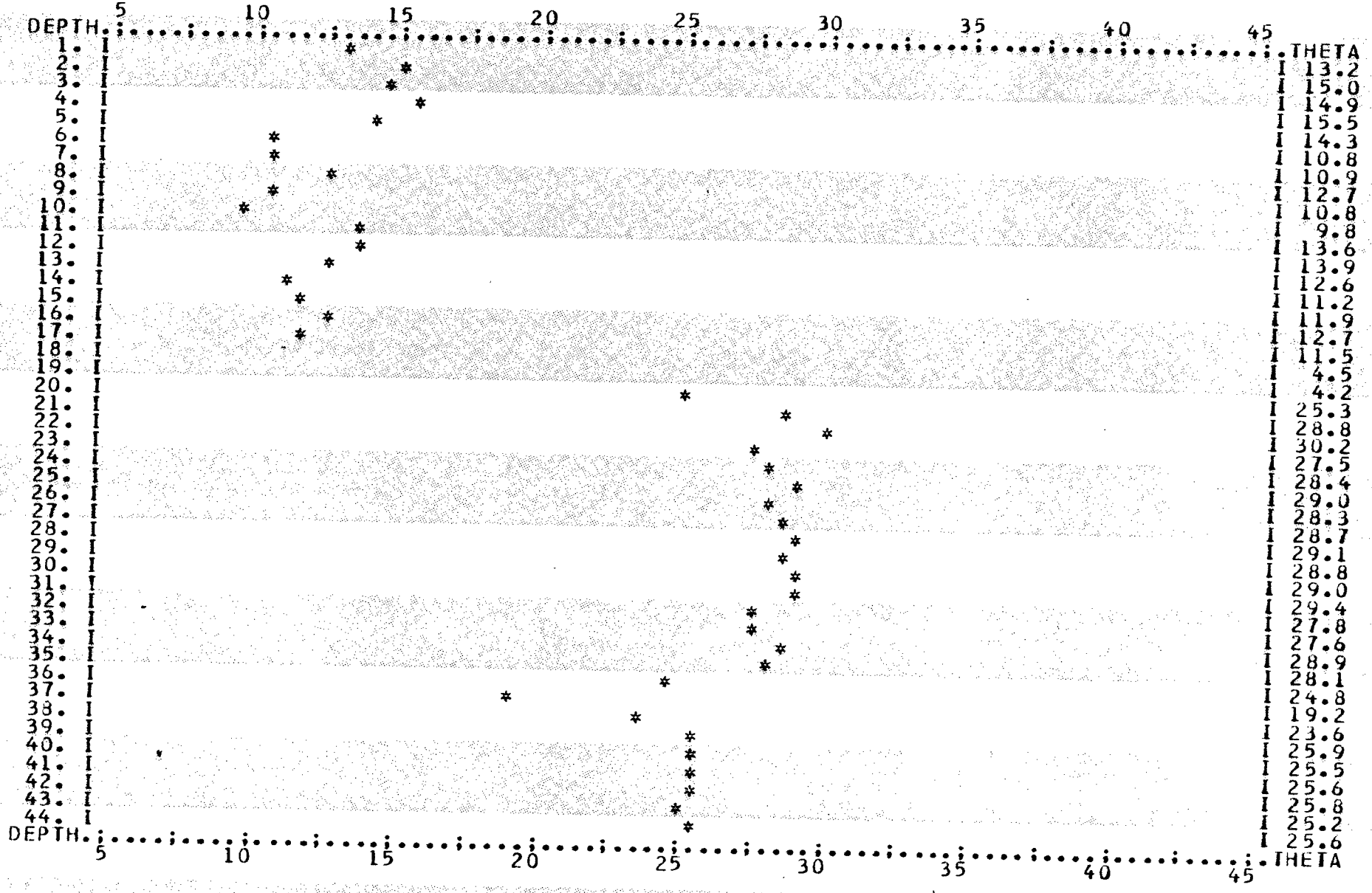
AMERICAN GROUNDWATER CONSULTANTS NEUTRON PROBE SOIL MOISTURE PROFILE
PROJECT=PLATEAU HOLE ID=NP-8 BM= 5521.29
DATE= 14 DEC 1978 TIME=1420 PROBE NO= WL=22.39
REMARKS=

PERCENT MOISTURE BY VOLUME (ACROSS) VS DEPTH IN FEET (DOWN).
FIELD VALUE OF MOISTURE (THETA) GIVEN IN RIGHT HAND COLUMN.



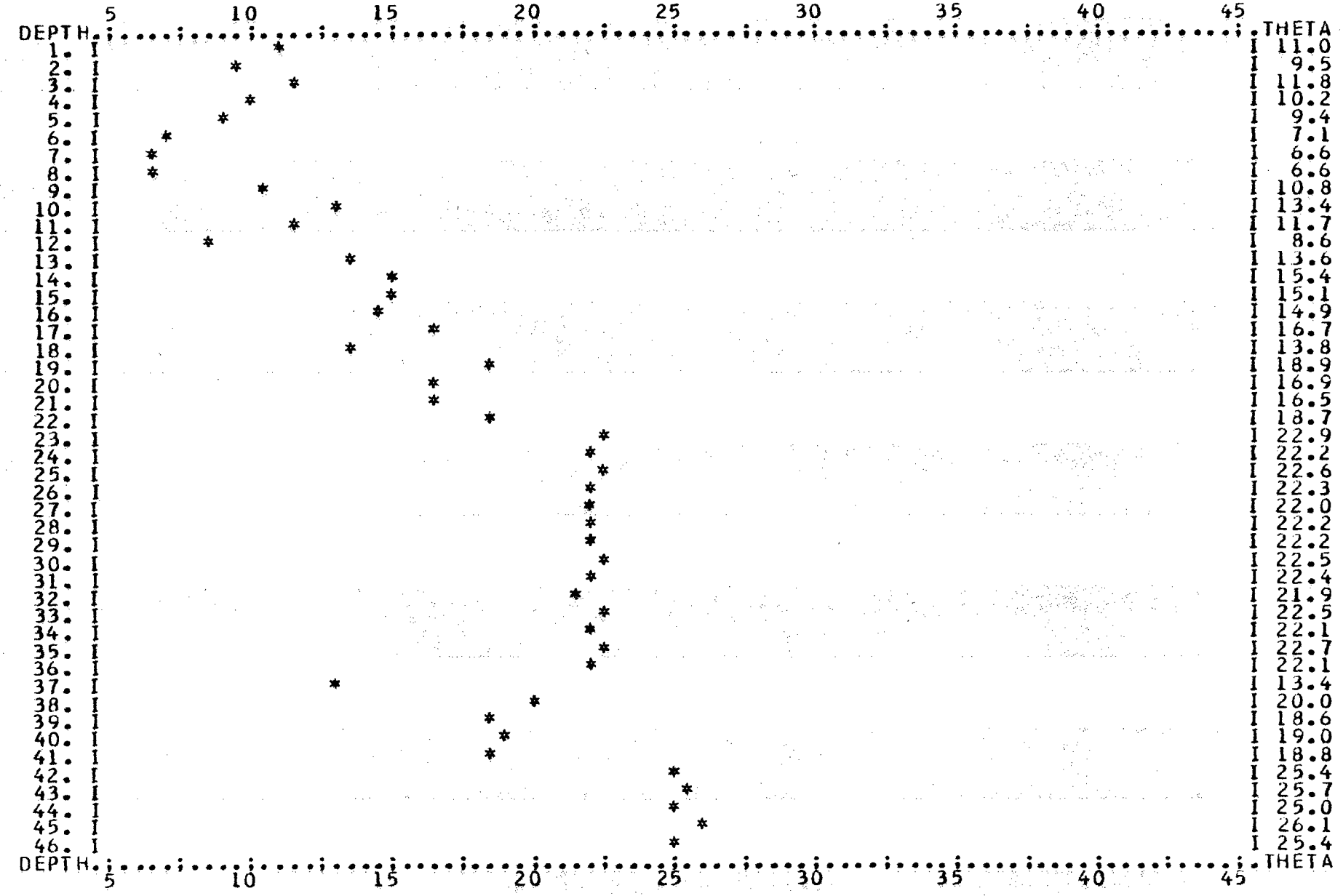
AMERICAN GROUNDWATER CONSULTANTS NEUTRON PROBE SOIL MOISTURE PROFILE
PROJECT=PLATEAU HOLE ID=NP-9 BM= 5520.90
DATE= 14 DEC 1978 TIME=1450 PROBE NO= WL=20.98
REMARKS=

PERCENT MOISTURE BY VOLUME (ACROSS) VS DEPTH IN FEET (DOWN).
FIELD VALUE OF MOISTURE (THETA) GIVEN IN RIGHT HAND COLUMN.



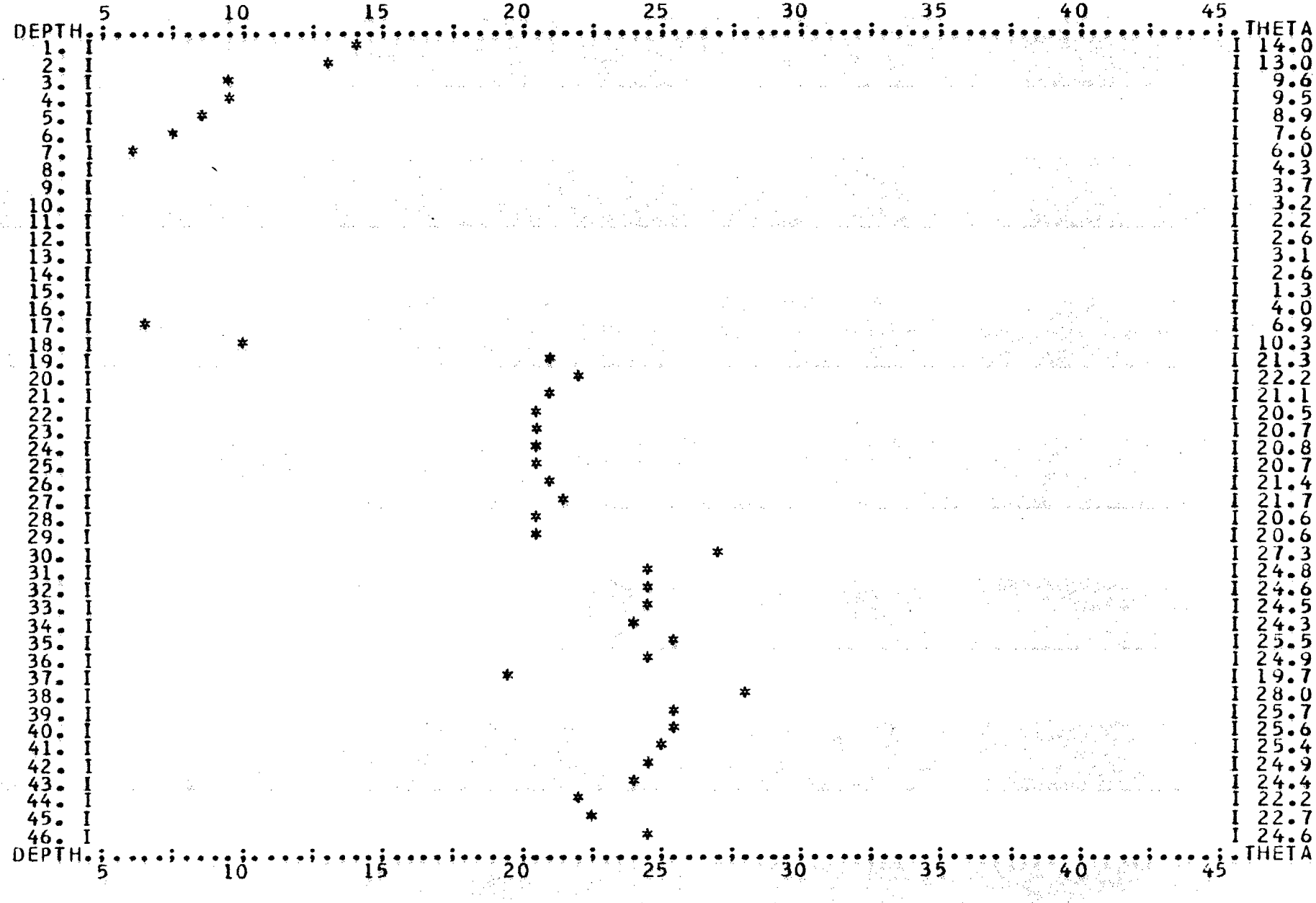
AMERICAN GROUNDWATER CONSULTANTS NEUTRON PROBE SOIL MOISTURE PROFILE
PROJECT=PLATEAU HOLE ID=NP-1 BM= 5521.82
DATE= 9 MARCH 1979 TIME=1600 PROBE NO= WL=43.65
REMARKS=

PERCENT MOISTURE BY VOLUME (ACROSS) VS DEPTH IN FEET (DOWN).
FIELD VALUE OF MOISTURE (THETA) GIVEN IN RIGHT HAND COLUMN.



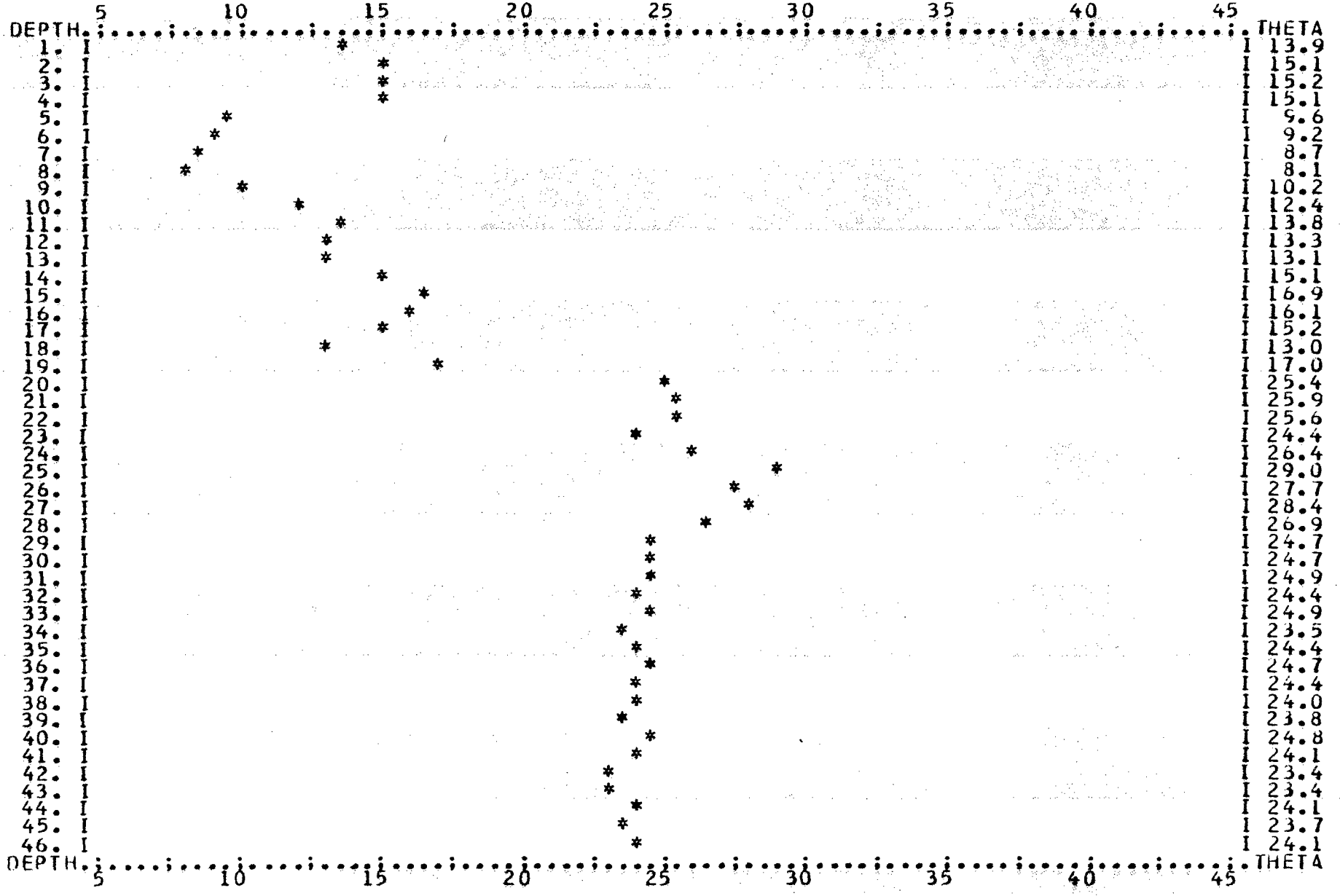
AMERICAN GROUNDWATER CONSULTANTS NEUTRON PROBE SOIL MOISTURE PROFILE
PROJECT=PLATEAU HOLE ID=NP-2 BM= 5520.67
DATE= 9 MARCH 1979 TIME=1535 PROBE NO= WL=32.40
REMARKS=

PERCENT MOISTURE BY VOLUME (ACROSS) VS DEPTH IN FEET (DOWN).
FIELD VALUE OF MOISTURE (THETA) GIVEN IN RIGHT HAND COLUMN.



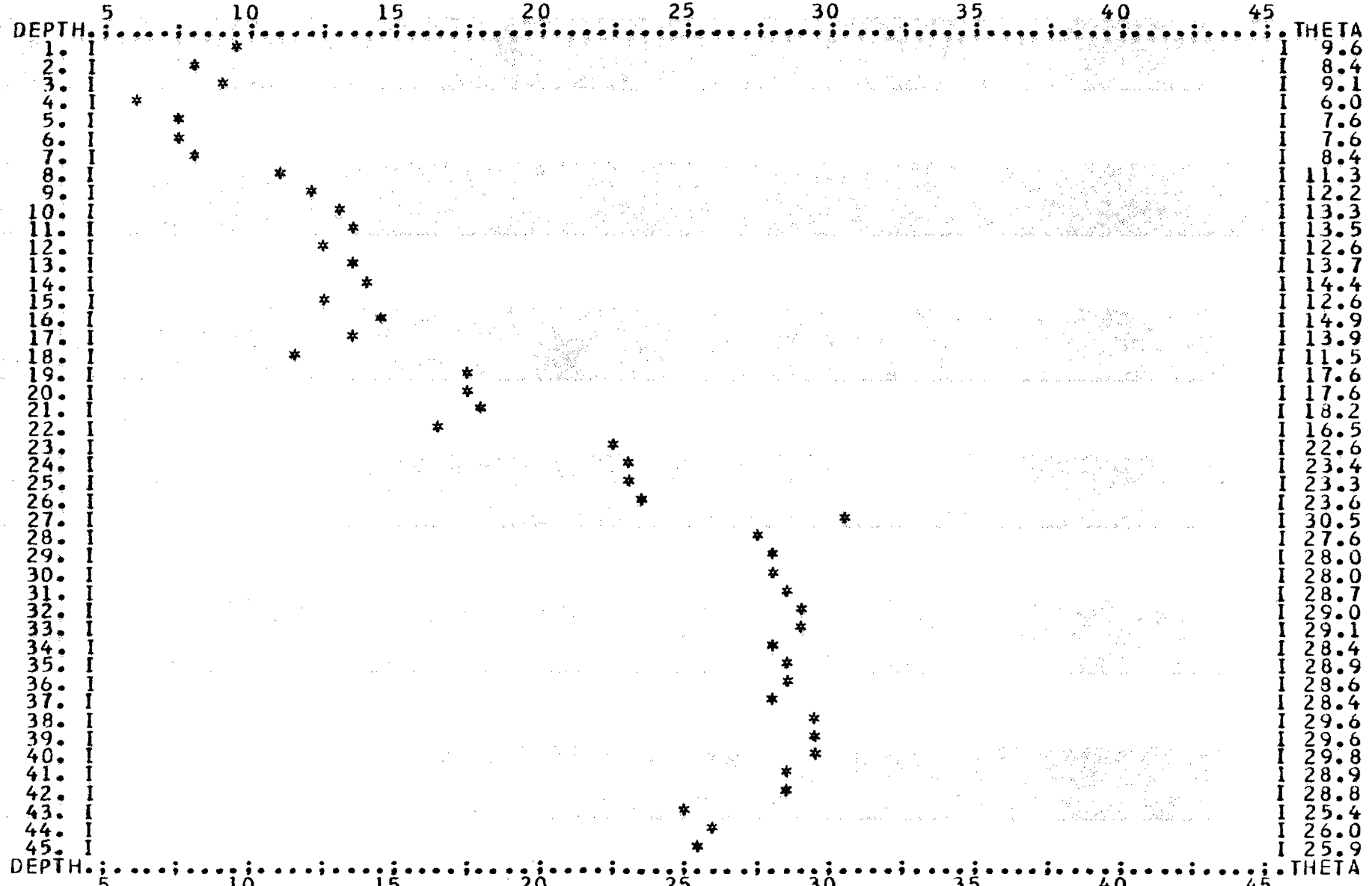
AMERICAN GROUNDWATER CONSULTANTS NEUTRON PROBE SOIL MOISTURE PROFILE
PROJECT=PLATEAU HOLE ID=NP-3 BM= 5521.13
DATE= 9 MARCH 1979 TIME=1510 PROBE NO= WL=21.30
REMARKS=

PERCENT MOISTURE BY VOLUME (ACROSS) VS DEPTH IN FEET (DOWN).
FIELD VALUE OF MOISTURE (THETA) GIVEN IN RIGHT HAND COLUMN.



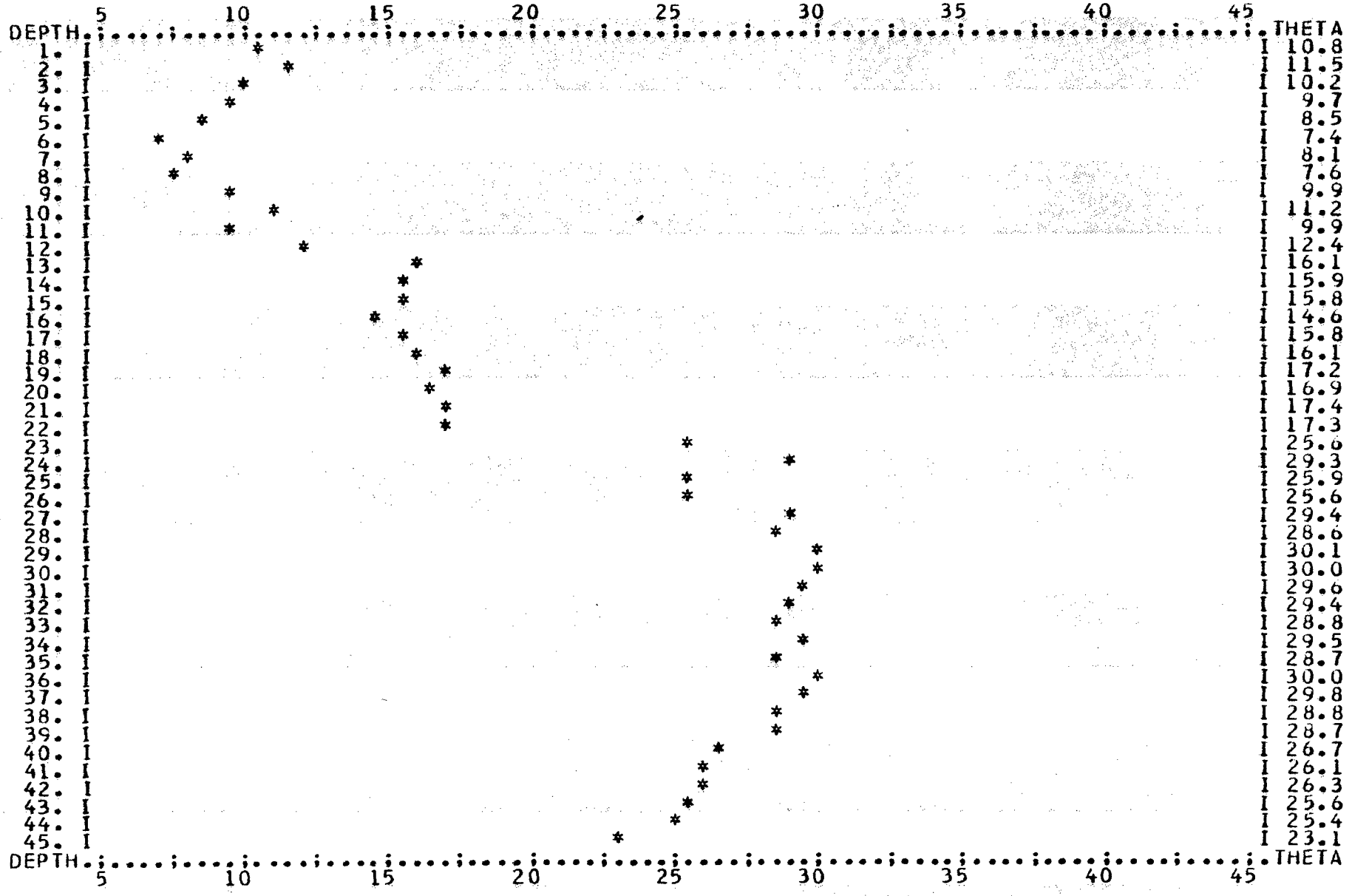
AMERICAN GROUNDWATER CONSULTANTS NEUTRON PROBE SOIL MOISTURE PROFILE
PROJECT=PLATEAU HOLE ID=NP-4 BM= 5521.17
DATE= 9 MARCH 1979 TIME=1300 PROBE NO= WL=25.19
REMARKS=

PERCENT MOISTURE BY VOLUME (ACROSS) VS DEPTH IN FEET (DOWN).
FIELD VALUE OF MOISTURE (THETA) GIVEN IN RIGHT HAND COLUMN.



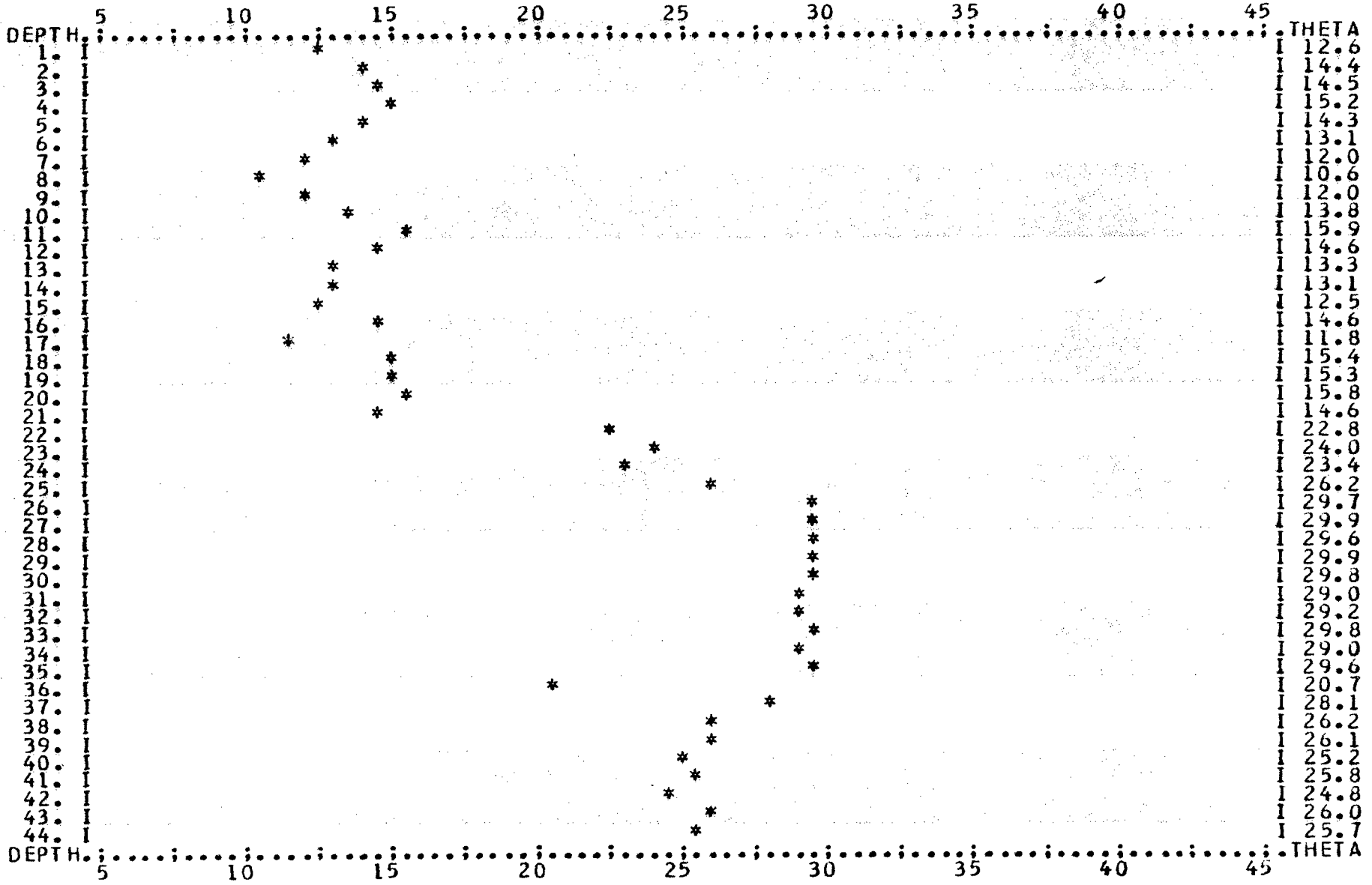
AMERICAN GROUNDWATER CONSULTANTS NEUTRON PROBE SOIL MOISTURE PROFILE
PROJECT=PLATEAU HOLE ID=NP-5 BM= 5521.13
DATE= 9 MARCH 1979 TIME=1230 PROBE NO= WL=20.92
REMARKS=

PERCENT MOISTURE BY VOLUME (ACROSS) VS DEPTH IN FEET (DOWN).
FIELD VALUE OF MOISTURE (THETA) GIVEN IN RIGHT HAND COLUMN.



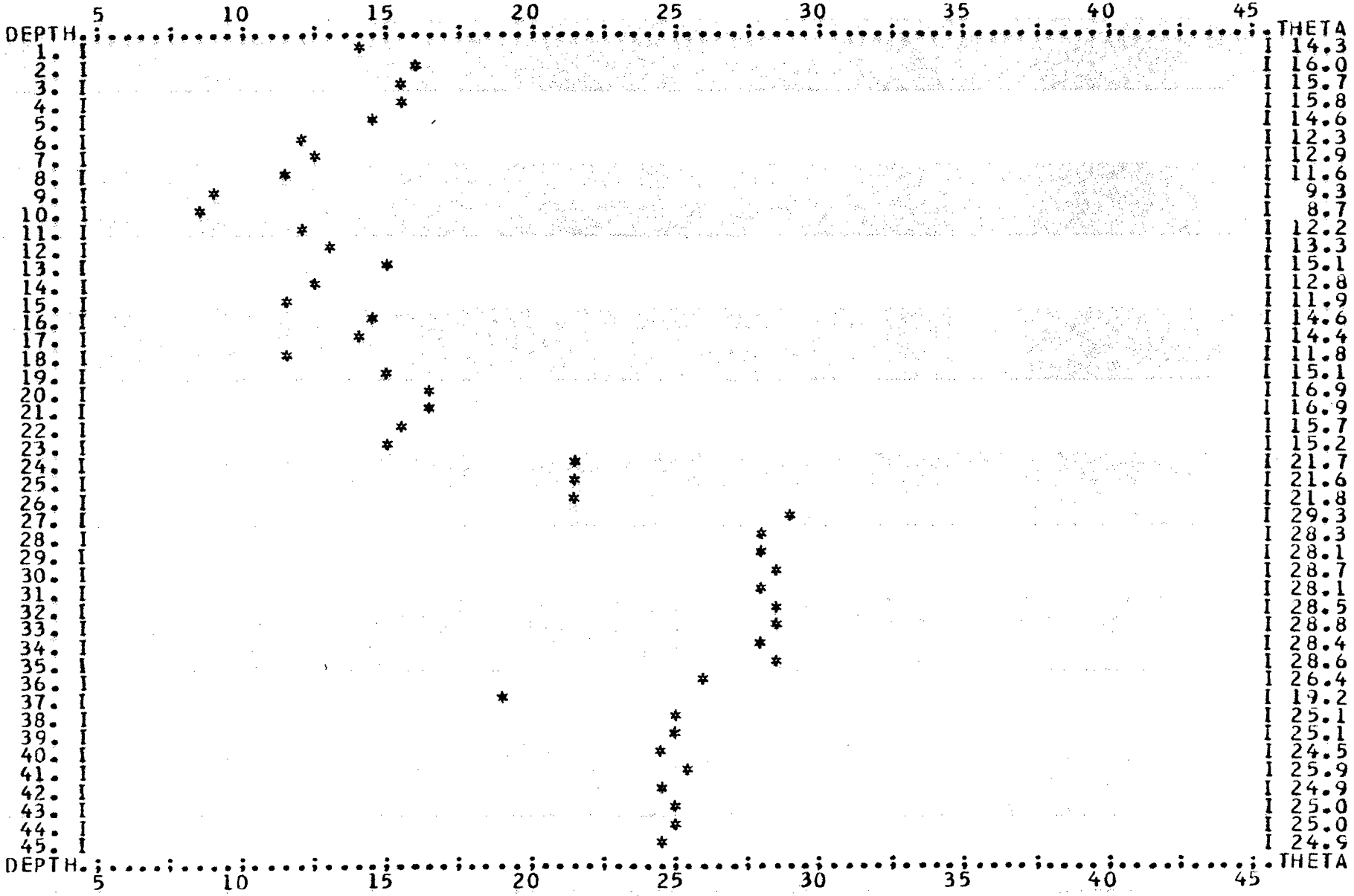
AMERICAN GROUNDWATER CONSULTANTS NEUTRON PROBE SOIL MOISTURE PROFILE
PROJECT=PLATEAU HOLE ID=NP-6 BM= 5520.94
DATE= 9 MARCH 1979 TIME=1200 PROBE NO= WL=24.70
REMARKS=

PERCENT MOISTURE BY VOLUME (ACROSS) VS DEPTH IN FEET (DOWN).
FIELD VALUE OF MOISTURE (THETA) GIVEN IN RIGHT HAND COLUMN.



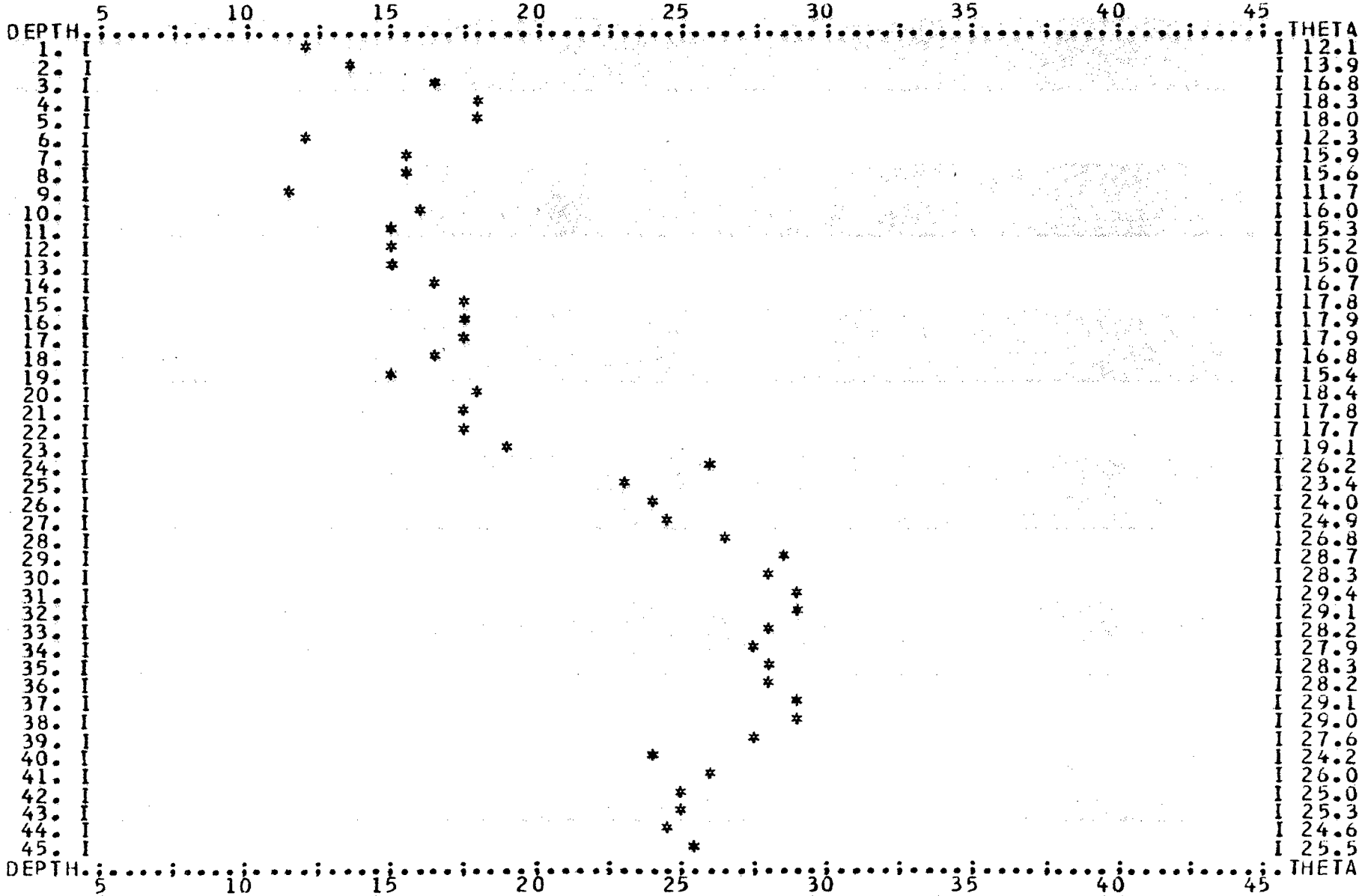
AMERICAN GROUNDWATER CONSULTANTS NEUTRON PROBE SOIL MOISTURE PROFILE
PROJECT=PLATEAU HOLE ID=NP-7 BM= 5520.97
DATE= 9 MARCH 1979 TIME=1115 PROBE NO= WL=25.13
REMARKS=

PERCENT MOISTURE BY VOLUME (ACROSS) VS DEPTH IN FEET (DOWN).
FIELD VALUE OF MOISTURE (THETA) GIVEN IN RIGHT HAND COLUMN.



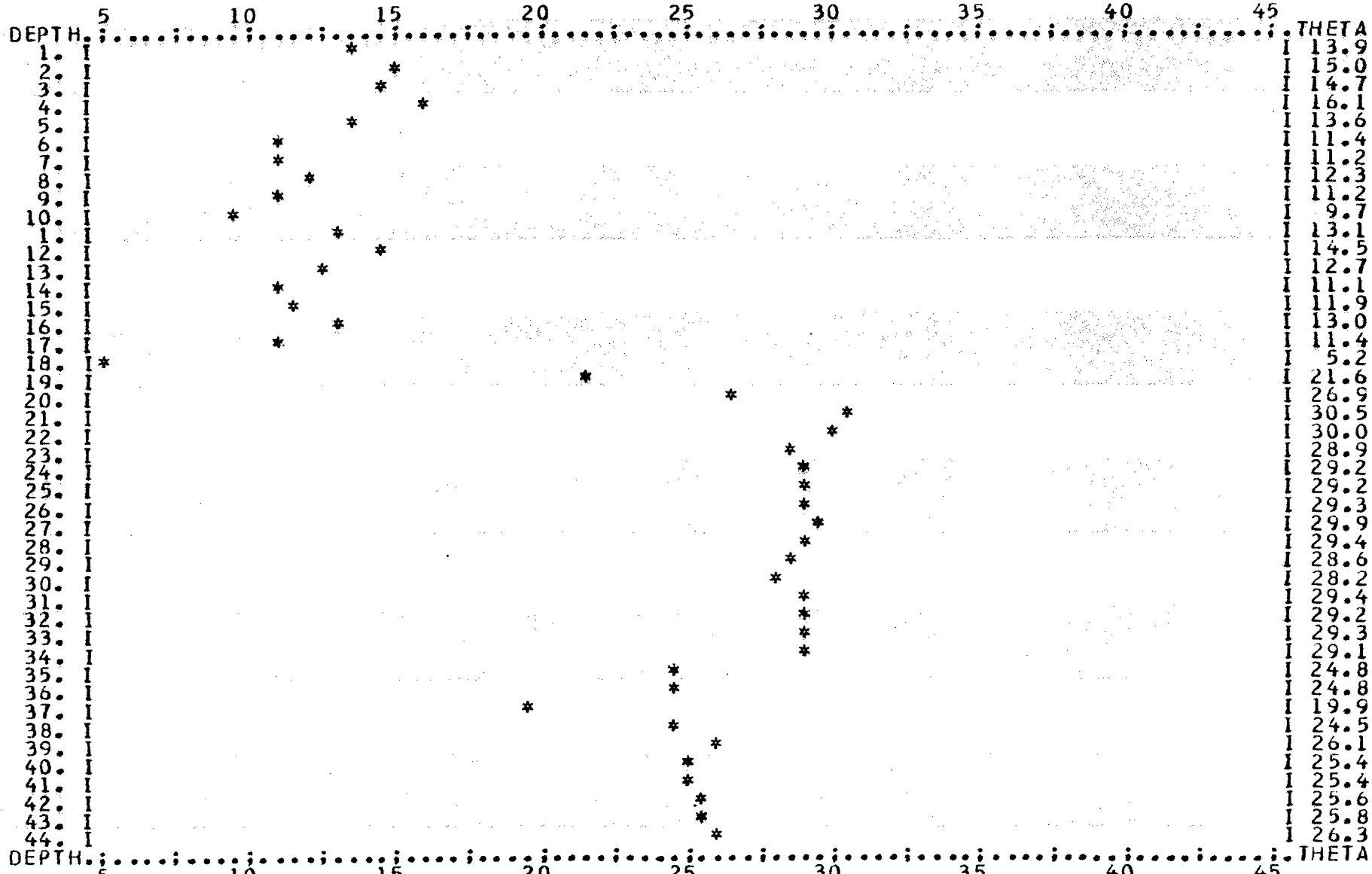
AMERICAN GROUNDWATER CONSULTANTS NEUTRON PROBE SOIL MOISTURE PROFILE
PROJECT=PLATEAU HOLE ID=NP-8 BM= 5521.29
DATE= 9 MARCH 1979 TIME=1600 PROBE NO= WL=22.54
REMARKS=

PERCENT MOISTURE BY VOLUME (ACROSS) VS DEPTH IN FEET (DOWN).
FIELD VALUE OF MOISTURE (THETA) GIVEN IN RIGHT HAND COLUMN.



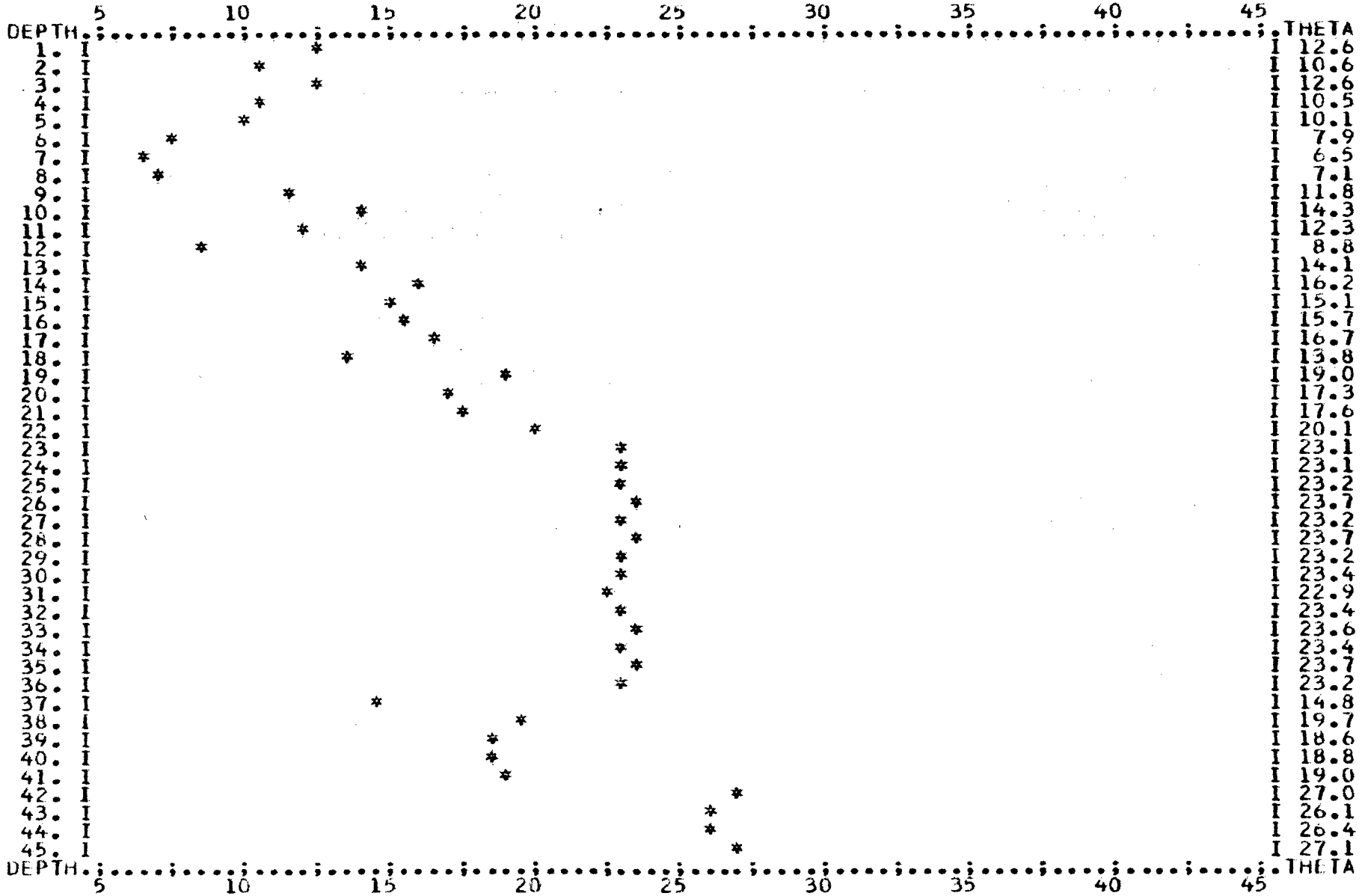
AMERICAN GROUNDWATER CONSULTANTS NEUTRON PROBE SOIL MOISTURE PROFILE
PROJECT=PLATEAU HOLE ID=NP-9 BM= 5520.90
DATE= 9 MARCH 1979 TIME=1520 PROBE NO= WL=21.53
REMARKS=

PERCENT MOISTURE BY VOLUME (ACROSS) VS DEPTH IN FEET (DOWN).
FIELD VALUE OF MOISTURE (THETA) GIVEN IN RIGHT HAND COLUMN.



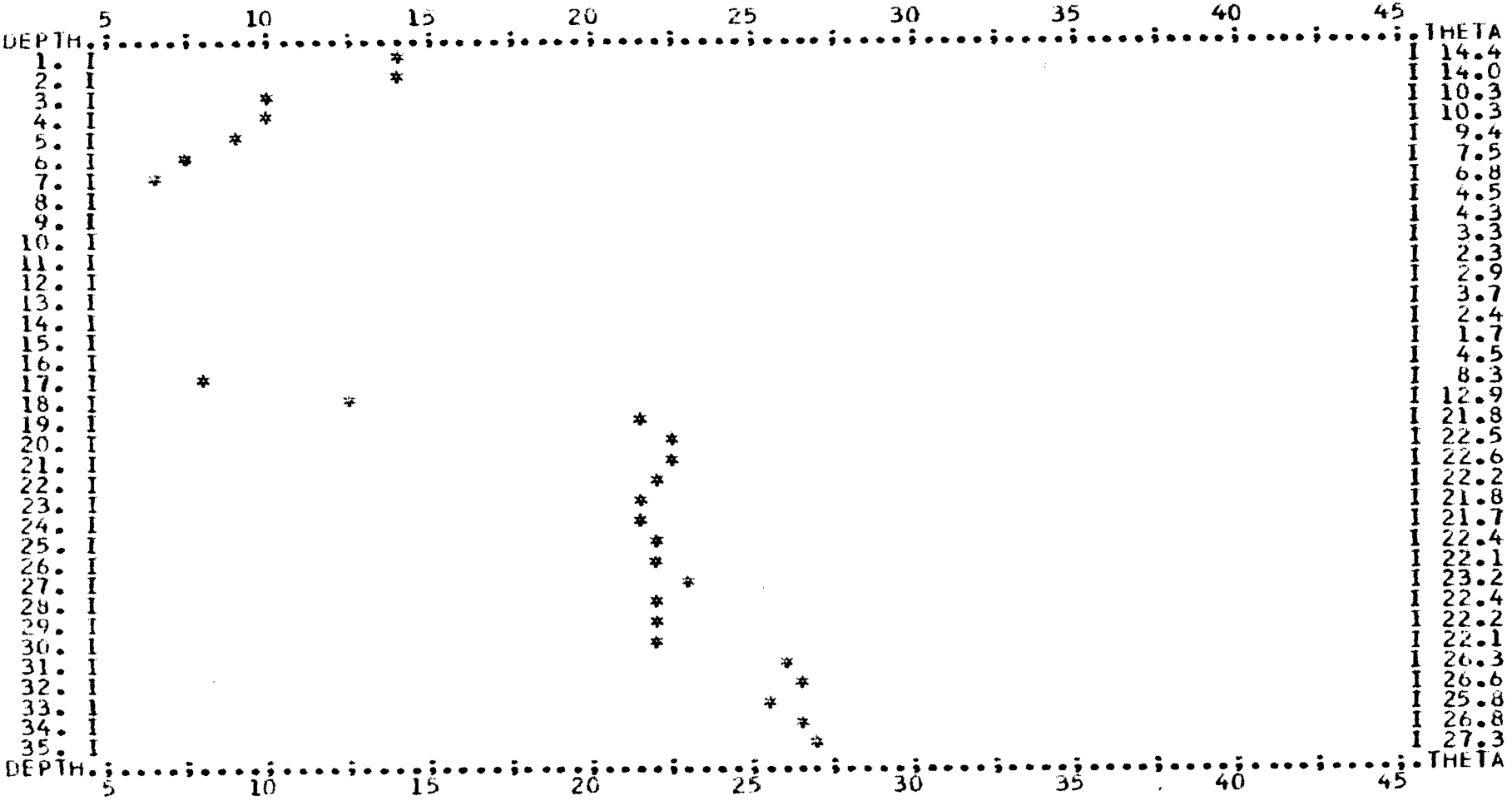
AMERICAN GROUNDWATER CONSULTANTS NEUTRON PROBE SOIL MOISTURE PROFILE
PROJECT=PLATEAU HOLE ID=NP-1 BM= 5521.82
DATE= 6JUNE1979 TIME= PROBE NO= WL= 45.4
REMARKS=

PERCENT MOISTURE BY VOLUME (ACROSS) VS DEPTH IN FEET (DOWN).
FIELD VALUE OF MOISTURE (THETA) GIVEN IN RIGHT HAND COLUMN.



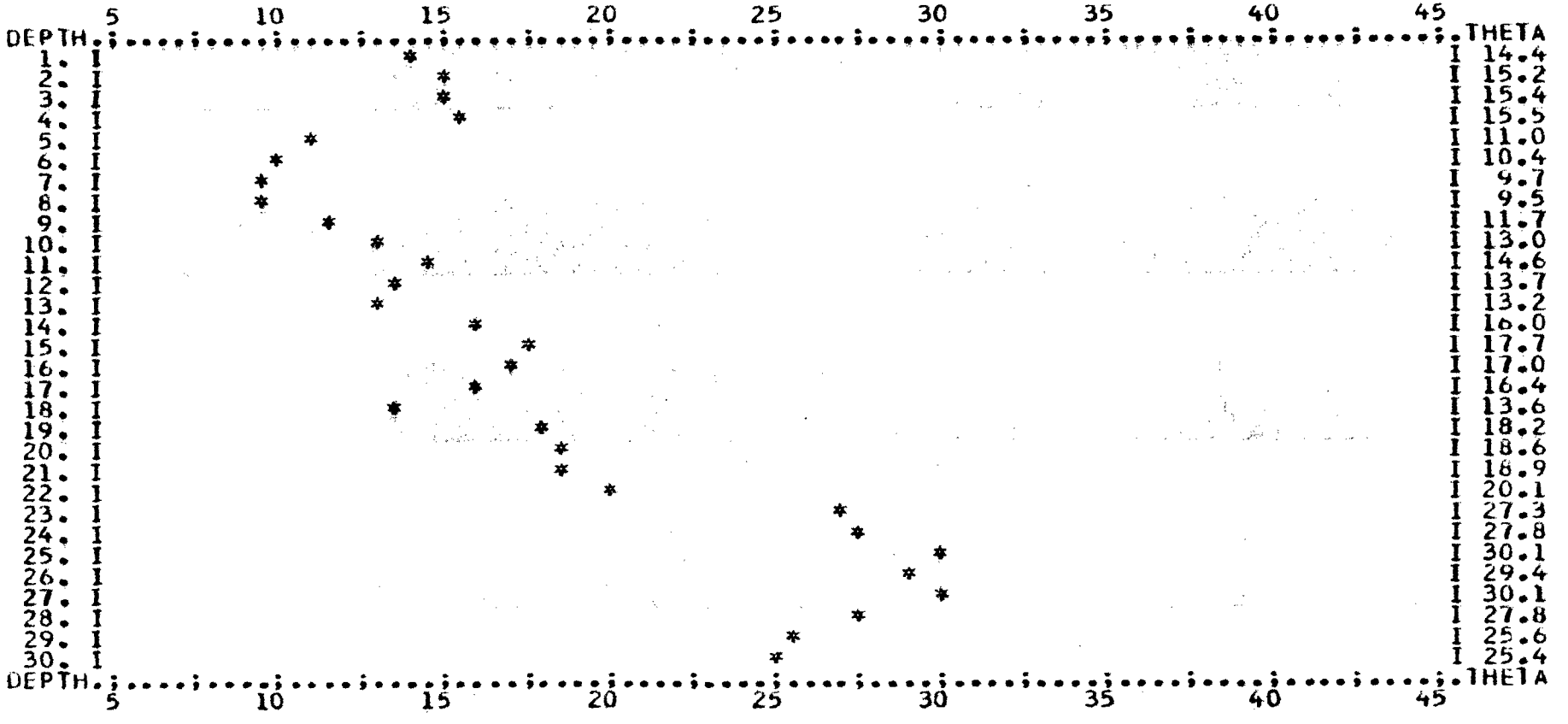
AMERICAN GROUNDWATER CONSULTANTS NEUTRON PROBE SOIL MOISTURE PROFILE
PROJECT=PLATEAU HOLE ID=NP-2 BM= 5520.67
DATE= 6JUNE1979 TIME=1530 PROBE NO= WL=30.18
REMARKS=

PERCENT MOISTURE BY VOLUME (ACROSS) VS DEPTH IN FEET (DOWN).
FIELD VALUE OF MOISTURE (THETA) GIVEN IN RIGHT HAND COLUMN.



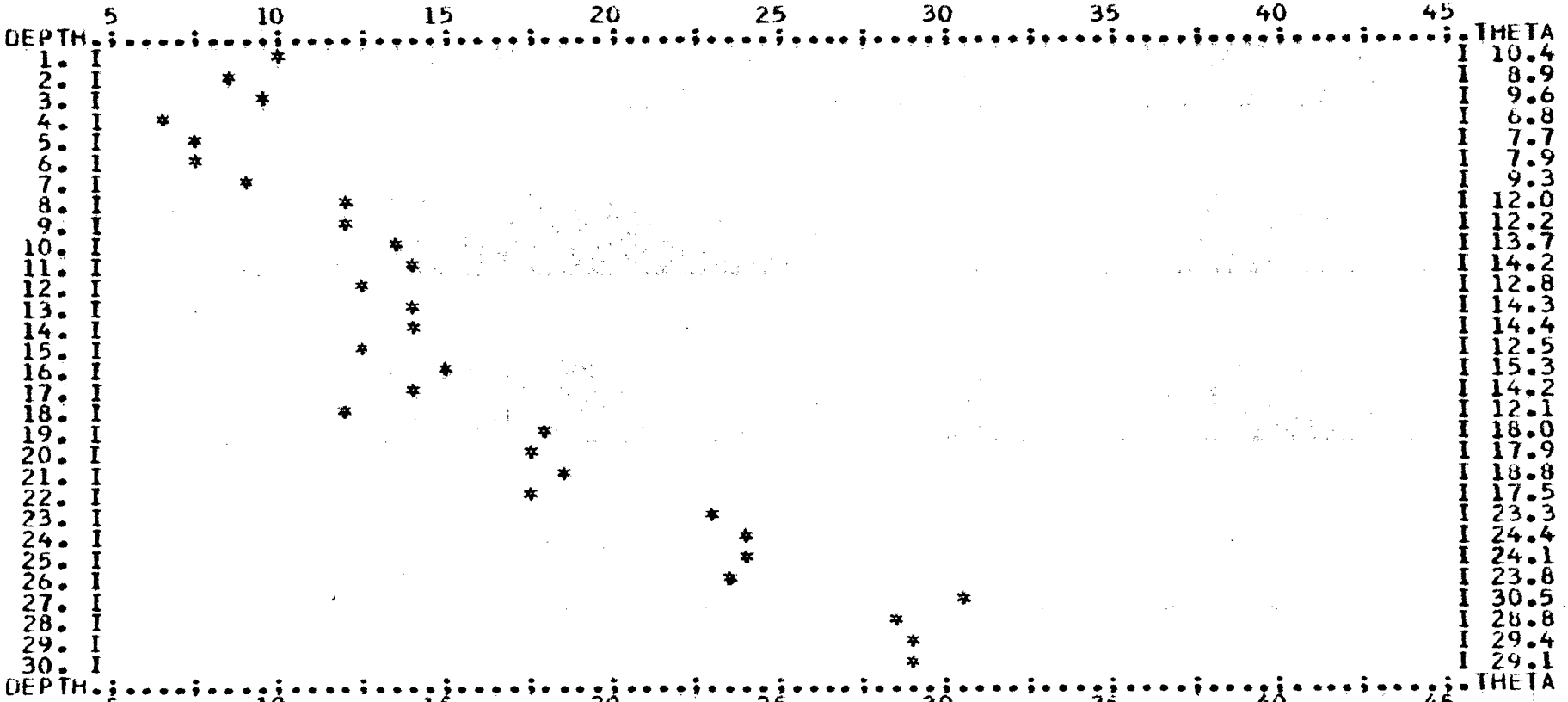
AMERICAN GROUNDWATER CONSULTANTS NEUTRON PROBE SOIL MOISTURE PROFILE
PROJECT=PLATEAU HOLE ID=NP-3 BM= 5521.13
DATE= 6JUNE1979 TIME=1415 PROBE NO= WL=20.42
REMARKS=

PERCENT MOISTURE BY VOLUME (ACROSS) VS DEPTH IN FEET (DOWN).
FIELD VALUE OF MOISTURE (THETA) GIVEN IN RIGHT HAND COLUMN.



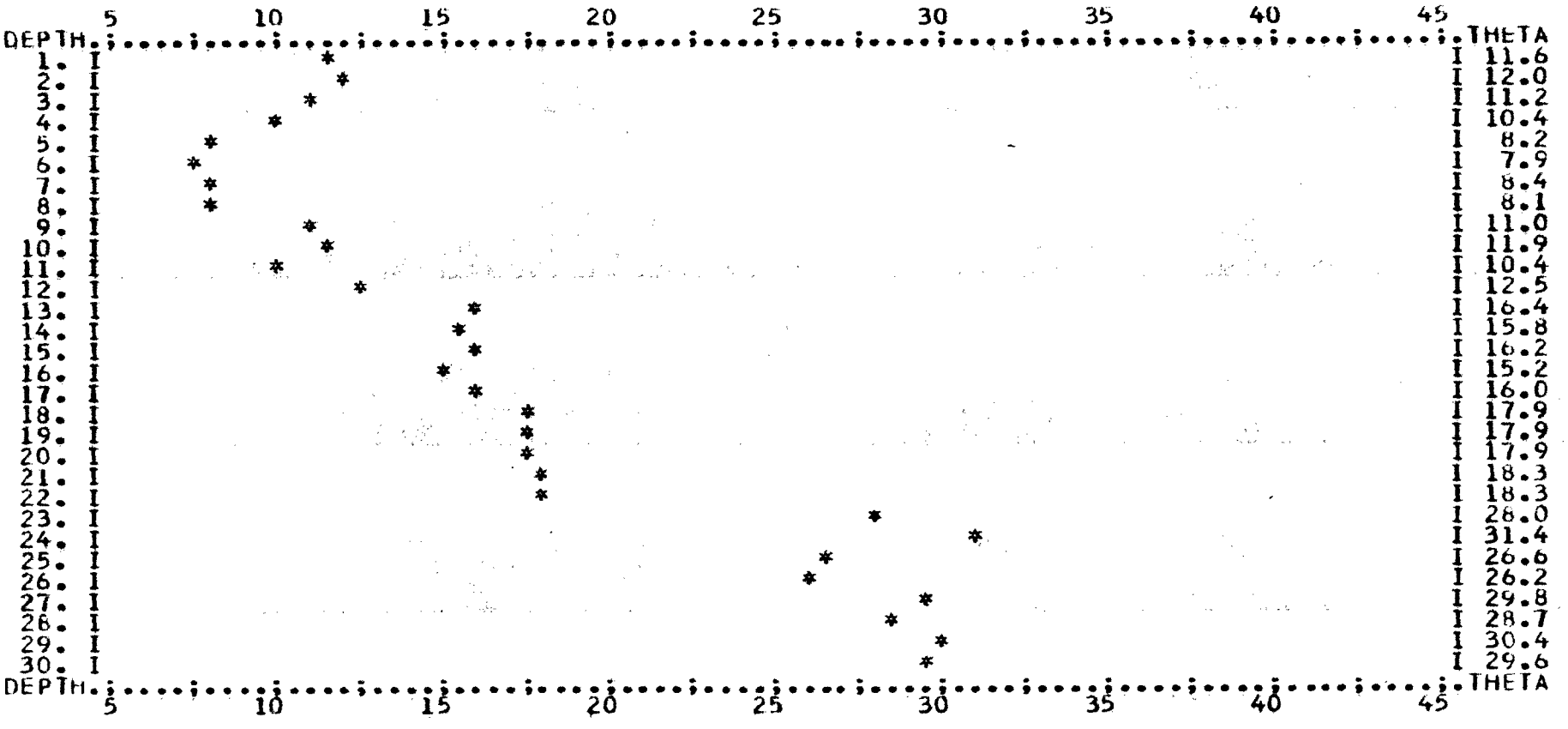
AMERICAN GROUNDWATER CONSULTANTS NEUTRON PROBE SOIL MOISTURE PROFILE
PROJECT=PLATEAU HOLE ID=NP-4 BM= 5521.17
DATE= 6JUNE1979 TIME=1400 PROBE NO= WL=25.14
REMARKS=

PERCENT MOISTURE BY VOLUME (ACROSS) VS DEPTH IN FEET (DOWN).
FIELD VALUE OF MOISTURE (THETA) GIVEN IN RIGHT HAND COLUMN.



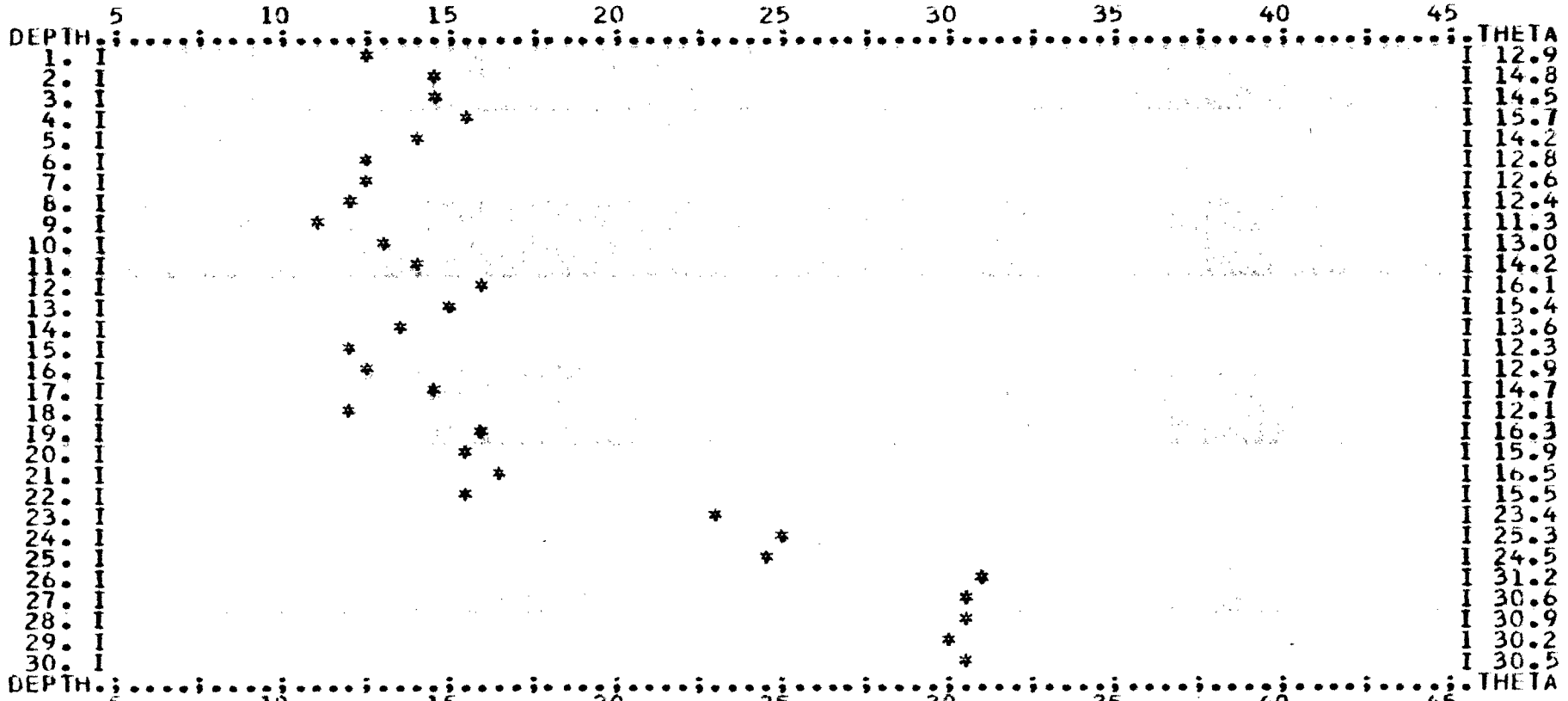
AMERICAN GROUNDWATER CONSULTANTS NEUTRON PROBE SOIL MOISTURE PROFILE
PROJECT=PLATEAU HOLE ID=NP-5 BM= 5521.13
DATE= 6JUNE1979 TIME=1345 PROBE NO= WL= 20.70
REMARKS=

PERCENT MOISTURE BY VOLUME (ACROSS) VS DEPTH IN FEET (DOWN).
FIELD VALUE OF MOISTURE (THETA) GIVEN IN RIGHT HAND COLUMN.



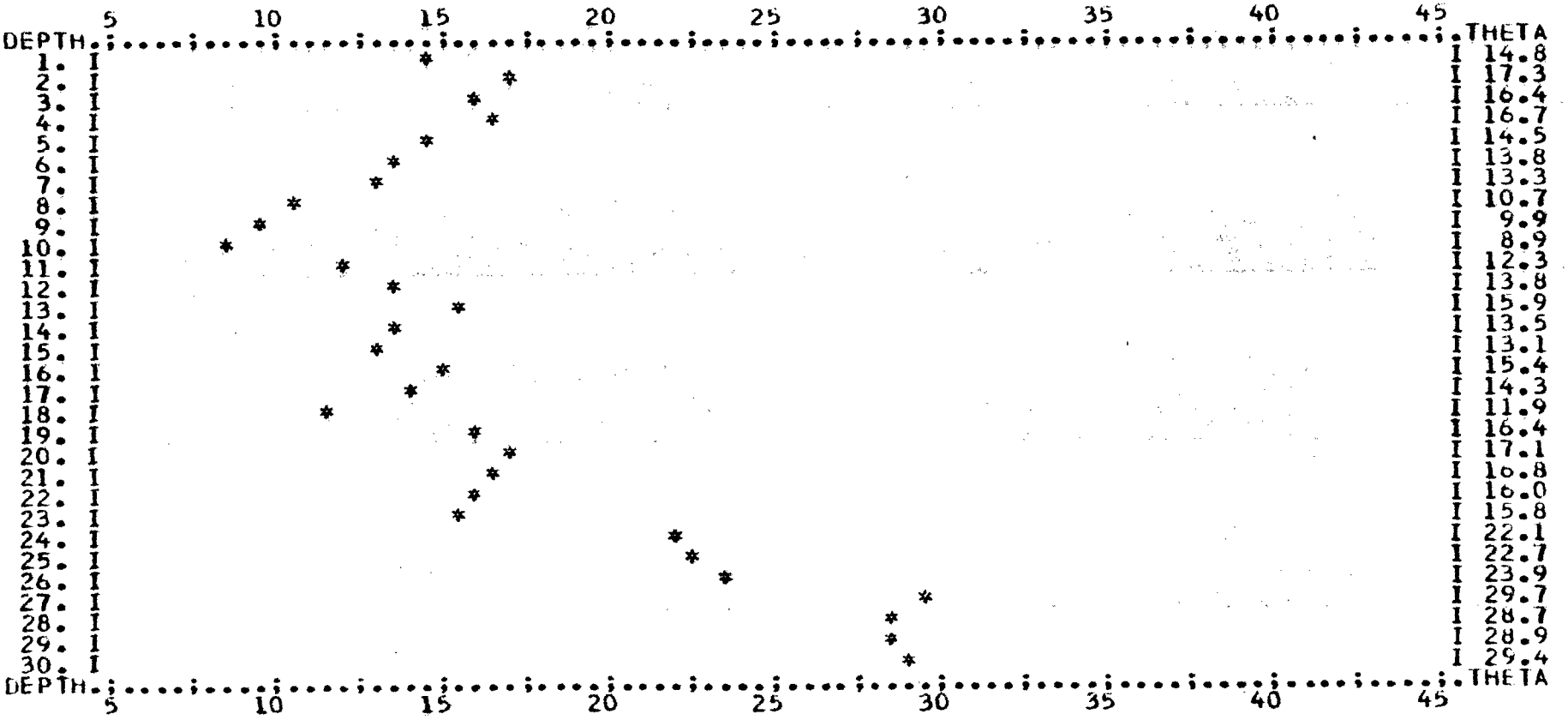
AMERICAN GROUNDWATER CONSULTANTS NEUTRON PROBE SOIL MOISTURE PROFILE
PROJECT=PLATEAU HOLE ID=NP-6 BM= 5520.94
DATE= 6JUNE1979 TIME= PROBE NO= WL=24.26
REMARKS=

PERCENT MOISTURE BY VOLUME (ACROSS) VS DEPTH IN FEET (DOWN).
FIELD VALUE OF MOISTURE (THETA) GIVEN IN RIGHT HAND COLUMN.



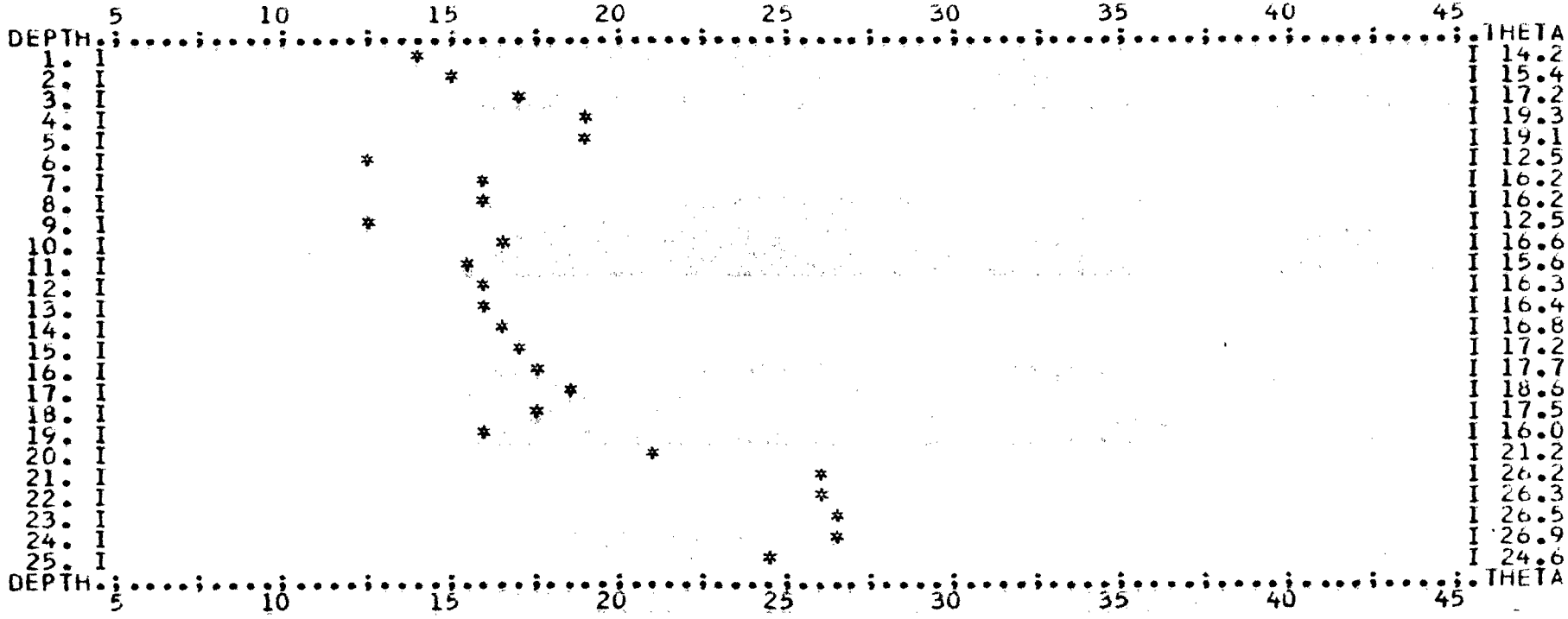
AMERICAN GROUNDWATER CONSULTANTS NEUTRON PROBE SOIL MOISTURE PROFILE
PROJECT=PLATEAU HOLE ID=NP-7 BM= 5520.97
DATE= 6JUNE1979 TIME= PROBE NO= WL= 24.52
REMARKS=

PERCENT MOISTURE BY VOLUME (ACROSS) VS DEPTH IN FEET (DOWN).
FIELD VALUE OF MOISTURE (THETA) GIVEN IN RIGHT HAND COLUMN.



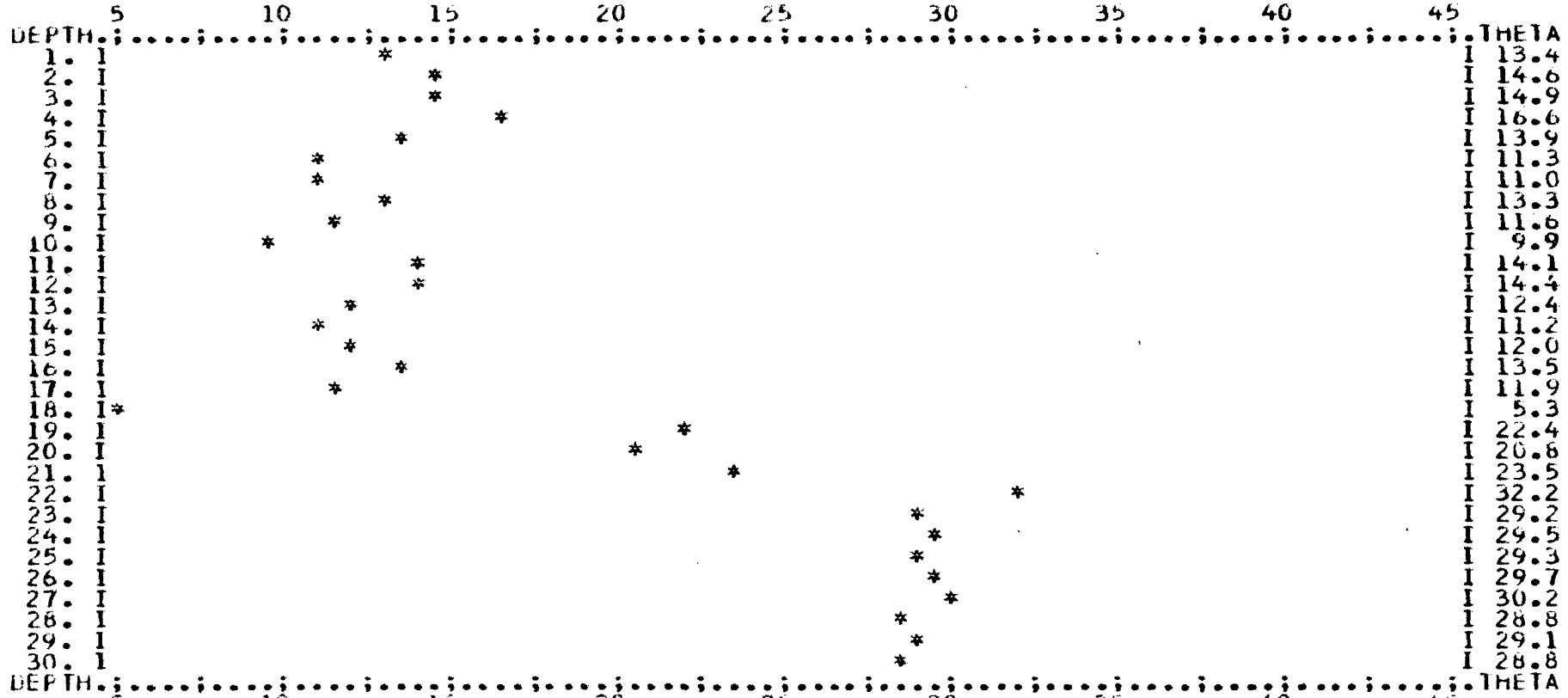
AMERICAN GROUNDWATER CONSULTANTS NEUTRON PROBE SOIL MOISTURE PROFILE
PROJECT=PLATEAU HOLE ID=NP-8 BM= 5521.29
DATE= 6JUNE1979 TIME= PROBE NO= WL= 22.38
REMARKS=

PERCENT MOISTURE BY VOLUME (ACROSS) VS DEPTH IN FEET (DOWN).
FIELD VALUE OF MOISTURE (THETA) GIVEN IN RIGHT HAND COLUMN.



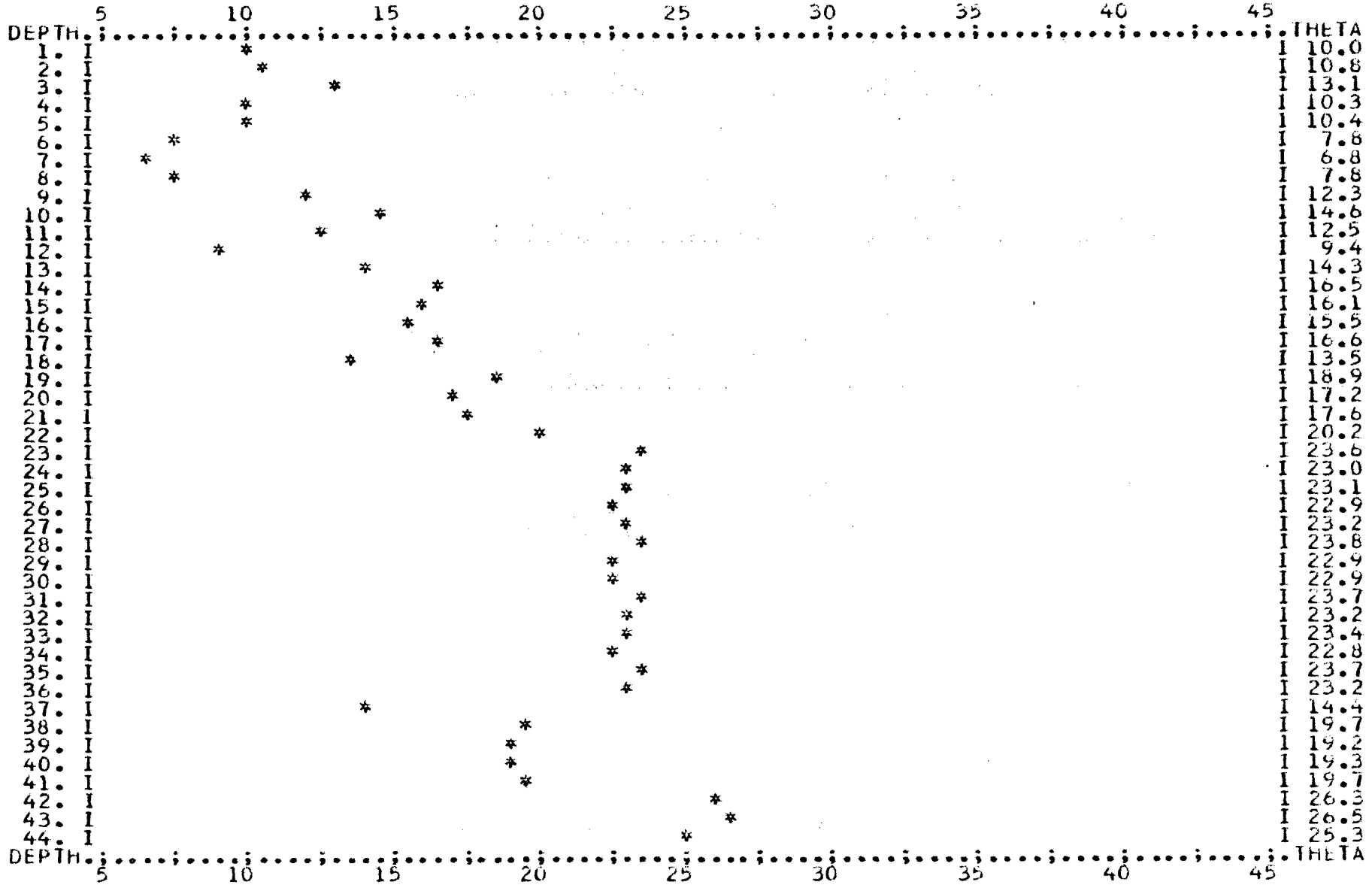
AMERICAN GROUNDWATER CONSULTANTS NEUTRON PROBE SOIL MOISTURE PROFILE
PROJECT=PLATEAU HOLE ID=NP-9 BM= 5520.90
DATE= 6JUNE1979 TIME=1130 PROBE NO= WL= 18.69
REMARKS=

PERCENT MOISTURE BY VOLUME (ACROSS) VS DEPTH IN FEET (DOWN).
FIELD VALUE OF MOISTURE (THETA) GIVEN IN RIGHT HAND COLUMN.



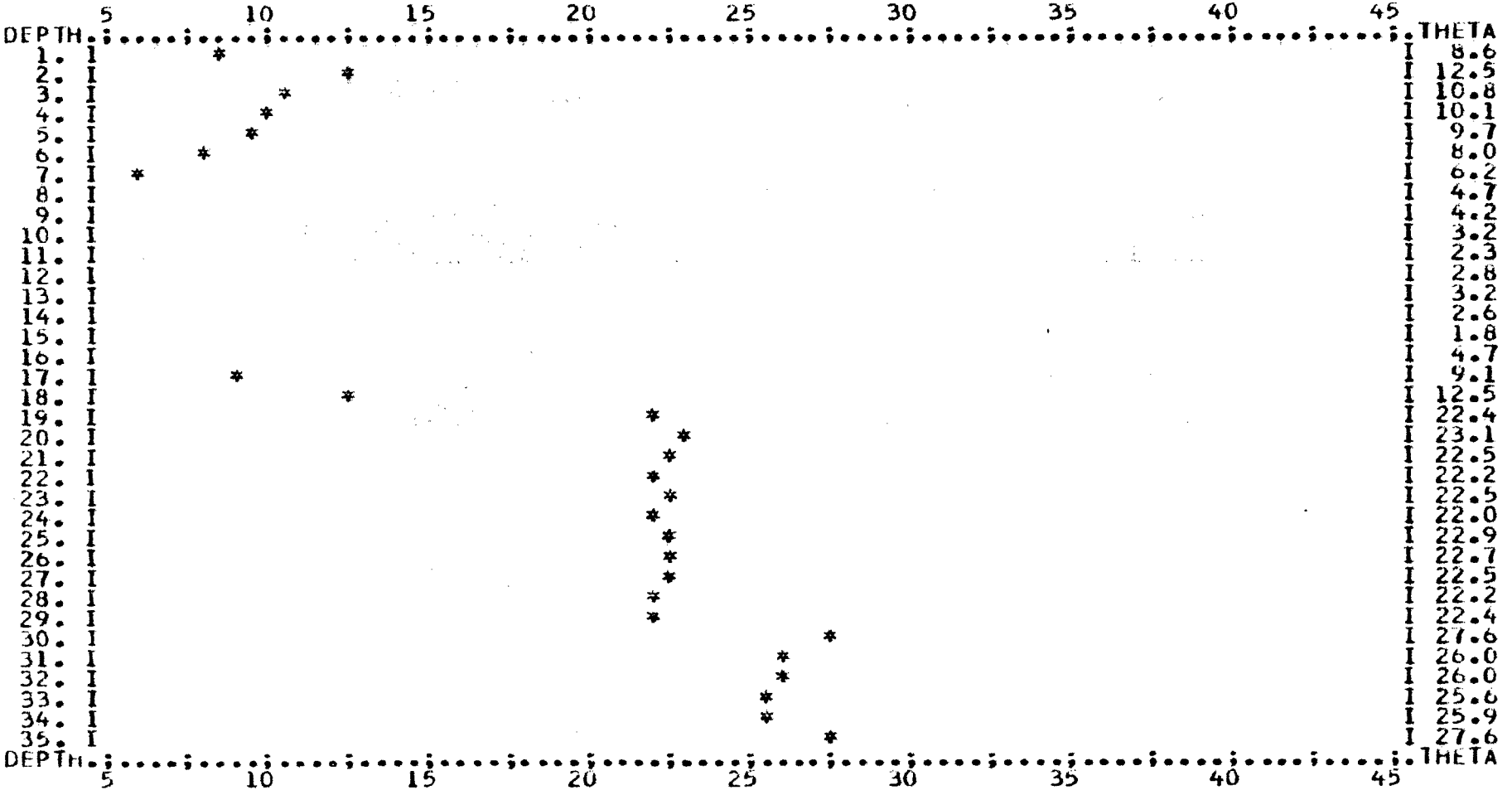
AMERICAN GROUNDWATER CONSULTANTS NEUTRON PROBE SOIL MOISTURE PROFILE
PROJECT=PLATEAU HOLE ID=NP-1 BM= 5521.82
DATE= 18SEPTEMBER1979TIME= PROBE NO= WL= 45.76
REMARKS=

PERCENT MOISTURE BY VOLUME (ACROSS) VS DEPTH IN FEET (DOWN).
FIELD VALUE OF MOISTURE (THETA) GIVEN IN RIGHT HAND COLUMN.



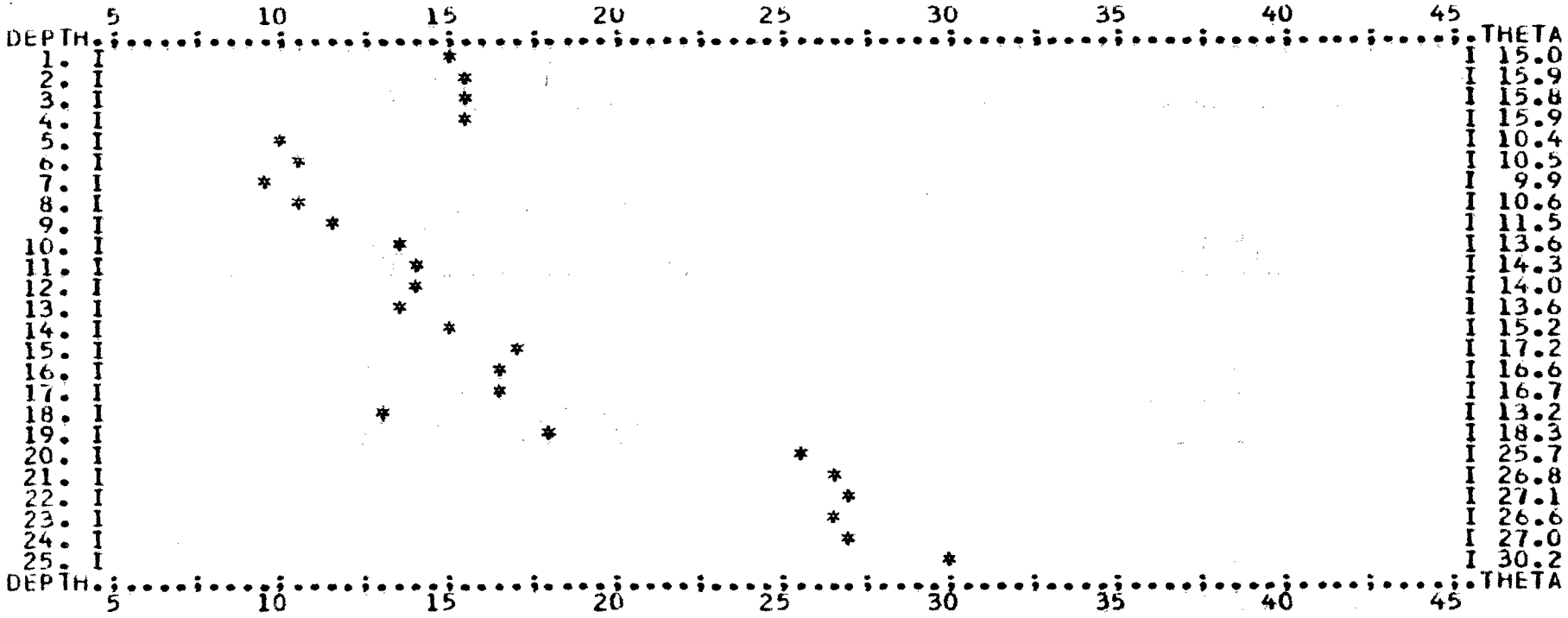
AMERICAN GROUNDWATER CONSULTANTS NEUTRON PROBE SOIL MOISTURE PROFILE
PROJECT=PLATEAU HOLE ID=NP-2 BM= 5520.67
DATE= 19SEPTEMBER1979TIME= PROBE NO= WL= 29.45
REMARKS=

PERCENT MOISTURE BY VOLUME (ACROSS) VS DEPTH IN FEET (DOWN).
FIELD VALUE OF MOISTURE (THETA) GIVEN IN RIGHT HAND COLUMN.



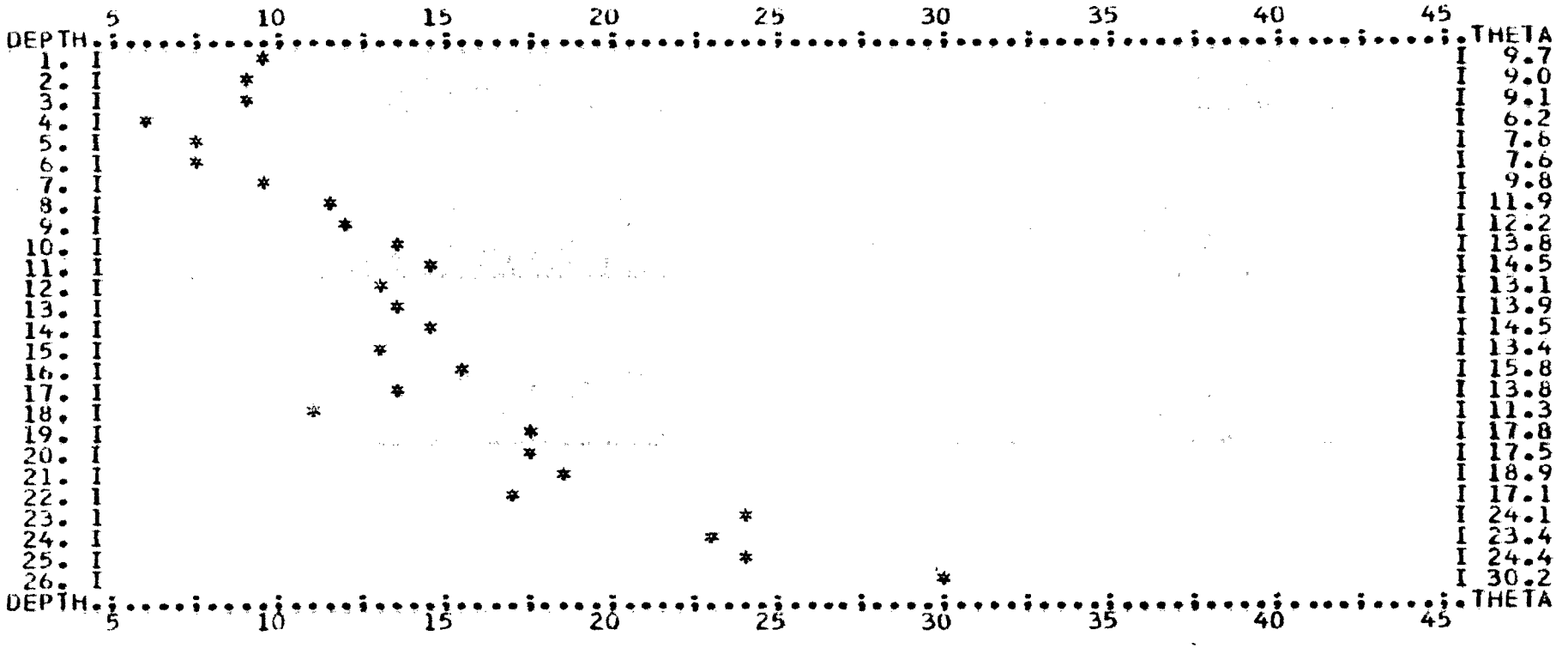
AMERICAN GROUNDWATER CONSULTANTS NEUTRON PROBE SOIL MOISTURE PROFILE
PROJECT=PLATEAU HOLE ID=NP-3 BM= 5521.13
DATE= 19SEPTEMBER1979TIME= PROBE NO= WL= 20.96
REMARKS=

PERCENT MOISTURE BY VOLUME (ACROSS) VS DEPTH IN FEET (DOWN).
FIELD VALUE OF MOISTURE (THETA) GIVEN IN RIGHT HAND COLUMN.



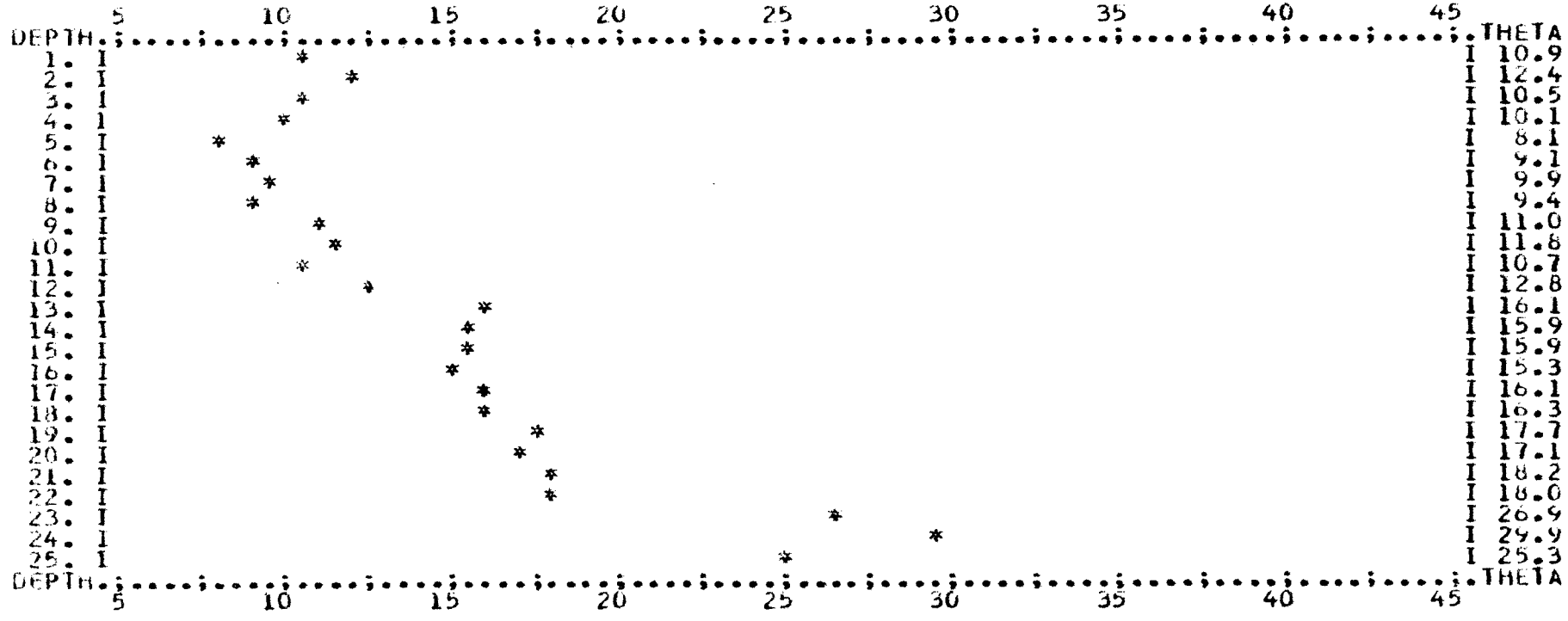
AMERICAN GROUNDWATER CONSULTANTS NEUTRON PROBE SOIL MOISTURE PROFILE
PROJECT=PLATEAU HOLE ID=NP-4 BM= 5521.17
DATE= 19SEPTEMBER1979TIME= PROBE NO= WL= 24.98
REMARKS=

PERCENT MOISTURE BY VOLUME (ACROSS) VS DEPTH IN FEET (DOWN).
FIELD VALUE OF MOISTURE (THETA) GIVEN IN RIGHT HAND COLUMN.



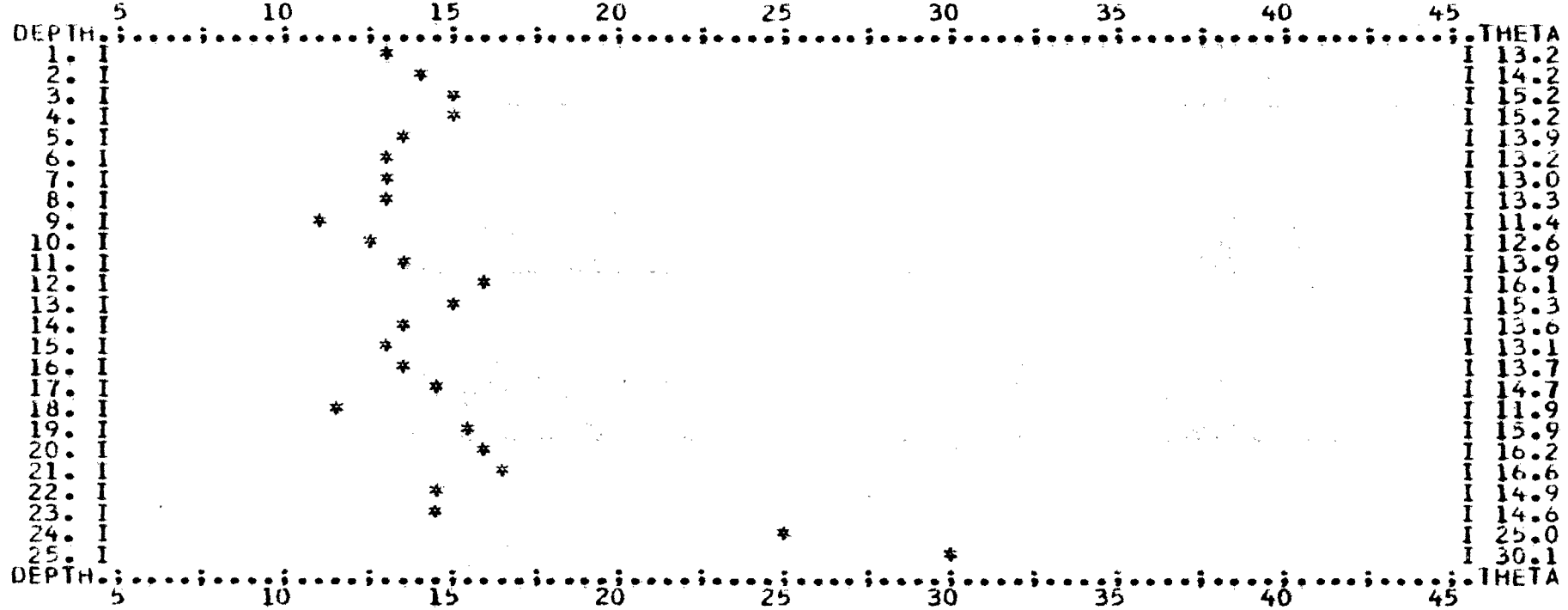
AMERICAN GROUNDWATER CONSULTANTS NEUTRON PROBE SOIL MOISTURE PROFILE
PROJECT=PLATEAU HOLE ID=NP-5 BM= 5521.13
DATE= 19SEPTEMBER1979TIME= PROBE NO= WL= 20.74
REMARKS=

PERCENT MOISTURE BY VOLUME (ACROSS) VS DEPTH IN FEET (DOWN).
FIELD VALUE OF MOISTURE (THETA) GIVEN IN RIGHT HAND COLUMN.



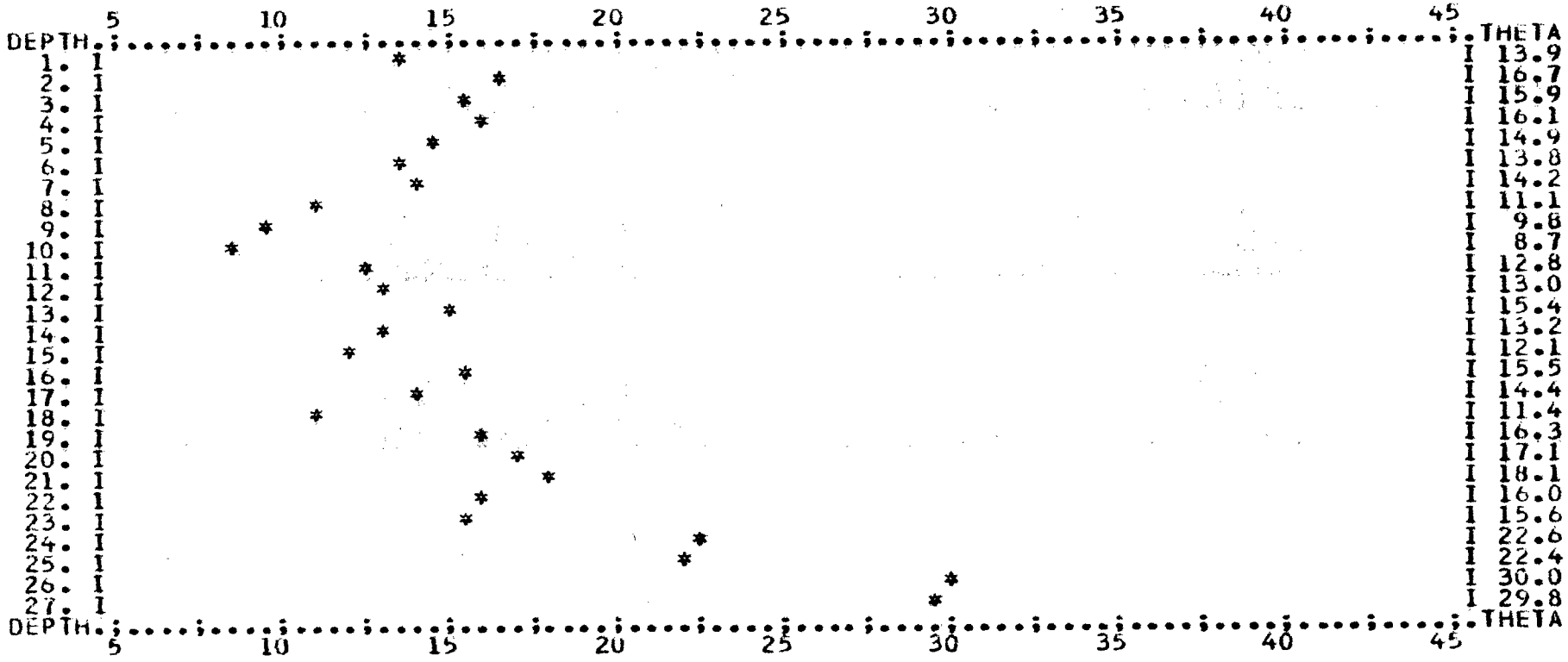
AMERICAN GROUNDWATER CONSULTANTS NEUTRON PROBE SOIL MOISTURE PROFILE
PROJECT=PLATEAU HOLE ID=NP-6 BM= 5520.94
DATE= 19SEPTEMBER1979TIME= PROBE NO= WL= 24.24
REMARKS=

PERCENT MOISTURE BY VOLUME (ACROSS) VS DEPTH IN FEET (DOWN).
FIELD VALUE OF MOISTURE (THETA) GIVEN IN RIGHT HAND COLUMN.



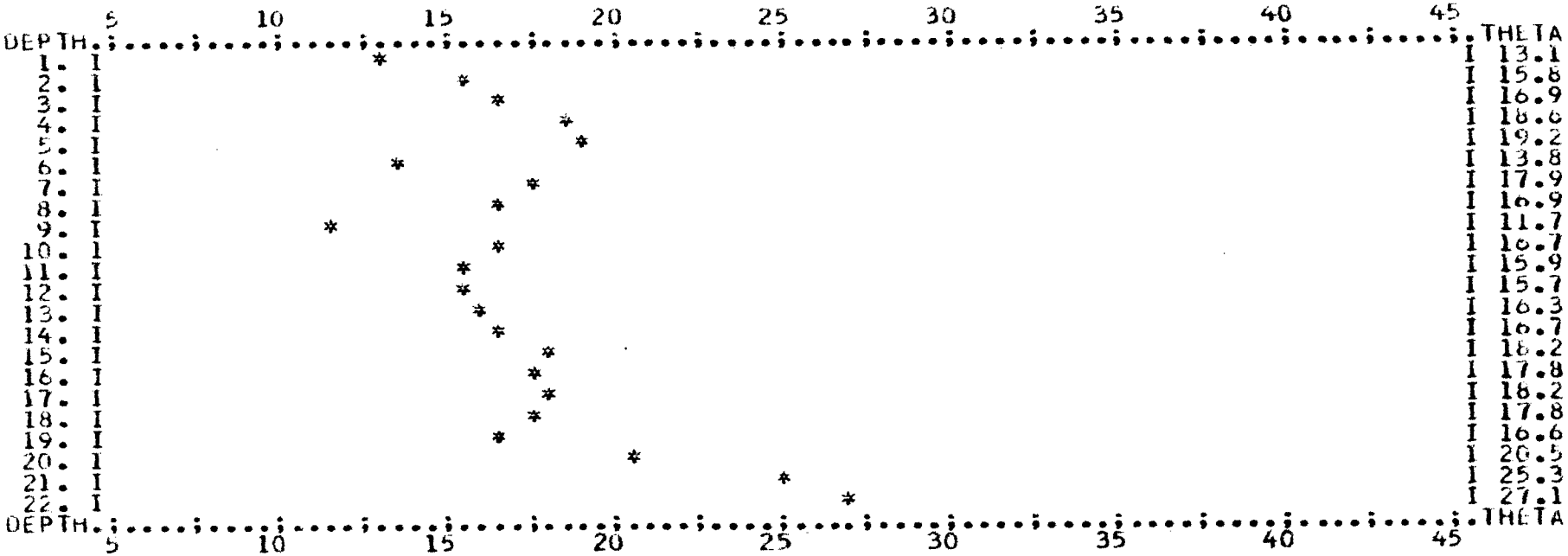
AMERICAN GROUNDWATER CONSULTANTS NEUTRON PROBE SOIL MOISTURE PROFILE
PROJECT=PLATEAU HOLE ID=NP-7 BM= 5520.97
DATE= 19SEPTTEMBER197TIME=9 PROBE NO= WL= 24.83
REMARKS=

PERCENT MOISTURE BY VOLUME (ACROSS) VS DEPTH IN FEET (DOWN).
FIELD VALUE OF MOISTURE (THETA) GIVEN IN RIGHT HAND COLUMN.



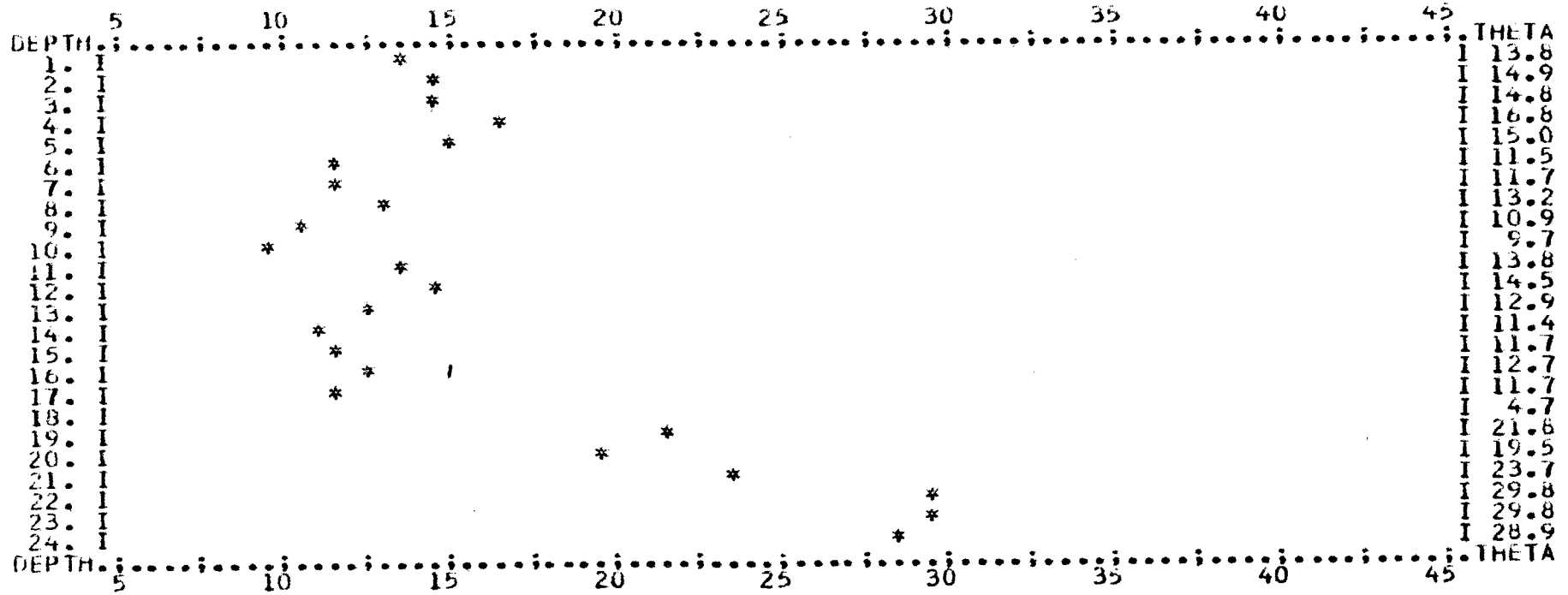
AMERICAN GROUNDWATER CONSULTANTS NEUTRON PROBE SOIL MOISTURE PROFILE
PROJECT=PLATEAU HOLE ID=NP-8 BM= 5521.29
DATE= 18SEPTEMBER1979TIME= PROBE NO= WL= 22.48
REMARKS=

PERCENT MOISTURE BY VOLUME (ACROSS) VS DEPTH IN FEET (DOWN).
FIELD VALUE OF MOISTURE (THETA) GIVEN IN RIGHT HAND COLUMN.



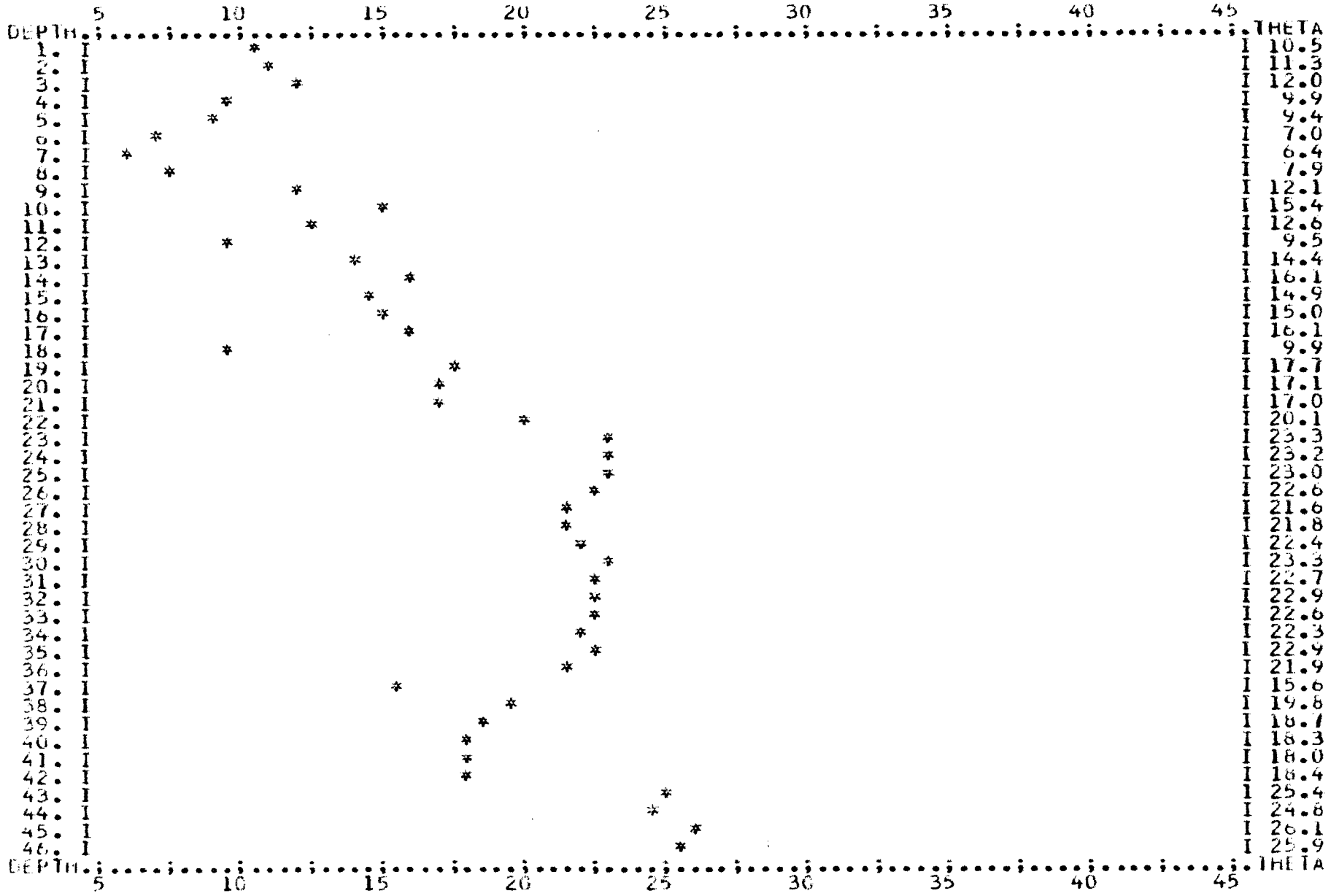
AMERICAN GROUNDWATER CONSULTANTS NEUTRON PROBE SOIL MOISTURE PROFILE
PROJECT=PLATEAU HOLE ID=NP-9 BM= 5520.90
DATE= 19SEPTEMBER1979TIME= PROBE NO= WL= 19.19
REMARKS=

PERCENT MOISTURE BY VOLUME (ACROSS) VS DEPTH IN FEET (DOWN).
FIELD VALUE OF MOISTURE (THETA) GIVEN IN RIGHT HAND COLUMN.



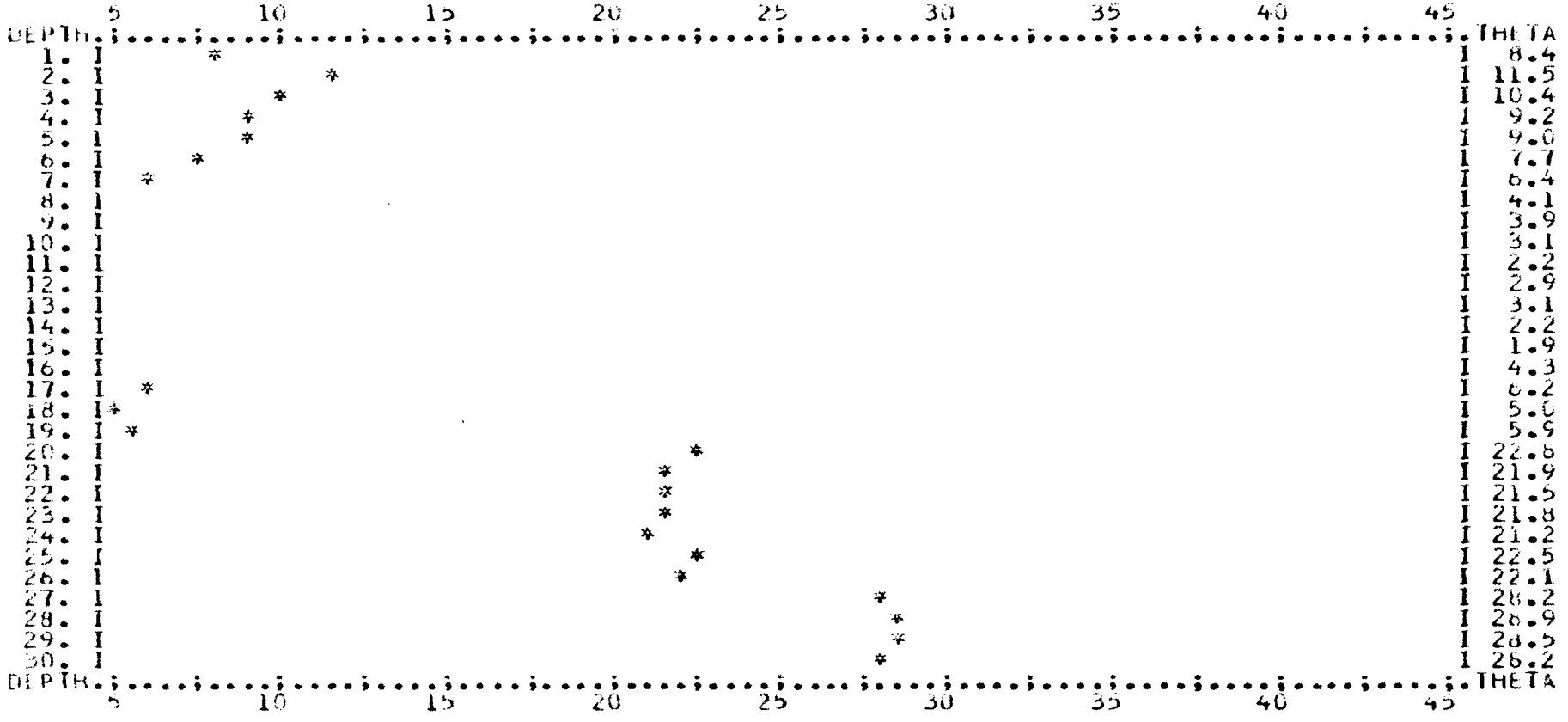
AMERICAN GROUNDWATER CONSULTANTS NEUTRON PROBE SOIL MOISTURE PROFILE
PROJECT=PLATEAU HOLE ID=NP-1 BM= 5521.82
DATE= 12DECEMBER1979 TIME=1300 PROBE NO= WL= 45.61
REMARKS=

PERCENT MOISTURE BY VOLUME (ACROSS) VS DEPTH IN FEET (DOWN).
FIELD VALUE OF MOISTURE (THETA) GIVEN IN RIGHT HAND COLUMN.



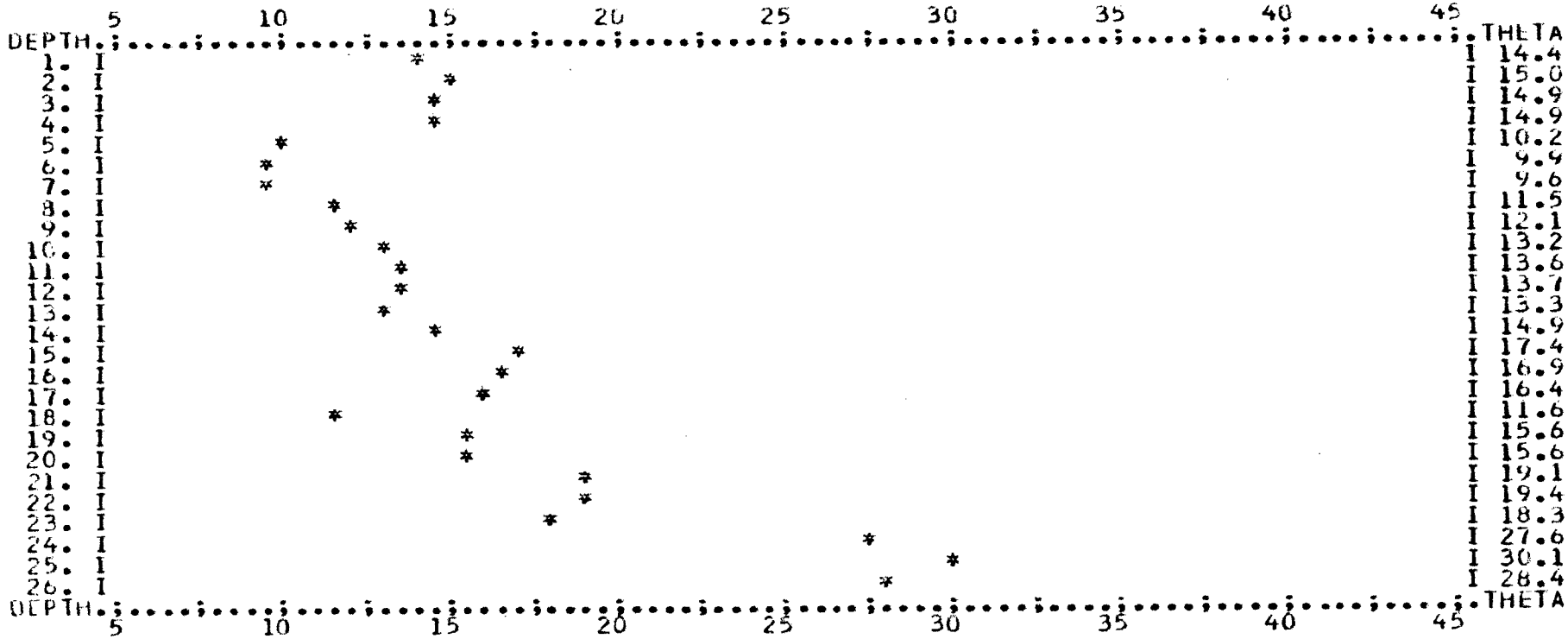
AMERICAN GROUNDWATER CONSULTANTS NEUTRON PROBE SOIL MOISTURE PROFILE
PROJECT=PLATEAU HOLE ID=NP-2 BM= 5520.67
DATE= 12DECEMBER1979 TIME=1245 PROBE NO= WL= 29.66
REMARKS=

PERCENT MOISTURE BY VOLUME (ACROSS) VS DEPTH IN FEET (DOWN).
FIELD VALUE OF MOISTURE (THETA) GIVEN IN RIGHT HAND COLUMN.



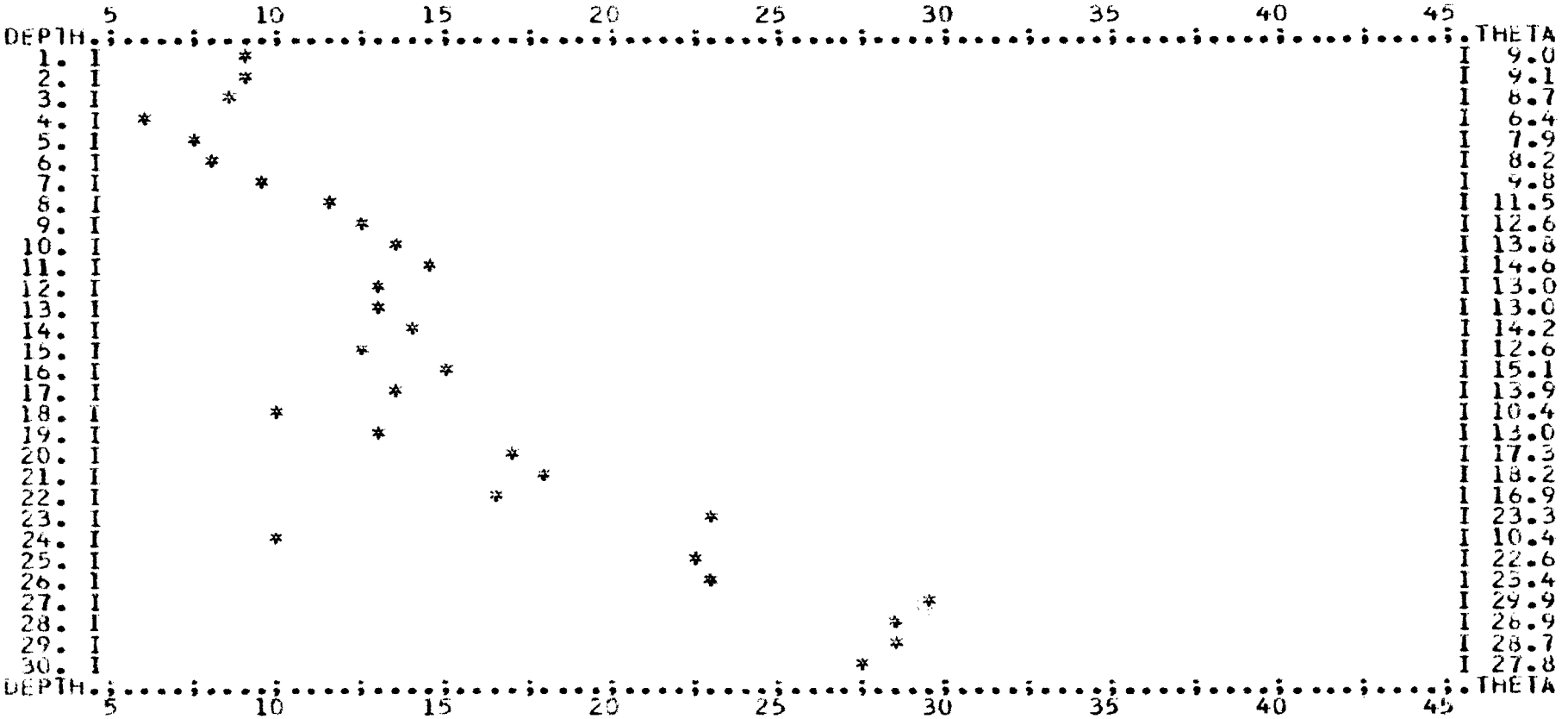
AMERICAN GROUNDWATER CONSULTANTS NEUTRON PROBE SOIL MOISTURE PROFILE
PROJECT=PLATEAU HOLE ID=NP-3 BM= 5521.13
DATE= 12DECEMBER1979 TIME= PROBE NO= WL= 22.62
REMARKS=

PERCENT MOISTURE BY VOLUME (ACROSS) VS DEPTH IN FEET (DOWN).
FIELD VALUE OF MOISTURE (THETA) GIVEN IN RIGHT HAND COLUMN.



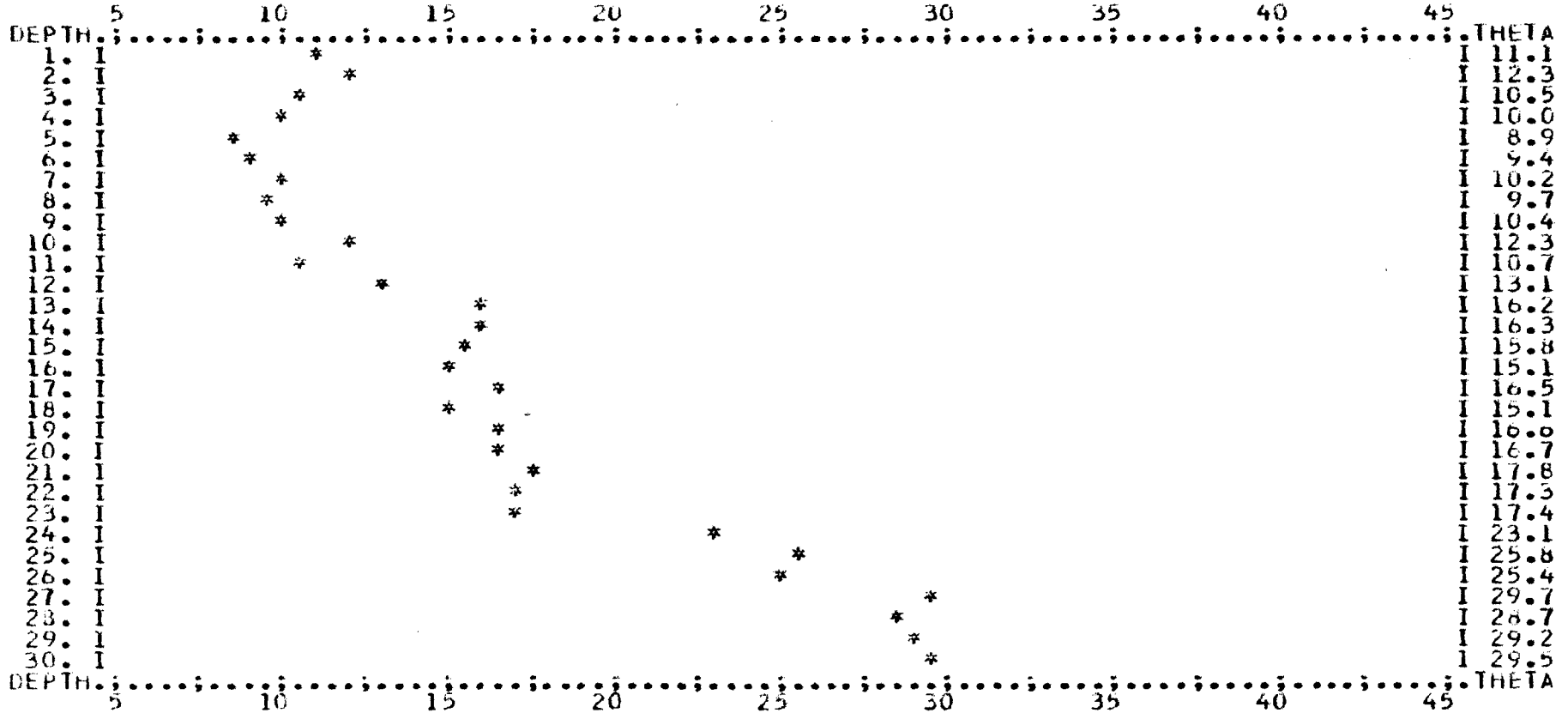
AMERICAN GROUNDWATER CONSULTANTS NEUTRON PROBE SOIL MOISTURE PROFILE
PROJECT=PLATEAU HOLE ID=NP-4 BM= 5521.17
DATE= 12DECEMBER1979 TIME=1210 PROBE NO= WL= 25.53
REMARKS=

PERCENT MOISTURE BY VOLUME (ACROSS) VS DEPTH IN FEET (DOWN).
FIELD VALUE OF MOISTURE (THETA) GIVEN IN RIGHT HAND COLUMN.



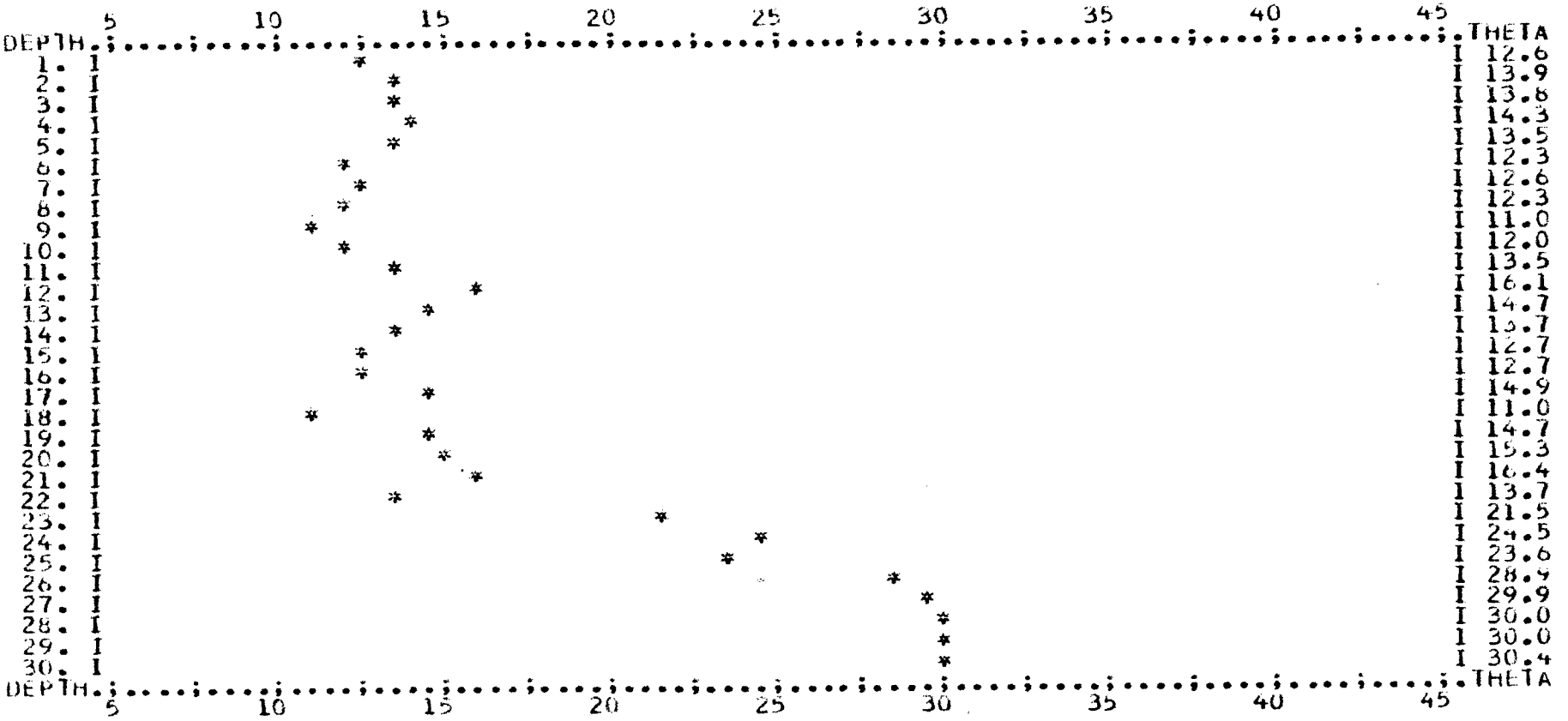
AMERICAN GROUNDWATER CONSULTANTS NEUTRON PROBE SOIL MOISTURE PROFILE
PROJECT=PLATEAU HOLE ID=NP-5 BM= 5521.13
DATE= 12DECEMBER1979 TIME= PROBE NO= WL= 22.52
REMARKS=

PERCENT MOISTURE BY VOLUME (ACROSS) VS DEPTH IN FEET (DOWN).
FIELD VALUE OF MOISTURE (THETA) GIVEN IN RIGHT HAND COLUMN.



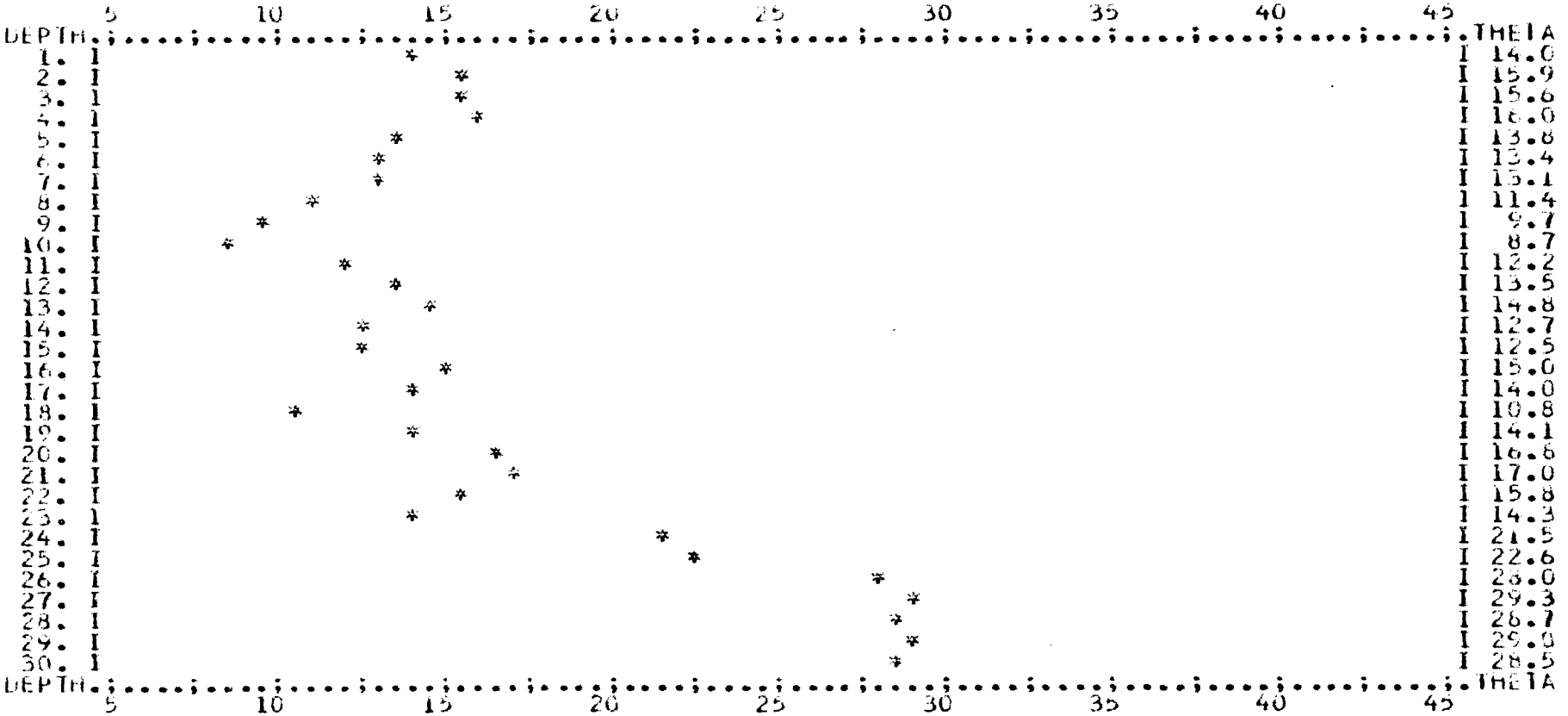
AMERICAN GROUNDWATER CONSULTANTS NEUTRON PROBE SOIL MOISTURE PROFILE
PROJECT=PLATEAU HOLE ID=NP-6 BM= 5520.94
DATE= 12DECEMBER1979 TIME= PROBE NO= WL= 28.47
REMARKS=

PERCENT MOISTURE BY VOLUME (ACROSS) VS DEPTH IN FEET (DOWN).
FIELD VALUE OF MOISTURE (THETA) GIVEN IN RIGHT HAND COLUMN.



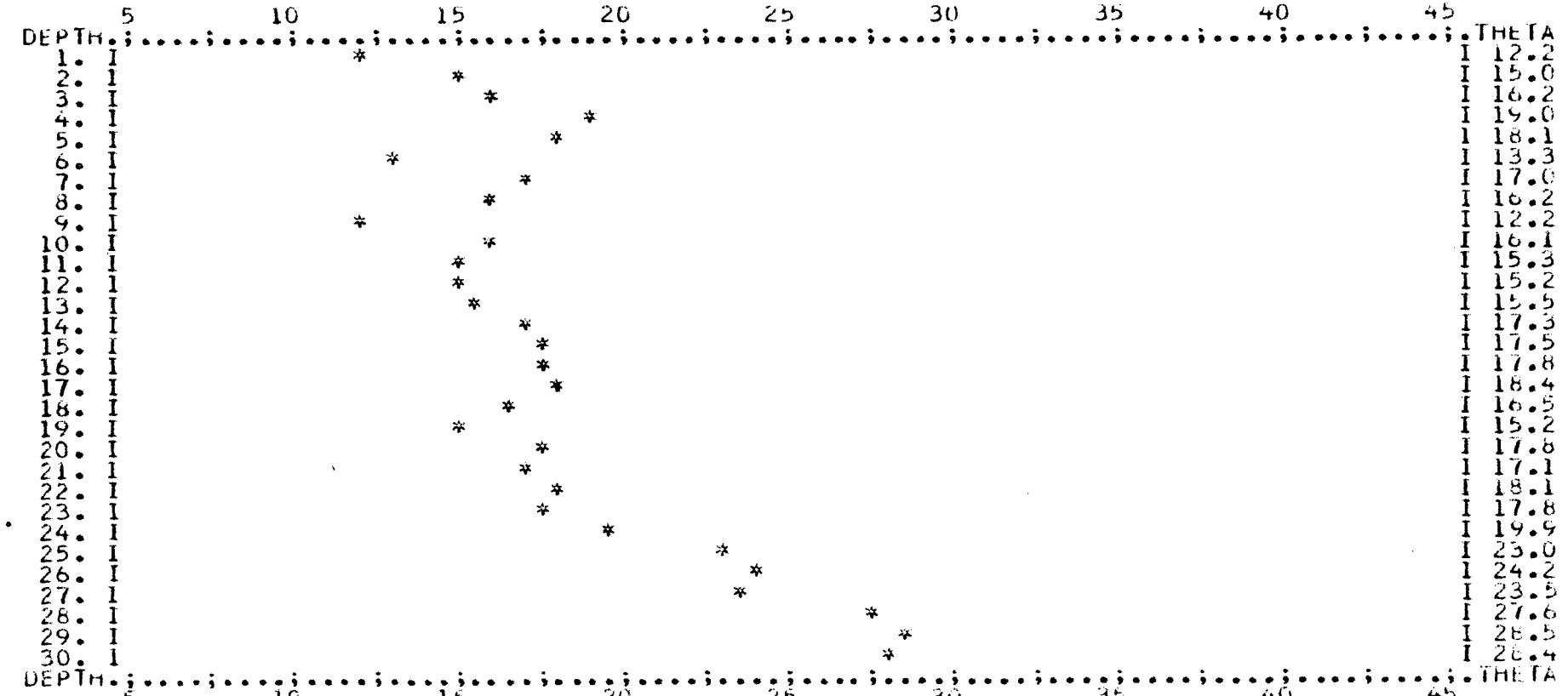
AMERICAN GROUNDWATER CONSULTANTS NEUTRON PROBE SOIL MOISTURE PROFILE
PROJECT=PLATEAU HOLE ID=NP-7 BM= 5520.97
DATE= 12DECEMBER1979 TIME=1120 PROBE NO= WL= 24.32
REMARKS=

PERCENT MOISTURE BY VOLUME (ACROSS) VS DEPTH IN FEET (DOWN).
FIELD VALUE OF MOISTURE (THETA) GIVEN IN RIGHT HAND COLUMN.



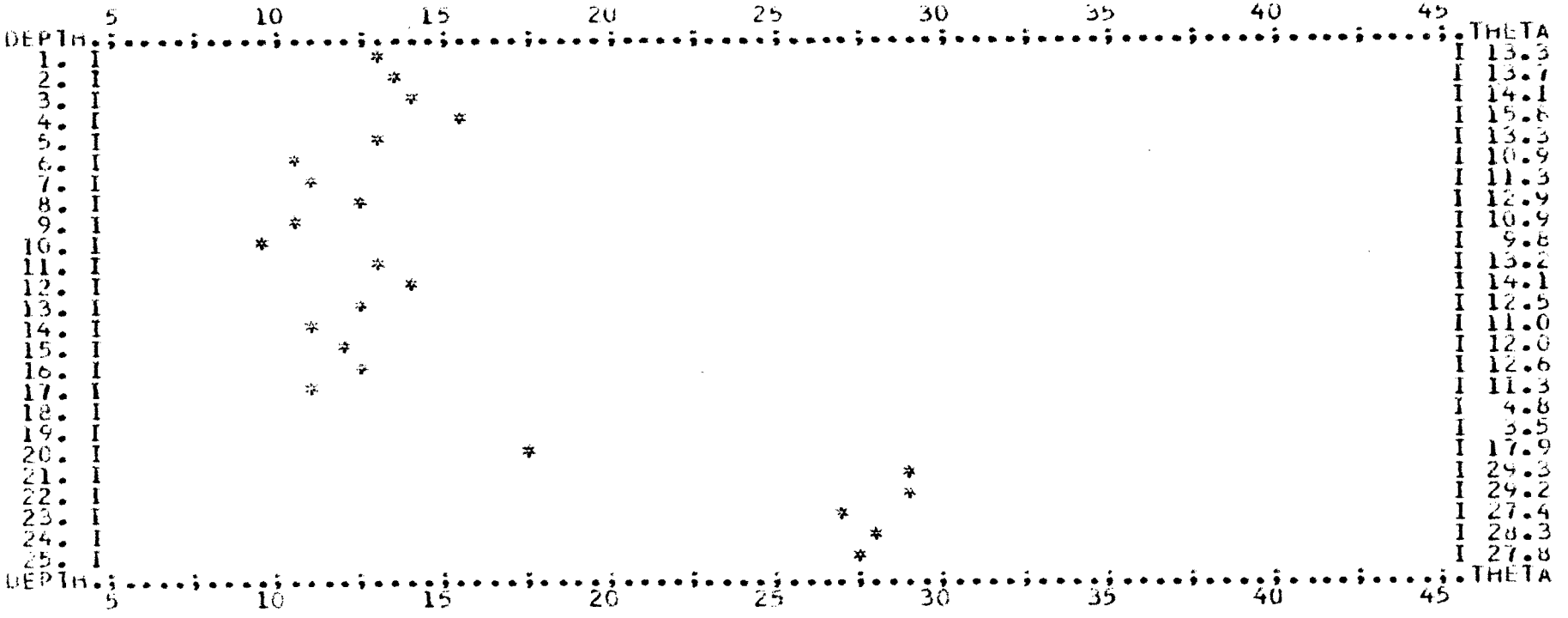
AMERICAN GROUNDWATER CONSULTANTS NEUTRON PROBE SOIL MOISTURE PROFILE
PROJECT=PLATEAU HOLE ID=NP-8 BM= 5521.29
DATE= 12DECEMBER1979 TIME=1110 PROBE NO= WL= 23.79
REMARKS=

PERCENT MOISTURE BY VOLUME (ACROSS) VS DEPTH IN FEET (DOWN).
FIELD VALUE OF MOISTURE (THETA) GIVEN IN RIGHT HAND COLUMN.



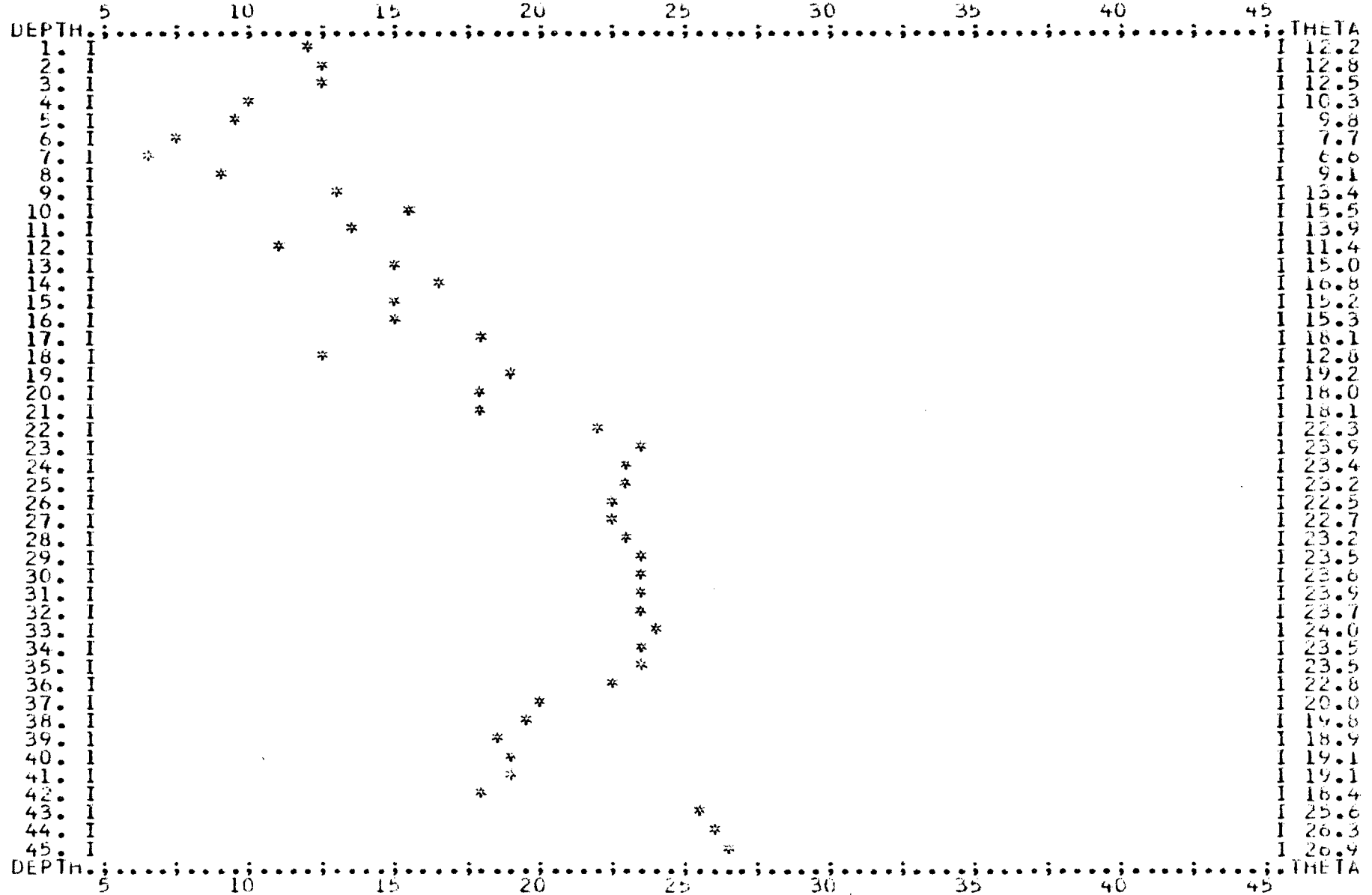
AMERICAN GROUNDWATER CONSULTANTS NEUTRON PROBE SOIL MOISTURE PROFILE
PROJECT=PLATEAU HOLE ID=NP-5 BM= 5520.90
DATE= 12DECEMBER1979 TIME=1045 PROBE NO= WL= 22.29
REMARKS=

PERCENT MOISTURE BY VOLUME (ACROSS) VS DEPTH IN FEET (DOWN).
FIELD VALUE OF MOISTURE (THETA) GIVEN IN RIGHT HAND COLUMN.



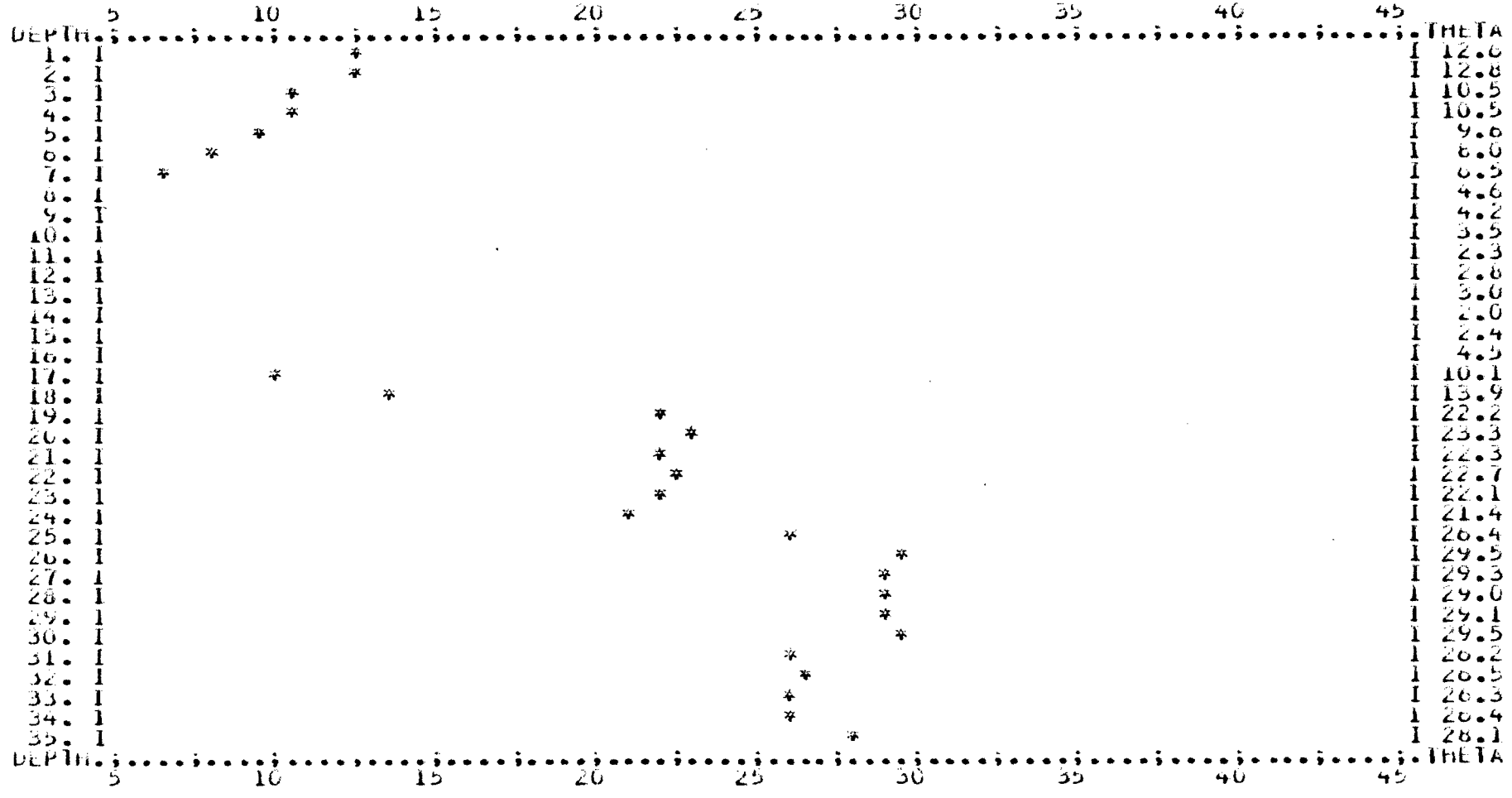
AMERICAN GROUNDWATER CONSULTANTS NEUTRON PROBE SOIL MOISTURE PROFILE
PROJECT=PLATEAU HOLE ID=NP-1 BM= 5521.82
DATE= 9JULY1980 TIME= PROBE NO= WL= 46.2
REMARKS=

PERCENT MOISTURE BY VOLUME (ACROSS) VS DEPTH IN FEET (DOWN).
FIELD VALUE OF MOISTURE (THETA) GIVEN IN RIGHT HAND COLUMN.



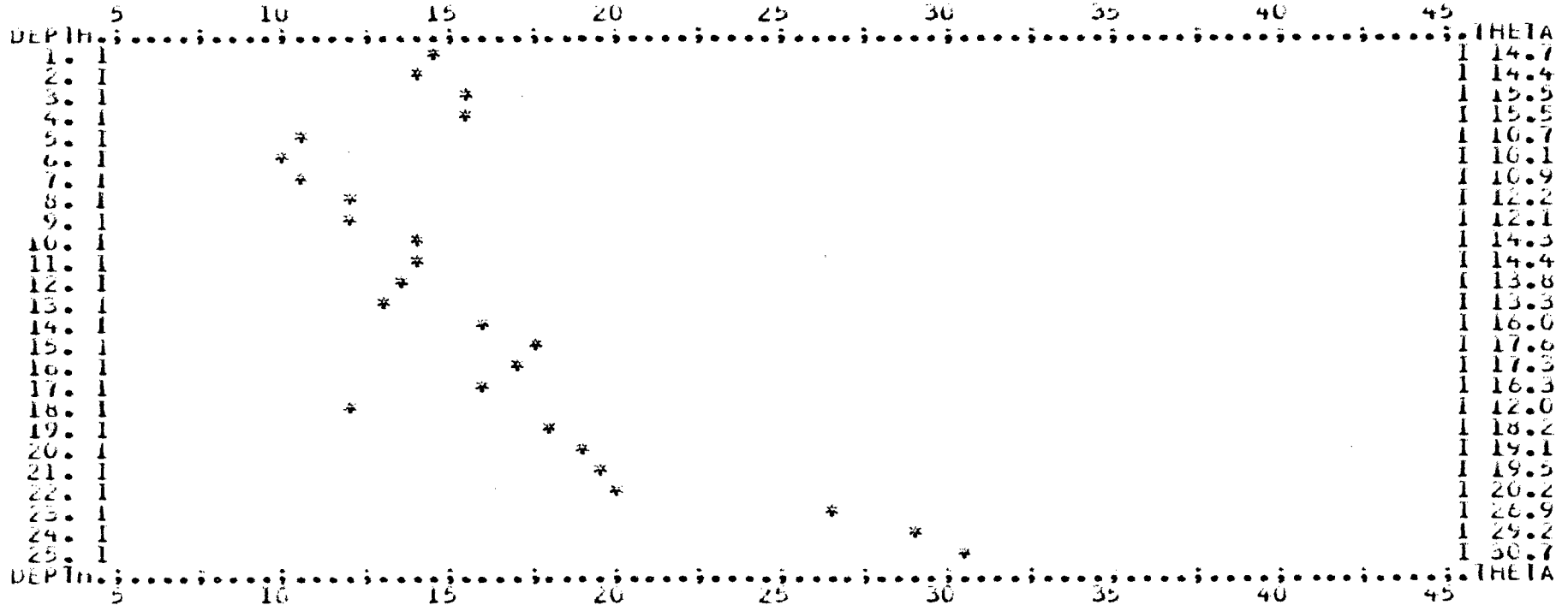
AMERICAN GROUNDWATER CONSULTANTS NEUTRON PROBE SOIL MOISTURE PROFILE
PROJECT=PLATEAU HOLE ID=NP-2 DM= 5520.67
DATE= 30JLY1980 TIME= PROBE NO= WL= 27.1
REMARKS=

PERCENT MOISTURE BY VOLUME (ACROSS) VS DEPTH IN FEET (DOWN).
FIELD VALUE OF MOISTURE (THETA) GIVEN IN RIGHT HAND COLUMN.



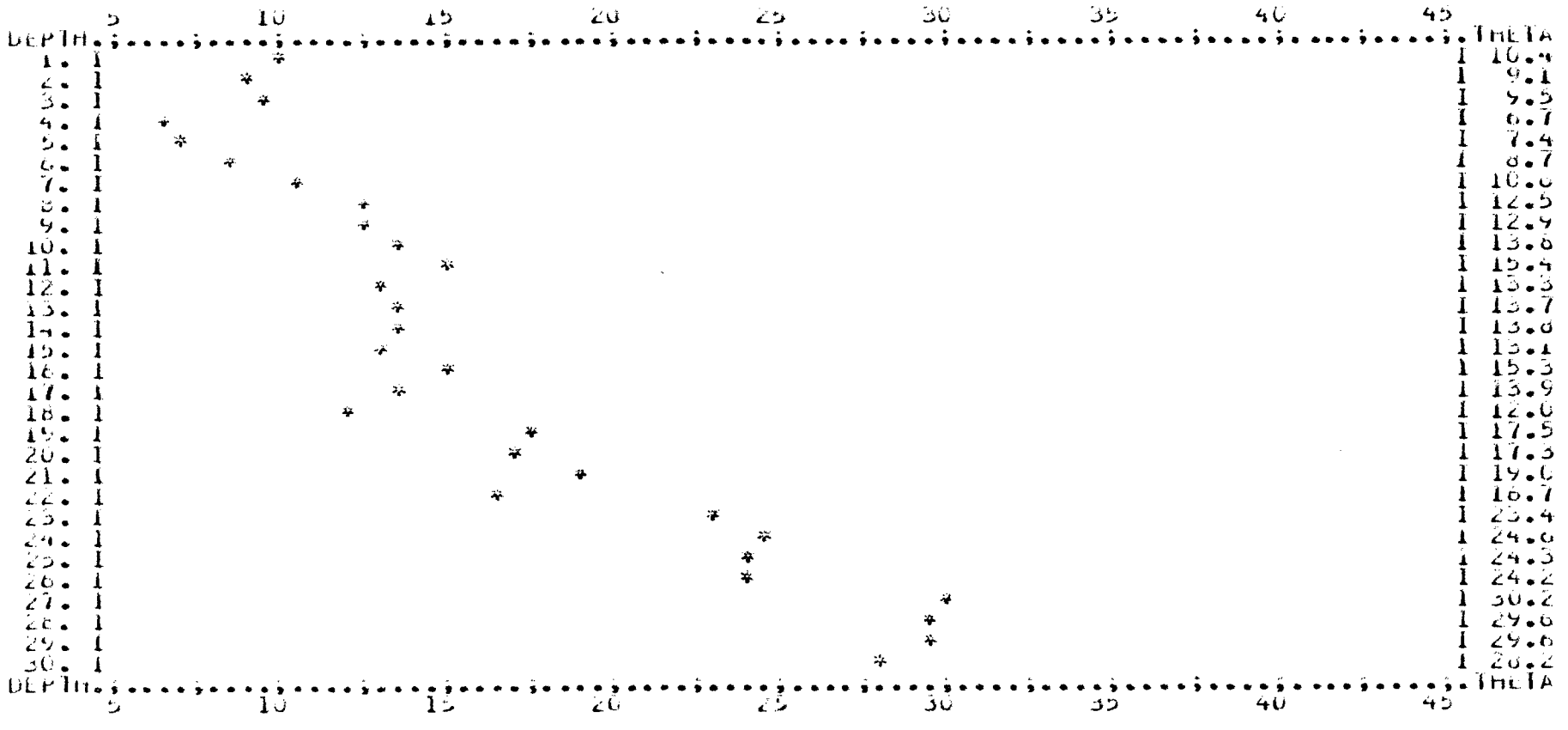
AMERICAN GROUNDWATER CONSULTANTS NEUTRON PROBE SOIL MOISTURE PROFILE
PROJECT=PLATEAU HOLE ID=NP-5 BM= 5521.13
DATE= 9JULY1980 TIME= PROBE NO= WL= 26.7
REMARKS=

PERCENT MOISTURE BY VOLUME (ACROSS) VS DEPTH IN FEET (DOWN).
FIELD VALUE OF MOISTURE (THETA) GIVEN IN RIGHT HAND COLUMN.



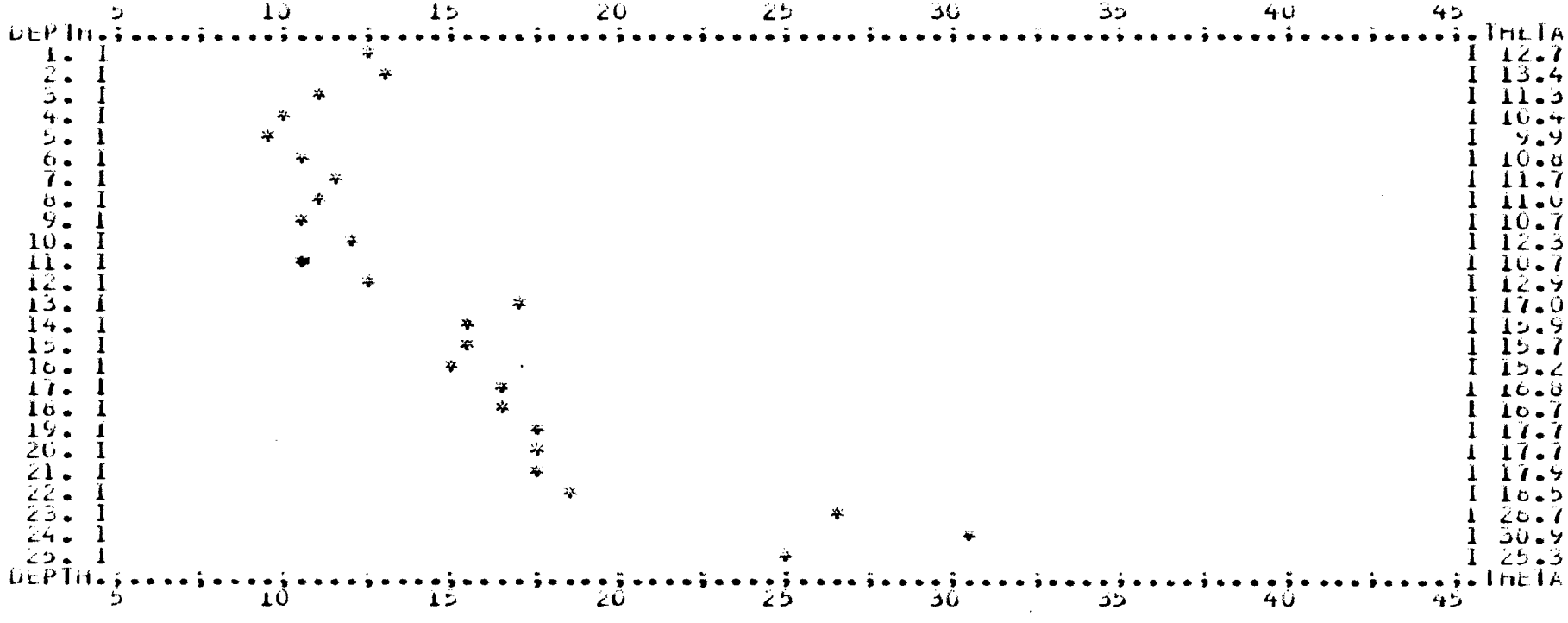
AMERICAN GROUNDWATER CONSULTANTS NEUTRON PROBE SOIL MOISTURE PROFILE
PROJECT=PLATEAU HOLE ID=NP-4 DM= 9521.17
DATE= 30JLY1980 TIME= PROBE NO= WL= 24.9
REMARKS=

PERCENT MOISTURE BY VOLUME (ACROSS) VS DEPTH IN FEET (DOWN).
FIELD VALUE OF MOISTURE (THETA) GIVEN IN RIGHT HAND COLUMN.



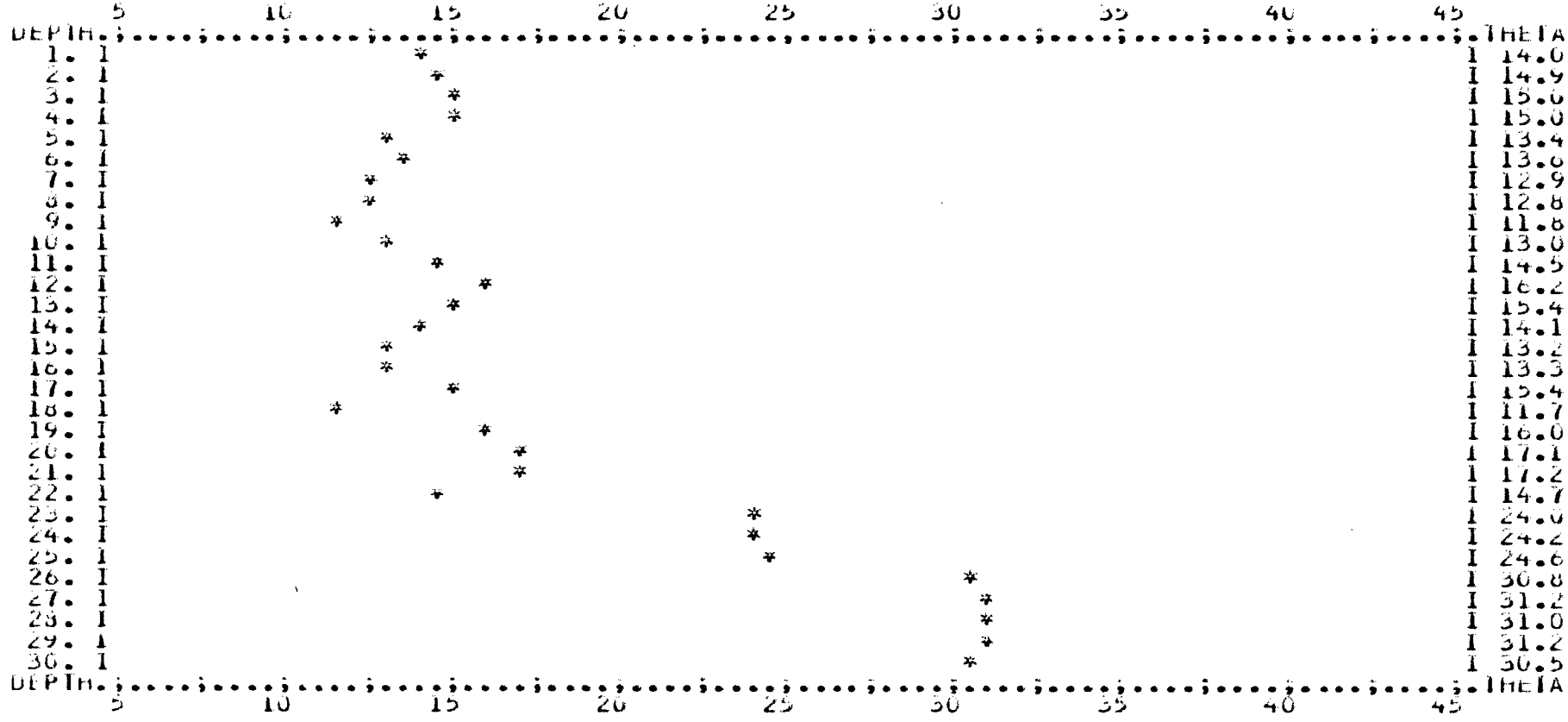
AMERICAN GROUNDWATER CONSULTANTS NEUTRON PROBE SOIL MOISTURE PROFILE
PROJECT=PLATEAU HOLE ID=NP-5 EM= 5521.13
DATE= 9JULY1980 TIME= PROBE NO= WL= 20.7
REMARKS=

PERCENT MOISTURE BY VOLUME (ACROSS) VS DEPTH IN FEET (DOWN).
FIELD VALUE OF MOISTURE (THETA) GIVEN IN RIGHT HAND COLUMN.



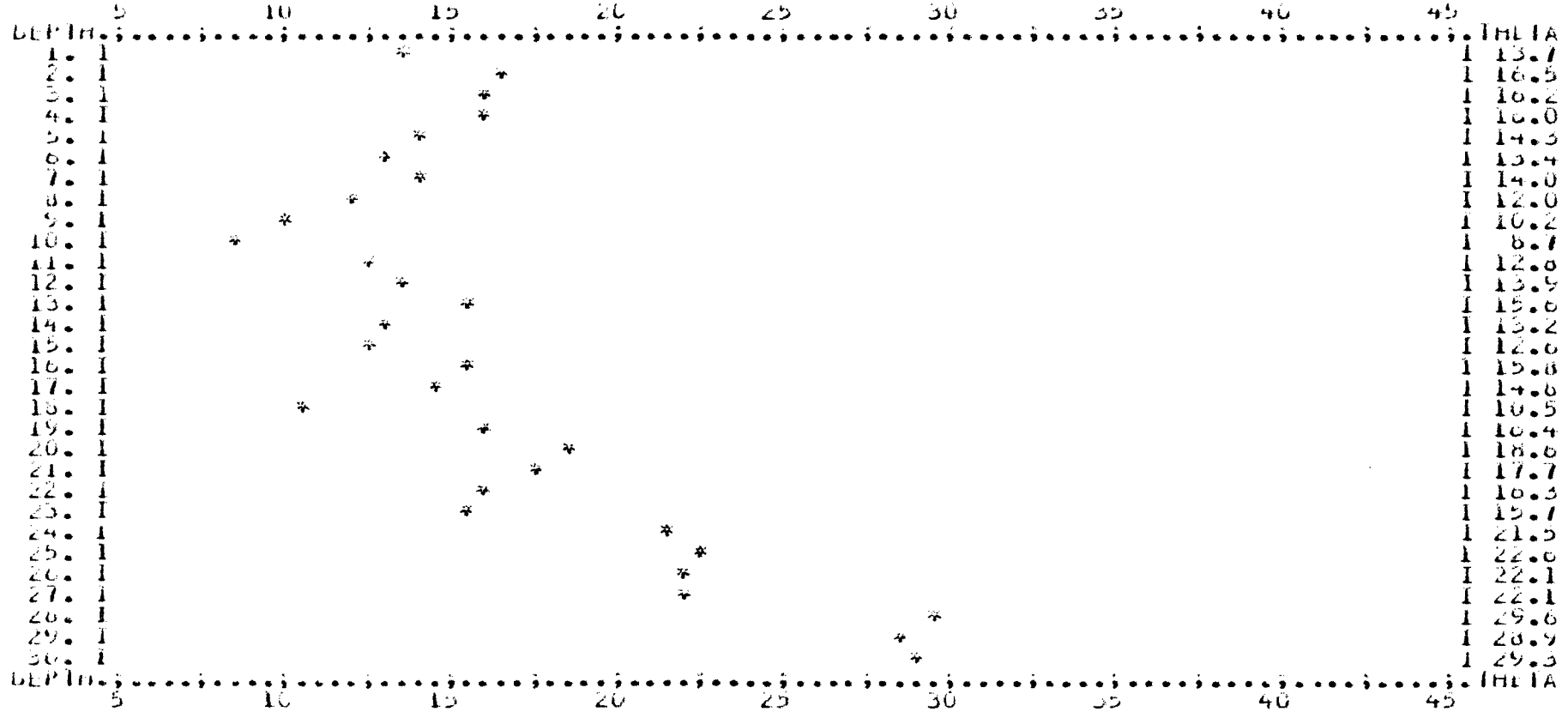
AMERICAN GROUNDWATER CONSULTANTS NEUTRON PROBE SOIL MOISTURE PROFILE
PROJECT=PLATEAU HOLE ID=NP-6 BM= 5520.94
DATE= 9JULY1980 TIME= PROBE NO= WL= 24.5
REMARKS=

PERCENT MOISTURE BY VOLUME (ACROSS) VS DEPTH IN FEET (DOWN).
FIELD VALUE OF MOISTURE (THETA) GIVEN IN RIGHT HAND COLUMN.



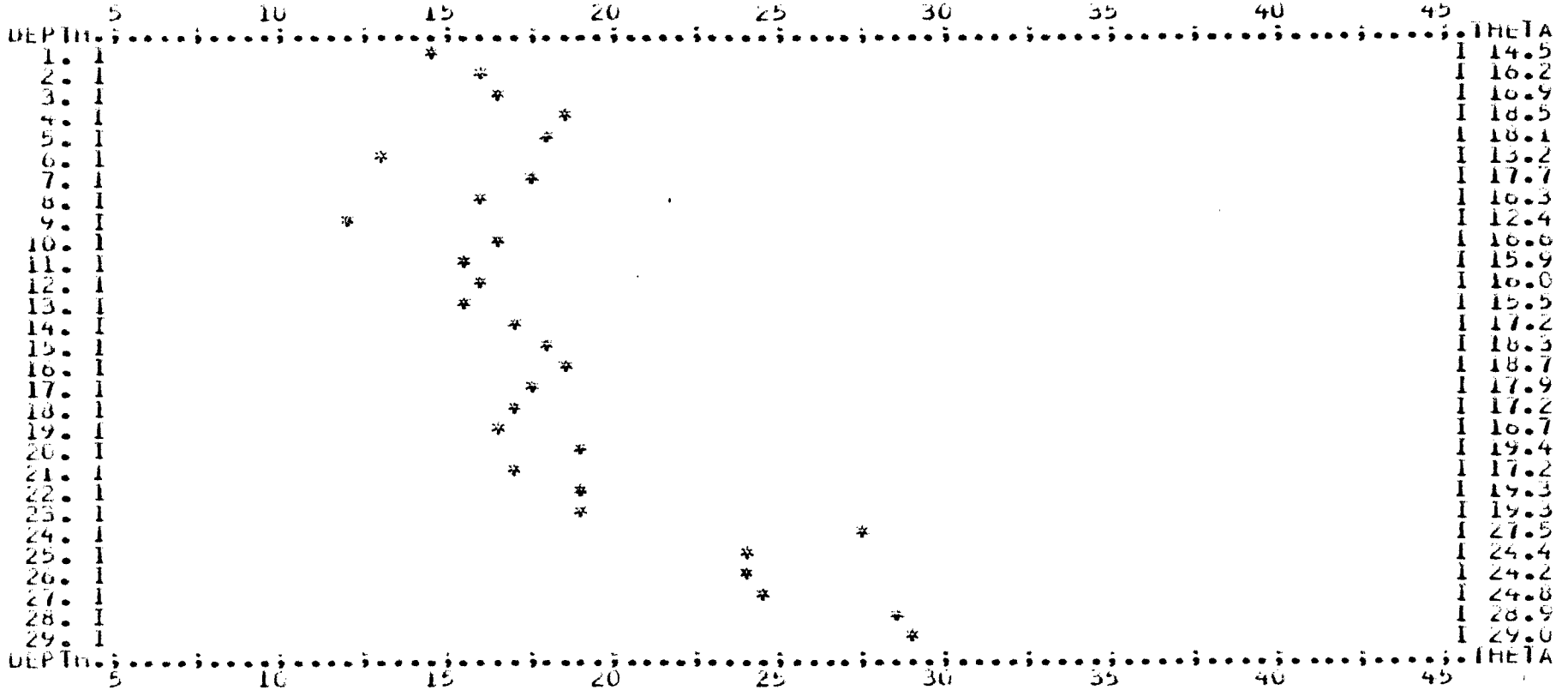
AMERICAN GROUNDWATER CONSULTANTS NEUTRON PROBE SOIL MOISTURE PROFILE
PROJECT=PLATEAU HOLE ID=NP-7 DM= 5520.97
DATE= 30JLY1980 TIME= PROBE NO= WL= 25.3
REMARKS=

PERCENT MOISTURE BY VOLUME (ACROSS) VS DEPTH IN FEET (DOWN).
FIELD VALUE OF MOISTURE (THETA) GIVEN IN RIGHT HAND COLUMN.



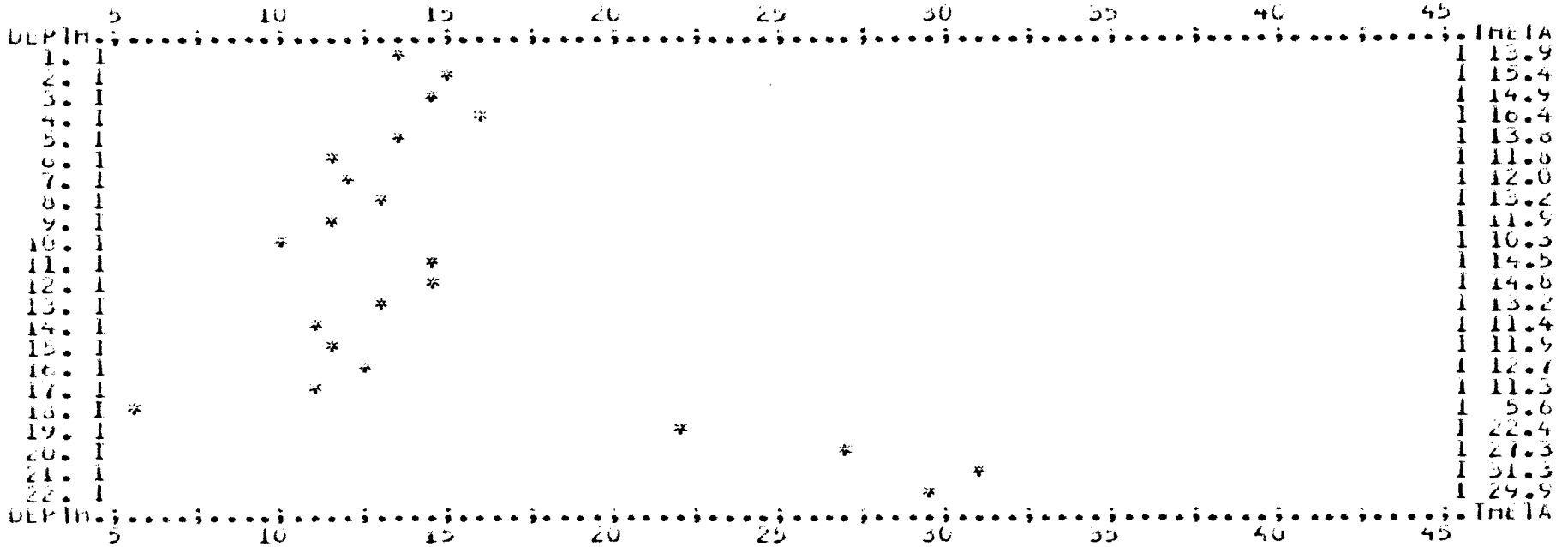
AMERICAN GROUNDWATER CONSULTANTS NEUTRON PROBE SOIL MOISTURE PROFILE
PROJECT=PLATEAU HOLE ID=NP-6 BM= 5521.29
DATE= 9JULY1980 TIME= PROBE NO= WL= 22.4
REMARKS=

PERCENT MOISTURE BY VOLUME (ACROSS) VS DEPTH IN FEET (DOWN).
FIELD VALUE OF MOISTURE (THETA) GIVEN IN RIGHT HAND COLUMN.



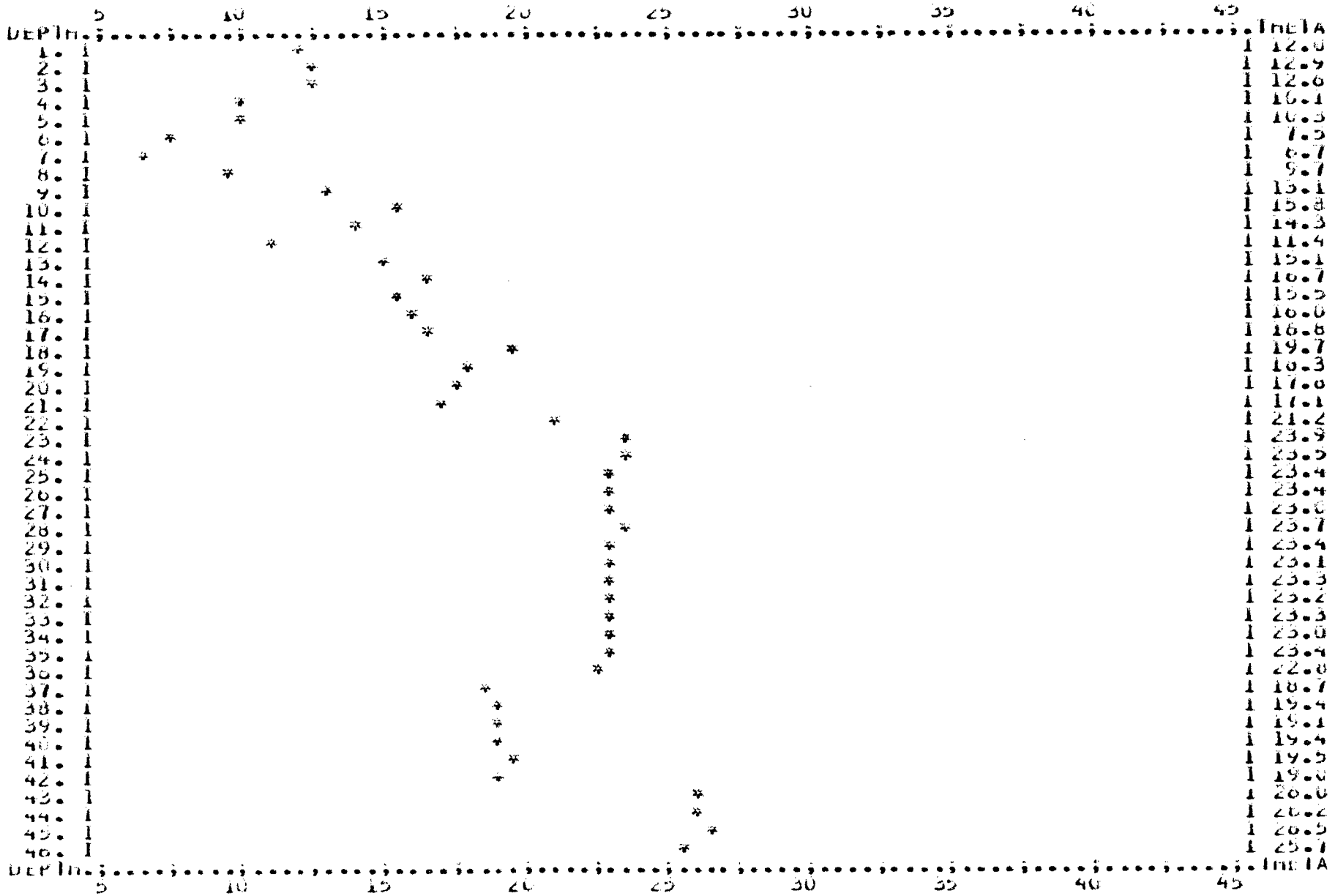
AMERICAN GROUNDWATER CONSULTANTS NEUTRON PROBE SOIL MOISTURE PROFILE
PROJECT=PLATEAU HOLE ID=NP-9 GM= 5520.90
DATE= 30JLY1980 TIME= PROBE NO= WL= 22.2
REMARKS=

PERCENT MOISTURE BY VOLUME (ACROSS) VS DEPTH IN FEET (DOWN).
FILED VALUE OF MOISTURE (THETA) GIVEN IN RIGHT HAND COLUMN.



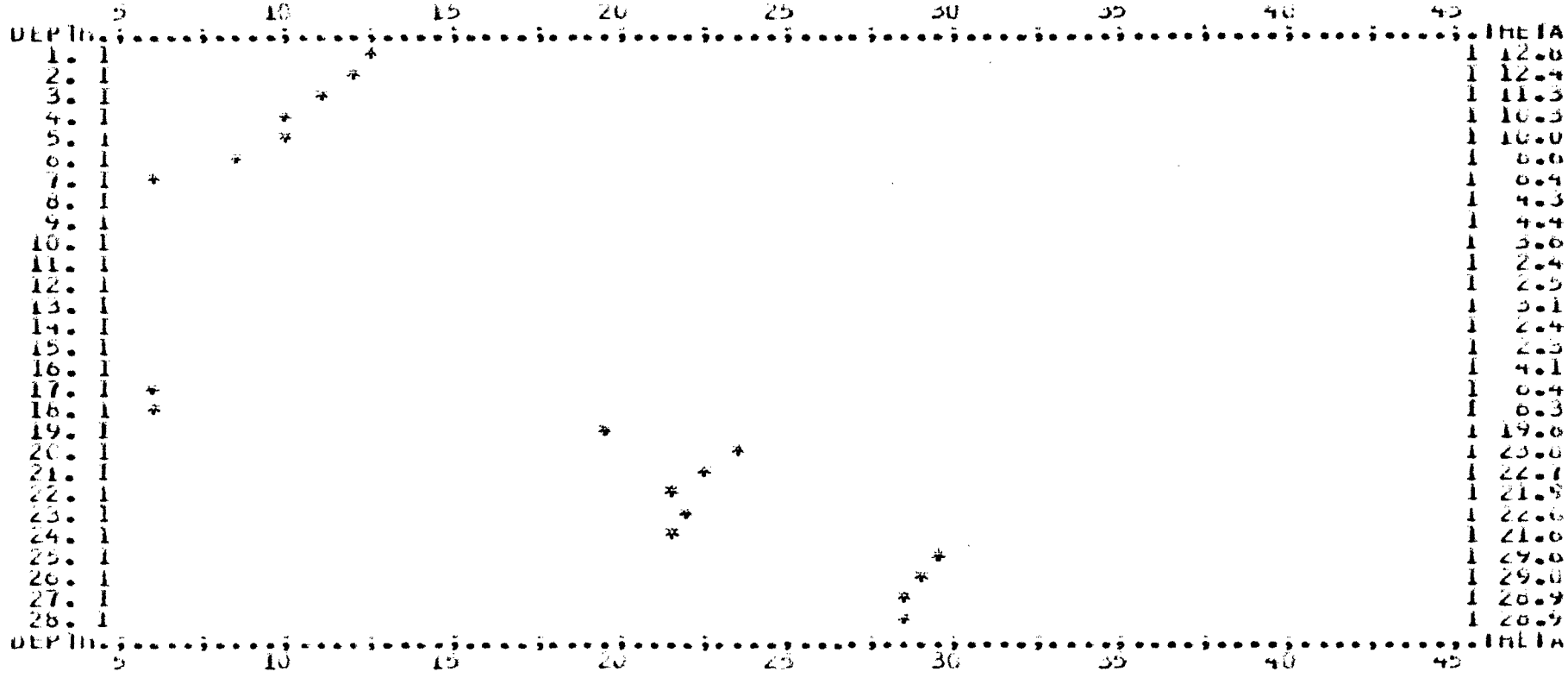
AMERICAN GROUNDWATER CONSULTANTS NEUTRON PROBE SOIL MOISTURE PROFILE
PROJECT=PLATEAU HOLE ID=NP-1 BM= 5521.82
DATE= 20CTOBER1980 TIME= PROBE NO= WL= 40.00
REMARKS=

PERCENT MOISTURE BY VOLUME (ACROSS) VS DEPTH IN FEET (DOWN).
FIELD VALUE OF MOISTURE (THETA) GIVEN IN RIGHT HAND COLUMN.



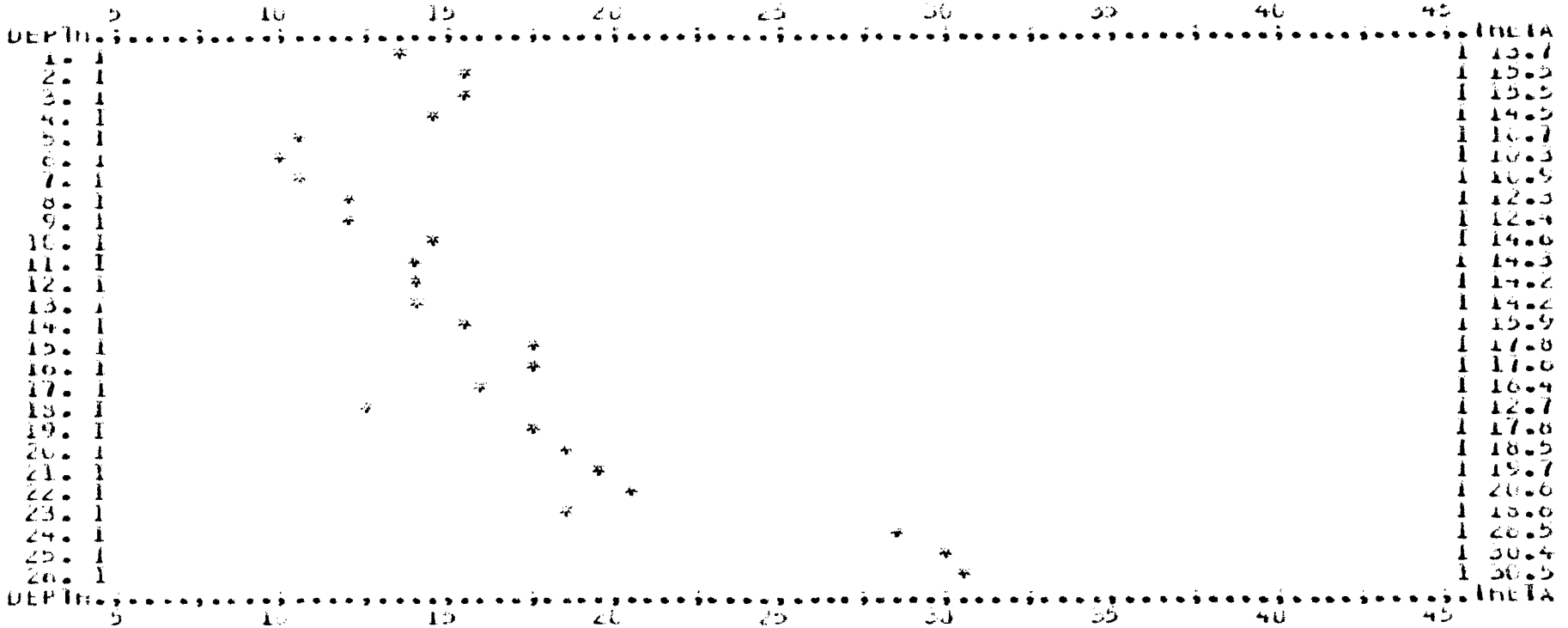
AMERICAN GROUNDWATER CONSULTANTS NEUTRON PROBE SOIL MOISTURE PROFILE
PROJECT=PLATEAU HOLE ID=NP-2 BM= 5520.67
DATE= 20OCTOBER1990 TIME= PROBE NO= WL= 27.20
REMARKS=

PERCENT MOISTURE BY VOLUME (ACROSS) VS DEPTH IN FEET (DOWN).
FIELD VALUE OF MOISTURE (THETA) GIVEN IN RIGHT HAND COLUMN.



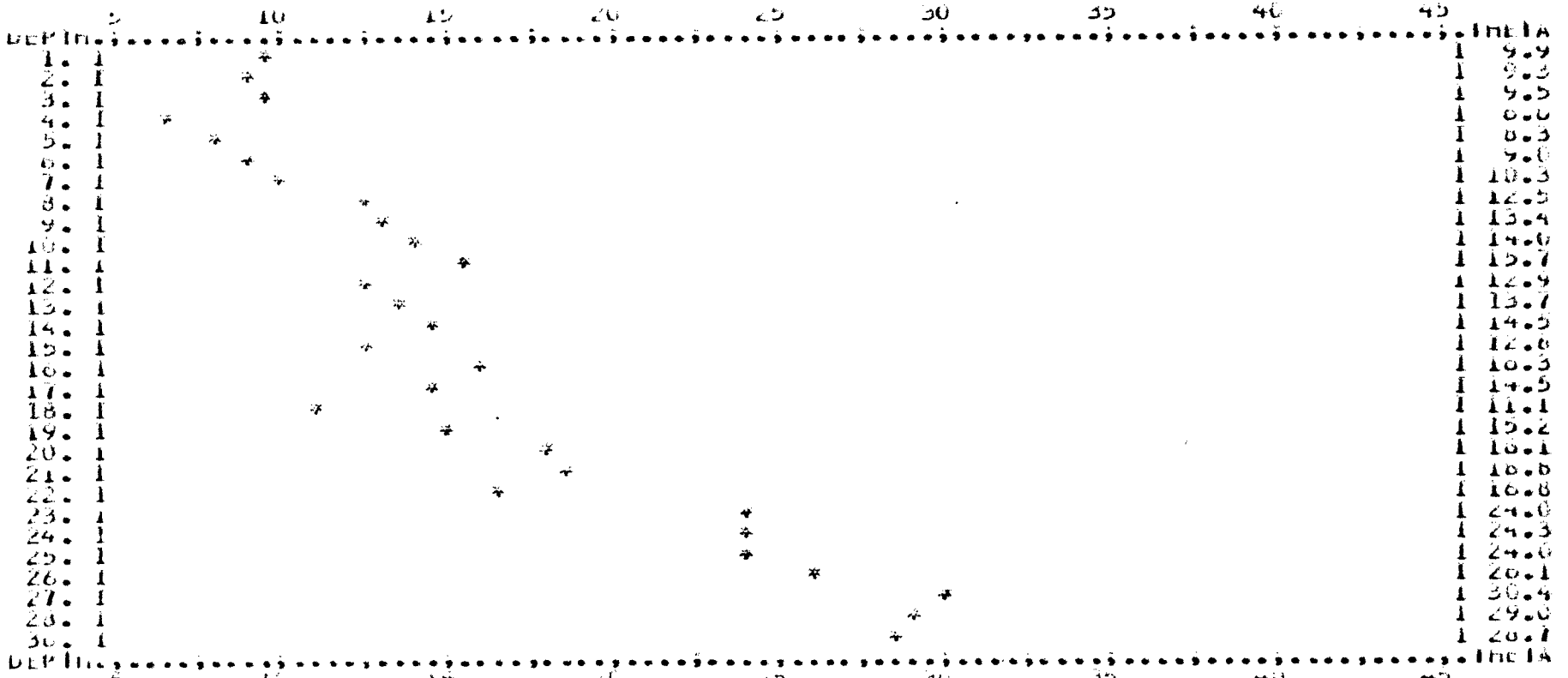
AMERICAN GROUNDWATER CONSULTANTS NEUTRON PROBE SOIL MOISTURE PROFILE
PROJECT=PLATEAU HOLE ID=NP-3 BM= 5521.13
DATE= 20OCTOBER1989 TIME= PROBE NO= WL= 22.03
REMARKS=

PERCENT MOISTURE BY VOLUME (ACROSS) VS DEPTH IN FEET (DOWN).
FIELD VALUE OF MOISTURE (THETA) GIVEN IN RIGHT HAND COLUMN.



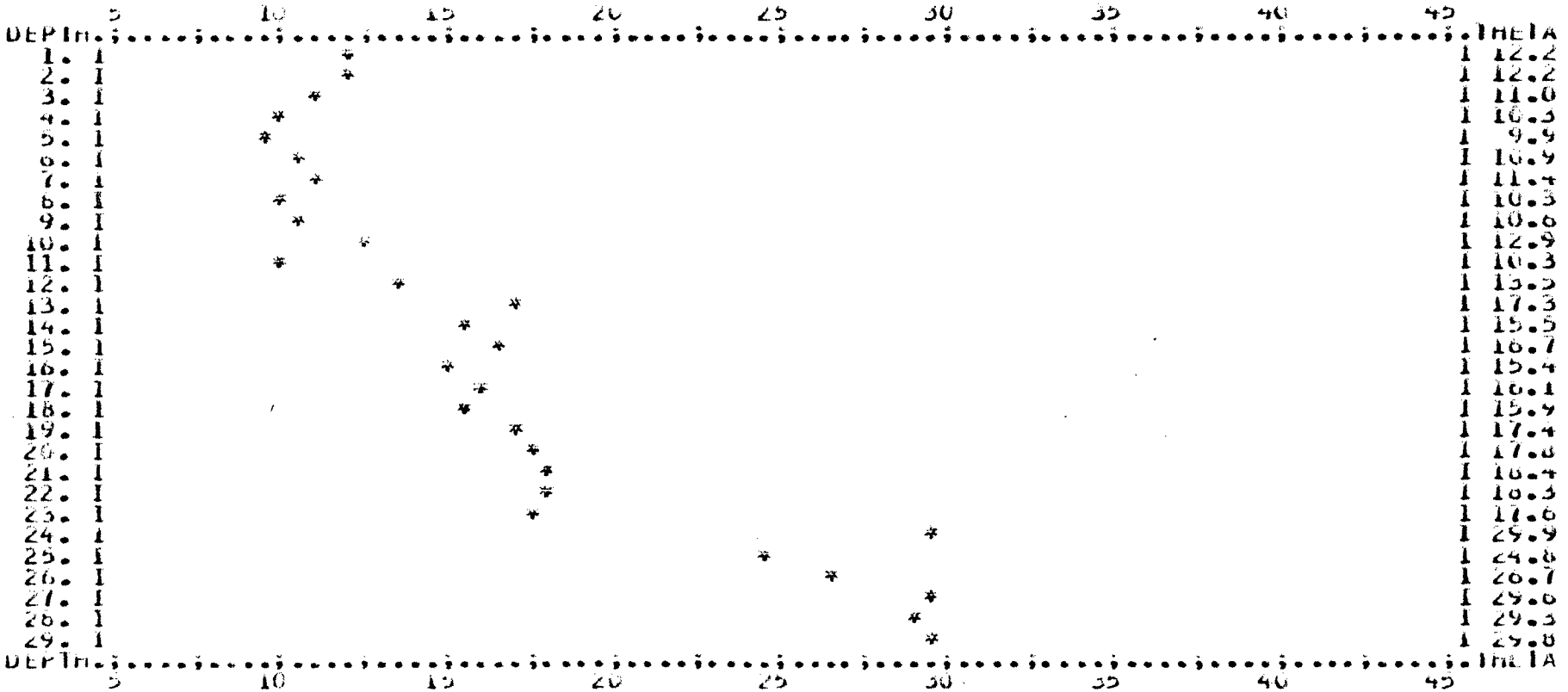
AMERICAN GROUNDWATER CONSULTANTS NEUTRON PROBE SOIL MOISTURE PROFILE
PROJECT=PLATEAU HOLE ID=NP-4 DM= 5521.17
DATE= 20OCTOBER1980 TIME= PROBE NO= WL= 29.44
REMARKS=

PERCENT MOISTURE BY VOLUME (ACROSS) VS DEPTH IN FEET (DOWN).
FIELD VALUE OF MOISTURE (THETA) GIVEN IN RIGHT HAND COLUMN.



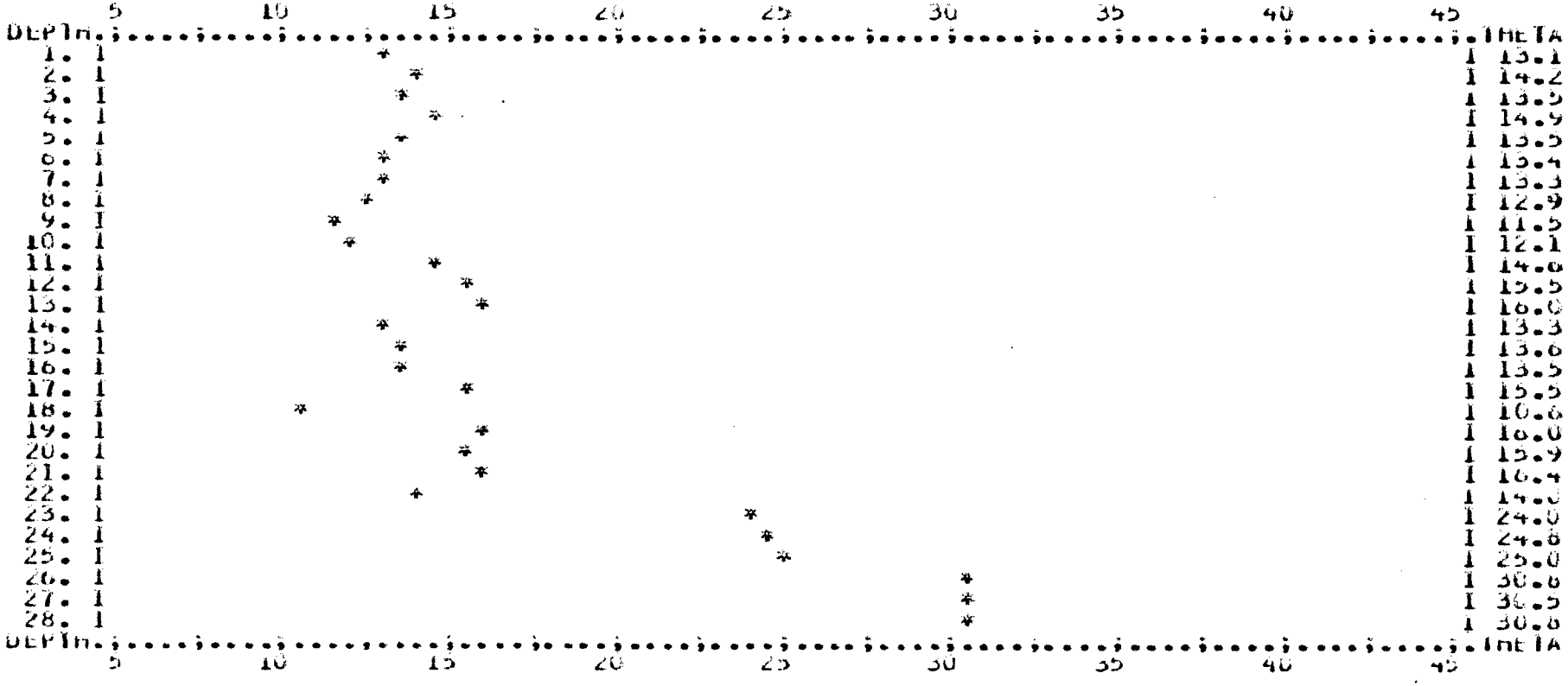
AMERICAN GROUNDWATER CONSULTANTS NEUTRON PROBE SOIL MOISTURE PROFILE
PROJECT=PLATEAU HOLE ID=NP-5 BM= 5521.13
DATE= 20CTOBER1980 TIME= PROBE NO= WL= 25.28
REMARKS=

PERCENT MOISTURE BY VOLUME (ACROSS) VS DEPTH IN FEET (DOWN).
FIELD VALUE OF MOISTURE (THETA) GIVEN IN RIGHT HAND COLUMN.



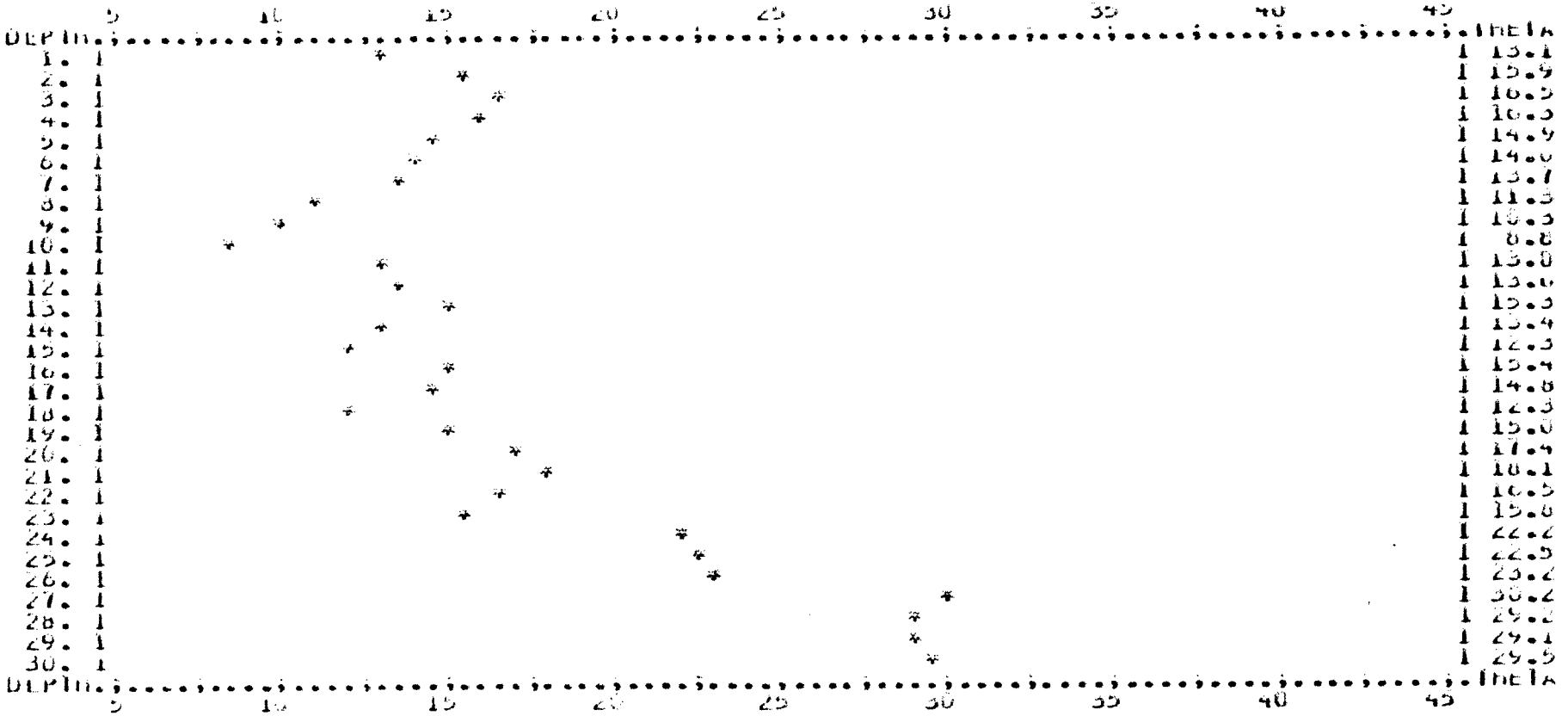
AMERICAN GROUNDWATER CONSULTANTS NEUTRON PROBE SOIL MOISTURE PROFILE
PROJECT=PLATEAU HOLE ID=NP-6 BM= 5920.94
DATE= 20OCTOBER 1986 TIME= PROBE NO= WL= 24.76
REMARKS=

PERCENT MOISTURE BY VOLUME (ACROSS) VS DEPTH IN FEET (DOWN).
FIELD VALUE OF MOISTURE (THETA) GIVEN IN RIGHT HAND COLUMN.



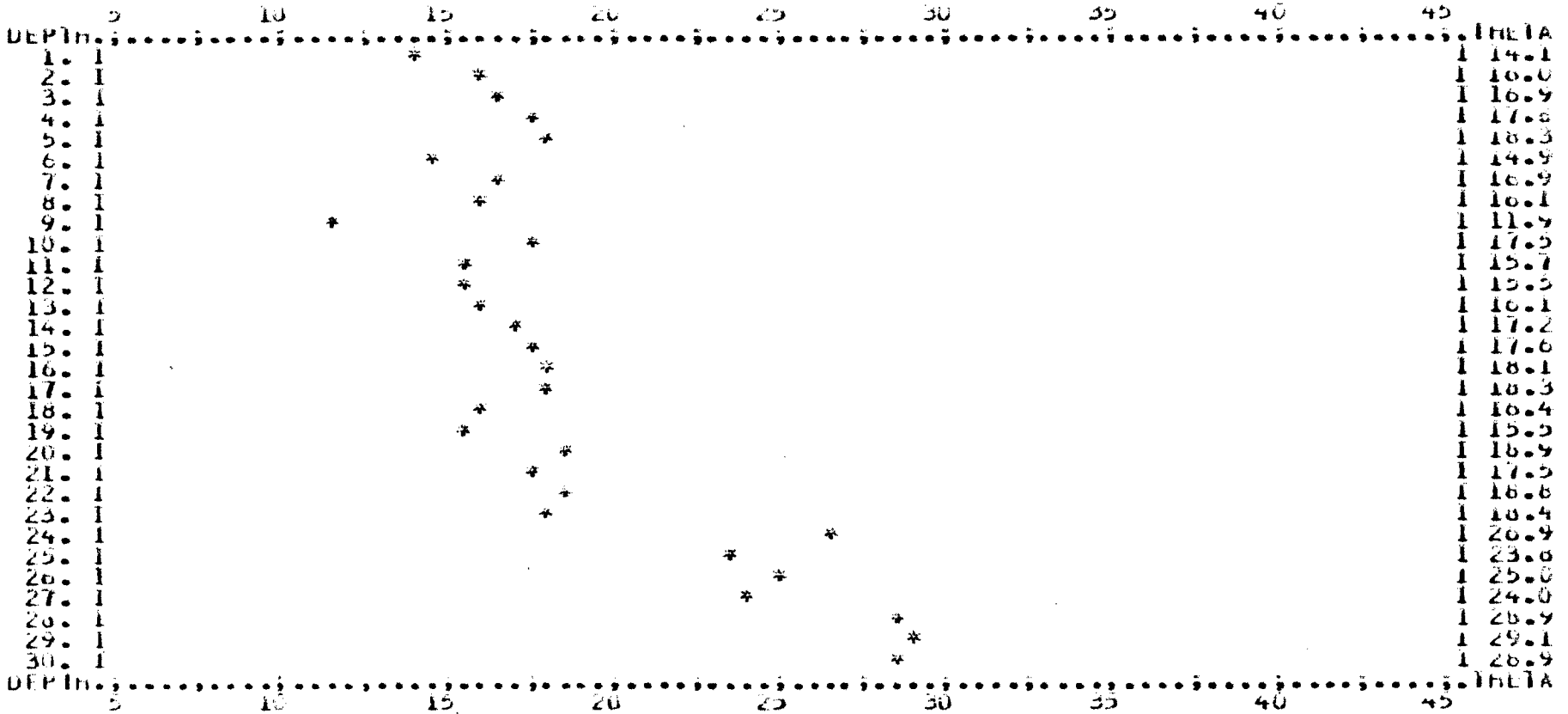
AMERICAN GROUNDWATER CONSULTANTS NEUTRON PROBE SOIL MOISTURE PROFILE
PROJECT=PLATEAU HOLE ID=NP-7 DM= 5523.97
DATE= 20CTOBER1280 TIME= PROBE NO= WL=25.10
REMARKS=

PERCENT MOISTURE BY VOLUME (ACROSS) VS DEPTH IN FEET (DOWN).
FIELD VALUE OF MOISTURE (THETA) GIVEN IN RIGHT HAND COLUMN.



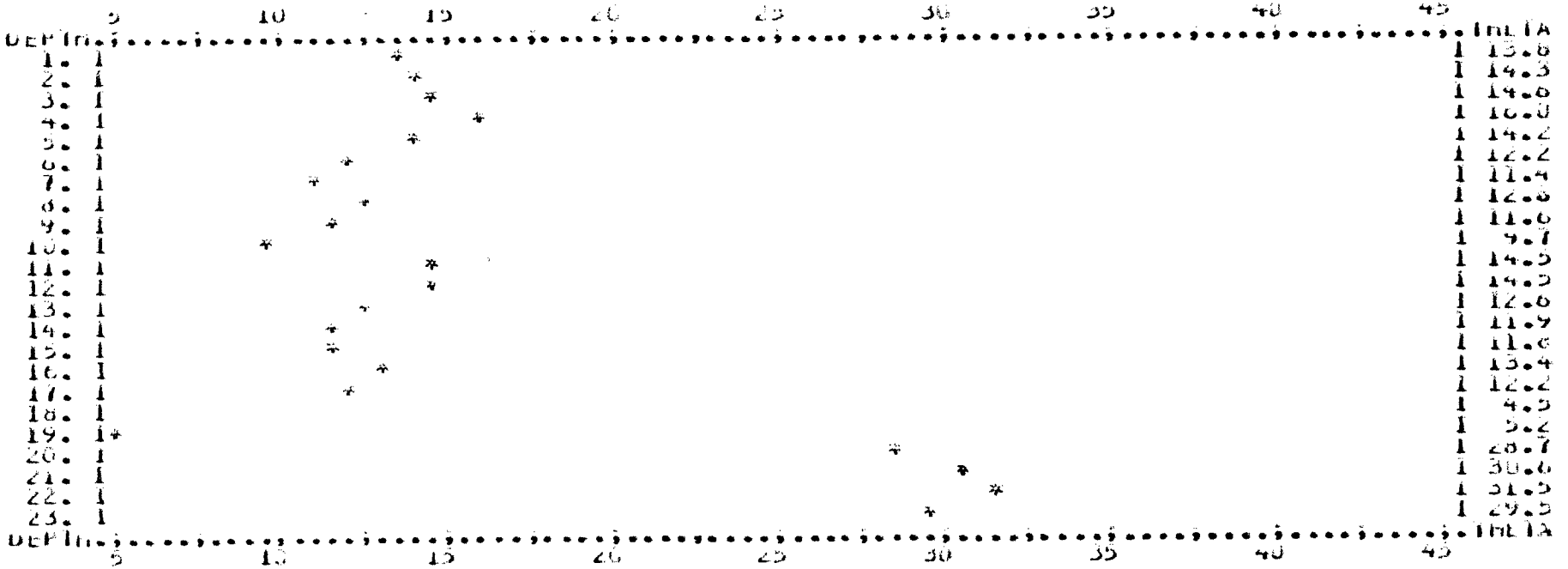
AMERICAN GROUNDWATER CONSULTANTS NEUTRON PROBE SOIL MOISTURE PROFILE
PROJECT=PLATEAU HOLE ID=NP-8 GM= 5921.29
DATE= 20OCTOBER 1980 TIME= PROBE NO= WL= 23.25
REMARKS=

PERCENT MOISTURE BY VOLUME (ACROSS) VS DEPTH IN FEET (DOWN).
FIELD VALUE OF MOISTURE (THETA) GIVEN IN RIGHT HAND COLUMN.



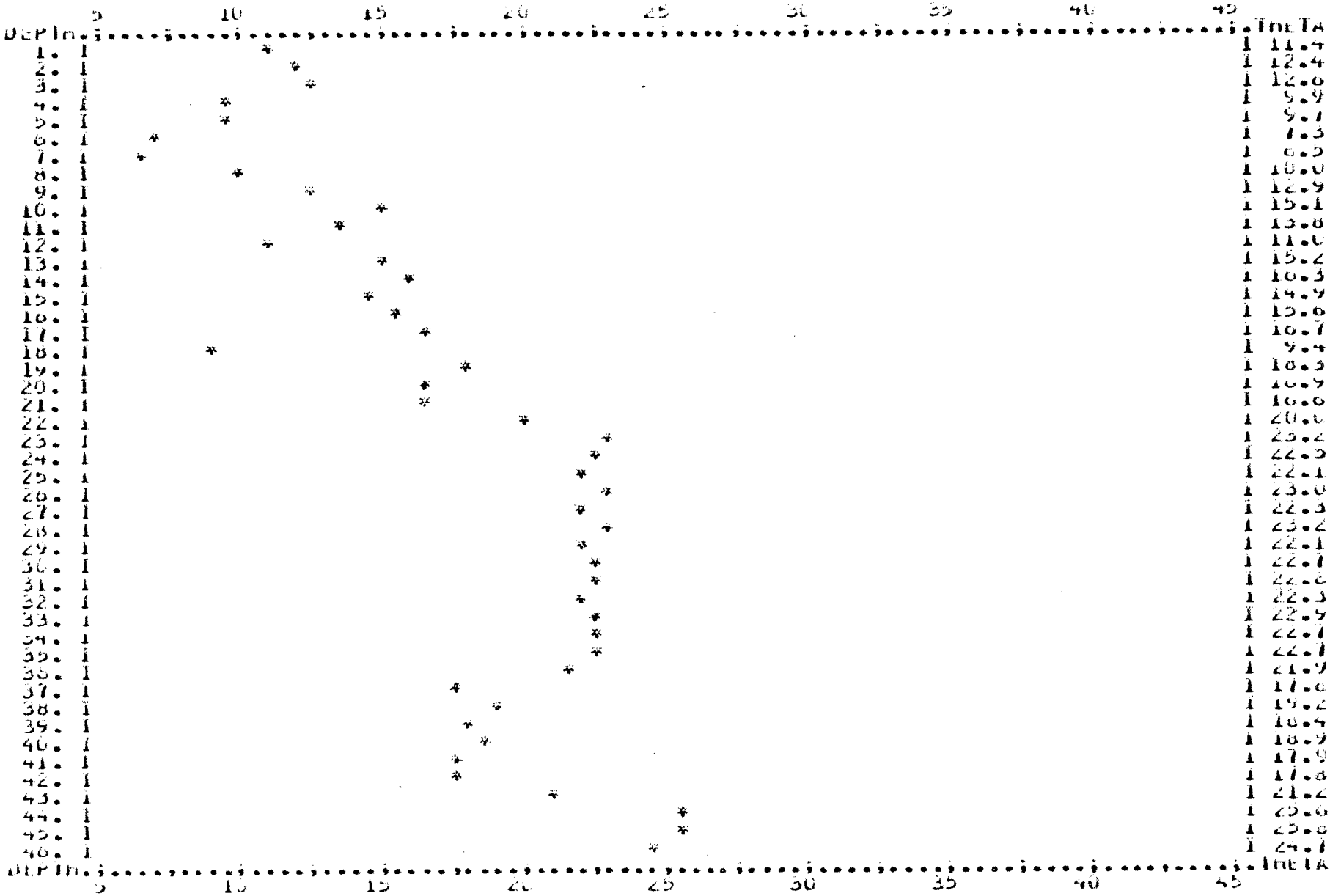
AMERICAN GROUNDWATER CONSULTANTS NEUTRON PROBE SOIL MOISTURE PROFILE
PROJECT=PLATEAU HOLE ID=NP-9 BM= 5520.90
DATE= 20CTOBER1983 TIME= PROBE NO= WL= 17.00
REMARKS=

PERCENT MOISTURE BY VOLUME (ACROSS) VS DEPTH IN FEET (DOWN).
FIELD VALUE OF MOISTURE (THETA) GIVEN IN RIGHT HAND COLUMN.



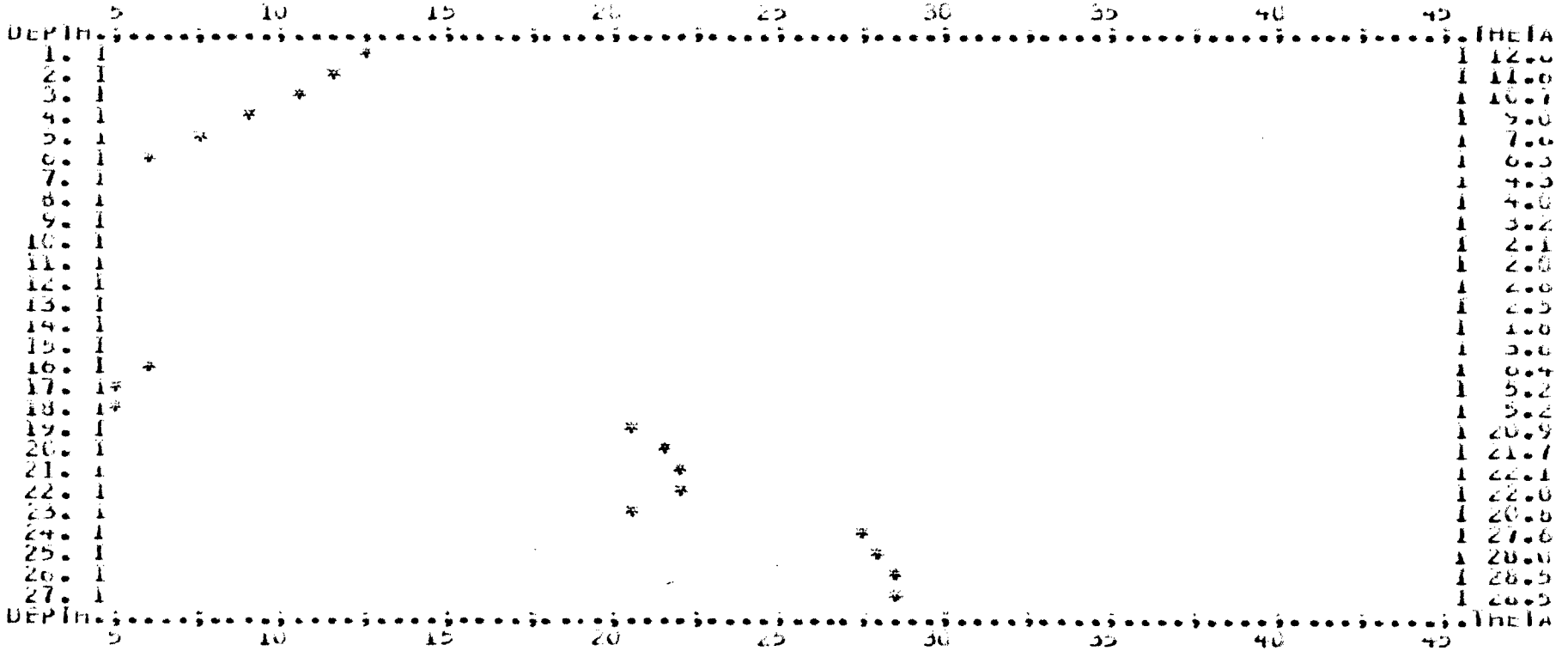
AMERICAN GROUNDWATER CONSULTANTS NEUTRON PROBE SOIL MOISTURE PROFILE
PROJECT=PLATEAU HOLE ID=NP-1 BM= 5521.62
DATE= 11DECEMBER1980 TIME= PROBE NO= WL= 40.79
REMARKS=

PERCENT MOISTURE BY VOLUME (ACROSS) VS DEPTH IN FEET (DOWN).
FIELD VALUE OF MOISTURE (THETA) GIVEN IN RIGHT HAND COLUMN.



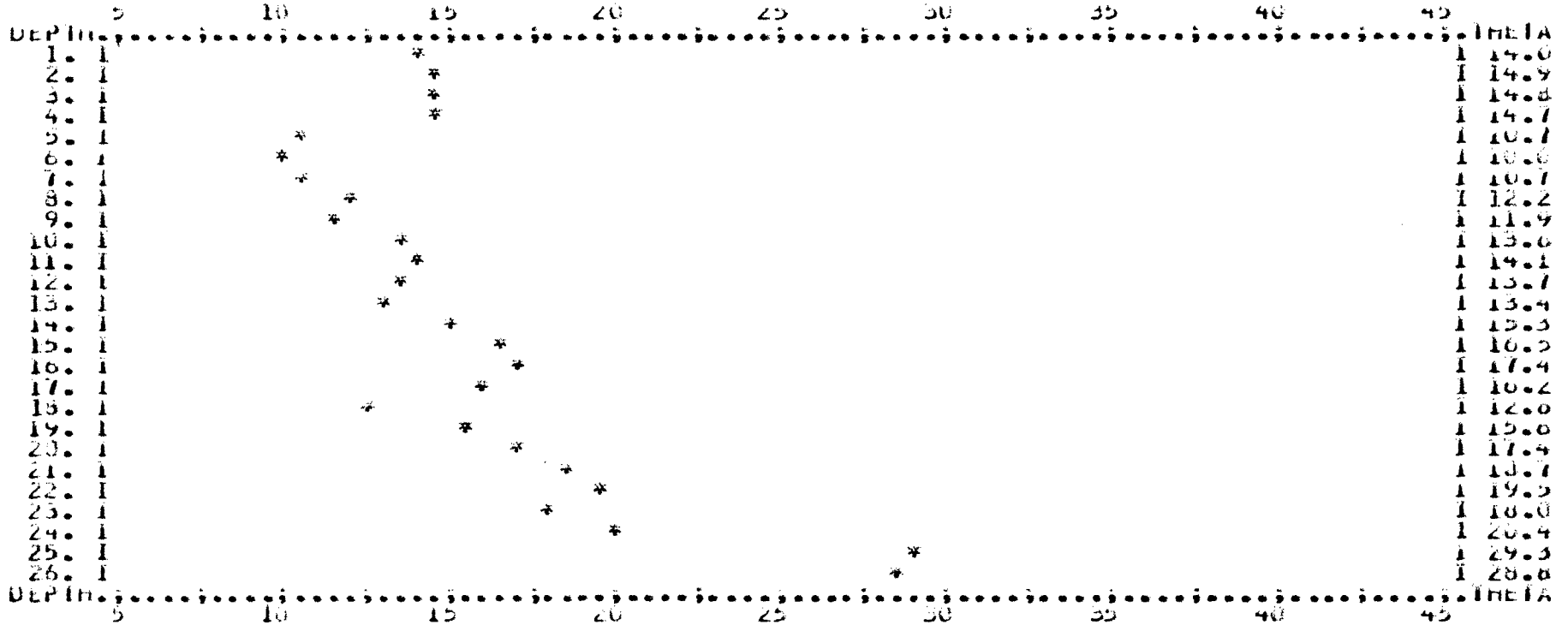
AMERICAN GROUNDWATER CONSULTANTS NEUTRON PROBE SOIL MOISTURE PROFILE
PROJECT=PLATEAU HOLE ID=NP-2 DM= 5520.67
DATE= 1DECEMBER1986 TIME= PROBE NO= WL= 27.24
REMARKS=

PERCENT MOISTURE BY VOLUME (ACROSS) VS DEPTH IN FEET (DOWN).
FIELD VALUE OF MOISTURE (THETA) GIVEN IN RIGHT HAND COLUMN.



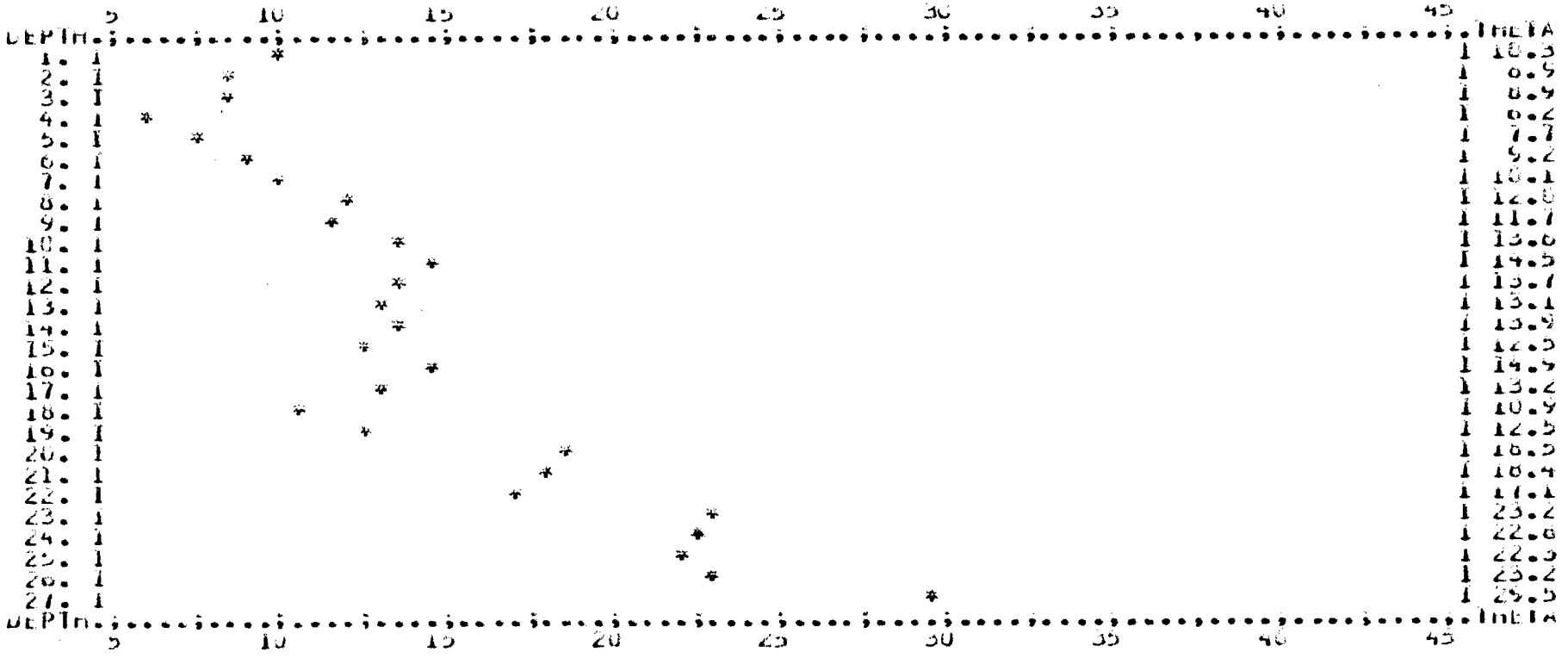
AMERICAN GROUNDWATER CONSULTANTS NEUTRON PROBE SOIL MOISTURE PROFILE
PROJECT=PLATEAU HOLE ID=NP-5 BM= 5521.13
DATE= 11DECEMBER1986 TIME= PROBE NO= WL= 23.42
REMARKS=

PERCENT MOISTURE BY VOLUME (ACROSS) VS DEPTH IN FEET (DOWN).
FIELD VALUE OF MOISTURE (THETA) GIVEN IN RIGHT HAND COLUMN.



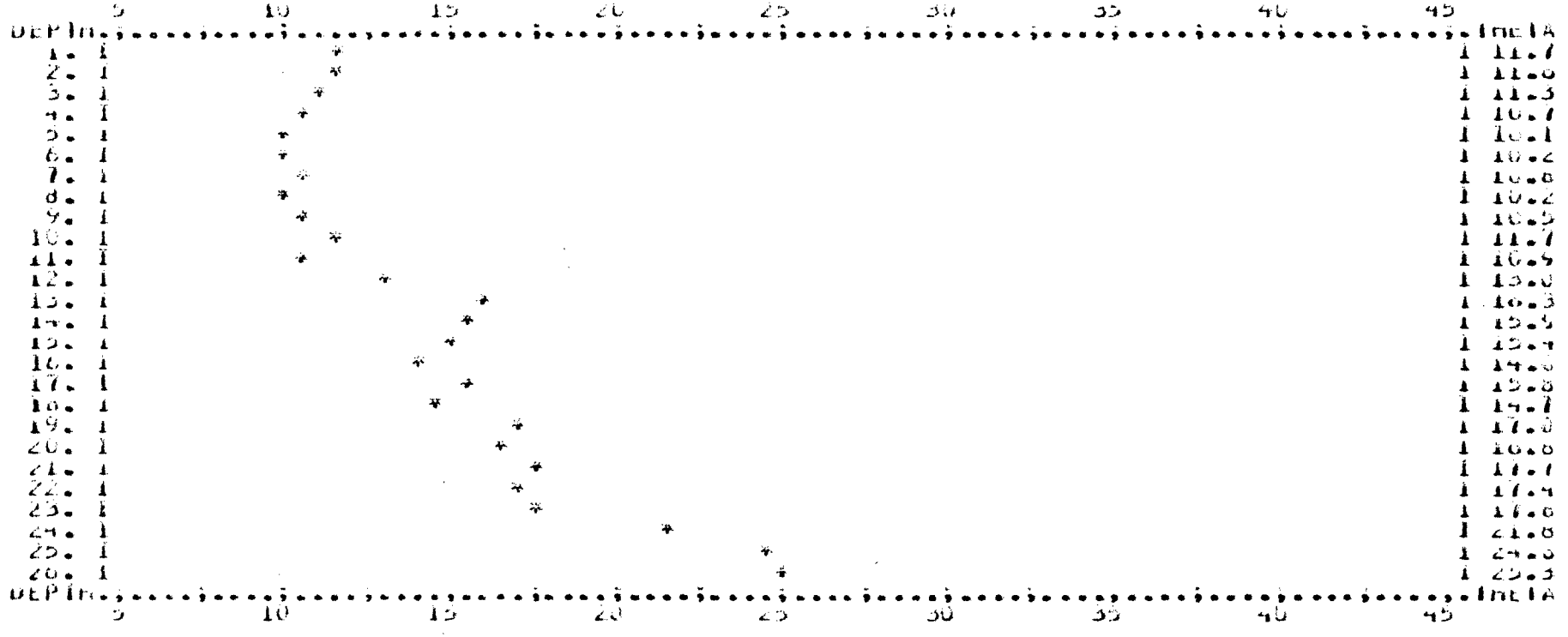
AMERICAN GROUNDWATER CONSULTANTS NEUTRON PROBE SOIL MOISTURE PROFILE
PROJECT=PLATEAU HOLE ID=NP-4 DM= 5521.17
DATE= 11DECEMBER1980 TIME= PROBE NO= WL= 29.72
REMARKS=

PERCENT MOISTURE BY VOLUME (ACROSS) VS DEPTH IN FEET (DOWN).
FIELD VALUE OF MOISTURE (THETA) GIVEN IN RIGHT HAND COLUMN.



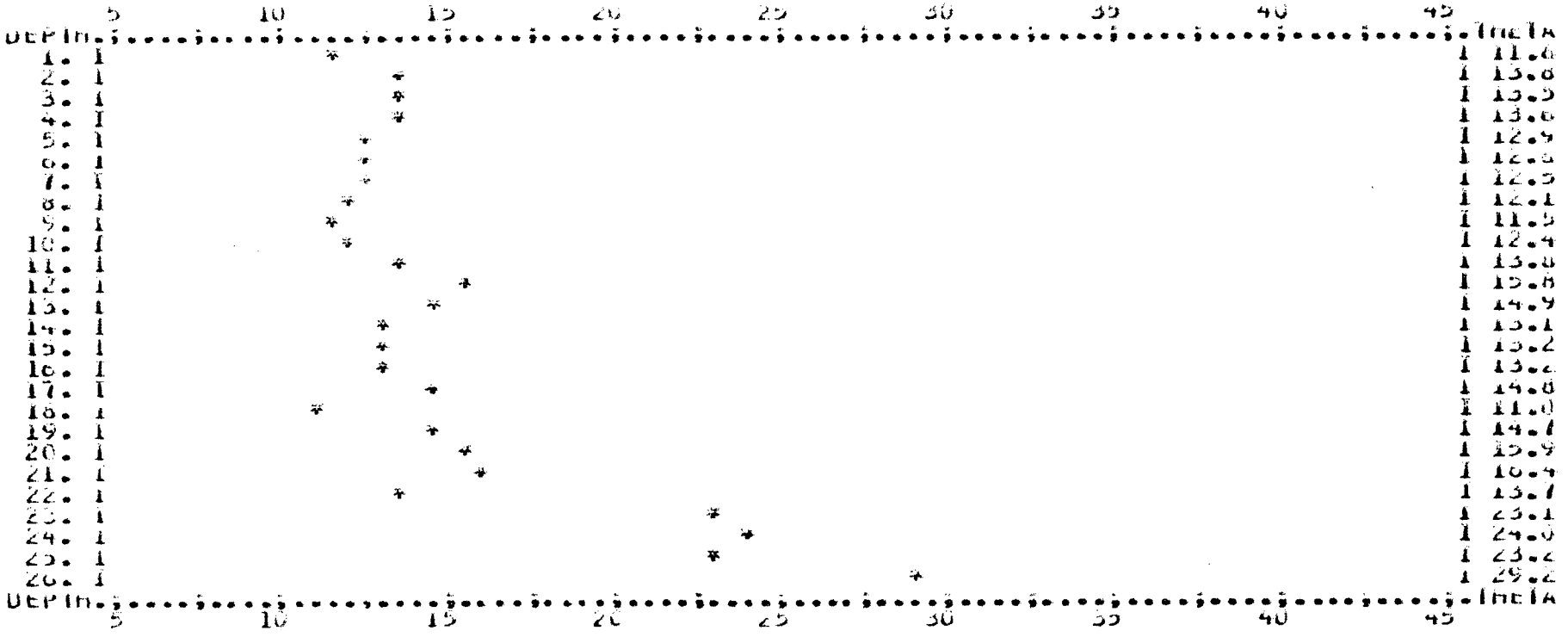
AMERICAN UNDERWATER CONSULTANTS NEUTRON PROBE SOIL MOISTURE PROFILE
PROJECT=PLATEAU HOLE ID=NP-5 HM= 5521.13
DATE= 11DECEMBER1981 TIME= PROBE NO= ML= 23.24
REMARKS=

PERCENT MOISTURE BY VOLUME (ACROSS) VS DEPTH IN FEET (DOWN).
FIELD VALUE OF MOISTURE (THETA) GIVEN IN RIGHT HAND COLUMN.



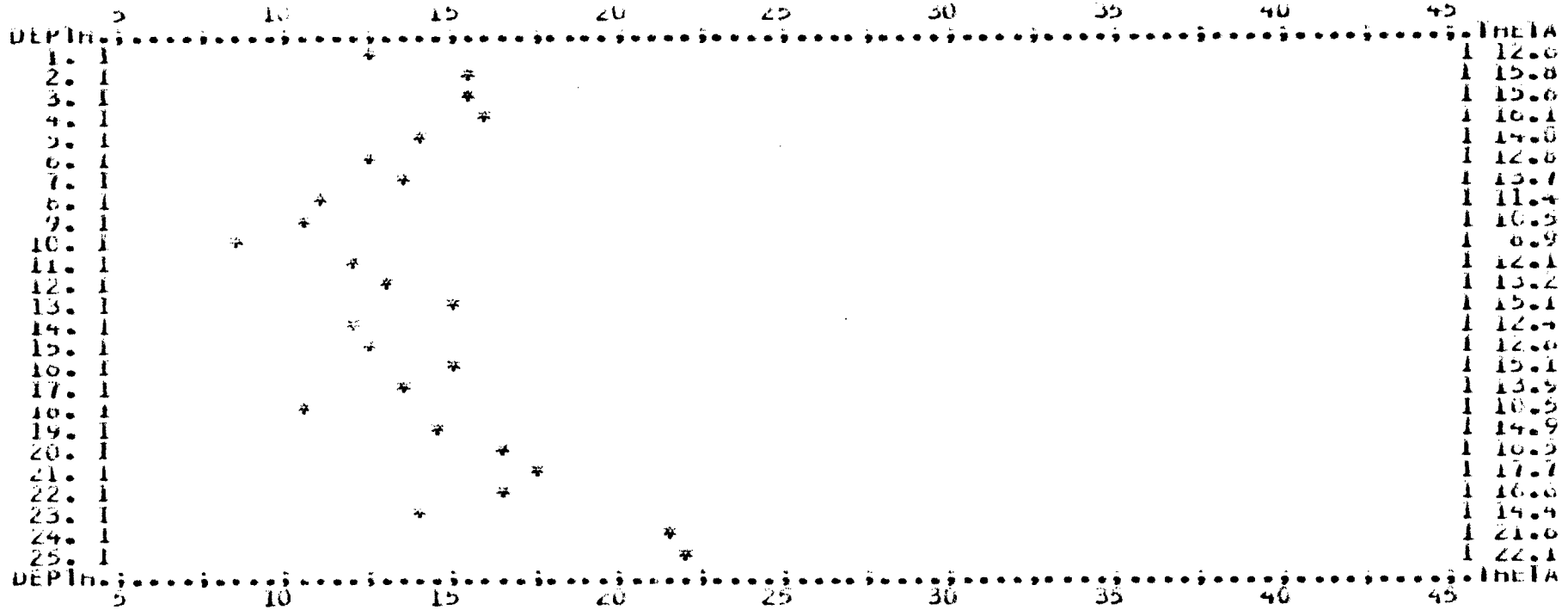
AMERICAN GROUNDWATER CONSULTANTS NEUTRON PROBE SOIL MOISTURE PROFILE
PROJECT=PLATEAU HOLE ID=NP-6 DM= 5520.94
DATE= 11DECEMBER1981 TIME= PROBE NO= WL= 25.90
REMARKS=

PERCENT MOISTURE BY VOLUME (ACROSS) VS DEPTH IN FEET (DOWN).
FIELD VALUE OF MOISTURE (THETA) GIVEN IN RIGHT HAND COLUMN.



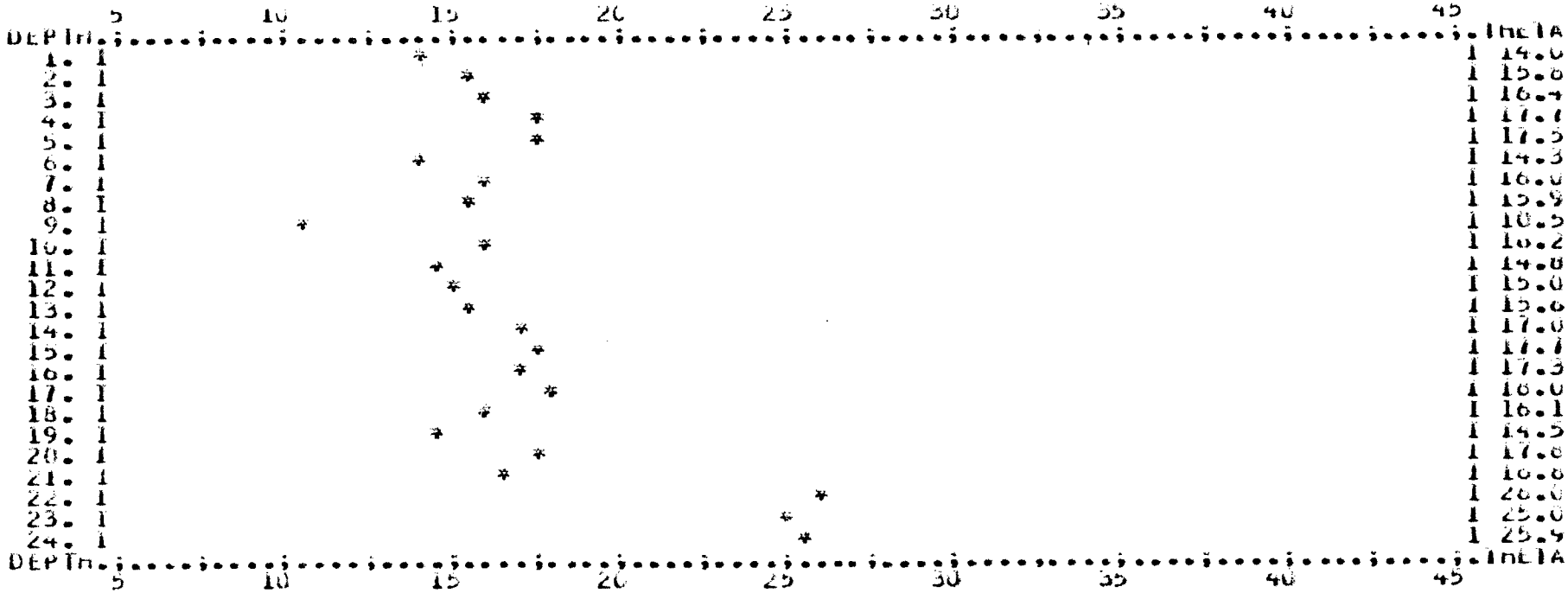
AMERICAN GROUNDWATER CONSULTANTS NEUTRON PROBE SOIL MOISTURE PROFILE
PROJECT=PLATEAU HOLE ID=NP-7 DM= 5520.97
DATE= 11DECEMBER1980 TIME= PROBE NO= WL= 24.91
REMARKS=

PERCENT MOISTURE BY VOLUME (ACROSS) VS DEPTH IN FEET (DOWN).
FIELD VALUE OF MOISTURE (THETA) GIVEN IN RIGHT HAND COLUMN.



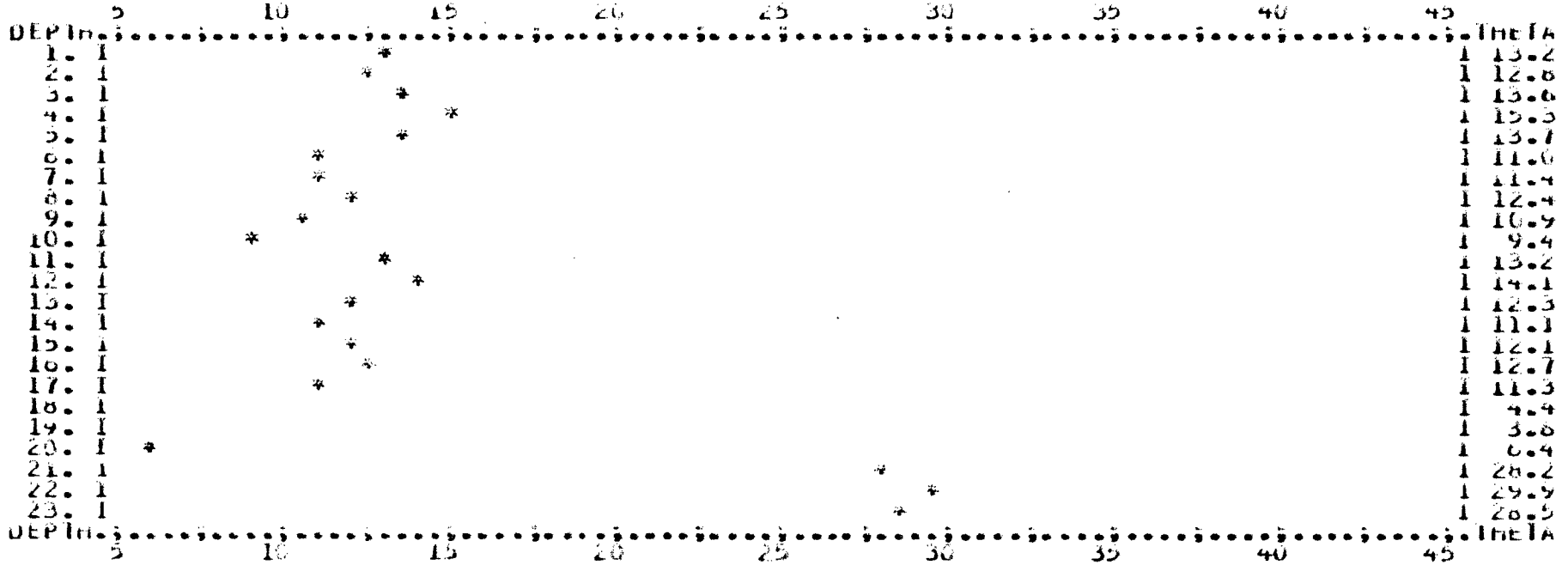
AMERICAN GROUNDWATER CONSULTANTS NEUTRON PROBE SOIL MOISTURE PROFILE
PROJECT=PLATEAU PROBE ID=NP-8 BM= 5521.29
DATE= 11DECEMBER1980 TIME= PROBE NO= WL= 24.23
REMARKS=

PERCENT MOISTURE BY VOLUME (ACROSS) VS DEPTH IN FEET (DOWN).
FIELD VALUE OF MOISTURE (THETA) GIVEN IN RIGHT HAND COLUMN.



AMERICAN GROUNDWATER CONSULTANTS NEUTRON PROBE SOIL MOISTURE PROFILE
PROJECT=PLATEAU HOLE ID=NP-9 DM= 5520.9
DATE= 11DECEMBER1986 TIME= PROBE NO= WL= 18.50
REMARKS=

PERCENT MOISTURE BY VOLUME (ACROSS) VS DEPTH IN FEET (DOWN).
FIELD VALUE OF MOISTURE (THETA) GIVEN IN RIGHT HAND COLUMN.



ATTACHMENT 4

TEMPERATURE PROFILE FOR NEUTRON-PROBE-ACCESS HOLE NP-1
FOR MARCH 8, 1979

DEPTH (ft)	TEMPERATURE (°C)	DEPTH (ft)	TEMPERATURE (°C)
1	10.05	25	13.86
2	7.55	30	14.08
3	6.34	35	14.08
4	2.93	40	14.33
5	2.74	45	14.33
6	3.06	50	14.33
7	3.48		
8	4.41		
9	5.23		
10	6.22		
11	7.00		
12	7.84		
13	8.62		
14	9.33		
15	10.18		
16	10.61		
17	11.04		
18	11.66		
19	12.23		
20	12.53		

TEMPERATURE PROFILE FOR NEUTRON-PROBE-ACCESS HOLE NP-2
FOR MARCH 9, 1979

DEPTH (ft)	TEMPERATURE (°C)	DEPTH (ft)	TEMPERATURE (°C)
1	8.41	25	13.12
2	7.54	30	13.62
3	7.08	35	14.28
4	4.92	40	14.60
5	4.89	45	14.58
6	5.04	50	14.58
7	5.51		
8	5.94		
9	6.95		
10	7.59		
11	8.12		
12	8.17		
13	8.67		
14	9.71		
15	10.86		
16	10.88		
17	11.55		
18	11.79		
19	11.95		
20	12.31		

TEMPERATURE PROFILE FOR NEUTRON-PROBE-ACCESS HOLE NP-3
FOR MARCH 9, 1979

DEPTH (ft)	TEMPERATURE (°C)	DEPTH (ft)	TEMPERATURE (°C)
1	9.94	25	13.01
2	8.84	30	13.71
3	7.03	35	14.05
4	3.64	40	14.20
5	3.49	45	14.48
6	3.60	50	14.55
7	4.16		
8	4.61		
9	4.22		
10	5.70		
11	6.46		
12	7.21		
13	8.22		
14	9.01		
15	9.93		
16	10.70		
17	11.29		
18	11.39		
19	11.73		
20	11.78		

TEMPERATURE PROFILE FOR NEUTRON-PROBE-ACCESS HOLE NP-4
FOR MARCH 9, 1979

DEPTH (ft)	TEMPERATURE (°C)	DEPTH (ft)	TEMPERATURE (°C)
1	8.54	25	13.29
2	6.32	30	13.97
3	5.58	35	14.14
4	3.82	40	14.14
5	3.82	45	14.34
6	4.24	50	14.34
7	5.21		
8	6.14		
9	6.67		
10	7.22		
11	7.82		
12	8.43		
13	9.01		
14	9.47		
15	10.13		
16	10.68		
17	10.89		
18	11.08		
19	11.49		
20	11.82		

TEMPERATURE PROFILE FOR NEUTRON-PROBE-ACCESS HOLE NP-5
FOR MARCH 9, 1979

DEPTH (ft)	TEMPERATURE (°C)	DEPTH (ft)	TEMPERATURE (°C)
1	5.86	25	12.88
2	5.36	30	13.31
3	5.20	35	13.82
4	4.43	40	14.22
5	3.55	45	14.22
6	3.83	48.5	14.39
7	4.31		
8	4.95		
9	5.87		
10	6.68		
11	7.61		
12	8.20		
13	8.72		
14	9.83		
15	10.13		
16	10.73		
17	11.02		
18	11.28		
19	11.63		
20	11.88		

TEMPERATURE PROFILE FOR NEUTRON-PROBE-ACCESS HOLE NP-6
FOR MARCH 9, 1979

DEPTH (ft)	TEMPERATURE (°C)	DEPTH (ft)	TEMPERATURE (°C)
1	11.80	25	13.05
2	8.14	30	13.32
3	6.42	35	13.66
4	3.91	40	13.82
5	3.62	45	13.95
6	3.94	50	14.22
7	4.22		
8	4.84		
9	5.35		
10	5.81		
11	6.55		
12	7.23		
13	7.87		
14	8.54		
15	8.98		
16	9.45		
17	9.89		
18	10.47		
19	11.08		
20	11.35		

TEMPERATURE PROFILE FOR NEUTRON-PROBE-ACCESS HOLE NP-7
FOR MARCH 8, 1979

DEPTH (ft)	TEMPERATURE (°C)	DEPTH (ft)	TEMPERATURE (°C)
1	11.09	25	11.87
2	8.05	30	13.10
3	6.45	35	13.55
4	5.65	40	13.64
5	5.12	45	14.38
6	3.84	50	14.38
7	4.14		
8	4.65		
9	5.02		
10	5.63		
11	6.44		
12	7.07		
13	7.76		
14	8.42		
15	9.03		
16	9.40		
17	9.67		
18	9.98		
19	10.25		
20	10.50		

TEMPERATURE PROFILE FOR NEUTRON-PROBE-ACCESS HOLE NP-8
FOR MARCH 8, 1979

DEPTH (ft)	TEMPERATURE (°C)	DEPTH (ft)	TEMPERATURE (°C)
1	15.31	25	12.79
2	- 0.10	30	13.50
3	7.46	35	14.19
4	4.31	40	14.40
5	4.32	45	14.40
6	4.61		
7	5.05		
8	5.82		
9	6.42		
10	7.09		
11	7.68		
12	8.26		
13	8.92		
14	9.60		
15	10.25		
16	10.82		
17	11.16		
18	11.56		
19	11.89		
20	12.05		

TEMPERATURE PROFILE FOR NEUTRON-PROBE-ACCESS HOLE NP-9
FOR MARCH 9, 1979

DEPTH (ft)	TEMPERATURE (°C)	DEPTH (ft)	TEMPERATURE (°C)
1	8.13	25	13.08
2	6.88	30	13.72
3	5.81	35	13.73
4	3.01	40	14.32
5	2.88	45	14.42
6	3.13	49	14.42
7	3.61		
8	4.32		
9	4.93		
10	5.50		
11	6.22		
12	7.06		
13	7.95		
14	8.74		
15	9.35		
16	10.29		
17	11.22		
18	11.39		
19	11.39		
20	11.43		

TEMPERATURE PROFILE FOR NEUTRON-PROBE-ACCESS HOLE NP-1
FOR SEPTEMBER 19, 1979

DEPTH (ft)	TEMPERATURE (°C)	DEPTH (ft)	TEMPERATURE (°C)
4	23.20	36	13.79
5	22.99	40	13.87
6	22.71	45	14.00
7	22.18	50	14.12
8	21.36		
9	20.47		
10	19.65		
11	19.07		
12	18.49		
13	17.84		
14	17.23		
15	16.75		
16	16.44		
17	16.00		
18	15.54		
19	15.09		
20	14.82		
25	14.11		
30	13.79		
35	13.77		

TEMPERATURE PROFILE FOR NEUTRON-PROBE-ACCESS HOLE NP-2
FOR SEPTEMBER 18, 1979

DEPTH (ft)	TEMPERATURE (°C)	DEPTH (ft)	TEMPERATURE (°C)
1	27.40	21	15.20
2	24.74	22	15.11
3	24.39	23	15.01
4	24.38	24	14.91
5	24.03	25	14.76
6	23.42	26	14.56
7	23.01	27	14.37
8	22.50	28	14.21
9	21.76	30	14.11
10	21.17	31	13.91
11	20.62	32	13.86
12	20.10	33	13.82
13	19.54	34	13.81
14	18.54	35	13.81
15	17.64	36	13.80
16	16.75	37	13.80
17	16.20	40	13.84
18	15.82	45	13.95
19	15.57	50	14.07
20	15.36		

TEMPERATURE PROFILE FOR NEUTRON-PROBE-ACCESS HOLE NP-3
FOR SEPTEMBER 19, 1979

DEPTH (ft)	TEMPERATURE (°C)	DEPTH (ft)	TEMPERATURE (°C)
1	21.28	25	14.98
2	22.26	30	14.09
3	22.83	35	13.66
4	23.37	40	13.63
5	23.22	41	13.63
6	22.89	45	13.75
7	22.54	50	13.90
8	21.99		
9	21.45		
10	20.91		
11	20.15		
12	19.53		
13	18.84		
14	18.14		
15	17.45		
16	16.86		
17	16.43		
18	16.18		
19	15.96		
20	15.78		

TEMPERATURE PROFILE FOR NEUTRON-PROBE-ACCESS HOLE NO-4
FOR SEPTEMBER 19, 1979

DEPTH (ft)	TEMPERATURE (°C)	DEPTH (ft)	TEMPERATURE (°C)
1	21.52	25	14.47
2	22.33	30	13.93
3	22.78	35	13.64
4	23.31	39	13.63
5	23.12	40	13.62
6	22.41	41	13.64
7	21.49	45	13.74
8	20.63	50	13.89
9	19.99		
10	19.39		
11	18.84		
12	18.29		
13	17.89		
14	17.37		
15	16.99		
16	16.54		
17	16.27		
18	15.94		
19	15.74		
20	15.50		

TEMPERATURE PROFILE FOR NEUTRON-PROBE-ACCESS HOLE NP-5
FOR SEPTEMBER 19, 1979

DEPTH (ft)	TEMPERATURE (°C)	DEPTH (ft)	TEMPERATURE (°C)
1	21.58	25	15.22
2	22.19	30	14.52
3	22.50	35	13.83
4	22.83	36	13.75
5	23.00	37	13.70
6	22.80	38	13.66
7	22.08	39	13.64
8	21.09	40	13.62
9	20.21	41	13.62
10	19.62	42	13.64
11	19.07	45	13.70
12	18.49	48.5	13.80
13	18.03		
14	17.48		
15	16.91		
16	16.53		
17	16.26		
18	16.03		
19	15.82		
20	15.67		

TEMPERATURE PROFILE FOR NEUTRON-PROBE-ACCESS HOLE NO-6
FOR SEPTEMBER 19, 1979

DEPTH (ft)	TEMPERATURE (°C)	DEPTH (ft)	TEMPERATURE (°C)
1	20.51	25	14.86
2	21.76	30	14.27
3	22.22	35	13.59
4	22.52	36	13.52
5	22.21	37	13.47
6	21.75	38	13.43
7	21.18	39	13.42
8	20.59	40	13.42
9	20.07	41	13.43
10	19.55	45	13.52
11	18.98	50	13.67
12	18.57		
13	18.01		
14	17.56		
15	17.21		
16	16.78		
17	16.40		
18	16.03		
19	15.78		
20	15.45		

TEMPERATURE PROFILE FOR NEUTRON-PROBE-ACCESS HOLE NP-7
FOR SEPTEMBER 19, 1979

DEPTH (ft)	TEMPERATURE (°C)	DEPTH (ft)	TEMPERATURE (°C)
1	20.94	25	15.43
2	21.25	30	14.46
3	21.72	35	13.61
4	22.19	36	13.50
5	22.19	37	13.46
6	21.85	38	13.42
7	21.40	39	13.42
8	21.06	40	13.39
9	20.65	41	13.39
10	20.39	42	13.41
11	19.93	45	13.49
12	19.27	50	13.65
13	18.77		
14	18.21		
15	17.84		
16	17.39		
17	17.16		
18	16.91		
19	16.68		
20	16.48		

TEMPERATURE PROFILE FOR NEUTRON-PROBE-ACCESS HOLE NP-8
SEPTEMBER 18, 1979

DEPTH (ft)	TEMPERATURE (°C)	DEPTH (ft)	TEMPERATURE (°C)
1	25.93	25	14.35
2	22.43	30	13.73
3	22.75	35	13.36
4	22.73	36	13.34
5	22.33	37	13.34
6	22.01	38	13.34
7	21.53	39	13.34
8	20.89	40	13.35
9	20.24	45	13.49
10	19.69	50	13.65
11	19.11		
12	18.58		
13	18.14		
14	17.56		
15	16.95		
16	16.50		
17	16.07		
18	15.71		
19	15.40		
20	15.19		

TEMPERATURE PROFILE FOR NEUTRON-PROBE-ACCESS HOLE NP-9

FOR SEPTEMBER 19, 1979

DEPTH (ft)	TEMPERATURE (°C)	DEPTH (ft)	TEMPERATURE (°C)
1	19.87	25	14.54
2	20.50	30	13.95
3	20.86	35	13.61
4	21.64	36	13.58
5	21.75	37	13.58
6	21.42	40	13.60
7	21.02	45	13.69
8	20.52	49	13.86
9	20.04		
10	19.56		
11	19.05		
12	18.46		
13	17.90		
14	17.39		
15	16.96		
16	16.64		
19	15.80		
20	15.50		

ATTACHMENT 5 AQUATRACE DATA

SAMPLE I. D.	Track 3 (Pond 2)	Track 5 (Pond 1)
N.E. corner	0.399 ppb	N.D.
upstream Hammond Ditch	N.D.	N.D.
Ditch downstream of plant	76.6 ppb	10.3 ppb
pond center	27.6 ppb	N.D.
downstream San Juan River	3.12 ppb	6.94 ppb
#2 evap. pond	N.D.	N.D.
Hammond Ditch downstream 7/9/80	7.12 ppb	10.5 ppb
#9180 S.W. north pond corner	15.6 ppb	N.D.
Hammond Ditch upstream 7/9/80	29.5 ppb	N.D.
Hammond Ditch downstream 7/9/80	14.4 ppb	N.D.
San Juan River upstream 7/9/80	10.2 ppb	N.D.
San Juan River downstream 7/9/80	1.07 ppb	N.D.
South pond 7/9/80	20.0 ppb	N.D.
SJR DSTR. 12/30/80	23.1 ppb	N.D.
HD UPSTR 10/1/80	18.3 ppb	N.D.
SJR DSTR 1/20/80	24.8 ppb	N.D.
HD DSTR 1/20/81	22.9 ppb	53.6 ppb
Pond 1 1/20/80	N.D.	15.0 ppb
NE Seep below Ditch 1-20-81	19.3 ppb	N.D.
S. Pond 1/20/81	17.3 ppb	N.D.
E. Pond 1/20/81	n.d.	1.92
SJ R UPSTR	19.3	N.D.