ACT/015/019-86A
Folder #2 (Amdmts.)

0050

utah power & LIGHT COMPANY
1407 West North Temple
P.O. Box 899
Salt Lake City, Utah 84110

February 2, 1987

Mr. D. Wayne Hedberg
Utah State Division of Oil, Gas, & Mining
3 Triad Center, Suite 350
Salt Lake City, UT 84108

Dear Wayne:

I am writing you in response to your letter dated August 19, 1986 informing us of your denial to allow UP&L to modify our Hydrologic Monitoring Program by substituting spring 79-29 in place of 79-32 for discharge recession measurements.

I have discussed this matter with Rick Smith and he understands the rationale behind our requesting the change. I have also talked with representatives of the U. S. Forest Service and have found that they don't understand the reasons we want the change. I am therefore summarizing all data that pertains to both springs in hope that you can forward this information to the Forest Service; they might better understand our position and be inclined to reconsider their position on this matter.

If you have any questions regarding the attached data or feel that more information would be helpful, please call me. I am now located in Huntington and can be reached at 653-2312 or 653-2318.

Sincerely,

Rodger C. Fry
Director of Exploration

RCF/sh
Enclosure
797

cc: C. Shingleton, w/encl.
C. Semborski
R. Smith (DOGM)
V. Payne

DRAWBACKS TO MONITORING SPRING 79-32

1. Spring 79-32 is located in an area where both coal seams are thin. Because of this it is unlikely that either seam will be mined beneath the spring. Spring 79-29, however, is located in an area underlain by thick Blind Canyon seam. The current long-term plans indicate that mining will take place in that region in the Blind Canyon Seam. The Hiawatha seam is not of mineable thickness beneath spring 79-29.

2. Access leading to spring 79-32 is very limited. A road does exist which leads from drill hole EM-5 to EM-22, but the road is steep and is easily damaged by traveling in wet conditions (see Figure 1). Because of the steepness of the road it is oftentimes impassable, making the spring inaccessible. From EM-22 one must walk to the spring. Walking the entire distance to the spring is not practical. Spring 79-29, on the other hand, is accessible in more adverse conditions and traveling to that spring in wet conditions is much less damaging to the road than it is to the road leading to spring 79-32.

SIMILARITIES IN THE HYDROLOGIC CONDITIONS OF BOTH SPRINGS

1. Both springs emanate from channel sandstones located within the North Horn Formation. Spring 79-32 is located near the base of the North Horn Formation and spring 79-29 is located about 200 feet from the top of the formation (see Figure 2).

2. The quality of water emanating from both springs is similar. Figure 3 shows stiff diagrams of both springs. The content of sodium, potassium, chloride, magnesium, and sulfate are similar in both springs, as can be seen on the stiff diagram. The content of calcium and bicarbonate in spring 79-32 is higher than that of 79-29 because of the former being influenced by the Price River Formation.

3. The historical discharge of both springs is similar. Spring 79-29 has a rate of discharge about three times that of 79-32, but the discharge trends, as shown in Figure 4, are similar from one year to the next.

4. Both springs have discharge recession curves which respond markedly to seasonal change (see Figure 5).

ADVANTAGES OF MONITORING SPRING 79-29 IN PLACE OF SPRING 79-32

1. Mining will take place beneath spring 79-29 and it should be monitored.

2. Spring 79-29 is easily accessed in more adverse weather than spring 79-32 without damaging the existing roads.

3. Monitoring of spring 79-29 in place of 79-32, along with the monitoring of the other twelve springs, still offers a wide variety of modes of occurrence and spatial distribution of monitoring locations.

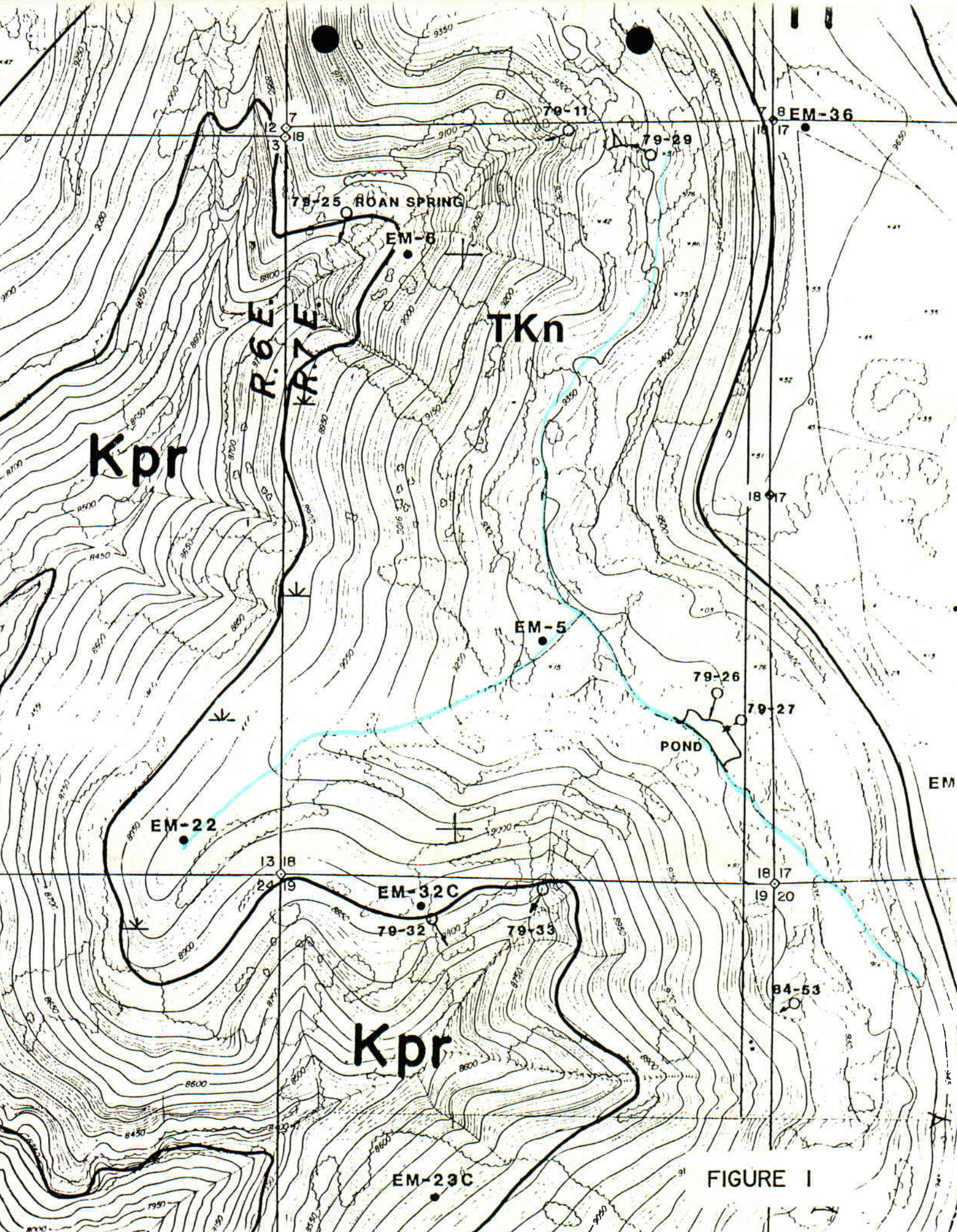

79-11
79-29
EM-36
79-25 ROAN SPRING
EM-6
R.6E.
R.7E.
TKn
Kpr
EM-5
79-26
79-27
POND
EM-22
EM-32C
79-32
79-33
84-53
Kpr
EM-23C

FIGURE 1

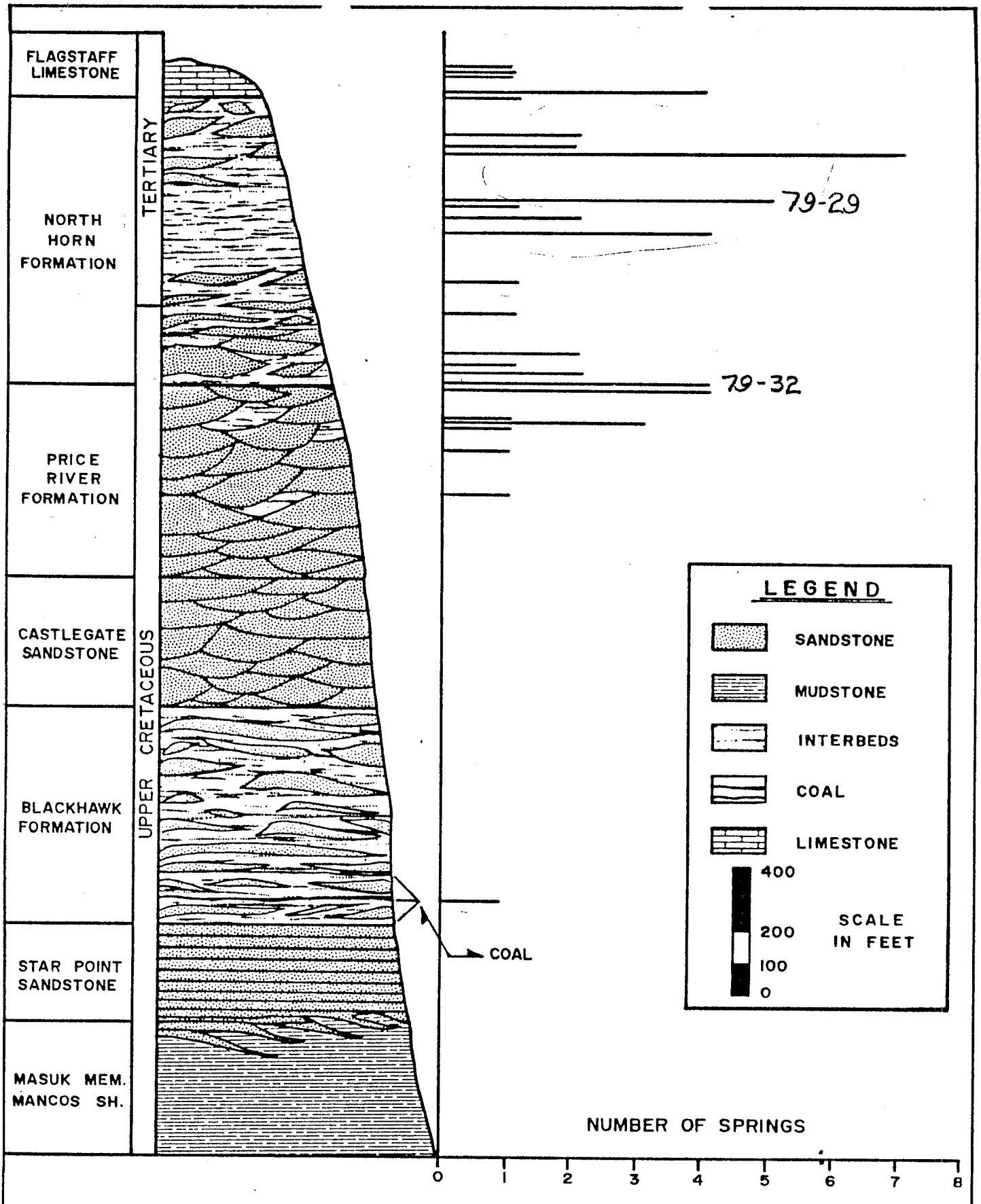
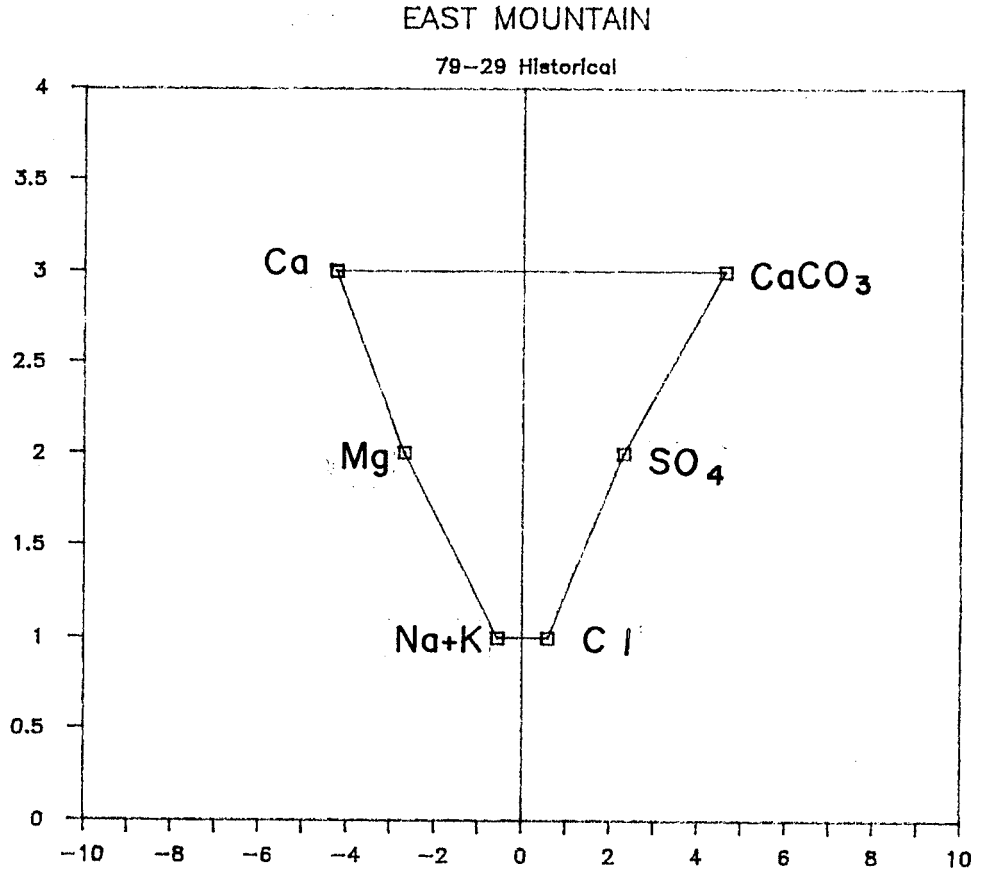


FIGURE · 2

STRATIGRAPHIC LOCATION OF SPRINGS
EAST MOUNTAIN


EAST MOUNTAIN
79-29 Historical
Ca
CaCO3
Mg
SO4
Na+K
C l
4
3.5
3
2.5
2
1.5
1
0.5
0
-10
-8
-6
-4
-2
0
2
4
6
8
10

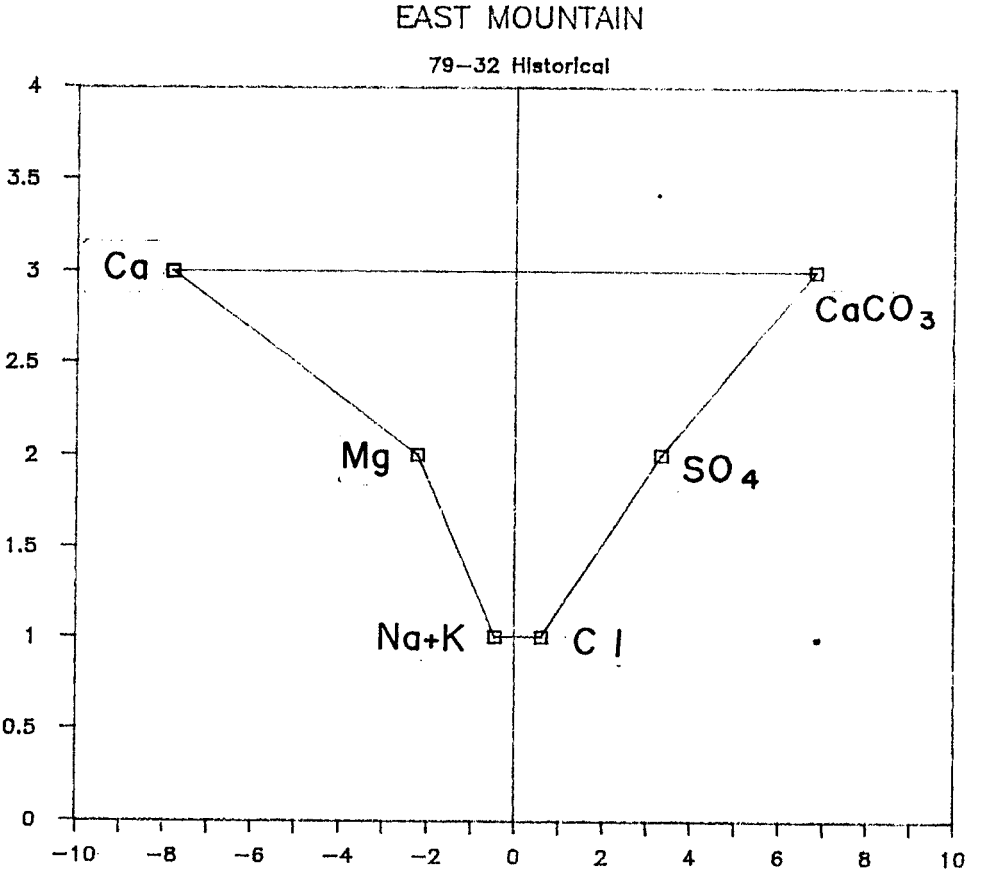

EAST MOUNTAIN
79-32 Historical
Ca
CaCO3
Mg
SO4
Na+K
C l
4
3.5
3
2.5
2
1.5
1
0.5
0
-10
-8
-6
-4
-2
0
2
4
6
8
10

FIGURE 3

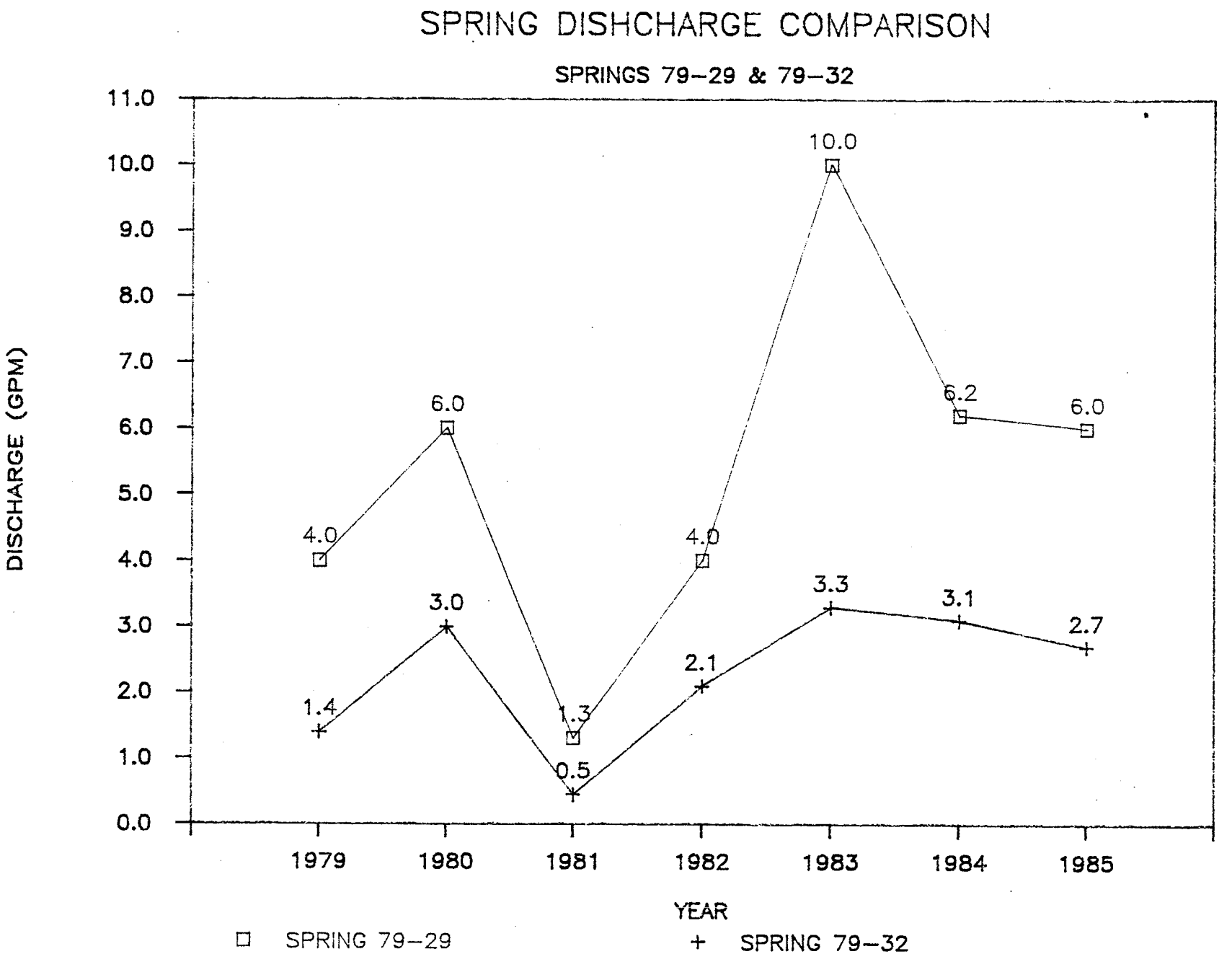

SPRING DISHCHARGE COMPARISON
SPRINGS 79-29 & 79-32
DISCHARGE (GPM)
11.0
10.0
9.0
8.0
7.0
6.0
5.0
4.0
3.0
2.0
1.0
0.0
10.0
6.0
6.2
6.0
4.0
4.0
3.0
3.3
3.1
2.7
2.1
1.4
1.3
0.5
1979
1980
1981
1982
1983
1984
1985
YEAR
SPRING 79-29
SPRING 79-32

FIGURE 4

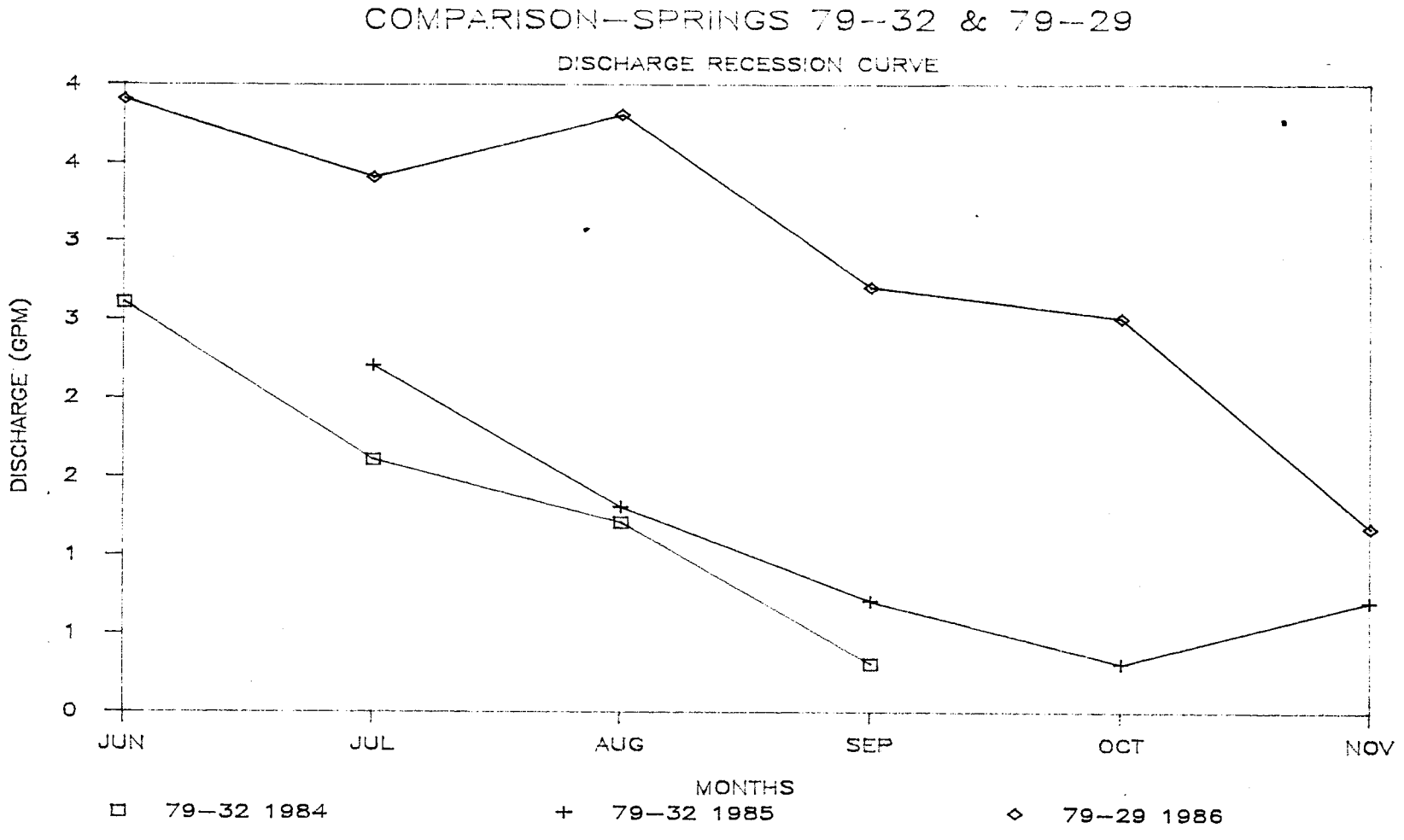

COMPARISON—SPRINGS 79--32 & 79--29
DISCHARGE RECESSION CURVE
DISCHARGE (GPM)
4
4
3
3
2
2
1
1
0
JUN
JUL
AUG
SEP
OCT
NOV
MONTHS
79—32 1984
79—32 1985
79—29 1986

FIGURE 5