

UNITED STATES DEPARTMENT OF THE INTERIOR
GEOLOGICAL SURVEY

GEOPHYSICAL LOGS OF FOUR COAL DRILL HOLES,
THE CAP AND MAHOGANY POINT QUADRANGLES, UTAH

Chapter D of
Coal drilling during 1979 in Emery County, Utah

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Open-File Report 79-1495-D

1980

This report has not been edited for conformity
with U.S. Geological Survey editorial standards
or stratigraphic nomenclature.

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COAL DRILLING DURING 1979 IN EMERY COUNTY, UTAH

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INTRODUCTION

This is the fourth and final in a series of reports on the USGS 1979 coal drilling program on North Horn Mountain and East Mountain, Emery County, Utah. Most of the drilling program is within the Wasatch Plateau Known Recoverable Coal Resource Area (KRCRA). The purpose of the program was to evaluate coal resources under three parcels of land being considered for possible exchange, as authorized by Public Law 95-554 of 1978, between the Federal government and Utah Power and Light Company. The lands are identified as "North Horn Mountain," "Cottonwood," and "Meetinghouse Canyon" (figs. 1-4). The drilling on Meetinghouse Canyon and Cottonwood parcels has been completed and evaluated; however, only about half of the drilling has been completed on the North Horn Mountain parcel.

Tertiary and Cretaceous sedimentary rocks are present in the vicinity of the three tracts (fig. 1). The coal seams of economic interest, Blind Canyon and Hiawatha, are contained in the lowest 200 ft of the Cretaceous Blackhawk Formation, a complex intertonguing sequence of sandstone, siltstone, shale, mudstone, and coal. In the drilling area, the strata dip 2°-5° west or northwest. The geology and coal resources of the area were described in Spieker (1931) and Doelling (1972). Geophysical logs of holes drilled previously on North Horn Mountain were presented in a report by Blanchard, Ellis, and Roberts (1977).

Most of the bore holes in the program were rotary drilled and the thicknesses of the coal seams were determined from the geophysical logs. In order to obtain data on the quality of the coal, the coal-bearing section in selected holes was cored drilled. When the program is completed in the summer of 1980, approximately one hole in four will have been cored.

The geophysical logs have been released in order of completion and, therefore, are not necessarily in numerical sequence. This report presents the

logs of drill-holes MC-43-MP, MC-46-MP, MC-60-MP, and MC-64-TC. Table 1 gives the drilling and logging information for drill holes in this report as well as for those in the previous chapters A, B, and C (Abbey, 1979a, 1979b, and 1979c).

REFERENCES

- Abbey, T. R., 1979a, Geophysical logs of three coal boreholes, North Horn Mountain, Utah, Chapter A of Coal drilling during 1979 in Emery County, Utah: U.S. Geological Survey Open-File Report 79-1495-A, 9 p.
- _____ 1979b, Geophysical logs of seven drill holes, The Cap and Mahogany Point quadrangles, Utah, Chapter B of Coal drilling during 1979 in Emery county, Utah: U.S. Geological Survey Open-File Report 79-1495-B, 9 p.
- _____ 1979c, Geophysical logs of six coal drill holes, East Mountain and North Horn Mountain, Utah, Chapter C of Coal drilling during 1979 in Emery County, Utah: U.S. Geological Survey Open-File Report 79-1495-C, 9 p.
- Blanchard, L. F., Ellis, E. G., and Roberts, J. V., 1977, Lithologic and geophysical logs of holes drilled in the Wasatch Plateau Known Recoverable Coal Resource Area, Carbon, Emery, and Sevier Counties, Utah: U.S. Geological Survey Open-File Report 77-133, 324 p.
- Doelling, H. H., 1972, Central Utah coal fields; Sevier-Sanpete, Wasatch Plateau, Book Cliffs, and Emery: Utah Geological and Mineralogical Survey Monograph Series, no. 3, p. 1-496.
- Spieker, E. M., 1931, The Wasatch Plateau coal field, Utah: U.S. Geological Survey Bulletin 819, 219 p.

Table 1.--Drilling and logging depths for completed drill holes on East Mountain and North Horn Mountain, Emery County, Utah

[All drill holes except MC-57A-TC and MC-46-MP penetrated all coal seams and were bottomed in the Star Point Sandstone]

Drill-hole No.	Released in Open-File Report No.	Location				Estimated collar elevation (feet)	Drilling depths (feet)		Logging depth (feet)
		Sec.	T.S.	R.E.	Rotary		Core		
MC-35-TC	79-1495-B	SW $\frac{1}{4}$ SW $\frac{1}{4}$	3	19	6	8320	1640	---	1640
MC-43-MP	79-1495-D	SE $\frac{1}{4}$ SE $\frac{1}{4}$	10	18	6	7720	1584	---	1584
MC-45-MP	79-1495-C	SW $\frac{1}{4}$ SE $\frac{1}{4}$	29	17	7	9400	1901	---	1901
MC-46-MP	79-1495-D	NE $\frac{1}{4}$ SE $\frac{1}{4}$	32	17	7	9320	1645	---	1645
MC-47-MP	79-1495-C	NW $\frac{1}{4}$ NW $\frac{1}{4}$	33	17	7	9320	1743	---	1743
MC-48-MP	79-1495-C	NE $\frac{1}{4}$ SW $\frac{1}{4}$	3	17	7	7600	152	152- 359	359
MC-49-MP	79-1495-B	SE $\frac{1}{4}$ SE $\frac{1}{4}$	11	18	6	7980	1527	---	1526
MC-50-MP	79-1495-B	NE $\frac{1}{4}$ NW $\frac{1}{4}$	18	18	7	8420	1200	---	1174
MC-51A-TC	79-1495-B	NE $\frac{1}{4}$ NW $\frac{1}{4}$	19	18	7	8360	1002	1002-1140	1131
MC-53-TC	79-1495-B	SW $\frac{1}{4}$ NE $\frac{1}{4}$	31	18	7	9050	1800	---	1799
MC-55A-TC	79-1495-B	SE $\frac{1}{4}$ SE $\frac{1}{4}$	3	19	6	8105	1240	---	1239
MC-56A-TC	79-1495-A	SE $\frac{1}{4}$ NW $\frac{1}{4}$	32	18	7	8565	997	997-1160	1156
MC-57A-TC	79-1495-A	NE $\frac{1}{4}$ NW $\frac{1}{4}$	30	18	7	8260	1060	---	1035
MC-57B-TC	79-1495-C	NE $\frac{1}{4}$ NW $\frac{1}{4}$	30	18	7	8260	1175	---	1153
MC-58-TC	79-1495-C	SE $\frac{1}{4}$ NW $\frac{1}{4}$	24	18	6	8100	1340	---	1337
MC-59-MP	79-1495-C	NW $\frac{1}{4}$ SW $\frac{1}{4}$	13	18	6	8040	1464	---	1464
MC-60-MP	79-1495-D	SE $\frac{1}{4}$ SW $\frac{1}{4}$	14	18	6	8090	1740	---	1671
MC-63-TC	79-1495-B	SE $\frac{1}{4}$ NW $\frac{1}{4}$	10	19	6	8310	1400	---	1396
MC-64-TC	79-1495-D	SE $\frac{1}{4}$ SW $\frac{1}{4}$	26	18	7	8600	1164	---	1164
W-CD-2	79-1495-A	NE $\frac{1}{4}$ NW $\frac{1}{4}$	29	18	7	8540	1118	---	1118

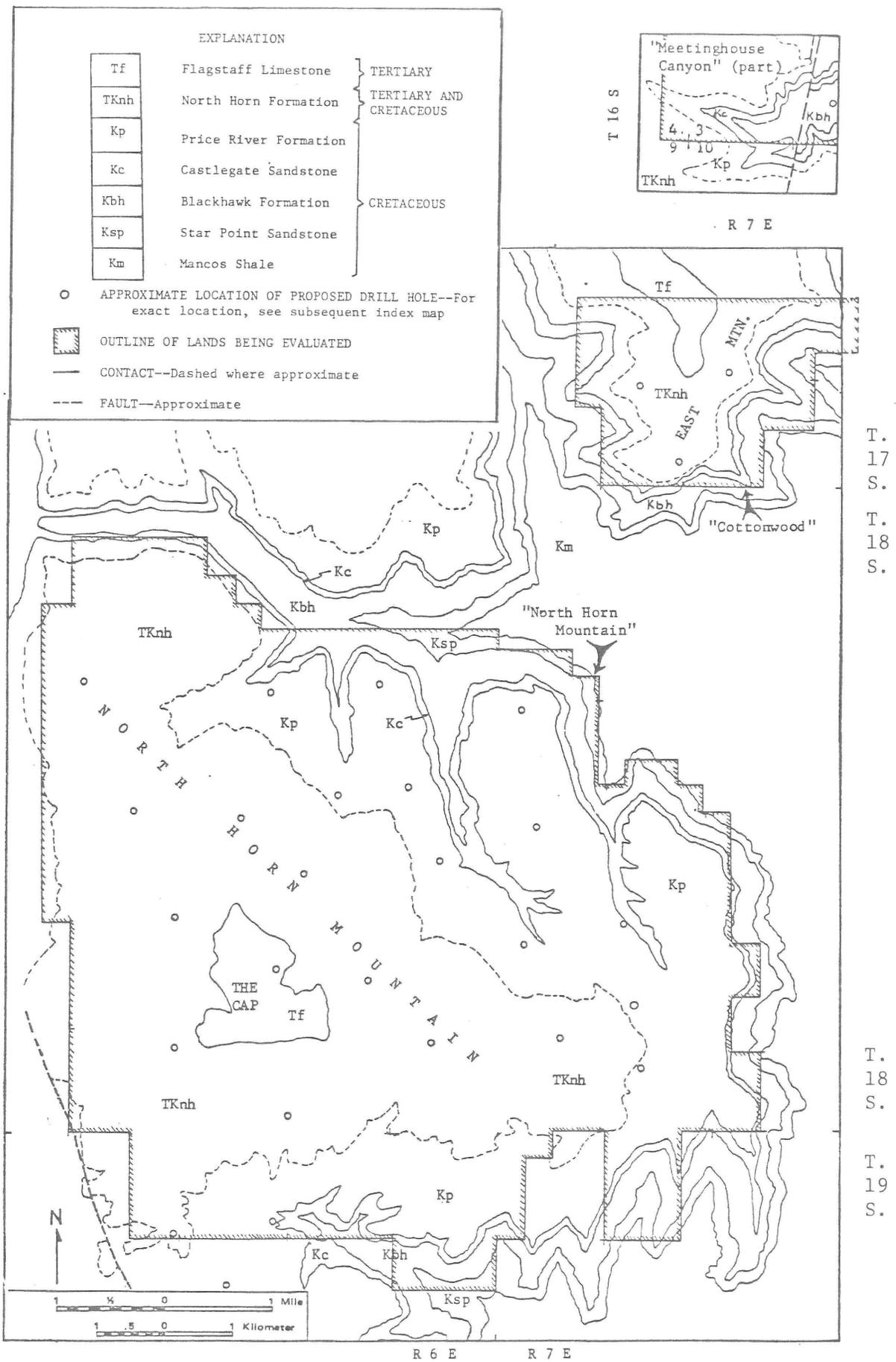
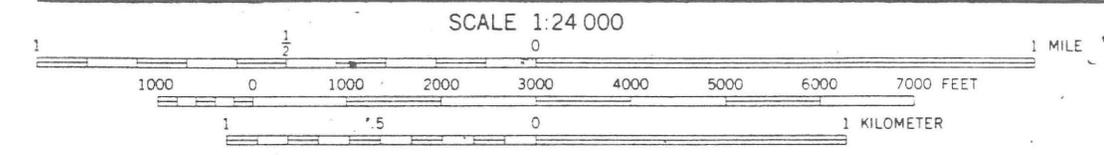
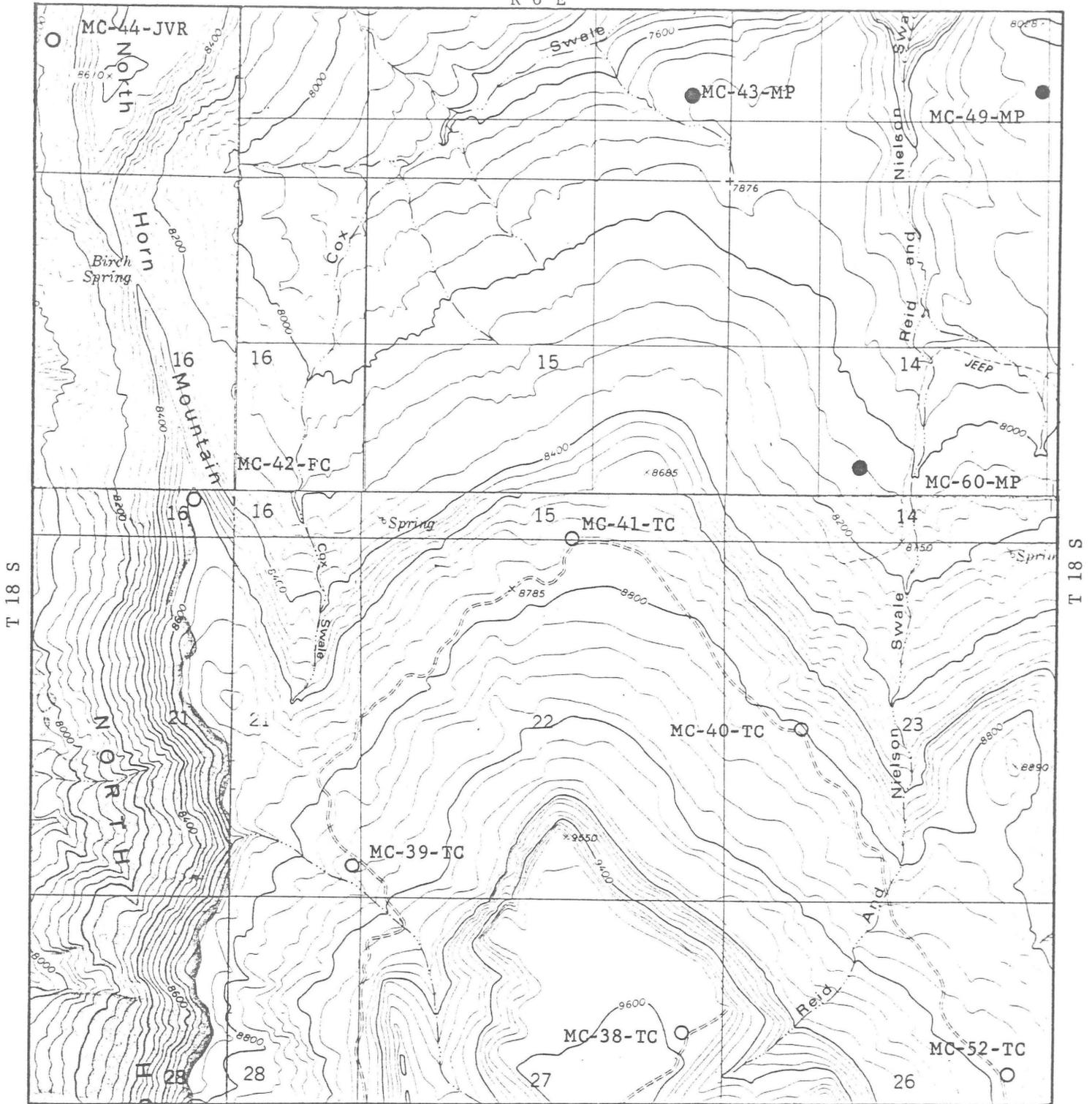


Figure 1.--Index map and generalized geologic sketch map of North Horn Mountain and part of East Mountain, Emery County, Utah, showing approximate locations of drill holes.



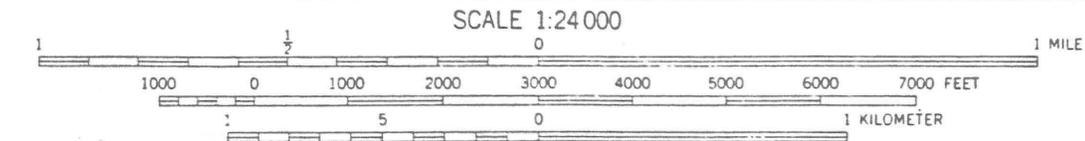
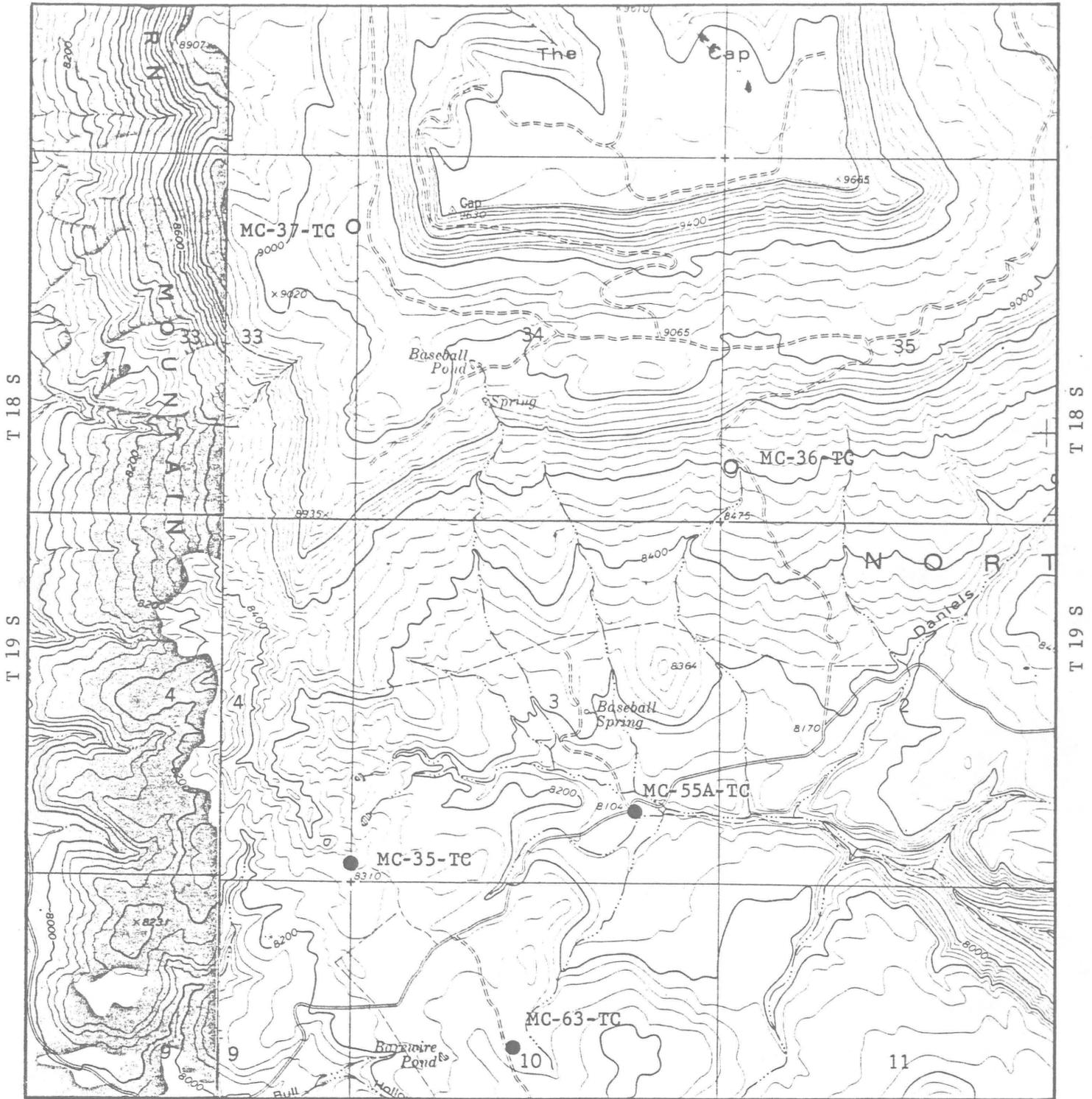
2a	2c
2b	2d

CONTOUR INTERVAL 40 FT (80 FT N1/2)

Figure 2a. Index map showing drill-hole locations, North Horn Mountain, Emery County, Utah.

○ proposed location

● completed drill hole



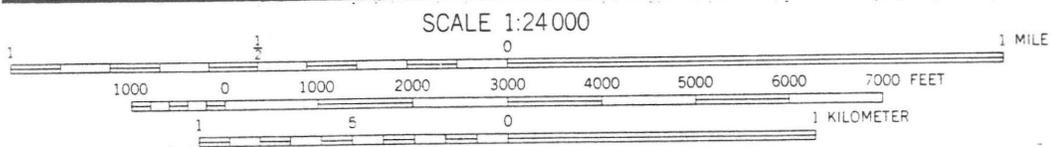
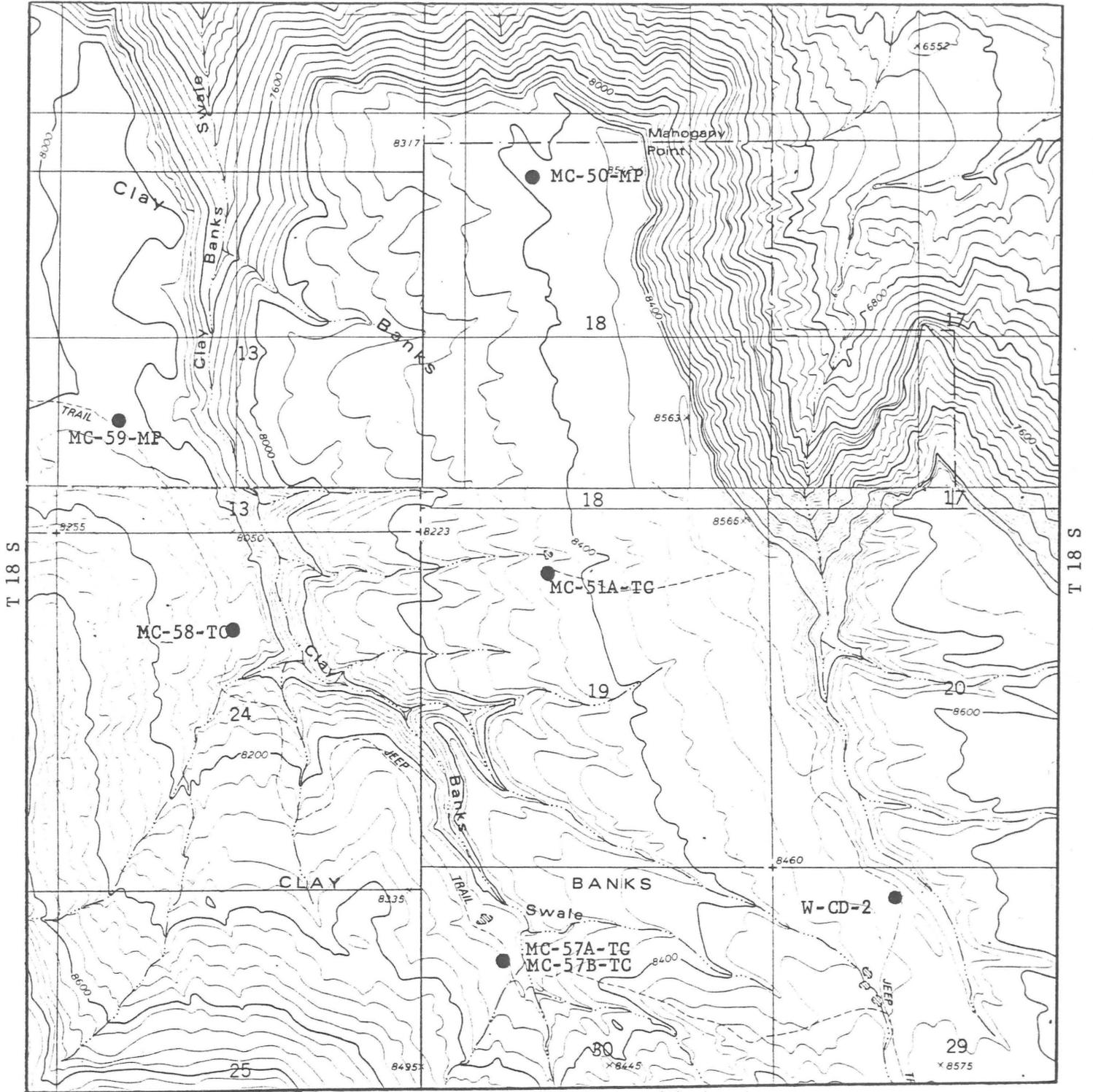
CONTOUR INTERVAL 40 FT.

2a	2c
2b	2d

Figure 2b. Index map showing locations of drill holes, North Horn Mountain, Emery County, Utah.

○ proposed location

● completed drill hole



2a	2c
2b	2d

CONTOUR INTERVAL 40 FT (80 FT N1/2)

Figure 2c. Index map showing locations of drill holes, North Horn Mountain, Emery County, Utah.

○ proposed location

● completed drill hole

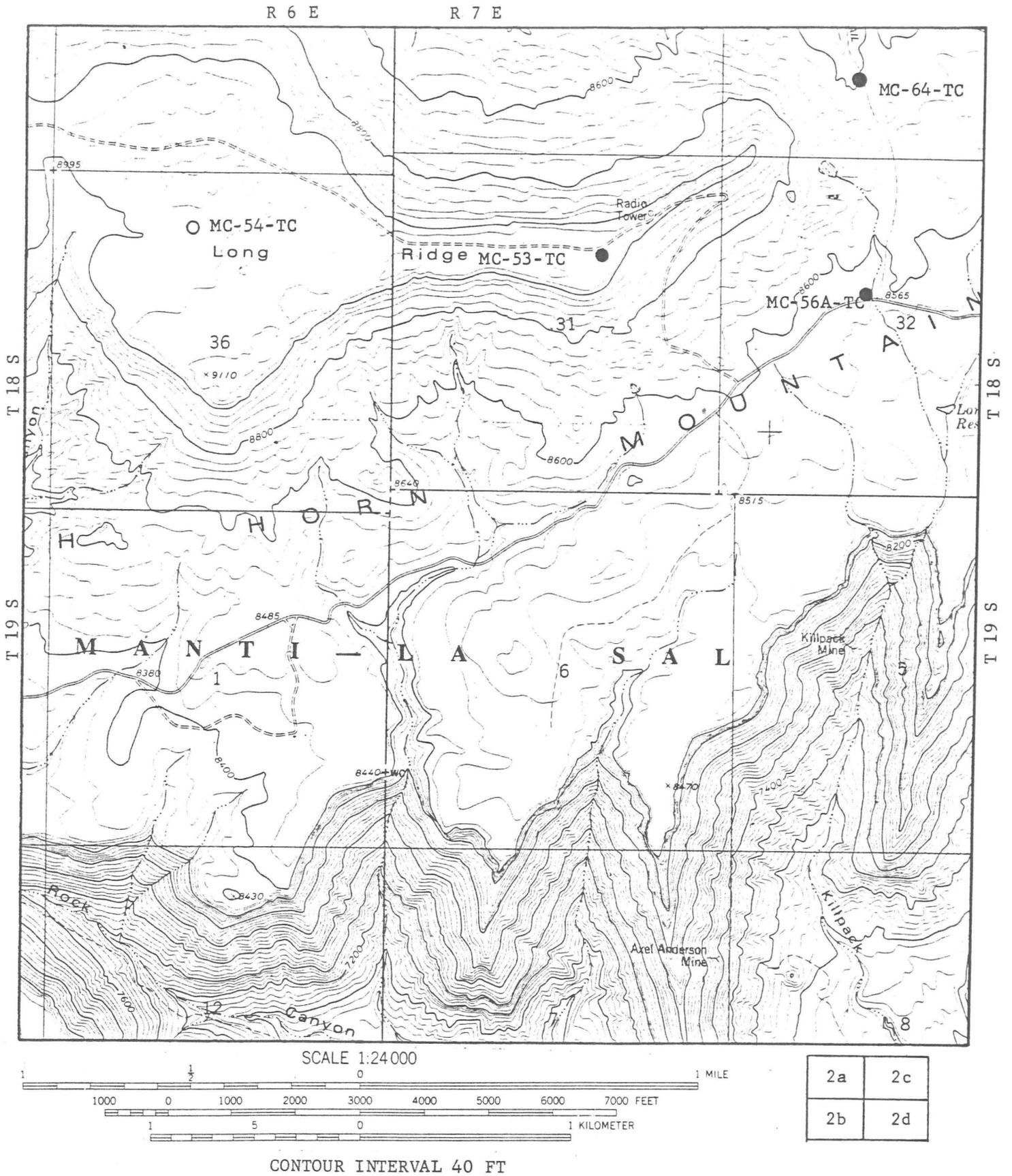


Figure 2d. Index map showing locations of drill holes, North Horn Mountain, Emery County, Utah.

○ proposed location

● completed drill hole

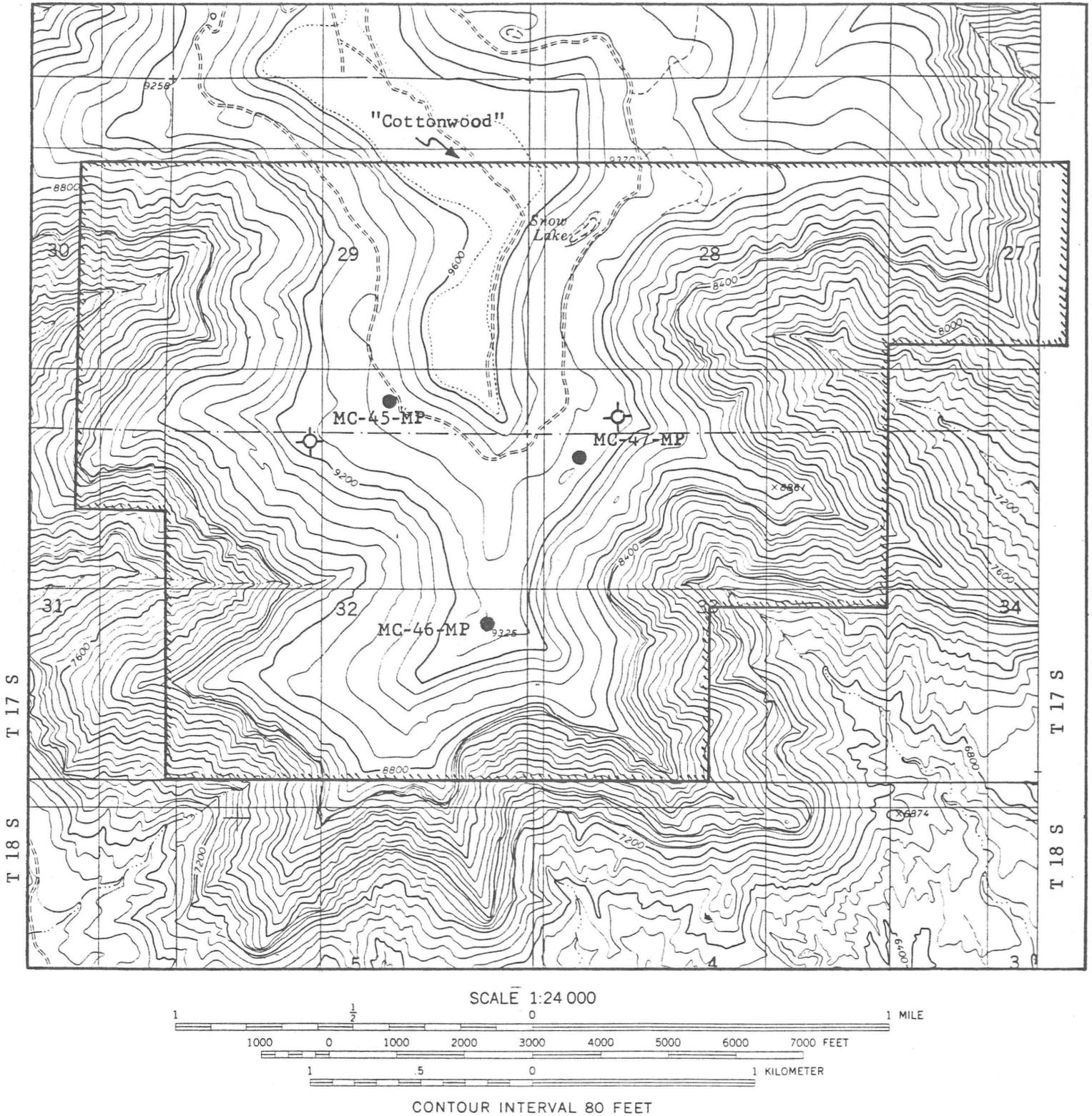
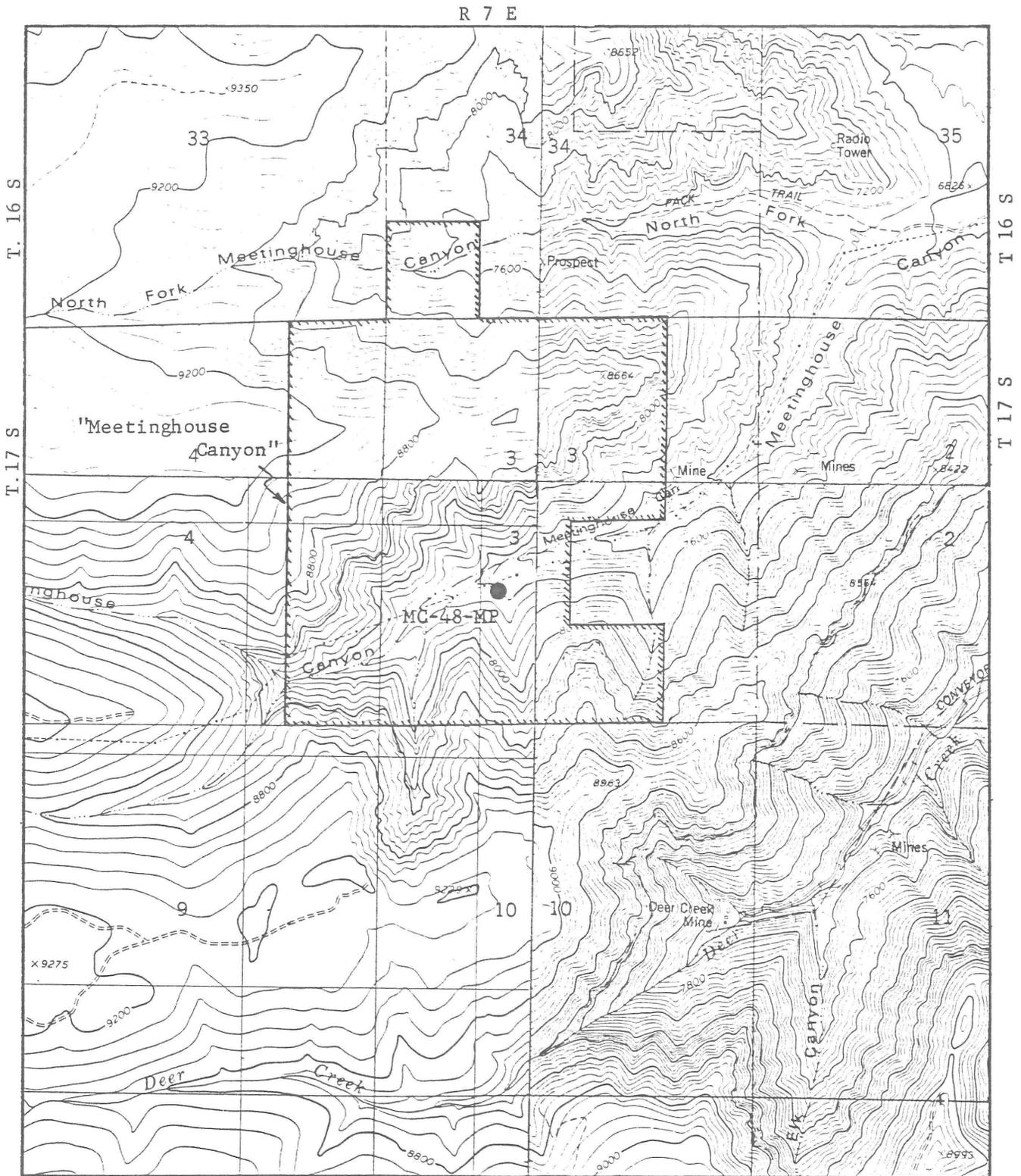
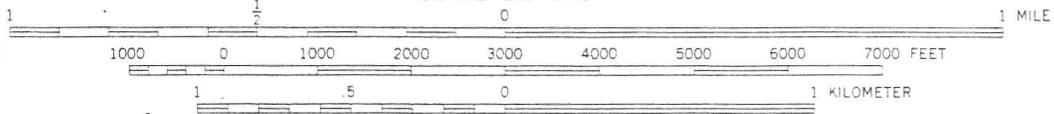


Figure 3. Index map showing locations of drill holes on the "Cottonwood" parcel on East Mountain, Emery Co., Utah.

- ⊕ proposed location shown in Chapter A
- location of completed drill hole



SCALE 1:24 000



CONTOUR INTERVAL 80 ft. (40 ft. in SE1/4)

Figure 4. Index map showing the location of the completed drill hole on the "Meetinghouse Canyon" parcel on East Mountain, Emery Co., Utah.