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National Uranium Resource Evaluation

A SUMMARY GEOLOGIC REPORT ON THE SPOR MOUNTAIN DRILLING PROJECT IN JUAB COUNTY, UTAH

Bendix **Field Engineering Corporation**

Grand Junction Operations
Grand Junction, CO 81502

January 1980

PREPARED FOR THE U.S. DEPARTMENT OF ENERGY
Assistant Secretary for Resource Applications
Grand Junction Office, Colorado

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IN
JUAB COUNTY, UTAH

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ABSTRACT

The Spor Mountain drilling project was initiated in 1977 by Bendix Field Engineering Corporation (BFEC) under the authorization of the National Uranium Resource Evaluation (NURE) program of the Department of Energy (DOE). The NURE report of 1976 shows 5,500 tons of probable and 162,000 tons of possible uranium resources in a projected widespread beryllium tuff in the project area. The goal of the Spor Mountain drilling project was to obtain subsurface geologic data related to the tuff which would make possible a more accurate estimate of the uranium resources.

In the immediate area of the drilling project, Paleozoic rocks are overlain by three groups of Tertiary volcanic rocks. The Paleozoic rocks of Spor Mountain represent an upthrown fault block in reference to the volcanic rock-filled structural basin underlying the Thomas Range to the east.

Altered tuffaceous rocks at Spor Mountain are the hosts for deposits of beryllium, fluorite, and uranium minerals. The topaz-bearing rhyolite is the capping rock. BFEC geologists have concluded that nearly all the tuff units of the Thomas Range-Spor Mountain area, including the beryllium tuff, have an ash-flow origin.

There were 21 rotary and nine core holes drilled for a total drill footage of 33,358 feet, representing 21,754 feet of rotary and 11,604 feet of core footage. Analyses run on selected samples included gamma-ray spectroscopy, spectrochemical (29 elements), and assays for seven elements (U_3O_8, Mn, V, Cs, Li, Be, and Se). Specific ion analysis was run for fluorine.

Gamma-ray, self-potential, resistivity, and neutron activation surveys were run on 28 holes; gamma-ray, caliper, resistivity, and density surveys were run on 12 holes; KUT surveys were run on 12 holes.

Within the Spor Mountain drilling project area, beryllium tuff was found to be present in only 20 percent of the area inferred in the publication "Preliminary Study of Favorability for Uranium Resources in Juab County, Utah" (GJBX-23(78), February, 1978). Also, the uranium-favorable areas as outlined in the present study represent only 18 percent of that inferred in the above-mentioned publication.

Well logs for this report and for the report entitled, "Engineering Report on the Drilling in the Spor Mountain Area of Utah," GJBX-103(79), are available in the DOE Technical Library--Bendix Field Engineering Corp., Grand Junction Operations or from Petroleum Information, Denver.

THE SPOR MOUNTAIN DRILLING PROJECT

Juab County, Utah

I. INTRODUCTION

The purpose of this report is twofold: 1) to provide a preliminary evaluation of the data obtained by Bendix Field Engineering Corporation (BFEC) from their drilling in the Spor Mountain area and 2) to transmit these data to the DOE for reevaluation of the estimate of uranium resources of the Spor Mountain area.

The Spor Mountain drilling project area is located in west-central Juab County, Utah. It includes not only the area surrounding Spor Mountain but also that surrounding the Thomas Range and the valley to the east. It lies to the south of the Dugway Range, to the north of the Drum Mountains, and to the west of the Keg Mountains. It encompasses 160 square miles and lies wholly within T.12S. and T.13S., and R.11W., R.12W., and R.13W. Access to the area is gained by the way of either the Delta road or the Jericho road (Figure 1).

The Spor Mountain drilling project was authorized in September 1977 by the National Uranium Resource Evaluation (NURE) Project Office, Department of Energy (DOE), and initiated by BFEC in November 1977. The Spor Mountain area was believed to contain a significant $30.00/lb Uranium resource potential (See Figure 2). The National Uranium Resource Evaluation, Preliminary Report, June 1976, shows 5,500 tons of Probable and 162,000 tons of Possible uranium resources in a projected widespread beryllium tuff (See Figure 2). The goal of the Spor Mountain drilling project was to obtain subsurface geologic data which would make possible a more accurate estimate of the resource potential of the area.

II. PROJECT OBJECTIVES

The goal of the Spor Mountain drilling project was to obtain geologic data by drilling, which would allow a more accurate estimate of the uranium resource potential of the area. This goal was to be attained by achieving the following objectives (Refer to Figures 2 and 3):

1. To obtain a better definition of the western areal extent of the Beryllium Tuff Member into Fish Springs Flat.

2. To make tests of radiometrically anomalous areas for the presence of near-surface zones of uranium mineralization.

3. To obtain valid data that will lead to a better understanding of the grade and continuity of uranium mineralization within the Beryllium Tuff Member west of Spor Mountain.

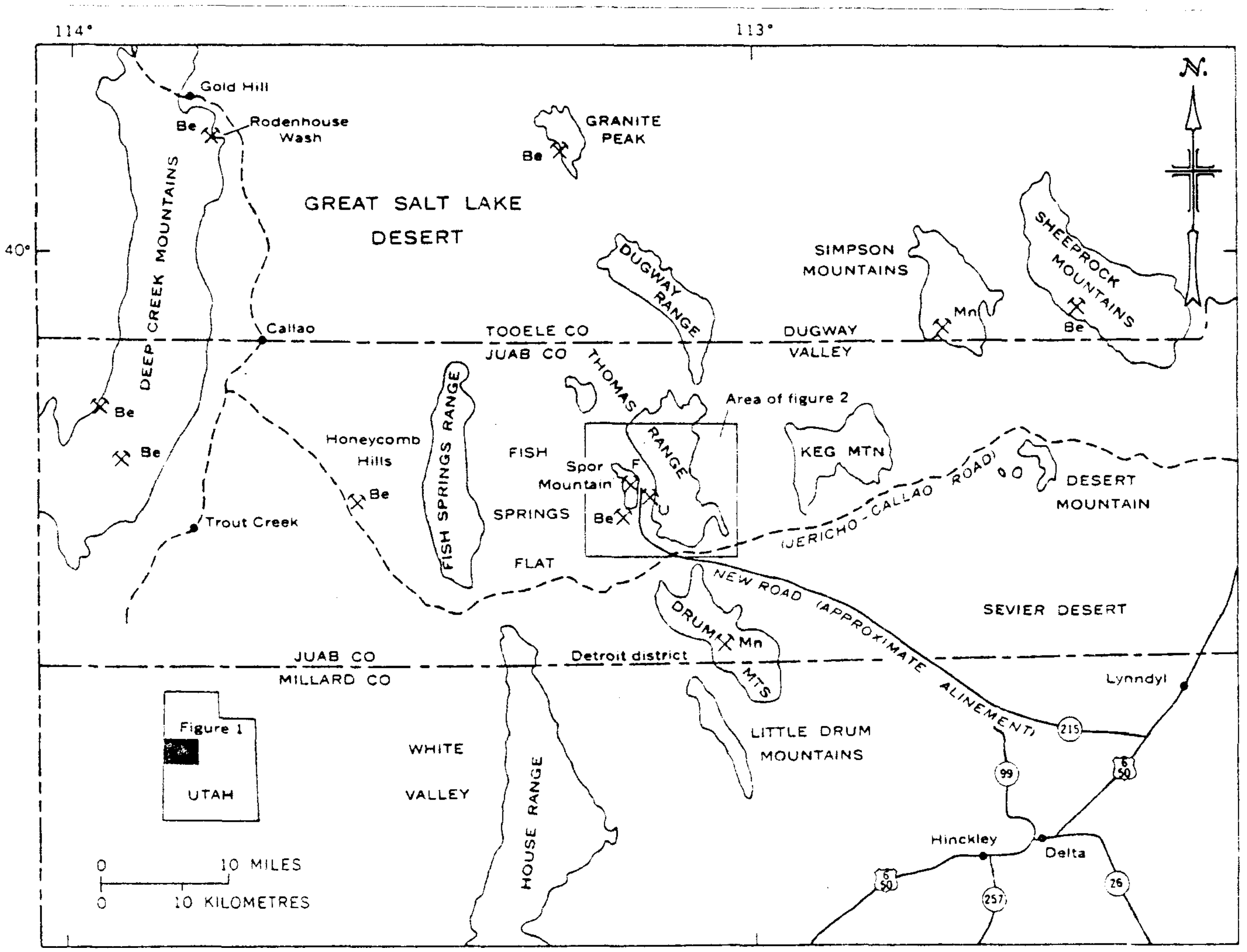

Figure 1. *Mineral occurrences within the west central, Utah, beryllium belt*

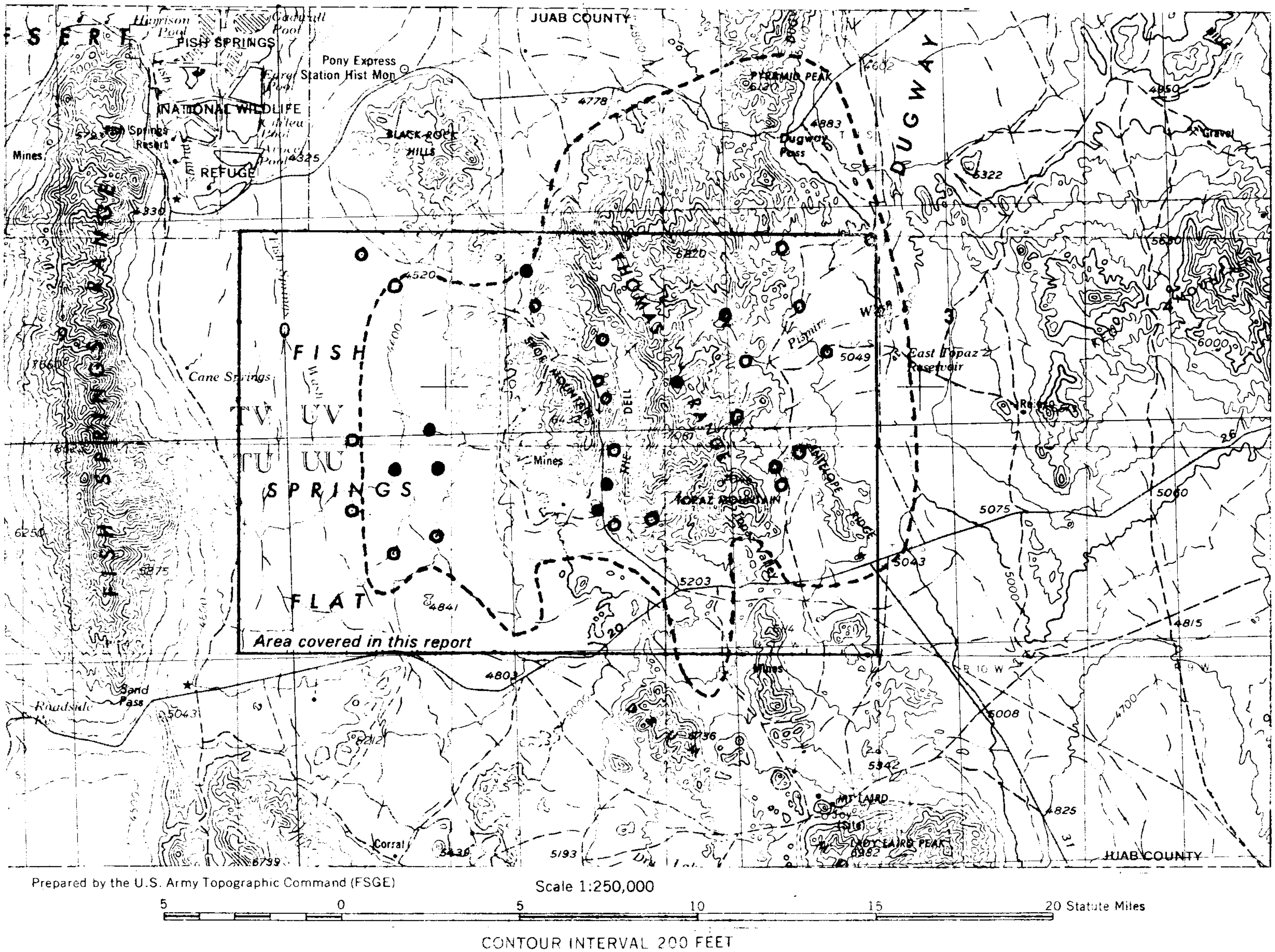

Figure 2. *Outline of inferred limits of uranium-favorable tuff units*

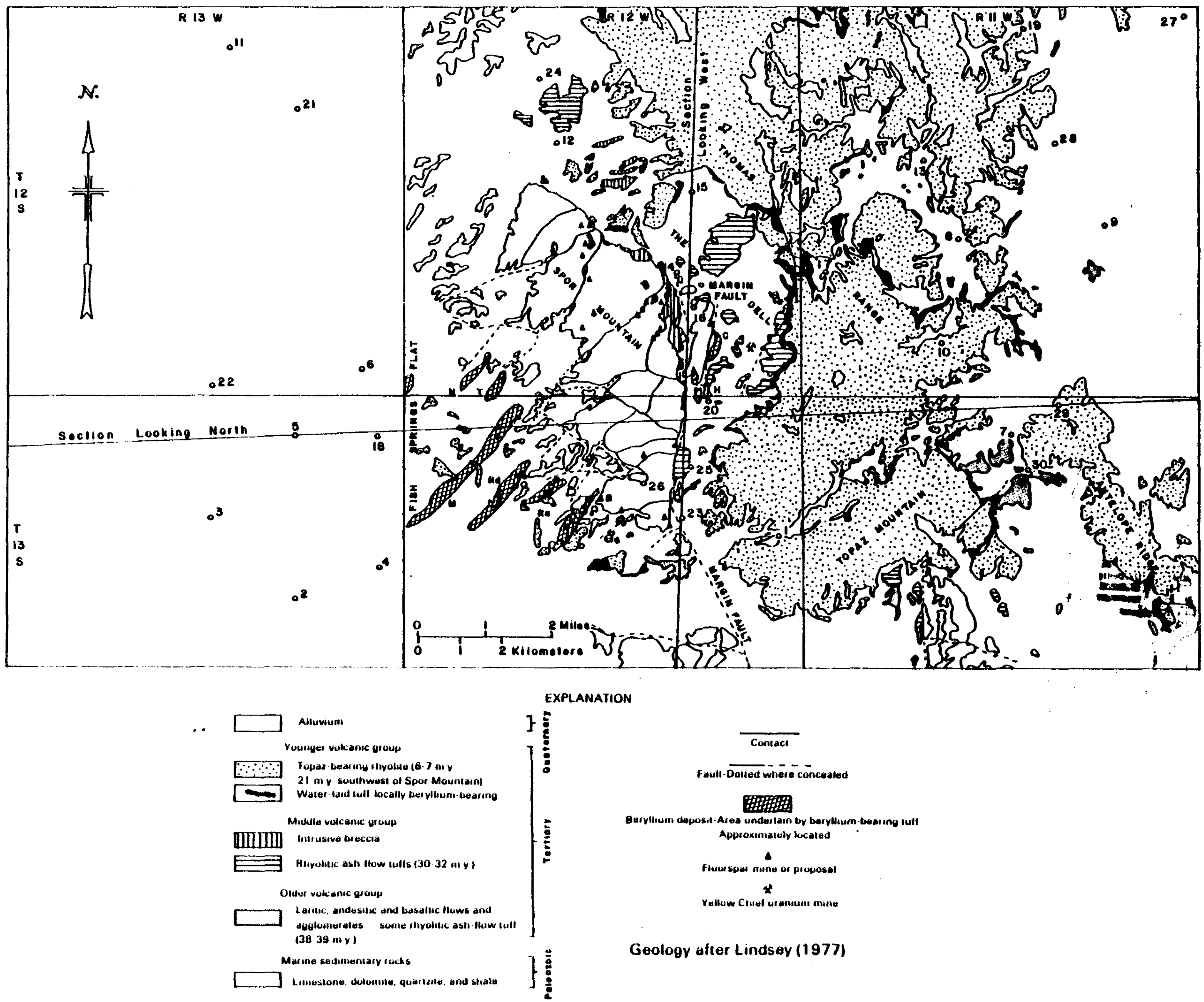

Figure 3. *Geologic map*

4. To test The Dell, an alluvium-covered area immediately west of the Thomas Range, for the presence of uranium-beryllium-fluorine mineralization similar to that of the Spor Mountain area.

5. To obtain additional data relative to the distribution of tuffaceous sandstone units similar to those which host uranium mineralization at the Yellow Chief deposit.

6. To test the younger rhyolite tuff units east of the Thomas Range for the presence of uranium-beryllium-fluorine mineralization.

III. AREAL GEOLOGY SUMMARY

Detailed geologic investigations of this area have been made by Staatz and Carr (1964), Shawe (1968), and Lindsey (1978), among others. (Also see USGS Open-File map by D.A. Lindsey on this area). The geology shown in Figure 3 is by Lindsey (1977) and appears in several of his publications. In the immediate area of the drilling project, Paleozoic rocks of Spor Mountain represent an upthrown fault block in reference to the volcanic rock-filled basin of the Thomas Range to the east. (See Figure 4 for stratigraphic section and Figures 5 and 6 for geologic cross-sections). Included at the end of the areal geology summary is a stratigraphic correlation of selected project drill holes by Lindsey (1979a).

The Paleozoic rocks on Spor Mountain include the Lower and Middle Ordovician Garden City Formation, the Middle Ordovician Swan Peak Formation, the Lower and Middle Devonian Selvy Dolomite Formation, and the Middle and Upper Devonian Englemann Formation.

The oldest group of volcanic rocks consists mainly of a sequence of latitic, andesitic, and basaltic flows and agglomerates, believed to be Late Eocene in age (38-39 m.y.). East of the Thomas Range some rhyolitic ash-flow tuff is also assigned to this group. The oldest volcanic group is unconformably overlain by the middle volcanic group, the middle group consisting of quartz latitic and rhyolitic ash-flow tuffs of Oligocene age (30-32 m.y.). These, in turn, are unconformably overlain by the youngest group of volcanics consisting of rhyolite, water-laid rhyolite tuff and breccia, and basalt (6-21 m.y.). The Spor Mountain rhyolite tuff and the Thomas Range rhyolite tuff are also of this age.

The altered tuffaceous rocks at Spor Mountain are the host for deposits of beryllium, fluorite, and uranium minerals. The topaz-bearing rhyolite is the capping rock. However, there appears to be a genetic relationship between the topaz-bearing rhyolite and beryllium mineralization. If a hydrothermal model is used, then the porous and permeable beryllium tuff, lying between the relatively impermeable Paleozoic limestone (or older volcanics) and the topaz rhyolite, formed a conduit for the mineralizing solutions. The abundant reactive limestone and dolomite lithic clasts found in the Spor Mountain tuffs acted as loci of mineralization. However, BFEC geologists suggest that the mineralization may have resulted from high-temperature devitrification of the Spor Mountain topaz-bearing rhyolite and the consequent release of mineralizers which were then precipitated by the carbonate lithic clasts in

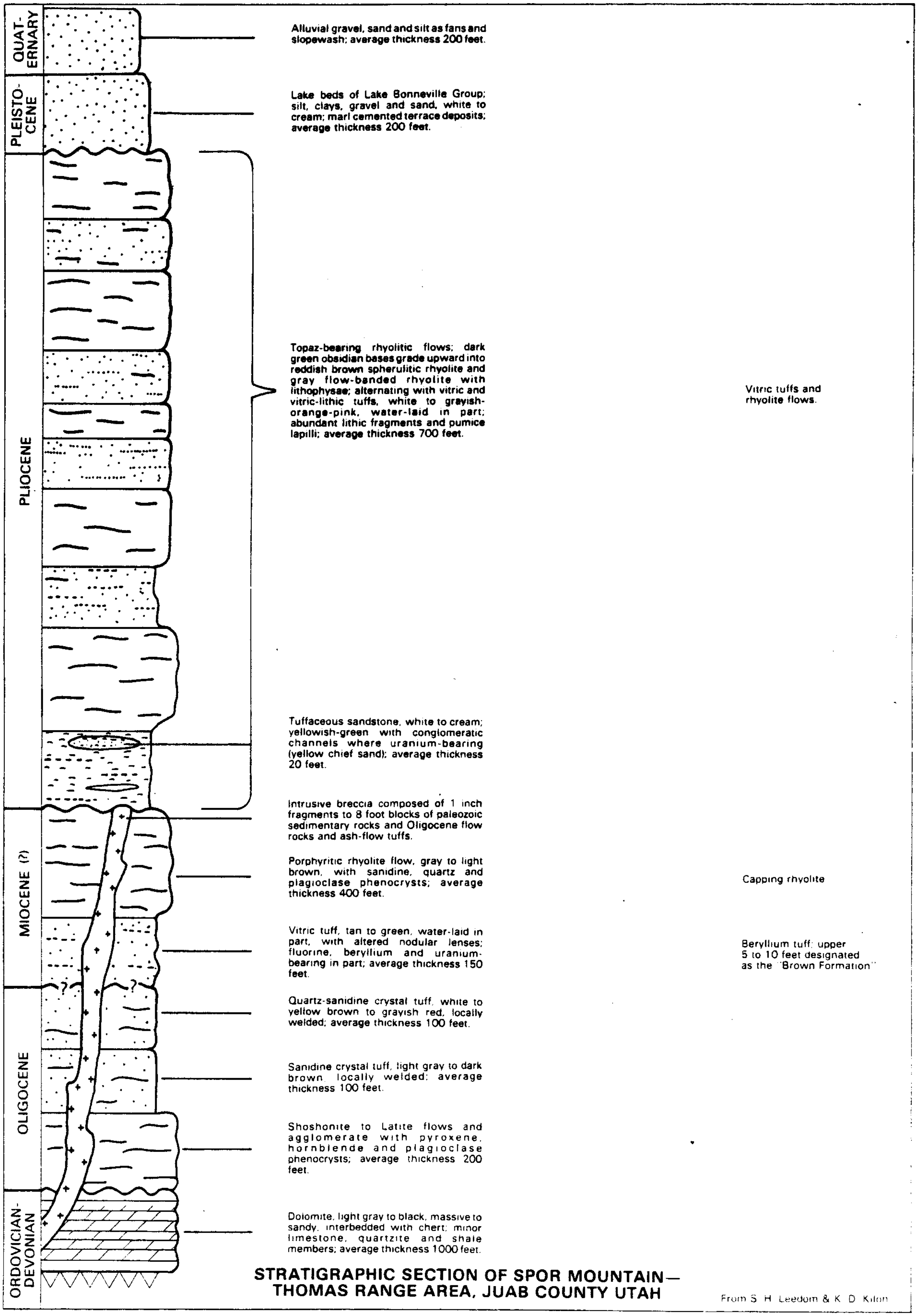

Figure 4. *Stratigraphic section*

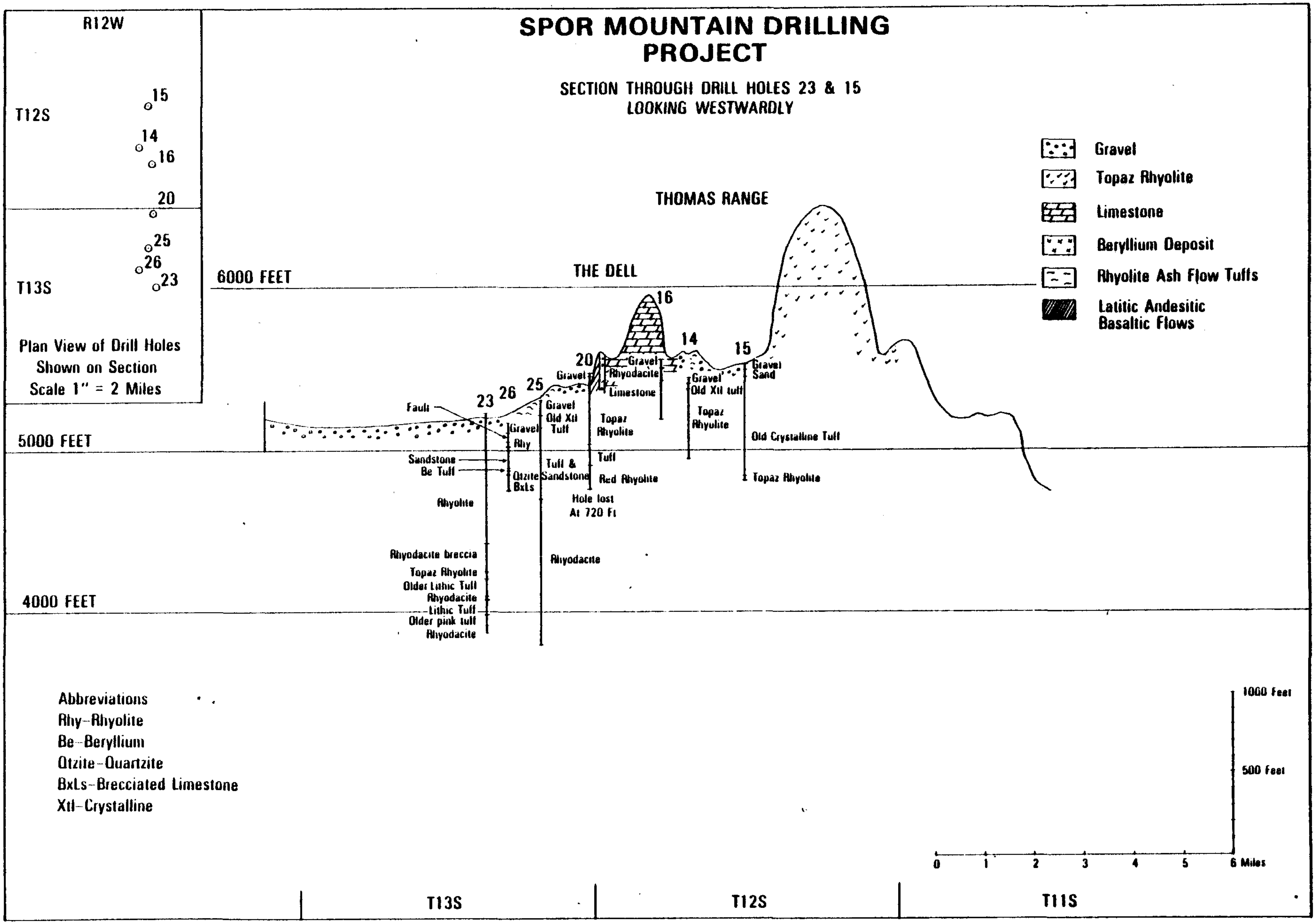

Figure 5. *N-S cross section*

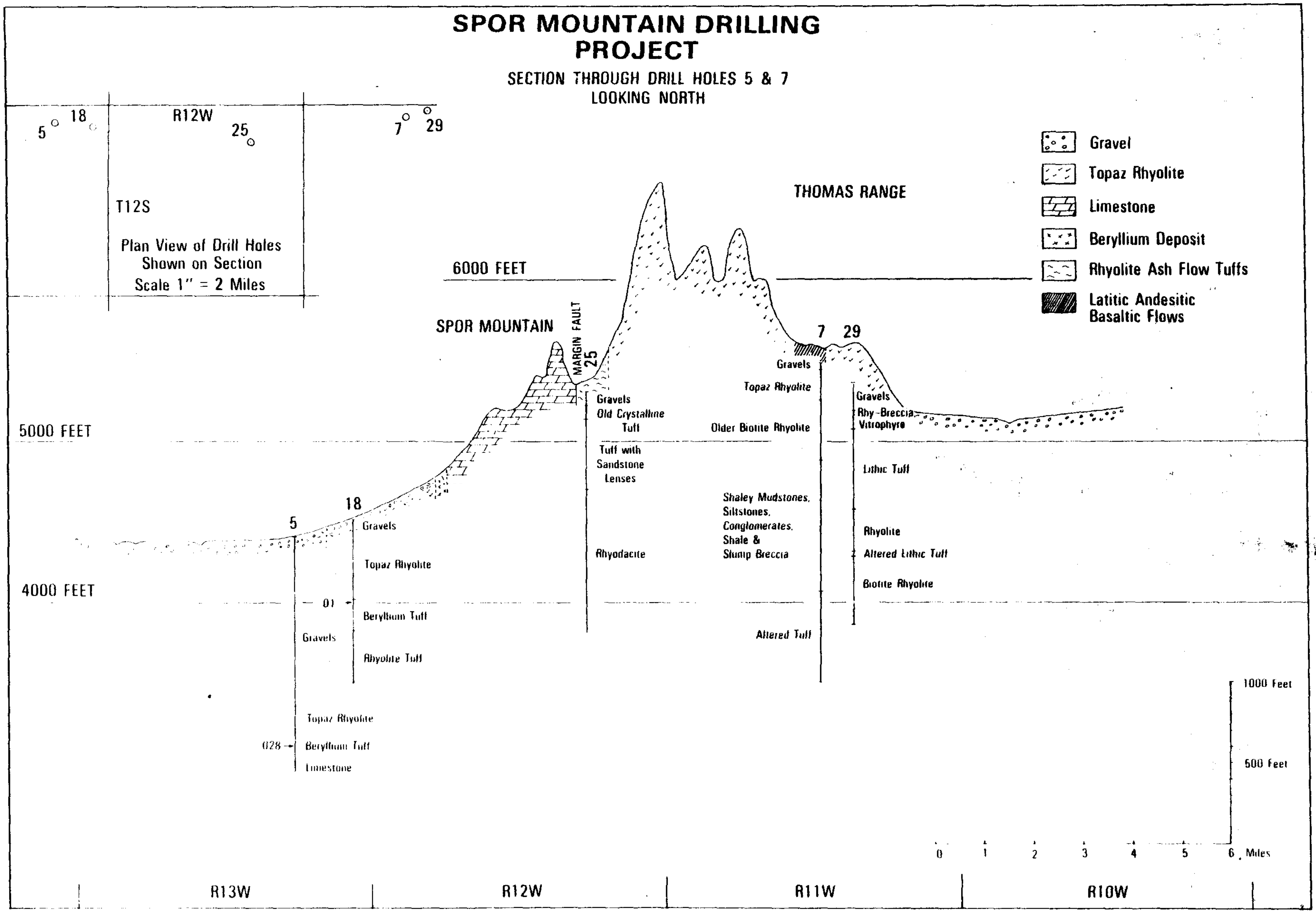

Figure 6. *E-W cross section*

the underlying tuffs. In either case, the presence of abundant carbonate lithic clasts appears to have been necessary for mineralization of the tuffs. This possibly explains why the tuffs at Spor Mountain are mineralized whereas other tuffs, with few or no carbonate lithic clasts, are not mineralized. The beryllium tuff and the overlying topaz rhyolite probably represent consecutive phases of a single eruption. The bottom portion of the rhyolite flow is itself locally mineralized, suggesting that either the mineralization occurred at the same time as or after the extrusion of the rhyolite flow.

The Pleistocene Lake Bonneville covered a large portion of the subject area. The Lake Bonneville beds consist of clay, marl, sand, gravel, and tuff-cemented conglomerate. These beds were originally considered as possible host rock for uranium mineralization, but BFEC drilling did not show this to be true in this area.

The structural complexity of the area cannot be overemphasized (See Figure 7). The Paleozoic rocks are cut by many faults that predate Tertiary volcanism. The major fault system (Margin Fault), which separates the Spor Mountain block from ash-flow tuff of the middle group of The Dell, has been interpreted by Shawe (1972) as a caldera ring fracture that formed near the end of the eruption and implacement of the middle group. However, the Spor Mountain drilling project has led BFEC geologists to believe the Margin Fault is the west edge of a graben rather than a caldera. More recently, Lindsey (1979b), after field studies and after reviewing results of BFEC drilling projects, supports the caldera interpretation of Shawe. The older and middle group of volcanics are cut by numerous faults whereas the younger group is cut by few.

According to Lindsey (1978), uranium in this district occurs: 1) in fluorspar pipes within Paleozoic carbonate rocks, 2) in beryllium deposits in tuff, 3) in tuffaceous conglomerates and sandstone at the Yellow Chief mine, and 4) in veinlets of opaline silica at many localities.

The ore minerals are beta-uranophane, weeksite, and schroeckingerite. The trace elements in association with the fluorite, beryllium, and uranium deposits are lithium, niobium, gallium, yttrium, and lead. Geochemical halos 1 and 2 miles wide extend laterally from deposits into the otherwise un-mineralized tuff. "Beryllium and cesium were least affected by other petrogenetic processes and thus are probably the most reliable pathfinder elements." (Lindsey, 1977.)

Geologic note: Charles Beverly and Rex Cole have suggested that nearly all the tuff units of the Thomas Range-Spor Mountain area, including the beryllium tuff, have an ash-flow origin (nu'ee ardente) and may have been extruded from fault-controlled, localized pressure vents. Shallow lake environments did exist locally after deposition of the beryllium tuff, but not to the extent that previous investigators believed.

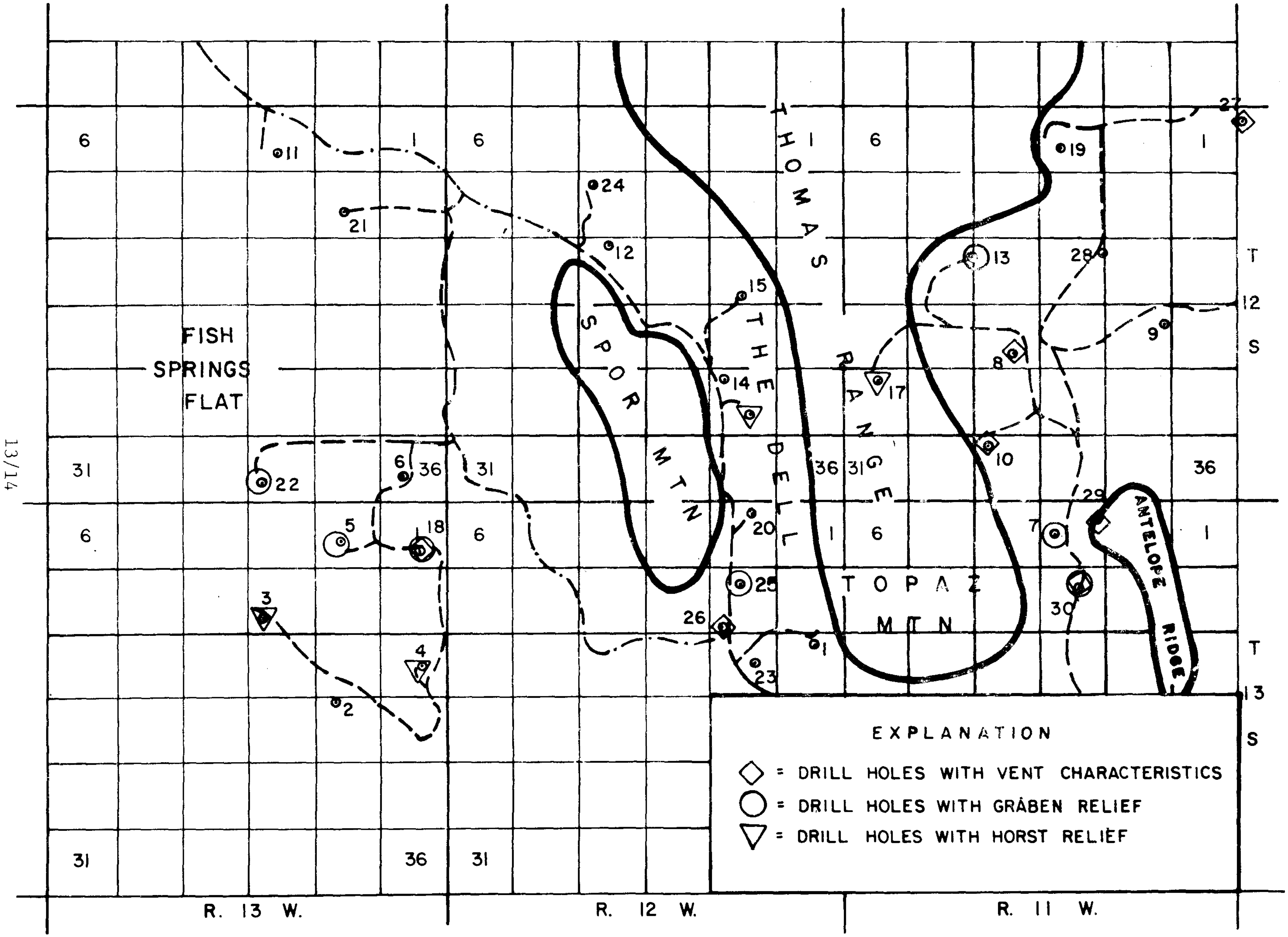

Figure 7. *Vent and fault characteristics*

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IV. STRATIGRAPHIC CORRELATION OF SELECTED DRILLHOLES
(Nomenclature is that of Lindsey, 1979)

Project Hole	Depth (feet)	Formation
1	0	(Casing)
	23	Topaz Mountain Rhyolite - flow
	140	Topaz Mountain Rhyolite - tuff
	346	Topaz Mountain Rhyolite - tuffaceous breccia
	387	Needles Range Formation
	461	Rhyodacite flow rock of uncertain assignment
	687	Ash-flow tuff of uncertain assignment
	955	TD
7	0	Topaz Mountain Rhyolite - flow
	230	Joy Tuff - crystal tuff member
	300	Mt. Laird Tuff - ash-flow (approximate top)
	606	Fault breccia
	614	Mt. Laird Tuff - tuffaceous sediments and ash-flow tuff
	818	Mt. Laird Tuff - ash-flow tuff
	1,063	Mt. Laird Tuff - tuffaceous sediments
	1,343	Mt. Laird Tuff - ash-flow tuff
	1,995	TD
8	0	(Casing)
	40	Fault breccia in Topaz Mountain Rhyolite
	80	Topaz Mountain Rhyolite - flow
	1,055	Joy Tuff - crystal tuff member
	2,003	TD
10	0	Topaz Mountain Rhyolite - flow
	350	Topaz Mountain Rhyolite - tuff
	750	Topaz Mountain Rhyolite - flow
	1,268	Fault breccia
	1,337	Joy Tuff - crystal tuff member
	1,613	TD
20	0	(Casing)
	20	Topaz Mountain Rhyolite - tuff
	1,380	Fault Breccia
	1,427	Joy Tuff - crystal tuff member
	1,492	TD
23	0	Topaz Mountain Rhyolite - flow
	800	Topaz Mountain Rhyolite - tuffaceous breccia
	965	Topaz Mountain Rhyolite - flow or intrusion
	975	Topaz Mountain Rhyolite - tuffaceous breccia
	995	Topaz Mountain Rhyolite - flow or intrusion
	1,014	Needles Range Formation
	1,117	Intrusive (?) breccia
	1,145	Needles Range Formation
	1,236	Dell Tuff

	1,309	Drum Mountains Rhyodacite
	1,350	TD
29	0	Topaz Mountain Rhyolite - flow
	285	Topaz Mountain Rhyolite - tuff
	788	Joy Tuff - crystal tuff member
	1,100	Mt. Laird Tuff (approximate top)
	1,500	TD

V. PROJECT HISTORY

The preliminary study of the project area was made by BFEC geologists S. H. Leedom and K. D. Kiloh. They made their presentation of the drilling plan to DOE in November 1976. This initial plan called for the drilling of ten holes. In November 1977, when Charles E. Beverly was assigned the duties of the Project Geologist, the number of programmed holes was increased in stages to 30 holes. Charles E. Beverly acting as the landman, with the help of John Buquoi, acquired the necessary permits to occupy the proposed drill sites. The drilling contract was given to Boyles Bros. Drilling Company in June 1978. Charles Michael Freeman, Michael C. Callihan, Michael Perkins, Rex Cole, and Chris Bluhm assisted Charles Beverly in logging the cuttings and core. The first hole was started June 22, 1978, and the last hole was completed November 8, 1978. There were 21 rotary and nine core holes drilled, for a total drill footage of 33,358 feet - representing 21,754 feet of rotary and 11,604 feet of core footage (See Table 1 and Figure 8). Site restoration was accomplished by Boyles Bros. under the direction of C. M. Freeman and M. C. Callihan.

VI. DATA ACQUISITION

Geologic logs of all drill cuttings and core from the project drill holes were made by Baroid and BFEC personnel (see Appendix). Using a hand sieve, samples of cuttings were taken every 10 feet from the rotary holes. These samples were then washed and split into three parts: one for the land holder, one for BFEC analysis, and one for retention.

Core intervals to be analyzed were selected by the Project Geologist. These intervals were primarily tuff units. (In addition, some geologically interesting units were also sampled). The core was then split, half going to the BFEC laboratory for analysis and half stored for further study. Dr. D. A. Lindsey of the USGS took samples of some of the core for petrographic study and will supply a copy of his results at a future date.

Analyses run on selected samples included gamma-ray spectroscopy, spectrochemical (29 elements), assays for seven elements (U_3O_8, Mn, V, Cs, Li, Be, and Se), and specific ion analysis for fluorine. The laboratory reports on these analyses are appended to this report.

Note on Spectrochemical Analyses:

Anyone using the results of spectrochemical analyses listed in this report should be cautioned that the analyses were made by two different companies using different methods. The results reported by one company are not directly comparable with the results of the other company.

SPECOMP SERVICES INC., Hayden, Colorado, using a D.C. Arc analyzed hole 7 from 1,420 to 1,500 feet and all footages in holes 23, 26, 27, 29 and 30.

TECHNICAL SERVICES, Ltd., Opportunity, Washington, using Inductively Coupled Argon Plasma analyzed all other holes.

Table 1. Location and Drill Hole Data

Hole No.	Rotary Footage	Core Footage	Total Footage	Elevation (feet)	Location 1/16	1/4	S	T	R	USGS Topo Map
SM-1	23	932	955	5,350	NW	NE	13	13S	12W	Topaz Mountain
SM-2	987	10	997	4,500	NE	NW	23	13S	13W	Sand Pass NE
SM-3	1,007	7	1,014	4,425	SW	SW	10	13S	13W	Sand Pass NE
SM-4	410	0	410	4,569	NW	SE	13	13S	13W	Sand Pass NE
SM-5	1,455	11	1,466	4,423	NE	SW	2	13S	13W	Sand Pass NE
SM-6	200	747	947	4,462	NE	SW	36	12S	13W	Sand Pass NE
SM-7	230	1,765	1,995	5,486	SW	NW	3	13S	11W	Topaz Mountain
SM-8	40	1,963	2,003	5,417	SW	NE	21	12S	11W	Dugway Range
SM-9	756	0	756*	5,168	NW	NE	23	12S	11W	Dugway Range
SM-10	1,259	354	1,613	5,655	SW	NW	33	12S	11W	Topaz Mountain
SM-11	983	0	983*	4,338	NE	SW	3	12S	13W	Fish Springs NE
SM-12	495	5	500	5,018	NE	NW	16	12S	12W	Dugway Range
SM-13	2,525	0	2,525	5,588	SE	NW	17	12S	11W	Dugway Range
SM-14	502	0	502	5,442	NW	NW	26	12S	12W	Dugway Range
SM-15	700	19	719	5,530	SE	SW	14	12S	12W	Dugway Range
SM-16	370	0	370	5,557	NW	SE	26	12S	12W	Topaz Mountain
SM-17	875	120	995	6,069	NE	NW	30	12S	11W	Dugway Range
SM-18	93	921	1,014	4,506	NE	SW	1	13S	13W	Sand Pass NE
SM-19	1,220	60	1,280*	5,215	SE	NW	3	12S	11W	Dugway Range
SM-20	10	710	720*	5,474	NW	NE	3	12S	11W	Topaz Mountain
SM-21	593	0	593*	4,399	NE	SW	11	12S	13W	Fish Springs NE
SM-22	1,520	0	1,520	4,370	NE	SE	33	12S	13W	Sand Pass NE
SM-23	800	550	1,350*	5,220	NW	SE	14	13S	12W	Topaz Mountain
SM-24	410	0	410	4,884	SW	NW	9	12S	12W	Dugway Range
SM-25	1,270	230	1,500	5,300	NE	NW	11	13S	12W	Topaz Mountain
SM-26	186	217	403	5,153	SW	SW	11	13S	12W	Topaz Mountain
SM-27	1,200	8	1,208*	4,911	NE	NE	1	12S	11W	Dugway Range
SM-28	1,500	0	1,500	5,120	NE	NE	15	12S	11W	Dugway Range
SM-29	10	1,490	1,500	5,357	NE	NE	3	13S	11W	Topaz Mountain
SM-30	20	1,472	1,492	5,511	NE	NW	10	13S	11W	Topaz Mountain

* Holes abandoned by the drilling contractor prior to reaching projected depth

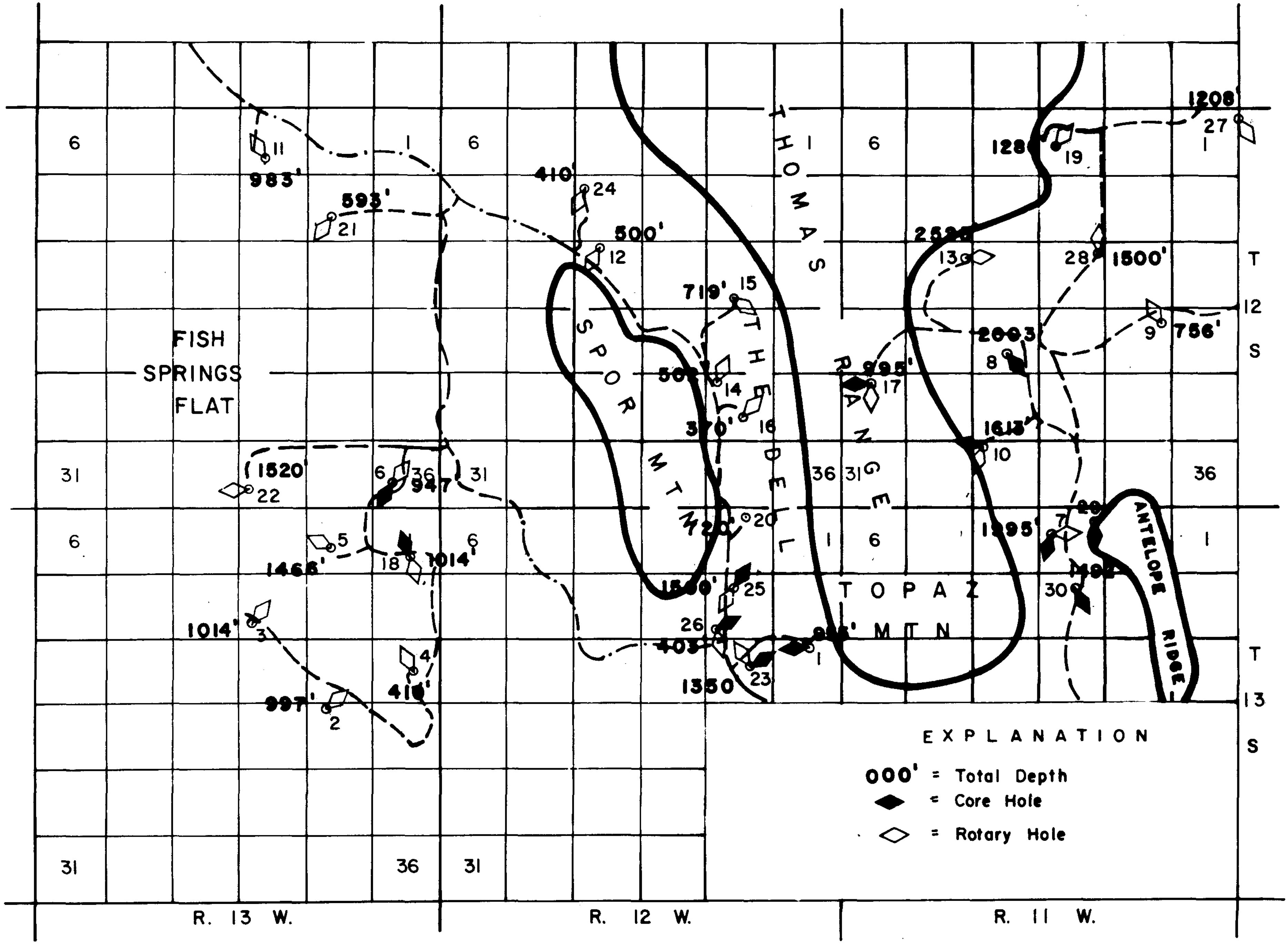

Figure 8. *Drilling information map*

Geophysical logging was accomplished on all project holes. The surveys were conducted mainly by Century Geophysical Corporation and in some cases by Bendix crews and equipment. Gamma-ray, self-potential, resistivity, and neutron activation surveys were run on 28 holes; gamma-ray, caliper, resistivity, and density surveys were run on 12 holes; and gamma-ray spectrometer (KUT) surveys were run on 12 holes. (Copies of these logs may be obtained from either Electrical Log Service, 105 W. Wall, P.O. Box 3150, Midland, Texas, 79702, or Rocky Mountain Well Log Service, 1375 Delaware St., Denver, Colorado, 80204).

VII. CONCLUSIONS ON RESOURCE EVALUATION

Objective Number 1: to obtain a better definition of the western extent of the Beryllium Tuff Member into Fish Springs Flat.

As shown in Figure 9, the Beryllium Tuff Member, of the Spor Mountain Formation of the younger volcanic group, extends no more than five miles to the southwest of Spor Mountain. If ever present in the vicinity of holes 2, 3, and 22, the Beryllium Tuff Member was eroded away either before the deposition of the Bonneville Lake sediments (in the case of holes 2 and 3) or before the deposition of younger tuff units (in the case of hole 22). Holes 2 and 22 were bottomed in older volcanics and hole 3 was bottomed in Paleozoic limestone (See Figure 10). The relatively high position of the Paleozoic basement in hole 3 is indicative of faulting or of considerable relief in the Paleozoic surface. Holes 11 and 21 were lost while still in Bonneville Lake sediments, so they yielded no information as to the extent of the Beryllium Tuff Member northwest of Spor Mountain, except that, if it is present, the tuff may occur deeper than 983 feet, the total depth of hole 11.

Objective Number 2: to drill for the presence of near-surface zones of uranium mineralization in the radiometrically anomalous areas previously determined by aerial surveys.

Of the 16 holes drilled within the indicated surface anomalous zones, six encountered uranium mineralization and ten did not. Of the 14 holes not located in the indicated anomalies, one cut uranium mineralization and 13 failed to cut uranium mineralization (See Aerial Radiometric and Magnetic Reconnaissance Survey of the Delta Quadrangle, Utah; GJBX-24(79), 1978).

A correlation of radiometrically anomalous areas drilled to uranium mineralization cut by drilling is probably not to be expected, since most of the holes were drilled in valleys. An aerial gamma-ray survey samples only the top few feet of the surface; therefore, it will not necessarily detect a source under the alluvium. However, aerial gamma-ray surveys might detect a small amount of uranium in outwash from adjacent hills if on or near the surface.

Objective Number 3: to obtain valid data that will lead to a better understanding of the grade and continuity of uranium mineralization within the Beryllium Tuff Member west of Spor Mountain.

Only six of the 30 holes drilled encountered the beryllium tuff; five of the six cut low to intermediate grade uranium mineralization, i.e., trace to 0.045 weight percent U_3O_8 (See Figures 9 and 11). A close correlation between the beryllium tuff and the uranium is known to exist in this district, and these holes support that correlation. However, to estimate the grade and continuity of uranium mineralization within the Beryllium Tuff Member is outside the scope of this report.

Objective Number 4 and Number 5: to test the extensive alluvium-covered area immediately west of the Thomas Range, The Dell, for the presence of uranium-beryllium-fluorine mineralization similar to that of the Spor Mountain area and to obtain additional data relative to the distribution of tuffaceous sandstone units similar to those which host uranium mineralization at the Yellow Chief deposit.

Of the ten holes drilled in The Dell, immediately west of the Thomas Range, three encountered uranium mineralization: hole 24 to the north and holes 25 and 26 to the south (See Figures 5 and 9). Paleozoic limestone was cut in hole 24 at the shallow depth of 146 feet indicating that the block in which the hole was drilled had been uplifted (See Figure 10). The only uranium mineralization found in hole 24 was a trace from 70 to 72 feet in the top of the Beryllium Tuff Member. At 160 feet, hole 25 encountered a green tuff unit containing sandstone lenses that appear to be equivalent in lithology to the Yellow Chief-type sandstone. However, the sandstone intervals contained only a trace of uranium. But, this does not preclude stronger mineralization away from this hole. Hole 26 encountered uranium mineralization from a depth of 270 to 302 feet at 0.045 weight percent U_3O_8. This interval includes not only the Beryllium Tuff Member but also most of the underlying mineralized Paleozoic quartzite. Hole 17 was planned to test the continuity of the Yellow Chief equivalent sandstone below the younger volcanics of the Thomas Range and to test an altered vent zone within the younger volcanics. This hole was designed to go to 2,500 feet but bottomed in Paleozoic sediments at 995 feet. Three hundred sixty feet of argillic tuff, which included a 2-foot zone of uranium mineralization (0.023 weight percent U_3O_8) near the top, was cut.Even though mineralized, alteration of the tuff was too severe to permit its correlation with the Beryllium Tuff Member.

Objective Number 6: to test the younger rhyolite tuff units east of the Thomas Range for the presence of uranium-beryllium-fluorine mineralization.

It is of interest that none of the BFEC holes cut uranium mineralization in the younger (6-8 m.y.) tuffs in the Thomas Range. All but one of the ten holes that penetrated younger tuffs were located east of the Thomas Range. The one exception was hole 22, west of Spor Mountain (See Figure 9).

It appears unlikely that zones of uranium-beryllium-fluorine mineralization, similar to those of the Spor Mountain area, are present in this portion of the project area. This interpretation is reinforced by geochemical assay of the younger tuff. Assays revealed no anomalous values for lithium, niobium,

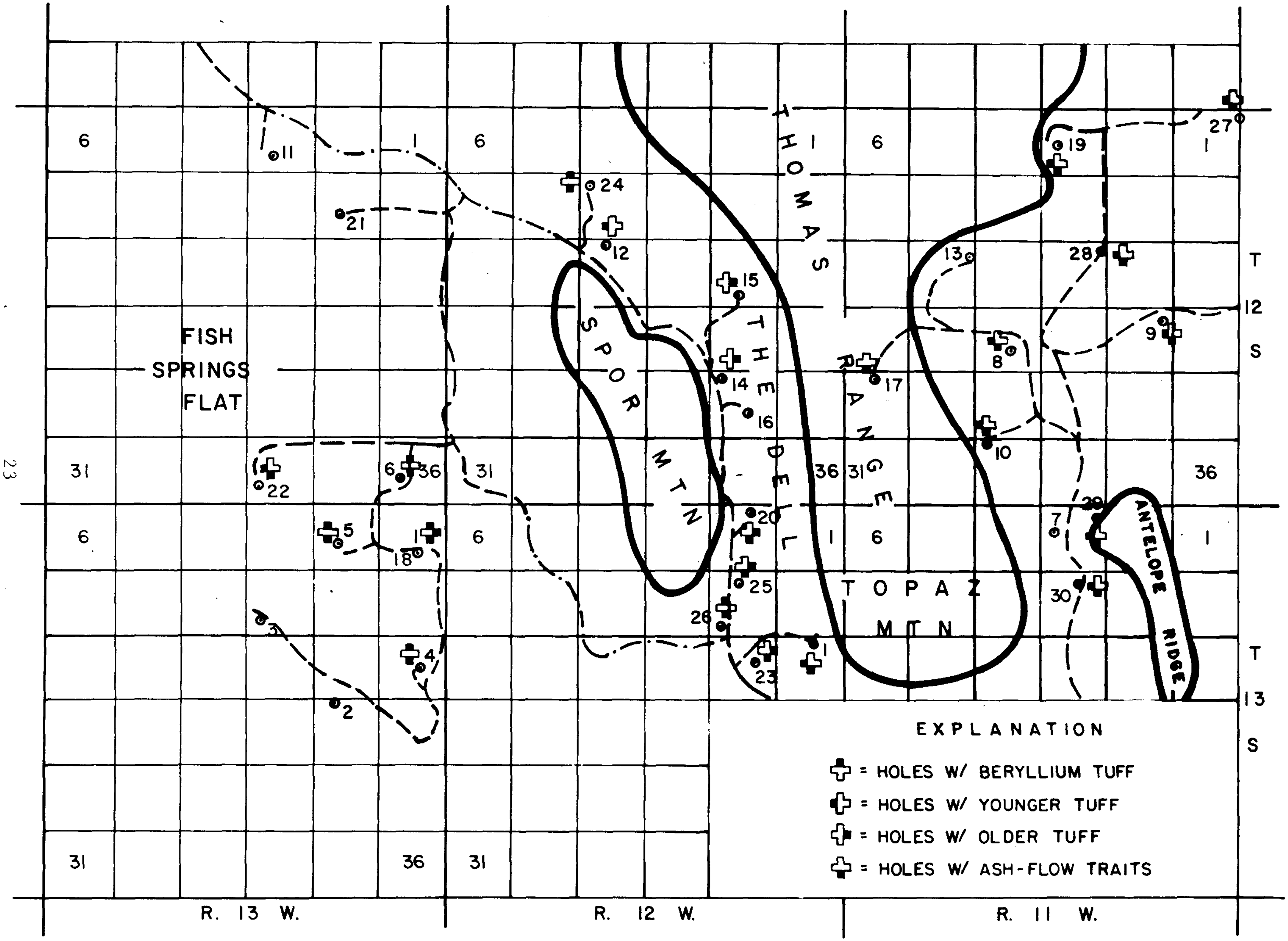

Figure 9. *Lithologic characteristics of drill holes*

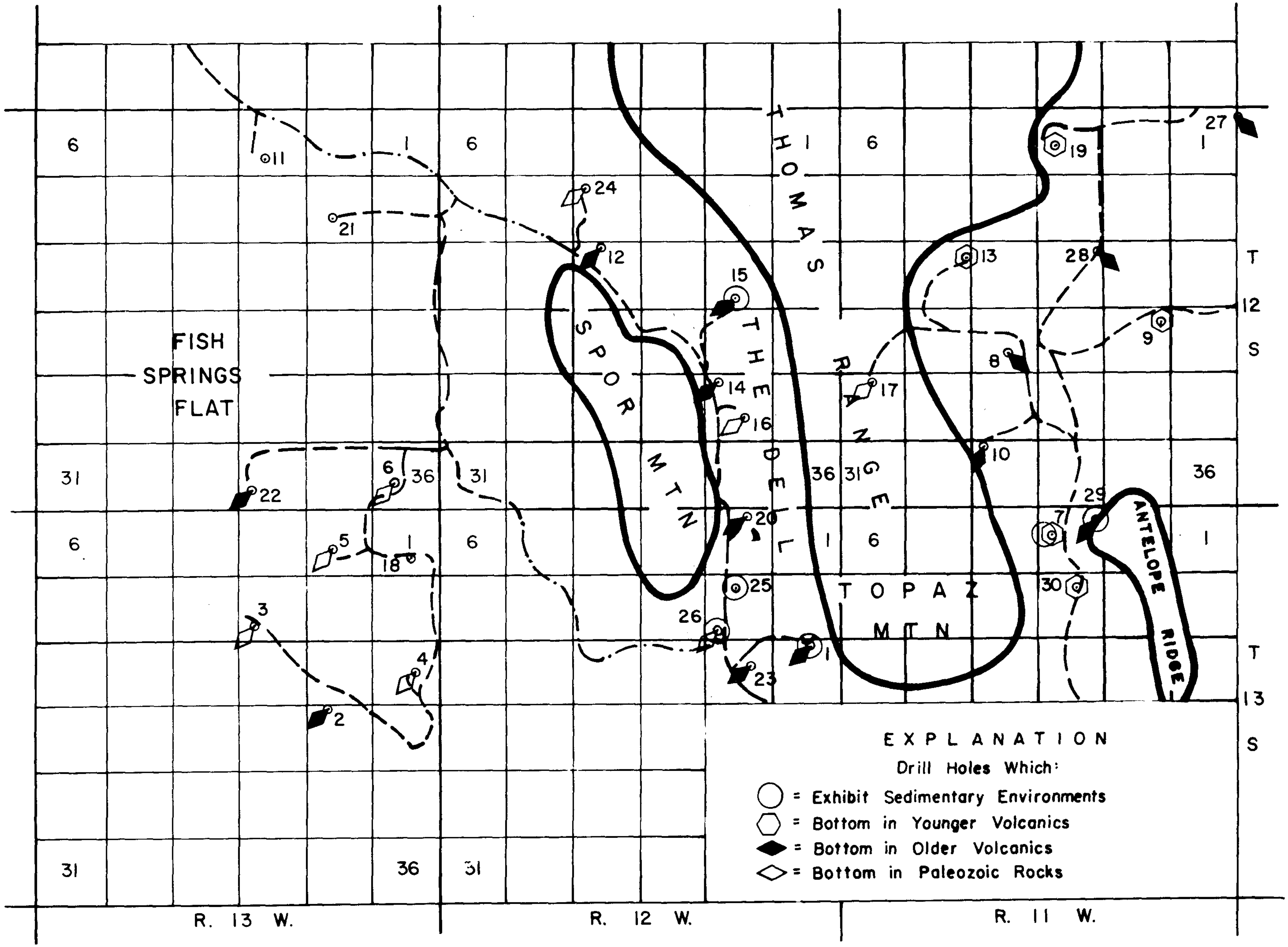

Figure 10. *Down-hole lithologies*

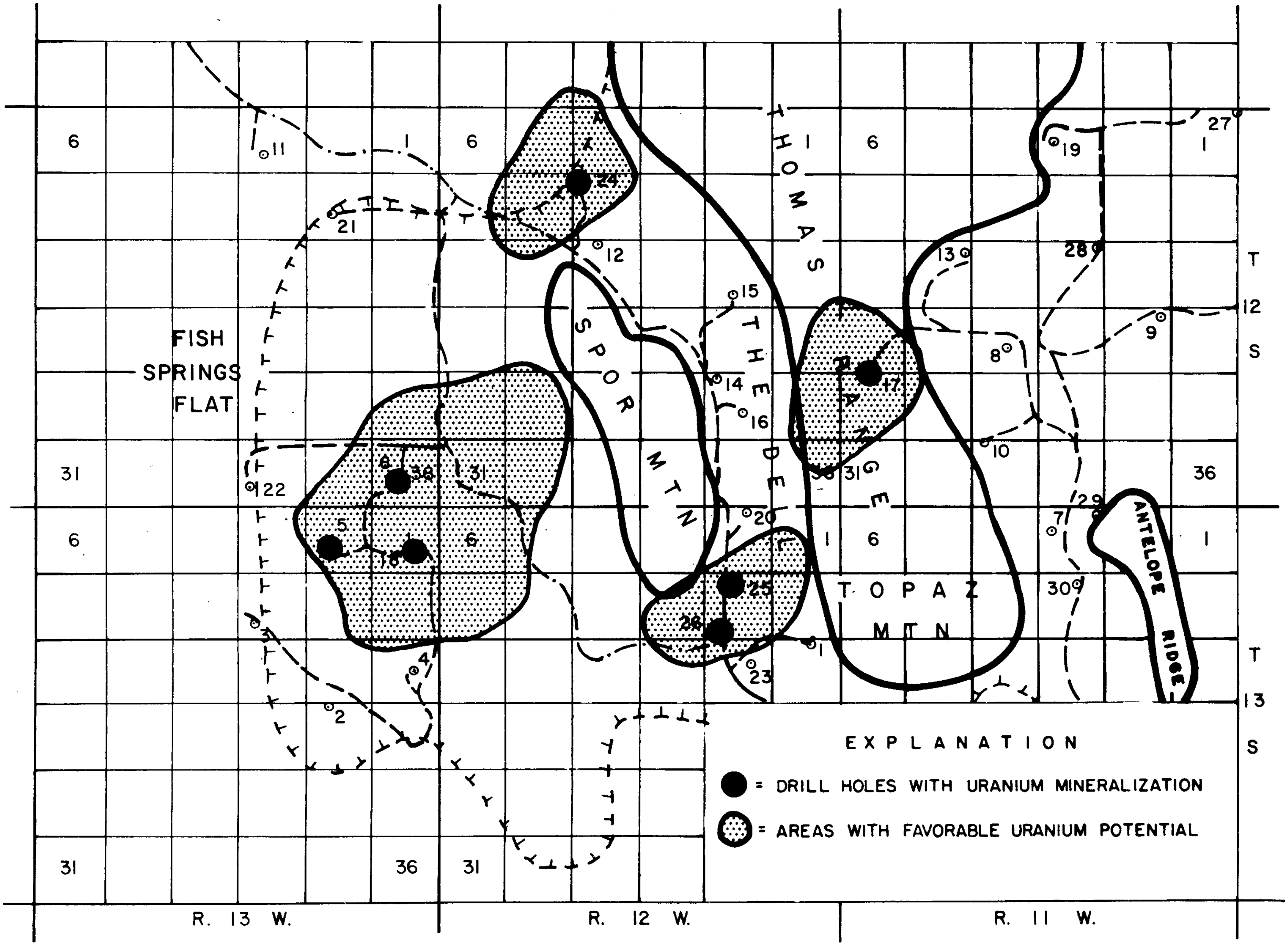

Figure 11. *Uranium favorability map*

gallium, yttrium, or lead. In the Spor Mountain area, weakly anomalous values of these elements are detectable at distances of 1 to 2 miles from mineralization.

In summary, within the Spor Mountain drilling project area, beryllium tuff was found to be present in only 20 percent of the area inferred in the publication "Preliminary Study of Favorability for Uranium Resources in Juab County, Utah," (GJBX-23(78), February 1978, p. 10). Also, the uranium-favorable areas as outlined in this report represent only 18 percent of that inferred in the above-mentioned publication (See Figures 2 and 11). It should be noted that the irregular outlines enclosing uranium-favorable areas on Figure 11 of this report reflect information gained by BFEC geologists from sources other than the drilling by BFEC. These sources are too numerous to acknowledge.

VIII. ACKNOWLEDGMENTS

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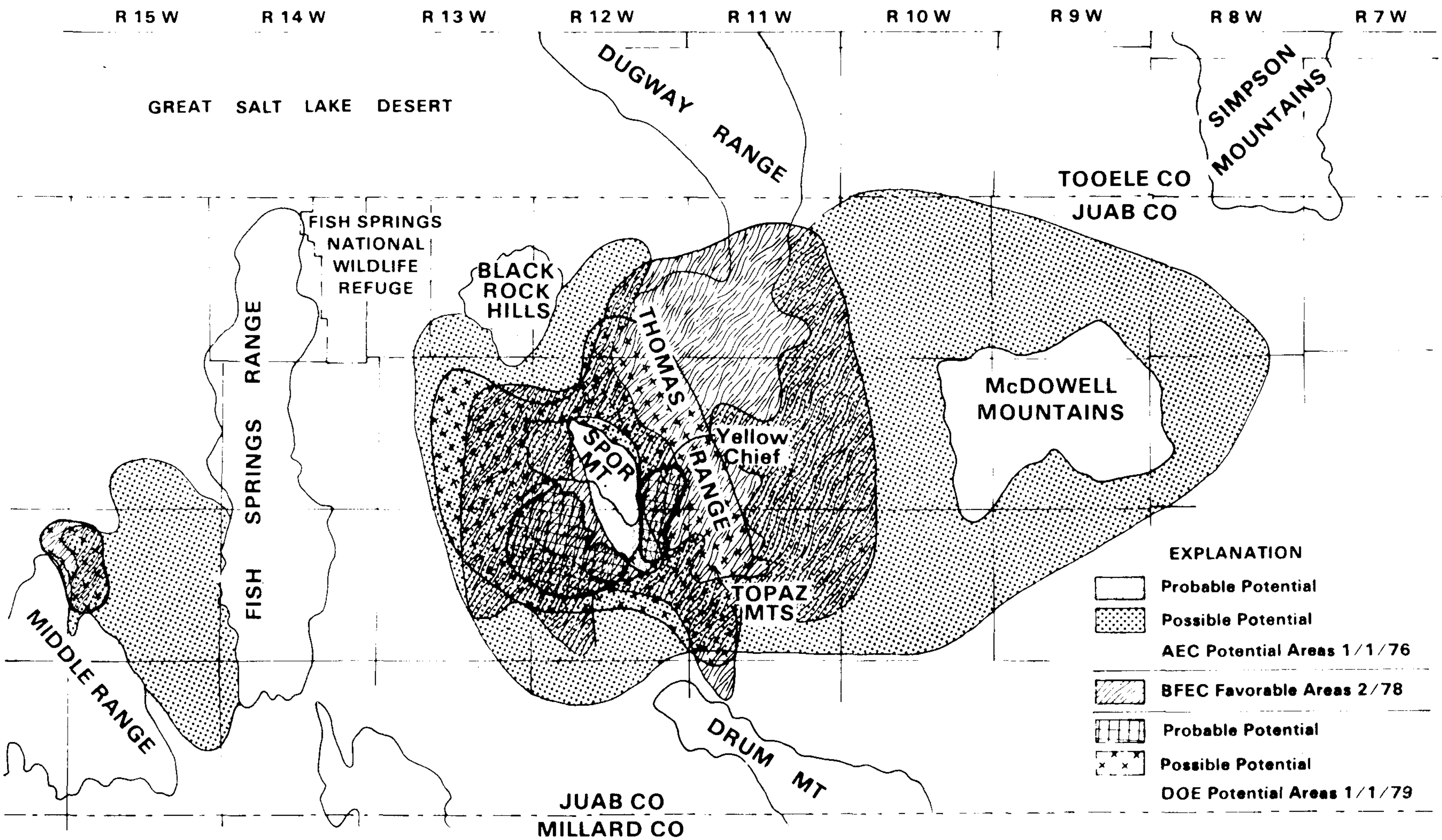

Figure 12. *Estimate of resources during various phases of the NURE program*

GENERAL BIBLIOGRAPHY

OF SPOR MT. AREA

Bowyer, Ben, 1963, Yellow Chief uranium mine, Juab County, Utah, in Beryllium and uranium mineralization in western Juab county, Utah: Utah Geological Society, Guidebook to the Geology of Utah, no. 17, p. 15-22.

Calkins, W. C., 1970, Magnetic and gravity study of Desert Mountain, Juab County, Utah: Utah Geological and Mineralogical Survey Bulletin 95, 21 p.

Erickson, M. P., 1963, Volcanic geology of western Juab County, Utah, in Beryllium and uranium mineralization in western Juab County, Utah: Utah Geological Society, Guidebook to the Geology of Utah, no. 17, p. 23-35.

Griffitts, W. R., 1964, Beryllium in mineral and water resources of Utah: Utah Geological and Mineralogical Survey Bulletin 73, p. 71-75.

Hintze, L. F., 1963, Utah, southwest quarter: Utah Geological and Mineralogical Survey, scale 1:250,000.

Kattleman, D. F., 1968, Geology of the Desert Mountain intrusives, Juab County, Utah: Brigham Young University Geological Studies, v. 15, p. 85-107.

Leedom, S. H., Mitchell, T. P., 1978, Preliminary study of favorability for uranium resources in Juab County, Utah, Bendix Field Engineering Corporation Report GJBX-23(78), 22 p.

Lindsey, D. A., 1975a, Mineralization halos and diagenesis in water-laid tuffs of the Thomas Range, Utah: U.S. Geological Survey Professional Paper 818-B, 59 p.

________ 1975b, The effect of sedimentation and diagenesis on trace element composition of water-laid tuff in the Keg Mountain area, Utah: U.S. Geological Survey Professional Paper 818-C, 35 p.

________ 1977, Epithermal beryllium deposits in water-laid tuff, western Utah: Economic Geology, v. 72, no. 2, p. 219-232.

________ 1978, Geology of volcanic rocks and mineral deposits in the southern Thomas Range, Utah; a brief summary: Brigham Young University, Geologic Studies, Vol. 25, Part I, p. 25-31.

________ 1979a, Geologic map and cross-sections of tertiary rocks in the Thomas Range and northern Drum Mountains, Juab County, Utah: U.S. Geological Survey Miscellaneous Investigations Map I-1176.

________ 1979b, Preliminary report on Tertiary volcanism and uranium mineralization in the Thomas Range and northern Drum Mountains, Juab County, Utah: U.S. Geological Survey, Open-file report 79-1076, 101 p.

Lindsey, D. A., Ganow, H., and Mountjoy, W., 1973, Hydrothermal alteration associated with beryllium deposits at Spor Mountain, Utah: U.S. Geological Survey Professional Paper 818-A, 20 p.

Lindsey, D. A., Naeser, C. W., and Shawe, D. R., 1975, Age of volcanism, intrusion, and mineralization in the Thomas Range, Keg Mountain, and Desert Mountain, western Utah: U.S. Geological Survey Journal of Research, v. 3, no. 5, p. 597-604.

McAnulty, W. N., and Levinson, A. A., 1964, Rare alkali and beryllium mineralization in volcanic tuffs, Honeycomb Hills, Juab County, Utah: Economic Geology, v. 59, p. 768-774.

Montoya, J. W., Havens, R., and Bridges, D. W., 1963, Beryllium-bearing tuff from Spor Mountain Utah - Its chemical, mineralogical, and physical properties: U.S. Bureau of Mines Report Investigation 6094, 15 p.

Montoya, J. W., Baur, G. S., and Wilson, S. R., 1964, Mineralogical investigation of beryllium-bearing tuff, Honeycomb Hills, Juab County, Utah: U.S. Bureau of Mines Report Investigation 6408, 11 p.

Newell, R. A., 1971, Geology and geochemistry of the northern Drum Mountains, Juab County, Utah (M.S. Thesis): Golden, Colorado School of Mines, 115 p.

Patton, H. B., 1908, Topaz-bearing rhyolite of the Thomas Range, Utah: Geological Society of America Bulletin, v. 19, p. 177-192.

Park, G. M., 1968, Some geochemical and geochronological studies of the beryllium deposits in western Utah (M.S. Thesis): Salt Lake City, University of Utah, 105 p.

Rees, D. C., Erickson, M. P., and Whelan, J. A., 1973, Geology and diatremes of Desert Mountain, Utah: Utah Geological and Mineralogical Survey Special Studies 42, 12 p.

Robinson, P. T., McKee, E. H., and Moiola, R. J., 1968, Cenozoic volcanism and sedimentation, Silver Peak region, western Nevada and adjacent California, in Studies in volcanology: Geological Society America Memorandum 116, p. 577-611.

Rosholt, J. N., Prijana, and Noble, D. C., 1971, Mobility of uranium and thorium in glassy and crystallized silicic volcanic rocks: Economic Geology, v. 66, no. 7, p. 1061-1069.

Shawe, D. R., 1966, Arizona-New Mexico and Nevada-Utah beryllium belts, in Geological Survey Research 1966; U.S. Geological Survey Professional Paper 550-C, p. C 206-C213.

________ 1968, Geology of the Spor Mountain beryllium district, Utah, in Ore deposits of the United States (Graton-Sales Vol.), Vol. 2: New York, American Institute of Metallurgical and Petroleum Engineers, p. 1148-1161.

——— 1972, Reconnaissance geology and mineral potential of Thomas, Keg, and Desert calderas, central Juab County, Utah, in Geological Survey Journal of Research, 1972: U.S. Geological Survey Professional Paper 800-B, p. B 67-B 77.

Staatz, M. H., 1963, Geology of the beryllium deposits in the Thomas Range, Juab County, Utah: U.S. Geological Survey Bulletin 1142-M, 36 p.

Staatz, M. H., and Bauer, H. L., Jr., 1950, Preliminary examination of the uranium prospect at the Spider No. 1 claim, Honeycomb Hills, Juab County, Utah: U.S. Geological Survey Trace Element Memorandum Report 165, published by U.S. Atomic Energy Commission, 7 p.

Staatz, M. H., and Carr, W. J., 1964, Geology and mineral deposits of the Thomas and Dugway Ranges, Juab County, Utah, and Tooele County, Utah: U.S. Geological Survey Professional Paper 415, 188 p.

Staatz, M. H., and Osterwald, F. W., 1959, Geology of the Thomas Range fluorspar district, Juab County, Utah: U.S. Geological Survey Bulletin 1069, 97 p.

Staub-Blair, B. A., 1975, Geology of the Picture Rock quadrangle, southwestern Keg Mountain, Juab County, Utah (M.S. Thesis): Salt Lake City, University of Utah, 91 p.

Stokes, W. L., 1962, Utah, northwest quarter: Utah Geological and Mineralogical Survey, scale 1:250,000.

Texas Instruments, Inc., 1977, Aerial gamma-ray and magnetic survey of the Delta Area, Utah, v. 1 and 2.

Thompson, K. C., 1973, Mineral deposits of the Deep Creek Mountains, Tooele and Juab Counties, Utah: Utah Geological and Mineralogical Survey Bulletin 99, 76 p.

U.S. Geological Survey, 1953, Delta quadrangle, Utah: scale 1:250,000.

Whelan, J. A., 1970, Radioactive and isotopic age determinations of Utah rocks: Utah Geological Society Bulletin 81, 75 p.

Williams, N. C., 1963, Beryllium deposits, Spor Mountain, Utah, in Beryllium and uranium mineralization in western Juab County, Utah: Utah Geological Society, Guidebook to the Geology of Utah, no. 17, p. 35-59.

APPENDIX A

Individual Drill-Hole Summaries

Hole No. 1

Drilling project objective: To test the continuity of uranium-bearing host rocks including the Beryllium Tuff Member and Yellow Chief sandstone.

Conclusions from drill hole: The drill hole cut a complete section of the younger volcanics (6-8 m.y.) including topaz rhyolite, with a basal vitrophyre and a pumice-rich, ash-flow tuff probably equivalent to Staatz's #4 tuff. The tuff is completely unsorted except for base surge stratification in the bottom 3 ft. Several rhyodacite and rhyodacite agglomerate lenses occur interbedded with the older lithic tuff below the younger volcanics. These older volcanics are probably equivalent in age to the 21-m.y.-old beryllium tuffs. They do not resemble the beryllium tuff but are rather similar in color, lithic fragment content and alteration to the Yellow Chief sandstone. The zone from 865 to 880 ft contains thin bedded, well-stratified sands and silts which are not mineralized. For lithologic log and geochemical logs, see Appendix B.

Hole No. 2

Drilling project objective: To test for continuity of the Beryllium Tuff Member in areas southwest of the open-pit mine.

Conclusions from drill hole: This rotary drill hole cut lakebeds, sands, basalts and gravels to 940 ft and then encountered an older volcanic unit. A mafic-rich rhyodacite was cut at 940 ft and spot cored at 987 ft to confirm the unit. At this point, the drill hole was terminated because the hole cut volcanics older than the known uranium host rocks in the area. Clearly, if the beryllium tuff had been deposited here, it is now eroded away. For lithologic log and geochemical logs, see Appendix B.

Hole No. 3

Drilling project objective: To test for continuity of the Beryllium Tuff Member in areas southwest of known mineralization.

Conclusions from drill hole: This rotary drill hole cut 960 ft of locally consolidated conglomerates and loose gravels before encountering Paleozoic limestone. The drill hole was terminated because the Paleozoic section is the basement rock in the Spor Mountain area. Structurally, the basement is much higher at this location than was anticipated. It seems likely that beryllium tuff was never deposited in this area. For lithologic log and geochemical logs, see Appendix B.

Hole No. 4

Drilling project objective: To test for continuity covered areas of the Beryllium Tuff Member southwest from known mineralization.

Conclusions from drill hole: This rotary drill hole was scheduled for 1500 ft. However, the unpredictable structural complexity of the Spor Mountain area had brought the Beryllium Tuff Member much closer to the surface than was anticipated. Erosion has removed much of the capping rhyolite in this horst block, and as a result, uranium has probably leached from the top of the tuff. No fluorite was observed in the cuttings, which suggests that the tuff may not have been mineralized at this location. For lithologic log and geochemical logs, see Appendix B.

Hole No. 5

Drilling project objective:	To test continuity of beryllium tuff in covered areas northwest of known mineralization.
Conclusions from drill hole:	This rotary hole cut over 1000 ft of gravels before encountering capping rhyolite at 1060 ft. The older beryllium tuff was cut at 1210 ft and carries weak uranium values (0.028% U_3O_8) from 1310 to 1315 ft. The Paleozoic basement limestone/dolomite was cut at 1410 ft. The uranium mineralization and Paleozoic rock contacts, when projected from Hole 6, approximate the regional dip of 22° to the northwest. However, this may be a fortuitous situation, since structurally this area is known to be strongly broken by both north-south and east-west trending faults. For lithologic log and geochemical logs, see Appendix B.

Hole No. 6

Drilling project objective:	To test the continuity of uranium bearing host rocks including the Beryllium Tuff Member and the Yellow Chief sandstone.
Conclusions from drill hole:	Hole No. 6 is a classic example of the occurrence of beryllium tuff at Spor Mountain. Capping Topaz Mountain Rhyolite overlies the Beryllium Tuff Member in an unusally thick mass (608 ft) of pink to gray, massive, fine-grained crystalline ash flow containing abundant disseminated chatoyant sanidines throughout. The lower-most 20 ft of rhyolite contains abundant hematite. The Beryllium Tuff Member is a typical non-sorted type with abundant dolomite clasts at top, a few of which exhibit chalcedony reaction rims. Fluorite is most abundant (8-10%) in the top 3 feet of the tuff unit and is practically absent below 740 ft. Low-grade beryllium occurs from 735 to 754 ft. A black dolomite cobble zone at 754 ft delineates the extent of alteration in limestone

clasts. All clasts below 754 ft are limey and effervesce with HCl acid; all those above are dolomitized or silicified. The hole bottomed in Paleozic basement rocks consisting of limestone and siltstone. For lithologic log and geochemical logs, see Appendix B.

Hole No. 7

Drilling project objective: To test below the younger Topaz Mountain Rhyolites for mineralized tuff or Yellow Chief equivalent sandstones.

Conclusions from drill hole: Although this hole cut the younger Topaz Mountain Rhyolites to 230 ft, it encountered no tuff below the rhyolite. A probable older biotite rhyolite similar to that found in Hole No. 8 was cut from 230 to 606 ft and at 1420 ft. It consisted of an alternating sequence of shaley mudstones, sandstones, conglomerates, shale and slump breccia. Locally, the sediments exhibit cyclic banding of 1.32 in. - consisting of light and dark colored layers. The conglomerates appear to be cyclic as well, and locally they alternate with shales in 4 to 6 foot lenses. Angular fragments of black dolomite and red rhyodacite suggest a local source draining the older volcanic rock. The sandstones contain abundant unaffected biotite crystals, suggesting that the nearby source area also contained some tuff or older rhyolite rocks. From 606 to 1063 ft the interval is locally oxidized with abundant red and green hematite alteration. From 1063 to 1420 ft the unit consists of black to gray layers of a reduction zone locally containing abundant disseminated pyrite. A turquoise-colored clay and 3-5% disseminated pyrite occurs in shales and conglomerates to 1420 ft, where a gray welded tuff similar to that in the bottom of Hole No. 30 was encountered. For lithologic log and geochemical logs, see Appendix B.

Hole No. 8

Drilling project objective:	To test continuity of uranium-bearing host rocks including the Beryllium Tuff Member and Yellow Chief sandstone under the younger Thomas Range volcanics.
Conclusions from drill hole:	The hole cut 80 ft of fault breccia before entering a very thick (975 ft), massive, spherulitic rhyolite flow containing fluorite in fractures with manganese filling vugs locally. Alteration is intense locally and obliterates original textures from 400 to 427 ft. From 522 ft, rhyolite is altered to fine-grained granular silica (looks fluidized). Original flow-banded texture prominent from 800 ft. An explosive vent breccia was cut from 1055 ft and was characterized by abundant lithic fragments and "corn flake" breccia (1105-1130 ft, 1207-1235 ft and 1440-1470 ft). There is strong evidence for gas-sorting and more than one episode of fluidized breccia. Abundant hematite disseminated throughout the bottom 200 ft suggests strong, primary oxidizing conditions typical of fissure vents. For lithologic log and geochemical logs, see Appendix B.

Hole No. 9

Drilling project objective:	To test the covered area east of the Thomas Range.
Conclusions from drill hole:	The driller lost this rotary drill hole prematurely at 756 ft. It had been projected to a 2500 ft depth. As a result, only one tuff unit was cut in this hole, from 135 to 355 ft. This hole bottomed in Topaz Mountain Rhyolite which clearly belongs to the younger volcanic series. For lithologic log and geochemical logs, see Appendix B.

Hole No. 10

Drilling project objective: To test for uranium-bearing host rocks under the younger Thomas Range Volcanics (Rhyolite).

Conclusions from drill hole: The drill hole cut a 440-foot section of lithic tuff (350-790 ft), and a spot core (485-494 ft) revealed a vent breccia consisting of abundant lithic fragments. Essentially, seven types of volcanic extrusive rocks were identified from the clasts. The clasts varied in size from 1/16 to 6 in. set in an ash matrix. The lack of sorting supports an ash-flow origin; although our only evidence of rock texture is exhibited in this one spot core. A major fault breccia zone 1268 to 1337 ft. including an 80 ft void at the top, lends credence to a theory that major thrust faults exist throughout the Thomas Range. Several such faults have been encountered in our drilling, and they all appear to be flat faults. This hole bottomed in the oldest of the 6 to 8-m.y.-old volcanics in the Thomas Range. The core reveals a biotite-rich rhyolite breccia. For lithologic log and geochemical logs, see Appendix B.

Hole No. 11

Drilling project objective: To test the continuity of the Beryllium Tuff Member in covered areas north of known mineralization.

Conclusions from drill hole: The drilling contractor lost this projected 1500 foot hole prematurely at 983 ft. As a result, neither the beryllium tuff nor the basement rocks were encountered in this area. Of geologic interest is a Topaz Mountain Rhyolite (younger volcanic series) that was cut from 160 to 320 ft. Mixed gravels were cut from this unit to the bottom of the hole. For lithologic log and geochemical logs, see Appendix B.

Hole No. 12

Drilling project objective: To test the extent of Beryllium Tuff Member in covered areas near outcropping capping rhyolite.

Conclusions from drill hole: This drill hole was designed to test for beryllium tuff south of a large mass of porphyritic rhyolite whose age is identical to that of the capping rhyolite. The rotary hole cut older volcanic mud flow agglomerates (rhyodacite breccia) nearly top to bottom, except for a 5-foot zone (in the 250-260 ft interval) of white air-flow ash. Structurally, this implies that another horst exists south of the prophyritic rhyolite mass which has uplifted the older volcanics and eroded away any younger rocks, including the beryllium tuff. For lithologic log and geochemical logs, see Appendix B.

Hole No. 13

Drilling project objective: To test below the younger volcanics of the Thomas Range for Yellow Chief sandstones.

Conclusions from drill hole: This rotary drill hole never came out of Topaz Mountain Rhyolite from top to bottom. Locally, there were more siliceous (altered?) zones within the Topaz Mountain Rhyolite; but essentially the rhyolite cuttings did not vary from top to bottom. Geologically, the results of this hole support the theory of graben structures, prior to and during rhyolite deposition, which have formed very localized valleys in the Thomas Range area. This is the largest mass of rhyolite encountered in the Bendix drilling. For lithologic log and geochemical logs, see Appendix B.

Hole No. 16

Drilling project objective:	To test a major fault zone near the Yellow Chief mine in The Dell for uranium mineralization.
Conclusions from drill hole:	This rotary drill hole was designed to test for uranium in a covered area west of the Yellow Chief mine along a major fault trend. After 50 ft of gravels, a thin older volcanic unit (rhyodacite) was encountered. Paleozoic limestone (basement) was cut at 25 ft with no mineralization in this hole. For lithologic log and geochemical logs, see Appendix B.

Hole No. 17

Drilling project objective:	To test the continuity of the Yellow Chief equivalent sandstone below the younger volcanics of the Thomas Range and to test a well-altered vent zone within the younger volcanics.
Conclusions from drill hole:	This hole, projected to a depth of 2500 ft, was to test at depth the best exposed vent zone in the Thomas Range. Because the hole bottomed in Paleozoic sediments at 995 ft, it seems that the vent zone was quite localized and perhaps was a fissure vent along one of the large graben-horst faults that transect the region. This hole has tested a horst of unknown Paleozoic sediments. The small zone of mineralization at the top of the tuff unit (346-348 ft) suggests that the intensely altered tuff unit may be altered to the beryllium tuffs of The Dell. The tuff was too altered to be recognized, and no fluorite, manganese or chalcedony were found within it. All of those alteration products are present in the Beryllium Tuff Member. The uranium mineralization, although weak, was the only mineralization Bendix drilling encountered in its drilling east of The Dell. For lithologic log and geochemical logs, see Appendix B.

Hole No. 18

Drilling project objective:	To test the continuity of the Beryllium Tuff Member in covered areas northwest of the main ore deposits.
Conclusions from drill hole:	Over 400 ft of capping Topaz Mountain Rhyolite was cut in this hole, compared to over 600 ft of capping rhyolite in Hole 6, approximately 1 mile to the north. Approximately 193 ft of beryllium tuff was cut in Hole 18, although only the top 34 feet of the tuff was altered and only the top 5 feet was mineralized with fluorite, manganese, and trace amounts of uranium (0.01% U_3O_8). The fluorite alteration occurs as gas phase deposition reaction rims on volcanic rock fragments and as replacement cores to limestone-dolomite fragments. The alteration of clasts from lime to dolomite is characteristic of the upper portion of the Beryllium Tuff Member. In this drill hole, lime clasts began at 530 ft, which is 34 feet below the top of the tuff. Field evidence was overwhelmingly in support of near source ash-flow deposition for the beryllium tuff at this location. The overlying capping rhyolite, with its characteristic chatoyant sanidines, is also thought to have an ash-flow origin. For lithologic log and geochemical logs, see Appendix B.

Hole No. 19

Drilling project objective:	To test for uranium-bearing host rocks under the younger volcanics of the Thomas Range.
Conclusions from drill hole:	The drilling contractor lost this hole at 1280 ft with equipment stuck in the hole at 1160 ft. A tuff unit at 585 ft appeared to be similar to older tuff units cut in other holes, but it contained no mineralization. The red rhyolite cut in the bottom of this hole was similar to the older biotite rhyolite cut in several other holes several miles south of this location. For lithologic log and geochemical logs, see Appendix B.

Hole No. 20

Drilling project objective: To test covered areas in the southern portion of The Dell for Yellow Chief sandstone equivalents.

Conclusions from drill hole: The drilling contractor abandoned this hole at 720 ft after he lost equipment at 680 ft. This rotary drill hole cut a 420-foot section of capping rhyolite with unmineralized tuff section below it (440-570 ft) prior to cutting older volcanics near the bottom of the hole. Within the tuff section were green and yellow cuttings which appeared to be equivalent or similar to those found at the Yellow Chief Mine. There was no mineralization in this hole. For lithologic log and geochemical logs, see Appendix B.

Hole No. 21

Drilling project objective: To test covered areas for the Beryllium Tuff Member in areas northwest of known mineralization.

Conclusions from drill hole: The drilling contractor lost this projected 1000 foot hole at 593 ft. From top to bottom the hole stayed in mixed gravels. No bedrock was cut in this hole and as a result no mineralization was encountered either. For lithologic log and geochemical logs, see Appendix B.

Hole No. 22

Drilling project objective: To test covered areas for the Beryllium Tuff Member in known mineralization.

Conclusions from drill hole: This rotary drill hole cut four separate tuff units which appeared to be related to the younger volcanics. However, no mineralization was encountered in any of the tuff horizons.

The hole bottomed in older volcanics (rhyodacite), and therefore it is probable that the beryllium tuff either was not deposited in this area or has been eroded away. For lithologic log and geochemical logs, see Appendix B.

<u>Hole No. 23</u>

Drilling project objective: To test continuity of the older pink tuff and the older lithic tuff and offset to Hole No. 1, which contained water-laid siltstones.

Conclusions from drill hole: Drill hole No. 23 cut nearly 1000 ft of rhyolite and rhyodacite before it encountered an older lithic tuff (at 1014-1117 ft), which contained abundant round and angular equigranular monzonite or biotite rhyolite fragments. Sorting near the base of this unit suggests base surge origin, rather than water, as a sorting mechanism. Black and red rhyodacite from 1117 to 1145 ft interrupted a much larger, older lithic tuff zone from 1145 to 1309 ft. Within this tuff zone was an older pink tuff which is characterized by abundant pink (manganese?) clay clasts (1/4 in.) dispersed throughout. The pink clay along with scattered epidote, appeared to be an alteration product common to the older tuff units. No visible fluorite, black manganese, or silica alterations were found in the tuff. The hole was lost prematurely at 1340 ft in red rhyolite flow breccia. This breccia was cut by several 1 foot breccia dikes which consisted of rounded fragments of a variety of volcanic rocks set in a matrix of crushed crystalline mush. The breccia dikes suggest a late stage, young episode of gas-explosive activity. For lithologic log and geochemical logs, see Appendix B.

Hole No. 24

Drilling project objective: To test for the Beryllium Tuff Member in areas northwest from The Dell.

Conclusions from drill hole: This rotary drill hole was designed to test the covered area northwest of The Dell for the beryllium tuff. The capping rhyolite was encountered at 25 ft and the beryllium tuff at 70 ft. The beryllium tuff contained fluorite chips from 70 to 80 ft and weak uranium mineralization from 70 to 72 ft. Structure, again, controlled this uplifted block which has brought the Paleozoic basement to 146 ft. For lithologic log and geochemical logs, see Appendix B.

Hole No. 25

Drilling project objective: To test the southern portion of The Dell for Yellow Chief-type sandstone.

Conclusions from drill hole: This drill hole was located to test the southern portion of The Dell for Yellow Chief equivalent sandstone. The cuttings revealed an older crystal tuff unit at 85 to 160 ft. An older green tuff unit was encountered at 160 ft and appeared to contain sandstone lenses within it that are equivalent to the Yellow Chief-type sandstone. However, they did not contain uranium mineralization. Older rhyodacite was cut at 600 ft and the hole bottomed in it. Local breccia zones were encountered within the rhyodacite. This rhyodacite is similar to that cut in Holes No. 1 and No. 23 and appears to be related to the older volcanics. Of geologic interest is the fact that this hole was collared less than 150 ft from a younger volcanic outcrop (#4 tuff), but none of the younger volcanic series was encountered in this drill hole. For lithologic log and geochemical logs, see Appendix B.

Hole No. 26

Drilling project objective: To test the extent of mineralization in covered areas east of the Bell Hill mine breccia pipe.

Conclusions from drill hole: Drill hole No. 26 was drilled in an alluvium-covered area east of the Bell Hill mine to test possible fault interesections for mineralization. After 50 ft of overburden, a large fault-gouge zone was encountered to 106 ft and another one at 130 ft. This sandstone exhibits local arkose lenses and appears to be a locally-derived, clean, beach sand which consists of black glass, quartz and limestone, and red rhyolite grains. This sandstone gradually grades to a coarse conglomerate, the base of which contains mineralized clasts from the beryllium tuff unit which lies below it. This relationship establishes that a shallow lake-beach environment existed in the area after this beryllium tuff was mineralized. The beryllium tuff (267-282 ft) contains typical fluorite reaction rims on dolomite (limestone) clasts and abundant quartzite clasts, in addition to an assortment of volcanic fragments. The angular, unsorted nature of all tuff fragments suggests an explosive, ash-flow origin. Gas-phase alteration and mineralization has obliterated the quartzite beneath the tuff from 282 to 310 ft. Unaltered, brecciated, black limestone and interbedded quartzite were encountered from 310 to 403 ft at the bottom. For lithologic log and geochemical logs, see Appendix B.

Hole No. 27

Drilling project objective: To test covered areas in the northern Thomas Range for the Beryllium Tuff Member or its mineralized equivalents.

Conclusions from drill hole:	The drill hole was projected to 1500 ft but abandoned at 1208 ft by the drilling contractor. The hole cut a younger topaz rhyolite and then entered a lithic tuff at 185 ft. This tuff contained large fragments of carbonaceous shale and other brown to black limestones. It was not mineralized. The older volcanic rock (rhyodacite) cut in the bottom of the hole is quite siliceous. For lithologic log and geochemical logs, see Appendix B.

<u>Hole No. 28</u>

Drilling project objective:	To test covered areas of the northeastern Thomas Range for the Beryllium Tuff Member or its mineralized equivalents.
Conclusions from drill hole:	Although two lithic tuff units were encountered in this hole, neither were mineralized. It appears that both tuff units are a part of the younger volcanic series. The rhyodacite encountered at the bottom of the hole (1340 - 1500 ft) was from the older volcanic series. Potential reserves are decreased in this area due to this hole. For lithologic log and geochemical logs, see Appendix B.

<u>Hole No. 29</u>

Drilling project objective:	To test the continuity of lake bed and related water-laid sediments in Hole No. 7.
Conclusions from drill hole:	This drill hole was designed to test the continuity of a large sequence of interbedded shales, arkoses and conglomerates in Hole No. 7. Though we did not find any sediments in Hole No. 29, this hole did cut abundant vitrophyre and vitrophyre breccia which suggests a source area near a vent or fissure-vent eruption. A lithic tuff was cut from 285 to 788 ft, which contained well-sorted glass sands at the top, and local

base-surge-type gas sorting at 350 to 352 ft and at 369 to 384 ft. Two additional vitrophyre units were encountered: capping green biotite rhyolite at 1064 to 1080 ft and 1264 to 1283 ft. The gray-green rhyolite encountered from 1283 to 1500 ft is similar to the rhyolite encountered in the bottom of Holes 1, 8, and 10. The rhyolite contains abundant equigranular crystalline biotite, chlorite and plagioclase. For lithologic log and geochemical logs, see Appendix B.

<u>Hole No. 30</u>

Drilling project objective: To test the continuity of lake bed and related water-laid sediments in Hole No. 7.

Conclusions from drill hole: Drill hole No. 30 was designed as an offset to Hole No. 7 in an attempt to trace the continuity of lakebed and detrital sediments encountered in that hole. It was located east of a possible vent in the younger volcanics. The hole was a geologic surprise in that we cut 1360 ft of altered lithic tuff below an older welded ash-flow labeled porphyritic rhyolite on previous geologic maps. The significance of this lengthy interval of tuff suggests that the structural elements for this area are well hidden by younger volcanics. In addition, age relations between the older volcanics and younger volcanics have not been completely unraveled. Structurally, the lack of tuff in Hole No. 7 and the 1360 ft of tuff in this hole implies a graben or trough for deposition at the time the ash-flow was being deposited. On the other hand, only 35 ft of lake sediment were encountered near the bottom of this hole (1427-1462 ft); whereas Hole No. 7 contained 814 ft of lake sediments (606-1420 ft) before it encountered an altered tuff similar to that in the bottom of Hole No. 30. The geologic environment is intriguing but not radioactive. For lithologic log and geochemical logs, see Appendix B.

APPENDIX B

RESULTS OF ANALYSES, OF 11 ELEMENTS,

BY VARIOUS METHODS

Hole No. 1

Footage	U_3O_8 [1] (ppm)	Mn [2] (ppm)	V [2] (ppm)	Cs[3] (ppm)	Li[3] (ppm)	Be[3] (ppm)	Se[4] (ppm)	eK[5] (pct)	eU[5] (ppm)	eTh[5] (ppm)	F[6] (ppm)
80-90	14	494	20	10	69	11	<1	4.53	19.0	68.3	1222
120-130	21	561	20	12	53	14	<1	3.75	22.8	61.7	1402
140.5-150	26	480	20	26	91	20	<1	3.63	20.1	62.6	3165
150-160	21	494	30	26	72	12	<1	3.75	20.7	59.1	1912
160-170	22	487	20	23	68	11	<1	4.12	20.2	57.2	1852
170-180	24	500	20	23	72	12	<1	4.10	23.3	58.3	1807
180-190	23	500	10	23	68	12	<1	4.26	22.7	61.5	1719
190-200	17	494	40	22	72	11	<1	3.86	19.1	55.3	1703
200-210	21	487	20	21	70	11	<1	3.96	20.0	55.0	1823
210-220	20	487	20	21	88	11	<1	3.71	20.8	55.5	1615
220-230	21	487	20	21	87	11	<1	4.05	20.0	58.0	1622
230-240	20	466	30	22	98	11	<1	4.04	20.0	58.1	1741
240-250	22	480	20	22	92	12	<1	3.88	20.8	58.2	1617
250-260	44	453	20	19	100	10	<1	3.87	19.3	60.1	1510
260-270	19	478	35	20	94	8	<1	3.69	18.9	50.7	1466
270-280	17	478	<5	18	87	10	<1	3.51	17.9	46.8	1268
280-290	12	485	5	18	92	8	<1	3.47	17.2	48.3	1668
290-300	18	505	60	18	92	7	<1	3.42	16.2	45.9	1655
300-310	15	492	10	21	90	8	<1	3.32	15.7	46.8	1687
310-320	15	478	<5	16	98	10	<1	2.91	13.3	59.0	1398
320-330	15	485	25	20	70	10	<1	2.94	14.0	61.0	1209
330-340	11	505	<5	23	72	10	<1	2.42	10.4	59.9	1371
340-346	23	478	25	16	74	8	<1	2.56	22.0	38.1	553
440-450	10	558	115	6	103	2	<1	1.51	9.8	21.0	1095
630-640	5	611	130	8	17	4	<1	2.09	4.7	30.1	570
660-670	3	698	125	4	11	2	<1	2.60	4.4	17.2	273
687-700	3	538	115	5	11	2	<1	2.78	4.4	19.0	255

RESULTS OF ANALYSES, OF 11 ELEMENTS,

BY VARIOUS METHODS

Hole No. 1

Footage	U_3O_8 [1] (ppm)	Mn [2] (ppm)	V [2] (ppm)	Cs[3] (ppm)	Li[3] (ppm)	Be[3] (ppm)	Se[4] (ppm)	eK[5] (pct)	eU[5] (ppm)	eTh[5] (ppm)	F[6] (ppm)
700-710	3	538	190	5	12	2	1	2.77	4.2	19.3	267
710-720	2	538	145	6	12	4	1	2.66	4.2	17.7	298
720-730	3	578	145	6	12	3	1	2.50	4.0	16.1	295
730-740	3	545	145	7	10	3	1	2.81	4.2	19.4	195
740-745	4	578	130	6	11	3	1	2.80	4.8	19.0	291
850-860	4	638	85	8	16	3	1	1.76	4.0	20.5	330
860-870	4	867	100	9	17	4	1	2.32	4.9	20.0	346
870-877	6	372	60	8	14	3	1	3.65	5.7	26.9	267
881-890	6	279	80	7	14	4	1	1.00	6.4	27.0	298
940-950	4	432	90	9	16	4	1	2.99	5.5	24.2	295
950-955	10	604	120	8	16	4	1	3.07	5.5	23.3	195

1/ Methods of Analyses: Fluorometric

2/ Atomic Absorption

3/ Flame

4/ Spectro fluorometric

5/ Gamma-Ray Spectroscopy

6/ Specific Ion

SPECTROCHEMICAL ANALYSIS
OF 29 OTHER ELEMENTS ASSOCIATED
WITH THE SPOR MOUNTAIN DRILLING PROJECT

Hole No. 1

Element (ppm)	Footage 80-90	120-130	140.5-150	150-160	160-170	170-180	180-190	190-200	200-210	210-220	220-230
Ag	3	3	3	3	3	6	3	2	4	3	4
Al	58000	59500	57600	54200	55700	54700	49600	50900	51200	48800	52100
As	505	515	490	480	455	450	440	435	430	400	460
B	125	140	120	125	115	125	135	135	135	130	140
Ba	25	17	77	305	94	80	110	90	81	97	82
Be	31	29	34	35	30	26	23	24	30	23	26
Ca	3790	5690	15000	26600	29900	18300	10530	30000	22900	23800	21700
Co	7	6	6	8	7	7	6	6	7	7	7
Cr	16	15	15	19	18	16	14	16	20	16	15
Cu	12	10	10	13	12	11	9	10	13	10	11
Fe	12600	9140	9380	14800	12600	9520	7980	8940	12500	8840	9980
La	37	33	30	32	34	33	30	33	28	32	33
Li	90	75	110	95	95	90	75	115	90	85	100
Mn	640	645	550	560	545	550	490	510	530	470	515
Mo	27	25	24	25	23	23	22	21	26	21	24
Na	28200	27400	19300	22100	22800	22800	20800	20800	20100	17100	20800
Nb	37	40	41	34	32	34	31	31	32	29	32
Ni	19	18	18	21	19	18	16	17	22	18	20
Pb	105	110	96	110	97	100	99	90	96	92	100
Sb	85	86	84	86	79	77	75	73	74	72	82
Sc	2	3	3	3	3	3	2	3	2	2	3
Sn	27	29	26	29	24	23	26	23	26	23	27
Sr	<100	<100	<100	<100	<100	<100	<100	<100	<100	< 100	<100
Ti	600	485	620	655	665	640	575	625	610	610	610
V	9	5	8	111	11	9	8	10	10	10	10
W	115	100	98	110	96	100	100	85	145	85	110
Y	45	40	40	35	35	31	31	32	32	32	33
Zn	125	92	105	200	165	93	83	81	260	110	140
Zr	67	85	83	80	78	76	76	72	74	69	78

SPECTROCHEMICAL ANALYSIS

OF 29 OTHER ELEMENTS ASSOCIATED

WITH THE SPOR MOUNTAIN DRILLING PROJECT

Hole No. 1 (continued)

Element (ppm)	Footage 230-240	240-250	250-260	260-270	270-280	280-290	290-300	300-310	310-320	320-330	330-340
Ag	3	4	4	4	4	4	4	4	4	3	3
Al	49600	54300	53700	53300	49100	47500	27400	49000	60400	59100	56200
As	430	490	425	440	440	440	440	435	480	470	475
B	145	155	145	135	130	130	135	145	165	160	155
Ba	82	76	85	140	160	180	165	180	140	155	245
Be	24	24	24	25	24	23	24	25	25	23	23
Ca	18200	19700	25800	31000	34100	38200	32500	36000	22300	12500	17500
Co	7	7	7	8	8	8	8	8	7	7	7
Cr	15	14	15	16	18	18	18	18	15	13	15
Cu	10	11	10	11	12	10	13	9	9	10	9
Fe	9560	8650	9440	10200	10200	9950	10300	10940	9760	9130	9340
La	30	34	36	34	34	35	30	34	36	31	29
Li	105	105	115	135	130	95	95	100	125	80	90
Mn	490	525	495	505	480	475	475	480	520	495	495
Mo	21	24	22	22	22	21	21	22	22	23	21
Na	19300	20800	20100	20100	17100	15200	15200	16600	15200	15200	11200
Nb	30	34	31	31	28	27	27	28	32	30	28
Ni	19	18	18	21	23	21	23	18	19	17	19
Pb	96	100	85	96	89	105	97	91	99	94	98
Sb	75	84	68	78	76	78	78	78	78	78	79
Sc	2	3	3	3	3	3	3	3	3	3	3
Sn	25	29	24	23	24	23	37	23	20	23	25
Sr	<100	<100	<100	<100	<100	120	110	130	<100	<100	100
Ti	580	615	675	790	800	820	790	865	765	685	710
V	8	9	10	13	15	16	15	17	12	9	11
W	95	100	89	96	100	110	105	105	82	97	89
Y	30	34	32	31	29	28	27	28	28	25	22
Zn	110	125	100	145	155	93	170	100	84	120	94
Zr	73	80	77	74	69	66	67	66	71	70	64

SPECTROCHEMICAL ANALYSIS

OF 29 OTHER ELEMENTS ASSOCIATED

WITH THE SPOR MOUNTAIN DRILLING PROJECT

Hole No. 1 (continued)

Element (ppm)	Footage										
	340-346	440-450	630-640	660-670	687-700	700-710	710-720	720-730	730-740	740-745	850-860
Ag	4	6	6	6	6	7	7	6	6	7	7
Al	49100	56600	64500	55300	58500	61200	59800	60800	62900	65800	76600
As	425	515	580	505	500	560	565	540	560	545	695
B	160	120	130	100	120	120	115	110	115	110	110
Ba	475	615	605	810	1160	1420	1300	1760	1110	1440	480
Be	30	70	67	55	54	56	58	62	68	66	54
Ca	16400	33100	24300	50500	32600	32100	38000	39700	38300	43300	42800
Co	12	39	38	30	31	35	34	35	32	38	31
Cr	28	130	115	87	97	110	110	115	110	125	84
Cu	10	12	32	17	17	14	13	10	21	23	13
Fe	15000	44000	41700	35100	34300	35800	35600	39600	43400	42300	34700
La	33	49	59	56	54	58	55	48	51	52	63
Li	80	115	20	10	10	10	15	10	10	15	20
Mn	470	545	675	705	530	530	520	565	565	610	730
Mo	19	25	27	24	25	27	26	25	26	26	30
Na	11200	14500	7400	7400	13800	20100	20800	20800	17100	22100	17100
Nb	30	41	49	33	40	45	40	38	38	46	41
Ni	23	71	68	50	50	52	53	61	61	63	47
Pb	86	94	110	93	90	105	100	110	110	100	110
Sb	71	93	100	89	91	98	96	94	94	90	110
Sc	4	14	13	10	11	12	12	12	12	13	11
Sn	25	34	34	30	31	35	36	37	37	36	31
Sr	100	150	< 100	110	140	170	170	150	150	160	140
Ti	1420	4020	4530	3640	4100	4430	4100	3930	3930	4560	4130
V	34	115	135	110	115	125	120	125	125	135	99
W	77	115	115	110	100	125	125	130	130	110	130
Y	28	20	21	17	17	18	18	20	30	20	31
Zn	96	175	125	95	115	110	130	94	465	190	120
Zr	64	145	155	61	68	75	73	76	110	135	185

SPECTROCHEMICAL ANALYSIS

OF 29 OTHER ELEMENTS ASSOCIATED

WITH THE SPOR MOUNTAIN DRILLING PROJECT

Hole No. 1 (continued)

Element (ppm)	Footage				
	860-870	870-877	881-890	940-950	950-955
Ag	6	6	6	6	6
Al	71200	77000	74800	72600	72600
As	605	795	660	675	670
B	110	130	115	115	115
Ba	590	1000	2200	770	420
Be	52	41	41	41	40
Ca	32000	15400	30600	31300	32100
Co	28	26	26	23	22
Cr	74	41	44	37	37
Cu	12	14	11	8	12
Fe	33200	25700	26200	26000	25700
La	60	87	87	68	65
Li	15	15	15	15	15
Mn	880	395	280	410	595
Mo	27	29	28	28	28
Na	13000	8300	16600	14500	11200
Nb	39	47	46	39	36
Ni	46	36	33	27	30
Pb	99	115	99	105	105
Sb	95	115	105	110	110
Sc	9	8	8	7	7
Sn	38	37	35	35	35
Sr	<100	<100	100	110	<100
Ti	3940	4350	4390	3900	3760
V	96	75	83	88	80
W	105	125	120	135	130
Y	20	25	24	20	18
Zn	105	120	120	99	91
Zr	175	250	250	195	190

SPOR MOUNTAIN DRILLING PROJECT

Core Log for Hole No. 1

Logged by: Charles Beverly | Date: August 3-4, 1978 | Page: 1 of 6

Footage	Cumulative Footage	Lithology	Color	Texture	Induration/ Welding	Lithic Fragmentation	Matrix	Alteration/ Diagenesis	Stratified Sorted	Remarks
Interval 0-23	23	Casing								
23-103	103	Pumiceous rhyolite flow	Red and white	Flow bands	Moderate	Abundant crushed pumice and red and black (?) rhyolite (?)	Red rhyolite	Weak/ clay in vugs	---	Rhyolite Flow--frothy, pumice-rich cap to the #4 tuff unit. Abundant, squeezed and stretched pumice (moderate welding) and locally vuggy zones from 70 feet; banding obliterated from 75-93 feet by massive gray rhyolite. Intrusive breccia from 93-103 feet with rhyolite flow fragments in dense gray rhyolite matrix.
103-140.5	140.5	Vitrophyre	Black and brown	Glassy and gouge	Locally strong	Gray and black rhyolite	Gray rhyolite	Red-brown yellow clay	---	Vitrophyre--glassy, black, beady vitrophyre interlaced with gray rhyolite at the base of rhyolite flow. Rubble zones of breccia and gouge throughout interval.
140.5-346	346	Pumice lapilli tuff	Pink	Coarse to fine	None. Some compaction	Pumice glass obsidian red rhyolite, gray	Pink ash	Top 30 feet clay and chalcedony	---	Pumice--Lapilli Tuff--Ash Flow Tuff--nonsorted with abundant lithic fragments and finer grained phases locally at 173-175, 180-181, and 235-238 feet. Probably #4 tuff.

SPOR MOUNTAIN DRILLING PROJECT

Core Log for Hole No. 1

Logged by: Charles Beverly | Date: August 3-4, 1978 |

Footage	Cumulative Footage	Lithology	Color	Texture	Induration/ Welding	Lithic Fragmentation	Matrix	Alteration/ Diagenesis	Stratified Sorted	Remarks
140.5-346 (con't.)						quartzite, gray limestone-dolomite 1-chalcedony rimmed limestone clasts. Pumice: 60-95%. Rhyolite 20-40%. Other lithics: 20-50%. Sediments: 1-3%.	Alternating limestone fragments; also scattered clay alteration of large pumice clasts.			Most lithics 1/16 to 1 in. width, with local exceptions--pumice to 4 in. locally 225-263 feet. Abundant lithics at 263-264, 276-313, and 343.5-347 feet. Orange-pink ash-pumice-rich zone 313-331 feet (air fall?). In general, more pumice and glass lithics and larger volcanic rock fragments near the base of this tuff unit and from 276-313 feet. There appears to be several ash flow episodes within the tuff unit; some contain more pumice of air-fall origin. Some contain more lithics with a few sedimentary clasts. Sorting does not appear until the last 4 feet at 343-347 feet, which exhibits BASE SURGE characteristics of clasts--sand sorting with limonite oxidation banding locally. The two different types of tuff recognized could mean different source areas as well as different episodes of ash eruptions.

Footage	Cumulative Footage	Lithology	Color	Texture	Induration/ Welding	Lithic Fragmentation	Matrix	Alteration/ Diagenesis	Stratified Sorted	Remarks
346-387	387	Rhyodacite-agglomerate	Drab Gray-Green	Coarse cobbles, boulders	Strongly compacted	Rhyodacite, rhyolite, trachyte (?)	Rhyodacite	Clay and silica fracture fillings up to 1/4 in. Clay alter-	----	Rhyodacite Agglomerate (Mud Flow Origin)--with talus debris 346-362 feet; strongly oxidized weathered zone with abundant hematite and clay; poor soil developed on old surface.
387-423	423	Red rhyodacite	Red--Maroon	Fine-grained; felted	Strongly/dense	None to 398 feet then scattered cobbles to 424 feet.	Crystals rhyodacite	nating with feldspar and calcite, silica veinlets to 1/2 in.	----	Red Rhyodacite--strongly oxidized, abundant hematite at 387-392 feet; could be old surface laced with white veinlets of calcite-silica and finely disseminated epidote (?).
423-461	461	Older lithic tuff (ash flow)	Orange-Pink	Fine at top to coarse at bottom	Non-welded	Sparse at top, abundant at bottom; all older volcanic lithics. No limestone or dolomite fragments or quartzite.	Ash and alternating matrix	Epidote (?) Weak 15%. Clay and a few veinlets calcite. Abundant hematite at base along with green clay.		Older Lithic Tuff--ash-flow origin to more oxidized, crudely sorted at base of lithic tuff with abundant rhyodacite and augite-rhyodacite clasts. The fact that this tuff only contains older lithics, no pumice, is veined with calcite, silica and appears oxidized at top and at base, puts it in an older classification than the #4 unit, above, which is in the younger volcanic series.

SPOR MOUNTAIN DRILLING PROJECT

Core Log for Hole No. 1

Logged by: Charles Beverly   Date: August 3-4, 1978   Page: 4 of 6

Footage	Cumulative Footage	Lithology	Color	Texture	Induration/ Welding	Lithic Fragmentation	Matrix	Alteration/ Diagenesis	Stratified Sorted	Remarks
461-629	629	Brown-gray rhyodacite	Brown to gray-yellow to tan in more altered zones	Massive	Strong	None	Rhyodacite	Clay alteration of plagioclase crystals throughout. Hematite on all fractures. Epidote replaces plagioclase. Chlorite replaces all biotite augite.	----	Rhyodacite--massive flow with late fractures filled with calcite crystals to 2 in. Autobrecciation along fractures but little rotation of fragments. Strongly broken from 477-515 feet and 530-565 feet and 585 feet. Less broken between these zones; calcite-silica veinlets 1/8 to 1 in. from 530-557 feet and veinlets are rimmed with 1/8 in. hematite bonds. Epidote disseminated throughout replacing plagioclase laths, chlorite replaces all mafics.
629-687	687	Latite (altered)(ash flow)	Gray to Buff	Fine-grained	Compact	None	Plagioclase, clay alteration.	Strong clay alteration with calcite throughout, replacing plagioclase and	----	Altered Latite--fine-grained equigranular with strong calcite clay replacement of matrix and plagioclase. Abundant epidote throughout, mafics replaced by limonite strain; similar to rhyodacite above in texture but has all the characteristics of ash flow tuff. Very little, if

Footage	Cumulative Footage	Lithology	Color	Texture	Induration/ Welding	Lithic Fragmentation	Matrix	Alteration/ Diagenesis	Stratified Sorted	Remarks
								matrix. Epidote (?) throughout.		any, fractures throughout.
687-955	955	Latite lithic (Ash Flow)	Buff to Red at + 752 feet	Coarse	Strong to 752 feet	Absent; oldest rhyodacite-rhyolite	Clay-Ash (?)	Strong clay and calcite 1/8 to 1/4 in. Veinlets to 752 feet. No epidote to 752 feet.	----	Latite (Lithic Tuff) Ash Flow--strong hematite alteration throughout to 752 feet, along with silicification and clay. This unit may be a separate ash flow to 752 feet. Less silicification, more clay alteration from 752 feet. Disseminated epidote (?) from 752 feet as well as limonite after mafics throughout; lithic fragments up to 4 in., but core is so altered, it is too friable to examine and had to be pumped out of core tube. Ash flow origin with little sorting. Clast (lithic) size and abundance increases some from 810 feet. Some water-worked sorting from 863 feet, with silt and clay variations 865-880 feet. Lost 2 feet of core at 881 feet. Abundant lithics from 890 feet with 8 in. clasts of rhyodacite at 899 feet and 944 feet. Abundant clay
Note:		(Yellow Chief-like zone) 865-800 feet								

SPOR MOUNTAIN DRILLING PROJECT

Core Log for Hole No. 1

Logged by: Charles Beverly

Date: August 3-4, 1978

Footage	Cumulative Footage	Lithology	Color	Texture	Induration/ Welding	Lithic Fragmentation	Matrix	Alteration/ Diagenesis	Stratified Sorted	Remarks
										and limonite throughout interval, with waxy slickensides on fractures. Most of zone too friable to handle.

APPENDIX B

RESULTS OF ANALYSES, OF 11 ELEMENTS,

BY VARIOUS METHODS

Hole No. 2

Footage	U_3O_8 [1] (ppm)	Mn [2] (ppm)	V [2] (ppm)	Cs[3] (ppm)	Li[3] (ppm)	Be[3] (ppm)	Se[4] (ppm)	eK[5] (pct)	eU[5] (ppm)	eTh[5] (ppm)	F[6] (ppm)
340-350	4	456	94	21	7	3	<1	-	-	-	377
987-997*	4	545	100	7	16	3	<1	2.90	3.5	18.5	393

*CORE

1/ Methods of Analyses: Fluorometric

2/ Atomic Absorption

3/ Flame

4/ Spectro fluorometric

5/ Gamma-Ray Spectroscopy

6/ Specific Ion

SPECTROCHEMICAL ANALYSIS

OF 29 OTHER ELEMENTS ASSOCIATED

WITH THE SPOR MOUNTAIN DRILLING PROJECT

Hole No. 2

Element (ppm)	Footage 340-350	987-997 (core)
Ag	7	6
Al	60800	55800
As	355	490
B	10	120
Ba	910	770
Be	50	51
Ca	41500	29700
Co	26	28
Cr	105	105
Cu	22	11
Fe	36700	33100
La	40	36
Li	25	15
Mn	520	500
Mo	19	23
Na	20800	20800
Nb	28	32
Ni	51	51
Pb	150	92
Sb	39	82
Sc	10	11
Sn	26	31
Sr	170	140
Ti	3460	3670
V	99	105
W	13	105
Y	18	18
Zn	530	120
Zr	120	99

APPENDIX B

RESULTS OF ANALYSES, OF 11 ELEMENTS,

BY VARIOUS METHODS

Hole No. 3

Footage	U_3O_8 [1] (ppm)	Mn [2] (ppm)	V [2] (ppm)	Cs [3] (ppm)	Li [3] (ppm)	Be [3] (ppm)	Se [4] (ppm)	eK [5] (pct)	eU [5] (ppm)	eTh [5] (ppm)	F [6] (ppm)
440-450	4	488	72	46	16	4	<1	-	-	-	925
800-810	4	340	56	28	12	3	<1	-	-	-	503
800-810*	3	329	61	23	14	4	24	2.43	2.3	17.3	618

*CORE

1/ Methods of Analyses: Fluorometric

2/ Atomic Absorption

3/ Flame

4/ Spectro fluorometric

5/ Gamma-Ray Spectroscopy

6/ Specific Ion

SPECTROCHEMICAL ANALYSIS
OF 29 OTHER ELEMENTS ASSOCIATED
WITH THE SPOR MOUNTAIN DRILLING PROJECT

Hole No. 3

Element (ppm)	Footage 440-450	800-810	800-810 (core)
Ag	4	5	3
Al	50700	53900	48500
As	292	330	250
B	16	13	16
Ba	761	875	920
Be	40	33	12
Ca	27900	29500	67600
Co	16	14	15
Cr	48	68	38
Cu	10	20	2
Fe	29818	23000	19720
La	42	41	64
Li	55	35	20
Mn	519	365	335
Mo	15	17	17
Na	19300	21500	17100
Nb	24	18	28
Ni	24	38	17
Pb	123	150	56
Sb	30	32	16
Sc	4	4	5
Sn	23	19	15
Sr	< 100	100	250
Ti	2720	2230	2390
V	74	54	56
W	14	18	20
Y	17	15	17
Zn	380	335	100
Zr	65	65	67

APPENDIX B

RESULTS OF ANALYSES, OF 11 ELEMENTS,

BY VARIOUS METHODS

Hole No. 4

Footage	U_3O_8 [1] (ppm)	Mn [2] (ppm)	V [2] (ppm)	Cs [3] (ppm)	Li [3] (ppm)	Be [3] (ppm)	Se [4] (ppm)	eK [5] (pct)	eU [5] (ppm)	eTh [5] (ppm)	F [6] (ppm)
150-160	<1	434	67	9	25	3	<1	-	-	-	510
160-170	4	434	67	10	33	3	<1	-	-	-	618
170-180	3	439	67	10	39	4	<1	-	-	-	613
180-190	5	412	61	13	44	4	<1	-	-	-	679
190-200	3	439	56	14	40	4	<1	-	-	-	653
200-210	4	439	50	16	41	4	<1	-	-	-	723
210-220	5	450	50	17	40	4	<1	-	-	-	729
220-230	5	477	56	19	46	4	<1	-	-	-	976
230-240	2	587	50	24	75	10	<1	-	-	-	1797
240-250	5	461	50	21	64	6	<1	-	-	-	1669
250-260	3	472	56	21	66	6	<1	-	-	-	1686
260-270	5	483	78	19	46	4	<1	-	-	-	1112
270-280	6	510	67	21	56	6	<1	-	-	-	1324
280-290	6	467	72	19	52	6	<1	-	-	-	1372
290-300	6	444	67	17	49	6	<1	-	-	-	1520
300-310	5	422	82	20	57	6	<1	-	-	-	1349

1/ Methods of Analyses: Fluorometric

2/ Atomic Absorption

3/ Flame

4/ Spectro fluorometric

5/ Gamma-Ray Spectroscopy

6/ Specific Ion

SPECTROCHEMICAL ANALYSIS

OF 29 OTHER ELEMENTS ASSOCIATED

WITH THE SPOR MOUNTAIN DRILLING PROJECT

Hole No. 4

Element (ppm)	Footage 150-160	160-170	170-180	180-190	190-200	200-210	210-220	220-230	230-240	240-250
Ag	3	3	3	3	3	3	3	2	2	3
Al	60200	59600	57300	57000	58300	53300	56200	54700	55000	56500
As	375	340	350	360	354	360	360	330	340	383
B	8	9	25	26	19	28	34	25	49	40
Ba	950	890	770	690	780	715	733	700	500	540
Be	29	35	39	29	31	28	32	33	34	32
Ca	30850	36100	38600	34100	39900	45400	47100	52000	31100	34400
Co	16	16	16	14	14	14	15	14	12	13
Cr	45	43	51	43	45	46	46	49	45	40
Cu	7	15	7	7	8	9	10	12	9	8
Fe	22100	26000	29800	20600	22700	21000	23600	24600	21400	20200
La	49	41	36	36	38	38	39	37	38	41
Li	35	40	50	50	50	50	55	65	105	100
Mn	445	460	480	430	460	450	475	505	540	490
Mo	18	17	17	17	17	17	17	16	16	18
Na	20100	20100	20100	20800	20100	18600	19300	18600	20100	22100
Nb	17	18	17	17	15	13	15	16	26	26
Ni	26	25	30	25	26	26	27	28	27	23
Pb	98	93	98	94	89	100	92	100	110	95
Sb	37	33	35	40	35	43	40	37	38	43
Sc	5	5	5	5	5	5	5	5	5	5
Sn	20	20	19	20	19	21	19	24	18	22
Sr	100	120	150	100	150	120	130	140	< 100	< 100
Ti	2570	2490	2330	2145	2100	1940	2070	1930	1480	1700
V	59	59	61	53	53	47	49	50	45	48
W	23	< 1	14	14	7	21	14	32	42	23
Y	17	17	17	17	16	17	18	21	35	35
Zn	225	205	310	125	180	165	180	1220	1610	210
Zr	77	74	68	62	63	66	70	68	59	65

SPECTROCHEMICAL ANALYSIS

OF 29 OTHER ELEMENTS ASSOCIATED

WITH THE SPOR MOUNTAIN DRILLING PROJECT

Hole No. 4 (continued)

Element (ppm)	Footage 250-260	260-270	270-280	280-290	290-300	300-310
Ag	2	3	3	3	3	3
Al	58500	56300	58000	59600	59000	56600
As	350	400	385	400	395	440
B	48	62	65	74	73	81
Ba	540	740	660	720	760	752
Be	30	43	38	37	43	35
Ca	28600	34300	22800	27400	26500	24900
Co	14	19	16	18	19	17
Cr	43	65	55	58	68	63
Cu	5	9	5	6	7	7
Fe	19100	31200	26050	25500	30400	24100
La	43	50	47	55	54	55
Li	100	65	75	70	65	75
Mn	500	560	540	520	515	490
Mo	17	20	18	19	19	20
Na	22800	22100	22800	23600	22800	22100
Nb	27	26	28	28	27	27
Ni	21	32	27	29	35	31
Pb	95	107	110	99	100	110
Sb	38	44	44	44	41	47
Sc	5	6	6	6	6	6
Sn	20	26	22	27	26	29
Sr	< 100	< 100	< 100	< 100	< 100	< 100
Ti	1880	2700	2300	2520	2670	2525
V	52	73	62	65	71	66
W	11	22	21	21	23	33
Y	34	28	35	33	31	34
Zn	120	240	160	225	335	230
Zr	75	100	84	95	100	94

APPENDIX B

RESULTS OF ANALYSES, OF 11 ELEMENTS,

BY VARIOUS METHODS

Hole No. 5

Footage	U_3O_8 [1] (ppm)	Mn [2] (ppm)	V [2] (ppm)	Cs[3] (ppm)	Li[3] (ppm)	Be[3] (ppm)	Se[4] (ppm)	eK[5] (pct)	eU[5] (ppm)	eTh[5] (ppm)	F[6] (ppm)
310-320	9	356	63	19	94	7	<1	-	-	-	1791
320-330	10	268	72	19	85	7	<1	-	-	-	1881
330-340	11	322	48	20	96	7	<1	-	-	-	1774
340-350	8	361	63	16	73	6	<1	-	-	-	1372
350-360	10	389	58	20	66	7	<1	-	-	-	1250
1100-1110	4	417	72	14	53	6	<1	-	-	-	1138
1110-1120	5	333	58	13	51	6	<1	-	-	-	1013
1130-1140	2	311	97	14	52	7	<1	-	-	-	1219
1140-1150	3	322	72	14	53	7	<1	-	-	-	1205
1150-1160	5	389	72	15	56	6	<1	-	-	-	1278
1160-1170	4	411	87	14	58	6	<1	-	-	-	1300
1170-1180	3	406	77	14	52	6	<1	-	-	-	1227
1180-1190	6	328	106	16	66	7	<1	-	-	-	1785
1190-1200	9	411	87	13	54	7	<1	-	-	-	1638
1200-1210	7	372	92	15	75	7	<1	-	-	-	2292
1210-1220	7	317	72	16	82	7	<1	-	-	-	2620
1220-1230	8	314	48	15	82	7	<1	-	-	-	2753
1230-1240	9	399	64	15	82	7	<1	-	-	-	2735
1240-1250	9	399	64	16	86	7	<1	-	-	-	2651
1250-1260	9	394	64	16	86	9	<1	-	-	-	2793
1260-1270	10	404	58	16	94	10	<1	-	-	-	3418
1270-1280	8	324	32	17	94	10	1	-	-	-	3341
1280-1290	8	455	39	19	112	10	<1	-	-	-	3357
1290-1300	8	455	90	15	87	9	<1	-	-	-	2610
1300-1310	19	657	52	16	88	9	<1	-	-	-	4224
1310-1320	7	611	52	15	82	9	<1	-	-	-	3266

RESULTS OF ANALYSES, OF 11 ELEMENTS,

BY VARIOUS METHODS

Hole No. 5

Footage	U_3O_8[1] (ppm)	Mn[2] (ppm)	V[2] (ppm)	Cs[3] (ppm)	Li[3] (ppm)	Be[3] (ppm)	Se[4] (ppm)	eK[5] (pct)	eU[5] (ppm)	eTh[5] (ppm)	F[6] (ppm)
1320-1330	I.S.	460	58	21	88	13	<1	-	-	-	3911
1330-1340	16	730	52	22	79	18	<1	-	-	-	5140
1340-1350	7	758	97	18	69	13	<1	-	-	-	3000
1350-1360	7	606	95	15	66	9	<1	-	-	-	2362
1360-1370	20	435	32	47	96	76	<1	-	-	-	5202
1370-1380	17	470	58	32	-	43	<1	-	-	-	4637
1380-1390	16	645	52	24	-	28	<1	-	-	-	4378
1390-1400	20	934	58	30	-	30	<1	-	-	-	5234
1400-1410	330	480	52	41	-	34	<1	-	-	-	5010
1410-1420	13	435	45	44	-	36	<1	-	-	-	5239

1/ Methods of Analyses: Fluorometric

2/ Atomic Absorption

3/ Flame

4/ Spectro fluorometric

5/ Gamma-Ray Spectroscopy

6/ Specific Ion

SPECTROCHEMICAL ANALYSIS
OF 29 OTHER ELEMENTS ASSOCIATED
WITH THE SPOR MOUNTAIN DRILLING PROJECT

Hole No. 5

Element (ppm)	Footage									
	310-320	320-330	330-340	340-350	350-360	1100-1110	1110-1120	1130-1140	1140-1150	1150-1160
Ag	2	<1	2	1	2	2	2	3	2	2
Al	43000	45100	42400	44200	47300	48500	49900	53200	51200	48700
As	260	270	316	290	320	317	330	360	360	330
B	71	29	30	30	50	59	67	69	70	72
Ba	230	157	280	250	520	535	615	580	570	540
Be	26	33	30	23	31	29	29	35	31	29
Ca	45200	42800	45400	42800	35000	35700	20700	26100	26400	30100
Co	8	7	9	7	11	11	11	13	12	12
Cr	40	26	28	24	69	69	59	91	88	72
Cu	7	3	5	7	5	14	15	14	9	8
Fe	14300	19800	18200	12300	20400	18800	18900	22400	19300	18500
La	30	30	29	32	34	37	38	36	36	37
Li	100	100	120	95	85	50	50	50	50	55
Mn	390	400	428	400	410	410	350	350	360	410
Mo	14	16	16	15	15	16	16	17	16	17
Na	22100	20100	22800	20100	20100	19300	19300	20100	20100	20100
Nb	25	25	20	20	18	19	19	20	20	20
Ni	18	18	19	16	19	19	18	21	18	17
Pb	94	90	98	125	90	93	160	100	91	95
Sb	40	37	41	35	37	36	35	41	39	40
Sc	2	2	3	3	4	4	3	4	4	4
Sn	18	16	19	15	18	18	18	18	18	19
Sr	< 100	<100	< 100	120	< 100	150	<100	110	120	140
Ti	840	670	960	965	1675	1685	1730	1920	1890	1800
V	23	21	26	23	42	42	40	48	46	47
W	20	19	31	37	25	21	29	28	27	29
Y	23	25	23	24	20	21	21	21	22	22
Zn	170	255	210	110	220	165	780	390	150	260
Zr	52	48	47	51	52	52	57	56	55	52

SPECTROCHEMICAL ANALYSIS
OF 29 OTHER ELEMENTS ASSOCIATED
WITH THE SPOR MOUNTAIN DRILLING PROJECT

Hole No. 5 (continued)

Element (ppm)	Footage 1160-1170	1170-1180	1180-1190	1190-1200	1200-1210	1210-1220	1220-1230	1230-1240	1240-1250
Ag	2	2	2	2	2	1	3	2	2
Al	44700	49300	47900	48500	53000	55400	48600	50200	51500
As	300	310	380	350	360	360	460	380	390
B	75	120	83	77	80	65	88	89	94
Ba	480	510	430	520	400	335	320	370	290
Be	27	26	67	32	30	752	120	28	29
Ca	31200	29500	31500	20200	15200	13700	13200	11800	14000
Co	11	11	13	11	11	11	18	9	9
Cr	64	68	69	56	56	57	81	46	50
Cu	9	11	24	14	5	17	48	6	8
Fe	16800	15500	46300	20000	17000	33300	80400	14100	15400
La	38	37	26	38	46	41	19	46	45
Li	55	60	80	65	95	105	100	105	110
Mn	416	395	530	410	380	430	660	350	440
Mo	15	15	20	16	19	19	26	17	18
Na	20100	21500	22800	22100	25000	25800	25800	25800	25800
Nb	19	23	24	23	35	37	32	36	37
Ni	19	16	23	20	16	18	30	13	16
Pb	100	98	140	100	137	130	230	110	115
Sb	35	33	42	35	40	42	54	44	43
Sc	4	4	4	3	3	3	3	3	3
Sn	18	18	21	16	22	17	38	20	21
Sr	100	110	140	<100	<100	<100	110	<100	<100
Ti	1700	1730	1360	1770	1690	1280	1020	1130	1225
V	43	43	47	47	44	39	54	29	32
W	29	22	79	32	50	62	170	38	39
Y	21	23	37	29	50	64	66	63	65
Zn	400	175	2700	335	500	2170	1000	175	215
Zr	50	48	48	48	49	51	49	48	52

SPECTROCHEMICAL ANALYSIS

OF 29 OTHER ELEMENTS ASSOCIATED

WITH THE SPOR MOUNTAIN DRILLING PROJECT

Hole No. 5 (continued)

Element (ppm)	Footage 1250-1260	1260-1270	1270-1280	1280-1290	1290-1300	1300-1310	1310-1320	1320-1330	1330-1340
Ag	2	2	6	3	2	4	4	3	3
Al	46900	48100	60000	62200	65800	59800	65700	61900	57200
As	445	480	450	350	340	400	400	370	390
B	80	87	110	55	6	11	40	52	55
Ba	270	260	320	270	400	390	400	380	330
Be	68	78	170	36	73	73	35	56	38
Ca	14600	17800	22900	19900	26400	26800	23800	18000	21100
Co	11	12	20	7	11	12	9	10	9
Cr	57	64	105	61	70	71	76	70	68
Cu	19	26	71	17	28	25	8	25	11
Fe	45400	52900	>10000	18100	46200	46600	17200	26400	17400
La	34	32	17	44	29	28	49	45	48
Li	110	120	105	105	90	105	100	90	95
Mn	470	600	910	370	630	630	660	640	540
Mo	22	24	30	15	18	20	19	19	17
Na	25000	27400	25000	22800	22100	23600	23600	22100	22800
Nb	35	36	39	39	35	35	39	41	39
Ni	21	25	38	16	23	21	15	23	17
Pb	150	160	270	110	155	170	130	140	140
Sb	51	56	110	61	61	75	70	63	67
Sc	3	3	4	3	3	3	4	3	3
Sn	26	25	49	24	15	20	24	24	25
Sr	<100	<100	160	<100	110	< 100	<100	<100	130
Ti	990	900	1070	1000	1420	1400	1500	1730	1360
V	36	37	64	25	46	46	37	46	35
W	94	125	230	<1	19	49	12	11	32
Y	74	72	75	63	47	48	55	58	56
Zn	2510	920	8680	320	2020	175	400	365	610
Zr	54	58	62	56	51	52	57	54	53

SPECTROCHEMICAL ANALYSIS

OF 29 OTHER ELEMENTS ASSOCIATED

WITH THE SPOR MOUNTAIN DRILLING PROJECT

Hole No. 5 (continued)

Element (ppm)	Footage 1340-1350	1350-1360	1360-1370	1370-1380	1380-1390	1390-1400	1400-1410	1410-1420
Ag	4	4	3	4	14	15	8	14
Al	57600	56100	54100	51700	47700	45800	49800	44000
As	380	370	350	320	330	330	340	300
B	53	58	54	18	16	13	17	18
Ba	390	460	480	295	320	300	250	215
Be	47	55	50	72	52	54	60	55
Ca	30500	27700	26600	32600	35200	32500	34000	34600
Co	14	17	14	8	9	9	7	6
Cr	65	86	82	70	94	105	87	64
Cu	15	15	18	16	16	16	12	11
Fe	18600	30000	30700	14100	13600	14200	13400	10600
La	45	43	42	45	42	43	46	43
Li	85	75	95	95	85	80	100	90
Mn	765	780	615	535	655	920	575	460
Mo	18	21	20	17	19	20	18	16
Na	22100	22100	22800	22800	22100	20800	22800	20800
Nb	42	45	38	61	48	49	55	51
Ni	18	27	27	15	24	23	17	20
Pb	150	160	130	240	125	135	105	100
Sb	65	59	59	35	39	39	40	37
Sc	4	4	4	3	3	3	3	2
Sn	27	29	30	23	26	25	26	24
Sr	100	100	< 100	<100	<100	100	<100	< 100
Ti	1550	2670	2720	1120	1160	1090	950	800
V	39	76	76	27	28	26	22	18
W	42	145	76	63	88	53	31	31
Y	59	47	40	50	47	52	62	68
Zn	300	345	415	1160	1290	810	335	185
Zr	54	58	53	49	48	48	48	41

APPENDIX B

RESULTS OF ANALYSES, OF 11 ELEMENTS,

BY VARIOUS METHODS

Hole No. 6

Footage	U_3O_8 1 (ppm)	Mn 2 (ppm)	V 2 (ppm)	Cs 3 (ppm)	Li 3 (ppm)	Be 3 (ppm)	Se 4 (ppm)	eK 5 (pct)	eU 5 (ppm)	eTh 5 (ppm)	F 6 (ppm)
400-410	10	379	<5	27	84	7	<1	4.30	13.2	74.6	3138
720-730	13	432	10	40	162	12	<1	4.85	12.8	69.8	4471
730-740	83	445	<5	35	162	1563	<1	3.29	41.5	69.5	6488
740-750	92	153	15	42	208	2919	<1	2.09	98.3	66.1	9509
750-774	47	3156	<5	147	391	300	<1	1.78	71.9	46.5	10466
774-791	12	340	<5	190	374	29	<1	1.37	10.8	50.5	5408
791-803	12	325	20	200	317	26	<1	<0.00	<0.0	<0.0	4423
803-810	15	286	40	169	161	20	<1	1.06	14.4	38.9	4311
810-820	14	239	<5	164	214	17	<1	1.05	13.1	33.4	3610
820-830	20	239	<5	221	262	24	<1	1.30	17.3	49.7	4486
830-844	10	299	40	199	236	22	<1	1.34	9.8	50.6	4574
844-850	17	272	25	181	244	22	<1	1.19	13.7	46.9	4742
850-860*	9	487	54	107	242/242	22	-	1.00	10.8	38.9	3852
860-870*	8	575	64	122	389	26	-	1.42	10.8	54.5	4046
870-880*	5	531	54	106	366	25	-	1.51	7.4	50.4	3752
880-890*	9	354	54	92	353	29	-	3.76	9.9	57.9	4664
890-900*	9	487	86	95	415	30	-	3.93	7.4	56.4	4437
900-910*	6	177	86	78	451	34	-	6.06	7.4	69.2	3065
910-920*	4	132	86	47	277	18	-	4.17	3.8	31.7	1534
920-930*	2	132	64	5	13	3	-	0.26	1.7	0.9	146

*CORE

1/ Methods of Analyses: Fluorometric

2/ Atomic Absorption

3/ Flame

4/ Spectro fluorometric

5/ Gamma-Ray Spectroscopy

6/ Specific Ion

SPECTROCHEMICAL ANALYSIS

OF 29 OTHER ELEMENTS ASSOCIATED

WITH THE SPOR MOUNTAIN DRILLING PROJECT

Hole No. 6

Element (ppm)	Footage									
	400-410	720-730	730-740	740-750	750-774	774-791	791-803	803-810	810-820	820-830
Ag	3	3	3	4	5	4	4	4	3	3
Al	58400	55100	59000	53800	33700	44000	41800	31500	25600	43900
As	520	545	520	520	345	370	360	285	215	370
B	160	185	170	125	86	99	91	74	78	100
Ba	31	29	42	64	125	135	34	54	37	38
Be	31	33	1610	2540	280	48	41	32	27	40
Ca	4720	4420	13200	45000	79700	75600	77700	92900	94600	49300
Co	6	7	7	7	7	6	6	6	6	6
Cr	12	14	17	13	13	12	11	13	12	12
Cu	12	8	12	9	13	13	12	13	13	13
Fe	12100	13100	19500	11300	9570	9600	8540	7340	6040	9640
La	56	48	54	60	53	45	46	38	37	47
Li	145	185	185	210	300	350	300	240	195	255
Mn	405	455	500	155	4840	385	320	265	225	270
Mo	22	23	23	20	24	17	16	14	12	18
Na	33000	26500	19300	19300	11900	11900	9900	7400	5900	9400
Nb	63	62	1160	1890	185	52	50	36	32	49
Ni	21	19	23	22	19	21	19	25	21	22
Pb	110	100	105	105	185	90	83	70	60	79
Sb	95	95	105	110	77	77	74	69	64	81
Sc	3	3	9	3	4	2	2	2	1	2
Sn	31	43	98	98	38	35	34	30	26	36
Sr	<100	<100	<100	<100	<100	110	100	120	120	100
Ti	355	360	425	490	320	385	325	310	285	380
V	7	7	9	8	9	8	8	9	8	9
W	125	150	165	120	170	95	100	105	82	93
Y	115	110	67	115	79	78	81	53	51	62
Zn	120	140	1080	455	560	160	135	135	79	140
Zr	42	57	70	59	41	52	49	41	33	57

SPECTROCHEMICAL ANALYSIS

OF 29 OTHER ELEMENTS ASSOCIATED

WITH THE SPOR MOUNTAIN DRILLING PROJECT

Hole No. 6 (continued)

Element (ppm)	Footage 830-844	844-850	850-860	860-870	870-880	880-890	890-900	900-910	910-920	920-930
Ag	3	3	2	2	2	2	2	2	2	3
Al	40700	40500	32500	43300	39800	51100	47200	56900	30500	2520
As	350	365	240	335	295	285	305	375	215	32
B	86	89	150	175	175	190	195	235	155	79
Ba	33	59	75	95	91	80	91	63	340	67
Be	38	35	30	40	33	45	43	51	26	<1
Ca	70900	64500	89100	56400	59900	47800	54600	25300	>100000	>100000
Co	6	6	5	5	5	5	6	7	8	6
Cr	11	12	15	16	17	16	15	15	25	18
Cu	11	9	10	10	8	11	11	8	12	10
Fe	8380	8450	7770	10800	8860	9960	10300	11500	7720	1690
La	44	45	45	54	52	57	59	64	38	14
Li	235	235	155	210	170	180	210	225	150	15
Mn	290	250	415	565	470	395	540	160	125	95
Mo	16	17	17	21	19	21	21	23	17	7
Na	8300	8800	5600	7400	7000	7800	7400	7000	3300	600
Nb	47	45	32	45	41	52	51	57	27	<1
Ni	20	19	21	21	18	18	30	20	27	27
Pb	80	77	94	110	93	100	125	110	95	54
Sb	77	78	53	60	53	52	60	67	68	58
Sc	2	2	2	2	2	2	2	3	2	1
Sn	33	36	29	39	32	40	42	49	32	11
Sr	110	<100	130	120	120	150	150	100	130	150
Ti	325	320	360	455	425	395	400	465	640	135
V	8	8	8	10	8	7	8	9	20	12
W	96	110	175	165	115	37	85	54	155	170
Y	73	67	64	79	79	84	90	86	34	2
Zn	99	185	110	115	105	140	150	300	115	80
Zr	48	48	40	53	50	58	58	67	37	4

SPOR MOUNTAIN DRILLING PROJECT

Core Log for Hole No. 6

Logged by: Charles Beverly | Date: August 4, 1978 |

Footage	Cumulative Footage	Lithology	Color	Texture	Induration/ Welding	Lithic Fragmentation	Matrix	Alteration/ Diagenesis	Stratified Sorted	Remarks
0-185	185	Casing (gravel)								Alluvial gravels
185-733	733	Topaz rhyolite	Flesh	Massive fine-grained throughout	Strongly throughout	None	Crystalline *chatoyant sanidines throughout.	Weak clay of some plagioclase; weak hematite throughout, along with Mn. More hematite from 707 feet.	----	Topaz Mountain Rhyolite--ash flow capping to Beryllium Tuff Member in Spor Mountain area. Massive dense, hard, flesh to pink Topaz Mountain Rhyolite with 10-15% disseminated colorless to smokey topaz crystals up to 1/4 in. More strongly broken along high angle fractures from 260 feet; also more abundant miarolitic cavities filled with topaz and locally from 270 feet; bixbyite crystals at 287 feet and coating fractures at 310 feet. Fluorite on fractures at 340 feet. Abundant bixbyite and topaz crystals lining rings and cavities from from 320 feet. Yellow quartzite (?) fragment at 400 feet; in tuff also brecciated calcite veining. Some hematite clay from 450 feet. Inclusion of black rock with plagioclase crystals at 543 feet and 696 feet. Core badly broken from 468 feet, with much lost core.

*Note: Fluorite at 310 feet and 340 feet.

SPOR MOUNTAIN DRILLING PROJECT

Core Log for Hole No. 6

Logged by: Charles Beverly Date: August 4, 1979

Footage	Cumulative Footage	Lithology	Color	Texture	Induration/ Welding	Lithic Fragmentation	Matrix	Alteration/ Diagenesis	Stratified Sorted	Remarks
										Rhyolite more altered from 707 feet, with hematite flooding. Chatoyant sanidines throughout. Five feet of basal rhyolite from 727 feet exhibits some brecciation and stretched plagioclase (?).
733-916	916	Mineralized beryllium tuff	White to Pink	Fine to coarse 1 in. clasts	None	Abundant limestone and dolomite clasts and a few lithic fragments of red rhyolite at 800 feet. Abundant limestone clasts from 754	Sanidines. Other feldspar crystals. Biotite ash quartz(?)	Abundant clay locally; also carbonate alteration throughout from 754 feet.	None	Beryllium Tuff--with abundant fluorite 8-10%; 733-736 feet abundant limestone-dolomite clasts with colorless to green chalcedony rims on some clasts. No clasts larger than 1 in. Black dolomite cobble zone at 754 feet delineates limey contact (no mineral below lime contact at 754 feet). Beryllium zone of approximately .3% BeO from 735-754 feet. Varicolored white to pink tuff from 770-815 feet and 867-877 feet, with mixed clasts of black dolo-limestone and pink rhyolite; 40-50% of tuff is clasts 1/2 to 1 in. and a few to 4 in. long. Choked with black and white (alternately zoned) limestone-dolomite 1/4 to 1 in.

SPOR MOUNTAIN DRILLING PROJECT

Core Log for Hole No. 6

Logged by: Charles Beverly | Date: August 4, 1978 | Page: 3 of 3

Footage	Cumulative Footage	Lithology	Color	Texture	Induration/ Welding	Lithic Fragmentation	Matrix	Alteration/ Diagenesis	Stratified Sorted	Remarks
						feet and 805-825 feet				long from 805-825 feet. Clay gouge zones at 805, 813, 820, 850, 860, 877 feet. Nearly all of zone from 754 feet is limey and effervesces with HCl.
8/7/78 760-916			Green to Gray						Sorted 906-916 feet	
916-947	947	Limestone	Gray Buff						Base Surge (?)	Limestone--massive, locally brecciated, with calcite filling 1/4 in. veinlets; thin-bedded siltstone-limestone from 940 feet.

APPENDIX B

RESULTS OF ANALYSES, OF 11 ELEMENTS,

BY VARIOUS METHODS

Hole No. 7

Footage	U_3O_8 [1] (ppm)	Mn [2] (ppm)	V [2] (ppm)	Cs[3] (ppm)	Li[3] (ppm)	Be[3] (ppm)	Se[4] (ppm)	eK[5] (pct)	eU[5] (ppm)	eTh[5] (ppm)	F[6] (ppm)
100-110	10	343	45	7	-	5	<1	-	5.8	21.7	435
250-260*	6	708	86	6	44	4	-	3.67	2.9	23.5	309
280-290*	2	841	64	16	53	4	-	2.69	-	-	514
606-615*	16	212	40	16	29	3	<1	-	-	-	299
615-625*	5	509	42	12	29	3	<1	-	-	-	279
625-635*	4	532	47	11	31	5	<1	-	-	-	300
635-645*	14	133	35	12	31	5	1	-	-	-	311
645-654*	13	239	51	19	30	5	1	-	-	-	277
654-664*	4	322	41	10	32	4	<1	-	-	-	258
664-673*	5	243	30	10	33	4	<1	-	-	-	335
673-682*	6	181	32	9	39	3	1	-	-	-	286
682-692*	10	469	63	9	36	1	<1	-	-	-	350
1420-1425	6	631	106	10	34	4	<1	2.57	11	28	696
1425-1430	7	739	97	10	36	4	<1	2.75	7	30	612
1430-1445	5	466	95	15	40	7	<1	2.70	6	23	680
1445-1450	5	585	102	10	39	3	<1	2.33	10	29	616
1450-1455	5	504	117	10	37	3	<1	1.97	4	18	608
1455-1460	8	352	102	15	41	4	<1	1.91	9	23	768
1460-1465	9	294	108	20	44	4	<1	2.03	10	18	792
1465-1470	7	233	103	15	43	4	<1	1.94	5	23	680

*CORE

RESULTS OF ANALYSES, OF 11 ELEMENTS,

BY VARIOUS METHODS

Hole No. 7

Footage	U_3O_8 [1] (ppm)	Mn [2] (ppm)	V [2] (ppm)	Cs [3] (ppm)	Li [3] (ppm)	Be [3] (ppm)	Se [4] (ppm)	eK [5] (pct)	eU [5] (ppm)	eTh [5] (ppm)	F [6] (ppm)
1470-1475	8	296	120	15	40	4	<1	1.85	8	26	680
1475-1480	6	375	104	10	36	2	<1	2.39	6	27	696
1480-1485	6	542	105	10	38	2	<1	2.10	9	26	720
1485-1490	9	430	104	10	34	1	<1	2.40	7	27	776
1490-1495	4	309	97	10	40	2	<1	2.38	8	25	680
1495-1500	5	484	100	10	39	2	<1	2.40	6	28	664

1/ Methods of Analyses: Fluorometric

2/ Atomic Absorption

3/ Flame

4/ Spectro fluorometric

5/ Gamma-Ray Spectroscopy

6/ Specific Ion

SPECTROCHEMICAL ANALYSIS

OF 29 OTHER ELEMENTS ASSOCIATED

WITH THE SPOR MOUNTAIN DRILLING PROJECT

Hole No. 7

Element (ppm)	Footage										
	100-110	250-260	280-290	606-615	615-625	625-635	635-645	645-654	654-664	664-673	673-682
	(core)	(core)	(core)	(core)	(core)	(core)	(core)	(core)	(core)	(core)	(core)
Ag	2	<1	<1	<1	<1	1	<1	4	4	3	3
Al	57900	52900	61600	51400	58800	57700	60900	35900	53100	40700	59800
As	400	355	395	130	145	125	240	220	95	69	110
B	21	185	195	350	340	360	350	380	350	350	350
Ba	640	920	1260	2400	2110	1430	885	490	850	1540	820
Be	21	16	17	3	3	3	3	5	4	4	3
Ca	9020	10600	14200	13000	21400	20400	11900	11800	15600	10800	13400
Co	8	10	11	12	13	12	10	18	14	13	13
Cr	14	17	14	25	32	34	32	35	35	35	36
Cu	12	6	10	6	2	7	2	11	7	7	6
Fe	15190	13500	13900	19400	21600	24200	24000	27800	23700	20600	21500
La	30	41	48	72	53	48	38	22	32	21	37
Li	25	20	25	25	25	30	25	30	35	25	40
Mn	395	660	900	190	530	530	140	270	350	290	190
Mo	17	23	24	10	12	11	16	13	12	10	13
Na	25800	18600	14500	12500	17100	19300	17900	13800	17100	11200	13800
Nb	14	5	6	2	2	2	2	3	2	3	2
Ni	9	18	17	15	16	19	18	26	21	24	20
Pb	84	88	90	57	50	54	49	48	55	49	52
Sb	34	43	52	87	84	94	76	62	89	65	94
Sc	3	3	3	8	8	9	8	3	5	4	8
Sn	16	23	25	27	35	36	33	25	26	26	32
Sr	<100	100	110	<100	100	110	<100	<100	<100	<100	<100
Ti	1380	1480	1610	1980	2220	2370	1910	2610	2140	1780	1830
V	24	24	26	46	51	58	62	94	58	47	48
W	4	42	4	18	16	17	15	11	16	10	16
Y	14	13	13	41	24	35	26	9	16	10	20
Zn	110	83	120	105	130	100	88	120	205	130	86
Zr	22	29	40	54	58	55	53	73	62	57	55

SPECTROCHEMICAL ANALYSIS

OF 29 OTHER ELEMENTS ASSOCIATED

WITH THE SPOR MOUNTAIN DRILLING PROJECT

Hole No. 7 (continued)

Element (ppm)	Footage								
	682-692 (core)	1420-1425 (core)	1425-1430 (core)	1430-1445 (core)	1445-1450 (core)	1450-1455 (core)	1455-1460 (core)	1460-1465 (core)	1465-1470 (core)
Ag	.5	<.5	< .5	<.5	<.5	<.5	<.5	<.5	<.5
Al	59900	70000	70000	70000	70000	70000	70000	70000	70000
As	115	<200	<200	<200	<200	<200	<200	<200	<200
B	350	10	10	10	10	10	10	10	10
Ba	460	1500	1000	1000	700	700	700	700	700
Be	4	15	15	15	15	15	15	15	15
Ca	18000	30000	30000	20000	20000	20000	20000	20000	20000
Co	22	10	10	10	10	10	10	10	10
Cr	43	150	100	100	150	70	50	50	50
Cu	6	30	30	20	30	20	15	15	15
Fe	30600	20000	20000	30000	30000	30000	30000	20000	30000
La	41	150	150	150	150	150	150	100	150
Li	40	<100	<100	<100	<100	<100	<100	<100	<100
Mn	500	500	700	300	300	300	200	300	100
Mo	13	<10	<10	<10	<10	<10	<10	<10	<10
Na	20100	30000	30000	20000	30000	20000	20000	20000	30000
Nb	3	20	20	20	20	10	20	20	20
Ni	28	30	30	30	30	15	15	10	15
Pb	56	70	70	70	70	50	50	50	70
Sb	97	<100	<100	<100	<100	<100	<100	<100	<100
Sc	8	10	10	10	10	10	15	10	15
Sn	37	<10	<10	< 10	<10	<10	<10	<10	<10
Sr	100	700	700	500	700	700	700	700	700
Ti	3130	3000	3000	3000	3000	2000	3000	3000	3000
V	93	30	20	20	20	20	50	30	30
W	18	<100	<100	<100	<100	<100	<100	<100	<100
Y	15	10	20	20	10	10	10	10	10
Zn	155	<200	<200	<200	<200	<200	<200	<200	<200
Zr	69	<1000	500	300	300	200	300	200	700

SPECTROCHEMICAL ANALYSIS

OF 29 OTHER ELEMENTS ASSOCIATED

WITH THE SPOR MOUNTAIN DRILLING PROJECT

Hole No. 7 (continued)

Element (ppm)	Footage 1470-1475 (core)	1475-1480 (core)	1480-1485 (core)	1485-1490 (core)	1490-1495 (core)	1495-1500 (core)
Ag	<.5	< .5	< .5	< .5	<.5	< .5
Al	70000	70000	70000	70000	70000	70000
As	<200	<200	<200	<200	<200	< 200
B	10	10	10	10	10	10
Ba	700	700	700	700	700	700
Be	15	15	15	15	15	15
Ca	20000	30000	20000	20000	20000	20000
Co	10	10	15	15	10	10
Cr	50	50	150	100	50	100
Cu	15	30	30	15	15	20
Fe	20000	30000	30000	30000	20000	20000
La	150	150	150	150	150	150
Li	<100	<100	<100	<100	< 100	<100
Mn	200	300	300	300	200	300
Mo	<10	< 10	< 10	< 10	<10	<10
Na	30000	30000	30000	30000	20000	30000
Nb	10	20	10	20	20	20
Ni	15	20	30	20	20	20
Pb	70	70	70	50	70	70
Sb	<100	<100	<100	<100	<100	< 100
Sc	10	10	10	15	10	10
Sn	<10	< 10	<10	< 10	< 10	<10
Sr	700	700	700	700	700	700
Ti	3000	3000	2000	3000	3000	3000
V	20	30	20	30	20	20
W	<100	<100	<100	< 100	<100	<100
Y	20	20	20	20	10	20
Zn	<200	<200	<200	<200	<200	<200
Zr	300	200	100	300	500	200

<u>SPOR MOUNTAIN DRILLING PROJECT</u>

Core Log for Hole No. 7

Logged by: Charles Beverly   Date: August 29, 1979

Footage	Cumulative Footage	Lithology	Color	Texture	Induration/ Welding	Lithic Fragmentation	Matrix	Alteration/ Diagenesis	Stratified Sorted	Remarks
Rotary 0-230	230		Pink							Pink Topaz Rhyolite (cuttings)
230-606	606	Biotite rhyolite	Red	Porphyritic	Strong	A few from 230 feet, but increases in abundance from 380 feet; red and gray rhyolite and rhyodacite fragments 1-2 in.		Clay and 1 ft. silica filled fractures; epidote on fractures and disseminated from 345 feet. Pink carbonate (?) at 288 feet. Abundant hematite from 387 to 495 feet.		Red and green biotite rhyolite, oldest (?) of the young volcanics, exhibits equigranular porphyritic, almost granitic, texture from 320 feet. Strongly broken from 250-252 feet and 260-270 feet. Strongly oxidized to 290 feet; then green and less oxidized, less fractured. Clay gouge 230-232 feet. Buff colored mica-rich veinlet widely scattered from 323 feet. Strongly broken with clay alteration and oxidized biotite from 375-387 feet. Abundant red hematite on fractures and disseminated throughout from 387 feet. Transitional change at 495 feet back to green-gray biotite rhyolite with good porphyritic texture and abundant slickensides on a red and green hematite/ chlorite/epidote. Changes back at 553 feet.

SPOR MOUNTAIN DRILLING PROJECT

Core Log for Hole No. 7

Logged by: Charles Beverly   Date: August 29, 1979   Page: 2 of 5

Footage	Cumulative Footage	Lithology	Color	Texture	Induration/Welding	Lithic Fragmentation	Matrix	Alteration/Diagenesis	Stratified Sorted	Remarks
606-1420		Water-laid sediments	Light to dark green to black		Some compaction of muds	A few fragments of volcanics	Silt and clay	Clay and talc (?) at 678 feet	Yes, especially shale and conglomerate lenses. Good bedding locally.	Strongly broken from 577-587 feet, with clay and calcite and fault gouge. Waterlaid sediments, alternating with sequence of shaley muds, siltstones, conglomerate, shale and talus (or slump) breccias. The contact at 606-614 feet could be fault breccia. Well-sorted siltstone from 614 feet with local coarse-grained lenses to 6 feet throughout. Abundant black-brown shales from 645-652 feet exhibit cyclic banding of light and dark 1/32 in. layers, suggesting shallow lake deposition. Angular grains suggest local bedding exhibits 30° angle, effects of differential settling, and compacting in muds which are now shale lenses; all of which suggests shallow lake deposition to 782.5 feet, where water worked biotite-rhyolite sandstone with limestone-dolomite fragments

SPOR MOUNTAIN DRILLING PROJECT

Core Log for Hole No. 7

Logged by: Charles Beverly   Date: August 29, 1979

Footage	Cumulative Footage	Lithology	Color	Texture	Induration/ Welding	Lithic Fragmentation	Matrix	Alteration/ Diagenesis	Stratified Sorted	Remarks
						725-725 Red rhyolite fractures to 4 in.				begins. This rhyolite debris is very new in source, as biotite is still present in sandstone. Less obvious bedding from 750 feet, although shaley mud is squeezed into fractures locally at 872, 882, 886 feet. All rock fragments from 750 feet are pale green to gray. From 818 feet, more conglomerate with 20% gray dolomite, 50% gray-red volcanics. Local alteration and brecciation of possible slump breccia origin from 875 feet, with abundant clasts of red, green and gray dolomite fragments. More even-grained equigranular sandstone from 959 feet with wispy gray silica veinlets throughout. Well-sorted conglomerate from 1005 feet. Fragment or cobble size increases--up to 6 in.--at 1025 feet where it's also less well sorted. Distinct contact, at 1063 feet, with black to gray shales, silts and sands in an alternating sequence of thin and thick lenses, green silt 1074-1079 feet, and scattered in

Footage	Cumulative Footage	Lithology	Color	Texture	Induration/ Welding	Lithic Fragmentation	Matrix	Alteration/ Diagenesis	Stratified Sorted	Remarks
										3-6 foot lenses from 1081 feet. Occasional mud chips in more conglomeratic lenses suggest shallow water or lake origin with possible ephemeral mud flats (?). A few lenses exhibit 45° bedding. This entire section from 1063 feet is essentially muds and silts interbedded in alternating lenses. Abundant biotite in the silty lenses suggests near source reworking of biotite rhyolite outcrops (?). Alternating shale and siltstone lenses are approximately 3-6 feet thick. Fault gouge from 1258-1262 feet. Varved lenses of cream to black mixed with conglomerate lenses of dolomite chips and mud chips from 1280 feet. Pyrite disseminated throughout along with turquoise colored clay (?). From 1289 feet, where siltstone grades into conglomerate and back, black shale through 1343 feet: all of which contains syngenetic (?) pyrite. Transitional to green
1420-1995		Altered welded tuff								

SPOR MOUNTAIN DRILLING PROJECT

Core Log for Hole No. 7

Logged by: Charles Beverly

Date: August 29, 1979

Footage	Cumulative Footage	Lithology	Color	Texture	Induration/ Welding	Lithic Fragmentation	Matrix	Alteration/ Diagenesis	Stratified Sorted	Remarks
										conglomerate at 1347 feet to ± 1420 feet. From 1420-1995 feet, altered gray welded tuff similar to bottom of Hole No. 20, with abundant clasts and porphyritic texture.

APPENDIX B

RESULTS OF ANALYSES, OF 11 ELEMENTS,

BY VARIOUS METHODS

Hole No. 8

Footage	U_3O_8[1] (ppm)	Mn[2] (ppm)	V[2] (ppm)	Cs[3] (ppm)	Li[3] (ppm)	Be[3] (ppm)	Se[4] (ppm)	eK[5] (pct)	eU[5] (ppm)	eTh[5] (ppm)	F[6] (ppm)
200-210	12	442	54	6	40	6	-	4.35	16.2	65.9	1392
500-510	5	398	54	7	58	8	-	4.17	11.0	61.7	1841
700-710	7	354	43	6	49	<2	-	4.26	13.9	64.6	1584
800-810	6	575	43	10	67	<2	-	3.95	10.3	57.2	2017
1000-1010	10	575	43	8	58	10	-	4.08	17.1	57.6	1454
1200-1210	12	796	75	24	161	4	-	4.05	15.8	24.3	975
1500-1510	6	664	75	11	85	4	-	2.83	7.3	27.6	752
1700-1710	2	442	107	6	49	3	-	2.20	2.8	17.0	486
1990-2000	2	752	96	7	62	4	-	2.11	2.3	20.5	519

1/ Methods of Analyses: Fluorometric

2/ Atomic Absorption

3/ Flame

4/ Spectro fluorometric

5/ Gamma-Ray Spectroscopy

6/ Specific Ion

SPECTROCHEMICAL ANALYSIS
OF 29 OTHER ELEMENTS ASSOCIATED
WITH THE SPOR MOUNTAIN DRILLING PROJECT

Hole No. 8

Element (ppm)	Footage 200-210	500-510	700-710	800-810	1000-1010	1200-1210	1500-1510	1700-1710	1990-2000
Ag	1	<1	1	<1	1	1	2	<1	1
Al	46600	53400	51500	40800	52100	53100	48700	55000	56700
As	410	370	435	290	400	365	400	370	370
B	290	285	275	285	285	255	235	190	190
Ba	30	21	24	17	22	810	620	820	620
Be	17	19	19	19	21	23	24	30	23
Ca	4060	4470	6280	4290	5450	24900	38500	47800	31500
Co	5	5	5	4	5	14	14	18	13
Cr	15	13	13	12	13	27	28	39	30
Cu	9	7	9	8	9	12	<10	9	10
Fe	8230	8010	8730	7340	8170	17100	18200	23900	18100
La	62	42	54	33	37	53	47	46	41
Li	55	75	75	60	80	100	60	30	40
Mn	555	610	610	440	685	815	690	440	525
Mo	27	24	27	23	27	24	25	24	25
Na	22800	24300	25000	17900	23600	13800	14500	17100	10600
Nb	17	15	17	24	27	11	11	11	8
Ni	17	15	17	14	17	23	20	26	23
Pb	105	110	110	98	115	92	97	88	98
Sb	54	50	58	42	55	63	55	53	62
Sc	2	3	3	2	3	4	5	5	5
Sn	28	21	28	17	26	28	29	29	23
Sr	100	100	<100	<100	<100	120	160	210	140
Ti	720	435	550	530	525	2090	2040	2600	2030
V	5	3	5	3	5	40	44	75	50
W	115	58	120	53	79	61	110	45	50
Y	30	29	31	26	30	17	17	13	15
Zn	105	79	120	87	100	155	96	120	160
Zr	57	14	13	12	39	54	62	49	48

SPOR MOUNTAIN DRILLING PROJECT

Core Log for Hole No. 8

Logged by: Chuck Beverly

Date: August 10, 1978

Footage	Cumulative Footage	Lithology	Color	Texture	Induration/ Welding	Lithic Fragmentation	Matrix	Alteration/ Diagenesis	Stratified Sorted	Remarks
0-40 40-80	Casing 40	Fault-breccia (rhyolite)	Gray-Yellow	Breccia fragments in an altered dense yellow matrix	Original Strong	None	Silica clay in voids	Silica clay and pink alunite (?)	----	Fault Breccia-Rhyolite Crackle-brecciation in an already brecciated rhyolite flow. Angular and rounded fragments of gray-green rhyolite cemented in a yellow matrix and then broken again. Botryoidal chalcedony in a variety of colors lines voids of breccia. Silica, clay, alunite (?) and manganese line fractures.
80-1055	80	Spherulitic rhyolite	Brown Tan-Gray	Spheres	Moderate to strong	Only a few, as completely rounded fragments at 105, 158, 163-168, and 170-180 feet				Spherulitic Rhyolite--1/8 to 1/4 in. spheres of tan to brown limonitic (?) silica material which locally remains preserved, although the whole interval is riddled with alteration (chalcedony-hematite-clay) along fractures and faults. Late botryoidal chalcedony, colorless to green, blue and brown on fractures. Pervasive pink and yellow clay silica alteration locally destroys texture to 180 feet. Strange alteration from 130 feet has created circular vugs and cavities from 1/4 to 4 inches; many are lined with colorless,

SPOR MOUNTAIN DRILLING PROJECT

Core Log for Hole No. 8

Logged by: Chuck Beverly

Date: August 10, 1978

Footage	Cumulative Footage	Lithology	Color	Texture	Induration/ Welding	Lithic Fragmentation	Matrix	Alteration/ Diagenesis	Stratified Sorted	Remarks
						Oval and rounded rhyolite clasts up to 8 in. from 166-230 feet; in spherulitic rhyolite. They are locally quite altered; others unaffected		Fluorite at 421 and 514 feet scattered throughout in miarolitic cavities from 440 feet, along with bixbyite.		granular, crystalline silica in 1/16 to 1/32 in. delicate concentric bands, suggestive of intense hydrothermal leaching. Later gray chalcedony has created circular botryoidal masses which, locally, interconnect to form cavities which look like worm-eaten corn. Pink clay surrounds some cavities and fluorite and manganese are found in sparse amounts in others. Clay increases from 180 feet in vuggy zones. Fluorite on fractures at 242 feet. Horizontal at 400 feet and increases in hematite along flow bands; similarly, cavities are aligned along flow bands. Good spherulitic texture locally at 313 feet and strong alteration from 320-430 feet, which renders contorted flow bands, cavities, vugs and wispy texture to the rhyolite. This alteration seems to be contemporaneous with rock formation in part. Original rock textures destroyed from

SPOR MOUNTAIN DRILLING PROJECT

Core Log for Hole No. 8

Logged by: Chuck Beverly

Date: August 10, 1978

Footage	Cumulative Footage	Lithology	Color	Texture	Induration/ Welding	Lithic Fragmentation	Matrix	Alteration/ Diagenesis	Stratified Sorted	Remarks
								Scattered quartz crystals from 700 feet in vugs, along with topaz and barite at 713, 893, and 955 (?) feet.		400-427 feet; possible fault (?) zone. Miarolitic cavities in flow banded white to pink rhyolite from 430 feet are lined with colorless to amber topaz crystals 1/8 to 1 in. long; also, scattered bixbyite and fluorite. Pervasive clay alteration (flooding) from 470 feet, locally obliterates or masks spherulitic texture. Strongly altered sugary crystalline mush of fine-grained silicas. Bixbyite from 522 feet; rock looks "fluidized" with only a few remnant patches of flow-banded rhyolite. No fractures or veinlets from 500 feet. Less vuggy from 500-699 feet. More clay alteration from 680-720 feet. Scattered MnO_2 from 760 feet. More flow banding visible from 800-915 feet; also larger topaz crystals in vugs along with occasional bixbyite. More hematite in flow banding, from 930 feet, renders a blood red color to the rhyolite. More obvious

Footage	Cumulative Footage	Lithology	Color	Texture	Induration/ Welding	Lithic Fragmentation	Matrix	Alteration/ Diagenesis	Stratified Sorted	Remarks
										alternating bands of dark red, gray, white and pink from 1020-1055 feet.
1055	1055									Explosive Vent Breccia.
1055-2003	2003	Vent breccia	Gray Orange	Breccia cornflake 1055-1081 feet	Mudstone	Limestone	Clay silica	Silica clay Pink (?) alunite clay (?) at 1185 feet	---- Gas sorting to 4 in. sorted fragments, at 1155 and 1189-1191 feet.	Vent Breccia (Rhyolite)--characterized at top by abundant lithics and flat tabular fragments "cornflake texture", typical of explosive pipes and vents. Some fragments of rhyolite to 8 in., but most 1/4 to 1 in. Good cornflake texture from 1105-1130 feet, where abundant clay-hematite alteration from 1130-1150 feet. Rock completely fluidized; breccia from 1135 feet, where abundant milled fragments 1/8 to 1/4 in. Lighter buff color with high angle fractures lined with MnO_2 from 1148-1191 feet. Strong hematite oxidation from 1191-1197 feet. Whole interval looks to be a tuff breccia from 1150-1220 feet. Abundant lithics

SPOR MOUNTAIN DRILLING PROJECT

Core Log for Hole No. 8

Logged by: Chuck Beverly

Date: August 10, 1978

Footage	Cumulative Footage	Lithology	Color	Texture	Induration/ Welding	Lithic Fragmentation	Matrix	Alteration/ Diagenesis	Stratified Sorted	Remarks
						Volcanic lithics		Hematite, 1150-1220 feet.	From 1210-1235 feet. Gas-sorting from 1257 feet.	from 1207-1235 feet and beyond, including red and gray rhyolite, rhyodacite, yellow tuff, trachyte (?) biotite, rhyolite, etc. Strong gas-sorting of different hematite-rich phases of differing lithic sizes. More than one episode of fluidized breccia from 1295-1305 feet. Additional lithics include a black volcanic with plagioclase and a green crystalline mineral.
1055-2003		Vent Breccia						Hematite altered from 1435-1445 feet.	Gas-sorting from 1335 feet.	Clast size increases from 1335 feet in this vent breccia, up to 4 in. locally, but most lithic fragments are 1 in. or less. Fluidized band at 1365-1368 feet. Large flat tabular fragments up to 3 in. at 1445 feet. Strong sorting locally from 1335 feet. Strong white clay alteration in matrix at 1459 feet. Cornflake texture at 1495 and 1535 feet with no fragment larger than 1/4 to 1/2 inch; abundant light gray biotite rhyolite lithics in dark brown hematite, altered

Core Log for Hole No. 8

Logged by: Chuck Beverly   Date: August 10, 1978

Footage	Cumulative Footage	Lithology	Color	Texture	Induration/ Welding	Lithic Fragmentation	Matrix	Alteration/ Diagenesis	Stratified Sorted	Remarks
						Sedimentary fragments at 1578 feet. Abundant biotite rhyolite fragments are at 1035 feet	10 inches	Clay alteration from 1970 feet		matrix of finely comminuted fragments and crystals. Strongly sorted and mixed from 1637-1775 feet, so that it looks like an arkose with a few larger clasts up to 2 in. long. Only gray biotite rhyolite throughout this intensely fluidized breccia zone. The core has no fractures or vugs from 1637 feet. Local zones of strong hematite alteration. Fluidized pebble zone of 1/4 in. pebbles common throughout.
1055-2003		Vent Breccia								From 1775-1790 feet, several different black to gray rhyolite-rhyodacite fragments as well as the black rock with white plagioclase laths 1/16 in. From 1811-1855 feet, fluidized breccia with gray biotite rhyolite clasts as pebbles 1/4 to 1/2 in., then larger fragments up to 18 in. at 1868 feet. Mixed clast zone from 1855-1914 feet includes pink and green rhyodacite (?) rhyolite at 1885.

SPOR MOUNTAIN DRILLING PROJECT

Core Log for Hole No. 8

Logged by: Chuck Beverly

Date: August 10, 1978

Footage	Cumulative Footage	Lithology	Color	Texture	Induration/ Welding	Lithic Fragmentation	Matrix	Alteration/ Diagenesis	Stratified Sorted	Remarks
1055-2003		Vent Breccia								At 1914 feet, fine-grained mixed and fluidized biotite rhyolite, again with similar pebble zones that have been previously described. Large unbrecciated fragments at 1928-1931 feet; pebble zones with abundant gas phase fluidization of biotite rhyolite with local moderate clay altered zones, to bottom of hole (2003 feet). Abundant hematite disseminated throughout last 200 feet (from 1800-2003 feet).

RESULTS OF SPECTROCHEMICAL ANALYSIS, BY ELEMENT,

FOR SPOR MOUNTAIN DRILLING PROJECT

Hole No. 9

Footage	U_3O_8 [1] (ppm)	Mn [2] (ppm)	V [2] (ppm)	Cs [3] (ppm)	Li [3] (ppm)	Be [3] (ppm)	Se [4] (ppm)	eK [5] (pct)	eU [5] (ppm)	eTh [5] (ppm)	F [6] (ppm)
50-60	12	334	32	8	-	8	<1	-	-	-	675
200-210	17	334	39	7	-	9	<1	-	-	-	824
500-510	8	343	40	6	95	6	<1	-	-	-	904

1/ Methods of Analyses: Fluorometric

2/ Atomic Absorption

3/ Flame

4/ Spectro fluorometric

5/ Gamma-Ray Spectroscopy

6/ Specific Ion

SPECTROCHEMICAL ANALYSIS

OF 29 OTHER ELEMENTS ASSOCIATED

WITH THE SPOR MOUNTAIN DRILLING PROJECT

Hole No. 9

Element (ppm)	Footage 50-60	200-210	500-510
Ag	10	2	10
Al	52900	51900	52000
As	385	355	380
B	17	13	20
Ba	110	92	59
Be	22	18	17
Ca	6720	9150	14500
Co	5	4	8
Cr	16	8	18
Cu	9	8	10
Fe	10600	8230	8960
La	48	47	40
Li	55	40	100
Mn	385	385	350
Mo	18	16	18
Na	25000	23600	22800
Nb	27	25	18
Ni	12	5	11
Pb	91	88	96
Sb	37	31	35
Sc	2	1	1
Sn	17	16	16
Sr	<100	<100	<100
Ti	780	660	600
V	10	7	4
W	3	3	17
Y	29	28	59
Zn	100	92	98
Zr	66	62	60

APPENDIX B

RESULTS OF ANALYSES, OF 11 ELEMENTS

BY VARIOUS METHODS

Hole No. 10

Footage	U_3O_8 [1] (ppm)	Mn [2] (ppm)	V [2] (ppm)	Cs[3] (ppm)	Li[3] (ppm)	Be[3] (ppm)	Se[4] (ppm)	eK[5] (pct)	eU[5] (ppm)	eTh[5] (ppm)	F[6] (ppm)
300-310	20	337	40	10	94	8	<1	-	-	-	1572
350-360	23	407	31	25	74	10	<1	-	-	-	1538
360-370	23	448	31	18	70	10	<1	-	-	-	1429
370-380	22	494	67	13	76	7	<1	-	-	-	1607
380-390	21	488	41	16	82	10	<1	3.29	20.7	50.9	1753
390-400	24	488	51	14	93	8	<1	3.52	20.5	49.6	1295
400-410	25	494	51	14	90	6	<1	-	-	-	2102
410-420	21	459	46	14	78	7	<1	-	-	-	1510
420-430	25	575	31	12	102	7	<1	-	-	-	1910
430-440	26	430	67	13	87	6	<1	-	-	-	1946
440-450	23	372	56	12	113	7	<1	-	-	-	1820
450-460	21	337	51	12	88	7	<1	-	-	-	1535
460-470	18	331	46	11	74	7	<1	-	-	-	1661
470-480	16	395	46	10	90	7	<1	-	-	-	1736
480-490	16	483	56	10	62	6	<1	-	-	-	1541
490-500	10	587	56	10	54	6	<1	-	-	-	1444
500-510	15	360	56	10	64	6	<1	-	-	-	1631
510-520	12	576	56	9	54	5	<1	-	-	-	1739
520-530	14	418	51	10	59	6	<1	-	-	-	1709
530-540	18	418	46	12	55	5	<1	-	-	-	1753
540-550	18	645	51	10	79	5	<1	-	-	-	1660
550-560	18	343	51	12	52	6	<1	-	-	-	1453
560-570	21	384	87	12	59	6	<1	-	-	-	1449
570-580	15	375	54	9	44	5	<1	-	-	-	1555
580-590	15	513	27	10	29	10	<1	-	-	-	1395
590-600	22	309	27	11	39	8	<1	-	-	-	1946

RESULTS OF ANALYSES, OF 11 ELEMENTS,

BY VARIOUS METHODS

Hole No. 10

Footage	U_3O_8 [1] (ppm)	Mn [2] (ppm)	V [2] (ppm)	Cs [3] (ppm)	Li [3] (ppm)	Be [3] (ppm)	Se [4] (ppm)	eK [5] (pct)	eU [5] (ppm)	eTh [5] (ppm)	F [6] (ppm)
600-610	23	460	41	10	70	7	<1	-	-	-	1918
610-620	19	493	34	10	64	8	<1	-	-	-	1556
620-630	21	836	54	11	69	8	<1	-	-	-	1846
630-640	17	540	27	9	34	8	<1	-	-	-	1587
640-650	20	395	41	10	26	8	<1	-	-	-	1905
650-660	19	414	34	10	26	10	<1	-	-	-	1612
660-670	19	600	34	10	28	10	<1	-	-	-	1817
670-680	19	447	34	10	34	10	<1	-	-	-	1783
680-690	35	414	34	11	26	10	<1	-	-	-	1963
690-700	20	368	34	11	29	8	<1	-	-	-	1786
700-710	40	441	27	10	32	10	<1	-	-	-	1820
710-720	26	770	27	8	33	8	<1	-	-	-	1552
720-730	22	401	14	12	26	8	<1	-	-	-	1261
730-740	21	1033	48	8	62	8	<1	-	-	-	2066
485-494*	9	796	86	11	93	6	-	2.87	9.0	30.6	1326
920-930*	10	354	64	10	40	6	-	4.13	15.1	59.2	1616
1280-1290*	18	708	32	165	53	16	-	1.30	12.7	65.1	347
1340-1350*	29/27	487	118	24	277	32	-	3.92	32.2	19.6	12515
1365-1369*	25	428	27	88	114	68	4	3.86	25.4	67.9	4277
1400-1410*	7	531	118	11	58	5	-	3.05	8.2	22.8	485
1600-1610*	7	487	96	7	49	5	-	3.69	7.8	20.7	382

*CORE

1/ Methods of Analyses: Fluorometric

2/ Atomic Absorption

3/ Flame

4/ Spectro fluorometric

5/ Gamma-Ray Spectroscopy

6/ Specific Ion

SPECTROCHEMICAL ANALYSIS

OF 29 OTHER ELEMENTS ASSOCIATED

WITH THE SPOR MOUNTAIN DRILLING PROJECT

Hole No. 10

Element (ppm)	Footage 300-310	350-360	360-370	370-380	380-390	390-400	400-410	410-420	420-430	430-440	440-450
Ag	5	2	3	2	<1	<1	<1	<1	1	1	1
Al	68100	51000	47600	48500	51400	46100	46500	49800	42200	47500	45000
As	415	375	355	405	345	345	315	385	340	370	365
B	23	14	13	12	10	5	6	13	3	8	8
Ba	19	130	135	205	150	145	145	135	125	145	170
Be	30	22	22	61	23	20	19	22	20	20	21
Ca	3740	16000	18700	23100	20600	23180	21300	16200	31800	25700	30700
Co	4	5	5	8	5	5	5	5	4	5	6
Cr	13	15	16	21	15	15	18	15	11	15	17
Cu	15	6	7	10	9	6	4	3	3	3	4
Fe	11400	8590	9150	38000	10100	8700	8140	8650	8700	8500	9350
La	29	36	32	29	36	36	36	39	35	37	38
Li	110	80	65	95	100	90	85	85	95	85	110
Mn	410	445	450	595	505	460	455	480	545	455	365
Mo	22	16	15	19	15	14	14	17	14	15	16
Na	34200	20800	19300	22100	23600	16600	17100	22100	16600	17100	16600
Nb	38	29	27	30	29	26	26	30	24	28	25
Ni	12	10	10	17	13	10	11	11	8	10	11
Pb	100	89	89	140	86	95	89	105	94	105	110
Sb	38	36	40	40	30	37	35	40	40	41	46
Sc	2	2	2	2	2	2	2	2	2	2	2
Sn	20	20	16	19	16	20	19	20	20	18	19
Sr	<100	<100	<100	<100	<100	<100	<100	<100	<100	<100	<100
Ti	465	700	670	825	745	690	675	700	615	700	800
V	3	10	10	22	11	10	10	8	10	10	14
W	3	24	15	63	3	15	7	36	20	25	24
Y	37	29	27	30	30	30	29	32	29	32	32
Zn	130	115	110	2380	110	71	100	89	99	88	79
Zr	79	62	57	58	58	58	56	57	53	59	61

SPECTROCHEMICAL ANALYSIS

OF 29 OTHER ELEMENTS ASSOCIATED

WITH THE SPOR MOUNTAIN DRILLING PROJECT

Hole No. 10 (continued)

Element (ppm)	Footage 556-570	570-580	580-590	590-600	600-610	610-620	620-630	630-640	640-650	650-660	660-670
Ag	2	1	1	1	1	1	1	1	1	1	1
Al	52400	44100	50700	52100	53200	55500	58700	56800	54700	55400	54100
As	220	160	165	165	180	190	205	180	210	180	190
B	1	<1	6	10	8	16	15	23	32	33	37
Ba	240	255	210	150	215	245	290	185	185	135	150
Be	19	15	17	17	17	17	18	16	16	17	17
Ca	33100	39600	17100	18000	24300	18000	19400	11600	11900	10900	11100
Co	9	8	6	6	7	8	8	6	7	6	6
Cr	38	28	30	25	24	21	19	15	15	13	15
Cu	6	9	5	6	6	6	4	3	3	3	3
Fe	11000	9250	7220	7530	8600	8490	8930	7370	7470	7020	7580
La	40	39	27	29	34	37	34	37	38	45	41
Li	60	35	15	30	65	60	65	20	25	20	20
Mn	405	365	480	290	440	460	855	535	565	410	620
Mo	22	18	18	19	20	21	21	20	21	21	20
Na	17100	13800	17900	17900	17100	17100	17900	17100	16600	17900	17900
Nb	16	13	18	18	17	19	20	20	20	22	21
Ni	20	13	18	14	14	14	11	10	10	10	11
Pb	90	615	145	100	96	125	130	99	105	110	115
Sb	14	18	12	12	11	14	15	10	20	14	15
Sc	3	2	2	2	2	2	2	2	2	2	2
Sn	10	10	4	5	9	9	9	5	9	10	9
Sr	100	<100	<100	<100	<100	<100	<100	< 100	<100	<100	<100
Ti	1070	950	605	605	730	775	800	655	665	615	635
V	23	20	11	11	16	17	34	14	15	10	11
W	59	45	41	36	39	44	48	31	50	42	47
Y	23	22	22	22	24	27	27	26	27	36	31
Zn	72	88	73	99	87	100	100	73	70	72	78
Zr	49	41	48	48	43	46	48	50	51	55	53

SPECTROCHEMICAL ANALYSIS

OF 29 OTHER ELEMENTS ASSOCIATED

WITH THE SPOR MOUNTAIN DRILLING PROJECT

Hole No. 10 (continued)

Element (ppm)	Footage 450-460	460-470	470-480	480-490	490-500	500-510	510-520	520-530	530-540	540-550	550-560
Ag	1	1	1	2	2	1	2	1	2	1	3
Al	49300	46300	42200	40700	38700	41800	39600	40300	39400	36300	52200
As	400	390	360	350	340	375	360	375	380	340	190
B	16	13	5	<1	2	10	<1	8	11	<1	<1
Ba	215	265	270	305	335	255	300	295	265	245	250
Be	24	20	20	19	27	20	19	20	19	18	18
Ca	25300	28500	43500	57000	56200	44300	64100	52700	48600	69900	27300
Co	6	6	7	7	8	7	7	7	7	6	8
Cr	17	14	20	19	23	26	25	27	24	25	30
Cu	4	3	4	2	4	3	4	7	4	2	5
Fe	11200	9630	10500	10200	17200	9970	10700	11100	9860	9300	9320
La	36	35	36	39	35	35	36	37	37	34	37
Li	105	75	90	65	50	60	60	60	55	90	50
Mn	385	330	405	520	595	360	600	430	425	660	345
Mo	17	16	15	15	15	16	16	17	16	15	20
Na	20100	17900	15200	15900	14500	16600	15900	15900	16600	15200	17100
Nb	26	23	21	21	19	21	19	21	21	19	18
Ni	11	9	13	10	13	12	11	13	10	12	14
Pb	120	95	105	99	105	95	94	96	97	91	82
Sb	40	43	43	42	43	46	45	46	49	44	16
Sc	2	2	3	3	3	2	3	3	3	2	2
Sn	19	23	21	20	23	24	24	25	22	22	10
Sr	<100	<100	130	160	<150	120	170	150	130	160	< 100
Ti	855	965	1040	1100	1110	935	1100	1060	955	875	870
V	15	18	20	22	25	18	22	20	18	17	18
W	22	27	34	31	50	34	38	42	43	44	47
Y	28	27	24	27	27	24	25	25	>36	26	23
Zn	105	70	100	71	130	93	94	140	77	62	98
Zr	58	53	51	51	48	55	51	55	54	46	48

SPECTROCHEMICAL ANALYSIS

OF 29 OTHER ELEMENTS ASSOCIATED

WITH THE SPOR MOUNTAIN DRILLING PROJECT

Hole No. 10 (continued)

Element (ppm)	Footage 670-680	680-690	690-700	700-710	710-720	720-730	730-740	1365-1369 (core)	485-494 (core)	920-930 (core)
Ag	1	1	1	1	1	1	2	2	1	2
Al	55800	56100	56000	52500	52600	51800	42700	51600	41300	64500
As	210	185	205	220	235	245	215	205	290	170
B	36	44	44	46	50	51	39	110	170	2
Ba	180	145	155	185	255	145	205	49	405	20
Be	18	17	17	17	16	15	16	97	18	17
Ca	15500	10600	12200	13000	9070	13500	35900	25600	60700	4660
Co	8	7	7	7	8	7	8	7	10	3
Cr	23	25	25	23	22	28	24	16	24	11
Cu	3	4	4	3	3	4	7	3	8	12
Fe	8410	6950	7770	7830	7750	6520	7610	12200	12100	7310
La	42	40	42	36	45	37	38	60	39	39
Li	30	15	25	25	25	20	55	120	60	70
Mn	500	455	420	480	750	425	1120	430	750	450
Mo	22	21	22	23	25	24	22	27	19	13
Na	18600	17900	17900	17100	16600	17100	10600	20800	12500	22100
Nb	21	22	22	21	21	21	17	84	11	23
Ni	11	11	13	11	11	14	16	13	20	11
Pb	105	110	115	100	120	105	100	115	97	82
Sb	17	15	17	19	19	21	22	37	56	46
Sc	2	2	2	2	2	2	2	2	3	2
Sn	10	9	14	14	10	14	14	37	22	8
Sr	<100	<100	<100	<100	<100	<100	<100	<100	170	<100
Ti	725	620	665	675	770	620	755	420	1330	475
V	14	10	12	12	14	10	16	9	29	2
W	56	45	57	56	67	69	74	115	64	20
Y	28	27	30	26	37	28	26	85	22	25
Zn	81	63	130	74	105	110	91	150	90	165
Zr	53	52	54	51	53	55	48	58	53	38

SPECTROCHEMICAL ANALYSIS

OF 29 OTHER ELEMENTS ASSOCIATED

WITH THE SPOR MOUNTAIN DRILLING PROJECT

Hole No. 10 (continued)

Element (ppm)	Footage 1280-1290 (core)	1340-1350 (core)	1400-1410 (core)	1600-1610 (core)
Ag	<1	<1	<1	<1
Al	55900	62200	68700	67300
As	150	150	160	140
B	13	27	18	16
Ba	34	715	695	800
Be	17	44	11	12
Ca	17800	27300	14400	9870
Co	1	10	7	7
Cr	4	18	13	15
Cu	9	12	9	10
Fe	5240	14800	12600	12900
La	25	36	33	32
Li	20	155	45	40
Mn	535	380	455	420
Mo	11	13	14	12
Na	5900	8800	18600	19300
Nb	25	33	12	11
Ni	3	16	12	15
Pb	70	58	67	63
Sb	35	47	44	40
Sc	2	3	3	2
Sn	5	11	5	3
Sr	<100	110	120	100
Ti	395	1750	1410	1270
V	<1	35	27	25
W	11	48	9	<1
Y	18	14	11	12
Zn	100	105	89	110
Zr	59	37	21	20

SPOR MOUNTAIN DRILLING PROJECT

Core Log for Hole No. 10

Logged by: Chuck Beverly | Date: August 7, 1978 | Page: 1 of 4

Footage	Cumulative Footage	Lithology	Color	Texture	Induration/ Welding	Lithic Fragmentation	Matrix	Alteration/ Diagenesis	Stratified Sorted	Remarks
Rotary(?) 0-485	Not logged	Rhyolite 0-350	Red Pink							Frothy rhyolite and lithic tuff to 740 feet.
Spot core	485	#4 Tuff 350-485-740								
485-494 (Rotary logged)	494 not	Vent breccia (lithic tuff)	Pink-Gray	Medium-coarse	None	Abundant rock fragments of red and gray rhyolite; red gray, black rhyodacite. Green ash tuff; zoned limestone. Dolomite fragments; siltstone, and several other lithics.	Ash clay	Clay rims on limestone-dolomite clasts; pink clay alteration of matrix.	None	Lithic Tuff--(Vent Breccia) A large variety of unsorted large clasts and rock fragments; many are flat tabular to angular to rounded 1/4 in. to 6 in. size, set in a yellow to buff ash matrix. No fractures in this ash flow tuff.

SPOR MOUNTAIN DRILLING PROJECT

Core Log for Hole No. 10

Logged by: Chuck Beverly

Date: August 7, 1978

Footage	Cumulative Footage	Lithology	Color	Texture	Induration/ Welding	Lithic Fragmentation	Matrix	Alteration/ Diagenesis	Stratified Sorted	Remarks
920-930 (Spot core)	930	Spherulitic rhyolite	Gray-Pink	Spherulitic vesicular flow bands and overall fish net	Moderate to strong	A few gray rhyolite chips	Gray rhyolite	Pink Clay (?) fills spheres		Spherulitic Rhyolite--of 1/4 to 1/2 in. spheres filled with pink clay. Spheres develop along flow bands on gas vesicles; some are elongate, but most form a fishnet texture. Quartz crystals line spheres.
930-1260	1260-1268	Large void or vug for 8 ft								
1268-1337	1337	Fault breccia	Yellow Pink White	Destroyed/badly broken. Head cheese texture 1297 feet	None	None--except a few yellow siltstone-type chips at top 2 in. angular clasts at base of red rhyolite clasts	Silica clay	Silica-clay; manganese on fractures		Fault Breccia--badly broken and healed with clay-silica and late chalcedony veinlets and vug fillings up to 1 in. wide from 1305 feet. Also, calcite locally fills breccia vugs and voids in silicified gouge zones. Appears to be sorted or stratified near bottom (at 1330 feet).

SPOR MOUNTAIN DRILLING PROJECT

Core Log for Hole No. 10

Logged by: Chuck Beverly | Date: August 7, 1978 | Page: 3 of 4

Footage	Cumulative Footage	Lithology	Color	Texture	Induration/ Welding	Lithic Fragmentation	Matrix	Alteration/ Diagenesis	Stratified Sorted	Remarks
1337-1616	1613	Biotite-rhyolite vent breccia; monolithologic	Red to gray to red	Coarse breccia agglomerate; almost granite-like from 1400 feet	Strong	Only gray crystalline rhyolite fragments to 1375 feet; then a few more mafic fragments and red rhyolite	----	Strong hematite/ manganese clay locally from 1373-1392 feet. Quartz, calcite and hematite fills vugs locally. More silica alteration from 1590 feet.	None	Biotite-Rhyolite Vent Breccia--lighter gray to pink fragments of bio-rhyolite set in a crystalline mush of the same material, same composition. Only changes appear to be zones with more mafic fragments or less hematite. Clay alteration fragments from 1373-1392 feet leave elongate vugs. Equigranular with no flow banding. Widely scattered (fine to coarse-grained) fragments from 1380 feet to bottom. Color change from red to gray at 1373 feet and from gray to red at 1427 feet. Flat, flesh colored rhyolite fragments from 1467-1490 feet and from 1540-1595 feet. Manganese on fractures from 1470-1530 feet, which also increases in this interval. Well developed feldspar, quartz (?) and biotite from 1450 feet.

SPOR MOUNTAIN DRILLING PROJECT

Core Log for Hole No. 10

Logged by: Chuck Beverly

Date: August 7, 1978

Footage	Cumulative Footage	Lithology	Color	Texture	Induration/ Welding	Lithic Fragmentation	Matrix	Alteration/ Diagenesis	Stratified Sorted	Remarks
										Most fragments from 1500 feet are fine-grained biotite-rich phases in 2 to 4 in. clasts. A few fractures contain hematite from 1560 feet; more biotite rich from 1587. This could be rhyolite root zone with igneous texture at depth.

APPENDIX B

RESULTS OF ANALYSES, OF 11 ELEMENTS,

BY VARIOUS METHODS

Hole No. 11

Footage	U_3O_8 [1] (ppm)	Mn [2] (ppm)	V [2] (ppm)	Cs [3] (ppm)	Li [3] (ppm)	Be [3] (ppm)	Se [4] (ppm)	eK [5] (pct)	eU [5] (ppm)	eTh [5] (ppm)	F [6] (ppm)
250-260	5	243	60	15	47	6	<1	-	-	-	457

1/ Methods of Analyses: Fluorometric

2/ Atomic Absorption

3/ Flame

4/ Spectro fluorometric

5/ Gamma-Ray Spectroscopy

6/ Specific Ion

SPECTROCHEMICAL ANALYSIS

OF 29 OTHER ELEMENTS ASSOCIATED

WITH THE SPOR MOUNTAIN DRILLING PROJECT

Hole No. 11

Footage

Element (ppm)	250-260
Ag	3
Al	44400
As	335
B	105
Ba	415
Be	27
Ca	74000
Co	10
Cr	49
Cu	13
Fe	13600
La	32
Li	95
Mn	245
Mo	16
Na	17900
Nb	30
Ni	25
Pb	64
Sb	59
Sc	4
Sn	18
Sr	210
Ti	1600
V	38
W	66
Y	22
Zn	88
Zr	67

APPENDIX B

RESULTS OF ANALYSES, OF 11 ELEMENTS,

BY VARIOUS METHODS

Hole No. 12

Footage	U_3O_8 [1] (ppm)	Mn [2] (ppm)	V [2] (ppm)	Cs [3] (ppm)	Li [3] (ppm)	Be [3] (ppm)	Se [4] (ppm)	eK [5] (pct)	eU [5] (ppm)	eTh [5] (ppm)	F [6] (ppm)
250-260	12	392	120	9	23	5	<1	-	-	-	537
450-460	12	466	110	7	16	2	<1	-	-	-	569

1/ Methods of Analyses: Fluorometric

2/ Atomic Absorption

3/ Flame

4/ Spectro fluorometric

5/ Gamma-Ray Spectroscopy

6/ Specific Ion

SPECTROCHEMICAL ANALYSIS

OF 29 OTHER ELEMENTS ASSOCIATED

WITH THE SPOR MOUNTAIN DRILLING PROJECT

Hole No. 12

Element (ppm)	Footage 250-260	450-460
Ag	5	5
Al	67100	51600
As	550	415
B	74	33
Ba	1010	785
Be	59	53
Ca	23400	63700
Co	27	24
Cr	86	90
Cu	16	21
Fe	35700	32500
La	56	51
Li	35	45
Mn	440	520
Mo	25	22
Na	19300	16600
Nb	42	32
Ni	45	51
Pb	97	92
Sb	89	83
Sc	9	8
Sn	31	28
Sr	<510	260
Ti	3960	3350
V	99	92
W	90	100
Y	19	17
Zn	150	145
Zr	150	120

APPENDIX B

RESULTS OF ANALYSES, OF 11 ELEMENTS,

BY VARIOUS METHODS

Hole No. 13

Footage	U_3O_8[1] (ppm)	Mn[2] (ppm)	V[2] (ppm)	Cs[3] (ppm)	Li[3] (ppm)	Be[3] (ppm)	Se[4] (ppm)	eK[5] (pct)	eU[5] (ppm)	eTh[5] (ppm)	F[6] (ppm)
400-410	10	561	20	10	51	6	<1	-	-	-	694
800-810	16	629	20	25	44	10	<1	-	-	-	1406
1200-1210	14	406	20	6	54	7	<1	-	-	-	1067
1600-1610	12	460	10	10	54	13	<1	-	-	-	2667

1/ Methods of Analyses: Fluorometric

2/ Atomic Absorption

3/ Flame

4/ Spectro fluorometric

5/ Gamma-Ray Spectroscopy

6/ Specific Ion

SPECTROCHEMICAL ANALYSIS
OF 29 OTHER ELEMENTS ASSOCIATED
WITH THE SPOR MOUNTAIN DRILLING PROJECT

Hole No. 13

Element (ppm)	Footage 400-410	800-810	1200-1210	1600-1610
Ag	2	2	3	4
Al	57100	56400	57900	55600
As	480	460	470	430
B	68	72	78	78
Ba	36	71	44	185
Be	25	27	25	39
Ca	4240	6660	4840	12100
Co	6	6	7	8
Cr	18	39	40	66
Cu	31	< 37	36	26
Fe	9150	12000	10500	15700
La	34	32	60	53
Li	80	60	75	90
Mn	665	690	535	620
Mo	22	23	22	21
Na	25800	26500	20800	18600
Nb	32	30	27	38
Ni	22	22	22	24
Pb	94	155	110	105
Sb	76	69	78	69
Sc	3	3	3	3
Sn	23	22	23	21
Sr	< 100	< 100	< 100	< 100
Ti	560	550	760	1010
V	8	6	8	13
W	95	120	105	96
Y	28	28	23	23
Zn	140	135	130	155
Zr	30	65	47	61

APPENDIX B

RESULTS OF ANALYSES, OF 11 ELEMENTS,

BY VARIOUS METHODS

Hole No. 16

Footage	U_3O_8[1] (ppm)	Mn[2] (ppm)	V[2] (ppm)	Cs[3] (ppm)	Li[3] (ppm)	Be[3] (ppm)	Se[4] (ppm)	eK[5] (pct)	eU[5] (ppm)	eTh[5] (ppm)	F[6] (ppm)
100-110	15	176	10	7	38	6	<1	-	-	-	523
150-160	13	183	20	9	16	7	<1	-	-	-	511
200-210	15	68	20	8	14	5	<1	-	-	-	159

1/ Methods of Analyses: Fluorometric

2/ Atomic Absorption

3/ Flame

4/ Spectro fluorometric

5/ Gamma-Ray Spectroscopy

6/ Specific Ion

SPECTROCHEMICAL ANALYSIS

OF 29 OTHER ELEMENTS ASSOCIATED

WITH THE SPOR MOUNTAIN DRILLING PROJECT

Hole No. 16

Element (ppm)	Footage 100-110	150-160	200-210
Ag	5	4	4
Al	39900	18700	8090
As	315	265	88
B	29	19	17
Ba	710	120	175
Be	38	27	10
Ca	88800	>100000	>100000
Co	19	15	8
Cr	90	66	41
Cu	16	12	18
Fe	23900	16600	6920
La	36	17	13
Li	100	65	65
Mn	540	380	200
Mo	16	13	9
Na	3450	2850	2600
Nb	21	9	4
Ni	41	33	31
Pb	76	59	56
Sb	63	60	57
Sc	7	3	1
Sn	20	19	19
Sr	170	130	140
Ti	2420	940	435
V	66	48	18
W	89	155	130
Y	13	7	4
Zn	105	86	76
Zr	75	29	13

APPENDIX B

RESULTS OF ANALYSES, OF 11 ELEMENTS, BY VARIOUS METHODS

Hole No. 17

Footage	U_3O_8 [1] (ppm)	Mn [2] (ppm)	V [2] (ppm)	Cs [3] (ppm)	Li [3] (ppm)	Be [3] (ppm)	Se [4] (ppm)	eK [5] (pct)	eU [5] (ppm)	eTh [5] (ppm)	F [6] (ppm)
50-60	15	176	10	7	38	6	1	-	-	-	709
100-110	13	183	20	9	16	7	1	-	-	-	478
700-710	15	68	20	8	14	5	1	-	-	-	411
883-910*	23	2681	31	7	50	47	<1	6.75	15.2	54.5	1524
910-915*	16	2296	7	10	34	212	<1	6.22	14.5	51.9	1104
915-926*	14	13165	46	6	72	17	<1	3.71	18.8	50.9	6158
926-929*	17	1128	54	17	61	624	<1	3.95	14.6	38.4	4582
929-943*	10	2377	92	20	108	7	<1	2.13	13.0	12.0	2852
943-950*	7	725	54	4	22	7	<1	0.06	7.5	0.7	8670

*CORE

1/ Methods of Analyses: Fluorometric

2/ Atomic Absorption

3/ Flame

4/ Spectro fluorometric

5/ Gamma-Ray Spectroscopy

6/ Specific Ion

SPECTROCHEMICAL ANALYSIS

OF 29 OTHER ELEMENTS ASSOCIATED

WITH THE SPOR MOUNTAIN DRILLING PROJECT

Hole No. 17

Element (ppm)	Footage 50-60	100-110	700-710	883-910	910-915	915-926	926-929	929-943	943-950
Ag	3	1	3	<1	6	5	< 1	<1	3
Al	52700	53900	53600	55600	49400	46500	53900	39500	1670
As	480	420	460	305	290	290	335	240	21
B	92	115	120	380	310	250	195	165	63
Ba	36	28	26	37	31	135	375	280	53
Be	17	21	22	73	62	260	26	770	120
Ca	6560	3080	1740	3280	2670	14900	12100	8460	<100000
Co	6	6	6	3	3	4	9	13	4
Cr	16	21	16	11	12	18	14	21	10
Cu	11	11	12	7	5	11	7	7	9
Fe	7890	8580	10500	9130	8390	8740	11200	18600	2510
La	32	29	13	29	21	32	31	28	13
Li	45	40	25	55	55	75	60	95	35
Mn	235	270	140	3500	2360	17600	1080	2310	790
Mo	21	21	22	21	16	25	17	15	3
Na	15900	18600	11200	4450	5000	15200	4850	15500	<500
Nb	27	27	29	57	48	155	32	470	51
Ni	20	>18	18	13	15	16	16	28	15
Pb	92	82	97	105	85	115	92	74	32
Sb	80	90	78	82	74	84	85	89	29
Sc	2	1	2	3	4	3	5	5	1
Sn	26	22	25	16	18	25	27	22	12
Sr	<100	<100	<100	<100	< 100	<100	<100	<100	400
Ti	760	650	530	470	435	390	1430	2000	100
V	7	5	5	4	3	5	29	55	7
W	110	75	100	<1	3	135	25	69	100
Y	19	15	19	30	30	47	23	30	2
Zn	140	81	110	185	195	280	265	215	97
Zr	81	62	66	70	71	63	50	41	1

SPOR MOUNTAIN DRILLING PROJECT

Core Log for Hole No. 17

Logged by: Chuck Beverly

Date: October 12, 1978 Page: 1 of 2

Footage	Cumulative Footage	Lithology	Color	Texture	Induration/ Welding	Lithic Fragmentation	Matrix	Alteration/ Diagenesis	Stratified Sorted	Remarks
200-211 (3 ft. core)	Spot core	Altered rhyolite	Pink Gray	Fine grained; obliterated	Strong	None	----	Silicified clay alteration		Altered Rhyolite--strong silicification--original rock texture obliterated.
400-406	Spot core	Altered lithic tuff	Yellow White	Coarse	Moderate	Abundant	Ash	Clay	None	Altered Lithic Tuff--strong clay alteration obliterates original rock texture.
600-604	Spot core	Altered tuff	Pink White	Fine	----	----	Ash (?)			Altered Tuff--rock too altered to discern original texture. I assume it is a tuff.
Continuous Core										
883-928 (17 feet of core recovered)		Altered rhyolite (a variety of types of rhyolite)	White to Pink Yellow	Variable; fine to coarse	Strong	----	Clay silica throughout. MnO_2 on or along fracture. Silica flooding throughout spheru-	Clay (MnO_2-FeO) silica alteration	----	Altered Rhyolite--due to the loss of so much core throughout this zone, it is difficult to describe accurate contacts. Topaz rhyolite 883-885 feet, with 3-8% FeMn--strongly silicified at 885-903 feet; flow-banded rhyolite with oxidized hematite along flow bands with strong manganese flooding along fractures and filling voids. Strong clay alteration of rhyolite.

SPOR MOUNTAIN DRILLING PROJECT

Core Log for Hole No. 17

Logged by: Chuck Beverly

Date: October 12, 1978 Page: 2 of 2

Footage	Cumulative Footage	Lithology	Color	Texture	Induration/ Welding	Lithic Fragmentation	Matrix	Alteration/ Diagenesis	Stratified Sorted	Remarks
								litic interval		903-920 feet: spherulitic rhyolite with strong clay on spheres and silica flooding along fractures, as well as MnO_2.
920-928				Medium-coarse				MnO_2 up to 10% locally; abundant silica flooding at 927 feet		920-928 feet: strongly altered rhyolite with pervasive manganese flooding along fractures (up to 10% MnO_2) and clay alteration throughout.
928-937		Altered mudstone	Green Yellow	Fine grained	Moderate induration	----	----	FeO, chlorite (?)		Altered Mudstone--abundant oxidation on fractures. Strongly brecciated from 935 feet.
937-942.5		Intrusive breccia	White Black	----	----	----		MnO_2 and clay		Intrusive Breccia--pebble dike from 940 feet with abundant limestone pebbles and mixed mudstone in a strongly altered clay gouge.
942.5-995		Limestone	Buff Gray	----	----	----	----	Calcite crystals on fractures		Buff-gray limestone with calcite on fractures but little, if any, alteration compared to the intense alteration noted above.

APPENDIX B

RESULTS OF ANALYSES, OF 11 ELEMENTS,

BY VARIOUS METHODS

Hole No. 18

Footage	U_3O_8 [1] (ppm)	Mn [2] (ppm)	V [2] (ppm)	Cs[3] (ppm)	Li[3] (ppm)	Be[3] (ppm)	Se[4] (ppm)	eK[5] (pct)	eU[5] (ppm)	eTh[5] (ppm)	F[6] (ppm)
480-490*	17	531	54	39	348	18	-	4.56	21.6	73.9	4586
490-500*	73	1770	54	33	393	43	-	4.08	68.1	64.2	15344
500-510*	86	2745	64	104	420	259	-	1.95	90.2	53.4	10091
510-520*	51	1328	64	159	568	1013	-	2.16	66.1	60.7	9728
520-530*	61	531	64	165	545	323	-	3.57	61.8	64.0	4554
530-540*	13	619	64	198	478	151	-	2.78	15.4	57.1	6078
540-550*	3	398	64	219	393	124	-	2.57	14.0	51.7	3916
550-560*	19	265	54	98	161	82	-	0.97	21.6	22.8	2959
560-570*	17	531	75	175	232	67	-	3.42	19.0	63.3	4840
570-580*	28	575	54	174	394	94	-	2.64	30.8	54.0	4178
580-590*	10	487	43	163	380	67	-	1.86	11.2	48.6	3378
590-600*	12	265	75	91	290	49	-	1.43	12.0	30.6	2615
600-610*	7	168	33	51	146	22	-	0.58	6.5	21.2	2213
610-620*	5	378	33	117	273	22	-	1.13	5.7	45.9	3322
620-630*	8	336	40	107	276	25	-	1.19	7.1	48.0	3393
630-640*	6	294	33	87	231	15	-	0.97	5.5	42.1	3458
640-650*	7	294	47	89	270	12	-	1.04	6.3	46.9	3209
650-660*	8	210	33	66	171	10	-	0.67	8.2	28.4	2518
660-670*	4	252	60	64	234	12	-	0.93	5.5	43.6	3040
670-680*	6	294	27	106	263	15	-	0.96	6.1	48.7	3438

RESULTS OF ANALYSES, OF 11 ELEMENTS,

BY VARIOUS METHODS

Hole No. 18

Footage	U_3O_8[1] (ppm)	Mn[2] (ppm)	V[2] (ppm)	Cs[3] (ppm)	Li[3] (ppm)	Be[3] (ppm)	Se[4] (ppm)	eK[5] (pct)	eU[5] (ppm)	eTh[5] (ppm)	F[6] (ppm)
680-690*	5	322	46/46	57	18/18	10	-	1.69	4.5	42.1	2732
690-700*	3	378	33	173	54	5	-	4.29	1.9	22.5	691
700-710*	2	420	33	14	31	5	-	4.29	2.7	23.9	487

*CORE

1/ Methods of Analyses: Fluorometric

2/ Atomic Absorption

3/ Flame

4/ Spectro fluorometric

5/ Gamma-Ray Spectroscopy

6/ Specific Ion

SPECTROCHEMICAL ANALYSIS

OF 29 OTHER ELEMENTS ASSOCIATED

WITH THE SPOR MOUNTAIN DRILLING PROJECT

Hole No. 18

Element (ppm)	Footage 480-490 (core)	490-500 (core)	500-510 (core)	510-520 (core)	520-530 (core)	530-540 (core)	540-550 (core)	550-560 (core)	560-570 (core)	570-580 (core)	580-590 (core)
Ag	<1	<1	<1	1	1	1	1	<1	<1	<1	1
Al	71000	64300	61500	58400	63500	57600	54100	24300	66200	54100	47900
As	190	195	135	245	210	76	83	40	81	95	84
B	28	1	37	24	10	1	41	51	1	27	46
Ba	46	56	76	105	79	85	79	62	54	57	59
Be	33	74	295	1040	385	385	330	205	170	240	180
Ca	7600	35800	57700	32300	23700	50800	68100	110000	26500	51300	81200
Co	3	3	4	5	4	4	4	3	3	3	3
Cr	8	10	12	13	11	11	14	11	12	12	32
Cu	10	14	12	14	11	11	10	9	10	10	5
Fe	1100	9860	9150	9680	10100	8350	7750	3800	9500	8140	6970
La	64	63	38	54	62	50	51	30	55	49	50
Li	210	210	225	265	270	245	230	105	150	220	220
Mn	510	1760	2700	1300	510	525	300	190	420	505	430
Mo	15	15	19	14	16	11	12	7	11	12	10
Na	22100	13800	10600	13800	19300	14500	15900	5900	17100	13800	11200
Nb	66	81	200	655	265	245	200	110	125	160	115
Ni	9	13	11	15	13	16	14	17	12	14	13
Pb	99	200	235	140	105	89	70	42	75	85	72
Sb	59	55	47	68	65	56	51	49	43	56	50
Sc	4	7	2	2	2	2	2	1	2	2	1
Sn	20	58	125	32	34	21	15	13	22	22	16
Sr	100	100	140	120	120	130	160	130	100	130	150
Ti	390	395	425	455	465	395	385	185	390	340	310
V	3	4	5	7	6	5	6	4	5	6	6
W	160	465	290	185	115	40	38	71	9	73	80
Y	105	100	65	150	98	68	70	35	90	73	72
Zn	280	570	1640	360	140	155	110	245	225	120	125
Zr	67	58	48	56	63	47	46	20	54	46	40

SPECTROCHEMICAL ANALYSIS

OF 29 OTHER ELEMENTS ASSOCIATED

WITH THE SPOR MOUNTAIN DRILLING PROJECT

Hole No. 18 (continued)

Element (ppm)	Footage									
	590-600 (core)	600-610 (core)	610-620 (core)	620-630 (core)	630-640 (core)	640-650 (core)	650-660 (core)	660-670 (core)	670-680 (core)	680-690 (core)
Ag	<1	<1	<1	<1	1	1	<1	1	<1	<1
Al	31300	26600	50100	48000	45300	46600	30300	45300	55400	58400
As	47	21	56	53	59	80	32	76	65	73
B	53	52	30	29	50	44	50	39	31	24
Ba	50	27	56	48	48	54	30	55	68	240
Be	125	57	63	62	41	36	23	37	41	24
Ca	100000	100000	49200	45300	88700	76200	95100	66700	49300	39800
Co	3	3	3	3	4	3	3	4	3	5
Cr	32	33	37	37	34	31	29	38	38	32
Cu	6	6	9	6	7	7	8	7	6	6
Fe	5620	4120	6960	7320	6930	7110	3500	6590	7930	8900
La	35	30	47	43	46	47	33	44	50	46
Li	170	100	195	190	180	195	100	180	200	150
Mn	210	205	390	330	305	305	220	305	305	325
Mo	8	7	11	9	10	11	7	10	11	11
Na	7400	4300	7000	6600	6200	5900	4300	5600	5900	8800
Nb	75	36	56	57	42	43	26	41	48	33
Ni	15	15	16	13	17	13	15	17	15	17
Pb	49	38	75	68	62	68	53	61	66	64
Sb	44	43	53	48	58	54	40	59	51	50
Sc	1	1	1	1	1	1	1	1	1	2
Sn	16	8	17	18	19	17	10	16	18	16
Sr	130	130	120	110	150	140	120	130	120	130
Ti	245	210	300	315	285	335	215	280	320	615
V	5	6	6	5	6	6	6	6	6	12
W	81	43	52	45	70	70	64	75	38	67
Y	42	31	81	65	68	60	42	62	73	49
Zn	125	130	180	165	195	160	140	165	185	165
Zr	27	20	39	41	35	40	24	37	42	36

SPECTROCHEMICAL ANALYSIS

OF 29 OTHER ELEMENTS ASSOCIATED

WITH THE SPOR MOUNTAIN DRILLING PROJECT

Hole No. 18 (continued)

Element (ppm)	Footage	
	690-700 (core)	700-710 (core)
Ag	<1	<1
Al	77400	79700
As	165	150
B	8	22
Ba	805	800
Be	15	13
Ca	9070	7960
Co	9	9
Cr	33	34
Cu	3	5
Fe	13000	13400
La	36	35
Li	45	25
Mn	460	510
Mo	16	16
Na	15900	14500
Nb	13	12
Ni	12	12
Pb	74	71
Sb	55	50
Sc	3	3
Sn	7	7
Sr	100	110
Ti	1260	1580
V	26	28
W	115	39
Y	15	12
Zn	115	165
Zr	24	26

SPOR MOUNTAIN DRILLING PROJECT

Core Log for Hole No. 18

Logged by: Chuck Beverly

Date: August 29, 1978

Footage	Cumulative Footage	Lithology	Color	Texture	Induration/ Welding	Lithic Fragmentation	Matrix	Alteration/ Diagenesis	Stratified Sorted	Remarks
0-93	93	Rotary gravels								Gravels
93-496	496	Capping topaz rhyolite	Pink Gray	Equigranular	Strong	Widely scattered xenocrysts of porphyritic black rhyodacite throughout.		Strong vertical fractures at top.		Capping Topaz Rhyolite--to the Beryllium Tuff Member, equigranular ash flow tuff exhibits strong welding, few lithic fragments and chatoyant sanidine crystals to 1 inch; fractures filled with late calcite and purple fluorite at 114, 116, 132, and 147.5 feet. Fault gouge 198-204 feet and 236-237, 251-254, and 338-346 feet. Abundant hematite fills fractures from 326-380 feet; also reaction rims on lithic fragments suggest base of capping rhyolite is near or on a major fault. Fault gouge at 361 feet contains fluorite crystals. Major fault at 370-402 feet contains abundant clay and gouge; also hematite and gouge at 407 feet, 416-420 and 460 feet. Altered rhyolite to 496 feet and gas-sorted beryllium tuff contact with strong hematite oxidation.

SPOR MOUNTAIN DRILLING PROJECT

Core Log for Hole No. 18

Logged by: Chuck Beverly

Date: August 29, 1978

Footage	Cumulative Footage	Lithology	Color	Texture	Induration/ Welding	Lithic Fragmentation	Matrix	Alteration/ Diagenesis	Stratified Sorted	Remarks
496-689	689	Beryllium tuff	Black Brown Purple Buff		Moderate	Abundant volcanic and limestone, dolomite, locally. Exceptionally large limestone fragments or clasts such as at 600-602 feet. Also 2-8 in. quartz fragments scattered throughout near base of tuff unit.		Fluorite manganese clay; silica as chalcedony. Abundant pink and white smectite (?). Clay from 600 feet.		Beryllium Tuff--base of topaz rhyolite is sorted; base surge (?) deposition to the ash-flow. Beryllium tuff is nonsorted throughout, but top 5 feet contains 10-20% fluorite, as reaction rims to volcanic fragments and as replacement cores to limestone fragments. Top part of tuff to 530 feet contains no carbonate, but is carbonate rich from 530 feet. The fluorite is most abundant in a large chalcedony nodule from 500-501 feet. Strong manganese, from 497-503.5 feet, could contain U_3O_8 within this zone. Fluorite concentration is widely scattered below 501 feet, and is non-existent from 530 feet. Calcareous zone could be limestone clast from 556-559 feet, and gray dolomite and limestone clasts below 575 feet. Strong pink clay alteration (smectite?) from 600-689 feet, where rhyolitic ash-flow begins. Minor basal tuff oxidation (limonite) at 668 feet.

Core Log for Hole No. 18

Logged by: Chuck Beverly

Date: August 29, 1978

Footage	Cumulative Footage	Lithology	Color	Texture	Induration/ Welding	Lithic Fragmentation	Matrix	Alteration/ Diagenesis	Stratified Sorted	Remarks
689-1014 T.D.		Rhyolitic tuff ash flow	Pink	Equigranular	Strong	A few red rhyodacite rhyolite	Rhyolite			Rhyolitic Tuff--very fine-grained, equigranular tuff with a matrix of crystals which are poorly formed and consist of topaz, biotite and plagioclase. Lithic fragments include rhyodacite, rhyolite, vitrophere, and yellow tuff.

APPENDIX B

RESULTS OF ANALYSES, OF 11 ELEMENTS,

BY VARIOUS METHODS

Hole No. 19

Footage	U_3O_8 [1] (ppm)	Mn [2] (ppm)	V [2] (ppm)	Cs[3] (ppm)	Li[3] (ppm)	Be[3] (ppm)	Se[4] (ppm)	eK[5] (pct)	eU[5] (ppm)	eTh[5] (ppm)	F[6] (ppm)
190-200	16	294	20	9	54	5	-	4.11	16.5	66.2	1027
200-210*	13	210	13	9	37	5	-	4.12	15.9	65.1	967
392-402*	14	547	20	8	85	7	-	4.23	17.2	61.7	1578
1000-1010*	8	378	47	6	31	5	-	4.95	11.2	48.5	372
1200-1210*	9	378	7	5	47	5	-	4.79	10.7	47.1	886
200-210	14	294	20	8	54	5	-	4.06	15.3	63.8	789
210-220	14	336	20	9	54	2	-	4.00	14.2	63.5	499
220-230	14	336	20	9	51	5	-	4.11	15.4	61.1	994
300-310	13	336	20	8	58	2	-	3.82	15.0	59.9	478
580-590	13	505	27	18	54	5	-	2.99	10.8	47.7	1358
590-600*	14	294	27	14	42	7	-	3.10	10.6	47.6	1462
600-610	11	462	27	15	53	5/5	-	3.32	12.3	49.4	1255
610-620	10	462	27	10	53	7	-	3.16	11.1	47.1	832
620-630	11	757	27	10	93	7	-	4.27	14.0	37.4	1950
630-640	12	673	33	10	88	7	-	3.36	11.1	35.2	1545
640-650	12	631	20	9	76	7	-	3.47	12.3	43.4	1297
650-660	10	547	27	8	51	10	-	3.59	12.1	53.8	787
660-670	12	462	20	8	36	7	-	3.74	13.8	53.8	674
670-680	14	505	20	7	34	7	-	3.78	14.2	56.0	510
680-690	13	505	13	8	24	10	-	3.71	16.2	58.8	644
690-700	15	589	<1	8	22	10	-	3.82	14.6	61.4	623
700-710	11	462	27	10	36	10	-	3.58	11.4	55.8	612
710-720	8	631	27	8	42	7	-	4.37	10.3	47.4	472
720-730	9	420	33	8	36	7	-	3.82	9.1	46.3	520
730-740	9	322	69	8	20	5	-	3.40	9.1	47.0	333

RESULTS OF ANALYSES, OF 11 ELEMENTS,

BY VARIOUS METHODS

Hole No. 19

Footage	U_3O_8 [1] (ppm)	Mn [2] (ppm)	V [2] (ppm)	Cs [3] (ppm)	Li [3] (ppm)	Be [3] (ppm)	Se [4] (ppm)	eK [5] (pct)	eU [5] (ppm)	eTh [5] (ppm)	F [6] (ppm)
740-750	15	385/395	20/15	6/6	12/11	5/8	-	-	-	-	340
750-760	18	320	35	6	12	5	-	3.60	12.7	42.6	302
760-770	16	310	20	7	10	8	-	-	-	-	285
770-780	14	340	15	8	9	8	-	3.52	8.9	45.7	268
78-790*	9	589	13	8	7	5	-	2.82	9.9	45.3	171
790-800	15	483	23	8	17	5	-	3.17	10.5	42.2	294
800-810	11	450	20	8	14	8	-	3.37	9.3	41.9	394
810-820	13	405	10	8	14	5	-	3.40	9.2	43.0	615

*CORE

1/ Methods of Analyses: Fluorometric

2/ Atomic Absorption

3/ Flame

4/ Spectro fluorometric

5/ Gamma-Ray Spectroscopy

6/ Specific Ion

SPECTROCHEMICAL ANALYSIS

OF 29 OTHER ELEMENTS ASSOCIATED

WITH THE SPOR MOUNTAIN DRILLING PROJECT

Hole No. 19

Element (ppm)	Footage										
	190-200 (core)	200-210 (core)	210-220 (core)	220-230 (core)	300-310 (core)	392-402 (core)	580-590 (core)	590-600 (core)	600-610 (core)	610-620 (core)	620-630 (core)
Ag	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1
Al	73100	71500	69700	71800	64000	80200	63000	63900	66000	64400	61600
As	140	110	120	110	150	83	90	78	110	100	145
B	47	49	52	52	43	30	50	18	51	50	49
Ba	31	43	64	45	46	23	185	155	185	225	360
Be	17	17	17	17	16	19	17	18	18	17	17
Ca	6650	8570	10700	9060	23000	4480	12300	13900	23800	26100	26600
Co	4	4	4	4	4	3	5	4	6	7	8
Cr	37	47	45	43	39	35	43	35	63	59	52
Cu	6	37	9	6	8	7	5	6	97	15	7
Fe	8720	9920	9800	9190	9510	8480	10500	8670	11900	12700	12700
La	60	57	55	57	53	52	47	32	50	50	48
Li	80	80	75	80	70	80	45	35	60	65	80
Mn	500	490	495	495	520	655	575	285	575	550	855
Mo	18	18	18	19	18	18	12	11	16	16	15
Na	23600	21500	22100	22100	22100	22100	12500	8800	17900	17900	11200
Nb	22	23	26	25	23	29	24	24	25	23	22
Ni	12	10	10	10	12	13	12	10	31	17	15
Pb	76	120	84	78	81	85	65	52	280	145	125
Sb	48	44	43	47	51	41	36	42	44	38	51
Sc	2	2	2	2	4	3	3	3	3	3	3
Sn	1	1	1	2	2	3	7	2	7	2	6
Sr	<100	<100	<100	<100	<100	<100	<100	<100	<100	110	100
Ti	705	730	800	770	635	625	895	780	960	1110	1340
V	4	5	8	5	7	2	14	11	16	21	25
W	94	83	93	92	135	21	70	48	125	130	130
Y	31	28	23	26	22	29	33	25	28	25	24
Zn	155	165	155	145	155	275	155	165	225	125	150
Zr	18	19	18	19	19	74	57	57	48	42	63

SPECTROCHEMICAL ANALYSIS

OF 29 OTHER ELEMENTS ASSOCIATED

WITH THE SPOR MOUNTAIN DRILLING PROJECT

Hole No. 19 (continued)

Element (ppm)	Footage 780-790 (core)	790-800 (core)	1000-1010 (core)	1200-1210 (core)
Ag	<1	<1	<1	<1
Al	76600	59600	74400	70500
As	38	87	135	87
B	28	70	36	34
Ba	135	145	145	135
Be	12	11	13	13
Ca	13900	10800	4120	3980
Co	5	4	6	6
Cr	30	35	37	36
Cu	5	6	7	5
Fe	8910	8350	9810	10600
La	75	62	76	70
Li	10	15	30	45
Mn	650	500	505	485
Mo	10	12	14	15
Na	11200	11900	20800	20800
Nb	27	21	27	25
Ni	9	9	12	12
Pb	51	69	70	64
Sb	33	38	45	40
Sc	2	2	2	2
Sn	1	4	2	2
Sr	<100	<100	<100	<100
Ti	1480	1190	1510	1410
V	7	7	8	8
W	1	95	60	55
Y	39	31	46	43
Zn	175	240	185	125
Zr	115	86	81	84

SPECTROCHEMICAL ANALYSIS

OF 29 OTHER ELEMENTS ASSOCIATED

WITH THE SPOR MOUNTAIN DRILLING PROJECT

Hole No. 19 (continued)

Element (ppm)	Footage										
	630-640 (core)	640-650 (core)	650-660 (core)	660-670 (core)	670-680 (core)	680-690 (core)	690-700 (core)	700-710 (core)	710-720 (core)	720-730 (core)	730-740 (core)
Ag	<1	<1	<1	<1	<1	< 1	< 1	< 1	< 1	< 1	< 1
Al	65500	67000	72100	75400	71300	70200	71400	62800	69000	71100	69800
As	87	125	86	81	93	86	80	120	110	130	96
B	45	50	52	65	66	62	64	69	73	77	72
Ba	305	295	240	180	160	120	115	190	225	220	185
Be	16	16	18	18	17	17	17	16	16	16	14
Ca	36300	28700	20500	16600	16500	13100	11100	11600	14300	13000	13120
Co	8	8	6	6	6	4	5	5	7	7	5
Cr	55	49	53	51	48	48	40	48	49	52	44
Cu	38	17	10	9	7	8	7	10	10	8	9
Fe	12700	11700	11700	11000	10300	9580	9120	10300	11700	11700	10200
La	58	65	75	80	81	77	85	66	74	79	79
Li	90	75	50	45	45	25	20	35	40	35	20
Mn	740	725	655	585	610	605	640	545	740	535	400
Mo	14	16	15	15	15	15	14	14	15	16	14
Na	14500	15200	15900	15200	15200	13800	14500	13800	13000	13000	12500
Nb	23	26	32	32	32	32	32	26	27	27	26
Ni	16	16	14	15	13	10	13	14	14	13	13
Pb	125	145	115	97	97	110	86	100	100	94	73
Sb	41	49	41	43	40	43	44	47	48	50	39
Sc	3	3	3	3	3	2	3	3	4	3	3
Sn	3	5	2	5	5	2	3	10	6	2	5
Sr	120	100	<100	<100	<100	< 100	< 100	< 100	< 100	< 100	< 100
Ti	1340	1250	1120	1110	1070	920	935	1040	1380	1400	1380
V	23	21	17	16	16	10	9	12	19	16	10
W	200	145	200	130	83	86	83	135	130	120	72
Y	24	27	26	28	27	26	28	25	30	34	39
Zn	155	130	190	190	185	140	200	165	150	175	245
Zr	68	66	63	66	61	64	69	64	77	92	105

SPOR MOUNTAIN DRILLING PROJECT

Core Log for Hole No. 19

Logged by: Chuck Beverly | Date: August 30, 1978 | Page: 1 of 2

Footage	Cumulative Footage	Lithology	Color	Texture	Induration/ Welding	Lithic Fragmentation	Matrix	Alteration/ Diagenesis	Stratified Sorted	Remarks
200-210	210	Topaz rhyolite	Gray	Very fine grained	Strong	None	Crystals	Silicified		Gray Topaz Rhyolite--very fine-grained equigranular gray to white topaz rhyolite with crystal matrix. Locally they are altered to clay and quite friable.
392-402	402	Banded rhyolite	Red and Gray	Banded	Strong		Silica, dense	Minor clay; vertical fracture at 401 feet. Black manganese (?) from 398-402 feet		Red Banded Rhyolite--exhibits good flow banding with alternating red and gray (1/8 to 1/4 in.) flow bands and local miarolitic cavities lined with 1/10 in. quartz crystals.
590-600	600	Ash flow tuff	Pink	Medium to coarse	Moderate	Abundant volcanic rock fragments up to 1 in.	Silica and clay. Punky ash	Pink clay; altered pumice (?)	None	Ash Flow Tuff--with abundant volcanic rock fragments to 1 inch; essentially rhyodacite rhyolite and pumice in an ash matrix. A very light, punky

SPOR MOUNTAIN DRILLING PROJECT

Core Log for Hole No. 19

Logged by: Chuck Beverly | Date: August 30, 1978 | Page: 2 of 2

Footage	Cumulative Footage	Lithology	Color	Texture	Induration/ Welding	Lithic Fragmentation	Matrix	Alteration/ Diagenesis	Stratified Sorted	Remarks
										rock with very angular rock fragments.
780-790	790	Rhyolite tuff	Pink Yellow Green	Destroyed by clay alteration	Strong	A few of topaz rhyolite	Clay	Clay and silica		Altered Rhyolite Tuff--varicolored silica and clay flooding has destroyed rhyolite texture. Sharp contact with pink rhyolite at 789 feet.
1000-1010	1010	Banded rhyolite	Pink and Gray	Banded	Strong	A few red rhyolite	Ash (?)	Clay on fractures		Pink Banded Rhyolite--exhibits 1/4 to 1 in. alternating red and yellow-gray flow bands and small 1/16 in. disseminated topaz crystals. Banding appears to be caused by zeolitic alteration.
1200-1210	1210	Pink topaz rhyolite	Pink	Mottled due to zeolitic alteration	Strong	None	Silica	Minor clay and strong zeolitic alteration in miarolitic cavities		Pink Topaz Rhyolite--moderately banded, mottled zeolite altered rhyolite with 1/16 in. topaz crystals throughout; and circular hairlike white zeolite crystals lining most cavities.

APPENDIX B

RESULTS OF ANALYSES, OF 11 ELEMENTS, BY VARIOUS METHODS

Hole No. 20

Footage	U_3O_8 [1] (ppm)	Mn [2] (ppm)	V [2] (ppm)	Cs [3] (ppm)	Li [3] (ppm)	Be [3] (ppm)	Se [4] (ppm)	eK [5] (pct)	eU [5] (ppm)	eTh [5] (ppm)	F [6] (ppm)
410-412*	3	210	33	36	42	2	-	4.35	2.8	22.6	526
420-430	4	483	38	28	33	5	-	4.28	4.4	21.6	406
430-440	4	483	54	26	39	5	-	4.11	4.3	20.3	444
440-450	4	450	25	23	32	5	-	3.99	3.6	21.5	1460
450-460	6	395	50	26	31	5	-	3.89	4.8	23.0	986
460-470	2	315	30	18	25	5	-	3.93	3.5	18.7	573
470-480	4	250	35	20	27	5	-	-	-	-	566
480-490	4	275	25	17	22	2	-	-	-	-	355
490-500	9	420	55	32	127	15	-	-	-	-	2816
500-510	6	305	45	21	36	5	-	4.26	4.7	21.1	629
510-520	7	330	35	21	36	5	-	4.30	4.9	23.1	715
520-530	18	640	30	25	100	20	-	3.56	15.4	44.0	2464
530-540	16	410	25	35	162	20	-	-	-	-	4245
54--550	15	485	25	31	131	15	-	3.72	10.0	49.2	3355
550-560	15	515	30	28	111	22	-	3.67	10.5	42.6	2528
560-570	16	440	30	31	127	20	-	3.84	10.0	48.7	3566
570-580	10	403	69	22	85	10	-	4.12	8.9	31.9	1316

*CORE

1/ Methods of Analyses: Fluorometric

2/ Atomic Absorption

3/ Flame

4/ Spectro fluorometric

5/ Gamma-Ray Spectroscopy

6/ Specific Ion

SPECTROCHEMICAL ANALYSIS

OF 29 OTHER ELEMENTS ASSOCIATED

WITH THE SPOR MOUNTAIN DRILLING PROJECT

Hole No. 20

Element (ppm)	Footage 410-420 (Core)	420-430	430-440	570-580
Ag	<1	<1	<1	<1
Al	75500	60100	6000	57300
As	185	175	120	120
B	49	115	115	99
Ba	705	845	825	670
Be	11	12	11	17
Ca	3290	3700	3330	26100
Co	7	7	6	7
Cr	34	55	56	62
Cu	4	17	6	60
Fe	12600	1330	12300	10800
La	34	29	27	39
Li	35	35	35	80
Mn	255	570	540	385
Mo	12	13	11	12
Na	4850	5600	5300	6200
Nb	9	8	7	21
Ni	11	14	10	14
Pb	55	92	56	150
Sb	50	51	34	47
Sc	3	2	2	2
Sn	1	5	1	5
Sr	<100	<100	<100	< 120
Ti	1340	1190	1150	1030
V	22	26	24	22
W	37	155	120	125
Y	13	13	11	44
Zn	135	220	315	230
Zr	24	26	24	40

APPENDIX B

RESULTS OF ANALYSES, OF 11 ELEMENTS

BY VARIOUS METHODS

Hole No. 20A

Footage	U_3O_8 [1] (ppm)	Mn [2] (ppm)	V [2] (ppm)	Cs [3] (ppm)	Li [3] (ppm)	Be [3] (ppm)	Se [4] (ppm)	eK [5] (pct)	eU [5] (ppm)	eTh [5] (ppm)	F [6] (ppm)
630-640	10	465	45	21	69	15	-	-	-	-	1094
640-650	11	475	25	18	58	15	-	-	-	-	981
650-660	10	410	30	22	66	12	-	-	-	-	1162
660-670	11	450	30	20	62	12	-	-	-	-	1043
670-680	9	375	60	20	52	12	-	-	-	-	845
680-690	8	375	25	20	50	10	-	4.16	7.5	31.9	718
690-700	8	370	25	22	59	12	-	4.61	7.4	33.7	775
700-710	9	420	35	22	63	12	-	4.55	8.4	35.4	522
710-720	9	465	35	22	52	10	-	-	-	-	524

1/ Methods of Analyses: Fluorometric

2/ Atomic Absorption

3/ Flame

4/ Spectro fluorometric

5/ Gamma-Ray Spectroscopy

6/ Specific Ion

APPENDIX B

RESULTS OF ANALYSES, OF 11 ELEMENTS,

BY VARIOUS METHODS

Hole No. 21

Footage	U_3O_8 [1] (ppm)	Mn [2] (ppm)	V [2] (ppm)	Cs [3] (ppm)	Li [3] (ppm)	Be [3] (ppm)	Se [4] (ppm)	eK [5] (pct)	eU [5] (ppm)	eTh [5] (ppm)	F [6] (ppm)
200-210	8	435	25	22	67	10	-	3.58	8.4	12.6	290
400-410	5	385	80	11	22	5	-	2.66	2.66	19.1	

1/ Methods of Analyses: Fluorometric

2/ Atomic Absorption

3/ Flame

4/ Spectro fluorometric

5/ Gamma-Ray Spectroscopy

6/ Specific Ion

APPENDIX B

RESULTS OF ANALYSES, OF 11 ELEMENTS, BY VARIOUS METHODS

Hole No. 22

Footage	U_3O_8 [1] (ppm)	Mn [2] (ppm)	V [2] (ppm)	Cs[3] (ppm)	Li[3] (ppm)	Be[3] (ppm)	Se[4] (ppm)	eK[5] (pct)	eU[5] (ppm)	eTh[5] (ppm)	F[6] (ppm)
340-350	9	242	69	11	59	7	<1	3.29	8.6	32.7	1026
350-360	8	242	62	16	72	7	<1	3.31	10.0	35.2	1284
360-370	8	322	92	15	83	7	<1	3.44	9.7	35.2	1537
370-380	9	322	62	17	83	7	<1	3.26	9.2	34.2	1348
380-390	8	322	15	15	77	7	<1	3.33	10.1	35.5	1269
390-400	9	322	54	14	70	7	<1	3.34	10.0	32.8	1245
400-410	10	282	54	16	85	7	<1	3.16	10.5	34.7	1423
410-420	7	282	54	17	82	7	<1	3.36	10.1	35.3	1471
420-430	8	282	54	15	78	7	<1	3.12	9.0	32.4	1336
430-440	9	282	46	15	77	5	<1	3.32	11.3	37.8	1439
440-450	9	282	46	15	75	5	<1	3.46	10.8	36.0	1345
450-460	10	282	23	15	77	7	<1	3.36	10.5	41.0	1412
460-470	8	322	46	16	75	7	<1	-	-	-	1436
470-480	9	282	15	15	83	5	<1	3.33	11.1	35.7	1330
480-490	8	282	15	16	86	5	<1	3.23	10.6	36.5	1510
490-500	9	282	23	16	89	5	<1	3.23	11.1	37.7	1546
500-510	8	282	38	17	89	7	<1	3.36	10.6	36.2	1498
510-520	10	322	54	16	88	7	<1	3.52	10.8	35.8	1575
520-530	2	322	54	16	89	7	<1	3.36	10.5	39.1	1537
530-540	9	322	46	16	93	7	<1	3.36	10.9	35.4	1663
540-550	8	242	69	16	83	7	<1	3.28	10.1	34.1	1526
550-560	10	201	38	15	96	5	<1	3.73	7.8	28.2	1781
56-570	7	322	15	14	86	5	<1	2.14	5.3	21.2	1808
570-580	5	322	38	13	85	5	<1	2.04	4.3	18.3	2017
580-590	9	322	69	9	63	5	<1	3.19	7.6	28.4	1340
590-600	7	275	44	13	72	5	<1	2.98	7.6	25.7	1573
600-610	8	275	71	17	98	5	<1	3.38	9.0	31.1	1728

RESULTS OF ANALYSES, OF 11 ELEMENTS,

BY VARIOUS METHODS

Hole No. 22

Footage	U_3O_8 [1] (ppm)	Mn [2] (ppm)	V [2] (ppm)	Cs[3] (ppm)	Li[3] (ppm)	Be[3] (ppm)	Se[4] (ppm)	eK[5] (pct)	eU[5] (ppm)	eTh[5] (ppm)	F[6] (ppm)
610-620	7	275	53	22	88	5	<1	3.21	8.1	28.8	1718
620-630	9	275	62	21	121	7	<1	5.39	12.0	39.4	1727
630-640	9	367	53	23	112	7	<1	3.45	10.6	36.0	1637
640-650	10	367	27	23	87	7	<1	3.62	12.3	40.2	1509
650-660	10	367	53	22	98	7	<1	3.54	12.0	37.5	1615
660-670	12	367	27	23	84	7	<1	3.61	12.8	38.9	1598
800-810	5	367	27	19	99	5	<1	3.00	6.0	26.0	2086
810-820	5	321	62	19	63	5	<1	-	-	-	1265
820-830	5	413	53	21	70	5	<1	3.08	5.6	24.9	1260
830-840	5	367	80	22	66	5	<1	3.09	5.5	22.5	1331
840-850	4	367	62	21	62	5	<1	3.05	5.4	25.4	1292
850-860	5	367	44	21	66	5	<1	2.94	5.6	24.2	1284
860-870	5	413	71	22	79	7	<1	3.02	5.6	25.4	1375
870-880	2	413	44	17	73	5	<1	3.15	5.8	24.3	1492
880-890	5	504	80	19	70	5	<1	2.97	5.8	27.4	1425
890-900	7	1375	80	20	73	7	<1	3.00	5.4	25.6	1541
900-910	6	642	62	22	85	7	<1	3.33	6.2	27.4	1661
910-920	5	550	44	22	87	7	<1	3.13	6.2	24.2	1604
920-930	6	504	53	22	87	7	<1	3.14	5.7	22.8	1527
930-940	5	504	53	19	87	7	<1	3.21	5.9	25.0	1458
940-950	5	413	53	22	80	5	<1	3.26	5.9	25.2	1395
950-960	5	367	53	18	80	5	<1	3.25	5.9	25.9	1359
1030-1040	9	367	36	16	77	5	<1	3.45	7.2	29.5	1349
1040-1050	6	275	36	17	70	5	<1	3.35	7.1	31.3	1247
1050-1060	5	275	44	19	76	5	<1	3.23	6.3	27.0	1327
1060-1070	5	275	27	17	82	5	<1	3.29	6.1	27.7	1456

RESULTS OF ANALYSES, OF 11 ELEMENTS,

BY VARIOUS METHODS

Hole No. 22

Footage	U_3O_8[1] (ppm)	Mn[2] (ppm)	V[2] (ppm)	Cs[3] (ppm)	Li[3] (ppm)	Be[3] (ppm)	Se[4] (ppm)	eK[5] (pct)	eU[5] (ppm)	eTh[5] (ppm)	F[6] (ppm)
1070-1080	7	275	53	19	76	5	<1	3.20	6.1	26.9	1302
1080-1090	6	229	18	19	80	5	<1	3.15	6.0	23.9	1474
1090-1100	5	275	36	19	73	5	<1	3.30	6.0	26.0	1234
1100-1110	6	504	53	20	71	7	<1	3.34	5.6	26.3	1289
111-1120	5	367	44	23	80	7	<1	3.44	5.5	27.5	1396

1/ Methods of Analyses: Fluorometric

2/ Atomic Absorption

3/ Flame

4/ Spectro fluorometric

5/ Gamma-Ray Spectroscopy

6/ Specific Ion

SPECTROCHEMICAL ANALYSIS

OF 29 OTHER ELEMENTS ASSOCIATED

WITH THE SPOR MOUNTAIN DRILLING PROJECT

Hole No. 22

Element (ppm)	Footage 340-350	350-360	360-370	370-380	380-390	390-400	400-410	410-420	420-430	430-440	440-450
Ag	3	< 1	1	2	< 1	< 1	< 1	< 1	1	< 1	< 1
Al	39800	51000	49900	50200	51200	52000	41000	48000	47500	46800	47400
As	235	295	310	300	295	310	220	285	293	280	285
B	130	140	140	140	135	170	210	220	210	240	245
Ba	470	320	260	280	310	345	190	270	230	230	230
Be	21	18	18	18	17	18	13	17	17	17	16
Ca	47900	49800	54800	51700	55300	53200	48400	60500	58600	58500	46400
Co	9	7	7	7	6	7	3	6	6	6	5
Cr	33	23	23	22	22	26	14	20	18	19	18
Cu	9	7	7	10	6	7	32	14	7	8	7
Fe	14200	11500	10800	11900	11200	12000	7910	10400	9690	10500	9310
La	30	39	37	36	39	38	30	37	38	40	35
Li	70	85	105	105	75	85	60	85	90	90	85
Mn	380	395	410	415	420	420	325	415	385	405	380
Mo	14	17	18	17	17	17	12	16	17	16	16
Na	22100	21500	25000	22100	22100	22800	16600	20800	21500	22800	22100
Nb	30	28	28	28	28	28	21	26	27	27	26
Ni	20	17	18	21	17	19	16	15	18	16	13
Pb	100	96	100	120	96	105	71	98	94	93	92
Sb	73	84	88	80	77	83	53	74	83	77	83
Sc	1	3	3	3	3	3	2	3	3	3	3
Sn	23	24	27	24	25	24	22	22	24	23	24
Sr	170	120	120	100	110	130	< 100	120	150	140	-100
Ti	1570	1270	1080	1110	1200	1270	783	1050	960	1050	930
V	36	29	26	26	27	29	15	24	22	24	21
W	58	48	70	63	42	57	25	52	70	54	45
Y	12	24	25	22	23	23	19	23	25	23	23
Zn	125	130	105	115	84	260	82	105	150	155	125
Zr	71	67	65	63	66	66	52	63	64	69	63

SPECTROCHEMICAL ANALYSIS

OF 29 OTHER ELEMENTS ASSOCIATED

WITH THE SPOR MOUNTAIN DRILLING PROJECT

Hole No. 22 (continued)

Element (ppm)	Footage 450-460	460-470	470-480	480-490	490-500	500-510	510-520	520-530	530-540	540-550	550-560
Ag	< 1	< 1	1	< 1	< 1	< 1	< 1	< 1	1	< 1	< 1
Al	48000	48500	46300	53900	47500	47900	55800	52300	51000	53000	41500
As	305	305	290	270	245	240	280	265	275	270	230
B	245	260	260	38	40	36	33	32	35	35	20
Ba	290	225	220	215	225	215	220	280	205	255	160
Be	16	17	16	18	17	17	17	16	18	16	15
Ca	48700	50000	46300	68400	49100	51200	51900	47700	50000	49300	77000
Co	5	6	5	6	6	6	5	4	6	6	4
Cr	17	19	17	22	20	20	18	16	21	20	18
Cu	7	7	7	9	6	11	7	9	8	7	9
Fe	9110	10600	9800	11500	10400	10500	9650	8380	10200	9910	8470
La	37	35	34	40	35	33	38	37	37	37	32
Li	85	90	85	110	105	105	105	95	110	95	110
Mn	400	415	370	455	405	435	415	395	455	390	350
Mo	16	17	16	16	16	16	17	16	17	16	14
Na	22800	23600	20800	25000	23600	24300	22800	22100	25000	22100	18600
Nb	27	27	24	32	31	31	31	29	34	31	28
Ni	16	17	14	20	15	18	17	29	19	17	20
Pb	97	99	94	100	100	93	97	89	105	99	85
Sb	84	80	83	79	75	72	83	76	85	81	75
Sc	3	3	3	3	2	2	3	2	2	3	2
Sn	25	22	23	22	21	21	21	20	23	21	23
Sr	100	100	< 100	140	110	100	< 100	< 100	< 100	< 100	130
Ti	855	935	910	970	990	955	900	795	940	980	720
V	19	22	21	23	23	23	20	18	22	22	19
W	57	140	52	4	25	17	6	25	48	16	17
Y	24	24	22	26	18	19	25	23	21	23	23
Zn	115	120	92	145	160	270	115	115	150	115	150
Zr	63	62	58	64	65	65	66	61	69	66	47

SPECTROCHEMICAL ANALYSIS
OF 29 OTHER ELEMENTS ASSOCIATED
WITH THE SPOR MOUNTAIN DRILLING PROJECT

Hole No. 22 (continued)

Element (ppm)	Footage 560-570	570-580	580-590	590-600	600-610	610-620	620-630	630-640	640-650	650-660	660-670
Ag	< 1	< 1	< 1	1	< 1	1	< 1	< 1	1	< 1	< 1
Al	27900	27600	25600	48600	38300	38700	58100	43900	41600	55800	54600
As	160	135	140	255	145	225	335	215	260	320	325
B	17	18	59	51	71	91	99	105	130	105	115
Ba	140	165	425	400	265	335	220	195	235	245	220
Be	14	13	18	16	13	18	19	13	20	18	19
Ca	92400	100000	59100	63700	35700	54100	31700	25200	34500	32500	34400
Co	5	5	8	8	4	7	5	2	6	6	6
Cr	18	18	26	23	15	22	16	11	20	17	16
Cu	9	8	11	9	6	9	9	7	9	7	21
Fe	7640	7090	13200	11900	9070	12000	10300	8010	11300	10700	10500
La	29	26	30	39	25	34	42	29	29	39	38
Li	100	100	70	85	65	105	130	75	105	110	100
Mn	305	315	360	330	295	395	415	310	470	420	420
Mo	11	11	10	16	9	15	20	13	17	19	19
Na	15200	14500	19300	21500	16600	22100	26500	17900	24300	23600	24300
Nb	26	24	31	29	25	36	38	25	38	35	33
Ni	21	20	19	22	13	23	16	13	17	16	17
Pb	73	79	95	98	57	103	120	65	125	105	150
Sb	65	66	44	80	36	73	98	51	85	89	88
Sc	1	1	1	3	1	1	3	2	1	3	3
Sn	17	20	23	23	13	24	25	18	27	27	27
Sr	110	100	180	150	<100	130	120	< 100	120	<100	<100
Ti	610	570	1530	1320	960	1260	905	755	1030	970	895
V	19	18	34	31	20	30	19	14	23	20	18
W	96	73	46	48	21	89	44	2	15	58	55
Y	23	22	13	23	14	18	31	21	17	28	29
Zn	92	135	85	115	73	115	125	65	155	165	145
Zr	35	33	76	67	56	76	71	52	77	69	71

SPECTROCHEMICAL ANALYSIS

OF 29 OTHER ELEMENTS ASSOCIATED

WITH THE SPOR MOUNTAIN DRILLING PROJECT

Hole No. 22 (continued)

Element (ppm)	Footage										
	800-810	810-820	820-830	830-840	840-850	850-860	860-870	970-880	880-890	890-900	900-910
Ag	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1
Al	48500	53400	55700	54300	53900	52800	53600	54300	55200	57100	56700
As	275	320	315	320	315	320	330	330	335	330	355
B	105	185	205	215	220	265	255	265	265	295	300
Ba	405	595	650	655	660	615	630	665	765	650	570
Be	16	17	17	17	17	34	18	18	19	20	19
Ca	40800	38600	33000	29600	27100	27600	27600	28100	34200	34900	34500
Co	7	9	9	10	9	11	10	10	14	12	11
Cr	21	37	37	35	36	41	39	36	44	45	39
Cu	5	9	6	6	8	10	8	7	8	7	8
Fe	11100	15800	15600	15700	15700	42600	16000	15800	17700	18700	15700
La	37	39	47	47	47	34	47	47	47	49	47
Li	110	70	80	75	65	70	80	75	80	80	90
Mn	360	430	400	385	380	485	430	490	1410	695	515
Mo	16	18	18	19	17	20	18	18	20	20	20
Na	20800	20100	20800	22100	20100	21500	21500	20800	22800	22100	22100
Nb	33	31	32	33	32	30	35	33	36	39	38
Ni	18	20	23	21	21	26	22	21	24	21	22
Pb	125	110	110	110	120	135	105	105	130	140	115
Sb	80	84	88	98	82	89	90	86	97	87	95
Sc	3	4	4	4	4	4	4	4	5	5	5
Sn	25	30	30	28	27	38	31	27	34	26	33
Sr	110	< 100	< 100	< 100	< 100	< 100	< 100	< 100	< 100	< 100	< 100
Ti	1210	1830	1940	1850	1910	1780	1930	1890	2150	2330	1970
V	29	44	45	45	45	49	45	46	57	59	47
W	60	83	49	78	55	32	82	63	22	90	98
Y	28	25	27	30	28	29	32	31	30	31	33
Zn	78	91	93	92	87	980	87	96	92	105	92
Zr	62	63	73	71	71	69	77	74	74	82	86

SPECTROCHEMICAL ANALYSIS

OF 29 OTHER ELEMENTS ASSOCIATED

WITH THE SPOR MOUNTAIN DRILLING PROJECT

Hole No. 22 (continued)

Element (ppm)	Footage									
	910-920	920-930	930-940	940-950	950-960	1030-1040	1040-1050	1050-1060	1060-1070	1070-1080
Ag	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1
Al	52700	56100	55700	59000	57300	54500	59600	55300	59700	57200
As	285	315	335	330	330	320	315	325	335	330
B	530	350	285	280	285	290	295	320	315	310
Ba	530	575	550	635	635	510	565	545	580	555
Be	17	18	18	18	18	18	18	18	19	18
Ca	32400	36800	31900	30200	28500	28200	43000	39200	39400	38700
Co	10	11	10	9	10	9	9	10	10	10
Cr	36	40	38	36	38	30	35	35	37	32
Cu	7	8	9	10	10	8	10	9	9	10
Fe	14300	14900	14900	15400	15400	14500	15500	15200	15700	14900
La	42	46	45	47	46	43	49	46	49	49
Li	90	95	95	85	85	80	75	73	90	80
Mn	430	435	395	425	415	310	350	335	345	335
Mo	16	18	18	18	18	17	18	19	20	18
Na	22100	21300	22800	22100	22800	21500	22100	22100	22100	21500
Nb	34	37	37	36	36	36	35	34	38	33
Ni	21	24	22	21	23	20	21	21	20	20
Pb	91	105	115	110	110	97	110	105	120	120
Sb	83	84	87	86	90	86	88	86	96	89
Sc	4	4	4	4	4	4	4	4	4	4
Sn	24	30	32	33	29	27	29	26	31	34
Sr	< 100	< 100	< 100	< 100	< 100	< 100	< 100	< 100	< 100	< 100
Ti	1840	1990	1990	1950	2030	1890	1930	1920	1920	1850
V	43	46	45	45	46	40	44	44	44	42
W	1	9	22	22	32	4	9	29	68	18
Y	28	20	31	33	31	29	31	30	36	33
Zn	92	91	84	89	135	110	110	91	38	85
Zr	78	86	80	83	84	90	88	81	87	81

SPECTROCHEMICAL ANALYSIS

OF 29 OTHER ELEMENTS ASSOCIATED

WITH THE SPOR MOUNTAIN DRILLING PROJECT

Hole No. 22 (continued)

Element (ppm)	Footage 1080-1090	1090-1100	1100-1110	1110-1120
Ag	< 1	< 1	< 1	< 1
Al	54800	54000	54900	59200
As	290	305	325	365
B	380	410	430	445
Ba	540	535	570	590
Be	17	17	17	21
Ca	32400	28000	24100	28800
Co	8	8	8	10
Cr	33	34	32	43
Cu	12	9	10	11
Fe	14600	14500	14000	17300
La	45	44	42	50
Li	85	75	70	85
Mn	285	275	450	350
Mo	18	17	17	18
Na	22100	20100	17900	22100
Nb	33	31	30	40
Ni	21	20	17	24
Pb	106	97	130	124
Sb	81	82	80	96
Sc	4	4	3	4
Sn	28	30	27	34
Sr	< 100	< 100	< 100	< 100
Ti	1790	1730	1670	1990
V	41	39	38	47
W	17	42	7	41
Y	34	33	34	38
Zn	92	89	87	105
Zr	74	72	70	83

APPENDIX B

RESULTS OF ANALYSES, OF 11 ELEMENTS,

BY VARIOUS METHODS

Hole No. 23

Footage	U_3O_8 [1] (ppm)	Mn [2] (ppm)	V [2] (ppm)	Cs[3] (ppm)	Li[3] (ppm)	Be[3] (ppm)	Se[4] (ppm)	eK[5] (pct)	eU[5] (ppm)	eTh[5] (ppm)	F[6] (ppm)
1012-1015	4	455	74	10	22	1	<1	2.37	3	26	880
1015-1020	3	457	95	5	22	2	<1	0.80	3	21	976
1020-1025	5	361	104	5	23	4	<1	0.89	4	22	968
1025-1030	3	275	90	5	21	2	<1	-	-	-	880
1030-1035	4	328	95	5	22	2	<1	-	-	-	880
1035-1040	4	495	89	10	24	3	<1	-	-	-	960
1040-1045	4	602	71	10	22	2	<1	-	-	-	936
1045-1050	3	719	65	10	22	3	<1	-	-	-	960
1050-1055	3	514	100	10	16	2	<1	-	-	-	724
1055-1060	4	568	87	10	16	2	<1	-	-	-	744
1060-1065	5	459	108	5	21	3	<1	-	-	-	776
1065-1070	4	465	102	5	24	2	<1	-	-	-	976
1070-1075	5	486	104	5	30	3	<1	-	-	-	880
1075-1080	5	517	96	5	20	2	<1	-	-	-	864
1080-1085	5	565	104	5	21	2	<1	-	-	-	840
1085-1090	7	289	96	5	22	3	-	-	-	-	896
1090-1095	14	473	86	10	20	6	-	-	-	-	1136
1095-1100	13	438	79	10	25	4	-	-	-	-	1288
1100-1105	12	281	84	10	24	5	-	1.69	9	56	1192
1105-1110	24	240	78	10	23	6	-	1.81	9	44	1144
1110-1115	5	231	80	5	28	4	-	0.56	8	29	592
1115-1117	6	220	75	5	82	4	-	0.59	6	31	720
1145-1150	4	472	64	12	21	4	-	1.95	6	27	832
1150-1155	5	1037	75	11	20	3	-	2.41	4	19	656
1155-1160	5	566	84	9	24	3	-	1.61	8	20	760
1160-1165	37	712	107	8	22	4	-	1.78	8	27	744
1165-1170	8	498	93	11	23	4	-	1.68	7	21	728

RESULTS OF ANALYSES, OF 11 ELEMENTS,

BY VARIOUS METHODS

Hole No. 23

Footage	U_3O_8 [1] (ppm)	Mn [2] (ppm)	V [2] (ppm)	Cs[3] (ppm)	Li[3] (ppm)	Be[3] (ppm)	Se[4] (ppm)	eK[5] (pct)	eU[5] (ppm)	eTh[5] (ppm)	F[6] (ppm)
1170-1175	7	553	61	18	26	5	-	1.88	9	55	1080
1175-1180	13	280	71	11	22	7	-	3.26	13	59	1064
1180-1185	15	295	59	11	24	4	-	2.70	12	58	1068
1185-1190	12	196	55	12	24	5	-	2.31	13	53	1056
1190-1195	14	318	60	9	23	5	-	2.97	12	54	1056
1195-1200	13	407	58	12	20	5	-	3.07	10	53	1024
1200-1205	17	292	58	12	24	5	-	1.95	10	52	1200
1205-1210	11	389	56	11	24	6	-	2.48	10	52	1040
1210-1215	12	395	68	11	27	5	-	2.28	12	56	1120
1215-1220	12	458	71	15	27	6	-	2.02	12	59	1048
1220-1225	8	380	78	12	23	6	-	2.40	13	63	1112
1225-1230	10	478	70	12	22	6	-	2.45	8	53	896
1230-1235	14	814	64	12	16	4	-	3.39	10	25	456
1235-1237	10	286	66	11	16	4	-	3.88	7	23	520
1237-1240	6	378	32	14	14	4	-	5.43	6	25	408
1240-1245	7	322	28	11	15	3	-	5.49	5	27	424
1245-1250	5	545	41	10	14	3	-	5.63	8	20	576
1250-1255	3	360	32	10	14	3	<1	5.10	5	26	472
1255-1260	6	514	30	10	14	3	<1	5.06	5	24	456
1260-1265	11	981	96	10	14	2	<1	3.82	7	24	720
1265-1270	20	499	72	12	16	3	<1	4.05	5	23	552
1270-1275	8	490	66	13	41	3	<1	4.71	7	27	456
1275-1280	13	264	48	11	18	1	<1	3.40	11	28	576
1280-1285	7	363	36	13	15	2	<1	4.26	7	25	460

RESULTS OF ANALYSES, OF 11 ELEMENTS,

BY VARIOUS METHODS

Hole No. 23

Footage	U_3O_8 [1] (ppm)	Mn [2] (ppm)	V [2] (ppm)	Cs [3] (ppm)	Li [3] (ppm)	Be [3] (ppm)	Se [4] (ppm)	eK [5] (pct)	eU [5] (ppm)	eTh [5] (ppm)	F [6] (ppm)
1285-1290	8	368	46	12	24	2	<1	3.17	5	26	584
1290-1295	9	575	86	13	25	3	<1	2.41	8	33	640
1295-1300	5	454	58	13	16	4	<1	4.28	5	31	496
1300-1305	4	335	42	11	13	3	<1	7.43	8	34	576
1305-1309	3	528	47	12	14	3	<1	7.25	6	32	584

1/ Methods of Analyses: Fluorometric

2/ Atomic Absorption

3/ Flame

4/ Spectro fluorometric

5/ Gamma-Ray Spectroscopy

6/ Specific Ion

SPECTROCHEMICAL ANALYSIS

OF 29 OTHER ELEMENTS ASSOCIATED

WITH THE SPOR MOUNTAIN DRILLING PROJECT

Hole No. 23

Element (ppm)	Footage								
	1012-1015	1015-1025	1020-1025	1025-1030	1030-1035	1035-1040	1040-1045	1045-1050	1050-1055
Ag	<.5	<.5	<.5	<.5	<.5	<.5	<.5	<.5	<.5
Al	7.	5.	7.	5.	7.	6.	6.	7.	7.
As	<200	<200	<200	<200	<200	<200	<200	<200	<200
B	10	10	10	10	10	10	10	10	10
Ba	700	700	700	700	700	700	1500	1500	700
Be	15	15	15	15	15	15	15	15	10
Ca	3.	3.	3.	3.	3.	3.	3.	3.	3.
Co	10	10	15	15	15	10	10	10	10
Cr	100	100	100	100	150	100	150	150	100
Cu	15	30	20	20	20	15	15	15	15
Fe	2.	3.	2.	2.	3.	2.	3.	3.	2.
La	150	150	150	150	150	150	150	150	100
Li	<100	<100	<100	<100	<100	<100	<100	<100	<100
Mn	300	300	300	200	200	300	500	700	200
Mo	<10	<10	<10	<10	<10	<10	<10	<10	<10
Na	1.5	1.5	1.5	1.	2.	1.5	2.	2.	2.
Nb	20	20	10	10	20	10	20	20	10
Ni	20	30	20	30	20	30	30	20	20
Pb	50	50	50	50	50	50	70	70	30
Sb	<100	<100	<100	<100	<100	<100	<100	<100	<100
Sc	10	10	10	10	15	10	10	10	10
Sn	<10	<10	<10	<10	<10	<10	<10	<10	<10
Sr	500	700	700	500	700	700	700	500	500
Ti	.2	.3	.2	.2	.3	.2	.2	.3	.2
V	15	20	15	20	30	20	20	20	15
W	<100	<100	<100	<100	<100	<100	<100	<100	<100
Y	10	10	10	10	10	10	10	10	10
Zn	<200	<200	<200	<200	<200	<200	<200	<200	<200
Zr	300	300	200	300	500	300	300	300	100

SPECTROCHEMICAL ANALYSIS

OF 29 OTHER ELEMENTS ASSOCIATED

WITH THE SPOR MOUNTAIN DRILLING PROJECT

Hole No. 23 (continued)

Element (ppm)	Footage 1055-1060	1060-1065	1065-1070	1070-1075	1075-1080	1080-1085	1085-1090	1090-1095	1095-1100
Ag	<.5	<.5	<.5	<.5	<.5	<.5	<.5	<.5	<.5
Al	7.	7.	7.	7.	7.	7.	7.	7.	7.
As	<200	<200	<200	<200	<200	<200	<200	<200	<200
B	10	10	10	10	10	10	10	10	10
Ba	700	500	500	700	700	700	500	700	700
Be	15	15	15	15	10	15	15	30	20
Ca	5.	5.	5.	5.	5.	5.	1.5	2.	2.
Co	15	10	15	15	15	10	10	5	10
Cr	150	100	150	70	150	150	100	70	100
Cu	20	20	20	20	20	20	20	15	20
Fe	3.	2.	3.	3.	3.	3.	3.	1.5	1.5
La	150	150	150	150	150	150	100	300	200
Li	<100	<100	<100	<100	<100	<100	<100	<100	<100
Mn	300	300	300	300	300	500	200	300	300
Mo	<10	<10	<10	<10	<10	<10	<10	-10	-10
Na	2.	2.	2.	1.	2.	2.	1.	1.5	2.
Nb	10	10	10	10	10	10	10	10	10
Ni	30	30	30	30	30	30	30	20	20
Pb	50	50	50	50	50	50	30	50	70
Sb	<100	<100	<100	<100	<100	<100	<100	<100	<100
Sc	10	15	15	15	15	15	10	10	10
Sn	<10	<10	<10	<10	<10	<10	<10	<10	<10
Sr	700	700	700	700	700	700	500	700	700
Ti	.3	.3	.3	.3	.2	.2	.2	.2	.2
V	20	20	20	20	20	20	20	20	20
W	<100	<100	<100	<100	<100	<100	<100	<100	<100
Y	10	10	20	20	10	10	10	10	10
Zn	<200	<200	<200	<200	<200	<200	<200	<200	<200
Zr	200	200	300	500	300	200	200	300	300

SPECTROCHEMICAL ANALYSIS

OF 29 OTHER ELEMENTS ASSOCIATED

WITH THE SPOR MOUNTAIN DRILLING PROJECT

Hole No. 23 (continued)

Element (ppm)	Footage								
	1100-1105	1105-1110	1110-1115	1115-1117	1145-1150	1150-1155	1155-1160	1160-1165	1165-1170
Ag	<.5	<.5	<.5	<.5	<.5	<.5	<.5	<.5	<.5
Al	7.	7.	7.	7.	7.	7.	7.	7.	7.
As	<200	<200	<200	<200	< 200	<200	<200	<200	<200
B	10	10	10	10	10	10	10	10	10
Ba	1500	700	700	700	700	700	700	700	700
Be	30	20	15	20	15	10	15	10	10
Ca	2.	1.5	3.	5.	2.	2.	5.	3.	5.
Co	10	10	10	15	5	5	10	15	15
Cr	100	70	50	100	70	50	100	100	150
Cu	20	20	20	30	15	10	15	20	30
Fe	2.	1.5	2.	3.	2.	1.5	2.	2.	5.
La	300	200	200	200	200	100	150	150	200
Li	<100	<100	<100	<100	<100	<100	<100	<100	<100
Mn	200	100	100	100	300	700	500	500	500
Mo	<10	<10	<10	<10	<10	<10	<10	<10	<10
Na	2.	1.5	1.5	2.	2.	1.5	1.5	2.	2.
Nb	20	20	20	20	20	10	10	10	10
Ni	30	30	20	30	15	10	20	30	50
Pb	70	70	50	70	50	70	30	30	30
Sb	<100	<100	<100	<100	<100	<100	<100	< 100	<100
Sc	10	10	10	10	10	5	10	15	20
Sn	<10	<10	<10	<10	<10	< 10	<10	<10	<10
Sr	700	500	700	1000	700	300	700	700	700
Ti	.2	.2	3.	.3	.3	.15	2.	.3	.3
V	20	20	20	20	20	15	20	30	30
W	<100	< 100	<100	<100	<100	<100	<100	<100	<100
Y	20	10	20	20	20	10	10	10	20
Zn	<200	<200	<200	<200	<200	<200	<200	<200	<200
Zr	300	300	500	500	300	100	100	200	300

SPECTROCHEMICAL ANALYSIS
OF 29 OTHER ELEMENTS ASSOCIATED
WITH THE SPOR MOUNTAIN DRILLING PROJECT

Hole No. 23 (continued)

Element (ppm)	Footage 1170-1175	1175-1180	1180-1185	1185-1190	1190-1195	1195-1200	1200-1205	1205-1210	1210-1215
Ag	<.5	<.5	<.5	<.5	<.5	<.5	<.5	<.5	<.5
Al	7.	7.	<7.	7.	7.	7.	7.	6.	7.
As	<200	<200	<200	<200	<200	<200	< 200	<200	<200
B	10	10	<10	10	10	10	10	10	10
Ba	700	700	700	700	700	1000	700	700	700
Be	30	30	30	20	30	30	30	20	20
Ca	3.	3.	3.	3.	2.	2.	3.	2.	2.
Co	10	10	5	10	10	10	10	10	10
Cr	50	100	70	100	70	100	100	70	70
Cu	15	30	30	20	20	20	30	20	20
Fe	1.5	2.	1.5	2.	2.	2.	2.	2.	2.
La	150	150	150	200	150	150	200	150	150
Li	<100	<100	<100	<100	<100	<100	<100	<100	<100
Mn	500	200	200	100	200	300	100	100	200
Mo	<10	10	<10	<10	10	<10	<10	<10	<10
Na	1.	2.	2.	1.5	1.5	2.	2.	1.5	1.5
Nb	10	20	10	20	20	20	20	20	20
Ni	20	30	20	30	30	30	30	30	30
Pb	50	70	70	70	70	70	70	70	70
Sb	<100	<100	<100	<100	<100	<100	<100	<100	<100
Sc	5	10	10	10	10	10	10	10	10
Sn	<10	<10	<10	<10	<10	<10	<10	<10	<10
Sr	700	500	700	700	500	700	700	700	500
Ti	.2	.3	.3	.2	.2	.2	.3	.2	.3
V	20	20	15	20	15	20	20	15	20
W	<100	<100	<100	<100	<100	<100	<100	<100	<100
Y	10	10	20	10	10	10	10	10	10
Zn	<200	<200	<200	<200	<200	<200	<200	<200	<200
Zr	300	300	700	300	300	300	300	300	700

SPECTROCHEMICAL ANALYSIS

OF 29 OTHER ELEMENTS ASSOCIATED

WITH THE SPOR MOUNTAIN DRILLING PROJECT

Hole No. 23 (continued)

Element (ppm)	Footage 1215-1220	1220-1225	1225-1230	1230-1235	1235-1237	1237-1240	1240-1245	1245-1250	1250-1255
Ag	<.5	<.5	<.5	<.5	<.5	<.5	<.5	<.5	<.5
Al	7.	7.	6.	6.	7.	7.	6.	4	5.
As	<200	<200	<200	<200	<200	<200	<200	<200	<200
B	10	10	10	10	10	10	10	10	10
Ba	1000	1000	700	700	1500	700	700	500	500
Be	20	30	15	15	20	15	20	15	15
Ca	2.	3.	2.	2.	3.	.5	.7	.3	.5
Co	10	10	10	10	10	5	<10	<10	<10
Cr	70	100	30	30	50	50	100	200	20
Cu	20	20	15	15	15	10	10	<10	<10
Fe	2.	2.	2.	2.	2.	1.	1.	1.	1.
La	150	200	150	150	200	100	150	100	100
Li	<100	<100	<100	<100	<100	<100	<100	<100	<100
Mn	500	200	500	500	200	200	100	300	300
Mo	<10	<10	<10	<10	<10	<10	<10	<10	<10
Na	1.5	2.	2.	2.	2.	2.	2.	1.5	1.5
Nb	20	20	20	20	10	10	10	10	<20
Ni	30	30	10	10	10	<10	<10	<10	<10
Pb	70	70	80	70	70	70	70	70	70
Sb	<100	<100	<100	<100	<100	<100	<100	<100	<100
Sc	10	10	5	5	10	<10	<10	<10	<10
Sn	<10	<10	<10	10	<10	<10	<10	<10	<10
Sr	700	700	700	700	700	300	300	100	100
Ti	.2	.3	.3	.3	.3	.2	.15	.15	.15
V	20	20	15	15	20	15	10	10	10
W	<100	<100	<100	<100	<100	<100	<100	<100	<100
Y	10	20	10	10	20	10	10	10	10
Zn	<200	<200	<200	<200	<200	<200	<200	<200	<200
Zr	200	300	500	500	300	100	200	50	50

SPECTROCHEMICAL ANALYSIS

OF 29 OTHER ELEMENTS ASSOCIATED

WITH THE SPOR MOUNTAIN DRILLING PROJECT

Hole No. 23 (continued)

Element (ppm)	Footage 1255-1260	1260-1265	1265-1270	1270-1275	1275-1280	1280-1285	1285-1290	1290-1295	1295-1300
Ag	<.5	<.5	<.5	<.5	.5	<.5	<.5	<.5	<.5
Al	6.	6.	7.	7.	6.	5.	7.	5.	5.
As	<200	<200	<200	<200	200	<200	<200	<200	<200
B	<10	10	10	<10	10	10	10	10	10
Ba	500	700	700	700	700	700	700	500	700
Be	15	15	15	15	15	15	15	15	15
Ca	.5	.5	2.	.7	1.	1.5	2.	2.	1.
Co	<10	15	15	5	10	5	5	5	10
Cr	20	70	70	50	20	30	50	50	30
Cu	<10	20	15	7	7	7	10	15	15
Fe	1.	2.	2.	1.5	1.	1.5	1.5	1.5	1.5
La	100	150	100	100	150	100	200	150	150
Li	<100	<100	<100	<100	<100	<100	<100	<100	<100
Mn	300	700	500	300	100	300	200	500	300
Mo	5	<10	<10	<10	5	5	5	<10	<10
Na	1.5	1.5	2.	2.	1.	.1	2.	1.	1.5
Nb	10	10	10	10	10	10	30	10	10
Ni	15	30	30	7	15	20	15	15	10
Pb	70	30	50	70	50	30	50	30	50
Sb	<100	<100	<100	<100	<100	<100	<100	< 100	<100
Sc	<10	15	10	5	5	5	10	10	5
Sn	<10	<10	<10	<10	10	<10	<10	<10	<10
Sr	200	700	300	300	500	300	700	700	500
Ti	.15	.3	.2	.2	.2	.2	.3	.2	.3
V	10	20	20	20	15	20	20	20	20
W	70	<100	<100	<100	<100	50	<100	<100	<100
Y	10	10	10	10	10	10	20	20	10
Zn	<200	<200	<200	<200	<200	<200	<200	<200	<200
Zr	50	100	100	200	200	200	300	200	200

SPECTROCHEMICAL ANALYSIS

OF 29 OTHER ELEMENTS ASSOCIATED

WITH THE SPOR MOUNTAIN DRILLING PROJECT

Hole No. 23 (continued)

Element (ppm)	Footage 1300-1305	1305-1309
Ag	<.5	<.5
Al	7.	6.
As	<200	<200
B	10	10
Ba	700	700
Be	15	15
Ca	1.	1.
Co	5	5
Cr	20	20
Cu	15	15
Fe	1.5	1.5
La	150	150
Li	<100	<100
Mn	100	300
Mo	5	10
Na	1.5	1/
Nb	10	10
Ni	15	7
Pb	30	30
Sb	<100	<100
Sc	5	5
Sn	<10	<10
Sr	500	300
Ti	.2	.3
V	15	20
W	50	<100
Y	10	10
Zn	<200	<200
Zr	300	300

SPOR MOUNTAIN DRILLING PROJECT

Core Log for Hole No. 23

Logged by: Chuck Beverly | Date: October 12, 1978 | Page: 1 of 4

Footage	Cumulative Footage	Lithology	Color	Texture	Induration/ Welding	Lithic Fragmentation	Matrix	Alteration/ Diagenesis	Stratified Sorted	Remarks
0-800		Rotary drilled	Red-Gray		Strong	None	Ash (?)	Clay-hematite.		Red-gray Rhyolite--equigranular fine-grained topaz-quartz-biotite rhyolite.
800-965	965	Rhyodacite breccia	Black and Red	Eutaxitic equigranular	Strong	A few volcanic fragments in fluidized breccia	Crystals	Chlorite, epidote replaces mafics.		Brecciated Rhyodacite--abundant plagioclase (labradorite?)-augite rhyodacite, black to gray with oxidized mafics and disseminated epidote replacing plagioclase and filling vugs and fractures. Brecciation is a crackle type, locally with invading red rhyolite rhyodacite cutting the black rhyodacite, exhibiting an intrusive nature which locally suggests a fluidization origin. A 2 to 10 in. dike of younger Topaz Mountain Rhyolite (?) cuts the black rhyodacite at 894-897 feet. This topaz rhyolite contains biotite and appears to be younger.
965-975		Topaz rhyolite dike	Pink and White	Red fine-grained	Moderate to strong	None	Crystals	Clay and epidote.	----	Topaz Rhyolite (?) Dike--friable, altered rhyolite with abundant topaz, quartz crystal and clay altered plagioclase, along with oxidized mafics. Dike may be monzonite (?).

SPOR MOUNTAIN DRILLING PROJECT

Core Log for Hole No. 23

Logged by: Charles Beverly

Date: October 12, 1978

Footage	Cumulative Footage	Lithology	Color	Texture	Induration/ Welding	Lithic Fragmentation	Matrix	Alteration/ Diagenesis	Stratified Sorted	Remarks
975-995		Red rhyodacite	Red and Black	Felted	Strong	Abundant volcanic fragments	Silica and hematite	Quartz crystals on fractures. Hematite silica, epidote.		Red Rhyodacite--with abundant lithic fragments, minor quartz veinlets, with 1/8 in. crystals and 1-3% disseminated epidote.
995-1014		Topaz rhyolite dike as above								Topaz Mountain Rhyolite (?) Dike--same as above with the exception of an 8 in. fragment of black rhyodacite breccia at 1210 feet that appears to have been misplaced by drillers. Rhyolite may be monzonite (?).
1014-1117		Older lithic tuff	Pink	Medium-coarse	Moderate	Abundant volcanic rock fragments	Ash	5-8% epidote disseminated throughout. Emerald-green in color.	Non-sorted	Older Lithic Tuff--typical of what was cut in Hole #1. Pink lithic-rich tuff with abundant 1/8 to 1 in. volcanic fragments of rhyolite, rhyodacite and other nondescript lithics. Typically non-fractured, similar to younger tuffs in that regard. Ash flow origin.

SPOR MOUNTAIN DRILLING PROJECT

Core Log for Hole No. 23

Logged by: Charles Beverly

Date: October 12, 1978

Footage	Cumulative Footage	Lithology	Color	Texture	Induration/ Welding	Lithic Fragmentation	Matrix	Alteration/ Diagenesis	Stratified Sorted	Remarks
1014-1117		Older lithic tuff							Sorted at base	This tuff contains abundant round and angular fine-grained monzonite fragments of biotite rhyolite (?) from 1090 feet, along with red rhyolite fragments. Sorting at or near the base of this tuff suggests base surge origin rather than water. The rhyolite (?) fragments may, in fact, be monzonite rather than topaz rhyolite, as most crystals in the fragments are quartz, not topaz.
1117-1145		Rhyodacite	Black and Red	Medium	Strong	None		Quartz veinlets 1/8 to 1/2 in., scattered hematite epidote (?) disseminated throughout. Epidote 1-2% clay and hematite.		Black Rhyodacite--same as above with local zones of brecciation and increases in disseminated hematite and epidote.
1145-1237		Older lithic tuff				Abundant lithics; at least 7 different		Clay alteration of plagioclase.		Older Pink Tuff (?)--alteration most prominent as pink clots 1/4 in. monzonite (?) dispersed throughout. Tuff could be altered monzonite (?).

Core Log for Hole No. 23

Logged by: Charles Beverly | Date: October 12, 1978 |

Footage	Cumulative Footage	Lithology	Color	Texture	Induration/ Welding	Lithic Fragmentation	Matrix	Alteration/ Diagenesis	Stratified Sorted	Remarks
						types up to 1 foot				
1260-1309		Older lithic tuff with other tuff intervals	Red	Coarse	Moderate	Abundant	Ash and crystals	Abundant hematite.		Older Lithic Tuff--with older pink tuff from 1268-1279 feet, and at 1294 and 1309 feet.
1309-1340 T.D.		Red rhyodacite flow breccia	Red	Felted flow-banded plagioclase				High angle quartz-filled veinlets 1/4 in. throughout.		Red Rhyodacite Flow Breccia--locally is cut by or interlayered with 1 in. breccia dikes that contain abundant rounded fragments of red rhyodacite and a crystal mush of quartz, plagioclase and rock fragments.

APPENDIX B

RESULTS OF ANALYSES, OF 11 ELEMENTS, BY VARIOUS METHODS

Hole No. 24

Footage	U_3O_8[1] (ppm)	Mn[2] (ppm)	V[2] (ppm)	Cs[3] (ppm)	Li[3] (ppm)	Be[3] (ppm)	Se[4] (ppm)	eK[5] (pct)	eU[5] (ppm)	eTh[5] (ppm)	F[6] (ppm)
120-130	12	550	44	36	143	12	<1	2.78	14.3	26.6	1668
130-140	9	550	27	77	70	10	<1	2.93	12.0	15.2	1147

1/ Methods of Analyses: Fluorometric

2/ Atomic Absorption

3/ Flame

4/ Spectro fluorometric

5/ Gamma-Ray Spectroscopy

6/ Specific Ion

SPECTROCHEMICAL ANALYSIS

OF 29 OTHER ELEMENTS ASSOCIATED

WITH THE SPOR MOUNTAIN DRILLING PROJECT

Hole No. 24

Element (ppm)	Footage 120-130	130-140
Ag	<1	<1
Al	49000	48500
As	295	250
B	385	375
Ba	350	450
Be	25	24
Ca	66700	70400
Co	8	14
Cr	34	51
Cu	6	7
Fe	13100	20000
La	32	39
Li	120	60
Mn	510	570
Mo	15	15
Na	13000	5600
Nb	38	30
Ni	19	27
Pb	110	95
Sb	81	69
Sc	4	6
Sn	25	24
Sr	<100	<100
Ti	1590	2460
V	32	64
W	41	44
Y	39	25
Zn	79	100
Zr	73	89

APPENDIX B

RESULTS OF ANALYSES, OF 11 ELEMENTS,

BY VARIOUS METHODS

Hole No. 25

Footage	U_3O_8 [1] (ppm)	Mn [2] (ppm)	V [2] (ppm)	Cs[3] (ppm)	Li[3] (ppm)	Be[3] (ppm)	Se[4] (ppm)	eK[5] (pct)	eU[5] (ppm)	eTh[5] (ppm)	F[6] (ppm)
86-96*	5	368	57	8	23	5	<1	2.52	4.7	21.1	570
170-180*	10	230	114	10	77	5	<1	1.97	9.5	47.4	808
290-300*	11	460	124	7	50	5	<1	2.83	10.2	39.7	564
430-440*	23	643	162	6	33	2	<1	4.29	6.3	22.5	387
560-570*	24	689	143	5	75	2	<1	2.46	25.3	17.5	392
770-780*	13	505	143	7	124	2	<1	2.38	14.4	16.6	263
970-980*	5	597	114	5	46	2	<1	3.11	5.5	16.7	385

*CORE

1/ Methods of Analyses: Fluorometric

2/ Atomic Absorption

3/ Flame

4/ Spectro fluorometric

5/ Gamma-Ray Spectroscopy

6/ Specific Ion

SPECTROCHEMICAL ANALYSIS

OF 29 OTHER ELEMENTS ASSOCIATED

WITH THE SPOR MOUNTAIN DRILLING PROJECT

Hole No. 25 (Spot Core)

Element (ppm)	Footage 86-96	170-180	290-300	430-440	560-570	770-780	970-980
Ag	<1	<1	<1	<1	<1	<1	<1
Al	37900	45700	55500	35800	60100	44400	42400
As	190	270	345	205	375	250	250
B	<1	<1	<1	<1	<1	<1	<1
Ba	265	510	1100	515	1100	705	660
Be	14	34	33	36	44	34	39
Ca	4500	11200	24900	9250	31900	17400	13500
Co	6	23	24	28	33	26	25
Cr	8	105	94	82	105	135	115
Cu	5	33	16	23	11	6	8
Fe	10700	28000	26800	31000	37600	28800	33700
La	9	41	59	16	53	26	26
Li	<10	30	35	<10	60	60	25
Mn	205	173	400	1370	665	345	475
Mo	11	16	21	14	24	16	17
Na	5000	8300	13000	5000	13800	10600	11900
Nb	10	35	31	39	39	29	23
Ni	7	42	38	51	46	51	48
Pb	47	75	84	61	92	72	78
Sb	18	39	52	28	64	43	43
Sc	2	5	7	4	11	6	7
Sn	15	26	35	27	39	26	26
Sr	<100	<100	130	<100	160	<100	<100
Ti	1290	3610	3310	4500	4450	3730	3200
V	22	85	88	110	125	100	85
W	27	40	97	25	94	38	50
Y	6	12	14	7	16	11	13
Zn	98	120	165	115	195	110	110
Zr	21	81	77	77	79	140	125

SPOR MOUNTAIN DRILLING PROJECT

Core Log for Hole No. 25

Logged by: Chuck Beverly | Date: October 12, 1978 | Page: 1 of 2

Footage	Cumulative Footage	Lithology	Color	Texture	Induration/ Welding	Lithic Fragmentation	Matrix	Alteration/ Diagenesis	Stratified Sorted	Remarks
86-96 (10 foot core)		Older pink tuff. Joy Springs (?)	Pink-White	Fine to medium-grained	---	None	Crystals	Clay		Older Pink Tuff--fine- to medium-grained, with abundant quartz crystals, same as interval 1237-1260 in Hole 23. Abundant biotite crystals.
170-180 (5 foot core)		Older green tuff	Green-Buff	Fine-grained	---	A few		Epidote		Older Green Tuff--with abundant biotite and disseminated epidote, gives green color.
290-300		Older green tuff	Green-Buff	Fine-grained	Moderate	Abundant white tuff fragments		Calcite 1/16 in. on fractures		Older Green Tuff--as above with increase in fragments.
430-440 (7 foot core)		Gray rhyodacite	Gray	Medium-grained	---			Epidote, disseminated and on fractures		Gray Rhyodacite--with older rhyodacite fragments.
560-570 (9 foot core)		Red rhyodacite	Red	Medium-grained	Strong	----		Hematite and epidote disseminated; calcite on fractures		Red Rhyodacite--with calcite on fractures. Abundant plagioclase which are not altered; mafics appear to be replaced with epidote.

SPOR MOUNTAIN DRILLING PROJECT

Core Log for Hole No. 25

Logged by: Chuck Beverly

Date: October 12, 1978

Footage	Cumulative Footage	Lithology	Color	Texture	Induration/ Welding	Lithic Fragmentation	Matrix	Alteration/ Diagenesis	Stratified Sorted	Remarks
770-780 (9 foot core)		Green rhyodacite (altered)	Green-Brown	Obliterated by alteration	---	A few	Clay			Green Rhyodacite--with strong hairline to 1/4 in. silica stockworks and strong clay alteration of matrix. At 771 feet, ovoid nodules (1/16 in.) that appear to be caused by fluidization of same rock type (?).
970-980 (10 foot core)		Black-green dense rhyodacite	Green-Black	Fine-grained	Strong	None		Hematite/ ferric; also silica veinlets		Dense Rhyodacite--strongly welded, black-green; with abundant hematite flooding, and silica along fractures, as well as some brecciation.
1200-1210		Rhyodacite breccia	Red-Green	Fine-grained		None		Hematite throughout		Rhyodacite Flow (?)--breccia; abundant ferric (iron) throughout.
1500 T.D.										

APPENDIX B

RESULTS OF ANALYSES, OF 11 ELEMENTS,

BY VARIOUS METHODS

Hole No. 26

Footage	U_3O_8 [1] (ppm)	Mn [2] (ppm)	V [2] (ppm)	Cs[3] (ppm)	Li[3] (ppm)	Be[3] (ppm)	Se[4] (ppm)	eK[5] (pct)	eU[5] (ppm)	eTh[5] (ppm)	F[6] (ppm)
50-55	13	420	10	26	118	10	<1	3.48	12	47	3080
55-60	10	369	21	26	136	9	<1	2.87	7	31	2360
60-65	10/8	395	17	36	165	10	<1	-	-	-	3280
65-70	5	282	38	17	65	9	<1	-	-	-	2560
70-75	6	270	29	23	93	8	<1	3.28	6	28	1640
75-80	7	345	26	31	111	17	<1	3.07	7	35	2720
80-85	4	358	27	23	117	12	<1	2.45	7	38	3040
85-90	8	381	33	22	103	11	<1	2.92	6	30	2760
90-95	14	348	31	25	119	11	<1	-	-	-	1760
95-100	7	268	33	15	90	8	<1	2.47	6	26	1440
100-105	5	365	29	26	109	10	<1	3.19	9	33	1960
105-110	7	310	14	29	197	12	1	3.87	9	56	3800
110-115	7	317	20	34	177	14	<1	3.64	6	39	3560
115-120	7	393	43	26	110	10	<1	-	-	-	2240
120-125	11	295	31	30	134	12	<1	-	-	-	2800
125-130	8	322	21	28	135	12	<1	3.92	10	33	3840
130-135	9	315	20	28	148	13	<1	4.11	12	49	3280
135-140	8	339	28	20	99	11	<1	-	-	-	3280
140-145	5	362	62	18	91	11	<1	-	-	-	1480
145-150	4	398	75	11	28	7	<1	-	-	-	664
150-155	4	455	37	12	32	4	<1	2.22	5	19	840
155-160	5	477	99	10	27	3	<1	2.81	3	17	640
160-165	4	443	72	12	26	4	<1	2.28	3	17	664
165-170	4	393	62	9	19	3	<1	2.23	5	15	416
170-175	3	415	59	8	23	3	<1	2.46	4	17	456
175-180	4	383	58	10	22	3	<1	2.22	4	13	480

RESULTS OF ANALYSES, OF 11 ELEMENTS,

BY VARIOUS METHODS

Hole No. 26

Footage	U_3O_8 [1] (ppm)	Mn [2] (ppm)	V [2] (ppm)	Cs[3] (ppm)	Li[3] (ppm)	Be[3] (ppm)	Se[4] (ppm)	eK[5] (pct)	eU[5] (ppm)	eTh[5] (ppm)	F[6] (ppm)
180-185	4	461	78	10	52	2	<1	2.27	3	17	536
185-190	4	359	70	12	28	3	<1	2.81	4	16	576
190-195	5/3	415	72	8	34	5	<1	2.06	4	17	776
195-200	7	411	65	18	122	12	<1	2.10	7	26	2680
200-205	9	397	76	15	81	7	<1	2.64	8	21	2320
205-210	16	436	71	10	53	11	<1	2.55	14	21	1760
210-215	11	566	109	11	53	6	<1	2.33	12	18	1480
215-220	5	577	99	13	35	4	<1	2.05	6	16	1200
220-225	3	600	116	4	31	5	<1	1.94	4	15	1040
225-230	6	641	116	10	35	5	<1	1.51	6	18	1104
230-235	14	589	98	10	31	2	<1	1.94	9	12	840
235-240	12	628	129	7	31	2	<1	1.69	16	14	896
240-245	15	609	142	10	31	2	<1	1.40	12	12	1200
245-250	10	655	119	14	34	2	<1	1.55	12	14	1120
250-255	12	582	136	12	33	2	<1	1.46	13	14	816
255-260	5	529	123	12	30	2	<1	1.51	8	14	720
260-265	48	478	77	36	59	9	<1	2.17	41	19	6960
265-270	504	384	77	73	161	27	<1	2.29	249	17	28800
270-275	873	236	59	51	646	75	<1	1.52	456	12	72000
275-280	4	115	19	21	630	134	<1	0.89	669	7	64000
280-290	254	126	16	8	101	184	<1	0.58	427	4	45600
290-295	220	94	19	4	150	69	<1	0.00	227	2	24000
295-300	199	90	18	4	18	25	<1	0.26	193	3	14000
300-305	54	118	34	3	24	14	<1	0.22	190	1	11040
305-310	74	117	39	4	21	4	<1	0.02	46	0	1800

1/ Methods of Analyses: Fluorometric

2/ Atomic Absorption

3/ Flame

4/ Spectro fluorometric

5/ Gamma-Ray Spectroscopy

6/ Specific Ion

SPECTROCHEMICAL ANALYSIS

OF 29 OTHER ELEMENTS ASSOCIATED

WITH THE SPOR MOUNTAIN DRILLING PROJECT

Hole No. 26

Element (ppm)	Footage 50-55	55-60	60-65	65-70	70-75	75-80	80-85	85-90	90-95	95-100	100-105	105-110	110-115
Ag	<.5	<.5	<.5	<.5	< .5	<.5	<.5	<.5	<.5	<.5	<.5	<.5	< .5
Al	6.	6.	6.	7.	5.	5.	6.	5.	7.	6.	6.	6.	6.
As	< 200	<200	<200	< 200	< 200	< 200	< 200	< 200	< 200	< 200	< 200	< 200	< 200
B	< 10	< 10	< 10	<10	< 10	< 10	<10	< 10	<10	<10	< 10	<10	<10
Ba	50	100	300	50	150	70	100	150	150	70	100	20	70
Be	100	70	70	70	30	100	70	70	70	30	30	70	150
Ca	3.	7.	10.	2.	7.	3.	3.	3.	2.	7.	5.	1.	1.
Co	<10	< 10	< 10	< 10	<10	< 10	<10	< 10	<10	< 10	<10	<10	<10
Cr	20	30	50	70	70	30	30	30	200	20	50	70	30
Cu	< 10	<10	< 10	< 10	< 10	< 10	< 10	< 10	15	< 10	5	5	<10
Fe	.7	.7	1.	1.	.7	.7	1.	1.	1.	.7	1.	1.	1.
La	100	150	150	150	50	100	100	100	150	100	100	150	100
Li	100	100	100	100	100	100	100	100	100	100	100	100	100
Mn	300	300	100	500	200	200	200	300	300	200	200	200	300
Mo	<10	< 10	<10	< 10	< 10	< 10	5	< 10	< 10	< 10	5	7	< 10
Na	2.	1.5	1.5	3.	2.	2.	2.	1.5	3.	1.5	3.	3.	3.
Nb	50	100	30	70	30	30	70	20	150	50	20	100	50
Ni	<10	< 10	7	< 10	5	< 10	10	< 10	5	10	7	10	< 10
Pb	70	50	50	70	50	50	50	50	50	50	70	70	70
Sb	< 100	< 100	< 100	< 100	<100	< 100	< 100	< 100	< 100	< 100	< 100	< 100	< 100
Sc	<10	<10	5	< 10	< 10	< 10	< 10	< 10	5	< 10	< 10	< 10	< 10
Sn	20	20	10	30	15	20	20	10	15	10	15	30	30
Sr	100	100	200	< 100	100	100	100	100	100	100	100	< 100	100
Ti	.03	.07	.15	.03	.03	.03	.1	.1	.1	.03	.07	.03	.03
V	10	10	15	< 10	10	< 10	10	10	15	10	10	< 10	< 10
W	< 100	< 100	< 100	< 100	<100	<100	70	< 100	< 100	50	50	< 100	< 100
Y	20	70	70	100	10	50	20	20	70	20	20	70	70
Zn	< 200	< 200	< 200	< 200	< 200	< 200	< 200	< 200	< 200	< 200	< 200	< 200	< 200
Zr	100	100	100	100	70	100	200	100	300	100	70	200	70

SPECTROCHEMICAL ANALYSIS

OF 29 OTHER ELEMENTS ASSOCIATED

WITH THE SPOR MOUNTAIN DRILLING PROJECT

Hole No. 26 (continued)

Element (ppm)	Footage										
	115-120	120-125	125-130	130-135	135-140	140-145	145-150	150-155	155-160	160-165	165-170
Ag	<.5	<.5	< .5	< .5	< .5	< .5	< .5	<.5	< .5	< .5	< .5
Al	4.	7.	5.	7.	6.	5.	7.	4.	7.	4.	5.
As	<200	< 200	< 200	< 200	< 200	< 200	< 200	< 200	<200	< 200	< 200
B	<10	< 10	< 10	< 10	< 10	< 10	< 10	10	10	10	10
Ba	300	70	200	20	100	500	700	500	700	500	500
Be	50	70	70	70	70	70	30	15	15	15	15
Ca	1.5	1.	1.5	1.	10	5.	7.	3.	5.	2.	3.
Co	< 10	< 10	< 10	< 10	< 10	<100	10	5	10	5	5
Cr	50	150	50	70	100	30	50	20	70	50	50
Cu	5	5	< 10	< 10	15	< 10	7	5	7	7	5
Fe	1.	.7	.7	1.	.7	1.5	1.5	1.5	2.	1.5	1.5
La	100	150	150	150	150	150	100	100	100	100	100
Li	100	200	100	200	100	< 100	< 100	< 100	< 100	< 100	< 100
Mn	300	300	300	200	200	200	300	300	300	300	300
Mo	< 10	< 10	< 10	< 10	< 10	< 10	< 10	< 10	< 10	< 10	7
Na	3.	4.	2.	3.	2.	1.5	2.	1.5	2.	1.5	2.
Nb	30	70	100	100	70	30	10	10	20	10	10
Ni	< 10	< 10	< 10	< 10	< 10	< 10	< 10	<10	15	7	15
Pb	70	70	70	70	30	30	30	30	30	30	30
Sb	< 100	< 100	< 100	< 100	< 100	< 100	< 100	< 100	< 100	< 100	< 100
Sc	< 10	< 10	< 10	< 10	< 10	5	10	5	10	5	5
Sn	20	30	20	30	15	10	< 10	<10	< 10	< 10	< 10
Sr	100	100	100	100	100	300	500	300	700	300	300
Ti	.15	.05	.15	.03	.15	.2	.3	.2	.3	.2	.2
V	15	10	10	10	10	15	20	15	20	20	20
W	< 100	< 100	< 100	< 100	< 100	< 100	< 100	< 100	< 100	< 100	< 100
Y	10	70	10	70	70	20	10	10	10	10	10
Zn	< 200	< 200	< 200	< 200	< 200	< 200	< 200	< 200	< 200	< 200	< 200
Zr	100	200	100	100	300	300	700	100	200	100	100

SPECTROCHEMICAL ANALYSIS
OF 29 OTHER ELEMENTS ASSOCIATED
WITH THE SPOR MOUNTAIN DRILLING PROJECT

Hole No. 26 (continued)

Element (ppm)	Footage 170-175	175-180	180-185	185-190	190-195	195-200	200-205	205-210	210-215	215-220	220-225
Ag	<.5	< .5	<.5	<.5	<.5	<.5	< .5	<.5	<.5	<.5	<.5
Al	6.	6.	6.	7.	7.	5	6	5	5.	7	7
As	<200	< 200	<200	<200	< 200	< 200	< 200	< 200	< 200	< 200	<200
B	10	10	10	10	10	10	10	10	10	10	10
Ba	700	700	700	700	700	700	500	700	500	700	700
Be	15	15	15	15	15	30	70	70	15	20	15
Ca	5.	3.	5.	5.	7.	5	2	3	2	5	3
Co	5	5	5	10	5	5	5	5	5	10	10
Cr	50	50	20	50	50	30	30	20	30	30	50
Cu	<10	<10	<10	<10	<10	<10	< 10	10	10	10	10
Fe	1.5	1.5	1.	2.	1.5	1.5	1	1	1.5	2	2
La	100	100	100	150	100	100	50	100	100	100	100
Li	<100	<100	<100	<100	< 100	< 100	100	100	< 100	<100	< 100
Mn	200	200	300	300	200	300	300	300	300	300	500
Mo	<10	< 10	5	< 10	<10	<10	<10	<10	<10	10	<10
Na	2.	2.	1.5	2.	2.	2	3	1.5	2	2	2
Nb	10	10	10	10	10	10	20	10	10	10	10
Ni	5	<10	10	10	7	5	5	7	10	20	10
Pb	20	20	20	30	30	30	50	30	70	50	50
Sb	<100	<100	< 100	<100	<100	<100	<100	<100	<100	<100	<100
Sc	5	5	5	5	5	5	5	5	5	10	10
Sn	<10	<10	<10	<10	<10	<10	10	<10	<10	<10	<10
Sr	500	500	500	700	700	500	300	500	500	700	700
Ti	.2	.2	.15	.2	.2	.2	.15	.2	.15	.3	.2
V	20	20	15	20	20	20	15	15	15	20	20
W	< 100	<100	<100	<100	<100	<100	<100	<100	<100	<100	< 100
Y	10	10	10	10	10	10	10	10	10	10	10
Zn	<200	<200	<200	<200	<200	<200	<200	<200	<200	<200	< 200
Zr	100	100	100	200	100	700	100	200	100	100	100

SPECTROCHEMICAL ANALYSIS
OF 29 OTHER ELEMENTS ASSOCIATED
WITH THE SPOR MOUNTAIN DRILLING PROJECT

Hole No. 26 (continued)

Element (ppm)	Footage 225-230	230-235	235-240	240-245	245-250	250-255	255-260	260-265	265-270	270-275	275-280
Ag	<.5	<.5	<.5	<.5	<.5	<.5	<.5	<.5	< .5	<.5	<.5
Al	7	7	7	7	7	6	7	7	7	7	6
As	<200	< 200	< 200	<200	<200	<200	<200	<200	<200	< 200	< 200
B	10	10	10	10	10	10	10	10	10	10	< 10
Ba	700	700	700	500	500	300	700	700	700	700	700
Be	15	15	15	15	15	10	20	70	100	200	700
Ca	3	5	5	5	3	5	7	5	5	15	20
Co	10	10	10	10	5	5	5	10	10	5	5
Cr	50	50	70	50	20	30	50	70	150	70	50
Cu	15	5	15	7	< 10	< 10	15	7	15	15	5
Fe	2	2	3	2	1.5	1.5	2	2	2	1.5	1
La	100	100	100	100	100	100	100	100	100	100	100
Li	< 100	< 100	< 100	< 100	<100	< 100	< 100	< 100	100	500	500
Mn	500	300	500	300	300	300	300	200	300	200	100
Mo	< 10	<10	10	< 10	5	< 10	< 10	<10	< 10	< 10	<10
Na	2	2	3	2	1.5	1.5	2	1.5	2	1	1
Nb	10	20	10	10	10	10	10	10	10	10	< 20
Ni	10	7	30	15	15	< 10	15	15	20	5	5
Pb	50	50	70	30	30	70	50	50	50	30	10
Sb	< 100	< 100	<100	< 100	< 100	< 100	< 100	< 100	< 100	< 100	< 100
Sc	15	10	15	10	10	5	10	10	10	10	5
Sn	< 10	< 10	< 10	< 10	< 10	<10	< 10	< 10	< 10	< 10	< 10
Sr	700	700	700	700	500	300	700	500	500	300	500
Ti	.2	.2	.3	.2	.2	.2	.2	.2	.3	.2	1.
V	20	20	30	20	20	15	20	20	20	10	10
W	< 100	< 100	< 100	< 100	50	100	< 100	< 100	< 100	< 100	<100
Y	10	10	10	10	10	10	10	10	10	10	10
Zn	< 200	< 200	< 200	< 200	< 200	< 200	< 200	< 200	< 200	< 200	<200
Zr	100	300	200	100	100	100	100	300	300	200	100

SPECTROCHEMICAL ANALYSIS
OF 29 OTHER ELEMENTS ASSOCIATED
WITH THE SPOR MOUNTAIN DRILLING PROJECT

Hole No. 26 (continued)

Element (ppm)	Footage 280-285	285-290	290-295	295-300	300-305	305-310
Ag	< .5	< .5	< .5	< .5	< .5	< .5
Al	3	5	1	2	2	2
As	300	300	< 200	<200	< 200	< 200
B	< 10	< 10	< 10	< 10	< 10	< 10
Ba	200	50	20	50	20	70
Be	1000	200	150	70	30	100
Ca	20	15	20	15	15	10
Co	5	< 10	< 10	< 10	< 10	< 10
Cr	200	50	10	30	70	300
Cu	20	7	5	15	15	30
Fe	1	.2	.2	3.	.3	.5
La	100	20	50	100	100	20
Li	100	< 100	< 100	< 100	< 100	< 100
Mn	200	200	200	200	200	300
Mo	5	< 10	< 10	< 10	< 10	15
Na	.7	.5	.5	.2	.2	.2
Nb	< 20	< 20	< 20	< 20	< 20	< 20
Ni	5	< 10	< 10	< 10	< 10	< 15
Pb	10	10	10	20	10	20
Sb	<100	< 100	< 100	< 100	< 100	< 100
Sc	< 10	< 10	< 10	< 10	< 10	< 10
Sn	< 10	< 10	< 10	< 10	< 10	< 10
Sr	300	200	100	100	100	100
Ti	.07	.002	.007	.005	.002	.01
V	10	< 10	10	10	10	10
W	< 100	< 100	< 100	< 100	< 100	< 100
Y	10	10	10	10	10	10
Zn	< 200	< 200	< 200	< 200	< 200	< 200
Zr	50	< 10	< 10	< 10	< 10	< 10

SPOR MOUNTAIN DRILLING PROJECT

Core Log for Hole No. 26

Logged by: Chuck Beverly | Date: October 12, 1978 | Page: 1 of 3

Footage	Cumulative Footage	Lithology	Color	Texture	Induration/ Welding	Lithic Fragmentation	Matrix	Alteration/ Diagenesis	Stratified Sorted	Remarks
0-50		Gravel								Overburden.
50-106		Fault zone	Gray			Up to 4 inches		Clay gouge		Fault Zone--with only 15 feet out of 56 feet recovered. A wide variety of rock fragments that includes welded tuff, arkose, limestone, rhyolite and rhyodacite; and several interlayered gouge zones.
106-130		Gray topaz rhyolite	Gray	Fine-grained	Strong	None	Crystals	Silicified locally		Gray Topaz Mountain Rhyolite--fine-to-medium-grained with poorly developed topaz crystals and scattered black biotite; probably indicates older age.
130-139		Fault zone	Gray			Abundant volcanic rock fragments	Clay crystalline mush			Fault Zone--with gouge and ground core. Abundant rock fragments.
139-267		Sandstone	Black-Brown	Fine-grained	Slight induration locally	Tuff fragment at 200 feet		Minor epidote throughout; magnetite at 250 feet.	Well-sorted	Black Sandstone--well-sorted, fine-grained sandstone with local arkose lenses at 139, 206, 208 feet. This tube appears to be locally derived from beach sand that consists of black glass, limestone grains, and

SPOR MOUNTAIN DRILLING PROJECT

Core Log for Hole No. 26

Logged by: Chuck Beverly | Date: October 12, 1978 |

Footage	Cumulative Footage	Lithology	Color	Texture	Induration/ Welding	Lithic Fragmentation	Matrix	Alteration/ Diagenesis	Stratified Sorted	Remarks
										quartz and red rhyodacite grains. Locally indurated over short intervals. Coarser at base with quite angular fragments. Evidence indicates sandstone is younger than mineralized Beryllium Tuff Member which lies below it.
267-282		Beryllium tuff	White to buff	Fine-grained	Moderate	Limestone, quartzite and volcanics	Ash	Silica as chalcedony, 10-20% fluorite as reaction rims, and mixed with silica.	None	Beryllium Tuff--with typical fluorite reaction rims on limestone (dolomite) fragments; also abundant quartzite fragments as well as an assortment of volcanic fragments. All fragments are angular and locally tabular, suggesting gas explosive origin; typically of nonsorted ash flow origin. Top 5 feet is water worked and contains beach sand mixed with fluorite-chalcedony nodules. Top 5 feet has dolomite clasts; the rest contains limestone, even though fluorite is disseminated throughout zone.

SPOR MOUNTAIN DRILLING PROJECT

Core Log for Hole No. 26

Logged by: Chuck Beverly

Date: October 12, 1978

Footage	Cumulative Footage	Lithology	Color	Texture	Induration/Welding	Lithic Fragmentation	Matrix	Alteration/Diagenesis	Stratified Sorted	Remarks
282-310		Altered quartzite	White to Buff	Fine-grained			Quartzite, sandstone	Fluorite up to 10%; in 1 in. to 5-foot lengths	Well-sorted	Altered Quartzite--gas phase alteration containing abundant fluorite; locally, calcite has destroyed original quartzite rock textures and rendered the rock a mushy, soft, white sand.
310-403 T.D.		Brecciated limestone and quartzite	Black to White	Broken/Angular						Brecciated Limestone--and interbedded quartzite with 2 in. breccia dike which contains minor fluorite chips at 315 feet. Essentially brecciated quartzite from 320 feet.

APPENDIX B

RESULTS OF ANALYSES, OF 11 ELEMENTS, BY VARIOUS METHODS

Hole No. 27

Footage	U_3O_8[1] (ppm)	Mn[2] (ppm)	V[2] (ppm)	Cs[3] (ppm)	Li[3] (ppm)	Be[3] (ppm)	Se[4] (ppm)	eK[5] (pct)	eU[5] (ppm)	eTh[5] (ppm)	F[6] (ppm)
665-670	2	377	60	10	22	2	<1	-	-	-	416
670-677	<1	622	120	16	26	2	<1	-	-	-	504
1010-1015	<1	270	54	9	16	2	<1	-	-	-	456

1/ Methods of Analyses: Fluorometric

2/ Atomic Absorption

3/ Flame

4/ Spectro fluorometric

5/ Gamma-Ray Spectroscopy

6/ Specific Ion

APPENDIX B

RESULTS OF ANALYSES, OF 11 ELEMENTS,

BY VARIOUS METHODS

Hole No. 28

Footage	U_3O_8 [1] (ppm)	Mn [2] (ppm)	V [2] (ppm)	Cs [3] (ppm)	Li [3] (ppm)	Be [3] (ppm)	Se [4] (ppm)	eK [5] (pct)	eU [5] (ppm)	eTh [5] (ppm)	F [6] (ppm)
200-210	10	229	27	9	46	5	<1	4.45	17.6	64.9	1992
210-220	10	229	27	8	46	5	<1	4.48	16.5	65.9	1874
220-230	11	243	21	7	55	5	<1	-	-	-	1381
230-240	10	202	<10	7	42	5	<1	4.36	17.1	64.3	1302
240-250	10	282	<10	7	45	5	<1	4.69	17.6	66.1	1251
250-260	14	282	10	8	45	5	<1	4.54	16.9	66.6	1212
260-270	13	282	10	7	49	5	<1	4.55	16.4	70.6	1235
270-280	20	282	<10	9	51	5	<1	4.62	17.0	71.2	1232
280-290	11	242	<10	8	42	5	<1	4.28	18.0	69.4	1295
290-300	12	242	10	8	47	5	<1	4.45	16.5	70.7	1512
300-310	11	242	10	7	49	5	<1	4.49	18.3	70.8	1342
310-320	11	230	38	5	43	5	<1	4.60	17.1	67.8	1513
320-330	11	363	10	7	56	5	<1	4.09	15.0	62.1	1268
330-340	11	323	<10	6	51	5	<1	4.33	15.9	66.8	1099
340-350	11	403	<10	7	61	5	<1	4.35	16.6	65.7	1204
350-360	10	363	<10	7	47	5	<1	4.43	15.6	69.2	1290
360-370	9	363	<10	6	51	5	<1	4.43	15.1	70.0	1248
370-380	9	363	10	6	51	5	<1	4.36	15.6	70.0	1183
380-390	9	323	21	7	47	5	<1	4.29	14.7	71.6	1412
390-400	11	363	21	6	54	5	<1	4.22	15.3	71.9	1351
400-410	9	282	10	7	39	5	<1	4.14	14.5	66.7	1108
410-420	9	363	21	6	51	5	<1	4.16	16.3	65.4	1443
420-430	10	323	10	6	49	5	<1	4.33	15.2	64.1	1354
1170-1180	10	444	21	8	66	5	<1	3.97	15.5	55.2	1294
1180-1190	10	565	<10	8	79	<5	<1	4.37	15.5	57.4	1223
1190-1200	9	524	41	7	57	<5	<1	4.10	14.6	58.7	1251
1200-1210	10	565	41	10	71	<5	<1	4.06	14.3	56.6	1262

RESULTS OF ANALYSES, OF 11 ELEMENTS,

BY VARIOUS METHODS

Hole No. 28

Footage	U_3O_8 [1] (ppm)	Mn [2] (ppm)	V [2] (ppm)	Cs [3] (ppm)	Li [3] (ppm)	Be [3] (ppm)	Se [4] (ppm)	eK [5] (pct)	eU [5] (ppm)	eTh [5] (ppm)	F [6] (ppm)
1210-1220	9	565	41	9	52	<5	<1	3.98	14.3	57.5	1333
1220-1230	10	565	31	9	64	<5	<1	3.99	14.4	56.5	1510
1230-1240	10	605	31	10	74	<5	<1	4.16	14.6	56.9	1772
1240-1250	10	565	31	8	62	<5	<1	3.93	14.0	56.4	1901
1250-1260	10	565	31	9	57	<5	<1	4.02	14.2	57.1	2127
1260-1270	10	484	10	8	62	<5	<1	4.07	13.4	54.5	2126
1270-1280	8	505	76	8	64	7	<1	3.99	13.4	52.5	2405
1280-1290	14	484	31	10	57	5	<1	3.97	17.9	56.0	2207
1290-1300	8	524	41	10	66	7	<1	3.97	11.8	54.8	2228
1300-1310	8	524	41	9	69	7	<1	3.84	11.7	55.0	2405
1310-1320	6	484	31	9	62	5	<1	3.92	12.6	55.9	2122
1320-1330	8	645	21	9	64	5	<1	4.08	12.8	53.4	1953
1330-1340	11	505	86	6	62	5	<1	3.93	12.5	53.4	2372

1/ Methods of Analyses: Fluorometric

2/ Atomic Absorption

3/ Flame

4/ Spectro fluorometric

5/ Gamma-Ray Spectroscopy

6/ Specific Ion

SPECTROCHEMICAL ANALYSIS

OF 29 OTHER ELEMENTS ASSOCIATED

WITH THE SPOR MOUNTAIN DRILLING PROJECT

Hole No. 28

Element (ppm)	Footage 200-210	210-220	220-230	230-240	240-250	250-260	260-270	270-280	280-290	290-300	300-310
Ag	<1	28	<1	<1	<1	<1	<1	<1	<1	<1	<1
Al	59000	56200	59200	60100	54100	61400	51900	59600	60600	57500	55600
As	330	320	345	350	295	335	300	325	340	320	310
B	450	460	490	500	795	670	535	435	420	395	395
Ba	51	42	37	43	32	41	37	38	40	33	32
Be	15	15	16	16	14	16	14	15	16	16	15
Ca	10500	7240	6340	7140	5640	6390	5440	5920	6130	5120	5450
Co	3	3	3	3	3	4	2	3	3	3	3
Cr	21	21	20	24	18	21	17	18	20	21	17
Cu	22	10	5	9	5	6	5	6	4	4	4
Fe	8900	8310	8030	8070	7310	8510	7510	8390	8190	8530	7690
La	59	54	50	54	46	56	51	59	51	51	47
Li	70	75	80	80	85	80	65	75	75	70	70
Mn	455	420	440	430	420	470	405	485	485	455	415
Mo	20	18	20	19	17	19	16	19	18	17	18
Na	22800	22800	23600	28200	23600	25000	19300	24300	24300	23600	23600
Nb	25	21	21	21	19	22	20	24	23	24	22
Ni	15	13	11	13	13	14	12	12	12	21	11
Pb	140	230	105	130	90	105	94	100	110	100	93
Sb	91	79	85	94	77	88	72	82	89	83	81
Sc	3	2	3	3	2	3	2	3	3	3	3
Sn	23	21	23	25	17	22	19	18	22	18	81
Sr	< 100	< 100	< 100	< 100	< 100	< 100	< 100	< 100	< 100	< 100	< 100
Ti	895	755	725	695	625	740	720	795	735	770	680
V	7	4	4	5	4	5	4	4	4	4	3
W	22	20	35	45	25	<1	9	2	16	9	21
Y	29	29	30	31	28	31	28	32	30	29	28
Zn	110	105	81	78	76	85	66	94	82	110	93
Zr	31	22	20	22	17	20	16	20	22	17	15

SPECTROCHEMICAL ANALYSIS

OF 29 OTHER ELEMENTS ASSOCIATED

WITH THE SPOR MOUNTAIN DRILLING PROJECT

Hole No. 28 (continued)

Element (ppm)	Footage 310-320	320-330	330-340	340-350	350-360	360-370	370-380	380-390	390-400	400-410	410-420
Ag	<1	<1	<1	6	<1	<1	<1	<1	<1	<1	<1
Al	56200	53700	40200	36500	50800	54000	54200	39500	34700	36800	35900
As	315	320	225	125	270	280	250	185	185	200	195
B	410	420	445	28	3	<1	<1	<1	<1	<1	<1
Ba	42	23	28	20	31	33	32	30	27	19	29
Be	15	15	15	13	14	15	15	14	14	14	14
Ca	5270	4600	4350	3420	4480	4540	4450	4710	7420	4720	6600
Co	3	2	2	3	4	4	4	3	3	3	5
Cr	16	11	11	7	8	10	9	9	6	5	9
Cu	3	4	5	5	5	7	5	6	5	6	22
Fe	8480	7570	7450	6030	7170	7180	7115	6750	6310	6190	6693
La	55	47	43	37	49	53	50	42	37	36	40
Li	65	65	50	50	65	75	70	45	40	45	35
Mn	475	430	310	270	430	455	425	410	300	290	310
Mo	18	18	14	11	17	18	17	13	13	13	13
Na	21500	3600	12500	11200	20800	21500	23600	13000	9900	11900	11200
Nb	25	24	25	19	20	23	21	21	19	20	21
Ni	12	11	9	4	8	6	7	7	5	4	6
Pb	99	95	86	57	73	77	71	64	66	69	87
Sb	80	76	55	19	34	39	32	29	26	25	29
Sc	3	2	2	1	2	2	2	1	1	1	1
Sn	19	21	13	10	19	22	15	14	17	14	13
Sr	<100	<100	<100	<100	<100	<100	<100	<100	<100	<100	<100
Ti	815	720	730	610	690	720	680	700	670	650	705
V	4	4	3	3	5	5	4	4	4	3	5
W	22	37	23	21	70	73	44	63	71	59	64
Y	29	36	25	19	24	27	25	21	19	19	19
Zn	74	77	85	86	145	79	110	120	490	125	105
Zr	16	21	18	15	17	17	15	14	20	16	19

SPECTROCHEMICAL ANALYSIS

OF 29 OTHER ELEMENTS ASSOCIATED

WITH THE SPOR MOUNTAIN DRILLING PROJECT

Hole No. 28 (continued)

Element (ppm)	Footage 1250-1260	1260-1270	1270-1280	1280-1290	1290-1300	1300-1310	1310-1320	1320-1330	1330-1340
Ag	<1	<1	<1	<1	<1	<1	<1	3	<1
Al	40300	34300	32600	52500	40600	36900	49200	52600	37800
As	225	180	175	295	225	180	285	335	200
B	1	<1	<1	<1	<1	<1	<1	<1	<1
Ba	42	36	33	65	32	27	48	38	35
Be	19	19	18	20	19	18	20	19	19
Ca	4610	4180	3760	5280	4320	3470	4920	5010	3890
Co	4	3	3	4	3	3	4	4	3
Cr	14	14	11	36	30	33	33	37	33
Cu	51	14	18	40	12	13	12	12	13
Fe	7430	7440	7130	7970	7220	7460	7920	7420	7160
La	25	20	19	35	26	19	29	30	23
Li	60	50	45	85	60	55	75	80	60
Mn	410	350	385	525	415	445	535	565	465
Mo	18	15	14	24	19	18	23	23	17
Na	15200	10600	11200	22800	16600	18800	22100	22800	13000
Nb	24	24	23	26	24	24	25	24	25
Ni	9	7	7	7	7	6	8	8	7
Pb	150	95	105	127	84	85	88	95	100
Sb	33	29	25	44	34	28	40	46	32
Sc	2	1	1	3	2	1	3	3	2
Sn	18	18	19	20	18	15	19	24	16
Sr	<100	<100	<100	<100	<100	<100	<100	<100	<100
Ti	545	575	515	535	485	485	500	475	485
V	5	5	4	12	5	5	6	7	5
W	22	4	14	55	26	8	54	64	23
Y	20	17	17	25	22	17	23	24	19
Zn	110	180	115	120	96	125	175	110	90
Zr	24	22	18	22	20	16	20	21	19

SPECTROCHEMICAL ANALYSIS

OF 29 OTHER ELEMENTS ASSOCIATED

WITH THE SPOR MOUNTAIN DRILLING PROJECT

Hole No. 28 (continued)

Element (ppm)	Footage 420-430	1170-1180	1180-1190	1190-1200	1200-1210	1210-1220	1220-1230	1230-1240	1240-1250
Ag	3	<1	<1	<1	<1	<1	<1	<1	<1
Al	45200	53400	31500	38600	49700	47100	49300	39200	35300
As	230	280	135	205	290	255	255	190	183
B	<1	<1	<1	<1	<1	<1	<1	<1	<1
Ba	33	42	20	30	32	42	31	28	24
Be	15	18	16	16	19	19	19	18	18
Ca	7440	5110	2500	3770	4760	5490	5380	3980	3940
Co	4	3	2	3	4	4	3	3	3
Cr	9	9	7	11	13	13	11	10	10
Cu	10	33	5	32	21	20	16	10	10
Fe	7310	6830	5720	7240	7250	7270	7270	7200	6940
La	45	30	14	21	29	29	30	23	20
Li	55	80	45	55	75	75	75	55	50
Mn	390	505	315	470	600	565	553	510	445
Mo	15	20	11	16	19	18	18	15	14
Na	17100	22800	8300	13800	21500	20800	21500	12500	13000
Nb	22	24	22	24	25	24	26	24	24
Ni	8	5	4	7	7	7	9	7	6
Pb	74	120	63	130	105	97	103	84	78
Sb	29	35	19	27	40	39	37	25	26
Sc	2	3	1	2	3	3	3	2	1
Sn	17	31	12	17	19	18	19	15	17
Sr	<100	<100	<100	<100	<100	<100	<100	<100	<100
Ti	760	495	450	495	495	510	505	485	480
V	5	3	3	4	4	5	4	4	4
W	8	24	36	63	41	57	28	4	18
Y	22	24	13	17	22	21	23	19	17
Zn	140	170	63	1320	91	130	130	325	180
Zr	18	28	19	22	25	26	26	23	22

APPENDIX B

RESULTS OF ANALYSES, OF 11 ELEMENTS,

BY VARIOUS METHODS

Hole No. 29

Footage	U_3O_8 [1] (ppm)	Mn [2] (ppm)	V [2] (ppm)	Cs[3] (ppm)	Li[3] (ppm)	Be[3] (ppm)	Se[4] (ppm)	eK[5] (pct)	eU[5] (ppm)	eTh[5] (ppm)	F[6] (ppm)
285-290	19	693	19	15	75	7	<1	-	-	-	5200
290-295	18	484	19	19	127	7	<1	3.73	18	58	1680
295-300	13	480	18	23	133	7	<1	3.06	17	53	1600
300-305	17	445	19	16	77	7	<1	3.36	18	49	1080
305-310	20	431	20	12	53	7	<1	3.64	18	46	2640
310-315	18	404	19	12	98	7	<1	4.18	20	46	1600
315-320	15	429	19	22	99	7	<1	3.33	15	47	1640
320-325	17	424	19	21	118	7	<1	3.88	18	58	1400
325-330	13	380	18	16	83	7	<1	3.63	14	50	1520
330-335	19	420	19	15	69	9	<1	3.86	18	54	1480
1046-1050	5	944	38	13	28	2	<1	4.60	8	26	816
1050-1055	6	427	19	10	29	2	<1	3.23	5	23	920
1055-1060	6	329	18	13	24	5	<1	2.70	9	25	744
1060-1064	7	377	18	14	18	2	<1	3.00	8	28	728

1/ Methods of Analyses: Fluorometric

2/ Atomic Absorption

3/ Flame

4/ Spectro fluorometric

5/ Gamma-Ray Spectroscopy

6/ Specific Ion

SPECTROCHEMICAL ANALYSIS

OF 29 OTHER ELEMENTS ASSOCIATED

WITH THE SPOR MOUNTAIN DRILLING PROJECT

Hole No. 29

Element (ppm)	Footage									
	285-290	290-295	295-300	300-305	305-310	310-315	315-320	320-325	325-330	330-335
Ag	< 5	< .5	< .5	< 5	< .5	< .5	< .5	< .5	< .5	< .5
Al	6	7	5	7	4	7	6	6	7	6
As	< 200	< 200	< 200	< 200	< 200	< 200	< 200	< 200	< 200	< 200
B	< 10	< 10	< 10	< 10	< 10	< 10	< 10	< 10	< 10	10
Ba	70	200	50	100	20	200	150	100	300	100
Be	50	70	20	50	30	100	70	50	70	50
Ca	.7	.7	.3	2	1	3	5	1.5	3	.7
Co	< 10	< 10	< 10	< 10	< 10	< 10	< 10	< 10	< 10	< 10
Cr	150	30	10	30	50	20	20	20	20	20
Cu	15	10	7	5	< 10	< 10	5	5	< 10	7
Fe	1	1.5	1	1	1	1	1	1	1	1
La	100	150	50	100	20	150	100	150	150	150
Li	100	100	100	100	100	100	100	100	100	100
Mn	500	300	500	500	500	300	500	300	300	300
Mo	10	5	5	5	5	< 10	< 10	5	5	< 10
Na	2	2	2	3	3	3	2	3	2	2
Nb	50	100	20	50	70	30	30	50	50	50
Ni	< 10	15	7	5	< 10	< 10	< 10	< 10	10	< 10
Pb	70	100	70	100	100	70	70	70	70	70
Sb	< 100	< 100	< 100	< 100	< 100	< 100	< 100	< 100	< 100	< 100
Sc	< 10	5	< 10	5	< 10	5	5	< 10	5	< 10
Sn	10	15	10	10	10	10	10	10	10	10
Sr	100	200	100	200	100	200	200	100	200	100
Ti	.07	.15	.05	.1	.07	.1	.1	.1	.2	.1
V	< 10	10	10	10	10	10	10	10	10	10
W	< 100	< 100	< 100	< 100	< 100	< 100	< 100	50	70	< 100
Y	70	150	10	70	10	70	20	20	70	20
Zn	< 200	< 200	< 200	< 200	< 200	< 200	< 200	< 200	< 200	< 200
Zr	100	300	100	100	70	200	70	100	700	200

SPECTROCHEMICAL ANALYSIS

OF 29 OTHER ELEMENTS ASSOCIATED

WITH THE SPOR MOUNTAIN DRILLING PROJECT

Hole No. 29 (continued)

Element (ppm)	Footage 1046-1050	1050-1055	1055-1060	1060-1064
Ag	<.5	<.5	<.5	<.5
Al	7	7	6	6
As	<200	<200	<200	<200
B	<10	<10	<10	<10
Ba	700	700	700	700
Be	15	15	15	10
Ca	.7	.7	.7	.7
Co	<10	<10	<10	<10
Cr	50	100	50	50
Cu	5	15	<10	<10
Fe	1	1.5	1.5	1
La	100	150	100	100
Li	<100	<100	<100	<100
Mn	700	300	300	300
Mo	<10	<10	5	5
Na	2	2	2	2
Nb	10	10	10	10
Ni	<10	<10	10	10
Pb	70	70	70	70
Sb	<100	<100	<100	<100
Sc	<10	<10	<10	<10
Sn	<10	<10	<10	<10
Sr	200	500	500	300
Ti	.15	.5	.1	.1
V	10	15	10	10
W	<100	<100	<100	50
Y	10	10	10	10
Zn	<200	<200	<200	<200
Zr	100	50	50	70

SPOR MOUNTAIN DRILLING PROJECT

Core Log for Hole No. 29

Logged by: Chuck Beverly | Date: October 24, 1978 |

Footage	Cumulative Footage	Lithology	Color	Texture	Induration/ Welding	Lithic Fragmentation	Matrix	Alteration/ Diagenesis	Stratified Sorted	Remarks
0-168		Spherulitic rhyolite	Red-Black	Spherulitic	Strong	None		Quartz drusy fills vugs		Spherulitic Rhyolite--with abundant 1/8 to 2 in. spherules in locally banded zones; poorly developed black glass bands throughout. Locally brecciated with minor, drusy quartz crystals on fractures or filling vugs.
168-201		Basal rhyolite breccia	Red-Black		Strong	Abundant glass		None		Basal Rhyolite Breccia--with abundant angular and rounded vitrophere fragments.
201-285		Black glass vitrophyre	Black	Massive	Strong					Black Glass Vitrophyre--massive with porphyritic texture locally brecciated from 235-270 feet; then massive to 280 feet; then locally altered to sanded glass at 285 feet.
285-788		Lithic tuff with water-laid sands	Buff-White	Variable				Well-sorted		Lithic Tuff--well sorted at top with 1/4 in. clasts, which grade into fine-grained, well sorted glass-sand, with 1/8 in. clay lenses. This sand is unique in color and texture. Sand from 304-309 feet, then back into poorly sorted angular clasts.

Core Log for Hole No. 29

Logged by: Chuck Beverly

Date: October 24, 1978

Footage	Cumulative Footage	Lithology	Color	Texture	Induration/ Welding	Lithic Fragmentation	Matrix	Alteration/ Diagenesis	Stratified Sorted	Remarks
										Base-surge sorting 350-352 feet. Pumice agglomerate 352-360 feet; poorly consolidated. Sand at 360-384 feet; altered tuff at 413-788 feet.
788-1046		Pink rhyolite	Pink		Strong	A few red rhyolite fragments	Ash	Magnesium and iron		Pink Rhyolite--with abundant magnesium and iron staining from 788 feet.
1046-1064		Altered lithic tuff								Altered Lithic Tuff.
1064-1080		Vitrophyre	Black		Strong	A few				Black Vitrophyre--granular black glass and crystals.
1080-1264		Pink and green rhyolite (biotite-rich)	Pink and Green		Moderate	A few dolomite clasts at 1150 feet				Pink and Green Biotite Rhyolite--with chlorite altered mafics and locally abundant hematite on fractures. Abundant quartz, filling fractures.
1264-1283		Vitrophyre	Green-Black							Vitrophyre--green to black glass.

SPOR MOUNTAIN DRILLING PROJECT

Core Log for Hole No. 29

Logged by: Chuck Beverly

Date: October 24, 1978

Footage	Cumulative Footage	Lithology	Color	Texture	Induration/ Welding	Lithic Fragmentation	Matrix	Alteration/ Diagenesis	Stratified Sorted	Remarks
1283-1500		Green rhyolite	Green/ Gray	Equigranular				Chlorite alteration of some mafics.		Green Biotite Rhyolite--same as above, with chlorite altered mafics. Local zones of +15% biotite disseminated throughout. Equigranular texture.

APPENDIX B

RESULTS OF ANALYSES, OF 11 ELEMENTS,

BY VARIOUS METHODS

Hole No. 30

Footage	U_3O_8 [1] (ppm)	Mn [2] (ppm)	V [2] (ppm)	Cs [3] (ppm)	Li [3] (ppm)	Be [3] (ppm)	Se [4] (ppm)	eK [5] (pct)	eU [5] (ppm)	eTh [5] (ppm)	F [6] (ppm)
20-25	7	361	18	5	25	2	<1	2.80	6	25	432
25-30	8	313	18	4	18	2	<1	3.28	7	24	336
30-35	8	504	18	7	22	2	<1	3.68	6	20	400
35-40	5	634	20	8	20	2	<1	3.72	4	26	376
40-45	5	261	40	10	18	4	<1	3.41	4	24	352
45-50	4	505	20	8	20	5	<1	3.44	3	32	424
50-55	5	375	37	8	11	5	<1	3.44	2	21	212
55-60	6	327	36	7	9	5	<1	3.35	4	24	204
60-65	5	360	34	7	12	4	<1	4.15	7	21	168
65-70	7	312	17	7	10	5	<1	4.21	6	22	---
700-705	4	350	17	12	23	5	<1	4.21	6	24	186
705-710	5	567	17	14	24	4	<1	3.60	4	21	216
710-715	4	452	16	11	23	4	<1	3.60	5	21	196
715-720	4	359	19	11	24	4	<1	3.76	5	25	208
720-725	4	449	20	12	24	5	<1	3.88	5	26	188
725-730	3	511	20	8	24	2	<1	3.98	4	27	200
730-735	4	384	18	9	22	5	<1	3.65	6	28	220
735-740	5	182	30	8	24	5	<1	4.15	8	25	214
740-745	5	211	53	9	23	4	<1	4.35	5	20	204
745-750	4	133	19	10	23	5	<1	4.59	6	26	212
1330-1335	11	309	19	6	15	4	<1	4.58	8	26	252
1335-1340	7	737	18	7	18	5	<1	4.39	10	21	316
1340-1345	6	366	19	6	17	4	<1	4.60	10	22	336
1345-1350	7	368	18	17	18	5	<1	4.59	7	22	308
1350-1355	11	399	18	11	16	4	<1	4.42	11	21	312
1355-1360	8	493	37	11	16	5	<1	4.80	12	20	328
1360-1365	9	343	40	8	16	4	<1	5.10	12	29	368

RESULTS OF ANALYSES, OF 11 ELEMENTS

BY VARIOUS METHODS

Hole No. 30

Footage	U_3O_8 [1] (ppm)	Mn [2] (ppm)	V [2] (ppm)	Cs [3] (ppm)	Li [3] (ppm)	Be [3] (ppm)	Se [4] (ppm)	eK [5] (pct)	eU [5] (ppm)	eTh [5] (ppm)	F [6] (ppm)
1365-1370	9	319	20	8	18	5	<1	4.43	12	20	264
1370-1375	10	302	16	11	16	5	<1	4.26	13	22	276
1375-1380	8	179	16	8	29	4	<1	4.03	10	18	288
1472-1475	21	424	16	5	28	2	<1	4.08	20	22	208
1475-1480	49	320	38	6	24	2	<1	3.44	29	26	208
1480-1485	16	516	40	12	20	2	<1	2.91	19	28	416
1485-1490	11	553	65	10	20	4	<1	2.58	13	20	496
1490-1492	1	474	35	11	19	5	<1	-	-	-	320

1/ Methods of Analyses: Fluorometric

2/ Atomic Absorption

3/ Flame

4/ Spectro fluorometric

5/ Gamma-Ray Spectroscopy

6/ Specific Ion

SPECTROCHEMICAL ANALYSIS

OF 29 OTHER ELEMENTS ASSOCIATED

WITH THE SPOR MOUNTAIN DRILLING PROJECT

Hole No. 30

Element (ppm)	Footage 20-25	25-30	30-35	35-40	40-45	45-50	50-55	55-60	60-65	65-70	700-705	705-710	710-715
Ag	<.5	<.5	<.5	<.5	<.5	<.5	<.5	<.5	<.5	<.5	<.5	<.5	<.5
Al	7	7	7	5	6	4	6	7	5	4	6	7	6
As	<200	<200	<200	<200	<200	<200	<200	<200	<200	<200	<200	<200	<200
B	<10	<10	<10	<10	<10	<10	<10	<10	<10	<10	<10	<10	<10
Ba	1000	700	700	700	700	700	700	1000	700	500	700	700	700
Be	10	15	20	15	15	10	10	15	15	10	10	15	15
Ca	.7	.7	.7	.7	.7	.5	.5	1	.5	.3	.7	2	1.5
Co	<10	5	5	<10	<10	<10	<10	5	<10	<10	<10	<10	<10
Cr	100	200	200	10	30	10	10	50	20	10	30	20	20
Cu	15	15	15	5	7	<10	<10	15	<10	<10	5	<10	<10
Fe	1	1.5	1.5	1	1	.7	.7	1.5	1	7	1	1	1
La	100	100	100	100	100	100	100	150	150	100	150	150	100
Li	<100	<100	<100	<100	<100	<100	<100	<100	<100	<100	<100	<100	<100
Mn	200	200	200	300	200	300	300	300	200	300	300	500	500
Mo	5	5	5	<10	<10	<10	<10	<10	<10	<10	<10	<10	<10
Na	2	3	3	1	1.5	1	1	2	1.5	1	1.5	1.5	1.5
Nb	10	10	10	10	10	<20	<20	10	10	<20	<20	10	10
Ni	10	<10	<10	<10	<10	5	<10	30	<10	<10	<10	<10	<10
Pb	70	70	70	50	70	30	50	70	50	30	50	70	50
Sb	<100	<100	<100	<100	<100	<100	<100	<100	<100	<100	<100	<100	<100
Sc	<10	5	5	<10	5	<10	<10	5	<10	<10	<10	<10	<10
Sn	<10	<10	<10	<10	<10	<10	<10	<10	<10	<10	<10	<10	<10
Sr	700	300	300	700	700	300	700	1000	700	500	200	500	300
Ti	.1	.15	.15	.15	.15	.1	.15	.15	.15	.07	.15	.15	.15
V	10	10	10	10	15	10	10	15	10	10	10	10	10
W	50	<100	<100	<100	<100	<100	<100	<100	<100	<100	<100	<100	<100
Y	10	10	10	10	10	10	10	10	10	10	10	10	10
Zn	<200	<200	<200	<200	<200	<200	<200	<200	<200	<200	<200	<200	<200
Zr	70	100	200	70	70	70	70	70	70	70	100	100	200

SPECTROCHEMICAL ANALYSIS

OF 29 OTHER ELEMENTS ASSOCIATED

WITH THE SPOR MOUNTAIN DRILLING PROJECT

Hole No. 30 (continued)

Element (ppm)	Footage 715-720	720-725	725-730	730-735	735-740	740-745	745-750	1330-1335	1335-1340	1340-1345
Ag	<5	<.5	<.5	<.5	<.5	<.5	<.5	<.5	<.5	<.5
Al	7	7	7	6	6	6	7	7	7	7
As	<200	<200	<200	<200	<200	<200	<200	<200	<200	<200
B	<10	<10	<10	<10	<10	<10	<10	<10	<10	<10
Ba	700	700	700	700	1000	1000	1000	700	1000	700
Be	15	20	15	15	15	15	15	20	15	15
Ca	1.5	3	3	1.5	1	1	.7	1	1.5	.7
Co	<10	<10	<10	<10	<10	<10	<10	<10	5	5
Cr	20	30	50	50	50	30	70	150	150	200
Cu	15	<10	5	<10	10	7	7	15	15	15
Fe	1	1	1	1	1.5	1	1.5	1.5	1.5	1.5
La	150	150	150	150	150	150	150	100	100	100
Li	<100	<100	<100	<100	<100	<100	<100	<100	<100	<100
Mn	300	500	500	300	100	100	100	200	500	200
Mo	<10	<10	<10	<10	<10	<10	<10	10	10	5
Na	1.5	1.5	1.5	1.5	1.5	2	1.5	3	3	3
Nb	10	10	20	10	10	10	10	10	20	10
Ni	<10	<10	<10	<10	<10	<10	<10	<10	<10	<10
Pb	70	70	70	70	70	70	70	70	70	70
Sb	<100	<100	<100	<100	<100	<100	<100	<100	<100	<100
Sc	5	5	5	5	5	5	5	5	5	5
Sn	<10	<10	<10	<10	<10	<10	<10	<10	<10	<10
Sr	200	300	300	300	300	300	300	300	500	300
Ti	.15	.2	1.5	.15	.15	.15	.15	.2	.2	.2
V	15	15	10	10	15	15	15	15	15	10
W	<100	<100	<100	<100	<100	<100	<100	<100	<100	<100
Y	10	10	10	10	10	10	10	10	20	10
Zn	<200	<200	<200	<200	<200	<200	<200	<200	<200	<200
Zr	200	100	200	100	100	100	70	100	200	100

SPECTROCHEMICAL ANALYSIS

OF 29 OTHER ELEMENTS ASSOCIATED

WITH THE SPOR MOUNTAIN DRILLING PROJECT

Hole No. 30 (continued)

Element (ppm)	Footage								
	1345-1350	1350-1355	1355-1360	1360-1365	1365-1370	1370-1375	1375-1380	1472-1475	1475-1480
Ag	<.5	<.5	<.5	<.5	<.5	<.5	<.5	<.5	<.5
Al	7	7	7	7	7	7	7	7	7
As	<200	<200	<200	<200	<200	<200	<200	<200	<200
B	<10	<10	<10	<10	<10	<10	<10	<10	<10
Ba	700	700	700	1000	1000	700	700	700	1000
Be	15	15	15	15	15	15	15	15	15
Ca	.3	.7	.3	.3	.3	.7	.7	.7	.7
Co	5	5	5	5	5	5	5	5	5
Cr	150	200	150	150	200	150	150	150	200
Cu	20	20	10	20	15	30	10	10	15
Fe	1.5	1.5	1.5	1.5	1.5	1.5	1.5	1.5	1.5
La	100	150	150	150	100	150	100	100	150
Li	<100	<100	<100	<100	<100	<100	<100	<100	<100
Mn	300	300	300	300	200	200	200	300	200
Mo	10	15	5	10	5	5	5	7	5
Na	3	3	3	3	3	3	3	3	3
Nb	10	20	20	20	20	10	20	10	10
Ni	<10	5	<5	<5	<5	<5	<5	<5	<5
Pb	70	70	70	70	70	70	70	70	70
Sb	<100	<100	<100	<100	<100	<100	<100	<100	<100
Sc	5	5	5	5	5	5	5	5	5
Sn	<10	<10	<10	<10	<10	<10	<10	<10	<10
Sr	300	300	300	300	300	500	300	300	300
Ti	.2	.2	.2	.2	.15	.2	.2	.15	.15
V	15	15	15	15	10	15	10	10	10
W	<100	<100	<100	<100	<100	<100	<100	<100	<100
Y	10	10	10	10	10	10	10	10	10
Zn	<200	<200	<200	<200	<200	<200	<200	<200	<200
Zr	100	300	100	200	100	50	100	100	70

SPECTROCHEMICAL ANALYSIS

OF 29 OTHER ELEMENTS ASSOCIATED

WITH THE SPOR MOUNTAIN DRILLING PROJECT

Hole No. 30 (continued)

Element (ppm)	Footage 1480-1485	1485-1490	1490-1492
Ag	< .5	<.5	<.5
Al	7	7	7
As	<200	<200	< 200
B	<10	<10	<10
Ba	700	700	700
Be	15	15	15
Ca	1	1.5	1.5
Co	5	5	5
Cr	50	100	100
Cu	15	15	7
Fe	1.5	1.5	1.5
La	150	150	150
Li	<100	<100	<100
Mn	500	300	500
Mo	<10	<10	<10
Na	3	3	3
Nb	10	20	10
Ni	<5	<5	<5
Pb	70	70	70
Sb	<100	<100	<100
Sc	5	5	5
Sn	<10	<10	<10
Sr	300	500	700
Ti	.15	.15	.15
V	10	15	10
W	<100	<100	<100
Y	70	10	10
Zn	<200	<200	<200
Zr	100	100	200

SPOR MOUNTAIN DRILLING PROJECT

Core Log for Hole No. 30

Logged by: Charles Beverly | Date: October 13, 1978 |

Footage	Cumulative Footage	Lithology	Color	Texture	Induration/ Welding	Lithic Fragmentation	Matrix	Alteration/ Diagenesis	Stratified Sorted	Remarks
0-20		Casing gravel								
20-1380		Altered lithic tuff #4	Pink Gray			Abundant sedimentary and volcanic lithics throughout; 2-5 foot clasts from 23-35 feet. Abundant pumice alteration limestone (?) and porphyritic rhyolite at top of section.		Waxy clay replaces limestone (?) and pumice	None Sorted 135 to 153 feet	Lithic Tuff--equivalent of Staatz's #4 tuff, except 25% of clasts are totally replaced by pink-green-white waxy clay (alunite-kaolinite?); and, as a result, is unidentifiable. Large 5 foot clasts of older (?) porphyritic rhyolite at 23-35 feet, but overall most lithics range in size from 1/2 to 2 in., with less than 20% as sedimentary fragments, locally containing up to 50% pumice clasts (most of which are altered and leave vugs and cavities). Strong evidence for gas sorting of and within this ash flow tuff from 135-153 feet; with very fine-grained ash and biotite sorting. General decrease in clast size to 1/4 to 1 in. from 250 feet. At 309 feet and 320 feet, limestone clasts effervesce. First evidence in this tuff. Clasts further up the hole are too altered to exhibit this effect.

SPOR MOUNTAIN DRILLING PROJECT

Core Log for Hole No. 30

Logged by: Charles Beverly

Date: October 13, 1978

Footage	Cumulative Footage	Lithology	Color	Texture	Induration/ Welding	Lithic Fragmentation	Matrix	Alteration/ Diagenesis	Stratified Sorted	Remarks
									scattered quartz crystals.	Typically nonsorted from 320 feet, with an oxidized quartzose arkose fragment at 346 feet. Less alteration in vugs and cavities from 360 feet. Opalized clast-lithic at 324 feet, with an increase in clay and hematite; from 460 feet, disseminated throughout and with more vugs. Pink-red in color from 460 feet. Increase in manganese dissemination throughout, from 562 feet. Increase in light green clay (?) alteration chips throughout. Recognizable abundant sediment clasts that have not been altered from 650 feet.
				Corn flake 785-1040 feet					Hematite at + 5% dissemination	Hematite alteration (primary), appears responsible for alternating red and green alteration in tuff, with green clay alteration clasts and red ash matrix. Good corn-flake texture with altered tabular, waxy shale (?) chips at 785-803 feet, were crystal-rich porphyritic rhyolite contact begins.

SPOR MOUNTAIN DRILLING PROJECT

Core Log for Hole No. 30

Logged by: Charles Beverly

Date: October 13, 1978

Footage	Cumulative Footage	Lithology	Color	Texture	Induration/ Welding	Lithic Fragmentation	Matrix	Alteration/ Diagenesis	Stratified Sorted	Remarks
						85% of lithics are soapstone. Waxy clay altered		Hematite: 15-85% of clasts are soapstone (?). Green waxy clay alteration of lithics throughout, with a few black biotite crystals in a waxy clay.		Zone 803-825 feet contains numerous porphyritic rhyolite fragments. Hematite disseminated 15% from 800-900 feet, and decreases there to less than 1%; where at 905 feet, no red tuff observed, just green waxy soapstone(?). Clay altered clasts are in a white ash matrix. Scattered corn-flake texture to lithic clasts throughout. No vugs from 930-1045 feet.
					Moderate to strong from 1164 feet	Abundant flat pumice (?). Corn flake texture throughout, with rimmed fragments locally		Trace fluorite at 1099 feet; clasts with altered rims.	Sorted at 1099 feet	Contact at 1126 feet to more equigranular, fine-grained biotite and plagioclase and quartz-rich crystal tuff. More foliated texture from 1164 feet, with what appears to be flattened pumice due to moderate welding of this ash flow tuff. Scattered large 3 in. clasts of older rhyodacite. Locally more porphyritic crystal tuff from 1240 feet; but still contains scattered clasts. Much Much more strongly welded from from 1315 feet, with abundant lithic clasts of varying size,

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								Barite blades and quartz crystals at 1215 feet fill fractures. Abundant hematite/ chlorite (?) on fractures from 1225 feet. Disseminated hematite contact at 1338 feet.	Clay altered clasts	shape and volcanic-type rock. Texture more prominent as abundant plagioclase phenocrysts in ground mass. Abundant hematite disseminated, and on fractures, from 1335-1427 feet.
1380-1427		Fault breccia	Red Brown							Fault Breccia--from 1380-1427 feet, with missing core (lost in drilling) from 1493-1513 feet. Brecciated, welded ash flow tuff.

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Footage	Cumulative Footage	Lithology	Color	Texture	Induration/ Welding	Lithic Fragmentation	Matrix	Alteration/ Diagenesis	Stratified Sorted	Remarks
1427-1492	1492	Welded tuff	Gray		Strong welding from 1492 feet			Strong hematite on fractures. Half-inch long calcite crystals, at 1442 feet, fill fractures.		Gray Welded Tuff--with water-worked sorted mud-shale-silt lenses from 1427-1462 feet. Welded tuff contains clay-altered (soapstone-talc) clasts and local porphyritic zones of abundant plagioclase and biotite in groundmass.