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Spectrographic analyses of insoluble-residue samples, Harrison 1° x 2° quadrangle, Missouri and Arkansas: Drill holes nos. 31, 32, and 34

by

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INTRODUCTION

Geochemical studies of the Harrison 1° x 2° quadrangle, Missouri and Arkansas, were begun in 1983 as part of a multidisciplinary study of the quadrangle by the U.S. Geological Survey, the Missouri Division of Geology and Land Survey, and the Arkansas Geological Commission. This study is administered under the Conterminous United States Mineral Assessment Program (CUSMAP) of the U.S. Geological Survey. The purpose of the study was to assess the mineral resource potential of the area by integrated geologic, geochemical, and geophysical studies.

The geochemical work has been directed at the characterization of the sedimentary rocks in the quadrangle through spectrographic analyses of dilute-hydrochloric-acid insoluble-residue samples of whole rock collected from widely spaced drill holes. Drill holes have been selected for study from the sample libraries of the Missouri Division of Geology and Land Survey and the Arkansas Geological Commission. None of the holes are company confidential and none intersect known economically significant mineralized ground.

The analytical results for drill hole no. 31, drill hole no. 32, and drill hole no. 34 are given in this report. Drill hole no. 31 is located in sec. 13, T. 18 N., R. 16 W. in Marion County, Arkansas; drill hole no. 32 is located in sec. 10, T. 17 N., R. 15 W., in Marion County, Arkansas; and drill hole no. 34 is located in sec. 6, T. 17 N., R. 14 W. in Marion Co.; Arkansas. Data for the insoluble-residue samples in drill holes 31, 32, and 34 are listed in tables 1, 2, and 3, respectively. These are three core holes that are part of a drilling program and therefore have no well and county numbers. The numbers used for these three holes are the same numbers that were used in the 1976 V-A2 Arkansas Zinc drilling program, and can be located by those numbers at the Arkansas Geologic Commission.

PREPARATION AND ANALYSIS OF SAMPLES

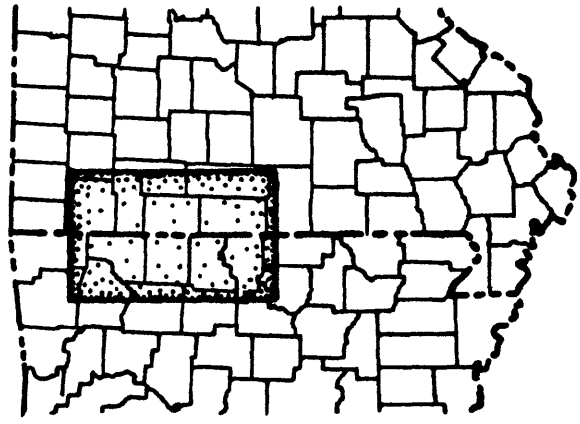
Insoluble residues were prepared by dissolving approximately 80 grams of crushed carbonate rock in repeated applications of 1:5 hydrochloric acid until the carbonate was removed. The samples were then filtered and dried overnight at 50°C.

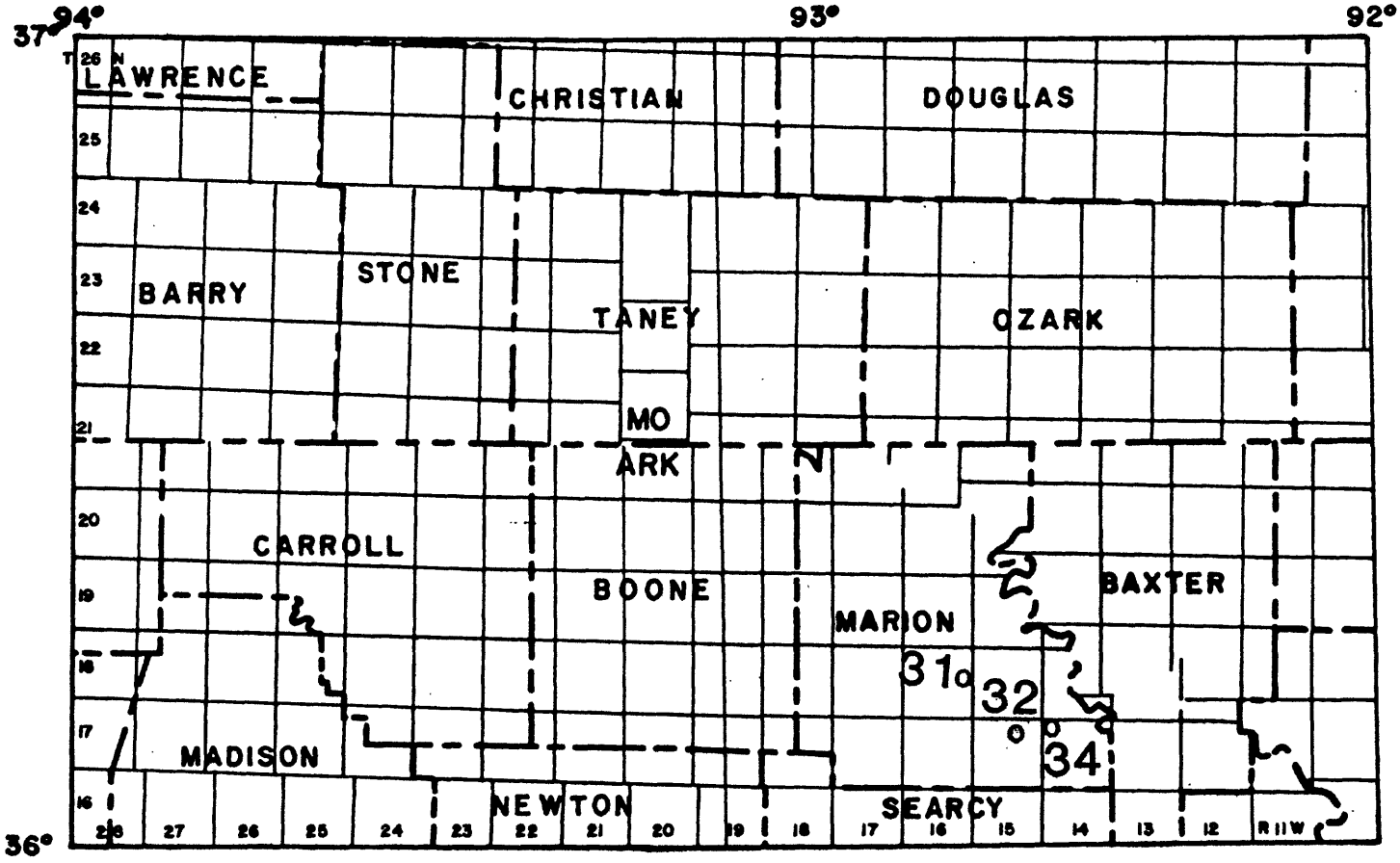
The samples were then pulverized to minus 140 mesh (0.105 mm) in a vertical grinder equipped with ceramic plates. Some insoluble-residue samples contained only a few milligrams of material, and these were hand ground in an agate mortar and pestle. A hand magnet was passed over the insoluble-residue samples before grinding to remove filings or chips of drill bit that might have been present.

Each sample was analyzed semiquantitatively for 31 elements using a six-step D.C.-arc optical-emission spectrographic method (Grimes and Marranzino, 1968).

The semiquantitative spectrographic values are reported as six steps per order of magnitude (1, 0.7, 0.5, 0.3, 0.2, and 0.15) and are approximate geometric midpoints of the concentration ranges. The precision is shown to be within one adjoining reporting interval on each side of the reported value 83 percent of the time and within two adjoining intervals on each side of the reported value 96 percent of the time (Motooka and Grimes, 1976).

The visual lower limits of determination for the 31 elements that were determined spectrographically for this report are as follows:





HARRISON 1°X2° QUADRANGLE

Missouri and Arkansas

Locations of drill holes discussed in this report

For those given in percent:

Calcium	0.05
Iron	0.05
Magnesium	0.02
Titanium	0.002

For those given in ppm:

Antimony	100	Molybdenum	5
Arsenic	200	Nickel	5
Barium	20	Niobium	20
Beryllium	1	Scandium	5
Bismuth	10	Silver	0.5
Boron	10	Strontium	100
Cadmium	20	Thorium	100
Chromium	10	Tin	10
Cobalt	5	Tungsten	50
Copper	5	Vanadium	10
Gold	10	Yttrium	10
Lanthanum	20	Zinc	200
Lead	10	Zirconium	10
Manganese	10		

DESCRIPTION OF DATA TABLES

Each sample is identified by an eight-character code, beginning with the letter H, signifying Harrison. The next number signifies the USGS drill-hole number. The letter R follows this number and signifies insoluble residue. The last four digits identify the depth of the sample from the drill-hole collar. Most samples are composites of 10-foot intervals; some are composites of thicker intervals, dependent upon the original sample interval and upon the amount of sample material available for analysis.

The stratigraphic unit of the sample is identified by a coded number in the last column (tables 1, 2, and 3) following the thorium column. The code and formation names are as follows:

Code	Formation
22	Powell Dolomite
23	Everton Formation
39	Jefferson City-Cotter Undifferentiated

EXPLANATION OF DATA

The columns in tables 1 through 3 have headings of sample, elements, and formation. The letter S over the columns signifies emission-spectrographic data.

Iron, magnesium, calcium, and titanium are reported in percent (%); all other elements are in parts per million. Other symbols shown on the tables are:

N = Not detected at the limit of determination shown;
< = Detected, but below the limit of determination shown; and
> = Greater than the limit of determination shown.

Because of the formatting used in the computer program that produced tables 1-3, some of the elements listed in these tables (Fe, Mg, Ca, Ti, Ag, and Be) carry one or more nonsignificant zeros to the right of the significant digits. The analyst did not determine these elements to the accuracy suggested by the extra zeros.

RASS

Upon completion of all analytical work, the information from the samples is entered into a computer-based file called RASS (Rock Analysis Storage System). This RASS file contains both descriptive geological information and analytical data. Any or all of this information may be retrieved and placed in a standard form (STATPAC) for computerized statistical manipulation or publication (VanTrump and Miesch, 1977).

ACKNOWLEDGMENTS

The authors wish to thank the Missouri Division of Geology and Land Survey--Dr. Wallace B. Howe, former Director, and Dr. James H. Williams, Director--and the Arkansas Geological Commission, Dr. Norman F. Williams, State Geologist, for making these drill-hole samples available from their sample libraries.

REFERENCES

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Missouri Geological Survey, 1979, Geologic Map of Missouri: Rolla, Missouri, scale 1:500,000.

Motooka, J. M., and Grimes, D. J., 1976, Analytical precision of one-sixth order semiquantitative spectrographic analyses: U.S. Geological Survey Circular 738, 25 p.

VanTrump, George, Jr., and Miesch, A. T., 1977, The U.S. Geological Survey RASS-STATPAC system for management and statistical reduction of geochemical data: Computers and Geosciences, v. 3, p. 475-488.

TABLE 1.-- SPECTROGRAPHIC ANALYSES OF INSOLUBLE - RESIDUE SAMPLES FROM DRILL HOLE NO. H31, HARRISON 1 X 2 QUADRANGLE, MISSOURI AND ARKANSAS--Continued

Sample	Sb-ppm s	Sc-ppm s	Sn-ppm s	Sr-ppm s	V-ppm s	W-ppm s	Y-ppm s	Zn-ppm s	Zr-ppm s	Th-ppm s	Form
H31R0019	N	N	N	N	10	<50	N	N	100	N	23
H31R0029	N	5	N	N	30	<50	N	N	150	N	23
H31R0039	N	<5	N	N	50	<50	N	N	150	N	23
H31R0049	N	N	N	N	<10	<50	N	N	150	N	23
H31R0059	N	N	N	N	10	<50	N	N	20	N	23
H31R0069	N	N	N	N	20	<50	N	N	100	N	23
H31R0079	N	N	N	N	<10	<50	N	N	50	N	23
H31R0089	N	5	N	N	50	<50	N	N	150	N	23
H31R0099	N	N	N	N	20	<50	N	N	30	N	23
H31R0108	N	<5	N	N	100	<50	N	N	50	N	23
H31R0128	N	<5	N	N	20	<50	N	N	100	N	23
H31R0137	N	5	N	N	150	<50	N	N	200	N	23
H31R0147	N	N	N	N	30	<50	N	200	50	N	23
H31R0157	N	5	N	N	50	<50	N	N	150	N	23
H31R0166	N	N	N	N	<10	<50	N	N	50	N	23
H31R0176	N	5	N	N	50	<50	N	N	70	N	22
H31R0186	N	N	N	N	30	<50	N	N	30	N	22
H31R0195	N	<5	N	N	50	<50	N	N	50	N	22
H31R0205	N	<5	N	N	20	<50	N	N	200	N	22
H31R0215	N	<5	N	N	10	<50	N	N	200	N	22
H31R0225	N	7	N	N	50	<50	N	N	150	N	22
H31R0235	N	10	N	N	70	<50	N	N	100	N	22
H31R0245	N	<5	N	N	30	<50	N	N	50	N	22
H31R0255	N	<5	N	N	30	<50	N	N	70	N	22
H31R0265	N	10	N	N	70	<50	N	N	100	N	22
H31R0275	N	7	N	N	50	<50	N	N	100	N	22
H31R0285	N	7	N	N	70	<50	N	N	70	N	22
H31R0295	N	7	N	N	50	<50	N	N	70	N	22
H31R0305	N	7	N	N	50	<50	N	N	100	N	22
H31R0311	N	7	N	N	70	<50	N	N	70	N	22
H31R0321	N	7	N	N	100	<50	N	N	100	N	22
H31R0331	N	7	N	N	70	<50	N	N	100	N	22
H31R0341	N	5	N	100	70	<50	N	N	100	N	22
H31R0351	N	5	N	N	70	<50	N	N	50	N	22
H31R0361	N	5	N	N	70	<50	N	N	100	N	22
H31R0371	N	7	N	N	100	<50	N	N	50	N	22
H31R0380	N	5	N	N	50	<50	N	N	200	N	22
H31R0390	N	10	N	N	100	<50	N	N	150	N	22
H31R0399	N	N	N	N	20	<50	N	N	20	N	22
H31R0409	N	5	N	N	50	<50	N	N	50	N	22
H31R0419	N	N	N	N	20	<50	N	N	20	N	22
H31R0439	N	<5	N	N	50	<50	N	N	100	N	22
H31R0459	N	N	N	100	10	<50	N	N	<10	N	22
H31R0469	N	5	N	N	70	<50	N	N	50	N	22
H31R0477	N	N	N	N	10	<50	N	N	30	N	39

TABLE 1.-- SPECTROGRAPHIC ANALYSES OF INSOLUBLE - RESIDUE SAMPLES FROM DRILL HOLE NO. H31, HARRISON 1 X 2 QUADRANGLE, MISSOURI AND ARKANSAS--Continued

Sample	Fe-pct. s	Mg-pct. s	Ca-pct. s	Ti-pct. s	Mn-ppm s	Ag-ppm s	As-ppm s	Au-ppm s	B-ppm s	Ba-ppm s
H31R0486	.50	.50	.20	.200	10	N	N	N	50	150
H31R0496	.20	.10	.07	.070	<10	N	N	N	50	50
H31R0506	.30	.10	.07	.070	<10	N	N	N	50	100
H31R0516	.15	.10	.15	.050	<10	N	N	N	30	20
H31R0526	.10	.07	.05	.050	<10	N	N	N	70	100
H31R0536	.10	.07	.10	.020	<10	N	N	N	50	150
H31R0546	.20	.07	.05	.030	<10	N	N	N	50	100
H31R0555	.20	.20	.15	.050	15	N	N	N	50	70
H31R0565	.10	.20	.20	.020	<10	N	N	N	30	50
H31R0575	.20	.05	.05	.020	<10	N	N	N	70	20
H31R0585	1.50	.50	<.05	.200	20	N	N	N	70	100
H31R0592	7.00	.70	<.05	.700	100	N	N	N	150	200
H31R0601	5.00	.50	.15	.300	50	N	N	N	50	500
H31R0611	1.50	.20	.15	.200	20	N	N	N	30	200
H31R0621	.20	.10	.05	.050	<10	N	N	N	30	50
H31R0630	.07	.02	.05	.015	<10	N	N	N	20	50
H31R0640	.10	.10	.15	.020	<10	N	N	N	50	30
H31R0649	3.00	1.00	<.05	.500	50	N	N	N	200	200
H31R0650	.20	.10	<.05	.050	<10	N	N	N	50	50
H31R0659	.15	.07	.05	.030	<10	N	N	N	30	70
H31R0668	5.00	.70	.15	.700	50	N	N	N	150	500
H31R0678	.10	.02	.05	.015	<10	N	N	N	15	150
H31R0688	3.00	1.00	.05	.500	50	N	N	N	200	200
H31R0698	2.00	1.00	.50	.300	30	N	N	N	150	300
H31R0708	2.00	.50	.20	.300	30	N	N	N	100	500
H31R0717	.30	.20	.10	.150	10	N	N	N	50	200
H31R0726	.20	.30	.15	.100	10	N	N	N	50	150
H31R0735	.50	.30	.10	.100	15	N	N	N	70	300
H31R0745	1.00	.70	.15	.200	20	N	N	N	100	150
H31R0755	2.00	.70	.15	.300	50	N	N	N	150	200
H31R0765	1.50	.70	.05	.500	20	N	N	N	100	200
H31R0775	1.00	.50	.20	.150	20	N	N	N	70	150
H31R0785	20.00	.07	.05	.070	15	N	200	N	70	70
H31R0795	.50	.30	<.05	.200	15	N	N	N	100	150
H31R0805	2.00	.30	.05	.200	15	N	N	N	100	150
H31R0815	.20	.07	.05	.050	10	N	N	N	50	150
H31R0825	1.00	.70	.15	.300	20	N	N	N	100	300
H31R0834	.05	.07	.07	.020	10	N	N	N	10	100
H31R0843	.30	.20	.07	.100	10	N	N	N	50	100
H31R0852	1.50	.50	.05	.300	20	N	N	N	100	150
H31R0862	.50	.20	.07	.100	10	N	N	N	50	150
H31R0872	.50	.30	.10	.100	10	N	N	N	70	100
H31R0881	.30	.15	.05	.100	10	N	N	N	70	150
H31R0891	1.00	.50	.15	.150	15	N	N	N	50	100
H31R0900	1.00	.50	.20	.200	15	N	N	N	70	100

TABLE 1.-- SPECTROGRAPHIC ANALYSES OF INSOLUBLE - RESIDUE SAMPLES FROM DRILL HOLE NO. H31, HARRISON 1 X 2 QUADRANGLE, MISSOURI AND ARKANSAS--Continued

Sample	Be-ppm s	Bi-ppm s	Cd-ppm s	Co-ppm s	Cr-ppm s	Cu-ppm s	La-ppm s	Mo-ppm s	Nb-ppm s	Ni-ppm s	Pb-ppm s
H31R0486	1.0	N	N	<5	20	20	N	5	N	10	10
H31R0496	<1.0	N	N	N	15	10	N	<5	N	7	<10
H31R0506	<1.0	N	N	N	15	5	N	5	N	10	15
H31R0516	<1.0	N	N	N	15	5	N	5	N	10	<10
H31R0526	<1.0	N	N	N	15	5	N	<5	N	10	<10
H31R0536	<1.0	N	N	N	15	<5	N	7	N	5	<10
H31R0546	<1.0	N	N	N	10	5	N	N	N	10	<10
H31R0555	<1.0	N	N	N	15	15	N	<5	N	10	<10
H31R0565	<1.0	N	N	N	15	15	N	5	N	10	<10
H31R0575	<1.0	N	N	N	15	5	N	5	N	7	<10
H31R0585	1.0	N	N	5	30	15	N	20	N	15	50
H31R0592	1.5	N	N	20	150	100	N	30	<20	70	100
H31R0601	1.0	N	N	5	20	30	N	15	N	20	30
H31R0611	<1.0	N	N	<5	15	10	N	7	N	10	<10
H31R0621	N	N	N	N	15	15	N	5	N	7	<10
H31R0630	N	N	N	N	10	15	N	N	N	5	<10
H31R0640	N	N	N	N	15	<5	N	<5	N	5	<10
H31R0649	2.0	N	N	10	100	100	N	15	N	50	70
H31R0650	<1.0	N	N	N	15	5	N	5	N	5	10
H31R0659	N	N	N	N	15	100	N	5	N	5	<10
H31R0668	1.0	N	N	15	50	100	N	30	N	50	300
H31R0678	N	N	N	N	10	<5	N	<5	N	5	<10
H31R0688	1.5	N	N	5	70	20	N	10	N	50	50
H31R0698	1.0	N	N	5	50	20	N	10	N	30	20
H31R0708	1.0	N	N	7	50	30	N	10	N	20	20
H31R0717	N	N	N	N	20	7	N	5	N	7	<10
H31R0726	N	N	N	<5	20	7	N	<5	N	7	<10
H31R0735	<1.0	N	N	<5	15	20	N	<5	N	10	<10
H31R0745	1.5	N	N	5	20	15	N	15	N	15	30
H31R0755	1.5	N	N	10	50	100	N	15	N	50	70
H31R0765	1.0	N	N	5	70	20	N	20	N	30	70
H31R0775	<1.0	N	N	5	20	20	N	30	N	15	50
H31R0785	N	N	N	N	10	30	N	10	N	10	<10
H31R0795	1.0	N	N	<5	30	15	N	<5	N	15	10
H31R0805	1.0	N	N	5	20	20	N	15	N	20	30
H31R0815	<1.0	N	N	N	10	5	N	5	N	7	<10
H31R0825	1.5	N	N	<5	30	15	N	10	N	20	<10
H31R0834	N	N	N	N	10	<5	N	<5	N	5	N
H31R0843	<1.0	N	N	N	20	10	N	5	N	10	<10
H31R0852	1.0	N	N	5	50	20	N	7	N	20	30
H31R0862	N	N	N	<5	20	10	N	<5	N	7	<10
H31R0872	<1.0	N	N	<5	20	5	N	<5	N	7	<10
H31R0881	<1.0	N	N	<5	15	5	N	<5	N	7	<10
H31R0891	<1.0	N	N	5	15	20	N	30	N	10	20
H31R0900	1.0	N	N	5	20	15	N	15	N	15	50

TABLE 1.-- SPECTROGRAPHIC ANALYSES OF INSOLUBLE - RESIDUE SAMPLES FROM DRILL HOLE NO. H31, HARRISON 1 X 2 QUADRANGLE, MISSOURI AND ARKANSAS--Continued

Sample	Sb-ppm s	Sc-ppm s	Sn-ppm s	Sr-ppm s	V-ppm s	W-ppm s	Y-ppm s	Zn-ppm s	Zr-ppm s	Th-ppm s	Form
H31R0486	N	<5	N	N	50	<50	N	N	50	N	39
H31R0496	N	N	N	N	10	<50	N	N	20	N	39
H31R0506	N	N	N	N	10	<50	N	N	50	N	39
H31R0516	N	N	N	N	10	<50	N	N	20	N	39
H31R0526	N	N	N	N	10	<50	N	N	50	N	39
H31R0536	N	N	N	1,500	10	<50	N	N	20	N	39
H31R0546	N	N	N	100	15	<50	N	N	20	N	39
H31R0555	N	N	N	100	15	<50	N	N	50	N	39
H31R0565	N	N	N	N	10	<50	N	N	20	N	39
H31R0575	N	N	N	N	10	<50	N	N	20	N	39
H31R0585	N	5	N	N	30	<50	N	N	50	N	39
H31R0592	N	7	N	N	50	<50	15	<200	100	N	39
H31R0601	N	5	N	N	20	<50	N	N	200	N	39
H31R0611	N	<5	N	N	15	<50	N	N	50	N	39
H31R0621	N	N	N	N	15	<50	N	N	<10	N	39
H31R0630	N	N	N	N	10	<50	N	N	<10	N	39
H31R0640	N	N	N	N	10	<50	N	N	N	N	39
H31R0649	N	7	N	N	70	<50	N	N	50	N	39
H31R0650	N	N	N	N	15	<50	N	N	20	N	39
H31R0659	N	N	N	N	10	<50	N	N	<10	N	39
H31R0668	N	7	N	N	50	<50	10	N	300	N	39
H31R0678	N	N	N	N	10	<50	N	N	50	N	39
H31R0688	N	7	N	N	50	<50	N	N	100	N	39
H31R0698	N	7	N	N	50	<50	<10	N	200	N	39
H31R0708	N	5	N	<100	30	<50	10	N	500	N	39
H31R0717	N	<5	N	<100	20	<50	N	N	50	N	39
H31R0726	N	N	N	<100	20	<50	N	N	30	N	39
H31R0735	N	N	N	5,000	20	<50	N	N	20	N	39
H31R0745	N	5	N	<100	30	<50	N	N	50	N	39
H31R0755	N	5	N	<100	50	<50	N	N	70	N	39
H31R0765	N	5	N	<100	50	<50	N	N	70	N	39
H31R0775	N	<5	N	<100	30	<50	N	N	50	N	39
H31R0785	N	N	N	N	15	<50	N	N	10	N	39
H31R0795	N	5	N	N	30	<50	N	N	70	N	39
H31R0805	N	<5	N	N	30	<50	N	N	50	N	39
H31R0815	N	N	N	N	10	<50	N	N	50	N	39
H31R0825	N	5	N	N	30	<50	10	N	300	N	39
H31R0834	N	N	N	N	<10	<50	N	N	70	N	39
H31R0843	N	N	N	N	20	<50	N	N	70	N	39
H31R0852	N	5	N	N	50	<50	N	N	100	N	39
H31R0862	N	N	N	N	20	<50	N	N	50	N	39
H31R0872	N	N	N	N	30	<50	N	N	50	N	39
H31R0881	N	N	N	N	30	<50	N	N	30	N	39
H31R0891	N	<5	N	N	30	<50	N	N	50	N	39
H31R0900	N	<5	N	N	30	<50	N	N	100	N	39

TABLE 1.-- SPECTROGRAPHIC ANALYSES OF INSOLUBLE - RESIDUE SAMPLES FROM DRILL HOLE NO. H31, HARRISON 1 X 2 QUADRANGLE, MISSOURI AND ARKANSAS--Continued

Sample	Fe-pct. s	Mg-pct. s	Ca-pct. s	Ti-pct. s	Mn-ppm s	Ag-ppm s	As-ppm s	Au-ppm s	B-ppm s	Ba-ppm s
H31R0910	.70	.30	.15	.100	10	N	N	N	50	100
H31R0920	1.00	.10	.05	.100	10	N	N	N	50	150
H31R0936	.50	.20	.20	.070	15	N	N	N	50	150
H31R0946	.50	.10	.10	.070	15	N	N	N	70	200
H31R0959	1.50	.30	.10	.200	20	N	N	N	100	200
H31R0969	1.00	.50	.20	.200	15	N	N	N	100	150
H31R0979	1.50	.50	.10	.200	20	N	N	N	100	150
H31R0989	1.00	.10	.10	.020	10	N	N	N	50	50
H31R1000	.50	.50	.15	.150	15	N	N	N	100	150

Sample	Be-ppm s	Bi-ppm s	Cd-ppm s	Co-ppm s	Cr-ppm s	Cu-ppm s	La-ppm s	Mo-ppm s	Nb-ppm s	Ni-ppm s	Pb-ppm s
H31R0910	<1.0	N	N	N	10	<5	N	<5	N	7	<10
H31R0920	1.0	N	N	N	10	5	N	<5	N	10	<10
H31R0936	N	N	N	<5	15	15	N	5	N	10	<10
H31R0946	<1.0	N	N	<5	15	20	N	7	N	10	10
H31R0959	1.0	N	N	5	20	20	N	15	N	20	30
H31R0969	<1.0	N	N	<5	20	300	N	N	N	15	<10
H31R0979	1.0	N	N	7	20	70	N	50	N	20	50
H31R0989	N	N	N	<5	10	7	N	7	N	7	<10
H31R1000	1.0	N	N	5	15	10	N	15	N	15	20

Sample	Sb-ppm s	Sc-ppm s	Sn-ppm s	Sr-ppm s	V-ppm s	W-ppm s	Y-ppm s	Zn-ppm s	Zr-ppm s	Th-ppm s	Form
H31R0910	N	N	N	N	15	<50	N	N	30	N	39
H31R0920	N	N	N	N	20	<50	N	N	30	N	39
H31R0936	N	N	N	<100	20	<50	N	N	100	N	39
H31R0946	N	N	N	200	15	<50	N	N	50	N	39
H31R0959	N	N	N	<100	30	<50	N	N	100	N	39
H31R0969	N	N	N	<100	30	<50	N	N	50	N	39
H31R0979	N	5	N	N	50	<50	N	N	100	N	39
H31R0989	N	<5	N	<100	10	<50	N	N	N	N	39
H31R1000	N	5	N	<100	50	<50	N	N	70	N	39

TABLE 2.-- SPECTROGRAPHIC ANALYSES OF INSOLUBLE - RESIDUE SAMPLES FROM DRILL HOLE NO. H32, HARRISON 1 X 2 QUADRANGLE, MISSOURI AND ARKANSAS

[N, not detected; <, detected but below the limit of determination shown; >, determined to be greater than the value shown.]

Sample	Fe-pct. s	Mg-pct. s	Ca-pct. s	Ti-pct. s	Mn-ppm s	Ag-ppm s	As-ppm s	Au-ppm s	B-ppm s	Ba-ppm s
H32R0020	.50	.20	.10	.050	10	N	N	N	30	50
H32R0030	.10	.05	.15	.015	<10	N	N	N	10	50
H32R0040	.70	.30	.50	.070	15	N	N	N	20	100
H32R0050	.15	.02	<.05	.007	N	N	N	N	10	<20
H32R0060	.50	.20	.05	.070	10	N	N	N	20	100
H32R0070	1.00	.50	.30	.100	20	N	N	N	50	150
H32R0080	1.00	.30	.10	.100	20	N	N	N	50	150
H32R0090	.70	.20	.07	.050	10	N	N	N	50	100
H32R0100	.70	.20	.10	.050	20	N	N	N	30	100
H32R0110	1.00	.30	.10	.070	10	N	N	N	50	100
H32R0120	.20	.15	.15	.020	<10	N	N	N	20	50
H32R0129	.05	.07	.10	.007	<10	N	N	N	20	20
H32R0139	1.00	.50	.15	.100	30	N	N	N	50	100
H32R0149	.15	.15	.20	.015	10	N	N	N	15	<20
H32R0159	.20	.30	.10	.100	20	N	N	N	50	200
H32R0168	1.00	.50	.15	.100	15	N	N	N	50	150
H32R0178	1.00	1.00	.50	.100	20	N	N	N	50	300
H32R0188	.50	1.50	2.00	.070	20	N	N	N	50	50
H32R0198	.70	.70	.70	.070	10	N	N	N	50	50
H32R0208	1.50	1.50	1.00	.150	20	N	N	N	70	150
H32R0218	.70	.70	.50	.100	10	N	N	N	50	200
H32R0228	1.00	1.00	.70	.100	20	N	N	N	70	150
H32R0238	1.50	1.50	.20	.150	50	<.5	N	N	100	200
H32R0248	2.00	1.50	.50	.200	70	N	N	N	200	200
H32R0258	2.00	1.50	.50	.200	70	N	N	N	150	200
H32R0268	2.00	2.00	1.00	.200	100	N	N	N	200	200
H32R0278	2.00	3.00	1.50	.200	100	N	N	N	200	200
H32R0288	1.00	.50	.10	.070	30	N	N	N	100	100
H32R0298	1.00	2.00	2.00	.100	50	N	N	N	50	150
H32R0309	2.00	.20	.50	.200	50	N	N	N	100	200
H32R0319	2.00	7.00	7.00	.150	100	N	N	N	100	200
H32R0329	2.00	2.00	.50	.200	100	N	N	N	100	200
H32R0339	2.00	3.00	2.00	.300	70	N	N	N	100	150
H32R0349	1.50	.70	.10	.150	30	N	N	N	70	150
H32R0359	2.00	2.00	.50	.200	50	N	N	N	100	200
H32R0369	.70	.70	.30	.050	30	N	N	N	50	150
H32R0379	.30	1.00	.50	.070	20	N	N	N	30	200
H32R0389	1.00	.50	.50	.050	10	N	N	N	100	100
H32R0407	1.00	.20	.10	.070	15	N	N	N	30	100
H32R0417	2.00	1.50	.20	.200	50	N	N	N	100	200
H32R0427	2.00	.50	.05	.150	20	N	N	N	50	200
H32R0436	.70	.30	.20	.050	10	N	N	N	50	150
H32R0446	2.00	.70	.07	.200	20	N	N	N	100	200
H32R0455	5.00	1.50	.20	.200	20	N	N	N	150	200
H32R0466	1.50	1.00	.20	.150	20	N	N	N	100	150

TABLE 2.-- SPECTROGRAPHIC ANALYSES OF INSOLUBLE - RESIDUE SAMPLES FROM DRILL HOLE NO. H32, HARRISON 1 X 2 QUADRANGLE, MISSOURI AND ARKANSAS--Continued

Sample	Be-ppm s	Bi-ppm s	Cd-ppm s	Co-ppm s	Cr-ppm s	Cu-ppm s	La-ppm s	Mo-ppm s	Nb-ppm s	Ni-ppm s	Pb-ppm s
H32R0020	<1.0	N	N	N	15	10	N	10	N	15	15
H32R0030	N	N	N	N	10	<5	N	5	N	5	<10
H32R0040	N	N	N	N	20	10	N	15	N	15	10
H32R0050	N	N	N	N	<10	<5	N	<5	N	5	N
H32R0060	<1.0	N	N	N	15	10	N	7	N	15	10
H32R0070	N	N	N	15	20	300	N	30	N	20	50
H32R0080	<1.0	N	N	10	20	20	N	50	N	20	20
H32R0090	<1.0	N	N	<5	10	20	N	20	N	15	10
H32R0100	<1.0	N	N	N	15	5	N	5	N	10	10
H32R0110	1.0	N	N	N	20	30	N	7	N	15	20
H32R0120	<1.0	N	N	N	10	200	N	N	N	<5	N
H32R0129	N	N	N	N	<10	5	N	N	N	<5	<10
H32R0139	1.5	N	N	N	20	20	N	N	N	10	10
H32R0149	N	N	N	N	20	30	N	N	N	5	N
H32R0159	1.0	N	N	N	20	7	N	7	N	7	<10
H32R0168	1.0	N	N	N	20	20	N	15	N	15	20
H32R0178	<1.0	N	N	N	20	15	N	5	N	10	20
H32R0188	<1.0	N	N	N	20	10	N	<5	N	5	10
H32R0198	1.0	N	500	N	20	15	N	5	N	5	10
H32R0208	1.0	N	100	N	50	15	N	5	N	10	20
H32R0218	1.0	N	N	N	20	5	N	<5	N	7	10
H32R0228	1.0	N	N	N	50	20	N	5	N	7	20
H32R0238	1.5	N	N	5	70	20	N	5	N	15	15
H32R0248	2.0	N	N	5	100	30	N	10	N	20	15
H32R0258	1.5	N	N	5	100	30	N	20	N	20	20
H32R0268	1.5	N	N	10	100	30	N	7	N	30	20
H32R0278	2.0	N	N	15	100	50	N	20	N	30	30
H32R0288	1.0	N	N	N	30	20	N	10	N	15	20
H32R0298	1.0	N	N	<5	20	10	N	7	N	10	15
H32R0309	1.5	N	N	5	70	30	N	20	N	20	20
H32R0319	1.0	N	N	5	70	15	N	<5	N	20	20
H32R0329	1.5	N	N	10	100	30	N	<5	N	20	20
H32R0339	2.0	N	N	5	150	20	N	<5	N	20	20
H32R0349	1.0	N	N	5	50	50	N	20	N	20	20
H32R0359	1.5	N	N	15	100	50	N	20	N	30	20
H32R0369	1.5	N	N	N	20	20	N	<5	N	10	15
H32R0379	1.0	N	N	N	20	50	N	5	N	10	<10
H32R0389	1.0	N	N	N	15	1,500	N	N	N	10	<10
H32R0407	<1.0	N	N	N	20	50	N	N	N	15	<10
H32R0417	2.0	N	N	N	70	20	N	5	N	20	15
H32R0427	1.0	N	N	N	70	30	N	<5	N	15	20
H32R0436	<1.0	N	N	N	10	5	N	N	N	10	<10
H32R0446	1.0	N	N	N	50	50	N	N	N	20	20
H32R0455	2.0	N	N	7	70	50	N	<5	N	20	20
H32R0466	1.5	N	N	<5	50	70	N	N	N	15	15

TABLE 2.-- SPECTROGRAPHIC ANALYSES OF INSOLUBLE - RESIDUE SAMPLES FROM DRILL HOLE NO. H32, HARRISON 1 X 2 QUADRANGLE, MISSOURI AND ARKANSAS--Continued

Sample	Sb-ppm s	Sc-ppm s	Sn-ppm s	Sr-ppm s	V-ppm s	W-ppm s	Y-ppm s	Zn-ppm s	Zr-ppm s	Th-ppm s	Form
H32R0020	N	N	N	N	20	N	N	700	50	N	23
H32R0030	N	N	N	N	<10	N	N	N	30	N	23
H32R0040	N	N	N	N	50	N	N	N	50	N	23
H32R0050	N	N	N	N	<10	N	N	N	20	N	23
H32R0060	N	N	N	N	50	N	N	N	50	N	23
H32R0070	N	N	N	N	100	N	N	N	50	N	23
H32R0080	N	N	N	N	50	N	N	N	50	N	23
H32R0090	N	N	N	N	30	N	N	N	50	N	23
H32R0100	N	N	N	N	20	N	N	N	30	N	23
H32R0110	N	N	N	N	20	N	N	1,000	20	N	23
H32R0120	N	N	N	N	10	N	N	3,000	15	N	23
H32R0129	N	N	N	N	<10	N	N	N	<10	N	23
H32R0139	N	N	N	N	50	N	N	N	100	N	23
H32R0149	N	N	N	N	<10	N	N	N	100	N	23
H32R0159	N	N	N	N	20	N	N	N	50	N	23
H32R0168	N	N	N	N	30	N	N	N	100	N	22
H32R0178	N	N	N	N	15	N	N	N	15	N	22
H32R0188	N	N	N	N	15	N	N	N	15	N	22
H32R0198	N	N	N	N	15	N	N	>10,000	100	N	22
H32R0208	N	N	N	N	20	N	N	10,000	100	N	22
H32R0218	N	N	N	N	15	N	N	N	100	N	22
H32R0228	N	<5	N	N	30	N	N	N	100	N	22
H32R0238	N	5	N	N	50	N	N	N	100	N	22
H32R0248	N	5	N	N	70	N	N	N	50	N	22
H32R0258	N	5	N	N	100	N	N	N	70	N	22
H32R0268	N	5	N	N	100	N	N	N	70	N	22
H32R0278	N	5	N	N	100	N	N	N	100	N	22
H32R0288	N	N	N	N	30	N	N	N	30	N	22
H32R0298	N	N	N	N	20	N	N	N	30	N	22
H32R0309	N	5	N	N	70	N	N	N	70	N	22
H32R0319	N	5	N	N	70	N	N	N	70	N	22
H32R0329	N	5	N	N	100	N	N	N	100	N	22
H32R0339	N	5	N	N	70	N	N	N	100	N	22
H32R0349	N	<5	N	N	30	N	N	1,000	70	N	22
H32R0359	N	5	N	N	100	N	N	N	70	N	22
H32R0369	N	N	N	N	50	N	N	N	50	N	22
H32R0379	N	N	N	N	15	N	N	N	100	N	22
H32R0389	N	N	N	100	10	N	N	N	10	N	22
H32R0407	N	N	N	N	15	N	N	N	30	N	22
H32R0417	N	N	N	N	50	N	N	N	50	N	22
H32R0427	N	N	N	<100	50	N	N	3,000	100	N	22
H32R0436	N	N	N	N	10	N	N	N	15	N	22
H32R0446	N	N	N	N	100	N	N	N	50	N	22
H32R0455	N	5	N	N	100	N	N	N	70	N	22
H32R0466	N	<5	N	100	100	N	N	N	50	N	22

TABLE 2.-- SPECTROGRAPHIC ANALYSES OF INSOLUBLE - RESIDUE SAMPLES FROM DRILL HOLE NO. H32, HARRISON 1 X 2 QUADRANGLE, MISSOURI AND ARKANSAS--Continued

Sample	Fe-pct. s	Mg-pct. s	Ca-pct. s	Ti-pct. s	Mn-ppm s	Ag-ppm s	As-ppm s	Au-ppm s	B-ppm s	Ba-ppm s
H32R0476	.70	2.00	.05	.070	10	N	N	N	50	100
H32R0486	1.00	.50	.10	.100	15	N	N	N	50	150
H32R0493	.05	.10	.30	.020	<10	N	N	N	30	150
H32R0503	1.00	.70	.50	.100	20	N	N	N	50	200
H32R0513	.50	.20	.15	.070	<10	N	N	N	50	50
H32R0523	1.00	.30	.20	.050	15	N	N	N	50	30
H32R0536	.70	.30	.30	.070	15	N	N	N	20	150
H32R0540	.10	.05	.05	.005	20	N	N	N	50	50
H32R0565	3.00	5.00	7.00	.200	100	N	N	N	100	200
H32R0575	1.00	.70	.50	.100	20	N	N	N	20	200
H32R0585	1.00	.50	.30	.070	10	N	N	N	20	150
H32R0595	.50	1.00	1.50	.050	15	N	N	N	20	100
H32R0605	.10	.20	.20	.050	<10	N	N	N	70	20
H32R0614	.30	.20	.15	.020	<10	N	N	N	30	100
H32R0624	1.00	.50	.20	.100	10	N	N	N	30	150
H32R0634	.30	.20	.20	.050	10	N	N	N	50	20
H32R0644	1.00	.30	.30	.050	<10	N	N	N	20	150
H32R0654	.70	2.00	5.00	.070	30	N	N	N	20	150
H32R0664	1.00	.70	.50	.070	15	N	N	N	20	150
H32R0674	1.00	.50	.15	.070	20	N	N	N	30	200
H32R0684	1.00	1.50	2.00	.050	20	N	N	N	50	20
H32R0693	1.00	1.00	.30	.100	20	N	N	N	50	200
H32R0703	2.00	1.50	.70	.150	30	N	N	N	50	200
H32R0713	.20	.20	.10	.070	<10	N	N	N	30	100
H32R0722	.50	.20	.15	.050	<10	N	N	N	30	100
H32R0731	.70	.50	.20	.050	10	N	N	N	30	150
H32R0741	1.00	2.00	3.00	.070	20	N	N	N	30	200
H32R0751	.50	.50	.70	.030	10	N	N	N	30	30
H32R0759	1.00	.70	.30	.100	15	N	N	N	50	100
H32R0769	1.50	5.00	5.00	.100	50	.5	N	N	50	100
H32R0779	.50	.50	.70	.050	10	N	N	N	20	20
H32R0789	2.00	2.00	3.00	.100	20	N	N	N	70	150
H32R0799	.30	.20	.20	.050	15	N	N	N	50	100
H32R0809	1.50	1.00	.50	.150	15	N	N	N	70	150
H32R0819	1.00	1.00	1.00	.100	15	N	N	N	30	100
H32R0829	1.00	1.00	1.00	.100	15	N	N	N	50	100
H32R0839	1.50	1.00	.20	.150	20	N	N	N	100	150
H32R0849	7.00	1.00	.15	.200	20	N	N	N	100	200
H32R0859	.20	.20	.20	.050	10	N	N	N	20	200
H32R0869	2.00	1.50	.50	.150	<10	N	N	N	100	100
H32R0879	2.00	1.00	.50	.150	30	N	N	N	100	200
H32R0889	1.00	1.50	.70	.070	20	N	N	N	50	200
H32R0899	.70	.70	.20	.070	10	N	N	N	30	150
H32R0909	1.50	1.00	.10	.300	30	N	N	N	100	150
H32R0919	1.00	.50	.15	.100	10	N	N	N	50	200

TABLE 2.-- SPECTROGRAPHIC ANALYSES OF INSOLUBLE - RESIDUE SAMPLES FROM DRILL HOLE NO. H32, HARRISON 1 X 2 QUADRANGLE, MISSOURI AND ARKANSAS--Continued

Sample	Be-ppm s	Bi-ppm s	Cd-ppm s	Co-ppm s	Cr-ppm s	Cu-ppm s	La-ppm s	Mo-ppm s	Nb-ppm s	Ni-ppm s	Pb-ppm s
H32R0476	<1.0	N	N	N	20	200	N	N	N	10	<10
H32R0486	1.5	N	N	N	50	15	N	N	N	10	15
H32R0493	N	N	N	N	10	<5	N	N	N	5	N
H32R0503	<1.0	N	N	N	20	10	N	N	N	7	<10
H32R0513	<1.0	N	N	N	15	20	N	N	N	5	N
H32R0523	<1.0	N	N	N	15	2,000	N	N	N	7	<10
H32R0536	N	N	N	N	20	15	N	N	N	7	15
H32R0540	<1.0	N	N	N	10	<5	N	5	N	<5	<10
H32R0565	1.0	N	N	10	70	50	N	20	N	20	70
H32R0575	N	N	N	N	30	20	N	5	N	10	<10
H32R0585	<1.0	N	N	N	20	5	N	N	N	7	<10
H32R0595	N	N	N	N	<10	<5	N	N	N	7	N
H32R0605	N	N	N	N	10	<5	N	N	N	7	N
H32R0614	<1.0	N	N	N	10	<5	N	N	N	7	N
H32R0624	<1.0	N	N	N	20	15	N	N	N	7	10
H32R0634	N	N	N	N	10	5	N	N	N	7	N
H32R0644	<1.0	N	N	N	10	5	N	N	N	7	N
H32R0654	N	N	N	N	15	7	N	5	N	7	10
H32R0664	<1.0	N	N	N	20	10	N	10	N	10	15
H32R0674	<1.0	N	N	N	20	10	N	5	N	10	10
H32R0684	<1.0	N	N	N	20	5	N	<5	N	10	10
H32R0693	1.0	N	N	N	50	15	N	5	N	10	20
H32R0703	1.0	N	N	7	70	20	N	15	N	15	20
H32R0713	N	N	N	N	15	5	N	N	N	7	N
H32R0722	<1.0	N	N	N	10	100	N	N	N	5	N
H32R0731	<1.0	N	N	N	15	<5	N	N	N	7	<10
H32R0741	<1.0	N	N	N	15	5	N	N	N	7	<10
H32R0751	<1.0	N	N	N	10	5	N	N	N	7	<10
H32R0759	1.0	N	N	N	20	20	N	N	N	10	15
H32R0769	1.0	N	N	5	50	30	N	30	N	15	70
H32R0779	<1.0	N	N	N	10	5	N	5	N	7	10
H32R0789	1.0	N	N	N	30	200	N	N	N	10	15
H32R0799	<1.0	N	N	N	15	<5	N	N	N	5	N
H32R0809	1.0	N	N	N	30	30	N	5	N	10	20
H32R0819	<1.0	N	N	N	20	30	N	<5	N	7	10
H32R0829	1.0	N	N	N	20	30	N	<5	N	5	20
H32R0839	1.5	N	N	7	50	50	N	10	N	10	20
H32R0849	1.0	N	N	7	70	50	N	N	N	20	50
H32R0859	<1.0	N	N	N	10	<5	N	N	N	5	N
H32R0869	1.5	N	N	N	70	15	N	20	N	10	15
H32R0879	2.0	N	N	N	70	15	N	N	N	10	20
H32R0889	<1.0	N	N	N	20	10	N	N	N	7	10
H32R0899	1.0	N	N	N	30	7	N	N	N	7	10
H32R0909	2.0	N	N	N	100	20	N	N	N	10	20
H32R0919	1.0	N	N	N	20	10	N	5	N	7	15

TABLE 2.-- SPECTROGRAPHIC ANALYSES OF INSOLUBLE - RESIDUE SAMPLES FROM DRILL HOLE NO. H32, HARRISON 1 X 2 QUADRANGLE, MISSOURI AND ARKANSAS--Continued

Sample	Sb-ppm s	Sc-ppm s	Sn-ppm s	Sr-ppm s	V-ppm s	W-ppm s	Y-ppm s	Zn-ppm s	Zr-ppm s	Th-ppm s	Form
H32R0476	N	N	N	N	20	N	N	N	<10	N	39
H32R0486	N	N	N	N	50	N	N	N	20	N	39
H32R0493	N	N	N	500	<10	N	N	N	<10	N	39
H32R0503	N	N	N	100	20	N	N	N	15	N	39
H32R0513	N	N	N	N	10	N	N	N	N	N	39
H32R0523	N	N	N	N	15	N	N	N	N	N	39
H32R0536	N	N	N	<100	20	N	N	N	20	N	39
H32R0540	N	N	N	N	<10	N	N	N	20	N	39
H32R0565	N	N	N	100	30	N	N	N	70	N	39
H32R0575	N	N	N	<100	15	N	N	N	100	N	39
H32R0585	N	N	N	N	15	N	N	N	30	N	39
H32R0595	N	N	N	N	<10	N	N	N	N	N	39
H32R0605	N	N	N	N	<10	N	N	N	N	N	39
H32R0614	N	N	N	N	10	N	N	N	30	N	39
H32R0624	N	N	N	N	20	N	N	N	10	N	39
H32R0634	N	N	N	N	10	N	N	N	N	N	39
H32R0644	N	N	N	N	10	N	N	N	15	N	39
H32R0654	N	N	N	100	10	N	N	N	50	N	39
H32R0664	N	N	N	N	15	N	N	N	50	N	39
H32R0674	N	N	N	100	15	N	N	N	100	N	39
H32R0684	N	N	N	N	10	N	N	N	10	N	39
H32R0693	N	N	N	N	20	N	N	N	100	N	39
H32R0703	N	N	N	N	50	N	N	N	100	N	39
H32R0713	N	N	N	<100	15	N	N	N	30	N	39
H32R0722	N	N	N	N	10	N	N	N	10	N	39
H32R0731	N	N	N	N	10	N	N	N	30	N	39
H32R0741	N	N	N	N	10	N	N	N	150	N	39
H32R0751	N	N	N	N	<10	N	N	N	10	N	39
H32R0759	N	N	N	N	30	N	N	N	30	N	39
H32R0769	N	N	N	N	30	N	N	N	30	N	39
H32R0779	N	N	N	N	<10	N	N	N	<10	N	39
H32R0789	N	N	N	N	20	N	N	N	50	N	39
H32R0799	N	N	N	N	10	N	N	N	<10	N	39
H32R0809	N	N	N	N	30	N	N	N	100	N	39
H32R0819	N	N	N	N	20	N	N	N	50	N	39
H32R0829	N	N	N	N	20	N	N	N	50	N	39
H32R0839	N	N	N	N	50	N	N	N	50	N	39
H32R0849	N	5	N	<100	100	N	N	N	100	N	39
H32R0859	N	N	N	N	<10	N	N	N	50	N	39
H32R0869	N	5	N	N	100	N	N	N	50	N	39
H32R0879	N	5	N	N	50	N	N	N	50	N	39
H32R0889	N	N	N	N	70	N	N	N	50	N	39
H32R0899	N	N	N	N	15	N	N	N	50	N	39
H32R0909	N	5	N	N	50	N	N	N	100	N	39
H32R0919	N	N	N	N	20	N	N	N	100	N	39

TABLE 3.-- SPECTROGRAPHIC ANALYSES OF INSOLUBLE - RESIDUE SAMPLES FROM DRILL HOLE NO. H34, HARRISON 1 X 2 QUADRANGLE, MISSOURI AND ARKANSAS

[N, not detected; <, detected but below the limit of determination shown; >, determined to be greater than the value shown.]

Sample	Fe-pct. s	Mg-pct. s	Ca-pct. s	Ti-pct. s	Mn-ppm s	Ag-ppm s	As-ppm s	Au-ppm s	B-ppm s	Be-ppm s
H34R0019	.50	.30	<.05	.070	10	N	N	N	50	100
H34R0029	.20	.10	<.05	.030	<10	N	N	N	20	<20
H34R0041	.10	.05	<.05	.010	<10	N	N	N	10	<20
H34R0053	.10	.10	<.05	.020	<10	N	N	N	20	20
H34R0064	.15	.20	<.05	.030	<10	N	N	N	30	50
H34R0074	.20	.20	<.05	.030	<10	N	N	N	30	100
H34R0084	.10	.07	<.05	.020	<10	N	N	N	10	100
H34R0094	1.00	.70	.10	.100	10	N	N	N	70	100
H34R0104	.50	.30	.50	.020	<10	N	N	N	30	100
H34R0114	1.00	.50	.05	.100	10	N	N	N	50	150
H34R0124	1.50	.70	.07	.150	20	N	N	N	50	200
H34R0134	3.00	1.00	.07	.150	20	N	N	N	70	200
H34R0144	.50	.15	.05	.030	10	N	N	N	20	50
H34R0154	.30	.30	.05	.050	10	N	N	N	20	100
H34R0162	1.00	.70	.20	.100	15	N	N	N	50	100
H34R0172	1.00	.50	.20	.100	10	N	N	N	50	100
H34R0182	1.00	.50	.30	.100	15	N	N	N	50	100
H34R0190	1.00	.70	.15	.100	10	N	N	N	70	150
H34R0199	1.50	1.00	.05	.150	30	N	N	N	100	200
H34R0209	2.00	1.50	<.05	.200	70	N	N	N	150	300
H34R0217	1.50	1.00	.10	.100	50	N	N	N	100	150
H34R0227	2.00	1.50	.30	.150	50	N	N	N	150	150
H34R0236	2.00	2.00	.70	.500	100	N	N	N	150	500
H34R0247	1.50	1.00	.10	.200	<10	N	N	N	50	300
H34R0257	1.00	1.00	.07	.100	50	N	N	N	100	200
H34R0268	1.50	2.00	.50	.200	70	N	N	N	200	300
H34R0278	1.50	1.00	.30	.100	50	N	N	N	70	100
H34R0298	1.50	1.00	.50	.100	20	N	N	N	100	50
H34R0308	1.00	1.00	.30	.100	20	N	N	N	50	70
H34R0317	2.00	2.00	.70	.200	50	N	N	N	150	150
H34R0326	.50	.50	.20	.050	<10	N	N	N	30	<20
H34R0335	1.00	.70	.30	.100	10	N	N	N	50	150
H34R0345	.15	1.00	2.00	.020	20	N	N	N	30	20
H34R0355	2.00	2.00	.10	.500	50	N	N	N	150	500
H34R0365	1.50	1.50	.50	.150	30	N	N	N	100	200
H34R0375	.30	.50	.50	.050	15	N	N	N	50	100
H34R0385	1.00	.50	.50	.050	<10	N	N	N	50	100
H34R0395	1.00	.70	.50	.100	15	N	N	N	70	100
H34R0405	1.00	.70	.50	.100	20	N	N	N	50	100
H34R0415	1.50	.70	.05	.100	15	N	N	N	50	200
H34R0420	1.00	.50	.07	.070	10	N	N	N	50	150
H34R0430	.50	.50	.20	.070	10	N	N	N	50	100
H34R0440	.15	.10	<.05	.030	<10	N	N	N	30	30
H34R0450	.70	.20	.15	.100	15	N	N	N	50	150
H34R0460	.30	.20	.50	.050	10	N	N	N	20	100

TABLE 3.-- SPECTROGRAPHIC ANALYSES OF INSOLUBLE - RESIDUE SAMPLES FROM DRILL HOLE NO. H34, HARRISON 1 X 2 QUADRANGLE, MISSOURI AND ARKANSAS--Continued

Sample	Be-ppm s	Bi-ppm s	Cd-ppm s	Co-ppm s	Cr-ppm s	Cu-ppm s	La-ppm s	Mo-ppm s	Nb-ppm s	Ni-ppm s	Pb-ppm s
H34R0019	<1.0	N	N	N	20	20	N	N	N	10	N
H34R0029	<1.0	N	N	N	<10	5	N	N	N	7	N
H34R0041	<1.0	N	N	N	<10	10	N	N	N	7	N
H34R0053	<1.0	N	N	N	10	<5	N	N	N	5	N
H34R0064	<1.0	N	N	N	15	15	N	N	N	7	N
H34R0074	<1.0	N	N	N	15	5	N	N	N	10	N
H34R0084	<1.0	N	N	N	10	<5	N	N	N	10	N
H34R0094	1.0	N	N	N	20	15	N	7	N	15	15
H34R0104	N	N	N	N	15	5	N	N	N	7	N
H34R0114	1.0	N	N	N	20	15	N	N	N	10	10
H34R0124	1.0	N	N	N	50	30	N	N	N	15	15
H34R0134	1.0	N	N	5	50	50	N	N	N	20	20
H34R0144	<1.0	N	N	N	15	5	N	N	N	7	N
H34R0154	<1.0	N	N	N	15	<5	N	N	N	7	N
H34R0162	1.0	N	N	N	20	20	N	5	N	10	10
H34R0172	1.0	N	N	N	20	15	N	5	N	7	10
H34R0182	1.0	N	N	5	20	20	N	5	N	10	20
H34R0190	1.0	N	N	10	20	30	N	<5	N	15	30
H34R0199	1.5	N	N	5	50	20	N	7	N	20	15
H34R0209	1.5	N	N	7	100	50	N	10	N	20	15
H34R0217	1.5	N	N	<5	50	15	N	5	N	10	15
H34R0227	1.5	N	N	5	100	20	N	7	N	20	15
H34R0236	2.0	N	N	5	150	20	50	7	N	30	20
H34R0247	<1.0	N	N	N	50	10	N	N	N	7	N
H34R0257	2.0	N	N	<5	100	30	N	5	N	15	20
H34R0268	3.0	N	N	5	100	20	30	<5	N	15	15
H34R0278	1.5	N	N	<5	50	30	N	N	N	10	15
H34R0298	2.0	N	N	N	50	20	N	N	N	10	20
H34R0308	1.0	N	N	N	50	10	N	5	N	7	10
H34R0317	2.0	N	N	5	100	30	N	5	N	15	30
H34R0326	<1.0	N	N	N	15	7	N	5	N	5	<10
H34R0335	1.0	N	N	N	20	5	N	N	N	5	<10
H34R0345	<1.0	N	N	N	10	<5	N	N	N	5	N
H34R0355	2.0	N	N	<5	150	20	N	<5	N	10	20
H34R0365	2.0	N	N	N	100	20	N	5	N	15	20
H34R0375	<1.0	N	N	N	15	<5	N	N	N	7	<10
H34R0385	1.0	N	N	N	15	7	N	N	N	7	10
H34R0395	1.0	N	N	N	30	10	N	N	N	10	15
H34R0405	1.0	N	N	N	30	20	N	N	N	7	15
H34R0415	1.0	N	N	N	50	20	N	N	N	10	15
H34R0420	1.0	N	N	N	50	15	N	N	N	10	<10
H34R0430	1.0	N	N	N	30	10	N	N	N	7	<10
H34R0440	<1.0	N	N	N	10	<5	N	N	N	5	<10
H34R0450	<1.0	N	N	N	50	10	N	N	N	10	10
H34R0460	<1.0	N	N	N	10	<5	N	N	N	<5	N

TABLE 3.-- SPECTROGRAPHIC ANALYSES OF INSOLUBLE - RESIDUE SAMPLES FROM DRILL HOLE NO. H34, HARRISON 1 X 2 QUADRANGLE, MISSOURI AND ARKANSAS--Continued

Sample	Sb-ppm s	Sc-ppm s	Sn-ppm s	Sr-ppm s	V-ppm s	W-ppm s	Y-ppm s	Zn-ppm s	Zr-ppm s	Th-ppm s	Form
H34R0019	N	N	N	N	50	N	N	N	50	N	23
H34R0029	N	N	N	N	20	N	N	N	20	N	23
H34R0041	N	N	N	N	<10	N	N	N	10	N	23
H34R0053	N	N	N	N	10	N	N	N	30	N	23
H34R0064	N	N	N	N	50	N	N	N	20	N	23
H34R0074	N	N	N	N	30	N	N	N	50	N	23
H34R0084	N	N	N	N	<10	N	N	N	20	N	23
H34R0094	N	N	N	N	50	N	N	N	30	N	23
H34R0104	N	N	N	N	10	N	N	N	10	N	23
H34R0114	N	N	N	N	50	N	N	N	100	N	23
H34R0124	N	N	N	N	50	N	N	N	150	N	23
H34R0134	N	N	N	N	70	N	N	N	150	N	23
H34R0144	N	N	N	N	10	N	N	N	50	N	23
H34R0154	N	N	N	N	10	N	N	N	30	N	23
H34R0162	N	N	N	N	20	N	N	N	50	N	23
H34R0172	N	N	N	N	20	N	N	N	30	N	23
H34R0182	N	N	N	N	30	N	N	N	20	N	23
H34R0190	N	N	N	N	50	N	N	N	100	N	23
H34R0199	N	5	N	N	50	N	N	N	70	N	22
H34R0209	N	10	N	100	100	N	N	N	100	N	22
H34R0217	N	<5	N	<100	50	N	N	N	70	N	22
H34R0227	N	5	N	N	50	N	N	N	50	N	22
H34R0236	N	15	N	100	100	N	10	N	150	N	22
H34R0247	N	N	N	<100	70	N	N	N	30	N	22
H34R0257	N	5	N	<100	50	N	N	N	50	N	22
H34R0268	N	7	N	100	70	N	N	N	100	N	22
H34R0278	N	<5	N	N	50	N	N	N	50	N	22
H34R0298	N	<5	N	N	50	N	N	N	30	N	22
H34R0308	N	N	N	N	30	N	N	N	10	N	22
H34R0317	N	5	N	N	100	N	N	N	50	N	22
H34R0326	N	N	N	N	10	N	N	N	<10	N	22
H34R0335	N	N	N	N	20	N	N	N	20	N	22
H34R0345	N	N	N	N	<10	N	N	N	N	N	22
H34R0355	N	10	N	100	100	N	N	N	100	N	22
H34R0365	N	5	N	N	50	N	N	N	50	N	22
H34R0375	N	N	N	<100	15	N	N	N	N	N	39
H34R0385	N	N	N	N	20	N	N	N	15	N	39
H34R0395	N	N	N	<100	30	N	N	N	30	N	39
H34R0405	N	N	N	N	30	N	N	N	50	N	39
H34R0415	N	N	N	300	50	N	N	N	30	N	39
H34R0420	N	N	N	150	30	N	N	N	30	N	39
H34R0430	N	N	N	<100	20	N	N	N	30	N	39
H34R0440	N	N	N	N	<10	N	N	N	<10	N	39
H34R0450	N	N	N	N	30	N	N	N	20	N	39
H34R0460	N	N	N	<100	10	N	N	N	N	N	39

TABLE 3.-- SPECTROGRAPHIC ANALYSES OF INSOLUBLE - RESIDUE SAMPLES FROM DRILL HOLE NO. H34, HARRISON 1 X 2 QUADRANGLE, MISSOURI AND ARKANSAS--Continued

Sample	Fe-pct. s	Mg-pct. s	Ca-pct. s	Ti-pct. s	Mn-ppm s	Ag-ppm s	As-ppm s	Au-ppm s	B-ppm s	Be-ppm s
H34R0470	.20	.30	.50	.050	10	N	N	N	20	50
H34R0477	.30	.30	.30	.030	10	N	N	N	50	50
H34R0488	.10	.30	.50	.020	15	N	N	N	20	20
H34R0497	.20	.30	.30	.050	10	N	N	N	15	20
H34R0507	1.00	.50	.30	.070	10	N	N	N	50	150
H34R0517	1.00	.70	.30	.100	20	N	N	N	50	200
H34R0527	.50	.50	.50	.050	20	N	N	N	50	<20
H34R0537	1.50	.50	.50	.070	15	N	N	N	50	100
H34R0547	.07	.30	.50	.020	10	N	N	N	30	<20
H34R0557	1.00	.20	.10	.070	<10	N	N	N	20	20
H34R0568	.50	.30	.30	.050	10	N	N	N	30	<20
H34R0573	.70	.50	.50	.070	<10	N	N	N	50	100
H34R0583	.07	.30	.30	.030	<10	N	N	N	20	20
H34R0591	.20	.30	.50	.050	<10	N	N	N	20	50
H34R0600	1.50	.50	.07	.100	10	N	N	N	50	150
H34R0609	.20	.20	.10	.030	<10	N	N	N	70	20
H34R0619	2.00	.70	.15	.150	<10	N	N	N	50	100
H34R0629	1.00	.70	.10	.100	10	N	N	N	50	150
H34R0640	1.50	.50	.20	.070	<10	N	N	N	50	100
H34R0648	.10	.50	.70	.030	<10	N	N	N	30	20
H34R0657	.30	.50	.20	.100	10	N	N	N	50	150
H34R0666	1.00	.30	.15	.070	<10	N	N	N	50	200
H34R0677	.70	.50	.10	.100	10	N	N	N	50	<20
H34R0686	7.00	1.00	.10	.500	20	N	N	N	70	150
H34R0695	1.00	.50	.15	.100	<10	N	N	N	50	100
H34R0705	1.00	1.00	.15	.150	15	N	N	N	70	150
H34R0714	.10	.20	.15	.050	<10	N	N	N	30	<20
H34R0724	.15	.50	.50	.050	20	N	N	N	20	<20
H34R0735	.10	.10	.20	.020	<10	N	N	N	30	<20
H34R0743	.20	.10	.05	.050	<10	N	N	N	30	300
H34R0752	1.00	1.00	.50	.150	15	N	N	N	50	150
H34R0762	.50	.50	.50	.050	<10	N	N	N	15	100
H34R0780	1.00	.50	.30	.070	10	N	N	N	20	150
H34R0787	1.00	.70	.50	.150	15	N	N	N	50	200
H34R0791	.10	.20	.30	.020	<10	N	N	N	10	200
H34R0802	1.00	.70	.20	.150	15	N	N	N	50	150
H34R0810	.50	.50	.50	.050	<10	N	N	N	10	150
H34R0819	.20	.30	.20	.070	<10	N	N	N	30	100
H34R0827	.20	.70	1.00	.070	20	N	N	N	20	100
H34R0837	.10	.20	.20	.050	<10	N	N	N	30	50
H34R0847	<.05	.30	.30	.015	<10	N	N	N	30	50
H34R0856	7.00	1.00	.15	.300	20	N	N	N	100	200
H34R0866	2.00	1.00	.50	.150	15	N	N	N	100	150
H34R0876	.15	.20	.20	.020	<10	N	N	N	30	20
H34R0884	1.00	.30	.50	.070	10	N	N	N	50	150

TABLE 3.-- SPECTROGRAPHIC ANALYSES OF INSOLUBLE - RESIDUE SAMPLES FROM DRILL HOLE NO. H34, HARRISON 1 X 2 QUADRANGLE, MISSOURI AND ARKANSAS--Continued

Sample	Be-ppm s	Bi-ppm s	Cd-ppm s	Co-ppm s	Cr-ppm s	Cu-ppm s	La-ppm s	Mo-ppm s	Nb-ppm s	Ni-ppm s	Pb-ppm s
H34R0470	<1.0	N	N	N	15	7	N	N	N	5	N
H34R0477	<1.0	N	N	N	15	10	N	N	N	7	<10
H34R0488	<1.0	N	N	N	10	<5	N	N	N	5	N
H34R0497	<1.0	N	N	N	10	15	N	N	N	7	N
H34R0507	<1.0	N	N	N	30	10	N	<5	N	10	10
H34R0517	1.0	N	N	N	50	20	N	<5	N	15	15
H34R0527	<1.0	N	N	N	15	7	N	N	N	7	<10
H34R0537	<1.0	N	N	N	20	10	N	N	N	7	10
H34R0547	<1.0	N	N	N	<10	<5	N	N	N	5	N
H34R0557	<1.0	N	N	N	10	<5	N	N	N	7	<10
H34R0568	<1.0	N	N	N	<10	<5	N	N	N	5	N
H34R0573	<1.0	N	N	N	20	<5	N	N	N	5	<10
H34R0583	<1.0	N	N	N	<10	<5	N	N	N	5	N
H34R0591	<1.0	N	N	N	10	10	N	5	N	5	10
H34R0600	<1.0	N	N	N	20	20	N	10	N	15	50
H34R0609	<1.0	N	N	N	10	<5	N	N	N	7	N
H34R0619	1.0	N	N	N	15	15	N	N	N	7	50
H34R0629	1.5	N	N	N	30	7	N	N	N	7	15
H34R0640	<1.0	N	N	N	20	15	N	<5	N	10	10
H34R0648	<1.0	N	N	N	10	<5	N	N	N	5	N
H34R0657	<1.0	N	N	N	20	5	N	N	N	7	N
H34R0666	<1.0	N	N	N	20	10	N	N	N	7	<10
H34R0677	<1.0	N	N	N	20	10	N	N	N	7	10
H34R0686	1.5	N	N	15	150	50	N	10	<20	30	70
H34R0695	<1.0	N	N	N	50	10	N	N	N	10	<10
H34R0705	1.0	N	N	N	50	15	N	N	N	10	20
H34R0714	<1.0	N	N	N	10	<5	N	N	N	7	N
H34R0724	<1.0	N	N	N	<10	<5	N	N	N	5	N
H34R0735	<1.0	N	N	N	<10	<5	N	N	N	5	N
H34R0743	<1.0	N	N	N	<10	<5	N	N	N	5	N
H34R0752	1.0	N	N	N	30	15	N	5	N	10	10
H34R0762	<1.0	N	N	N	<10	<5	N	N	N	5	<10
H34R0780	<1.0	N	N	N	20	15	N	N	N	7	10
H34R0787	1.0	N	N	N	50	10	N	N	N	7	10
H34R0791	<1.0	N	N	N	<10	5	N	N	N	7	N
H34R0802	1.0	N	N	N	50	20	N	<5	N	10	15
H34R0810	<1.0	N	N	N	15	<5	N	<5	N	10	N
H34R0819	1.0	N	N	N	15	<5	N	N	N	7	N
H34R0827	1.0	N	N	N	15	7	N	N	N	7	<10
H34R0837	<1.0	N	N	N	<10	<5	N	N	<20	7	N
H34R0847	<1.0	N	N	N	<10	<5	N	N	N	7	N
H34R0856	1.5	N	N	<5	100	30	N	5	N	15	30
H34R0866	1.0	N	N	N	50	20	N	N	N	15	20
H34R0876	<1.0	N	N	N	<10	<5	N	N	N	5	N
H34R0884	<1.0	N	N	N	<10	15	N	N	N	7	N

TABLE 3.-- SPECTROGRAPHIC ANALYSES OF INSOLUBLE - RESIDUE SAMPLES FROM DRILL HOLE NO. H34, HARRISON 1 X 2 QUADRANGLE, MISSOURI AND ARKANSAS--Continued

Sample	Sb-ppm s	Sc-ppm s	Sn-ppm s	Sr-ppm s	V-ppm s	W-ppm s	Y-ppm s	Zn-ppm s	Zr-ppm s	Th-ppm s	Form
H34R0470	N	N	N	N	15	N	N	N	N	N	39
H34R0477	N	N	N	<100	10	N	N	N	N	N	39
H34R0488	N	N	N	N	<10	N	N	N	N	N	39
H34R0497	N	N	N	N	10	N	N	N	<10	N	39
H34R0507	N	N	N	<100	20	N	N	N	<10	N	39
H34R0517	N	N	N	N	30	N	N	N	50	N	39
H34R0527	N	N	N	N	10	N	N	N	N	N	39
H34R0537	N	N	N	N	20	N	N	N	30	N	39
H34R0547	N	N	N	N	<10	N	N	N	N	N	39
H34R0557	N	N	N	N	10	N	N	N	<10	N	39
H34R0568	N	N	N	N	<10	N	N	N	<10	N	39
H34R0573	N	N	N	N	15	N	N	N	20	N	39
H34R0583	N	N	N	N	<10	N	N	N	N	N	39
H34R0591	N	N	N	N	<10	N	N	N	<10	N	39
H34R0600	N	N	N	N	20	N	N	N	70	N	39
H34R0609	N	N	N	<100	<10	N	N	N	10	N	39
H34R0619	N	N	N	N	10	N	N	N	50	N	39
H34R0629	N	<5	N	N	20	N	N	N	50	N	39
H34R0640	N	N	N	N	15	N	N	N	70	N	39
H34R0648	N	N	N	N	<10	N	N	N	N	N	39
H34R0657	N	N	N	N	15	N	N	N	50	N	39
H34R0666	N	N	N	N	15	N	N	N	50	N	39
H34R0677	N	N	N	N	20	N	N	N	<10	N	39
H34R0686	N	5	N	N	100	N	N	N	100	N	39
H34R0695	N	N	N	N	30	N	N	N	50	N	39
H34R0705	N	N	N	N	70	N	N	N	50	N	39
H34R0714	N	N	N	N	10	N	N	N	<10	N	39
H34R0724	N	N	N	N	<10	N	N	N	<10	N	39
H34R0735	N	N	N	N	<10	N	N	N	N	N	39
H34R0743	N	N	N	100	<10	N	N	N	100	N	39
H34R0752	N	N	N	N	50	N	N	N	100	N	39
H34R0762	N	N	N	N	10	N	N	N	50	N	39
H34R0780	N	N	N	N	15	N	N	N	50	N	39
H34R0787	N	5	N	N	50	N	N	N	100	N	39
H34R0791	N	N	N	N	<10	N	N	N	20	N	39
H34R0802	N	N	N	N	50	N	N	N	20	N	39
H34R0810	N	N	N	N	10	N	N	N	50	N	39
H34R0819	N	N	N	N	20	N	N	N	10	N	39
H34R0827	N	N	N	N	20	N	N	N	20	N	39
H34R0837	N	N	N	N	<10	N	N	N	N	N	39
H34R0847	N	N	N	N	<10	N	N	N	N	N	39
H34R0856	N	7	N	100	70	N	N	N	200	N	39
H34R0866	N	N	N	N	50	N	N	N	30	N	39
H34R0876	N	N	N	N	<10	N	N	N	<10	N	39
H34R0884	N	N	N	N	10	N	N	N	50	N	39

TABLE 3.-- SPECTROGRAPHIC ANALYSES OF INSOLUBLE - RESIDUE SAMPLES FROM DRILL HOLE NO. H34, HARRISON 1 X 2 QUADRANGLE, MISSOURI AND ARKANSAS--Continued

Sample	Fe-pct. s	Mg-pct. s	Ca-pct. s	Ti-pct. s	Mn-ppm s	Ag-ppm s	As-ppm s	Au-ppm s	B-ppm s	Ba-ppm s
H34R0895	1.00	.70	.50	.100	10	N	N	N	50	100
H34R0906	.05	.20	.30	.010	10	N	N	N	20	20
H34R0908	10.00	.50	.50	.100	15	N	N	N	70	100

Sample	Be-ppm s	Bi-ppm s	Cd-ppm s	Co-ppm s	Cr-ppm s	Cu-ppm s	La-ppm s	Mo-ppm s	Nb-ppm s	Ni-ppm s	Pb-ppm s
H34R0895	<1.0	N	N	N	20	7	N	N	N	7	10
H34R0906	<1.0	N	N	N	<10	<5	N	N	N	7	N
H34R0908	1.0	N	N	<5	20	50	N	N	N	500	20

Sample	Sb-ppm s	Sc-ppm s	Sn-ppm s	Sr-ppm s	V-ppm s	W-ppm s	Y-ppm s	Zn-ppm s	Zr-ppm s	Th-ppm s	Form
H34R0895	N	N	N	N	50	N	N	N	50	N	39
H34R0906	N	N	N	N	<10	N	N	N	N	N	39
H34R0908	N	N	N	N	20	N	N	N	20	N	39