

UNITED STATES DEPARTMENT OF THE INTERIOR
GEOLOGICAL SURVEY

**Spectrographic analyses of insoluble-residue samples,
Harrison 1° x 2° quadrangle, Missouri and Arkansas:
Drill holes nos. 15, 18, and 19**

by

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This report is preliminary and has not been reviewed for conformity with U.S. Geological Survey editorial standards and stratigraphic nomenclature. Any use of trade names is for descriptive purposes only and does not imply endorsement by the U.S. Geological Survey.

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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. 15, drill hole no. 18, and drill hole no. 19 are given in this report. Drill hole no. 15 is located in sec. 22, T. 16 N., R. 18 W. in Searcy County, Arkansas; drill hole no. 18 is located in sec. 17, T. 16 N., R. 17 W. in Searcy County, Arkansas; and drill hole no. 19 is located in sec. 1, T. 16 N., R. 17 W. in Searcy Co.; Arkansas. Data for the insoluble-residue samples in drill holes 15, 18, and 19 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.

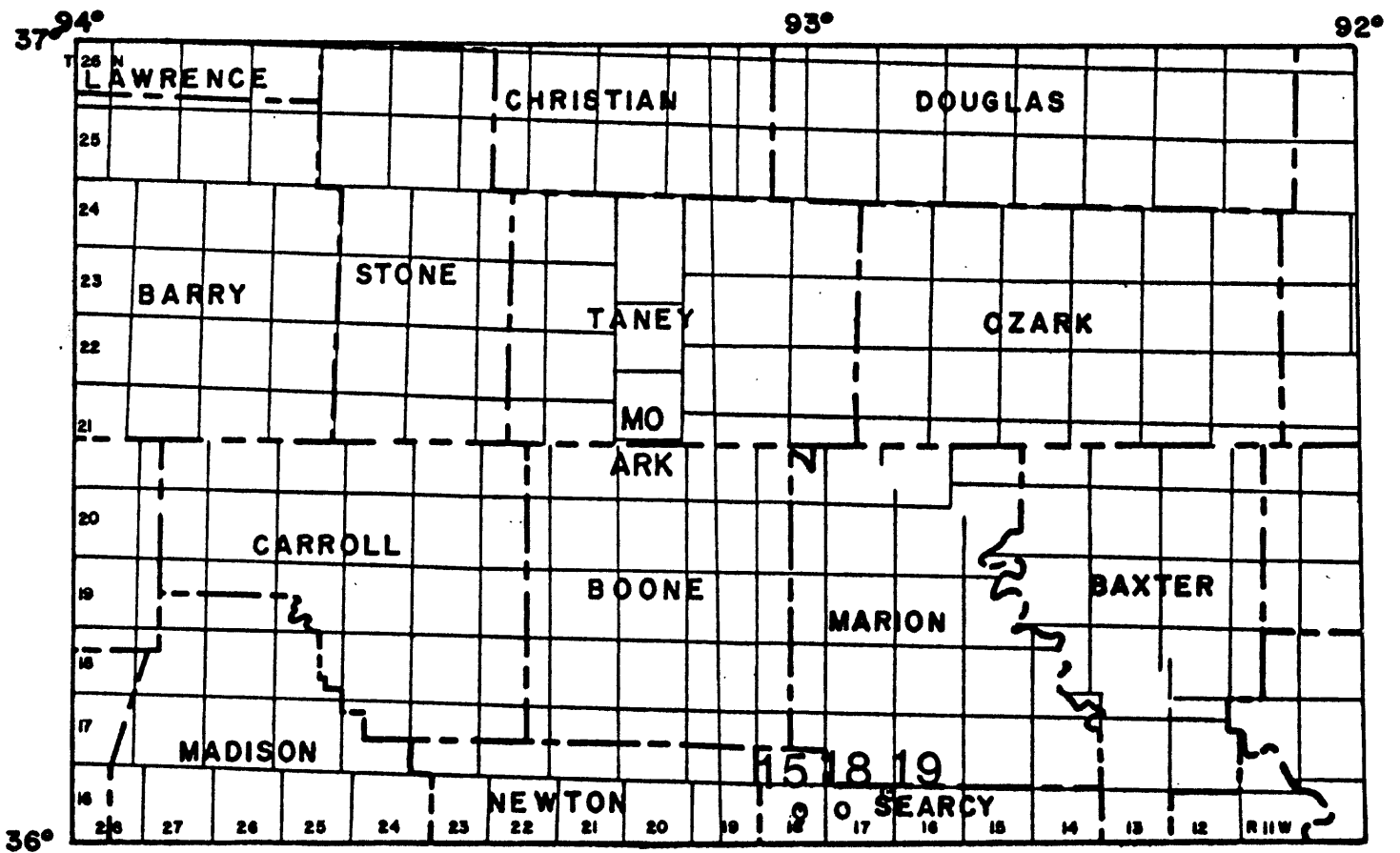
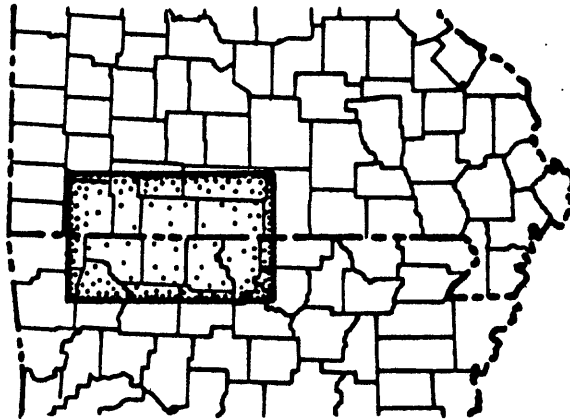
PREPARATION AND ANALYSIS OF SAMPLES

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).



HARRISON 1° X 2° QUADRANGLE,

Missouri and Arkansas

Locations of drill holes discussed in this report

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

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. In table 2, sample H18R0093, the visual lower limits of determination are doubled. This occurs because only one half the standard amount of sample was analyzed due to the small size of the sample.

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:

<u>Code</u>	<u>Formation</u>
22	Powell Dolomite
23	Everton Formation
31	Undifferentiated Mississippian Units
39	Jefferson City-Cotter Undifferentiated
44	Upper Ordovician Rubble Zone

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. H15, 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. %	Mg-pct. %	Ce-pct. %	Ti-pct. %	Mn-ppm g	Ag-ppm g	As-ppm g	Au-ppm g	B-ppm g	Be-ppm g
H15R0226	.20	.07	<.05	.050	10	N	N	N	20	30
H15R0278	2.00	1.50	.15	.500	50	<.5	N	N	200	100
H15R0287	2.00	1.00	1.00	.700	70	N	N	N	200	200
H15R0299	2.00	.70	<.05	.200	50	N	N	N	200	70
H15R0312	1.50	.50	<.05	.200	30	N	N	N	150	70
H15R0322	1.00	.50	<.05	.200	30	N	N	N	100	100
H15R0331	.20	.05	<.05	.050	10	N	N	N	20	50
H15R0340	.10	.05	<.05	.015	10	N	N	N	10	30
H15R0350	.15	.05	<.05	.010	10	N	N	N	10	30
H15R0360	.70	.10	<.05	.020	10	N	N	N	20	20
H15R0369	2.00	.30	.05	.150	15	N	N	N	70	200
H15R0379	.50	.15	.15	.050	10	N	N	N	30	70
H15R0389	.15	.07	<.05	.030	10	N	N	N	20	50
H15R0399	.20	.05	<.05	.070	15	N	N	N	15	50
H15R0409	<.05	.02	<.05	.015	10	N	N	N	15	20
H15R0419	.07	.03	<.05	.010	10	N	N	N	15	20
H15R0427	<.05	.02	<.05	.010	10	N	N	N	15	<20
H15R0436	<.05	.02	<.05	.005	10	N	N	N	10	<20
H15R0445	<.05	.03	.07	.010	10	N	N	N	20	50
H15R0455	<.05	.03	.05	.010	10	N	N	N	20	50
H15R0465	.05	.02	<.05	.010	10	N	N	N	20	50
H15R0475	.15	.02	<.05	.005	10	N	N	N	15	30
H15R0484	.07	.05	<.05	.020	15	N	N	N	20	70
H15R0492	.05	.03	<.05	.010	10	N	N	N	15	20
H15R0502	.07	.03	<.05	.007	10	N	N	N	15	50
H15R0513	<.05	.02	<.05	.005	15	N	N	N	15	<20
H15R0523	.05	.07	.15	.010	10	N	N	N	20	20
H15R0532	1.50	.70	<.05	.300	15	N	N	N	200	100
H15R0542	.20	.10	.05	.050	10	N	N	N	50	100
H15R0557	.30	.50	.15	.100	15	N	N	N	100	100
H15R0561	.05	.02	<.05	.015	10	N	N	N	20	20
H15R0571	.50	.10	.30	.020	10	N	N	N	50	50
H15R0581	1.00	.70	.10	.300	15	N	N	N	100	100
H15R0591	.07	.07	.05	.015	15	N	N	N	30	20
H15R0601	1.00	.50	.05	.100	15	N	N	N	100	50
H15R0612	.30	.03	<.05	.015	10	N	N	N	30	20
H15R0636	.05	.07	.15	.015	15	N	N	N	20	70
H15R0646	1.00	.70	.20	.100	20	N	N	N	50	100
H15R0656	.50	.70	.30	.150	15	N	N	N	70	70
H15R0666	.50	.70	.50	.150	15	N	N	N	100	100
H15R0673	.20	.05	.10	.005	10	N	N	N	15	50
H15R0683	<.05	.05	.10	.005	15	N	N	N	10	30
H15R0693	.50	.20	.10	.070	10	N	N	N	50	50
H15R0702	3.00	.20	.15	.070	15	N	N	N	50	100
H15R0711	2.00	.70	.30	.150	20	N	N	N	100	50

TABLE 1.--- SPECTROGRAPHIC ANALYSES OF INSOLUBLE - RESIDUE SAMPLES FROM DRILL HOLE NO. H15, 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
H15R0226	<1.0	N	N	N	10	<5	N	5	N	5	N
H15R0278	1.0	N	N	10	70	70	N	10	N	50	20
H15R0287	1.0	N	N	7	50	20	N	10	<20	70	20
H15R0299	1.0	N	N	5	50	30	N	5	N	30	<10
H15R0312	1.0	N	N	N	20	15	N	5	N	15	<10
H15R0322	<1.0	N	N	N	20	7	N	20	N	20	<10
H15R0331	N	N	N	N	10	<5	N	5	N	5	<10
H15R0340	N	N	N	N	15	10	N	<5	N	5	<10
H15R0350	N	N	N	N	10	<5	N	N	N	5	<10
H15R0360	N	N	N	N	15	5	N	N	N	7	<10
H15R0369	1.0	N	N	N	50	50	N	7	N	30	20
H15R0379	<1.0	N	N	N	15	5	N	5	N	5	N
H15R0389	N	N	N	N	10	<5	N	<5	N	7	N
H15R0399	N	N	N	N	10	<5	N	<5	N	7	N
H15R0409	N	N	N	N	10	<5	N	<5	N	5	N
H15R0419	N	N	N	N	10	<5	N	<5	N	7	N
H15R0427	N	N	N	N	10	<5	N	N	N	5	N
H15R0436	N	N	N	N	10	<5	N	N	N	5	N
H15R0445	N	N	N	N	10	5	N	N	N	<5	N
H15R0455	N	N	N	N	10	<5	N	<5	N	7	N
H15R0465	N	N	N	N	10	5	N	<5	N	5	N
H15R0475	N	N	N	N	10	5	N	5	N	5	N
H15R0484	N	N	N	N	15	5	N	N	N	5	N
H15R0492	N	N	N	N	10	<5	N	N	N	5	N
H15R0502	N	N	N	N	10	<5	N	N	N	7	N
H15R0513	N	N	N	N	10	<5	N	N	N	5	N
H15R0523	N	N	N	N	10	<5	N	5	N	5	N
H15R0532	1.5	N	N	N	50	15	N	5	N	50	50
H15R0542	N	N	N	N	15	10	N	<5	N	5	N
H15R0557	1.0	N	N	N	20	15	N	N	N	7	N
H15R0561	N	N	N	N	10	<5	N	<5	N	5	N
H15R0571	1.0	N	>500	5	<10	2,000	N	N	N	7	N
H15R0581	1.5	N	N	7	30	500	N	N	N	50	20
H15R0591	N	N	N	N	15	5	N	N	N	5	<10
H15R0601	1.0	N	N	5	20	50	N	7	N	30	20
H15R0612	N	N	N	N	15	<5	N	<5	N	7	N
H15R0636	N	N	N	N	10	5	N	5	N	5	<10
H15R0646	1.0	N	N	N	20	15	N	5	N	20	<10
H15R0656	1.5	N	<20	N	20	7	N	5	N	10	<10
H15R0666	1.0	N	N	N	15	7	N	7	N	10	<10
H15R0673	N	N	N	N	10	10	N	N	N	10	<10
H15R0683	N	N	N	N	15	<5	N	<5	N	7	<10
H15R0693	<1.0	N	N	N	10	7	N	5	N	10	<10
H15R0702	<1.0	N	N	N	15	5,000	N	7	N	10	50
H15R0711	1.0	N	N	N	20	70	N	5	N	20	70

TABLE 1.--- SPECTROGRAPHIC ANALYSES OF INSOLUBLE - RESIDUE SAMPLES FROM DRILL HOLE NO. H15, 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
H15R0226	N	N	N	N	20	<50	N	N	100	N	23
H15R0278	N	7	N	N	100	<50	N	N	50	N	23
H15R0287	N	7	N	N	100	<50	N	N	70	N	23
H15R0299	N	5	N	N	70	<50	N	N	70	N	23
H15R0312	N	<5	N	N	50	<50	N	N	70	N	23
H15R0322	N	<5	N	N	50	<50	N	N	100	N	23
H15R0331	N	N	N	N	<10	<50	N	N	100	N	23
H15R0340	N	N	N	N	10	<50	N	N	50	N	23
H15R0350	N	N	N	N	<10	<50	N	N	20	N	23
H15R0360	N	N	N	N	10	<50	N	N	30	N	23
H15R0369	N	N	N	N	70	<50	N	N	100	N	23
H15R0379	N	N	N	N	20	<50	N	N	100	N	23
H15R0389	N	N	N	N	10	<50	N	N	30	N	23
H15R0399	N	N	N	N	15	<50	N	N	100	N	23
H15R0409	N	N	N	N	<10	<50	N	N	20	N	23
H15R0419	N	N	N	N	<10	<50	N	N	20	N	23
H15R0427	N	N	N	N	<10	<50	N	N	10	N	23
H15R0436	N	N	N	N	<10	<50	N	N	<10	N	23
H15R0445	N	N	N	N	10	<50	N	N	30	N	23
H15R0455	N	N	N	N	<10	<50	N	N	20	N	23
H15R0465	N	N	N	N	<10	<50	N	N	20	N	23
H15R0475	N	N	N	N	<10	<50	N	N	50	N	23
H15R0484	N	N	N	N	15	<50	N	N	50	N	23
H15R0492	N	N	N	N	<10	<50	N	N	30	N	23
H15R0502	N	N	N	N	<10	<50	N	N	30	N	23
H15R0513	N	N	N	N	10	<50	N	N	10	N	23
H15R0523	N	N	N	N	<10	<50	N	N	20	N	23
H15R0532	N	5	N	N	150	<50	N	N	150	N	23
H15R0542	N	N	N	N	20	<50	N	N	100	N	23
H15R0557	N	N	N	N	50	<50	N	200	100	N	23
H15R0561	N	N	N	N	<10	<50	N	<200	10	N	23
H15R0571	N	N	N	N	70	<50	N	>10,000	100	N	23
H15R0581	N	N	N	N	200	<50	N	7,000	300	N	23
H15R0591	N	N	N	N	15	<50	N	7,000	10	N	23
H15R0601	N	N	N	N	200	<50	N	10,000	100	N	23
H15R0612	N	N	N	N	15	<50	N	N	50	N	23
H15R0636	N	N	N	N	10	<50	N	200	20	N	23
H15R0646	N	N	N	N	70	<50	N	1,000	100	N	23
H15R0656	N	N	N	N	150	<50	N	2,000	70	N	23
H15R0666	N	N	N	N	100	<50	N	3,000	100	N	23
H15R0673	N	N	N	N	<10	<50	N	N	20	N	23
H15R0683	N	N	N	N	<10	<50	N	500	10	N	23
H15R0693	N	N	N	N	50	<50	N	N	20	N	23
H15R0702	N	N	N	N	20	<50	N	N	50	N	23
H15R0711	N	N	N	N	100	<50	N	N	30	N	23

TABLE 1.-- SPECTROGRAPHIC ANALYSES OF INSOLUBLE - RESIDUE SAMPLES FROM DRILL HOLE NO. H15, 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
H15R0721	.70	.30	.15	.070	20	.5	N	N	50	100
H15R0731	.30	.10	.05	.010	15	N	N	N	20	50
H15R0741	.30	.10	<.05	.015	15	N	N	N	15	100
H15R0754	.20	.20	<.05	.070	10	N	N	N	50	150
H15R0764	.20	.10	<.05	.015	10	N	N	N	20	50
H15R0774	2.00	1.00	.15	.200	30	N	N	N	150	150
H15R0783	2.00	1.50	.20	.300	50	N	N	N	150	500
H15R0793	2.00	2.00	.20	.500	70	N	N	N	200	200
H15R0802	1.50	1.00	.50	.200	50	N	N	N	100	100
H15R0812	1.00	1.00	1.00	.200	30	N	N	N	100	70
H15R0822	2.00	1.00	1.00	.500	50	N	N	N	150	200
H15R0835	2.00	1.00	.20	.300	50	N	N	N	100	150
H15R0845	1.50	1.00	1.00	.300	50	N	<200	N	150	100
H15R0854	5.00	1.00	<.05	.500	70	N	<200	N	150	150
H15R0864	2.00	1.00	.70	.500	70	N	N	N	150	100
H15R0873	1.50	1.00	.30	.200	50	N	N	N	100	100
H15R0882	1.00	1.00	2.00	.150	50	N	N	N	100	100
H15R0892	1.50	1.50	1.50	.300	70	N	N	N	150	100
H15R0901	1.50	1.00	.50	.500	70	N	N	N	150	100
H15R0916	2.00	1.00	1.00	.300	70	N	N	N	100	100
H15R0926	1.50	1.50	1.50	.500	50	N	N	N	100	200
H15R0936	1.50	1.50	.20	.500	70	N	N	N	150	200
H15R0946	1.00	.70	.50	.200	50	N	N	N	100	70
H15R0956	1.50	1.00	.15	.300	50	N	N	N	150	100
H15R0966	1.50	2.00	2.00	.200	70	N	N	N	100	100
H15R0974	10.00	.50	.05	1.000	100	N	200	N	100	150
H15R0984	7.00	2.00	.05	1.000	100	N	<200	N	150	200
H15R0994	1.50	1.00	1.50	.200	50	N	N	N	150	150
H15R0999	2.00	.50	.10	.300	20	N	N	N	100	200

TABLE 1.-- SPECTROGRAPHIC ANALYSES OF INSOLUBLE - RESIDUE SAMPLES FROM DRILL HOLE NO. H15, 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
H15R0721	1.0	N	N	N	20	20	N	<5	N	10	<10
H15R0731	N	N	N	N	15	5	N	N	N	15	<10
H15R0741	N	N	N	N	10	<5	N	<5	N	7	N
H15R0754	<1.0	N	N	N	15	<5	N	N	N	7	N
H15R0764	N	N	N	N	15	<5	N	N	N	7	N
H15R0774	1.0	N	N	5	30	50	N	10	N	30	30
H15R0783	1.0	N	N	5	50	15	N	10	N	20	50
H15R0793	1.0	N	N	7	100	50	N	10	<20	30	50
H15R0802	1.0	N	N	<5	30	30	N	5	N	20	20
H15R0812	<1.0	N	N	N	20	7	N	5	N	15	15
H15R0822	<1.0	N	N	5	70	20	N	10	N	30	20
H15R0835	1.0	N	N	5	50	15	N	5	N	20	15
H15R0845	1.0	N	N	7	100	20	N	7	N	30	15
H15R0854	1.5	N	N	15	100	200	N	20	N	70	50
H15R0864	1.5	N	N	10	100	30	N	15	N	50	30
H15R0873	1.5	N	N	5	50	20	N	15	N	30	20
H15R0882	1.5	N	N	N	30	50	N	5	N	20	20
H15R0892	1.5	N	N	7	50	50	N	15	N	70	50
H15R0901	1.0	N	N	7	100	20	N	20	N	50	20
H15R0916	1.0	N	N	7	100	30	N	20	N	30	100
H15R0926	1.0	N	N	5	70	20	N	7	N	50	50
H15R0936	1.0	N	N	7	70	50	N	30	N	50	70
H15R0946	<1.0	N	N	<5	50	15	N	10	N	15	20
H15R0956	1.0	N	N	5	50	20	N	5	N	20	20
H15R0966	1.0	N	N	5	50	30	N	15	N	20	70
H15R0974	1.5	N	N	20	150	150	N	50	30	150	150
H15R0984	1.5	N	N	30	200	150	N	70	<20	100	150
H15R0994	2.0	N	N	7	70	30	N	20	N	50	10
H15R0999	1.5	N	N	<5	50	10	N	<5	N	15	<10

TABLE 1.-- SPECTROGRAPHIC ANALYSES OF INSOLUBLE - RESIDUE SAMPLES FROM DRILL HOLE NO. H15, 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
H15R0721	N	N	N	N	15	<50	N	N	150	N	23
H15R0731	N	N	N	N	10	<50	N	N	100	N	23
H15R0741	N	N	N	N	10	<50	N	N	70	N	23
H15R0754	N	N	N	N	20	<50	N	N	70	N	22
H15R0764	N	N	N	N	15	<50	N	N	20	N	22
H15R0774	N	<5	N	N	70	<50	N	N	70	N	22
H15R0783	N	5	N	N	70	<50	N	N	150	N	22
H15R0793	N	7	N	N	100	<50	N	N	100	N	22
H15R0802	N	<5	N	N	50	<50	N	N	70	N	22
H15R0812	N	N	N	N	30	<50	N	N	500	N	22
H15R0822	N	<5	N	N	50	<50	N	N	300	N	22
H15R0835	N	5	N	N	50	<50	N	N	100	N	22
H15R0845	N	5	N	N	70	<50	N	N	50	N	22
H15R0854	N	7	N	N	100	<50	N	300	100	N	22
H15R0864	N	5	N	N	100	<50	N	N	100	N	22
H15R0873	N	<5	N	N	50	<50	N	N	50	N	22
H15R0882	N	N	N	N	50	<50	N	N	50	N	22
H15R0892	N	5	N	N	70	<50	N	N	50	N	22
H15R0901	N	5	N	N	70	<50	N	N	70	N	22
H15R0916	N	5	N	N	50	<50	N	N	100	N	22
H15R0926	N	<5	N	N	70	<50	N	N	150	N	22
H15R0936	N	5	N	N	70	<50	N	N	200	N	22
H15R0946	N	<5	N	N	50	<50	N	N	50	N	22
H15R0956	N	5	N	N	70	<50	N	N	150	N	22
H15R0966	N	<5	N	N	50	<50	N	N	100	N	22
H15R0974	N	7	N	N	50	<50	10	N	200	N	22
H15R0984	N	10	N	N	100	<50	<10	N	200	N	22
H15R0994	N	5	N	150	70	<50	N	N	50	N	22
H15R0999	N	5	N	200	50	<50	N	N	200	N	22

TABLE 2.-- SPECTROGRAPHIC ANALYSES OF INSOLUBLE - RESIDUE SAMPLES FROM DRILL HOLE NO. H18, HARRISON 1 X 2

IN, 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-oct. s	Mn-ppm s	Ag-ppm s	As-ppm s	Au-ppm s	B-ppm s	Ba-ppm s
H18R0093	10.00	<.05	1.50	.030	100	<1.0	1,000	N	70	100
H18R0105	5.00	.07	1.50	.100	50	.5	500	N	50	70
H18R0115	10.00	.10	2.00	.200	70	.5	300	N	100	70
H18R0125	1.50	.15	.50	.200	20	N	<200	N	50	50
H18R0135	10.00	.03	.15	.700	100	.7	200	N	500	150
H18R0144	<.05	.03	2.00	.003	10	N	N	N	20	30
H18R0154	.15	.03	1.50	.015	15	N	N	N	20	50
H18R0164	.20	<.02	1.50	.002	10	N	N	N	20	50
H18R0174	.15	.02	1.00	.003	10	N	N	N	20	20
H18R0184	.05	.02	1.00	.003	10	N	N	N	20	30
H18R0194	<.05	.03	1.00	<.002	10	N	N	N	20	50
H18R0201	.05	.03	.50	.005	10	N	N	N	30	<20
H18R0210	<.05	.03	1.00	.003	10	N	N	N	50	30
H18R0221	.15	.02	.20	.010	10	N	N	N	30	<20
H18R0230	5.00	.03	1.00	.015	10	N	500	N	30	<20
H18R0242	<.05	.03	1.50	.002	10	N	N	N	70	<20
H18R0252	.15	.02	1.00	.015	10	N	N	N	50	50
H18R0268	<.05	.05	1.50	.003	10	N	N	N	50	50
H18R0277	<.05	.03	1.00	.003	10	N	N	N	50	100
H18R0286	1.00	.03	1.00	.005	10	N	N	N	30	20
H18R0295	<.05	.05	1.00	.005	10	N	N	N	50	<20
H18R0305	.15	.05	1.00	.010	10	N	N	N	50	30
H18R0324	<.05	.05	2.00	.010	10	N	N	N	30	30
H18R0334	1.50	.20	2.00	.200	30	5.0	N	N	100	70
H18R0344	.07	.03	1.00	.015	10	N	N	N	30	50
H18R0353	.20	.05	.20	.020	10	N	N	N	50	100
H18R0363	.10	.05	.30	.020	10	N	N	N	70	20
H18R0374	10.00	1.00	.15	.700	200	N	N	N	700	300
H18R0384	7.00	1.50	1.00	.700	200	N	N	N	500	500
H18R0394	10.00	1.00	1.00	.500	200	N	N	N	500	300
H18R0403	7.00	1.50	1.50	1.000	300	N	N	N	700	300
H18R0413	5.00	1.00	1.00	.500	200	N	N	N	200	300
H18R0423	5.00	1.00	1.00	.700	100	N	N	N	300	300
H18R0433	5.00	1.00	1.00	1.000	150	N	N	N	200	200
H18R0443	.50	.10	<.05	.150	10	N	N	N	30	200
H18R0449	.50	.05	<.05	.100	10	N	N	N	20	50
H18R0466	2.00	.70	.05	1.000	50	N	N	N	200	50
H18R0472	>20.00	.70	.15	.300	200	N	N	N	700	300
H18R0483	2.00	.07	.20	.100	10	N	N	N	20	300
H18R0491	10.00	.70	.05	.300	50	N	N	N	200	20
H18R0501	5.00	1.00	1.50	.700	70	N	N	N	200	150
H18R0511	5.00	.70	.15	.300	20	N	N	N	150	300
H18R0521	.50	.15	.10	.100	10	N	N	N	70	300
H18R0531	.20	.10	<.05	.070	10	N	N	N	50	100
H18R0541	.15	.07	<.05	.050	10	N	N	N	10	70

TABLE 2.-- SPECTROGRAPHIC ANALYSES OF INSOLUBLE - RESIDUE SAMPLES FROM DRILL HOLE NO. H18, 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
H18R0093	N	N	N	N	50	50	N	50	N	70	100
H18R0105	N	N	100	5	100	30	N	30	<20	70	50
H18R0115	<1.0	N	50	7	300	30	200	20	20	100	150
H18R0125	N	N	100	5	150	20	<20	15	20	50	10
H18R0135	7.0	N	150	15	1,500	200	500	20	30	150	200
H18R0144	N	N	N	N	15	<5	N	N	N	5	<10
H18R0154	N	N	N	N	15	<5	N	N	N	7	<10
H18R0164	N	N	N	N	15	<5	N	N	N	7	<10
H18R0174	N	N	N	N	20	<5	N	N	N	7	<10
H18R0184	N	N	N	N	15	<5	N	N	N	7	<10
H18R0194	N	N	N	N	15	<5	N	N	N	5	<10
H18R0201	N	N	N	N	15	<5	N	N	N	5	<10
H18R0210	N	N	N	N	15	<5	N	N	N	7	<10
H18R0221	N	N	N	N	20	<5	N	N	N	5	<10
H18R0230	N	N	N	N	15	7	N	10	N	30	<10
H18R0242	N	N	N	N	15	<5	N	N	N	7	<10
H18R0252	N	N	N	N	15	5	N	N	N	7	<10
H18R0268	N	N	N	N	15	<5	N	N	N	7	<10
H18R0277	N	N	N	N	15	<5	N	N	N	5	<10
H18R0286	N	N	N	N	15	7	N	10	N	7	<10
H18R0295	N	N	N	N	15	<5	N	N	N	7	<10
H18R0305	N	N	N	N	15	<5	N	N	N	7	<10
H18R0324	N	N	N	N	15	<5	N	N	N	7	<10
H18R0334	<1.0	N	N	N	50	30	N	7	N	50	20
H18R0344	N	N	N	N	20	<5	N	5	N	7	N
H18R0353	N	N	N	N	15	<5	N	<5	N	7	N
H18R0363	N	N	N	N	15	<5	N	N	N	7	N
H18R0374	2.0	N	N	30	100	200	N	N	<20	500	100
H18R0384	1.5	N	N	30	100	30	<20	N	<20	500	50
H18R0394	1.5	N	N	50	70	50	N	N	N	500	50
H18R0403	2.0	N	N	200	100	50	50	<5	<20	2,000	100
H18R0413	1.5	N	N	100	70	30	N	N	<20	1,500	100
H18R0423	2.0	N	N	30	100	30	<20	N	<20	200	10
H18R0433	1.5	N	N	30	100	30	<20	N	N	200	10
H18R0443	N	N	N	N	20	<5	N	N	N	10	<10
H18R0449	N	N	N	10	20	20	N	5	N	20	<10
H18R0466	1.0	N	N	10	50	20	50	7	20	20	30
H18R0472	2.0	N	N	7	150	200	N	20	N	100	N
H18R0483	N	N	N	N	15	7	N	5	N	5	N
H18R0491	<1.0	N	N	7	100	50	N	5	N	100	30
H18R0501	1.5	N	N	20	150	50	N	N	N	100	30
H18R0511	<1.0	N	N	5	50	20	N	N	N	150	10
H18R0521	N	N	N	N	15	<5	N	N	N	10	N
H18R0531	N	N	N	N	10	<5	N	N	N	7	N
H18R0541	N	N	N	N	10	<5	N	N	N	5	N

TABLE 2.-- SPECTROGRAPHIC ANALYSES OF INSOLUBLE - RESIDUE SAMPLES FROM DRILL HOLE NO. H18, 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
H18R0093	200	N	N	N	20	<100	N	<500	500	N	31
H18R0105	N	N	N	N	30	<50	15	3,000	100	N	31
H18R0115	N	5	N	N	150	<50	10	2,000	150	N	31
H18R0125	N	<5	N	N	70	<50	50	5,000	100	N	31
H18R0135	N	20	15	N	500	<50	50	5,000	300	N	31
H18R0144	N	N	N	N	<10	<50	N	N	N	N	31
H18R0154	N	N	N	N	10	<50	N	N	N	N	31
H18R0164	N	N	N	N	<10	<50	N	N	N	N	31
H18R0174	N	N	N	N	<10	<50	N	N	N	N	31
H18R0184	N	N	N	N	10	<50	N	N	N	N	31
H18R0194	N	N	N	N	10	<50	N	N	N	N	31
H18R0201	N	N	N	N	10	<50	N	N	N	N	31
H18R0210	N	N	N	N	<10	<50	N	N	N	N	31
H18R0221	N	N	N	N	10	<50	N	N	N	N	31
H18R0230	N	N	N	N	10	<50	N	N	N	N	31
H18R0242	N	N	N	N	10	<50	N	N	N	N	31
H18R0252	N	N	N	N	<10	<50	N	N	N	N	31
H18R0268	N	N	N	N	10	<50	N	N	N	N	31
H18R0277	N	N	N	N	10	<50	N	N	N	N	31
H18R0286	N	N	N	N	10	<50	N	N	N	N	31
H18R0295	N	N	N	N	15	<50	N	N	N	N	31
H18R0305	N	N	N	N	20	<50	N	N	N	N	31
H18R0324	N	N	N	N	15	<50	N	N	N	N	31
H18R0334	N	5	N	N	100	<50	N	300	50	N	31
H18R0344	N	N	N	N	20	<50	N	N	N	N	31
H18R0353	N	N	N	N	50	<50	N	<200	N	N	31
H18R0363	N	N	N	N	70	<50	N	N	N	N	31
H18R0374	N	20	N	N	200	<50	20	500	200	N	31
H18R0384	N	20	N	N	200	<50	15	500	100	N	31
H18R0394	N	15	N	N	150	<50	10	200	100	N	31
H18R0403	N	20	N	N	300	<50	15	200	150	N	31
H18R0413	N	15	N	N	100	<50	10	<200	100	N	31
H18R0423	N	15	N	N	200	<50	15	<200	200	N	44
H18R0433	N	15	N	N	200	<50	15	<200	200	N	44
H18R0443	N	N	N	N	70	<50	N	N	30	N	23
H18R0449	N	N	N	N	50	<50	N	200	100	N	23
H18R0466	N	10	N	N	100	<50	20	N	1,000	N	23
H18R0472	N	10	N	N	150	<50	15	300	50	N	23
H18R0483	N	N	N	N	20	<50	N	N	50	N	23
H18R0491	N	5	N	N	100	<50	N	N	50	N	23
H18R0501	N	10	N	500	200	<50	N	N	100	N	23
H18R0511	N	<5	N	N	100	<50	N	N	200	N	23
H18R0521	N	N	N	N	20	<50	N	N	200	N	23
H18R0531	N	N	N	N	15	<50	N	N	50	N	23
H18R0541	N	N	N	N	<10	<50	N	N	100	N	23

TABLE 2.--- SPECTROGRAPHIC ANALYSES OF INSOLUBLE - RESIDUE SAMPLES FROM DRILL HOLE NO. H18, 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
H18R0551	.07	.05	<.05	.050	10	N	N	N	10	50
H18R0561	.07	.05	<.05	.050	10	N	N	N	15	50
H18R0571	.07	.03	<.05	.015	10	N	N	N	20	20
H18R0581	.20	.07	.05	.020	10	N	N	N	30	30
H18R0589	.30	.20	.05	.070	10	N	N	N	50	70
H18R0599	.30	.10	.05	.050	10	N	N	N	30	50
H18R0609	1.00	.50	.05	.200	15	N	N	N	100	100
H18R0618	.07	.05	<.05	.050	<10	N	N	N	20	50
H18R0628	.10	.07	<.05	.070	10	N	N	N	20	70
H18R0638	.20	.05	<.05	.020	10	N	N	N	10	<20
H18R0647	<.05	.02	<.05	.003	10	N	N	N	15	<20
H18R0657	<.05	.02	<.05	.002	<10	N	N	N	15	<20
H18R0666	<.05	.02	<.05	.002	10	N	N	N	15	30
H18R0676	<.05	.03	<.05	.015	10	N	N	N	15	50
H18R0686	<.05	.03	.15	.003	10	N	N	N	50	70
H18R0696	.20	.10	<.05	.050	10	N	N	N	30	70
H18R0705	<.05	.02	<.05	.003	10	N	N	N	10	20
H18R0715	.10	.07	<.05	.015	<10	N	N	N	15	20
H18R0725	<.05	.02	<.05	.005	<10	N	N	N	15	30
H18R0735	.10	.03	.15	.020	<10	N	N	N	20	50
H18R0745	.10	.03	<.05	.010	<10	N	N	N	15	50
H18R0755	<.05	<.02	<.05	.002	10	N	N	N	10	20
H18R0764	.20	.20	<.05	.050	10	N	N	N	30	50
H18R0774	.15	.05	.10	.015	<10	N	N	N	10	20
H18R0784	.15	.03	.05	.015	10	N	N	N	15	20
H18R0794	.50	.50	.07	.200	10	N	N	N	70	100
H18R0804	.20	.20	.05	.070	15	N	<200	N	50	50
H18R0813	.05	.05	<.05	.010	10	N	N	N	15	50
H18R0823	2.00	.10	.15	.070	10	N	N	N	20	70
H18R0833	.70	.50	.15	.300	20	N	N	N	70	150
H18R0842	1.00	.70	.15	.500	20	N	N	N	100	150
H18R0852	.05	.05	.15	.010	15	N	N	N	15	50
H18R0862	.20	.30	.15	.100	15	N	N	N	30	100
H18R0872	2.00	.50	1.00	.200	15	N	N	N	50	100
H18R0882	.50	.70	.10	.300	15	N	N	N	100	150
H18R0890	.07	.15	.10	.050	<10	N	N	N	20	100
H18R0900	1.00	.10	.07	.050	10	N	<200	N	20	70
H18R0910	.20	.15	.10	.070	<10	N	N	N	20	100
H18R0920	.15	.15	.05	.020	10	N	N	N	15	20
H18R0928	.07	.05	.05	.010	<10	N	N	N	15	70
H18R0938	.10	.07	<.05	.015	<10	N	N	N	20	50
H18R0948	1.50	1.00	.15	.500	20	N	N	N	100	150
H18R0957	.30	.70	.50	.200	15	N	N	N	50	200
H18R0967	.10	.07	.15	.010	10	N	N	N	20	20
H18R0973	1.00	.70	1.00	.200	20	N	N	N	70	200

TABLE 2.-- SPECTROGRAPHIC ANALYSES OF INSOLUBLE - RESIDUE SAMPLES FROM DRILL HOLE NO. H18, 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
H18R0551	N	N	N	N	10	<5	N	N	N	5	N
H18R0561	N	N	N	N	15	<5	N	N	N	5	N
H18R0571	N	N	N	N	15	N	N	N	N	5	N
H18R0581	N	N	N	N	15	7	N	<5	N	7	N
H18R0589	N	N	N	N	15	5	N	<5	N	7	N
H18R0599	N	N	N	N	15	<5	N	<5	N	5	N
H18R0609	1.0	N	N	N	50	7	N	<5	N	15	N
H18R0618	N	N	N	N	15	<5	N	<5	N	5	N
H18R0628	N	N	N	N	15	<5	N	<5	N	7	N
H18R0638	N	N	N	N	15	<5	N	<5	N	10	N
H18R0647	N	N	N	N	15	<5	N	N	N	<5	N
H18R0657	N	N	N	N	15	<5	N	N	N	<5	N
H18R0666	N	N	N	N	15	<5	N	N	N	<5	N
H18R0676	N	N	N	N	15	<5	N	N	N	<5	N
H18R0686	N	N	N	N	15	<5	N	N	N	<5	N
H18R0696	N	N	N	N	15	7	N	N	N	5	N
H18R0705	N	N	N	N	15	<5	N	<5	N	<5	N
H18R0715	N	N	N	N	15	<5	N	<5	N	5	N
H18R0725	N	N	N	N	15	<5	N	N	N	<5	N
H18R0735	N	N	N	N	15	<5	N	N	N	5	N
H18R0745	N	N	N	N	15	<5	N	N	N	7	N
H18R0755	N	N	N	N	15	<5	N	N	N	<5	N
H18R0764	N	N	N	N	15	5	N	N	N	7	N
H18R0774	N	N	N	N	15	5	N	N	N	<5	N
H18R0784	N	N	N	N	15	5	N	N	N	5	<10
H18R0794	1.0	N	N	N	20	10	N	N	N	15	N
H18R0804	N	N	N	N	15	7	N	N	N	7	N
H18R0813	N	N	N	N	15	<5	N	N	N	<5	N
H18R0823	N	N	N	<5	15	7,000	N	N	N	15	<10
H18R0833	<1.0	N	N	<5	20	70	N	<5	N	15	10
H18R0842	1.0	N	N	N	20	20	N	5	N	20	10
H18R0852	N	N	N	N	10	<5	N	<5	N	5	100
H18R0862	<1.0	N	N	N	20	10	N	N	N	7	10
H18R0872	<1.0	N	N	5	20	50	N	10	N	30	N
H18R0882	1.0	N	N	<5	30	15	N	5	N	30	N
H18R0890	N	N	N	N	15	<5	N	<5	N	5	N
H18R0900	N	N	N	N	15	10	N	5	N	15	N
H18R0910	N	N	N	N	15	5	N	5	N	15	N
H18R0920	N	N	N	N	15	7	N	<5	N	7	N
H18R0928	N	N	N	N	15	<5	N	5	N	<5	N
H18R0938	N	N	N	N	15	<5	N	5	N	<5	N
H18R0948	1.5	N	N	15	70	30	N	10	N	N	20
H18R0957	<1.0	N	N	N	20	5	N	5	N	5	N
H18R0967	N	N	N	N	10	<5	N	N	N	<5	N
H18R0973	1.0	N	N	<5	20	10	N	5	N	10	N

TABLE 2.-- SPECTROGRAPHIC ANALYSES OF INSOLUBLE - RESIDUE SAMPLES FROM DRILL HOLE NO. H18, 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
H18R0551	N	N	N	N	<10	<50	N	N	30	N	23
H18R0561	N	N	N	N	<10	<50	N	N	30	N	23
H18R0571	N	N	N	N	<10	<50	N	N	<10	N	23
H18R0581	N	N	N	N	10	<50	N	N	20	N	23
H18R0589	N	N	N	N	20	<50	N	N	70	N	23
H18R0599	N	N	N	N	15	<50	N	N	30	N	23
H18R0609	N	N	N	N	100	<50	N	N	100	N	23
H18R0618	N	N	N	N	10	<50	N	N	30	N	23
H18R0628	N	N	N	N	10	<50	N	N	200	N	23
H18R0638	N	N	N	N	<10	<50	N	N	20	N	23
H18R0647	N	N	N	N	<10	<50	N	N	15	N	23
H18R0657	N	N	N	N	10	<50	N	N	15	N	23
H18R0666	N	N	N	N	<10	<50	N	N	10	N	23
H18R0676	N	N	N	N	10	<50	N	N	<10	N	23
H18R0686	N	N	N	N	<10	50	N	N	20	N	23
H18R0696	N	N	N	N	30	50	N	N	100	N	23
H18R0705	N	N	N	N	<10	50	N	N	30	N	23
H18R0715	N	N	N	N	<10	<50	N	N	15	N	23
H18R0725	N	N	N	N	<10	<50	N	N	20	N	23
H18R0735	N	N	N	N	10	<50	N	N	20	N	23
H18R0745	N	N	N	N	<10	<50	N	N	50	N	23
H18R0755	N	N	N	N	<10	<50	N	N	20	N	23
H18R0764	N	N	N	N	20	50	N	N	50	N	23
H18R0774	N	N	N	N	10	<50	N	N	50	N	23
H18R0784	N	N	N	N	<10	<50	N	N	10	N	23
H18R0794	N	N	N	N	100	<50	N	N	200	N	23
H18R0804	N	N	N	N	20	<50	N	N	20	N	23
H18R0813	N	N	N	N	10	<50	N	N	15	N	23
H18R0823	N	N	N	N	20	<50	N	N	50	N	23
H18R0833	N	N	N	N	150	<50	N	N	100	N	23
H18R0842	N	N	N	N	200	<50	N	N	300	N	22
H18R0852	N	N	N	N	15	<50	N	N	100	N	22
H18R0862	N	N	N	N	100	<50	N	N	150	N	22
H18R0872	N	N	N	N	100	<50	N	N	100	N	22
H18R0882	N	N	N	N	70	<50	N	N	100	N	22
H18R0890	N	N	N	N	20	<50	N	N	100	N	22
H18R0900	N	N	N	N	15	<50	N	N	30	N	22
H18R0910	N	N	N	N	20	<50	N	N	50	N	22
H18R0920	N	N	N	N	15	<50	N	N	100	N	22
H18R0928	N	N	N	N	10	<50	N	N	<10	N	22
H18R0938	N	N	N	N	15	<50	N	N	30	N	22
H18R0948	N	5	N	N	100	<50	N	N	70	N	22
H18R0957	N	N	N	N	50	<50	N	N	200	N	22
H18R0967	N	N	N	N	<10	<50	N	N	70	N	22
H18R0973	N	N	N	N	50	<50	N	N	100	N	22

TABLE 2.-- SPECTROGRAPHIC ANALYSES OF INSOLUBLE - RESIDUE SAMPLES FROM DRILL HOLE NO. H18, HARRISON 1 X 2
QUADRANGLE, MISSOURI AND ARKANSAS--Continued

Sample	Fe-pct. %	Mg-pct. %	Ca-pct. %	Ti-pct. %	Mn-ppm s	Ag-ppm s	As-ppm s	Au-ppm s	B-ppm s	Ba-ppm s
H18R0986	.10	.07	.10	.015	10	N	N	N	30	200
H18R0996	.20	.30	.20	.050	10	N	N	N	20	150
H18R1000	.05	.02	<.05	.015	10	N	N	N	15	70

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
H18R0986	N	N	N	N	10	<5	N	N	N	5	N
H18R0996	N	N	N	N	15	5	N	N	N	7	N
H18R1000	N	N	N	N	15	<5	N	N	N	5	N

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
H18R0986	N	N	N	N	<10	<50	N	N	100	N	22
H18R0996	N	N	N	N	20	<50	N	N	50	N	22
H18R1000	N	N	N	N	<10	<50	N	N	30	N	22

TABLE 3.-- SPECTROGRAPHIC ANALYSES OF INSOLUBLE - RESIDUE SAMPLES FROM DRILL HOLE NO. H19, 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
H19R0213	.05	.02	<.05	.010	<10	N	N	N	N	<20
H19R0222	.07	.03	<.05	.007	<10	N	N	N	10	<20
H19R0232	.05	.10	.15	.005	<10	N	N	N	N	<20
H19R0242	.05	.05	<.05	.005	<10	N	N	N	10	<20
H19R0252	<.05	.05	<.05	.003	<10	N	N	N	N	<20
H19R0262	<.05	.07	.20	.003	<10	N	N	N	10	20
H19R0271	.07	.07	.10	.005	<10	N	N	N	10	<20
H19R0280	<.05	.07	<.05	.007	<10	N	N	N	<10	<20
H19R0289	.10	.05	<.05	.030	<10	N	N	N	10	<20
H19R0299	.05	.07	.05	.010	<10	N	N	N	15	<20
H19R0308	.30	.05	<.05	.020	<10	N	N	N	15	<20
H19R0318	.10	.07	.10	.010	<10	N	N	N	10	<20
H19R0337	.07	.05	<.05	.015	<10	N	N	N	<10	<20
H19R0347	<.05	.05	<.05	.015	<10	N	N	N	N	<20
H19R0355	.10	.15	.10	.020	<10	N	N	N	10	20
H19R0364	.15	.50	.15	.030	<10	N	N	N	15	20
H19R0374	.20	.20	.05	.020	<10	N	N	N	15	20
H19R0384	.50	.15	.05	.030	<10	N	N	N	15	20
H19R0393	.30	.15	.05	.050	<10	N	N	N	15	20
H19R0402	.70	.20	.05	.050	<10	N	N	N	20	100
H19R0410	.07	.15	.05	.030	<10	N	N	N	15	70
H19R0430	1.50	.15	<.05	.030	<10	N	N	N	15	20
H19R0440	2.00	.20	.05	.030	<10	N	N	N	<10	20
H19R0450	.50	.15	.07	.030	<10	N	N	N	<10	20
H19R0460	.15	.05	<.05	.005	<10	N	N	N	<10	<20
H19R0479	15.00	.50	.70	.030	20	N	1,000	N	30	50
H19R0489	1.00	3.00	5.00	.007	300	N	N	N	20	20
H19R0497	1.00	.50	.70	.010	10	N	N	N	<10	50
H19R0507	10.00	.30	.07	.030	20	N	500	N	70	200
H19R0517	20.00	.50	.50	.050	30	N	500	N	100	70
H19R0526	1.00	.30	.10	.070	<10	N	N	N	50	100
H19R0536	.20	.20	.20	.030	<10	N	N	N	20	100
H19R0546	1.00	1.00	.70	.100	10	N	N	N	70	100
H19R0556	.70	1.00	1.00	.070	15	N	N	N	50	70
H19R0565	.70	1.00	.70	.100	10	N	N	N	70	100
H19R0575	1.00	1.50	1.00	.070	20	N	N	N	50	150
H19R0585	1.00	7.00	7.00	.050	100	N	N	N	50	50
H19R0594	2.00	2.00	.70	.200	50	N	N	N	100	300
H19R0601	1.50	1.50	.50	.150	50	N	N	N	100	100
H19R0610	1.00	2.00	2.00	.100	50	N	N	N	70	100
H19R0623	1.50	1.50	1.00	.100	30	N	N	N	100	100
H19R0633	2.00	2.00	1.00	.150	50	N	N	N	100	200
H19R0643	1.50	.50	.50	.070	10	N	N	N	50	100
H19R0653	1.00	2.00	2.00	.100	50	N	N	N	70	200
H19R0663	1.50	1.50	1.50	.150	50	N	N	N	150	150

TABLE 3.-- SPECTROGRAPHIC ANALYSES OF INSOLUBLE - RESIDUE SAMPLES FROM DRILL HOLE NO. H19, 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
H19R0213	N	N	N	N	<10	7	N	N	N	<5	N
H19R0222	N	N	N	N	<10	10	N	N	N	5	N
H19R0232	N	N	N	N	<10	10	N	N	N	5	N
H19R0242	N	N	N	N	<10	5	N	N	N	5	N
H19R0252	N	N	N	N	<10	10	N	N	N	<5	N
H19R0262	N	N	N	N	<10	7	N	N	N	<5	N
H19R0271	N	N	N	N	<10	10	N	N	N	5	N
H19R0280	N	N	N	N	<10	7	N	N	N	5	N
H19R0289	N	N	N	N	<10	7	N	N	N	5	N
H19R0299	N	N	N	N	<10	10	N	N	N	5	N
H19R0308	N	N	N	N	<10	5	N	N	N	20	N
H19R0318	N	N	N	N	<10	<5	N	N	N	5	N
H19R0337	N	N	N	N	<10	<5	N	N	N	5	N
H19R0347	N	N	N	N	<10	5	N	N	N	<5	N
H19R0355	N	N	N	N	<10	10	N	N	N	5	N
H19R0364	<1.0	N	N	N	<10	20	N	N	N	5	N
H19R0374	<1.0	N	N	N	<10	10	N	N	N	5	N
H19R0384	<1.0	N	N	N	<10	50	N	N	N	7	100
H19R0393	<1.0	N	N	N	<10	10	N	N	N	<5	<10
H19R0402	<1.0	N	N	N	10	10	N	N	N	7	<10
H19R0410	N	N	N	N	<10	10	N	N	N	<5	N
H19R0430	<1.0	N	N	N	<10	15	N	N	N	7	N
H19R0440	N	N	N	N	<10	10	N	N	N	7	N
H19R0450	<1.0	N	N	N	<10	7	N	N	N	5	N
H19R0460	N	N	N	N	<10	5	N	N	N	5	N
H19R0479	N	N	N	N	<10	50	N	30	N	15	30
H19R0489	N	N	N	N	10	10	N	N	N	7	<10
H19R0497	<1.0	N	N	N	<10	10	N	N	N	7	<10
H19R0507	1.0	N	N	10	10	100	N	20	N	20	50
H19R0517	1.0	N	N	30	10	150	N	300	N	500	30
H19R0526	1.0	N	N	N	20	10	N	N	N	7	10
H19R0536	<1.0	N	N	N	<10	<5	N	N	N	5	N
H19R0546	1.0	N	N	5	20	10	N	N	N	7	N
H19R0556	<1.0	N	N	N	15	10	N	5	N	7	<10
H19R0565	<1.0	N	N	N	20	10	N	7	N	7	10
H19R0575	1.0	N	N	N	20	10	N	<5	N	5	10
H19R0585	<1.0	N	N	5	20	10	N	10	N	5	10
H19R0594	1.0	N	N	5	100	30	N	10	N	20	20
H19R0601	1.0	N	N	5	100	20	N	10	N	15	20
H19R0610	<1.0	N	N	N	50	15	N	7	N	7	15
H19R0623	1.0	N	N	<5	50	20	N	7	N	10	15
H19R0633	1.5	N	N	5	70	30	N	10	N	20	20
H19R0643	1.0	N	N	N	20	20	N	7	N	10	10
H19R0653	1.0	N	N	N	30	20	N	<5	N	10	15
H19R0663	1.0	N	N	<5	70	20	N	5	N	10	20

TABLE 3.-- SPECTROGRAPHIC ANALYSES OF INSOLUBLE - RESIDUE SAMPLES FROM DRILL HOLE NO. H19, 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
H19R0213	N	N	N	N	<10	N	N	N	<10	N	23
H19R0222	N	N	N	N	<10	N	N	N	20	N	23
H19R0232	N	N	N	N	<10	N	N	N	15	N	23
H19R0242	N	N	N	N	<10	N	N	N	<10	N	23
H19R0252	N	N	N	N	<10	N	N	N	<10	N	23
H19R0262	N	N	N	N	<10	N	N	N	N	N	23
H19R0271	N	N	N	N	<10	N	N	N	15	N	23
H19R0280	N	N	N	N	<10	N	N	N	10	N	23
H19R0289	N	N	N	N	<10	N	N	N	20	N	23
H19R0299	N	N	N	N	<10	N	N	N	<10	N	23
H19R0308	N	N	N	N	<10	N	N	N	50	N	23
H19R0318	N	N	N	N	<10	N	N	N	<10	N	23
H19R0337	N	N	N	N	<10	N	N	N	10	N	23
H19R0347	N	N	N	N	<10	N	N	N	15	N	23
H19R0355	N	N	N	N	10	N	N	N	50	N	23
H19R0364	N	N	N	N	15	N	N	N	50	N	23
H19R0374	N	N	N	N	15	N	N	N	20	N	23
H19R0384	N	N	N	N	20	N	N	N	50	N	23
H19R0393	N	N	N	N	20	N	N	N	30	N	23
H19R0402	N	N	N	N	30	N	N	N	70	N	23
H19R0410	N	N	N	N	10	N	N	N	50	N	23
H19R0430	N	N	N	N	20	N	N	N	50	N	23
H19R0440	N	N	N	N	15	N	N	N	20	N	23
H19R0450	N	N	N	N	10	N	N	N	100	N	23
H19R0460	N	N	N	N	<10	N	N	N	50	N	23
H19R0479	N	N	N	N	15	N	N	N	15	N	23
H19R0489	N	N	N	N	<10	N	N	N	50	N	23
H19R0497	N	N	N	N	<10	N	N	N	50	N	23
H19R0507	N	N	N	N	15	N	N	<200	100	N	23
H19R0517	N	N	N	N	30	N	N	20	20	N	23
H19R0526	N	N	N	N	20	N	N	N	50	N	23
H19R0536	N	N	N	N	10	N	N	N	70	N	22
H19R0546	N	N	N	N	20	N	N	N	50	N	22
H19R0556	N	N	N	N	15	N	N	N	10	N	22
H19R0565	N	N	N	N	20	N	N	N	<10	N	22
H19R0575	N	N	N	N	15	N	N	N	50	N	22
H19R0585	N	N	N	100	20	N	N	N	<10	N	22
H19R0594	N	N	N	<100	50	N	N	N	100	N	22
H19R0601	N	5	N	N	50	N	N	N	50	N	22
H19R0610	N	<5	N	N	20	N	N	N	50	N	22
H19R0623	N	<5	N	N	30	N	N	N	50	N	22
H19R0633	N	<5	N	N	50	N	N	N	50	N	22
H19R0643	N	<5	N	N	30	N	N	N	20	N	22
H19R0653	N	N	N	N	20	N	N	N	50	N	22
H19R0663	N	5	N	N	50	N	N	N	50	N	22

TABLE 3.-- SPECTROGRAPHIC ANALYSES OF INSOLUBLE - RESIDUE SAMPLES FROM DRILL HOLE NO. H19, HARRISON 1 X 2
QUADRANGLE, MISSOURI AND ARKANSAS--Continued

Sample	Fe-pct. s	Mg-pct. s	Ca-pct. s	Ti-pct. s	Mn-pptm s	Ag-pptm s	As-pptm s	Au-pptm s	B-pptm s	Ba-pptm s
H19R0672	2.00	2.00	1.00	.150	50	N	N	N	150	150
H19R0682	1.00	3.00	2.00	.300	50	N	N	N	150	200
H19R0691	1.50	10.00	7.00	.100	100	N	N	N	70	100
H19R0701	2.00	2.00	1.00	.150	50	N	N	N	100	100
H19R0711	1.00	.50	.50	.050	10	N	N	N	30	100
H19R0720	5.00	2.00	.70	.150	50	N	N	N	100	150
H19R0730	.70	1.00	1.00	.050	15	N	N	N	70	100
H19R0740	10.00	.50	.07	.070	30	N	200	N	50	300
H19R0750	1.00	1.00	1.00	.050	20	N	N	N	50	20
H19R0759	3.00	3.00	3.00	.200	70	N	N	N	100	200
H19R0769	20.00	.70	.10	.070	50	N	500	N	100	70
H19R0778	2.00	.30	.05	.050	10	N	N	N	70	150
H19R0788	10.00	1.00	2.00	.070	50	.5	300	N	50	100
H19R0797	5.00	.70	.30	.100	20	N	200	N	70	200
H19R0806	>20.00	.30	.05	.070	70	.5	1,000	N	150	150
H19R0816	15.00	.50	<.05	.070	30	N	700	N	100	100
H19R0825	15.00	.50	<.05	.070	30	N	700	N	100	150
H19R0835	7.00	.15	<.05	.030	20	N	200	N	50	100
H19R0846	.50	.30	.10	.050	<10	<.5	N	N	50	100
H19R0863	.15	.30	.50	.030	15	N	N	N	50	100
H19R0872	10.00	.30	.10	.050	200	N	N	N	50	100
H19R0882	1.00	.50	.50	.050	15	N	N	N	20	100
H19R0891	.70	1.50	2.00	.070	15	N	N	N	50	70
H19R0900	2.00	.15	.05	.050	<10	N	N	N	15	200
H19R0910	.70	.70	.70	.050	<10	N	N	N	20	100
H19R0920	1.50	.70	.30	.100	10	N	N	N	50	150
H19R0929	1.50	.70	.20	.100	10	N	N	N	50	150
H19R0939	3.00	5.00	10.00	.030	50	N	N	N	10	100
H19R0948	.20	.50	.50	.010	10	N	N	N	20	70
H19R0957	.20	.20	.50	.010	10	N	N	N	15	20
H19R0967	1.00	.70	.50	.100	20	N	N	N	50	100
H19R0970	1.00	.50	.07	.070	10	N	N	N	30	100

TABLE 3.-- SPECTROGRAPHIC ANALYSES OF INSOLUBLE - RESIDUE SAMPLES FROM DRILL HOLE NO. H19, 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
H19R0672	1.0	N	N	5	70	30	N	5	N	15	20
H19R0682	1.0	N	N	5	100	20	N	5	N	10	15
H19R0691	1.0	N	N	5	70	15	N	N	N	10	10
H19R0701	2.0	N	N	5	100	30	N	7	N	15	15
H19R0711	<1.0	N	N	N	10	15	N	5	N	7	10
H19R0720	1.5	N	N	7	100	50	N	20	N	20	20
H19R0730	<1.0	N	N	N	20	30	N	N	N	5	<10
H19R0740	1.0	N	N	5	20	50	N	15	N	20	50
H19R0750	1.0	N	N	N	10	7	N	<5	N	<5	<10
H19R0759	1.5	N	N	7	100	20	N	10	N	15	50
H19R0769	<1.0	N	N	N	100	300	N	10	N	100	70
H19R0778	<1.0	N	N	N	50	20	N	N	N	10	10
H19R0788	<1.0	N	N	N	70	100	N	70	N	20	30
H19R0797	1.0	N	N	N	20	70	N	15	N	10	15
H19R0806	<1.0	N	N	10	10	200	N	200	N	20	20
H19R0816	1.0	N	N	5	50	50	N	100	N	20	15
H19R0825	<1.0	N	N	5	10	50	N	100	N	20	20
H19R0835	N	N	N	N	<10	50	N	50	N	10	20
H19R0846	<1.0	N	N	N	15	5	N	N	N	5	N
H19R0863	N	N	N	N	<10	<5	N	N	N	5	N
H19R0872	<1.0	N	N	N	15	30	N	N	N	20	20
H19R0882	N	N	N	N	<10	7	N	<5	N	5	<10
H19R0891	<1.0	N	N	N	10	7	N	N	N	5	10
H19R0900	<1.0	N	N	N	<10	10	N	N	N	7	10
H19R0910	<1.0	N	N	N	<10	10	N	N	N	5	10
H19R0920	1.0	N	N	N	50	10	N	N	N	10	10
H19R0929	1.0	N	N	N	50	10	N	N	N	10	10
H19R0939	N	N	N	N	10	10	N	N	N	7	10
H19R0948	N	N	N	N	<10	5	N	N	N	5	N
H19R0957	N	N	N	N	<10	5	N	N	N	5	N
H19R0967	1.0	N	N	N	50	15	N	N	N	10	50
H19R0970	1.0	N	N	N	20	5	N	N	N	7	N

TABLE 3.-- SPECTROGRAPHIC ANALYSES OF INSOLUBLE - RESIDUE SAMPLES FROM DRILL HOLE NO. H19, 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
H19R0672	N	<5	N	N	50	N	N	N	50	N	22
H19R0682	N	5	N	N	50	N	N	N	70	N	22
H19R0691	N	<5	N	N	50	N	N	N	50	N	22
H19R0701	N	5	N	N	50	N	N	N	50	N	22
H19R0711	N	N	N	N	<10	N	N	N	30	N	22
H19R0720	N	5	N	N	70	N	N	N	100	N	22
H19R0730	N	N	N	100	20	N	N	N	<10	N	39
H19R0740	N	N	N	N	15	N	N	N	50	N	39
H19R0750	N	N	N	N	20	N	N	N	<10	N	39
H19R0759	N	5	N	N	50	N	N	N	100	N	39
H19R0769	N	N	N	N	70	N	N	N	10	N	39
H19R0778	N	N	N	700	20	N	N	N	N	N	39
H19R0788	N	N	N	N	100	N	N	N	10	N	39
H19R0797	N	N	N	1,000	50	N	N	N	20	N	39
H19R0806	N	N	N	N	20	N	N	N	N	N	39
H19R0816	N	N	N	N	50	N	N	N	10	N	39
H19R0825	N	N	N	N	50	N	N	N	20	N	39
H19R0835	N	N	N	N	50	N	N	N	N	N	39
H19R0846	N	N	N	N	30	N	N	N	<10	N	39
H19R0863	N	N	N	N	10	N	N	N	10	N	39
H19R0872	N	N	N	N	15	N	N	N	<10	N	39
H19R0882	N	N	N	N	15	N	N	N	10	N	39
H19R0891	N	N	N	N	30	N	N	N	10	N	39
H19R0900	N	N	N	N	10	N	N	N	10	N	39
H19R0910	N	N	N	N	15	N	N	N	50	N	39
H19R0920	N	N	N	N	50	N	N	N	50	N	39
H19R0929	N	N	N	N	50	N	N	N	50	N	39
H19R0939	N	N	N	N	10	N	N	N	N	N	39
H19R0948	N	N	N	N	<10	N	N	N	N	N	39
H19R0957	N	N	N	N	<10	N	N	N	N	N	39
H19R0967	N	N	N	N	50	N	N	N	30	N	39
H19R0970	N	N	N	N	50	N	N	N	15	N	39