UNITED STATES DEPARTMENT OF THE INTERIOR

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Spectrographic analyses of insoluble-residue samples, Joplin 1° x 2° quadrangle, Kansas and Missouri: Drill hole nos. 1, 2, and 3

By

John H. Bullock, Jr.* and Helen A. Whitney*

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*U.S. Geological Survey, DFC, Box 25046, MS 973, Denver, CO 80225

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INTRODUCTION

Geochemical studies of the Joplin 1° x 2° quadrangle, Missouri and Kansas, 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 Kansas 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 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 Kansas Geological Survey (KGS). None of the holes are company confidential and none intersect economically significant mineralized ground.

The analytical results for drill hole no. 1 (#1 Eck - KGS), drill hole no. 2 (#1 SWD Clinesmith - KGS),and drill hole no. 3 (#1 Bob King - KGS) are given in this report. Drill hole no. 1 is located in sec. 4, T. 29 S., R. 12 E. in Elk County, Kansas; drill hole no. 2 is located in sec. 4, T. 27 S., R. 15 E. in Wilson County, Kansas; drill hole no. 3 is located in sec. 4, T. 27 S., R. 22 E. in Cherokee County, Kansas (fig.1). Data for the insoluble-residue samples from drill holes 1, 2, and 3 are listed in tables 1, 2, and 3 respectively. Well name, well number, township, range, and county allow for identification and location of files at the Kansas Geological Survey.

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 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:

<u>For those given in percent</u>:

Calcium	0.05
Iron	0.05
Magnesium	0.02
Titanium	0.002

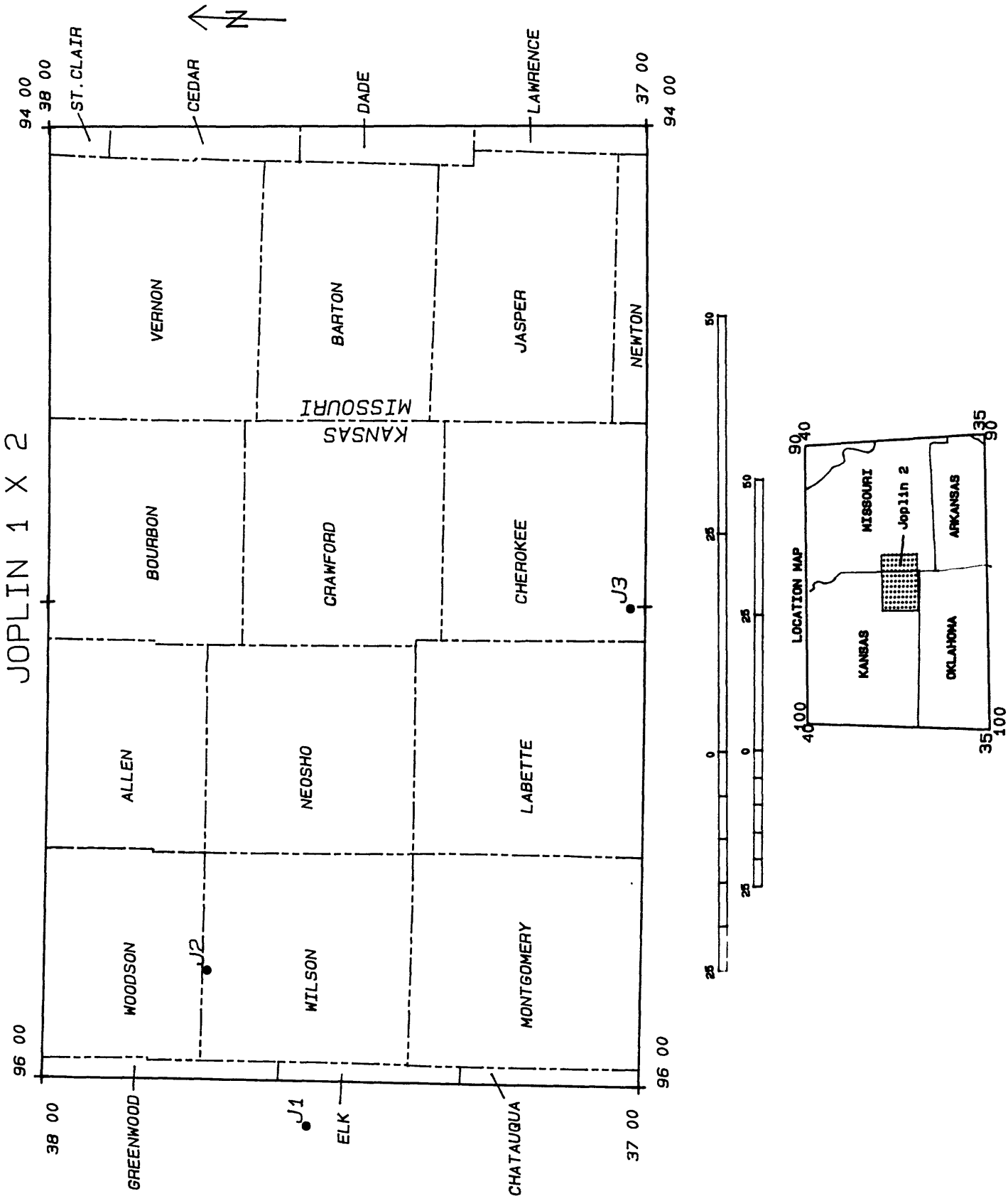

Figure 1. Locations of drill holes 1, 2, and 3, Joplin 1° x 2° quadrangle, Missouri and Kansas.

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 a seven-character code beginning with the letter J, signifying Joplin. The next number signifies the USGS drill-hole number. The letter R appears after the drill hole number and signifies insoluble residue. The next four digits identify the depth of the sample from the drill-hole collar. Most samples are composites of approximate 10-foot intervals, dependent upon the original sample intervals 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 of tables 1 through 3. The code and formation names are as follows:

Code	Formation
20	Pennsylvanian Undifferentiated
31	Chattanooga Shale
40	Mississippian Undifferentiated
55	Kinderhook
79	Arbuckle
90	Precambrian 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;
< = 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. J. Hadley Williams, Director--and the Kansas Geological Survey, Dr. Lee C. Gerhard, State Geologist, and their staffs, for making these drill-hole samples available from their sample libraries.

REFERENCES

Grimes, D.J., and Marranzino, A.P., 1968, Direct-current arc and alternating-current spark emission spectrographic field methods for the semiquantitative analysis of geologic materials: U.S. Geological Survey Circular 591, 6 p.

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. 1, JOPLIN 1 x 2 QUADRANGLE, MISSOURI AND KANSAS.

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

Sample	Latitude	Longitude	Fe-pct. s	Mg-pct. s	Ca-pct. s	Ti-pct. s	Mn-ppm s	Ag-ppm s	As-ppm s	Au-ppm s
J1R0270	37 33 23	96 3 9	5.0	.70	.10	.50	200	N	N	N
J1R0300	37 33 23	96 3 9	5.0	.70	.10	.30	300	N	N	N
J1R0330	37 33 23	96 3 9	5.0	.50	.05	.50	100	N	N	N
J1R0360	37 33 23	96 3 9	5.0	.50	.05	.50	300	N	N	N
J1R0390	37 33 23	96 3 9	3.0	.50	.50	.30	500	N	N	N
J1R0420	37 33 23	96 3 9	5.0	.50	.05	.50	300	<.5	N	N
J1R0450	37 33 23	96 3 9	5.0	.70	.05	.50	200	N	N	N
J1R0480	37 33 23	96 3 9	5.0	.70	.05	.50	200	N	N	N
J1R0510	37 33 23	96 3 9	5.0	1.00	.05	.50	200	N	N	N
J1R0540	37 33 23	96 3 9	5.0	.70	.20	.50	150	N	N	N
J1R0550	37 33 23	96 3 9	5.0	.70	.10	.50	150	N	N	N
J1R0560	37 33 23	96 3 9	5.0	.70	.30	.50	150	N	N	N
J1R0570	37 33 23	96 3 9	5.0	.70	.20	.50	150	N	N	N
J1R0580	37 33 23	96 3 9	5.0	.70	.15	.50	150	N	N	N
J1R0590	37 33 23	96 3 9	5.0	.70	.10	.50	200	N	N	N
J1R0600	37 33 23	96 3 9	5.0	.70	1.00	.50	150	N	N	N
J1R0610	37 33 23	96 3 9	5.0	.70	5.00	.50	200	N	N	N
J1R0620	37 33 23	96 3 9	5.0	.70	.50	.50	200	N	N	N
J1R0630	37 33 23	96 3 9	5.0	.70	3.00	.50	200	N	N	N
J1R0640	37 33 23	96 3 9	5.0	1.00	1.00	.50	200	N	N	N
J1R0650	37 33 23	96 3 9	3.0	1.00	.20	.30	150	<.5	N	N
J1R0660	37 33 23	96 3 9	5.0	1.00	.30	.50	300	<.5	N	N
J1R0670	37 33 23	96 3 9	5.0	1.00	.20	.50	200	<.5	N	N
J1R0680	37 33 23	96 3 9	5.0	1.00	.05	.70	200	N	N	N
J1R0690	37 33 23	96 3 9	5.0	1.00	.07	.70	200	N	N	N
J1R0700	37 33 23	96 3 9	5.0	1.00	.05	.70	200	N	N	N
J1R0710	37 33 23	96 3 9	3.0	1.00	.05	.50	200	N	N	N
J1R0720	37 33 23	96 3 9	5.0	1.50	.20	.70	300	N	N	N
J1R0730	37 33 23	96 3 9	5.0	1.00	.05	1.00	200	N	N	N
J1R0740	37 33 23	96 3 9	5.0	1.00	.05	1.00	200	N	N	N
J1R0750	37 33 23	96 3 9	5.0	1.00	.07	1.00	200	N	N	N
J1R0760	37 33 23	96 3 9	5.0	1.50	.10	1.00	200	N	N	N
J1R0770	37 33 23	96 3 9	5.0	1.50	.05	1.00	200	N	N	N
J1R0780	37 33 23	96 3 9	5.0	1.50	.05	1.00	200	N	N	N
J1R0790	37 33 23	96 3 9	5.0	1.00	.07	.50	200	N	N	N
J1R0800	37 33 23	96 3 9	5.0	1.50	.05	.70	200	.5	N	N
J1R0810	37 33 23	96 3 9	7.0	1.00	.07	.50	300	.5	N	N
J1R0820	37 33 23	96 3 9	5.0	1.00	.05	.70	300	1.0	N	N
J1R0830	37 33 23	96 3 9	5.0	1.00	.05	.70	200	N	N	N
J1R0840	37 33 23	96 3 9	5.0	.70	.07	.70	200	N	N	N
J1R0850	37 33 23	96 3 9	5.0	1.00	.05	.50	200	N	N	N
J1R0860	37 33 23	96 3 9	5.0	1.00	.05	.70	200	N	N	N
J1R0870	37 33 23	96 3 9	7.0	1.00	.05	.50	200	N	N	N
J1R0880	37 33 23	96 3 9	7.0	1.00	.10	.70	500	N	N	N
J1R0890	37 33 23	96 3 9	5.0	1.00	.20	.70	300	N	N	N

TABLE 1--SPECTROGRAPHIC ANALYSES OF INSOLURLE-RESIDUE SAMPLES FROM DRILL HOLE NO. 1, JOPLIN 1 x 2 QUADRANGLE, MISSOURI AND KANSAS.--Continued

Sample	B-ppm s	Ba-ppm s	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
J1P0270	150	200	3.0	N	N	15	100	30	50	N	<20	50
J1R0300	150	200	3.0	N	N	10	100	20	50	N	<20	50
J1R0330	150	300	3.0	N	N	10	100	30	50	N	<20	50
J1R0360	150	500	3.0	N	N	15	100	50	50	N	<20	50
J1P0390	150	200	2.0	N	N	10	70	20	50	N	<20	30
J1R0420	150	200	2.0	N	N	20	100	50	50	N	<20	70
J1R0450	150	300	3.0	N	N	15	100	50	50	N	<20	70
J1P0480	150	500	3.0	N	N	15	100	50	50	N	<20	70
J1R0510	150	300	3.0	N	N	15	100	50	50	N	<20	70
J1R0540	150	1,000	3.0	N	20	20	100	50	50	N	<20	150
J1R0550	150	1,000	3.0	N	50	15	100	50	50	N	<20	70
J1R0560	150	1,000	3.0	N	20	15	100	70	50	5	<20	70
J1R0570	150	500	3.0	N	<20	15	100	50	30	N	<20	70
J1R0580	150	200	2.0	N	N	10	100	50	30	N	<20	70
J1P0590	150	300	2.0	N	N	15	100	50	50	N	<20	50
J1R0600	100	500	2.0	N	70	10	100	150	50	10	<20	50
J1R0610	150	2,000	3.0	N	150	10	100	70	30	7	<20	70
J1R0620	150	300	3.0	N	20	15	100	50	20	20	<20	100
J1R0630	150	200	2.0	N	50	15	100	50	20	10	<20	100
J1R0640	150	300	3.0	N	20	15	100	70	20	7	<20	100
J1R0650	150	300	2.0	N	20	15	100	70	20	15	<20	100
J1R0660	150	2,000	2.0	N	<20	20	100	100	20	5	<20	100
J1R0670	150	1,000	2.0	N	N	15	100	100	30	<5	<20	70
J1R0680	100	500	3.0	N	N	20	100	100	30	N	<20	70
J1R0690	100	200	3.0	N	N	20	100	100	30	N	<20	70
J1P0700	100	200	3.0	N	N	15	100	50	30	N	<20	50
J1R0710	100	200	3.0	N	N	15	100	50	20	N	<20	50
J1R0720	100	500	3.0	N	N	20	100	70	30	N	<20	70
J1R0730	100	300	3.0	N	N	20	100	50	30	N	<20	70
J1R0740	100	300	3.0	N	N	20	100	50	30	N	<20	70
J1R0750	100	300	3.0	N	N	20	100	50	30	N	<20	70
J1R0760	100	300	3.0	N	N	20	100	50	30	N	<20	100
J1R0770	100	300	3.0	N	N	20	100	50	30	N	<20	100
J1R0780	100	300	5.0	N	N	20	100	50	30	N	<20	100
J1R0790	150	700	3.0	N	<20	10	100	70	30	N	<20	100
J1R0800	100	300	3.0	N	N	15	150	70	30	N	<20	100
J1R0810	100	1,000	3.0	N	<20	15	100	100	30	5	<20	100
J1R0820	100	700	3.0	N	20	15	100	70	30	5	<20	70
J1R0830	100	500	3.0	N	N	10	100	70	30	N	<20	50
J1R0840	100	500	3.0	N	N	10	100	30	30	N	<20	50
J1R0850	100	500	3.0	N	N	15	100	50	30	N	<20	70
J1R0860	100	1,000	3.0	N	N	15	100	70	30	N	<20	70
J1R0870	100	700	3.0	N	N	20	100	100	30	5	<20	100
J1R0880	100	500	3.0	N	N	15	100	70	30	N	<20	70
J1P0890	100	700	3.0	N	N	15	100	50	30	N	<20	70

TABLE 1--SPECTROGRAPHIC ANALYSES OF INSOLUBLE-RESIDUE SAMPLES FROM DRILL HOLE NO. 1, JOPLIN 1 x 2 QUADRANGLE, MISSOURI AND KANSAS.--Continued

Sample	Pb-ppm s	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.#
J1R0270	15	N	15	N	100	200	N	30	<200	200	N	20
J1R0300	10	N	10	N	100	150	N	30	<200	200	N	20
J1R0330	10	N	15	N	100	150	N	30	200	300	N	20
J1R0360	10	N	15	N	100	150	N	30	<200	200	N	20
J1R0390	20	N	10	N	150	100	N	30	<200	200	N	20
J1R0420	20	N	10	N	100	100	N	30	200	200	N	20
J1R0450	15	N	15	N	150	200	N	30	200	200	N	20
J1R0480	15	N	15	N	100	200	N	30	200	200	N	20
J1R0510	50	N	15	N	100	200	N	30	200	150	N	20
J1R0540	20	N	15	N	200	200	N	20	1,500	200	N	20
J1R0550	20	N	15	N	150	200	N	20	5,000	200	N	20
J1R0560	10	N	15	N	200	200	N	30	1,500	200	N	20
J1R0570	50	N	15	N	150	200	<50	20	1,000	150	N	20
J1R0580	15	N	10	N	100	200	N	15	300	150	N	20
J1R0590	15	N	10	N	100	150	N	30	500	200	N	20
J1R0600	10	N	10	N	200	150	N	20	2,000	150	N	20
J1R0610	1,000	N	15	N	1,000	200	N	20	10,000	150	N	20
J1R0620	50	N	15	N	150	200	N	15	1,500	200	N	20
J1R0630	50	N	10	N	500	150	N	20	2,000	100	N	20
J1R0640	70	N	15	N	300	200	N	20	1,500	100	N	20
J1R0650	70	N	10	N	1,000	150	N	10	1,500	100	N	20
J1R0660	300	N	15	N	>5,000	200	N	20	1,000	150	N	20
J1R0670	50	N	15	N	5,000	200	N	20	200	150	N	20
J1R0680	20	N	15	N	5,000	150	<50	30	<200	300	N	20
J1R0690	15	N	15	N	150	200	N	20	<200	200	N	20
J1R0700	10	N	15	N	100	200	N	20	<200	200	N	20
J1R0710	10	N	15	N	150	200	N	20	<200	150	N	20
J1R0720	15	N	15	N	300	200	N	30	<200	200	N	20
J1R0730	10	N	15	N	300	200	N	30	<200	200	N	20
J1R0740	10	N	15	N	200	200	N	20	<200	200	N	20
J1R0750	10	N	15	N	300	200	N	20	<200	200	N	20
J1R0760	10	N	15	N	100	200	N	20	<200	200	N	20
J1R0770	10	N	15	N	200	200	N	20	<200	200	N	20
J1R0780	10	N	20	N	700	200	N	20	<200	200	N	20
J1R0790	70	N	15	N	>5,000	200	N	20	1,000	150	N	20
J1R0800	50	N	20	N	500	200	N	30	500	200	N	20
J1R0810	50	N	20	N	5,000	200	N	20	700	200	N	20
J1R0820	50	N	20	N	5,000	200	N	30	1,000	200	N	20
J1R0830	20	N	20	N	700	200	N	30	300	200	N	20
J1P0840	15	N	15	N	2,000	150	N	30	<200	300	N	20
J1R0850	30	N	15	N	1,500	150	N	30	700	300	N	20
J1R0860	20	N	15	N	1,000	200	N	30	200	300	N	20
J1R0870	30	N	15	N	1,500	200	100	20	<200	200	N	20
J1R0880	20	N	15	N	1,500	200	N	20	200	200	N	20
J1R0890	20	N	15	N	500	150	N	20	200	200	N	20

TABLE 1--SPECTROGRAPHIC ANALYSES OF INSOLUBLE-RESIDUE SAMPLES FROM DRILL HOLE NO. 1, JOPLIN 1 x 2 QUADRANGLE, MISSOURI AND KANSAS.--Continued

Sample	Latitude	Longitude	Fe-pct. s	Mg-pct. s	Ca-pct. s	Ti-pct. s	Mn-ppm s	Ag-ppm s	As-ppm s	Au-ppm s
J1R0900	37 33 23	96 3 9	7.0	1.00	.20	.70	200	N	N	N
J1R0910	37 33 23	96 3 9	5.0	1.50	.15	.30	200	N	N	N
J1R0920	37 33 23	96 3 9	7.0	1.00	.20	.30	200	<.5	N	N
J1R0930	37 33 23	96 3 9	7.0	.70	.30	.30	200	<.5	N	N
J1R0940	37 33 23	96 3 9	5.0	.70	.15	.20	150	N	N	N
J1R0950	37 33 23	96 3 9	3.0	.50	.20	.20	100	N	N	N
J1R0960	37 33 23	96 3 9	3.0	.50	.30	.20	100	N	N	N
J1R0970	37 33 23	96 3 9	7.0	1.00	.30	.30	200	<.5	N	N
J1R0980	37 33 23	96 3 9	5.0	1.00	.30	.30	300	<.5	N	N
J1R0990	37 33 23	96 3 9	5.0	1.50	.07	.30	300	.5	N	N
J1R1000	37 33 23	96 3 9	3.0	1.00	.10	.20	200	.5	N	N
J1R1010	37 33 23	96 3 9	3.0	.50	.07	.30	200	N	N	N
J1R1020	37 33 23	96 3 9	5.0	1.00	.07	.30	300	N	N	N
J1R1030	37 33 23	96 3 9	5.0	.50	.05	.30	500	N	N	N
J1R1040	37 33 23	96 3 9	7.0	1.00	.10	.30	300	N	N	N
J1R1050	37 33 23	96 3 9	5.0	1.00	.05	.30	500	N	N	N
J1R1060	37 33 23	96 3 9	3.0	.50	.05	.20	100	3.0	N	N
J1R1070	37 33 23	96 3 9	7.0	1.00	.15	.30	200	7.0	N	N
J1R1080	37 33 23	96 3 9	3.0	.70	.07	.20	300	<.5	N	N
J1R1090	37 33 23	96 3 9	2.0	.20	.20	.15	150	N	N	N
J1R1100	37 33 23	96 3 9	3.0	1.00	.15	.30	300	<.5	N	N
J1R1110	37 33 23	96 3 9	5.0	1.50	.07	.30	300	2.0	N	N
J1R1120	37 33 23	96 3 9	5.0	1.50	.07	.30	300	.7	N	N
J1R1130	37 33 23	96 3 9	7.0	1.50	.07	.30	200	.7	N	N
J1R1140	37 33 23	96 3 9	5.0	1.50	.05	1.00	100	<.5	N	N
J1R1160	37 33 23	96 3 9	3.0	1.00	.10	.70	150	<.5	N	N
J1R1170	37 33 23	96 3 9	5.0	1.00	.07	1.00	150	<.5	N	N
J1R1180	37 33 23	96 3 9	5.0	1.50	.05	1.00	200	N	N	N
J1R1190	37 33 23	96 3 9	5.0	1.50	.05	1.00	200	N	N	N
J1R1200	37 33 23	96 3 9	5.0	1.00	.07	.70	150	N	N	N
J1R1210	37 33 23	96 3 9	5.0	1.00	.15	.70	300	N	N	N
J1R1220	37 33 23	96 3 9	5.0	1.00	.05	.70	200	N	N	N
J1R1230	37 33 23	96 3 9	5.0	1.00	.30	.50	200	N	N	N
J1R1240	37 33 23	96 3 9	3.0	1.00	3.00	.50	1,000	N	N	N
J1R1250	37 33 23	96 3 9	5.0	1.00	3.00	.50	1,000	N	N	N
J1R1260	37 33 23	96 3 9	5.0	1.00	3.00	.50	1,000	N	N	N
J1R1270	37 33 23	96 3 9	5.0	1.00	3.00	.50	1,000	N	N	N
J1R1280	37 33 23	96 3 9	5.0	1.00	2.00	.50	700	N	N	N
J1R1290	37 33 23	96 3 9	5.0	1.00	.05	.50	200	N	N	N
J1R1300	37 33 23	96 3 9	5.0	1.00	.05	.50	200	N	N	N
J1R1310	37 33 23	96 3 9	5.0	1.00	.05	.50	200	N	N	N
J1R1320	37 33 23	96 3 9	3.0	1.00	<.05	.50	150	N	N	N
J1P1330	37 33 23	96 3 9	5.0	1.00	.05	.70	200	.5	N	N
J1R1340	37 33 23	96 3 9	5.0	1.00	.07	.50	200	.5	N	N
J1P1350	37 33 23	96 3 9	5.0	1.00	.07	.50	200	<.5	N	N

TABLE 1--SPECTROGRAPHIC ANALYSES OF INSOLUBLE-RESIDUE SAMPLES FROM DRILL HOLE NO. 1, JOPLIN 1 x 2 QUADRANGLE, MISSOURI AND KANSAS.--Continued

Sample	B-ppm s	Ba-ppm s	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
J1R0900	100	1,000	3.0	N	N	20	100	500	30	N	<20	70
J1R0910	100	500	2.0	N	N	20	100	50	50	N	<20	70
J1R0920	100	500	2.0	N	50	20	100	150	30	N	<20	70
J1R0930	100	500	2.0	N	<20	30	100	100	30	5	<20	100
J1R0940	100	200	1.5	N	N	10	100	500	20	N	<20	1,000
J1R0950	70	200	1.5	N	100	7	50	30	20	N	N	50
J1R0960	70	150	2.0	N	N	10	50	30	20	N	N	30
J1R0970	100	200	2.0	N	30	20	100	70	30	7	<20	70
J1R0980	100	300	2.0	N	20	15	100	100	30	5	<20	70
J1R0990	100	150	2.0	N	<20	15	100	50	20	<5	<20	100
J1R1000	100	500	2.0	N	<20	10	100	50	20	15	<20	70
J1R1010	100	200	2.0	N	N	7	50	20	30	N	<20	20
J1R1020	100	500	2.0	N	N	10	50	30	30	N	<20	30
J1R1030	100	700	2.0	N	N	10	70	100	30	N	<20	50
J1R1040	100	3,000	2.0	N	N	15	100	150	20	7	<20	70
J1R1050	100	200	2.0	N	<20	15	150	150	20	5	<20	100
J1R1060	100	100	2.0	N	70	N	200	70	20	30	N	100
J1R1070	100	200	2.0	N	200	20	200	100	20	50	<20	150
J1R1080	100	500	2.0	N	20	10	100	50	20	30	<20	100
J1R1090	70	300	1.0	N	50	5	50	20	N	20	<20	50
J1R1100	100	200	2.0	N	<20	15	100	70	20	10	<20	100
J1R1110	100	150	2.0	N	100	15	200	100	30	15	<20	150
J1R1120	100	150	2.0	N	<20	15	100	70	30	5	<20	100
J1R1130	100	200	2.0	N	N	15	100	50	30	N	<20	100
J1R1140	100	200	3.0	N	N	20	150	100	30	N	<20	200
J1R1160	100	500	3.0	N	N	15	100	200	30	N	<20	100
J1R1170	100	300	2.0	N	N	20	100	300	30	N	<20	100
J1R1180	100	200	2.0	N	N	15	100	300	30	N	<20	70
J1R1190	100	300	2.0	N	N	15	100	150	30	N	<20	100
J1R1200	100	300	2.0	N	N	15	150	100	30	N	<20	100
J1R1210	100	300	2.0	N	N	15	100	100	30	N	<20	50
J1R1220	100	300	2.0	N	N	15	100	200	30	N	<20	70
J1R1230	100	300	2.0	N	N	15	100	70	50	N	<20	50
J1R1240	70	200	1.5	N	N	10	70	50	30	N	<20	30
J1R1250	100	200	1.5	N	N	10	100	50	30	N	<20	30
J1R1260	100	200	2.0	N	N	15	70	100	30	N	<20	50
J1R1270	100	200	2.0	N	N	20	100	70	30	N	<20	50
J1R1280	100	300	2.0	N	N	15	100	100	30	N	<20	70
J1R1290	100	200	2.0	N	N	10	100	70	30	N	<20	50
J1R1300	100	500	2.0	N	<20	15	100	100	30	N	<20	70
J1R1310	100	300	2.0	N	N	15	100	70	30	N	<20	70
J1R1320	100	200	2.0	N	N	10	100	70	30	<5	<20	70
J1R1330	100	300	2.0	N	20	15	150	100	30	7	<20	100
J1R1340	100	200	2.0	N	N	15	100	150	30	5	<20	100
J1R1350	100	500	2.0	N	N	15	100	100	30	5	<20	70

TABLE 1--SPECTROGRAPHIC ANALYSES OF INSOLUBLE-RESIDUE SAMPLES FROM DRILL HOLE NO. 1, JOPLIN 1 x 2 QUADRANGLE, MISSOURI AND KANSAS.--Continued

Sample	Pb-ppm s	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.#
J1P0900	30	N	20	N	1,000	200	N	30	200	200	N	20
J1R0910	20	N	15	N	1,000	150	N	30	200	150	N	20
J1P0920	100	N	15	N	700	100	N	20	2,000	100	N	20
J1R0930	50	N	10	N	1,000	100	N	20	700	150	N	20
J1P0940	20	N	10	N	300	70	N	20	200	100	N	20
J1R0950	15	N	7	N	500	70	N	10	10,000	70	N	20
J1P0960	15	N	5	N	500	50	N	15	500	100	N	20
J1P0970	30	N	15	N	300	150	N	20	1,000	150	N	20
J1R0980	30	N	15	N	500	100	N	20	1,000	150	N	20
J1R0990	30	N	10	N	200	100	N	10	<200	100	N	20
J1R1000	30	N	10	N	150	100	N	15	700	150	N	20
J1R1010	15	N	7	N	100	70	N	30	N	200	N	20
J1R1020	15	N	10	N	100	100	N	30	700	200	N	20
J1R1030	20	N	10	N	200	100	N	20	200	200	N	20
J1R1040	30	N	15	N	200	150	N	20	500	150	N	20
J1P1050	30	N	10	N	100	150	N	15	700	100	N	20
J1P1060	20	N	7	N	N	200	N	10	1,000	50	N	20
J1R1070	50	N	10	N	150	500	N	15	2,000	100	N	20
J1R1080	15	N	10	N	1,000	100	N	10	1,000	100	N	20
J1R1090	N	N	5	N	500	50	N	<10	2,000	50	N	20
J1R1100	20	N	10	N	300	150	<50	10	500	100	N	20
J1R1110	100	N	15	N	100	200	N	20	2,000	100	N	20
J1R1120	50	N	15	N	100	200	N	20	700	150	N	20
J1R1130	50	N	15	N	150	150	N	20	<200	100	N	20
J1P1140	50	N	20	N	100	300	N	20	N	200	N	20
J1R1160	20	N	15	N	200	200	N	20	N	200	N	20
J1R1170	20	N	15	N	200	200	N	20	N	300	N	20
J1R1180	10	N	15	N	100	200	N	20	N	300	N	20
J1R1190	20	N	15	N	100	200	N	20	N	200	N	20
J1P1200	30	N	15	N	100	150	N	20	N	200	N	20
J1R1210	70	N	10	N	150	150	N	30	N	300	N	20
J1R1220	10	N	10	N	100	150	N	15	N	300	N	20
J1R1230	200	N	10	N	150	100	N	20	N	200	N	20
J1R1240	15	N	10	N	200	100	N	20	N	200	N	20
J1P1250	15	N	15	N	200	150	N	30	N	300	N	20
J1R1260	20	N	15	N	200	100	N	30	N	200	N	20
J1R1270	30	N	15	N	300	100	N	30	N	200	N	20
J1R1280	20	N	15	N	200	100	N	30	N	200	N	20
J1R1290	100	N	10	N	100	100	N	20	200	200	N	20
J1P1300	20	N	10	N	100	100	N	20	500	150	N	20
J1R1310	50	N	15	N	150	150	N	20	200	200	N	20
J1R1320	50	N	10	N	N	100	N	15	<200	150	N	20
J1R1330	70	N	10	N	100	150	N	20	1,000	150	N	20
J1P1340	100	N	10	N	100	150	N	30	N	150	N	20
J1R1350	70	N	10	N	300	100	N	15	N	150	N	20

TABLE 1--SPECTROGRAPHIC ANALYSES OF INSOLUBLE-RESIDUE SAMPLES FROM DRILL HOLE NO. 1, JOPLIN 1 x 2 QUADRANGLE, MISSOURI AND KANSAS.--Continued

Sample	Latitude	Longitude	Fe-pct. s	Mg-pct. s	Ca-pct. s	Ti-pct. s	Mn-ppm s	Ag-ppm s	As-ppm s	Au-ppm s
J1R1360	37 33 23	96 3 9	5.0	1.00	.10	.50	200	.5	N	N
J1R1370	37 33 23	96 3 9	5.0	1.00	.07	.50	200	1.0	N	N
J1R1380	37 33 23	96 3 9	5.0	1.00	.20	.50	200	5.0	N	N
J1R1390	37 33 23	96 3 9	3.0	.70	.10	.50	200	1.0	N	N
J1R1400	37 33 23	96 3 9	5.0	1.00	<.05	.70	200	N	N	N
J1R1410	37 33 23	96 3 9	5.0	1.00	<.05	1.00	200	N	N	N
J1R1420	37 33 23	96 3 9	5.0	1.00	<.05	1.00	200	N	N	N
J1R1430	37 33 23	96 3 9	5.0	1.00	<.05	1.00	200	N	N	N
J1R1440	37 33 23	96 3 9	5.0	1.00	.05	1.00	200	.5	N	N
J1R1450	37 33 23	96 3 9	5.0	1.00	.07	1.00	300	.7	N	N
J1R1460	37 33 23	96 3 9	5.0	.70	.07	.70	200	.7	N	N
J1R1470	37 33 23	96 3 9	5.0	1.00	.05	1.00	200	N	N	N
J1R1480	37 33 23	96 3 9	5.0	1.00	.05	1.00	200	N	N	N
J1R1490	37 33 23	96 3 9	5.0	1.00	.05	1.00	200	N	N	N
J1R1500	37 33 23	96 3 9	5.0	1.00	<.05	1.00	200	N	N	N
J1R1510	37 33 23	96 3 9	5.0	1.00	<.05	1.00	150	N	N	N
J1R1520	37 33 23	96 3 9	5.0	1.00	.20	1.00	1,000	N	N	N
J1R1530	37 33 23	96 3 9	5.0	.70	.20	.50	1,500	N	N	N
J1R1540	37 33 23	96 3 9	5.0	1.00	.05	.70	500	N	N	N
J1R1550	37 33 23	96 3 9	7.0	1.00	.05	.70	700	N	N	N
J1R1560	37 33 23	96 3 9	5.0	1.00	.07	.70	700	N	N	N
J1R1570	37 33 23	96 3 9	5.0	.70	.07	.50	300	N	N	N
J1R1580	37 33 23	96 3 9	5.0	1.00	<.05	.70	200	N	N	N
J1R1590	37 33 23	96 3 9	5.0	1.00	.05	.50	1,000	N	N	N
J1R1600	37 33 23	96 3 9	7.0	1.00	.07	.70	1,500	N	N	N
J1R1610	37 33 23	96 3 9	5.0	1.00	.05	.70	150	N	N	N
J1R1620	37 33 23	96 3 9	7.0	1.00	.05	.70	500	N	N	N
J1R1630	37 33 23	96 3 9	7.0	1.00	.05	.50	700	N	N	N
J1R1640	37 33 23	96 3 9	7.0	1.00	.05	.50	700	N	N	N
J1R1650	37 33 23	96 3 9	5.0	.70	<.05	.70	150	N	N	N
J1R1660	37 33 23	96 3 9	5.0	1.00	<.05	.50	200	N	N	N
J1R1670	37 33 23	96 3 9	5.0	1.00	<.05	.50	200	.5	N	N
J1R1680	37 33 23	96 3 9	7.0	1.00	.07	.50	300	<.5	N	N
J1R1700	37 33 23	96 3 9	7.0	1.00	.07	.50	300	<.5	N	N
J1R1710	37 33 23	96 3 9	3.0	.20	.05	.20	150	<.5	N	N
J1R1720	37 33 23	96 3 9	1.0	.10	.05	.10	100	N	N	N
J1R1730	37 33 23	96 3 9	7.0	.20	.07	.20	100	.5	N	N
J1R1740	37 33 23	96 3 9	2.0	.20	.05	.20	100	.5	N	N
J1R1750	37 33 23	96 3 9	2.0	.20	.05	.20	100	.5	N	N
J1R1760	37 33 23	96 3 9	1.5	.20	.05	.20	70	.5	N	N
J1R1770	37 33 23	96 3 9	2.0	1.00	1.00	.30	200	.5	N	N
J1R1780	37 33 23	96 3 9	1.5	1.50	2.00	.20	150	.5	N	N
J1R1790	37 33 23	96 3 9	1.5	.50	.20	.20	70	3.0	N	N
J1R1800	37 33 23	96 3 9	1.5	.50	.30	.20	100	.7	N	N
J1R1810	37 33 23	96 3 9	2.0	.50	.10	.20	100	.5	N	N

TABLE 1--SPECTROGRAPHIC ANALYSES OF INSOLUBLE-RESIDUE SAMPLES FROM DRILL HOLE NO. 1, JOPLIN 1 x 2 QUADRANGLE, MISSOURI AND KANSAS.--Continued

Sample	B-ppm s	Ba-ppm s	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
J1R1360	100	200	2.0	N	N	10	100	100	30	10	<20	100
J1R1370	100	300	2.0	N	N	15	100	100	30	20	<20	150
J1R1380	100	200	2.0	N	50	15	300	200	30	70	<20	300
J1R1390	100	200	2.0	N	50	15	200	100	30	20	<20	150
J1R1400	100	300	2.0	N	N	15	100	50	50	N	<20	100
J1R1410	100	200	2.0	N	N	15	100	50	50	N	<20	70
J1R1420	100	300	2.0	N	N	15	100	50	50	N	<20	70
J1R1430	100	300	2.0	N	N	15	100	50	50	N	<20	70
J1R1440	100	300	3.0	N	N	15	100	70	50	10	<20	100
J1R1450	100	500	2.0	N	30	20	150	100	50	15	<20	150
J1R1460	100	300	2.0	N	50	20	100	150	30	10	<20	150
J1R1470	100	300	2.0	N	N	15	100	50	50	N	<20	100
J1R1480	100	500	2.0	N	N	10	150	50	50	N	<20	100
J1R1490	100	500	3.0	N	N	15	150	50	50	N	<20	100
J1R1500	100	300	2.0	N	N	15	100	100	50	N	<20	100
J1R1510	100	500	3.0	N	N	15	100	50	50	5	<20	100
J1R1520	100	500	2.0	N	N	15	100	70	50	N	<20	70
J1R1530	100	700	2.0	N	N	15	100	100	30	7	<20	70
J1R1540	100	200	2.0	N	N	15	100	100	30	<5	<20	70
J1R1550	100	300	2.0	N	N	20	100	50	30	N	<20	70
J1R1560	100	300	2.0	N	N	15	100	100	30	5	<20	70
J1R1570	100	200	2.0	N	N	15	100	30	50	N	<20	50
J1R1580	100	300	2.0	N	N	15	100	70	50	7	<20	70
J1R1590	100	300	2.0	N	N	15	100	70	30	10	<20	70
J1R1600	100	200	2.0	N	N	20	150	100	50	7	<20	100
J1R1610	150	500	2.0	N	N	15	150	70	50	<5	<20	70
J1R1620	150	500	2.0	N	N	15	150	50	30	N	<20	100
J1R1630	100	200	1.5	N	N	15	100	100	50	5	<20	100
J1R1640	100	200	2.0	N	N	15	150	150	50	5	<20	100
J1R1650	100	200	2.0	N	N	15	150	70	50	7	<20	100
J1R1660	100	200	2.0	N	<20	10	150	50	50	N	<20	70
J1R1670	100	200	2.0	N	N	20	150	70	50	20	<20	100
J1R1680	100	200	2.0	N	N	15	200	50	50	15	<20	100
J1R1700	100	200	2.0	N	N	15	150	50	30	10	<20	100
J1R1710	70	150	1.5	N	N	7	100	20	50	<5	<20	50
J1R1720	70	70	1.0	N	N	N	30	5	N	5	N	15
J1R1730	70	100	1.5	N	N	10	150	70	N	20	<20	70
J1R1740	100	150	1.5	N	N	7	70	30	20	15	<20	50
J1R1750	100	100	1.5	N	N	5	70	30	20	7	<20	50
J1R1760	100	100	1.5	N	N	5	70	20	20	N	<20	30
J1R1770	70	150	1.5	N	N	5	70	30	30	N	<20	50
J1R1780	70	100	1.5	N	N	<5	50	20	30	<5	<20	50
J1R1790	70	100	1.5	N	N	<5	70	20	20	N	<20	50
J1R1800	70	100	1.5	N	N	<5	50	30	20	<5	<20	50
J1R1810	100	100	2.0	N	N	5	70	30	30	10	<20	70

TABLE 1--SPECTROGRAPHIC ANALYSES OF INSOLUBLE-RESIDUE SAMPLES FROM DRILL HOLE NO. 1, JOPLIN 1 x 2 QUADRANGLE, MISSOURI AND KANSAS.--Continued

Sample	Pb-ppm s	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.#
J1R1360	50	N	10	N	300	100	N	15	200	150	N	20
J1R1370	50	N	15	N	200	150	N	20	200	150	N	20
J1R1380	100	N	10	N	100	700	N	15	1,500	150	N	20
J1R1390	50	N	10	N	100	300	N	15	1,500	200	N	20
J1R1400	30	N	15	N	100	200	N	30	300	300	N	20
J1R1410	20	N	15	N	100	200	N	30	300	300	N	20
J1R1420	20	N	15	N	100	200	N	20	300	300	N	20
J1R1430	20	N	20	N	100	200	N	30	200	200	N	20
J1R1440	50	N	20	N	100	200	N	20	500	200	N	20
J1R1450	70	N	20	N	100	300	N	30	1,000	200	N	20
J1R1460	70	N	15	N	100	200	N	20	2,000	300	N	20
J1R1470	20	N	20	N	100	200	N	20	200	200	N	20
J1R1480	20	N	20	N	150	200	N	30	300	200	N	20
J1R1490	20	N	20	N	200	200	N	30	<200	200	N	20
J1R1500	20	N	20	N	100	200	N	30	300	300	N	20
J1R1510	20	N	20	N	150	200	N	30	N	200	N	20
J1R1520	50	N	20	N	150	200	N	30	N	200	N	20
J1R1530	50	N	15	N	150	150	N	30	N	300	N	20
J1R1540	20	N	15	N	150	150	N	20	N	300	N	20
J1R1550	30	N	15	N	150	200	N	30	N	200	N	20
J1R1560	20	N	15	N	150	200	N	30	<200	200	N	20
J1R1570	15	N	15	N	150	150	N	30	N	200	N	20
J1R1580	15	N	15	N	150	200	N	30	<200	200	N	20
J1R1590	20	N	15	N	150	150	N	30	N	200	N	20
J1R1600	30	N	20	N	150	200	N	30	N	200	N	20
J1R1610	20	N	20	N	200	150	N	30	N	150	N	20
J1R1620	20	N	20	N	200	200	N	30	N	150	N	20
J1R1630	20	N	15	N	100	200	N	30	200	150	N	20
J1R1640	50	N	15	N	150	200	N	30	<200	150	N	20
J1R1650	20	N	15	N	150	200	N	30	<200	200	N	20
J1R1660	30	N	15	N	150	200	N	30	500	200	N	20
J1R1670	50	N	15	N	150	200	N	20	<200	150	N	20
J1R1680	30	N	20	N	150	200	N	30	200	150	N	20
J1R1700	30	N	15	N	100	200	N	20	200	150	N	20
J1R1710	10	N	10	N	100	100	N	50	N	100	N	20
J1R1720	N	N	N	N	N	15	N	20	N	50	N	40
J1R1730	15	N	7	N	N	100	N	20	N	70	N	40
J1R1740	15	N	10	N	100	150	N	20	N	100	N	40
J1R1750	10	N	7	N	N	100	N	15	300	100	N	40
J1R1760	10	N	7	N	N	150	N	10	<200	100	N	40
J1R1770	15	N	10	N	150	150	N	20	<200	100	N	40
J1R1780	15	N	10	N	N	150	N	20	<200	100	N	40
J1R1790	15	N	5	N	N	100	N	15	200	100	N	40
J1R1800	15	N	5	N	N	150	N	15	<200	100	N	40
J1R1810	20	N	7	N	N	150	N	20	700	100	N	40

TABLE 1--SPECTROGRAPHIC ANALYSES OF INSOLUBLE-RESIDUE SAMPLES FROM DRILL HOLE NO. 1, JOPLIN 1 x 2 QUADRANGLE, MISSOURI AND KANSAS.--Continued

Sample	Latitude	Longitude	Fe-pct. s	Mg-pct. s	Ca-pct. s	Ti-pct. s	Mn-ppm s	Ag-ppm s	As-ppm s	Au-ppm s
J1R1820	37 33 23	96 3 9	2.0	.20	.10	.15	100	.5	N	N
J1R1830	37 33 23	96 3 9	1.5	.15	.10	.15	100	N	N	N
J1R1840	37 33 23	96 3 9	1.5	.15	.10	.10	50	N	N	N
J1R1850	37 33 23	96 3 9	.5	.05	.05	.05	20	N	N	N
J1R1860	37 33 23	96 3 9	.2	.05	.07	.05	10	N	N	N
J1R1870	37 33 23	96 3 9	.7	.10	.07	.05	30	N	N	N
J1R1880	37 33 23	96 3 9	1.0	.10	.07	.10	50	N	N	N
J1R1890	37 33 23	96 3 9	1.5	.10	.05	.10	50	N	N	N
J1R1900	37 33 23	96 3 9	1.5	.15	.07	.10	70	N	N	N
J1R1910	37 33 23	96 3 9	1.0	.10	.07	.10	20	N	N	N
J1R1920	37 33 23	96 3 9	.2	.07	.05	.05	10	N	N	N
J1R1930	37 33 23	96 3 9	.2	.07	.10	.05	10	N	N	N
J1R1940	37 33 23	96 3 9	.7	.15	.07	.10	30	N	N	N
J1R1950	37 33 23	96 3 9	1.5	.20	.07	.20	100	N	N	N
J1R1960	37 33 23	96 3 9	1.0	.20	.10	.15	70	N	N	N
J1R1970	37 33 23	96 3 9	1.5	.20	.10	.20	70	N	N	N
J1R1980	37 33 23	96 3 9	1.5	.20	.10	.20	70	N	N	N
J1R1990	37 33 23	96 3 9	1.5	2.00	15.00	.10	1,000	N	N	N
J1R2000	37 33 23	96 3 9	3.0	.70	.20	.30	200	N	N	N
J1R2010	37 33 23	96 3 9	5.0	1.00	.07	.50	200	N	N	N
J1R2020	37 33 23	96 3 9	5.0	1.00	<.05	.50	200	N	N	N
J1R2030	37 33 23	96 3 9	5.0	1.50	<.05	.50	200	N	N	N
J1R2040	37 33 23	96 3 9	5.0	1.50	<.05	.30	300	N	N	N
J1R2050	37 33 23	96 3 9	5.0	1.00	.07	.50	200	N	N	N
J1R2060	37 33 23	96 3 9	5.0	1.00	.05	.50	200	N	N	N
J1R2070	37 33 23	96 3 9	5.0	1.00	.07	.50	200	N	N	N
J1R2080	37 33 23	96 3 9	1.5	10.00	15.00	.10	300	N	N	N
J1R2090	37 33 23	96 3 9	2.0	1.00	.10	.20	100	N	N	N
J1R2100	37 33 23	96 3 9	1.5	10.00	15.00	.10	200	N	N	N
J1R2110	37 33 23	96 3 9	5.0	.70	.05	.30	200	.5	N	N
J1R2120	37 33 23	96 3 9	3.0	.50	.05	.30	100	N	N	N
J1R2130	37 33 23	96 3 9	5.0	.50	.05	.20	150	.7	N	N
J1R2140	37 33 23	96 3 9	2.0	.50	.05	.20	100	<.5	N	N
J1R2150	37 33 23	96 3 9	3.0	.50	.05	.20	150	N	N	N
J1R2160	37 33 23	96 3 9	1.5	.20	.10	.15	50	N	N	N
J1R2170	37 33 23	96 3 9	1.0	.50	.05	.10	50	N	N	N
J1R2180	37 33 23	96 3 9	1.5	.20	.10	.15	50	N	N	N
J1R2190	37 33 23	96 3 9	3.0	.30	.07	.15	70	N	N	N
J1R2200	37 33 23	96 3 9	2.0	.50	.10	.20	50	N	N	N
J1R2210	37 33 23	96 3 9	3.0	.30	.07	.15	150	.5	N	N
J1R2220	37 33 23	96 3 9	2.0	.15	.05	.15	50	N	N	N
J1R2230	37 33 23	96 3 9	1.0	.20	.20	.10	50	N	N	N
J1R2240	37 33 23	96 3 9	2.0	.30	.10	.15	70	<.5	N	N
J1R2250	37 33 23	96 3 9	5.0	.20	.10	.10	70	N	N	N
J1R2260	37 33 23	96 3 9	1.5	.20	.05	.15	50	N	N	N

TABLE 1--SPECTROGRAPHIC ANALYSES OF INSOLUBLE-RESIDUE SAMPLES FROM DRILL HOLE NO. 1, JOPLIN 1 x 2 QUADRANGLE, MISSOURI AND KANSAS.--Continued

Sample	P-ppm s	Ba-ppm s	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
J1R1820	70	100	1.5	N	N	7	50	30	20	N	<20	30
J1R1830	70	70	1.5	N	N	<5	30	15	20	N	<20	30
J1R1840	70	70	1.0	N	N	N	30	10	20	N	<20	20
J1R1850	70	50	<1.0	N	N	N	15	5	N	N	N	10
J1R1860	70	50	N	N	N	N	10	<5	N	N	N	7
J1R1870	70	50	N	N	N	N	10	5	N	N	N	15
J1R1880	70	70	<1.0	N	N	N	20	15	N	5	N	20
J1R1890	70	50	<1.0	N	N	N	70	15	N	7	N	20
J1R1900	70	70	<1.0	N	N	N	100	15	N	7	N	20
J1R1910	70	50	<1.0	N	N	N	15	7	N	N	N	15
J1R1920	70	50	N	N	N	N	10	<5	N	N	N	5
J1R1930	70	30	N	N	N	N	10	<5	N	N	N	5
J1R1940	70	100	<1.0	N	N	N	20	5	N	N	N	15
J1R1950	70	100	1.0	N	N	N	70	15	20	15	<20	50
J1R1960	70	100	1.0	N	N	<5	50	7	20	N	<20	20
J1R1970	70	100	1.0	N	N	5	50	20	20	N	<20	30
J1R1980	70	70	1.5	N	N	5	50	15	20	N	<20	50
J1R1990	50	50	<1.0	N	N	15	30	20	20	7	N	150
J1R2000	100	1,000	1.5	N	N	15	100	70	30	N	<20	150
J1R2010	100	150	2.0	N	N	15	100	70	30	15	<20	100
J1R2020	100	200	2.0	N	N	15	100	100	30	20	<20	100
J1R2030	100	200	2.0	N	N	15	100	50	30	30	<20	100
J1R2040	100	300	3.0	N	N	20	100	70	30	50	<20	70
J1R2050	100	200	2.0	N	N	20	100	50	30	30	<20	70
J1R2060	100	200	2.0	N	N	15	100	50	30	30	<20	50
J1R2070	100	200	2.0	N	N	10	100	50	30	30	<20	50
J1R2080	50	30	<1.0	N	N	5	30	15	N	10	N	15
J1R2090	100	100	2.0	N	N	10	100	30	30	15	<20	50
J1R2100	50	30	1.0	N	N	5	30	10	N	10	N	20
J1R2110	100	100	2.0	N	N	15	100	30	50	20	<20	70
J1R2120	100	100	2.0	N	N	10	100	20	50	7	<20	50
J1R2130	100	100	2.0	N	N	15	100	30	30	10	<20	50
J1R2140	100	100	2.0	N	N	10	100	20	30	5	<20	50
J1R2150	100	100	2.0	N	N	10	100	20	30	15	<20	30
J1R2160	70	70	1.5	N	N	5	30	20	20	<5	<20	20
J1R2170	50	50	1.0	N	N	7	15	7	N	N	N	15
J1R2180	70	100	1.5	N	N	7	30	7	20	N	<20	20
J1R2190	70	100	1.5	N	N	7	50	15	20	5	<20	30
J1R2200	100	100	2.0	N	N	5	70	20	20	N	<20	30
J1R2210	100	100	1.5	N	N	15	50	20	30	7	<20	50
J1R2220	50	70	1.0	N	N	5	30	10	20	7	<20	20
J1R2230	50	70	1.0	N	N	<5	20	5	N	<5	<20	10
J1R2240	70	70	1.5	N	N	7	30	15	20	7	<20	30
J1R2250	70	70	1.0	N	N	7	20	20	20	10	<20	20
J1R2260	70	100	1.0	N	N	5	50	10	20	7	<20	20

TABLE 1--SPECTROGRAPHIC ANALYSES OF INSOLUBLE-RESIDUE SAMPLES FROM DRILL HOLE NO. 1, JOPLIN 1 x 2 QUADRANGLE, MISSOURI AND KANSAS.--Continued

Sample	Pb-ppm s	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.#
J1R1820	15	N	5	N	N	100	N	15	500	70	N	40
J1R1830	<10	N	5	N	N	70	N	10	N	70	N	40
J1R1840	N	N	5	N	N	50	N	10	N	50	N	40
J1R1850	N	N	N	N	N	N	N	N	N	30	N	40
J1R1860	N	N	N	N	N	N	N	N	N	15	N	40
J1R1870	N	N	N	N	N	10	N	N	N	30	N	40
J1R1880	N	N	N	N	N	15	N	N	700	30	N	40
J1R1890	N	N	N	N	N	15	N	N	N	70	N	40
J1R1900	<10	N	N	N	N	30	N	10	N	50	N	40
J1R1910	N	N	N	N	N	20	N	N	N	100	N	40
J1R1920	N	N	N	N	N	N	N	N	N	20	N	40
J1R1930	N	N	N	N	N	N	N	N	N	50	N	40
J1R1940	N	N	N	N	N	30	N	<10	200	50	N	40
J1R1950	10	N	7	N	N	100	N	15	N	70	N	40
J1R1960	<10	N	5	N	N	50	N	10	N	50	N	40
J1R1970	10	N	5	N	N	70	N	10	1,000	50	N	40
J1R1980	<10	N	5	N	N	50	N	10	500	70	N	40
J1R1990	20	N	5	N	N	50	N	30	N	30	N	40
J1R2000	50	N	10	N	100	100	N	15	300	100	N	40
J1R2010	30	N	10	N	N	150	N	20	1,000	200	N	40
J1R2020	30	N	10	N	N	200	N	20	1,000	200	N	40
J1R2030	50	N	15	N	N	200	N	30	<200	200	N	40
J1R2040	50	N	15	N	N	200	N	20	<200	150	N	55
J1R2050	50	N	15	N	N	150	N	20	<200	150	N	79
J1R2060	50	N	15	N	N	200	N	20	<200	150	N	79
J1R2070	50	N	15	N	100	200	N	20	<200	150	N	79
J1R2080	15	N	N	N	100	100	N	<10	N	30	N	79
J1R2090	20	N	10	N	100	150	N	15	N	70	N	79
J1R2100	15	N	<5	N	100	70	N	<10	N	20	N	79
J1R2110	50	N	15	N	150	150	N	30	N	100	N	79
J1R2120	500	N	15	N	200	100	N	20	N	100	N	79
J1R2130	50	N	10	N	150	100	N	20	N	100	N	79
J1R2140	30	N	10	N	200	100	N	20	N	100	N	79
J1R2150	20	N	10	N	100	100	N	15	N	70	N	79
J1R2160	10	N	5	N	150	70	N	15	N	50	N	79
J1R2170	10	N	N	N	N	20	N	N	N	50	N	79
J1R2180	N	N	5	N	200	70	N	10	N	70	N	79
J1R2190	10	N	7	N	100	100	N	15	N	70	N	79
J1R2200	10	N	10	N	150	100	N	15	N	100	N	79
J1R2210	20	N	7	N	100	70	N	15	N	50	N	79
J1R2220	<10	N	5	N	100	50	N	10	N	50	N	79
J1R2230	N	N	5	N	200	30	N	N	N	30	N	79
J1R2240	15	N	7	N	100	50	N	10	N	50	N	79
J1R2250	N	N	5	N	100	50	N	10	N	50	N	79
J1R2260	N	N	7	N	100	70	N	10	N	50	N	79

TABLE 1--SPECTROGRAPHIC ANALYSES OF INSOLUBLE-RESIDUE SAMPLES FROM DRILL HOLE NO. 1, JOPLIN 1 x 2 QUADRANGLE, MISSOURI AND KANSAS.--Continued

Sample	Latitude	Longitude	Fe-pct. s	Mg-pct. s	Ca-pct. s	Ti-pct. s	Mn-ppm s	Ag-ppm s	As-ppm s	Au-ppm s
J1R2270	37 33 23	96 3 9	3.0	.50	.10	.20	100	N	N	N
J1R2280	37 33 23	96 3 9	5.0	.50	.10	.15	200	N	N	N
J1R2290	37 33 23	96 3 9	5.0	.70	.07	.20	150	N	N	N
J1R2300	37 33 23	96 3 9	5.0	.70	.05	.20	150	N	N	N
J1R2310	37 33 23	96 3 9	2.0	.50	.05	.50	70	N	N	N
J1R2320	37 33 23	96 3 9	2.0	.30	.10	.30	70	N	N	N
J1R2330	37 33 23	96 3 9	1.5	.20	.05	.30	50	N	N	N
J1R2340	37 33 23	96 3 9	3.0	.50	.07	.50	100	N	N	N
J1R2350	37 33 23	96 3 9	5.0	.50	.05	.70	100	N	N	N
J1R2360	37 33 23	96 3 9	2.0	.30	.05	.30	100	N	N	N
J1R2370	37 33 23	96 3 9	3.0	.50	.10	.50	70	N	N	N
J1R2380	37 33 23	96 3 9	1.5	.20	.10	.30	50	N	N	N
J1R2390	37 33 23	96 3 9	2.0	.20	.07	.30	70	N	N	N
J1R2400	37 33 23	96 3 9	2.0	.30	.20	.30	70	N	N	N

TABLE 1--SPECTROGRAPHIC ANALYSES OF INSOLUBLE-RESIDUE SAMPLES FROM DRILL HOLE NO. 1, JOPLIN 1 x 2 QUADRANGLE, MISSOURI AND KANSAS.--Continued

Sample	P-ppm s	Pa-ppm s	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
J1R2270	70	70	1.0	N	N	15	50	15	20	10	<20	50
J1R2280	70	70	1.0	N	N	15	50	50	20	10	<20	50
J1R2290	100	70	1.5	N	N	10	100	30	30	5	<20	50
J1R2300	100	70	1.5	N	N	15	100	700	30	10	<20	50
J1R2310	100	100	2.0	N	N	10	100	100	20	7	<20	50
J1R2320	70	150	2.0	N	N	10	70	10	20	<5	<20	50
J1R2330	50	100	1.5	N	N	5	70	10	30	<5	<20	30
J1P2340	100	100	2.0	N	N	15	100	70	30	15	<20	100
J1R2350	100	150	2.0	N	N	15	150	50	30	5	<20	100
J1R2360	100	100	2.0	N	N	10	100	20	20	15	<20	70
J1P2370	100	100	2.0	N	N	10	100	150	30	<5	<20	100
J1R2380	100	100	1.5	N	N	7	70	15	30	<5	<20	50
J1R2390	100	100	1.5	N	N	5	70	20	20	7	<20	50
J1R2400	100	100	1.5	N	N	7	50	30	20	7	<20	50

TAPLE 1--SPECTROGRAPHIC ANALYSES OF INSOLUBLE-RESIDUE SAMPLES FROM DRILL HOLE NO. 1, JOPLIN 1 x 2 QUADRANGLE, MISSOURI AND KANSAS.--Continued

Sample	Pb-ppm s	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.#
J1R2270	15	N	10	N	100	70	N	15	N	50	N	79
J1R2280	20	N	7	N	100	50	N	15	<200	50	N	79
J1R2290	20	N	10	N	100	70	N	20	N	70	N	79
J1R2300	20	N	15	N	100	100	N	20	N	70	N	79
J1R2310	10	N	10	N	N	100	N	15	N	100	N	79
J1R2320	20	N	7	N	200	100	N	15	N	100	N	79
J1R2330	N	N	7	N	300	70	N	10	N	70	N	79
J1R2340	20	N	15	N	150	150	N	20	<200	200	N	79
J1R2350	20	N	15	N	150	200	N	20	N	200	N	79
J1R2360	20	N	10	N	100	100	N	15	N	70	N	79
J1R2370	30	N	10	N	150	150	N	20	N	100	N	79
J1R2380	<10	N	7	N	100	100	N	10	N	70	N	79
J1R2390	15	N	5	N	100	100	N	10	N	70	N	79
J1R2400	15	N	7	N	100	100	N	10	N	70	N	79

TABLE 2--SPECTROGRAPHIC ANALYSES OF INSOLUBLE-RESIDUE SAMPLES FROM DRILL HOLE NO. 2, JOPLIN 1 x 2 QUADRANGLE, MISSOURI AND KANSAS.

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

Sample	Latitude	Longitude	Fe-pct.	Mg-pct.	Ca-pct.	Ti-pct.	Mn-ppm	Ag-ppm	As-ppm	Au-ppm
			s	s	s	s	s	s	s	s
J2R0910	37 43 30	95 46 0	5.0	2.0	.15	1.0	200	1.0	N	N
J2R0920	37 43 30	95 46 0	5.0	2.0	.10	1.0	200	<.5	N	N
J2R0930	37 43 30	95 46 0	3.0	1.5	.07	1.0	200	N	N	N
J2R0940	37 43 30	95 46 0	5.0	2.0	.10	1.0	300	N	N	N
J2R0950	37 43 30	95 46 0	5.0	5.0	.50	1.0	500	N	N	N
J2R0960	37 43 30	95 46 0	3.0	1.5	.20	1.0	150	1.0	N	N
J2R0970	37 43 30	95 46 0	3.0	2.0	.20	1.0	200	.5	N	N
J2R0980	37 43 30	95 46 0	7.0	1.5	.10	1.0	300	N	N	N
J2R0990	37 43 30	95 46 0	5.0	1.5	.05	1.0	300	N	N	N
J2R1000	37 43 30	95 46 0	5.0	2.0	.07	1.0	300	N	N	N
J2R1010	37 43 30	95 46 0	5.0	2.0	.07	1.0	300	N	N	N
J2R1020	37 43 30	95 46 0	5.0	3.0	.10	1.0	500	N	N	N
J2R1030	37 43 30	95 46 0	5.0	3.0	.10	1.0	500	N	N	N
J2R1040	37 43 30	95 46 0	5.0	3.0	.10	1.0	500	N	N	N
J2R1050	37 43 30	95 46 0	5.0	2.0	.07	.7	300	N	N	N
J2R1060	37 43 30	95 46 0	7.0	2.0	.10	.7	500	N	N	N
J2R1070	37 43 30	95 46 0	5.0	2.0	.05	.7	300	N	N	N
J2R1080	37 43 30	95 46 0	5.0	2.0	.07	1.0	500	N	N	N
J2R1090	37 43 30	95 46 0	7.0	2.0	.05	.7	2,000	N	N	N
J2R1100	37 43 30	95 46 0	5.0	2.0	<.05	.7	300	N	N	N
J2R1110	37 43 30	95 46 0	5.0	2.0	.15	.7	500	N	N	N
J2R1120	37 43 30	95 46 0	5.0	2.0	.10	.7	200	N	N	N
J2R1130	37 43 30	95 46 0	5.0	2.0	.07	.7	500	N	N	N
J2R1140	37 43 30	95 46 0	5.0	2.0	.07	.7	500	N	N	N
J2R1150	37 43 30	95 46 0	5.0	2.0	.07	.5	500	N	N	N
J2R1160	37 43 30	95 46 0	3.0	2.0	.05	.7	200	N	N	N
J2R1170	37 43 30	95 46 0	5.0	2.0	.05	.7	300	N	N	N
J2R1180	37 43 30	95 46 0	2.0	1.5	.05	.7	200	N	N	N
J2R1190	37 43 30	95 46 0	2.0	1.5	.07	.7	200	N	N	N
J2R1200	37 43 30	95 46 0	3.0	3.0	.07	.7	200	N	N	N
J2R1210	37 43 30	95 46 0	3.0	2.0	.07	.7	200	N	N	N
J2R1220	37 43 30	95 46 0	3.0	2.0	.07	.7	300	N	N	N
J2R1230	37 43 30	95 46 0	3.0	5.0	.15	.7	500	N	N	N
J2R1240	37 43 30	95 46 0	5.0	5.0	.15	.7	500	N	N	N
J2R1250	37 43 30	95 46 0	3.0	3.0	.15	.5	300	N	N	N
J2R1260	37 43 30	95 46 0	5.0	2.0	.20	.5	1,500	N	N	N
J2R1270	37 43 30	95 46 0	10.0	1.0	.07	.3	500	1.5	700	N
J2R1280	37 43 30	95 46 0	5.0	1.5	<.05	.5	150	.5	N	N
J2R1290	37 43 30	95 46 0	7.0	1.5	.05	.7	200	<.5	N	N
J2R1300	37 43 30	95 46 0	5.0	1.5	.05	.7	300	N	N	N
J2R1310	37 43 30	95 46 0	5.0	1.5	.05	.7	200	N	N	N
J2R1320	37 43 30	95 46 0	5.0	2.0	.07	1.0	200	N	N	N
J2R1330	37 43 30	95 46 0	5.0	2.0	.07	1.0	200	.7	N	N
J2R1340	37 43 30	95 46 0	5.0	3.0	.10	1.0	500	.5	N	N
J2R1350	37 43 30	95 46 0	5.0	5.0	.15	1.0	300	.5	N	N

TABLE 2--SPECTROGRAPHIC ANALYSES OF INSOLUBLE-RESIDUE SAMPLES FROM DRILL HOLE NO. 2, JOPLIN 1 x 2 QUADRANGLE, MISSOURI AND KANSAS.--Continued

Sample	B-ppm s	Ba-ppm s	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
J2R0910	100	1,000	2.0	N	N	50	300	150	20	50	<20	700
J2R0920	100	500	2.0	N	N	50	200	70	N	N	<20	500
J2R0930	100	500	2.0	N	N	20	200	70	20	N	<20	200
J2R0940	100	1,500	2.0	N	N	70	200	70	30	N	<20	700
J2R0950	100	2,000	2.0	N	N	100	500	100	N	N	20	1,500
J2R0960	100	1,000	2.0	N	20	50	150	70	20	5	<20	300
J2R0970	100	700	2.0	N	<20	30	200	100	20	N	<20	500
J2R0980	100	500	2.0	N	N	30	150	100	30	N	<20	150
J2R0990	100	500	2.0	N	N	30	200	50	30	N	<20	200
J2R1000	100	500	2.0	N	N	30	150	70	30	N	<20	500
J2R1010	100	500	2.0	N	N	30	200	70	30	N	<20	300
J2R1020	100	1,000	2.0	N	N	50	200	50	30	N	<20	500
J2R1030	100	700	2.0	N	N	30	200	50	30	N	<20	500
J2R1040	100	700	2.0	N	N	30	300	50	30	N	<20	500
J2R1050	100	500	2.0	N	N	20	100	50	30	N	<20	200
J2R1060	100	500	2.0	N	20	70	200	50	20	7	<20	500
J2R1070	100	500	2.0	N	N	30	150	50	30	N	<20	300
J2R1080	100	700	2.0	N	20	20	200	50	30	N	<20	200
J2R1090	100	500	2.0	N	N	50	150	150	20	5	<20	500
J2R1100	100	500	2.0	N	N	30	200	70	30	N	<20	200
J2R1110	100	700	2.0	N	N	30	200	70	50	5	<20	300
J2R1120	100	700	1.5	N	N	50	200	70	30	7	<20	500
J2R1130	100	500	1.5	N	N	30	200	50	50	N	<20	200
J2R1140	100	500	2.0	N	N	20	200	50	50	N	<20	200
J2R1150	100	500	1.5	N	N	20	200	50	30	N	<20	300
J2R1160	100	700	2.0	N	N	20	200	30	30	N	<20	200
J2R1170	100	300	1.5	N	N	20	200	50	50	N	<20	300
J2R1180	100	500	2.0	N	N	20	200	50	50	N	<20	200
J2R1190	100	1,000	1.5	N	<20	15	150	30	20	N	<20	200
J2R1200	70	700	1.5	N	N	30	200	30	30	N	20	500
J2R1210	100	700	1.5	N	N	30	200	70	50	N	<20	500
J2R1220	50	500	1.5	N	N	20	150	50	50	N	<20	500
J2R1230	100	1,000	1.5	N	N	50	500	50	50	N	<20	700
J2R1240	70	700	1.5	N	N	30	300	30	50	N	<20	700
J2R1250	50	700	1.0	N	20	30	300	20	20	N	<20	500
J2R1260	70	700	1.5	N	20	20	200	30	50	N	<20	300
J2R1270	50	200	1.5	N	N	50	100	100	20	5	<20	200
J2R1280	100	300	3.0	N	N	30	200	70	50	N	<20	150
J2R1290	150	500	2.0	N	N	50	200	70	50	N	<20	300
J2R1300	150	500	2.0	N	N	30	300	70	50	N	<20	300
J2R1310	100	500	2.0	N	N	20	300	50	50	N	<20	200
J2R1320	100	1,000	2.0	N	N	30	300	100	30	N	20	500
J2R1330	100	700	2.0	N	N	30	200	70	50	N	20	300
J2R1340	100	1,000	2.0	N	N	70	500	100	N	N	20	1,000
J2R1350	100	1,000	2.0	N	N	100	500	100	N	5	20	1,500

TABLE 2--SPECTROGRAPHIC ANALYSES OF INSOLUBLE-RESIDUE SAMPLES FROM DRILL HOLE NO. 2, JOPLIN 1 x 2 QUADRANGLE, MISSOURI AND KANSAS.--Continued

Sample	Pb-ppm s	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.#
J2R0910	50	N	15	N	150	200	N	10	500	200	N	20
J2R0920	50	N	10	N	100	150	N	10	N	200	N	20
J2R0930	30	N	10	N	100	150	N	15	N	150	N	20
J2R0940	30	N	15	N	150	200	N	20	N	300	N	20
J2R0950	50	N	10	N	500	100	N	N	N	200	N	20
J2R0960	70	N	10	N	200	150	N	15	700	200	N	20
J2R0970	20	N	10	N	100	150	N	10	500	200	N	20
J2R0980	100	N	15	N	100	200	N	20	200	200	N	20
J2R0990	30	N	15	N	100	150	N	20	200	200	N	20
J2R1000	20	N	15	N	100	150	N	30	300	300	N	20
J2R1010	20	N	15	N	100	150	N	30	300	300	N	20
J2R1020	20	N	15	N	200	150	N	20	200	300	N	20
J2R1030	20	N	15	N	200	150	N	20	<200	200	N	20
J2R1040	20	N	15	N	200	150	N	20	N	300	N	20
J2R1050	15	N	15	N	200	150	N	20	N	200	N	20
J2R1060	50	N	15	N	150	200	N	20	1,000	150	N	20
J2R1070	20	N	15	N	200	200	N	20	N	300	N	20
J2R1080	20	N	15	N	150	200	N	20	700	200	N	20
J2R1090	70	N	15	N	150	150	N	20	N	200	N	20
J2R1100	30	N	15	N	200	200	N	20	N	200	N	20
J2R1110	50	N	15	N	500	200	N	20	N	200	N	20
J2R1120	50	N	10	N	200	200	N	20	N	300	N	20
J2R1130	30	N	15	N	200	200	N	30	N	300	N	20
J2R1140	50	N	15	N	200	200	N	20	N	150	N	20
J2R1150	30	N	10	N	200	150	N	20	N	200	N	20
J2R1160	15	N	15	N	200	150	N	20	N	300	N	20
J2R1170	20	N	15	N	200	200	N	30	200	500	N	20
J2R1180	150	N	15	N	200	150	N	30	<200	300	N	20
J2R1190	15	N	10	N	200	100	N	20	700	300	N	20
J2R1200	20	N	10	N	200	150	N	20	<200	500	N	20
J2R1210	30	N	10	N	200	150	N	30	300	300	N	20
J2R1220	10	N	7	N	300	100	N	15	N	300	N	20
J2R1230	30	N	10	N	300	100	N	10	N	300	N	20
J2R1240	50	N	7	N	300	100	N	10	N	300	N	20
J2R1250	N	N	5	N	150	70	N	15	1,500	300	N	20
J2R1260	20	N	10	N	200	100	N	20	1,500	500	N	20
J2R1270	100	N	7	N	150	50	N	10	200	100	N	20
J2R1280	100	N	20	N	100	200	N	20	<200	150	N	20
J2R1290	70	N	20	N	100	200	N	20	<200	150	N	20
J2R1300	50	N	20	N	100	200	N	20	<200	150	N	20
J2R1310	30	N	15	N	100	200	N	20	<200	200	N	20
J2R1320	70	N	20	N	100	200	N	20	<200	200	N	20
J2R1330	70	N	15	N	100	200	<50	30	<200	200	N	20
J2R1340	70	N	10	N	150	150	50	15	200	200	N	20
J2R1350	70	N	10	N	150	100	N	10	N	200	N	40

TABLE 2--SPECTROGRAPHIC ANALYSES OF INSOLUBLE-RESIDUE SAMPLES FROM DRILL HOLE NO. 2, JOPLIN 1 x 2 QUADRANGLE, MISSOURI AND KANSAS.--Continued

Sample	Latitude	Longitude	Fe-pct. S	Mg-pct. S	Ca-pct. S	Ti-pct. S	Mn-ppm S	Ag-ppm S	As-ppm S	Au-ppm S
J2R1360	37 43 30	95 46 0	2.0	5.0	.20	1.0	300	N	N	N
J2R1370	37 43 30	95 46 0	2.0	3.0	.20	1.0	200	<.5	N	N
J2R1380	37 43 30	95 46 0	2.0	3.0	.15	1.0	200	N	N	N
J2R1390	37 43 30	95 46 0	3.0	5.0	.20	1.0	500	N	N	N
J2R1400	37 43 30	95 46 0	2.0	2.0	.15	.5	150	N	N	N
J2R1410	37 43 30	95 46 0	1.5	1.5	.10	.5	100	N	N	N
J2R1420	37 43 30	95 46 0	1.0	1.0	.05	.2	70	N	N	N
J2R1430	37 43 30	95 46 0	1.5	1.5	.10	.5	100	N	N	N
J2R1440	37 43 30	95 46 0	1.5	2.0	.10	.5	100	N	N	N
J2R1450	37 43 30	95 46 0	2.0	2.0	.10	.7	200	N	N	N
J2R1460	37 43 30	95 46 0	.7	1.0	.10	.3	70	N	N	N
J2R1470	37 43 30	95 46 0	1.0	1.5	.10	.5	100	N	N	N
J2R1480	37 43 30	95 46 0	1.5	2.0	.10	1.0	200	N	N	N
J2R1490	37 43 30	95 46 0	1.5	2.0	.10	1.0	200	N	N	N
J2R1500	37 43 30	95 46 0	1.5	1.5	.10	.7	150	N	N	N
J2R1510	37 43 30	95 46 0	1.5	2.0	.15	1.0	200	N	N	N
J2R1520	37 43 30	95 46 0	2.0	2.0	.20	1.0	200	N	N	N
J2R1530	37 43 30	95 46 0	2.0	2.0	.20	1.0	200	N	N	N
J2R1540	37 43 30	95 46 0	2.0	3.0	.30	>1.0	200	N	N	N
J2R1550	37 43 30	95 46 0	2.0	3.0	.20	>1.0	300	N	N	N
J2R1560	37 43 30	95 46 0	2.0	3.0	.20	>1.0	300	N	N	N
J2R1570	37 43 30	95 46 0	2.0	3.0	.20	>1.0	300	N	N	N
J2R1580	37 43 30	95 46 0	2.0	3.0	.20	>1.0	200	N	N	N
J2R1590	37 43 30	95 46 0	3.0	5.0	.20	>1.0	300	N	N	N
J2R1600	37 43 30	95 46 0	3.0	3.0	.15	>1.0	200	N	N	N
J2R1610	37 43 30	95 46 0	2.0	2.0	.15	1.0	200	N	N	N
J2R1620	37 43 30	95 46 0	5.0	2.0	.10	1.0	200	N	N	N
J2R1630	37 43 30	95 46 0	5.0	3.0	.15	1.0	200	N	N	N
J2R1640	37 43 30	95 46 0	2.0	1.5	.10	.7	200	N	N	N
J2R1650	37 43 30	95 46 0	7.0	2.0	.10	1.0	200	N	N	N
J2R1660	37 43 30	95 46 0	1.5	.7	.10	.3	100	N	N	N
J2R1670	37 43 30	95 46 0	3.0	1.5	.10	.5	150	<.5	N	N
J2R1680	37 43 30	95 46 0	3.0	1.0	.15	.5	100	.5	N	N
J2R1690	37 43 30	95 46 0	2.0	1.5	.10	.5	150	<.5	N	N
J2R1700	37 43 30	95 46 0	5.0	2.0	.15	1.0	200	<.5	N	N
J2R1710	37 43 30	95 46 0	3.0	2.0	.20	1.0	200	N	N	N
J2R1720	37 43 30	95 46 0	2.0	1.5	.15	.5	100	N	N	N
J2R1730	37 43 30	95 46 0	1.0	1.0	.07	.3	50	N	N	N
J2R1740	37 43 30	95 46 0	1.5	1.5	.10	.5	70	N	N	N
J2R1750	37 43 30	95 46 0	1.5	1.5	.10	.5	100	N	N	N
J2R1760	37 43 30	95 46 0	2.0	1.5	.05	.5	50	N	N	N
J2R1770	37 43 30	95 46 0	1.5	2.0	.10	.5	150	N	N	N
J2R1780	37 43 30	95 46 0	1.5	1.5	.10	.5	70	N	N	N
J2R1790	37 43 30	95 46 0	1.5	2.0	.10	.5	100	N	N	N
J2R1800	37 43 30	95 46 0	1.5	2.0	.15	.5	150	N	N	N

TABLE 2--SPECTROGRAPHIC ANALYSES OF INSOLUBLE-RESIDUE SAMPLES FROM DRILL HOLE NO. 2, JOPLIN 1 x 2 QUADRANGLE, MISSOURI AND KANSAS.--Continued

Sample	B-ppm s	Ba-ppm s	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
J2R1360	50	1,500	1.0	N	N	50	300	50	N	N	20	1,000
J2R1370	50	1,000	1.5	N	N	30	500	50	N	N	20	500
J2R1380	50	1,500	1.0	N	N	30	300	50	N	N	20	700
J2R1390	50	1,500	1.5	N	N	100	500	70	N	N	20	1,000
J2R1400	50	700	1.0	N	N	20	500	30	20	N	<20	300
J2R1410	50	500	1.0	N	N	20	150	30	N	N	<20	300
J2R1420	50	500	<1.0	N	N	10	100	10	N	N	<20	150
J2R1430	50	700	1.0	N	N	20	150	20	N	N	<20	300
J2R1440	70	700	1.0	N	N	20	200	50	N	N	20	300
J2R1450	70	1,000	1.5	N	N	30	200	50	N	N	20	500
J2R1460	50	700	1.0	N	N	10	200	20	N	N	<20	150
J2R1470	50	700	1.0	N	N	15	200	15	N	N	<20	200
J2R1480	50	1,000	1.5	N	N	20	300	50	N	N	20	500
J2R1490	50	1,000	1.5	N	N	20	500	30	N	N	20	500
J2R1500	50	1,000	1.5	N	N	15	300	20	N	N	<20	500
J2R1510	50	1,000	1.5	N	<20	20	300	30	20	5	20	500
J2R1520	50	1,500	1.5	N	N	30	500	50	N	5	20	700
J2R1530	50	1,500	2.0	N	<20	20	500	50	N	5	20	500
J2R1540	50	1,500	2.0	N	N	30	500	50	20	N	20	700
J2R1550	50	2,000	2.0	N	N	50	500	70	N	5	20	1,000
J2R1560	50	2,000	2.0	N	N	50	700	50	N	7	20	1,000
J2R1570	50	2,000	1.5	N	N	70	500	70	20	7	20	1,000
J2R1580	50	1,500	1.5	N	N	30	500	50	20	7	20	700
J2R1590	50	1,500	1.5	N	N	50	500	100	20	5	20	1,000
J2R1600	70	2,000	2.0	N	N	30	500	70	20	5	20	700
J2R1610	70	1,000	2.0	N	N	20	500	70	30	5	20	300
J2R1620	100	1,000	2.0	N	N	30	300	70	30	10	<20	500
J2R1630	100	1,000	2.0	N	N	30	300	70	50	10	<20	500
J2R1640	100	1,000	2.0	N	N	15	200	50	20	10	<20	200
J2R1650	150	700	2.0	N	N	50	200	100	30	50	<20	300
J2R1660	30	500	1.0	N	N	7	150	70	N	7	<20	100
J2R1670	70	700	1.5	N	N	20	300	150	20	10	20	300
J2R1680	70	500	1.5	N	N	15	200	150	20	10	<20	200
J2R1690	100	700	1.5	N	N	15	200	70	20	10	<20	300
J2R1700	100	1,000	1.5	N	N	30	300	70	N	20	<20	500
J2R1710	100	1,000	1.5	N	N	20	300	50	20	15	<20	500
J2R1720	100	700	1.5	N	N	15	200	30	20	10	<20	300
J2R1730	50	500	1.0	N	N	10	150	30	20	7	<20	200
J2R1740	50	1,000	1.0	N	N	15	200	100	20	10	<20	200
J2R1750	50	1,000	1.0	N	N	15	200	70	20	10	<20	200
J2R1760	70	700	1.5	N	N	10	100	30	50	N	<20	150
J2R1770	50	700	1.0	N	N	20	200	30	20	7	<20	500
J2R1780	50	500	1.0	N	N	20	200	50	N	7	<20	300
J2R1790	50	700	1.0	N	N	30	200	50	N	5	<20	500
J2R1800	50	1,000	1.0	N	N	20	300	30	N	<5	<20	500

TABLE 2--SPECTROGRAPHIC ANALYSES OF INSOLUBLE-RESIDUE SAMPLES FROM DRILL HOLE NO. 2, JOPLIN 1 x 2 QUADRANGLE, MISSOURI AND KANSAS.--Continued

Sample	Pb-ppm s	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.#
J2R1360	15	N	7	N	150	70	N	10	N	200	N	40
J2R1370	30	N	7	N	150	70	N	N	N	200	N	40
J2R1380	15	N	5	N	150	50	N	N	N	300	N	40
J2R1390	200	N	7	N	150	70	N	<10	N	300	N	40
J2R1400	N	N	5	N	200	100	N	20	N	200	N	40
J2R1410	N	N	N	N	100	30	N	<10	N	200	N	40
J2R1420	N	N	N	N	100	20	N	N	N	50	N	40
J2R1430	20	N	N	N	100	30	N	N	500	150	N	40
J2R1440	10	N	<5	N	100	30	N	N	<200	150	N	40
J2R1450	10	N	<5	N	100	50	N	N	500	200	N	40
J2R1460	N	N	N	N	100	20	N	N	N	100	N	40
J2R1470	N	N	N	N	100	30	N	N	N	100	N	40
J2R1480	10	N	5	N	200	50	N	N	N	200	N	40
J2R1490	10	N	5	N	200	50	N	N	N	200	N	40
J2R1500	10	N	5	N	150	50	N	N	<200	200	N	40
J2R1510	15	N	7	N	150	70	N	N	500	200	N	40
J2R1520	15	N	7	N	200	100	N	N	<200	300	N	40
J2R1530	15	N	7	N	200	70	N	10	200	200	N	40
J2R1540	15	N	10	N	200	100	N	N	200	300	N	40
J2R1550	20	N	10	N	200	150	N	<10	<200	500	N	40
J2R1560	15	N	10	N	200	100	N	<10	<200	500	N	40
J2R1570	15	N	10	N	200	100	N	<10	N	300	N	40
J2R1580	10	N	10	N	200	100	N	<10	<200	500	N	40
J2R1590	50	N	10	N	200	150	N	15	<200	500	N	40
J2R1600	20	N	15	N	200	200	N	20	N	500	N	40
J2R1610	20	N	10	N	150	200	N	15	N	300	N	40
J2R1620	50	N	15	N	100	200	N	20	200	200	N	40
J2R1630	30	N	20	N	100	200	N	20	<200	300	N	40
J2R1640	20	N	10	N	100	150	N	15	200	150	N	40
J2R1650	70	N	20	N	100	200	N	30	<200	200	N	40
J2R1660	30	N	5	N	100	30	N	10	N	150	N	40
J2R1670	50	N	7	N	100	70	N	10	N	300	N	40
J2R1680	50	N	5	N	100	70	N	10	N	150	N	40
J2R1690	50	N	5	N	100	70	N	10	N	200	N	40
J2R1700	20	N	7	N	150	100	N	10	N	200	N	40
J2R1710	30	N	7	N	150	100	N	10	<200	300	N	40
J2R1720	10	N	7	N	100	100	N	10	N	150	N	40
J2R1730	10	N	<5	N	100	50	<50	N	N	150	N	40
J2R1740	15	N	5	N	150	50	<50	<10	N	150	N	40
J2R1750	10	N	5	N	150	50	<50	N	<200	200	N	40
J2R1760	15	N	10	N	150	100	N	15	N	100	N	31
J2R1770	20	N	5	N	200	50	N	N	<200	150	N	31
J2R1780	15	N	5	N	100	50	N	N	N	100	N	31
J2R1790	10	N	5	N	100	50	N	N	N	150	N	31
J2R1800	15	N	5	N	150	50	N	N	N	150	N	31

TABLE 2--SPECTROGRAPHIC ANALYSES OF INSOLUBLE-RESIDUE SAMPLES FROM DRILL HOLE NO. 2, JOPLIN 1 x 2 QUADRANGLE, MISSOURI AND KANSAS.--Continued

Sample	Latitude	Longitude	Fe-pct. s	Mg-pct. s	Ca-pct. s	Ti-pct. s	Mn-ppm s	Ag-ppm s	As-ppm s	Au-ppm s
J2R1810	37 43 30	95 46 0	2.0	2.0	.10	.5	150	N	N	N
J2R1820	37 43 30	95 46 0	1.5	2.0	.10	.5	100	N	N	N
J2R1830	37 43 30	95 46 0	2.0	2.0	.10	.5	100	N	N	N
J2R1840	37 43 30	95 46 0	1.5	3.0	.15	.5	100	N	N	N
J2R1850	37 43 30	95 46 0	2.0	2.0	.10	.5	100	N	N	N
J2R1870	37 43 30	95 46 0	1.5	2.0	.10	.5	100	N	N	N
J2R1880	37 43 30	95 46 0	2.0	2.0	.10	.5	150	N	N	N
J2R1890	37 43 30	95 46 0	2.0	2.0	.15	.5	150	N	N	N
J2R1900	37 43 30	95 46 0	2.0	3.0	.20	.5	150	N	N	N
J2R1920	37 43 30	95 46 0	1.5	1.5	.15	.5	100	N	N	N

TAPLE 2--SPECTROGRAPHIC ANALYSES OF INSOLUBLE-RESIDUE SAMPLES FROM DRILL HOLE NO. 2, JOPLIN 1 x 2 OUADRANGLE, MISSOURI AND KANSAS.--Continued

Sample	B-ppm s	Ba-ppm s	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
J2R1810	50	1,000	1.0	N	N	30	200	50	20	<5	<20	700
J2R1820	50	1,000	1.5	N	N	20	200	50	N	7	<20	500
J2R1830	50	700	1.0	N	N	30	200	30	30	10	<20	700
J2R1840	50	700	1.0	N	N	20	200	30	N	7	<20	500
J2R1850	50	1,000	1.0	N	N	20	200	50	N	10	<20	500
J2R1870	50	700	1.0	N	N	20	200	20	N	7	<20	500
J2R1880	50	700	1.0	N	N	30	200	50	N	10	<20	700
J2R1890	50	700	1.0	N	N	30	200	50	N	10	<20	500
J2R1900	50	1,000	1.0	N	N	30	300	50	20	15	<20	500
J2R1920	50	700	1.0	N	N	15	150	30	20	10	<20	200

TABLE 2--SPECTROGRAPHIC ANALYSES OF INSOLUBLE-RESIDUE SAMPLES FROM DRILL HOLE NO. 2, JOPLIN 1 x 2 QUADRANGLE, MISSOURI AND KANSAS.--Continued

Sample	Pb-ppm s	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.#
J2R1810	20	N	5	N	150	50	N	N	N	150	N	31
J2R1820	20	N	5	N	200	50	N	N	N	150	N	31
J2R1830	20	N	5	N	150	50	N	N	N	150	N	31
J2R1840	20	N	5	N	200	50	N	N	N	150	N	31
J2R1850	20	N	5	N	200	50	N	N	N	150	N	31
J2R1870	10	N	5	N	150	50	N	N	N	150	N	31
J2R1880	15	N	5	N	150	50	N	N	300	150	N	31
J2R1890	20	N	5	N	150	50	N	N	N	150	N	31
J2R1900	20	N	7	N	200	50	N	10	N	150	N	31
J2R1920	20	N	5	N	150	50	N	<10	200	200	N	31

TABLE 3--SPECTROGRAPHIC ANALYSES OF INSOLUBLE-RESIDUE SAMPLES FROM DRILL HOLE NO. 3, JOPLIN 1 x 2 QUADRANGLE, MISSOURI AND KANSAS.

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

Sample	Latitude	Longitude	Fe-pct. s	Mg-pct. s	Ca-pct. s	Ti-pct. s	Mn-ppm s	Ag-ppm s	As-ppm s	Au-ppm s
J3R0110	37 1 33	95 0 21	2.00	.50	<.05	.500	150	N	N	N
J3R0120	37 1 33	95 0 21	2.00	.20	<.05	.700	50	N	N	N
J3R0180	37 1 33	95 0 21	3.00	.50	<.05	.500	200	N	N	N
J3R0190	37 1 33	95 0 21	2.00	.30	<.05	.500	70	N	N	N
J3R0200	37 1 33	95 0 21	5.00	1.00	<.05	.700	200	N	N	N
J3R0210	37 1 33	95 0 21	7.00	.30	.05	.500	50	N	N	N
J3R0220	37 1 33	95 0 21	2.00	.50	.10	.500	70	N	N	N
J3R0230	37 1 33	95 0 21	2.00	.50	1.00	.300	100	N	N	N
J3R0240	37 1 33	95 0 21	10.00	.30	1.00	.300	1,500	N	N	N
J3R0250	37 1 33	95 0 21	3.00	1.50	.50	.700	70	N	N	N
J3R0260	37 1 33	95 0 21	.50	.02	2.00	.015	10	N	N	N
J3R0270	37 1 33	95 0 21	.50	.03	1.50	.020	10	N	N	N
J3R0280	37 1 33	95 0 21	.07	.03	2.00	.010	10	N	N	N
J3R0290	37 1 33	95 0 21	1.00	.15	.30	.150	15	N	N	N
J3R0300	37 1 33	95 0 21	.50	.02	.20	.020	<10	N	N	N
J3R0310	37 1 33	95 0 21	.10	.03	1.50	.030	10	N	N	N
J3R0320	37 1 33	95 0 21	.30	.03	1.50	.020	10	N	N	N
J3R0330	37 1 33	95 0 21	.05	.03	.20	.020	<10	N	N	N
J3R0340	37 1 33	95 0 21	.50	.15	1.00	.150	20	N	N	N
J3R0350	37 1 33	95 0 21	.05	.10	2.00	.050	10	N	N	N
J3R0360	37 1 33	95 0 21	2.00	2.00	5.00	.200	200	1.0	N	N
J3R0370	37 1 33	95 0 21	2.00	.70	5.00	.150	150	.5	N	N
J3R0380	37 1 33	95 0 21	1.00	.20	.10	.150	20	N	N	N
J3R0390	37 1 33	95 0 21	.10	.10	.20	.010	10	N	N	N
J3R0400	37 1 33	95 0 21	.10	.05	.05	.010	10	N	N	N
J3R0410	37 1 33	95 0 21	.15	.07	<.05	.050	10	N	N	N
J3R0420	37 1 33	95 0 21	.10	.02	<.05	.010	10	N	N	N
J3R0430	37 1 33	95 0 21	1.00	.30	.20	.200	50	N	N	N
J3R0440	37 1 33	95 0 21	2.00	1.00	.10	.700	70	N	N	N
J3R0450	37 1 33	95 0 21	.50	.05	.10	.030	20	N	N	N
J3R0460	37 1 33	95 0 21	.50	.10	.10	.050	20	N	N	N
J3R0470	37 1 33	95 0 21	.50	.07	.50	.050	30	N	N	N
J3R0480	37 1 33	95 0 21	1.50	.20	.20	.200	70	N	N	N
J3R0490	37 1 33	95 0 21	1.00	.20	.50	.200	50	N	N	N
J3R0500	37 1 33	95 0 21	1.00	.20	.50	.200	70	N	N	N
J3R0510	37 1 33	95 0 21	1.50	.30	.30	.200	70	N	N	N
J3R0520	37 1 33	95 0 21	5.00	.70	.30	.500	100	N	N	N
J3R0523	37 1 33	95 0 21	2.00	1.00	.15	1.000	100	N	N	N
J3R0530	37 1 33	95 0 21	2.00	1.50	.05	1.000	70	N	N	N
J3R0540	37 1 33	95 0 21	2.00	.50	.15	.300	50	N	N	N
J3R0550	37 1 33	95 0 21	3.00	.70	.20	.500	70	N	N	N
J3R0560	37 1 33	95 0 21	2.00	.50	.05	.500	50	N	N	N
J3R0570	37 1 33	95 0 21	1.50	.50	<.05	.500	30	N	N	N
J3R0580	37 1 33	95 0 21	2.00	1.00	.20	.500	50	N	N	N
J3R0590	37 1 33	95 0 21	2.00	1.50	.30	.500	100	N	N	N

TABLE 3--SPECTROGRAPHIC ANALYSES OF INSOLUBLE-RESIDUE SAMPLES FROM DRILL HOLE NO. 3, JOPLIN 1 x 2 QUADRANGLE, MISSOURI AND KANSAS.--Continued

Sample	B-ppm s	Ba-ppm s	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
J3R0110	100	150	2.0	N	N	10	100	50	50	N	<20	50
J3R0120	100	150	2.0	N	N	7	100	20	50	N	<20	70
J3R0180	100	100	2.0	N	N	7	100	20	50	N	<20	50
J3R0190	50	150	1.5	N	N	5	100	10	50	N	<20	50
J3R0200	100	150	2.0	N	N	20	100	50	30	N	<20	100
J3R0210	100	100	2.0	N	N	10	70	50	20	N	<20	70
J3R0220	100	100	3.0	N	N	5	100	20	20	N	<20	50
J3R0230	100	100	5.0	N	N	5	150	30	30	N	<20	50
J3R0240	100	100	3.0	N	N	7	100	50	N	N	<20	70
J3R0250	150	100	7.0	N	N	5	150	70	50	N	<20	50
J3R0260	20	30	<1.0	N	N	N	15	<5	N	N	N	N
J3R0270	30	30	N	N	N	N	20	<5	N	N	N	N
J3R0280	30	20	N	N	N	N	N	N	N	N	N	N
J3R0290	50	30	2.0	N	N	N	70	10	N	N	N	15
J3R0300	30	20	N	N	N	N	15	<5	N	N	N	7
J3R0310	50	20	N	N	N	N	N	<5	N	N	N	5
J3R0320	30	20	N	N	N	N	10	<5	N	N	N	7
J3R0330	20	30	N	N	N	N	N	<5	N	N	N	5
J3R0340	30	50	1.0	N	N	N	50	5	N	N	N	20
J3R0350	20	30	N	N	N	N	10	<5	N	N	N	5
J3R0360	50	100	5.0	N	N	5	70	70	20	20	N	100
J3R0370	50	30	2.0	N	N	N	70	20	20	50	N	50
J3R0380	50	30	2.0	N	N	N	70	30	50	N	N	10
J3R0390	50	20	N	N	N	N	N	N	N	N	N	N
J3R0400	50	20	N	N	N	N	N	N	N	N	N	N
J3R0410	50	30	1.0	N	N	N	10	<5	N	N	N	N
J3R0420	30	20	N	N	N	N	N	N	N	N	N	N
J3R0430	70	70	3.0	N	N	N	70	10	30	N	N	10
J3R0440	100	100	5.0	N	N	5	150	50	50	N	<20	20
J3R0450	30	50	N	N	N	N	N	<5	N	N	N	N
J3R0460	50	50	1.0	N	N	N	10	<5	N	N	N	N
J3R0470	50	30	<1.0	N	N	N	10	<5	N	N	N	N
J3R0480	70	100	2.0	N	N	10	50	20	20	5	<20	100
J3R0490	70	50	2.0	N	N	<5	50	10	20	N	N	15
J3R0500	70	70	2.0	N	N	7	50	15	20	10	N	100
J3R0510	70	70	3.0	N	N	10	50	20	20	N	N	70
J3R0520	100	100	7.0	N	N	5	150	100	50	7	<20	70
J3R0523	100	100	5.0	N	N	10	100	30	50	10	<20	50
J3R0530	150	150	7.0	N	N	10	150	50	50	10	<20	70
J3R0540	100	100	5.0	N	N	7	100	70	30	10	<20	50
J3R0550	100	100	5.0	N	N	7	100	50	50	<5	<20	50
J3R0560	100	150	3.0	N	N	<5	100	50	20	10	<20	30
J3R0570	100	150	5.0	N	N	<5	100	30	20	N	<20	20
J3R0580	100	150	5.0	N	N	5	150	50	30	N	<20	30
J3R0590	150	100	5.0	N	N	7	200	50	50	N	<20	50

TABLE 3--SPECTROGRAPHIC ANALYSES OF INSOLUBLE-RESIDUE SAMPLES FROM DRILL HOLE NO. 3, JOPLIN 1 x 2 QUADRANGLE, MISSOURI AND KANSAS.--Continued

Sample	Pb-ppm s	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.#
J3R0110	20	N	15	N	100	200	N	20	N	150	N	20
J3R0120	30	N	15	N	100	200	N	20	N	300	N	20
J3R0180	15	N	10	N	100	200	N	20	N	200	N	20
J3R0190	10	N	15	N	N	150	N	20	N	100	N	20
J3R0200	20	N	15	N	N	200	N	20	N	200	N	20
J3R0210	15	N	7	N	N	50	N	20	N	300	N	20
J3R0220	15	N	7	N	N	100	N	10	N	300	N	20
J3R0230	70	N	5	N	N	200	N	50	500	300	N	20
J3R0240	70	N	10	N	N	100	N	20	500	100	N	20
J3R0250	30	N	15	N	N	200	N	15	N	150	N	20
J3R0260	N	N	N	N	N	N	N	N	N	10	N	40
J3R0270	10	N	N	N	N	N	N	N	N	15	N	40
J3R0280	N	N	N	N	N	N	N	N	N	10	N	40
J3R0290	N	N	N	N	N	50	N	N	N	70	N	40
J3R0300	N	N	N	N	N	10	N	N	N	10	N	40
J3R0310	N	N	N	N	N	N	N	N	N	30	N	40
J3R0320	N	N	N	N	N	N	N	N	N	20	N	40
J3R0330	N	N	N	N	N	N	N	N	N	20	N	40
J3R0340	N	N	N	N	N	30	N	N	N	50	N	40
J3R0350	N	N	N	N	N	10	N	N	N	15	N	40
J3R0360	70	N	10	N	N	200	N	20	500	50	N	40
J3R0370	100	N	5	N	N	100	N	15	N	50	N	40
J3R0380	20	N	5	N	N	100	N	10	N	50	N	40
J3R0390	N	N	N	N	N	N	N	N	N	N	N	40
J3R0400	N	N	N	N	N	N	N	N	N	N	N	40
J3R0410	N	N	N	N	N	N	N	N	N	15	N	40
J3R0420	N	N	N	N	N	N	N	N	N	N	N	40
J3R0430	N	N	5	N	N	70	N	<10	N	50	N	40
J3R0440	20	N	10	N	N	200	N	10	N	200	N	40
J3R0450	N	N	N	N	N	N	N	N	N	10	N	40
J3R0460	N	N	N	N	N	15	N	N	N	15	N	40
J3R0470	N	N	N	N	N	10	N	N	N	10	N	40
J3R0480	10	N	5	N	N	70	N	N	N	70	N	40
J3R0490	15	N	<5	N	N	50	N	N	N	50	N	40
J3R0500	15	N	5	N	N	100	N	10	N	50	N	40
J3R0510	20	N	7	N	N	150	N	10	N	50	N	40
J3R0520	70	N	10	N	N	200	N	10	N	100	N	55
J3R0523	20	N	10	N	N	200	N	20	N	500	N	55
J3R0530	20	N	15	N	N	300	N	20	N	300	N	55
J3R0540	30	N	7	N	N	150	N	15	N	100	N	55
J3R0550	20	N	10	N	N	200	N	20	N	150	N	55
J3R0560	30	N	5	N	N	150	N	15	N	150	N	79
J3R0570	50	N	5	N	N	100	N	15	N	200	N	79
J3R0580	50	N	10	N	N	150	N	15	N	200	N	79
J3R0590	200	N	15	N	N	200	N	15	N	150	N	79

TABLE 3--SPECTROGRAPHIC ANALYSES OF INSOLUBLE-RESIDUE SAMPLES FROM DRILL HOLE NO. 3, JOPLIN 1 x 2 QUADRANGLE, MISSOURI AND KANSAS.--Continued

Sample	Latitude	Longitude	Fe-pct. s	Mg-pct. s	Ca-pct. s	Ti-pct. s	Mn-ppm s	Ag-ppm s	As-ppm s	Au-ppm s
J3R0600	37 1 33	95 0 21	3.00	1.50	.30	.300	100	N	N	N
J3R0610	37 1 33	95 0 21	1.50	.20	.07	.200	30	N	N	N
J3R0620	37 1 33	95 0 21	5.00	.50	.20	.300	70	.7	N	N
J3R0630	37 1 33	95 0 21	2.00	.20	.10	.200	30	N	N	N
J3R0640	37 1 33	95 0 21	5.00	1.50	.20	1.000	100	N	N	N
J3R0650	37 1 33	95 0 21	2.00	.20	.15	.150	100	N	N	N
J3R0660	37 1 33	95 0 21	5.00	1.00	.20	1.000	50	N	N	N
J3R0680	37 1 33	95 0 21	2.00	2.00	2.00	.500	70	N	N	N
J3R0690	37 1 33	95 0 21	3.00	1.50	.20	.700	70	N	N	N
J3R0700	37 1 33	95 0 21	3.00	1.50	.50	.500	70	N	N	N
J3R0710	37 1 33	95 0 21	2.00	.70	.50	.300	50	N	N	N
J3R0720	37 1 33	95 0 21	5.00	1.50	.50	.700	70	.5	N	N
J3R0730	37 1 33	95 0 21	5.00	.15	.05	.100	70	1.0	N	N
J3R0740	37 1 33	95 0 21	7.00	1.00	.07	.700	100	.5	N	N
J3R0750	37 1 33	95 0 21	1.00	.15	.05	.150	15	N	N	N
J3R0760	37 1 33	95 0 21	.20	.10	.05	.050	10	N	N	N
J3R0770	37 1 33	95 0 21	1.50	.30	.50	.200	50	N	N	N
J3R0780	37 1 33	95 0 21	5.00	1.00	.15	1.000	150	.5	N	N
J3R0800	37 1 33	95 0 21	3.00	.50	.20	.200	50	.5	N	N
J3R0810	37 1 33	95 0 21	5.00	.70	.07	.500	70	<.5	N	N
J3R0820	37 1 33	95 0 21	7.00	1.00	.30	1.000	100	2.0	N	N
J3R0830	37 1 33	95 0 21	20.00	.20	<.05	.150	100	5.0	N	N
J3R0840	37 1 33	95 0 21	1.50	.15	.10	.050	10	N	N	N
J3R0850	37 1 33	95 0 21	3.00	1.00	.15	.500	70	N	N	N
J3R0860	37 1 33	95 0 21	2.00	.15	.10	.100	20	N	N	N
J3R0870	37 1 33	95 0 21	5.00	.70	.05	.300	70	.5	N	N
J3R0880	37 1 33	95 0 21	3.00	.07	.05	.070	20	N	N	N
J3R0890	37 1 33	95 0 21	15.00	.10	.07	.100	70	N	N	N
J3R0900	37 1 33	95 0 21	5.00	.20	<.05	.200	50	N	N	N
J3R0910	37 1 33	95 0 21	2.00	.30	<.05	.300	30	N	N	N
J3R0920	37 1 33	95 0 21	1.50	.15	.10	.300	150	N	N	N
J3R0930	37 1 33	95 0 21	3.00	.30	.50	.300	500	N	N	N
J3R0940	37 1 33	95 0 21	2.00	.20	.50	.300	500	N	N	N
J3R0950	37 1 33	95 0 21	2.00	.30	.30	.300	300	N	N	N
J3R1070	37 1 33	95 0 21	2.00	.20	.50	.300	500	N	N	N
J3R1080	37 1 33	95 0 21	2.00	.30	.30	.300	500	N	N	N
J3R1090	37 1 33	95 0 21	2.00	.30	.30	.300	500	N	N	N
J3R1100	37 1 33	95 0 21	2.00	.30	.30	.300	500	N	N	N
J3R1103	37 1 33	95 0 21	2.00	.30	.30	.500	500	N	N	N

TABLE 3--SPECTROGRAPHIC ANALYSES OF INSOLUBLE-RESIDUE SAMPLES FROM DRILL HOLE NO. 3, JOPLIN 1 x 2 QUADRANGLE, MISSOURI AND KANSAS.--Continued

Sample	B-ppm S	Ba-ppm S	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
J3R0600	100	100	5.0	N	N	5	200	50	50	5	<20	50
J3R0610	70	100	3.0	N	N	N	50	10	N	7	<20	10
J3R0620	100	150	3.0	N	N	5	70	70	30	15	<20	50
J3R0630	50	150	3.0	N	N	<5	70	30	20	N	<20	20
J3R0640	150	150	5.0	N	N	5	150	70	50	N	<20	50
J3R0650	70	150	3.0	N	N	15	50	30	20	N	N	70
J3R0660	200	100	5.0	N	N	5	200	70	50	5	<20	50
J3R0680	100	70	5.0	N	N	<5	150	50	70	N	<20	15
J3R0690	150	150	5.0	N	N	5	200	50	70	N	<20	30
J3R0700	100	100	5.0	N	N	5	100	20	50	<5	<20	50
J3R0710	100	100	3.0	N	N	<5	70	20	30	N	<20	10
J3R0720	100	150	5.0	N	N	5	150	70	20	10	<20	50
J3R0730	50	50	2.0	N	N	N	30	70	N	<5	N	30
J3R0740	100	150	5.0	N	N	5	150	70	30	10	<20	50
J3R0750	50	70	1.5	N	N	<5	30	7	N	N	N	5
J3R0760	50	50	<1.0	N	N	N	10	<5	N	N	N	N
J3R0770	50	200	1.0	N	N	N	30	70	20	N	<20	5
J3R0780	150	150	5.0	N	N	7	150	50	50	7	<20	50
J3R0800	100	100	3.0	N	50	N	70	30	30	<5	<20	20
J3R0810	100	100	5.0	N	N	5	150	50	50	N	<20	30
J3R0820	200	150	5.0	N	N	20	200	200	20	20	<20	100
J3R0830	150	50	2.0	N	N	N	70	100	N	20	<20	150
J3R0840	50	100	<1.0	N	N	N	15	7	N	N	N	5
J3R0850	150	100	3.0	N	N	5	150	30	50	5	<20	30
J3R0860	30	70	1.5	N	N	N	20	10	N	5	N	15
J3R0870	200	100	2.0	N	N	20	150	200	50	15	<20	100
J3R0880	100	70	<1.0	N	N	N	10	20	N	15	N	7
J3R0890	50	150	1.0	N	N	N	20	100	N	50	<20	20
J3R0900	50	1,000	1.0	N	N	N	10	20	20	20	<20	N
J3R0910	50	1,000	2.0	N	N	N	10	10	50	7	20	N
J3R0920	20	1,000	2.0	N	N	N	10	7	30	5	20	N
J3R0930	30	1,000	3.0	N	N	<5	15	5	70	N	<20	N
J3R0940	50	700	5.0	N	N	N	20	5	70	7	<20	N
J3R0950	30	1,000	3.0	N	N	<5	10	<5	70	N	<20	N
J3R1070	30	1,000	3.0	N	N	<5	10	<5	70	N	<20	N
J3R1080	30	1,000	3.0	N	N	<5	10	<5	70	N	<20	5
J3R1090	30	1,000	3.0	N	N	<5	10	5	70	5	<20	N
J3R1100	30	1,000	3.0	N	N	<5	10	<5	100	7	20	N
J3R1103	30	1,000	3.0	N	N	<5	10	<5	100	7	20	5

TABLE 3--SPECTROGRAPHIC ANALYSES OF INSOLUBLE-RESIDUE SAMPLES FROM DRILL HOLE NO. 3, JOPLIN 1 x 2 QUADRANGLE, MISSOURI AND KANSAS.--Continued

Sample	Pb-ppm s	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.#
J3R0600	50	N	10	N	N	150	N	15	N	100	N	79
J3R0610	10	N	N	N	N	100	N	N	N	70	N	79
J3R0620	500	N	7	N	100	100	N	15	N	150	N	79
J3R0630	20	N	5	N	N	70	N	<10	N	150	N	79
J3R0640	30	N	15	N	100	200	N	15	N	300	N	79
J3R0650	20	N	N	N	150	50	N	N	N	50	N	79
J3R0660	50	N	20	N	N	500	N	15	N	200	N	79
J3R0680	30	N	10	N	N	200	N	15	N	150	N	79
J3R0690	50	N	15	N	N	300	N	20	N	200	N	79
J3R0700	15	N	10	N	N	200	N	10	N	150	N	79
J3R0710	10	N	5	N	N	100	N	10	N	150	N	79
J3R0720	70	N	10	N	N	200	N	15	N	200	N	79
J3R0730	20	N	N	N	N	20	N	N	N	30	N	79
J3R0740	50	N	10	N	N	150	N	10	N	300	N	79
J3R0750	N	N	N	N	N	30	N	N	N	50	N	79
J3R0760	N	N	N	N	N	N	N	N	N	20	N	79
J3R0770	N	N	<5	N	1,000	50	N	<10	N	50	N	79
J3R0780	50	N	15	N	N	200	N	15	N	200	N	79
J3R0800	15	N	5	N	N	100	N	<10	N	70	N	79
J3R0810	30	N	10	N	N	150	N	15	N	150	N	79
J3R0820	100	N	10	N	N	500	N	20	N	200	N	79
J3R0830	30	N	5	N	N	50	N	N	500	30	N	79
J3R0840	N	N	N	N	500	10	N	N	N	30	N	79
J3R0850	15	N	15	N	100	150	N	15	N	150	N	79
J3R0860	15	N	N	N	N	15	N	N	N	50	N	79
J3R0870	30	N	15	N	N	200	N	15	N	150	N	79
J3R0880	N	N	N	N	N	10	N	N	N	20	N	79
J3R0890	20	N	N	N	N	30	N	N	N	100	N	79
J3R0900	20	N	N	N	150	30	N	20	N	200	N	90
J3R0910	30	N	<5	N	100	30	N	30	N	300	N	90
J3R0920	30	N	5	N	100	20	N	30	N	300	N	90
J3R0930	70	N	7	N	150	50	N	50	N	300	N	90
J3R0940	50	N	7	N	150	50	N	50	N	200	N	90
J3R0950	50	N	7	N	150	50	N	50	N	300	N	90
J3R1070	100	N	7	N	150	30	<50	50	N	300	N	90
J3R1080	70	N	7	N	200	30	<50	50	N	300	N	90
J3R1090	300	N	7	N	200	30	<50	50	N	500	N	90
J3R1100	50	N	7	N	200	30	<50	50	N	500	N	90
J3R1103	50	N	7	N	200	50	<50	50	N	500	N	90