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GEOCHEMICAL DATA FOR GOLD-BEARING ROCKS FROM THE GOLDFIELD MINING DISTRICT, NEVADA

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INTRODUCTION

The Goldfield mining district, Nevada, is located within a 48-km^2 area underlain by hydrothermally altered Tertiary volcanic rocks, Mesozoic granitic rocks, and Paleozoic metasedimentary rocks (Ashley, 1974, 1975). The bonanza gold ores of the district were found mainly in silicified zones in a 1.3-km^2 area immediately northeast of the town of Goldfield, but silicified zones crop out throughout the altered area. Between July, 1966 and September, 1972, the U.S. Geological Survey sampled silicified zones in the entire altered area, excluding only the easternmost 8 km^2, which lies within Department of Defense lands not open to mineral entry. This activity was one component of a comprehensive study of the geology and geochemistry of the Goldfield district.

The main objective of the sampling program was to provide information on the geochemistry of silicified rocks throughout the altered area, as a guide to possible undiscovered ore bodies. Another objective was to look for lateral changes in the character of hydrothermal alteration within the altered area. The samples were analyzed by semiquantitative emission spectrography, by atomic absorption for gold and mercury, and by a colorimetric method for arsenic. Results for selected elements, including gold, silver, arsenic, bismuth, copper, molybdenum, mercury, and lead, were presented in a series of geochemical maps (Ashley and Keith, 1973a-h), and discussed in a report (Ashley and Keith, 1976). The results were also included in later summaries of geochemical investigations in the Goldfield mining district (Ashley and Keith, 1978a,b).

Of the 1337 silicified-rock samples analyzed, 161 showed 100 ppb or more gold. We have reanalyzed 140 of these gold-bearing samples (those with sufficient remaining material) using modern methods for multiple elements (acid leach and analysis by inductively coupled plasma-atomic emission spectrometry) and gold (acid digestion and graphite-furnace atomic absorption spectrometry). These methods provide much lower detection limits for many elements than did our earlier analyses, allowing us to re-evaluate the suite of elements accompanying gold at Goldfield. In addition, we have obtained low-cost whole-rock analyses by a modern technique (borate fusion and acid dissolution, with analysis by inductively coupled plasma-atomic emission spectrometry). These data will allow us to compare minor element and major element data, for additional insights into mineralogical associations of various elements.

The purpose of this report is to present analytical data for the 140 gold-bearing samples. Data obtained in the 1966-1972 period are also included, because the reports cited give only summary statistics.

METHODS OF INVESTIGATION

SAMPLING METHODS

At each sample locality we collected the most limonite-rich material available. Most samples consisted of composite chips from a 0.1- to 0.5-m^2 area on the outcrop surface, but a few were grab samples (one piece). Sample size was 1-2 kg. Selection of sample sites was briefly discussed by Ashley and Keith (1976).

Because an adequate large-scale base map was not available during the sampling program, we recorded the sample locations on aerial photographs, and transferred these locations by inspection to an orthophoto mosaic. The orthophoto mosaic was fit to the recently-published 1:24,000-scale P-series topographic maps (Goldfield, McMahon Ridge, and East of Goldfield quadrangles), and coordinates obtained with a digitizer, using the JKDIGIT program (Kork, 1986). The orthophoto appeared to fit these topographic maps reasonably well, but the locations have not been re-plotted directly on the new maps, so undetermined location errors are possible. The sample locations are shown on figure 1 and listed in the appendix.

ANALYTICAL METHODS

In the 1966-1972 period the samples were subjected to six-step semiquantitative emission spectrographic analysis (Grimes and Marranzino, 1968). Elements determined by this method (with lower detection limit in parentheses) include iron (0.05 percent), magnesium (0.02 percent), calcium (0.05 percent), titanium (0.002 percent), manganese (10-20 ppm), silver (0.5-1 ppm), arsenic (200-2000 ppm), gold (10 ppm), boron (10 ppm), barium (20 ppm), beryllium (1 ppm), bismuth (10 ppm), cadmium (20-50 ppm), cobalt (3-5 ppm), chromium (1-10 ppm), copper (5 ppm), lanthanum (20-30 ppm), molybdenum (2-5 ppm), niobium (10-20 ppm), nickel (2-5 ppm), lead (10 ppm), antimony (100-200 ppm), scandium (5 ppm), tin (10 ppm), strontium (100 ppm), vanadium (10 ppm), tungsten (50-100 ppm), yttrium (5-10 ppm), zinc (200 ppm), and zirconium (10 ppm). Detection limits for arsenic, gold, bismuth, cadmium, antimony, tin, and tungsten are too high to yield useful data for most samples in this data set. Consequently gold was also determined by an atomic absorption method, using a cold hydrobromic acid-bromine extraction from 10-gram analytical portions (Thompson and others, 1968), with a reported sensitivity of 0.02 ppm. Arsenic was also determined by the Gutzeit colorimetric method (Ward and others, 1963), with a sensitivity of 10 ppm. Mercury was determined by a vapor atomic absorption method (Vaughn and McCarthy, 1964), with a sensitivity of 0.01 ppm.

The recent analyses were performed in August, 1991, by a commercial laboratory, on powders prepared by U.S. Geological Survey. For minor element determination, a 0.5-gram portion was digested with $HCl-HNO_3$ solution at 95° C for one hour, diluted and introduced into a plasma (acid leach/ICP). Elements determined by this method (with lower detection limit in parentheses) include silver (0.1 ppm), arsenic (2 ppm), gold (2-3 ppm), boron (2 ppm), barium (2 ppm), bismuth (2 ppm), cadmium (1 ppm), cobalt (1 ppm), chromium (1 ppm), copper (1 ppm), lanthanum (2 ppm), manganese (1 ppm), molybdenum (1 ppm), nickel (1 ppm), lead (2 ppm), antimony (2 ppm), strontium (1 ppm), thorium (2 ppm), uranium (5 ppm), vanadium (2 ppm), tungsten (2 ppm), aluminum (0.01 percent), calcium (0.01 percent), iron (0.01 percent), potassium (0.01 percent), magnesium (0.01 percent), sodium (0.01 percent), phosphorus (0.01 percent), and titanium (0.01 percent). For whole rock determination, a 0.2-gram portion was fused with $LiBO_2$, dissolved in HNO_3 solution, and introduced into a plasma (borate fusion/ICP). Components determined by this method include SiO_2, Al_2O_3, iron as Fe_2O_3, CaO, MgO, Na_2O, K_2O, MnO, TiO_2, P_2O_5, Cr_2O_3, barium, cobalt (10 ppm), copper (10 ppm), nickel (10 ppm), zinc (10 ppm), strontium (10 ppm), cerium (20 ppm), niobium (20 ppm),

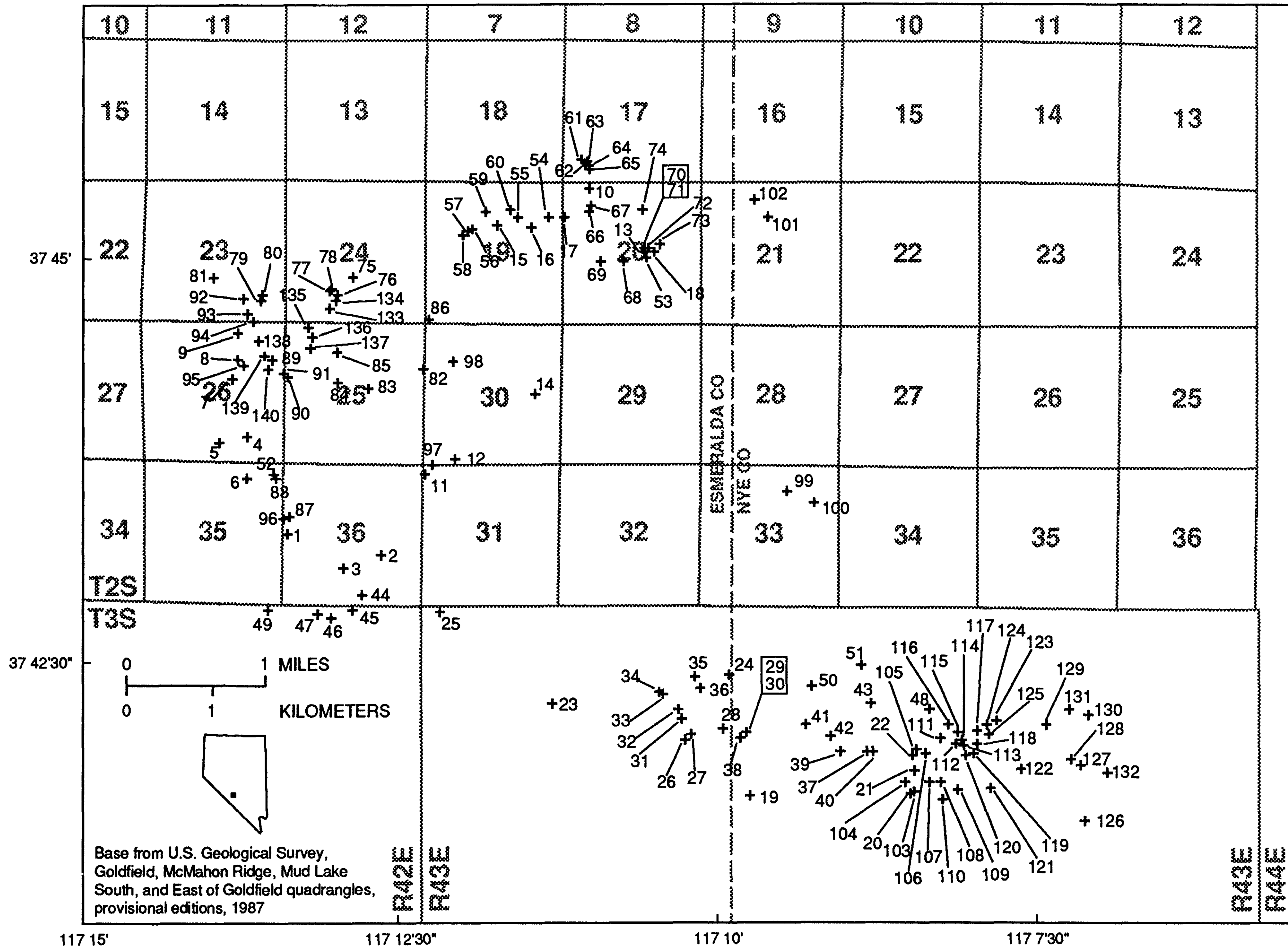

Fig. 1. Map of Goldfield mining district, Nevada, showing locations of analyzed gold-bearing samples.

tantalum (20 ppm), yttrium (20 ppm), and zirconium (20 ppm). In addition, loss on ignition (LOI) was determined. The ICP methods are similar to those described by Lichte and others (1987). For gold, a 10-gram sample was ignited at 600° C, digested with hot aqua regia, extracted with methyl iso-butyl ketone (MIBK), and analyzed by graphite furnace atomic absorption spectrometry (GFAAS). The detection limit was 1 ppb. This method is described by Hall and Bonham-Carter (1988).

CHARACTERISTICS OF THE SAMPLES

The silicified zones at Goldfield are replacement bodies that formed along faults, fractures, and permeable beds that conducted hydrothermal fluids. They form prominent outcrops, termed "ledges" by Ransome (1909). The remainder of the hydrothermally altered area consists of argillized rocks. Additional zones, which symmetrically envelop the silicified zones, can be defined on the basis of mineral assemblages.

The main constituent of most silicified rocks is fine-grained quartz. Alunite and kaolinite are common, preferentially replacing feldspar phenocrysts. Other less common hypogene replacement minerals include pyrophyllite, diaspore, and potassium mica. All silicified rocks contain minor amounts of anatase or rutile, and varying amounts of limonite (any combination of goethite, hematite, and sometimes jarosite. Limonite replaces former pyrite and coats fractures. It is a product of weathering-related oxidation, which generally extends to a depth of at least 10 meters throughout the altered area. Only a few samples contain minor relict pyrite. The fracture coatings represent oxidized pyrite-bearing veinlets, as well as iron that was leached, transported some distance, and reprecipitated during oxidation. About 25 percent of the samples contain gypsum, calcite, or smectite. These minerals were introduced after the main-stage alteration that produced quartz, alunite, kaolinite, pyrophyllite, diaspore, and pyrite, but they may partly or entirely precede oxidation.

Most of the silicified samples contain alunite, pyrophyllite, or diaspore, so they are advanced argillic rocks, as defined by Meyer and Hemley (1967; see also Rose and Burt, 1979). Some rocks from the silicified zones, however, do not show advanced argillic mineral assemblages. These include intensely leached rocks consisting of vuggy quartz with minor rutile and limonite (usually closely associated with less-intensely leached advanced argillic rocks), argillic rocks consisting of quartz and kaolinite with limonite and minor anatase, and potassic rocks consisting of quartz, adularia, limonite, and minor anatase, with or without potassium mica. Locally the silicified zones are brecciated and cemented with relatively coarse-grained alunite and jarosite. This jarosite may be hypogene (Keith and others, 1979). The data set includes several samples of this material.

RESULTS AND DISCUSSION

Table 1 shows all geochemical data available for the 140-sample set of Goldfield silicified rocks, grouped by component.

The emission spectrographic and borate fusion/ICP results should reflect total amounts of the elements determined, although analytical precision is much better for the ICP method than for the spectrographic method. For the components determined by both these methods, results are generally similar, although for many elements, relatively high spectrographic detection limits prohibit a rigorous comparison. Exceptions occur (chromium, niobium) where amounts present in many samples are near detection limits for one or both methods.

The acid leach/ICP method yields partial analyses, because it does not dissolve refractory minerals such as zircon, and only partly dissolves silicates. It is biased toward constituents of sulfides and limonite, which are mostly dissolved (Chao, 1984). In most samples similar values were obtained for iron by acid leach/ICP, borate fusion/ICP, and emission spectrography, indicating that iron is located mainly in goethite and hematite, which are effectively dissolved by the acid leach. In the minority of cases where acid leach/ICP showed notably less iron, jarosite is relatively abundant; apparently this sulfate is only partly dissolved. Other elements likely associated with iron in limonite and effectively leached include manganese, boron, silver, arsenic, bismuth, copper, nickel, molybdenum, antimony, and zinc, based on comparisons between acid leach/ICP results and borate fusion/ICP or emission spectrographic results, or both.

Amounts of the major elements aluminum, sodium, and potassium determined by borate fusion/ICP are much larger than amounts determined by acid leach/ICP, indicating that the minerals containing these elements are not dissolved by the acid leach. Much of the aluminum resides in kaolinite, pyrophyllite, or diaspore, all of which are relatively refractory. In many samples significant aluminum is also present in alunite, which accounts for most of the potassium and sodium, indicating that alunite is not appreciably dissolved by the acid leach. Titanium, present in anatase or rutile, is untouched by the acid leach.

Amounts of phosphorus, barium, and strontium determined by borate fusion/ICP are much larger than amounts determined by acid leach/ICP, indicating that their host minerals are relatively insoluble in the acid leach. Phosphorus may reside in minor aluminum phosphate-sulfate minerals that replace apatite or as a minor component in alunite (Stoffregen and Alpers, 1987). Barite accounts for much of the barium, and barium may also be a minor component of alunite. Celestite is a possible site for strontium, as well as aluminum phosphate-sulfate minerals and alunite. Similarly, emission spectrographic values for lead are large relative to acid leach/ICP values. Although some lead may reside in limonite, much of it substitutes for potassium in alunite, and some probably also substitutes for potassium in jarosite.

Lanthanum and chromium are apparently in minor unidentified refractory phases not dissolved by the acid leach.

Vanadium and cobalt values determined by emission spectrography and borate fusion/ICP, respectively, are somewhat higher than acid leach/ICP values, suggesting that some but not all vanadium and cobalt reside in limonite. Samples with high borate fusion/ICP values for cobalt often have low acid leach/ICP values; many but not all such samples are jarosite-bearing.

Rocks with relatively large amounts of calcium contain calcite or gypsum, both of which are apparently dissolved by the acid leach. Where calcium levels are low, calcium-bearing minerals have not been identified, but calcium is still effectively dissolved by acid, suggesting that refractory sulfates are not important sites for calcium. The hydrated calcium silicate tobermorite has been reported from one silicified-rock locality at Goldfield (Harvey and Vitaliano, 1964).

Hydrothermal alteration reduced magnesium to relatively low levels in all the silicified rocks. Magnesium also appears to be mostly dissolved by the acid leach. Some is probably located in calcite, where calcite is present. Magnesium sulfate, if present, would be readily soluble.

Cyanide leach/GFAAS values for gold average about 35 percent higher than values obtained by HBr-Br_2/AAS, but there is much sample-to-sample variation in the size of the disparity between the two determinations. Ashley and Albers (1975), reporting on gold analyses for replicate samples, show that the nugget effect can be important in Goldfield silicified rocks, so the differences here may be due in part to sample inhomogeneity. Acid dissolution/ICP values show reasonably good agreement with those obtained by the AAS methods, but the data are not very useful owing to the high (generally 3 ppm) detection threshold. The emission spectrographic data for gold, with relatively low precision and a 10 ppm detection threshold, are of little use.

Colorimetric values for arsenic are similar to acid leach/ICP values in many cases, but in some cases are markedly lower, especially for samples relatively rich in arsenic.

Table 1. Geochemical data for Goldfield silicified rocks. ppm=parts per million; ppb=parts per billion. Methods include: ICPf, borate fusion and inductively coupled plasma–atomic emission spectrometry; ICPa, acid dissolution and inductively coupled plasma–atomic emission spectrometry; ES, emission spectrography; GFAAS, cyanide leach and graphite furnace atomic absorption spectrometry; HBr/AA, hydrobromic acid-bromine leach and atomic absorption spectrometry, C, Gutzeit colorimetry; I/AA, instrumental atomic absorption spectrometry. N=not detected at the detection threshold shown in parentheses; L=less than the detection threshold shown in parentheses; G=greater than the upper detection limit shown in parentheses; n.d.=not determined.

Table 1, continued. Geochemical data for Goldfield silicified rocks.

SAMPLE	SiO2	Al2O3	Al	Fe2O3	Fe	Fe	MgO	Mg	Mg	CaO	Ca	Ca	Na2O	Na	K2O	K	TiO2	Ti	Ti	P2O5	P
	%	%	%	%	%	%	%	%	%	%	%	%	%	%	%	%	%	%	%	%	%
	ICPf	ICPf	ICPa	ICPf	ICPa	ES	ICPf	ICPa	ES	ICPf	ICPa	ES	ICPf	ICPa	ICPf	ICPa	ICPf	ICPa	ES	ICPf	ICPa
BGM271	61.44	12.80	0.51	8.17	6.68	5	0.10	0.03	0.05	0.45	0.23	0.1	0.47	0.02	1.52	0.05	0.63	0.01	0.3	0.35	0.020
BGM278	49.92	16.44	0.51	9.71	7.33	10	0.07	0.02	0.03	0.80	0.42	0.3	1.35	0.04	1.67	0.06	0.55	0.01	0.2	0.53	0.024
BGM280	89.98	2.42	0.16	3.93	3.54	2	0.05	0.01	0.02	0.12	0.06	0.07	0.08	0.05	0.05	0.03	0.58	0.01	0.5	0.21	0.033
BGM315	71.68	9.55	0.40	11.66	9.33	15	0.09	0.02	0.07	0.34	0.20	0.3	0.05	0.01	0.05	0.03	0.28	0.01	0.2	0.19	0.024
BGM317	82.47	11.50	0.46	0.81	0.71	0.7	0.02	0.01	L(0.02)	0.05	0.02	0.07	0.05	0.01	0.05	0.01	0.24	0.01	0.2	0.11	0.010
BGM318	85.33	6.91	0.26	3.19	2.79	3	0.05	0.01	0.02	0.47	0.33	0.5	0.05	0.01	0.05	0.02	0.11	0.01	0.1	0.21	0.012
BGM321	87.67	0.70	0.13	7.83	6.18	5	0.15	0.05	0.07	1.30	0.91	1	0.05	0.01	0.05	0.02	0.17	0.01	0.2	0.05	0.021
BGM322	97.86	0.66	0.05	0.17	0.19	0.1	0.02	0.01	0.02	0.17	0.14	0.1	0.05	0.01	0.05	0.01	0.10	0.01	0.1	0.04	0.019
BGM323	83.65	9.55	0.45	0.52	0.47	0.3	0.10	0.05	0.05	1.26	0.93	1	0.05	0.01	0.05	0.01	0.11	0.01	0.1	0.04	0.010
BGM333	94.22	2.16	0.10	1.41	1.53	1	0.02	0.01	0.02	0.05	0.04	0.05	0.05	0.01	0.05	0.02	0.44	0.01	0.3	0.04	0.003
ADQ955	74.16	10.59	0.63	1.04	0.91	0.7	0.06	0.03	0.05	0.32	0.21	0.2	0.71	0.06	1.30	0.09	0.06	0.01	0.02	0.08	0.010
ADR019	70.41	9.42	0.57	4.96	4.12	5	0.02	0.01	0.01	0.28	0.04	0.02	0.47	0.06	2.41	0.15	0.12	0.01	0.07	0.03	0.003
ADR063	95.95	0.69	0.11	1.63	1.54	1	0.03	0.01	0.07	0.06	0.04	0.05	0.05	0.01	0.05	0.01	0.45	0.01	0.5	0.02	0.010
ADR112	38.64	20.65	0.84	24.94	20.40	G(10)	0.01	0.01	0.01	0.43	0.17	0.2	0.05	0.01	0.10	0.03	0.90	0.01	0.3	0.58	0.015
ADR138	83.33	1.00	0.17	13.05	11.35	7	0.03	0.01	0.01	0.08	0.05	0.07	0.05	0.01	0.05	0.01	0.67	0.01	0.2	0.02	0.004
ADR152	88.52	0.81	0.22	6.20	5.42	3	0.09	0.03	0.07	0.50	0.34	0.3	0.05	0.01	0.07	0.03	0.86	0.01	0.5	0.09	0.028
ADR161	94.47	0.60	0.07	1.94	1.89	1.5	0.06	0.02	0.07	0.27	0.22	0.2	0.05	0.01	0.05	0.01	0.93	0.01	0.7	0.10	0.019
ADR181	77.49	8.57	0.49	5.89	5.34	3	0.02	0.01	0.015	0.36	0.05	0.2	0.05	0.03	0.26	0.04	0.28	0.01	0.1	0.64	0.011
ADW618	95.46	0.89	0.15	1.32	1.31	0.5	0.04	0.02	0.05	0.16	0.08	0.15	0.05	0.02	0.05	0.02	0.90	0.01	1	0.06	0.006
ADW622	77.60	1.99	0.30	14.25	11.66	7	0.06	0.01	0.05	0.70	0.46	0.7	0.05	0.02	0.21	0.09	0.76	0.01	0.5	0.34	0.019
ADW634	64.79	9.56	0.62	8.51	7.34	5	0.05	0.01	0.03	0.53	0.31	0.2	0.37	0.03	1.71	0.18	0.64	0.01	0.2	0.41	0.024
ADW644	85.57	0.82	0.17	10.38	8.83	7	0.02	0.01	0.05	0.14	0.10	0.15	0.05	0.01	0.05	0.03	0.78	0.01	0.5	0.11	0.038
ADW727	67.73	1.38	0.44	23.61	18.46	G(10)	0.11	0.01	0.07	0.73	0.42	0.7	0.05	0.01	0.05	0.04	1.02	0.01	0.5	0.08	0.022
ADW753	34.29	22.43	0.33	18.73	15.30	10	0.04	0.01	0.03	0.34	0.09	0.1	0.25	0.01	2.50	0.06	3.64	0.01	1	0.87	0.016
ADW791	50.77	3.60	0.32	37.89	26.80	G(10)	0.04	0.01	0.05	0.35	0.18	0.15	0.24	0.03	0.16	0.04	0.67	0.01	0.2	0.22	0.036
ADY410	49.72	13.12	0.48	16.72	13.37	15	0.03	0.01	L(0.02)	0.31	0.16	0.2	0.26	0.06	2.99	0.10	0.43	0.01	0.15	0.28	0.016
ADY420	46.95	11.95	0.35	32.27	24.21	20	0.13	0.01	0.1	0.27	0.11	0.07	0.10	0.01	1.72	0.09	0.80	0.01	0.3	0.39	0.009
ADY426	1.52	35.85	0.86	9.27	6.45	5	0.02	0.01	L(0.02)	0.15	0.07	0.07	1.01	0.27	10.99	0.97	0.20	0.01	0.1	0.25	0.016
ADY442	12.37	24.33	0.85	18.24	11.26	10	0.07	0.01	0.03	2.11	1.11	0.7	0.89	0.09	7.35	1.17	0.86	0.01	0.2	0.45	0.050
ADY443	17.13	1.58	0.13	42.12	22.46	15	0.01	0.01	N(0.02)	0.19	0.06	0.05	3.45	1.39	3.81	2.02	0.17	0.01	0.07	0.11	0.021
ADY448	10.64	36.21	1.56	2.59	2.19	2	0.10	0.04	0.07	0.41	0.20	0.1	1.52	0.11	9.13	0.53	0.03	0.01	0.02	0.33	0.024
ADY460	69.29	7.56	0.27	5.47	4.75	5	0.01	0.01	L(0.02)	0.06	0.02	L(0.05)	0.19	0.08	2.94	0.73	0.41	0.01	0.2	0.17	0.018
ADY473	45.69	20.72	0.97	1.71	1.51	1.5	0.03	0.02	L(0.02)	0.16	0.06	0.07	1.84	0.15	3.27	0.17	0.42	0.01	0.15	0.20	0.007
ADY482	72.00	9.11	0.42	2.50	2.14	2	0.01	0.01	0.02	0.13	0.03	0.07	1.07	0.17	1.36	0.21	0.30	0.01	0.15	0.11	0.007
ADY526	47.60	15.49	0.67	6.18	4.54	5	0.06	0.03	0.05	0.25	0.13	0.1	1.21	0.07	4.37	0.38	0.41	0.01	0.1	0.27	0.033
ADY533	7.13	24.12	0.47	4.23	3.34	5	0.01	0.01	N(0.02)	0.09	0.05	0.1	1.27	0.15	8.85	0.68	0.01	0.01	0.005	0.21	0.014
ADY692	74.80	1.16	0.13	15.25	12.68	15	0.35	0.17	0.15	0.99	0.57	1	0.10	0.03	0.34	0.15	1.05	0.01	0.7	0.31	0.036
ADY700	76.09	4.49	0.16	5.60	4.21	5	0.01	0.01	0.02	0.04	0.01	L(0.05)	0.23	0.07	2.06	0.77	0.88	0.01	0.7	0.17	0.023
ADY703	26.95	13.55	0.29	16.89	13.52	15	0.03	0.02	L(0.02)	0.46	0.18	0.3	0.59	0.15	7.69	2.45	0.91	0.01	0.3	0.73	0.054
ADY704	82.36	1.80	0.40	8.25	6.18	7	0.11	0.06	0.15	1.48	1.01	2	0.05	0.01	0.38	0.18	0.91	0.01	0.7	0.51	0.164
ADY713	72.99	3.06	0.23	16.18	12.89	15	0.03	0.02	0.05	0.17	0.09	0.2	0.24	0.02	0.81	0.15	0.81	0.01	0.5	0.18	0.025
ADY717	67.68	10.29	0.37	3.29	2.42	3	0.02	0.01	0.03	0.09	0.04	0.07	0.35	0.02	2.79	0.25	0.76	0.01	0.5	0.21	0.015
ADY738	56.59	6.20	0.36	24.59	19.02	20	0.08	0.05	0.07	0.64	0.32	0.7	0.21	0.01	1.34	0.10	0.41	0.01	0.15	0.42	0.058
AEA011	33.88	12.44	1.73	37.73	36.83	20	0.69	0.15	0.2	0.62	0.28	0.1	0.22	0.08	1.69	0.18	0.42	0.01	0.07	0.85	0.168
AEA014	44.44	10.26	0.44	26.87	20.54	10	0.02	0.02	L(0.02)	0.38	0.07	0.1	0.52	0.02	1.74	0.08	0.44	0.01	0.1	0.50	0.093
AEA018	72.56	4.91	0.46	9.95	7.86	5	0.05	0.02	0.03	0.28	0.17	0.1	0.20	0.06	1.44	0.38	0.95	0.01	0.7	0.46	0.120
AEA019	78.66	1.64	0.19	15.24	13.40	7	0.07	0.03	0.03	0.40	0.26	0.1	0.05	0.01	0.32	0.03	0.66	0.01	0.3	0.11	0.028
AEA334	51.61	12.61	0.44	9.86	8.35	7	0.07	0.03	0.05	0.86	0.35	0.3	1.13	0.04	2.20	0.15	0.81	0.01	0.3	0.90	0.118
AEA361	71.52	11.50	0.36	0.94	0.69	2	0.01	0.01	0.02	0.13	0.06	0.1	0.41	0.02	1.51	0.06	0.74	0.01	0.7	0.30	0.010
AEA395	49.19	7.25	0.40	22.97	19.60	15	0.07	0.04	0.05	0.41	0.21	0.15	0.25	0.04	2.11	0.56	1.69	0.01	0.5	0.60	0.105
AEA397	61.13	10.17	0.30	7.19	5.82	7	0.12	0.07	0.1	0.60	0.33	0.5	1.16	0.10	1.65	0.21	0.63	0.01	0.7	0.59	0.064
AEA402	74.10	10.12	0.22	1.08	0.75	0.7	0.04	0.01	0.02	0.13	0.04	0.07	0.62	0.01	1.93	0.04	0.31	0.01	0.3	0.29	0.039
AEB537	79.31	10.44	0.24	1.25	0.89	1.5	0.03	0.01	0.02	0.95	0.50	0.7	0.14	0.10	0.18	0.01	0.31	0.01	0.2	0.67	0.003
AGS310	89.81	0.71	0.05	6.07	4.51	2	0.06	0.02	0.02	0.17	0.12	0.07	0.07	0.03	0.19	0.04	0.95	0.01	0.15	0.07	0.008
AGS314	80.54	10.51	0.34	1.36	0.98	0.5	0.19	0.04	0.05	0.33	0.23	0.07	0.57	0.04	0.82	0.06	0.63	0.01	0.2	0.29	0.034
AGS326	95.16	0.56	0.05	1.09	0.83	0.2	0.03	0.01	L(0.02)	0.10	0.05	L(0.05)	0.05	0.01	0.17	0.01	1.73	0.01	0.3	0.03	0.003
AGS327	94.63	0.56	0.03	1.99	1.35	0.7	0.02	0.01	L(0.02)	0.09	0.06	L(0.05)	0.05	0.01	0.05	0.01	1.16	0.01	0.3	0.07	0.017
AGS328	94.48	0.59	0.02	2.91	2.19	0.7	0.01	0.01	L(0.02)	0.10	0.05	L(0.05)	0.05	0.01	0.05	0.01	0.86	0.01	0.2	0.03	0.004
AGS330	88.38	0.65	0.11	7.64	6.16	5	0.02	0.01	L(0.02)	0.16	0.11	0.05	0.05	0.02	0.06	0.05	0.71	0.01	0.3	0.16	0.045
AGS334	64.10	15.29	0.48	3.38	2.27	2	0.37	0.19	0.1	4.05	2.90	1.5	0.19	0.05	0.35	0.08	1.03	0.01	0.3	0.47	0.044
AGS342	88.11	1.19	0.22	5.12	4.04	3	0.06	0.03	0.02	0.51	0.36	0.1	0.05	0.01	0.05	0.01	2.19	0.01	0.5	0.33	0.107
AGS343	97.44	0.41	0.03	0.65	0.50	0.1	0.01	0.01	0.02	0.02	0.01	L(0.05)	0.05	0.01	0.05	0.01	0.58	0.01	0.2	0.02	0.004
AGS344	63.54	12.70	1.13	3.67	2.99	5	0.08	0.04	0.03	0.53	0.29	0.2	0.28	0.02	2.45	0.18	0.51	0.01	0.2	0.60	0.018
AGS345	93.18	0.65	0.07	4.05	3.30	2	0.02	0.01	0.02	0.16	0.09	0.05	0.05	0.01	0.06	0.01	0.38	0.01	0.2	0.08	0.022
AGS346	23.18	6.04	0.86	2.35	1.59	2	0.60	0.21	0.5	16.67	16.78	7	0.13	0.02	1.42	0.26	0.26	0.01	0.1	0.17	0.038
AGS348	96.19	0.77	0.06	0.71	0.50	0.1	0.02	0.01	0.02	0.24	0.11	0.05	0.05	0.02	0.07	0.01	0.93	0.01	0.3	0.06	0.015
AGS349	79.26	9.60	0.49	3.42	2.66	2	0.07	0.03	0.02	0.52	0.27	0.1	0.05	0.01	0.06	0.01	0.50	0.01	0.15	0.61	0.010
AGS351	73.20	12.47	0.50	2.90	1.83	2	0.65	0.07	0.1	0.32	0.17	0.05	0.30	0.15	3.81	0.51	0.50	0.01	0.1	0.29	0.019
AGS352	68.94	10.34	0.36	0.96	0.76	0.5	0.04	0.01	0.02	0.42	0.24	0.05	0.63	0.08	2.51	0.14	0.37	0.01	0.1	0.27	0.086

Table 1, continued. Geochemical data for Goldfield silicified rocks.

SAMPLE	SiO2	Al2O3	Al	Fe2O3	Fe	Fe	MgO	Mg	Mg	CaO	Ca	Ca	Na2O	Na	K2O	K	TiO2	Ti	Ti	P2O5	P
	%	%	%	%	%	%	%	%	%	%	%	%	%	%	%	%	%	%	%	%	%
	ICPf	ICPf	ICPp	ICPf	ICPp	ES	ICPf	ICPp	ES	ICPf	ICPp	ES	ICPf	ICPp	ICPf	ICPp	ICPf	ICPp	ES	ICPf	ICPp
AGS354	66.58	17.73	0.41	4.93	4.16	3	0.24	0.02	0.05	0.37	0.23	0.05	0.14	0.07	1.49	0.04	0.54	0.01	0.1	0.29	0.006
AGS355	93.94	0.76	0.09	3.18	2.89	1	0.04	0.02	L(0.02)	0.43	0.11	L(0.05)	0.40	0.10	0.05	0.01	0.38	0.01	0.1	0.04	0.012
AGS356	94.07	1.07	0.18	1.98	1.74	0.5	0.05	0.03	L(0.02)	0.16	0.11	L(0.05)	0.05	0.02	0.05	0.04	0.59	0.01	0.1	0.11	0.050
AGS358	74.29	1.07	0.26	20.85	16.57	10	0.04	0.02	L(0.02)	0.12	0.06	L(0.05)	0.05	0.02	0.05	0.01	0.67	0.01	0.1	0.15	0.048
AGS362	95.76	0.55	0.03	1.15	1.01	0.5	0.03	0.01	0.02	0.14	0.10	0.05	0.05	0.01	0.05	0.01	0.76	0.01	0.2	0.02	0.009
AGS385	79.16	8.30	0.19	2.16	1.85	2	0.13	0.03	0.1	0.24	0.16	0.1	0.12	0.03	6.34	0.37	0.27	0.01	0.15	0.07	0.030
AGS386	89.03	3.42	0.16	1.61	1.22	1	0.01	0.01	L(0.02)	0.06	0.02	0.05	0.06	0.03	0.88	0.08	0.13	0.01	0.05	0.12	0.026
AGS387	88.06	3.83	0.16	0.86	0.64	0.5	0.12	0.05	0.05	2.04	1.53	1	0.05	0.02	2.48	0.18	0.14	0.01	0.05	0.03	0.008
AGS388	80.03	7.39	0.17	2.14	1.70	1	0.17	0.09	0.05	0.48	0.37	1	0.18	0.01	6.46	0.40	0.18	0.01	0.05	0.15	0.073
AGS407	94.91	0.88	0.11	1.52	1.27	0.5	0.12	0.08	0.02	0.49	0.38	1	0.05	0.01	0.05	0.02	0.08	0.01	0.01	0.25	0.074
AGS408	68.68	11.81	0.49	0.88	0.75	0.3	0.02	0.01	L(0.02)	0.08	0.06	0.05	0.70	0.04	2.17	0.12	0.13	0.01	0.03	0.18	0.079
AGS413	94.10	1.17	0.13	0.92	0.73	0.2	0.07	0.04	0.02	0.78	0.63	0.15	0.05	0.01	0.10	0.02	0.69	0.01	0.2	0.10	0.029
AGS422	91.56	1.43	0.42	0.86	0.70	1	0.08	0.04	0.07	0.94	0.76	0.7	0.05	0.01	0.11	0.06	1.50	0.01	0.7	0.83	0.410
AGS424	88.72	1.41	0.21	4.85	3.89	5	0.10	0.06	0.05	0.77	0.57	0.3	0.05	0.01	0.06	0.04	1.71	0.01	0.7	0.10	0.036
AGS425	89.19	1.08	0.05	4.71	4.11	5	0.03	0.01	0.02	0.18	0.14	0.1	0.05	0.03	0.11	0.10	2.03	0.01	1	0.03	0.008
AGS427	76.84	8.41	0.44	6.61	5.48	7	0.18	0.11	0.1	0.37	0.24	0.15	0.07	0.04	0.07	0.03	0.86	0.01	0.3	0.39	0.007
AGS431	87.97	5.55	0.25	1.68	1.40	2	0.08	0.03	0.05	0.48	0.37	0.2	0.05	0.01	1.58	0.13	0.17	0.01	0.07	0.08	0.031
AGS432	93.66	1.01	0.08	3.02	2.55	2	0.01	0.01	0.02	0.08	0.07	0.05	0.05	0.04	0.05	0.02	0.46	0.01	0.15	0.02	0.001
AGS442	69.63	12.34	0.47	1.29	1.11	1.5	0.04	0.04	0.07	0.52	0.39	0.5	0.26	0.02	2.15	0.14	0.12	0.01	0.07	0.11	0.015
AGS452	96.89	0.56	0.05	0.72	0.67	0.3	0.01	0.01	0.05	0.08	0.08	0.1	0.05	0.01	0.05	0.02	0.17	0.01	0.1	0.07	0.030
AGS453	84.18	5.50	0.34	2.20	1.92	1.5	0.01	0.01	0.02	0.06	0.04	0.05	0.16	0.01	1.05	0.07	0.30	0.01	0.2	0.30	0.114
AGS454	96.72	0.55	0.07	1.40	1.25	1.5	0.01	0.01	0.05	0.11	0.09	0.15	0.05	0.01	0.05	0.01	0.21	0.01	0.15	0.03	0.013
AGS470	88.81	3.62	0.18	0.73	0.61	0.7	0.07	0.05	0.1	0.33	0.28	0.3	0.09	0.01	1.05	0.07	0.10	0.01	0.7	0.07	0.026
AGS471	96.62	0.63	0.06	0.84	0.73	1	0.03	0.02	0.07	0.46	0.39	0.5	0.05	0.01	0.05	0.01	0.10	0.01	0.7	0.16	0.055
AGS472	77.36	8.62	0.42	8.62	7.15	7	0.16	0.09	0.15	0.57	0.42	0.3	0.05	0.03	0.07	0.01	0.12	0.02	0.7	0.06	0.007
AGS474	96.20	1.09	0.17	0.69	0.62	0.5	0.07	0.04	0.1	0.29	0.24	0.2	0.05	0.01	0.12	0.05	0.11	0.01	0.07	0.04	0.011
AGS483	84.45	3.98	0.14	6.07	5.06	7	0.04	0.03	0.1	0.06	0.03	0.05	0.09	0.07	0.14	0.06	0.71	0.01	0.7	0.12	0.003
AGS532	97.52	0.62	0.05	1.16	1.12	1.5	0.02	0.01	0.07	0.10	0.09	0.2	0.05	0.01	0.05	0.03	0.02	0.01	0.03	0.01	0.005
AGS552	96.43	0.58	0.04	0.65	0.55	0.3	0.06	0.04	0.07	0.56	0.45	0.5	0.05	0.01	0.05	0.01	0.66	0.01	0.7	0.02	0.008
AGS589	51.80	15.55	0.72	20.64	17.09	10	0.03	0.03	0.05	0.19	0.08	0.2	0.05	0.02	0.07	0.05	0.70	0.01	0.2	0.30	0.025
AGS590	62.60	14.04	0.65	8.31	6.67	7	0.68	0.16	0.7	0.35	0.20	0.3	0.42	0.26	2.73	0.52	0.80	0.01	0.2	0.32	0.017
AGS605	94.41	0.88	0.07	1.30	1.02	0.5	0.03	0.01	0.05	0.08	0.06	0.1	0.05	0.01	0.09	0.02	0.59	0.01	0.2	0.04	0.004
AGS606	88.02	0.76	0.13	4.17	3.39	2	0.08	0.04	0.07	0.72	0.53	0.5	0.26	0.21	0.14	0.08	1.28	0.01	0.3	0.26	0.082
AGS627	88.02	2.41	0.10	7.87	6.34	5	0.07	0.02	0.07	0.18	0.13	0.2	0.05	0.02	0.06	0.03	0.15	0.01	0.07	0.08	0.021
AGS629	75.13	0.77	0.15	21.53	19.52	G(20)	0.02	0.02	0.02	0.08	0.02	0.05	0.05	0.01	0.06	0.01	0.10	0.01	0.07	0.04	0.017
AGS634	52.28	14.43	0.66	9.32	7.28	7	0.02	0.01	0.05	0.63	0.31	0.3	1.64	0.07	2.19	0.14	0.83	0.01	0.5	0.29	0.041
AGS635	27.13	15.69	0.43	32.75	21.23	15	0.02	0.02	0.02	0.31	0.14	0.2	1.00	0.02	3.25	0.07	0.78	0.01	0.15	0.23	0.038
AGS636	47.93	6.91	0.27	30.25	19.38	G(20)	0.05	0.03	0.02	0.56	0.19	0.3	0.71	0.04	0.91	0.06	1.25	0.02	0.5	0.81	0.070
AGS637	43.60	16.69	0.35	11.87	9.73	10	0.07	0.03	0.07	0.83	0.27	0.3	1.36	0.04	3.13	0.10	1.14	0.01	0.3	0.45	0.039
AGS639	56.26	12.76	0.63	9.48	8.45	15	0.11	0.05	0.15	0.63	0.24	0.3	0.95	0.04	1.80	0.06	0.88	0.01	0.5	0.67	0.021
AGS641	57.77	20.85	0.43	8.67	7.32	10	0.02	0.01	0.02	0.20	0.07	0.15	0.06	0.01	0.07	0.01	1.19	0.01	0.5	0.60	0.011
AGS642	57.44	13.46	0.57	3.47	2.36	3	0.68	0.37	0.7	3.51	2.43	1.5	1.07	0.05	2.23	0.16	0.77	0.01	0.3	0.47	0.048
AGS643	65.97	6.00	0.18	19.26	17.11	15	0.18	0.08	0.15	1.26	0.51	0.5	0.11	0.02	0.16	0.01	1.32	0.01	0.3	0.72	0.060
AGS644	65.30	10.96	0.61	6.59	5.03	10	0.04	0.02	0.07	0.26	0.15	0.3	0.75	0.05	1.72	0.16	0.66	0.01	0.5	0.21	0.027
AGS645	66.72	12.13	0.37	2.13	1.80	2	0.05	0.02	0.07	0.47	0.23	0.3	0.91	0.04	1.81	0.10	0.64	0.01	0.3	0.39	0.051
AGS646	72.24	5.53	0.38	11.48	9.85	15	0.30	0.16	0.15	1.17	0.68	0.3	0.07	0.01	0.82	0.08	0.69	0.01	0.5	0.77	0.088
AGS647	74.90	4.98	0.28	9.49	8.30	10	0.14	0.07	0.15	1.28	0.79	0.7	0.14	0.02	0.79	0.06	1.26	0.01	1	0.63	0.044
AGS649	38.40	16.12	0.59	20.50	18.18	G(20)	0.04	0.03	0.05	0.59	0.14	0.2	0.71	0.02	2.93	0.23	0.62	0.01	0.3	1.13	0.048
AGS651	78.54	3.46	0.20	11.21	10.00	15	0.02	0.02	0.07	0.22	0.13	0.3	0.33	0.03	0.47	0.04	0.76	0.01	0.2	0.08	0.016
AGS652	46.25	15.13	0.54	13.66	11.57	15	0.04	0.02	0.07	0.61	0.27	0.3	1.31	0.05	2.33	0.16	0.76	0.01	0.3	0.76	0.021
AGS653	49.92	12.82	0.43	15.20	13.36	20	0.06	0.02	0.07	0.46	0.25	0.3	1.00	0.06	2.64	0.31	0.46	0.01	0.2	0.32	0.053
AGS656	52.72	17.64	0.50	12.22	10.39	10	0.04	0.02	0.07	0.73	0.35	0.3	0.79	0.05	1.06	0.08	1.18	0.01	1	0.53	0.015
AGS659	70.46	6.47	0.52	8.88	7.05	7	0.03	0.01	0.05	1.09	0.69	1	0.57	0.05	0.72	0.10	0.89	0.01	0.7	0.49	0.012
AGS664	60.90	12.13	0.49	5.26	4.17	5	0.08	0.04	0.1	0.94	0.60	0.3	1.02	0.07	2.01	0.29	0.62	0.01	0.7	0.40	0.041
AGS665	62.87	12.23	0.84	4.11	3.27	3	0.04	0.03	0.07	0.95	0.42	0.3	1.21	0.09	0.99	0.06	0.89	0.01	0.7	0.37	0.026
AGS666	84.20	1.79	0.13	10.72	9.52	10	0.03	0.01	0.05	0.10	0.05	0.1	0.10	0.02	0.15	0.01	0.84	0.01	0.5	0.07	0.020
AGS678	51.45	17.23	0.86	1.83	1.42	2	0.04	0.02	0.1	1.24	0.38	0.5	1.84	0.11	2.24	0.17	1.33	0.01	1	0.81	0.037
AGS684	59.37	11.63	0.61	8.49	6.91	2	0.09	0.05	0.05	0.60	0.39	0.3	0.54	0.03	2.57	0.17	0.55	0.01	0.1	0.33	0.068
AGS685	58.97	14.24	0.58	2.80	2.29	2	0.03	0.01	0.05	0.15	0.05	0.15	0.85	0.04	3.32	0.29	0.67	0.01	0.2	0.18	0.018
AGS687	84.49	2.85	0.27	6.10	5.06	2	0.02	0.01	0.05	0.16	0.09	0.15	0.22	0.06	0.49	0.08	1.07	0.01	0.2	0.10	0.007
AGS692	61.14	12.97	0.41	15.77	13.61	10	0.19	0.09	0.15	1.20	0.68	0.3	0.05	0.03	0.05	0.07	0.61	0.01	0.15	0.28	0.019
AGS693	75.78	6.87	0.42	10.45	8.57	10	0.11	0.06	0.15	0.44	0.22	0.3	0.05	0.01	0.05	0.01	0.67	0.01	0.2	0.47	0.009
AGS701	57.73	13.37	0.72	6.24	4.99	5	0.01	0.01	0.02	0.48	0.09	0.3	1.01	0.05	1.80	0.14	0.79	0.01	0.2	0.44	0.037
AGS774	78.26	8.91	0.58	5.98	4.88	7	0.04	0.02	0.07	0.18	0.10	0.2	0.12	0.08	0.11	0.05	0.33	0.01	0.3	0.12	0.005
AGS776	86.55	3.87	0.17	1.80	1.63	1	0.01	0.01	0.05	0.06	0.02	0.07	0.14	0.05	0.82	0.05	0.53	0.01	0.5	0.15	0.006
AGS777	86.83	4.69	0.54	4.51	3.91	3	0.11	0.06	0.2	0.14	0.06	0.3	0.16	0.11	0.05	0.01	0.14	0.01	0.1	0.10	0.004
AGS778	88.04	4.64	0.51	2.48	2.42	0.2	0.09	0.05	L(0.02)	0.65	0.41	L(0.05)	0.05	0.01	0.05	0.01	0.26	0.01	0.02	0.33	0.021
AGS779	70.44	11.49	0.60	2.24	1.89	2	0.03	0.01	0.07	0.20	0.13	0.2	0.75	0.05	1.39	0.11	0.29	0.01	0.1	0.04	0.004
AGS781	91.47	0.87	0.13	3.10	2.65	2	0.13	0.07	0.2	2.46	1.97	2	0.05	0.01	0.05	0.01	0.10	0.01	0.07	0.02	0.005
AGS782	86.05	8.06	0.54	1.71	1.44	1.5	0.03	0.01	0.07	0.13	0.08	0.15	0.05	0.01	0.08	0.01	0.11	0.01	0.07	0.10	0.004
AGS783	92.68	0.47	0.04	6.21	4.18	2	0.02	0.01	0.07	0.14	0.07	0.15	0.05	0.01	0.05	0.01	0.09	0.01	0.07	0.01	0.001

Table 1, continued. Geochemical data for Goldfield silicified rocks.

SAMPLE	MnO	Mn	Mn	Ag	Ag	As	As	As	Au	Au	Au	Au	B	B	Ba	Ba	Ba	Be	Bi	Bi	Cd	Ce
	%	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppb	ppb	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm
	ICPf	ICPa	ES	ICPa	ES	ICPa	C	ES	GFAAS	HBr/AA	ICPa	ES	ICPa	ES	ICPf	ICPa	ES	ES	ICPa	ES	ICPa	ICPf
BGM271	0.02	122	70	2.9	3	72	20	N(200)	650	650	N(3)	N(10)	23	L(10)	999	165	1000	1	7	N(10)	0.2	41
BGM278	0.01	79	70	0.8	0.7	35	10	N(200)	214	150	N(3)	N(10)	18	L(10)	1677	155	1500	L(1)	2	N(10)	0.5	41
BGM280	0.01	12	15	0.2	N(0.5)	8	L(10)	N(200)	380	250	N(3)	N(10)	18	N(10)	323	163	300	L(1)	4	N(10)	0.2	110
BGM315	0.04	326	300	1.7	1	28	10	N(200)	850	1000	N(3)	N(10)	28	10	386	229	300	2	6	N(10)	0.6	65
BGM317	0.01	12	10	4.0	3	19	10	N(200)	139	150	N(3)	N(10)	9	N(10)	502	403	700	L(1)	2	N(10)	0.2	22
BGM318	0.01	9	15	1.2	0.5	32	20	N(200)	171	250	N(3)	N(10)	16	N(10)	541	377	500	L(1)	2	N(10)	0.2	46
BGM321	0.04	325	300	1.8	1	265	150	200	270	250	N(3)	N(10)	12	L(10)	957	483	1000	L(1)	5	N(10)	0.4	20
BGM322	0.02	169	150	3.7	3	15	L(10)	N(200)	340	300	N(3)	N(10)	5	N(10)	1212	650	1000	N(1)	2	N(10)	0.4	20
BGM323	0.01	65	30	2.0	5	39	20	N(200)	280	300	N(3)	N(10)	12	N(10)	425	268	300	1	2	N(10)	0.8	75
BGM333	0.01	19	1500	51.8	50	98	40	N(200)	740	800	N(3)	N(10)	7	N(10)	313	209	300	N(1)	2	N(10)	0.2	20
ADQ955	0.01	38	15	1.3	N(0.5)	45	80	N(200)	250	400	N(3)	N(10)	10	n.d.	330	34	200	N(1)	1520	1500	0.2	29
ADR019	0.08	613	500	0.6	N(0.5)	554	200	N(200)	196	300	N(3)	N(10)	8	n.d.	184	42	150	N(1)	14	N(10)	0.2	20
ADR063	0.01	98	30	2.2	1	12	10	N(200)	224	200	N(3)	N(10)	5	n.d.	1810	1188	3000	N(1)	13	N(10)	0.2	20
ADR112	0.01	32	20	1.3	N(0.5)	40	60	N(200)	490	600	N(3)	N(10)	33	n.d.	2332	372	2000	N(1)	9	30	0.6	152
ADR138	0.01	71	10	18.6	5	20	300	N(200)	5140	5000	5	N(10)	14	n.d.	791	115	700	N(1)	2	N(10)	0.2	31
ADR152	0.01	108	20	5.6	N(0.5)	70	80	N(200)	1110	1000	2	N(10)	11	n.d.	6893	1737	7000	N(1)	8	N(10)	0.2	20
ADR161	0.01	120	30	1.8	5	10	L(10)	N(200)	650	700	N(3)	N(10)	12	n.d.	1923	706	1500	N(1)	2	N(10)	0.2	20
ADR181	0.01	26	10	95.2	50	33	10	N(200)	84000	80000	101	20	19	n.d.	1051	234	500	N(1)	32	50	0.2	31
ADW618	0.01	82	20	3.4	1.5	11	L(10)	N(2000)	146	160	N(3)	N(20)	9	n.d.	184	157	300	N(1)	2	N(10)	0.2	20
ADW622	0.01	58	50	3.4	5	153	200	N(2000)	180	150	N(3)	N(20)	17	n.d.	558	262	700	N(1)	48	50	0.2	59
ADW634	0.01	108	50	0.3	N(1)	22	L(10)	N(2000)	111	110	N(3)	N(20)	14	n.d.	1702	299	1000	N(1)	2	N(10)	0.2	38
ADW644	0.01	96	2000	0.2	N(1)	21	10	N(2000)	112	110	N(3)	N(20)	22	n.d.	129	80	200	N(1)	5	N(10)	0.2	20
ADW727	0.02	109	70	0.1	N(1)	236	150	N(2000)	750	580	N(3)	N(20)	25	n.d.	204	126	300	N(1)	13	N(10)	0.7	20
ADW753	0.01	2	3	0.5	N(1)	178	150	N(2000)	280	490	N(3)	N(20)	20	n.d.	1210	120	700	N(1)	21	10	0.8	189
ADW791	0.01	36	20	0.1	N(1)	80	60	N(2000)	189	180	N(3)	N(20)	16	n.d.	175	53	300	N(1)	3	N(10)	1.8	20
ADY410	0.01	16	20	1.5	N(0.5)	11	L(10)	N(200)	11050	300	2	N(10)	25	30	807	140	700	N(1)	2	N(10)	0.2	38
ADY420	0.01	3	20	0.6	N(0.5)	30	L(10)	N(200)	290	300	N(3)	N(10)	22	100	776	253	700	N(1)	3	N(10)	1.0	35
ADY426	0.01	10	L(20)	47.4	50	1798	600	1500	4650	5800	3	15	10	N(10)	2249	84	1000	N(1)	173	500	0.2	20
ADY442	0.01	4	L(20)	89.6	70	28966	3000	G(10000)	11040	12000	7	15	27	20	1360	80	700	N(1)	170	700	1.2	83
ADY443	0.01	10	30	8.3	10	2033	150	1500	1220	1300	N(3)	N(10)	2	20	203	72	150	N(1)	26	20	1.2	20
ADY448	0.01	46	30	2.3	2	168	60	N(200)	2840	3200	2	N(10)	15	N(10)	1575	92	700	N(1)	25	20	0.2	20
ADY460	0.01	54	150	4.5	7	268	150	300	330	300	2	N(10)	3	N(10)	745	112	700	N(1)	16	15	0.2	20
ADY473	0.01	44	L(20)	8.6	15	276	150	200	560	300	N(3)	N(10)	14	N(10)	297	30	150	N(1)	3	L(10)	0.2	20
ADY482	0.02	71	20	4.0	3	275	150	300	230	200	N(3)	N(10)	6	N(10)	117	18	100	N(1)	2	N(10)	0.2	20
ADY526	0.01	79	100	0.8	1	796	300	1000	300	300	N(3)	N(10)	16	N(10)	1511	188	700	N(1)	2	N(10)	1.0	21
ADY533	0.01	20	30	12.2	20	302	300	200	126	200	N(3)	N(10)	5	N(10)	1158	106	700	N(1)	7	N(10)	1.0	20
ADY692	0.01	82	100	0.3	N(0.5)	79	L(10)	N(200)	180	200	N(3)	N(10)	30	20	8990	152	G(5000)	N(1)	46	30	0.2	78
ADY700	0.01	34	50	0.4	N(0.5)	98	100	N(200)	38	200	N(3)	N(10)	5	N(10)	353	77	300	N(1)	2	N(10)	0.7	20
ADY703	0.01	32	30	0.5	N(0.5)	35	40	N(200)	750	1000	N(3)	N(10)	12	N(10)	2473	39	2000	N(1)	2	N(10)	0.2	21
ADY704	0.02	144	200	1.3	0.7	24	10	N(200)	360	300	N(3)	N(10)	23	10	720	287	700	N(1)	2	N(10)	1.0	20
ADY713	0.02	159	150	0.3	N(0.5)	77	60	N(200)	280	300	N(3)	N(10)	28	15	404	93	300	N(1)	2	N(10)	0.2	20
ADY717	0.01	75	20	0.3	L(0.5)	32	40	N(200)	550	700	N(3)	N(10)	10	N(10)	1252	148	1000	N(1)	5	N(10)	1.4	20
ADY738	0.01	92	150	0.1	N(0.5)	79	80	N(200)	8	200	N(3)	N(10)	23	30	636	67	700	N(1)	2	N(10)	0.2	20
AEA011	0.03	148	100	0.6	N(0.5)	57	10	N(200)	210	220	N(3)	N(10)	139	N(10)	604	225	150	N(1)	55	N(10)	0.2	20
AEA014	0.01	90	50	0.3	N(0.5)	33	20	L(200)	460	900	N(3)	N(10)	22	L(10)	1295	64	300	N(1)	2	N(10)	0.2	20
AEA018	0.02	113	70	0.3	0.5	23	10	L(200)	56	3300	N(3)	N(10)	19	10	1369	112	500	N(1)	2	N(10)	0.2	20
AEA019	0.01	126	30	0.5	N(0.5)	87	L(10)	L(200)	720	1400	N(3)	N(10)	36	15	428	219	100	N(1)	2	N(10)	0.2	20
AEA334	0.02	129	200	0.1	0.7	38	20	N(200)	420	500	N(3)	N(10)	29	15	1083	53	1000	L(1)	2	N(10)	0.4	37
AEA361	0.01	43	20	0.4	N(0.5)	19	30	N(200)	490	600	N(3)	N(10)	19	10	2975	120	3000	L(1)	2	N(10)	0.2	20
AEA395	0.02	123	70	0.2	N(0.5)	110	30	N(200)	1360	1400	N(3)	N(10)	42	20	3665	81	1500	N(1)	2	N(10)	0.2	20
AEA397	0.01	98	70	0.2	N(0.5)	32	L(10)	N(200)	10	200	N(3)	N(10)	34	15	1365	130	1500	L(1)	2	N(10)	1.0	67
AEA402	0.01	41	70	0.7	N(0.5)	16	L(10)	N(200)	350	200	N(3)	N(10)	9	N(10)	1110	134	1500	1.5	35	50	0.2	112
AEB537	0.01	14	20	191.9	150	49	10	N(200)	174600	50000	196	500	5	L(10)	1070	102	1500	N(1)	130	100	0.2	20
AGS310	0.01	39	20	1.7	1	76	60	N(200)	1270	320	N(3)	N(10)	26	10	2365	496	500	N(1)	9	L(10)	0.5	20
AGS314	0.01	7	10	8.7	5	15	10	N(200)	7120	400	9	N(10)	45	100	806	415	300	N(1)	9	10	0.2	20
AGS326	0.01	48	10	0.7	1	4	N(10)	N(200)	10	220	N(3)	N(10)	7	10	2477	1281	500	N(1)	2	L(10)	0.2	20
AGS327	0.01	63	20	2.2	2	20	10	N(200)	170	380	N(3)	N(10)	8	10	2935	968	1000	N(1)	2	N(10)	0.2	20
AGS328	0.01	80	20	0.4	N(0.5)	7	N(10)	N(200)	15	180	N(3)	N(10)	6	10	1293	909	500	N(1)	4	N(10)	1.3	20
AGS330	0.02	202	70	0.6	0.5	136	60	N(200)	15	140	N(3)	N(10)	16	10	802	373	200	N(1)	2	N(10)	0.8	20
AGS334	0.01	52	50	0.1	N(0.5)	43	40	N(200)	7	2900	N(3)	N(10)	34	20	575	141	200	N(1)	4	10	1.7	20
AGS342	0.04	340	100	0.1	N(0.5)	64	40	N(200)	2	7200	N(3)	N(10)	19	10	3153	726	1500	N(1)	2	N(10)	1.3	20
AGS343	0.01	94	10	0.1	N(0.5)	4	N(10)	N(200)	20	800	N(3)	N(10)	3	10	1361	1069	500	N(1)	2	N(10)	0.2	20
AGS344	0.01	42	10	0.4	0.5	25	10	N(200)	7	3800	N(3)	N(10)	31	10	1419	385	1000	N(1)	3	N(10)	1.2	37
AGS345	0.02	317	50	17.0	10	48	20	N(200)	260	9000	N(3)	N(10)	10	10	2492	1130	1000	N(1)	10	L(10)	0.8	38
AGS346	0.01	31	20	0.3	N(0.5)	32	10	N(200)	8	400	N(3)	N(10)	44	20	1550	30	1500	N(1)	3	N(10)	0.6	20
AGS348	0.02	211	20	0.1	N(0.5)	3	N(10)	N(200)	6	260	N(3)	N(10)	6	10	94	69	50	N(1)	3	N(10)	0.3	20
AGS349	0.01	77	20	3.1	1	49	60	N(200)	280	1300	N(3)	N(10)	21	L(10)	546	102	200	N(1)	3	N(10)	1.2	38
AGS351	0.01	13	20	0.7	0.5	8	10	N(200)	31	400	N(3)	N(10)	25	10	1166	141	500	N(1)	2	N(10)	1.5	59
AGS352	0.01	109	70	0.1	N(0.5)	6	L(10)	N(200)	5	560	N(3)	N(10)	6	10	709	94	300	N(1)	2	N(10)	0.2	64

Table 1, continued. Geochemical data for Goldfield silicified rocks.

SAMPLE	MnO	Mn	Mn	Ag	Ag	As	As	As	Au	Au	Au	Au	B	B	Ba	Ba	Ba	Be	Bi	Bi	Cd	Ce
	%	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppb	ppb	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm
	ICPf	ICPp	ES	ICPp	ES	ICPp	C	ES	GFAAS	HBr/AA	ICPp	ES	ICPp	ES	ICPf	ICPp	ES	ES	ICPp	ES	ICPp	ICPf
AGS354	0.01	56	20	0.1	0.5	18	10	N(200)	19	240	N(3)	N(10)	35	10	1296	605	500	N(1)	4	N(10)	0.8	74
AGS355	0.03	243	70	2.0	1.5	16	L(10)	N(200)	500	800	N(3)	N(10)	13	10	203	189	100	N(1)	5	N(10)	1.0	20
AGS356	0.03	300	70	0.3	0.5	25	L(10)	N(200)	560	820	N(3)	N(10)	8	10	3610	1225	1500	N(1)	4	N(10)	0.2	20
AGS358	0.02	114	70	2.1	1	147	40	N(200)	360	480	N(3)	N(10)	20	10	152	106	50	N(1)	2	N(10)	0.2	20
AGS362	0.01	130	50	5.3	5	13	L(10)	N(200)	390	500	N(3)	N(10)	5	10	3302	1213	1500	N(1)	2	N(10)	0.2	20
AGS385	0.01	45	50	1.0	1	366	120	N(200)	410	420	N(3)	N(10)	12	10	910	227	1000	L(1)	2	20	1.0	20
AGS386	0.03	73	20	1.7	2	266	140	N(200)	1950	2400	3	N(10)	4	10	468	194	300	L(1)	12	10	0.2	20
AGS387	0.01	23	20	5.5	10	94	30	N(200)	152	220	N(3)	N(10)	13	10	311	110	200	L(1)	2	L(10)	0.2	20
AGS388	0.01	73	50	70.0	50	978	200	N(200)	340	380	N(3)	N(10)	14	10	872	127	700	L(1)	2	L(10)	0.2	32
AGS407	0.06	511	700	29.7	20	55	40	N(200)	1780	1500	3	N(10)	10	10	1202	884	500	L(1)	38	100	0.4	71
AGS408	0.01	80	50	0.4	0.5	22	40	N(200)	29	660	N(3)	N(10)	9	10	473	137	200	L(1)	2	N(10)	0.2	34
AGS413	0.04	317	70	1.0	1	27	40	N(200)	17	160	N(3)	N(10)	10	10	1430	768	500	L(1)	2	N(10)	0.2	20
AGS422	0.03	296	150	0.8	N(0.5)	13	N(10)	N(200)	90	220	N(3)	N(10)	13	15	460	305	300	N(1)	2	L(10)	0.4	20
AGS424	0.02	133	150	0.1	N(0.5)	20	10	N(200)	25	300	N(3)	N(10)	18	10	126	89	70	N(1)	2	N(10)	0.9	20
AGS425	0.01	111	70	0.1	N(0.5)	10	L(10)	N(200)	13	340	N(3)	N(10)	9	L(10)	1635	136	1000	N(1)	2	N(10)	0.8	20
AGS427	0.01	49	20	1.1	0.5	159	120	N(200)	165	800	N(3)	N(10)	93	70	1401	471	500	N(1)	6	N(10)	1.9	102
AGS431	0.03	177	70	8.7	3	226	80	L(200)	89	300	N(3)	N(10)	14	L(10)	275	165	150	2	2	L(10)	0.4	28
AGS432	0.01	106	30	3.4	1.5	26	N(10)	N(200)	550	220	N(3)	N(10)	7	L(10)	669	123	300	N(1)	10	10	1.0	20
AGS442	0.01	93	150	0.5	0.7	16	20	N(200)	23	200	N(3)	N(10)	10	L(10)	701	163	1000	2	2	N(10)	0.4	104
AGS452	0.01	197	150	1.4	1	23	20	N(200)	1330	2100	2	N(10)	4	L(10)	4774	1628	5000	N(1)	2	N(10)	0.2	20
AGS453	0.01	96	50	0.4	0.7	24	20	N(200)	55	140	N(3)	N(10)	7	L(10)	984	540	700	1	2	N(10)	1.1	20
AGS454	0.02	204	150	2.2	1	24	20	N(200)	132	120	N(3)	N(10)	6	L(10)	472	411	300	N(1)	2	N(10)	0.2	20
AGS470	0.02	138	150	0.2	0.5	28	20	N(200)	155	14000	N(3)	N(10)	6	N(10)	342	152	500	N(1)	2	N(10)	0.2	41
AGS471	0.02	209	200	4.6	5	16	10	N(200)	250	240	N(3)	N(10)	4	N(10)	1072	521	1500	N(1)	2	N(10)	0.2	20
AGS472	0.01	74	100	0.9	1	90	60	N(200)	136	120	N(3)	N(10)	19	10	194	166	150	5	18	15	0.9	74
AGS474	0.01	94	100	0.5	0.7	54	10	N(200)	340	300	N(3)	N(10)	8	L(10)	762	460	300	N(1)	2	L(10)	0.4	21
AGS483	0.01	18	20	2.7	2	18	L(10)	N(200)	500	480	N(3)	N(10)	10	L(10)	1563	326	2000	N(1)	7	N(10)	0.7	38
AGS532	0.01	166	150	1.9	1.5	6	L(10)	N(200)	171	340	N(3)	N(10)	6	L(10)	94	78	100	2	2	N(10)	0.2	20
AGS552	0.02	169	150	0.1	N(0.5)	7	L(10)	N(200)	154	140	N(3)	N(10)	5	L(10)	98	93	150	N(1)	2	N(10)	0.2	84
AGS589	0.01	27	70	0.1	N(0.5)	85	60	N(200)	7	140	N(3)	N(10)	28	L(10)	1596	261	700	1.5	2	N(10)	0.3	131
AGS590	0.01	15	30	0.2	N(0.5)	26	10	N(200)	35	500	N(3)	N(10)	58	70	463	91	150	2	2	N(10)	0.9	93
AGS605	0.01	68	50	2.2	10	23	N(10)	N(200)	370	300	N(3)	N(10)	7	10	9890	1719	G(5000)	1.5	46	15	0.2	49
AGS606	0.03	215	200	14.2	N(0.5)	23	60	N(200)	310	220	N(3)	N(10)	11	10	1897	99	1500	1.5	8	N(10)	1.2	36
AGS627	0.02	161	150	1.2	0.7	337	80	200	37	140	N(3)	N(10)	16	10	469	286	200	1	12	N(10)	0.5	27
AGS629	0.02	136	150	32.1	20	1198	160	2000	2580	8000	N(3)	N(10)	21	10	77	50	100	1	3	N(10)	0.2	20
AGS634	0.01	47	70	0.2	N(0.5)	27	L(10)	N(200)	9	480	N(3)	N(10)	19	10	860	45	1000	1	2	N(10)	0.2	31
AGS635	0.02	111	200	0.1	0.7	20	L(10)	N(200)	1	400	N(3)	N(10)	26	15	1084	67	1000	1	2	N(10)	0.2	20
AGS636	0.01	43	50	0.2	N(0.5)	45	40	N(200)	75	280	N(3)	N(10)	20	10	673	26	700	1	2	N(10)	0.2	21
AGS637	0.01	21	50	0.1	N(0.5)	30	40	N(200)	2	140	N(3)	N(10)	31	10	1212	83	1000	L(1)	2	N(10)	0.3	80
AGS639	0.01	42	50	0.2	N(0.5)	65	N(10)	N(200)	23	120	N(3)	N(10)	20	10	1119	58	1000	L(1)	2	N(10)	0.2	36
AGS641	0.01	15	20	0.1	N(0.5)	11	N(10)	N(200)	1	180	N(3)	N(10)	54	50	2398	584	1000	1	2	N(10)	0.2	74
AGS642	0.01	84	100	0.2	L(0.5)	11	20	N(200)	11	200	N(3)	N(10)	24	20	1509	131	1500	1	3	N(10)	0.5	87
AGS643	0.03	149	200	0.8	0.7	16	N(10)	N(200)	7	140	N(3)	N(10)	25	10	906	124	1000	1	2	N(10)	0.4	58
AGS644	0.02	95	150	0.3	0.5	12	N(10)	N(200)	4	140	N(3)	N(10)	14	10	655	65	700	L(1)	2	N(10)	0.2	28
AGS645	0.01	62	200	0.5	1	4	L(10)	N(200)	12	140	N(3)	N(10)	9	10	1375	74	1500	1	2	N(10)	0.2	55
AGS646	0.02	125	150	0.1	N(0.5)	125	60	N(200)	34	160	N(3)	N(10)	14	10	1189	143	700	L(1)	2	N(10)	0.4	104
AGS647	0.01	48	150	0.2	L(0.5)	27	10	N(200)	2	120	N(3)	N(10)	27	20	1905	284	3000	L(1)	4	N(10)	0.2	69
AGS649	0.01	14	100	0.3	N(0.5)	38	L(10)	N(200)	108	280	N(3)	N(10)	29	20	1450	23	1000	L(1)	2	N(10)	0.2	78
AGS651	0.01	80	200	1.1	1.5	267	40	N(200)	54	120	N(3)	N(10)	14	10	212	37	200	L(1)	2	N(10)	0.2	20
AGS652	0.02	126	100	0.2	N(0.5)	42	L(10)	N(200)	125	240	N(3)	N(10)	22	15	1702	76	1500	L(1)	2	N(10)	0.2	76
AGS653	0.01	65	200	0.1	N(0.5)	34	N(10)	N(200)	26	140	N(3)	N(10)	19	20	1283	75	1500	L(1)	2	N(10)	0.2	66
AGS656	0.01	60	50	0.2	N(0.5)	13	N(10)	N(200)	90	160	N(3)	N(10)	22	10	1205	109	1000	1	2	N(10)	0.3	86
AGS659	0.01	36	100	0.1	N(0.5)	32	40	N(200)	129	200	N(3)	N(10)	21	10	547	22	500	1	2	N(10)	0.2	64
AGS664	0.03	218	300	0.2	N(0.5)	29	20	N(200)	1	260	N(3)	N(10)	16	L(10)	1334	113	700	1	2	N(10)	0.3	125
AGS665	0.01	103	150	0.1	N(0.5)	40	L(10)	N(200)	8	160	N(3)	N(10)	16	L(10)	1252	145	1000	1	2	N(10)	0.4	63
AGS666	0.02	164	150	0.1	N(0.5)	172	60	N(200)	4	140	N(3)	N(10)	10	10	80	30	100	1	2	N(10)	0.2	67
AGS678	0.01	47	70	0.8	1.5	10	N(10)	N(200)	122	120	N(3)	N(10)	15	L(10)	1475	61	1500	1	3	N(10)	0.2	97
AGS684	0.03	211	150	0.1	N(0.5)	55	40	N(200)	4	280	N(3)	N(10)	20	L(10)	1272	112	700	1	2	N(10)	0.4	79
AGS685	0.01	60	100	0.1	N(0.5)	21	10	N(200)	3	180	N(3)	N(10)	10	L(10)	1166	67	700	1	2	N(10)	0.2	85
AGS687	0.01	141	20	0.1	N(0.5)	15	N(10)	N(200)	1	140	N(3)	N(10)	15	L(10)	878	285	700	1	2	N(10)	0.2	20
AGS692	0.01	77	150	0.1	N(0.5)	149	80	N(200)	5	120	N(3)	N(10)	48	20	856	224	500	1	2	N(10)	1.0	47
AGS693	0.05	396	500	0.9	0.5	53	40	N(200)	138	120	N(3)	N(10)	26	20	614	339	500	1	9	N(10)	0.2	20
AGS701	0.01	54	20	0.8	2	23	N(10)	N(200)	190	240	N(3)	N(10)	15	10	1190	88	500	1.5	2	N(10)	0.2	40
AGS774	0.01	17	20	1.5	1	1236	600	1000	8790	140	9	10	22	15	1733	175	1500	1.5	8	N(10)	0.2	40
AGS776	0.01	127	20	6.7	7	90	60	200	1380	1700	N(3)	N(10)	6	10	7380	220	G(5000)	1.5	19	15	0.2	144
AGS777	0.04	429	300	2.1	1.5	117	60	700	170	140	N(3)	N(10)	26	20	1060	752	1000	2	25	L(10)	0.6	20
AGS778	0.03	371	N(10)	0.7	N(0.5)	145	80	N(200)	420	540	N(3)	N(10)	14	L(10)	981	303	70	1	10	N(10)	0.2	53
AGS779	0.01	66	70	2.4	5	92	60	N(200)	1590	1800	N(3)	N(10)	14	15	1350	386	700	1.5	2	N(10)	0.2	66
AGS781	0.02	258	500	2.9	7	50	10	N(200)	1000	2200	N(3)	N(10)	10	20	3203	1401	2000	2	12	10	0.4	21
AGS782	0.01	120	300	1.8	1	38	10	N(200)	240	300	N(3)	N(10)	11	15	687	515	300	2	12	L(10)	0.2	140
AGS783	0.05	351	20	1.6	1.5	29	L(10)	N(200)	260	540	N(3)	N(10)	4	15	1323	570	1000	1.5	4	N(10)	0.2	20

Table 1, continued. Geochemical data for Goldfield silicified rocks.

SAMPLE	Co	Co	Co	Cr2O3	Cr	Cr	Cu	Cu	Cu	Hg	La	La	La	Nb	Nb	Ni	Ni	Ni	Mo	Mo	Pb	Pb
	ppm	ppm	ppm	%	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm
	ICPf	ICPa	ES	ICPf	ICPa	ES	ICPf	ICPa	ES	I/AA	ICPf	ICPa	ES	ICPf	ES	ICPf	ICPa	ES	ICPp	ES	ICPa	ES
BGM271	7	9	7	0.008	12	30	49	59	100	0.24	37	2	50	20	N(10)	19	8	10	8	7	74	300
BGM278	18	18	15	0.008	4	10	24	25	70	0.24	46	2	30	20	N(10)	22	7	10	4	L(5)	9	70
BGM280	26	1	N(5)	0.006	9	10	16	19	20	0.06	31	2	50	20	N(10)	20	1	5	1	N(5)	14	20
BGM315	5	3	N(5)	0.003	4	N(10)	38	44	70	0.18	40	2	100	20	N(20)	9	1	L(5)	3	N(5)	122	200
BGM317	5	1	N(5)	0.003	4	L(10)	17	14	20	0.06	40	4	100	20	N(20)	7	1	L(5)	1	N(5)	112	150
BGM318	5	1	N(5)	0.003	7	N(10)	10	9	5	0.1	60	2	150	20	N(20)	10	1	L(5)	8	10	129	100
BGM321	5	3	N(5)	0.005	10	10	17	18	30	N(0.02)	8	2	N(20)	20	N(20)	9	2	L(5)	5	5	111	70
BGM322	6	2	N(5)	0.006	16	L(10)	9	7	150	0.85	5	2	N(20)	20	N(20)	10	2	L(5)	1	N(5)	22	10
BGM323	5	2	N(5)	0.008	6	N(10)	9	10	5	0.04	103	2	100	20	N(20)	23	3	L(5)	8	20	74	70
BGM333	12	2	N(5)	0.005	14	L(10)	188	210	150	3.5	19	2	N(20)	20	N(20)	7	2	5	3	5	17	30
ADQ955	5	1	N(5)	0.003	9	5	23	29	100	0.22	10	3	N(20)	27	10	10	9	N(5)	13	10	138	1500
ADR019	5	4	3	0.004	8	5	109	110	300	0.07	15	2	N(20)	20	10	20	10	N(5)	12	10	25	100
ADR063	5	2	N(5)	0.006	22	3	28	35	50	0.85	5	2	N(20)	20	20	19	27	3	15	5	10	N(10)
ADR112	5	2	N(5)	0.010	4	15	528	569	1000	0.4	170	3	150	32	10	12	3	N(5)	2	N(2)	95	500
ADR138	9	7	3	0.007	25	10	36	47	50	1.4	5	2	N(20)	20	N(10)	16	20	3	18	10	25	15
ADR152	5	4	N(5)	0.006	19	5	22	30	20	0.36	5	2	N(20)	20	N(10)	22	22	3	10	3	25	15
ADR161	5	1	N(5)	0.005	5	7	5	5	5	0.3	12	2	N(20)	20	N(10)	10	2	N(5)	1	N(2)	18	15
ADR181	5	1	N(5)	0.003	4	5	105	110	150	1.6	17	2	30	20	N(10)	10	2	3	4	N(2)	27	500
ADW618	5	1	N(3)	0.003	11	3	6	14	10	1.1	5	2	N(30)	20	N(10)	17	15	N(3)	5	N(3)	14	15
ADW622	5	2	N(3)	0.009	19	10	9	12	20	0.28	144	3	100	20	L(10)	12	11	N(3)	8	N(3)	44	100
ADW634	5	2	N(3)	0.005	11	10	5	7	5	0.08	49	2	50	20	N(10)	5	10	N(3)	5	N(3)	41	150
ADW644	5	2	N(3)	0.007	17	10	11	16	15	0.08	16	2	N(30)	20	L(10)	19	14	N(3)	5	N(3)	9	N(10)
ADW727	9	3	N(3)	0.003	9	5	72	79	150	0.10	5	2	N(30)	20	L(10)	13	8	N(3)	37	10	5	N(10)
ADW753	10	2	N(3)	0.019	32	700	5	7	3	0.55	246	2	70	87	10	5	1	N(3)	19	7	37	1000
ADW791	5	3	N(3)	0.003	9	7	34	33	70	0.08	19	2	N(30)	20	N(10)	9	6	N(3)	15	3	2	15
ADY410	5	1	N(5)	0.005	7	30	29	34	100	0.03	19	2	N(20)	20	N(10)	6	1	N(2)	17	30	19	150
ADY420	7	2	N(5)	0.014	11	50	18	15	15	0.01	46	2	30	20	N(10)	5	1	N(2)	3	N(5)	10	30
ADY426	5	1	N(5)	0.008	10	50	19	21	20	0.07	20	2	30	20	N(10)	8	3	N(2)	9	15	67	1500
ADY442	14	2	5	0.007	5	50	637	516	500	0.03	39	3	N(20)	20	N(10)	15	4	N(2)	23	100	229	1500
ADY443	5	2	N(5)	0.005	14	20	64	38	30	0.02	39	2	N(20)	20	N(10)	19	3	N(2)	8	15	19	70
ADY448	5	1	N(5)	0.010	7	15	13	7	7	0.02	17	2	N(20)	20	N(10)	22	5	N(2)	58	100	118	3000
ADY460	10	1	N(5)	0.005	11	20	16	19	30	0.09	5	2	N(20)	20	N(10)	5	7	N(2)	26	30	60	150
ADY473	5	1	N(5)	0.008	11	50	17	16	30	0.13	7	2	N(20)	20	N(10)	12	9	N(2)	7	5	21	150
ADY482	5	1	N(5)	0.084	10	20	38	23	50	0.11	5	2	N(20)	20	N(10)	10	9	N(2)	7	L(5)	16	15
ADY526	5	1	N(5)	0.013	11	15	18	23	30	0.6	24	2	30	44	N(10)	21	9	L(2)	9	10	53	200
ADY533	10	1	N(5)	0.005	6	20	11	11	10	0.17	8	2	N(20)	23	N(10)	5	2	N(2)	2	L(5)	116	1500
ADY692	36	3	N(5)	0.014	20	30	10	7	10	0.15	150	2	100	20	L(10)	10	7	N(2)	1	N(5)	83	70
ADY700	10	1	N(5)	0.010	12	20	10	8	100	0.17	17	2	N(20)	20	N(10)	14	8	N(2)	22	15	174	200
ADY703	16	2	N(5)	0.012	16	70	10	8	20	0.45	31	2	N(20)	20	N(10)	11	4	N(2)	1	N(5)	204	700
ADY704	5	3	N(5)	0.006	12	20	14	24	30	0.14	5	2	N(20)	20	10	16	15	N(2)	3	N(5)	14	N(10)
ADY713	6	3	N(5)	0.010	19	30	19	28	150	0.16	20	2	N(20)	20	N(10)	16	14	N(2)	9	N(5)	17	N(10)
ADY717	5	1	N(5)	0.006	13	20	10	18	70	0.3	16	2	N(20)	20	N(10)	15	13	N(2)	5	L(5)	15	150
ADY738	5	4	N(5)	0.008	16	30	27	22	30	0.11	43	2	N(20)	20	N(10)	5	6	N(2)	12	30	3	50
AEA011	12	12	10	0.006	10	15	63	60	30	0.13	13	8	N(20)	20	N(10)	17	17	10	35	50	17	10
AEA014	5	4	L(5)	0.008	22	15	99	90	100	0.05	53	2	N(20)	20	N(10)	7	10	L(5)	2	N(5)	14	50
AEA018	13	2	5	0.011	13	20	17	26	300	0.08	6	5	N(20)	20	N(10)	7	7	5	55	70	7	30
AEA019	5	3	5	0.010	17	10	26	23	7	0.02	62	2	N(20)	20	N(10)	17	11	L(5)	45	30	4	L(10)
AEA334	5	2	N(5)	0.006	3	20	10	8	10	0.60	5	3	50	20	20	7	3	5	1	L(5)	2	20
AEA361	5	1	N(5)	0.010	4	30	10	8	15	0.35	5	2	L(20)	20	10	5	2	5	2	L(5)	17	300
AEA395	5	4	N(5)	0.009	8	50	36	40	30	14	5	2	L(20)	20	15	13	5	N(5)	1	10	33	70
AEA397	5	2	N(5)	0.005	5	30	41	50	70	0.16	34	2	50	20	15	10	2	L(5)	1	5	2	15
AEA402	5	1	N(5)	0.004	3	10	10	4	L(5)	0.2	108	2	50	20	20	13	1	L(5)	1	L(5)	114	500
AEB537	5	1	N(5)	0.004	8	7	10	3	20	1.5	15	2	N(20)	20	L(10)	5	1	5	3	N(5)	22	700
AGS310	5	2	L(5)	0.009	5	5	10	11	30	0.45	5	2	L(20)	20	10	15	3	5	10	L(5)	6	L(10)
AGS314	7	1	L(5)	0.008	3	10	10	18	20	0.35	5	2	L(20)	20	10	12	1	L(5)	1	L(5)	73	20
AGS326	16	1	L(5)	0.007	4	5	10	12	20	0.3	5	2	L(20)	26	10	13	3	5	2	L(5)	7	L(10)
AGS327	5	2	L(5)	0.003	2	L(5)	12	13	30	1.1	5	2	L(20)	20	10	5	1	5	1	L(5)	5	L(10)
AGS328	5	2	L(5)	0.005	11	L(5)	10	18	20	0.02	5	2	L(20)	23	10	15	11	5	3	L(5)	2	L(10)
AGS330	5	4	L(5)	0.006	17	10	17	18	15	0.7	98	2	L(20)	20	10	12	14	5	8	L(5)	10	10
AGS334	12	1	L(5)	0.012	4	20	14	22	100	0.16	123	2	L(20)	20	10	8	1	5	3	L(5)	13	30
AGS342	5	7	L(5)	0.008	13	10	10	20	20	0.2	5	3	L(20)	20	10	21	21	10	6	L(5)	4	L(10)
AGS343	5	1	L(5)	0.007	13	L(5)	10	17	20	0.04	39	2	L(20)	20	10	14	13	5	4	L(5)	2	L(10)
AGS344	5	1	L(5)	0.004	9	5	10	20	30	0.09	27	2	50	20	10	6	11	5	5	5	11	50
AGS345	5	6	L(5)	0.007	21	L(5)	20	38	20	G(10)	5	2	L(20)	20	10	15	19	5	11	L(5)	35	10
AGS346	5	1	L(5)	0.002	4	5	10	10	10	1.3	5	2	L(20)	20	10	5	2	L(5)	1	L(5)	7	L(10)
AGS348	5	1	L(5)	0.010	16	L(5)	10	10	20	0.26	91	2	L(20)	20	10	20	15	5	5	L(5)	5	10
AGS349	5	5	L(5)	0.005	8	10	11	19	30	0.4	72	2	50	20	10	6	7	10	5	L(5)	11	30
AGS351	5	1	L(5)	0.005	5	7	10	4	15	0.14	68	2	L(20)	20	10	5	4	10	2	L(5)	4	20
AGS352	6	1	L(5)	0.005	4	5	11	11	15	0.06	37	2	L(20)	20	10	8	4	10	3	L(5)	4	20

Table 1, continued. Geochemical data for Goldfield silicified rocks.

SAMPLE	Co ppm ICPf	Co ppm ICPp	Co ppm ES	Cr2O3 % ICPf	Cr ppm ICPp	Cr ppm ES	Cu ppm ICPf	Cu ppm ICPp	Cu ppm ES	Hg ppm I/AA	La ppm ICPf	La ppm ICPp	La ppm ES	Nb ppm ICPf	Nb ppm ES	Ni ppm ICPf	Ni ppm ICPp	Ni ppm ES	Mo ppm ICPp	Mo ppm ES	Pb ppm ICPp	Pb ppm ES
AGS354	5	1	L(5)	0.003	3	5	29	30	20	0.1	46	2	L(20)	41	10	9	1	5	6	L(5)	9	30
AGS355	5	3	L(5)	0.003	11	5	37	37	50	0.4	18	2	L(20)	20	10	5	10	10	14	L(5)	5	L(10)
AGS356	5	2	L(5)	0.004	12	L(5)	15	14	15	0.18	5	3	L(20)	20	10	10	11	10	7	L(5)	10	L(10)
AGS358	5	4	L(5)	0.005	8	7	76	77	100	0.4	6	2	L(20)	20	10	5	7	10	15	7	4	10
AGS362	18	1	L(5)	0.003	10	5	16	18	20	0.7	6	2	L(20)	20	10	5	8	10	4	L(5)	7	L(10)
AGS385	5	1	L(5)	0.005	5	5	8	12	50	0.45	17	23	50	20	10	11	4	5	6	5	16	20
AGS386	5	1	L(5)	0.011	12	L(5)	33	31	70	0.24	24	2	L(20)	20	10	26	12	5	7	L(5)	32	50
AGS387	5	1	L(5)	0.003	6	L(5)	28	18	70	G(10)	17	8	L(20)	20	10	5	5	5	3	L(5)	6	20
AGS388	5	1	L(5)	0.004	9	5	24	27	100	G(10)	38	21	L(20)	20	10	5	8	5	9	5	12	20
AGS407	5	4	L(5)	0.003	12	L(5)	47	55	100	G(10)	24	7	50	20	10	13	13	10	7	L(5)	44	50
AGS408	5	1	L(5)	0.002	3	L(5)	7	9	10	1.4	52	6	50	20	10	5	3	5	4	L(5)	16	20
AGS413	14	3	L(5)	0.004	15	L(5)	16	20	10	0.7	5	3	L(20)	20	10	14	13	10	5	L(5)	13	15
AGS422	10	3	N(5)	0.007	10	20	16	20	50	0.28	13	7	N(20)	20	30	6	8	5	9	7	24	10
AGS424	5	2	N(5)	0.007	10	15	15	14	20	0.12	12	2	50	20	20	16	10	5	6	5	3	N(10)
AGS425	5	2	N(5)	0.008	15	15	38	46	30	2.4	11	2	30	27	30	18	14	5	4	N(5)	9	N(10)
AGS427	5	1	N(5)	0.009	10	30	37	34	30	0.4	30	2	20	20	10	12	7	5	4	L(5)	168	70
AGS431	5	1	N(5)	0.006	10	5	25	29	30	2.0	18	11	N(20)	20	L(10)	22	10	5	6	5	15	N(10)
AGS432	10	6	L(5)	0.005	16	5	39	44	30	1.6	8	2	N(20)	20	10	16	15	5	7	L(5)	17	L(10)
AGS442	5	1	N(5)	0.006	8	L(5)	16	21	15	0.05	91	4	100	20	15	7	8	L(5)	4	N(5)	28	300
AGS452	5	2	N(5)	0.003	14	L(5)	43	53	30	0.8	10	2	N(20)	20	10	11	14	L(5)	6	N(5)	10	N(10)
AGS453	5	1	N(5)	0.003	12	L(5)	10	14	5	0.2	34	5	30	20	10	15	13	L(5)	6	5	12	L(10)
AGS454	5	2	N(5)	0.004	12	L(5)	46	42	30	1.0	5	2	N(20)	20	20	12	12	L(5)	7	5	16	10
AGS470	5	1	N(5)	0.004	9	5	9	5	30	0.09	22	2	20	20	10	15	9	5	3	N(5)	23	30
AGS471	18	2	N(5)	0.004	9	L(5)	15	11	70	2.2	42	2	30	20	15	15	11	5	4	N(5)	17	15
AGS472	10	2	N(5)	0.003	2	L(5)	26	26	50	0.6	68	2	70	20	15	6	1	L(5)	5	7	416	500
AGS474	5	1	N(5)	0.003	10	L(5)	11	12	30	0.3	23	3	N(20)	20	15	12	9	5	7	L(5)	62	20
AGS483	15	2	N(5)	0.003	5	15	49	53	70	0.9	13	2	N(20)	20	10	5	2	5	2	L(5)	46	30
AGS532	19	2	N(5)	0.005	18	L(5)	17	15	70	0.11	9	2	N(20)	20	L(10)	18	21	5	7	N(5)	7	N(10)
AGS552	8	1	L(5)	0.004	10	5	6	7	15	0.09	23	2	N(20)	20	30	14	10	L(5)	4	N(5)	2	N(10)
AGS589	5	5	5	0.005	7	20	95	101	50	0.38	35	2	50	20	10	5	3	L(5)	12	10	17	10
AGS590	12	3	L(5)	0.005	6	20	15	15	30	0.7	49	2	30	20	10	5	2	5	2	5	19	20
AGS605	6	1	L(5)	0.004	13	5	25	21	150	0.12	20	2	N(20)	20	10	9	12	L(5)	6	N(5)	12	20
AGS606	8	3	5	0.008	16	10	164	184	15	4.0	20	2	L(20)	20	10	19	20	L(5)	10	5	251	100
AGS627	5	2	L(5)	0.003	13	5	21	17	30	0.13	12	2	N(20)	20	10	8	14	L(5)	7	5	7	N(10)
AGS629	8	4	L(5)	0.002	10	7	61	59	50	0.18	5	2	N(20)	20	L(10)	5	6	L(5)	2	N(5)	58	30
AGS634	5	1	L(5)	0.019	11	30	10	9	30	0.13	27	2	20	20	10	5	5	L(5)	1	5	5	15
AGS635	5	4	L(5)	0.002	3	15	28	6	30	0.07	40	2	N(20)	20	L(10)	5	3	L(5)	1	N(5)	16	1500
AGS636	8	3	L(5)	0.012	26	150	10	6	30	0.08	35	2	30	20	L(10)	5	5	L(5)	1	N(5)	2	N(10)
AGS637	6	2	L(5)	0.003	6	15	31	4	30	0.05	59	2	30	20	10	5	3	L(5)	1	N(5)	10	30
AGS639	5	3	L(5)	0.004	13	20	41	32	50	0.22	34	2	50	20	10	5	7	L(5)	7	7	38	300
AGS641	5	2	L(5)	0.005	6	30	10	23	20	0.18	36	2	20	20	10	5	3	L(5)	3	5	11	20
AGS642	5	1	L(5)	0.004	6	15	12	13	30	0.8	46	2	30	20	10	5	7	L(5)	3	5	2	70
AGS643	7	3	L(5)	0.005	10	15	10	18	20	2.4	38	3	30	20	10	5	7	L(5)	3	5	2	N(10)
AGS644	5	2	L(5)	0.006	10	20	40	25	50	0.2	13	2	20	20	10	7	6	5	1	7	4	50
AGS645	5	1	L(5)	0.004	3	15	10	4	30	0.12	36	3	70	20	15	5	1	5	4	7	7	70
AGS646	5	2	L(5)	0.008	9	15	10	8	15	0.11	46	3	50	20	10	5	4	5	5	7	5	30
AGS647	5	2	L(5)	0.004	8	15	23	9	30	0.11	89	2	10	20	15	5	2	L(5)	2	5	4	20
AGS649	5	2	L(5)	0.003	4	50	10	9	30	0.45	46	2	N(20)	20	10	5	4	5	1	N(5)	2	N(10)
AGS651	5	2	L(5)	0.005	12	20	10	13	20	0.14	6	2	N(20)	20	10	5	9	L(5)	15	10	2	N(10)
AGS652	5	3	L(5)	0.005	8	30	34	20	30	0.28	52	2	20	20	10	5	8	L(5)	2	N(5)	2	30
AGS653	5	3	L(5)	0.006	10	30	10	16	30	0.05	84	2	20	20	10	5	8	L(5)	3	N(5)	2	30
AGS656	5	2	L(5)	0.004	10	15	13	19	70	0.45	47	2	30	20	10	5	9	L(5)	5	7	2	N(10)
AGS659	5	2	L(5)	0.009	9	15	67	51	30	0.12	93	2	20	20	10	10	7	5	2	N(5)	2	10
AGS664	9	2	L(5)	0.009	8	7	16	12	20	0.09	52	4	50	22	10	23	11	5	5	5	9	30
AGS665	5	1	L(5)	0.031	11	7	11	9	30	0.08	21	2	50	20	15	10	10	L(5)	6	5	5	30
AGS666	5	3	L(5)	0.006	12	10	10	15	15	0.03	5	2	20	20	15	20	11	5	5	N(5)	2	N(10)
AGS678	5	1	L(5)	0.006	9	50	10	10	30	0.13	32	7	50	20	10	5	9	L(5)	5	7	4	20
AGS684	5	3	L(5)	0.005	8	5	36	21	30	0.12	30	2	20	20	10	15	8	L(5)	10	7	4	30
AGS685	5	1	L(5)	0.009	10	50	10	8	20	0.04	26	2	20	20	10	13	9	5	5	7	3	30
AGS687	5	5	L(5)	0.003	16	10	36	17	20	0.18	17	2	20	20	15	9	19	L(5)	8	5	5	20
AGS692	5	3	L(5)	0.008	6	15	41	30	30	0.35	52	2	30	20	10	8	6	L(5)	6	7	6	20
AGS693	10	20	20	0.004	6	15	86	67	30	0.65	57	2	20	20	10	10	11	5	69	70	15	20
AGS701	5	3	L(5)	0.011	48	70	10	16	50	G(10)	49	3	50	20	10	10	9	L(5)	9	10	2	30
AGS774	5	2	L(5)	0.013	6	10	41	33	20	1.2	30	2	50	20	15	16	7	L(5)	18	20	191	70
AGS776	5	1	L(5)	0.004	15	7	37	26	30	5.5	108	3	200	20	15	22	17	L(5)	5	L(5)	75	200
AGS777	5	16	10	0.004	17	7	131	105	70	0.35	5	2	20	20	10	16	23	5	9	7	72	70
AGS778	10	10	L(5)	0.003	12	N(5)	67	42	15	0.20	32	3	N(20)	20	N(10)	20	18	L(5)	5	N(5)	311	50
AGS779	5	2	L(5)	0.004	11	5	38	27	50	0.90	44	2	70	20	10	12	13	5	6	5	15	70
AGS781	5	3	L(5)	0.004	12	5	80	51	50	0.30	5	2	20	20	15	20	19	5	5	5	58	70
AGS782	5	1	L(5)	0.002	9	5	61	39	30	0.30	56	2	70	20	10	9	11	L(5)	4	5	96	150
AGS783	5	6	L(5)	0.004	19	L(5)	73	87	50	1.0	5	2	N(20)	20	10	29	28	L(5)	8	5	9	N(10)

Table 1, continued. Geochemical data for Goldfield silicified rocks.

SAMPLE	Sb	Sb	Sc	Sn	Sr	Sr	Sr	Ta	Th	U	V	V	W	W	Y	Y	Zn	Zn	Zr	Zr	LOI
	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	%
	ICPa	ES	ES	ES	ICPf	ICPa	ES	ICPf	ICPa	ICPa	ICPa	ES	ICPa	ES	ICPf	ES	ICPf	ICPa	ICPf	ES	
BGM271	32	N(100)	7	N(10)	1650	209	1000	20	1	5	32	100	2	N(50)	6	10	56	58	118	100	13.60
BGM278	2	N(100)	10	N(10)	2592	203	2000	20	1	5	27	100	1	N(50)	5	N(10)	40	32	116	100	18.30
BGM280	5	N(100)	5	N(10)	861	63	700	20	1	5	3	20	1	N(50)	5	N(10)	24	14	107	150	2.40
BGM315	10	N(100)	5	N(10)	951	110	700	20	1	5	23	70	1	N(50)	5	10	116	130	107	200	5.90
BGM317	29	N(100)	5	N(10)	747	95	700	20	1	5	8	50	1	N(50)	5	10	14	8	107	150	4.50
BGM318	3	N(100)	5	N(10)	1276	176	2000	20	1	5	9	50	1	N(50)	11	20	21	19	185	200	3.40
BGM321	23	N(100)	10	N(10)	70	45	N(100)	20	1	5	76	100	5	N(50)	9	20	23	30	280	700	1.80
BGM322	7	N(100)	5	N(10)	67	25	N(100)	20	1	5	2	10	1	N(50)	5	10	10	5	179	300	0.70
BGM323	7	N(100)	7	N(10)	198	59	150	20	1	5	9	30	1	N(50)	10	10	10	17	177	200	4.60
BGM333	247	150	5	10	358	39	300	20	1	5	5	20	1	N(50)	5	L(10)	10	8	122	200	1.50
ADQ955	84	N(100)	n.d.	70	324	55	150	20	3	5	12	70	1	N(50)	5	N(10)	10	6	44	30	11.50
ADR019	1044	3000	n.d.	30	912	137	300	20	1	5	16	70	1	N(50)	5	N(10)	45	53	100	150	11.60
ADR063	19	N(100)	n.d.	N(10)	42	24	15	20	1	5	3	15	2	N(50)	5	N(10)	10	5	92	200	0.80
ADR112	17	N(100)	n.d.	N(10)	4089	204	2000	20	3	5	67	150	1	N(50)	6	N(10)	18	24	369	150	12.60
ADR138	11	N(100)	n.d.	N(10)	151	99	30	20	1	5	12	15	1	N(50)	5	N(10)	10	18	66	50	1.60
ADR152	29	N(100)	n.d.	N(10)	95	42	20	20	1	5	18	20	2	N(50)	5	N(10)	11	18	168	150	1.60
ADR161	3	N(100)	n.d.	N(10)	578	95	70	20	1	5	8	10	1	N(50)	5	N(10)	10	7	190	200	1.20
ADR181	106	200	n.d.	N(10)	2410	125	500	20	1	5	11	30	1	N(50)	5	N(10)	11	6	74	100	5.90
ADW618	4	N(200)	n.d.	N(10)	706	359	200	20	1	5	4	20	1	N(100)	5	N(10)	10	9	89	150	1.00
ADW622	3	N(200)	n.d.	10	2546	175	1000	20	1	5	11	10	2	N(100)	10	10	24	16	195	200	3.60
ADW634	6	N(200)	n.d.	N(10)	2306	183	1000	20	1	5	8	30	1	N(100)	6	N(10)	10	11	138	100	12.80
ADW644	4	N(200)	n.d.	N(10)	125	30	30	20	1	5	19	20	1	N(100)	5	10	16	24	74	150	2.10
ADW727	2	N(200)	n.d.	N(10)	80	45	20	20	2	5	90	70	1	N(100)	5	N(10)	62	74	168	200	5.20
ADW753	17	N(200)	n.d.	50	5776	207	5000	20	2	5	52	150	4	N(100)	12	N(10)	10	13	665	200	15.70
ADW791	2	N(200)	n.d.	N(10)	657	96	1000	20	2	5	38	50	1	N(100)	5	N(10)	48	47	107	30	5.90
ADY410	2	N(100)	7	N(10)	2113	124	1000	20	1	5	36	100	1	N(50)	5	5	10	16	122	150	15.70
ADY420	2	N(100)	15	N(10)	2480	110	1500	20	2	5	86	300	1	N(50)	8	10	17	25	155	300	4.90
ADY426	2460	3000	15	G(1000)	3754	433	2000	20	2	5	27	100	1	N(50)	5	5	15	9	55	30	39.80
ADY442	1090	G(10000)	10	N(10)	2073	410	1500	20	1	6	92	150	1	N(50)	5	L(5)	29	15	152	70	32.60
ADY443	95	1500	L(5)	N(10)	1287	672	700	20	1	5	11	30	1	N(50)	5	N(5)	44	20	36	30	31.20
ADY448	306	1000	15	300	2910	313	1500	20	1	5	11	100	1	N(50)	5	5	55	7	5	L(10)	38.30
ADY460	23	N(100)	7	N(10)	1888	357	1000	20	1	5	9	100	1	N(50)	5	5	18	7	128	150	13.50
ADY473	185	200	7	200	2117	212	1000	20	1	5	13	100	1	N(50)	5	5	10	2	104	100	25.60
ADY482	42	N(100)	5	10	1373	264	700	20	1	5	6	30	1	N(50)	5	N(5)	21	3	103	200	13.10
ADY526	118	100	7	30	1667	238	700	20	2	5	32	100	3	N(50)	5	7	49	11	128	150	23.60
ADY533	69	L(100)	30	N(10)	1613	215	1500	20	1	5	3	150	1	N(50)	5	N(5)	10	3	5	N(10)	39.90
ADY692	12	N(100)	15	N(10)	604	82	300	20	1	5	9	100	1	N(50)	12	20	15	3	234	500	3.90
ADY700	17	N(100)	5	N(10)	727	157	500	20	1	5	1	70	1	N(50)	5	N(5)	12	2	157	300	10.20
ADY703	2	N(100)	10	N(10)	1899	226	1500	20	1	5	22	150	1	N(50)	5	5	48	2	143	150	31.40
ADY704	9	N(100)	7	N(10)	418	236	200	20	1	5	39	100	1	N(50)	5	7	34	25	147	300	3.90
ADY713	6	N(100)	7	N(10)	473	51	300	20	1	5	62	150	1	N(50)	5	N(5)	15	6	161	300	5.30
ADY717	6	N(100)	7	N(10)	1043	91	700	20	1	5	24	150	1	N(50)	5	N(5)	10	4	117	200	14.10
ADY738	2	N(100)	5	N(10)	775	53	300	20	2	5	142	200	1	N(50)	5	7	24	12	85	100	9.20
AEA011	10	N(100)	5	N(10)	834	134	200	20	6	5	34	100	13	N(50)	9	N(10)	210	151	85	20	11.10
AEA014	37	N(100)	L(5)	N(10)	924	83	300	20	2	5	28	100	1	N(50)	5	N(10)	76	52	83	30	14.40
AEA018	6	N(100)	7	15	787	229	700	20	3	5	14	30	1	N(50)	5	N(10)	28	9	177	150	8.80
AEA019	48	N(100)	L(5)	N(10)	105	39	L(100)	20	2	5	40	50	1	N(50)	5	N(10)	18	7	93	70	2.70
AEA334	8	N(100)	10	N(10)	1482	352	1500	20	1	5	15	150	1	N(50)	7	15	40	32	139	150	19.50
AEA361	3	N(100)	7	N(10)	2349	200	2000	20	1	5	15	100	1	N(50)	5	L(10)	10	4	141	150	12.10
AEA395	3	N(100)	7	N(10)	826	71	300	20	1	5	64	100	1	N(50)	6	10	34	22	284	500	14.80
AEA397	3	N(100)	15	N(10)	1338	91	1500	20	1	5	33	150	1	N(50)	5	10	10	4	127	150	16.30
AEA402	8	N(100)	5	N(10)	507	33	300	20	1	5	5	70	1	N(50)	7	L(10)	59	13	147	150	11.00
AEB537	437	500	5	L(10)	1247	30	1500	20	1	5	2	70	1	N(50)	5	L(10)	10	3	83	100	6.30
AGS310	6	N(100)	L(5)	L(10)	249	37	100	20	1	5	26	20	3	N(50)	5	L(10)	10	4	172	100	1.40
AGS314	14	N(100)	5	L(10)	1277	393	500	20	1	5	11	50	1	N(50)	5	L(10)	12	2	57	30	4.40
AGS326	2	N(100)	L(5)	L(10)	61	31	L(100)	20	1	5	3	10	1	N(50)	5	L(10)	10	5	264	100	0.60
AGS327	2	N(100)	5	N(10)	46	18	L(100)	20	1	5	2	10	1	N(50)	7	L(10)	17	7	141	50	0.90
AGS328	2	N(100)	5	N(10)	32	15	L(100)	20	1	5	1	10	1	N(50)	5	L(10)	10	2	107	50	0.70
AGS330	24	N(100)	L(5)	N(10)	86	38	L(100)	20	1	5	13	20	1	N(50)	5	L(10)	31	25	109	50	2.00
AGS334	4	N(100)	10	N(10)	2369	448	1000	20	1	7	22	50	1	N(50)	9	10	27	15	125	50	10.30
AGS342	2	N(100)	7	N(10)	129	75	50	20	1	5	55	20	2	N(50)	5	L(10)	56	67	101	50	1.80
AGS343	2	N(100)	L(5)	N(10)	13	10	L(100)	20	1	5	2	10	1	N(50)	5	L(10)	14	3	123	50	0.60
AGS344	2	N(100)	10	N(10)	2116	257	1000	20	1	5	42	50	1	N(50)	6	L(10)	14	5	136	50	15.10
AGS345	19	N(100)	L(5)	N(10)	43	19	L(100)	20	1	5	25	20	1	N(50)	5	L(10)	13	7	73	30	0.90
AGS346	2	N(100)	L(5)	N(10)	813	571	500	20	1	6	34	30	5	N(50)	5	L(10)	13	11	63	30	20.30
AGS348	2	N(100)	L(5)	N(10)	38	14	L(100)	20	1	5	1	10	1	N(50)	5	L(10)	10	3	54	30	0.90
AGS349	4	N(100)	L(5)	N(10)	3208	165	1000	20	1	5	11	20	1	N(50)	5	L(10)	19	12	94	50	5.40
AGS351	2	N(100)	5	N(10)	854	153	200	20	1	5	8	20	1	N(50)	5	L(10)	17	5	171	50	5.20
AGS352	2	N(100)	5	N(10)	452	89	200	20	1	5	3	20	2	N(50)	12	L(10)	10	3	125	50	15.30

Table 1, continued. Geochemical data for Goldfield silicified rocks.

SAMPLE	Sb	Sb	Sc	Sn	Sr	Sr	Sr	Ta	Th	U	V	V	W	W	Y	Y	Zn	Zn	Zr	Zr	LOI
	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	%
	ICPp	ES	ES	ES	ICPf	ICPp	ES	ICPf	ICPp	ICPp	ICPp	ES	ICPp	ES	ICPf	ES	ICPf	ICPp	ICPf	ES	
AGS354	6	N(100)	5	N(10)	1740	88	500	20	1	5	28	30	1	N(50)	8	L(10)	17	9	164	50	7.20
AGS355	9	N(100)	L(5)	N(10)	44	16	L(100)	20	1	5	7	20	1	N(50)	5	L(10)	10	10	85	50	0.70
AGS356	2	N(100)	L(5)	N(10)	122	40	L(100)	20	1	5	10	20	1	N(50)	5	L(10)	10	9	128	50	1.20
AGS358	9	N(100)	L(5)	N(10)	64	15	L(100)	20	1	5	49	20	1	N(50)	5	L(10)	43	37	86	50	2.70
AGS362	2	N(100)	L(5)	N(10)	54	26	L(100)	20	1	5	4	15	1	N(50)	5	L(10)	10	5	44	50	1.00
AGS385	6	N(100)	5	L(10)	116	37	200	20	5	9	5	70	1	N(50)	6	10	10	2	83	50	3.00
AGS386	22	N(100)	5	L(10)	264	107	200	20	1	5	4	20	1	N(50)	5	L(10)	10	5	36	20	4.50
AGS387	2	N(100)	L(5)	L(10)	134	60	150	20	3	5	6	30	1	N(50)	5	L(10)	10	6	46	20	2.30
AGS388	16	N(100)	L(5)	L(10)	198	118	150	20	7	5	10	30	1	N(50)	7	L(10)	10	10	67	30	2.60
AGS407	84	N(100)	L(5)	L(10)	934	112	500	20	1	5	12	10	2	N(50)	5	L(10)	10	10	114	50	1.30
AGS408	3	N(100)	L(5)	L(10)	208	96	100	20	2	5	4	10	1	N(50)	6	L(10)	10	4	190	50	15.20
AGS413	10	N(100)	L(5)	L(10)	479	102	200	20	1	5	4	10	1	N(50)	5	L(10)	10	7	134	50	1.70
AGS422	2	N(100)	5	N(10)	123	82	100	20	3	5	8	20	2	N(50)	7	N(10)	23	23	345	300	2.50
AGS424	2	N(100)	5	N(10)	126	33	L(100)	20	1	5	8	20	1	N(50)	5	N(10)	10	7	77	100	2.20
AGS425	2	N(100)	5	N(10)	35	14	N(100)	20	1	5	17	20	1	N(50)	5	N(10)	10	4	81	100	2.30
AGS427	19	N(100)	10	N(10)	3182	149	1500	20	1	5	24	100	1	N(50)	9	N(10)	29	33	120	100	5.50
AGS431	20	N(100)	N(5)	N(10)	108	85	L(100)	20	3	5	3	10	1	N(50)	5	N(10)	17	10	46	30	2.30
AGS432	6	N(100)	N(5)	N(10)	176	29	100	20	1	5	6	10	1	N(50)	5	N(10)	10	7	79	50	1.50
AGS442	5	N(100)	7	N(10)	252	53	300	20	3	5	4	30	2	N(50)	11	15	10	9	203	200	13.30
AGS452	16	N(100)	L(5)	N(10)	50	28	N(100)	20	1	5	3	10	1	N(50)	5	N(10)	10	7	153	200	0.60
AGS453	10	N(100)	5	N(10)	263	76	150	20	2	5	5	30	1	N(50)	11	15	15	5	126	100	6.00
AGS454	22	N(100)	5	N(10)	63	24	N(100)	20	1	5	5	10	1	N(50)	12	15	12	14	407	1000	0.80
AGS470	6	N(100)	N(5)	N(10)	151	49	150	20	1	5	4	30	2	N(50)	5	L(10)	11	7	146	200	5.00
AGS471	11	L(100)	5	N(10)	92	44	100	20	1	5	4	15	1	N(50)	8	15	12	8	185	500	0.90
AGS472	109	300	5	N(10)	434	90	500	20	2	5	96	150	78	200	9	15	10	13	205	300	4.20
AGS474	14	L(100)	L(5)	N(10)	56	36	N(100)	20	1	5	5	10	1	N(50)	8	10	10	8	194	300	1.20
AGS483	2	N(100)	L(5)	L(10)	1063	66	1500	20	1	5	14	70	1	N(50)	5	N(10)	12	5	107	200	3.90
AGS532	2	N(100)	N(5)	N(10)	18	10	N(100)	20	1	5	3	L(10)	1	N(50)	5	L(10)	10	3	26	70	0.50
AGS552	2	N(100)	7	N(10)	39	19	N(100)	20	1	5	1	20	1	N(50)	5	10	10	3	164	500	0.90
AGS589	2	N(100)	10	N(10)	1254	44	2000	20	1	5	52	100	1	N(50)	12	20	12	15	160	200	10.20
AGS590	2	N(100)	7	N(10)	1582	122	1500	20	1	5	38	150	1	N(50)	21	20	14	7	173	100	9.40
AGS605	5	N(100)	5	N(10)	281	51	N(100)	20	1	5	2	20	1	N(50)	5	L(10)	10	8	164	150	0.80
AGS606	18	N(100)	10	N(10)	487	207	200	20	1	5	7	30	1	N(50)	14	15	20	25	284	200	3.60
AGS627	3	N(100)	L(5)	20	103	84	L(100)	20	1	5	28	30	2	N(50)	5	L(10)	10	3	97	70	1.00
AGS629	8	N(100)	L(5)	N(10)	30	5	N(100)	20	3	5	13	20	4	N(50)	5	L(10)	40	29	64	70	2.20
AGS634	2	N(100)	7	N(10)	1279	151	1000	20	1	5	12	150	1	N(50)	5	L(10)	10	3	96	100	18.00
AGS635	3	N(100)	10	N(10)	876	83	700	20	1	5	5	100	1	N(50)	7	10	62	12	125	70	18.40
AGS636	5	N(100)	15	N(10)	3172	132	5000	20	2	5	396	700	1	N(50)	21	20	14	2	140	100	9.90
AGS637	2	N(100)	15	N(10)	447	63	300	20	1	5	7	150	1	N(50)	12	15	44	1	240	200	20.50
AGS639	4	N(100)	15	N(10)	4016	143	G(5000)	20	1	5	104	150	1	N(50)	8	20	33	27	138	150	15.90
AGS641	2	N(100)	15	N(10)	5693	196	5000	20	1	5	33	200	1	N(50)	5	10	27	21	175	150	9.40
AGS642	2	N(100)	10	N(10)	1294	125	1500	20	1	5	7	150	1	N(50)	5	10	21	4	180	150	16.40
AGS643	6	N(100)	15	N(10)	578	70	500	20	2	5	23	100	1	N(50)	11	15	25	7	223	200	4.70
AGS644	2	N(100)	10	N(10)	1218	116	1500	20	1	5	7	100	1	N(50)	5	L(10)	13	6	82	70	13.20
AGS645	2	N(100)	10	N(10)	1384	131	2000	20	1	5	6	100	1	N(50)	5	10	10	2	153	150	14.30
AGS646	4	N(100)	7	N(10)	2893	162	2000	20	2	5	79	100	1	N(50)	5	L(10)	16	3	113	100	6.30
AGS647	2	N(100)	20	N(10)	1531	108	2000	20	2	5	41	100	1	N(50)	12	20	13	4	213	300	5.80
AGS649	2	N(100)	10	N(10)	5241	216	3000	20	2	5	74	300	1	N(50)	5	L(10)	11	2	109	70	18.00
AGS651	8	N(100)	5	N(10)	329	32	200	20	1	5	45	70	1	N(50)	5	L(10)	11	3	91	70	4.80
AGS652	2	N(100)	15	N(10)	3706	143	3000	20	1	5	30	200	1	N(50)	7	15	10	3	129	150	18.30
AGS653	2	N(100)	7	N(10)	964	117	1000	20	1	5	29	150	1	N(50)	5	L(10)	19	5	123	100	16.70
AGS656	3	N(100)	20	N(10)	3280	230	3000	20	1	5	34	200	1	N(50)	6	10	13	3	169	150	12.40
AGS659	2	N(100)	15	N(10)	3590	136	2000	20	1	5	12	70	1	N(50)	6	10	27	21	123	150	9.80
AGS664	2	N(100)	5	N(10)	1799	236	1500	20	1	5	6	100	1	N(50)	5	L(10)	10	4	156	70	16.10
AGS665	2	N(100)	15	N(10)	1136	128	1000	20	1	5	22	100	1	N(50)	6	10	10	3	129	70	15.90
AGS666	2	N(100)	5	N(10)	60	19	N(100)	20	1	5	63	70	1	N(50)	5	L(10)	10	2	63	70	1.90
AGS678	2	N(100)	20	N(10)	894	329	1000	20	1	5	20	300	1	N(50)	19	30	10	8	172	150	21.50
AGS684	2	N(100)	5	N(10)	876	118	500	20	2	5	48	70	1	N(50)	5	L(10)	16	18	149	70	15.40
AGS685	2	N(100)	10	N(10)	942	96	1000	20	1	5	7	100	1	N(50)	5	L(10)	10	4	143	100	18.40
AGS687	2	N(100)	10	N(10)	662	137	700	20	1	5	17	30	1	N(50)	5	10	18	6	240	200	4.20
AGS692	2	N(100)	7	N(10)	910	110	1000	20	2	5	290	200	3	N(50)	7	10	103	95	194	150	7.40
AGS693	2	N(100)	10	N(10)	3107	143	2000	20	1	5	68	150	1	N(50)	6	10	10	14	111	100	4.60
AGS701	2	N(100)	15	N(10)	1998	336	2000	20	2	5	31	150	1	N(50)	5	10	10	6	159	70	17.60
AGS774	45	N(100)	10	N(10)	1308	445	2000	20	2	5	48	100	1	N(50)	5	10	31	28	107	150	5.40
AGS776	66	100	15	50	591	119	500	20	1	5	8	50	1	N(50)	20	30	12	10	333	500	4.60
AGS777	32	N(100)	5	N(10)	359	60	200	20	1	5	28	50	3	N(50)	5	10	52	61	37	50	3.00
AGS778	49	N(100)	N(5)	N(10)	1399	340	N(100)	20	1	5	23	N(10)	1	N(50)	5	N(10)	19	20	107	N(10)	3.00
AGS779	6	N(100)	5	L(10)	312	72	300	20	1	5	18	50	2	N(50)	5	10	10	10	128	200	12.80
AGS781	24	100	5	20	148	82	200	20	1	5	15	30	4	N(50)	5	10	25	26	144	200	1.20
AGS782	21	N(100)	5	N(10)	768	62	500	20	1	5	12	30	2	N(50)	5	L(10)	100	133	182	300	3.40
AGS783	5	N(100)	5	N(10)	62	48	N(100)	20	1	5	4	20	1	N(50)	26	30	10	6	408	500	0.00

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APPENDIX

Sample locations. Locality numbers are shown on figure 1; sample numbers are shown on table 1; latitude and longitude are in decimal degrees.

Loc. no.	Sample	Latitude	Longitude	Loc. no.	Sample	Latitude	Longitude	Loc. no.	Sample	Latitude	Longitude
1	BGM271	37.7216	117.2230	48	AEA334	37.7035	117.1389	95	AGS474	37.7390	117.2289
2	BGM278	37.7194	117.2107	49	AEA361	37.7136	117.2254	96	AGS483	37.7232	117.2234
3	BGM280	37.7180	117.2157	50	AEA395	37.7060	117.1545	97	AGS532	37.7288	117.2041
4	BGM315	37.7317	117.2282	51	AEA397	37.7081	117.1479	98	AGS552	37.7395	117.2014
5	BGM317	37.7312	117.2320	52	AEA402	37.7277	117.2247	99	AGS589	37.7261	117.1578
6	BGM318	37.7273	117.2282	53	AEB537	37.7503	117.1762	100	AGS590	37.7249	117.1542
7	BGM321	37.7376	117.2304	54	AGS310	37.7544	117.1889	101	AGS605	37.7545	117.1603
8	BGM322	37.7397	117.2295	55	AGS314	37.7544	117.1929	102	AGS606	37.7561	117.1620
9	BGM323	37.7423	117.2296	56	AGS326	37.7531	117.1990	103	AGS627	37.6949	117.1409
10	BGM333	37.7573	117.1837	57	AGS327	37.7529	117.1994	104	AGS629	37.6960	117.1423
11	ADQ955	37.7279	117.2052	58	AGS328	37.7525	117.2002	105	AGS634	37.6993	117.1408
12	ADR019	37.7294	117.2012	59	AGS330	37.7550	117.1973	106	AGS635	37.6989	117.1394
13	ADR063	37.7508	117.1766	60	AGS334	37.7552	117.1940	107	AGS636	37.6961	117.1389
14	ADR112	37.7362	117.1907	61	AGS342	37.7604	117.1848	108	AGS637	37.6960	117.1375
15	ADR138	37.7535	117.1958	62	AGS343	37.7599	117.1843	109	AGS639	37.6953	117.1352
16	ADR152	37.7533	117.1913	63	AGS344	37.7600	117.1840	110	AGS641	37.6943	117.1373
17	ADR161	37.7543	117.1870	64	AGS345	37.7597	117.1837	111	AGS642	37.7005	117.1374
18	ADR181	37.7508	117.1753	65	AGS346	37.7592	117.1838	112	AGS643	37.7000	117.1356
19	ADW618	37.6945	117.1624	66	AGS348	37.7549	117.1836	113	AGS644	37.6998	117.1347
20	ADW622	37.6947	117.1414	67	AGS349	37.7555	117.1834	114	AGS645	37.7004	117.1347
21	ADW634	37.6973	117.1409	68	AGS351	37.7498	117.1791	115	AGS646	37.7011	117.1352
22	ADW644	37.6989	117.1413	69	AGS352	37.7498	117.1822	116	AGS647	37.7019	117.1364
23	ADW727	37.7041	117.1884	70	AGS354	37.7511	117.1766	117	AGS649	37.7014	117.1327
24	ADW753	37.7070	117.1651	71	AGS355	37.7511	117.1766	118	AGS651	37.6998	117.1330
25	ADW791	37.7134	117.2031	72	AGS356	37.7513	117.1759	119	AGS652	37.6990	117.1333
26	ADY410	37.7003	117.1709	73	AGS358	37.7516	117.1746	120	AGS653	37.6987	117.1342
27	ADY420	37.7010	117.1701	74	AGS362	37.7551	117.1768	121	AGS656	37.6954	117.1310
28	ADY426	37.7014	117.1659	75	AGS385	37.7482	117.2145	122	AGS659	37.6974	117.1270
29	ADY442	37.7011	117.1629	76	AGS386	37.7463	117.2166	123	AGS664	37.7024	117.1302
30	ADY443	37.7011	117.1629	77	AGS387	37.7468	117.2176	124	AGS665	37.7019	117.1315
31	ADY448	37.7026	117.1713	78	AGS388	37.7469	117.2173	125	AGS666	37.7011	117.1312
32	ADY460	37.7034	117.1720	79	AGS407	37.7457	117.2267	126	AGS678	37.6921	117.1189
33	ADY473	37.7050	117.1740	80	AGS408	37.7463	117.2264	127	AGS684	37.6979	117.1194
34	ADY482	37.7052	117.1744	81	AGS413	37.7480	117.2327	128	AGS685	37.6984	117.1205
35	ADY526	37.7068	117.1696	82	AGS422	37.7386	117.2054	129	AGS687	37.7019	117.1238
36	ADY533	37.7057	117.1689	83	AGS424	37.7366	117.2126	130	AGS692	37.7029	117.1183
37	ADY692	37.6991	117.1473	84	AGS425	37.7373	117.2165	131	AGS693	37.7035	117.1208
38	ADY700	37.7005	117.1637	85	AGS427	37.7403	117.2167	132	AGS701	37.6970	117.1157
39	ADY703	37.6992	117.1506	86	AGS431	37.7439	117.2047	133	AGS774	37.7449	117.2175
40	ADY704	37.6992	117.1464	87	AGS432	37.7234	117.2228	134	AGS776	37.7459	117.2169
41	ADY713	37.7018	117.1552	88	AGS442	37.7273	117.2245	135	AGS777	37.7430	117.2204
42	ADY717	37.7008	117.1519	89	AGS452	37.7396	117.2250	136	AGS778	37.7419	117.2199
43	ADY738	37.7041	117.1468	90	AGS453	37.7379	117.2230	137	AGS779	37.7407	117.2202
44	AEA011	37.7154	117.2134	91	AGS454	37.7383	117.2236	138	AGS781	37.7416	117.2267
45	AEA014	37.7137	117.2146	92	AGS470	37.7459	117.2287	139	AGS782	37.7399	117.2261
46	AEA018	37.7129	117.2172	93	AGS471	37.7443	117.2283	140	AGS783	37.7386	117.2256
47	AEA019	37.7132	117.2190	94	AGS472	37.7436	117.2276				