

UNITED STATES DEPARTMENT OF THE INTERIOR
GEOLOGICAL SURVEY

ACID-EXTRACTABLE ALUMINA AND WATER-SOLUBLE SODIUM ANALYSES
AND HISTOGRAMS OF EOCENE GREEN RIVER FORMATION FROM
U.S. GEOLOGICAL SURVEY COREHOLES CR-1 AND CR-2
PICEANCE CREEK BASIN, RIO BLANCO COUNTY, COLORADO

By

John R. Donnell and Marjorie C. Smith

Open-File Report 80- 663

1980

This report is preliminary and has not
been edited or reviewed for conformity
with U.S. Geological Survey standards.

CONTENTS

	Page
Discussion -----	1
Reference Cited -----	47

ILLUSTRATIONS

Figure 1. Index map showing location of Piceance Creek Basin --	1a
2. Map showing location of coreholes CR-1 and CR-2 -----	1b
3. Histograms of acid-extractable alumina and water-soluble sodium from USGS coreholes CR-1 and CR-2, Green River Formation, Rio Blanco County, Colorado --	In Pocket

TABLES

Table 1. U.S. Geological Survey Corehole CR-1 -----	3
2. U.S. Geological Survey Corehole CR-2 -----	22

ACID-EXTRACTABLE ALUMINA AND WATER-SOLUBLE SODIUM ANALYSES

AND HISTOGRAMS OF EOCENE GREEN RIVER FORMATION FROM

U.S. GEOLOGICAL SURVEY COREHOLES CR-1 AND CR-2

PICEANCE CREEK BASIN, RIO BLANCO COUNTY, COLORADO

By

John R. Donnell and Marjorie C. Smith

DISCUSSION

Two coreholes, CR-1 and CR-2, were drilled by the U.S. Geological Survey in 1975 to evaluate the oil-shale, nahcolite (NaHCO_3), dawsonite ($\text{Na}_3\text{Al}(\text{CO}_3)_3 \cdot 2\text{Al}(\text{OH})_2$), and major, minor, and trace element concentrations of the northeastern part of the Piceance Creek Basin (figs. 1 and 2). Nahcolite and dawsonite may possibly be important byproducts derived from a large scale oil-shale industry. The Laramie Energy Technical Center, U.S. Department of Energy determined the shale-oil content of the cores, utilizing the modified Fischer assay method. The results of these assays have been published previously (Donnell and Pitman, 1975). The top and base of rich and lean oil-shale zones delineated on the shale-oil histograms in Donnell and Pitman (1975) are also depicted on figure 3 in this report.

A representative cut of each sample used for shale-oil assay, in the parts of the core believed to contain nahcolite and dawsonite from the two coreholes, were analyzed for water-soluble sodium and acid-extractable alumina. The interval sampled for water-soluble sodium was determined by visual inspection of the core. The interval sampled for acid-extractable alumina was comparable to the intervals known to have significant concentrations of acid or caustic extractable alumina in other cores. About 900 feet of core from corehole CR-1 and approximately 1,000 feet of core from corehole CR-2 were analyzed for acid-extractable alumina (fig. 3). About 300 feet in corehole CR-1 and about 60 feet in corehole CR-2 were analyzed for water-soluble sodium. All the samples were analyzed by Wayne Mountjoy, Harriet Neiman, and Carol Gent of the U.S. Geological Survey, Branch of Analytical Laboratories in Denver, Colorado. The results are shown in table 1, table 2, and figure 3.

The concentration of the mineral nahcolite in the core may be determined by multiplying the percent of Na_2O reported in table 1 and table 2 by 2.71. Most of the acid-extractable alumina is derived from dawsonite and an unidentified amorphous sodium aluminum oxide mineral; however, the alumina in some zones such as the interval

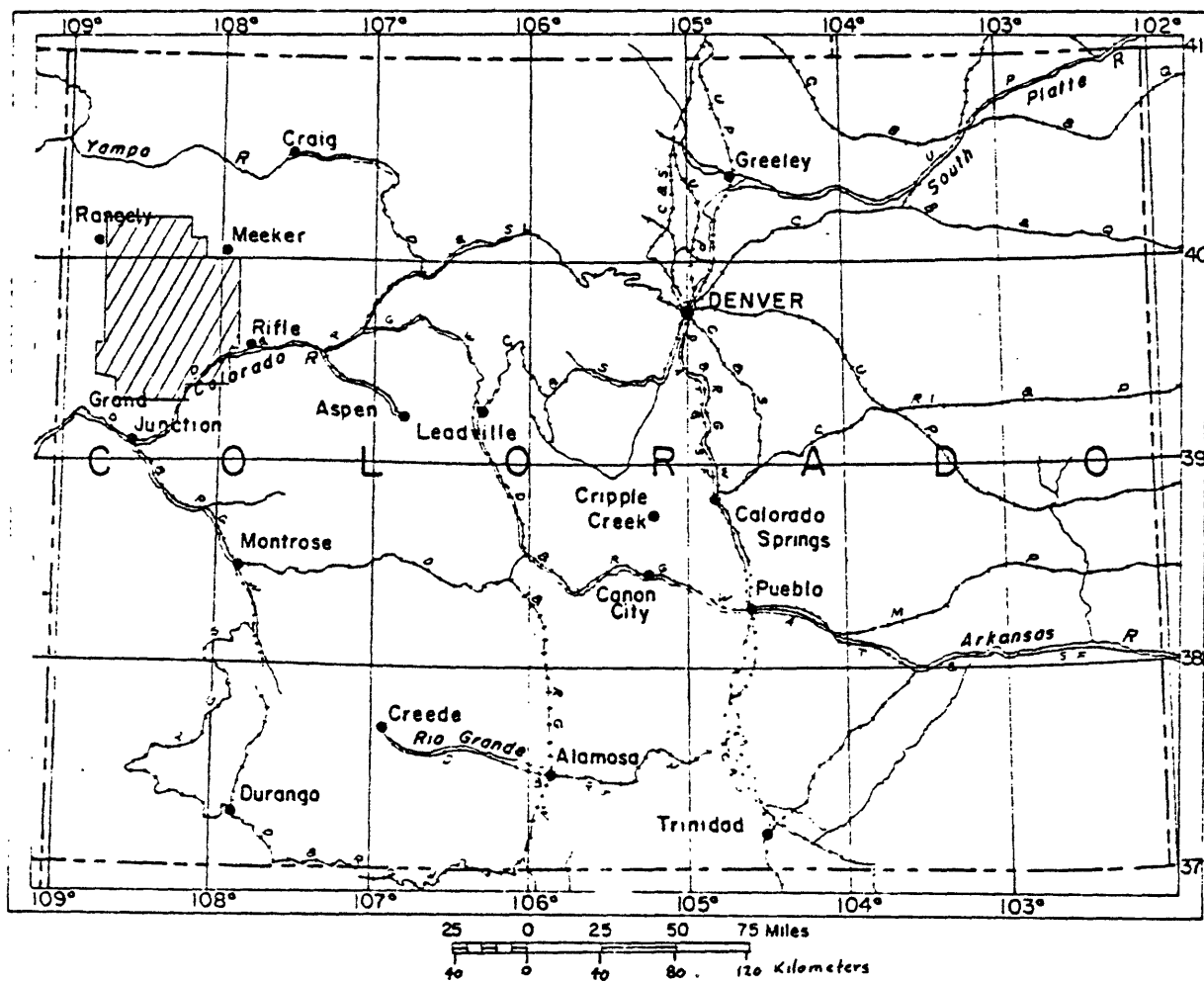


Figure 1.-- Index map of Colorado showing the location of the Piceance Creek Basin (diagonal ruled pattern).

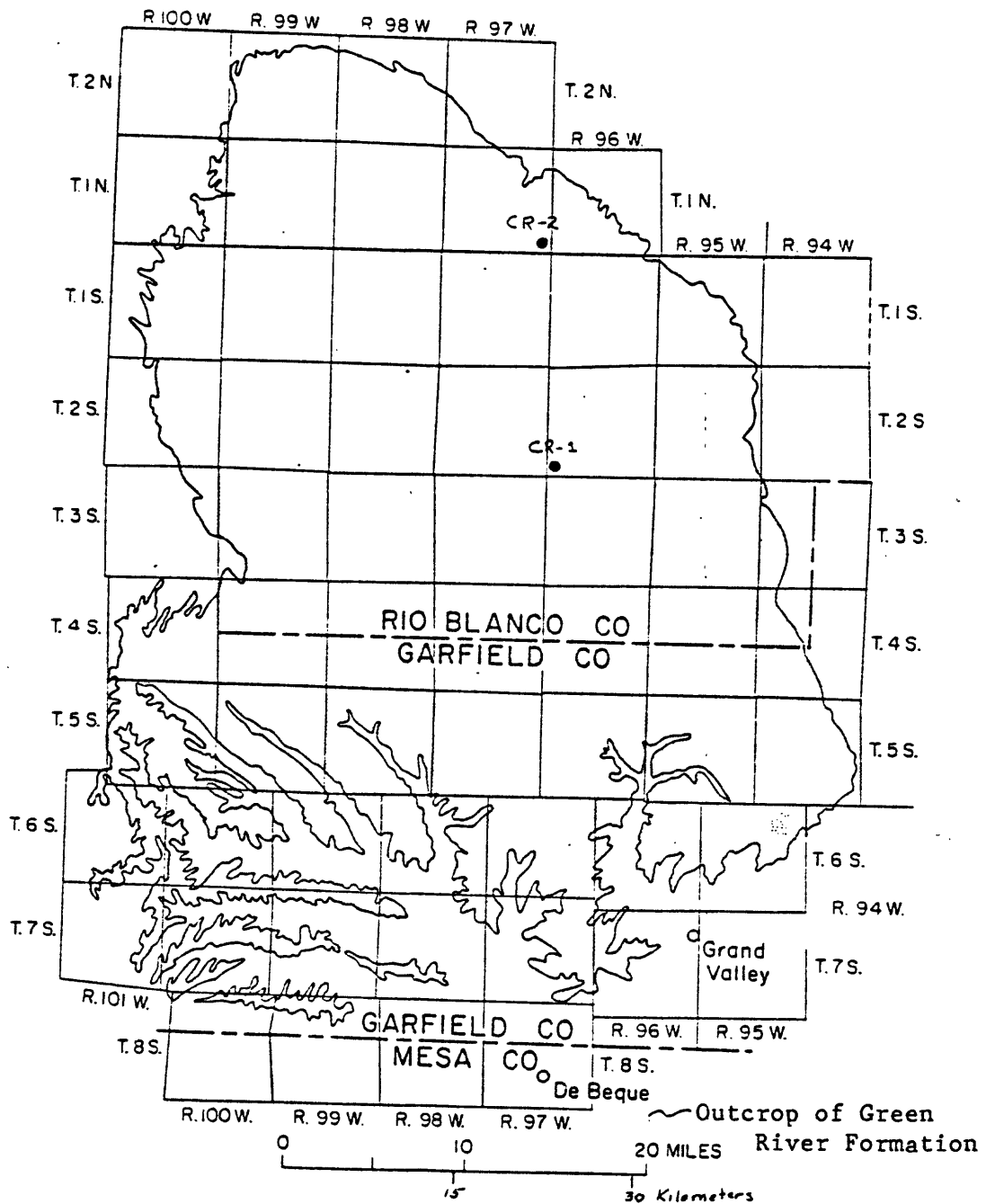


Figure 2.-- Map of the Piceance Creek Basin showing the location of Coreholes CR-1 and CR-2.

between 1,137 feet and 1,151 feet in corehole CR-2 is believed to be derived mostly from analcime ($\text{NaAlSi}_2\text{O}_6 \cdot \text{H}_2\text{O}$).

A major part of the core interval plotted on figure 3 formerly contained interbeds or pods of nahcolite. Percolating ground water subsequently leached much of the highly soluble nahcolite, leaving open vugs where pods of nahcolite were dissolved and oil-shale rubble where beds of nahcolite were dissolved and the overlying oil shale caved into the void created by leaching. In places the rubble has been recemented and forms collapse breccia. The base of the zone within which nahcolite was leached is indicated on figure 3. No core was recovered in the intervals where no extractable-alumina analysis was recorded.

Table 1.--Acid-extractable alumina and water-soluble sodium analyses for
U.S. Geological Survey corehole CR-1

[Leaders, no analysis]

Sample interval	Acid-extractable alumina Al ₂ O ₃ %	Water-soluble sodium Na ₂ O%
1770.6-1772.0	0.32	--
1772.0-1773.2	0.44	--
1773.2-1774.7	0.40	--
1774.7-1776.0	0.38	--
1776.0-1777.6	0.40	--
1777.6-1778.7	0.40	--
1778.7-1779.8	0.34	--
1779.8-1781.0	0.30	--
1781.0-1782.0	0.56	--
1782.0-1783.0	0.19	--
1783.0-1784.5	0.32	--
1784.5-1785.5	0.32	--
1785.5-1786.6	0.28	--
1786.6-1787.7	0.80	--
1787.7-1788.7	0.40	--
1788.7-1790.0	0.41	--
1790.0-1791.0	0.30	--
1791.0-1792.3	0.36	--
1792.3-1793.5	0.86	--
1793.5-1794.7	0.34	--
1794.7-1796.0	0.26	--
1796.0-1797.0	0.22	--
1797.0-1798.0	0.56	--
1798.0-1799.0	1.44	--
1799.0-1800.0	5.48	--
1800.0-1801.0	1.86	--
1801.0-1802.0	0.78	--
1811.0-1812.0	2.04	--
1812.0-1813.0	2.02	--
1813.0-1814.0	3.16	--

Table 1.--Acid-extractable alumina and water-soluble sodium analyses for
U.S. Geological Survey corehole CR-1--continued

[Leaders, no analysis]

Sample interval	Acid-extractable alumina Al ₂ O ₃ %	Water-soluble sodium Na ₂ O%
1814.0-1815.0	3.00	--
1815.0-1816.0	3.00	--
1816.0-1817.0	3.16	--
1817.0-1818.0	4.06	--
1818.0-1819.0	3.58	--
1820.0-1821.0	5.10	--
1821.0-1822.3	4.64	--
1822.3-1823.5	2.66	--
1823.5-1824.7	2.94	--
1824.7-1825.8	1.80	--
1825.8-1827.0	1.00	--
1827.0-1828.0	1.00	--
1828.3-1829.6	1.24	--
1829.6-1831.0	1.56	--
1836.0-1837.0	0.92	--
1837.0-1838.0	1.80	--
1838.0-1839.0	4.40	--
1839.0-1840.0	4.16	--
1840.0-1841.0	3.40	--
1841.0-1842.0	3.50	--
1842.0-1843.0	3.78	--
1843.0-1844.0	3.68	--
1844.0-1845.0	3.72	--
1845.0-1846.0	4.16	--
1846.0-1847.0	5.76	--
1847.0-1848.0	4.58	--
1848.0-1849.0	3.28	--
1849.0-1850.0	1.18	--
1850.0-1851.4	2.94	--
1851.4-1852.7	3.04	--
1852.7-1854.0	3.24	--
1854.1-1855.0	4.52	--
1855.0-1856.0	4.56	--
1856.0-1857.0	4.02	--
1857.0-1858.0	3.80	--

Table 1.--Acid-extractable alumina and water-soluble sodium analyses for
U.S. Geological Survey corehole CR-1--continued

[Leaders, no analysis]

Sample interval	Acid-extractable alumina Al ₂ O ₃ %	Water-soluble sodium Na ₂ O%
1858.0-1859.0	4.02	--
1859.0-1860.0	3.56	--
1860.0-1861.0	4.44	--
1861.0-1862.0	3.52	--
1862.0-1863.0	5.72	--
1863.0-1864.0	5.18	--
1864.0-1864.6	3.30	--
1868.0-1869.0	2.52	--
1869.0-1870.0	3.16	--
1870.0-1871.0 vugs	3.62	--
1871.0-1872.0 vugs	3.72	--
1872.0-1873.0 vugs	3.86	--
1878.4-1879.7 rubble, vugs	4.10	--
1879.7-1881.0	2.12	--
1881.0-1882.1	2.74	--
1882.1-1882.9	2.56	--
1882.9-1884.1	3.42	--
1884.1-1885.6	4.40	--
1896.3-1897.4	4.78	--
1897.4-1898.5	5.13	--
1898.5-1899.5 vugs	4.42	--
1899.5-1900.6 vugs	4.40	--
1900.6-1901.6 vugs	4.69	--
1901.6-1902.6	4.55	--
1902.6-1903.7	5.16	--
1903.7-1904.7	5.03	--
1904.7-1905.8	3.92	--
1906.0-1906.8	1.98	--
1906.8-1908.0	2.93	--
1908.0-1909.1	4.28	--
1909.1-1910.3	4.10	--
1910.3-1911.5	3.10	--
1911.5-1912.5	3.00	--
1912.5-1913.7	3.44	--
1913.7-1914.7	2.88	--

Table 1.--Acid-extractable alumina and water-soluble sodium analyses for
U.S. Geological Survey corehole CR-1--continued

[Leaders, no analysis]

Sample interval	Acid-extractable alumina Al ₂ O ₃ %	Water-soluble sodium Na ₂ O%
1914.7-1915.7	2.65	--
1915.7-1917.0	2.90	--
1917.2-1918.2	3.40	--
1918.2-1919.2	3.88	--
1919.2-1920.9	1.40	--
1921.2-1922.5	2.74	--
1922.5-1923.7	3.12	--
1923.7-1924.7	3.26	--
1924.7-1925.7	3.70	--
1925.7-1926.7	3.66	--
1926.7-1927.7	3.82	--
1927.7-1928.7	3.22	--
1928.7-1930.0	4.98	--
1930.0-1932.0	5.10	--
1941.0-1942.2	1.18	--
1942.2-1943.4	1.60	--
1943.4-1944.5	1.56	--
1944.5-1945.6	1.55	--
1945.6-1946.6	2.64	--
1946.6-1947.8	6.94	--
1947.8-1949.0	6.48	--
1949.0-1950.0	3.22	--
1950.0-1951.0	3.10	--
1951.0-1951.6	3.40	--
1951.6-1952.4	3.42	--
1952.4-1953.4	1.06	--
1953.4-1954.4	0.96	--
1954.4-1955.4	1.14	--
1955.4-1956.4	2.04	--
1956.4-1957.4	5.96	--
1957.4-1958.7	5.54	--
1958.7-1960.0	4.90	--
1960.0-1961.0	4.80	--
1961.0-1962.0	3.84	--
1962.0-1963.0	3.24	--

Table 1.--Acid-extractable alumina and water-soluble sodium analyses for
U.S. Geological Survey corehole CR-1--continued

[Leaders, no analysis]

Sample interval	Acid-extractable alumina Al ₂ O ₃ %	Water-soluble sodium Na ₂ O%
1963.0-1964.0	4.50	--
1964.0-1965.0	6.80	--
1965.0-1966.0	7.88	--
1966.0-1967.0	7.80	--
1967.0-1968.4	7.52	--
1968.4-1969.7	8.18	--
1970.0-1970.9	7.38	--
1970.9-1971.6	6.92	--
1971.6-1972.5	3.44	--
1972.5-1973.8	3.50	--
1978.3-1979.3	1.78	--
1979.3-1980.4	0.90	--
1980.4-1981.0	4.14	--
1981.2-1982.5	2.40	--
1982.5-1983.5	1.34	--
1983.5-1984.5	2.44	--
1984.5-1985.8	1.66	--
1985.8-1986.8	1.38	--
1990.0-1991.3	0.96	--
1991.3-1993.3	4.98	--
1993.3-1994.3	4.14	--
1994.3-1995.4	3.98	--
1995.4-1996.4	5.08	--
1996.4-1998.0	3.38	--
2011.0-2012.0	5.68	--
2012.0-2013.0	1.66	--
2013.0-2014.4	5.34	--
2014.4-2015.4	5.20	--
2015.4-2016.5	4.24	--
2016.5-2017.6	4.86	--
2017.6-2018.8	3.72	--
2018.8-2020.0	3.84	--
2020.0-2021.0	2.46	--
2021.0-2022.0	2.56	--
2022.0-2023.0	1.68	--

Table 1.--Acid-extractable alumina and water-soluble sodium analyses for
U.S. Geological Survey corehole CR-1--continued

[Leaders, no analysis]

Sample interval	Acid-extractable alumina Al ₂ O ₃ %	Water-soluble sodium Na ₂ O%
2023.0-2024.0	1.88	--
2024.0-2025.0	3.49	--
2025.0-2026.0	4.28	--
2026.0-2029.0	5.20	--
2029.0-2030.0	5.70	--
2030.0-2031.0	4.08	--
2031.0-2032.0	3.94	--
2032.0-2033.0	4.94	--
2033.0-2034.0	4.10	--
2034.0-2035.0	4.62	--
2035.0-2036.0	6.00	--
2036.0-2037.0	8.26	--
2037.0-2038.0	7.54	--
2038.0-2039.0	5.94	--
2039.0-2041.0 rubble	5.10	--
2042.0-2043.0	4.28	--
2043.0-2044.0	2.82	--
2044.0-2045.0	3.38	--
2045.0-2046.0	3.60	--
2046.0-2047.0	2.16	--
2047.0-2048.0	3.60	--
2048.0-2049.0	4.04	--
2049.0-2050.0	4.04	--
2050.0-2051.2	3.90	--
2051.2-2052.3	3.88	--
2053.2-2053.6	4.04	--
2053.6-2054.7	2.54	--
2054.7-2056.0 breccia	3.72	--
2056.0-2058.0 rubble	4.02	--
2058.0-2060.0	4.66	--
2060.0-2061.3	3.80	--
2061.3-2062.4	3.78	--
2062.4-2063.6	3.52	--
2063.6-2064.8	2.32	--
2064.8-2066.0	2.64	--

Table 1.--Acid-extractable alumina and water-soluble sodium analyses for
U.S. Geological Survey corehole CR-1--continued

[Leaders, no analysis.]

Sample interval	Acid-extractable alumina Al ₂ O ₃ %	Water-soluble sodium Na ₂ O%
2066.0-2067.2	5.16	--
2067.2-2068.4	5.82	--
2068.4-2069.6	1.70	--
2069.9-2071.2	1.78	--
2071.2-2072.4	No sample	--
2073.0-2074.0	4.32	--
2074.0-2075.4	4.50	--
2075.4-2076.8	4.26	--
2076.8-2079.1	4.00	--
2102.0-2103.0	3.12	--
2103.0-2104.1	3.40	--
2104.1-2105.4	2.34	--
2105.4-2106.7	2.34	--
2106.7-2107.8	3.36	--
2107.8-2108.4	3.22	--
2108.4-2109.6	5.24	--
2109.6-2110.8	5.46	--
2110.8-2112.0	5.36	--
2112.0-2113.0	4.82	--
2113.0-2114.0	3.80	--
2114.0-2115.0	4.32	--
2115.0-2116.0	4.14	--
2116.0-2117.0	4.82	--
2117.0-2118.0	5.40	--
2118.0-2119.0	5.40	--
2119.0-2120.0	4.80	--
2120.2-2121.5	3.96	--
2121.5-2122.5	3.06	--
2122.5-2123.7	2.96	--
2123.7-2124.9	3.18	--
2125.1-2126.5	3.78	--
2126.5-2127.6	3.54	--
2127.6-2128.7	3.92	--
2128.7-2129.8	3.76	--
2129.8-2131.0	3.68	--

Table 1.--Acid-extractable alumina and water-soluble sodium analyses for
U.S. Geological Survey corehole CR-1--continued

[Leaders, no analysis]

Sample interval	Acid-extractable alumina Al ₂ O ₃ %	Water-soluble sodium Na ₂ O%
2131.0-2132.2	2.86	--
2132.2-2133.2	1.72	--
2133.2-2135.0	6.44	--
2135.0-2136.0	4.18	0.10
2136.0-2137.0	3.60	0.13
2137.0-2138.0	4.48	2.35
2138.0-2139.0	4.20	3.60
2139.0-2140.0	3.54	0.12
2140.0-2140.8	5.00	0.95
2140.8-2142.3	3.58	6.90
2142.3-2143.8	4.66	0.16
2143.8-2144.5	4.60	0.11
2144.5-2145.8	2.68	0.21
2145.9-2147.0	0.74	26.60
2147.0-2148.0	1.40	20.60
2148.0-2149.0	3.50	5.80
2149.0-2150.0	4.52	0.37
2150.0-2151.0	4.82	0.14
2151.0-2152.0	5.80	0.13
2152.0-2153.0	5.26	0.22
2153.0-2154.0	3.96	0.22
2154.0-2155.0	5.78	0.20
2155.0-2156.0	4.44	0.17
2156.0-2157.0	3.90	0.19
2157.0-2158.0	3.50	0.33
2158.0-2159.0	2.84	1.03
2159.0-2160.0	3.00	7.80
2160.0-2161.0	2.90	0.64
2161.0-2162.0	4.60	0.17
2162.0-2163.0	3.72	0.13
2163.0-2164.0	3.52	0.17
2164.0-2165.0	3.88	0.12
2165.0-2166.0	4.32	0.13
2166.0-2167.0	5.04	0.12
2167.0-2168.5	7.12	0.18

Table 1.--Acid-extractable alumina and water-soluble sodium analyses for
U.S. Geological Survey corehole CR-1--continued

[Leaders, no analysis]

Sample interval	Acid-extractable alumina Al ₂ O ₃ %	Water-soluble sodium Na ₂ O%
2168.5-2170.0	6.46	0.16
2170.0-2171.0	6.14	0.14
2171.0-2172.0	4.98	0.11
2172.0-2173.0	4.80	0.16
2173.0-2174.0	4.04	0.26
2174.0-2175.0	5.64	0.25
2175.0-2176.0	6.14	0.26
2176.0-2177.0	4.64	0.20
2177.0-2178.0	3.86	0.26
2178.0-2179.0	5.46	0.17
2179.0-2180.0	3.58	0.16
2180.0-2181.0	3.16	0.14
2181.0-2182.0	2.20	0.14
2182.0-2183.0	1.68	0.31
2183.0-2184.0	3.12	0.34
2184.0-2185.0	3.08	0.28
2185.0-2186.0	4.24	0.22
2186.0-2187.0	4.80	0.12
2187.0-2188.0	2.90	0.15
2188.0-2189.0	1.55	0.17
2189.0-2190.0	1.84	0.11
2190.0-2191.0	2.66	0.10
2191.0-2192.0	3.14	0.15
2192.0-2193.0	0.80	0.11
2193.0-2194.0	3.00	0.12
2194.0-2195.0	3.10	0.14
2195.0-2196.0	3.88	0.13
2196.0-2197.0	5.10	0.16
2197.0-2198.0	5.50	0.17
2198.0-2199.0	4.96	0.15
2199.0-2200.0	3.28	0.18
2200.2-2201.5	0.72	26.50
2201.5-2202.2	2.32	6.50
2202.2-2203.1	2.86	4.90
2203.1-2204.2	2.38	7.80

Table 1.--Acid-extractable alumina and water-soluble sodium analyses for
U.S. Geological Survey corehole CR-1--continued

[Leaders, no analysis]

Sample interval	Acid-extractable alumina $\text{Al}_2\text{O}_3\%$	Water-soluble sodium $\text{Na}_2\text{O}\%$
2204.2-2205.0	2.88	14.20
2205.0-2206.0	2.58	16.90
2206.0-2206.5	0.30	32.90
2206.5-2207.5	5.06	1.34
2207.5-2208.5	6.04	0.16
2208.5-2209.3	5.12	1.29
2209.3-2210.3	4.60	1.68
2210.3-2211.3	3.90	2.32
2211.3-2212.3	4.06	2.40
2212.3-2213.3	2.84	1.85
2213.3-2214.3	4.30	1.90
2214.3-2215.0	1.50	21.90
2215.0-2216.0	0.44	30.90
2216.0-2217.0	4.10	0.89
2217.0-2218.0	5.50	0.14
2218.0-2218.6	5.40	1.29
2218.6-2219.8	4.09	16.20
2219.8-2221.4	5.00	5.90
2221.6-2223.0	5.20	0.48
2223.0-2224.0	5.54	0.18
2224.0-2225.0	5.54	0.12
2225.0-2226.0	5.56	0.11
2226.0-2227.0	5.36	0.33
2227.0-2228.0	5.22	0.12
2228.0-2229.0	5.00	1.60
2229.0-2230.0	4.72	0.29
2230.0-2231.0	3.66	1.57
2231.0-2231.8	3.44	4.05
2231.8-2232.8	2.98	0.21
2232.8-2233.6	3.38	1.32
2233.6-2235.0	3.38	11.30
2235.0-2236.0	3.44	1.91
2236.0-2237.0	3.62	0.11
2237.0-2238.0	3.56	0.05
2238.0-2239.0	3.68	0.04

Table 1.--Acid-extractable alumina and water-soluble sodium analyses for
U.S. Geological Survey corehole CR-1--continued

[Leaders, no analysis]

Sample interval	Acid-extractable alumina Al ₂ O ₃ %	Water-soluble sodium Na ₂ O%
2239.0-2240.0	3.16	5.80
2240.0-2241.0	3.69	0.13
2241.0-2242.0	5.68	0.07
2242.0-2243.0	6.48	0.18
2243.0-2244.0	4.48	1.91
2244.0-2245.0	3.10	8.10
2245.0-2246.0	2.80	6.15
2246.0-2247.0	3.82	0.22
2247.0-2248.0	4.56	0.16
2248.0-2249.0	5.04	0.21
2249.0-2250.0	5.18	0.05
2250.0-2251.0	4.58	0.05
2251.0-2252.0	5.06	0.06
2252.0-2253.0	4.60	0.19
2253.0-2254.0	5.22	0.18
2254.0-2255.0	5.30	0.06
2255.0-2256.0	4.56	0.62
2256.0-2257.0	4.22	0.06
2257.0-2258.0	2.96	0.07
2258.0-2259.0	2.60	0.07
2259.0-2260.0	3.76	0.08
2260.0-2261.3	3.68	0.08
2261.3-2262.8	3.22	0.40
2262.8-2264.0	4.70	0.06
2264.0-2265.0	7.46	0.07
2265.0-2266.0	4.20	0.08
2266.0-2267.0	4.94	0.07
2267.0-2268.0	7.48	0.06
2268.0-2269.0	6.30	0.07
2269.0-2270.0	6.80	0.06
2270.0-2271.0	4.24	0.05
2271.0-2272.0	2.32	0.16
2272.0-2273.0	2.72	0.25
2273.0-2274.0	2.32	0.26
2274.0-2275.0	1.66	0.22

Table 1.--Acid-extractable alumina and water-soluble sodium analyses for
U.S. Geological Survey corehole CR-1--continued

[Leaders, no analysis]

Sample interval	Acid-extractable alumina Al ₂ O ₃ %	Water-soluble sodium Na ₂ O%
2275.0-2276.0	1.56	0.25
2276.0-2277.0	2.56	0.14
2277.0-2278.0	2.52	0.11
2278.0-2279.0	2.86	0.09
2279.0-2280.0	2.80	0.10
2280.0-2281.0	2.84	0.06
2281.0-2282.0	1.44	0.05
2282.3-2283.6	1.36	0.17
2283.6-2285.0	2.60	0.08
2285.0-2286.0	5.08	0.06
2286.0-2287.0	5.94	0.06
2287.0-2288.0	4.00	0.08
2288.0-2289.0	2.04	0.05
2289.0-2290.0	2.70	0.07
2290.0-2291.0	2.70	0.05
2291.0-2292.3	2.06	0.09
2292.3-2293.0	2.68	0.09
2293.0-2294.0	1.50	0.09
2294.0-2295.0	1.38	0.07
2295.0-2296.0	4.08	0.11
2296.0-2297.0	4.21	0.10
2297.0-2298.0	4.34	0.14
2298.0-2299.0	5.22	0.10
2299.0-2300.0	5.06	0.11
2300.0-2301.0	3.86	0.10
2301.0-2302.0	3.33	0.11
2302.0-2303.0	3.91	0.07
2303.0-2304.0	2.48	0.14
2304.0-2305.0	3.42	0.08
2305.0-2306.0	7.54	0.13
2306.0-2307.0	8.80	0.15
2307.0-2308.0	8.94	0.18
2308.0-2309.0	7.20	0.16
2309.0-2310.0	8.38	0.18
2310.0-2311.0	8.38	0.13

Table 1.--Acid-extractable alumina and water-soluble sodium analyses for
U.S. Geological Survey corehole CR-1--continued

[Leaders, no analysis]

Sample interval	Acid-extractable alumina Al ₂ O ₃ %	Water-soluble sodium Na ₂ O%
2311.0-2312.0	6.54	0.14
2312.0-2313.0	6.10	0.16
2313.0-2314.0	6.44	0.17
2314.0-2315.0	6.48	0.19
2315.0-2316.0	5.50	0.13
2316.0-2317.0	6.36	0.11
2317.0-2318.0	6.00	0.10
2318.0-2319.0	3.98	0.14
2319.0-2320.0	3.10	0.16
2320.0-2321.0	3.88	0.15
2321.0-2322.0	3.96	0.13
2322.0-2323.0	4.46	0.18
2323.0-2324.0	5.52	0.23
2324.0-2325.0	5.40	0.13
2325.0-2326.0	6.04	0.12
2326.0-2327.0	5.06	1.30
2327.0-2328.0	3.38	8.45
2328.0-2329.0	3.90	0.53
2329.0-2330.0	4.81	3.32
2330.0-2331.0	3.20	4.22
2331.0-2332.0	3.02	6.00
2332.0-2333.0	1.86	9.95
2333.0-2334.0	1.42	6.10
2334.0-2335.0	1.28	14.70
2335.0-2336.0	2.02	8.40
2336.0-2337.0	1.78	7.35
2337.0-2338.0	1.34	8.35
2338.0-2339.0	1.40	9.20
2339.0-2340.0	0.56	20.00
2340.0-2341.0	1.42	9.00
2341.0-2342.0	1.68	10.50
2342.0-2343.0	2.66	16.40
2343.0-2344.0	0.94	21.20
2344.0-2345.0	0.60	19.80
2345.0-2346.0	1.82	3.42

Table 1.--Acid-extractable alumina and water-soluble sodium analyses for
U.S. Geological Survey corehole CR-1--continued

[Leaders, no analysis]

Sample interval	Acid-extractable alumina Al ₂ O ₃ %	Water-soluble sodium Na ₂ O%
2346.0-2347.0	2.10	5.30
2347.0-2348.0	2.70	0.59
2348.0-2349.0	2.02	11.90
2349.0-2350.0	2.98	1.28
2350.0-2351.0	2.90	--
2351.0-2352.0	2.50	--
2352.0-2353.0	1.08	--
2353.0-2354.0	2.38	--
2354.0-2355.0	2.70	--
2355.0-2356.0	2.38	--
2356.0-2357.0	3.06	--
2357.0-2358.0	1.76	--
2358.0-2359.0	1.32	--
2359.0-2360.0	1.10	--
2360.0-2361.0	0.44	28.10
2361.0-2362.0	0.86	23.60
2362.0-2363.0	2.12	7.20
2363.0-2364.0	0.68	24.80
2364.0-2365.0	3.70	0.37
2365.0-2366.0	3.06	3.20
2366.0-2367.0	2.07	0.14
2367.0-2368.0	1.90	10.40
2368.0-2369.0	1.02	6.00
2369.0-2370.0	3.34	9.25
2370.0-2371.0	2.02	15.20
2371.0-2372.0	1.16	19.90
2372.0-2373.0	1.96	11.80
2373.0-2374.0	2.80	11.30
2374.0-2375.0	1.76	8.55
2375.0-2376.0	1.12	8.35
2376.0-2377.0	2.04	11.70
2377.0-2378.0	0.96	22.00
2378.0-2379.0	1.22	16.00
2379.0-2380.0	1.22	17.90
2380.0-2381.0	1.08	11.10

Table 1.--Acid-extractable alumina and water-soluble sodium analyses for
U.S. Geological Survey corehole CR-1--continued

[Leaders, no analysis]

Sample interval	Acid-extractable alumina Al ₂ O ₃ %	Water-soluble sodium Na ₂ O%
2381.0-2382.0	0.88	17.40
2382.0-2383.0	0.92	18.10
2383.0-2384.0	0.76	20.90
2384.0-2385.0	0.84	19.50
2385.0-2386.0	0.44	23.20
2386.0-2387.0	0.97	14.80
2387.0-2388.0	0.32	18.00
2388.0-2389.0	0.68	15.20
2389.0-2390.0	0.56	17.50
2390.0-2391.0	1.80	0.37
2391.0-2392.0	1.92	2.55
2392.0-2393.0	0.66	18.70
2393.0-2394.0	1.20	0.12
2394.0-2395.1	1.50	0.12
2395.1-2396.8	0.94	12.20
2396.8-2398.0	0.76	12.10
2398.0-2399.0	0.98	0.20
2399.0-2400.0	1.26	0.15
2400.0-2401.0	0.99	0.08
2401.0-2402.0	1.21	3.45
2402.0-2403.0	1.23	1.21
2403.0-2404.2	0.73	0.58
2404.2-2406.1	0.30	25.10
2406.1-2407.1	0.33	25.60
2407.1-2408.1	1.25	19.80
2408.1-2409.2	1.56	6.35
2410.2-2411.2	1.88	4.18
2411.2-2412.0	1.68	7.80
2412.0-2413.2	1.44	10.60
2413.2-2414.6	1.14	0.36
2414.6-2415.6	2.10	0.12
2415.8-2417.0	2.58	0.07
2417.0-2418.0	3.54	0.15
2418.0-2419.0	1.78	0.09
2419.0-2420.0	1.83	0.11

Table 1.--Acid-extractable alumina and water-soluble sodium analyses for
U.S. Geological Survey corehole CR-1-continued

[Leaders, no analysis]

Sample interval	Acid-extractable alumina Al ₂ O ₃ %	Water-soluble sodium Na ₂ O%
2420.0-2421.3	1.90	0.10
2421.3-2422.8	0.88	0.15
2422.8-2423.8	1.82	0.10
2423.8-2424.8	1.84	0.10
2424.8-2425.9	1.78	0.10
2425.9-2427.0	2.98	0.11
2427.0-2428.0	3.44	0.12
2428.0-2429.0	4.22	0.14
2429.0-2430.0	1.58	0.22
2430.0-2431.0	0.54	0.27
2431.0-2432.0	0.57	0.18
2432.0-2433.0	0.90	0.15
2433.0-2434.0	0.96	0.14
2434.0-2435.0	1.56	0.15
2435.0-2436.0	1.48	0.18
2436.0-2437.0	0.32	0.15
2437.0-2438.0	1.48	0.53
2438.0-2439.0	2.14	0.12
2439.0-2440.0	2.46	0.11
2440.0-2440.8	3.42	0.08
2440.8-2442.0	4.20	0.11
2442.0-2443.0	3.60	0.08
2443.0-2444.0	3.40	0.06
2444.0-2445.0	3.60	0.08
2445.0-2446.0	3.42	0.05
2446.0-2447.0	1.32	0.09
2447.0-2448.0	1.94	0.23
2448.0-2449.0	No sample	No Sample
2449.0-2450.0	1.34	--
2450.0-2451.0	1.32	--
2451.0-2452.0	1.90	--
2452.0-2453.0	2.24	--
2453.0-2454.0	2.50	--
2454.0-2455.0	5.06	--
2455.0-2456.0	5.10	--

Table 1.--Acid-extractable alumina and water-soluble sodium analyses for
U.S. Geological Survey corehole CR-1--continued

[Leaders, no analysis]

Sample interval	Acid-extractable alumina Al ₂ O ₃ %	Water-soluble sodium Na ₂ O%
2456.0-2457.0	4.66	--
2457.0-2458.0	5.12	--
2458.0-2459.0	3.56	--
2459.0-2460.0	3.00	--
2460.0-2461.0	6.18	--
2461.0-2462.0	5.82	--
2462.0-2463.0	6.94	--
2463.0-2464.0	6.52	--
2464.0-2465.0	5.34	--
2465.0-2466.0	3.30	--
2466.0-2467.0	3.00	--
2467.0-2468.0	2.02	--
2468.0-2469.0	1.34	--
2469.0-2470.0	1.54	--
2470.0-2471.0	2.68	--
2471.0-2472.0	3.20	--
2472.0-2473.0	3.70	--
2473.0-2474.0	3.46	--
2474.0-2475.0	4.24	--
2475.0-2476.0	4.34	--
2476.0-2477.0	4.56	--
2477.0-2478.0	5.36	--
2478.0-2479.0	5.54	--
2479.0-2480.0	5.20	--
2480.0-2481.0	2.24	--
2481.0-2482.0	1.38	--
2482.0-2483.0	1.70	--
2483.0-2484.0	1.84	--
2484.0-2485.0	1.62	--
2485.0-2486.0	1.62	--
2486.0-2487.0	0.76	--
2487.0-2488.0	0.82	--
2488.0-2489.0	2.00	--
2489.0-2490.0	3.38	--
2490.0-2491.0	3.48	--

Table 1.--Acid-extractable alumina and water-soluble sodium analyses for
U.S. Geological Survey corehole CR-1--continued

[Leaders, no analysis]

Sample interval	Acid-extractable alumina Al ₂ O ₃ %	Water-soluble sodium Na ₂ O%
2491.0-2492.0	3.48	--
2492.0-2493.0	3.32	--
2493.0-2494.0	3.26	--
2494.0-2495.0	3.10	--
2495.0-2496.0	3.10	--
2496.0-2497.0	1.56	--
2497.0-2498	1.98	--
2498.0-2499.0	2.28	--
2499.0-2500.0	1.36	--
2500.0-2501.0	1.58	--
2501.0-2502.0	0.67	--
2502.0-2503.0	1.70	--
2503.0-2504.0	1.70	--
2504.0-2505.0	2.26	0.13
2505.0-2506.0	6.82	--
2506.0-2507.0	3.57	--
2507.0-2508.0	1.14	--
2508.0-2509.0	0.60	--
2509.0-2510.0	1.54	--
2510.0-2511.0	1.72	--
2511.0-2512.0	3.42	--
2512.0-2513.0	3.66	--
2513.0-2514.0	3.82	--
2514.0-2515.0	1.00	--
2515.0-2516.0	0.60	--
2516.0-2517.0	4.48	--
2517.0-2518.0	3.80	--
2518.0-2519.0	0.50	--
2519.0-2520.0	1.60	--
2520.0-2521.0	0.27	--
2521.0-2522.0	0.34	--
2522.0-2523.0	0.60	--
2523.0-2524.0	0.60	--
2524.0-2525.0	0.52	--
2525.0-2526.0	0.34	--

Table 1.--Acid-extractable alumina and water-soluble sodium analyses for
U.S. Geological Survey corehole CR-1--continued

[Leaders, no analysis]

Sample interval	Acid-extractable alumina Al ₂ O ₃ %	Water-soluble sodium Na ₂ O%
2526.0-2527.0	0.20	--
2527.0-2528.0	0.22	--
2528.0-2529.0	0.44	--
2529.0-2530.0	0.54	--
2530.0-2531.0	0.32	--
2531.0-2532.0	0.32	--
2532.0-2533.0	0.27	--
2533.0-2534.0	0.86	--
2534.0-2535.0	0.70	--
2535.0-2536.0	2.60	--
2536.0-2537.0	0.32	--
2537.0-2538.0	0.40	--
2538.0-2539.0	0.28	--
2539.0-2540.0	0.36	--
2540.0-2541.0	0.26	--
2541.0-2542.0	0.32	--
2542.0-2543.0	0.26	--
2543.0-2544.0	0.40	--
2544.0-2545.0	0.52	--

Table 2.--Acid-extractable alumina and water-soluble sodium analyses for
U.S. Geological Survey corehole CR-2

[Leaders, no analysis]

Sample interval	Acid-extractable alumina Al ₂ O ₃ %	Water-soluble sodium Na ₂ O%
1012.0-1013.4	0.37	--
1013.4-1014.8	0.17	--
1014.8-1016.0	0.47	--
1016.0-1017.2	0.70	--
1017.2-1018.3	0.47	--
1018.3-1019.6	0.39	--
1019.6-1021.0	0.32	--
1021.0-1022.0	0.41	--
1022.0-1023.0	0.23	--
1023.0-1024.0	0.21	--
1024.0-1025.0	0.20	--
1025.0-1026.0	0.14	--
1026.0-1027.0	0.28	--
1027.0-1028.0	0.19	--
1028.0-1029.0	0.24	--
1029.0-1030.0	0.46	--
1030.0-1031.0	0.38	--
1031.0-1032.3	0.46	--
1032.3-1033.3	1.99	--
1033.3-1034.3	0.30	--
1034.3-1035.3	0.46	--
1035.3-1036.3	0.32	--
1036.3-1038.0	0.30	--
1044.0-1045.0	0.89	--
1045.0-1046.0	1.00	--
1046.0-1047.0	0.65	--
1047.0-1048.0	0.98	--
1048.0-1049.0	0.94	--
1049.0-1050.0	0.88	--
1050.0-1051.0	0.78	--

Table 2.--Acid-extractable alumina and water-soluble sodium analyses for
U.S. Geological Survey, Corehole CR-2--continued

[Leaders, no analysis]

Sample interval	Acid-extractable alumina Al ₂ O ₃ %	Water-soluble sodium Na ₂ O%
1051.0-1052.0	0.40	--
1052.0-1053.0	0.40	--
1053.0-1054.0	0.48	--
1054.0-1055.1	0.64	--
1055.1-1056.2	0.68	--
1056.2-1057.5	1.04	--
1057.5-1058.6	0.68	--
1058.6-1059.4	0.42	--
1065.0-1066.5	0.84	--
1066.5-1067.7	0.48	--
1067.7-1068.7	1.00	--
1068.7-1069.7	0.98	--
1069.7-1070.7	1.20	--
1070.7-1071.7	0.80	--
1071.7-1073.0	1.10	--
1073.0-1074.2	1.55	--
1074.2-1075.2	1.68	--
1075.2-1076.3	0.64	--
1076.3-1077.4	2.16	--
1077.4-1078.5	0.82	--
1078.5-1079.5	0.86	--
1079.5-1080.5	0.52	--
1080.5-1081.4	0.70	--
1082.1-1083.2	0.64	--
1083.2-1084.2	0.94	--
1084.2-1085.3	0.80	--
1085.3-1087.0	0.50	--
1087.0-1088.0	0.74	--
1088.0-1089.0	0.90	--
1089.0-1090.0	1.28	--
1090.0-1091.0	1.29	--
1091.0-1092.1	1.34	--
1092.1-1093.1	0.70	--
1093.1-1094.1	0.80	--
1094.1-1095.1	1.58	--

Table 2.--Acid-extractable alumina and water-soluble sodium analyses for
U.S. Geological Survey, Corehole CR-2--continued

[Leaders, no analysis]

Sample interval	Acid-extractable alumina Al ₂ O ₃ %	Water-soluble sodium Na ₂ O%
1095.1-1096.2	1.68	--
1096.2-1097.4	1.74	--
1097.4-1098.4	1.87	--
1098.4-1099.4	2.08	--
1099.4-1100.4	1.60	--
1100.4-1101.4	1.32	--
1101.4-1102.5	0.50	--
1102.5-1103.8	0.40	--
1103.8-1105.0	1.40	--
1105.0-1106.0	1.86	--
1106.0-1107.0	1.90	--
1107.0-1108.0	1.24	--
1108.0-1109.0	0.79	--
1109.0-1110.0	0.84	--
1110.0-1111.0	1.04	--
1111.0-1112.0	1.32	--
1112.0-1113.0	0.56	--
1113.0-1114.0	0.30	--
1114.0-1115.0	1.16	--
1115.0-1116.0	0.81	--
1116.0-1117.0	0.64	--
1117.0-1118.0	0.47	--
1118.0-1119.0	0.35	--
1122.3-1123.7	1.60	--
1123.7-1125.0	1.38	--
1125.0-1126.0	0.96	--
1126.0-1127.0	0.99	--
1127.0-1128.0	1.25	--
1128.0-1129.0	0.28	--
1129.0-1130.0	0.16	--
1130.0-1131.0	0.32	--
1131.0-1132.0	0.41	--
1132.0-1133.0	0.96	--
1133.0-1134.0	1.12	--
1134.0-1135.0	0.47	--

Table 2.--Acid-extractable alumina and water-soluble sodium analyses for
U.S. Geological Survey, Corehole CR-2--continued

[Leaders, no analysis]

Sample interval	Acid-extractable alumina Al ₂ O ₃ %	Water-soluble sodium Na ₂ O%
1135.0-1136.1	0.24	--
1136.1-1137.2	0.88	--
1137.2-1138.4	3.44	--
1138.4-1139.5	4.14	--
1139.5-1141.0	4.60	--
1141.0-1142.3	5.36	--
1142.3-1143.5	6.60	--
1143.5-1144.7	6.82	--
1144.7-1146.0	6.55	--
1146.0-1147.0	5.51	--
1147.0-1148.0	4.38	--
1148.0-1149.0	3.98	--
1149.0-1150.0	3.25	--
1150.0-1151.0	3.05	--
1151.0-1152.0	0.95	--
1152.0-1153.1	0.29	--
1153.1-1154.2	0.26	--
1154.2-1155.3	1.20	--
1155.3-1156.3	0.83	--
1156.3-1157.5	0.36	--
1157.5-1158.7	0.78	--
1158.7-1159.7	0.53	--
1161.0-1162.0	0.20	--
1162.0-1163.0	0.26	--
1163.0-1164.0	0.36	--
1164.0-1165.0	0.49	--
1165.0-1166.0	0.60	--
1166.0-1167.0	0.37	--
1167.0-1168.0	0.20	--
1168.0-1169.0	0.15	--

Table 2.--Acid-extractable alumina and water-soluble sodium analyses for
U.S. Geological Survey, Corehole CR-2--continued

[Leaders, no analysis]

Sample interval	Acid-extractable alumina Al ₂ O ₃ %	Water-soluble sodium Na ₂ O%
1169.0-1170.0	0.12	--
1170.0-1171.0	0.11	--
1171.0-1172.0	0.13	--
1172.0-1173.3	0.20	--
1173.3-1174.5	0.40	--
1174.5-1175.5	0.28	--
1175.5-1176.6	0.28	--
1176.6-1177.7	1.16	--
1177.7-1178.9	0.84	--
1178.9-1179.9	1.67	--
1179.9-1180.9	2.50	--
1180.9-1181.9	2.06	--
1181.9-1183.0	3.20	--
1183.0-1184.0	3.88	--
1184.0-1185.1	3.02	--
1185.1-1186.1	1.52	--
1186.1-1187.1	1.88	--
1187.1-1188.1	0.94	--
1188.1-1189.1	0.40	--
1189.1-1190.1	0.82	--
1192.0-1193.0	1.10	--
1193.0-1194.0	1.44	--
1194.0-1195.0	1.18	--
1195.0-1196.0	2.75	--
1196.0-1197.0	2.84	--
1197.0-1198.0	3.30	--
1198.0-1199.0	2.96	--
1199.0-1200.0	3.52	--
1200.0-1201.0	2.80	--
1201.0-1202.0	3.86	--
1202.0-1203.0	4.88	--
1203.0-1204.0	3.92	--
1204.0-1205.2	3.34	--
1205.2-1206.2	2.44	--
1206.2-1207.2	2.01	--

Table 2.--Acid-extractable alumina and water-soluble sodium analyses for
U.S. Geological Survey, Corehole CR-2--continued

[Leaders, no analysis]

Sample interval	Acid-extractable alumina Al ₂ O ₃ %	Water-soluble sodium Na ₂ O%
1209.8-1210.8	0.54	--
1210.8-1212.0	0.40	--
1212.0-1213.0	0.82	--
1213.0-1214.0	1.06	--
1214.0-1215.0	1.18	--
1215.0-1216.0	1.46	--
1216.0-1217.0	0.53	--
1217.0-1218.0	0.36	--
1218.0-1219.0	0.30	--
1219.0-1220.0	0.30	--
1220.0-1221.0	0.16	--
1221.0-1221.9	0.22	--
1222.2-1223.0	0.22	--
1223.0-1224.0	0.16	--
1224.0-1225.0	0.18	--
1225.0-1226.0	0.62	--
1226.0-1227.0	1.48	--
1227.0-1228.0	0.64	--
1228.0-1229.0	0.96	--
1229.0-1230.0	1.30	--
1230.0-1231.0	1.08	--
1231.0-1232.0	1.58	--
1232.0-1233.0	1.64	--
1233.0-1234.0	0.82	--
1234.0-1235.0	0.14	--
1235.0-1236.0	0.10	--
1236.0-1237.0	<0.10	--
1237.0-1238.0	<0.10	--
1238.0-1239.0	<0.10	--
1239.0-1240.0	<0.10	--
1240.0-1241.0	<0.10	--
1241.0-1242.0	<0.10	--
1242.0-1243.0	<0.10	--
1243.0-1244.0	0.18	--
1244.0-1245.0	1.30	--

Table 2.--Acid-extractable alumina and water-soluble sodium analyses for
U.S. Geological Survey, Corehole CR-2--continued

[Leaders, no analysis]

Sample interval	Acid-extractable alumina Al ₂ O ₃ %	Water-soluble sodium Na ₂ O%
1245.0-1246.0	0.96	--
1246.0-1247.0	0.30	--
1247.0-1248.0	0.26	--
1248.0-1249.0	0.16	--
1249.0-1250.0	0.12	--
1250.0-1251.4	0.38	--
1251.4-1252.5	0.35	--
1252.5-1253.5	<0.10	--
1253.5-1254.6	0.14	--
1254.6-1256.0	0.14	--
1256.0-1257.0	0.30	--
1257.0-1258.0	0.26	--
1258.0-1259.0	0.22	--
1259.0-1260.0	0.24	--
1260.0-1261.2	0.16	--
1261.2-1262.8	0.18	--
1263.0-1263.7	1.56	--
1263.7-1265.4	1.36	--
1265.4-1266.5	0.96	--
1266.5-1267.7	0.20	--
1267.7-1269.0	0.21	--
1269.0-1270.0	0.20	--
1270.0-1271.0	0.26	--
1271.0-1272.0	0.28	--
1272.0-1273.0	0.36	--
1273.0-1274.0	0.25	--
1274.0-1275.0	0.20	--
1275.0-1276.0	0.10	--
1276.0-1277.0	0.16	--
1277.0-1278.0	0.20	--
1278.0-1279.0	0.12	--
1279.0-1280.0	0.12	--
1280.0-1281.0	0.29	--
1281.0-1282.0	0.24	--
1282.0-1283.0	0.28	--

Table 2.--Acid-extractable alumina and water-soluble sodium analyses for
U.S. Geological Survey, Corehole CR-2--continued

[Leaders, no analysis]

Sample interval	Acid-extractable alumina Al ₂ O ₃ %	Water-soluble sodium Na ₂ O%
1283.0-1284.0	0.32	--
1284.0-1285.0	0.26	--
1285.0-1286.0	0.20	--
1286.0-1287.0	0.23	--
1287.0-1288.0	0.26	--
1288.0-1289.0	0.26	--
1289.0-1290.1	0.32	--
1290.1-1291.3	0.28	--
1291.3-1293.0	0.26	--
1294.3-1295.6	0.30	--
1295.6-1297.0	0.32	--
1297.0-1298.3	0.30	--
1298.3-1299.9	0.32	--
1299.9-1300.9	0.27	--
1300.9-1302.4	0.28	--
1302.4-1303.8	0.40	--
1304.0-1306.0	0.34	--
1306.0-1307.0	0.36	--
1307.0-1308.8	0.34	--
1308.8-1310.5	0.36	--
1310.5-1311.7	0.31	--
1311.7-1313.0	0.30	--
1313.0-1314.0	0.34	--
1314.0-1315.0	0.29	--
1315.0-1316.0	0.28	--
1316.0-1317.0	0.26	--
1317.0-1318.0	0.28	--
1318.0-1319.0	0.18	--
1319.0-1320.0	0.26	--
1320.0-1321.0	0.32	--
1321.0-1322.0	0.26	--
1322.0-1323.0	0.28	--
1323.0-1324.0	0.18	--
1324.0-1325.0	0.26	--
1325.0-1326.0	0.36	--

Table 2.--Acid-extractable alumina and water-soluble sodium analyses for
U.S. Geological Survey, Corehole CR-2--continued

[Leaders, no analysis]

Sample interval	Acid-extractable alumina Al ₂ O ₃ %	Water-soluble sodium Na ₂ O%
1326.0-1327.2	0.34	--
1327.2-1328.4	0.33	--
1328.4-1329.4	0.30	--
1329.4-1330.8	0.28	--
1331.8-1333.0	0.20	--
1333.0-1334.0	0.26	--
1334.0-1334.8	0.22	--
1337.0-1338.2	0.24	--
1338.2-1339.4	0.26	--
1339.4-1341.0	0.22	--
1341.0-1342.0	0.18	--
1342.0-1343.0	0.28	--
1343.0-1344.0	0.18	--
1344.0-1345.0	0.14	--
1345.0-1346.0	0.38	--
1346.0-1347.0	0.28	--
1347.0-1348.0	0.20	--
1348.0-1349.0	0.26	--
1349.0-1350.0	0.24	--
1350.0-1351.0	0.22	--
1351.0-1352.0	0.22	--
1352.0-1353.0	0.32	--
1353.0-1354.0	0.29	--
1354.0-1355.3	0.26	--
1355.3-1356.6	0.28	--
1356.6-1357.8	0.24	--
1357.8-1358.8	0.23	--
1358.8-1359.8	0.22	--
1359.8-1360.8	0.24	--
1380.8-1381.0	0.26	--
1381.0-1382.0	0.20	--
1382.0-1383.0	0.24	--
1383.0-1384.2	0.30	--
1384.2-1385.3	0.37	--
1385.3-1386.4	0.38	--

Table 2.--Acid-extractable alumina and water-soluble sodium analyses for
U.S. Geological Survey, Corehole CR-2--continued

[Leaders, no analysis]

Sample interval	Acid-extractable alumina Al ₂ O ₃ %	Water-soluble sodium Na ₂ O%
1386.4-1387.5	0.36	--
1387.5-1388.6	0.34	--
1388.6-1390.0	0.28	--
1390.0-1391.0	0.24	--
1391.0-1392.2	0.76	--
1392.2-1393.4	0.82	--
1393.4-1394.4	0.94	--
1394.4-1395.8	0.38	--
1407.0-1408.3	0.44	--
1408.3-1409.5	0.42	--
1409.9-1411.1	0.36	--
1411.1-1412.7	0.38	--
1412.7-1414.4	0.25	--
1414.4-1415.5	0.36	--
1415.5-1416.7	0.32	--
1416.7-1418.0	0.25	--
1418.0-1420.0	0.32	--
1420.0-1421.0	0.26	--
1421.0-1422.0	0.32	--
1422.0-1423.0	0.44	--
1425.2-1426.1	0.92	--
1426.1-1427.1	1.57	--
1427.1-1428.6	0.26	--
1428.6-1429.7	0.30	--
1429.7-1430.9	0.64	--
1430.9-1431.9	0.42	--
1431.9-1433.0	4.08	--
1433.0-1434.3	3.28	--
1434.3-1435.3	1.89	--
1435.3-1436.4	2.56	--
1436.4-1437.4	2.44	--
1437.4-1438.4	2.86	--
1438.4-1439.4	3.94	--
1439.4-1440.4	3.42	--
1440.4-1441.4	2.80	--

Table 2.--Acid-extractable alumina and water-soluble sodium analyses for
U.S. Geological Survey, Corehole CR-2--continued

[Leaders, no analysis.]

Sample interval	Acid-extractable alumina $\text{Al}_2\text{O}_3\%$	Water-soluble sodium $\text{Na}_2\text{O}\%$
1441.4-1442.4	2.40	--
1442.4-1443.4	2.94	--
1443.4-1444.6	1.22	--
1444.6-1445.7	2.16	--
1450.2-1451.2	1.58	--
1451.2-1453.6	1.92	--
1453.6-1454.9	1.96	--
1454.9-1456.0	2.28	--
1456.0-1457.3	3.06	--
1457.3-1458.6	5.48	--
1458.6-1459.9	4.84	--
1459.9-1460.9	1.84	--
1460.9-1461.9	1.84	--
1461.9-1462.8	1.30	--
1462.8-1463.9	1.44	--
1465.1-1466.2	1.08	--
1466.2-1467.2	1.50	--
1467.2-1468.6	1.62	--
1468.6-1469.7	1.86	--
1469.7-1470.7	2.74	--
1470.7-1471.7	3.14	--
1471.7-1472.7	2.42	--
1472.7-1473.8	4.40	--
1473.8-1474.9	5.44	--
1474.9-1476.0	5.14	--
1476.0-1477.1	3.32	--
1477.1-1478.1	4.24	--
1478.1-1479.4	4.64	--
1479.4-1480.6	3.26	--
1480.6-1481.6	1.36	--
1481.6-1482.6	0.76	--
1485.1-1486.0	0.68	--
1486.0-1487.0	0.56	--
1487.0-1488.0	0.53	--
1488.0-1489.0	0.74	--

Table 2.--Acid-extractable alumina and water-soluble sodium analyses for
U.S. Geological Survey, Corehole CR-2--continued

[Leaders, no analysis]

Sample interval	Acid-extractable alumina Al ₂ O ₃ %	Water-soluble sodium Na ₂ O%
1489.0-1490.0	0.52	--
1490.0-1491.0	0.64	--
1491.0-1492.0	0.94	--
1492.0-1493.0	1.61	--
1493.0-1494.0	0.56	--
1494.0-1495.0	0.70	--
1495.0-1496.0	3.22	--
1496.0-1497.0	4.58	--
1497.0-1498.0	4.62	--
1498.0-1499.2	3.92	--
1499.2-1500.3	2.06	--
1500.3-1500.8	5.50	--
1505.1-1506.1	2.73	--
1506.1-1507.1	1.80	--
1507.1-1508.1	2.54	--
1508.1-1509.1	2.88	--
1509.1-1510.1	3.00	--
1510.1-1511.1	3.72	--
1511.1-1512.2	3.40	--
1512.2-1513.2	2.64	--
1513.2-1514.4	2.68	--
1514.4-1515.6	3.60	--
1515.6-1516.6	3.02	--
1516.6-1517.7	2.42	--
1517.7-1518.8	1.90	--
1518.8-1519.9	1.94	--
1519.9-1521.4	3.62	--
1521.4-1522.5	3.24	--
1522.5-1524.0	4.18	--
1524.0-1525.0	2.18	--
1528.3-1529.5	5.54	--
1529.5-1530.6	5.48	--
1530.6-1531.8	5.50	--
1531.8-1533.0	4.70	--
1533.0-1534.0	4.75	--

Table 2.--Acid-extractable alumina and water-soluble sodium analyses for
U.S. Geological Survey, Corehole CR-2--continued

[Leaders, no analysis]

Sample interval	Acid-extractable alumina Al ₂ O ₃ %	Water-soluble sodium Na ₂ O%
1534.0-1535.0	4.68	--
1535.0-1536.0	4.81	--
1536.0-1537.0	5.06	--
1537.0-1538.0	5.20	--
1538.0-1539.0	4.20	--
1539.0-1540.0	2.86	--
1540.0-1541.0	4.52	--
1541.0-1542.0	3.10	--
1549.0-1550.0	2.46	--
1550.0-1551.0	3.14	--
1551.0-1552.0	no sample	
1552.0-1553.2	2.84	--
1553.2-1554.4	2.62	--
1554.4-1556.0	2.82	--
1556.0-1557.0	3.14	--
1557.0-1558.0	2.19	--
1558.0-1559.0	2.10	--
1559.0-1560.0	1.86	--
1560.0-1561.0	2.62	--
1561.0-1562.0	3.12	--
1562.0-1563.0	1.76	--
1563.0-1564.0	3.50	--
1564.0-1565.0	4.62	--
1565.0-1566.0	3.70	--
1566.0-1567.0	3.18	--
1569.0-1570.0	2.68	--
1570.0-1570.8	3.24	--
1570.8-1572.8	0.64	--
1572.8-1573.5	2.46	--
1573.5-1574.5	1.70	--
1574.5-1575.7	1.18	--
1575.7-1576.8	3.04	--
1576.8-1578.0	7.60	--
1578.0-1579.2	3.92	--
1579.2-1580.2	2.14	--

Table 2.--Acid-extractable alumina and water-soluble sodium analyses for
U.S. Geological Survey, Corehole CR-2--continued

[Leaders, no analysis]

Sample interval	Acid-extractable alumina $\text{Al}_2\text{O}_3\%$	Water-soluble sodium $\text{Na}_2\text{O}\%$
1580.2-1581.3	2.06	--
1581.3-1582.3	1.10	--
1582.3-1583.3	0.80	--
1583.3-1584.3	1.46	--
1584.3-1585.3	2.06	--
1585.3-1586.3	4.64	--
1586.3-1587.4	3.86	--
1587.4-1588.6	3.80	--
1588.6-1589.8	2.26	--
1589.8-1591.0	3.74	--
1591.0-1592.0	5.40	--
1592.0-1593.0	7.46	--
1593.0-1594.0	6.58	--
1594.0-1595.0	3.34	--
1595.0-1596.0	3.26	--
1596.0-1597.0	0.87	--
1597.0-1598.0	1.84	--
1598.0-1599.0	1.32	--
1599.0-1600.0	3.86	--
1603.5-1605.0	2.98	--
1605.0-1606.0	4.08	--
1606.0-1607.0	1.56	--
1607.0-1608.0	2.12	--
1608.0-1609.0	2.12	--
1609.0-1610.0	0.96	--
1610.0-1611.2	0.75	--
1611.2-1612.3	2.36	--
1612.3-1613.4	4.56	--
1613.4-1615.6	4.40	--
1615.6-1616.6	6.72	--
1616.6-1617.6	7.10	--
1617.6-1618.6	3.72	--
1618.6-1619.7	3.00	--
1619.7-1620.8	7.04	--
1632.0-1633.5	2.70	--

Table 2.--Acid-extractable alumina and water-soluble sodium analyses for
U.S. Geological Survey, Corehole CR-2--continued

[Leaders, no analysis]

Sample interval	Acid-extractable alumina Al ₂ O ₃ %	Water-soluble sodium Na ₂ O%
1633.5-1634.5	4.96	--
1634.5-1635.5	3.56	--
1635.5-1636.5	2.10	--
1636.5-1637.5	2.32	--
1637.5-1638.7	3.06	--
1638.7-1639.9	4.52	--
1640.4-1641.6	4.18	--
1641.6-1642.6	3.36	--
1642.6-1643.6	2.40	--
1643.6-1645.6	4.42	--
1648.0-1649.0	3.42	--
1649.0-1650.0	3.00	--
1650.0-1651.0	2.46	--
1651.0-1652.0	1.34	--
1652.0-1653.0	4.76	--
1653.0-1654.0	6.34	--
1654.0-1655.0	8.46	--
1655.0-1656.0	7.80	--
1656.0-1657.0	5.60	--
1657.0-1658.0	4.12	--
1658.0-1659.0	2.28	--
1659.0-1660.0	2.02	--
1660.0-1661.0	2.20	--
1661.0-1662.0	1.90	--
1662.0-1663.0	4.04	--
1663.0-1664.0	3.58	--
1664.0-1665.0	2.92	--
1665.0-1666.0	3.54	--
1666.0-1667.0	4.54	--
1667.0-1668.0	4.60	--
1668.0-1669.0	4.16	--
1669.0-1670.0	3.04	--
1674.4-1675.5	2.56	--
1675.5-1676.6	2.60	--
1676.6-1677.7	1.98	--

Table 2.--Acid-extractable alumina and water-soluble sodium analyses for
U.S. Geological Survey, Corehole CR-2--continued

[Leaders, no analysis]

Sample interval	Acid-extractable alumina Al ₂ O ₃ %	Water-soluble sodium Na ₂ O%
1677.7-1678.8	2.94	--
1678.8-1679.9	3.80	--
1679.9-1681.0	6.66	--
1681.0-1682.0	5.18	--
1682.0-1683.0	2.68	--
1683.0-1684.0	1.98	--
1684.2-1685.6	0.70	--
1687.5-1688.7	3.10	--
1688.7-1689.8	2.90	--
1689.8-1690.9	2.60	--
1690.9-1692.0	3.90	--
1692.0-1693.0	3.08	--
1693.0-1694.0	3.46	--
1694.0-1695.0	3.80	--
1695.0-1696.2	5.32	--
1696.2-1697.4	6.42	--
1697.4-1698.7	4.30	--
1698.7-1700.0	2.60	--
1700.0-1701.0	3.74	--
1701.0-1702.0	3.92	--
1702.0-1703.0	3.52	--
1703.0-1704.0	2.64	--
1704.0-1705.0	3.32	--
1705.0-1706.0	3.60	--
1706.2-1708.0	3.14	--
1715.0-1716.0	4.38	--
1716.0-1716.9	2.64	--
1717.4-1718.2	1.72	--
1718.2-1719.0	3.38	--
1719.3-1719.4	4.10	--
1719.4-1720.4	5.00	--
1720.4-1721.6	4.44	--
1721.6-1723.0	3.57	--
1723.0-1724.3	3.68	--
1724.6-1726.2	3.36	--

Table 2.--Acid-extractable alumina and water-soluble sodium analyses for
U.S. Geological Survey, Corehole CR-2--continued

[Leaders, no analysis]

Sample interval	Acid-extractable alumina Al ₂ O ₃ %	Water-soluble sodium Na ₂ O%
1726.7-1728.4	3.60	--
1728.4-1729.4	5.52	--
1729.4-1730.6	4.74	--
1730.6-1731.6	3.28	--
1731.6-1732.7	1.62	--
1732.7-1733.8	3.28	--
1733.8-1734.9	3.44	--
1735.1-1736.2	3.30	--
1736.2-1737.2	2.72	--
1737.2-1738.2	2.42	--
1738.2-1739.3	2.70	--
1739.3-1740.6	2.36	--
1740.6-1741.7	1.34	--
1741.7-1742.7	1.40	--
1742.7-1743.9	1.98	--
1743.9-1744.9	1.60	--
1744.9-1745.9	2.74	--
1745.9-1746.9	2.66	--
1746.9-1748.0	3.54	--
1748.0-1749.1	3.02	--
1749.1-1750.3	3.88	--
1750.3-1751.4	4.56	--
1751.4-1752.4	5.32	--
1752.4-1753.5	5.06	--
1753.5-1754.5	5.86	--
1754.5-1755.6	2.48	--
1755.6-1756.7	3.10	--
1756.7-1757.9	3.90	--
1767.0-1768.6	3.60	--
1768.6-1769.8	3.74	--
1769.8-1771.4	1.92	--
1771.4-1772.5	1.40	--
1772.5-1773.5	1.42	--
1773.5-1774.6	0.74	--
1774.6-1775.7	0.56	--

Table 2.--Acid-extractable alumina and water-soluble sodium analyses for
U.S. Geological Survey, Corehole CR-2--continued

[Leaders, no analysis]

Sample interval	Acid-extractable alumina Al ₂ O ₃ %	Water-soluble sodium Na ₂ O%
1775.7-1776.9	0.64	--
1776.9-1778.0	0.44	--
1778.0-1779.0	1.36	--
1779.0-1780.0	2.10	--
1780.0-1781.0	2.02	--
1781.0-1782.0	2.50	--
1782.0-1783.0	2.64	--
1783.0-1784.0	2.12	--
1784.0-1785.0	2.14	--
1785.0-1786.0	2.75	--
1786.0-1787.0	1.04	--
1787.0-1788.0	1.78	--
1788.0-1789.0	1.54	--
1789.0-1790.0	1.72	--
1790.0-1791.0	1.96	--
1791.0-1792.0	3.56	--
1792.0-1793.0	2.04	--
1793.0-1794.0	0.72	--
1794.0-1795.0	4.28	--
1795.0-1796.0	3.18	--
1797.0-1798.1	5.96	--
1798.1-1799.2	5.90	--
1799.2-1800.2	3.90	--
1800.2-1801.6	2.82	--
1801.6-1802.6	3.34	--
1802.6-1803.7	3.52	--
1803.7-1804.8	4.84	--
1804.8-1805.9	4.60	--
1805.9-1807.0	6.32	--
1807.0-1808.0	7.22	--
1808.0-1809.0	6.96	--
1809.0-1810.0	6.86	--
1810.0-1811.0	6.74	--
1811.0-1812.0	6.16	--
1812.0-1813.0	5.74	--

Table 2.--Acid-extractable alumina and water-soluble sodium analyses for
U.S. Geological Survey, Corehole CR-2--continued

[Leaders, no analysis]

Sample interval	Acid-extractable alumina Al ₂ O ₃ %	Water-soluble sodium Na ₂ O%
1813.0-1814.0	6.04	--
1814.0-1815.0	7.04	--
1815.0-1816.0	6.60	--
1816.0-1817.3	5.76	--
1817.3-1818.5	3.84	--
1818.5-1819.5	3.97	--
1819.5-1820.5	3.42	--
1820.5-1821.5	4.38	--
1821.5-1822.6	3.22	--
1822.6-1823.8	3.26	--
1823.8-1825.2	6.26	--
1825.2-1826.3	8.32	--
1826.3-1827.4	7.04	--
1827.8-1829.4	6.10	--
1829.4-1830.7	4.60	--
1830.7-1831.8	2.22	--
1831.8-1832.9	3.26	--
1832.9-1834.0	3.54	--
1834.0-1835.0	3.40	--
1835.0-1836.0	3.42	--
1836.0-1837.0	3.64	--
1837.0-1838.0	5.16	--
1838.0-1839.0	1.30	--
1839.0-1840.0	3.64	--
1840.0-1841.0	3.96	--
1841.0-1842.1	4.65	--
1842.1-1843.2	6.20	--
1843.2-1844.3	6.54	--
1844.3-1845.4	5.72	--
1845.4-1846.6	6.04	--
1846.6-1847.6	4.74	--
1847.6-1848.7	1.04	--
1848.7-1849.7	0.82	--
1849.7-1850.7	0.84	--
1850.7-1851.8	0.90	--

Table 2.--Acid-extractable alumina and water-soluble sodium analyses for
U.S. Geological Survey, Corehole CR-2--continued

[Leaders, no analysis]

Sample interval	Acid-extractable alumina Al ₂ O ₃ %	Water-soluble sodium Na ₂ O%
1851.8-1852.8	1.38	--
1852.8-1854.0	2.84	--
1854.0-1855.1	2.76	--
1855.1-1856.2	2.18	--
1856.2-1857.3	3.68	--
1857.3-1858.6	4.98	--
1858.6-1859.7	2.26	--
1859.7-1860.8	2.82	--
1860.8-1862.5	2.44	--
1862.5-1863.5	2.74	--
1863.5-1865.2	3.48	--
1865.2-1866.5	5.84	--
1866.5-1867.6	6.02	--
1867.6-1867.7	5.52	--
1867.7-1869.8	5.88	--
1869.8-1871.0	6.36	--
1871.0-1872.0	5.28	--
1872.0-1873.0	3.98	--
1873.0-1874.0	2.74	--
1874.0-1875.0	5.64	--
1875.0-1876.0	6.72	--
1877.0-1878.0	7.42	--
1878.0-1879.0	7.12	--
1879.0-1880.0	6.40	--
1880.0-1881.0	6.50	--
1881.0-1882.3	6.56	--
1882.3-1883.5	6.22	--
1883.5-1884.6	6.36	--
1884.6-1885.8	5.68	--
1886.0-1887.0	2.96	--
1887.0-1888.0	4.70	--
1888.0-1889.0	5.26	--
1889.0-1890.0	6.24	--
1890.0-1891.0	7.16	--
1891.0-1892.0	7.94	--

Table 2.--Acid-extractable alumina and water-soluble sodium analyses for
U.S. Geological Survey, Corehole CR-2--continued

[Leaders, no analysis]

Sample interval	Acid-extractable alumina Al ₂ O ₃ %	Water-soluble sodium Na ₂ O%
1892.0-1893.0	5.32	--
1893.0-1894.0	4.50	--
1894.0-1895.0	5.54	--
1895.0-1896.0	4.70	--
1896.0-1897.0	2.86	--
1897.0-1898.0	2.90	--
1898.0-1899.0	1.76	--
1899.0-1900.0	2.34	--
1900.0-1901.0	2.30	0.19
1901.0-1902.3	1.34	0.82
1902.3-1903.7	2.14	0.14
1903.7-1904.7	2.12	2.45
1904.7-1905.7	0.58	15.50
1905.9-1907.0	0.98	10.50
1907.0-1908.0	1.18	7.50
1908.0-1909.0	1.58	12.50
1909.0-1910.0	2.00	5.10
1910.0-1911.0	1.40	15.50
1911.0-1912.0	1.85	6.73
1912.0-1913.0	3.44	0.16
1913.0-1914.0	1.84	9.60
1914.0-1915.0	2.84	2.50
1915.0-1916.0	3.22	5.80
1916.0-1917.0	1.96	4.40
1917.0-1918.0	2.80	12.50
1918.0-1919.0	3.15	0.67
1919.0-1920.0	5.00	0.38
1920.0-1921.0	2.22	14.50
1921.0-1922.0	3.66	5.10
1922.0-1923.0	2.16	7.30
1923.0-1924.0	1.90	1.34
1924.0-1925.0	2.18	6.45
1925.0-1926.0	1.38	15.00
1926.0-1927.0	1.66	13.50
1927.0-1928.0	2.10	3.80

Table 2.--Acid-extractable alumina and water-soluble sodium analyses for
U.S. Geological Survey, Corehole CR-2--continued

[Leaders, no analysis]

Sample interval	Acid-extractable alumina $\text{Al}_2\text{O}_3\%$	Water-soluble sodium $\text{Na}_2\text{O}\%$
1928.0-1929.0	1.60	3.60
1929.0-1930.0	2.09	7.80
1930.0-1931.0	1.20	15.00
1931.0-1932.1	2.52	5.00
1932.1-1933.5	1.52	8.10
1933.5-1934.7	2.08	1.32
1934.7-1935.8	1.48	9.60
1935.8-1936.8	1.20	18.00
1936.8-1937.8	0.87	1.85
1937.8-1938.9	1.72	1.36
1938.9-1940.0	2.64	0.07
1940.0-1941.0	2.48	0.11
1941.0-1942.0	2.08	0.03
1942.0-1943.0	2.97	0.06
1943.0-1944.0	3.52	0.05
1944.0-1945.0	2.92	0.06
1945.0-1946.0	0.68	22.50
1946.0-1947.0	5.54	0.08
1947.0-1947.8	5.66	0.09
1947.8-1948.0	No sample	
1948.0-1949.0	1.62	0.16
1949.0-1950.0	2.12	0.31
1950.0-1951.0	1.84	0.10
1951.0-1952.0	3.16	0.08
1952.0-1953.0	3.86	0.05
1953.0-1954.0	3.28	0.07
1954.0-1955.0	2.82	0.05
1955.0-1956.5	2.28	0.05
1956.5-1957.5	2.80	0.15
1957.5-1958.5	2.18	0.06
1958.5-1959.5	1.20	0.11
1959.5-1960.5	1.44	0.09
1960.5-1961.5	1.22	--
1961.5-1962.5	1.92	--
1962.5-1963.6	1.83	--

Table 2.--Acid-extractable alumina and water-soluble sodium analyses for
U.S. Geological Survey, Corehole CR-2--continued

[Leaders, no analysis]

Sample interval	Acid-extractable alumina $\text{Al}_2\text{O}_3\%$	Water-soluble sodium $\text{Na}_2\text{O}\%$
1963.6-1964.8	2.72	--
1964.8-1966.0	2.28	--
1966.0-1967.0	3.32	--
1967.0-1968.0	2.58	--
1968.0-1969.0	1.50	--
1969.0-1970.0	1.22	--
1970.0-1971.0	1.92	--
1971.0-1972.0	1.46	--
1972.0-1973.0	1.26	--
1973.0-1974.0	1.52	--
1974.0-1975.0	1.66	--
1975.0-1976.0	0.90	--
1976.0-1977.0	1.78	--
1977.0-1978.0	2.46	--
1978.0-1979.0	4.57	--
1979.0-1980.0	5.16	--
1980.0-1981.0	6.04	--
1981.0-1982.0	2.24	--
1982.0-1983.0	4.52	--
1983.0-1984.0	5.70	--
1984.0-1985.0	6.34	--
1985.0-1986.0	6.66	--
1986.0-1987.0	5.54	--
1987.0-1988.0	3.18	--
1988.0-1989.0	1.62	--
1989.0-1990.0	1.68	--
1990.0-1991.0	2.04	--
1991.0-1992.0	0.92	--
1992.0-1993.0	1.28	--
1993.0-1994.0	0.92	--
1994.0-1995.0	0.62	--
1995.0-1996.0	0.88	--
1996.0-1997.0	0.92	--
1997.0-1998.0	1.08	--
1998.0-1999.0	1.18	--

Table 2.--Acid-extractable alumina and water-soluble sodium analyses for
U.S. Geological Survey, Corehole CR-2--continued

[Leaders, no analysis]

Sample interval	Acid-extractable alumina Al ₂ O ₃ %	Water-soluble sodium Na ₂ O%
1999.0-2000.0	2.86	--
2000.0-2001.0	3.98	--
2001.0-2002.0	4.16	--
2002.0-2003.2	4.14	--
2003.2-2003.8	1.24	--
2007.1-2008.4	0.64	--
2008.4-2009.6	0.64	--
2009.6-2010.9	0.50	--
2010.9-2011.9	0.68	--
2011.9-2013.0	2.02	--
2013.0-2014.0	2.90	--
2014.0-2015.2	0.56	--
2015.2-2016.3	0.50	--
2016.3-2017.5	0.66	--
2017.5-2018.8	0.72	--
2020.0-2021.0	1.54	--
2021.0-2022.0	0.82	--
2022.0-2023.0	0.76	--
2023.0-2024.0	0.48	--
2024.0-2025.0	0.70	--
2025.0-2026.0	0.82	--
2026.0-2027.0	0.62	--
2027.0-2028.0	0.64	--
2028.0-2029.0	0.58	--
2029.0-2030.0	0.74	--
2030.0-2031.0	0.66	--
2031.0-2032.0	0.56	--
2032.0-2033.0	0.56	--
2033.0-2034.0	0.62	--
2034.0-2035.0	0.54	--
2035.0-2036.0	0.58	--
2036.0-2037.0	0.42	--
2037.0-2038.0	0.36	--
2038.0-2039.0	0.32	--
2039.0-2040.0	0.32	--

Table 2.--Acid-extractable alumina and water-soluble sodium analyses for
U.S. Geological Survey, Corehole CR-2--continued

[Leaders, no analysis]

Sample interval	Acid-extractable alumina Al ₂ O ₃ %	Water-soluble sodium Na ₂ O%
2040.0-2041.0	0.32	--
2041.0-2042.1	0.32	--
2042.1-2043.2	0.74	--
2043.2-2044.6	0.46	--
2044.6-2045.7	0.50	--
2045.7-2046.7	0.44	--
2046.7-2047.8	0.38	--
2047.8-2048.8	0.66	--
2048.8-2049.8	0.59	--
2049.8-2050.8	0.60	--
2050.8-2051.8	0.48	--
2051.8-2053.2	0.40	--
2053.2-2054.6	0.40	--
2054.6-2055.6	0.30	--
2055.6-2057.1	0.38	--
2057.1-2058.4	0.54	--
2058.4-2059.6	0.46	--
2059.6-2060.8	0.42	--