UNITED STATES DEPARTMENT OF THE INTERIOR

GEOLOGICAL SURVEY

Analyses and descriptions of geochemical samples, Overflow Creek Roadless Area, Rabun County, Northeastern Georgia and Macon County, North Carolina

by

D.E. Detra, J.A. Domenico, B.M. Adrian, L.M. Kelley, R.P. Koeppen, C.M. Sears, and A.E. Nelson

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

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CONTENTS

Page

Studies Related to Wilderness---------- 1
Abstract---------- 1
Introduction---------- 1
Analytical Techniques---------- 2
References Cited---------- 3

TABLES

Table 1.--Brief descriptions of rock samples---------- 4
Table 2.--Analytical data for stream sediments--------- 6
Table 3.--Analytical data for panned concentrates------ 9
Table 4.--Analytical data for rocks---------- 12

STUDIES RELATED TO WILDERNESS

The Wilderness Act (Public Law 88-577, September 3, 1964) and related acts require the U.S. Geological Survey (USGS) and the U.S. Bureau of Mines to survey certain areas on Federal lands in order to determine the mineral values, if any, that may be present. Results must be made available to the public and be submitted to the President and the Congress. This report presents the analytical results of a geochemical survey of the Overflow Creek Roadless Area (8-026), in Chattahoochee National Forest, Rabun County, Northeastern Georgia, and adjacent parts of Nantahala National Forest, Macon County, North Carolina.

ABSTRACT

Semiquantitative spectrographic (31 elements) analyses, atomic absorption analyses for zinc and gold, and fluorometric analyses for uranium on 44 panned concentrates, 58 fine-grained stream sediments, and 49 rocks from Tray Mountain Wilderness, Chattahoochee Roadless Area, and Blood Mountain Wilderness, in northeastern Georgia, are reported in detail. Brief descriptions of the rock specimens are also given.

INTRODUCTION

The analyses reported here are for 58 fine-grained stream sediments(Table 2), 44 panned concentrates of active stream gravels(Table 3), and 78 rock samples(Table 4) from Overflow Creek Roadless Area, northeastern Georgia and adjacent North Carolina. The pan-concentrate and fine-grained sediment samples were collected by R.P. Koeppen,

C.S. Sears, and R.E. Luce during the period 1981-1982. rock samples were collected by R.P. Koeppen and A.E. Nelson, in association with geologic mapping of the study areas during 1982.

Brief descriptions of the rock samples are given in Table 1. Maps showing sample localities and discussion of the analytical data are given in Koeppen and Nelson (1989; in press).

ANALYTICAL TECHNIQUES

Panned-concentrate samples were prepared for chemical and mineralogical analyses by C.M. Sears in the U.S. Geological Survey laboratories in Reston, VA. These concentrates were washed in bromoform to remove light minerals then passed by a hand magnet to remove most magnetite. The remaining material was then split into magnetic and nonmagnetic fractions on a Frantz isodynamic separator, at a settings of 0.6 amp. The two fractions were crushed and pulverized to minus 140-mesh, and analyzed. Fine-grained stream-sediments were dried and sieved to minus 80-mesh (0.006 in.) then pulverized to minus 140-mesh (0.004 in.). Rock chips were similarly pulverized. Each sample was analyzed semi-quantitatively for 31 elements by a six-step, D.C.-(direct current) arc, optical-emmission spectrographic method (Grimes and Marranzino, 1968) by D.E. Detra, J.A. Domenico, and B.M. Adrian at the U.S. Geological Survey laboratories in Denver, Colo.

Semiquantitative spectrographic analytical values are reported as six steps per order of magnitude (1.0, 0.7, 0.5, 0.3, 0.2, 0.15, or multiples of 10 of these numbers) and are approximate geometric midpoints of the concentration ranges whose boundaries are 1.2, 0.83, 0.56, 0.38, 0.26, 0.18, 0.12, etc. The precision is shown to be within one adjoining reporting interval on each side of the reported value 83 percent of the time and within two adjoining intervals 96 percent of the time (Motooka and Grimes, 1976).

More sensitive analyses were done for gold, zinc, and Uranium. The analyses were made by L.M. Kelley, L.J. Sherlock, and A. Gruzensky. The gold and zinc determinations were by ordinary atomic absorption technique (Ward and others, 1969). Uranium was determined fluorometrically using the method of Centanni and others (1956).

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Table 1. Descriptive names for geochemical rock samples

OC004R	Biotite gneiss
OC005R	Hornblende gneiss
OC007R	Biotite gneiss
OC008R	Foliated granodiorite gneiss
OC020R	Biotite gneiss
OC028R	Pegmatite
OC029R	Biotite gneiss
OC033R	Biotite gneiss
OC040R	Garnet-biotite gneiss
OC058R	Pegmatite
OC059R	Biotite granite
OC060R	Biotite-feldspar-quartz gneiss
OC061R	Pyritic biotite schist
OC063R	Garnet-biotite schist
OC064R	Quartz vein
OC075R	Amphibolite
OC076R	Pegmatite
OC077R	Garnet-2 mica-feldspar gneiss
OC078R	Garnet amphibolite
OC091R	Muscovite pegmatite
OC095R	Dunite
OC096R	Diabase
OC098R	Biotite metasandstone
OC099R	Biotite gneiss migmatite
OC245R	Biotite gneiss migmatite
OC246R	Biotite gneiss migmatite
OC247R	Biotite gneiss migmatite
OC300R	Amphibole-biotite schist
OC301R	Biotitic metasandstone
OC302R	Lineated amphibolite
OC303R	Amphibolite
OC304R	Amphibolite
OC305R	Quartz vein
OC306R	Biotitic metasandstone
OC307R	Pegmatite
OC308R	Quartz vein
OC309R	Biotite gneiss
OC310R	Amphibolite
OC314R	Pegmatite gneiss
OC315R	Granodiorite gneiss
OC316R	Biotitic metasandstone-gneiss
OC317R	Biotitic metasandstone-gneiss
OC318R	Biotitic metasandstone-gneiss
OC319R	Amphibolite
OC321R	Muscovite schist
OC323R	Saprolite
OC324R	Pegmatite
OC326R	Amphibolite
OC327R	Amphibolite
OC330R	Metasandstone

Table 1. (continued)

OC719R	Biotite felsic gneiss
OC720R	Biotite gneiss
OC721R	Biotite gneiss
OC722R	Pegmatite
OC723R	Granodiorite gneiss
OC724R	Metasandstone
OC725R	Biotite gneiss
OC726R	Garnet-biotite schist
OC727R	Pegmatite
OC728R	Pegmatite
OC729R	Biotite schist
OC731R	Gneissic metasandstone
OC732R	Garnet-biotite gneiss
OC733R	Biotite gneiss
OC734R	Pyrite metasandstone
OC735R	Feldspathic metasandstone
OC736R	Gneissic metasandstone
OC737R	Biotite felsic gneiss
OC738R	Sillimanite-garnet-muscovite schist (?) in outcrop
OC739R	Garnet-biotite gneiss
OC740R	Biotite schist
OC741R	Biotite gneiss
OC742R	Biotite felsic gneiss
OC743R	Gneissic metasandstone
OC744R	Garnet-biotite-muscovite gneiss
OC745R	Biotite flesic gneiss
OC746R	Biotite-muscovite-quartz migmatitic gneiss

OVERFLOW ROADLESS AREA--STREAM SEDIMENTS

Sample	X-COORD.	Y-COORD.	S-FE%	S-MG%	S-CA%	S-TI%	S-MN	S-AG	S-AS	S-AU	S-B	S-BA	S-BE	S-BI	S-CD	S-CO	S-CR
OC006SS	296,920	387,447	5	.5	.20	>1.0	1,000	N	N	N	20	500	1.0	N	N	15	70
OC011SS	295,070	387,344	5	.3	.50	>1.0	1,500	N	N	N	10	500	<1.0	N	N	15	100
OC016SS	297,800	387,406	7	.7	.30	>1.0	2,000	N	N	N	70	700	1.0	N	N	20	150
OC017SS	297,800	387,406	3	.7	1.00	1.0	1,000	N	N	N	50	700	1.5	N	N	15	100
OC019SS	295,480	387,481	5	.7	.50	>1.0	1,500	N	N	N	10	1,000	1.5	N	N	20	100
OC021SS	293,520	387,310	2	.5	.15	.7	500	N	N	N	20	300	1.5	N	N	15	100
OC022SS	293,520	387,310	3	.7	.30	.7	1,000	N	N	N	15	500	1.5	N	N	15	100
OC027SS	292,060	387,738	7	.7	.70	1.0	1,500	N	N	N	15	700	1.5	N	N	15	100
OC031SS	293,690	387,643	3	.3	1.00	.7	1,500	N	N	N	10	1,000	1.5	N	N	15	70
OC036SS	295,050	387,708	5	1.0	1.00	.7	1,000	N	N	N	10	500	2.0	N	N	20	100
OC037SS	298,700	387,248	5	.7	.70	1.0	500	N	N	N	10	500	1.5	N	N	15	150
OC039SS	298,810	387,242	5	.5	.70	1.0	1,000	N	N	N	20	500	1.5	N	N	20	100
OC042SS	298,500	387,253	7	.3	.20	>1.0	1,000	N	N	N	70	200	1.0	N	N	15	100
OC044SS	297,830	387,155	5	1.0	1.00	>1.0	1,500	N	N	N	50	700	1.0	N	N	15	150
OC046SS	298,020	387,183	3	.3	.20	1.0	2,000	N	N	N	20	300	1.5	N	N	20	100
OC048SS	298,040	387,190	5	.5	.20	>1.0	1,500	N	N	N	20	300	1.0	N	N	15	100
OC049SS	298,220	387,203	5	1.5	.10	1.0	1,000	N	N	N	10	500	1.5	N	N	30	150
OC050SS	294,760	387,597	5	.5	.50	1.0	1,000	N	N	N	20	300	1.5	N	N	15	100
OC053SS	295,980	387,892	5	1.0	1.00	>1.0	1,500	N	N	N	20	500	1.5	N	N	20	100
OC056SS	296,020	387,892	5	1.0	1.00	.7	1,000	N	N	N	15	700	2.0	N	N	20	100
OC067SS	296,360	387,160	5	.5	.20	.7	1,000	N	N	N	50	500	1.5	N	N	15	100
OC068SS	296,430	387,139	5	1.0	.50	.7	1,000	N	N	N	20	500	1.5	N	N	20	100
OC071SS	295,710	387,437	5	.7	.70	1.0	1,500	N	N	N	20	500	1.5	N	N	15	70
OC072SS	296,590	387,410	3	.5	.30	.7	1,000	N	N	N	30	500	1.5	N	N	15	70
OC073SS	296,660	387,411	5	.3	.20	.7	700	N	N	N	30	500	1.0	N	N	15	100
OC081SS	296,230	387,432	5	.5	.15	.7	1,000	N	N	N	100	700	1.0	N	N	15	70
OC082SS	296,230	387,432	5	.5	.15	1.0	1,000	N	N	N	10	700	1.0	N	N	15	70
OC083SS	296,230	387,432	5	.7	.15	1.0	1,500	N	N	N	20	1,000	1.5	N	N	15	100
OC086SS	293,560	387,308	7	1.5	.70	.7	1,000	N	N	N	10	700	1.5	N	N	20	150
OC089SS	293,580	387,313	5	.7	.50	.7	1,000	N	N	N	10	500	1.5	N	N	15	100
OC092SS	293,130	387,386	5	1.0	.70	.7	700	N	N	N	10	700	1.5	N	N	15	100
OC093SS	293,580	387,430	5	1.0	.50	.7	700	N	N	N	100	700	2.0	N	N	20	100
OC094SS	294,470	387,323	5	.5	.30	1.0	1,000	N	N	N	50	700	1.0	N	N	15	100
OC100SS	296,920	387,444	5	.3	.50	1.0	1,000	N	N	N	20	300	1.5	N	N	10	50
OC104SS	295,700	387,160	7	.5	.50	>1.0	1,500	2.0	N	N	30	500	1.0	N	N	15	100
OC108SS	295,000	387,176	5	.5	.50	.7	700	N	N	N	70	500	1.5	N	N	10	70
OC111SS	294,490	387,177	5	.5	.50	>1.0	1,000	N	N	N	10	500	1.5	N	N	15	70
OC113SS	297,000	386,988	3	.3	.70	>1.0	1,500	N	N	N	10	700	1.0	N	N	10	50
OC115SS	299,240	386,910	5	.5	.50	>1.0	1,000	N	N	N	10	500	2.0	N	N	20	70
OC117SS	292,110	387,746	7	1.0	.70	>1.0	700	N	N	N	10	700	1.0	N	N	15	100

OVERFLOW ROADLESS AREA--STREAM SEDIMENTS

Sample	S-CU	S-LA	S-MO	S-NB	S-NI	S-PB	S-SB	S-SC	S-SN	S-SR	S-V	S-W	S-Y	S-ZN	S-ZR	S-TH	AA-AU	AA-ZN	U-INST
OC006SS	30	200	N	20	30	30	N	10	N	100	100	N	50	N	1,000	N	--	55	.60
OC011SS	50	>1,000	N	<20	20	20	N	10	N	100	150	N	200	N	1,000	N	--	45	.65
OC016SS	30	500	N	<20	50	10	N	10	N	100	200	N	150	N	700	100	--	85	.65
OC017SS	20	70	N	<20	30	30	N	10	N	150	100	N	200	N	500	N	--	50	.60
OC019SS	50	200	N	20	30	30	N	10	N	100	150	N	70	N	1,000	N	--	55	.50
OC021SS	15	1,000	N	<20	30	20	N	7	N	N	100	N	100	N	700	N	--	50	.65
OC022SS	20	500	N	<20	30	20	N	10	N	100	100	N	100	N	500	N	--	70	.35
OC027SS	20	500	N	20	30	50	N	10	N	150	200	N	70	N	500	N	--	65	.75
OC031SS	15	500	N	<20	20	50	N	5	N	150	100	N	50	N	300	N	--	40	.55
OC036SS	20	200	N	<20	30	100	N	10	N	200	200	N	50	N	500	N	--	55	1.00
OC037SS	20	300	N	20	30	50	N	10	N	100	150	N	30	N	1,000	N	--	45	.70
OC039SS	30	100	N	20	30	70	N	10	N	100	200	N	20	N	500	N	--	65	1.00
OC042SS	30	1,000	N	20	30	20	N	10	N	N	200	N	300	N	1,000	<100	--	45	.50
OC044SS	20	700	N	20	20	50	N	10	N	150	200	N	100	N	500	<100	--	40	1.00
OC046SS	20	150	N	<20	30	20	N	7	N	N	200	N	30	N	700	N	--	60	.60
OC048SS	20	1,000	N	20	20	10	N	10	N	N	200	N	200	N	1,000	N	--	35	.80
OC049SS	50	50	N	<20	50	20	N	10	N	N	200	N	50	N	1,000	N	--	55	.75
OC050SS	30	1,000	N	20	30	20	N	10	N	100	150	N	100	N	500	N	--	50	.65
OC053SS	30	100	N	<20	50	30	N	15	N	150	200	N	50	<200	300	N	--	65	.70
OC056SS	50	200	N	<20	30	30	N	15	N	150	200	N	300	N	700	N	--	95	1.00
OC067SS	20	700	N	20	30	30	N	10	N	N	200	N	150	N	700	N	--	50	N
OC068SS	20	100	N	<20	30	20	N	15	N	100	200	N	30	N	500	N	--	75	.75
OC071SS	20	500	N	20	30	10	N	15	N	100	200	N	300	N	1,000	N	--	65	.55
OC072SS	30	300	N	20	20	30	N	7	N	N	150	N	50	N	200	N	--	50	.80
OC073SS	20	200	N	<20	20	30	N	10	N	N	200	N	30	N	500	N	--	40	1.00
OC081SS	20	500	N	<20	20	20	N	7	N	N	150	N	50	N	1,000	N	--	40	.55
OC082SS	30	200	N	20	30	100	N	10	N	N	150	N	100	N	1,000	N	--	40	.40
OC083SS	30	1,000	N	<20	30	70	N	10	N	N	200	N	100	N	150	<100	--	55	.35
OC086SS	20	200	N	<20	50	50	N	15	N	150	200	N	70	N	500	N	--	80	.30
OC089SS	15	100	N	<20	50	20	N	10	N	100	150	N	50	N	500	N	--	55	.60
OC092SS	20	300	N	<20	30	30	N	10	N	150	150	N	50	N	300	N	--	40	.60
OC093SS	20	70	N	<20	50	50	N	10	N	100	150	N	20	N	200	N	--	50	.85
OC094SS	15	500	N	20	30	50	N	7	N	N	150	N	150	N	500	N	--	30	1.30
OC100SS	7	1,000	N	<20	15	20	N	5	N	100	100	N	500	N	>1,000	N	--	30	1.00
OC104SS	30	200	N	20	30	20	N	10	N	100	200	N	500	N	700	N	.10	50	1.10
OC108SS	15	500	N	<20	20	20	N	10	N	100	150	N	50	N	1,000	N	--	35	1.10
OC111SS	20	200	N	20	30	50	N	10	N	100	150	N	100	N	1,000	N	--	40	.90
OC113SS	10	1,000	N	20	15	50	N	5	N	100	100	N	500	N	>1,000	100	--	30	1.10
OC115SS	20	500	N	<20	30	20	N	10	N	100	150	N	100	N	1,000	N	--	40	1.10
OC117SS	15	1,000	N	<20	20	50	N	10	N	100	200	N	700	N	>1,000	<100	--	35	1.00

OVERFLOW ROADLESS AREA--STREAM SEDIMENTS

Sample	X-COORD.	Y-COORD.	S-FE%	S-MG%	S-CA%	S-TI%	S-MN	S-AG	S-AS	S-AU	S-B	S-BA	S-BE	S-BI	S-CD	S-CO	S-CR
OC119SS	293,060	387,695	5	1.0	1.50	.7	1,000	N	N	N	10	700	2.0	N	N	15	100
OC121SS	292,750	387,695	3	.5	.70	1.0	1,000	N	N	N	10	500	1.5	N	N	10	50
OC123SS	294,000	387,680	3	.3	.70	1.0	1,000	N	N	N	10	500	2.0	N	N	10	50
OC125SS	293,870	387,678	5	.7	1.00	1.0	1,500	N	N	N	10	500	1.5	N	N	15	70
OC127SS	295,290	387,716	5	.7	.70	1.0	1,500	N	N	N	15	500	1.5	N	N	15	50
OC129SS	295,320	387,706	7	1.0	1.50	>1.0	2,000	N	N	N	15	700	1.5	N	N	20	100
OC201SS	297,750	387,410	5	.7	.50	1.0	1,000	N	N	N	10	1,000	1.0	N	N	15	100
OC205SS	295,480	387,481	5	.7	.70	.7	700	N	N	N	10	500	1.5	N	N	15	100
OC208SS	295,650	387,156	7	.7	.70	1.0	1,000	N	N	N	20	700	1.5	N	N	15	100
OC212SS	293,940	387,241	5	.7	.70	1.0	1,000	.5	N	N	10	700	1.5	N	N	15	100
OC223SS	298,820	387,270	5	.7	1.00	1.0	1,000	N	N	N	70	700	1.5	N	N	15	100
OC226SS	298,330	387,233	5	.3	.30	>1.0	1,000	N	N	N	150	200	1.0	N	N	10	70
OC229SS	298,190	387,234	5	.5	.30	1.0	1,000	<.5	N	N	10	300	1.5	N	N	10	100
OC232SS	297,750	387,146	7	.5	1.00	>1.0	1,500	10.0	N	200	30	200	1.0	N	N	10	70
OC234SS	297,690	387,143	7	.7	.70	1.0	1,500	N	N	N	50	500	1.0	N	N	15	100
OC237SS	294,640	387,580	5	.5	1.00	>1.0	1,000	N	N	N	10	500	1.5	N	N	10	70
OC240SS	294,680	387,582	7	.7	1.00	1.0	1,000	N	N	N	10	500	2.0	N	N	15	100
OC244SS	294,760	387,597	5	.3	.20	1.0	1,000	N	N	N	10	300	1.5	N	N	10	70

Sample	S-CU	S-LA	S-MO	S-NB	S-NI	S-PB	S-SB	S-SC	S-SN	S-SR	S-V	S-W	S-Y	S-ZN	S-ZR	S-TH	AA-AU	AA-ZN	U-INST
OC119SS	30	300	N	N	30	70	N	10	N	150	150	N	200	<200	200	N	--	55	.80
OC121SS	10	1,000	N	N	20	30	N	7	N	150	100	N	100	N	200	N	--	30	.70
OC123SS	10	500	N	<20	20	50	N	7	N	100	150	N	30	N	500	N	--	30	.90
OC125SS	15	1,000	N	<20	20	70	N	10	N	200	150	N	150	N	1,000	<100	--	40	1.10
OC127SS	20	100	N	<20	20	50	N	7	N	100	100	N	70	N	700	N	--	40	.60
OC129SS	50	1,000	N	<20	30	50	N	15	N	150	200	N	300	<200	500	100	--	40	2.30
OC201SS	30	500	N	20	30	20	N	10	N	100	100	N	100	N	1,000	<100	--	60	.80
OC205SS	20	100	N	<20	20	50	N	7	N	100	100	N	150	N	500	N	--	60	1.10
OC208SS	20	700	N	<20	30	30	N	10	N	100	150	N	70	N	200	N	--	50	1.00
OC212SS	15	700	N	20	20	50	N	10	N	150	150	N	200	N	1,000	N	--	55	1.10
OC223SS	50	70	N	<20	30	50	N	10	N	150	150	N	100	N	700	N	--	50	1.40
OC226SS	10	150	N	20	20	10	N	5	N	N	150	N	200	N	500	N	--	20	.80
OC229SS	30	100	N	<20	30	20	N	7	N	N	100	N	50	N	700	N	--	20	.85
OC232SS	10	1,000	N	20	20	10	N	10	N	200	150	N	500	N	500	<100	.25	25	3.00
OC234SS	20	500	N	<20	30	70	N	10	N	150	200	N	150	N	>1,000	N	--	35	.95
OC237SS	20	>1,000	N	20	20	50	N	7	N	200	150	N	500	N	>1,000	150	--	35	2.70
[illegible]	30	300	N	<20	30	30	N	10	N	100	150	N	200	N	1,000	N	--	5[illegible]	[illegible]
OC244SS	20	200	N	<20	20	10	N	7	N	N	100	N	50	N	1,000	N	--	45	1.10

OVERFLOW ROADLESS AREA--PANNED CONCENTRATES

Sample	X-COORD.	Y-COORD.	S-FE%	S-MG%	S-CA%	S-TI%	S-MN	S-AG	S-AS	S-AU	S-B	S-BA	S-BE	S-BI	S-CD	S-CO	S-CR	S-CU
OC010PC	295,000	387,346	30.00	.15	<.10	>2.0	5,000	N	N	N	50	300	N	N	N	10	1,000	50
OC015PC	297,800	387,406	30.00	.20	<.10	>2.0	5,000	N	N	N	700	300	N	N	N	10	1,000	20
OC032PC	293,690	387,643	5.00	.70	.50	.7	10,000	N	N	N	150	500	N	N	N	<10	150	N
OC034PC	295,050	387,708	15.00	2.00	1.50	>2.0	7,000	N	N	N	50	500	N	N	N	50	300	30
OC038PC	298,810	387,242	.20	.07	1.00	>2.0	300	N	N	N	50	300	N	N	N	15	300	<10
OC038PC	298,810	387,242	15.00	3.00	3.00	>2.0	7,000	N	N	N	30	300	N	N	N	50	300	20
OC041PC	298,500	387,253	20.00	.50	.10	>2.0	7,000	N	N	N	500	300	N	N	N	20	700	30
OC043PC	297,830	387,155	1.00	.20	3.00	>2.0	500	2	N	N	1,500	500	150	N	N	20	200	<10
OC043PC	297,830	387,155	10.00	3.00	5.00	.7	10,000	N	N	N	700	500	<2	N	N	70	300	20
OC051PC	295,980	387,892	7.00	5.00	3.00	2.0	7,000	N	N	N	100	500	<2	N	N	50	300	15
OC054PC	296,020	387,892	10.00	3.00	3.00	2.0	7,000	N	N	N	70	500	N	N	N	50	300	20
OC065PC	296,360	387,160	2.00	.70	.50	2.0	7,000	N	N	N	3,000	300	N	N	N	10	200	20
OC069PC	295,710	387,437	15.00	.30	.20	>2.0	5,000	N	N	N	20	300	N	N	N	10	700	50
OC079PC	296,230	387,432	20.00	.15	<.10	>2.0	5,000	N	N	N	<20	300	N	N	N	10	700	50
OC084PC	293,560	387,308	20.00	.30	.10	>2.0	5,000	N	N	N	20	300	N	N	N	10	1,000	10
OC087PC	293,580	387,313	5.00	1.00	.50	1.5	10,000	N	N	N	500	300	N	N	N	10	700	10
OC097PC	295,050	387,708	15.00	5.00	5.00	2.0	10,000	N	N	N	100	700	<2	N	N	70	300	15
OC107PC	295,000	387,176	30.00	.15	<.10	>2.0	5,000	N	N	N	200	300	N	N	N	10	1,000	15
OC110PC	294,490	387,177	20.00	1.00	.50	>2.0	7,000	N	N	N	200	700	N	N	N	50	300	30
OC200PC	297,750	387,410	20.00	1.50	1.50	>2.0	5,000	N	N	N	500	300	N	N	N	30	500	30
OC203PC	295,480	387,481	20.00	.15	.70	>2.0	3,000	N	N	N	150	300	N	N	N	50	700	50
OC206PC	295,600	387,483	20.00	1.50	1.50	>2.0	5,000	N	N	N	100	500	N	N	N	50	500	20
OC207PC	295,650	387,156	20.00	.30	.15	>2.0	5,000	N	N	N	100	500	N	N	N	50	1,000	15
OC209PC	295,700	387,160	20.00	.20	.10	>2.0	2,000	N	N	N	150	500	N	N	N	50	1,000	20
OC210PC	293,520	387,310	20.00	1.00	.50	>2.0	3,000	N	N	N	100	700	N	N	N	20	1,000	10
OC211PC	293,940	387,241	20.00	.50	.50	>2.0	5,000	N	N	N	50	300	N	N	N	15	1,000	20
OC213PC	299,240	386,910	20.00	1.00	.50	>2.0	5,000	N	N	N	100	500	N	N	N	20	700	50
OC214PC	297,000	386,988	20.00	1.00	1.00	>2.0	10,000	N	N	N	300	500	N	N	N	10	700	50
OC215PC	292,110	387,746	30.00	.70	.50	>2.0	3,000	N	N	N	20	500	N	N	N	50	700	20
OC216PC	292,060	387,738	30.00	.30	.10	>2.0	5,000	N	N	N	<20	500	N	N	N	10	1,000	10
OC217PC	293,060	387,695	15.00	1.00	1.50	>2.0	10,000	N	N	N	70	500	N	N	N	10	500	30
OC218PC	292,750	387,695	30.00	.20	<.10	>2.0	3,000	N	N	N	<20	300	N	N	N	10	700	10
OC221PC	295,320	387,706	20.00	.70	.30	>2.0	10,000	N	N	N	150	300	N	N	N	10	300	50
OC222PC	295,290	387,716	15.00	1.50	.70	>2.0	10,000	N	N	N	<20	700	N	N	N	10	200	30
OC224PC	298,820	387,270	7.00	3.00	2.00	.7	10,000	N	N	N	200	500	N	N	N	<10	200	10
OC224PC	298,820	387,270	.30	.07	.30	>2.0	150	N	N	N	50	500	N	N	N	10	200	50
OC227PC	298,330	387,233	30.00	.20	<.10	>2.0	5,000	N	N	N	300	300	N	N	N	10	1,000	50
OC227PC	298,330	387,233	.20	.05	.10	>2.0	100	N	N	N	50	700	N	N	N	<10	70	<10
OC230PC	298,140	387,234	20.00	.20	.10	>2.0	10,000	N	N	N	50	300	N	N	N	10	200	70
OC230PC	298,190	387,234	.15	<.05	.10	>2.0	100	N	N	N	50	500	N	N	N	<10	70	<10

OVERFLOW ROADLESS AREA--PANNED CONCENTRATES

Sample	S-LA	S-MO	S-NB	S-NI	S-PB	S-SB	S-SC	S-SN	S-SR	S-V	S-W	S-Y	S-ZN	S-ZR	S-TH	AA-AU	AA-ZN	U-INST
OC010PC	>2,000	N	70	15	100	N	30	N	N	500	N	5,000	N	1,500	1,500	--	10	20.0
OC015PC	1,500	N	50	10	20	N	20	N	N	700	N	200	N	500	N	--	10	8.8
OC032PC	>2,000	N	N	N	300	N	30	N	N	50	N	>5,000	N	1,000	>5,000	--	10	74.0
OC034PC	>2,000	N	50	30	70	N	50	N	N	300	N	1,500	N	500	700	--	10	11.0
OC038PC	>2,000	N	100	N	100	N	150	N	N	150	N	1,500	N	>2,000	300	--	--	40.0
OC038PC	2,000	N	50	50	50	N	50	N	N	200	N	700	N	200	500	--	10	7.5
OC041PC	>2,000	N	50	15	100	N	30	N	N	500	N	3,000	N	700	1,500	--	10	44.0
OC043PC	>2,000	N	150	50	300	N	>200	70	N	100	N	5,000	N	>2,000	5,000	--	5	80.0
OC043PC	>2,000	N	N	70	50	N	70	N	N	200	N	3,000	N	300	700	--	20	15.0
OC051PC	1,000	N	<50	70	30	N	70	N	N	200	N	1,000	<500	200	<200	--	20	8.0
OC054PC	2,000	N	<50	70	30	N	30	N	N	500	N	2,000	N	200	1,000	--	20	16.0
OC065PC	>2,000	N	N	50	300	N	>100	N	N	100	N	>5,000	N	2,000	>5,000	--	10	82.0
OC069PC	>2,000	N	70	15	30	N	30	N	N	500	N	3,000	N	500	1,000	--	10	24.0
OC079PC	>2,000	N	50	20	30	N	20	N	N	500	N	2,000	N	>2,000	700	--	10	13.0
OC084PC	>2,000	N	50	20	30	N	30	N	N	300	N	1,500	N	500	700	--	10	76.0
OC087PC	>2,000	N	N	<10	300	N	>100	N	N	100	N	5,000	N	2,000	>5,000	--	10	19.0
OC097PC	700	N	<50	70	20	N	100	N	N	500	N	1,000	<500	200	N	--	30	7.0
OC107PC	>2,000	N	50	10	100	N	30	N	N	500	N	3,000	N	700	700	--	5	55.0
OC110PC	2,000	N	50	30	50	N	50	N	N	200	N	1,500	N	200	500	--	20	28.0
OC200PC	2,000	N	50	30	70	N	50	N	N	300	N	1,000	N	500	500	--	10	11.0
OC203PC	2,000	N	50	10	50	N	20	N	N	300	N	1,500	N	700	500	--	10	17.0
OC206PC	>2,000	N	50	50	100	N	50	N	N	300	N	3,000	N	200	700	--	20	30.0
OC207PC	>2,000	N	70	20	70	N	30	N	N	500	N	2,000	N	300	700	--	10	14.0
OC209PC	2,000	N	70	10	20	N	30	N	N	500	N	700	N	200	300	--	10	7.7
OC210PC	>2,000	N	50	15	70	N	50	N	N	300	N	2,000	N	300	300	--	20	33.0
OC211PC	>2,000	N	50	15	70	N	50	N	N	300	N	2,000	N	700	700	--	10	20.0
OC213PC	>2,000	N	50	20	100	N	50	N	N	300	N	3,000	N	500	1,000	--	10	51.0
OC214PC	>2,000	N	70	15	150	N	50	N	N	300	N	3,000	N	500	1,000	--	10	56.0
OC215PC	>2,000	N	50	30	100	N	30	N	N	700	N	2,000	N	500	500	--	20	32.0
OC216PC	>2,000	N	700	15	100	N	30	<20	N	500	N	5,000	N	700	700	--	10	18.0
OC217PC	>2,000	N	50	30	100	N	50	N	N	300	N	3,000	N	700	1,000	--	20	19.0
OC218PC	2,000	N	70	15	50	N	20	<20	N	500	N	1,500	N	500	300	--	10	8.0
OC221PC	>2,000	N	<50	15	150	N	50	N	N	200	N	5,000	N	700	2,000	--	5	76.0
OC222PC	>2,000	N	<50	20	150	N	50	N	N	150	N	5,000	N	700	1,500	--	10	59.0
OC224PC	>2,000	N	N	50	200	N	50	N	N	100	N	5,000	N	700	2,000	--	20	72.0
OC224PC	1,500	N	150	N	50	N	20	N	N	150	N	300	N	>2,000	<200	--	5	19.0
OC227PC	>2,000	N	70	15	100	N	30	N	N	500	N	3,000	N	500	1,500	--	5	42.0
OC227PC	>2,000	N	100	N	70	N	70	N	N	100	N	1,000	N	>2,000	500	--	N	32.0
OC230PC	>2,000	N	70	10	150	N	30	N	N	300	N	3,000	N	500	1,500	--	5	47.0
OC230PC	150	N	100	N	30	N	20	N	N	100	N	200	N	>2,000	N	--	5	8.8

OVERFLOW ROADLESS AREA--PANNED CONCENTRATES

Sample	X-COORD.	Y-COORD.	S-FE%	S-MG%	S-CA%	S-TI%	S-MN	S-AG	S-AS	S-AU	S-B	S-BA	S-BE	S-BI	S-CD	S-CO	S-CR	S-CU
OC233PC	297,750	387,146	7.00	3.00	3.00	2.0	7,000	N	N	N	500	300	N	N	N	20	200	20
OC233PC	297,750	387,246	.30	.10	.50	>2.0	300	N	N	N	50	300	N	N	N	10	300	10
OC235PC	297,690	387,143	.20	.07	.50	>2.0	150	N	N	N	50	700	N	N	N	15	100	<10
OC235PC	297,690	387,143	30.00	.20	<.10	>2.0	5,000	N	N	N	30	300	N	N	N	10	1,000	10
OC238PC	294,640	387,580	7.00	2.00	1.00	.7	10,000	N	N	N	200	700	N	N	N	<10	150	<10
OC249PC	295,970	387,453	20.00	.15	.15	>2.0	5,000	N	N	N	70	300	N	N	N	10	1,000	20

Sample	S-LA	S-MO	S-NB	S-NI	S-PB	S-SB	S-SC	S-SN	S-SR	S-V	S-W	S-Y	S-ZN	S-ZR	S-TH	AA-AU	AA-ZN	U-INST
OC233PC	>2,000	N	50	70	100	N	50	N	N	150	N	2,000	N	1,000	1,000	--	20	60.0
OC233PC	200	N	150	N	50	N	30	N	N	150	N	300	N	>2,000	N	--	--	110.0
OC235PC	>2,000	N	100	N	100	N	100	N	N	70	N	1,000	N	>2,000	700	--	N	33.0
OC235PC	>2,000	N	70	10	70	N	30	N	N	500	N	2,000	N	500	1,000	--	5	24.0

OVERFLOW ROADLESS AREA--ROCKS

Sample	X-COORD.	Y-COORD.	S-FE%	S-MG%	S-CA%	S-TI%	S-MN	S-AG	S-AS	S-AU	S-B	S-BA	S-BE	S-BI	S-CD	S-CO	S-CR
OC004R	297,710	387,139	1.00	.50	.20	.300	200	N	N	N	N	200	1.0	N	N	7	50
OC005R	297,800	387,346	2.00	1.50	3.00	.300	500	N	N	N	<10	50	<1.0	N	N	50	10
OC007R	297,030	387,427	1.50	1.00	.30	.300	300	N	N	N	<10	200	1.5	N	N	15	50
OC008R	297,003	387,427	1.50	.50	1.50	.200	200	N	N	N	N	100	1.5	N	N	7	N
OC020R	295,650	387,156	1.50	.70	.10	.300	300	N	N	N	N	150	1.5	N	N	20	70
OC028R	292,060	387,738	1.00	.30	.30	.150	100	N	N	N	N	1,500	<1.0	N	N	5	N
OC029R	292,060	387,738	1.50	.70	.20	.300	200	N	N	N	N	300	<1.0	N	N	20	50
OC033R	294,000	387,680	1.00	.30	.07	.200	200	N	N	N	N	150	1.5	N	N	10	30
OC040R	298,740	387,241	1.00	.30	.50	.200	300	N	N	N	N	100	1.5	N	N	7	20
OC057R	292,560	387,865	.50	.20	1.00	.100	100	N	N	N	N	100	1.0	N	N	5	N
OC058R	292,560	387,865	.50	.20	.50	.100	100	N	N	N	N	300	1.0	N	N	<5	N
OC059R	292,560	387,865	.30	.10	.70	.070	100	N	N	N	N	500	2.0	N	N	N	N
OC060R	292,560	387,865	.70	.30	1.00	.100	100	N	N	N	N	200	1.5	N	N	<5	N
OC061R	292,560	387,865	2.00	.70	1.00	.300	150	N	N	N	<10	100	1.0	N	N	15	50
OC062R	292,560	387,865	2.00	1.50	.70	.300	500	N	N	N	<10	500	1.5	N	N	20	70
OC063R	292,560	387,865	3.00	2.00	1.00	.500	1,000	N	N	N	<10	300	1.5	N	N	30	20
OC064R	292,560	387,865	.30	.07	1.00	.050	50	N	N	N	N	500	1.0	N	N	N	N
OC075R	296,520	387,410	7.00	2.00	2.00	1.000	500	N	N	N	10	100	N	N	N	50	100
OC076R	296,520	387,410	1.00	.20	.20	.070	50	N	N	N	N	300	1.0	N	N	N	N
OC077R	296,520	387,410	2.00	1.00	.10	.300	500	N	N	N	15	300	1.5	N	N	20	70
OC078R	296,450	387,416	5.00	1.00	2.00	.700	70	N	N	N	10	100	<1.0	N	N	50	N
OC091R	290,570	387,672	.30	.05	.05	.050	50	N	N	N	N	700	N	N	N	N	N
OC095R	295,290	387,716	3.00	10.00	<.05	.002	500	N	N	N	10	N	N	N	N	150	2,000
OC096R	262,950	385,915	2.00	3.00	3.00	.300	500	N	N	N	<10	100	N	N	N	70	150
OC098R	299,240	386,910	1.00	.50	.20	.200	200	N	N	N	N	50	2.0	N	N	5	70
OC099R	295,960	387,518	1.00	.50	.50	.150	150	N	N	N	N	150	<1.0	N	N	7	20
OC245R	295,650	387,156	1.00	.70	.05	.300	200	N	N	N	<10	200	1.0	N	N	10	30
OC246R	295,650	387,156	.10	.03	.07	.015	50	N	N	N	N	500	1.0	N	N	N	N
OC247R	295,650	387,156	.50	.15	.15	.050	100	N	N	N	N	150	1.0	N	N	N	N
OC300R	297,790	387,181	2.00	.70	.70	.500	300	N	N	N	10	150	1.5	N	N	10	50
OC301R	297,790	387,175	1.50	.50	.30	.300	200	N	N	N	N	70	1.0	N	N	5	20
OC302R	297,790	387,175	7.00	2.00	3.00	.300	500	N	N	N	15	<20	N	N	N	70	100
OC303R	297,780	387,246	2.00	.70	.70	.300	300	N	N	N	10	150	1.0	N	N	<5	50
OC304R	297,700	387,271	7.00	2.00	2.00	1.000	700	N	N	N	10	50	N	N	N	70	70
OC305R	296,010	387,250	.05	<.02	<.05	.020	10	N	N	N	N	<20	N	N	N	N	N
OC306R	296,150	387,276	1.50	1.00	<.05	.300	200	N	N	N	N	200	1.5	N	N	10	50
OC307R	296,150	387,276	.20	.05	.70	.050	100	N	N	N	30	300	10.0	N	N	N	N
OC308R	296,420	387,253	.05	<.02	N	.015	15	N	N	N	N	20	N	N	N	N	N
OC309R	296,420	387,246	1.00	.20	<.05	.200	150	N	N	N	N	[illegible]	[illegible]	N	N	5	20
OC310R	296,420	387,246	3.00	2.00	2.00	.700	700	N	N	N	10	50	1.0	N	N	50	50

OVERFLOW ROADLESS AREA--ROCKS

Sample	S-CU	S-LA	S-MO	S-NB	S-NI	S-PB	S-SB	S-SC	S-SN	S-SR	S-V	S-W	S-Y	S-ZN	S-ZR	S-TH	AA-AU-P	AA-ZN-P	U-INST
OC004R	20	50	N	N	20	10	N	7	N	100	70	N	30	N	50	N	.05	<5	1.30
OC005R	20	N	N	N	15	10	N	30	N	<100	200	N	30	N	20	N	N	N	.75
OC007R	30	N	N	N	30	15	N	10	N	100	100	N	20	N	150	N	N	5	.90
OC008R	<5	30	N	N	5	30	N	5	N	300	50	N	10	N	150	N	N	<5	.65
OC020R	10	70	N	N	30	10	N	10	N	<100	100	N	15	N	300	N	N	5	1.80
OC028R	N	100	N	N	7	50	N	10	N	500	50	N	30	N	200	N	.05	<5	2.40
OC029R	20	70	N	N	30	20	N	10	N	300	70	N	30	N	200	N	.05	10	.70
OC033R	5	N	N	N	20	20	N	5	N	100	70	N	10	N	150	N	N	5	.75
OC040R	7	100	N	N	10	30	N	7	N	150	70	N	20	N	100	N	N	5	.45
OC057R	15	N	N	N	5	15	N	N	N	300	20	N	N	N	30	N	N	<5	.85
OC058R	7	N	N	N	5	50	N	<5	N	150	20	N	N	N	30	N	N	N	.85
OC059R	5	30	N	N	10	50	N	N	N	200	15	N	N	N	30	N	N	N	.40
OC060R	15	50	N	N	<5	30	N	5	N	200	30	N	10	N	100	N	N	N	4.10
OC061R	50	50	<5	N	30	20	N	10	N	150	100	N	20	N	200	N	N	5	2.50
OC062R	30	20	N	N	30	20	N	15	N	100	200	N	20	N	100	N	N	10	1.70
OC063R	20	20	N	N	20	15	N	30	N	100	300	N	50	N	30	N	N	10	.80
OC064R	<5	N	N	N	5	30	N	<5	N	500	20	N	N	N	50	N	N	N	.80
OC075R	70	30	N	N	50	10	N	30	N	150	300	N	50	N	100	N	N	N	.65
OC076R	5	30	N	N	<5	20	N	7	N	150	50	N	50	N	30	N	.05	N	.85
OC077R	20	70	N	N	30	20	N	15	N	100	100	N	50	N	150	N	N	10	.80
OC078R	150	50	N	N	20	10	N	20	N	150	200	N	50	N	100	N	N	<5	.60
OC091R	5	N	N	N	5	100	N	N	N	200	10	N	N	N	N	N	N	N	.25
OC095R	<5	N	N	N	1,000	N	N	5	N	N	20	N	N	N	N	N	N	<5	.20
OC096R	70	N	N	N	150	<10	N	30	N	100	200	N	50	N	70	N	N	5	.45
OC098R	10	30	N	N	20	20	N	5	N	150	30	N	20	N	300	N	N	<5	.50
OC099R	N	N	N	N	20	20	N	7	N	150	50	N	10	N	50	N	N	5	.60
OC245R	<5	30	N	N	30	10	N	10	N	<100	50	N	20	N	300	N	N	5	.70
OC246R	<5	N	N	N	5	50	N	N	N	300	<10	N	N	N	N	N	N	N	.25
OC247R	N	N	N	N	7	20	N	<5	N	200	20	N	N	N	30	N	N	<5	.40
OC300R	50	N	N	N	50	15	N	15	N	100	100	N	20	N	500	N	N	10	1.40
OC301R	<5	N	N	N	10	15	N	5	N	<100	50	N	10	N	30	N	N	<5	.70
OC302R	30	N	N	N	70	10	N	50	N	150	300	N	30	N	50	N	N	N	.40
OC303R	5	30	N	N	30	15	N	10	N	100	50	N	20	N	300	N	N	5	.50
OC304R	50	N	N	N	50	10	N	20	N	<100	300	N	30	N	150	N	N	N	.75
OC305R	<5	N	N	N	<5	N	N	N	N	N	N	N	N	N	N	N	N	N	.20
OC306R	N	30	N	N	30	10	N	7	N	N	70	N	10	N	200	N	N	10	.65
OC307R	N	N	N	N	<5	30	N	N	N	200	10	N	N	N	50	N	N	N	.45
OC308R	N	N	N	N	<5	N	N	N	N	N	<10	N	N	N	N	N	N	N	.15
OC309R	<5	N	N	N	15	10	N	5	N	N	50	N	N	[illegible]	150	N	N	<5	.75
OC310R	200	<20	N	N	30	15	N	20	N	150	200	N	30	300	30	N	N	<5	.40

OVERFLOW ROADLESS AREA--ROCKS

Sample	X-COORD.	Y-COORD.	S-FE%	S-MG%	S-CA%	S-TI%	S-MN	S-AG	S-AS	S-AU	S-B	S-BA	S-BE	S-BI	S-CD	S-CO	S-CR
OC314R	294,020	387,867	2.00	1.50	.50	.500	300	N	N	N	<10	1,000	<1.0	N	N	15	70
OC315R	294,020	387,867	1.00	.50	.70	.150	150	N	N	N	N	100	1.5	N	N	5	20
OC316R	293,520	387,850	1.50	.50	.05	.200	200	N	N	N	N	100	1.0	N	N	7	30
OC317R	293,420	387,810	1.50	.50	.10	.200	200	N	N	N	N	100	1.5	N	N	7	30
OC318R	292,580	387,862	3.00	1.50	3.00	.700	700	N	N	N	10	150	<1.0	N	N	20	N
OC319R	292,580	387,862	3.00	1.50	3.00	.500	500	N	N	N	10	30	<1.0	N	N	30	N
OC321R	293,600	387,446	.50	.20	.05	.050	100	N	N	N	N	30	<1.0	N	N	N	N
OC323R	299,240	386,910	.70	3.00	.10	.200	200	N	N	N	<10	100	1.5	N	N	5	15
OC324R	299,240	386,910	.20	.05	.70	.020	100	N	N	N	N	50	2.0	N	N	N	N
OC326R	299,240	386,910	1.50	2.00	3.00	.300	300	N	N	N	10	30	N	N	N	20	50
OC327R	299,240	386,910	2.00	3.00	5.00	.200	300	N	N	N	10	30	N	N	N	30	100
OC330R	299,240	386,910	1.00	.70	.50	.200	300	N	N	N	N	100	1.5	N	N	7	20
OC719R	291,880	387,820	.70	.50	.20	.200	150	N	N	N	N	100	1.0	N	N	7	30
OC720R	290,730	387,776	.70	.50	.30	.200	100	N	N	N	N	200	1.0	N	N	5	15
OC721R	290,840	387,763	1.00	.50	.10	.300	200	N	N	N	N	300	1.0	N	N	10	20
OC722R	290,880	387,752	.05	<.02	.10	.010	50	N	N	N	N	50	1.5	N	N	N	N
OC723R	290,800	387,749	1.50	.70	.15	.300	200	N	N	N	10	500	1.0	N	N	7	30
OC724R	291,660	387,696	1.00	.50	.20	.300	200	N	N	N	10	150	1.5	N	N	7	30
OC725R	291,760	387,676	2.00	1.50	.20	.500	200	N	N	N	10	300	<1.0	N	N	30	70
OC726R	296,090	387,618	3.00	1.50	.10	.700	500	N	N	N	10	300	N	N	N	30	100
OC727R	293,180	387,390	.10	.07	.05	.030	70	N	N	N	N	100	N	N	N	N	N
OC728R	293,880	387,335	.10	.05	.30	.050	70	N	N	N	N	150	1.5	N	N	N	N
OC729R	294,420	387,316	1.00	.70	.20	.300	200	N	N	N	N	150	1.5	N	N	7	50
OC731R	297,980	387,420	1.50	.50	.30	.500	300	N	N	N	<10	100	1.5	N	N	7	50
OC732R	296,840	387,418	3.00	1.50	.30	.700	300	.5	N	N	<10	300	<1.0	N	N	30	70
OC733R	297,260	387,400	.50	.15	.70	.100	150	N	N	N	N	150	2.0	N	N	<5	N
OC734	295,920	387,450	.20	.20	.70	.020	100	N	N	N	N	70	1.5	N	N	N	N
OC735	295,940	387,171	.20	.05	.70	.015	300	N	N	N	N	70	1.5	N	N	N	N
OC736	298,900	387,152	.70	.50	.70	.200	150	N	N	N	N	150	1.0	N	N	5	N
OC737	298,940	387,210	2.00	1.50	1.00	.300	1,000	N	N	N	<10	150	2.0	N	N	15	70
OC738	296,140	387,846	2.00	1.00	.10	.300	300	N	N	N	15	300	1.0	N	N	10	70
OC739	296,000	387,670	1.00	.70	.07	.200	500	N	N	N	N	150	1.0	N	N	7	20
OC740	295,750	387,650	1.00	.50	.15	.200	200	N	N	N	20	100	3.0	N	N	7	20
OC741	294,750	387,661	1.00	.70	.10	.300	300	N	N	N	10	200	2.0	N	N	10	30
OC742	295,810	387,375	1.00	1.00	.15	.500	300	N	N	N	N	150	1.5	N	N	7	50
OC744	294,120	387,848	1.00	1.00	.50	.300	200	N	N	N	10	100	1.5	N	N	7	30
OC745	293,840	387,428	1.00	1.00	.20	.300	200	N	N	N	10	150	1.0	N	N	10	30
OC746	293,940	387,425	1.50	.70	.15	.300	150	N	N	N	10	300	<1.0	N	N	10	50

OVERFLOW ROADLESS AREA--ROCKS

Sample	S-CU	S-LA	S-MO	S-NB	S-NI	S-PB	S-SB	S-SC	S-SN	S-SR	S-V	S-W	S-Y	S-ZN	S-ZR	S-TH	AA-AU-P	AA-ZN-P	U-INST
OC314R	15	150	N	N	30	30	N	10	N	150	200	N	30	N	150	N	N	10	.80
OC315R	10	20	N	N	15	20	N	5	N	200	50	N	<10	N	100	N	N	5	.95
OC316R	20	50	N	N	20	10	N	7	N	<100	70	N	10	N	150	N	N	5	.75
OC317R	5	N	N	N	20	15	N	7	N	100	70	N	70	N	200	N	N	5	.65
OC318R	30	50	N	N	<5	15	N	15	N	200	150	N	50	<200	100	N	N	5	.90
OC319R	50	30	N	N	15	10	N	20	N	200	300	N	30	N	100	N	N	<5	.65
OC321R	<5	N	N	N	<5	N	N	N	N	N	15	N	N	N	N	N	N	N	.25
OC323R	5	50	N	N	15	20	N	5	N	100	20	N	15	N	200	N	N	5	.85
OC324R	15	N	N	N	7	30	N	N	N	200	<10	N	N	N	10	N	N	N	.45
OC326R	30	N	N	N	30	N	N	30	N	150	150	N	N	N	15	N	N	N	.25
OC327R	50	N	N	N	50	N	N	30	N	150	200	N	20	N	20	N	N	N	.45
OC330R	20	50	N	N	20	20	N	7	N	200	50	N	30	N	300	N	N	5	.85
OC719R	15	20	N	N	20	15	N	5	N	<100	50	N	20	N	300	N	N	5	.35
OC720R	N	70	N	N	15	20	N	10	N	300	50	N	15	N	150	N	N	5	.40
OC721R	15	50	N	N	20	15	N	10	N	<100	70	N	50	N	150	N	N	10	.45
OC722R	N	N	N	N	<5	15	N	N	N	N	N	N	N	N	10	N	<.05	N	.15
OC723R	10	20	N	N	30	20	N	15	N	150	70	N	50	N	300	N	N	5	.50
OC724R	10	20	N	N	20	15	N	10	N	100	50	N	10	N	200	N	N	5	.50
OC725R	20	100	N	N	50	20	N	15	<10	150	200	N	50	N	200	N	N	10	.65
OC726R	5	50	N	N	50	20	N	20	30	<100	300	N	30	200	100	N	N	10	.70
OC727R	<5	N	N	N	5	10	N	5	N	N	10	N	N	N	50	N	N	N	.35
OC728R	N	N	N	N	7	30	N	<5	N	150	30	N	N	N	20	N	N	N	.35
OC729R	5	70	N	N	30	15	N	7	N	150	70	N	20	N	200	N	N	5	.55
OC731R	N	70	N	N	20	20	N	7	N	200	70	N	30	N	500	N	N	5	.40
OC732R	50	70	N	N	50	15	N	15	N	150	150	N	50	<200	300	N	N	10	.30
OC733R	<5	N	N	N	5	30	N	5	N	300	20	N	10	N	20	N	N	N	.45
OC734	20	N	N	N	5	30	N	N	N	300	10	N	N	N	20	N	N	N	.35
OC735	<5	N	N	N	5	30	N	<5	<10	200	15	N	<10	N	N	N	N	N	.55
OC736	5	70	N	N	5	20	N	7	N	500	50	N	10	N	100	N	N	5	.85
OC737	10	N	N	N	30	15	N	15	N	150	150	N	20	N	200	N	N	5	1.40
OC738	15	70	N	N	20	20	N	15	N	100	150	N	30	N	150	N	N	5	.65
OC739	<5	50	N	N	15	15	N	5	N	100	50	N	15	N	200	N	N	5	.40
OC740	<5	30	N	N	20	20	N	7	N	150	50	N	30	N	100	N	.05	<5	.55
OC741	N	30	N	N	30	15	N	10	N	<100	100	N	30	N	100	N	.05	5	.45
OC742	20	30	N	N	30	15	N	10	N	100	100	N	50	N	200	N	N	5	.60
OC744	15	30	N	N	20	30	N	10	N	200	70	N	10	N	200	N	N	10	.40
OC745	N	50	N	N	20	20	N	15	N	200	70	N	30	N	200	N	N	5	.40
OC746	<5	50	N	N	30	15	N	15	<10	100	100	N	20	N	100	N	N	5	.35