UNITED STATES DEPARTMENT OF THE INTERIOR
GEOLOGICAL SURVEY

GEOCHEMICAL SAMPLING WITHIN THE KING RANGE AND CHEMISE MOUNTAIN INSTANT STUDY AREAS, NORTHERN CALIFORNIA

By

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INTRODUCTION

The Wilderness Act (Public Law 88-557, September 3, 1964) and related acts require the U.S. Geological Survey and the U.S. Bureau of Mines to survey certain areas in Federal lands to determine their mineral resource potential. Results must be made available to the public and be submitted to the Administration and the Congress. The accompanying map and tables present the results for the geochemical survey of the King Range and Chemise Mountain Instant Study Areas, undertaken by the U.S. Geological Survey in August and September of 1978. The interpretation of these results is presented by McLaughlin and others (1980). Sample collection for the King Range and Chemise Mountain Instant Study Areas was done by R. J. McLaughlin, D. H. Sorg, and H. N. Ohlin (sample numbers beginning with "M", "S", and "O", respectively). Stream sediment, beach sediment, and bedrock samples were collected. The sample localities are plotted on the map, Plate 1. Two splits of each of the stream and beach sediment samples and one split of each of the bedrock samples were analysed. The replicate splits of the stream and beach sediment samples have sample numbers beginning with "R". The correspondence between these numbers and the original sample numbers is shown in Table 1.

Table 2 presents the data for stream sediment, beach sediment, and bedrock samples. All data is reported in parts per million, except analyses for iron, magnesium, calcium, and titanium, which are reported as per cent. Results for semiquantitative spectrographic analyses are to be identified with geometric brackets whose boundaries are 1.2, 0.83, 0.56, 0.38, 0.26, 0.18, 0.12, etc., but are reported arbitrarily as mid-points of these brackets: 1.0, 0.7, 0.5, 0.3, 0.2, 0.15, 0.1, etc. The precision of these reported values is approximately plus or minus one bracket at 68%, or two brackets at 95% confidence. Atomic absorption and colorimetric analyses are not reported as bracket mid-points and have relative standard deviations of plus or minus 20% and plus or minus 40%, respectively, near the limit of detection. Precision generally improves with increased concentration (J. Viets, oral commun., 1980). Data may be qualified. The qualifying codes and their meanings are as follows:

Code	Meaning
L	Detected, but below the limit of analytical determination or value shown
N	Not detected at limit of analytical determination or value shown
T	Trace
G	Greater than the upper limit of analytical determination or value shown
H	No data because of analytical interference
B	Blank; no analysis performed

Column headings prefixed by "S-" indicate analysis by semiquantitative spectrographic methods. Column headings prefixed by "AA-" and "CM-" indicate analysis, respectively, by atomic absorption and colorimetry. The suffix "-p" indicates the data is in parts per million; "-%" means that the data is in per cent.

Semiquantitative spectrographic analyses were done on all samples for 31 elements (iron, magnesium, calcium, titanium, manganese, silver, arsenic, gold, boron, barium, beryllium, bismuth, cadmium, cobalt, chromium, copper, lanthanum, molybdenum, niobium, nickel, lead, antimony, scandium, tin, strontium, vanadium, tungsten, yttrium, zinc, zirconium, and thorium). Of these, no sample contains silver, arsenic, gold, bismuth, cadmium, molybdenum, niobium, antimony, tin, tungsten, or thorium in an amount equal to greater than the lower limit of determination, and these elements are eliminated from Table 2. All samples were also analyzed by more sensitive techniques for gold, zinc, and mercury (atomic absorption), and arsenic (colorimetry).

Samples of veins containing lead, zinc, and copper sulfide minerals at Point Delgada were collected and analysed by emission spectrographic techniques. Results of these analyses are reported by McLaughlin and others, 1979.

Semiquantitative 6-step spectrographic analyses were performed by C. Forn, U.S.G.S., Denver, Colorado. Atomic absorbtion and colorimetric analyses were done by B. Arbogast, U.S.G.S., Denver, Colorado.

REFERENCES

McLaughlin, R. J., Sorg, D. H., Ohlin, H. N., and Heropoulos, Chris, 1979, Base- and precious-metal occurrences along the San Andreas fault, Point Delgada, California: U.S. Geological Survey Open-File Report 79-584.

McLaughlin, R. J., Peters, T. J., Sorg, D. H., Ohlin, H. N., and Beutner, E. C., 1980, Mineral resources of the King Range and Chemise Mountain Instant Study Areas, Humboldt and Mendocino Counties, California: U.S. Geological Survey Open-File Report (in press).

Table 1.-- Correspondence between original sample numbers and replicate sample numbers for stream and beach sediment samples from the King Range and Chemise Mountain Instant Study Areas

STREAM SEDIMENT SAMPLES								BEACH SEDIMENT SAMPLES	
ORIGINAL SAMPLE NUMBER	REPLICATE SAMPLE NUMBER	ORIGINAL SAMPLE NUMBER	REPLICATE SAMPLE NUMBER	ORIGINAL SAMPLE NUMBER	REPLICATE SAMPLE NUMBER	ORIGINAL SAMPLE NUMBER	REPLICATE SAMPLE NUMBER	ORIGINAL SAMPLE NUMBER	REPLICATE SAMPLE NUMBER
OK009	RK010	OK001a	RK012	OK011	RK005	OK005	RK017	MK019	RK047
SK004	RK042	OK001b	RK013	SK005	RK039	OK028	RK025	SK003	RK045
SK002	RK043	OK008	RK002	SK019	RK034	SK021	RK026	MK054	RK051
MK049	RK050	OK015	RK004	SK012	RK041	MK064	RK054	MK059	RK053
SK008	RK035	SK010	RK038	OK010	RK007	OK025	RK024	MK015	RK046
SK009	RK032	MK042	RK049	OK003a	RK028	OK024	RK022	SK001	RK044
OK017	RK014	MK028	RK048	OK003b	RK027	OK020	RK006	OK018	RK019
OK019	RK023	OK013	RK018	OK002	RK016	OK021	RK015	MK067	RK055
SK006	RK040	OK012	RK011	OK004	RK009	OK022	RK026	MK104	RK057
SK011	RK037	MK056	RK052	OK007	RK008	OK026	RK021	MK091	RK056
OK016	RK020	OK014	RK001	SK017	RK031	SK018	RK033		
SK007	RK030	OK027	RK029	OK006	RK003				

Table 2.-- Geochemical analyses and sample locations, King Range and Chemise Mountain Instant Study Areas

SAMPLE	Latitude	Longitude	UTM-East	UTM-North	AA-Zn-p	CM-As-p	AA-Au-p	AA-Hg-p	S-Fe-%	S-Mg-%
				Stream sediment samples						
SK004	40 17 11N	124 19 59W	386690	4460200	70	10 L	0.05N	0.10	3.00	1.50
OK009	40 15 27N	124 21 21W	384690	4457020	65	10 L	0.05N	0.10	2.00	1.50
SK002	40 14 33N	124 19 48W	386870	4455310	65	10 L	0.05N	0.14	3.00	2.00
MK049	40 13 25N	124 18 17W	389000	4453190	85	10 L	0.05N	0.24	3.00	2.00
SK006	40 13 39N	124 13 25W	395895	4453510	75	10 N	0.05N	0.12	2.00	1.50
OK016	40 13 14N	124 11 58W	397950	4452705	85	10 L	0.05N	0.10	3.00	1.50
SK007	40 13 14N	124 11 40W	398360	4452720	90	10 L	0.05N	0.40	2.00	1.50
OK015	40 12 52N	124 09 30W	401420	4451980	120	10 L	0.05N	0.12	3.00	2.00
MK042	40 12 53N	124 08 33W	402780	4452000	85	10 N	0.05N	0.10	3.00	2.00
OK014	40 12 16N	124 07 08W	404780	4450850	75	10 L	0.05N	0.22	3.00	1.50
OK013	40 11 48N	124 08 12W	403260	4449980	90	10 L	0.05N	0.12	3.00	3.00
MK028	40 11 29N	124 08 18W	403090	4449410	95	10 L	0.05N	0.14	3.00	3.00
OK012	40 11 28N	124 08 07W	403370	4449390	85	10 L	0.05N	0.16	2.00	1.50
SK008	40 12 11N	124 16 51W	390995	4450860	80	10 L	0.05N	0.18	3.00	2.00
SK009	40 11 18N	124 15 07W	393430	4449190	85	10 L	0.05N	0.14	2.00	1.50
OK017	40 10 56N	124 14 21W	394495	4448495	90	10 L	0.05N	0.14	2.00	1.50
OK019	40 10 26N	124 13 35W	395580	4447570	85	10 N	0.05N	0.10	2.00	1.50
SK011	40 09 32N	124 12 22W	397290	4445880	95	10 L	0.05N	0.12	3.00	2.00
OK001a	40 10 02N	124 11 06W	399090	4446790	95	10 L	0.05N	0.14	2.00	1.50
OK001b	40 10 02N	124 11 06W	399090	4446790	95	10 N	0.05N	0.16	3.00	3.00
OK008	40 08 08N	124 10 13W	400310	4443240	85	10 N	0.05N	0.16	2.00	1.50
SK010	40 07 11N	124 08 34W	402630	4441450	110	10 N	0.05N	0.18	2.00	1.50
MK056	40 06 34N	124 07 07W	404660	4440290	80	10 N	0.05N	0.14	2.00	1.50
OK027	40 05 43N	124 05 56W	406320	4438690	95	10 L	0.05N	0.18	3.00	1.00
SK019	40 04 12N	124 04 40W	408090	4435860	90	10 L	0.05N	0.18	3.00	1.00
OK011	40 09 49N	124 05 23W	407190	4446270	85	10 L	0.05N	0.10	2.00	0.70
SK005	40 09 00N	124 05 17W	407330	4444760	85	10 L	0.05N	0.30	3.00	1.00
OK010	40 08 44N	124 04 24W	408570	4444240	85	10 N	0.05N	0.14	2.00	0.70
OK002	40 07 39N	124 03 44W	409490	4442230	85	10 L	0.05N	0.12	2.00	0.70
OK003a	40 07 31N	124 03 44W	409480	4442000	85	10 L	0.05N	0.08	2.00	0.50
OK003b	40 07 31N	124 03 44W	409480	4442000	85	10 L	0.05N	0.10	3.00	1.00
OK004	40 07 04N	124 03 34W	409720	4441160	90	10 N	0.05N	0.04	3.00	0.70
OK007	40 05 30N	124 03 25W	409900	4438260	90	10 N	0.05N	0.06	2.00	0.70
OK006	40 04 31N	124 02 59W	410500	4436440	95	10 L	0.05N	0.08	3.00	0.70
OK005	40 03 40N	124 02 50W	410690	4434840	80	10 L	0.05N	0.12	3.00	0.70
SK012	40 02 45N	124 04 33W	408230	4433200	90	10 L	0.05N	0.12	2.00	0.70
SK017	40 01 35N	124 03 20W	409930	4431010	90	10 L	0.05N	0.20	2.00	1.00
MK064	40 01 59N	124 01 11W	412990	4431720	80	10 L	0.05N	0.18	2.00	0.70
OK021	40 02 27N	123 59 38W	415200	4432550	65	10 N	0.05N	0.20	2.00	0.70
OK022	40 02 42N	123 59 39W	415200	4433000	75	10 L	0.05N	0.06	2.00	0.70

Table 2.-- Geochemical analyses and sample locations, King Range and Chemise Mountain Instant Study Areas-continued

SAMPLE	S-Ca-%	S-Ti-%	S-Mn-p	S-B-p	S-Ba-p	S-Be-p	S-Co-p	S-Cr-p	S-Cu-p	S-La-p
					Stream sediment samples-continued					
SK004	0.30	0.30	500	30	700	1.00L	15	100	50	20 N
OK009	0.30	0.20	500	20	500	1.00L	15	100	30	20 N
SK002	0.50	0.20	300	15	500	1.00L	15	150	20	20 N
MK049	0.50	0.20	300	30	300	1.00L	15	150	30	20 N
SK006	0.20	0.20	300	20	500	1.00L	15	100	30	20 N
OK016	0.20	0.30	300	30	300	1.00L	15	100	30	20 N
SK007	0.20	0.20	300	30	300	1.00L	15	70	30	20 N
OK015	0.20	0.20	500	20	500	1.00L	15	150	30	20 N
MK042	0.20	0.20	300	30	300	1.00L	15	100	30	20 N
OK014	0.30	0.20	300	20	300	1.00L	15	150	30	20 N
OK013	0.30	0.30	300	30	500	1.00L	15	150	30	20 N
MK028	0.30	0.30	300	30	500	1.00L	15	200	30	20 N
OK012	0.15	0.20	300	20	300	1.00L	15	100	20	20 N
SK008	0.20	0.20	300	30	300	1.00L	15	150	30	20 N
SK009	0.15	0.20	300	20	300	1.00L	15	100	20	20 N
OK017	0.15	0.15	200	15	300	1.00L	7	100	20	20 N
OK019	0.15	0.20	200	30	300	1.00L	10	100	30	20 N
SK011	0.30	0.30	300	30	500	1.00L	10	150	30	20 N
OK001a	0.10	0.20	200	20	300	1.00L	7	100	30	20 N
OK001b	0.20	0.20	200	20	300	1.00L	7	150	30	20 N
OK008	0.15	0.20	150	20	300	1.00L	7	100	20	20 N
SK010	0.15	0.20	300	20	300	1.00L	7	100	30	20 N
MK056	0.20	0.20	300	20	300	1.00L	7	100	20	20 N
OK027	0.30	0.20	300	30	500	1.00L	10	150	30	20 N
SK019	0.15	0.20	300	20	300	1.00L	7	150	20	20 N
OK011	0.15	0.20	150	20	300	1.00L	7	70	20	20 N
SK005	0.30	0.20	200	30	300	1.00L	10	150	30	20 N
OK010	0.10	0.20	200	30	300	1.00L	10	70	30	20 N
OK002	0.20	0.20	200	20	500	1.00L	7	100	30	20 N
OK003a	0.20	0.20	700	20	300	1.00L	7	30	20	20 N
OK003b	0.30	0.30	1500	30	700	1.00L	15	150	30	20 N
OK004	0.15	0.20	1500	20	500	1.00L	15	100	30	20 N
OK007	0.15	0.15	1500	15	300	1.00L	15	70	30	20 N
OK006	0.15	0.20	1500	15	500	1.00L	15	70	30	20 N
OK005	0.20	0.20	500	15	300	1.00L	15	70	30	20 N
SK012	0.10	0.20	200	20	300	1.00L	10	70	20	20 N
SK017	0.30	0.20	200	20	300	1.00L	7	70	30	20 N
MK064	0.15	0.20	500	20	300	1.00L	15	70	20	20 N
OK021	0.20	0.15	200	15	300	1.00L	10	50	20	20 N
OK022	0.20	0.20	300	15	300	1.00L	15	50	20	20 N

Table 2.-- Geochemical analyses and sample locations, King Range and Chemise Mountain Instant Study Areas-continued

SAMPLE	S-Ni-p	S-Pb-p	S-Sc-p	S-Sr-p	S-V-p	S-Y-p	S-Zr-p	S-Zn-p
				Stream sediment samples-continued				
SK004	50	10	10	200	70	15	30	200 N
OK009	30	10 L	7	300	70	15	30	200 N
SK002	30	10	7	300	70	10	30	200 N
MK049	30	10	7	100	70	15	30	200 N
SK006	30	10 L	7	200	70	15	30	200 N
OK016	30	10 L	7	100	70	15	50	200 N
SK007	30	10 L	7	100	70	15	30	200 N
OK015	50	10 L	7	100	70	15	30	200 N
MK042	50	10 L	7	100	70	15	30	200 N
OK014	50	10 L	7	100	70	15	30	200 N
OK013	50	10	10	100	70	15	30	200 N
MK028	50	10 L	10	100	100	15	30	200 N
OK012	50	10 L	7	100	70	15	30	200 N
SK008	30	10 L	7	100	70	15	30	200 N
SK009	30	10 L	7	100	70	15	30	200 N
OK017	30	10 L	7	100	50	10	30	200 N
OK019	50	10 L	7	100	70	10	30	200 N
SK011	50	10 L	10	100	100	15	50	200 N
OK001a	50	10 L	7	100	70	10	30	200 N
OK001b	50	10 L	7	100	70	15	30	200 N
OK008	50	10 L	7	100	70	10	30	200 N
SK010	50	10 L	7	100	70	10	30	200 N
MK056	50	10 L	7	200	70	10	30	200 N
OK027	50	10 L	10	100 L	50	15	30	200 N
SK019	50	10 L	7	100 L	50	10	30	200 N
OK011	30	10 L	7	100 L	50	15	30	200 N
SK005	50	10	7	100 L	70	15	30	200 N
OK010	50	10 L	7	100 L	50	15	30	200 N
OK002	30	10 L	7	100	70	15	30	200 N
OK003a	30	10 L	7	100 L	70	15	30	200 N
OK003b	50	10 L	10	100	70	15	30	200 N
OK004	50	10 L	7	100 L	70	15	30	200 N
OK007	50	10 L	7	100 L	50	15	100	200 N
OK006	30	10 L	7	100 L	70	15	50	200 N
OK005	30	10 L	7	100	70	15	30	200 N
SK012	50	10 L	7	100 L	50	10	30	200 N
SK017	50	10 L	7	100	70	15	30	200 N
MK064	30	10 L	7	100 L	70	10	30	200 N
OK021	20	10 L	7	100	50	15	30	200 N
OK022	30	10 L	7	100	50	10	30	200 N

Table 2.-- Geochemical analyses and sample locations, King Range and Chemise Mountain Instant Study Areas-continued

SAMPLE	Latitude	Longitude	UTM-East	UTM-North	AA-Zn-p	CM-As-p	AA-Au-p	AA-Hg-p	S-Fe-%	S-Mg-%
				Stream sediment samples-continued						
OK020	40 03 56N	123 59 47W	415030	4435290	75	10 L	0.05N	0.04	2.00	0.50
OK025	40 05 18N	124 00 24W	414190	4437850	75	10 L	0.05N	0.10	2.00	0.70
OK024	40 05 49N	124 00 15W	414400	4438800	75	10 N	0.05N	0.06	2.00	0.70
OK028	40 00 51N	124 02 03W	411740	4429620	90	10 L	0.05N	0.12	2.00	1.50
SK021	40 00 18N	124 01 26W	412600	4428610	100	20	0.05N	0.14	2.00	1.00
OK026	39 59 49N	123 58 59W	416090	4427680	75	10 L	0.05N	0.12	2.00	0.70
SK018	39 57 43N	123 58 38W	416540	4423790	75	10	0.05N	0.14	1.50	0.70
RK028	40 07 31N	124 03 44W	409480	4442000	90	10 N	0.05N	0.08	2.00	0.70
RK009	40 07 04N	124 03 34W	409720	4441160	90	10 L	0.05N	0.06	3.00	0.70
RK008	40 05 30N	124 03 25W	409900	4438260	90	10 L	0.05N	0.08	3.00	1.00
RK003	40 04 31N	124 02 59W	410500	4436440	90	10 N	0.05N	0.08	3.00	1.00
RK017	40 03 40N	124 02 50W	410690	4434840	80	10 L	0.05N	0.08	3.00	0.70
RK041	40 02 45N	124 04 33W	408230	4433200	85	10 N	0.05N	0.08	2.00	0.70
RK031	40 01 35N	124 03 20W	409930	4431010	85	10 L	0.05N	0.16	3.00	1.00
RK054	40 01 59N	124 01 11W	412990	4431720	80	10 L	0.05N	0.12	2.00	0.70
RK015	40 02 27N	123 59 38W	415200	4432550	65	10 L	0.05N	0.08	2.00	0.70
RK026	40 02 42N	123 59 39W	415200	4433000	70	10 L	0.05N	0.06	2.00	0.70
RK006	40 03 56N	123 59 47W	415030	4435290	75	10 L	0.05N	0.08	2.00	0.70
RK024	40 05 18N	124 00 24W	414190	4437850	70	10	0.05N	0.10	2.00	0.70
RK022	40 05 49N	124 00 15W	414400	4438800	75	10 N	0.05N	0.06	2.00	0.70
RK025	40 00 51N	124 02 03W	411740	4429620	85	10 N	0.05N	0.16	3.00	1.00
RK026	40 00 18N	124 01 26W	412600	4428610	100	10 N	0.05N	0.12	3.00	1.00
RK014	40 10 56N	124 14 21W	394495	4448495	90	10 L	0.05N	0.08	3.00	1.50
RK023	40 10 26N	124 13 35W	395580	4447570	90	15	0.05N	0.08	3.00	1.00
RK037	40 09 32N	124 12 22W	397290	4445880	90	10 N	0.05N	0.06	3.00	1.50
RK012	40 10 02N	124 11 06W	399090	4446790	90	10 L	0.05N	0.08	3.00	1.50
RK013	40 10 02N	124 11 06W	399090	4446790	95	10 N	0.10	0.08	3.00	1.50
RK002	40 08 08N	124 10 13W	400310	4443240	90	10 L	0.05N	0.08	3.00	1.50
RK038	40 07 11N	124 08 34W	402630	4441450	110	10 L	0.05N	0.10	2.00	1.00
RK052	40 06 34N	124 07 07W	404660	4440290	80	10 L	0.05N	0.10	1.50	0.70
RK029	40 05 43N	124 05 56W	406320	4438690	90	10 L	0.05N	0.14	3.00	1.50
RK034	40 04 12N	124 04 40W	408090	4435860	90	10 L	0.05N	0.14	2.00	1.50
RK005	40 09 49N	124 05 23W	407190	4446270	85	10 L	0.05N	0.08	3.00	1.00
RK039	40 09 00N	124 05 17W	407330	4444760	85	10 N	0.05N	0.20	2.00	1.50
RK007	40 08 44N	124 04 24W	408570	4444240	85	10 L	0.05N	0.10	3.00	1.00
RK016	40 07 39N	124 03 44W	409490	4442230	85	10 L	0.05N	0.10	3.00	1.50
RK027	40 07 31N	124 03 44W	409480	4442000	90	10 L	0.05N	0.08	3.00	1.00
RK042	40 17 11N	124 19 59W	386690	4460200	75	10 L	0.05N	0.12	2.00	1.00
RK010	40 15 27N	124 21 21W	384690	4457020	65	10 L	0.05N	0.06	2.00	0.70
RK043	40 14 33N	124 19 48W	386870	4455310	70	10 L	0.05N	0.10	2.00	0.70

Table 2.-- Geochemical analyses and sample locations, King Range and Chemise Mountain Instant Study Areas-continued

SAMPLE	S-Ca-%	S-Ti-%	S-Mn-p	S-B-p	S-Ba-p	S-Be-p	S-Co-p	S-Cr-p	S-Cu-p	S-La-p
				Stream sediment samples-continued						
OK020	0.15	0.15	300	15	300	1.00L	15	30	20	20 N
OK025	0.20	0.20	500	15	300	1.00L	10	50	20	20 N
OK024	0.20	0.15	500	15	300	1.00L	15	30	20	20 N
OK028	0.50	0.20	500	20	500	1.00L	7	70	30	20 N
SK021	0.30	0.30	500	30	500	1.00	10	100	30	20 N
OK026	0.30	0.20	500	20	500	1.00L	10	50	30	20 N
SK018	0.30	0.20	200	15	300	1.00L	10	30	20	20 N
RK028	0.15	0.20	1000	20	300	1.00L	15	70	30	20 N
RK009	0.20	0.30	1000	20	500	1.00L	15	70	30	20 N
RK008	0.30	0.30	2000	30	700	1.00L	15	70	50	20 N
RK003	0.20	0.30	2000	20	500	1.00L	15	70	30	20 N
RK017	0.30	0.30	500	20	300	1.00L	15	100	20	20 N
RK041	0.20	0.30	300	20	300	1.00L	10	70	30	20 N
RK031	0.30	0.30	300	20	500	1.00L	10	100	30	20 N
RK054	0.15	0.20	500	20	300	1.00L	15	50	20	20 N
RK015	0.30	0.20	500	20	500	1.00L	10	50	20	20 N
RK026	0.20	0.20	500	20	300	1.00L	10	70	20	20 N
RK006	0.20	0.20	500	15	500	1.00L	15	50	20	20 N
RK024	0.30	0.30	500	20	500	1.00L	10	50	30	20 N
RK022	0.15	0.15	300	15	300	1.00L	10	50	20	20 N
RK025	0.50	0.30	500	30	500	1.00L	10	100	30	20 N
RK026	0.30	0.30	300	30	500	1.00L	15	100	30	20 N
RK014	0.30	0.30	300	30	500	1.00L	10	150	20	20 N
RK023	0.15	0.30	200	20	300	1.00L	10	150	20	20 N
RK037	0.15	0.30	150	30	300	1.00L	10	150	30	20 N
RK012	0.20	0.30	200	30	300	1.00L	10	150	30	20 N
RK013	0.30	0.30	300	30	500	1.00L	7	150	30	20 N
RK002	0.30	0.30	200	30	500	1.00L	7	150	30	20 N
RK038	0.20	0.20	200	20	300	1.00L	7	150	30	20 N
RK052	0.15	0.15	150	15	300	1.00L	5	70	20	20 N
RK029	0.30	0.30	300	30	500	1.00L	10	150	30	20 N
RK034	0.20	0.20	300	20	500	1.00L	7	100	20	20 N
RK005	0.20	0.30	300	30	500	1.00L	15	150	30	20 N
RK039	0.30	0.20	200	30	300	1.00L	10	100	20	20 N
RK007	0.20	0.30	300	30	500	1.00L	15	150	30	20 N
RK016	0.20	0.20	200	20	500	1.00L	15	100	30	20 N
RK027	0.30	0.30	700	20	700	1.00L	15	100	30	20 N
RK042	0.30	0.20	200	20	700	1.00L	10	70	20	20 N
RK010	0.30	0.20	300	15	500	1.00L	10	70	20	20 N
RK043	0.50	0.20	300	15	500	1.00L	15	70	20	20 N

Table 2.-- Geochemical analyses and sample locations, King Range and Chemise Mountain Instant Study Areas-continued

SAMPLE	S-Ni-p	S-Pb-p	S-Sc-p	S-Sr-p	S-V-p	S-Y-p	S-Zr-p	S-Zn-p
				Stream sediment samples-continued				
OK020	20	10 L	7	100	50	10	50	200 N
OK025	20	10 L	7	100	50	10	30	200 N
OK024	20	10 L	7	100	50	15	30	200 N
OK028	30	10 L	7	100	70	15	30	200 N
SK021	30	10 L	7	100	70	15	70	200 N
OK026	20	10 L	7	200	50	15	30	200 N
SK018	20	10 L	7	150	50	10	30	200 N
RK028	50	10 L	7	100	50	10	30	200 N
RK009	50	10 L	10	100	70	15	30	200 N
RK008	50	10 L	10	150	70	15	50	200 N
RK003	50	10 L	7	100	70	15	30	200 N
RK017	30	10 L	7	100	70	10	70	200 N
RK041	50	10 L	7	100	70	10	30	200 N
RK031	50	10 L	7	200	70	15	30	200 N
RK054	30	10 L	7	100	70	10 L	50	200 N
RK015	20	10 L	7	200	50	10	50	200 N
RK026	30	10 L	7	100	70	10	70	200 N
RK006	30	10 L	7	100	70	10	30	200 N
RK024	30	10 L	7	200	50	10	30	200 N
RK022	20	10 L	5	100 L	70	10 L	30	200 N
RK025	50	10 L	10	200	70	15	50	200 N
RK026	50	10 L	10	150	70	15	50	200 N
RK014	50	10 L	10	100 L	70	15	30	200 N
RK023	50	10 L	7	100 L	70	10	30	200 N
RK037	70	10 L	10	100 L	70	15	50	200 N
RK012	70	10 L	10	100 L	70	15	30	200 N
RK013	70	10 L	10	150	70	15	30	200 N
RK002	50	10 L	10	200	70	15	50	200 N
RK038	50	10 L	7	100 L	70	15	30	200 N
RK052	30	10 L	7	100 L	30	10 L	30	200 N
RK029	50	20	10	100	70	15	50	200 N
RK034	50	10 L	7	100	70	10	30	200 N
RK005	30	10	10	100 L	70	15	50	200 N
RK039	30	10 L	10	100 L	70	15	30	200 N
RK007	50	15	10	100	100	15	50	200 N
RK016	50	10 L	10	100	70	15	30	200 N
RK027	50	10 L	10	100	70	15	50	200 N
RK042	30	10 L	7	100	70	15	30	200 N
RK010	30	10 L	7	150	70	15	30	200 N
RK043	30	10	7	200	70	15	50	200 N

Table 2.-- Geochemical analyses and sample locations, King Range and Chemise Mountain Instant Study Areas-continued

SAMPLE	Latitude	Longitude	UTM-East	UTM-North	AA-Zn-p	CM-As-p	AA-Au-p	AA-Hg-p	S-Fe-%	S-Mg-%
				Stream sediment samples-continued						
RK050	40 13 25N	124 18 17W	389000	4453190	90	10 L	0.05N	0.14	3.00	1.00
RK040	40 13 39N	124 13 25W	395895	4453510	70	10 L	0.05N	0.06	2.00	1.50
RK020	40 13 14N	124 11 58W	397950	4452705	75	40	0.05N	0.10	3.00	1.00
RK030	40 13 14N	124 11 40W	398360	4452720	85	10 L	0.05N	0.24	3.00	1.50
RK004	40 12 52N	124 09 30W	401420	4451980	120	10 N	0.05N	0.10	2.00	1.00
RK049	40 12 53N	124 08 33W	402780	4452000	85	10 L	0.05	0.08	3.00	1.00
RK001	40 12 16N	124 07 08W	404780	4450850	80	10 N	0.05N	0.14	3.00	1.00
RK018	40 11 48N	124 08 12W	403260	4449980	90	10 L	0.05N	0.08	2.00	0.70
RK048	40 11 29N	124 08 18W	403090	4449410	95	10 N	0.05N	0.10	3.00	1.50
RK011	40 11 28N	124 08 07W	403370	4449390	85	10 L	0.05L	0.12	3.00	1.00
RK035	40 12 11N	124 16 51W	390995	4450860	85	10 L	0.05N	0.18	2.00	1.00
RK032	40 11 18N	124 15 07W	393430	4449190	85	10 L	0.05N	0.10	3.00	1.50
RK021	39 59 49N	123 58 59W	416090	4427680	75	10	0.05N	0.10	2.00	0.70
RK033	39 57 43N	123 58 38W	416540	4423790	75	10 L	0.05N	0.18	3.00	1.00
				Bedrock samples						
MK036	40 13 26N	124 09 20W	401670	4453040	35	10 N	0.05N	0.04	1.00	0.30
MK034	40 12 19N	124 07 11W	404700	4450930	35	10 N	0.05N	0.02	1.50	0.70
MK031	40 11 38N	124 08 08W	403350	4449680	30	10 N	0.05N	0.04	1.00	0.30
MK029	40 11 32N	124 08 13W	403230	4449500	35	10 N	0.05N	0.04	1.00	0.50
MK026	40 08 53N	124 04 48W	408000	4444530	35	10 N	0.05N	0.04	1.00	0.50
MK081	40 05 20N	124 00 18W	414320	4437910	50	10 N	0.05N	0.02	1.00	0.50
MK001	40 06 56N	123 57 55W	417740	4440820	45	60	0.05L	0.02	1.50	0.50
MK050	40 13 12N	124 18 24W	388810	4452770	50	10 N	0.05L	0.06	1.00	0.70
MK058	40 09 26N	124 12 30W	397080	4445700	70	10 L	0.05N	0.08	1.50	0.70
MK057	40 06 33N	124 07 14W	404490	4440250	40	10 L	0.05N	0.04	1.00	0.50
MK056	40 06 34N	124 07 07W	404660	4440290	110	10 L	0.05N	0.08	1.50	0.70
MK094	40 05 40N	124 05 46W	406560	4438590	80	10 L	0.05L	0.10	3.00	1.00
MK076a	40 01 13N	124 02 47W	410700	4430310	70	10 N	0.05N	0.04	2.00	0.70
MK076b	40 01 13N	124 02 47W	410700	4430310	70	10 N	0.05N	0.04	1.50	0.50
MK003	40 07 38N	124 06 17W	405880	4442240	50	10 N	0.05N	0.04	1.50	0.50
MK006	40 01 26N	124 03 53W	409140	4430750	35	10 N	0.05N	0.02	1.50	0.30
MK118a	40 01 31N	124 04 26W	408370	4430890	200	20	0.05N	0.10	1.50	0.70
MK118b	40 01 31N	124 04 26W	408370	4430890	250	30	0.05N	0.04	1.50	0.50
MK119	40 01 23N	124 04 18W	408540	4430650	45	10 N	0.05N	0.06	1.00	0.30
MK121	40 01 16N	124 04 04W	408890	4430450	40	10 L	0.05N	0.04	1.50	0.70
MK014	40 02 36N	124 04 42W	408010	4432920	45	10 N	0.05N	0.04	7.00	2.00
MK066b	40 02 43N	124 04 42W	408010	4433130	55	10 N	0.05N	0.04	7.00	2.00
MK066a	40 02 43N	124 04 42W	408010	4433130	60	10 N	0.05N	0.04	5.00	3.00

Table 2.-- Geochemical analyses and sample locations, King Range and Chemise Mountain Instant Study Areas-continued

SAMPLE	S-Ca-%	S-Ti-%	S-Mn-p	S-B-p	S-Ba-p	S-Be-p	S-Co-p	S-Cr-p	S-Cu-p	S-La-p
				Stream sediment samples-continued						
RK050	0.70	0.30	500	30	500	1.00L	15	150	50	20 N
RK040	0.15	0.20	300	20	500	1.00L	10	100	20	20 N
RK020	0.20	0.30	300	30	500	1.00L	10	200	30	20 N
RK030	0.30	0.30	300	30	500	1.00L	15	100	30	20 N
RK004	0.15	0.20	500	20	500	1.00L	10	100	30	20 N
RK049	0.20	0.20	500	20	500	1.00L	15	150	30	20 N
RK001	0.30	0.20	300	20	500	1.00L	10	100	30	20 N
RK018	0.15	0.15	200	20	300	1.00L	10	70	20	20 N
RK048	0.20	0.30	200	30	500	1.00L	10	150	30	20 N
RK011	0.20	0.30	300	20	500	1.00L	7	100	20	20 N
RK035	0.15	0.20	200	20	300	1.00L	7	100	20	20 N
RK032	0.30	0.30	300	20	500	1.00L	10	150	30	20 N
RK021	0.30	0.20	500	15	500	1.00L	7	50	30	20 N
RK033	1.00	0.30	500	15	700	1.00L	10	50	30	20 N
				Bedrock samples-continued						
MK036	0.20	0.15	100	10	200	1.00L	7	200	5 L	20 L
MK034	0.30	0.15	150	10	300	1.00L	7	30	5	20 L
MK031	0.70	0.10	100	10	200	1.00N	7	70	5 L	20 L
MK029	1.00	0.10	200	10	300	1.00L	7	100	5 L	20 L
MK026	0.10	0.10	70	10	500	1.00L	7	70	5 L	20 L
MK081	0.30	0.15	150	10	500	1.00L	10	30	5 L	20 L
MK001	3.00	0.15	1000	10 L	300	1.00L	10	15	5 L	20 L
MK050	0.50	0.15	150	10	200	1.00L	10	100	7	20 L
MK058	0.30	0.15	200	15	200	1.00L	10	100	15	20 L
MK057	0.50	0.15	150	10	150	1.00L	7	50	7	20 L
MK056	0.10	0.20	150	15	200	1.00L	10	70	30	20 L
MK094	0.30	0.20	200	20	700	1.00L	15	150	30	20 L
MK076a	0.30	0.15	200	15	200	1.00L	15	50	10	20 L
MK076b	1.00	0.10	200	10 L	70	1.00N	7	50	10	20 L
MK003	0.10	0.10	100	15	150	1.00L	7	100	5 L	20 L
MK006	0.50	0.10	200	10	70	1.00L	7	10	5	20 L
MK118a	0.05	0.15	300	15	200	1.00L	7	30	5 L	20 L
MK118b	0.05L	0.15	200	10 L	200	1.00L	10	50	5 L	20 L
MK119	0.05L	0.10	200	10	200	1.00L	5	20	5 L	20 L
MK121	0.10	0.15	700	10	100	1.00L	10	50	10	20 L
MK014	2.00	0.30	500	10 L	100	1.00N	20	150	100	20 L
MK066b	3.00	0.50	1000	10	100	1.00N	20	20	150	20 L
MK066a	3.00	0.30	700	15	70	1.00N	15	150	50	20 L

Table 2.-- Geochemical analyses and sample locations, King Range and Chemise Mountain Instant Study Areas-continued

SAMPLE	S-Ni-p	S-Pb-p	S-Sc-p	S-Sr-p	S-V-p	S-Y-p	S-Zr-p	S-Zn-p
				Stream sediment samples-continued				
RK050	50	10 L	10	150	100	15	30	200 N
RK040	50	10 L	7	100	70	15	70	200 N
RK020	50	10 L	10	100	70	15	50	200 N
RK030	50	10 L	10	150	70	15	50	200 N
RK004	70	10	7	100 L	70	10	30	200 N
RK049	50	10 L	7	100 L	70	15	30	200 N
RK001	50	10 L	7	100	70	15	30	200 N
RK018	50	10 L	7	100 L	70	10	30	200 N
RK048	70	10 L	7	100 L	100	15	30	200 N
RK011	50	10 L	7	100 L	70	10	30	200 N
RK035	50	10 L	7	100 L	70	10	30	200 N
RK032	70	10 L	10	100	100	15	70	200 N
RK021	20	10 L	7	200	50	15	50	200 N
RK033	20	10	10	300	70	15	50	200 N
				Bedrock samples-continued				
MK036	20	10 L	5 L	100 L	15	10 L	30	200 N
MK034	15	10 L	5	200	20	10 L	30	200 N
MK031	20	10 N	5 L	100 L	15	10 N	30	200 N
MK029	20	10 L	5 L	200	15	10 L	30	200 N
MK026	20	10 L	5 L	100 L	15	10 N	30	200 N
MK081	15	10 L	5	300	20	10 L	30	200 N
MK001	15	10 L	7	500	30	10	30	200 N
MK050	30	10 L	5	200	30	10 L	30	200 N
MK058	30	10 L	7	200	30	10 L	30	200 N
MK057	20	10 L	5	300	20	10 L	30	200 N
MK056	50	10 L	7	100 L	70	10	30	200 N
MK094	50	10	7	300	70	15	50	200 N
MK076a	20	10	7	300	50	10	30	200 N
MK076b	20	10 N	5	100 L	30	10 L	20	200 N
MK003	30	10 L	5 L	100 L	30	10 L	30	200 N
MK006	15	10 L	5 L	100 N	20	10 L	30	200 N
MK118a	20	10 L	5	100 N	30	10 N	30	200 L
MK118b	20	10 L	5	100 N	15	10 L	30	200 L
MK119	10	10 L	5	100 N	20	10 L	30	200 N
MK121	20	10 L	5	100 N	30	10 L	30	200 N
MK014	50	10 N	15	300	150	15	30	200 N
MK066b	50	10 L	15	200	200	15	30	200 N
MK066a	30	10 N	10	300	150	10	20	200 N

Table 2.-- Geochemical analyses and sample locations, King Range and Chemise Mountain Instant Study Areas-continued

SAMPLE	Latitude	Longitude	UTM-East	UTM-North	AA-Zn-p	CM-As-p	AA-Au-p	AA-Hg-p	S-Fe-%	S-Mg-%
				Bedrock samples-continued						
MK112b	40 02 39N	124 04 41W	408030	4433010	55	60	0.05N	0.02	3.00	2.00
MK114	40 02 19N	124 04 45W	407920	4432400	15	10 N	0.05N	0.06	2.00	0.20
MK019	40 17 02N	124 21 43W	384230	4459950	70	10	0.05N	0.06	2.00	1.00
MK023	40 14 34N	124 20 13W	386290	4455340	50	10 L	0.05N	0.04	1.00	0.50
MK021	40 14 32N	124 20 03W	386520	4455280	65	10	0.05N	0.06	1.50	0.70
MK044	40 13 41N	124 13 21W	396000	4453590	60	10 L	0.05N	0.10	1.50	0.70
MK048	40 13 33N	124 11 53W	398080	4453310	40	10 L	0.05N	0.04	1.50	0.70
MK075	40 04 27N	124 02 42W	410890	4436290	60	10 L	0.05N	0.04	1.50	0.70
MK123	40 02 24N	124 03 37W	409540	4432540	45	10 L	0.05L	0.06	1.50	0.70
MK124	40 02 12N	124 02 21W	411350	4432140	50	10 L	0.05L	0.04	1.00	0.20
MK105	40 00 43N	124 01 58W	411850	4429370	540	80	0.05N	0.14	10.00	0.20
MK110	40 00 09N	124 01 21W	412730	4428340	70	10 N	0.05N	0.04	3.00	1.50
MK025	40 09 02N	124 05 09W	407520	4444830	65	10 N	0.05N	0.04	2.00	0.70
MK060	40 03 57N	123 59 51W	414930	4435330	95	10 L	0.05L	0.10	3.00	0.70
MK061	40 02 30N	123 59 32W	415350	4432630	60	10 L	0.05L	0.04	2.00	0.70
MK084	39 57 34N	123 58 37W	416550	4423490	80	10 L	0.05N	0.04	2.00	0.70
MK082a	39 57 08N	123 58 21W	416930	4422710	60	10	0.05L	0.08	2.00	0.70
MK082b	39 57 08N	123 58 21W	416930	4422710	80	10 N	0.05N	0.04	3.00	2.00
				Beach samples						
MK019	40 16 34N	124 21 42W	384230	4459095	40	10 L	0.05N	0.02	1.50	0.50
SK003	40 14 57N	124 20 59W	385200	4456070	50	40	0.20	0.16	1.50	0.70
MK054	40 12 44N	124 17 55W	389490	4451900	65	10 L	0.05N	0.08	1.50	0.70
MK059	40 09 55N	124 13 13W	396080	4446605	55	10 L	0.05N	0.04	2.00	1.00
MK015	40 07 49N	124 11 11W	398910	4442695	50	10 N	0.05N	0.04	1.50	0.70
SK001	40 07 25N	124 10 03W	400520	4441910	55	10 L	0.05N	0.06	1.50	0.70
OK018	40 06 31N	124 07 17W	404420	4440200	55	10 L	0.05N	0.12	1.50	0.70
MK067	40 02 38N	124 04 45W	407940	4432980	50	10 N	0.05N	0.06	1.50	0.50
MK104	40 00 34N	124 01 48W	412080	4429090	60	10 L	0.05L	0.06	1.50	0.70
MK091	39 57 09N	123 58 22W	416900	4422720	60	10 N	0.05L	0.06	1.50	0.70
RK019	40 06 31N	124 07 17W	404420	4440200	60	10 N	0.05N	0.12	1.50	0.70
RK044	40 07 25N	124 10 03W	400520	4441910	55	10 N	0.05N	0.06	2.00	0.70
RK045	40 14 57N	124 20 59W	385200	4456070	50	10 N	0.05L	0.20	2.00	0.70
RK046	40 07 49N	124 11 11W	398910	4442695	55	10 N	0.05N	0.06	2.00	0.70
RK047	40 16 34N	124 21 42W	384230	4459095	35	10 N	0.05L	0.06	1.00	0.30
RK051	40 12 44N	124 17 55W	389490	4451900	60	10 L	0.05N	0.04	2.00	0.70
RK053	40 09 55N	124 13 13W	396080	4446605	55	10 L	0.05L	0.06	1.50	0.70
RK055	40 02 38N	124 04 45W	407940	4432980	50	10 N	0.05N	0.12	1.50	0.70
RK056	39 57 09N	123 58 22W	416900	4422720	55	10 L	0.05L	0.06	3.00	1.00
RK057	40 00 34N	124 01 48W	412080	4429090	65	10 L	0.05L	0.06	1.50	0.70

SAMPLE	S-Ca-%	S-Ti-%	S-Mn-p	S-B-p	S-Ba-p	S-Be-p	S-Co-p	S-Cr-p	S-Cu-p	S-La-p
				Bedrock samples-continued						
MK112b	1.00	0.20	500	10	30	1.00N	30	700	100	20 N
MK114	2.00	0.10	100	10	20 L	1.00L	15	30	100	20 N
MK019	1.50	0.20	500	15	300	1.00L	15	50	20	20 L
MK023	0.15	0.15	200	10	150	1.00L	7	150	5	20 N
MK021	0.50	0.20	300	15	500	1.00L	7	30	10	20 L
MK044	0.30	0.15	200	20	200	1.00L	10	50	15	20 N
MK048	0.30	0.15	150	15	200	1.00L	7	70	7	20 N
MK075	0.15	0.15	200	10	500	1.00L	10	30	10	20 N
MK123	0.15	0.20	200	15	300	1.00L	7	70	15	20 N
MK124	0.05	0.07	150	10	50	1.00	5	30	5 L	20 N
MK105	1.50	0.05	5000 G	30	500	1.00L	30	10 L	70	70
MK110	2.00	0.20	1500	10	150	1.00L	15	70	20	20 N
MK025	0.70	0.20	700	10	300	1.00L	10	30	7	20 N
MK060	0.50	0.30	500	10	200	1.00L	15	150	10	70
MK061	0.70	0.20	700	10	500	1.00L	10	30	10	20 L
MK084	0.30	0.20	500	10	300	1.00L	10	30	10	20 N
MK082a	2.00	0.20	700	10	100	1.00L	10	30	10	20 N
MK082b	1.50	0.30	700	10	500	1.00L	20	70	30	20 N
				Beach samples-continued						
MK019	0.30	0.15	700	15	300	1.00L	7	20	15	20 N
SK003	0.50	0.15	1500	10	300	1.00L	7	30	7000	20 N
MK054	0.30	0.15	500	15	200	1.00L	7	50	50	20 N
MK059	0.50	0.20	700	20	300	1.00L	10	70	150	20 N
MK015	0.30	0.15	300	15	300	1.00L	7	50	20	20 N
SK001	0.30	0.15	300	15	300	1.00L	7	50	50	20 N
OK018	0.30	0.15	300	15	300	1.00L	7	70	15	20 N
MK067	0.15	0.10	200	10	300	1.00L	7	30	30	20 N
MK104	0.30	0.15	300	15	300	1.00L	10	50	20	20 N
MK091	0.50	0.15	300	15	300	1.00L	7	50	20	20 N
RK019	0.50	0.15	500	15	300	1.00L	7	70	20	20 N
RK044	0.30	0.15	500	15	300	1.00L	7	50	20	20 N
RK045	0.20	0.20	500	15	500	1.00L	7	50	15	20 N
RK046	0.50	0.15	300	20	300	1.00L	7	70	20	20 N
RK047	0.15	0.10	200	10	200	1.00N	5	20	7	20 N
RK051	0.70	0.15	500	20	300	1.00L	7	70	30	20 N
RK053	0.50	0.15	500	15	300	1.00L	7	50	20	20 N
RK055	0.30	0.15	500	15	500	1.00L	7	50	30	20 N
RK056	0.50	0.20	700	20	300	1.00L	10	70	20	20 N
RK057	0.20	0.15	500	15	200	1.00L	7	50	20	20 N

Table 2.-- Geochemical analyses and sample locations, King Range and Chemise Mountain Instant Study Areas-continued

SAMPLE	S-Ni-p	S-Pb-p	S-Sc-p	S-Sr-p	S-V-p	S-Y-p	S-Zr-p	S-Zn-p
				Bedrock samples-continued				
MK112b	300	10 L	10	100 N	70	10 L	15	200 N
MK114	30	10 N	5	100 N	30	10 L	10	200 N
MK019	30	10 L	7	300	30	15	30	200 N
MK023	20	10 L	5	100 L	15	10	30	200 N
MK021	15	10 L	7	300	50	10	50	200 N
MK044	30	10 L	5	100 L	30	10 L	30	200 N
MK048	30	10 L	5	100 L	20	10 L	30	200 N
MK075	10	10 L	5	200	20	10 L	30	200 N
MK123	30	10 L	7	200	50	10	50	200 N
MK124	30	10 L	5 L	100 L	15	10 L	20	200 N
MK105	300	30	5	200	300	70	30	200
MK110	20	10	10	300	70	10	30	200 N
MK025	20	10 L	7	300	50	10	30	200 N
MK060	20	10 L	10	200	70	20	70	200 N
MK061	20	10 L	7	300	50	15	30	200 N
MK084	15	10 L	10	150	50	15	50	200 N
MK082a	10	10 L	7	300	50	15	30	200 N
MK082b	30	10 L	10	500	100	15	30	200 N
				Beach samples-continued				
MK019	20	10 L	5	150	30	10 L	30	200 N
SK003	20	10 L	5	200	30	10	30	200 N
MK054	30	10 L	7	100	30	10 L	30	200 N
MK059	30	10 L	7	200	50	10	30	200 N
MK015	30	10 L	7	150	30	10 L	30	200 N
SK001	30	10 L	5	150	30	10 L	30	200 N
OK018	30	10 L	5	150	30	10 L	30	200 N
MK067	30	10 L	5	100 L	20	10 L	30	200 N
MK104	30	10 L	7	100	50	10 L	30	200 N
MK091	20	10 L	7	150	50	10 L	30	200 N
RK019	30	10 L	7	150	50	10 L	30	200 N
RK044	30	10 L	7	200	50	10 L	30	200 N
RK045	20	10 L	7	200	50	10 L	30	200 N
RK046	30	10 L	7	150	50	10 L	30	200 N
RK047	15	10 L	5 L	100 L	20	10 L	30	200 N
RK051	30	10 L	7	200	50	10 L	30	200 N
RK053	30	10 L	7	200	50	10 L	30	200 N
RK055	30	10 L	7	150	50	10 L	30	200 N
RK056	30	10 L	7	300	70	10	50	200 N
RK057	30	10 L	5	100 L	30	10 L	30	200 N