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GEOCHEMICAL ANALYSES FOR GOLD AND ZINC OF 137 STREAM-SEDIMENT SAMPLES FROM THE JOHN MUIR WILDERNESS, CALIFORNIA

By

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GEOCHEMICAL ANALYSES FOR GOLD AND ZINC OF 137 STREAM-SEDIMENT SAMPLES FROM THE JOHN MUIR WILDERNESS, CALIFORNIA

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The Wilderness Act (Public Law 88-577, 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 U.S. Geological Survey undertook a geochemical survey of the John Muir Wilderness between 1969 and 1978. The bulk of the data which resulted from this survey was reported in duBray and Dellinger (1980). The tables in this report present the results of further analyses of 137 of those samples for gold and zinc.

The samples were collected in 1977 by H. K. Stager and J. G. Moore (field numbers beginning with "7S" and "7M", respectively). They were analyzed for gold by a combined fire assay and atomic absorption technique (AS) which is described in Haffty, Riley, and Goss (1977). The analyses for zinc were done by atomic absorption spectrophotometry (AA), a technique described in detail by Ward and others (1969). Analyses were performed by the U.S. Geological Survey Branch of Analytical Laboratories in Denver, Colo. The analysts were J. G. Crock, A. W. Haubert, J. Haffty, V. Merrit, and G. Riddle.

All data are reported in parts per million (ppm) as point values. The analytical methods used produce quantitative results whose precision varies with the concentration of the element analyzed, and is different for the two techniques. Precision generally increases with concentration for both methods (John Viets, oral commun., 1980).

The analytical values for gold (AS) are reported as a value preceeded by a qualifying code. The qualifying symbol "<" means: detected, but below the limit of analytical determination or value shown. The data in this report updates duBray and Dellinger (1980) by replacing the qualifying code "B" (Blank; no analysis performed) for Au-AS and Zn-AA. The map number column in table 1 refers to the map in duBray and Dellinger (1980). The latitudes and longitudes are in degrees, minutes, and seconds.

REFERENCES

duBray, E. A., and Dellinger, D. A., 1980, Stream sediment sampling within the John Muir Wilderness, California: U.S. Geological Survey Open-File Report 80-62, 247 p.

Hafty, Joseph, Riley, L. B., and Goss, W. D., 1977, A manual on fire assaying and determination of the noble metals in geologic materials: U.S. Geological Survey Bulletin 1445, 58 p.

Ward, F. N., Nakagawa, H. M., Harms, T. F., and VanSickle, G. H., 1969, Atomic-absorption methods of analysis useful in geochemical exploration: U.S. Geological Survey Bulletin 1289, 45 p.

TABLE 1

MAP-NO.	FIELD-NO.	LATITUDE	LONGITUDE	UTM-EAST	UTM-NORTH	AA-AU ppm	AA-ZN ppm
300	7S-170	37 32 51N	118 48 44W	338,970	4,151,480	<.05	56
301	7S-171	37 32 27N	118 49 24W	338,820	4,151,480	<.05	35
302	7S-172	37 31 58N	118 49 09W	339,210	4,152,680	<.05	66
303	7S-173	37 31 34N	118 49 11W	338,150	4,152,480	<.05	125
304	7S-174	37 30 57N	118 48 59W	337,600	4,153,230	<.05	59
305	7S-175	37 30 48N	118 50 15W	339,470	4,153,470	<.05	94
306	7S-176	37 30 24N	118 49 52W	339,200	4,154,620	<.05	66
307	7S-177	37 30 31N	118 49 09W	339,260	4,155,330	<.05	99
308	7S-160	37 30 29N	118 48 51W	337,200	4,150,280	<.05	138
309	7S-161	37 30 22N	118 48 46W	337,100	4,150,380	<.05	172
310	7S-162	37 30 02N	118 48 37W	336,580	4,150,920	<.05	140
311	7S-163	37 29 59N	118 48 23W	337,950	4,151,130	<.05	132
312	7S-164	37 30 09N	118 48 39W	339,650	4,152,580	<.05	46
313	7S-165	37 29 56N	118 48 20W	339,770	4,152,390	<.05	42
314	7S-150	37 29 53N	118 49 37W	346,710	4,125,070	<.05	62
315	7S-151	37 29 55N	118 49 33W	346,810	4,125,160	<.05	53
316	7S-178	37 29 52N	118 49 24W	338,910	4,156,230	<.05	67
317	7S-179	37 29 52N	118 49 17W	339,910	4,156,980	<.05	95
318	7S-152	37 29 43N	118 49 53W	346,270	4,125,170	<.05	43
319	7S-166	37 29 40N	118 49 59W	339,960	4,151,770	<.05	48
320	7S-167	37 29 33N	118 50 54W	340,320	4,151,670	<.05	27
321	7S-153	37 29 25N	118 50 09W	346,020	4,124,930	<.05	38
322	7S-168	37 29 16N	118 50 33W	340,370	4,151,550	<.05	59
323	7S-169	37 29 12N	118 50 29W	339,930	4,151,970	<.05	53
324	7S-154	37 29 09N	118 50 27W	348,220	4,123,810	<.05	55
469	7S-190	37 20 56N	118 44 17W	343,410	4,134,220	<.05	33
822	7S-180	37 20 40N	118 46 23W	346,120	4,132,820	<.05	32
823	7S-181	37 20 33N	118 46 23W	346,030	4,131,860	<.05	36
824	7S-191	37 20 35N	118 46 03W	344,270	4,133,870	<.05	27
825	7S-200	37 20 53N	118 45 43W	346,770	4,134,960	<.05	60

826	7S-201	37 20 47N	118 45 26W	345,330	4,134,190	<.05	49
827	7S-192	37 20 24N	118 45 28W	344,660	4,133,980	<.05	34
828	7S-202	37 20 44N	118 45 02W	343,910	4,134,770	<.05	45
829	7S-193	37 20 28N	118 45 12W	345,220	4,133,790	<.05	30
830	7S-203	37 20 35N	118 44 45W	344,330	4,134,580	<.05	52
831	7S-194	37 20 22N	118 44 49W	345,220	4,133,570	<.05	34
832	7S-195	37 20 15N	118 44 49W	345,420	4,133,660	<.05	26
833	7S-196	37 20 18N	118 44 41W	345,510	4,133,540	<.05	46
834	7S-197	37 20 14N	118 44 37W	346,030	4,134,820	<.05	45
835	7S-182	37 19 06N	118 44 15W	346,020	4,131,430	<.05	46
836	7S-183	37 19 20N	118 44 15W	346,230	4,132,070	<.05	45
837	7S-184	37 19 27N	118 44 07W	346,370	4,133,340	<.05	34
838	7S-185	37 19 51N	118 44 12W	346,420	4,133,430	<.05	39
839	7S-186	37 20 08N	118 44 02W	346,510	4,134,130	<.05	39
840	7S-187	37 20 11N	118 44 00W	346,260	4,133,980	<.05	39
841	7S-188	37 20 29N	118 44 07W	342,920	4,134,390	<.05	36
842	7S-189	37 20 34N	118 43 57W	342,920	4,134,170	<.05	68
843	7S-198	37 20 55N	118 43 57W	346,520	4,134,780	<.05	47
844	7S-204	37 21 01N	118 43 47W	344,920	4,134,470	<.05	45
845	7S-199	37 21 08N	118 43 23W	347,370	4,135,170	<.05	36
920	7S-110	37 13 13N	118 37 25W	354,390	4,119,870	<.05	39
921	7S-111	37 13 01N	118 37 49W	355,320	4,120,010	<.05	39
922	7S-112	37 12 52N	118 37 49W	355,320	4,119,730	<.05	26
923	7S-113	37 12 56N	118 38 27W	355,920	4,120,370	<.05	37
924	7S-103	37 12 56N	118 38 31W	360,590	4,113,260	<.05	65
925	7S-104	37 13 07N	118 38 38W	360,340	4,113,330	<.05	49
939	7S-155	37 15 00N	118 42 40W	338,600	4,151,580	<.05	48
945	7S-130	37 14 51N	118 41 45W	350,330	4,124,060	<.05	60
946	7S-131	37 15 01N	118 41 47W	350,610	4,124,680	<.05	68
947	7S-132	37 15 09N	118 41 15W	351,030	4,125,420	<.05	91
948	7S-133	37 15 23N	118 41 27W	351,080	4,125,510	<.05	59
949	7S-134	37 15 30N	118 41 04W	350,910	4,125,670	<.05	83
950	7S-135	37 15 45N	118 41 18W	350,570	4,125,610	<.05	64
951	7S-136	37 15 54N	118 40 47W	350,260	4,125,160	<.05	74
952	7S-137	37 15 57N	118 40 45W	350,030	4,124,480	<.05	70

953	7S-138	37 16 02N	118 40 52W	349,520	4,123,810	<.05	72
954	7S-139	37 16 00N	118 41 06W	349,570	4,123,500	<.05	74
955	7S-140	37 16 21N	118 41 25W	348,820	4,124,630	<.05	60
956	7S-141	37 16 21N	118 42 01W	348,760	4,125,180	<.05	71
957	7S-142	37 16 22N	118 41 53W	349,220	4,126,290	<.05	28
958	7S-143	37 16 34N	118 41 53W	349,420	4,126,310	<.05	43
959	7S-144	37 16 43N	118 41 58W	350,110	4,126,270	<.05	63
960	7S-145	37 16 46N	118 42 06W	349,430	4,126,680	<.05	31
961	7S-146	37 16 02N	118 42 39W	349,310	4,126,960	<.05	53
962	7S-147	37 15 45N	118 42 19W	349,120	4,127,060	<.05	54
963	7S-148	37 15 27N	118 42 16W	348,280	4,125,720	<.05	55
964	7S-149	37 15 38N	118 42 33W	348,410	4,124,970	<.05	55
965	7S-156	37 15 43N	118 43 38W	338,500	4,151,520	<.05	118
966	7S-157	37 15 40N	118 43 42W	338,100	4,151,220	<.05	122
967	7S-158	37 15 43N	118 44 00W	337,700	4,150,670	<.05	74
968	7S-159	37 15 35N	118 44 10W	337,250	4,150,190	<.05	69
1,129	7S-114	37 12 15N	118 37 24W	355,920	4,118,580	<.05	59
1,130	7S-115	37 12 11N	118 37 23W	355,940	4,118,460	<.05	270
1,131	7S-116	37 12 06N	118 37 23W	355,940	4,118,310	<.05	44
1,133	7S-117	37 12 05N	118 37 23W	355,940	4,118,280	<.05	48
1,138	7S-120	37 11 45N	118 38 20W	354,320	4,114,480	<.05	72
1,139	7S-121	37 11 41N	118 38 18W	353,720	4,114,370	<.05	68
1,140	7S-122	37 11 30N	118 38 34W	354,220	4,114,760	<.05	53
1,141	7S-123	37 11 17N	118 38 33W	354,890	4,114,720	<.05	63
1,142	7S-124	37 11 05N	118 38 37W	353,880	4,116,370	<.05	72
1,143	7S-125	37 11 02N	118 38 45W	354,080	4,116,460	<.05	53
1,155	7S-118	37 08 58N	118 38 18W	354,730	4,112,960	<.05	59
1,156	7S-119	37 09 12N	118 38 08W	354,480	4,112,540	<.05	56
1,159	7S-126	37 09 57N	118 38 50W	354,180	4,116,830	<.05	86
1,160	7S-127	37 10 01N	118 38 26W	354,170	4,117,230	<.05	50
1,162	7S-128	37 10 10N	118 38 30W	354,570	4,117,560	<.05	76
1,163	7S-129	37 10 09N	118 38 03W	354,520	4,117,680	<.05	50
1,172	7S-105	37 09 40N	118 34 25W	360,180	4,113,670	<.05	48
1,173	7S-106	37 09 38N	118 34 27W	360,230	4,113,730	<.05	38
1,175	7S-107	37 09 27N	118 34 21W	360,840	4,113,570	<.05	47

1,180	7S-108	37 09 25N	118 34 11W	354,120	4,120,220	<.05	32
1,181	7S-109	37 09 35N	118 34 01W	354,290	4,119,880	<.05	36
1,302	7M-058	36 44 53N	118 19 20W	381,910	4,067,570	<.05	22
1,303	7M-059	36 44 47N	118 19 16W	382,010	4,067,380	<.05	27
1,392	7M-303	36 34 32N	118 16 19W	386,150	4,048,370	<.05	33
1,393	7M-304	36 34 51N	118 16 07W	386,600	4,048,580	<.05	30
1,394	7M-305	36 34 39N	118 16 01W	386,450	4,048,950	<.05	22
1,395	7M-306	36 35 02N	118 15 25W	387,500	4,049,280	<.05	29
1,396	7M-308	36 35 10N	118 14 49W	388,400	4,049,510	<.05	33
1,399	7M-309	36 33 53N	118 16 02W	386,550	4,047,160	<.05	30
1,400	7M-310	36 34 13N	118 15 46W	386,960	4,047,780	<.05	32
1,401	7M-312	36 34 29N	118 15 00W	388,110	4,048,250	<.05	29
1,402	7M-313	36 34 42N	118 14 51W	388,340	4,048,660	<.05	33
1,403	7M-280	36 33 25N	118 14 51W	394,700	4,036,680	<.05	16
1,404	7M-281	36 33 41N	118 14 25W	396,150	4,043,280	<.05	16
1,405	7M-285	36 33 58N	118 14 01W	388,310	4,046,280	<.05	31
1,406	7M-286	36 34 20N	118 13 50W	388,960	4,046,760	<.05	46
1,407	7M-290	36 34 27N	118 13 46W	389,950	4,048,170	<.05	42
1,408	7M-291	36 34 48N	118 13 28W	390,400	4,048,810	<.05	42
1,409	7M-064	36 35 25N	118 11 57W	392,300	4,047,520	<.05	35
1,410	7M-067	36 34 07N	118 12 11W	392,680	4,049,920	<.05	57
1,415	7M-076	36 32 31N	118 10 23W	394,950	4,044,530	<.05	39
1,421	7M-287	36 31 51N	118 09 34W	389,560	4,047,280	<.05	37
1,422	7M-292	36 30 40N	118 10 55W	394,110	4,041,120	<.05	26
1,423	7M-293	36 30 37N	118 10 30W	394,710	4,041,020	<.05	34
1,424	7M-294	36 30 46N	118 09 44W	395,860	4,041,280	<.05	24
1,425	7M-295	36 30 55N	118 09 24W	396,150	4,040,970	<.05	60
1,426	7M-296	36 30 36N	118 09 33W	396,360	4,041,560	<.05	22
1,427	7M-275	36 29 15N	118 13 59W	389,500	4,038,560	<.05	8
1,428	7M-276	36 29 09N	118 13 18W	390,520	4,038,360	<.05	9
1,429	7M-277	36 29 32N	118 12 51W	391,200	4,039,060	<.05	12
1,430	7M-278	36 29 23N	118 12 08W	392,270	4,038,770	<.05	15
1,431	7M-279	36 29 20N	118 11 04W	393,860	4,038,660	<.05	20
1,432	7M-080	36 28 49N	118 12 23W	391,860	4,037,730	<.05	20
1,433	7M-079	36 28 28N	118 12 48W	391,230	4,037,080	<.05	9
1,434	7M-081	36 28 26N	118 12 17W	392,000	4,037,020	<.05	50
1,435	7M-289	36 28 16N	118 10 29W	389,850	4,047,950	<.05	47