DEPARTMENT OF THE INTERIOR

U.S. GEOLOGICAL SURVEY

Analyses for platinum group elements in samples from podiform chromite deposits, California and Oregon

by

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Open-File Report 85-442

This report is preliminary and has not been reviewed for conformity with U.S. Geological Survey editorial standards and stratigraphic nomenclature.

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1985

ACKNOWLEDGMENTS

This work could not have been accomplished without the assistance and hospitality of numerous property owners in California and Oregon. The authors gratefully acknowledge this debt. The authors are also grateful for chromitite samples contributed by J. P. Albers, J. K. Bohlke, R. C. Evarts, Floyd Gray, G. R. Himmelberg, B. R. Lipin, R. A. Loney, R. J. Mclaughlin and Don Walker of the U.S. Geological Survey and by Len Ramp of the Oregon Department of Geology and Mineral Industries, for chemical analyses contributed from the records of W. N. Blair and H. R. Cornwall, and for samples collected in the 1940's by G. L. Bell, F. C. Carter, P. E. Hotz, L. R. Page, and F. W. Wells and which were subsequently retrieved from storage. Field assistance was provided by James B. Barnard.

INTRODUCTION

This report presents platinum group element (PGE) chemical analyses for 323 chromitite samples collected from mines and prospects in California and Oregon (figure 1). Samples collected during this study varied between dunite with disseminated chromite grains to massive chromitite. For purposes of this study samples were defined as chromitite if the chromium content exceeded 10% by weight as measured by six-step semiquantitative emission spectrography (Myers and others, 1961; and Ward and others, 1963). Also presented are the available estimated tonnages and chromium grades which were obtained from published literature (Dow and Thayer, 1946; Wells and others, 1946; Carter, 1948a, 1948b; Rynearson, 1948, 1953; Wells and Carter, 1950; Carter and others, 1951; Walker and Griggs, 1953; Wells and Hawkes, 1965; and Singer and others, 1981). These data are reported by geologic terranes and regions. The terranes were defined by N.J Page and B.C. Moring (unpub. data, 1985).

DATA

Most samples of chromitite from California were analyzed by fire-assay atomic absorption techniques for palladium, platinum and rhodium and fire assay-spectrographic techniques for iridium and ruthenium. The basic fire-assay technique has been described by Haffty and others (1977) and the fire-assay atomic absorption technique by Simon and others (1978) and Page and others (1980). The spectrographic technique was described by Haffty and others (1980). Detection limits are in part defined by sample size, and under the best conditions the limits are .001, .010, .001, .020, and .100 parts per million (ppm) for palladium, platinum, rhodium, iridium, and ruthenium, respectively.

Most of the samples of chromitite from Oregon were analyzed by comparable techniques described by Cooley and others (1976).

The data were retrieved from the U. S. Geological Survey RASS System (Rock Anlysis Storage System) (Van Trump and Miesch, 1977). All PGE values are reported in parts per million. The data are presented in table 1.

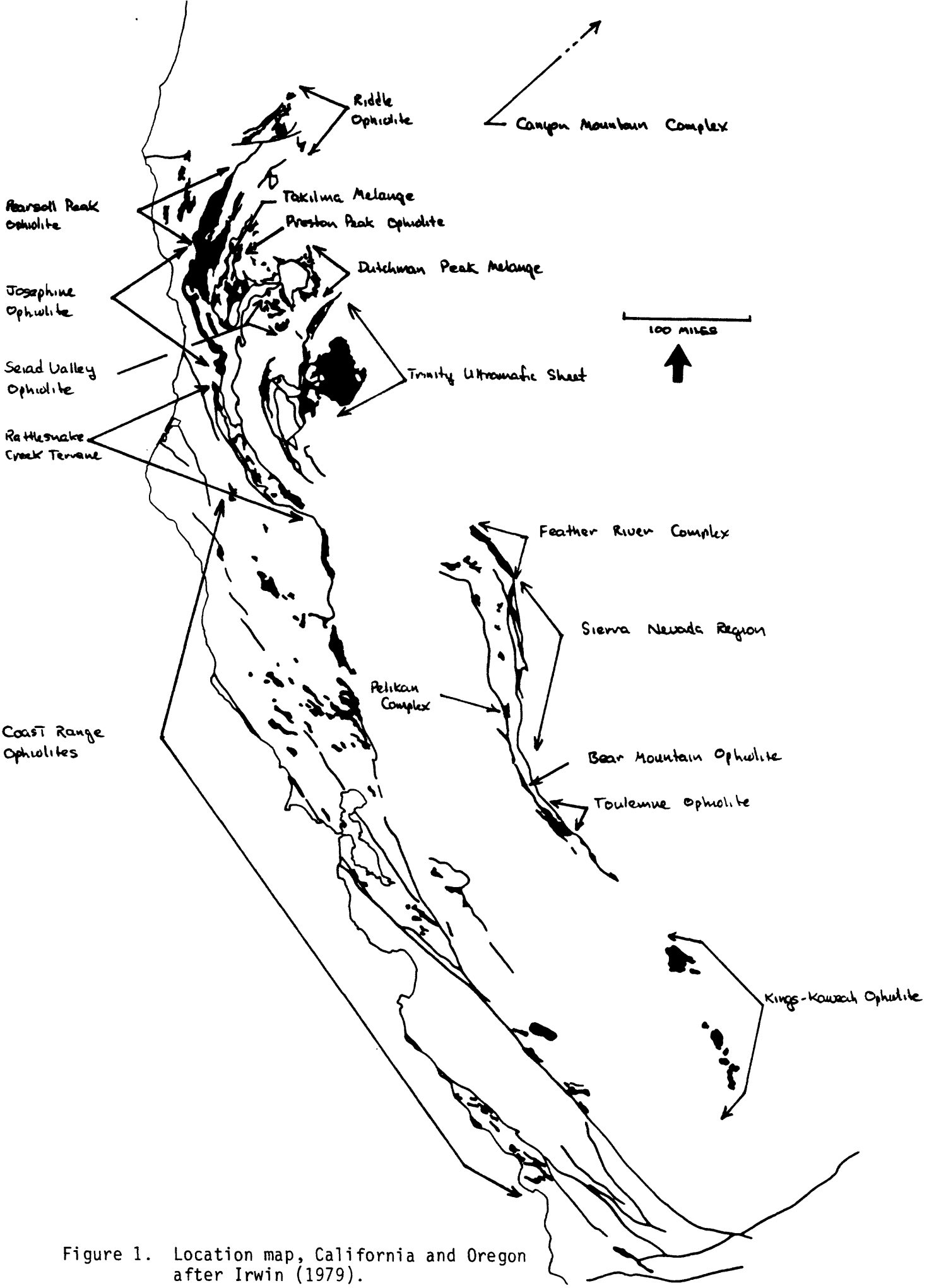

Figure 1. Location map, California and Oregon after Irwin (1979).

Table 1.--Geochemical analyses

[The location of each chromitite occurrence is given in Universal Transverse Mercator (UTM) eastings and northings. The values for the platinum group elements are given in parts per million. A less than symbol (<) indicates that the element is detectable and less than the value indicated. Trace (Tr) indicates that the element is present but below the routine limit of determination and too low to assign a value. Not detected (N) indicates that the line for this element was not seen on the spectrogram. Blank (B) indicates that this sample was not analysed for this element. Analysts: L. Bradley; J. Cornell; C. Gent; W. Goss; H. Groeneboer; J. Haffty; A. Haubert; A. Love; J. McDade; R. Moore; L. Riley; and S. Wilson.]

Geologic Terrane	Mine/Prospect	County, State	UTM Easting	UTM Northing	Field Sample ID	Lab Sample ID	Ir (ppm)	Ru (ppm)	Rh (ppm)	Pd (ppm)	Pt (ppm)	Tonnage (long tons)	Chromium Grade (%)
Bear Mountain Ophiolite	Brandon Mine	El Dorado, CA	679999	4269415	39CAP81	D236980	0.200	0.230	0.007	0.186	0.130		
Bear Mountain Ophiolite	Chaix Mine	El Dorado, CA	678707	4268305	72CAP81	D237761	0.050	<0.100	0.010	<0.001	0.014	220	
Bear Mountain Ophiolite	Courtwright (Daggett Lease)	Amador, CA	686772	4244182	42CAP81	D236983	0.140	0.240	0.008	<0.001	0.019	116	39.0
Bear Mountain Ophiolite	Green Mine	El Dorado, CA	691230	4315095	45CAP81	D236986	0.120	0.140	0.011	0.002	<0.010	150	47.0
Bear Mountain Ophiolite	Hofft	El Dorado, CA	681064	4265528	41CAP81	D236982	<0.020	<0.100	0.002	<0.001	<0.010	200	31.0
Bear Mountain Ophiolite	Murphy Mine	El Dorado, CA	678706	4267846	71CAP81	D237756	0.050	0.160	0.004	<0.001	<0.010	5000	10.0
Bear Mountain Ophiolite	Murphy Mine	El Dorado, CA	678706	4267846	71CAP81	D237748	0.040	0.130	0.007	<0.001	0.014	5000	10.0
Bear Mountain Ophiolite	Shelly Mine (Union Chrome)	El Dorado, CA	684120	4300500	44CAP81	D236985	0.076	0.150	0.002	0.002	<0.010	1280	30.0
Bear Mountain Ophiolite	Wards and Lyons Mine	Amador, CA	690545	4238045	43CAP81	D236984	0.330	0.240	0.003	0.001	0.010	2000	31.0
Canyon Mountain Complex	Ajax Mine	Grant, OR	359842	4911449	17 JD77	D194844	<0.020	<0.100	0.007	0.021	0.046	100	38.0
Canyon Mountain Complex	Bald Eagle	Grant, OR	354870	4912608	9 JD77	D194836	<0.020	<0.100	0.011	0.004	0.010		
Canyon Mountain Complex	Black Belvet Mine	Grant, OR	346624	4912900	2 JD77	D194828	<0.020	<0.100	Tr	0.008	0.010		
Canyon Mountain Complex	Celebration	Grant, OR	355804	4910319	10 JD77	D194837	<0.020	<0.100	0.016	0.014	0.023	2958	40.6
Canyon Mountain Complex	Chambers Mine	Grant, OR	357290	4908103	8 JD77	D194835	<0.020	<0.100	0.016	0.004	0.010	131612	23.0
Canyon Mountain Complex	Chambers Mine	Grant, OR	355394	4912226	6 JD77	D194833	<0.020	<0.100	Tr	0.010	Tr	131612	23.0
Canyon Mountain Complex	Chambers Mine	Grant, OR	355394	4912226	7 JD77	D194834	<0.020	<0.100	0.008	0.004	0.010	131612	23.0
Canyon Mountain Complex	Dune Carlson Mine	Grant, OR	349278	4914876	4 JD77	D194830	<0.020	0.300	0.010	0.004	0.010	220	45.0
Canyon Mountain Complex	Haggard and New Mine	Grant, OR	350250	4913900	5 JD77A	D194831	<0.020	<0.100	0.019	0.004	0.010		
Canyon Mountain Complex	Haggard and New Mine	Grant, OR	350250	4913900	5 JD77B	D194832	<0.020	<0.100	0.012	0.004	0.010		
Canyon Mountain Complex	Iron King Mine	Grant, OR	346724	4912716	3 JD77	D194829	<0.020	<0.100	0.008	Tr	0.010	82163	22.0
Canyon Mountain Complex	Marks-Thompson	Grant, OR	361106	4914307	11 JD77	D194838	<0.020	<0.100	0.008	0.004	0.010	500	30.0
Canyon Mountain Complex	Prospect	Grant, OR	359563	4913260	12 JD77	D194839	<0.020	<0.100	0.005	0.004	0.010		
Canyon Mountain Complex	Prospect	Grant, OR	346181	4913464	1 JD77	D194827	0.050	0.300	0.026	0.006	0.019		
Canyon Mountain Complex	Ray Mine	Grant, OR	358986	4910953	13 JD77	D194840	0.100	0.500	0.064	0.006	0.120		
Canyon Mountain Complex	Ray Spring Mine	Grant, OR	358608	4911018	15 JD77	D194842	<0.020	<0.100	0.007	Tr	0.010	2	31.4
Canyon Mountain Complex	Tip Top Mine	Grant, OR	358792	4911006	14 JD77	D194841	0.080	0.400	0.040	0.006	0.045	1063	39.9
Canyon Mountain Complex	U of O prospect	Grant, OR	358424	4911700	16 JD77	D194843	<0.020	<0.100	0.008	0.016	0.030		
Coast Range Ophiolites	Adobe Canyon Group	Stanislaus, CA	641323	4141024	4-CAB	D211684	0.079	0.280	0.015	0.001	0.012	500	27.0
Coast Range Ophiolites	Adobe Canyon Group	Stanislaus, CA	641048	4140799	DP 53-106	D219640	0.057	0.260	0.012	0.002	0.021	500	27.0
Coast Range Ophiolites	Anton Nichelini Mine	Napa, CA	560553	4261403	8CAP81	D236952	0.048	0.200	0.005	0.021	0.018	2000	45.0
Coast Range Ophiolites	Black Bear	Stanislaus, CA	640230	4140265	DP 56-40	D219642	0.052	0.200	0.009	0.001	0.013	342	50.0
Coast Range Ophiolites	Black Diamond (Grey Eagle)	Glenn, CA	534136	4398559	34CAM81	D237711	0.049	<0.001	0.001	<0.001	<0.010	39600	46.0
Coast Range Ophiolites	Black Diamond (Grey Eagle)	Glenn, CA	534096	4398642	35CAM81	D237790	<0.020	<0.100	0.004	<0.001	<0.010	39600	46.0
Coast Range Ophiolites	Butler Estate Chrome	Fresno, CA	720265	4021314	31CAM81	D239746	0.040	0.160	0.006	<0.001	<0.010	23000	46.0
Coast Range Ophiolites	Butler Estate Chrome	Fresno, CA	720265	4021314	31CAM81	D236102	0.048	0.170	<0.001	0.003	0.010	23000	46.0
Coast Range Ophiolites	Castro	San Luis Obispo, CA	707924	3916496	7CAM81	D239742	0.040	0.160	0.002	0.002	<0.010	49300	43.0
Coast Range Ophiolites	Castro	San Luis Obispo, CA	707924	3916496	7CAM81	D236110	0.045	<0.100	0.001	<0.001	0.010	49300	43.0
Coast Range Ophiolites	Castro	San Luis Obispo, CA	707932	3916409	8CAM81	D236112	0.045	<0.100	0.001	0.002	0.010	49300	43.0
Coast Range Ophiolites	Dughi	San Luis Obispo, CA	709579	3915714	6CAM81	D236104	0.060	0.210	0.003	0.002	0.040		
Coast Range Ophiolites	East Black Bart	Stanislaus, CA	638000	4141714	DP 52-118	D219639	B	0.140	0.002	0.001	0.023	414	35.0
Coast Range Ophiolites	Estrallo	San Luis Obispo, CA	708789	3916265	9CAM81	D236101	0.093	0.250	0.001	0.012	0.020		
Coast Range Ophiolites	Eucalyptus	San Luis Obispo, CA	704127	3921513	14CAM81	D239743	0.060	0.160	0.006	<0.001	<0.010		
Coast Range Ophiolites	Eucalyptus	San Luis Obispo, CA	704127	3921513	14CAM81	D236108	0.066	0.170	0.005	0.002	0.010		
Coast Range Ophiolites	Ferraro	Stanislaus, CA	640366	4139388	1-CAB-C	D211678	0.032	0.180	0.005	0.003	0.037		
Coast Range Ophiolites	Ferraro	Stanislaus, CA	640366	4139388	1-CAB-B	D211679	0.047	0.180	0.006	0.001	0.015		
Coast Range Ophiolites	Ferraro	Stanislaus, CA	640366	4139388	1-CAB-A	D211685	0.042	<0.100	0.004	0.003	0.013		
Coast Range Ophiolites	Graham Group	Mendocino, CA	492988	4324436	4CAP81	D236948	<0.020	<0.100	<0.001	0.003	0.017	549	10.0
Coast Range Ophiolites	Grey Claim	Napa, CA	554552	4295822	6CAP81	D236950	0.056	0.200	0.011	0.006	0.124	300	38.0
Coast Range Ophiolites	La Trinadad	San Luis Obispo, CA	710250	3915550	4CAM81	D239744	0.050	0.180	0.005	<0.001	<0.010	1600	45.0

Geologic Terrane	Mine/Prospect	County, State	UTM Easting	UTM Northing	Field Sample ID	Lab Sample ID	Ir (ppm)	Ru (ppm)	Rh (ppm)	Pd (ppm)	Pt (ppm)	Tonnage (long tons)	Chromium Grade (%)
Coast Range Ophiolites	La Trinadad	San Luis Obispo, CA	710254	3915560	5CAM81	D236097	0.034	<0.100	0.004	0.001	0.010	1600	45.0
Coast Range Ophiolites	La Trinadad	San Luis Obispo, CA	710250	3915550	4CAM81	D236105	0.043	<0.100	0.006	<0.001	<0.010	1600	45.0
Coast Range Ophiolites	Laton Mine	Sonoma, CA	488599	4274349	2CAP81	D236946	0.049	0.210	0.009	0.031	0.027	3000	48.0
Coast Range Ophiolites	Laton Mine	Sonoma, CA	488599	4274349	3CAP81	D236947	0.240	0.570	0.016	0.0[illegible]	0.047	3000	48.0
Coast Range Ophiolites	Lucky Girl	Stanislaus, CA	639928	4140500	DP 56-2	D219638	0.730	0.510	0.019	0.013	0.061	150	42.0
Coast Range Ophiolites	Mill Gulch Area of N. Elder Creek	Tehama, CA	529736	4430635	37CAM81	D237721	0.042	0.110	0.002	<0.001	0.013	3531	11.6
Coast Range Ophiolites	Moore Group	Napa, CA	557270	4294094	7CAP81	D236951	0.450	1.670	0.038	0.128	0.141	4460	40.0
Coast Range Ophiolites	Mt. Modonna Quad	Santa Clara, CA	617257	4097823	SF179-70	D237773	0.020	<0.100	0.001	<0.001	<0.010		
Coast Range Ophiolites	Noble Electric Steel	Tehama, CA	529658	4430231	38CAM81	D237724	0.048	0.190	0.003	<0.001	0.010	1800	47.0
Coast Range Ophiolites	Number 5 Group	Stanislaus, CA	641121	4141380	3-CAB	D211683	0.042	0.190	0.012	0.006	0.022	1470	
Coast Range Ophiolites	Primero	San Luis Obispo, CA	710139	3915070	3CAM81	D236098	0.036	<0.100	0.004	0.001	0.030	325	30.0
Coast Range Ophiolites	Primero	San Luis Obispo, CA	710149	3915066	2CAM81	D236107	0.070	0.280	0.003	0.001	0.010	325	30.0
Coast Range Ophiolites	Questa Prospect	San Luis Obispo, CA	711053	3916524	13CAM81	D236111	0.037	<0.100	0.001	<0.001	0.020		
Coast Range Ophiolites	Questa Prospect	San Luis Obispo, CA	712547	3915852	11CAM81	D236095	0.124	0.270	0.026	0.004	0.080		
Coast Range Ophiolites	Singel Jack Mine	San Luis Obispo, CA	711072	3916337	12CAM81	D236096	0.048	0.100	0.001	0.002	0.010		
Coast Range Ophiolites	Sweet Water	San Luis Obispo, CA	405472	3832389	15CAM81	D236103	0.170	0.400	0.008	0.002	0.010	1040	46.0
Coast Range Ophiolites	Sweet Water	San Luis Obispo, CA	405472	3832389	16CAM81	D236109	0.050	<0.100	0.002	0.002	0.010	1040	46.0
Coast Range Ophiolites	Unknown	Stanislaus, CA	639818	4141077	2-CAB-A	D211680	0.065	0.260	0.008	0.002	0.015		
Coast Range Ophiolites	Unknown	San Luis Obispo, CA	708587	3945762	10CAM81	D236106	0.052	<0.100	0.005	0.003	0.010		
Coast Range Ophiolites	Unknown	Stanislaus, CA	642052	4140824	DP 64-54	D219643	0.035	0.210	0.010	<0.001	0.007		
Coast Range Ophiolites	Unknown	Lake, CA	528330	4284482	MG-677	D237775	0.030	0.160	0.004	0.002	<0.010		
Coast Range Ophiolites	Unknown	Lake, CA	529666	4292727	MG75-19	D237781	0.030	0.110	0.005	<0.001	<0.010		
Coast Range Ophiolites	Unknown	Stanislaus, CA	640000	4140000	DP 53-10	D219641	0.073	0.270	0.012	0.001	0.018		
Coast Range Ophiolites	Unknown	Sonoma, CA	528293	4282118	MG76-314	D237772	0.040	0.120	0.003	<0.001	0.010		
Coast Range Ophiolites	Unknown	San Luis Obispo, CA	708587	3945762	10CAM81	D239745	0.040	0.160	0.004	0.002	<0.010		
Coast Range Ophiolites	Unknown	Stanislaus, CA	639818	4141077	2-CAB-B	D211681	0.033	<0.100	0.006	0.001	0.011		
Coast Range Ophiolites	Unknown	Stanislaus, CA	639818	4141077	2-CAB-C	D211682	0.300	0.490	0.039	0.004	0.047		
Dutchman Peak Melange	Cass Ranch	Jackson, OR	512301	4665374	FGW-38-4	D172622	B	B	0.026	0.018	0.050		
Dutchman Peak Melange	Cass Ranch	Jackson, OR	458590	4649684	BC-84-38	D173815	B	B	0.017	<0.004	0.010		
Dutchman Peak Melange	Cass Ranch	Jackson, OR	512301	4665374	BC-84-38	D176042	B	B	0.026	<0.0[illegible]	<0.010		
Dutchman Peak Melange	Red Mountain	Jackson, OR	513500	4656450	694-24		0.100	0.300	0.023	<0.004	0.012	18	52.9
Dutchman Peak Melange	Snowy Ridge (Sally Ann Mine)	Siskiyou, CA	508601	4649693	BC-94-38	D176037	B	B	0.008	<0.004	<0.010	298	39.0
Dutchman Peak Melange	Snowy Ridge (Sally Ann Mine)	Siskiyou, CA	508601	4649693	PEH-106-	D173811	B	B	0.018	<0.004	0.012	298	39.0
Dutchman Peak Melange	Snowy Ridge (Sally Ann Mine)	Siskiyou, CA	508601	4649693	110CAM81	D239730	<0.020	<0.100	0.004	<0.001	<0.010	298	39.0
Feather River Complex	Alleghany District	Sierra, CA	682400	4372160	510-A	D237776	0.110	0.120	0.004	<0.001	0.013		
Feather River Complex	Alleghany District	Sierra, CA	682650	4372260	510-B	D237777	0.020	<0.100	<0.001	<0.001	<0.010		
Feather River Complex	Boiler Pit	Placer, CA	693434	4331188	77CAP81	D237763	0.070	<0.100	0.003	<0.001	0.012	1200	45.0
Feather River Complex	Bunker Mine	Placer, CA	693860	4323295	78CAP81	D237749	0.040	0.150	0.004	<0.001	<0.010	1630	40.0
Feather River Complex	Gibsonville	Sierra, CA	665500	4384000	86CAP81	D237751	<0.020	<0.100	0.006	<0.001	0.011	262	44.0
Feather River Complex	Oxford Mine and Mill	Sierra, CA	686787	4382382	138CAM81	D239759	<0.020	<0.100	0.002	<0.001	<0.010	4000	38.0
Feather River Complex	White Pine Mine	Plumas, CA	672000	4414100	145CAM81	D239722	0.030	<0.100	0.005	0.001	<0.010	550	49.0
Feather River Complex	White Pine Mine	Plumas, CA	672000	4414100	145CAM81	D241286	0.060	0.210	B	<0.001	<0.010	550	49.0
Josephine Ophiolite	Bar Rick Chrome Mine	Del Norte, CA	426715	4644801	1 CA77	D194845	B	B	0.024	0.004	0.010		
Josephine Ophiolite	Bar Rick Mine	Del Norte, CA	426715	4644801	43-77	D195053	0.091	0.270	0.021	<0.008	<0.020		
Josephine Ophiolite	Big Dipper Mine	Del Norte, CA	426350	4626132	71CAM81	D237738	0.073	0.250	0.004	0.006	0.014	339	42.0
Josephine Ophiolite	Black Bear No's 1 and 2	Josephine, OR	432900	4651750	694-8		<0.020	0.200	0.016	<0.004	<0.010		
Josephine Ophiolite	Bluebird	Del Norte, CA	418971	4641605	38-77	D195051	0.073	0.220	0.014	0.006	0.011	75	44.0
Josephine Ophiolite	Bluebird	Del Norte, CA	418974	4641442	36-77	D195049	0.052	0.170	Tr	<0.004	<0.010	75	44.0

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Josephine Ophiolite	Bluebird	Del Norte, CA	419152	4641545	37-77	D195050	0.052	0.150	Tr	<0.009	<0.022	75	44.0
Josephine Ophiolite	Bonanza	Del Norte, CA	421620	4642526	20-77	D195043	0.140	0.330	0.018	<0.004	0.015	137	50.5
Josephine Ophiolite	Bowser Mine	Curry, OR	429609	4678340	78KW67	LEB045	B	B	0.006N	0.007	0.015		
Josephine Ophiolite	Bowser Mine	Curry, OR	429609	4678340	78KW66	LEB044	B	B	0.007	0.003	0.015N		
Josephine Ophiolite	Browns Mine (High Plateau)	Del Norte, CA	421741	4641972	57-77	D195062	0.054	0.180	0.011	<0.004	<0.010		
Josephine Ophiolite	Browns Mine (High Plateau)	Del Norte, CA	421729	4641985	56-77	D195061	0.056	0.150	0.010	<0.008	0.014	15000	52.5
Josephine Ophiolite	Buckskin Mine	Del Norte, CA	422272	4613636	44-77	D195054	0.040	<0.100	0.008	Tr	<0.020	15000	52.5
Josephine Ophiolite	Buster Mine	Josephine, OR	439968	4699459	79SE003	EDW798	B	B	0.005N	0.002	0.010N	2000	25.0
Josephine Ophiolite	Carla Mine	Del Norte, CA	420000	4617300	95CAM81	D239737	0.040	<0.100	0.003	0.013	0.018	28	42.0
Josephine Ophiolite	Carla Mine	Del Norte, CA	420000	4616300	76CAM81	D237722	0.048	0.130	0.005	0.001	<0.010	28	42.0
Josephine Ophiolite	Carter Creek Divide Claim	Curry, OR	429547	4672683	GLB-72-4	D173810	B	B	0.026	<0.004	0.014		
Josephine Ophiolite	Chet Zachery	Curry, OR	430304	4680460	FGW-30-4	D176044	B	B	0.016	<0.004	<0.010	30	46.0
Josephine Ophiolite	Chrome King (Fattig)	Josephine, OR	427000	4650000	76CP6	DAF536	B	B	0.005	0.003	0.010		35.6
Josephine Ophiolite	Cuneo Mine (Inman No. 1)	Del Norte, CA	420745	4615909	93CAM81	D239694	0.050	0.180	0.007	0.004	0.015	288	38.5
Josephine Ophiolite	Cuneo Mine (Inman No. 1)	Del Norte, CA	420820	4615909	94CAM81	D239710	0.030	0.110	0.009	<0.001	<0.010	288	38.5
Josephine Ophiolite	Gardner Mine	Curry, OR	418750	4671750	694-10		0.100	0.400	0.022	0.016	0.016	200	47.5
Josephine Ophiolite	Gilmore Mine	Del Norte, CA	426946	4622324	75CAM81	D237736	<0.020	<0.001	0.010	0.004	0.023		
Josephine Ophiolite	Gooch	Del Norte, CA	415760	4639250	SR-39	D217194	0.029	Tr	Tr	0.005	<0.010		
Josephine Ophiolite	Griffin	Josephine, OR	443213	4679582	694-23		0.060	0.300	0.082	<0.004	<0.010	9	44.0
Josephine Ophiolite	Hole in the Ground	Del Norte, CA	416199	4647090	SR-62	D217209	0.055	0.200	0.012	0.011	0.028	43	39.9
Josephine Ophiolite	Judy Mine (Hicks)	Del Norte, CA	418770	4641990	33-77	D195047	0.250	0.410	0.039	0.010	0.059	385	44.0
Josephine Ophiolite	Last Drink	Del Norte, CA	433761	4651723	55-77	D195060	<0.030	<0.100	Tr	0.007	0.011		
Josephine Ophiolite	Last Drink No. 1	Josephine, OR	434200	4651350	694-9		<0.020	0.200	<0.005	0.006	0.013		
Josephine Ophiolite	Logan (Little Lead Mine)	Del Norte, CA	428419	4645140	SR-55	D217206	0.045	Tr	0.012	Tr	Tr	21	
Josephine Ophiolite	Mountain View	Del Norte, CA	412573	4640134	DN-8-76	D195064	0.046	0.130	0.006	Tr	<0.020	9350	42.0
Josephine Ophiolite	Nancy Hank Claim	Curry, OR	419872	4674384	18VP68	M114381	B	B	<0.005	Tr	Tr		
Josephine Ophiolite	Nickel Ridge Group	Josephine, OR	433200	4654500	76CP006	LDL066	B	B	0.010	0.004	0.030	12	44.0
Josephine Ophiolite	Nickel Ridge Group	Josephine, OR	433650	4654750	76CP007	DAC601	B	B	0.004N	0.005	0.020	12	44.0
Josephine Ophiolite	Not Prospected	Curry, OR	433800	4654900	74CP015	DAF531	B	B	0.005N	<0.002	0.010N		
Josephine Ophiolite	Not Prospected, near Madstone Cabin	Curry, OR	425383	4671250	76KP094	LDL284	B	B	0.002N	0.002N	0.010N		
Josephine Ophiolite	Patterson No. 1	Del Norte, CA	426578	4625626	72CAM81	D237728	0.036	0.130	0.006	0.001	<0.010	94	
Josephine Ophiolite	Pigeon roost Spring	Del Norte, CA	420762	4613839	91CAM81	D239756	0.080	0.240	0.005	0.002	0.013		
Josephine Ophiolite	Prospect	Del Norte, CA	420280	4615686	78CAM81	D237730	0.120	0.300	0.017	0.011	0.079		
Josephine Ophiolite	Prospect SE of Vulcan Peak	Curry, OR	418942	4669100	78KZ028	LEA805	B	B	0.007	0.020	0.100		
Josephine Ophiolite	Prospect near Mud Spring	Curry, OR	432894	4660470	76KP025	LDL151	B	B	0.004N	0.020	0.010		
Josephine Ophiolite	Rivers Group	Humboldt, CA	442775	4578446	86CAM81	D239741	0.040	0.140	0.004	<0.001	<0.010	2952	
Josephine Ophiolite	Rivers Group	Humboldt, CA	442419	4579399	87CAM81	D239740	0.080	0.200	0.008	0.006	0.023	2952	
Josephine Ophiolite	Section 16 Mine	Del Norte, CA	420036	4612625	77CAM81	D237719	0.098	0.180	0.004	0.001	<0.010		
Josephine Ophiolite	Skyline	Del Norte, CA	417682	4640990	34-77	D195048	0.061	0.180	0.011	<0.004	<0.010	1200	47.0
Josephine Ophiolite	Skyline	Del Norte, CA	417745	4641050	SR-30	D217187	0.058	0.190	0.006	Tr	Tr	1200	47.0
Josephine Ophiolite	Smith River Prospect	Del Norte, CA	428548	4637950	SR-47	D217201	0.034	0.180	Tr	Tr	Tr		
Josephine Ophiolite	Smith River Prospect	Del Norte, CA	421305	4642068	41-77	D195052	<0.030	<0.100	Tr	Tr	<0.010		
Josephine Ophiolite	Smith River Prospect	Del Norte, CA	420860	4641757	13-77	D195042	0.042	0.120	0.011	0.006	<0.010		
Josephine Ophiolite	Smith River Prospect	Del Norte, CA	425850	4636400	SR-35	D217192	0.110	0.210	0.043	0.016	0.500		
Josephine Ophiolite	Smith River Prospect	Del Norte, CA	419218	4642721	32-77	D195046	0.110	0.270	0.015	<0.004	<0.010		
Josephine Ophiolite	Smith River Prospect	Del Norte, CA	421921	4641030	SR-56	D217207	0.120	0.270	0.016	Tr	0.019		
Josephine Ophiolite	Smith River Prospect	Del Norte, CA	420438	4641646	10-77	D195041	0.140	0.280	0.027	Tr	0.047		
Josephine Ophiolite	Smith River Prospect	Del Norte, CA	418983	4640270	SR-26	D217184	0.040	0.110	0.009	<0.004	<0.010		
Josephine Ophiolite	Smith River Prospect	Del Norte, CA	419563	4643442	52-77	D195057	0.850	1.400	0.061	Tr	0.076		
Josephine Ophiolite	Smith River Prospect	Del Norte, CA	425395	4640270	SR-32	D217189	0.830	1.130	0.120	Tr	0.350		
Josephine Ophiolite	Smith River Prospect	Del Norte, CA	421723	4641985	7-77	D195040	0.044	0.110	0.008	<0.004	<0.010		

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Josephine Ophiolite	Smith River Prospect	Del Norte, CA	425570	4639690	SR-42	D217196	<0.020	Tr	<0.005	Tr	Tr		
Josephine Ophiolite	Smith River Prospect	Del Norte, CA	420381	4644010	27-77	D195044	0.044	0.120	0.007	0.012	0.038		
Josephine Ophiolite	Smith River Prospect	Del Norte, CA	427795	4639370	SR-44	D217198	<0.020	Tr	<0.005	Tr	Tr		
Josephine Ophiolite	Smith River Prospect	Del Norte, CA	422545	4643035	28-77	D195045	0.066	0.190	0.015	<0.004	<0.010		
Josephine Ophiolite	Smith River Prospect	Del Norte, CA	425391	4640200	SR-31	D217188	0.250	0.400	0.040	Tr	0.280		
Josephine Ophiolite	Smith River Prospect	Del Norte, CA			DH-7-81	D239685	0.020	0.100	0.001	<0.001	0.019		
Josephine Ophiolite	Smith River Prospect	Del Norte, CA	419302	4642519	53-77	D195058	0.056	0.180	0.006	-	<0.010		
Josephine Ophiolite	Smith River Prospect	Del Norte, CA	428468	4638120	SR-46	D217200	0.180	0.290	0.019	<0.004	Tr		
Josephine Ophiolite	Smith River Prospect	Del Norte, CA	427493	4639800	SR-43	D217197	0.055	0.240	<0.005	Tr	Tr		
Josephine Ophiolite	Smith River Prospect	Del Norte, CA	425414	4640550	SR-33	D217190	0.280	0.350	0.060	Tr	0.340		
Josephine Ophiolite	Smith River Prospect	Del Norte, CA	425491	4640310	SR-34	D217191	0.280	0.410	0.076	Tr	0.390		
Josephine Ophiolite	Smith River Prospect	Del Norte, CA	416103	4645050	SR-36	D217193	0.550	0.910	0.073	0.005	0.067		
Josephine Ophiolite	Smith River Prospect	Del Norte, CA	418894	4640130	SR-27	D217185	0.150	0.280	0.030	0.010	0.073		
Josephine Ophiolite	Smith River Prospect	Del Norte, CA	427616	4639460	SR-41	D217195	<0.020	Tr	Tr	<0.004	<0.010		
Josephine Ophiolite	Smith River Prospect	Del Norte, CA	426653	4642750	SR-50	D217203	0.027	0.160	Tr	Tr	0.001		
Josephine Ophiolite	Smith River Prospect	Del Norte, CA	428089	4642000	SR-48	D217202	0.050	0.200	Tr	Tr	Tr		
Josephine Ophiolite	Smith River Prospect	Del Norte, CA	422300	4641830	SR-57	D217208	0.061	0.190	0.014	0.008	0.015		
Josephine Ophiolite	Smith River Prospect	Del Norte, CA	427851	4638680	SR-45	D217199	0.055	0.210	0.018	<0.004	Tr		
Josephine Ophiolite	Smith River Prospect	Del Norte, CA	420286	4639810	SR-24	D217183	Tr	Tr	Tr	0.012	0.040		
Josephine Ophiolite	Smith River Prospect	Del Norte, CA	419247	4640510	SR-28	D217186	Tr	Tr	Tr	Tr	Tr		
Josephine Ophiolite	Smith River Prospect	Del Norte, CA	426906	4645560	SR-63	D217210	0.063	0.320	0.010	0.004	Tr		
Josephine Ophiolite	St. Patrick's Mine (Camp 8)	Del Norte, CA	426670	4623456	73CAM81	D237725	0.060	<0.001	0.005	0.008	0.019	127	40.0
Josephine Ophiolite	Sunrise Mine	Del Norte, CA	426731	4622699	74CAM81	D237713	<0.020	<0.001	0.003	0.003	<0.010	489	51.0
Josephine Ophiolite	Sunset	Del Norte, CA	427578	4627569	70CAM81	D237727	0.490	0.160	0.006	<0.001	0.026	379	
Josephine Ophiolite	Tangerine	Del Norte, CA	427043	4644710	SR-53	D217205	0.260	1.390	0.045	Tr	0.018	11	
Josephine Ophiolite	Tangerine	Del Norte, CA	427022	4644950	SR-51	D217204	0.025	0.140	Tr	Tr	0.019	11	
Josephine Ophiolite	Tangerine	Del Norte, CA	427022	4644950	54-77	D195059	0.040	<0.100	Tr	<0.004	0.016	11	
Josephine Ophiolite	Tyson (East, French Hill)	Del Norte, CA	417990	4628639	51-77 EA	D195055	0.040	<0.100	Tr	0.018	0.012	20400	45.0
Josephine Ophiolite	Tyson (West, French Hill)	Del Norte, CA	417990	4628639	51-77 WE	D195056	0.052	0.180	0.018	Tr	0.010	20400	45.0
Josephine Ophiolite	Unknown	Josephine, OR	437885	4649835	GLB-7-40	D172220	B	B	0.007	<0.004	<0.010		
Josephine Ophiolite	Unknown	Curry, OR	428271	4671420	76KP079	LDL276	B	B	0.060	0.002	0.010		
Josephine Ophiolite	Unknown	Josephine, OR	437885	4649835	GAR-33-3	D172218	B	B	0.027	<0.004	<0.010		
Josephine Ophiolite	Vulcan Peak	Curry, OR	418550	4671350	694-51		B	B	<0.005	<0.004	<0.010		
Josephine Ophiolite	Vulcan Peak	Curry, OR	418600	4671200	694-52		B	B	<0.005	<0.004	<0.010		
Josephine Ophiolite	White Cedar	Humboldt, CA	435999	4582016	84CAM81	D239738	0.070	0.190	0.011	<0.001	0.101	285	45.0
Josephine Ophiolite	White Cedar	Humboldt, CA	435760	4582081	85CAM81	D239718	0.070	0.240	0.012	<0.001	<0.010	285	45.0
Josephine Ophiolite	Wilder (Fish Creek)	Humboldt, CA	445667	4575954	89CAM81	D239728	0.030	0.140	0.006	0.005	0.010	145	40.0
Josephine Ophiolite	Wilder (Fish Creek)	Humboldt, CA	445667	4575954	88CAM81	D239755	0.100	0.230	0.010	<0.001	<0.010	145	40.0
Kings-Kaweah Ophiolite	Holston Chrome (Vaughn)	Tulare, CA	324021	3988183	3CAC81	D236932	0.120	0.110	0.011	<0.001	0.076	3330	47.0
Kings-Kaweah Ophiolite	Long Ledge #1	Fresno, CA	295532	4083112	14CAC81	D236942	0.050	0.150	0.009	<0.001	0.043	9200	10.0
Kings-Kaweah Ophiolite	Long Ledge #3 (Black Bear)	Fresno, CA	295912	4082487	13CAC81	D236941	0.060	0.170	0.004	<0.001	0.080	950	25.0
Kings-Kaweah Ophiolite	Near Holston Chrome	Tulare, CA	324045	3988353	4CAC81	D236933	0.070	0.180	0.004	0.002	0.055	3330	47.0
Kings-Kaweah Ophiolite	Near Holston Chrome	Tulare, CA	324045	3988353	5CAC81	D236934	0.070	0.220	0.005	<0.001	0.040	3330	47.0
Kings-Kaweah Ophiolite	Near Holston Chrome	Tulare, CA	324170	3988246	6CAC81	D236935	0.070	0.170	0.004	0.004	0.076	3330	47.0
Pearsoll Peak Ophiolite	Cave Junction	Josephine, OR	458590	4649684	GLB-158-	D173809	B	B	0.023	<0.004	<0.010		
Pearsoll Peak Ophiolite	Chrome King Mine	Josephine, OR	432468	4684710	78KL179	LEA584	B	B	0.010	0.004	0.010N	2101	43.2
Pearsoll Peak Ophiolite	Chrome King Mine	Josephine, OR	432468	4684710	78KL175	LEA670	B	B	0.004N	0.002N	0.030	2101	43.2
Pearsoll Peak Ophiolite	Chrome King Mine	Josephine, OR	432475	4684600	78KL177	LEA672	B	B	0.004N	0.014	0.020	2101	43.2
Pearsoll Peak Ophiolite	Chrome Ridge Area	Josephine, OR	458590	4649684	LRP-39B-	D174825	B	B	0.032	<0.004	<0.010	106	49.2

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Pearsoll Peak Ophiolite	Chrome Ridge Area	Josephine, OR	458590	4649684	LRP-40-3	D174826	B	B	0.020	<0.004	<0.010	106	49.2
Pearsoll Peak Ophiolite	Chrome Ridge Area	Josephine, OR	458590	4649684	LRP-30-3	D176038	B	B	0.012	<0.004	0.012	106	49.2
Pearsoll Peak Ophiolite	Deep Gorge	Josephine, OR	435638	4684563	694-14		0.050	0.100	0.021	0.015	0.041	161	45.1
Pearsoll Peak Ophiolite	Eagle Mountain	Josephine, OR	431928	4680000	76KP144	LDJ943	B	B	0.004N	0.004N	0.010N		
Pearsoll Peak Ophiolite	Eagle Mountain	Josephine, OR	431900	4680000	74PE6		B	B	0.030	<0.004	0.014		
Pearsoll Peak Ophiolite	Little Siberia	Curry, OR	430175	4680550	694-17		0.040	0.200	0.021	<0.004	<0.010	195	44.0
Pearsoll Peak Ophiolite	Lower Twin Cedars	Curry, OR	433500	4682200	74PE9		B	B	<0.005	<0.004	<0.010		
Pearsoll Peak Ophiolite	Lucky Star	Josephine, OR	436318	4687970	78KL193	LEA598	B	B	0.014	0.002N	0.010N	574	45.9
Pearsoll Peak Ophiolite	Lucky Star	Josephine, OR	436318	4687970	78KL194	LEA599	B	B	0.004N	0.004N	0.010N	574	45.9
Pearsoll Peak Ophiolite	Lucky Strike	Josephine, OR	443850	4669200	694-3		0.300	0.700	0.058	0.007	0.081	58	46.2
Pearsoll Peak Ophiolite	McCalab	Curry, OR	430563	4680200	78KL188	LEA593	B	B	0.004	0.002N	0.010N	2240	53.0
Pearsoll Peak Ophiolite	McCalab	Curry, OR	430945	4680610	78KL187	LEA592	B	B	0.004N	0.002N	0.010N	2240	53.0
Pearsoll Peak Ophiolite	McCalab No. 2 Mine	Curry, OR	431139	4680790	78KL183A	LEA588	B	B	0.010	0.004	0.010	2240	53.0
Pearsoll Peak Ophiolite	McCalab No. 2 Mine	Curry, OR	431139	4680790	78KL186	LEA591	B	B	0.004N	0.002N	0.010N	2240	53.0
Pearsoll Peak Ophiolite	McCalab No. 2 Mine	Curry, OR	431139	4680790	78KL184	LEA589	B	B	0.004N	0.040	0.060	2240	53.0
Pearsoll Peak Ophiolite	McCalab Sourdough	Curry, OR	431150	4680820	694-12		<0.020	<0.100	0.011	0.011	0.019	2240	53.0
Pearsoll Peak Ophiolite	Nichols Prospect (Hot Dog Mine)Crown,	HJosephine, OR	436930	4686618	GLB-100-	D173817	B	B	0.011	<0.004	<0.010	170	50.0
Pearsoll Peak Ophiolite	Oregon Chrome	Josephine, OR	436804	4687524	74SE18	EDW817	B	B	0.005N	0.002	0.010N	31920	44.5
Pearsoll Peak Ophiolite	Oregon Chrome	Josephine, OR	436555	4688120	78KL189	LEA594	B	B	0.006N	0.003	0.015N	31920	44.5
Pearsoll Peak Ophiolite	Oregon Chrome	Josephine, OR	436555	4688120	78KL190	LEA595	B	B	0.006	0.002	0.010N	31920	44.5
Pearsoll Peak Ophiolite	Oregon Chrome	Josephine, OR	436658	4688021	694-15		0.040	0.200	0.015	<0.004	<0.010	31920	44.5
Pearsoll Peak Ophiolite	Paradise No. 2	Josephine, OR	465874	4674040	694-11		0.070	0.200	0.018	0.004	0.019	62	44.5
Pearsoll Peak Ophiolite	Pennington Butte Chrome	Josephine, OR	473030	4681173	75GP040	DAC128	B	B	0.006N	0.003N	0.015N	34	48.0
Pearsoll Peak Ophiolite	Prospectors Dream	Curry, OR	429610	4680700	694-13		0.050	0.200	0.013	<0.004	<0.010		
Pearsoll Peak Ophiolite	Saddle Chrome	Josephine, OR	433765	4683270	78KL201	LEA606	B	B	0.040	0.020	0.100	100	49.0
Pearsoll Peak Ophiolite	Saddle Chrome	Josephine, OR	433404	4683110	78KL200	LEA605	B	B	0.004N	0.004	0.010N	100	49.0
Pearsoll Peak Ophiolite	Salt Rock	Josephine, OR	453723	4702009	694-21		0.900	1.600	0.091	0.004	0.850	80	47.7
Pearsoll Peak Ophiolite	Shade	Josephine, OR	436891	4687788	GLB-99-4	D176040	B	B	0.012	<0.004	<0.010	924	47.9
Pearsoll Peak Ophiolite	Shady Cove	Josephine, OR	440400	4700600	79SE004	EDW799	B	B	0.005	0.003	0.020	1434	50.3
Pearsoll Peak Ophiolite	Shady Cove	Josephine, OR	440400	4700600	694-22		0.030	<0.100	0.019	<0.004	<0.010	1434	50.3
Pearsoll Peak Ophiolite	Shady Cove	Josephine, OR	440400	4700600	79SE005	EDW800	B	B	0.005N	0.003	0.010N	1434	50.3
Pearsoll Peak Ophiolite	Slide Creek Float	Curry, OR	429700	4680100	74PE5		B	B	0.008	<0.004	<0.010		
Pearsoll Peak Ophiolite	Stevens-Miller Chrome	Josephine, OR	472163	4680444	75GP039	DAC127	B	B	0.006N	0.003	0.030	40	46.0
Pearsoll Peak Ophiolite	Tennessee Chrome	Josephine, OR	440560	4671550	694-2		0.070	0.300	0.018	<0.004	<0.010	21	52.6
Pearsoll Peak Ophiolite	Tennessee Pass	Josephine, OR	441792	4671239	694-4		0.700	1.800	0.063	<0.004	0.450	306	50.1
Pearsoll Peak Ophiolite	Twin Cedars	Josephine, OR	433370	4682300	694-16		<0.020	<0.100	<0.005	0.008	<0.010	15	44.0
Pearsoll Peak Ophiolite	Unknown	Josephine, OR	458590	4649684	FGW-72-4	D174817	B	B	0.016	<0.004	<0.010		
Pearsoll Peak Ophiolite	Unknown	Curry, OR	416145	4701040	78KP066	LEB029	B	B	0.006N	0.003N	0.015N		
Pearsoll Peak Ophiolite	Unknown	Josephine, OR	431913	4679860	78KW70	LEB048	B	B	0.015	0.200	0.050		
Pearsoll Peak Ophiolite	Unknown	Josephine, OR	449800	4694475	694-19		0.060	0.200	0.017	<0.004	<0.010	445	48.5
Pearsoll Peak Ophiolite	Unknown	Josephine, OR	458590	4649684	FGW-28-4	D176041	B	B	0.008	<0.004	Tr		
Pearsoll Peak Ophiolite	Unknown	Josephine, OR	458590	4649684	FGW-54-4	D172623	B	B	0.005	<0.004	<0.010		
Pearsoll Peak Ophiolite	Unknown	Curry, OR	435363	4687910	78KL219	LEA656	B	B	0.004	0.002N	0.040		
Pearsoll Peak Ophiolite	Unknown	Josephine, OR	433050	4682140	78KL208	LEA611	B	B	0.004N	0.004	0.040		
Pearsoll Peak Ophiolite	Unknown	Josephine, OR	458590	4649684	LRP-33-3	D173812	B	B	0.014	<0.004	0.014		
Pearsoll Peak Ophiolite	Unknown	Josephine, OR	437885	4649835	GAR-36-3	D172219	B	B	0.010	<0.004	<0.010		
Pearsoll Peak Ophiolite	Unknown	Josephine, OR	458590	4649684	FGW-116-	D172620	B	B	0.140	0.018	0.075		
Pearsoll Peak Ophiolite	Unknown	Josephine, OR	437885	4649835	GLB-80-4	D172221	B	B	0.013	<0.004	<0.010		
Pearsoll Peak Ophiolite	Violet	Josephine, OR	440147	4698951	GLB-129-	D176029	B	B	0.019	0.009	0.015	2518	46.0
Pearsoll Peak Ophiolite	Violet	Josephine, OR	440147	4698951	694-20		0.040	0.200	0.018	<0.004	<0.010	2518	46.0
Pearsoll Peak Ophiolite	Violet (Upper)	Josephine, OR	440147	4698951	79SE002	EDW797	B	B	0.005N	0.002	0.010N	2518	46.0

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Pearsoll Peak Ophiolite	Violet (lower)	Josephine, OR	440147	4698951	79SE001	EDW796	B	B	0.005N	0.002N	0.010N	2518	46.0
Pearsoll Peak Ophiolite	Woodcock Creek	Josephine, OR	441450	4664500	694-5		0.100	0.300	0.010	<0.004	<0.010		
Pearsoll Peak Ophiolite	Youngs Mine (Daily Dozen)	Josephine, OR	433000	4683100	694-18		<0.020	<0.100	0.012	<0.004	<0.010	800	48.4
Pearsoll Peak Ophiolite	Youngs Mine (Daily Dozen)	Josephine, OR	433234	4683000	78KL198	LEA603	B	B	0.004	0.030	0.040	800	48.4
Pearsoll Peak Ophiolite	Youngs Mine (Daily Dozen)	Josephine, OR	433234	4683000	78KL196	LEA601	B	B	0.004	0.004	0.010N	800	48.4
Preston Peak Ophiolite	Cyclone Gap	Siskiyou, CA	448358	4634577	66CAM81	D237734	<0.020	<0.001	0.000	<0.001	<0.010	2400	49.0
Preston Peak Ophiolite	Doe Flat	Siskiyou, CA	444774	4630181	69CAM81	D237729	0.064	0.130	0.003	<0.001	0.013	2400	36.0
Preston Peak Ophiolite	Unknown (Preston Peak Quad)	Siskiyou, CA	458590	4649684	LRP-32-3	D173814	B	B	0.017	<0.004	<0.010		
Preston Peak Ophiolite	Unknown (Preston Peak Quad)	Siskiyou, CA	458590	4649684	BC-73-38	B176039	B	B	0.021	<0.004	<0.010		
Preston Peak Ophiolite	Unknown (Preston Peak Quad)	Siskiyou, CA	458590	4649684	GLB-130-	D173816	B	B	0.010	<0.004	<0.010		
Preston Peak Ophiolite	Unknown (Preston Peak Quad)	Siskiyou, CA	458590	4649684	LRP-31-3	D173813	B	B	0.010	<0.004	<0.010		
Preston Peak Ophiolite	White Feather	Del Norte, CA	447611	4637434	68CAM81	D237709	0.051	<0.001	0.002	<0.001	<0.010	65	38.0
Rattlesnake Creek Terrane	Pole Corral (Red Mountain Group)	Tehama, CA	503200	4460300	44CAM81	D237710	<0.020	<0.001	0.003	<0.001	<0.010		
Rattlesnake Creek Terrane	Pole Corral (Red Mountain Group)	Tehama, CA	502500	4459300	42CAM81	D237786	1.900	1.000	0.092	0.012	2.530		
Rattlesnake Creek Terrane	Pole Corral (Red Mountain Group)	Tehama, CA	502500	4459300	42CAM81	D237699	2.930	4.930	0.074	0.005	1.180		
Rattlesnake Creek Terrane	Pole Corral (Red Mountain Group)	Tehama, CA	502900	4460100	43CAM81	D237718	0.020	0.140	0.003	0.001	0.015	319	
Rattlesnake Creek Terrane	Pole Corral (Red Mountain Group)	Tehama, CA	503200	4460300	45CAM81	D237700	<0.020	<0.001	0.001	<0.001	<0.010		
Rattlesnake Creek Terrane	Tedoc Group	Tehama, CA	508965	4454763	40CAM81	D237702	0.190	0.280	0.036	0.010	1.060	573	
Rattlesnake Creek Terrane	Tedoc Group	Tehama, CA	509353	4454927	41CAM81	D237726	0.065	<0.001	0.004	0.002	0.014	573	
Rattlesnake Creek Terrane	Tedoc Group	Tehama, CA	508507	4454367	39CAM81	D237707	0.850	0.980	0.041	0.001	1.050	573	
Rattlesnake Creek Terrane	Western Chrome	Trinity, CA	477331	4474877	47CAM81	D237706	0.110	0.250	0.033	0.110	0.545		
Rattlesnake Creek Terrane	Western Chrome	Trinity, CA	477825	4475006	48CAM81	D237701	<0.020	<0.001	0.007	0.001	0.012		
Riddle Ophiolite	Nickel Mountain Group	Douglas, OR	463820	4756275	694-1		0.030	<0.100	0.025	<0.004	<0.010	440	50.2
Seiad Valley Complex	Anniversary (Kangaroo Mountain)	Siskiyou, CA	484182	4640812	S46-1	D194852	B	B	0.069	0.004	0.130	4760	5.0
Seiad Valley Complex	Anniversary (Kangaroo Mountain)	Siskiyou, CA	484182	4640812	108CAM81	D239752	0.090	0.240	0.015	<0.001	0.106	4760	5.0
Seiad Valley Complex	Black Eagle Deposit	Siskiyou, CA	485502	4641643	S44	D194851	B	B	0.027	0.019	0.044	2700	5.0
Seiad Valley Complex	Blue Stone Deposit	Siskiyou, CA	485102	4641443	M7-1	D194856	B	B	0.013	<0.004	<0.010		
Seiad Valley Complex	Emma Bell Mine	Siskiyou, CA	486734	4642269	109CAM81	D239727	0.050	0.150	<0.001	0.003	0.069	300000	26.5
Seiad Valley Complex	Ladd Mine (Dolbear)	Siskiyou, CA	489999	4629727	L7-2	D194853	B	B	0.024	0.005	<0.010	5385	
Seiad Valley Complex	Ladd Mine (Dolbear)	Siskiyou, CA	489999	4629727	111CAM81	D239713	0.020	0.100	0.001	0.001	<0.010	5385	
Seiad Valley Complex	Lady Grey Mine	Siskiyou, CA	496797	4618142	113CAM81	D239711	0.020	0.100	0.009	0.001	<0.010	181	18.0
Seiad Valley Complex	Seiad Creek Mine	Siskiyou, CA	488162	4639561	S1-8	D194850	B	B	0.022	<0.004	<0.010	60000	36.0
Seiad Valley Complex	Seiad Creek Mine	Siskiyou, CA	488162	4639561	S1-5	D194848	B	B	0.019	<0.004	<0.010	60000	36.0
Seiad Valley Complex	Seiad Creek Mine	Siskiyou, CA	488162	4639561	104CAM81	D239707	0.020	0.100	0.012	0.002	<0.010	60000	36.0
Seiad Valley Complex	Seiad Creek Mine	Siskiyou, CA	488162	4639561	S1-7	D194849	B	B	0.010	<0.004	<0.010	60000	36.0
Seiad Valley Complex	Seiad Creek Mine	Siskiyou, CA	488162	4639561	102CAM81	D239709	0.020	0.100	0.014	0.034	0.120	60000	36.0
Seiad Valley Complex	Seiad Creek Mine	Siskiyou, CA	485502	4641643	105CAM81	D239691	0.020	0.200	0.006	<0.001	0.012	60000	36.0
Seiad Valley Complex	Seiad Creek Mine	Siskiyou, CA	488162	4639561	S1-4	D194847	B	B	0.018	<0.004	<0.010	60000	36.0
Seiad Valley Complex	Veta Chica Deposit	Siskiyou, CA	495752	4618814	M2	D194854	B	B	0.020	<0.004	0.014	12360	18.0
Seiad Valley Complex	Veta Chica Deposit	Siskiyou, CA	495752	4618814	M2-5	D194855	B	B	0.013	<0.004	<0.010	12360	18.0
Seiad Valley Complex	Veta Chica Deposit	Siskiyou, CA	495752	4618814	M8-1	D194857	B	B	0.021	<0.004	<0.010	12360	18.0
Sierra Nevada Region	Green Ridge	Butte, CA	625638	4396092	139CAM81	D239720	0.030	0.110	0.006	0.002	<0.010	94	35.0
Sierra Nevada Region	Lambert Mine	Butte, CA	621350	4407950	88CAP81	D237752	0.050	0.230	0.007	<0.001	<0.010	3300	42.0
Sierra Nevada Region	Madrid Mine	Calaveras, CA	718050	4224420	70CAP81	D237765	<0.020	<0.100	0.003	<0.001	0.010	1039	30.0
Sierra Nevada Region	Madrid Mine	Calaveras, CA	718050	4224420	70CAP81	D237742	0.040	0.150	0.004	<0.001	0.017	1039	30.0
Sierra Nevada Region	Porter Mine	Nevada, CA	665587	4346465	83CAP81	D237744	0.040	0.140	0.002	<0.001	0.011	900	32.0

Geologic Terrane	Mine/Prospect	County, State	UTM Easting	UTM Northing	Field Sample ID	Lab Sample ID	Ir (ppm)	Ru (ppm)	Rh (ppm)	Pd (ppm)	Pt (ppm)	Tonnage (long tons)	Chromium Grade (%)
Sierra Nevada Region	Swayne	Butte, CA	635233	4403968	87CAP81	D237754	0.050	0.230	0.004	<0.001	0.012	900	32.0
Sierra Nevada Region	Williamson Chromite	El Dorado, CA	680161	4289697	38CAP81	D236979	0.086	0.140	0.020	0.002	0.018	55	40.0
Sierra Nevada Region	Wolf Creek Mine	Plumas, CA	668050	4446350	90CAP81	D237750	0.030	0.140	0.002	<0.001	<0.010	240	32.0
Smartville Ophiolite	Bonanza King	El Dorado, CA	666264	4294162	22CAP81	D236964	0.024	<0.100	0.002	<0.001	<0.010	17600	9.0
Smartville Ophiolite	Chrome Gulch	El Dorado, CA	665651	4294640	9CAP81	D236953	<0.020	<0.100	0.004	<0.001	0.017		
Smartville Ophiolite	East Basin No. 1	El Dorado, CA	666105	4293700	23CAP81	D236965	0.033	0.130	0.003	<0.001	<0.010	37110	11.0
Smartville Ophiolite	North Saddle	El Dorado, CA	666397	4293941	20CAP81	D236962	0.031	<0.100	0.004	<0.001	<0.010	25000	5.0
Smartville Ophiolite	North Saddle	El Dorado, CA	666372	4293832	21CAP81	D236963	0.040	0.150	0.005	<0.001	<0.010	25000	5.0
Smartville Ophiolite	Shirt Tail Peak Area	El Dorado, CA	666097	4295458	17CAP81	D236960	<0.020	<0.100	<0.001	<0.001	<0.010		
Smartville Ophiolite	Southwest Shirt Tail	El Dorado, CA	666198	4295607	18CAP81	D236961	0.027	0.140	0.002	<0.001	<0.010		
Smartville Ophiolite	West Basin Pit #2	El Dorado, CA	665684	4294181	13CAP81	D236956	<0.020	<0.100	0.003	<0.001	<0.010	27000	12.0
Smartville Ophiolite	West Basin Pit #2	El Dorado, CA	665743	4294191	15CAP81	D236958	<0.020	<0.100	0.002	<0.001	<0.010	27000	12.0
Smartville Ophiolite	West Basin Pit #2	El Dorado, CA	665559	4294600	11CAP81	D236955	<0.020	<0.100	0.004	<0.001	<0.010		
Smartville Ophiolite	West Basin Pit #2	El Dorado, CA	665684	4294179	14CAP81	D236957	<0.020	<0.100	0.002	<0.001	<0.010	27000	12.0
Takilma Melange	Chollard	Josephine, OR	454306	4659303	694-7		0.040	0.200	<0.005	<0.004	<0.010	2950	44.9
Takilma Melange	Easterly	Josephine, OR	448085	4658570	694-6		0.040	0.200	0.005	<0.004	<0.010	1169	41.8
Trinity Ultramafic Sheet	Bagley Mine (Eddy Chreek)	Siskiyou, CA	542454	4580688	119CAM81	D239716	0.020	0.100	0.006	0.002	<0.010	2050	25.0
Trinity Ultramafic Sheet	Bingham Chrome Mine	Siskiyou, CA	512700	4566807	115CAM81	D239735	0.040	<0.100	0.006	<0.001	<0.010	297	
Trinity Ultramafic Sheet	Chastin and Bowen	Siskiyou, CA	539182	4589574	64CAM81	D237779	<0.020	<0.100	<0.001	<0.001	0.011	119	
Trinity Ultramafic Sheet	Coggins Mine	Siskiyou, CA	559488	4559536	61CAM81	D237723	0.120	<0.001	0.008	<0.001	<0.010	4220	39.0
Trinity Ultramafic Sheet	Leviantan Chrome Mine	Siskiyou, CA	535828	4587402	65CAM81	D237712	0.076	0.210	0.005	<0.001	<0.010	207	
Trinity Ultramafic Sheet	Little Castle Creek Mine	Shasta, CA	558618	4558944	63CAM81	D237704	<0.020	<0.001	0.003	<0.001	<0.010	16700	46.0
Trinity Ultramafic Sheet	Little Castle Creek Mine	Shasta, CA	558523	4559023	62CAM81	D237708	<0.020	<0.001	0.003	0.003	0.010	16700	46.0
Trinity Ultramafic Sheet	North Meadow View Mine (Eddy Creek)	Siskiyou, CA	545481	4583464	118CAM81	D239708	0.020	0.100	0.007	0.001	<0.010		
Trinity Ultramafic Sheet	Peg Leg Mine (Lambert, Chromite King)	Siskiyou, CA	522622	4608509	114CAM81	D239715	0.170	0.650	0.021	<0.001	<0.010	631	54.0
Trinity Ultramafic Sheet	Railroad Lease (Section 11 Mine)	Trinity, CA	540738	4556807	120CAM81	D239729	0.040	0.140	0.003	<0.001	<0.010	1693	
Trinity Ultramafic Sheet	Railroad Lease (Section 11 Mine)	Trinity, CA	540881	4556751	121CAM81	D239714	0.020	0.100	0.005	<0.001	<0.010	1693	
Trinity Ultramafic Sheet	Richter Mine	Siskiyou, CA	532875	4586359	117CAM81	D239717	0.020	0.220	0.006	0.001	0.022		
Tuolumne Ophiolite	Unknown (Melones Dam Quad)	Calaveras, CA	714947	4203592	76CAP81	D237747	0.100	0.250	0.009	<0.001	<0.010		

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