

Sample Number:	16-LV-217-2			Lab ID:	MI8173-NOV16:02				
n= 261	Stage X (mm)	Stage Y (mm)	Mineral	Particle X (mm)	Particle Y (mm)	Long Axis (µm)	Short Axis (µm)	Area (# 5 x 5 µm pixels)	
Top Left	-62.6697	67.0473		-0.7497	37.6846				
Bottom Right	-41.293	30.609		20.627	1.2463				
Bottom Left Marker	-61.92	29.3627		0	0				
Top Right Marker	-41.8535	67.2435		20.0665	37.8808				
911255970	-60.321	53.541	Zircon	1.682	24.261	64	32	44	
1361360055	-61.317	52.047	Zircon	0.666	22.777	33	32	30	
2114032463	-61.317	43.083	Zircon	0.554	13.52	29	29	22	
806758869	-61.317	48.063	Zircon	0.461	18.896	29	26	22	
1772535976	-44.385	37.605	Zircon	17.686	8.408	30	20	16	
1396603125	-51.855	49.059	Zircon	9.992	19.906	27	20	16	
1869331254	-45.381	35.115	Zircon	16.72	5.528	32	15	15	
808299947	-48.867	55.035	Zircon	12.833	25.638	32	19	14	
1397805784	-47.871	55.533	Zircon	14.078	26.068	33	14	13	
1350758000	-60.819	49.557	Zircon	1.077	20.258	24	20	12	
787719836	-55.341	39.597	Zircon	6.623	10.459	27	16	10	
735847556	-59.325	47.565	Zircon	2.624	18.295	30	13	10	
605449331	-60.321	45.573	Zircon	1.394	16	24	15	10	
2022785520	-55.341	47.565	Zircon	6.711	18.119	20	16	9	
1751820479	-49.863	43.581	Zircon	12.033	13.989	31	12	9	
1711365824	-45.381	38.103	Zircon	16.315	8.955	20	16	9	
1693202950	-55.839	54.537	Zircon	5.9	25.033	30	12	9	
1448457184	-45.381	50.553	Zircon	16.661	21.381	24	15	9	
1415836444	-58.827	48.063	Zircon	2.961	18.837	25	13	9	
1097339851	-44.883	38.601	Zircon	16.886	9.438	22	14	9	
1016813529	-60.819	37.107	Zircon	1.164	7.827	22	16	9	
1010808182	-57.831	45.075	Zircon	4.021	15.805	30	13	9	
616585351	-58.329	44.079	Zircon	3.474	14.926	20	16	9	
1923990483	-59.325	51.051	Zircon	2.39	21.552	20	16	8	
1646347032	-44.385	59.517	Zircon	17.364	30.267	25	13	8	
1434934580	-50.361	35.115	Zircon	11.603	5.669	22	13	8	
1090897664	-47.373	45.573	Zircon	14.454	16.249	20	14	8	
579641121	-59.325	56.031	Zircon	2.668	26.493	20	14	8	
458347196	-47.373	44.079	Zircon	14.391	14.746	25	12	8	
1913940506	-59.325	33.621	Zircon	2.81	4.312	20	14	7	
1698041599	-57.831	56.529	Zircon	4.226	27.054	27	9	7	
1664157749	-51.855	41.589	Zircon	10.265	12.021	16	16	7	

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Top Left	-62.6697	67.0473		-0.7497	37.6846				
Bottom Right	-41.293	30.609		20.627	1.2463				
Bottom Left Marker	-61.92	29.3627		0	0				
Top Right Marker	-41.8535	67.2435		20.0665	37.8808				
1260638739	-56.337	57.027	Zircon	5.744	27.454	16	16	7	
1097855916	-44.883	38.601	Zircon	17.198	9.253	20	13	7	
853273388	-42.393	40.095	Zircon	19.678	10.591	16	16	7	
735646861	-59.325	47.565	Zircon	2.424	18.144	16	16	7	
23144467	-52.851	61.011	Zircon	9.054	31.863	20	13	7	
1943186103	-50.361	57.027	Zircon	11.51	27.415	16	14	6	
1870561626	-51.855	58.023	Zircon	10.192	28.543	16	14	6	
1830835037	-51.357	42.585	Zircon	10.714	13.178	22	10	6	
1824536497	-52.353	39.099	Zircon	9.63	9.78	20	11	6	
1772096506	-60.819	53.541	Zircon	0.945	24.164	22	10	6	
1696598617	-50.859	38.601	Zircon	10.983	9.399	20	11	6	
1679905115	-57.333	41.589	Zircon	4.685	12.114	16	14	6	
1459858932	-56.835	39.099	Zircon	5.041	9.839	20	11	6	
1459723742	-56.835	39.099	Zircon	4.875	9.892	16	14	6	
1388785595	-47.871	49.557	Zircon	13.864	19.965	20	11	6	
1278815767	-43.887	47.067	Zircon	18.238	17.538	16	14	6	
1270701754	-51.855	35.115	Zircon	9.943	5.689	16	14	6	
1265801821	-51.357	53.043	Zircon	10.548	23.827	19	12	6	
1254038459	-49.863	50.055	Zircon	12.052	20.917	22	10	6	
1220352023	-58.329	33.621	Zircon	3.786	4.019	16	14	6	
1169999022	-55.839	57.027	Zircon	6.076	27.879	22	10	6	
1150201865	-44.883	50.553	Zircon	16.974	21.415	16	14	6	
1033341750	-57.831	57.525	Zircon	3.996	28.026	20	15	6	
851868250	-46.875	47.565	Zircon	15.128	17.988	16	14	6	
842013086	-60.321	60.015	Zircon	1.658	30.584	19	12	6	
810848262	-44.883	35.613	Zircon	16.793	6.358	20	11	6	
667934929	-45.879	59.019	Zircon	16.285	29.534	16	14	6	
546018290	-58.827	58.521	Zircon	3.313	29.402	16	14	6	
456631878	-43.389	38.103	Zircon	18.389	8.828	19	12	6	
376562838	-58.329	50.553	Zircon	3.654	21.415	16	14	6	
315384024	-53.847	58.023	Zircon	8.093	28.826	16	14	6	
247233217	-49.863	56.031	Zircon	12.12	26.585	25	10	6	

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Top Left	-62.6697	67.0473		-0.7497	37.6846				
Bottom Right	-41.293	30.609		20.627	1.2463				
Bottom Left Marker	-61.92	29.3627		0	0				
Top Right Marker	-41.8535	67.2435		20.0665	37.8808				
222556054	-57.831	47.067	Zircon	3.865	17.714	20	11	6	
159637565	-58.827	38.601	Zircon	3.176	9.121	20	11	6	
16537733	-43.887	44.079	Zircon	18.072	14.863	16	14	6	
2145304614	-51.357	46.071	Zircon	10.47	16.806	16	11	5	
2144010441	-52.851	45.573	Zircon	8.981	16.23	16	11	5	
2080675098	-57.333	59.019	Zircon	4.406	29.73	16	11	5	
2033557027	-42.891	59.517	Zircon	19.205	29.993	16	11	5	
1962556161	-59.325	43.083	Zircon	2.527	13.847	16	11	5	
1802072512	-60.819	56.031	Zircon	0.95	26.483	16	11	5	
1797210040	-51.357	47.565	Zircon	10.758	17.983	19	8	5	
1767864745	-50.859	36.111	Zircon	11.124	6.856	15	15	5	
1760905839	-58.827	55.533	Zircon	3.308	26.068	16	11	5	
1760791053	-58.827	55.533	Zircon	3.166	26.141	16	11	5	
1714241498	-51.357	61.509	Zircon	10.622	32.278	16	11	5	
1714218403	-49.863	35.613	Zircon	12.033	6.333	16	11	5	
1697828523	-57.831	56.529	Zircon	3.845	27.039	20	10	5	
1673967055	-49.863	53.541	Zircon	12.077	24.081	20	10	5	
1664557355	-60.819	34.617	Zircon	1.116	5.415	20	10	5	
1447147071	-50.859	56.031	Zircon	10.959	26.829	20	10	5	
1423761197	-42.393	54.039	Zircon	19.771	24.545	16	11	5	
1414386345	-46.377	41.091	Zircon	15.611	11.719	16	11	5	
1277786208	-45.381	43.581	Zircon	16.69	14.018	15	15	5	
1196864358	-52.353	53.541	Zircon	9.577	24.203	16	11	5	
1186359824	-49.863	51.051	Zircon	12.228	21.581	16	11	5	
1162044905	-58.827	46.569	Zircon	3.098	17.006	16	11	5	
1149108445	-56.337	41.589	Zircon	5.778	12.241	16	11	5	
1068187523	-51.357	39.597	Zircon	10.651	10.093	16	11	5	
1058699958	-56.337	58.521	Zircon	5.578	28.924	20	10	5	
1058104730	-51.357	33.621	Zircon	10.778	4.009	16	11	5	
920058612	-58.329	34.119	Zircon	3.728	4.556	16	11	5	
899160196	-51.357	34.617	Zircon	10.461	5.171	16	11	5	
846731138	-59.325	48.561	Zircon	2.741	19.232	16	11	5	

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Bottom Left Marker	-61.92	29.3627		0	0				
Top Right Marker	-41.8535	67.2435		20.0665	37.8808				
700942313	-60.321	51.051	Zircon	1.614	21.61	16	11	5	
695341605	-44.385	37.107	Zircon	17.769	7.53	16	11	5	
685397650	-58.329	43.581	Zircon	3.537	14.126	20	10	5	
657769520	-47.871	54.039	Zircon	14.029	24.818	16	11	5	
536760151	-60.321	34.617	Zircon	1.56	5.357	16	11	5	
276506059	-59.325	53.043	Zircon	2.444	23.485	16	11	5	
237919245	-56.835	34.119	Zircon	5.261	4.678	19	12	5	
190518281	-49.863	61.509	Zircon	11.847	32.01	19	8	5	
169558666	-52.353	36.111	Zircon	9.352	6.748	20	10	5	
168948392	-58.329	37.107	Zircon	3.767	7.93	16	11	5	
16142707	-49.863	36.609	Zircon	11.998	7.402	19	8	5	
									MNZ #
413876321	-48.867	60.015	Monazite	13.214	30.491	85	68	110	1
1281210358	-49.863	36.111	Monazite	12.174	6.826	67	46	79	2
38237463	-50.361	34.617	Monazite	11.461	5.43	64	40	68	3
833897393	-48.369	41.589	Monazite	13.341	12.417	73	40	56	4
1338400850	-48.369	44.577	Monazite	13.693	15.073	68	33	55	5
1388597190	-47.871	49.557	Monazite	13.951	20.18	59	34	53	6
270797309	-51.357	33.123	Monazite	10.319	3.677	68	33	53	7
1479669926	-58.827	38.103	Monazite	2.966	8.843	47	37	49	8
1563223580	-49.863	48.063	Monazite	12.028	18.939	56	37	48	9
736056503	-59.325	47.565	Monazite	2.39	18.319	53	41	48	10
149439298	-49.365	48.561	Monazite	12.721	19.418	45	37	47	11
1908442787	-45.381	51.051	Monazite	16.427	21.64	67	34	46	12
1325096010	-51.855	51.051	Monazite	10.124	21.64	51	36	45	13
1322457705	-49.863	53.043	Monazite	12.242	23.607	40	37	43	14
131816958	-49.863	48.561	Monazite	12.096	19.301	53	31	43	15
1299688134	-45.879	34.617	Monazite	16.061	5.484	43	39	40	16
1701573400	-48.369	57.027	Monazite	13.629	27.552	59	29	37	17
310105296	-60.321	35.115	Monazite	1.692	5.825	57	25	35	18
1449129421	-58.329	60.513	Monazite	3.713	31.126	38	35	34	19
1316616550	-58.329	57.027	Monazite	3.684	27.464	47	27	34	20

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Top Left	-62.6697	67.0473		-0.7497	37.6846				
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Bottom Left Marker	-61.92	29.3627		0	0				
Top Right Marker	-41.8535	67.2435		20.0665	37.8808				
1281152965	-49.863	36.111	Monazite	11.915	6.543	44	28	33	
1559328974	-51.357	37.107	Monazite	10.641	7.652	54	24	32	
291603232	-54.843	43.083	Monazite	6.853	13.837	38	27	30	19
132009362	-49.863	48.561	Monazite	12.14	19.408	44	26	30	
1828843464	-58.329	56.031	Monazite	3.742	26.727	64	16	29	
1696238544	-44.883	43.581	Monazite	16.808	14.277	38	27	27	20
1563810830	-50.859	40.593	Monazite	11.076	11.167	51	25	27	21
2096014448	-56.835	57.027	Monazite	5.324	27.694	93	11	26	
1277646970	-59.325	58.023	Monazite	2.746	28.49	57	17	26	
149676876	-49.365	48.561	Monazite	12.775	19.184	42	29	26	
1214564971	-48.867	61.509	Monazite	12.926	32.249	45	20	25	22
499078074	-44.883	44.577	Monazite	17.237	15.268	38	22	25	23
1260733036	-56.337	57.027	Monazite	5.715	27.738	33	27	24	
1253635093	-59.823	38.601	Monazite	2.199	9.292	55	21	24	
844729877	-49.863	40.593	Monazite	12.223	11.089	44	21	24	
108546878	-54.843	45.573	Monazite	7.126	16.254	30	27	24	24
2145935803	-57.333	62.007	Monazite	4.724	32.771	50	21	23	
1664364836	-60.819	34.617	Monazite	1.125	5.362	36	27	23	
253296215	-55.341	54.039	Monazite	6.394	24.872	42	20	23	25
1842021892	-44.883	41.589	Monazite	16.949	12.309	45	19	22	26
1458524069	-60.819	33.123	Monazite	1.189	3.746	36	25	22	
1449039313	-58.329	60.513	Monazite	3.723	31.199	31	29	22	
1214114072	-48.369	62.007	Monazite	13.409	32.425	35	27	22	
2088911272	-50.859	33.621	Monazite	11.046	4.453	36	25	21	
708211253	-50.859	39.099	Monazite	10.973	9.673	38	20	21	
121202296	-56.337	43.083	Monazite	5.807	13.632	51	17	21	
1573839052	-60.819	40.095	Monazite	0.896	10.874	44	17	20	
337840610	-49.863	55.035	Monazite	12.062	25.57	49	19	20	27
1790599885	-60.321	37.605	Monazite	1.457	8.076	33	22	19	28
946795902	-55.839	55.533	Monazite	6.008	26.161	29	24	19	
363505697	-51.855	35.613	Monazite	10.158	6.226	38	20	19	
132057832	-58.827	54.039	Monazite	3.093	24.603	36	17	18	

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Bottom Left Marker	-61.92	29.3627		0	0				
Top Right Marker	-41.8535	67.2435		20.0665	37.8808				
1990639209	-59.325	43.581	Monazite	2.41	14.209	27	25	17	
597332347	-49.863	59.517	Monazite	12.238	30.14	27	27	17	
131743188	-49.863	48.561	Monazite	12.159	19.101	42	18	17	
1260765778	-56.337	57.027	Monazite	5.715	27.781	40	24	16	
910679228	-45.879	50.055	Monazite	16.168	20.463	29	20	16	
2073269855	-50.361	39.099	Monazite	11.622	9.58	36	16	15	
2069342574	-48.867	58.521	Monazite	12.97	28.997	44	13	15	
1882891853	-59.325	38.601	Monazite	2.444	9.394	39	14	15	
1564828130	-53.847	53.043	Monazite	8.258	23.724	38	14	15	
1375380957	-43.887	59.019	Monazite	17.906	29.637	39	15	15	
1074749115	-49.365	60.015	Monazite	12.789	30.413	29	19	15	
946840930	-55.839	55.533	Monazite	5.998	26.209	32	19	15	
586552319	-44.883	42.087	Monazite	17.144	12.5	36	17	15	
1951465739	-50.859	61.011	Monazite	11.242	31.834	27	22	14	
1570743889	-44.883	55.035	Monazite	16.983	25.814	25	20	14	
1451481529	-48.369	38.601	Monazite	13.453	9.092	35	18	14	
201832922	-51.357	44.577	Monazite	10.69	15.361	26	19	14	
2019720437	-57.831	56.031	Monazite	4.099	26.761	25	18	13	
1801963303	-57.831	43.083	Monazite	3.85	13.754	31	16	13	
516946738	-59.823	54.039	Monazite	1.853	24.608	33	16	13	
131796417	-49.863	48.561	Monazite	12.072	19.247	27	20	13	
1481300223	-50.859	45.075	Monazite	11.041	15.659	33	14	12	
1039820979	-48.867	61.011	Monazite	12.877	31.717	26	15	12	
291803199	-57.831	59.517	Monazite	4.03	29.988	26	19	12	
1452530108	-59.325	52.047	Monazite	2.693	22.518	25	17	11	
1349609563	-56.337	54.039	Monazite	5.734	24.774	20	20	11	
1281312709	-49.863	36.111	Monazite	12.208	6.89	25	16	11	
1199916824	-44.883	42.585	Monazite	16.939	13.286	26	19	11	
1150930532	-56.337	53.541	Monazite	5.749	24.105	26	19	11	
894521573	-55.341	37.605	Monazite	6.511	8.262	30	15	11	
834081698	-48.369	41.589	Monazite	13.346	12.324	24	15	11	
834016133	-48.369	41.589	Monazite	13.395	12.295	27	16	11	

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Bottom Left Marker	-61.92	29.3627		0	0				
Top Right Marker	-41.8535	67.2435		20.0665	37.8808				
671809708	-50.361	50.553	Monazite	11.315	21.293	22	18	11	
590752049	-58.329	60.015	Monazite	3.825	30.496	25	17	11	
1930587219	-61.317	51.549	Monazite	0.647	22.43	22	16	10	
1852634560	-43.887	58.521	Monazite	18.267	28.944	22	17	10	
1780417158	-48.867	53.541	Monazite	12.814	24.281	25	16	10	
1621155545	-47.373	58.023	Monazite	14.42	28.885	22	16	10	
1010361654	-57.831	45.075	Mixed Grain	4.133	15.605	22	17	10	
883266218	-46.875	42.087	Monazite	15.133	12.719	24	15	10	
131825116	-49.863	48.561	Monazite	12.174	19.057	30	13	10	
108596053	-54.843	45.573	Monazite	7.106	16.166	26	15	10	
96033432	-58.827	59.019	Monazite	3.322	29.422	27	14	10	
1996012861	-56.835	35.613	Monazite	4.856	6.402	22	16	9	
1923800145	-58.329	42.585	Monazite	3.752	13.437	30	12	9	
1908684460	-45.381	51.051	Monazite	16.451	21.674	20	16	9	
196607721	-58.329	43.083	Monazite	3.84	13.75	25	13	9	
2106583148	-48.369	61.509	Monazite	13.424	32.337	25	13	8	
2061129997	-57.333	40.593	Mixed Grain	4.641	10.991	22	14	8	
1990594161	-59.325	43.581	Monazite	2.366	14.184	22	13	8	
1760897643	-58.827	55.533	Monazite	3.034	26.161	22	13	8	
1375561651	-59.823	39.099	Monazite	2.209	9.595	22	13	8	
1349679181	-56.337	54.039	Monazite	5.729	24.857	25	12	8	
1152122421	-58.827	40.593	Monazite	3.21	11.191	20	17	8	
597846268	-59.823	45.573	Monazite	2.273	15.966	19	15	8	
414064652	-48.867	60.015	Monazite	12.809	30.413	22	13	8	
149922621	-49.365	48.561	Monazite	12.784	19.11	20	16	8	
121161322	-56.337	43.083	Monazite	5.822	13.569	20	14	8	
40674712	-47.871	33.621	Mixed Grain	14.293	4.483	19	15	8	
2039928658	-48.867	42.585	Monazite	13.243	13.447	22	12	7	
1854974040	-58.827	45.573	Monazite	3.117	16.132	22	12	7	
1780449978	-48.867	53.541	Monazite	12.819	24.232	26	8	7	
1625868559	-61.317	47.067	Monazite	0.803	17.69	16	16	7	
1060070334	-42.891	56.031	Monazite	19.078	26.678	19	15	7	



Sample Number:	16-LV-217-2			Lab ID:	MI8173-NOV16:02				
n= 261	Stage X (mm)	Stage Y (mm)	Mineral	Particle X (mm)	Particle Y (mm)	Long Axis (µm)	Short Axis (µm)	Area (# 5 x 5 µm pixels)	
Top Left	-62.6697	67.0473		-0.7497	37.6846				
Bottom Right	-41.293	30.609		20.627	1.2463				
Bottom Left Marker	-61.92	29.3627		0	0				
Top Right Marker	-41.8535	67.2435		20.0665	37.8808				
641005781	-48.867	38.601	Monazite	12.902	9.028	20	14	7	
413892692	-48.867	60.015	Monazite	13.277	30.467	25	11	7	
408066551	-50.361	41.589	Monazite	11.657	12.192	20	14	7	
292825064	-58.827	41.589	Monazite	3.317	12.329	25	11	7	
218222212	-58.329	41.589	Monazite	3.454	12.378	19	12	7	
217677981	-59.325	45.075	Monazite	2.366	15.776	20	13	7	
2071438722	-50.859	39.597	Monazite	11.085	10.195	20	14	6	
1955121041	-50.859	43.083	Monazite	11.134	13.813	19	12	6	
1924070424	-58.329	42.585	Monazite	3.581	13.286	16	14	6	
1919773690	-50.859	50.553	Monazite	11.31	21.293	20	11	6	
1762510095	-47.373	54.537	Monazite	14.366	25.311	20	11	6	
1754002737	-50.859	47.565	Monazite	10.827	18.149	20	10	6	
1647733531	-53.349	40.095	Monazite	8.756	10.962	20	11	6	
1597965258	-56.337	38.601	Mixed Grain	5.549	9.394	19	12	6	
1439988666	-59.325	38.103	Monazite	2.493	8.804	20	10	6	
1160444520	-55.341	37.107	Monazite	6.779	7.964	16	14	6	
916200930	-60.321	54.039	Monazite	1.848	24.598	20	11	6	
886517984	-46.377	36.111	Monazite	15.699	6.831	16	14	6	
489091649	-43.887	46.071	Monazite	18.043	16.918	19	12	6	
222407062	-58.827	51.549	Monazite	3.078	22.011	16	14	6	
2078530718	-57.831	40.593	Monazite	4.294	11.308	19	8	5	
2039891802	-48.867	42.585	Monazite	13.258	13.422	16	14	5	
2033570210	-50.361	43.581	Monazite	11.53	14.389	16	11	5	
1951494417	-50.859	61.011	Monazite	11.242	31.79	16	11	5	
1842333263	-44.883	41.589	Monazite	17.139	12.47	19	12	5	
1748130943	-43.887	36.111	Monazite	18.072	6.621	16	11	5	
1648171242	-53.847	59.517	Monazite	8.195	30.115	16	11	5	
1296571396	-57.831	44.577	Monazite	4.24	15.385	20	10	5	
1096369127	-48.867	39.597	Monazite	12.838	10.132	19	8	5	
946734442	-55.839	55.533	Monazite	6.027	26.185	20	10	5	
787955872	-56.337	39.099	Monazite	5.52	9.609	20	10	5	
774436338	-43.887	44.577	Monazite	17.813	15.322	20	10	5	



Sample Number:	16-LV-217-2			Lab ID:	MI8173-NOV16:02			
n= 261	Stage X (mm)	Stage Y (mm)	Mineral	Particle X (mm)	Particle Y (mm)	Long Axis (µm)	Short Axis (µm)	Area (# 5 x 5 µm pixels)
Top Left	-62.6697	67.0473		-0.7497	37.6846			
Bottom Right	-41.293	30.609		20.627	1.2463			
Bottom Left Marker	-61.92	29.3627		0	0			
Top Right Marker	-41.8535	67.2435		20.0665	37.8808			
535973395	-45.381	42.585	Monazite	16.681	13.012	24	5	5
443692923	-54.345	45.573	Monazite	7.355	16.313	16	11	5
291950609	-57.831	59.517	Monazite	4.24	30.393	20	10	5
210627273	-49.365	33.123	Monazite	12.74	3.985	20	10	5
210586306	-49.365	33.123	Monazite	12.75	3.941	16	11	5
131812832	-49.863	48.561	Monazite	12.199	19.052	16	11	5

Sample Number:	16-LV-211-1			Lab ID:	MI8173-NOV16:03				
n= 433	Stage X (mm)	Stage Y (mm)	Mineral	Particle X (mm)	Particle Y (mm)	Long Axis (µm)	Short Axis (µm)	Area (# 5 x 5 µm pixels)	
Top Left	-31.8935	67.0752		-0.823	36.5744				
Bottom Right	-11.082	31.7405		19.9885	1.2397				
Bottom Left Marker	-31.0705	30.5008		0	0				
Top Right Marker	-11.5303	67.6918		19.5402	37.191				
1854626642	-13.135	50.553	Zircon	17.799	20.15	40	20	23	
1226920248	-13.135	56.031	Zircon	17.833	25.384	38	22	22	
394635772	-26.581	44.079	Zircon	4.675	13.588	29	25	20	
1456409619	-22.597	34.119	Zircon	8.674	3.784	30	20	17	
338912745	-13.135	58.023	Zircon	17.843	27.727	36	17	17	
1745770759	-23.095	47.565	Zircon	8.151	17.23	36	16	15	
1452556477	-25.087	42.585	Zircon	6.027	12.016	30	21	15	
684228356	-16.621	62.007	Zircon	14.479	31.433	27	18	14	
1229846824	-21.103	36.111	Zircon	9.767	5.83	31	17	13	
897423560	-14.629	36.609	Zircon	16.51	5.996	30	16	13	
475520438	-23.095	54.537	Zircon	8.141	23.812	22	20	13	
336554375	-14.629	58.023	Zircon	16.285	27.434	27	20	13	
1727095204	-28.075	49.557	Zircon	2.786	19.085	22	21	12	
1477244870	-16.123	38.103	Zircon	14.928	7.534	20	20	12	
414738139	-18.613	38.103	Zircon	12.36	7.47	20	20	12	
1806455187	-11.641	57.525	Zircon	19.464	27.068	31	14	11	
1481429498	-13.633	55.035	Zircon	17.608	24.554	26	15	11	
1218943682	-23.593	35.115	Zircon	7.238	4.502	20	20	11	
1177160892	-16.621	54.039	Zircon	14.328	23.485	22	17	11	
991984923	-23.593	34.617	Zircon	7.336	4.267	20	19	11	
709145206	-23.593	58.521	Zircon	7.6	28.206	22	20	11	
657405998	-28.075	41.589	Zircon	3.078	11.293	25	19	11	
523476229	-15.625	51.549	Zircon	15.65	20.955	32	12	11	
2081377288	-11.143	57.027	Zircon	19.835	26.424	25	14	10	
1698871766	-21.601	45.573	Zircon	9.582	14.926	30	13	10	
1557866869	-22.099	40.095	Zircon	8.83	9.55	20	17	10	
1556837616	-22.099	34.119	Zircon	9.118	3.589	26	15	10	
1470519316	-25.585	46.569	Zircon	5.681	15.98	30	13	10	
1470404660	-25.585	46.569	Zircon	5.417	16.195	26	15	10	
792223332	-21.103	62.007	Zircon	9.802	31.604	20	17	10	
760594828	-25.087	34.119	Zircon	6.008	3.443	25	14	10	
503998266	-26.581	61.011	Zircon	4.387	30.281	27	14	10	

Sample Number:	16-LV-211-1			Lab ID:	MI8173-NOV16:03				
n= 433	Stage X (mm)	Stage Y (mm)	Mineral	Particle X (mm)	Particle Y (mm)	Long Axis (µm)	Short Axis (µm)	Area (# 5 x 5 µm pixels)	
Top Left	-31.8935	67.0752		-0.823	36.5744				
Bottom Right	-11.082	31.7405		19.9885	1.2397				
Bottom Left Marker	-31.0705	30.5008		0	0				
Top Right Marker	-11.5303	67.6918		19.5402	37.191				
475098600	-23.095	54.537	Zircon	8.024	23.836	31	12	10	
340965654	-24.091	35.613	Zircon	6.775	5.029	29	10	10	
186658115	-11.143	41.589	Zircon	20.05	10.849	22	20	10	
163920294	-14.131	56.031	Zircon	17.013	25.345	25	16	10	
79227878	-25.087	60.015	Zircon	6.145	29.656	22	16	10	
2070034000	-27.577	56.031	Zircon	3.464	25.74	20	16	9	
1854952662	-18.613	40.593	Zircon	12.311	9.946	27	11	9	
1634269406	-16.621	34.119	Zircon	14.206	3.662	20	16	9	
1561591135	-19.111	34.617	Zircon	11.881	4.233	19	19	9	
1489749424	-27.577	36.609	Zircon	3.342	6.269	20	16	9	
1449722910	-24.091	55.533	Zircon	6.882	24.896	22	14	9	
1097918998	-17.119	43.083	Zircon	13.937	12.821	20	16	9	
1088801423	-18.613	43.581	Zircon	12.218	13.041	26	15	9	
1088085443	-22.597	37.107	Zircon	8.264	6.411	22	16	9	
766116502	-23.593	43.581	Zircon	7.6	12.968	25	13	9	
515564644	-11.143	54.039	Zircon	19.806	23.363	20	17	9	
354408306	-20.107	56.529	Zircon	10.734	25.872	20	16	9	
289034025	-26.083	54.537	Zircon	5.144	24.124	20	16	9	
104259037	-19.111	47.067	Zircon	11.842	16.761	20	19	9	
32510815	-21.601	60.015	Zircon	9.513	29.534	22	16	9	
2139417015	-24.091	39.597	Zircon	6.887	9.16	20	15	8	
2117384920	-12.139	58.521	Zircon	18.892	28.201	25	14	8	
2106434555	-16.621	39.099	Zircon	14.557	8.383	20	16	8	
2103056334	-22.597	39.099	Zircon	8.483	8.608	20	14	8	
1927692612	-14.629	52.047	Zircon	16.466	21.634	19	15	8	
1903197590	-14.629	43.581	Zircon	16.622	13.031	20	14	8	
1714468939	-22.099	33.123	Zircon	9.142	2.832	19	15	8	
1707916748	-13.135	40.095	Zircon	18.111	9.423	19	15	8	
1691383056	-18.613	47.067	Zircon	12.37	16.703	20	14	8	
1513735752	-19.111	61.011	Zircon	12.052	30.271	20	15	8	
1446839628	-11.143	41.091	Zircon	20.02	10.766	20	19	8	
1321162735	-25.087	33.621	Zircon	5.93	3.013	20	14	8	

Sample Number:	16-LV-211-1			Lab ID:	MI8173-NOV16:03				
n= 433	Stage X (mm)	Stage Y (mm)	Mineral	Particle X (mm)	Particle Y (mm)	Long Axis (µm)	Short Axis (µm)	Area (# 5 x 5 µm pixels)	
Top Left	-31.8935	67.0752		-0.823	36.5744				
Bottom Right	-11.082	31.7405		19.9885	1.2397				
Bottom Left Marker	-31.0705	30.5008		0	0				
Top Right Marker	-11.5303	67.6918		19.5402	37.191				
1321043915	-25.087	33.621	Zircon	6.179	3.242	19	15	8	
1300060124	-25.087	53.043	Zircon	5.949	22.362	25	12	8	
1158631054	-13.135	57.525	Zircon	18.175	27.229	19	15	8	
1051288463	-22.099	46.569	Zircon	8.757	16.298	30	11	8	
1009494248	-20.605	42.585	Zircon	10.656	12.221	19	15	8	
947250756	-16.123	61.011	Zircon	15.084	30.354	20	14	8	
841783005	-13.633	42.585	Zircon	17.662	12.143	19	15	8	
840908544	-24.091	42.087	Zircon	6.77	11.464	22	13	8	
792960135	-27.577	62.007	Zircon	3.484	31.555	19	15	8	
673101105	-18.613	61.011	Zircon	12.462	30.466	22	13	8	
228694311	-28.573	43.581	Zircon	2.517	13.095	19	15	8	
164984847	-17.119	51.549	Zircon	13.927	21.273	27	11	8	
18492295	-12.637	62.007	Zircon	18.258	31.628	22	13	8	
10576937	-23.593	37.107	Zircon	7.653	6.44	19	15	8	
2137128274	-28.573	36.609	Zircon	2.512	6.079	20	13	7	
1917031024	-25.585	37.605	Zircon	5.637	7.021	19	12	7	
1909290245	-18.115	46.569	Zircon	13.038	15.902	25	11	7	
1758171635	-19.609	34.119	Zircon	11.491	3.403	20	13	7	
1681857953	-23.095	46.071	Zircon	8.058	15.697	19	12	7	
1551066691	-23.593	38.103	Zircon	7.438	7.363	20	13	7	
1446692000	-28.075	50.553	Zircon	3.049	19.979	20	13	7	
1434192357	-26.083	58.023	Zircon	4.826	27.63	22	12	7	
1329990996	-19.111	60.015	Zircon	11.862	29.514	20	13	7	
1234026950	-19.111	39.099	Zircon	11.808	8.525	30	10	7	
1121161286	-22.099	59.517	Zircon	8.937	29.085	20	13	7	
1008894123	-20.605	35.115	Zircon	10.304	4.629	20	14	7	
989082143	-17.119	44.079	Zircon	13.952	13.339	16	16	7	
896851655	-12.637	44.577	Zircon	18.414	13.832	16	16	7	
573443085	-23.593	59.517	Zircon	7.268	28.933	20	15	7	
572647635	-13.135	39.099	Zircon	18.009	8.598	16	16	7	
538350723	-21.601	48.561	Zircon	9.377	17.889	20	16	7	
388032047	-15.625	40.593	Zircon	15.431	10.151	25	11	7	

Sample Number:	16-LV-211-1			Lab ID:	MI8173-NOV16:03				
n= 433	Stage X (mm)	Stage Y (mm)	Mineral	Particle X (mm)	Particle Y (mm)	Long Axis (µm)	Short Axis (µm)	Area (# 5 x 5 µm pixels)	
Top Left	-31.8935	67.0752		-0.823	36.5744				
Bottom Right	-11.082	31.7405		19.9885	1.2397				
Bottom Left Marker	-31.0705	30.5008		0	0				
Top Right Marker	-11.5303	67.6918		19.5402	37.191				
164445391	-11.641	34.617	Zircon	19.561	4.321	20	13	7	
74403496	-21.103	36.609	Zircon	9.782	5.996	19	12	7	
2117503723	-12.139	58.521	Zircon	18.907	28.02	20	11	6	
2050200967	-19.111	45.573	Zircon	11.74	15.111	16	14	6	
2017309057	-18.115	42.585	Zircon	12.716	12.031	22	10	6	
1871756781	-22.099	33.621	Zircon	8.972	2.881	16	14	6	
1727134640	-26.581	43.083	Zircon	4.655	12.538	20	11	6	
1715515821	-17.119	56.529	Zircon	13.751	25.921	16	14	6	
1595125877	-22.099	59.019	Zircon	9.103	28.723	20	11	6	
1521164470	-11.143	44.079	Zircon	20.02	13.715	16	14	6	
1498795965	-27.577	61.509	Zircon	3.372	30.969	16	14	6	
1452733945	-14.131	56.529	Zircon	16.798	26.228	16	14	6	
1369760267	-14.131	59.019	Zircon	17.042	28.567	20	11	6	
1328259194	-18.115	57.027	Zircon	13.151	26.473	16	14	6	
1313097383	-16.621	47.565	Zircon	14.625	16.898	19	12	6	
1296718366	-18.613	37.107	Zircon	12.589	6.47	16	14	6	
1240299136	-23.095	41.589	Zircon	7.819	10.991	19	12	6	
1218607774	-23.593	35.115	Zircon	7.429	4.585	20	10	6	
1203083503	-22.099	58.521	Zircon	8.771	27.884	16	14	6	
1193823143	-16.621	57.525	Zircon	14.396	27.254	16	14	6	
1000742328	-18.115	59.019	Zircon	12.873	28.762	20	10	6	
917603980	-11.143	42.087	Zircon	19.849	11.825	22	10	6	
814031584	-24.091	37.107	Zircon	7.16	6.474	16	14	6	
664802716	-13.633	38.103	Zircon	17.447	7.636	20	11	6	
638456122	-21.103	34.119	Zircon	9.728	3.657	16	14	6	
577804476	-19.111	41.091	Zircon	11.774	10.512	16	14	6	
550822587	-29.569	49.059	Zircon	1.643	18.373	19	12	6	
523566184	-18.613	41.589	Zircon	12.589	10.859	20	10	6	
494877603	-14.629	38.601	Zircon	16.402	8.31	20	11	6	
491688028	-26.083	51.549	Zircon	4.856	21.004	22	10	6	
369887754	-15.127	44.577	Zircon	15.802	14.169	20	13	6	
351971536	-18.115	57.525	Zircon	13.009	26.883	16	14	6	

Sample Number:	16-LV-211-1			Lab ID:	MI8173-NOV16:03				
n= 433	Stage X (mm)	Stage Y (mm)	Mineral	Particle X (mm)	Particle Y (mm)	Long Axis (µm)	Short Axis (µm)	Area (# 5 x 5 µm pixels)	
Top Left	-31.8935	67.0752		-0.823	36.5744				
Bottom Right	-11.082	31.7405		19.9885	1.2397				
Bottom Left Marker	-31.0705	30.5008		0	0				
Top Right Marker	-11.5303	67.6918		19.5402	37.191				
299757824	-15.127	52.047	Zircon	15.709	21.561	20	11	6	
243486156	-12.139	52.545	Zircon	18.688	21.937	16	14	6	
204370049	-27.079	47.565	Zircon	3.835	16.849	16	14	6	
154699783	-18.115	48.561	Zircon	12.882	17.972	16	14	6	
84912792	-17.119	46.071	Zircon	14.078	15.321	20	11	6	
16084946	-23.095	41.091	Zircon	7.863	10.507	16	16	6	
2144650882	-15.625	35.613	Zircon	15.499	5.049	16	11	5	
2126127019	-23.095	54.039	Zircon	7.98	23.714	20	10	5	
2107224678	-13.633	54.537	Zircon	17.574	23.831	16	11	5	
2090546936	-15.625	41.091	Zircon	15.46	10.707	16	11	5	
1891438997	-17.617	34.119	Zircon	13.297	3.477	20	10	5	
1817691562	-29.071	33.621	Zircon	2.209	2.92	15	15	5	
1786663168	-22.597	33.123	Zircon	8.234	2.447	16	11	5	
1774698094	-21.103	60.015	Zircon	9.968	29.612	16	11	5	
1736301941	-24.589	56.529	Zircon	6.525	26.219	19	8	5	
1701223859	-16.621	56.031	Zircon	14.293	25.325	16	11	5	
1672284474	-11.641	51.549	Zircon	19.415	21.268	19	8	5	
1641009036	-24.589	40.593	Zircon	6.403	10.219	16	11	5	
1597731733	-29.071	44.577	Zircon	1.99	14.101	16	11	5	
1549636585	-12.637	34.617	Zircon	18.497	4.019	16	11	5	
1452474568	-25.087	42.585	Zircon	6.135	11.894	16	11	5	
1385128612	-28.573	59.517	Zircon	2.649	28.86	16	11	5	
1333034127	-17.119	45.573	Zircon	13.834	15.126	19	8	5	
1332997374	-17.119	45.573	Zircon	14.059	15.316	19	12	5	
1327584308	-18.613	36.609	Zircon	12.648	5.962	16	11	5	
1310756025	-16.621	56.529	Zircon	14.269	25.779	16	11	5	
1269736411	-18.115	39.099	Zircon	13.117	8.774	16	11	5	
1248390745	-23.095	35.613	Zircon	7.834	4.98	16	11	5	
1169786809	-16.621	40.593	Zircon	14.381	10.336	16	11	5	
1158233839	-13.135	57.525	Zircon	18.048	26.931	15	15	5	
1140003570	-15.625	57.027	Zircon	15.675	26.302	16	11	5	
1125784534	-22.099	38.103	Zircon	8.937	7.597	16	11	5	

Sample Number:	16-LV-211-1			Lab ID:	MI8173-NOV16:03				
n= 433	Stage X (mm)	Stage Y (mm)	Mineral	Particle X (mm)	Particle Y (mm)	Long Axis (µm)	Short Axis (µm)	Area (# 5 x 5 µm pixels)	
Top Left	-31.8935	67.0752		-0.823	36.5744				
Bottom Right	-11.082	31.7405		19.9885	1.2397				
Bottom Left Marker	-31.0705	30.5008		0	0				
Top Right Marker	-11.5303	67.6918		19.5402	37.191				
1104366259	-11.641	52.047	Zircon	19.503	21.522	16	11	5	
1047171757	-18.613	45.573	Zircon	12.487	15.009	16	11	5	
958941338	-18.613	53.043	Zircon	12.697	22.576	16	11	5	
918489589	-15.625	58.521	Zircon	15.446	27.869	16	11	5	
884935966	-15.625	38.103	Zircon	15.558	7.5	16	11	5	
813785770	-24.091	37.107	Zircon	7.077	6.728	16	11	5	
742492584	-19.609	37.605	Zircon	11.666	7.002	16	11	5	
713164933	-26.083	60.513	Zircon	5.105	29.944	16	11	5	
676160790	-29.569	50.055	Zircon	1.565	19.325	16	11	5	
608777133	-17.617	56.529	Zircon	13.454	25.906	16	11	5	
532177901	-22.597	40.593	Zircon	8.312	10.18	16	11	5	
494775197	-14.629	38.601	Zircon	16.324	8.271	16	11	5	
490049663	-25.087	55.035	Zircon	5.754	24.5	16	11	5	
475810843	-16.123	45.573	Zircon	15.026	14.94	16	11	5	
407051351	-24.091	46.071	Zircon	7.092	15.746	15	15	5	
297594841	-23.593	54.537	Zircon	7.463	23.885	15	15	5	
287086431	-12.139	60.513	Zircon	19.005	30.002	16	11	5	
255768685	-15.625	44.079	Zircon	15.353	13.603	16	11	5	
250058067	-23.095	53.541	Zircon	8.137	23.187	16	11	5	
190473236	-29.569	43.581	Zircon	1.287	12.953	16	11	5	
171067109	-23.095	45.573	Zircon	8.185	15.18	16	14	5	
154978426	-18.115	48.561	Zircon	13.024	17.845	20	10	5	
106326691	-17.119	58.521	Zircon	13.961	28.074	15	15	5	
82919433	-20.107	54.039	Zircon	11.212	23.777	16	11	5	
60305821	-27.577	52.545	Zircon	3.323	22.274	16	11	5	
									<b>MNZ #</b>
376694379	-17.119	44.577	Monazite	13.883	14.081	45	26	30	1
1038508966	-29.569	44.079	Monazite	1.497	13.686	36	28	28	2
1258145995	-12.637	56.031	Monazite	18.497	25.33	38	27	27	3
792760433	-27.079	52.545	Monazite	3.909	22.283	33	28	27	4
477410379	-18.115	59.517	Monazite	12.785	28.977	36	28	27	5
1278309774	-25.087	62.007	Monazite	6.013	31.701	42	24	26	6



Sample Number:	16-LV-211-1			Lab ID:	MI8173-NOV16:03				
n= 433	Stage X (mm)	Stage Y (mm)	Mineral	Particle X (mm)	Particle Y (mm)	Long Axis (µm)	Short Axis (µm)	Area (# 5 x 5 µm pixels)	
Top Left	-31.8935	67.0752		-0.823	36.5744				
Bottom Right	-11.082	31.7405		19.9885	1.2397				
Bottom Left Marker	-31.0705	30.5008		0	0				
Top Right Marker	-11.5303	67.6918		19.5402	37.191				
1068895576	-17.617	38.103	Monazite	13.385	7.719	44	22	26	7
1663155055	-30.067	52.047	Monazite	1.208	21.585	44	21	25	8
1161135959	-27.577	43.581	Monazite	3.703	13.031	31	28	24	9
218967242	-24.589	33.123	Monazite	6.569	2.608	36	25	24	10
1869253563	-19.609	39.099	Monazite	11.354	8.476	33	27	23	11
1797860996	-23.095	40.095	Monazite	8.161	9.619	35	24	23	
255975277	-17.119	42.585	Monazite	13.742	11.889	36	22	23	12
756973168	-17.617	49.059	Monazite	13.346	18.558	30	26	21	13
43699761	-16.123	59.517	Monazite	14.86	29.114	36	19	20	
1691931700	-17.617	33.123	Monazite	13.576	2.593	31	24	19	14
780089308	-26.581	43.581	Monazite	4.519	12.963	39	17	19	
412815925	-25.087	52.047	Monazite	6.023	21.566	27	25	19	15
399805014	-24.091	39.099	Monazite	6.975	8.842	31	22	19	16
67097543	-21.103	39.597	Monazite	9.865	9.116	31	23	19	17
1661156486	-19.111	54.039	Monazite	11.774	23.763	29	22	18	18
931069755	-23.593	54.039	Monazite	7.653	23.646	29	22	18	19
827558683	-21.601	36.111	Monazite	9.294	5.454	31	19	18	
1978628138	-27.577	35.613	Monazite	3.415	5.015	35	19	17	
1624196629	-27.079	33.123	Monazite	4.026	2.544	27	22	17	20
779999197	-26.581	43.581	Monazite	4.397	12.914	27	25	17	
760834867	-28.573	57.027	Monazite	2.385	26.653	31	20	17	21
1558100269	-22.099	40.095	Monazite	8.913	9.438	31	18	16	
1268719532	-24.589	39.597	Monazite	6.457	9.101	26	22	16	
1258248370	-12.637	56.031	Monazite	18.375	25.398	29	21	16	
189862292	-26.083	33.621	Monazite	4.778	3.193	27	25	16	22
2017427912	-18.115	42.585	Monazite	13.092	12.133	27	22	15	
1967262283	-19.111	33.621	Monazite	11.735	3.101	26	22	15	
1917751713	-16.621	41.091	Monazite	14.542	10.756	31	18	15	
1595481908	-28.075	37.605	Monazite	2.869	7.202	27	20	15	23
1592721993	-15.625	61.011	Monazite	15.563	30.457	26	22	15	
907619639	-24.589	34.617	Monazite	6.242	4.121	27	22	15	24
336202223	-14.629	58.023	Monazite	16.651	27.327	25	20	15	

Sample Number:	16-LV-211-1			Lab ID:	MI8173-NOV16:03				
n= 433	Stage X (mm)	Stage Y (mm)	Mineral	Particle X (mm)	Particle Y (mm)	Long Axis (µm)	Short Axis (µm)	Area (# 5 x 5 µm pixels)	
Top Left	-31.8935	67.0752		-0.823	36.5744				
Bottom Right	-11.082	31.7405		19.9885	1.2397				
Bottom Left Marker	-31.0705	30.5008		0	0				
Top Right Marker	-11.5303	67.6918		19.5402	37.191				
2014766449	-19.111	55.533	Monazite	11.798	25.027	30	17	14	
1776362433	-17.617	50.553	Monazite	13.278	20.13	25	20	14	25
1772760290	-17.119	34.119	Monazite	14.137	3.721	31	17	14	
1682364765	-24.091	34.617	Monazite	6.994	4.053	27	20	14	
1607072941	-14.131	43.581	Monazite	17.169	13.129	27	20	14	26
1224795910	-26.581	39.597	Monazite	4.309	9.072	27	18	14	
1169236840	-17.119	50.055	Monazite	13.825	19.701	22	22	14	27
1014009906	-17.119	45.075	Monazite	14.01	14.452	29	17	14	
792837296	-27.577	62.007	Monazite	3.279	31.467	27	18	14	
720509087	-27.577	48.561	Monazite	3.459	18.285	31	16	14	
687061057	-25.087	48.063	Monazite	5.783	17.401	29	20	14	
562578516	-14.629	39.099	Monazite	16.442	8.379	27	18	14	
402892534	-29.569	48.561	Monazite	1.565	18.158	22	22	14	
390146690	-12.139	41.589	Monazite	19.068	10.937	27	22	14	
107185554	-11.641	35.115	Monazite	19.493	4.556	26	19	14	
1551078976	-23.593	38.103	Monazite	7.346	7.451	22	22	13	
1369503712	-19.609	45.075	Monazite	11.686	14.477	22	22	13	
1168345964	-17.617	43.083	Monazite	13.483	12.563	24	20	13	
1121251375	-22.099	59.517	Monazite	9.098	29.016	31	18	13	
1112597209	-24.589	37.107	Monazite	6.457	6.44	25	19	13	
1084883249	-14.131	41.091	Monazite	16.749	10.751	29	15	13	
947062334	-16.123	61.011	Monazite	14.889	30.369	27	20	13	28
885864694	-27.577	45.573	Monazite	3.367	15.014	27	18	13	
229046602	-28.573	43.581	Monazite	2.444	12.924	25	20	13	29
2121363192	-19.609	50.055	Monazite	11.252	19.764	22	20	12	
1996313510	-24.589	35.613	Monazite	6.306	5.307	26	15	12	
1651315790	-20.605	56.529	Monazite	10.461	25.843	25	17	12	
1608307397	-23.095	56.031	Monazite	8.171	25.74	25	19	12	
1456200802	-22.597	34.119	Monazite	8.552	3.53	26	19	12	
1158357510	-23.095	36.609	Monazite	7.902	5.913	25	18	12	
949718769	-20.107	51.051	Monazite	11.071	20.379	25	17	12	
729899421	-16.123	35.115	Monazite	15.045	4.629	25	19	12	

Sample Number:	16-LV-211-1			Lab ID:	MI8173-NOV16:03				
n= 433	Stage X (mm)	Stage Y (mm)	Mineral	Particle X (mm)	Particle Y (mm)	Long Axis (µm)	Short Axis (µm)	Area (# 5 x 5 µm pixels)	
Top Left	-31.8935	67.0752		-0.823	36.5744				
Bottom Right	-11.082	31.7405		19.9885	1.2397				
Bottom Left Marker	-31.0705	30.5008		0	0				
Top Right Marker	-11.5303	67.6918		19.5402	37.191				
696116615	-24.091	42.585	Monazite	7.165	12.196	25	17	12	
556756635	-20.107	35.115	Monazite	10.788	4.424	24	20	12	
302659394	-22.597	38.601	Monazite	8.474	8.315	22	21	12	
235934420	-20.605	51.051	Monazite	10.466	20.54	25	18	12	
231533499	-22.597	54.537	Monazite	8.381	24.007	22	20	12	
208166873	-14.131	41.589	Monazite	17.027	11.318	30	16	12	
68386093	-13.633	54.039	Monazite	17.477	23.333	30	16	12	
1735344138	-11.143	33.621	Monazite	20.025	3.232	22	18	11	
1692316767	-17.617	33.123	Monazite	13.478	2.7	30	15	11	
1475363083	-14.131	48.561	Monazite	16.759	18.153	22	18	11	
1467561013	-25.585	56.529	Monazite	5.681	26.082	22	17	11	
1406187221	-19.111	57.525	Monazite	11.925	26.966	30	13	11	
1277093555	-14.629	40.593	Monazite	16.583	9.917	26	15	11	
1187746098	-20.107	45.075	Monazite	11.071	14.472	20	20	11	
1088191103	-15.127	44.079	Monazite	16.139	13.695	22	18	11	
725260478	-11.143	59.019	Monazite	19.815	28.591	27	14	11	
598073925	-26.083	34.119	Monazite	4.817	3.521	25	17	11	
466977050	-17.119	53.043	Monazite	14.152	22.63	24	15	11	
290163356	-21.103	59.517	Monazite	9.797	29.177	25	17	11	
248038173	-24.091	52.545	Monazite	7.126	22	25	16	11	
2021013841	-20.107	44.079	Monazite	11.139	13.422	20	17	10	
1891590585	-17.617	34.119	Monazite	13.468	3.482	22	17	10	
1819068852	-24.091	60.513	Monazite	7.17	30.105	20	17	10	
1682250015	-24.091	34.617	Monazite	7.204	4.17	22	17	10	
1613812270	-20.605	41.091	Monazite	10.509	10.746	20	17	10	
1421366129	-20.107	57.525	Monazite	11.017	27.258	22	16	10	
1364953298	-23.593	40.593	Monazite	7.643	10.073	20	19	10	
1336239082	-19.111	38.601	Monazite	12.15	7.944	26	19	10	
1140686544	-17.617	60.513	Monazite	13.414	29.89	25	17	10	
856026150	-16.123	35.613	Monazite	15.07	5.244	20	19	10	
825749638	-24.091	53.043	Monazite	7.058	22.786	25	14	10	
803788538	-22.099	35.115	Monazite	8.742	4.443	27	14	10	

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Sample Number:	16-LV-211-1			Lab ID:	MI8173-NOV16:03				
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Top Left	-31.8935	67.0752		-0.823	36.5744				
Bottom Right	-11.082	31.7405		19.9885	1.2397				
Bottom Left Marker	-31.0705	30.5008		0	0				
Top Right Marker	-11.5303	67.6918		19.5402	37.191				
762121094	-21.103	37.605	Monazite	9.772	7.138	20	17	10	
739770480	-19.111	56.031	Monazite	11.994	25.603	25	16	10	
737552505	-14.131	50.553	Monazite	17.11	20.296	22	17	10	
602219866	-19.111	35.115	Monazite	11.95	4.463	25	18	10	
597905928	-26.083	34.119	Monazite	4.812	3.73	30	13	10	
474305955	-23.593	60.513	Monazite	7.341	29.9	20	17	10	
390494944	-12.139	41.589	Monazite	19.176	11.298	25	16	10	
256155447	-17.119	42.585	Monazite	13.908	12.167	20	19	10	
190802132	-11.641	59.517	Monazite	19.205	29.08	24	15	10	
163711442	-14.131	56.031	Monazite	17.11	25.506	29	13	10	
129016916	-29.071	36.111	Monazite	2.117	5.571	22	16	10	
58455437	-17.119	54.537	Monazite	13.786	24.144	26	15	10	
2115981244	-13.135	57.027	Monazite	17.814	26.326	19	19	9	
2014082154	-13.633	45.075	Monazite	17.374	14.755	22	16	9	
1988195432	-23.593	45.573	Monazite	7.712	15.199	22	14	9	
1613725533	-22.099	49.059	Monazite	8.967	18.465	20	16	9	
1607603072	-14.131	46.569	Monazite	16.876	15.844	25	16	9	
1330144596	-26.581	50.055	Monazite	4.265	19.379	25	16	9	
1320589688	-18.115	46.071	Monazite	13.038	15.721	22	14	9	
1231038835	-18.115	39.597	Monazite	13.175	9.052	20	17	9	
1161123613	-27.577	43.581	Monazite	3.337	13.319	22	16	9	
1085286276	-12.637	36.609	Monazite	18.473	6.103	30	12	9	
897595793	-11.641	53.541	Monazite	19.61	23.055	20	16	9	
861922389	-17.119	35.613	Monazite	13.854	5.229	19	19	9	
827506578	-20.107	45.573	Monazite	11.178	14.897	20	16	9	
700195943	-22.597	57.027	Monazite	8.395	26.307	20	16	9	
657507165	-21.601	60.513	Monazite	9.543	30.076	25	13	9	
540601648	-20.107	53.541	Monazite	11.086	22.967	22	16	9	
531646688	-21.103	38.601	Monazite	10.192	7.866	20	16	9	
337234923	-27.079	53.541	Monazite	3.923	22.913	25	13	9	
336660809	-21.103	59.019	Monazite	10.046	28.733	20	16	9	
170520098	-23.095	59.517	Monazite	8.019	29.05	20	16	9	

Sample Number:	16-LV-211-1			Lab ID:	MI8173-NOV16:03				
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Top Left	-31.8935	67.0752		-0.823	36.5744				
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Bottom Left Marker	-31.0705	30.5008		0	0				
Top Right Marker	-11.5303	67.6918		19.5402	37.191				
1487755	-19.111	40.593	Monazite	12.199	10.253	22	17	9	
2031532262	-29.569	33.123	Monazite	1.716	2.573	20	16	8	
1970939845	-23.095	42.087	Monazite	7.732	11.581	24	15	8	
1952572500	-30.067	43.083	Monazite	0.969	12.465	20	16	8	
1929688051	-26.083	53.541	Monazite	4.807	23.231	22	13	8	
1879508087	-29.569	33.621	Monazite	1.746	3.193	19	15	8	
1753702726	-24.091	43.581	Monazite	7.16	12.909	20	14	8	
1728611351	-23.593	36.111	Monazite	7.619	5.801	20	16	8	
1689672878	-24.589	34.119	Monazite	6.286	3.765	19	15	8	
1643520371	-17.119	34.617	Monazite	13.888	4.116	27	11	8	
1519313425	-27.577	50.553	Monazite	3.703	20.013	22	13	8	
1413336365	-18.115	47.565	Monazite	13.019	17.079	22	13	8	
1269760982	-18.115	39.099	Monazite	13.102	8.808	19	15	8	
1205899751	-22.597	55.533	Monazite	8.386	24.92	19	15	8	
1202638720	-24.589	39.099	Monazite	6.389	8.818	20	16	8	
1032856402	-19.609	50.553	Monazite	11.676	20.155	19	15	8	
952413947	-13.633	50.553	Monazite	17.452	19.964	20	14	8	
920792403	-16.123	41.091	Monazite	14.743	10.615	22	14	8	
739881066	-19.111	56.031	Monazite	11.759	25.73	22	13	8	
583156662	-27.577	45.075	Monazite	3.337	14.667	20	14	8	
490156120	-25.087	55.035	Monazite	5.925	24.534	26	12	8	
308173952	-18.115	45.075	Monazite	12.746	14.521	20	14	8	
299782355	-15.127	52.047	Monazite	16.041	21.434	22	14	8	
291618394	-15.625	59.517	Monazite	15.558	29.187	25	12	8	
273647163	-27.577	54.039	Monazite	3.45	23.646	19	15	8	
145176332	-15.127	45.075	Monazite	15.797	14.364	27	11	8	
7665120	-15.127	62.007	Monazite	16.026	31.331	19	15	8	
2107466046	-17.617	42.585	Monazite	13.571	11.923	16	16	7	
1816538173	-12.139	60.015	Monazite	19.073	29.651	19	12	7	
1782797887	-14.131	45.573	Monazite	16.915	14.892	16	16	7	
1577825706	-14.131	55.035	Monazite	16.73	24.539	20	13	7	
1481948868	-17.617	61.011	Monazite	13.444	30.457	20	13	7	

Sample Number:	16-LV-211-1			Lab ID:	MI8173-NOV16:03			
n= 433	Stage X (mm)	Stage Y (mm)	Mineral	Particle X (mm)	Particle Y (mm)	Long Axis (µm)	Short Axis (µm)	Area (# 5 x 5 µm pixels)
Top Left	-31.8935	67.0752		-0.823	36.5744			
Bottom Right	-11.082	31.7405		19.9885	1.2397			
Bottom Left Marker	-31.0705	30.5008		0	0			
Top Right Marker	-11.5303	67.6918		19.5402	37.191			
1259657262	-18.115	56.031	Monazite	12.892	25.345	19	15	7
1216948544	-22.597	35.613	Monazite	8.239	5.239	19	15	7
1175421081	-14.131	44.079	Monazite	16.793	13.681	19	12	7
1106267356	-16.123	48.063	Monazite	14.816	17.631	25	12	7
1019306196	-13.633	45.573	Monazite	17.496	14.999	16	16	7
642036385	-18.115	60.015	Monazite	12.941	29.348	20	13	7
573607438	-24.589	41.589	Monazite	6.247	10.942	20	13	7
307455903	-28.075	49.059	Monazite	2.756	18.314	19	15	7
243670351	-21.103	57.525	Monazite	10.172	26.878	20	15	7
206341224	-22.099	61.509	Monazite	9.108	31.194	22	12	7
2013201811	-26.581	40.095	Monazite	4.392	9.477	16	14	6
1996239787	-24.589	35.613	Monazite	6.677	4.98	16	14	6
1916977777	-25.585	37.605	Monazite	5.281	7.319	20	10	6
1914759580	-27.577	56.529	Monazite	3.645	26.233	20	11	6
1727450059	-26.581	43.083	Monazite	4.328	12.797	19	12	6
1503769476	-29.569	40.593	Monazite	1.575	9.858	20	10	6
1466234898	-23.095	51.549	Monazite	7.966	21.087	22	10	6
1343906669	-20.107	60.513	Monazite	11.056	29.905	16	14	6
1285721197	-12.637	56.529	Monazite	18.556	25.994	16	14	6
1239895897	-11.641	56.529	Monazite	19.298	26.018	20	11	6
1085396887	-12.637	36.609	Monazite	18.468	6.191	20	11	6
978138151	-24.091	49.557	Monazite	6.76	19.051	16	14	6
965052083	-11.641	37.605	Monazite	19.234	6.992	20	11	6
874132305	-19.609	59.019	Monazite	11.71	28.299	16	14	6
780278259	-17.119	36.111	Monazite	14.01	5.664	20	11	6
776750489	-28.573	54.537	Monazite	2.527	23.865	16	14	6
713623602	-16.621	47.067	Mixed Grain	14.225	16.356	16	16	6
644595864	-24.589	35.115	Monazite	6.262	4.624	19	12	6
598069798	-26.083	34.119	Monazite	4.773	3.56	16	14	6
576239807	-19.111	59.019	Monazite	11.716	28.299	16	14	6
573992551	-24.589	41.589	Monazite	6.286	11.083	16	14	6
536643281	-23.593	42.087	Monazite	7.726	11.576	24	10	6

Sample Number:	16-LV-211-1			Lab ID:	MI8173-NOV16:03				
n= 433	Stage X (mm)	Stage Y (mm)	Mineral	Particle X (mm)	Particle Y (mm)	Long Axis (µm)	Short Axis (µm)	Area (# 5 x 5 µm pixels)	
Top Left	-31.8935	67.0752		-0.823	36.5744				
Bottom Right	-11.082	31.7405		19.9885	1.2397				
Bottom Left Marker	-31.0705	30.5008		0	0				
Top Right Marker	-11.5303	67.6918		19.5402	37.191				
523603064	-18.613	41.589	Monazite	12.682	10.883	20	15	6	
475381133	-23.095	54.537	Monazite	7.736	24.222	24	10	6	
473978360	-23.593	60.513	Monazite	7.609	29.919	16	14	6	
385897019	-23.593	50.553	Monazite	7.717	20.238	16	14	6	
231422972	-22.597	54.537	Monazite	8.327	23.914	19	12	6	
106328138	-13.633	49.059	Monazite	17.218	18.309	20	11	6	
32994104	-21.601	60.015	Monazite	9.587	29.5	16	14	6	
2140278637	-18.613	44.577	Monazite	12.477	14.11	16	11	5	
1982462965	-17.617	56.031	Monazite	13.395	25.33	19	8	5	
1903287705	-14.629	43.581	Monazite	16.524	13.095	16	11	5	
1903201684	-14.629	43.581	Monazite	16.681	13.314	16	11	5	
1876076867	-26.083	39.099	Monazite	4.836	8.53	16	11	5	
1728689859	-13.633	55.533	Monazite	17.296	24.949	16	11	5	
1539582879	-16.621	36.609	Monazite	14.264	5.981	15	15	5	
1519350286	-27.577	50.553	Monazite	3.435	19.842	16	11	5	
1482157703	-17.617	61.011	Monazite	13.395	30.281	16	14	5	
1447309869	-14.131	62.007	Monazite	16.783	31.34	16	11	5	
1446860128	-11.143	41.091	Monazite	20.084	10.829	16	11	5	
1348120582	-26.581	42.585	Monazite	4.48	11.948	16	11	5	
1299404043	-12.637	60.015	Monazite	18.521	29.558	16	11	5	
1288021173	-16.123	46.071	Monazite	15.074	15.741	16	11	5	
1272590815	-12.637	45.573	Monazite	18.643	14.94	16	11	5	
1198765818	-29.569	39.597	Monazite	1.638	8.95	19	8	5	
1032626063	-19.111	51.051	Monazite	11.891	20.428	16	11	5	
894625397	-25.585	51.051	Monazite	5.242	20.536	20	10	5	
880060363	-28.075	61.011	Monazite	3.171	30.73	16	11	5	
842678186	-24.589	62.007	Monazite	6.521	31.692	16	11	5	
780446101	-17.119	36.111	Monazite	14.132	5.669	16	11	5	
770070935	-25.087	59.517	Monazite	5.837	28.811	20	10	5	
766571573	-26.083	49.059	Monazite	5.002	18.583	16	11	5	
733899135	-29.071	39.597	Monazite	1.951	9.096	16	11	5	
723766243	-29.071	48.561	Monazite	2.107	17.816	16	11	5	



Sample Number:	16-LV-211-1			Lab ID:	MI8173-NOV16:03				
n= 433	Stage X (mm)	Stage Y (mm)	Mineral	Particle X (mm)	Particle Y (mm)	Long Axis (µm)	Short Axis (µm)	Area (# 5 x 5 µm pixels)	
Top Left	-31.8935	67.0752		-0.823	36.5744				
Bottom Right	-11.082	31.7405		19.9885	1.2397				
Bottom Left Marker	-31.0705	30.5008		0	0				
Top Right Marker	-11.5303	67.6918		19.5402	37.191				
687839275	-22.597	48.561	Monazite	8.342	18.168	16	11	5	
684707707	-16.621	62.007	Monazite	14.342	31.633	16	11	5	
641959890	-26.581	36.609	Monazite	4.465	6.25	16	11	5	
598069846	-26.083	34.119	Monazite	4.748	3.53	20	10	5	
525454600	-23.593	41.091	Monazite	7.443	10.566	16	11	5	
523443564	-18.613	51.549	Monazite	12.438	20.907	16	11	5	
480678295	-14.131	49.059	Monazite	16.7	18.383	16	11	5	
371786417	-21.601	33.123	Monazite	9.45	2.837	16	11	5	
337462775	-21.103	60.513	Monazite	10.119	30.154	20	10	5	
313244914	-17.119	48.561	Monazite	14.122	17.831	16	14	5	
311724857	-14.629	44.079	Monazite	16.617	13.407	16	11	5	
277525347	-18.613	52.047	Monazite	12.238	21.366	16	11	5	
216981117	-14.629	47.067	Monazite	16.651	16.498	16	11	5	
204365960	-27.079	47.565	Monazite	4.236	17.123	16	11	5	
181492886	-22.597	50.055	Monazite	8.439	19.779	16	11	5	
144906103	-15.127	45.075	Monazite	15.983	14.765	16	11	5	
84834956	-17.119	46.071	Monazite	13.995	15.765	16	11	5	
17940618	-20.107	39.099	Monazite	10.92	8.837	16	11	5	

Sample Number:	16-LV-190-1			Lab ID:	MI8173-NOV16:05			
n= 368	Stage X (mm)	Stage Y (mm)	Mineral	Particle X (mm)	Particle Y (mm)	Long Axis (µm)	Short Axis (µm)	Area (# 5 x 5 µm pixels)
Top Left	41.2318	69.118		-0.6522	37.4583			
Bottom Right	61.933	34.041		20.049	2.3813			
Bottom Left Marker	41.884	31.6597		0	0			
Top Right Marker	61.3728	68.046		19.4888	36.3863			
950509746	46.929	44.577	Zircon	5.13284	12.8685	84	53	138
2067745007	43.941	56.031	Zircon	2.09604	24.22002	69	36	75
890025416	51.909	57.027	Zircon	9.88348	25.47954	67	39	71
470482214	57.885	52.545	Zircon	16.05956	21.01706	67	34	61
65370586	54.897	44.577	Zircon	12.83732	12.77578	51	45	59
1967640097	56.391	55.035	Zircon	14.31668	23.24354	59	38	58
1452201400	50.913	53.541	Zircon	9.22908	21.99354	59	31	54
1976486639	49.419	38.103	Zircon	7.55452	6.64826	53	32	53
440063346	58.881	55.035	Zircon	17.21172	23.24842	51	41	52
367674359	43.443	57.525	Zircon	1.75908	25.95314	49	35	50
1730417104	44.439	50.553	Zircon	2.67212	19.12266	47	36	47
1304548713	60.375	52.047	Zircon	18.45196	20.57274	61	31	46
629927872	49.419	56.031	Zircon	7.49596	24.24442	47	42	46
1998229616	45.435	34.617	Zircon	3.4778	3.05978	45	38	45
767278248	44.439	39.597	Zircon	2.53548	8.1813	43	37	45
1254553428	60.873	51.051	Zircon	19.14516	19.45962	47	30	40
1910850836	51.909	39.597	Zircon	10.0982	8.1813	49	31	37
1127439957	47.427	47.565	Zircon	5.59668	15.73938	36	36	37
1050418060	44.937	38.103	Zircon	3.09204	6.67754	42	31	36
1683127533	53.403	37.605	Zircon	11.7142	5.95994	40	32	35
455735965	53.901	58.521	Zircon	11.8218	27.04186	38	33	35
1380237329	43.941	35.613	Zircon	1.86668	3.84106	42	27	34
658318432	49.419	50.055	Zircon	7.54476	18.30258	42	29	33
1630223303	49.419	40.095	Zircon	7.52524	8.2157	40	29	32
590053737	58.383	42.585	Zircon	16.37212	10.98874	33	33	31
2036521767	48.423	58.521	Zircon	6.6854	26.67586	40	28	30
1699777691	56.889	37.605	Zircon	14.95132	5.98434	36	31	30
1134703074	59.877	47.565	Zircon	17.80268	15.68082	36	30	30
695997230	58.881	52.047	Zircon	17.01164	20.30434	42	24	30
161321570	51.909	43.083	Zircon	10.07868	11.31106	47	25	30
21871233	45.435	57.525	Zircon	3.49244	26.0117	47	24	29
1009392452	44.937	35.613	Zircon	3.24332	3.85082	40	24	28

Sample Number:	16-LV-190-1			Lab ID:	MI8173-NOV16:05				
n= 368	Stage X (mm)	Stage Y (mm)	Mineral	Particle X (mm)	Particle Y (mm)	Long Axis (µm)	Short Axis (µm)	Area (# 5 x 5 µm pixels)	
Top Left	41.2318	69.118		-0.6522	37.4583				
Bottom Right	61.933	34.041		20.049	2.3813				
Bottom Left Marker	41.884	31.6597		0	0				
Top Right Marker	61.3728	68.046		19.4888	36.3863				
439915863	58.881	55.035	Zircon	16.81156	23.48266	43	22		28
668426568	52.407	55.533	Zircon	10.56692	23.63906	42	25		27
21846676	45.435	57.525	Zircon	3.53636	25.98242	39	26		27
788215693	55.893	61.509	Zircon	14.21396	30.01034	35	26		25
79811940	52.905	53.043	Zircon	10.95268	21.32962	31	27		25
106203246	53.901	40.095	Zircon	11.86572	8.51826	35	25		24
1025759350	46.431	36.111	Zircon	4.30788	4.5977	31	28		23
1987639433	61.371	52.545	Zircon	19.47236	20.9829	38	22		22
1984573137	59.379	60.513	Zircon	17.4462	28.81426	36	22		22
468455931	62.367	47.565	Zircon	20.71724	16.1493	32	26		22
136853087	52.407	40.095	Zircon	10.6694	8.27426	31	28		22
1903573653	54.399	59.517	Zircon	12.57844	27.74018	31	24		21
1442267804	56.391	57.525	Zircon	14.4094	26.1093	35	23		21
1790590068	48.423	60.015	Zircon	6.36332	28.3309	32	22		20
1242098343	47.427	33.621	Zircon	5.5186	1.79538	33	22		20
657315149	53.901	57.027	Zircon	12.09996	25.47466	39	19		20
568849605	61.869	42.585	Zircon	20.1558	11.10586	27	25		20
420805776	53.901	39.597	Zircon	11.8462	7.92266	36	22		20
931326913	58.383	43.581	Zircon	16.51852	12.0921	30	22		19
245516165	49.917	39.597	Zircon	7.8378	8.04466	39	15		19
85471874	52.905	57.525	Zircon	11.1674	25.71402	27	27		19
1955167389	52.407	60.513	Zircon	10.35708	28.76058	27	27		18
1642723233	47.427	37.107	Zircon	5.36244	5.50586	27	25		18
1570207905	53.403	56.529	Zircon	11.62636	24.94738	30	25		18
889684394	62.367	54.537	Zircon	20.39028	22.64794	33	21		18
662819113	57.387	56.031	Zircon	15.53716	24.45426	30	20		18
792981205	48.423	60.513	Zircon	6.60732	28.95578	31	21		17
612103736	54.897	52.047	Zircon	13.07156	20.37754	27	25		17
309055927	45.933	36.111	Zircon	3.9026	4.24146	35	17		17
297249124	47.925	34.617	Zircon	5.95804	3.00122	35	19		17
181341540	48.921	47.565	Zircon	6.85156	16.01266	27	22		17
1864125923	43.941	34.617	Zircon	2.18388	2.81578	27	22		16

Sample Number:	16-LV-190-1			Lab ID:	MI8173-NOV16:05				
n= 368	Stage X (mm)	Stage Y (mm)	Mineral	Particle X (mm)	Particle Y (mm)	Long Axis (µm)	Short Axis (µm)	Area (# 5 x 5 µm pixels)	
Top Left	41.2318	69.118		-0.6522	37.4583				
Bottom Right	61.933	34.041		20.049	2.3813				
Bottom Left Marker	41.884	31.6597		0	0				
Top Right Marker	61.3728	68.046		19.4888	36.3863				
1663249142	55.395	33.621	Zircon	13.42804	1.75146	35	16	16	
950112437	46.929	44.577	Zircon	5.22556	12.91242	30	20	16	
918064187	50.415	36.111	Zircon	8.39924	4.23658	31	18	16	
414252928	48.921	57.525	Zircon	6.8662	26.1093	33	18	16	
71244110	52.407	44.079	Zircon	10.65964	12.65842	27	22	16	
1892450319	45.933	48.063	Zircon	4.10756	16.31058	35	15	15	
1891346700	44.439	52.545	Zircon	2.39884	21.08538	31	18	15	
1581250385	56.391	59.517	Zircon	14.53628	28.02322	25	24	15	
1264843679	59.877	41.589	Zircon	17.82708	9.90978	27	20	15	
1248912045	50.415	61.011	Zircon	8.4578	29.39522	26	22	15	
1223665884	46.929	47.067	Zircon	4.82052	15.3341	25	21	15	
875436524	54.897	52.545	Zircon	13.1106	20.99266	29	20	15	
767474940	44.439	39.597	Zircon	2.68676	7.94706	27	20	15	
729553459	50.913	61.011	Zircon	9.02412	29.47818	31	18	15	
132100019	56.391	47.565	Zircon	14.36548	15.9541	27	20	15	
2100333116	59.379	52.545	Zircon	17.43644	20.72914	29	18	14	
1934143777	59.379	42.087	Zircon	17.25588	10.60298	26	19	14	
1918776526	60.375	47.565	Zircon	18.32508	16.06146	27	20	14	
1845826099	60.375	35.115	Zircon	18.28116	3.61146	22	22	14	
904894595	45.435	43.083	Zircon	3.63396	11.4721	31	18	14	
586154370	59.877	36.609	Zircon	18.20772	4.76874	27	20	14	
409489103	52.905	39.597	Zircon	10.93804	7.84458	27	20	14	
406158819	43.443	49.059	Zircon	1.36868	17.3749	27	20	14	
2088172303	47.427	48.063	Zircon	5.7626	16.6473	29	19	13	
1868398711	61.869	43.581	Zircon	20.09724	12.06282	25	18	13	
1414967739	60.375	49.059	Zircon	18.5642	17.50666	29	18	13	
793108097	48.423	60.513	Zircon	6.4902	28.91186	30	17	13	
467142153	44.937	33.621	Zircon	2.8822	2.05402	25	18	13	
373698848	60.873	45.573	Zircon	18.867	13.68882	22	22	13	
157961899	46.929	60.015	Zircon	5.1182	28.4285	26	19	13	
132549879	51.411	44.079	Zircon	9.58556	12.25338	31	16	13	
1991471280	52.407	56.529	Zircon	10.36684	25.02546	27	18	12	

Sample Number:	16-LV-190-1			Lab ID:	MI8173-NOV16:05				
n= 368	Stage X (mm)	Stage Y (mm)	Mineral	Particle X (mm)	Particle Y (mm)	Long Axis (µm)	Short Axis (µm)	Area (# 5 x 5 µm pixels)	
Top Left	41.2318	69.118		-0.6522	37.4583				
Bottom Right	61.933	34.041		20.049	2.3813				
Bottom Left Marker	41.884	31.6597		0	0				
Top Right Marker	61.3728	68.046		19.4888	36.3863				
1469015077	60.873	37.107	Zircon	18.96948	5.26674	25	17	12	
1157480591	48.423	61.509	Zircon	6.50972	29.6053	27	16	12	
1093588873	43.443	49.557	Zircon	1.66148	17.74602	25	17	12	
1080687703	47.427	41.091	Zircon	5.37708	9.50938	22	21	12	
974984572	53.901	36.609	Zircon	12.0658	4.7297	29	16	12	
899192502	56.391	36.111	Zircon	14.38012	4.30002	26	15	12	
350254137	45.933	40.095	Zircon	3.96604	8.3621	22	20	12	
1929684005	44.439	49.059	Zircon	2.4574	17.5213	22	18	11	
1642829715	47.427	37.107	Zircon	5.77724	5.22282	20	20	11	
1282261595	47.925	37.107	Zircon	5.80676	5.59858	22	18	11	
1103035160	55.893	34.119	Zircon	14.19932	2.37634	22	18	11	
1071252925	57.885	33.621	Zircon	16.03028	2.14186	27	16	11	
957429135	48.921	44.079	Zircon	7.12484	12.53154	30	13	11	
556809584	48.423	50.055	Zircon	6.77324	18.17082	20	20	11	
470652468	44.439	38.601	Zircon	2.71604	6.90226	22	20	11	
202277593	43.443	52.545	Zircon	1.57364	21.11466	30	14	11	
194309425	58.383	35.115	Zircon	16.70884	3.61634	25	16	11	
191729009	56.889	41.589	Zircon	14.78052	10.10498	27	16	11	
24578470	47.427	49.059	Zircon	5.70892	17.5457	30	13	11	
1789289958	59.877	47.067	Zircon	17.90516	15.63666	22	16	10	
1771110619	47.925	60.015	Zircon	6.24596	28.3065	22	18	10	
1358216115	56.889	45.075	Zircon	15.08308	13.23962	20	17	10	
1320590558	46.929	60.513	Zircon	5.1426	28.76546	22	16	10	
843059742	57.885	41.091	Zircon	15.94244	9.3581	25	17	10	
788027264	55.893	61.509	Zircon	14.253	29.97618	22	17	10	
680162077	58.383	36.609	Zircon	16.5722	4.78826	22	16	10	
184795290	58.383	41.589	Zircon	16.27452	9.90978	24	15	10	
2102670698	61.869	52.047	Zircon	19.9362	20.26042	22	16	9	
1915913253	51.909	40.095	Zircon	10.15188	8.24986	20	16	9	
1702896409	52.905	52.545	Zircon	10.85508	20.66082	20	16	9	
1630215157	49.419	40.095	Zircon	7.34956	8.26938	25	13	9	
1398378924	54.897	57.525	Zircon	12.77876	25.6457	26	12	9	

Sample Number:	16-LV-190-1			Lab ID:	MI8173-NOV16:05				
n= 368	Stage X (mm)	Stage Y (mm)	Mineral	Particle X (mm)	Particle Y (mm)	Long Axis (µm)	Short Axis (µm)	Area (# 5 x 5 µm pixels)	
Top Left	41.2318	69.118		-0.6522	37.4583				
Bottom Right	61.933	34.041		20.049	2.3813				
Bottom Left Marker	41.884	31.6597		0	0				
Top Right Marker	61.3728	68.046		19.4888	36.3863				
1388518887	55.395	42.585	Zircon	13.45732	11.1693	19	19	9	
1376215006	61.869	50.055	Zircon	19.98012	18.45386	22	14	9	
1373659462	54.399	53.043	Zircon	12.48572	21.30034	26	15	9	
1313256381	60.873	46.569	Zircon	19.02316	14.81658	22	16	9	
1309685047	59.379	43.083	Zircon	17.27052	11.50626	31	11	9	
1275012221	61.371	36.609	Zircon	19.28692	5.02738	19	19	9	
1200937114	53.901	33.621	Zircon	12.15364	2.20042	19	19	9	
1163681457	43.443	38.601	Zircon	1.69076	6.8925	22	16	9	
958908919	49.917	45.075	Zircon	7.84268	13.25914	22	17	9	
947838260	60.375	45.075	Zircon	18.33484	13.23962	22	14	9	
879292346	55.893	43.581	Zircon	14.04804	11.98474	19	19	9	
446965175	46.431	54.039	Zircon	4.65436	22.32074	25	13	9	
74888749	48.921	45.075	Zircon	6.97844	13.58122	20	16	9	
43441988	56.391	53.043	Zircon	14.66316	21.4077	22	14	9	
34936998	49.419	39.597	Zircon	7.7302	8.1569	22	16	9	
2027513144	53.901	52.545	Zircon	11.79252	21.1049	22	14	8	
1791670482	57.387	46.569	Zircon	15.747	14.77754	20	16	8	
1773043320	48.921	60.513	Zircon	6.8906	28.75082	19	15	8	
1703730259	56.391	58.023	Zircon	14.45332	26.4365	19	15	8	
1662851685	57.885	58.023	Zircon	16.10836	26.27058	20	16	8	
1493859332	44.439	52.047	Zircon	2.52084	20.32874	20	16	8	
1369429168	58.383	59.019	Zircon	16.40628	27.4081	20	15	8	
1110293011	61.869	49.059	Zircon	19.84836	17.16994	27	11	8	
952537943	51.411	46.071	Zircon	9.74172	14.61138	25	12	8	
879458008	52.407	43.083	Zircon	10.32292	11.47698	19	15	8	
879437531	52.407	43.083	Zircon	10.75724	11.33058	19	15	8	
818542636	62.367	33.123	Zircon	20.37076	1.59018	22	17	8	
668410122	52.407	55.533	Zircon	10.55716	23.65858	20	14	8	
603626360	60.873	37.605	Zircon	19.17444	6.05754	20	14	8	
509575777	50.913	55.533	Zircon	8.8338	23.99042	26	12	8	
215150986	59.379	47.067	Zircon	17.55356	15.2609	19	15	8	
24291828	47.427	49.059	Zircon	5.65036	17.24802	19	15	8	

Sample Number:	16-LV-190-1			Lab ID:	MI8173-NOV16:05				
n= 368	Stage X (mm)	Stage Y (mm)	Mineral	Particle X (mm)	Particle Y (mm)	Long Axis (µm)	Short Axis (µm)	Area (# 5 x 5 µm pixels)	
Top Left	41.2318	69.118		-0.6522	37.4583				
Bottom Right	61.933	34.041		20.049	2.3813				
Bottom Left Marker	41.884	31.6597		0	0				
Top Right Marker	61.3728	68.046		19.4888	36.3863				
2124953746	50.913	43.083	Zircon	9.0778	11.58434	22	13	7	
1964396752	52.407	38.601	Zircon	10.28388	6.8437	19	12	7	
1931494848	46.431	37.605	Zircon	4.50308	6.1893	20	13	7	
1892207548	61.371	43.083	Zircon	19.68708	11.41842	22	12	7	
1879316893	52.407	35.115	Zircon	10.40588	3.60658	20	13	7	
1757726642	46.431	40.095	Zircon	4.30788	8.61098	19	15	7	
1602096548	56.889	57.525	Zircon	14.81468	25.77746	16	16	7	
1565281917	58.881	57.525	Zircon	16.8994	25.75794	19	15	7	
1521945742	50.415	49.557	Zircon	8.36508	17.70698	20	13	7	
1401806218	43.443	36.609	Zircon	1.53948	5.15914	20	14	7	
1298324003	43.941	38.103	Zircon	1.92036	6.37986	20	13	7	
1284012420	57.387	57.525	Zircon	15.5274	25.77746	19	12	7	
1185277753	53.403	33.621	Zircon	11.38236	2.19066	20	13	7	
1181839288	53.901	41.091	Zircon	12.23172	9.28978	19	12	7	
1116210238	62.367	50.055	Zircon	20.51716	18.3709	20	13	7	
961049054	44.439	43.083	Zircon	2.7502	11.33058	25	11	7	
918924279	54.399	61.011	Zircon	12.69068	29.55626	20	14	7	
889845164	51.909	57.027	Zircon	9.78588	25.13306	19	15	7	
819087006	52.905	35.115	Zircon	11.1186	3.32354	19	12	7	
699025761	52.407	38.103	Zircon	10.523	6.24322	16	16	7	
566794435	58.881	62.007	Zircon	16.9238	30.33266	16	16	7	
110958885	49.917	47.067	Zircon	7.87684	15.30482	19	15	7	
2110689590	57.387	44.577	Zircon	15.38588	12.6977	16	14	6	
2101181687	47.427	50.055	Zircon	5.56252	18.4197	16	14	6	
2048987581	54.897	53.043	Zircon	13.01788	21.15882	16	14	6	
2012736927	44.937	40.593	Zircon	3.15548	9.02114	20	11	6	
1949498135	57.885	59.019	Zircon	15.87412	27.1885	16	16	6	
1916228721	51.909	40.095	Zircon	10.10308	8.64514	20	11	6	
1780388793	49.419	37.107	Zircon	7.7058	5.36434	20	11	6	
1724362031	51.909	54.537	Zircon	10.13236	22.70162	20	10	6	
1721070631	56.889	56.031	Zircon	14.92204	24.32738	20	11	6	
1605564447	47.925	33.123	Zircon	6.17276	1.29738	16	14	6	



Sample Number:	16-LV-190-1			Lab ID:	MI8173-NOV16:05				
n= 368	Stage X (mm)	Stage Y (mm)	Mineral	Particle X (mm)	Particle Y (mm)	Long Axis (µm)	Short Axis (µm)	Area (# 5 x 5 µm pixels)	
Top Left	41.2318	69.118		-0.6522	37.4583				
Bottom Right	61.933	34.041		20.049	2.3813				
Bottom Left Marker	41.884	31.6597		0	0				
Top Right Marker	61.3728	68.046		19.4888	36.3863				
1550890771	60.873	48.063	Zircon	19.10612	16.47162	16	14	6	
1431056399	62.367	49.557	Zircon	20.57572	17.88754	20	10	6	
1401810330	43.443	36.609	Zircon	1.48092	5.17866	16	14	6	
1278529502	43.941	60.015	Zircon	2.16924	28.10642	16	14	6	
1195321498	45.933	59.019	Zircon	3.93188	27.5057	16	14	6	
1169080063	54.897	49.059	Zircon	12.7934	17.40418	20	15	6	
1081357301	54.399	37.605	Zircon	12.61748	5.71106	22	10	6	
1052666240	53.901	55.035	Zircon	11.93404	23.2533	16	16	6	
911751815	45.933	55.533	Zircon	4.20028	23.78058	16	14	6	
910849721	56.889	40.095	Zircon	15.04892	8.67442	20	11	6	
744455618	57.885	45.573	Zircon	15.94244	13.70346	16	14	6	
699013485	52.407	38.103	Zircon	10.54252	6.24322	16	14	6	
627156067	50.415	60.513	Zircon	8.32604	29.03874	20	11	6	
550402844	44.937	60.015	Zircon	2.92612	28.36018	20	15	6	
534380910	61.371	51.051	Zircon	19.60412	19.4157	22	10	6	
478199173	44.439	41.091	Zircon	2.75996	9.45082	20	11	6	
453447755	46.431	58.023	Zircon	4.73732	26.2657	16	14	6	
440055132	58.881	55.035	Zircon	17.17268	23.18986	19	12	6	
426564513	43.443	39.099	Zircon	1.44676	7.50274	16	14	6	
369127664	43.941	58.521	Zircon	2.07164	26.71002	16	14	6	
356694770	53.901	44.577	Zircon	11.90476	13.09786	19	12	6	
331339594	54.897	41.589	Zircon	12.99348	9.81218	19	12	6	
328540905	49.917	40.095	Zircon	7.8134	8.4353	19	12	6	
298715520	52.407	55.035	Zircon	10.56692	23.6193	20	10	6	
200608597	58.881	54.537	Zircon	17.18244	22.74554	16	14	6	
181153142	48.921	47.565	Zircon	6.80764	16.02242	20	11	6	
149827428	56.391	61.011	Zircon	14.40452	29.40498	19	12	6	
51328063	56.889	37.107	Zircon	14.9562	5.57906	20	11	6	
2128300165	46.431	39.099	Zircon	4.57628	7.26362	24	5	5	
2113556881	57.885	57.525	Zircon	15.84484	25.69938	19	12	5	
2108621612	59.379	55.035	Zircon	17.50476	23.17522	16	11	5	
2064812699	45.933	50.055	Zircon	3.99044	18.4441	16	11	5	

Sample Number:	16-LV-190-1			Lab ID:	MI8173-NOV16:05				
n= 368	Stage X (mm)	Stage Y (mm)	Mineral	Particle X (mm)	Particle Y (mm)	Long Axis (µm)	Short Axis (µm)	Area (# 5 x 5 µm pixels)	
Top Left	41.2318	69.118		-0.6522	37.4583				
Bottom Right	61.933	34.041		20.049	2.3813				
Bottom Left Marker	41.884	31.6597		0	0				
Top Right Marker	61.3728	68.046		19.4888	36.3863				
2024937780	60.375	46.569	Zircon	18.52516	15.1533	20	10	5	
2005127064	46.431	43.581	Zircon	4.60556	12.08234	24	5	5	
1999677420	60.873	55.035	Zircon	18.989	23.60954	19	8	5	
1990078764	62.367	62.007	Zircon	20.53668	30.28874	16	11	5	
1803442420	60.375	36.609	Zircon	18.35436	4.72482	20	10	5	
1703635998	56.391	58.023	Zircon	14.41428	26.10954	24	5	5	
1578725269	56.391	45.075	Zircon	14.32644	13.46898	16	11	5	
1431281218	61.869	40.593	Zircon	20.21436	8.75274	16	11	5	
1431253055	62.367	49.557	Zircon	20.59524	18.11202	20	10	5	
1370850115	58.383	49.557	Zircon	16.48924	18.0193	16	11	5	
1323782499	46.929	58.023	Zircon	5.00596	26.40234	20	10	5	
1315553060	56.889	47.565	Zircon	15.005	15.65642	20	10	5	
1309807903	59.379	43.083	Zircon	17.73412	11.17442	16	11	5	
1307001534	57.387	47.565	Zircon	15.53228	15.93458	20	10	5	
1245188421	46.929	39.597	Zircon	5.09868	7.73234	16	11	5	
1212899970	53.901	47.067	Zircon	11.88036	15.48538	20	10	5	
1206308567	45.435	35.613	Zircon	3.41436	3.71906	20	10	5	
1163929538	52.905	45.075	Zircon	10.78676	13.21522	20	10	5	
1131275632	47.925	49.059	Zircon	6.285	17.30658	16	11	5	
1127235094	47.427	47.565	Zircon	5.54788	15.68082	16	11	5	
1071138208	57.885	33.621	Zircon	16.01564	2.02474	16	11	5	
979674616	48.921	39.597	Zircon	7.20292	7.78114	16	11	5	
932014864	49.419	60.015	Zircon	7.6814	28.44314	16	11	5	
918101014	50.415	36.111	Zircon	8.3358	4.21218	16	14	5	
917363605	53.403	39.099	Zircon	11.52388	7.67842	20	10	5	
870109325	46.929	46.569	Zircon	5.07428	14.66042	16	11	5	
852969224	44.439	60.513	Zircon	2.64284	29.07778	20	10	5	
828960233	59.379	42.585	Zircon	17.63164	10.80818	16	11	5	
740687747	51.909	53.541	Zircon	9.96644	22.06674	16	11	5	
729745926	50.913	61.011	Zircon	8.84844	29.48794	16	11	5	
585112761	60.873	61.509	Zircon	19.17932	30.06402	16	11	5	
396807833	43.443	42.087	Zircon	1.36868	10.64202	16	11	5	

Sample Number:	16-LV-190-1			Lab ID:	MI8173-NOV16:05				
n= 368	Stage X (mm)	Stage Y (mm)	Mineral	Particle X (mm)	Particle Y (mm)	Long Axis (µm)	Short Axis (µm)	Area (# 5 x 5 µm pixels)	
Top Left	41.2318	69.118		-0.6522	37.4583				
Bottom Right	61.933	34.041		20.049	2.3813				
Bottom Left Marker	41.884	31.6597		0	0				
Top Right Marker	61.3728	68.046		19.4888	36.3863				
212885905	50.415	39.597	Zircon	8.60908	8.11786	16	11	5	
117910507	59.877	55.035	Zircon	18.19796	23.37042	16	11	5	
71256402	52.407	44.079	Zircon	10.41076	12.25826	16	11	5	
69988317	44.439	47.067	Zircon	2.49156	15.4317	16	11	5	
67636478	56.391	48.063	Zircon	14.42404	16.56434	16	11	5	
14855571	53.901	38.103	Zircon	12.21708	6.5165	16	11	5	
									<b>MNZ #</b>
1382163874	47.925	44.577	Monazite	5.86044	13.07834	98	72	164	1
193531938	60.873	60.015	Monazite	19.07684	28.43338	62	53	86	2
1254098730	60.873	51.051	Monazite	18.94996	19.38642	71	41	74	3
1494064145	44.439	52.047	Monazite	2.51596	20.37266	59	45	69	4
458366483	48.921	40.095	Monazite	7.10044	8.6793	53	36	54	5
1828443987	60.873	42.585	Monazite	18.94508	11.10098	49	42	53	6
1581217608	56.391	59.517	Monazite	14.46796	28.06714	47	40	52	7
2005729299	60.873	39.597	Monazite	18.88164	7.92754	51	42	47	8
1143949918	46.431	33.621	Monazite	4.5226	1.94178	51	35	47	9
2116962495	57.387	38.103	Monazite	15.56644	6.59458	49	28	40	10
2001240570	46.431	41.091	Monazite	4.41524	9.53378	59	24	38	11
2085347760	53.403	51.051	Monazite	11.73372	19.44986	45	27	37	12
811771399	61.869	48.063	Monazite	19.93132	16.64242	39	30	36	13
1983212685	57.885	57.027	Monazite	15.98636	25.32826	40	31	33	14
1050440738	52.905	47.565	Monazite	10.9722	15.70034	38	35	33	15
913416852	46.929	38.103	Monazite	4.9962	6.63362	53	24	33	
1080338899	52.905	37.107	Monazite	11.10884	5.6669	54	21	31	16
541288165	47.427	40.593	Monazite	5.74796	8.7137	38	31	31	
2143946786	47.427	45.075	Monazite	5.48444	13.6593	36	28	29	
1705900438	53.901	57.525	Monazite	12.13412	25.83114	36	30	29	17
1560135887	45.933	59.517	Monazite	4.2686	27.82314	33	28	25	18
1264084979	52.905	56.529	Monazite	11.22108	24.64482	40	23	25	
1085966709	44.937	34.617	Monazite	2.96028	3.0061	33	27	24	
869472194	60.375	56.529	Monazite	18.6374	25.04986	31	27	24	19
137229838	52.407	40.095	Monazite	10.40588	8.32306	31	28	24	

Sample Number:	16-LV-190-1			Lab ID:	MI8173-NOV16:05			
n= 368	Stage X (mm)	Stage Y (mm)	Mineral	Particle X (mm)	Particle Y (mm)	Long Axis (µm)	Short Axis (µm)	Area (# 5 x 5 µm pixels)
Top Left	41.2318	69.118		-0.6522	37.4583			
Bottom Right	61.933	34.041		20.049	2.3813			
Bottom Left Marker	41.884	31.6597		0	0			
Top Right Marker	61.3728	68.046		19.4888	36.3863			
1940183659	43.443	48.561	Monazite	1.73956	17.13554	36	22	22
1576333393	57.885	42.585	Monazite	15.82044	10.72034	38	25	22
1274549258	61.371	36.609	Monazite	19.3162	4.82242	33	25	22
76306678	62.367	54.039	Monazite	20.59524	22.4037	38	22	22
951609233	57.387	47.067	Monazite	15.31268	15.3585	33	24	21
363865837	49.419	54.537	Monazite	7.60332	22.76994	29	29	21
1050543164	52.905	47.565	Monazite	11.04052	15.72962	31	25	20
954945835	55.395	53.043	Monazite	13.35972	21.22714	30	26	20
1745172392	58.881	47.067	Monazite	16.98236	15.34874	31	23	19
325823302	45.435	49.557	Monazite	3.32652	18.10714	30	27	19
35055861	49.419	39.597	Monazite	7.5106	7.89338	30	27	19
2114650460	59.877	34.617	Monazite	18.1638	2.81578	29	22	18
1991446659	52.407	56.529	Monazite	10.41076	25.01082	36	20	18
1955679011	62.367	51.051	Monazite	20.24876	19.55722	27	25	18
740671408	51.909	53.541	Monazite	9.93228	21.9057	30	21	18
1461606475	56.391	41.589	Monazite	14.37524	9.8805	27	25	17
1298287200	43.941	38.103	Monazite	1.84716	6.26762	36	22	17
1286098291	44.439	40.593	Monazite	2.71604	8.75762	27	22	17
1300032105	62.367	40.095	Monazite	20.2878	8.19618	29	20	16
1632798741	60.375	54.537	Monazite	18.369	22.6821	27	22	15
701852492	55.395	47.067	Monazite	13.55004	15.61226	25	21	15
2015164612	51.909	60.513	Monazite	10.16652	28.86794	31	17	14
1969477902	49.917	41.091	Monazite	8.26236	9.25074	27	20	14
1798594577	51.411	42.585	Monazite	9.51236	10.99362	31	19	14
1703865409	56.391	58.023	Monazite	14.5802	26.14858	30	16	14
627995440	43.443	59.019	Monazite	1.56876	27.31538	30	18	14
624258665	55.395	37.107	Monazite	13.49636	5.32042	25	25	14
393652106	49.419	41.091	Monazite	7.71068	9.4557	27	20	14
2122391402	43.443	44.079	Monazite	1.64684	12.18506	27	18	13
1455615484	57.885	60.015	Monazite	16.05468	28.5993	29	15	13
1139056964	55.893	33.621	Monazite	13.92116	1.75634	31	16	13
885868216	46.929	53.541	Monazite	4.80588	21.99354	31	16	13

Sample Number:	16-LV-190-1			Lab ID:	MI8173-NOV16:05				
n= 368	Stage X (mm)	Stage Y (mm)	Mineral	Particle X (mm)	Particle Y (mm)	Long Axis (µm)	Short Axis (µm)	Area (# 5 x 5 µm pixels)	
Top Left	41.2318	69.118		-0.6522	37.4583				
Bottom Right	61.933	34.041		20.049	2.3813				
Bottom Left Marker	41.884	31.6597		0	0				
Top Right Marker	61.3728	68.046		19.4888	36.3863				
1621688258	45.933	42.087	Monazite	3.83428	10.27602	25	19	12	
1510445806	43.941	59.517	Monazite	2.29612	27.96466	26	19	12	
729582132	50.913	61.011	Monazite	9.04852	29.50258	35	13	12	
699222295	52.407	38.103	Monazite	10.5962	6.23834	27	16	12	
40411571	49.917	60.015	Monazite	7.89636	28.25282	33	16	12	
1981297231	50.415	33.621	Monazite	8.4578	1.77586	22	20	11	
1943955193	60.873	56.031	Monazite	19.19884	24.43474	25	16	11	
1818656965	57.885	47.067	Monazite	15.82044	15.61226	26	15	11	
639911644	43.941	38.601	Monazite	1.96916	6.8925	22	18	11	
553395236	52.905	41.091	Monazite	11.07468	9.34346	22	18	11	
396619472	43.443	42.087	Monazite	1.60292	10.19306	20	19	11	
235781737	57.885	60.513	Monazite	16.05956	28.6093	25	17	11	
1642791546	47.427	44.577	Monazite	5.47956	12.80506	22	16	10	
1235144265	51.411	53.043	Monazite	9.3074	21.54922	30	13	10	
1117522035	58.383	33.621	Monazite	16.40628	2.0345	22	17	10	
602396012	44.439	51.549	Monazite	2.54524	19.68922	25	14	10	
418506572	61.869	46.071	Monazite	20.10212	14.46986	22	17	10	
1985770932	51.411	41.589	Monazite	9.31716	10.03666	20	16	9	
890832333	61.371	46.071	Monazite	19.47724	14.32834	25	14	9	
477748863	52.905	55.533	Monazite	11.23572	24.08314	20	16	9	
440190258	58.881	55.035	Monazite	17.16292	23.32162	20	16	9	
409856689	56.391	56.529	Monazite	14.31668	25.05474	20	16	9	
138305599	44.937	55.035	Monazite	3.17012	23.31674	20	16	9	
132003289	47.925	40.095	Monazite	6.27524	8.30842	26	12	9	
2133434042	52.407	39.099	Monazite	10.401	7.19042	25	12	8	
1780662709	46.929	33.123	Monazite	5.19628	1.5121	25	12	8	
1199155976	53.901	51.051	Monazite	11.773	19.44986	19	15	8	
473772318	53.901	55.533	Monazite	12.10972	23.7757	25	12	8	
397236591	50.913	52.047	Monazite	8.98996	20.6313	22	13	8	
347195869	55.395	36.609	Monazite	13.56468	4.80778	20	15	8	
110615363	51.411	40.593	Monazite	9.6002	8.92842	19	15	8	
1910588764	51.909	39.597	Monazite	9.8298	8.11786	19	15	7	

Sample Number:	16-LV-190-1			Lab ID:	MI8173-NOV16:05			
n= 368	Stage X (mm)	Stage Y (mm)	Mineral	Particle X (mm)	Particle Y (mm)	Long Axis (µm)	Short Axis (µm)	Area (# 5 x 5 µm pixels)
Top Left	41.2318	69.118		-0.6522	37.4583			
Bottom Right	61.933	34.041		20.049	2.3813			
Bottom Left Marker	41.884	31.6597		0	0			
Top Right Marker	61.3728	68.046		19.4888	36.3863			
1837855916	44.439	51.051	Monazite	2.69164	19.52794	20	13	7
137303643	52.407	40.095	Monazite	10.58156	8.35722	19	15	7
2004905950	46.431	43.581	Monazite	4.41524	12.1653	19	12	6
1964208264	52.407	38.601	Monazite	10.40588	7.1853	20	11	6
1363986556	49.419	44.079	Monazite	7.69604	12.2973	16	14	6
655102678	44.439	37.107	Monazite	2.4574	5.3253	16	16	6
425274963	48.921	57.027	Monazite	7.21268	25.41122	16	14	6
396952599	59.877	45.573	Monazite	17.97348	13.90842	19	12	6
2093367990	47.925	41.589	Monazite	5.919	9.90978	16	11	5
1901466739	53.901	54.039	Monazite	12.261	22.31098	16	11	5
1899247633	52.407	42.087	Monazite	10.34732	10.19794	16	11	5
1362201045	50.415	39.099	Monazite	8.72132	7.27826	20	10	5
1168649881	54.897	49.059	Monazite	13.08132	17.50178	16	14	5
809420147	47.427	50.553	Monazite	5.38196	18.8445	16	11	5
348955952	57.885	34.119	Monazite	16.13276	2.60082	16	11	5
310391974	44.439	59.517	Monazite	2.311	27.96466	16	11	5
138059835	44.937	55.035	Monazite	2.99932	23.16058	16	11	5

Sample Number:	16-LV-201-1			Lab ID:	MI8173-NOV16:06					
n= 298	Stage X (mm)	Stage Y (mm)	Mineral	Particle X (mm)	Particle Y (mm)	Long Axis (µm)	Short Axis (µm)	Area (# 5 x 5 µm pixels)		
Top Left	-60.5525	18.8943		-1.1622	36.4615					
Bottom Right	-39.885	-18.3865		19.5053	-0.8193					
Bottom Left Marker	-59.3903	-17.5672		0	0					
Top Right Marker	-41.2025	18.579		18.1878	36.1462					
1945280443	-54.843	4.295	Zircon	4.45458	21.75484	40	35	30		
698932103	-58.329	8.777	Zircon	1.0857	26.11484	40	22	24		
1480232057	-55.341	5.789	Zircon	4.0493	23.43916	35	21	20		
420262073	-43.887	10.769	Zircon	15.44962	28.18492	27	27	19		
1740043424	-55.839	0.809	Zircon	3.52202	18.60068	30	24	18		
1200784873	-59.325	-13.632	Zircon	0.00186	4.00352	27	25	17		
312243537	-54.843	6.287	Zircon	4.34722	23.90788	29	22	17		
2087598364	-57.831	0.809	Zircon	1.51538	18.28836	31	20	16		
2051298026	-58.827	10.769	Zircon	0.47546	28.10196	32	22	16		
476949611	-45.381	-1.182	Zircon	14.11666	16.5804	36	19	16		
69873587	-56.337	-3.174	Zircon	2.85322	14.18824	31	18	16		
1680873101	-57.333	-2.178	Zircon	2.13538	15.33552	29	20	15		
1004306628	-52.851	-4.668	Zircon	6.54418	13.13832	29	19	14		
987971142	-44.385	0.311	Zircon	15.0297	17.86844	33	18	14		
69593077	-44.883	6.287	Zircon	14.3853	23.93228	25	20	14		
669211613	-57.831	7.781	Zircon	1.4617	25.519	26	22	13		
418989721	-59.823	13.259	Zircon	-0.50102	31.02628	27	18	13		
2087647546	-57.831	0.809	Zircon	1.77402	18.39572	25	17	12		
1142364080	-57.831	12.761	Zircon	1.77402	30.11348	22	21	12		
1658494738	-44.385	4.793	Zircon	15.11266	22.1894	25	18	11		
1320747582	-51.855	11.267	Zircon	7.75978	28.82932	22	20	11		
1176000552	-43.887	13.757	Zircon	15.26906	31.495	29	20	11		
70595975	-60.819	8.777	Zircon	-1.57022	26.21732	22	20	11		
1805609554	-56.337	-2.676	Zircon	2.98986	14.93024	22	17	10		
1703731199	-44.385	-5.166	Zircon	14.80522	12.64032	35	11	10		
1304873883	-61.317	9.275	Zircon	-1.8291	26.75924	22	16	10		
756044119	-56.835	-1.182	Zircon	2.6773	16.34616	22	18	10		
745546019	-44.385	10.769	Zircon	15.19562	28.48748	26	15	10		
739525618	-42.891	-10.146	Zircon	16.2553	7.23576	25	14	10		
603839172	-42.891	-5.664	Zircon	16.71402	12.14232	22	16	10		
486248882	-51.855	-7.158	Zircon	7.57922	10.54096	24	15	10		
2063891793	-52.851	-14.13	Zircon	6.51978	3.42256	20	16	9		



Sample Number:	16-LV-201-1			Lab ID:	MI8173-NOV16:06					
n= 298	Stage X (mm)	Stage Y (mm)	Mineral	Particle X (mm)	Particle Y (mm)	Long Axis (µm)	Short Axis (µm)	Area (# 5 x 5 µm pixels)		
Top Left	-60.5525	18.8943		-1.1622	36.4615					
Bottom Right	-39.885	-18.3865		19.5053	-0.8193					
Bottom Left Marker	-59.3903	-17.5672		0	0					
Top Right Marker	-41.2025	18.579		18.1878	36.1462					
2012368852	-48.867	7.283	Zircon	10.34274	24.81604	26	12	9		
1550547188	-49.863	-10.644	Zircon	9.76154	6.71336	22	14	9		
189430053	-54.345	2.801	Zircon	4.8745	20.417	20	17	9		
2075554702	-59.823	9.275	Zircon	-0.6523	26.84708	19	15	8		
1867060512	-55.341	3.797	Zircon	3.9273	21.47644	19	15	8		
1844797739	-56.835	0.311	Zircon	2.33082	17.80988	20	15	8		
1810039356	-56.337	-3.672	Zircon	3.1265	13.83664	20	14	8		
1207501383	-43.389	3.797	Zircon	15.84514	21.53012	20	14	8		
1202511318	-51.357	7.781	Zircon	8.09674	25.47508	22	17	8		
1166041765	-51.357	13.757	Zircon	7.8869	31.09484	29	11	8		
1063089591	-54.345	-6.66	Zircon	5.12826	11.1024	19	15	8		
962170860	-60.321	-5.664	Zircon	-0.81358	11.9276	19	15	8		
906194763	-51.855	13.757	Zircon	7.51578	31.17292	22	14	8		
739615725	-42.891	-10.146	Zircon	16.26994	7.3236	25	12	8		
424899164	-50.361	5.789	Zircon	9.14154	23.27324	19	15	8		
256239393	-56.835	-0.684	Zircon	2.54066	17.1272	22	13	8		
161077846	-43.389	-10.146	Zircon	16.17698	7.52368	19	15	8		
2074270370	-52.353	1.805	Zircon	6.90066	19.29412	16	16	7		
1753630505	-46.875	5.789	Zircon	12.65194	23.17076	19	15	7		
1724226957	-50.361	-6.162	Zircon	8.95122	11.24416	16	16	7		
1274564839	-57.333	-6.66	Zircon	2.12074	11.11216	20	13	7		
1260481905	-59.823	-4.668	Zircon	-0.42294	13.07488	20	13	7		
1209300547	-54.843	-13.134	Zircon	4.77178	4.22336	16	16	7		
1166385904	-51.357	13.757	Zircon	7.8869	31.30468	20	13	7		
1102509126	-55.341	9.275	Zircon	4.25914	26.98372	22	12	7		
1001941149	-42.393	-14.13	Zircon	16.8509	3.34936	20	15	7		
585036803	-59.325	-14.628	Zircon	-0.10062	2.7684	19	15	7		
581115433	-49.365	-4.668	Zircon	10.01066	13.1432	20	14	7		
572553412	-56.337	4.793	Zircon	3.1509	22.1406	19	12	7		
555442146	-56.337	12.263	Zircon	3.24362	29.67404	20	13	7		
329585420	-59.823	-13.134	Zircon	-0.3595	4.46248	24	10	7		
270102985	-59.823	-0.684	Zircon	-0.27166	17.0296	19	15	7		

Sample Number:	16-LV-201-1			Lab ID:	MI8173-NOV16:06					
n= 298	Stage X (mm)	Stage Y (mm)	Mineral	Particle X (mm)	Particle Y (mm)	Long Axis (µm)	Short Axis (µm)	Area (# 5 x 5 µm pixels)		
Top Left	-60.5525	18.8943		-1.1622	36.4615					
Bottom Right	-39.885	-18.3865		19.5053	-0.8193					
Bottom Left Marker	-59.3903	-17.5672		0	0					
Top Right Marker	-41.2025	18.579		18.1878	36.1462					
182794448	-59.823	-6.162	Zircon	-0.30582	11.48328	20	13	7		
176719878	-59.823	10.271	Zircon	-0.57422	28.009	19	12	7		
90899490	-47.373	5.291	Zircon	12.02218	22.80452	20	14	7		
27522990	-56.337	9.275	Zircon	3.1509	26.63724	19	15	7		
2057136932	-58.329	-6.162	Zircon	0.90026	11.48328	16	16	6		
1913866953	-52.851	13.259	Zircon	6.7345	30.71396	20	10	6		
1861530900	-50.361	-13.134	Zircon	9.00002	4.39904	20	11	6		
1854282602	-59.823	2.801	Zircon	-0.32534	20.37796	16	14	6		
1632063815	-56.835	-13.632	Zircon	2.39914	3.75952	20	10	6		
1624697481	-58.329	-4.17	Zircon	0.83682	13.60704	19	12	6		
1496798961	-52.851	12.263	Zircon	6.60274	29.66428	16	14	6		
1408251273	-57.333	2.303	Zircon	2.09146	19.98244	16	14	6		
1308927355	-49.863	13.259	Zircon	9.34186	30.59196	16	14	6		
1147631452	-42.393	7.781	Zircon	17.01682	25.30916	16	14	6		
1059785069	-57.831	1.307	Zircon	1.50074	19.02548	16	14	6		
996412720	-47.373	7.781	Zircon	12.19786	25.23596	16	14	6		
875073846	-54.345	-6.162	Zircon	4.84034	11.3076	16	14	6		
617649796	-60.321	10.769	Zircon	-1.1503	28.28252	16	14	6		
546976930	-58.827	-8.154	Zircon	0.52914	9.56936	20	11	6		
353978893	-47.373	-7.158	Zircon	12.09538	10.4092	19	12	6		
215962677	-56.337	10.769	Zircon	2.94106	28.44356	19	12	6		
23613677	-60.321	-5.166	Zircon	-0.99902	12.43536	16	14	6		
2095788764	-44.385	0.809	Zircon	15.22978	18.4738	20	10	5		
1949390456	-58.329	-8.652	Zircon	1.03202	8.83712	16	11	5		
1638670064	-44.883	6.785	Zircon	14.55122	24.22532	16	11	5		
1559435707	-46.875	7.781	Zircon	12.40306	25.54828	16	11	5		
1464961625	-51.357	10.769	Zircon	7.8137	28.1898	16	11	5		
1398980369	-51.357	13.259	Zircon	7.80394	30.875	16	11	5		
1391050374	-50.859	-9.648	Zircon	8.6045	7.90456	16	11	5		
1349050870	-50.859	-3.174	Zircon	8.37026	14.3688	16	11	5		
1332830400	-54.345	-4.17	Zircon	4.9477	13.40696	16	11	5		
1266890948	-56.337	6.785	Zircon	3.26802	24.21556	16	11	5		

Sample Number:	16-LV-201-1			Lab ID:	MI8173-NOV16:06				
n= 298	Stage X (mm)	Stage Y (mm)	Mineral	Particle X (mm)	Particle Y (mm)	Long Axis (µm)	Short Axis (µm)	Area (# 5 x 5 µm pixels)	
Top Left	-60.5525	18.8943		-1.1622	36.4615				
Bottom Right	-39.885	-18.3865		19.5053	-0.8193				
Bottom Left Marker	-59.3903	-17.5672		0	0				
Top Right Marker	-41.2025	18.579		18.1878	36.1462				
1176320103	-43.887	13.757	Zircon	15.58626	31.55844	16	11	5	
1133349254	-60.321	3.299	Zircon	-1.16494	20.75884	16	11	5	
1076431602	-43.389	2.303	Zircon	15.84514	19.76284	16	11	5	
948358857	-54.843	11.765	Zircon	4.33258	29.5762	16	11	5	
894437852	-54.345	13.259	Zircon	5.28442	30.753	16	11	5	
745834764	-53.847	-6.66	Zircon	5.75802	10.84864	16	11	5	
695755488	-50.361	-6.66	Zircon	8.8829	11.02432	24	5	5	
504051656	-56.835	-3.672	Zircon	2.48698	13.97328	16	11	5	
371845041	-55.839	-3.174	Zircon	3.65866	14.15896	16	11	5	
231472657	-55.341	-6.162	Zircon	4.13226	11.6004	16	11	5	
183559292	-42.393	-10.146	Zircon	16.8997	7.60176	20	10	5	
104628806	-42.891	-14.13	Zircon	16.46026	3.6324	16	11	5	
69758898	-56.337	-3.174	Zircon	2.94594	14.25656	16	11	5	
69734312	-56.337	-3.174	Zircon	3.28754	14.45176	16	11	5	
28078958	-60.321	5.291	Zircon	-0.74038	22.82892	16	11	5	
									<b>MNZ #</b>
757773684	-43.887	-3.174	Monazite	15.67898	14.54936	94	27	62	1
835866248	-44.883	11.267	Monazite	14.55122	28.71708	64	24	36	2
1686133692	-53.847	-4.668	Monazite	5.5921	12.948	55	27	35	3
898823120	-57.831	-14.13	Monazite	1.69106	3.2176	38	33	34	4
17039334	-45.381	11.765	Monazite	13.8141	29.57132	75	22	32	5
1945534421	-54.843	4.295	Monazite	4.4985	21.85732	49	27	31	6
1333860836	-43.389	-3.174	Monazite	15.76218	14.40784	51	23	30	7
650895492	-42.393	1.307	Monazite	16.93386	18.8986	38	33	30	8
272657688	-56.835	-1.68	Monazite	2.63338	15.76032	61	20	30	9
2087457900	-52.353	13.259	Monazite	7.0861	30.83108	42	30	28	10
1618641257	-49.365	-11.142	Monazite	10.23026	6.38616	51	22	28	11
1766760756	-48.369	-13.134	Monazite	10.91394	4.45272	55	23	25	12
846566511	-59.823	2.303	Monazite	-0.52542	19.66036	44	21	25	13
1282902613	-52.353	-13.134	Monazite	7.26178	4.64792	32	26	24	14
1333832157	-43.389	-3.174	Monazite	15.77194	14.50056	44	21	21	
1329181308	-54.345	0.311	Monazite	5.16242	17.83428	54	29	21	15

Sample Number:	16-LV-201-1			Lab ID:	MI8173-NOV16:06						
n= 298	Stage X (mm)	Stage Y (mm)	Mineral	Particle X (mm)	Particle Y (mm)	Long Axis (µm)	Short Axis (µm)	Area (# 5 x 5 µm pixels)			
Top Left	-60.5525	18.8943		-1.1622	36.4615						
Bottom Right	-39.885	-18.3865		19.5053	-0.8193						
Bottom Left Marker	-59.3903	-17.5672		0	0						
Top Right Marker	-41.2025	18.579		18.1878	36.1462						
388975562	-57.831	-4.668	Monazite	1.5593	12.81136	39	22	21	16		
863966337	-43.389	9.275	Monazite	16.01106	27.05692	33	22	20	17		
127213675	-42.393	-7.656	Monazite	16.7777	10.15032	47	17	20			
1945509826	-54.843	4.295	Monazite	4.46434	21.85732	36	19	19			
1133746560	-54.345	11.765	Monazite	5.18682	29.42492	27	27	19	18		
1935343733	-56.835	9.275	Monazite	2.67242	26.77388	39	18	18			
1747936157	-48.369	-11.142	Monazite	10.8993	6.3276	31	22	18	19		
1290228534	-44.385	4.295	Monazite	15.1761	22.06228	38	20	18	20		
377756503	-47.871	7.781	Monazite	11.5681	25.21644	40	20	18	21		
189735544	-58.827	12.761	Monazite	0.46082	30.1574	42	17	18			
1607274926	-43.887	8.279	Monazite	15.63994	25.69004	30	20	17	22		
1342248969	-53.847	-3.174	Monazite	5.67018	14.4176	49	14	16			
1319538193	-52.353	-8.154	Monazite	7.00802	9.62304	35	26	16	23		
1316838584	-55.341	-11.142	Monazite	4.11762	6.22024	30	21	16	24		
1922976868	-49.863	7.781	Monazite	9.33698	25.11396	27	20	15	25		
1568540144	-52.851	9.773	Monazite	6.35874	27.36948	27	20	15	26		
1217912810	-52.851	8.777	Monazite	6.40266	26.4662	42	13	15			
1132385297	-52.353	0.311	Monazite	7.19834	18.0978	35	15	15			
803676251	-44.385	-12.636	Monazite	15.0541	4.71648	29	19	15			
651022558	-58.329	10.769	Monazite	1.02226	28.10684	30	17	15			
411176182	-58.827	-5.166	Monazite	0.43642	12.3036	27	20	15	27		
1408948105	-61.317	4.793	Monazite	-1.72174	22.13084	33	26	14			
738102249	-58.329	2.801	Monazite	1.29066	20.33892	30	19	14			
530098731	-59.325	12.263	Monazite	0.06042	29.75212	36	18	14			
427131888	-45.879	-2.676	Monazite	13.49178	15.01808	36	18	14			
342889973	-48.369	10.271	Monazite	10.8993	27.74548	29	20	14	28		
1947979906	-59.325	-7.656	Monazite	0.06042	9.80384	29	20	13			
1861944573	-53.847	-10.644	Monazite	5.7629	6.72312	30	16	13			
1455960795	-58.827	-11.64	Monazite	0.52914	6.06872	30	16	13			
803471446	-44.385	-12.636	Monazite	15.04922	4.77504	30	19	13			
416310654	-50.361	1.307	Monazite	9.09762	18.86932	25	20	13	29		
384958974	-56.835	-7.158	Monazite	2.49674	10.51656	40	16	13			

Sample Number:	16-LV-201-1			Lab ID:	MI8173-NOV16:06					
n= 298	Stage X (mm)	Stage Y (mm)	Mineral	Particle X (mm)	Particle Y (mm)	Long Axis (µm)	Short Axis (µm)	Area (# 5 x 5 µm pixels)		
Top Left	-60.5525	18.8943		-1.1622	36.4615					
Bottom Right	-39.885	-18.3865		19.5053	-0.8193					
Bottom Left Marker	-59.3903	-17.5672		0	0					
Top Right Marker	-41.2025	18.579		18.1878	36.1462					
305539069	-42.393	-1.182	Monazite	16.8997	16.51208	31	18	13		
1796729579	-54.843	2.303	Monazite	4.64978	19.95804	30	15	12		
1093861370	-43.389	5.789	Monazite	15.92322	23.37572	30	15	12		
1022013105	-49.863	-0.186	Monazite	9.32722	17.38608	27	16	12		
451649531	-46.875	-5.166	Monazite	12.55922	12.22064	25	20	12		
1751384912	-55.341	0.809	Monazite	4.17618	18.43476	22	21	11		
1325289921	-57.333	-4.17	Monazite	1.9841	13.33376	27	16	11		
1299847032	-57.831	1.805	Monazite	1.40314	19.28436	36	13	11		
1102679263	-54.843	-8.154	Monazite	4.53754	9.50592	29	15	11		
933396327	-52.353	8.777	Monazite	7.23738	26.58332	22	18	11		
882029915	-56.337	1.805	Monazite	3.18994	19.48444	29	17	11		
104772121	-42.891	-14.13	Monazite	16.56274	3.40792	30	15	11		
83799105	-54.843	-10.644	Monazite	4.44482	6.88416	27	16	11		
76533248	-50.859	-8.154	Monazite	8.68746	9.23752	25	18	11		
6498351	-50.361	-13.632	Monazite	8.82434	3.73512	36	13	11		
2062290627	-58.827	-2.676	Monazite	0.34858	14.95952	22	16	10		
2043060801	-53.349	-5.664	Monazite	6.27554	12.04472	20	17	10		
1494343372	-43.389	4.295	Monazite	15.84026	22.02812	26	15	10		
1084364351	-46.377	-7.158	Monazite	13.2329	10.51168	20	17	10		
1036992147	-43.887	-6.162	Monazite	15.27882	11.34664	27	16	10		
549856681	-49.365	-9.15	Monazite	9.8789	8.31472	25	17	10		
465414899	-53.847	-1.182	Monazite	5.54818	16.25832	22	18	10		
305662738	-60.321	-4.668	Monazite	-0.87702	13.1432	22	16	10		
276091803	-55.839	4.295	Monazite	3.58546	21.91588	22	21	10		
158308705	-43.887	3.299	Monazite	15.26906	20.88084	25	16	10		
2079142373	-46.377	3.299	Monazite	12.83274	20.65148	29	10	9		
1826885560	-57.831	-5.664	Monazite	1.57882	12.03984	26	12	9		
1761572921	-45.879	11.267	Monazite	13.4625	28.79516	20	16	9		
1751618403	-55.341	0.809	Monazite	3.89802	18.24932	22	16	9		
1676659365	-58.329	10.271	Monazite	1.02226	28.0822	27	14	9		
1489739411	-54.843	10.271	Monazite	4.5717	27.63812	25	14	9		
1460867520	-52.353	-0.186	Monazite	6.9641	17.20064	26	15	9		

Sample Number:	16-LV-201-1			Lab ID:	MI8173-NOV16:06					
n= 298	Stage X (mm)	Stage Y (mm)	Mineral	Particle X (mm)	Particle Y (mm)	Long Axis (µm)	Short Axis (µm)	Area (# 5 x 5 µm pixels)		
Top Left	-60.5525	18.8943		-1.1622	36.4615					
Bottom Right	-39.885	-18.3865		19.5053	-0.8193					
Bottom Left Marker	-59.3903	-17.5672		0	0					
Top Right Marker	-41.2025	18.579		18.1878	36.1462					
1290187558	-44.385	4.295	Monazite	15.24442	21.93052	20	17	9		
1207028999	-51.357	11.267	Monazite	8.05282	28.7122	25	14	9		
1093763030	-43.389	5.789	Monazite	16.0257	23.46356	20	16	9		
828094131	-58.329	5.789	Monazite	0.97834	23.22932	25	13	9		
440015444	-54.843	-9.648	Monazite	4.74738	7.70936	22	17	9		
432762811	-42.891	-4.668	Monazite	16.44562	12.7772	27	11	9		
276083607	-55.839	4.295	Monazite	3.73674	21.73532	20	16	9		
206629100	-45.879	8.279	Monazite	13.74554	26.07556	20	16	9		
3917754	-50.859	5.291	Monazite	8.51178	22.67764	20	17	9		
2063633664	-52.851	-14.13	Monazite	6.32458	3.22736	22	13	8		
2010744056	-60.321	2.801	Monazite	-1.05758	20.35356	19	15	8		
1930899219	-55.839	-14.628	Monazite	3.58058	3.05632	25	12	8		
1865374226	-58.329	0.809	Monazite	1.22722	18.45916	20	16	8		
1863434006	-50.859	-11.142	Monazite	8.77042	6.65456	20	15	8		
1796696819	-54.843	2.303	Monazite	4.68394	19.95316	20	16	8		
1686215643	-53.847	-4.668	Monazite	5.66042	12.80648	19	15	8		
1424081228	-60.321	-6.66	Monazite	-1.05758	10.79008	27	11	8		
1322499976	-52.353	-0.684	Monazite	6.82746	16.75632	20	15	8		
1093263876	-55.839	-1.68	Monazite	3.47322	15.73592	27	11	8		
1010583175	-50.859	-0.684	Monazite	8.40442	16.94664	20	14	8		
1006877239	-51.855	0.809	Monazite	7.31082	18.25908	30	11	8		
962498459	-60.321	-5.664	Monazite	-0.7843	11.82512	20	17	8		
322753473	-51.357	-1.182	Monazite	8.22362	16.45352	29	11	8		
320444366	-45.381	-14.13	Monazite	13.87266	3.46648	29	11	8		
201229240	-54.843	7.283	Monazite	4.48386	24.84044	20	16	8		
101311695	-57.333	-4.668	Monazite	1.87186	13.00656	19	15	8		
1945534409	-54.843	4.295	Monazite	4.47898	21.82804	19	12	7		
1798201861	-59.823	-5.664	Monazite	-0.50102	11.708	20	13	7		
1349429649	-57.831	-0.684	Monazite	1.7057	16.77096	19	12	7		
1312166678	-49.365	8.279	Monazite	10.05946	25.64612	22	12	7		
1202898561	-52.851	3.299	Monazite	6.73938	20.99308	24	10	7		
1112223942	-48.369	-13.632	Monazite	10.82122	3.93032	19	12	7		

Sample Number:	16-LV-201-1			Lab ID:	MI8173-NOV16:06					
n= 298	Stage X (mm)	Stage Y (mm)	Mineral	Particle X (mm)	Particle Y (mm)	Long Axis (µm)	Short Axis (µm)	Area (# 5 x 5 µm pixels)		
Top Left	-60.5525	18.8943		-1.1622	36.4615					
Bottom Right	-39.885	-18.3865		19.5053	-0.8193					
Bottom Left Marker	-59.3903	-17.5672		0	0					
Top Right Marker	-41.2025	18.579		18.1878	36.1462					
1071378650	-51.855	11.765	Monazite	7.43282	29.20044	22	12	7		
898995074	-57.831	-14.13	Monazite	1.37386	3.2908	19	12	7		
740936446	-59.823	-12.636	Monazite	-0.55958	4.72136	16	16	7		
456443868	-54.843	-2.676	Monazite	4.54242	14.8668	20	15	7		
384975359	-56.835	-7.158	Monazite	2.56506	10.61904	20	13	7		
361403219	-47.871	0.809	Monazite	11.63154	18.51772	19	15	7		
348991231	-53.847	-2.178	Monazite	5.37738	15.47704	16	16	7		
60988561	-45.381	-5.664	Monazite	14.2289	11.83976	19	12	7		
2147427965	-52.851	-1.182	Monazite	6.62714	16.59016	20	11	6		
1942008340	-57.831	9.275	Monazite	1.34946	26.61284	16	16	6		
1907246590	-54.345	4.295	Monazite	4.90378	21.6182	19	12	6		
1893186162	-42.393	-13.632	Monazite	16.8997	4.0084	16	14	6		
1881147100	-57.831	9.773	Monazite	1.4617	27.28164	16	14	6		
1782563396	-56.337	-6.162	Monazite	3.09234	11.40032	22	10	6		
1730377555	-48.369	-0.684	Monazite	10.88954	16.8344	16	16	6		
1666098782	-55.839	7.781	Monazite	3.75626	25.33844	20	11	6		
1529601408	-43.887	4.793	Monazite	15.42034	22.13084	16	14	6		
1512424756	-56.337	-11.64	Monazite	3.2485	6.13704	16	14	6		
1452604060	-59.325	-4.17	Monazite	-0.07134	13.2996	16	14	6		
1414378993	-57.333	-15.126	Monazite	2.29642	2.57296	20	11	6		
1287063459	-57.831	2.303	Monazite	1.59834	19.94828	16	14	6		
1142036416	-57.831	12.761	Monazite	1.3885	30.1086	16	14	6		
1022612983	-58.329	-13.134	Monazite	1.19306	4.41368	16	14	6		
858875608	-53.349	1.307	Monazite	5.92418	18.9718	16	14	6		
746797192	-52.353	-2.178	Monazite	7.21298	15.61856	16	14	6		
685069119	-60.321	-4.17	Monazite	-0.87702	13.1532	19	12	6		
666265674	-47.871	7.283	Monazite	11.4949	24.8258	19	12	6		
530451015	-59.325	12.263	Monazite	0.02626	29.82044	16	14	6		
486216113	-51.855	-7.158	Monazite	7.4133	10.41896	16	14	6		
377776952	-47.871	7.781	Monazite	11.55834	25.19692	16	14	6		
272669954	-56.835	-1.68	Monazite	2.66266	15.73592	22	10	6		
256531410	-60.819	9.275	Monazite	-1.27254	26.647	16	16	6		



Sample Number:	16-LV-201-1			Lab ID:	MI8173-NOV16:06					
n= 298	Stage X (mm)	Stage Y (mm)	Mineral	Particle X (mm)	Particle Y (mm)	Long Axis (µm)	Short Axis (µm)	Area (# 5 x 5 µm pixels)		
Top Left	-60.5525	18.8943		-1.1622	36.4615					
Bottom Right	-39.885	-18.3865		19.5053	-0.8193					
Bottom Left Marker	-59.3903	-17.5672		0	0					
Top Right Marker	-41.2025	18.579		18.1878	36.1462					
246813327	-51.855	-1.68	Monazite	7.4377	15.99456	16	14	6		
246792893	-51.855	-1.68	Monazite	7.48162	16.01408	16	14	6		
192161391	-55.839	-0.684	Monazite	3.37074	17.10768	29	5	6		
134467806	-54.843	-5.664	Monazite	4.68882	11.68848	19	12	6		
79340084	-57.333	-6.162	Monazite	1.88162	11.6492	20	11	6		
2069366589	-56.337	-11.142	Monazite	3.25338	6.63016	16	11	5		
1958788675	-54.345	-8.154	Monazite	4.99162	9.46688	16	14	5		
1953481550	-55.341	10.271	Monazite	3.87362	28.0822	16	11	5		
1943868592	-45.879	1.307	Monazite	13.74554	18.73756	16	14	5		
1861960901	-53.847	-10.644	Monazite	5.7629	6.68896	16	11	5		
1838344523	-53.847	5.789	Monazite	5.56282	23.161	16	11	5		
1794297344	-53.847	-5.166	Monazite	5.35298	12.30848	16	11	5		
1702856543	-56.835	-14.628	Monazite	2.79442	2.70008	16	11	5		
1527592246	-49.365	-5.166	Monazite	9.9765	12.32312	16	11	5		
1437847544	-50.859	-10.644	Monazite	8.53618	6.93784	16	11	5		
1437821814	-42.393	-5.664	Monazite	16.78746	11.6836	16	11	5		
1415389637	-51.855	0.311	Monazite	7.3645	17.93676	16	11	5		
1378529381	-47.871	-12.138	Monazite	11.30946	5.54144	16	11	5		
1333995986	-43.389	-3.174	Monazite	15.7573	14.5152	16	11	5		
1304689601	-61.317	9.275	Monazite	-1.70222	26.85196	20	10	5		
1226704884	-49.863	-8.652	Monazite	9.46874	8.83712	16	11	5		
1207004422	-51.357	11.267	Monazite	8.04306	28.7366	16	11	5		
1193611273	-46.377	-10.146	Monazite	13.18898	7.65544	20	10	5		
1187294941	-58.827	0.809	Monazite	0.52426	18.46404	16	11	5		
1122177847	-54.345	5.291	Monazite	5.18194	23.01924	16	11	5		
1071955474	-58.827	2.303	Monazite	0.41202	19.65548	16	11	5		
1007928486	-47.871	-5.664	Monazite	11.6901	12.08376	16	11	5		
918368680	-58.329	0.311	Monazite	1.25162	17.87332	16	11	5		
700685686	-54.843	8.279	Monazite	4.44482	25.78276	20	10	5		
679027885	-57.831	-9.648	Monazite	1.4617	7.95824	16	11	5		
672588311	-55.839	3.797	Monazite	3.56106	21.23732	16	11	5		
530497851	-59.823	11.765	Monazite	-0.4571	29.12236	16	11	5		

Sample Number:	16-LV-201-1			Lab ID:	MI8173-NOV16:06					
n= 298	Stage X (mm)	Stage Y (mm)	Mineral	Particle X (mm)	Particle Y (mm)	Long Axis (µm)	Short Axis (µm)	Area (# 5 x 5 µm pixels)		
Top Left	-60.5525	18.8943		-1.1622	36.4615					
Bottom Right	-39.885	-18.3865		19.5053	-0.8193					
Bottom Left Marker	-59.3903	-17.5672		0	0					
Top Right Marker	-41.2025	18.579		18.1878	36.1462					
485401479	-57.333	-7.158	Monazite	2.1793	10.4336	16	11	5		
481591534	-52.353	-4.17	Monazite	7.12514	13.48992	16	11	5		
465230466	-53.847	-1.182	Monazite	5.7141	16.17536	16	11	5		
464916124	-52.851	9.275	Monazite	6.46122	26.769	16	14	5		
458910885	-61.317	4.295	Monazite	-1.72174	22.1062	16	11	5		
380561918	-53.847	-12.138	Monazite	5.65066	5.39016	16	11	5		
282685603	-44.385	11.267	Monazite	14.76618	28.77076	16	11	5		
190226452	-58.827	-6.162	Monazite	0.48034	11.39056	20	10	5		
159460537	-58.827	1.805	Monazite	0.57306	19.58692	20	10	5		
107770505	-44.883	9.773	Monazite	14.57074	27.54516	16	11	5		
50386872	-54.843	-0.186	Monazite	4.70834	17.41048	15	15	5		

Sample Number:	16-LV-113-1			Lab ID:	MI8173-NOV16:08				
n= 281	Stage X (mm)	Stage Y (mm)	Mineral	Particle X (mm)	Particle Y (mm)	Long Axis (µm)	Short Axis (µm)	Area (# 5 x 5 µm pixels)	
Top Left	13.3685	19.6675		1.3613	36.9977				
Bottom Right	32.4878	-17.3973		20.4806	-0.0671				
Bottom Left Marker	12.0072	-17.3302		0	0				
Top Right Marker	32.1215	20.2293		20.1143	37.5595				
581997406	21.157	5.291	Zircon	9.06196	22.73344	84	56	119	
1610776069	30.619	-0.186	Zircon	18.75332	17.07588	69	56	98	
1301432620	25.639	2.801	Zircon	13.72452	19.92136	69	51	86	
731359476	30.619	-0.684	Zircon	18.72404	16.85116	65	46	70	
220649965	24.145	-14.628	Zircon	12.29884	2.7266	59	46	69	
1404037323	25.639	2.303	Zircon	13.71964	19.8772	74	30	60	
96891489	21.157	1.307	Zircon	9.3206	18.82752	55	40	58	
1155237320	18.169	8.777	Zircon	5.9178	25.9608	50	28	40	
1406652339	27.133	7.781	Zircon	14.89156	24.96968	44	29	35	
1949770534	26.635	-2.676	Zircon	14.82788	14.84452	42	29	34	
1905627259	17.671	-7.656	Zircon	5.493	9.71324	42	32	33	
658871971	28.129	-14.13	Zircon	15.91684	3.39052	39	32	32	
2111595321	15.679	0.809	Zircon	3.54004	18.07576	39	26	31	
1882471966	17.671	8.777	Zircon	5.9078	25.9608	49	19	28	
589804444	24.145	-8.154	Zircon	11.8938	9.39092	36	26	28	
434168950	29.623	-2.676	Zircon	17.72804	14.86404	38	29	26	
782165383	21.655	-1.68	Zircon	9.44284	15.8942	36	29	25	
67640271	25.639	5.789	Zircon	13.86604	23.30952	35	27	25	
420333957	25.141	-12.138	Zircon	13.17772	5.29468	33	25	23	
1836942954	27.133	4.295	Zircon	15.01844	21.46416	39	26	22	
981379914	20.659	-0.186	Zircon	8.72012	17.32476	38	22	22	
2099594223	17.173	-1.182	Zircon	5.16092	16.33364	31	25	20	
521683461	27.631	2.801	Zircon	15.41884	20.25808	33	22	20	
363398350	27.133	0.809	Zircon	15.18436	18.00256	31	22	19	
1138883882	14.683	12.263	Zircon	2.66604	29.7884	36	17	18	
1127381259	22.651	7.781	Zircon	10.50716	24.95992	35	20	18	
585544312	12.691	1.307	Zircon	0.50324	18.67136	29	23	18	
1570724687	17.671	8.279	Zircon	5.72724	25.57016	25	25	17	
1563019360	17.671	-0.186	Zircon	5.68332	17.19788	35	17	16	
705703235	14.683	-1.182	Zircon	2.85148	15.9286	36	19	16	
2133478077	22.651	-12.636	Zircon	10.70236	4.5234	38	18	15	
2109897369	27.133	13.259	Zircon	15.1746	30.53064	27	20	15	

Sample Number:	16-LV-113-1			Lab ID:	MI8173-NOV16:08				
n= 281	Stage X (mm)	Stage Y (mm)	Mineral	Particle X (mm)	Particle Y (mm)	Long Axis (µm)	Short Axis (µm)	Area (# 5 x 5 µm pixels)	
Top Left	13.3685	19.6675		1.3613	36.9977				
Bottom Right	32.4878	-17.3973		20.4806	-0.0671				
Bottom Left Marker	12.0072	-17.3302		0	0				
Top Right Marker	32.1215	20.2293		20.1143	37.5595				
1424089102	20.659	-8.154	Zircon	8.86164	9.29332	27	20	15	
511033175	17.671	-5.664	Zircon	5.69796	11.55396	29	20	15	
509821216	14.683	8.777	Zircon	2.76852	26.278	30	17	15	
489724567	29.623	-1.182	Zircon	17.5914	16.02132	27	18	15	
1479944030	16.675	-11.64	Zircon	4.69708	5.9342	27	22	14	
166960626	26.137	-10.644	Zircon	14.23716	6.50564	31	18	14	
2032823273	26.137	5.789	Zircon	13.8858	23.30952	30	16	13	
1845805786	12.691	2.303	Zircon	0.90828	19.69176	25	19	13	
1689236070	26.137	-0.684	Zircon	14.081	16.49004	30	15	13	
1053825585	23.647	-8.154	Zircon	11.8838	9.38604	30	16	13	
718307735	15.679	0.311	Zircon	3.64252	17.81688	25	20	13	
641504440	16.177	1.805	Zircon	4.32108	19.27184	25	18	13	
129038960	24.145	12.761	Zircon	12.22564	30.2376	31	18	13	
1704530406	12.691	-10.146	Zircon	0.77652	7.25252	35	13	12	
1212002842	23.647	3.299	Zircon	11.3958	20.44864	27	18	12	
648536105	30.619	-2.676	Zircon	18.7582	14.825	25	20	12	
1874256053	24.643	-15.126	Zircon	12.8554	2.04316	20	20	11	
1500803126	20.161	8.279	Zircon	8.09036	25.59944	26	15	11	
1179310460	14.683	5.789	Zircon	2.63676	23.09968	27	18	11	
102398747	29.125	10.769	Zircon	17.1178	28.0016	24	15	11	
1965872441	18.169	9.773	Zircon	6.24964	27.28864	24	15	10	
1934831313	17.173	5.789	Zircon	5.08284	22.924	25	18	10	
1707530718	14.185	8.777	Zircon	2.0558	26.32192	20	19	10	
1163905793	21.157	3.797	Zircon	9.0766	20.91736	25	17	10	
1054903090	16.177	-13.134	Zircon	4.18444	4.03028	20	17	10	
1016098264	24.643	10.769	Zircon	12.8066	28.08456	25	17	10	
818979245	24.643	-3.672	Zircon	12.54308	13.82412	25	17	10	
486450184	16.675	-9.648	Zircon	4.6678	7.73588	24	15	10	
482671256	28.627	0.809	Zircon	16.77108	17.90984	22	16	10	
124733776	12.193	2.801	Zircon	0.3078	20.3752	25	17	10	
7275604	19.165	-0.186	Zircon	7.19684	16.9978	24	15	10	
2061495695	19.663	6.785	Zircon	7.84612	24.23232	22	17	9	

Sample Number:	16-LV-113-1			Lab ID:	MI8173-NOV16:08				
n= 281	Stage X (mm)	Stage Y (mm)	Mineral	Particle X (mm)	Particle Y (mm)	Long Axis (µm)	Short Axis (µm)	Area (# 5 x 5 µm pixels)	
Top Left	13.3685	19.6675		1.3613	36.9977				
Bottom Right	32.4878	-17.3973		20.4806	-0.0671				
Bottom Left Marker	12.0072	-17.3302		0	0				
Top Right Marker	32.1215	20.2293		20.1143	37.5595				
2006097567	25.141	5.291	Zircon	13.37292	22.5236	25	13	9	
1999814888	25.639	12.761	Zircon	13.8758	29.93504	25	13	9	
1980236768	23.149	3.299	Zircon	11.39068	20.44864	25	13	9	
1000798510	26.137	-6.162	Zircon	14.203	11.28532	20	16	9	
952300095	21.655	5.789	Zircon	9.75516	22.95328	20	16	9	
732100056	15.181	-0.186	Zircon	3.34948	17.35404	30	12	9	
698592278	24.643	-7.158	Zircon	12.46988	10.32348	22	16	9	
434111601	29.623	-2.676	Zircon	17.72804	14.88356	22	16	9	
2006690428	18.169	-2.178	Zircon	6.4058	15.09364	20	16	8	
1934769871	17.173	5.789	Zircon	5.17556	22.93864	19	15	8	
1697808216	22.651	0.809	Zircon	10.71212	18.17824	20	14	8	
1655070346	12.193	8.777	Zircon	0.41516	26.19992	19	15	8	
1650148090	16.675	-11.142	Zircon	4.83372	6.237	30	13	8	
1151802606	26.137	3.299	Zircon	14.1786	20.56576	22	14	8	
833299678	21.157	1.805	Zircon	9.04732	18.92048	19	15	8	
773593819	30.619	-15.126	Zircon	18.48492	2.18956	20	14	8	
442317482	26.137	-2.676	Zircon	13.959	14.6054	19	15	8	
437798594	22.153	13.757	Zircon	10.12628	31.27752	22	13	8	
388626565	18.169	8.279	Zircon	6.09348	25.45792	20	16	8	
83427091	26.635	5.291	Zircon	14.3838	22.82128	20	16	8	
24504175	16.177	-12.138	Zircon	3.94532	5.30444	20	14	8	
2107449358	26.137	-8.652	Zircon	14.081	8.7758	16	16	7	
2051594487	16.675	3.797	Zircon	4.60924	21.1516	22	12	7	
1931888547	19.165	8.777	Zircon	7.21636	26.02424	22	12	7	
1869698114	26.137	-9.15	Zircon	14.13956	8.41444	25	11	7	
1748290608	26.137	13.757	Zircon	14.28108	31.32632	22	13	7	
1495913548	13.189	6.785	Zircon	1.17204	24.00784	19	15	7	
1245662856	22.651	13.757	Zircon	10.6926	30.90664	20	13	7	
1245200120	22.651	13.757	Zircon	10.51204	31.31656	20	14	7	
785950832	15.679	12.263	Zircon	3.71084	29.75424	19	15	7	
592004282	18.169	-1.182	Zircon	6.34724	16.0262	20	14	7	
426459210	15.181	-7.158	Zircon	2.9542	10.343	19	15	7	

Sample Number:	16-LV-113-1			Lab ID:	MI8173-NOV16:08				
n= 281	Stage X (mm)	Stage Y (mm)	Mineral	Particle X (mm)	Particle Y (mm)	Long Axis (µm)	Short Axis (µm)	Area (# 5 x 5 µm pixels)	
Top Left	13.3685	19.6675		1.3613	36.9977				
Bottom Right	32.4878	-17.3973		20.4806	-0.0671				
Bottom Left Marker	12.0072	-17.3302		0	0				
Top Right Marker	32.1215	20.2293		20.1143	37.5595				
368677728	16.675	-10.644	Zircon	4.4726	6.81796	22	12	7	
277035542	28.627	-10.644	Zircon	16.4734	6.81796	20	13	7	
75053053	12.691	-11.64	Zircon	0.54716	5.69508	20	16	7	
2131151881	14.185	5.789	Zircon	2.29492	22.93376	20	14	6	
1885972967	17.173	0.809	Zircon	4.99012	18.24656	16	14	6	
1857748999	19.165	-7.656	Zircon	7.15292	9.85964	19	12	6	
1523801342	15.679	2.303	Zircon	3.7938	19.64784	19	12	6	
1489964899	28.129	-10.146	Zircon	16.25844	7.36964	20	11	6	
1438458738	16.675	-15.126	Zircon	4.78492	2.43356	16	14	6	
1422184298	25.141	3.797	Zircon	12.91908	20.97104	20	10	6	
1409596877	13.687	-1.68	Zircon	1.56268	15.64044	16	14	6	
1392630481	26.137	-5.166	Zircon	14.00292	11.9446	16	14	6	
1366397238	13.189	7.781	Zircon	1.17692	25.05752	16	16	6	
1317834410	13.687	6.287	Zircon	1.70908	23.75872	16	14	6	
1254637615	15.181	-11.142	Zircon	3.00788	6.22236	20	10	6	
1130495064	12.193	3.299	Zircon	0.381	20.8488	19	12	6	
985928887	15.181	3.797	Zircon	3.08108	21.28824	16	14	6	
936773378	13.189	3.299	Zircon	1.32332	20.42424	16	14	6	
930108874	26.137	-4.17	Zircon	14.32988	13.14556	16	14	6	
857288472	22.153	3.797	Zircon	9.9018	21.29312	20	11	6	
821113104	20.659	9.275	Zircon	8.69572	26.56128	16	14	6	
771783869	13.687	-5.166	Zircon	1.75788	12.16908	16	14	6	
733694229	22.651	-11.142	Zircon	10.43884	5.98324	20	11	6	
598730254	19.165	7.283	Zircon	7.05044	24.5888	20	11	6	
582044634	17.173	1.805	Zircon	5.27804	19.00344	16	14	6	
417982240	21.655	3.797	Zircon	9.89668	21.28824	20	11	6	
380769710	17.173	-11.142	Zircon	5.25364	5.96372	20	10	6	
358925015	25.639	4.295	Zircon	13.583	21.8692	16	14	6	
271402993	17.173	-4.17	Zircon	4.99012	13.38956	20	11	6	
176266395	12.193	7.283	Zircon	0.33708	24.40336	20	11	6	
89911682	24.145	-0.684	Zircon	12.07924	16.67548	19	12	6	
2145648061	13.189	6.287	Zircon	0.94756	23.53424	16	11	5	

Sample Number:	16-LV-113-1			Lab ID:	MI8173-NOV16:08				
n= 281	Stage X (mm)	Stage Y (mm)	Mineral	Particle X (mm)	Particle Y (mm)	Long Axis (µm)	Short Axis (µm)	Area (# 5 x 5 µm pixels)	
Top Left	13.3685	19.6675		1.3613	36.9977				
Bottom Right	32.4878	-17.3973		20.4806	-0.0671				
Bottom Left Marker	12.0072	-17.3302		0	0				
Top Right Marker	32.1215	20.2293		20.1143	37.5595				
2141314031	23.149	1.307	Zircon	10.98076	18.79336	19	12	5	
2129501766	26.137	5.291	Zircon	14.37868	22.82128	16	11	5	
1889223149	20.659	0.809	Zircon	8.85676	18.09528	16	11	5	
1768871178	20.161	-12.636	Zircon	8.35876	4.51364	16	11	5	
1677157630	24.643	-13.632	Zircon	12.59676	3.84948	16	11	5	
1674025160	19.165	-6.66	Zircon	7.21636	10.51404	16	11	5	
1641775130	12.691	-6.66	Zircon	0.54716	10.56284	16	11	5	
1519147438	15.181	11.267	Zircon	3.25188	28.50448	16	11	5	
1473195328	18.169	-10.644	Zircon	6.2838	6.54468	16	11	5	
1465948424	21.655	4.295	Zircon	9.69172	21.66424	16	11	5	
1232121386	25.639	-5.664	Zircon	13.61716	11.63204	16	11	5	
1163016390	15.679	6.287	Zircon	3.61324	23.52936	16	11	5	
1162323781	20.659	13.757	Zircon	8.86652	30.92616	16	11	5	
1122692227	16.177	-7.158	Zircon	4.36012	10.4162	19	12	5	
1032771173	25.639	-10.146	Zircon	13.64156	7.2818	16	11	5	
965440304	18.667	7.781	Zircon	6.8062	25.00872	16	11	5	
942168817	31.117	-4.17	Zircon	19.31476	13.02356	16	11	5	
869655855	21.655	12.761	Zircon	9.46236	29.99848	16	11	5	
860937034	23.149	11.765	Zircon	11.2394	28.9244	16	14	5	
834027063	15.181	1.805	Zircon	3.38364	19.2572	20	10	5	
651871083	28.129	6.785	Zircon	16.32676	24.33968	16	11	5	
622595044	15.181	1.307	Zircon	3.00788	18.71528	16	11	5	
559151189	28.627	5.291	Zircon	16.3758	22.5724	16	11	5	
464639979	12.691	-2.676	Zircon	0.7326	14.58588	16	11	5	
417562555	26.635	10.769	Zircon	14.59852	28.14312	16	11	5	
366921469	20.161	6.785	Zircon	7.94396	24.2616	16	11	5	
347429576	14.185	1.805	Zircon	2.2998	19.31088	16	11	5	
304351789	15.181	2.801	Zircon	3.03228	20.34104	16	11	5	
292881970	19.165	5.291	Zircon	7.02604	22.68464	20	10	5	
99414942	20.161	5.291	Zircon	8.1782	22.67	20	10	5	
42126965	16.675	-4.668	Zircon	4.46284	12.85252	20	10	5	
9361803	14.683	6.287	Zircon	2.70996	23.50008	16	11	5	



Sample Number:	16-LV-113-1			Lab ID:	MI8173-NOV16:08				
n= 281	Stage X (mm)	Stage Y (mm)	Mineral	Particle X (mm)	Particle Y (mm)	Long Axis (µm)	Short Axis (µm)	Area (# 5 x 5 µm pixels)	
Top Left	13.3685	19.6675		1.3613	36.9977				
Bottom Right	32.4878	-17.3973		20.4806	-0.0671				
Bottom Left Marker	12.0072	-17.3302		0	0				
Top Right Marker	32.1215	20.2293		20.1143	37.5595				
									<b>MNZ #</b>
1179609937	21.157	-8.652	Monazite	9.30108	8.78556	86	39	83	1
2107822685	16.675	5.789	Monazite	4.50188	23.13872	64	36	58	2
62805092	21.157	12.761	Monazite	9.37916	30.19856	75	25	50	3
249945692	21.655	-11.64	Monazite	9.88204	5.57796	76	31	48	4
1804677344	14.185	-6.162	Monazite	2.24612	11.32924	93	20	44	5
1255079996	15.181	-11.142	Monazite	2.98348	6.1394	45	31	39	6
1577043072	16.177	-0.684	Monazite	4.2186	16.7926	40	34	35	7
1530616725	19.663	-12.636	Monazite	7.7778	4.51364	57	25	35	8
1647890398	13.687	-14.628	Monazite	1.91892	2.5314	64	25	34	9
937242632	26.635	12.761	Monazite	14.51556	30.12536	36	35	34	10
579224437	24.145	0.809	Monazite	12.3086	18.14896	49	38	34	11
294522938	21.157	-9.15	Monazite	9.03756	8.11188	55	31	33	12
1399109016	14.683	-11.142	Monazite	2.81732	6.05156	36	30	32	13
132435759	18.169	-7.158	Monazite	6.1374	10.4162	44	28	32	14
1455776619	14.185	6.287	Monazite	2.1046	23.70992	44	25	28	15
804631230	12.691	-2.178	Monazite	0.49348	15.0302	57	25	28	16
1428664303	14.683	-7.158	Monazite	2.46596	9.99164	55	22	27	17
2026554600	22.153	-8.652	Monazite	10.2678	8.63916	59	19	26	
1845568159	12.691	2.303	Monazite	0.62036	19.68688	54	15	23	
451229929	15.679	7.781	Monazite	3.53516	25.32592	43	26	23	18
825637692	17.671	-8.154	Monazite	5.51252	9.14204	45	19	22	
209592558	22.153	-11.64	Monazite	9.9018	5.61212	55	20	22	
1936051392	21.157	-13.134	Monazite	9.06684	4.11812	47	20	21	19
756273850	16.177	13.757	Monazite	4.18444	31.3312	38	22	21	20
1161290125	18.667	1.805	Monazite	6.489	19.25232	34	20	19	21
936061448	25.639	8.777	Monazite	13.71476	26.11696	40	18	19	
546506890	18.667	2.303	Monazite	6.6842	19.6088	49	18	19	
209682658	22.153	-11.64	Monazite	9.9018	5.55356	44	16	19	
1898212437	14.185	-5.664	Monazite	2.04604	11.6906	39	17	18	
2052717942	31.117	-6.162	Monazite	19.19764	11.4122	29	22	17	22
1935998167	21.157	-13.134	Monazite	9.06196	4.03516	31	21	17	

Sample Number:	16-LV-113-1			Lab ID:	MI8173-NOV16:08				
n= 281	Stage X (mm)	Stage Y (mm)	Mineral	Particle X (mm)	Particle Y (mm)	Long Axis (µm)	Short Axis (µm)	Area (# 5 x 5 µm pixels)	
Top Left	13.3685	19.6675		1.3613	36.9977				
Bottom Right	32.4878	-17.3973		20.4806	-0.0671				
Bottom Left Marker	12.0072	-17.3302		0	0				
Top Right Marker	32.1215	20.2293		20.1143	37.5595				
1469403142	31.117	6.785	Monazite	19.12932	23.98832	36	22	17	23
703464592	30.619	-6.162	Monazite	18.441	11.10476	35	19	17	
208915580	19.663	-12.138	Monazite	7.79732	5.06532	33	19	17	
2064823000	17.671	4.295	Monazite	5.84436	21.7472	35	19	16	
1788490987	31.117	7.283	Monazite	19.12932	24.3936	31	19	16	
1710928954	18.169	7.781	Monazite	6.113	24.91112	27	20	14	24
1311623107	26.137	0.311	Monazite	14.0566	17.67048	33	17	14	
816080682	12.691	13.757	Monazite	0.86924	30.93104	40	16	14	
429995333	16.675	-3.672	Monazite	4.56044	13.83876	30	17	14	
115484347	16.177	-3.174	Monazite	4.03316	13.961	49	15	14	
514987775	28.129	11.267	Monazite	16.34628	28.78264	36	14	13	
1996780335	19.663	3.797	Monazite	7.68508	21.14184	25	19	12	
1296726642	17.671	-10.644	Monazite	5.57596	6.64228	33	13	12	
1167469983	18.169	12.761	Monazite	5.97148	30.25712	25	18	12	
628994187	27.133	-7.656	Monazite	14.98428	9.80596	25	17	12	
1931790329	19.165	8.777	Monazite	7.36276	26.31704	29	15	11	
1643466583	15.679	12.761	Monazite	3.70596	30.3352	29	15	11	
1618202856	24.145	5.291	Monazite	11.95236	22.79688	22	18	11	
1163221121	15.679	6.287	Monazite	3.8914	23.5196	20	20	11	25
1122708638	16.177	-7.158	Monazite	4.01852	10.0258	27	18	11	
37111733	14.185	-14.628	Monazite	1.9338	2.52652	39	12	11	
1838394910	30.121	1.805	Monazite	18.2602	19.21328	22	18	10	
1573797987	15.679	-4.668	Monazite	3.56932	12.69636	22	17	10	
719531204	25.639	-5.166	Monazite	13.6074	11.98364	30	15	10	
630084771	21.655	-9.15	Mixed Grain	9.80884	8.16556	22	18	10	
96281661	20.161	-12.138	Monazite	7.92932	5.42156	22	20	10	26
1698989254	18.169	-9.15	Monazite	6.26916	8.07772	22	16	9	
1406945425	12.691	9.773	Monazite	0.7814	26.92752	25	16	9	
883421649	14.185	7.781	Monazite	2.17292	25.3552	24	15	9	
514930414	28.129	11.267	Monazite	16.34628	28.6948	20	16	9	
209058845	19.663	-12.138	Monazite	7.89004	5.29956	22	14	9	
1941258741	12.691	-13.134	Monazite	0.52276	4.32796	20	14	8	

Sample Number:	16-LV-113-1			Lab ID:	MI8173-NOV16:08				
n= 281	Stage X (mm)	Stage Y (mm)	Mineral	Particle X (mm)	Particle Y (mm)	Long Axis (µm)	Short Axis (µm)	Area (# 5 x 5 µm pixels)	
Top Left	13.3685	19.6675		1.3613	36.9977				
Bottom Right	32.4878	-17.3973		20.4806	-0.0671				
Bottom Left Marker	12.0072	-17.3302		0	0				
Top Right Marker	32.1215	20.2293		20.1143	37.5595				
1939949079	30.619	0.809	Monazite	18.51908	17.99768	20	16	8	
1885580615	31.117	3.797	Monazite	19.28548	21.3468	20	17	8	
1846134264	19.165	-13.632	Monazite	7.33348	3.9422	25	12	8	
1211586395	26.137	-2.178	Monazite	14.1298	15.14732	35	10	8	
1064247119	25.639	10.271	Monazite	13.66108	27.44016	30	11	8	
681476500	30.619	-5.166	Monazite	18.441	12.09588	27	16	8	
451238125	15.679	7.781	Monazite	3.5498	25.34544	22	14	8	
213202938	27.631	12.761	Monazite	15.67748	30.07168	25	12	8	
209181749	19.663	-12.138	Monazite	7.90468	5.1678	25	13	8	
1869857171	15.181	-12.138	Monazite	2.94932	5.38252	20	14	7	
1782207378	28.129	-13.134	Monazite	16.27796	4.14252	20	13	7	
1629791546	14.185	8.279	Monazite	2.1778	25.36032	20	13	7	
1540890128	17.173	-13.134	Monazite	5.10236	4.245	22	13	7	
1518659373	17.173	9.275	Monazite	5.1658	26.4344	16	16	7	
1188638182	18.667	5.291	Monazite	6.88428	22.84568	20	13	7	
937218055	26.635	12.761	Monazite	14.52532	30.15464	22	14	7	
732104136	15.181	-0.186	Monazite	3.04692	16.949	20	14	7	
662331454	18.169	-4.17	Monazite	6.39604	13.14556	20	13	7	
506466576	31.117	0.809	Monazite	19.23668	18.35392	24	15	7	
462157932	19.165	-14.13	Monazite	7.39692	3.249	20	13	7	
170615875	17.173	-5.166	Monazite	5.26828	11.93972	22	14	7	
1917834771	24.145	-2.178	Monazite	12.29396	15.27908	22	10	6	
1845580428	12.691	2.303	Monazite	0.61548	19.61856	19	12	6	
1782334351	28.129	-13.134	Monazite	16.28772	4.26452	20	11	6	
1695114359	31.117	8.279	Monazite	19.20252	25.67752	20	10	6	
1673769696	17.671	-11.142	Monazite	5.615	6.07108	29	5	6	
1636539211	21.157	-1.182	Monazite	9.0766	16.20676	16	14	6	
1485744810	28.627	1.805	Monazite	16.53196	19.32552	16	14	6	
1438805923	17.671	-3.174	Monazite	5.615	14.10252	22	10	6	
1057837709	27.133	3.797	Monazite	14.9062	21.29312	20	11	6	
907061510	19.663	-14.13	Monazite	7.42644	3.30268	19	12	6	
773446285	30.619	-15.126	Monazite	18.57764	2.03828	25	10	6	

Sample Number:	16-LV-113-1			Lab ID:	MI8173-NOV16:08				
n= 281	Stage X (mm)	Stage Y (mm)	Mineral	Particle X (mm)	Particle Y (mm)	Long Axis (µm)	Short Axis (µm)	Area (# 5 x 5 µm pixels)	
Top Left	13.3685	19.6675		1.3613	36.9977				
Bottom Right	32.4878	-17.3973		20.4806	-0.0671				
Bottom Left Marker	12.0072	-17.3302		0	0				
Top Right Marker	32.1215	20.2293		20.1143	37.5595				
363342643	22.153	-3.174	Monazite	10.07748	14.0098	20	13	6	
306627934	28.129	0.311	Monazite	16.12668	17.8364	20	11	6	
188618991	25.141	-14.13	Monazite	12.97276	3.41004	25	10	6	
62878792	21.157	12.761	Monazite	9.38404	30.05704	19	12	6	
2115416340	20.659	3.797	Monazite	8.85188	21.11744	20	10	5	
2066834621	24.145	10.271	Monazite	12.06948	27.7964	20	10	5	
2053024964	16.675	10.769	Monazite	4.73124	28.27488	16	11	5	
2013228245	15.679	7.283	Monazite	3.70108	24.79864	16	11	5	
1996776243	19.663	3.797	Monazite	7.7046	21.12232	24	5	5	
1929895823	25.141	10.271	Monazite	13.1582	27.43528	16	11	5	
1903430449	16.675	2.303	Monazite	4.7654	19.67712	16	11	5	
1816745450	26.635	6.785	Monazite	14.38868	24.00296	16	11	5	
1765081376	13.687	-2.676	Monazite	1.44556	14.54196	20	10	5	
1706697943	27.133	-13.134	Monazite	15.01356	4.2694	20	10	5	
1258439345	15.181	-6.66	Monazite	3.23724	10.6702	16	11	5	
906081165	31.117	-12.636	Monazite	19.13908	4.6942	20	10	5	
791909424	30.619	-4.17	Monazite	18.73868	13.07236	20	10	5	
761082675	28.627	13.757	Monazite	16.51244	31.26776	16	11	5	
648355864	30.619	-2.676	Monazite	18.79724	14.64444	20	10	5	
452564677	25.639	-9.15	Monazite	13.45124	8.24364	16	11	5	
424920350	21.157	-12.636	Monazite	9.15956	4.87964	19	8	5	
417808372	26.635	10.769	Monazite	14.51068	27.92352	20	10	5	
402330084	22.153	2.303	Monazite	10.10188	19.52584	16	14	5	
96318516	20.161	-12.138	Monazite	7.93908	5.3874	20	10	5	
96232495	20.161	-12.138	Monazite	7.91956	5.34836	16	11	5	
44675888	17.671	-12.636	Monazite	5.69308	4.55268	16	11	5	



## Advanced Reservoir Quality Services





## Advanced Reservoir Quality Services





## Advanced Reservoir Quality Services







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## Advanced Reservoir Quality Services





## Advanced Reservoir Quality Services





## Advanced Reservoir Quality Services





## Advanced Reservoir Quality Services





## Advanced Reservoir Quality Services



Sample Number:	16-LV-005-2			Lab ID:	MI8173-NOV16:10				
n= 220	Stage X (mm)	Stage Y (mm)	Mineral	Particle X (mm)	Particle Y (mm)	Long Axis (µm)	Short Axis (µm)	Area (# 5 x 5 µm pixels)	
Top Left	-58.9808	-31.8298		1.1927	36.2662				
Bottom Right	-41.2785	-67.3662		18.895	0.7298				
Bottom Left Marker	-60.1735	-68.096		0	0				
Top Right Marker	-41.02	-30.8635		19.1535	37.2325				
2109435965	-44.883	-40.468	Zircon	15.34906	27.52064	78	36	82	
2019613720	-45.381	-48.934	Zircon	14.84618	18.97656	62	46	77	
1152898359	-47.373	-61.882	Zircon	12.90786	6.13104	59	33	49	
859114400	-47.871	-43.954	Zircon	12.29274	24.20544	51	31	48	
412002408	-45.879	-47.938	Zircon	14.10906	20.16288	42	34	39	
1715013693	-44.385	-36.484	Zircon	15.63234	31.50464	38	29	33	
518139719	-55.341	-51.424	Zircon	4.87642	16.8184	36	34	33	
223636162	-50.859	-49.432	Zircon	9.29498	18.908	44	27	31	
1211715261	-47.373	-53.914	Zircon	13.02986	14.36744	40	25	29	
1990705707	-44.385	-42.958	Zircon	15.9837	25.016	36	29	28	
1217273685	-43.887	-48.934	Zircon	16.27674	19.01072	36	29	28	
232522617	-50.859	-46.444	Zircon	9.51458	21.53976	45	21	28	
12868437	-50.859	-48.934	Zircon	9.28522	18.95216	42	23	28	
1711208314	-45.879	-55.408	Zircon	14.16762	12.60016	42	22	25	
691808863	-47.373	-41.962	Zircon	12.69314	26.01688	36	25	25	
2061615692	-44.385	-46.942	Zircon	15.9349	21.35408	39	22	24	
1066264217	-45.381	-49.432	Zircon	14.80226	18.908	46	19	23	
548270449	-46.875	-36.484	Zircon	13.45466	31.68032	33	27	23	
61832192	-59.325	-54.412	Zircon	1.06322	13.64984	36	23	23	
94355143	-44.883	-59.89	Zircon	15.28562	8.0596	40	24	22	
896858946	-50.361	-55.408	Zircon	9.87594	12.932	33	22	19	
938134611	-42.393	-63.376	Zircon	17.57554	4.68096	39	19	18	
466225599	-59.325	-42.958	Zircon	0.88266	24.95256	39	15	18	
897526117	-53.847	-43.456	Zircon	6.26794	24.73272	34	20	17	
1646214030	-53.349	-42.46	Zircon	6.8733	25.8068	27	22	16	
1864678411	-42.393	-62.38	Zircon	17.92202	5.92096	31	18	15	
1764281249	-51.855	-55.906	Zircon	8.5625	12.07776	36	16	15	
1708472755	-48.867	-34.492	Zircon	11.39434	33.41368	27	22	15	
839189207	-52.851	-37.978	Zircon	7.42986	30.11312	30	19	15	
699613240	-55.341	-53.416	Zircon	4.93498	14.57264	31	19	15	
1427263697	-57.831	-51.424	Zircon	2.1961	16.55976	32	15	14	
1314547536	-55.839	-55.906	Zircon	4.0905	12.23392	35	17	14	



Sample Number:	16-LV-005-2			Lab ID:	MI8173-NOV16:10				
n= 220	Stage X (mm)	Stage Y (mm)	Mineral	Particle X (mm)	Particle Y (mm)	Long Axis (µm)	Short Axis (µm)	Area (# 5 x 5 µm pixels)	
Top Left	-58.9808	-31.8298		1.1927	36.2662				
Bottom Right	-41.2785	-67.3662		18.895	0.7298				
Bottom Left Marker	-60.1735	-68.096		0	0				
Top Right Marker	-41.02	-30.8635		19.1535	37.2325				
1130757974	-45.879	-63.376	Zircon	14.44578	4.63704	31	17	14	
764413163	-58.329	-59.392	Zircon	1.8445	8.47952	30	19	14	
140557272	-55.839	-46.942	Zircon	4.25642	21.38336	36	14	14	
186749502	-47.373	-61.384	Zircon	12.57602	6.86328	27	18	13	
12979028	-50.859	-48.934	Zircon	9.30962	18.97168	22	20	13	
1295702589	-52.353	-45.946	Zircon	7.6253	22.24272	33	13	12	
1104059511	-60.321	-47.938	Zircon	0.06722	20.26048	22	21	12	
1066112759	-45.381	-49.432	Zircon	14.87546	18.82992	34	10	12	
738784301	-52.851	-38.974	Zircon	7.54698	29.05856	27	18	12	
730622954	-44.883	-49.432	Zircon	15.37346	18.7616	30	15	12	
550973678	-49.863	-34.492	Zircon	10.20802	33.63328	29	15	12	
160636941	-48.867	-55.408	Zircon	11.1113	12.92712	31	18	12	
1889144775	-53.349	-54.91	Zircon	6.95626	12.95664	26	15	11	
1795208224	-53.847	-50.926	Zircon	6.4973	17.414	22	17	11	
1730343202	-60.321	-37.48	Zircon	-0.3183	30.47936	30	13	11	
1653065624	-46.377	-43.954	Zircon	13.66962	24.29816	22	20	11	
1590525329	-51.855	-37.978	Zircon	8.18186	30.11312	22	18	11	
715943594	-47.871	-52.918	Zircon	12.24882	15.09016	22	18	11	
694050744	-42.891	-60.886	Zircon	17.43378	7.41984	25	17	11	
687412588	-53.847	-62.878	Zircon	6.22402	5.31072	29	15	11	
124905791	-49.365	-52.918	Zircon	10.62306	15.056	33	13	11	
74795963	-49.365	-35.986	Zircon	10.6133	32.27104	25	16	11	
1511727346	-46.377	-44.452	Zircon	13.8697	23.76112	26	15	10	
1346402381	-58.329	-49.93	Zircon	1.97626	18.32704	20	17	10	
1290680970	-44.385	-61.882	Zircon	15.5689	6.01392	29	13	10	
1112477353	-50.859	-51.922	Zircon	9.5097	16.24232	29	10	10	
1060743458	-45.381	-58.894	Zircon	14.7681	9.15808	30	13	10	
937064350	-50.361	-40.468	Zircon	9.61242	27.83784	22	16	10	
715447104	-60.321	-61.384	Zircon	-0.18654	6.65344	25	16	10	
256908829	-44.385	-43.954	Zircon	15.8861	23.93704	22	16	10	
137228231	-49.365	-49.93	Zircon	10.68162	18.37096	22	20	10	
2055907090	-50.859	-53.914	Zircon	9.28034	14.3284	20	17	9	

Sample Number:	16-LV-005-2			Lab ID:	MI8173-NOV16:10				
n= 220	Stage X (mm)	Stage Y (mm)	Mineral	Particle X (mm)	Particle Y (mm)	Long Axis (µm)	Short Axis (µm)	Area (# 5 x 5 µm pixels)	
Top Left	-58.9808	-31.8298		1.1927	36.2662				
Bottom Right	-41.2785	-67.3662		18.895	0.7298				
Bottom Left Marker	-60.1735	-68.096		0	0				
Top Right Marker	-41.02	-30.8635		19.1535	37.2325				
1621577953	-49.863	-50.428	Zircon	10.42762	17.71192	22	14	9	
1515222647	-53.847	-50.428	Zircon	6.4973	17.42888	22	16	9	
1509550996	-56.337	-40.468	Zircon	3.6413	27.40352	25	13	9	
1467626116	-51.357	-54.412	Zircon	8.5969	13.44	20	17	9	
1417885703	-59.823	-50.428	Zircon	0.46762	17.4484	20	17	9	
1319439942	-49.863	-48.934	Zircon	10.34954	19.09856	20	16	9	
952910902	-42.891	-62.878	Zircon	17.46794	5.27168	20	17	9	
877669046	-51.357	-55.906	Zircon	8.70914	12.03384	25	13	9	
854170005	-44.883	-35.986	Zircon	15.27098	32.07096	20	16	9	
537098447	-47.373	-57.898	Zircon	12.77122	10.12968	25	13	9	
454081315	-55.839	-57.898	Zircon	4.5297	10.05648	24	15	9	
2091906821	-58.827	-45.946	Zircon	1.19034	22.30616	22	16	8	
2072786416	-54.843	-53.914	Zircon	5.28658	14.23568	20	14	8	
1649356162	-55.341	-46.942	Zircon	4.7837	21.3248	20	14	8	
899745587	-49.863	-62.38	Zircon	10.3105	5.55496	24	10	8	
809734170	-46.875	-53.914	Zircon	13.0545	14.36744	25	12	8	
775582327	-48.369	-41.962	Zircon	11.62882	26.11448	20	16	8	
608523726	-56.337	-47.938	Zircon	3.7877	20.07504	19	15	8	
528769606	-52.353	-59.89	Zircon	7.92786	8.06936	20	17	8	
435774102	-58.827	-46.942	Zircon	1.58562	21.1052	27	14	8	
414152840	-50.859	-43.954	Zircon	9.49018	23.90288	19	15	8	
74611662	-49.365	-35.986	Zircon	10.99394	32.11	19	15	8	
2119526050	-50.859	-36.982	Zircon	9.23154	30.87488	25	13	7	
2047669618	-52.851	-59.89	Zircon	7.16634	8.00592	16	16	7	
1908641327	-55.839	-55.408	Zircon	4.55898	12.4684	24	10	7	
1838008805	-51.357	-57.898	Zircon	8.57738	10.08576	16	16	7	
1434567513	-53.349	-41.962	Zircon	7.03922	25.89	20	13	7	
1415234836	-53.847	-43.954	Zircon	6.25818	24.33232	25	12	7	
1161017634	-52.353	-62.878	Zircon	7.71802	5.15456	29	10	7	
1105430053	-57.333	-45.448	Zircon	2.60138	22.44304	20	13	7	
1093325284	-50.859	-34.99	Zircon	9.1193	33.15968	20	13	7	
1036173159	-57.333	-62.38	Zircon	2.67946	5.50616	19	15	7	

Sample Number:	16-LV-005-2			Lab ID:	MI8173-NOV16:10				
n= 220	Stage X (mm)	Stage Y (mm)	Mineral	Particle X (mm)	Particle Y (mm)	Long Axis (µm)	Short Axis (µm)	Area (# 5 x 5 µm pixels)	
Top Left	-58.9808	-31.8298		1.1927	36.2662				
Bottom Right	-41.2785	-67.3662		18.895	0.7298				
Bottom Left Marker	-60.1735	-68.096		0	0				
Top Right Marker	-41.02	-30.8635		19.1535	37.2325				
1007784215	-48.867	-53.914	Zircon	11.07714	14.03072	20	13	7	
1002846940	-46.875	-62.878	Zircon	13.36682	5.462	20	13	7	
929591402	-57.831	-40.966	Zircon	2.1229	26.96408	20	15	7	
873825317	-59.325	-58.894	Zircon	1.03394	9.40208	16	16	7	
673147924	-51.855	-39.472	Zircon	8.5137	28.64352	20	13	7	
642272269	-49.365	-46.942	Zircon	10.91098	20.96368	20	13	7	
446970224	-58.827	-49.93	Zircon	1.16106	18.15624	20	13	7	
271748116	-49.863	-46.942	Zircon	10.3105	21.2028	16	16	7	
260711828	-47.871	-36.484	Zircon	12.09754	31.8316	20	13	7	
199162710	-46.875	-40.966	Zircon	13.2009	27.2032	20	16	7	
75037017	-45.381	-57.4	Zircon	14.59242	10.46176	16	16	7	
2139212983	-60.819	-40.966	Zircon	-0.44542	27.35936	20	11	6	
2127149626	-60.819	-49.93	Zircon	-0.45518	18.20992	16	14	6	
2054483654	-46.377	-61.384	Zircon	14.03074	6.87304	20	10	6	
1998657316	-59.325	-48.436	Zircon	0.68746	19.72344	16	14	6	
1997754018	-49.863	-36.484	Zircon	10.2861	31.368	16	14	6	
1997690177	-54.345	-45.448	Zircon	5.86266	22.65776	20	11	6	
1945954845	-58.329	-40.966	Zircon	1.9909	27.26664	16	14	6	
1941201322	-50.361	-39.472	Zircon	9.6905	28.44344	19	12	6	
1717521801	-50.361	-53.416	Zircon	9.77834	14.7288	20	13	6	
1704884126	-54.345	-48.436	Zircon	5.9505	19.4892	19	12	6	
1680098248	-59.325	-39.472	Zircon	0.6777	28.42392	20	11	6	
1590447503	-51.855	-37.978	Zircon	8.16234	30.20584	16	14	6	
1478267417	-51.855	-46.942	Zircon	8.39658	21.24184	16	14	6	
1387371934	-57.333	-49.432	Zircon	2.86002	18.67376	16	14	6	
1189780319	-60.321	-59.89	Zircon	-0.17678	8.07912	16	14	6	
1184906619	-49.863	-57.4	Zircon	10.54962	10.68136	20	11	6	
1184839206	-56.337	-44.452	Zircon	3.68034	23.87336	16	14	6	
1111716441	-58.329	-40.468	Zircon	1.65418	27.49624	22	10	6	
1041267049	-44.385	-41.464	Zircon	15.87146	26.83696	16	14	6	
975955019	-48.867	-35.986	Zircon	11.48218	32.09048	20	10	6	
873327406	-56.337	-53.416	Zircon	3.61202	14.44088	20	11	6	

Sample Number:	16-LV-005-2			Lab ID:	MI8173-NOV16:10				
n= 220	Stage X (mm)	Stage Y (mm)	Mineral	Particle X (mm)	Particle Y (mm)	Long Axis (µm)	Short Axis (µm)	Area (# 5 x 5 µm pixels)	
Top Left	-58.9808	-31.8298		1.1927	36.2662				
Bottom Right	-41.2785	-67.3662		18.895	0.7298				
Bottom Left Marker	-60.1735	-68.096		0	0				
Top Right Marker	-41.02	-30.8635		19.1535	37.2325				
843173393	-55.341	-42.46	Zircon	4.93498	25.39688	16	14	6	
829696559	-58.827	-40.468	Zircon	1.45386	27.39864	22	10	6	
787216685	-49.365	-34.99	Zircon	10.58402	32.99864	19	12	6	
775901771	-48.369	-41.962	Zircon	11.73618	26.07056	16	14	6	
665500913	-56.337	-55.906	Zircon	4.08538	12.22416	24	10	6	
649432561	-60.321	-41.962	Zircon	-0.16214	26.1828	16	14	6	
572562753	-59.325	-57.4	Zircon	0.64354	10.61304	19	12	6	
548045642	-53.847	-59.89	Zircon	6.51682	8.36216	16	14	6	
515360383	-55.341	-56.404	Zircon	4.80322	11.6188	16	14	6	
324387212	-44.385	-38.476	Zircon	15.5689	29.42968	16	14	6	
149938986	-58.827	-36.982	Zircon	1.25378	31.20184	20	10	6	
138852413	-58.329	-61.384	Zircon	1.71274	6.95112	16	14	6	
35071159	-51.855	-35.488	Zircon	8.32826	32.64216	19	12	6	
2038961238	-54.345	-63.376	Zircon	5.89682	4.77856	16	11	5	
2021426592	-45.879	-52.918	Zircon	14.50922	15.36832	15	15	5	
1941190410	-50.361	-46.942	Zircon	9.8613	21.19304	16	14	5	
1748428114	-43.389	-58.894	Zircon	16.85282	9.40208	19	8	5	
1716738826	-57.831	-41.464	Zircon	2.25466	26.54416	16	11	5	
1687722298	-51.855	-58.396	Zircon	8.1721	9.63656	16	11	5	
1590246876	-51.855	-37.978	Zircon	8.46978	30.10336	20	10	5	
1277397888	-52.851	-61.882	Zircon	7.34202	6.18472	20	10	5	
1273310595	-56.835	-36.982	Zircon	3.17258	30.87	16	14	5	
1104656444	-45.879	-46.942	Zircon	14.28474	21.11496	16	11	5	
873110362	-56.337	-53.416	Zircon	3.95362	14.47992	16	11	5	
862976221	-42.891	-57.898	Zircon	17.18002	9.954	16	11	5	
787021980	-59.823	-38.974	Zircon	0.26266	28.878	16	11	5	
740912745	-50.361	-47.44	Zircon	9.60754	20.72432	20	10	5	
739355728	-60.321	-56.404	Zircon	-0.23046	11.55536	16	11	5	
734284313	-58.827	-56.902	Zircon	1.30746	11.02808	16	11	5	
706322779	-42.891	-54.91	Zircon	17.24834	13.05912	16	14	5	
665738429	-56.337	-55.906	Zircon	3.63642	12.38032	16	11	5	
528962446	-53.349	-37.978	Zircon	6.90258	30.00576	16	11	5	

Sample Number:	16-LV-005-2			Lab ID:	MI8173-NOV16:10				
n= 220	Stage X (mm)	Stage Y (mm)	Mineral	Particle X (mm)	Particle Y (mm)	Long Axis (µm)	Short Axis (µm)	Area (# 5 x 5 µm pixels)	
Top Left	-58.9808	-31.8298		1.1927	36.2662				
Bottom Right	-41.2785	-67.3662		18.895	0.7298				
Bottom Left Marker	-60.1735	-68.096		0	0				
Top Right Marker	-41.02	-30.8635		19.1535	37.2325				
450929628	-47.871	-38.476	Zircon	12.19026	29.70784	19	8	5	
320372407	-48.369	-63.376	Zircon	11.89722	4.83224	16	11	5	
316670943	-49.365	-59.392	Zircon	10.89146	8.66984	16	11	5	
279163422	-44.883	-50.926	Zircon	15.11482	17.26272	20	10	5	
216153801	-50.859	-61.384	Zircon	9.08026	6.69248	16	11	5	
141319725	-48.867	-40.468	Zircon	11.1357	27.7744	16	11	5	
117515742	-58.827	-46.444	Zircon	1.13178	21.84232	24	5	5	
101419384	-43.887	-45.946	Zircon	16.38898	22.35496	16	11	5	
8305323	-55.839	-56.404	Zircon	4.29058	11.53096	16	11	5	
									<b>MNZ #</b>
2012971843	-54.345	-47.938	Monazite	5.6821	20.37272	116	60	185	1
1178790711	-48.867	-44.95	Monazite	11.36506	23.27776	55	45	66	2
1030900296	-57.333	-58.396	Monazite	2.86978	9.79272	64	36	64	3
1983896634	-49.365	-55.408	Monazite	10.6865	12.82952	49	44	53	4
1953168394	-52.353	-54.91	Monazite	7.5765	13.00544	51	45	45	5
1743424966	-42.891	-52.42	Monazite	17.04338	15.79312	42	36	40	6
322784153	-51.357	-56.902	Monazite	9.03122	11.33552	49	30	35	7
2130846235	-56.835	-57.898	Monazite	3.3385	9.99304	42	25	32	8
27994478	-52.851	-35.488	Monazite	7.40546	32.81784	61	19	30	
25390065	-45.381	-47.44	Monazite	14.77786	20.54376	35	27	28	9
2132319932	-52.851	-54.91	Monazite	7.5665	13.00544	49	19	23	10
306018535	-49.863	-44.452	Monazite	10.38858	23.61472	38	22	23	11
1572445021	-53.847	-56.404	Monazite	6.2533	11.78472	31	24	21	12
1426547926	-46.875	-36.982	Monazite	13.11794	31.06032	36	20	20	13
1022763592	-56.337	-55.408	Monazite	3.76818	12.72704	39	19	19	
923480874	-56.835	-61.882	Monazite	3.1433	5.98464	31	22	18	14
394989785	-45.381	-51.424	Monazite	14.8657	16.50608	44	15	18	
414169230	-50.859	-43.954	Monazite	9.54386	23.94192	33	21	17	15
1458939965	-52.851	-38.476	Monazite	7.28834	29.46384	44	14	16	
72247205	-44.385	-41.962	Monazite	15.94954	26.22672	40	16	16	
64588146	-46.875	-44.95	Monazite	13.33754	23.3656	27	22	16	16
2033445754	-49.365	-40.966	Monazite	11.05738	27.09584	54	10	13	

Sample Number:	16-LV-005-2			Lab ID:	MI8173-NOV16:10						
n= 220	Stage X (mm)	Stage Y (mm)	Mineral	Particle X (mm)	Particle Y (mm)	Long Axis (µm)	Short Axis (µm)	Area (# 5 x 5 µm pixels)			
Top Left	-58.9808	-31.8298		1.1927	36.2662						
Bottom Right	-41.2785	-67.3662		18.895	0.7298						
Bottom Left Marker	-60.1735	-68.096		0	0						
Top Right Marker	-41.02	-30.8635		19.1535	37.2325						
2034956560	-52.851	-55.906	Monazite	7.38594	12.07776	22	18	12			
1979834910	-45.381	-55.408	Monazite	14.82666	12.444	27	16	12			
742403684	-42.891	-50.926	Monazite	17.41914	16.96992	30	15	12			
1309998507	-42.891	-37.978	Monazite	17.07754	29.874	25	16	10			
923484982	-56.835	-61.882	Monazite	3.1677	5.98952	25	14	10			
787009671	-59.823	-38.974	Monazite	0.56034	29.35624	20	17	10	17		
749319363	-56.835	-60.388	Monazite	3.37754	7.57136	22	17	10			
740918001	-43.389	-50.428	Monazite	16.91626	17.42888	20	17	10			
257317404	-59.325	-60.886	Monazite	0.69234	6.97088	22	17	10			
52281023	-53.847	-47.44	Monazite	6.37042	20.58768	25	17	10			
763507321	-44.883	-55.906	Monazite	15.39786	12.15584	22	16	9			
2033552250	-49.365	-40.966	Monazite	10.9549	27.31056	20	16	8			
1660080049	-49.365	-41.464	Monazite	11.01346	26.5344	20	14	8			
817523678	-51.357	-51.922	Monazite	8.5725	16.15448	20	15	8			
2115896753	-54.345	-57.4	Monazite	5.84802	10.93512	22	13	7			
1733690658	-48.867	-57.4	Monazite	11.36994	10.67648	25	11	7			
1724170679	-57.333	-49.93	Monazite	2.62578	17.98544	16	16	7			
349407448	-53.349	-45.946	Monazite	6.69274	22.20856	20	16	7			
204599668	-56.835	-58.894	Monazite	3.4361	9.19224	20	13	7			
1925443853	-45.381	-55.906	Monazite	14.83154	12.434	20	10	6			
1764391818	-51.855	-55.906	Monazite	8.13794	12.38032	19	12	6			
1248316469	-50.361	-43.954	Monazite	9.5685	23.94192	16	14	6			
954284598	-50.361	-42.46	Monazite	10.0321	25.77752	16	14	6			
383964653	-43.887	-42.958	Monazite	16.50122	25.3332	29	5	6			
1674628169	-46.875	-54.91	Monazite	13.5181	13.19088	15	15	5			
1421859070	-51.855	-51.922	Monazite	8.5625	16.15448	16	14	5			
1249438985	-46.875	-57.898	Monazite	13.30826	10.07112	16	11	5			
935578639	-50.361	-44.452	Monazite	9.89546	23.888	16	11	5			
589343633	-55.839	-44.95	Monazite	4.25642	23.18992	16	11	5			

Sample Number:	16-LV-170-1B			Lab ID:	MI8191-JAN17:01			
n= 475	Stage X (mm)	Stage Y (mm)	Mineral	Particle X (mm)	Particle Y (mm)	Long Axis (µm)	Short Axis (µm)	Area (# 5 x 5 µm pixels)
Top Left	-64.651	67.612		-2.509	37.4792			
Bottom Right	-42.479	29.8385		19.663	-0.2943			
Bottom Left Marker	-62.142	30.1328		0	0			
Top Right Marker	-42.5705	67.7122		19.5715	37.5794			
486560757	-59.828	43.663	Zircon	2.5092	13.56924	47	35	47
1073707050	-56.342	67.567	Zircon	5.78536	37.2146	40	20	21
1967202870	-58.832	55.615	Zircon	3.21728	25.7018	38	20	20
858679924	-57.836	59.599	Zircon	4.45728	29.4906	38	18	20
1287328417	-49.37	46.153	Zircon	12.70856	15.82988	30	21	19
1328275427	-57.338	57.109	Zircon	4.88696	26.83956	33	18	17
2021830108	-49.868	57.109	Zircon	12.3716	27.11772	29	20	16
503846080	-60.824	63.583	Zircon	1.08864	33.6942	30	18	16
1623503655	-49.37	60.595	Zircon	12.99648	30.4378	31	18	15
340765381	-49.868	54.121	Zircon	12.14712	24.18828	30	18	15
1030719047	-53.852	64.579	Zircon	8.42176	34.60236	29	15	14
2140214957	-49.868	47.647	Zircon	12.11296	17.37268	25	18	13
1656618142	-46.382	59.599	Zircon	16.004	29.271	25	18	13
711875218	-61.82	64.579	Zircon	0.28784	34.47548	26	19	13
74254484	-47.378	50.635	Zircon	14.79816	20.41436	22	21	13
1777673186	-50.366	46.153	Zircon	11.93704	16.05924	27	18	12
1205394880	-61.322	43.663	Zircon	1.05912	13.53508	29	15	12
1002830328	-54.35	51.133	Zircon	7.91888	20.80012	30	16	12
717173959	-57.836	47.149	Zircon	4.23768	17.10892	27	16	12
609504158	-48.872	52.129	Zircon	13.392	21.86932	22	20	12
113158312	-49.868	51.631	Zircon	12.36672	21.43476	22	20	12
2010692374	-58.334	61.093	Zircon	3.74944	30.81868	31	13	11
640809610	-60.326	43.663	Zircon	1.85992	13.56436	25	16	11
456158366	-61.82	61.591	Zircon	0.43912	31.27276	24	15	11
353632793	-55.346	43.165	Zircon	6.88872	12.8614	22	18	11
1731229011	-47.378	65.077	Zircon	14.89576	34.99788	34	10	10
1693237760	-48.374	44.659	Zircon	13.63624	14.67748	22	16	10
1632071316	-58.334	59.599	Zircon	3.70552	29.28564	20	20	10
1463684736	-51.362	50.137	Zircon	10.64336	20.20428	22	16	10
1328156649	-57.338	57.109	Zircon	4.59416	27.18116	20	17	10
1103561104	-49.37	52.129	Zircon	12.62072	21.76684	22	16	10
961941593	-46.382	63.085	Zircon	15.60384	32.90828	20	17	10



Sample Number:	16-LV-170-1B			Lab ID:	MI8191-JAN17:01				
n= 475	Stage X (mm)	Stage Y (mm)	Mineral	Particle X (mm)	Particle Y (mm)	Long Axis (µm)	Short Axis (µm)	Area (# 5 x 5 µm pixels)	
Top Left	-64.651	67.612		-2.509	37.4792				
Bottom Right	-42.479	29.8385		19.663	-0.2943				
Bottom Left Marker	-62.142	30.1328		0	0				
Top Right Marker	-42.5705	67.7122		19.5715	37.5794				
632729675	-49.37	51.133	Zircon	12.9428	20.76108	20	17	10	
565769814	-59.828	59.599	Zircon	2.07	29.57844	22	16	10	
506680161	-62.318	51.133	Zircon	-0.36144	21.17588	22	16	10	
445936410	-46.88	60.595	Zircon	15.46696	30.6086	20	17	10	
319494696	-50.864	61.591	Zircon	11.39512	31.21908	20	17	10	
183072236	-47.378	66.073	Zircon	14.53464	35.9402	20	17	10	
126551599	-55.346	52.627	Zircon	6.83016	22.26484	22	16	10	
60750715	-50.366	53.623	Zircon	11.57104	23.65612	25	14	10	
2116457853	-46.382	60.097	Zircon	15.98448	30.05692	20	19	9	
2116421992	-60.326	58.603	Zircon	1.67936	28.58732	22	14	9	
1835492149	-60.326	60.097	Zircon	2.05024	30.11548	20	17	9	
1720825893	-60.824	68.065	Zircon	1.50832	37.80044	22	14	9	
1520634675	-57.338	51.133	Zircon	4.9504	20.93188	22	16	9	
1517710459	-58.334	49.141	Zircon	4.052	18.84228	20	17	9	
1475533630	-55.844	59.101	Zircon	6.14184	28.895	20	16	9	
1445232573	-60.824	58.603	Zircon	1.43512	28.4702	22	14	9	
1443203906	-51.362	45.157	Zircon	10.69704	15.08764	36	11	9	
1415202695	-46.382	52.129	Zircon	15.80392	22.06452	20	16	9	
1312551957	-59.828	53.623	Zircon	2.24568	23.52924	22	16	9	
1305473779	-51.362	49.639	Zircon	10.62872	19.63308	22	14	9	
1044452311	-46.88	59.599	Zircon	15.09608	29.50524	25	13	9	
979904530	-57.836	65.575	Zircon	4.46704	35.2226	26	12	9	
898109946	-61.322	56.611	Zircon	0.86392	26.70268	22	20	9	
841353244	-59.33	45.157	Zircon	2.65096	15.1706	22	14	9	
717198543	-57.836	47.149	Zircon	4.21328	17.18212	19	19	9	
660277016	-59.33	57.109	Zircon	2.70952	27.08356	24	15	9	
329327937	-62.816	58.603	Zircon	-0.43488	28.3726	22	16	9	
183281087	-47.378	66.073	Zircon	14.93968	35.90116	20	17	9	
126384705	-59.828	54.121	Zircon	2.47504	24.1834	20	16	9	
2083185194	-48.872	67.567	Zircon	13.11872	37.36588	19	15	8	
2071894364	-55.346	61.093	Zircon	6.81064	31.0822	24	10	8	
2016174007	-49.37	57.607	Zircon	12.93304	27.3522	22	13	8	



Sample Number:	16-LV-170-1B			Lab ID:	MI8191-JAN17:01			
n= 475	Stage X (mm)	Stage Y (mm)	Mineral	Particle X (mm)	Particle Y (mm)	Long Axis ( $\mu$ m)	Short Axis ( $\mu$ m)	Area (# 5 x 5 $\mu$ m pixels)
Top Left	-64.651	67.612		-2.509	37.4792			
Bottom Right	-42.479	29.8385		19.663	-0.2943			
Bottom Left Marker	-62.142	30.1328		0	0			
Top Right Marker	-42.5705	67.7122		19.5715	37.5794			
1962423003	-48.872	54.121	Zircon	13.04064	24.01748	20	14	8
1833593047	-47.876	60.097	Zircon	14.22696	29.8422	19	15	8
1833576666	-47.876	60.097	Zircon	14.388	30.02276	20	14	8
1687166115	-57.836	51.133	Zircon	4.31576	20.78548	20	14	8
1581011127	-47.378	57.607	Zircon	14.91528	27.39612	19	15	8
1548954922	-56.84	51.631	Zircon	5.21416	21.41036	26	12	8
1520454420	-57.338	51.133	Zircon	4.67224	21.0246	20	14	8
1498149954	-56.84	60.595	Zircon	5.18488	30.59396	22	13	8
1426186494	-47.378	61.591	Zircon	14.68592	31.49724	19	15	8
1388791606	-57.836	60.595	Zircon	4.38408	30.62324	19	15	8
1312302126	-59.828	53.623	Zircon	2.20176	23.52436	20	15	8
1289760483	-46.382	64.579	Zircon	15.82344	34.33396	19	15	8
1159244273	-60.326	45.655	Zircon	1.816	15.48804	20	14	8
1061568486	-50.366	57.607	Zircon	11.6784	27.56692	20	17	8
976190020	-60.326	47.647	Zircon	1.86968	17.74844	19	15	8
961785888	-46.382	63.085	Zircon	15.74536	32.76676	19	15	8
869495551	-55.346	58.105	Zircon	6.71304	27.91364	20	14	8
712447829	-47.378	64.579	Zircon	14.90552	34.65604	20	14	8
632795202	-49.37	51.133	Zircon	12.60608	21.01484	27	11	8
611314951	-47.378	63.085	Zircon	14.96896	32.8546	19	15	8
565741140	-59.828	59.599	Zircon	2.16272	29.67116	20	14	8
553145755	-54.848	62.089	Zircon	7.34768	32.09284	22	13	8
442800327	-49.868	65.077	Zircon	12.2008	34.89052	20	17	8
356598265	-46.382	65.575	Zircon	15.69656	35.32996	22	13	8
285596679	-53.354	62.587	Zircon	8.62208	32.42004	20	14	8
270003095	-60.326	56.611	Zircon	1.89408	26.40012	25	13	8
183117280	-47.378	66.073	Zircon	14.85184	35.84748	19	15	8
174134146	-47.378	49.141	Zircon	14.764	19.19364	20	16	8
172700309	-49.37	67.567	Zircon	12.96232	37.31708	19	15	8
154303866	-59.33	66.073	Zircon	3.01208	36.16468	22	13	8
2066308846	-57.836	48.145	Zircon	4.06688	18.19276	22	12	7
1978023438	-54.848	51.133	Zircon	7.08416	21.08316	19	12	7

Sample Number:	16-LV-170-1B			Lab ID:	MI8191-JAN17:01				
n= 475	Stage X (mm)	Stage Y (mm)	Mineral	Particle X (mm)	Particle Y (mm)	Long Axis (µm)	Short Axis (µm)	Area (# 5 x 5 µm pixels)	
Top Left	-64.651	67.612		-2.509	37.4792				
Bottom Right	-42.479	29.8385		19.663	-0.2943				
Bottom Left Marker	-62.142	30.1328		0	0				
Top Right Marker	-42.5705	67.7122		19.5715	37.5794				
1975179590	-46.382	51.133	Zircon	15.54528	20.94164	16	16	7	
1973745997	-47.876	54.121	Zircon	14.36848	23.81252	19	12	7	
1791130443	-58.832	48.643	Zircon	3.49056	18.31012	20	14	7	
1606925633	-51.86	45.655	Zircon	10.3552	15.63932	16	16	7	
1605456053	-60.326	59.599	Zircon	2.06	29.57844	20	14	7	
1604142163	-52.358	49.639	Zircon	9.89136	19.46228	20	15	7	
1564083264	-56.84	52.129	Zircon	5.33128	21.79124	20	13	7	
1484997100	-56.84	58.603	Zircon	5.20928	28.67516	20	13	7	
1426387118	-47.378	61.591	Zircon	14.60784	31.3362	20	13	7	
1354400320	-51.362	47.149	Zircon	10.72632	17.17236	16	16	7	
1321162132	-61.82	58.105	Zircon	0.53672	27.77212	19	12	7	
1312527382	-59.828	53.623	Zircon	2.13344	23.72932	16	16	7	
1244583999	-57.836	49.639	Zircon	4.34992	19.59404	25	11	7	
1195630154	-48.374	53.623	Zircon	13.72408	23.56828	20	14	7	
1161518033	-51.362	63.085	Zircon	10.85808	32.81068	20	13	7	
1118742106	-58.832	47.647	Zircon	3.432	17.441	19	12	7	
1087734595	-53.354	47.647	Zircon	8.82704	17.2702	16	16	7	
1056310440	-61.322	59.599	Zircon	0.63944	29.5638	19	12	7	
954348385	-55.844	50.635	Zircon	6.44928	20.42412	22	17	7	
865584572	-46.88	58.105	Zircon	15.4816	27.9234	20	14	7	
713744602	-54.848	63.085	Zircon	7.38672	32.73748	20	13	7	
706235687	-54.848	62.587	Zircon	7.50384	32.55668	20	14	7	
640035286	-57.836	59.101	Zircon	4.4524	28.88036	20	13	7	
597453208	-59.33	60.097	Zircon	2.77296	30.1594	19	12	7	
554145656	-46.382	48.145	Zircon	15.9552	18.061	16	16	7	
512537782	-50.366	44.659	Zircon	11.7028	14.6482	27	9	7	
503986942	-58.334	54.619	Zircon	3.98856	24.31052	20	13	7	
446047038	-46.88	60.595	Zircon	15.28152	30.28164	16	16	7	
438213935	-62.816	45.157	Zircon	-0.52272	14.94612	20	13	7	
437436610	-50.864	68.065	Zircon	11.44392	37.70772	19	12	7	
416816964	-53.354	45.655	Zircon	9.0076	15.46852	19	12	7	
293046324	-49.37	65.575	Zircon	12.75248	35.21284	16	16	7	

Sample Number:	16-LV-170-1B			Lab ID:	MI8191-JAN17:01			
n= 475	Stage X (mm)	Stage Y (mm)	Mineral	Particle X (mm)	Particle Y (mm)	Long Axis (µm)	Short Axis (µm)	Area (# 5 x 5 µm pixels)
Top Left	-64.651	67.612		-2.509	37.4792			
Bottom Right	-42.479	29.8385		19.663	-0.2943			
Bottom Left Marker	-62.142	30.1328		0	0			
Top Right Marker	-42.5705	67.7122		19.5715	37.5794			
254852129	-58.832	55.117	Zircon	3.26608	24.8866	20	13	7
143552369	-48.374	58.105	Zircon	13.82656	27.8258	20	13	7
111677884	-59.828	43.165	Zircon	2.32376	12.9102	16	16	7
75167146	-50.864	54.619	Zircon	11.17064	24.5106	20	13	7
45337242	-47.378	56.113	Zircon	14.63224	25.98508	20	13	7
39817561	-57.836	49.141	Zircon	4.062	18.84228	20	13	7
23644551	-58.832	52.129	Zircon	3.12944	21.80588	19	12	7
2139082850	-62.816	63.085	Zircon	-0.63496	33.0254	19	12	6
2097274905	-50.366	43.165	Zircon	11.90288	13.12492	16	14	6
2072472971	-52.358	57.109	Zircon	9.57416	27.0738	16	14	6
2064816363	-60.824	43.663	Zircon	1.074	13.53508	20	11	6
2034378345	-51.362	52.627	Zircon	10.58968	22.47956	16	14	6
2031152131	-53.852	62.089	Zircon	8.0948	31.72684	16	14	6
2029203265	-58.334	66.571	Zircon	3.95928	36.56996	16	16	6
2022120837	-49.868	57.109	Zircon	12.26424	26.9762	16	14	6
2017170567	-60.326	55.117	Zircon	1.7916	25.19404	16	14	6
1990088422	-60.326	67.069	Zircon	1.58664	36.98012	20	10	6
1896284038	-62.816	46.651	Zircon	-0.44464	16.57676	19	12	6
1820928635	-59.33	53.623	Zircon	2.92424	23.26084	20	11	6
1803357863	-59.33	67.069	Zircon	2.71928	37.1802	16	14	6
1801484984	-62.816	50.635	Zircon	-0.85456	20.37532	20	11	6
1772585109	-57.338	51.631	Zircon	4.70152	21.27372	19	12	6
1658676704	-56.342	55.615	Zircon	5.56576	25.56516	16	14	6
1621885004	-49.868	59.599	Zircon	12.42528	29.39788	20	11	6
1540010602	-53.852	44.659	Zircon	8.2656	14.60428	16	14	6
1503301418	-50.864	50.635	Zircon	11.39512	20.46804	16	14	6
1488689905	-61.322	50.635	Zircon	0.85904	20.43876	16	14	6
1454846693	-51.362	67.069	Zircon	10.84344	36.77516	19	12	6
1375851292	-53.852	46.153	Zircon	8.10456	15.947	16	14	6
1312065942	-54.848	53.125	Zircon	7.40624	23.17764	16	14	6
1311189655	-61.82	54.619	Zircon	0.20488	24.69116	22	10	6
1277568297	-51.86	50.635	Zircon	10.42352	20.64372	22	10	6

Sample Number:	16-LV-170-1B			Lab ID:	MI8191-JAN17:01				
n= 475	Stage X (mm)	Stage Y (mm)	Mineral	Particle X (mm)	Particle Y (mm)	Long Axis (µm)	Short Axis (µm)	Area (# 5 x 5 µm pixels)	
Top Left	-64.651	67.612		-2.509	37.4792				
Bottom Right	-42.479	29.8385		19.663	-0.2943				
Bottom Left Marker	-62.142	30.1328		0	0				
Top Right Marker	-42.5705	67.7122		19.5715	37.5794				
1236928987	-52.856	44.161	Zircon	9.41288	14.04772	16	14	6	
1189186153	-49.868	53.623	Zircon	12.50824	23.72444	16	14	6	
1159723517	-60.326	45.655	Zircon	1.87944	15.449	19	12	6	
1159282016	-50.864	57.607	Zircon	11.0584	27.27412	20	11	6	
1110317185	-60.824	61.591	Zircon	1.2936	31.61436	16	14	6	
1103290839	-49.37	52.129	Zircon	12.73784	22.22556	19	12	6	
1087477965	-59.828	67.069	Zircon	2.42624	36.84348	20	10	6	
1056052438	-61.322	59.599	Zircon	0.85416	29.30028	16	14	6	
998226415	-58.334	47.149	Zircon	3.5884	17.05524	16	14	6	
997882298	-58.334	47.149	Zircon	3.8324	16.94788	16	14	6	
988870196	-62.816	57.109	Zircon	-0.53736	27.05428	16	14	6	
898212327	-61.322	56.611	Zircon	1.05912	26.40012	19	12	6	
883966256	-48.872	64.081	Zircon	13.16752	34.03116	20	11	6	
839123159	-54.848	59.599	Zircon	7.15736	29.22708	16	16	6	
753835872	-47.876	56.611	Zircon	14.4612	26.2342	16	14	6	
744858507	-51.86	53.623	Zircon	10.32592	23.45116	16	16	6	
742315418	-48.872	58.105	Zircon	13.37736	28.13324	16	14	6	
726245058	-50.366	58.105	Zircon	11.8736	28.05028	16	14	6	
604669577	-48.872	59.599	Zircon	13.1236	29.26124	16	14	6	
601117725	-58.334	59.101	Zircon	3.60304	28.80228	16	14	6	
586476414	-60.326	67.567	Zircon	1.94288	37.35612	20	11	6	
566667429	-59.828	47.647	Zircon	2.192	17.65572	16	14	6	
565031325	-62.318	54.121	Zircon	-0.18088	23.81252	20	11	6	
545361624	-51.362	62.089	Zircon	10.98984	31.9074	16	14	6	
545313486	-60.824	54.619	Zircon	1.3912	24.29588	16	14	6	
503189531	-55.844	67.069	Zircon	6.41512	36.84836	19	12	6	
456617216	-61.82	61.591	Zircon	0.46352	31.51188	19	12	6	
303509720	-55.346	52.129	Zircon	7.02048	21.90836	16	14	6	
302194957	-48.374	56.611	Zircon	13.73384	26.5758	16	14	6	
279260898	-61.82	61.093	Zircon	0.40008	30.94068	16	14	6	
275639120	-62.318	58.105	Zircon	-0.13208	27.98196	16	14	6	
266072401	-55.844	55.615	Zircon	6.11744	25.25284	19	12	6	

Sample Number:	16-LV-170-1B			Lab ID:	MI8191-JAN17:01				
n= 475	Stage X (mm)	Stage Y (mm)	Mineral	Particle X (mm)	Particle Y (mm)	Long Axis (µm)	Short Axis (µm)	Area (# 5 x 5 µm pixels)	
Top Left	-64.651	67.612		-2.509	37.4792				
Bottom Right	-42.479	29.8385		19.663	-0.2943				
Bottom Left Marker	-62.142	30.1328		0	0				
Top Right Marker	-42.5705	67.7122		19.5715	37.5794				
264167618	-54.35	65.575	Zircon	7.84568	35.55932	20	11		6
254595360	-52.856	43.663	Zircon	9.41288	13.6278	19	12		6
210567384	-59.828	55.615	Zircon	2.55312	25.59932	16	14		6
183399834	-47.378	66.073	Zircon	14.87136	36.12564	16	14		6
94033972	-61.82	55.615	Zircon	0.10728	25.69204	20	10		6
92070303	-48.872	45.655	Zircon	13.45544	15.45876	16	14		6
60783482	-50.366	53.623	Zircon	11.94192	23.35356	16	14		6
49615427	-55.346	57.607	Zircon	6.70816	27.67916	16	14		6
2038088266	-62.816	51.631	Zircon	-0.796	21.6202	16	11		5
2034468467	-51.362	52.627	Zircon	11.00448	22.41124	20	10		5
2006149970	-57.836	56.113	Zircon	4.25232	25.95092	20	10		5
2005600820	-56.342	60.595	Zircon	5.57064	30.47196	16	11		5
1958190001	-52.856	65.575	Zircon	9.30064	35.59348	16	11		5
1930767138	-52.856	45.655	Zircon	9.49096	15.449	16	11		5
1929021736	-58.334	64.579	Zircon	3.58352	34.52916	16	11		5
1879253316	-57.338	43.165	Zircon	4.73568	13.19324	16	11		5
1879159151	-57.338	43.165	Zircon	4.93088	12.88092	16	11		5
1873659766	-49.868	56.611	Zircon	12.1032	26.52212	19	8		5
1832522352	-60.326	56.113	Zircon	2.00144	26.15588	16	11		5
1812137245	-57.836	50.635	Zircon	4.55488	20.38508	16	11		5
1804213673	-48.374	52.627	Zircon	13.58744	22.55764	16	11		5
1798447758	-48.374	55.117	Zircon	13.6704	24.81828	16	11		5
1687526594	-57.836	51.133	Zircon	4.2572	21.0734	19	8		5
1634739182	-62.318	49.141	Zircon	-0.03448	18.79348	16	11		5
1587325876	-50.366	64.579	Zircon	11.62472	34.43156	16	11		5
1584054505	-47.378	60.595	Zircon	14.72496	30.36948	16	11		5
1480805562	-62.318	43.165	Zircon	0.01432	12.94436	16	11		5
1448527876	-59.33	46.651	Zircon	3.04136	16.64508	16	11		5
1447359050	-56.342	46.651	Zircon	5.9952	16.27908	20	10		5
1440611161	-49.868	57.607	Zircon	12.34232	27.55716	20	10		5
1418954922	-48.374	54.121	Zircon	13.5728	23.99308	16	11		5
1412023754	-61.322	56.113	Zircon	0.7956	25.81916	16	11		5

Sample Number:	16-LV-170-1B			Lab ID:	MI8191-JAN17:01				
n= 475	Stage X (mm)	Stage Y (mm)	Mineral	Particle X (mm)	Particle Y (mm)	Long Axis (µm)	Short Axis (µm)	Area (# 5 x 5 µm pixels)	
Top Left	-64.651	67.612		-2.509	37.4792				
Bottom Right	-42.479	29.8385		19.663	-0.2943				
Bottom Left Marker	-62.142	30.1328		0	0				
Top Right Marker	-42.5705	67.7122		19.5715	37.5794				
1401135430	-60.824	62.089	Zircon	1.52784	32.02452	20	10	5	
1373530526	-56.84	57.607	Zircon	5.4728	27.25948	16	11	5	
1344609723	-61.322	58.603	Zircon	0.6248	28.67516	16	11	5	
1344347643	-61.322	58.603	Zircon	1.0152	28.59708	16	11	5	
1307101891	-51.86	64.579	Zircon	10.46256	34.23636	16	11	5	
1290703601	-61.322	62.089	Zircon	0.8932	31.99524	15	15	5	
1255717749	-49.868	58.603	Zircon	12.1032	28.27988	16	11	5	
1237533251	-46.88	66.073	Zircon	15.46208	35.93044	16	11	5	
1168604090	-48.872	62.089	Zircon	13.32368	31.77076	16	11	5	
1161639898	-50.366	61.591	Zircon	11.71256	31.4338	16	11	5	
1124130939	-49.37	50.635	Zircon	12.9428	20.7462	16	11	5	
1084426861	-58.832	46.651	Zircon	3.53448	16.45476	16	11	5	
1059830718	-56.342	60.097	Zircon	5.922	29.78364	16	11	5	
1040563637	-51.86	53.125	Zircon	10.5016	22.95316	16	11	5	
1028659632	-52.856	50.137	Zircon	9.14448	19.96028	16	11	5	
1014965543	-62.816	47.149	Zircon	-0.91312	17.00644	16	11	5	
994456065	-58.334	66.073	Zircon	3.74944	36.14028	16	11	5	
872061297	-61.82	66.073	Zircon	0.28784	36.0134	16	11	5	
858720833	-57.836	59.599	Zircon	4.5256	29.50524	16	11	5	
781660973	-55.346	48.643	Zircon	6.674	18.57364	16	11	5	
772456185	-53.354	47.149	Zircon	8.82704	17.2602	16	11	5	
753468299	-56.84	57.109	Zircon	5.37032	26.76148	19	8	5	
720738190	-51.362	64.081	Zircon	10.7556	33.85548	20	10	5	
621183956	-55.844	54.619	Zircon	6.28824	24.6814	20	10	5	
574729686	-55.346	54.619	Zircon	6.7228	24.39348	16	11	5	
572328807	-48.374	57.109	Zircon	13.94368	26.79076	16	11	5	
564432918	-51.362	51.631	Zircon	11.01424	21.38108	19	8	5	
500416235	-59.33	63.583	Zircon	2.69976	33.46484	19	8	5	
471923533	-53.354	46.651	Zircon	8.91	16.7134	16	11	5	
463940170	-52.358	59.101	Zircon	9.59368	29.14388	16	11	5	
455783538	-49.37	66.073	Zircon	12.96232	35.83284	16	11	5	
448584058	-52.856	64.081	Zircon	9.14936	33.85548	24	5	5	

Sample Number:	16-LV-170-1B			Lab ID:	MI8191-JAN17:01				
n= 475	Stage X (mm)	Stage Y (mm)	Mineral	Particle X (mm)	Particle Y (mm)	Long Axis (µm)	Short Axis (µm)	Area (# 5 x 5 µm pixels)	
Top Left	-64.651	67.612		-2.509	37.4792				
Bottom Right	-42.479	29.8385		19.663	-0.2943				
Bottom Left Marker	-62.142	30.1328		0	0				
Top Right Marker	-42.5705	67.7122		19.5715	37.5794				
354704482	-46.88	65.575	Zircon	15.2376	35.65204	16	11		5
336190725	-50.366	68.065	Zircon	11.91264	37.99076	16	11		5
326617820	-53.354	63.085	Zircon	8.67576	33.11812	20	10		5
314486971	-48.374	61.591	Zircon	13.6216	31.38988	16	11		5
314175680	-48.374	61.591	Zircon	13.80704	31.59972	20	10		5
314022673	-55.844	57.109	Zircon	6.48344	27.19092	16	11		5
259151772	-61.82	55.117	Zircon	0.23416	24.789	16	11		5
172688021	-49.37	67.567	Zircon	12.65976	37.61964	16	11		5
159595211	-60.326	44.161	Zircon	1.99656	13.81348	16	11		5
143306564	-48.374	58.105	Zircon	13.66552	27.9234	16	11		5
133976262	-55.346	67.069	Zircon	6.98144	36.9606	16	11		5
106509379	-61.322	55.117	Zircon	0.75168	25.07204	16	11		5
86688531	-57.338	56.611	Zircon	4.89672	26.40988	16	11		5
76466192	-59.33	43.165	Zircon	2.79248	12.80772	16	11		5
74377379	-47.378	50.635	Zircon	14.94456	20.63884	16	11		5
37939707	-62.816	43.663	Zircon	-0.78624	13.36428	24	5		5
19900491	-50.864	67.069	Zircon	11.0584	37.14116	16	11		5
112050660	-59.828	43.165	Monazite	2.30424	13.19812	31	28		25
1533081787	-54.35	52.627	Monazite	7.65048	22.48444	31	28		24
1136067376	-46.88	59.101	Monazite	15.2132	28.9194	42	25		24
1199480335	-50.366	67.567	Monazite	11.7028	37.6782	33	27		22
512750725	-50.366	44.659	Monazite	11.55152	14.75068	39	24		22
1274704449	-56.342	62.089	Monazite	5.84392	32.18556	30	25		20
111040649	-47.378	59.599	Monazite	14.69568	29.24172	27	25		18
816046939	-56.342	43.165	Monazite	5.8976	12.85652	30	21		17
396117769	-46.88	50.635	Monazite	15.33032	20.30212	35	20		17
371617611	-54.848	47.647	Monazite	7.32816	17.48004	27	22		17
182242082	-62.816	58.105	Monazite	-0.44952	27.91364	32	19		17
1945635133	-49.37	63.085	Monazite	12.96232	32.97172	27	20		16



Sample Number:	14-S1-088-1			Lab ID:	MI8191-JAN17:02			
n= 318	Stage X (mm)	Stage Y (mm)	Mineral	Particle X (mm)	Particle Y (mm)	Long Axis (µm)	Short Axis (µm)	Area (# 5 x 5 µm pixels)
Top Left	-30.6808	69.2007		0.4975	38.7734			
Bottom Right	-10.0878	30.585		21.0905	0.1577			
Bottom Left Marker	-31.1783	30.4273		0	0			
Top Right Marker	-9.7695	68.5037		21.4088	38.0764			
1981524930	-25.076	38.145	Zircon	6.23406	7.9617	105	61	178
227582860	-21.092	43.125	Zircon	9.9399	12.5025	73	63	111
1511665493	-13.622	41.133	Zircon	17.64414	10.58858	85	45	107
749499145	-11.63	53.583	Zircon	19.30918	23.18986	71	50	92
526107896	-14.618	36.651	Zircon	16.74086	6.37498	55	48	68
1412958641	-20.594	45.615	Zircon	10.4623	15.05106	53	48	66
727401847	-12.626	52.089	Zircon	18.6255	21.8325	75	30	63
2108860149	-17.108	57.069	Zircon	13.83606	26.78322	93	26	61
592259000	-28.562	62.049	Zircon	2.4455	31.68514	59	31	53
377725866	-19.1	57.069	Zircon	12.27838	26.83202	59	35	51
345591309	-15.614	36.153	Zircon	15.57894	5.7989	44	42	43
1568819215	-24.578	34.161	Zircon	6.36118	3.5385	51	28	41
47239318	-28.562	39.141	Zircon	2.56262	8.79666	44	34	41
1714286421	-23.084	34.161	Zircon	7.86982	3.59218	40	38	40
1912456850	-11.63	56.073	Zircon	19.5727	25.72866	50	30	39
1723884925	-23.084	47.607	Zircon	8.30414	17.29194	56	39	39
727618865	-12.626	52.089	Zircon	18.58646	21.66658	44	32	39
1553269686	-19.598	42.627	Zircon	11.49246	12.37538	58	28	38
1214909906	-16.61	51.591	Zircon	14.58294	21.2369	45	33	38
1196131933	-24.08	48.603	Zircon	7.21542	18.01466	56	25	38
2067579056	-12.128	51.093	Zircon	19.18694	20.79746	50	29	34
698837020	-19.1	40.635	Zircon	12.25398	10.11498	45	30	33
536997536	-18.104	52.587	Zircon	13.19142	22.4037	36	30	31
2024243526	-25.076	62.049	Zircon	6.27798	31.56314	49	21	30
1749276064	-27.068	62.049	Zircon	3.96878	31.84618	36	32	30
104797914	-24.08	52.587	Zircon	7.09342	22.4037	44	30	30
999638952	-23.582	41.631	Zircon	7.4011	10.97922	43	30	29
2021729958	-19.1	51.093	Zircon	12.19542	20.75354	36	30	28
82203269	-21.092	35.157	Zircon	10.25222	4.83218	42	30	28
2130339239	-28.064	52.587	Zircon	3.03134	22.07674	49	19	27
1956226529	-27.566	38.643	Zircon	3.82214	8.17178	43	22	27
1326895247	-18.602	52.587	Zircon	12.41038	22.19874	49	21	26



Sample Number:	14-S1-088-1			Lab ID:	MI8191-JAN17:02			
n= 318	Stage X (mm)	Stage Y (mm)	Mineral	Particle X (mm)	Particle Y (mm)	Long Axis (µm)	Short Axis (µm)	Area (# 5 x 5 µm pixels)
Top Left	-30.6808	69.2007		0.4975	38.7734			
Bottom Right	-10.0878	30.585		21.0905	0.1577			
Bottom Left Marker	-31.1783	30.4273		0	0			
Top Right Marker	-9.7695	68.5037		21.4088	38.0764			
889770990	-11.63	61.551	Zircon	19.35798	31.25546	33	27	26
1264164139	-15.614	42.129	Zircon	15.65214	11.9213	38	27	25
1361879254	-17.606	53.085	Zircon	13.33318	22.6821	36	28	24
462556114	-22.088	41.133	Zircon	8.93902	10.6081	31	31	24
1295765773	-26.57	43.623	Zircon	4.47654	13.18106	45	17	23
83091942	-22.586	38.643	Zircon	8.61182	8.4597	35	26	23
1909324609	-25.076	36.651	Zircon	6.0779	6.38962	33	25	22
1044846731	-16.112	51.591	Zircon	14.91502	21.1881	39	21	22
215282932	-24.08	53.085	Zircon	7.09342	22.41858	44	22	22
87416836	-19.598	55.575	Zircon	11.7755	25.03058	39	20	22
1481427672	-26.57	60.555	Zircon	4.75958	29.96666	36	20	21
1400725633	-29.558	43.125	Zircon	1.56174	12.71722	31	24	21
1356647649	-23.582	41.133	Zircon	7.4011	10.9497	35	22	21
190999568	-29.558	43.623	Zircon	1.6203	13.06394	31	27	21
163289223	-20.594	58.563	Zircon	10.56478	28.3797	31	24	21
1564665091	-26.57	58.065	Zircon	4.42286	27.48154	36	22	20
1341875126	-29.06	56.073	Zircon	2.03046	25.77746	40	18	20
1207633849	-14.618	37.149	Zircon	16.37974	6.58506	33	24	20
981060278	-26.072	39.639	Zircon	5.1307	9.1873	31	22	20
1991963136	-18.602	57.567	Zircon	12.33718	27.07626	31	22	19
1344643237	-16.112	35.157	Zircon	15.05166	4.71506	34	20	19
1268939929	-16.61	48.603	Zircon	14.74398	18.3465	32	22	19
1159683724	-12.626	49.101	Zircon	18.43518	18.89818	27	27	19
857894563	-28.064	53.583	Zircon	3.0899	22.94098	29	26	19
217463026	-18.602	46.113	Zircon	12.50798	15.64178	30	25	19
1833431220	-16.112	36.153	Zircon	14.91014	5.6037	35	18	18
1502118542	-24.08	61.053	Zircon	6.9519	30.85994	30	21	18
899476060	-26.072	47.607	Zircon	5.31614	17.18946	36	19	18
462502910	-22.088	41.133	Zircon	8.91462	10.48122	30	25	18
107213014	-30.056	58.065	Zircon	1.17598	27.59866	29	20	18
32890079	-26.072	54.579	Zircon	5.07702	24.08338	27	25	18
1426693933	-28.064	60.555	Zircon	3.04598	30.26922	39	15	17

Sample Number:	14-S1-088-1			Lab ID:	MI8191-JAN17:02			
n= 318	Stage X (mm)	Stage Y (mm)	Mineral	Particle X (mm)	Particle Y (mm)	Long Axis (µm)	Short Axis (µm)	Area (# 5 x 5 µm pixels)
Top Left	-30.6808	69.2007		0.4975	38.7734			
Bottom Right	-10.0878	30.585		21.0905	0.1577			
Bottom Left Marker	-31.1783	30.4273		0	0			
Top Right Marker	-9.7695	68.5037		21.4088	38.0764			
983294086	-11.132	35.157	Zircon	20.12438	4.90538	30	25	17
1264681036	-25.076	60.057	Zircon	5.96566	29.67362	30	21	16
1122442146	-23.582	42.129	Zircon	7.39622	11.7749	27	22	16
1102950576	-19.598	44.121	Zircon	11.5559	13.59122	25	25	16
1826163769	-25.574	39.141	Zircon	5.46278	8.82106	29	20	15
1515455437	-20.594	33.165	Zircon	10.55014	2.94266	31	19	15
1025295652	-20.096	54.081	Zircon	11.12622	23.44874	27	22	15
592213944	-28.562	62.049	Zircon	2.59678	31.8657	29	25	15
271470737	-26.072	38.145	Zircon	4.96966	7.70794	30	18	15
2056154363	-14.12	41.631	Zircon	17.2291	11.01826	25	21	14
1668576267	-11.132	62.049	Zircon	20.25614	31.48994	30	18	14
595874802	-20.594	38.643	Zircon	10.80878	8.42554	49	11	14
520616402	-28.562	42.129	Zircon	2.72854	11.79442	27	22	14
340978556	-18.104	47.607	Zircon	13.24022	17.21386	22	22	14
2061080978	-27.566	56.571	Zircon	3.6855	26.22178	35	14	13
2056796321	-17.108	48.603	Zircon	14.28502	18.26842	27	18	13
1876322223	-25.076	55.077	Zircon	5.99006	24.41058	22	22	13
1155402614	-24.08	34.659	Zircon	7.13734	4.44642	29	15	13
890307941	-28.064	59.559	Zircon	3.22654	29.14634	35	14	13
814214149	-19.1	61.551	Zircon	12.3223	31.18226	25	18	13
481586406	-11.63	55.575	Zircon	19.6215	25.18674	25	20	13
170614666	-15.614	43.623	Zircon	15.57894	13.40554	30	17	13
1673080602	-12.128	54.081	Zircon	19.02102	23.47802	29	16	12
1660054696	-21.59	47.607	Zircon	9.6127	17.04306	20	20	12
1515635694	-20.594	33.165	Zircon	10.50134	2.79626	31	15	12
1322302470	-16.61	50.097	Zircon	14.50974	19.6941	22	20	12
1253776060	-26.57	52.587	Zircon	4.72542	22.2085	27	20	12
1246203087	-15.614	47.607	Zircon	15.7595	17.03818	25	17	12
1151342579	-14.12	47.109	Zircon	17.19982	16.50602	22	20	12
1099940427	-27.566	49.101	Zircon	3.5147	18.59074	30	17	12
539473334	-20.096	33.663	Zircon	11.11158	3.4553	31	14	12
169784513	-12.128	53.085	Zircon	18.84534	22.54546	29	17	12

Sample Number:	14-S1-088-1			Lab ID:	MI8191-JAN17:02				
n= 318	Stage X (mm)	Stage Y (mm)	Mineral	Particle X (mm)	Particle Y (mm)	Long Axis (µm)	Short Axis (µm)	Area (# 5 x 5 µm pixels)	
Top Left	-30.6808	69.2007		0.4975	38.7734				
Bottom Right	-10.0878	30.585		21.0905	0.1577				
Bottom Left Marker	-31.1783	30.4273		0	0				
Top Right Marker	-9.7695	68.5037		21.4088	38.0764				
2109507776	-12.128	53.583	Zircon	19.29918	23.17522	34	10	11	
2081698149	-21.59	48.105	Zircon	9.41262	17.6045	27	14	11	
1983632403	-25.574	60.057	Zircon	5.54086	29.42474	26	15	11	
1972155064	-24.578	62.049	Zircon	6.59054	31.56802	22	18	11	
1726912693	-30.056	46.611	Zircon	1.08326	16.03242	35	12	11	
1527568392	-17.606	56.073	Zircon	13.73334	25.41634	25	16	11	
1496057293	-25.574	60.555	Zircon	5.68238	30.27898	22	18	11	
1053615264	-27.566	51.591	Zircon	3.81238	21.18322	22	22	11	
823669111	-30.056	46.113	Zircon	0.96614	15.7589	31	16	11	
409523412	-17.108	45.615	Zircon	14.25086	15.1633	30	16	11	
282143112	-15.116	35.655	Zircon	16.17942	5.36434	30	14	11	
44701212	-19.1	41.631	Zircon	12.26862	11.44282	30	13	11	
2113372905	-14.12	52.587	Zircon	17.3023	22.29146	25	14	10	
1932058968	-18.104	60.057	Zircon	13.04502	29.57114	30	13	10	
1923434676	-28.064	40.137	Zircon	3.09478	9.78778	20	17	10	
1921203369	-22.586	42.129	Zircon	8.79238	11.7993	25	17	10	
1909340811	-26.072	51.591	Zircon	5.10142	20.91482	29	10	10	
1539288256	-23.582	50.097	Zircon	7.46942	19.4745	22	16	10	
1437552412	-28.562	39.639	Zircon	2.82126	9.31418	27	16	10	
972497734	-12.626	54.081	Zircon	18.36686	23.74154	22	18	10	
387368949	-25.574	42.627	Zircon	5.82878	12.25338	20	17	10	
280250111	-24.08	42.129	Zircon	6.96654	11.5553	29	14	10	
179018224	-13.622	33.165	Zircon	17.4587	2.84018	31	12	10	
18148744	-24.08	58.563	Zircon	7.05438	28.21378	22	16	10	
4733395	-12.626	53.085	Zircon	18.4547	22.4137	20	17	10	
2081542436	-21.59	48.105	Zircon	9.43214	17.90218	20	17	9	
1963912310	-25.574	37.149	Zircon	5.39934	6.50698	29	10	9	
1935359717	-12.128	40.635	Zircon	19.25038	10.3785	22	14	9	
1522035626	-24.578	50.097	Zircon	6.45878	19.4745	22	14	9	
1496090053	-25.574	60.555	Zircon	5.8483	30.09842	20	16	9	
1322638826	-22.586	56.073	Zircon	8.77774	25.82138	20	17	9	
972702623	-11.63	43.125	Zircon	19.68006	12.74162	20	19	9	

Sample Number:	14-S1-088-1			Lab ID:	MI8191-JAN17:02				
n= 318	Stage X (mm)	Stage Y (mm)	Mineral	Particle X (mm)	Particle Y (mm)	Long Axis (µm)	Short Axis (µm)	Area (# 5 x 5 µm pixels)	
Top Left	-30.6808	69.2007		0.4975	38.7734				
Bottom Right	-10.0878	30.585		21.0905	0.1577				
Bottom Left Marker	-31.1783	30.4273		0	0				
Top Right Marker	-9.7695	68.5037		21.4088	38.0764				
728669289	-12.128	35.655	Zircon	19.1723	5.17402	20	16		9
563785998	-26.072	49.101	Zircon	5.02334	18.54682	30	12		9
2118092513	-22.088	35.655	Zircon	9.30502	5.11546	20	15		8
2112249502	-13.124	54.081	Zircon	17.9323	23.60002	20	14		8
1889040441	-17.606	54.579	Zircon	13.37222	24.35178	20	14		8
1714117618	-21.092	58.065	Zircon	10.17902	27.68162	20	14		8
1680834175	-26.072	50.097	Zircon	5.15022	19.8649	20	15		8
1596717977	-29.06	56.571	Zircon	2.03534	26.17786	20	14		8
1561435353	-19.598	57.069	Zircon	11.68766	26.52458	19	15		8
1452400568	-15.614	37.647	Zircon	15.3935	7.41978	19	15		8
1432598646	-24.578	40.635	Zircon	6.37094	10.3541	22	13		8
1422707584	-30.056	45.117	Zircon	0.9271	14.79706	20	14		8
1401779686	-27.068	41.631	Zircon	4.22254	11.15002	22	13		8
1357567601	-14.618	44.619	Zircon	16.57494	13.9721	20	14		8
1179386112	-15.614	45.615	Zircon	15.67166	15.04618	19	15		8
1045664434	-11.132	60.057	Zircon	19.96334	29.79562	24	10		8
1017683528	-25.076	38.643	Zircon	6.25846	7.96682	24	10		8
977478618	-21.59	52.587	Zircon	9.3931	22.14506	20	16		8
742417282	-29.558	59.559	Zircon	1.7911	29.29274	19	15		8
721195512	-30.056	62.049	Zircon	1.05398	31.77298	22	13		8
650709602	-12.626	37.647	Zircon	18.69382	6.99034	25	13		8
122470075	-26.072	41.133	Zircon	5.07702	10.68618	20	14		8
2061448945	-22.586	37.647	Zircon	8.3727	7.07818	20	13		7
1958257432	-27.566	40.635	Zircon	3.3683	10.0613	25	11		7
1748339966	-18.104	58.065	Zircon	12.90838	27.59378	16	16		7
1741393431	-21.59	35.157	Zircon	9.73958	4.4857	22	12		7
1711952672	-28.562	57.069	Zircon	2.41622	26.46602	16	16		7
1496330877	-27.566	33.165	Zircon	3.65622	2.49858	20	13		7
1179136173	-15.614	45.615	Zircon	15.63262	15.31946	20	13		7
1103073427	-19.598	44.121	Zircon	11.39486	13.60098	22	12		7
972338043	-12.626	54.081	Zircon	18.35222	23.7513	20	13		7
843333497	-28.064	51.093	Zircon	2.8947	20.89506	16	16		7

Sample Number:	14-S1-088-1			Lab ID:	MI8191-JAN17:02				
n= 318	Stage X (mm)	Stage Y (mm)	Mineral	Particle X (mm)	Particle Y (mm)	Long Axis (µm)	Short Axis (µm)	Area (# 5 x 5 µm pixels)	
Top Left	-30.6808	69.2007		0.4975	38.7734				
Bottom Right	-10.0878	30.585		21.0905	0.1577				
Bottom Left Marker	-31.1783	30.4273		0	0				
Top Right Marker	-9.7695	68.5037		21.4088	38.0764				
799705792	-25.076	60.555	Zircon	5.9071	30.13258	16	16	7	
730343488	-27.566	53.583	Zircon	3.5879	23.2289	19	12	7	
666965568	-23.084	45.117	Zircon	8.12846	14.83122	20	13	7	
525493549	-25.076	61.053	Zircon	6.1023	30.8697	16	16	7	
515089739	-19.1	44.619	Zircon	12.30766	14.18682	16	16	7	
403711096	-26.57	38.145	Zircon	4.78398	7.84458	20	13	7	
329144869	-18.602	61.551	Zircon	12.3323	31.18226	20	13	7	
274349347	-14.12	38.145	Zircon	16.9119	7.82018	20	13	7	
206541375	-22.088	42.627	Zircon	9.07078	12.4437	20	13	7	
203151072	-29.06	60.057	Zircon	2.0451	29.8005	19	15	7	
141611383	-21.59	53.085	Zircon	9.67614	22.56986	20	14	7	
130498929	-28.562	34.161	Zircon	2.50894	3.97282	20	13	7	
102999547	-13.622	46.113	Zircon	17.71246	15.60274	19	12	7	
2092226226	-21.59	47.109	Zircon	9.76886	16.71098	16	14	6	
2083105301	-16.112	45.615	Zircon	14.9443	15.03154	20	10	6	
1935847748	-18.602	45.615	Zircon	12.40062	14.9925	16	14	6	
1908883906	-29.06	35.655	Zircon	2.27446	5.13498	29	5	6	
1841124010	-20.594	44.619	Zircon	10.80878	14.0697	16	14	6	
1711944469	-28.562	57.069	Zircon	2.43574	26.45626	16	14	6	
1677138601	-25.076	46.611	Zircon	6.19502	16.0861	16	14	6	
1492443714	-22.088	40.137	Zircon	8.96342	9.8561	19	12	6	
1435412191	-21.59	51.093	Zircon	9.3931	20.72426	20	10	6	
1405019047	-12.128	42.627	Zircon	18.99662	11.95082	16	14	6	
1181176168	-28.064	39.141	Zircon	2.93374	8.79666	20	11	6	
1180407584	-11.63	36.153	Zircon	19.34822	5.78914	19	12	6	
1010432888	-26.072	51.093	Zircon	5.10142	20.9097	29	5	6	
745513947	-23.084	52.089	Zircon	8.23094	21.68122	19	12	6	
739714390	-20.096	36.651	Zircon	11.04326	6.18954	25	10	6	
699086971	-27.566	59.559	Zircon	3.37806	29.3025	20	15	6	
655659809	-27.566	54.081	Zircon	3.81238	23.60002	20	11	6	
450428047	-29.06	61.551	Zircon	2.29398	31.18226	16	14	6	
353324414	-19.598	34.161	Zircon	11.6779	3.56778	16	14	6	

Sample Number:	14-S1-088-1			Lab ID:	MI8191-JAN17:02				
n= 318	Stage X (mm)	Stage Y (mm)	Mineral	Particle X (mm)	Particle Y (mm)	Long Axis (µm)	Short Axis (µm)	Area (# 5 x 5 µm pixels)	
Top Left	-30.6808	69.2007		0.4975	38.7734				
Bottom Right	-10.0878	30.585		21.0905	0.1577				
Bottom Left Marker	-31.1783	30.4273		0	0				
Top Right Marker	-9.7695	68.5037		21.4088	38.0764				
297892309	-28.562	57.567	Zircon	2.74318	27.34466	20	10	6	
242590018	-28.562	50.097	Zircon	2.76758	19.45498	20	11	6	
144460095	-18.602	54.579	Zircon	12.54702	24.31762	25	10	6	
141672805	-21.59	53.085	Zircon	9.7591	22.56498	16	14	6	
124039043	-21.092	44.121	Zircon	10.3303	13.84498	19	12	6	
78817935	-27.566	56.073	Zircon	3.60742	25.87506	16	14	6	
2118924905	-26.57	53.583	Zircon	4.68638	23.21426	16	11	5	
2111250699	-26.57	54.579	Zircon	4.44238	23.94186	20	10	5	
2078003646	-27.068	36.153	Zircon	4.2811	5.62322	16	11	5	
1900920429	-12.128	33.165	Zircon	18.9771	2.83042	20	10	5	
1790671022	-12.128	34.161	Zircon	19.09422	3.6849	16	11	5	
1773226246	-19.598	51.591	Zircon	11.7999	21.14418	16	11	5	
1715523835	-30.056	57.567	Zircon	1.1223	27.37882	16	11	5	
1713994702	-21.092	58.065	Zircon	10.2815	27.8085	19	8	5	
1326731446	-18.602	52.587	Zircon	12.36646	22.3549	16	11	5	
1152339870	-11.63	42.627	Zircon	19.75326	12.2729	16	11	5	
1139941020	-19.1	58.563	Zircon	12.0295	28.01858	20	10	5	
1025635203	-13.124	42.129	Zircon	18.08358	11.80418	16	14	5	
972522313	-12.626	54.081	Zircon	18.44006	23.6049	16	11	5	
959271993	-17.108	56.073	Zircon	14.0947	25.67986	24	5	5	
863398177	-25.574	59.559	Zircon	5.68238	28.99506	16	11	5	
749573579	-25.574	51.591	Zircon	5.59942	21.25154	24	5	5	
722474580	-21.092	56.073	Zircon	9.99846	25.7677	20	10	5	
626771699	-23.084	56.571	Zircon	8.14798	26.18762	16	14	5	
545148397	-28.064	54.579	Zircon	2.89958	24.21026	16	11	5	
539288051	-11.132	48.603	Zircon	20.20246	18.10738	20	10	5	
493246782	-15.614	34.659	Zircon	15.80342	4.09994	16	11	5	
390322902	-28.064	40.635	Zircon	3.36806	10.0613	24	5	5	
309460938	-24.578	49.599	Zircon	6.48806	19.1473	16	11	5	
110545680	-18.104	53.085	Zircon	13.1963	22.40394	24	5	5	
60805235	-17.108	45.117	Zircon	14.21182	14.82146	16	11	5	

Sample Number:	14-S1-088-1			Lab ID:	MI8191-JAN17:02			
n= 318	Stage X (mm)	Stage Y (mm)	Mineral	Particle X (mm)	Particle Y (mm)	Long Axis (µm)	Short Axis (µm)	Area (# 5 x 5 µm pixels)
Top Left	-30.6808	69.2007		0.4975	38.7734			
Bottom Right	-10.0878	30.585		21.0905	0.1577			
Bottom Left Marker	-31.1783	30.4273		0	0			
Top Right Marker	-9.7695	68.5037		21.4088	38.0764			
1557434597	-13.622	43.125	Monazite	17.56606	12.80018	62	37	48
1735275659	-29.558	60.555	Monazite	1.63982	30.3717	62	32	47
1714154448	-21.092	58.065	Monazite	10.20342	27.73042	49	27	39
169768131	-12.128	53.085	Monazite	18.81118	22.5845	44	29	38
1546837482	-18.104	51.591	Monazite	13.24022	21.14906	45	30	36
808780868	-11.63	47.109	Monazite	19.48486	16.54994	46	29	36
267240386	-24.08	43.623	Monazite	7.05438	13.37138	51	32	34
124133290	-21.092	44.121	Monazite	10.25222	13.9133	61	28	33
939073212	-26.57	42.627	Monazite	4.64734	12.12162	68	15	32
481541267	-11.63	55.575	Monazite	19.34334	25.2941	36	31	31
971977628	-20.594	37.647	Monazite	10.6331	7.4637	45	25	30
277917202	-18.104	55.077	Monazite	12.84494	24.48866	51	22	30
237197662	-27.566	44.121	Monazite	3.55862	13.79618	36	33	30
1674907693	-22.586	33.165	Monazite	8.6655	2.69378	45	25	29
883114134	-15.614	60.057	Monazite	15.7595	29.51746	69	18	27
1528400996	-14.618	52.089	Monazite	16.64326	21.84714	44	23	26
618915161	-15.116	53.085	Monazite	16.30142	22.61866	36	26	26
522015794	-23.582	40.635	Monazite	7.68414	10.08082	33	27	25
476491124	-13.622	60.057	Monazite	17.52214	29.8737	36	26	25
1876009403	-12.626	47.109	Monazite	18.44006	16.77442	33	27	24
1858270747	-17.108	52.089	Monazite	14.00686	21.78858	45	25	24
885465887	-16.112	36.651	Monazite	15.03702	6.1505	39	21	24
558411343	-17.606	56.571	Mixed Grain	13.80166	26.27546	42	23	24
2009134659	-23.582	51.591	Monazite	7.66462	20.94898	51	21	22
1991889527	-18.602	57.567	Monazite	12.7959	27.17874	36	25	22
1876029829	-12.626	47.109	Monazite	18.41566	16.73538	33	26	22
1738907602	-12.128	50.097	Monazite	19.14302	19.65506	29	25	21
1467684486	-16.61	57.567	Monazite	14.46582	27.10066	39	21	21
1845059050	-18.104	47.109	Monazite	12.8791	16.7305	51	16	20
1712642620	-27.068	36.651	Monazite	3.9883	6.20418	42	20	20
254215716	-26.072	42.627	Monazite	5.15022	12.4437	44	21	20
1449658285	-13.622	61.551	Monazite	17.3367	31.11394	36	19	19



Sample Number:	14-S1-088-1			Lab ID:	M18191-JAN17:02				
n= 318	Stage X (mm)	Stage Y (mm)	Mineral	Particle X (mm)	Particle Y (mm)	Long Axis (µm)	Short Axis (µm)	Area (# 5 x 5 µm pixels)	
Top Left	-30.6808	69.2007		0.4975	38.7734				
Bottom Right	-10.0878	30.585		21.0905	0.1577				
Bottom Left Marker	-31.1783	30.4273		0	0				
Top Right Marker	-9.7695	68.5037		21.4088	38.0764				
1129412351	-28.562	34.659	Monazite	2.69438	4.35858	31	22	19	
1129359063	-28.562	34.659	Monazite	2.81638	4.37322	36	19	19	
857865918	-28.064	53.583	Monazite	3.29974	23.2045	36	20	19	
1091922319	-11.63	36.651	Monazite	19.41654	6.13586	40	17	18	
507589150	-14.12	62.049	Monazite	17.29742	31.63146	33	20	18	
97012412	-13.124	53.583	Monazite	17.92254	22.98002	31	22	18	
2014060820	-12.128	44.121	Monazite	18.9771	13.49362	35	19	17	
1560293631	-25.574	61.551	Monazite	5.40422	31.0505	40	16	17	
1849496475	-23.582	51.093	Monazite	7.65974	20.9097	29	20	16	
1115023613	-16.112	48.603	Monazite	14.91014	18.2245	38	16	16	
446760565	-14.618	45.615	Monazite	16.42854	15.11938	35	17	16	
181887915	-18.104	57.567	Monazite	12.84494	27.3593	43	16	16	
1619755311	-15.116	38.643	Monazite	16.07206	8.30842	29	20	15	
1321490930	-19.598	44.619	Monazite	11.41926	14.04042	33	20	15	
742405106	-29.558	59.559	Monazite	1.41046	29.06826	30	18	15	
708617949	-23.084	33.663	Monazite	7.90886	3.38698	30	20	15	
648435318	-15.116	42.129	Monazite	15.95494	11.7993	49	14	15	
28478928	-18.104	39.639	Monazite	13.23534	9.09458	30	17	15	
1857475855	-29.06	37.647	Monazite	2.04022	7.15626	49	14	14	
1246838172	-17.108	46.611	Monazite	14.05078	16.1593	36	16	14	
740107703	-29.06	48.603	Monazite	2.32326	18.08786	27	20	14	
1854419263	-17.108	36.153	Monazite	14.00198	5.77938	22	22	13	
1363718229	-29.06	49.101	Monazite	2.29398	18.44434	30	16	13	
939441840	-26.57	42.627	Monazite	4.74006	12.1509	35	14	13	
538883165	-17.108	43.623	Monazite	14.27038	13.42506	33	14	13	
455853200	-14.12	60.555	Monazite	17.0583	30.23018	22	20	12	
233446597	-14.12	43.623	Monazite	16.92166	13.16154	35	13	12	
10762380	-15.614	39.141	Monazite	15.52526	8.95282	25	19	12	
2046619127	-23.582	44.619	Monazite	7.83542	14.32346	39	15	11	
1452400822	-11.132	34.659	Monazite	20.20734	4.4269	27	16	11	



Sample Number:	16-LV-170-1			Lab ID:	MI8173-NOV16:07				
n= 310	Stage X (mm)	Stage Y (mm)	Mineral	Particle X (mm)	Particle Y (mm)	Long Axis (µm)	Short Axis (µm)	Area (# 5 x 5 µm pixels)	
Top Left	-30.4428	19.8163		0.0887	38.2738				
Bottom Right	-10.353	-17.9677		20.1785	0.4898				
Bottom Left Marker	-30.5315	-18.4575		0	0				
Top Right Marker	-10.1373	17.0205		20.3942	35.478				
468952986	-19.111	-0.684	Zircon	11.23994	17.85646	75	40	93	
1176476530	-14.629	3.299	Zircon	15.93178	21.59058	69	42	76	
1866711861	-19.111	-2.676	Zircon	11.63522	15.7815	59	44	70	
2071429590	-13.633	-2.178	Zircon	16.91802	16.50398	54	34	54	
219051201	-18.613	-12.636	Zircon	12.02098	6.00206	55	35	51	
469182413	-19.111	-0.684	Zircon	11.33754	17.67102	46	36	46	
1503777624	-18.613	-14.13	Zircon	11.6745	4.17134	51	36	45	
753210479	-18.115	-12.138	Zircon	12.3433	6.21214	56	26	43	
29908880	-27.577	-15.126	Zircon	2.91058	3.26806	64	31	40	
815804784	-12.139	6.785	Zircon	18.45106	25.18394	53	32	39	
712039877	-22.597	-5.166	Zircon	7.94914	13.27686	43	29	36	
354093884	-15.127	3.797	Zircon	15.58506	22.12762	43	33	35	
1307500494	-29.569	-4.17	Zircon	0.72338	14.27286	54	26	32	
1163060740	-22.099	-6.66	Zircon	8.34466	11.81702	38	29	29	
1844035069	-12.139	2.801	Zircon	18.17778	21.23898	36	28	28	
1631677361	-22.597	-3.174	Zircon	7.94426	15.05414	40	28	28	
1224540631	-28.573	-13.134	Zircon	1.89506	5.09414	36	26	28	
1041189750	-15.625	3.797	Zircon	14.9309	22.09834	43	25	28	
2134364032	-12.637	0.311	Zircon	17.91402	18.85146	33	27	27	
340217591	-11.641	-12.138	Zircon	19.0857	6.2219	40	26	27	
2107632487	-23.593	-8.154	Zircon	6.88482	10.34742	36	26	26	
2071343544	-13.633	-2.178	Zircon	17.13274	16.22094	33	25	24	
2113198512	-13.135	5.789	Zircon	17.52826	24.16354	42	19	23	
2008187499	-20.107	-1.68	Zircon	10.5465	16.96782	36	23	23	
1956924600	-12.139	-10.146	Zircon	18.35834	8.31638	36	21	23	
345646625	-11.641	-3.174	Zircon	18.91002	15.05902	35	27	23	
2040099276	-18.115	4.295	Zircon	12.22618	22.86474	31	25	22	
2025072306	-11.641	-11.64	Zircon	18.6709	6.89558	30	25	22	
1592347679	-21.601	13.259	Zircon	9.09642	31.85314	43	17	22	
1561660280	-22.597	-13.632	Zircon	7.6905	4.80598	29	25	21	
1914571318	-27.577	3.299	Zircon	3.1497	21.76138	29	23	20	
1225973804	-15.625	7.283	Zircon	15.13098	25.91618	33	21	20	

Sample Number:	16-LV-170-1			Lab ID:	MI8173-NOV16:07				
n= 310	Stage X (mm)	Stage Y (mm)	Mineral	Particle X (mm)	Particle Y (mm)	Long Axis (µm)	Short Axis (µm)	Area (# 5 x 5 µm pixels)	
Top Left	-30.4428	19.8163		0.0887	38.2738				
Bottom Right	-10.353	-17.9677		20.1785	0.4898				
Bottom Left Marker	-30.5315	-18.4575		0	0				
Top Right Marker	-10.1373	17.0205		20.3942	35.478				
2103495486	-27.079	-8.652	Zircon	3.61354	9.89334	36	20	19	
1333357267	-28.075	12.263	Zircon	2.24666	30.71074	47	21	19	
1919386579	-20.605	11.267	Zircon	9.83378	29.8953	30	22	18	
1518197579	-18.115	-0.684	Zircon	12.61658	17.62222	29	20	18	
1162966588	-22.099	-6.66	Zircon	8.25682	11.88534	31	20	18	
1943086071	-18.115	-1.182	Zircon	12.5385	17.5195	27	25	17	
1444556406	-20.605	3.797	Zircon	10.11194	22.0837	27	25	17	
106491980	-11.641	6.785	Zircon	18.65626	25.16442	27	25	17	
1976920545	-20.605	-15.126	Zircon	9.91674	3.37542	25	21	16	
1810408558	-29.071	-15.126	Zircon	1.39706	3.55598	32	19	16	
853872955	-21.103	8.279	Zircon	9.2089	26.60962	30	22	16	
853753313	-24.589	-10.644	Zircon	6.18162	7.59878	27	22	16	
815890784	-12.139	6.785	Zircon	18.35346	25.14978	29	20	16	
1972484893	-13.633	1.307	Zircon	17.05466	19.58394	26	22	15	
1621298312	-24.091	4.793	Zircon	6.1965	23.3725	26	22	15	
1561832275	-22.597	-13.632	Zircon	7.89546	4.79622	31	19	15	
1362334746	-15.127	-6.162	Zircon	15.37522	12.20766	30	17	15	
1245174405	-22.597	13.259	Zircon	8.00282	31.66282	30	17	15	
130206495	-18.613	-2.676	Zircon	11.6745	15.76198	30	18	15	
2049952727	-19.111	-14.13	Zircon	11.66938	4.17134	39	10	14	
1897427078	-27.577	-2.676	Zircon	2.8813	15.66926	27	20	14	
1701264142	-24.589	-14.628	Zircon	6.10842	4.0247	25	20	14	
270097926	-18.115	-1.68	Zircon	12.38722	16.96782	25	20	14	
1592339480	-21.601	13.259	Zircon	9.0769	31.85314	26	19	13	
1536119116	-15.127	1.307	Zircon	15.16538	19.91578	31	18	13	
1498180326	-15.625	-5.166	Zircon	14.76498	13.49158	25	19	13	
851587096	-22.597	5.291	Zircon	7.91498	23.57282	27	18	13	
316996164	-26.083	0.311	Zircon	4.48754	18.77826	25	19	13	
210893169	-26.083	-10.146	Zircon	4.53146	8.37982	22	20	13	
2013008423	-11.143	6.785	Zircon	19.15914	25.18882	30	14	12	
1686051214	-16.621	13.259	Zircon	13.78362	31.79946	29	16	12	
1540285878	-12.139	12.263	Zircon	18.2217	30.58386	27	16	12	

Sample Number:	16-LV-170-1			Lab ID:	MI8173-NOV16:07				
n= 310	Stage X (mm)	Stage Y (mm)	Mineral	Particle X (mm)	Particle Y (mm)	Long Axis (µm)	Short Axis (µm)	Area (# 5 x 5 µm pixels)	
Top Left	-30.4428	19.8163		0.0887	38.2738				
Bottom Right	-10.353	-17.9677		20.1785	0.4898				
Bottom Left Marker	-30.5315	-18.4575		0	0				
Top Right Marker	-10.1373	17.0205		20.3942	35.478				
1491369812	-22.099	13.757	Zircon	8.3837	32.16082	30	15	12	
1431268221	-30.067	-0.186	Zircon	0.49866	18.40814	29	18	12	
2135749254	-28.075	3.797	Zircon	2.4321	22.26914	22	17	11	
1949073374	-23.593	-13.632	Zircon	6.9385	4.96214	22	18	11	
1526255065	-15.625	-7.656	Zircon	14.8577	10.88446	22	17	11	
1500554191	-21.601	-8.652	Zircon	9.06714	9.62006	27	16	11	
1450754260	-12.637	10.271	Zircon	17.85058	28.59186	25	16	11	
919215491	-14.629	7.781	Zircon	15.9513	26.05794	22	18	11	
508423611	-15.625	13.757	Zircon	14.95042	32.44386	27	16	11	
2034675454	-11.641	12.761	Zircon	18.92954	31.11114	22	18	10	
1748494032	-11.143	5.291	Zircon	19.22258	23.51914	22	16	10	
1444855347	-20.605	3.797	Zircon	9.7313	22.1813	30	13	10	
1333578368	-28.075	12.263	Zircon	2.66146	30.70098	22	16	10	
1202708673	-22.597	5.789	Zircon	8.1297	24.3685	22	16	10	
856564719	-13.135	6.287	Zircon	17.19154	24.95434	22	16	10	
815903089	-12.139	6.785	Zircon	18.39738	25.10098	20	17	10	
606780460	-20.605	-14.13	Zircon	10.10218	4.55686	27	18	10	
184629724	-29.569	6.287	Zircon	1.04546	24.81282	27	14	10	
62408255	-20.107	-11.142	Zircon	10.56602	7.52046	24	15	10	
1441767537	-27.079	-13.134	Zircon	3.36466	5.34302	20	16	9	
1226667079	-14.131	-9.15	Zircon	16.3517	9.5027	20	16	9	
1156806445	-16.621	7.283	Zircon	13.84706	25.57946	20	16	9	
1043910965	-15.625	-7.158	Zircon	15.09194	11.51422	20	16	9	
1020356861	-24.589	-1.68	Zircon	5.9425	16.62622	25	13	9	
936660408	-11.143	4.295	Zircon	19.43242	22.78178	20	16	9	
892593188	-29.569	-3.174	Zircon	1.09426	15.49334	30	12	9	
794359148	-17.617	7.283	Zircon	12.95842	25.58922	22	16	9	
791577260	-29.071	0.311	Zircon	1.52882	18.5977	20	16	9	
688545312	-16.123	12.263	Zircon	14.47682	30.9645	22	16	9	
530082318	-29.569	2.303	Zircon	1.0845	20.99962	20	16	9	
435409577	-17.119	-9.15	Zircon	13.30026	9.37094	20	17	9	
205320078	-20.107	-4.17	Zircon	10.26346	14.45342	20	16	9	

Sample Number:	16-LV-170-1			Lab ID:	MI8173-NOV16:07				
n= 310	Stage X (mm)	Stage Y (mm)	Mineral	Particle X (mm)	Particle Y (mm)	Long Axis (µm)	Short Axis (µm)	Area (# 5 x 5 µm pixels)	
Top Left	-30.4428	19.8163		0.0887	38.2738				
Bottom Right	-10.353	-17.9677		20.1785	0.4898				
Bottom Left Marker	-30.5315	-18.4575		0	0				
Top Right Marker	-10.1373	17.0205		20.3942	35.478				
171501106	-15.127	8.777	Zircon	15.18978	27.00026	26	12	9	
1952185061	-26.581	3.797	Zircon	4.1945	22.27402	19	15	8	
1948888975	-23.593	-13.632	Zircon	7.0117	4.81086	22	14	8	
1873724170	-26.083	-2.178	Zircon	4.21914	16.5235	24	10	8	
1809239503	-15.625	12.761	Zircon	14.72594	31.17458	22	13	8	
1768957955	-29.071	7.781	Zircon	1.61178	26.0921	22	13	8	
1691263457	-30.067	-3.672	Zircon	0.53282	14.86846	19	15	8	
1685756372	-16.621	13.259	Zircon	13.90562	31.55546	22	13	8	
1139298411	-11.641	-12.636	Zircon	19.00762	5.63606	19	15	8	
1093274998	-25.087	12.761	Zircon	5.58602	31.2673	22	14	8	
1052763277	-18.115	-6.66	Zircon	12.27498	11.59254	19	15	8	
858949431	-16.621	8.279	Zircon	14.08618	26.9561	22	13	8	
816090902	-26.083	-11.64	Zircon	4.5461	6.97854	20	15	8	
789375015	-21.601	3.797	Zircon	8.7109	22.09834	19	15	8	
453595831	-29.569	5.291	Zircon	1.2065	23.52402	19	15	8	
424147141	-27.577	13.259	Zircon	2.97402	31.50666	20	14	8	
147196983	-26.581	-12.138	Zircon	3.84802	6.48542	20	14	8	
13585066	-27.577	3.797	Zircon	2.98378	22.3033	19	15	8	
2115458243	-22.597	-14.13	Zircon	7.70026	4.41046	29	10	7	
2062952563	-13.633	-7.158	Zircon	17.0937	11.28486	16	16	7	
1890430973	-26.083	-0.186	Zircon	4.46802	18.40326	16	16	7	
1869838317	-14.131	-2.178	Zircon	16.2785	16.50398	16	16	7	
1659136303	-25.087	6.287	Zircon	5.6397	24.62738	20	13	7	
1657373677	-13.135	3.299	Zircon	17.6161	21.88826	16	16	7	
1653169327	-13.135	-6.66	Zircon	17.3721	11.68526	16	16	7	
1614293917	-11.641	11.267	Zircon	18.84658	29.70498	16	16	7	
1532016262	-18.115	2.303	Zircon	12.42138	20.96058	19	15	7	
1530401507	-16.621	-0.186	Zircon	14.08618	18.2959	16	16	7	
1368865464	-13.633	5.789	Zircon	17.00098	24.26602	20	13	7	
1365016078	-19.609	13.757	Zircon	10.74682	32.05834	25	11	7	
1355583323	-11.143	9.773	Zircon	19.60322	28.0597	19	12	7	
1333578377	-28.075	12.263	Zircon	2.22226	30.4765	19	12	7	

Sample Number:	16-LV-170-1			Lab ID:	MI8173-NOV16:07				
n= 310	Stage X (mm)	Stage Y (mm)	Mineral	Particle X (mm)	Particle Y (mm)	Long Axis (µm)	Short Axis (µm)	Area (# 5 x 5 µm pixels)	
Top Left	-30.4428	19.8163		0.0887	38.2738				
Bottom Right	-10.353	-17.9677		20.1785	0.4898				
Bottom Left Marker	-30.5315	-18.4575		0	0				
Top Right Marker	-10.1373	17.0205		20.3942	35.478				
1222794068	-23.095	10.769	Zircon	7.45602	29.08498	19	12	7	
907056734	-28.573	2.801	Zircon	2.0805	21.44882	19	12	7	
873219527	-16.123	-6.162	Zircon	14.1889	12.23694	20	13	7	
816292110	-12.139	6.785	Zircon	18.4413	25.20346	20	16	7	
770159543	-24.091	-10.644	Zircon	6.1965	7.5939	20	13	7	
751119203	-19.111	5.789	Zircon	11.6157	24.31482	20	14	7	
703272524	-12.139	-5.166	Zircon	18.1729	13.30126	19	12	7	
576121003	-26.581	4.295	Zircon	3.9993	22.64514	20	13	7	
386226495	-12.139	9.275	Zircon	18.31442	27.62514	20	13	7	
106774552	-11.641	6.785	Zircon	19.08082	25.15954	19	12	7	
2098647852	-15.625	-1.68	Zircon	15.14074	16.6555	16	14	6	
2063470314	-17.617	7.781	Zircon	13.00722	26.15554	16	14	6	
1952221836	-26.581	3.797	Zircon	3.9017	22.45946	20	10	6	
1923547165	-13.633	10.769	Zircon	16.7521	29.43634	19	12	6	
1796904461	-18.613	6.785	Zircon	11.73306	25.4865	20	11	6	
1774831967	-18.613	13.259	Zircon	11.91362	31.58474	16	14	6	
1691402861	-19.609	11.765	Zircon	11.00058	30.0761	16	14	6	
1430656146	-15.625	0.311	Zircon	14.70154	18.73922	16	14	6	
1388612490	-18.613	10.769	Zircon	12.07466	29.10938	16	14	6	
1382565158	-16.621	1.307	Zircon	14.01786	19.80354	16	16	6	
1218569719	-13.135	13.259	Zircon	17.4209	31.6921	16	14	6	
1150002270	-25.087	-14.13	Zircon	5.59578	4.3275	16	14	6	
1015485995	-28.573	4.295	Zircon	2.0317	22.9477	16	14	6	
962661488	-29.071	12.761	Zircon	1.7045	31.19898	16	14	6	
900004635	-27.079	4.295	Zircon	3.39882	22.90866	16	14	6	
883619709	-25.087	4.295	Zircon	5.24442	22.62074	19	12	6	
812833337	-29.569	7.781	Zircon	0.95274	26.31658	20	10	6	
782099715	-18.115	0.809	Zircon	12.25546	19.02738	16	14	6	
727539364	-19.609	-11.64	Zircon	11.05914	6.98342	16	14	6	
584703635	-18.115	11.267	Zircon	12.22618	29.91482	16	14	6	
538671142	-30.067	4.793	Zircon	0.41082	23.3481	16	14	6	
445624222	-22.099	9.275	Zircon	8.27146	27.76666	20	11	6	

Sample Number:	16-LV-170-1			Lab ID:	MI8173-NOV16:07				
n= 310	Stage X (mm)	Stage Y (mm)	Mineral	Particle X (mm)	Particle Y (mm)	Long Axis (µm)	Short Axis (µm)	Area (# 5 x 5 µm pixels)	
Top Left	-30.4428	19.8163		0.0887	38.2738				
Bottom Right	-10.353	-17.9677		20.1785	0.4898				
Bottom Left Marker	-30.5315	-18.4575		0	0				
Top Right Marker	-10.1373	17.0205		20.3942	35.478				
437742228	-18.115	-8.154	Zircon	12.5385	10.0595	16	14	6	
291285618	-28.573	1.805	Zircon	1.99266	20.34546	16	14	6	
284189661	-22.099	3.299	Zircon	8.4325	21.7565	16	14	6	
178289003	-17.119	12.761	Zircon	13.26122	31.36002	16	14	6	
101812648	-30.067	5.291	Zircon	0.2693	23.58746	16	14	6	
46826486	-28.075	8.777	Zircon	2.67122	27.17106	16	14	6	
2064152629	-20.605	2.801	Zircon	9.93626	21.22922	16	11	5	
2053965096	-16.621	1.805	Zircon	13.89098	20.43818	19	8	5	
2024064327	-28.573	11.267	Zircon	2.08538	29.85626	16	11	5	
1924706278	-22.099	5.291	Zircon	8.58378	23.88514	16	11	5	
1685744089	-16.621	13.259	Zircon	13.82754	31.60914	16	11	5	
1683076563	-16.621	3.299	Zircon	14.06666	21.96146	15	15	5	
1633886081	-15.127	13.757	Zircon	15.29226	32.02906	16	11	5	
1527025842	-20.605	-1.68	Zircon	9.7801	16.69454	16	11	5	
1475508714	-30.067	-4.17	Zircon	0.53282	14.32654	16	11	5	
1412277921	-15.625	13.259	Zircon	15.07242	31.53106	16	11	5	
1364745808	-19.609	13.757	Zircon	10.9469	32.27306	16	11	5	
1250254676	-16.621	12.263	Zircon	14.04226	30.71074	16	11	5	
1239690990	-20.107	10.271	Zircon	10.32202	28.66506	16	11	5	
1234191483	-15.127	13.259	Zircon	15.60946	31.65306	16	11	5	
1198878575	-29.569	-10.146	Zircon	0.94298	8.43838	16	11	5	
1152298885	-26.581	-14.628	Zircon	3.78946	4.05398	16	11	5	
1054965330	-11.641	9.773	Zircon	19.06618	28.18658	16	11	5	
1029656598	-20.605	10.769	Zircon	10.00458	29.26066	16	11	5	
1015158396	-28.573	4.295	Zircon	2.04634	22.56706	16	11	5	
930820425	-17.119	-13.134	Zircon	13.57842	5.08926	16	11	5	
859228019	-16.621	8.279	Zircon	13.84706	26.67794	16	11	5	
849110448	-20.605	8.777	Zircon	9.80938	27.4785	16	11	5	
785647593	-24.589	9.773	Zircon	6.02546	28.33786	16	11	5	
773390737	-24.091	3.299	Zircon	6.35266	21.82482	16	11	5	
716930553	-21.103	-7.656	Zircon	9.54074	10.61606	16	11	5	
640328418	-15.127	-13.632	Zircon	15.63874	4.8011	16	11	5	

Sample Number:	16-LV-170-1			Lab ID:	MI8173-NOV16:07				
n= 310	Stage X (mm)	Stage Y (mm)	Mineral	Particle X (mm)	Particle Y (mm)	Long Axis (µm)	Short Axis (µm)	Area (# 5 x 5 µm pixels)	
Top Left	-30.4428	19.8163		0.0887	38.2738				
Bottom Right	-10.353	-17.9677		20.1785	0.4898				
Bottom Left Marker	-30.5315	-18.4575		0	0				
Top Right Marker	-10.1373	17.0205		20.3942	35.478				
364366711	-26.083	-11.142	Zircon	4.2777	7.44726	16	11	5	
362978516	-27.079	-14.13	Zircon	3.51106	4.37142	16	11	5	
303550090	-27.577	9.773	Zircon	2.7837	27.99138	16	11	5	
296602284	-11.641	10.271	Zircon	18.83194	28.59186	16	11	5	
290505495	-19.111	-0.186	Zircon	11.60106	18.38862	16	11	5	
287929927	-11.143	5.789	Zircon	19.42754	24.28554	16	11	5	
261067944	-29.569	1.805	Zircon	0.97714	20.3113	16	11	5	
247845968	-29.569	-1.68	Zircon	0.87954	16.66038	16	11	5	
203320770	-14.629	1.307	Zircon	15.66826	19.59858	16	11	5	
177277802	-24.589	-2.178	Zircon	5.8693	16.1819	16	11	5	
101988849	-30.067	5.291	Zircon	0.4645	23.73386	16	11	5	
30968174	-19.609	3.299	Zircon	10.76634	21.6345	16	11	5	
27625091	-16.621	11.765	Zircon	13.97882	30.4177	16	11	5	
10628011	-27.079	12.761	Zircon	3.41346	31.20874	16	11	5	
220466578	-26.083	-3.672	Monazite	4.23378	14.86358	45	31	43	
363293867	-27.079	-14.13	Monazite	3.34026	4.2055	44	33	41	
477167526	-26.083	-7.656	Monazite	4.29722	10.82102	38	25	27	
2065303197	-20.605	-2.676	Monazite	10.04362	15.8791	40	24	23	
1439332006	-15.625	8.279	Monazite	14.6625	26.9073	40	20	23	
551462208	-19.609	10.271	Monazite	11.03474	28.95786	33	22	20	
1578097476	-27.079	2.801	Monazite	3.48178	21.2097	31	22	19	
1020721281	-24.589	-1.68	Monazite	6.09378	16.6555	29	23	19	
214529320	-24.091	-7.656	Monazite	6.40634	10.7039	36	25	18	
1529174491	-11.641	9.275	Monazite	18.87586	27.56658	27	22	17	
822195272	-12.139	-2.178	Monazite	18.1485	16.28438	27	22	17	
1100062910	-28.075	4.793	Monazite	2.23202	23.47498	31	19	16	
54772181	-22.099	10.769	Monazite	8.22754	29.08986	29	20	16	
2025087482	-15.127	12.263	Monazite	15.27274	30.78882	30	17	15	
1529219572	-11.641	9.275	Monazite	18.70018	27.6349	27	20	15	
1323532245	-18.115	-9.15	Monazite	12.36282	9.21966	25	21	15	
1192971191	-12.139	0.809	Monazite	18.37786	19.03714	30	18	15	
359832292	-19.111	2.303	Monazite	11.41562	20.91666	25	21	15	



Sample Number:	16-LV-170-1			Lab ID:	MI8173-NOV16:07				
n= 310	Stage X (mm)	Stage Y (mm)	Mineral	Particle X (mm)	Particle Y (mm)	Long Axis (µm)	Short Axis (µm)	Area (# 5 x 5 µm pixels)	
Top Left	-30.4428	19.8163		0.0887	38.2738				
Bottom Right	-10.353	-17.9677		20.1785	0.4898				
Bottom Left Marker	-30.5315	-18.4575		0	0				
Top Right Marker	-10.1373	17.0205		20.3942	35.478				
1491402592	-22.099	13.757	Monazite	8.6277	32.1413	25	20	14	
840060753	-13.633	0.809	Monazite	16.69842	19.4129	22	22	14	
461592688	-14.629	11.765	Monazite	15.71706	30.25178	29	18	14	
1172533634	-16.123	8.777	Monazite	14.56954	27.15154	31	18	13	
1104295087	-17.617	-0.186	Monazite	12.77298	18.09094	29	20	13	
879435967	-21.601	-5.166	Monazite	9.15986	13.31102	22	22	13	
839283106	-29.569	-9.15	Monazite	1.16746	9.5515	26	19	13	
812841512	-29.569	7.781	Monazite	1.09914	26.03354	29	17	13	
357284408	-19.111	11.765	Monazite	11.42538	30.45674	22	20	13	
72694269	-16.123	2.303	Monazite	14.42802	20.5897	30	17	13	
1933165833	-27.577	6.785	Monazite	3.1009	25.00338	26	19	12	
1441049322	-15.625	-0.684	Monazite	15.01386	17.70518	25	17	12	
1365229088	-19.609	13.757	Monazite	10.86394	32.12666	27	18	12	
1104182055	-26.083	9.773	Monazite	4.23866	28.0841	22	20	12	
640262129	-16.123	1.805	Monazite	14.43778	20.30642	22	20	12	
610945730	-14.629	9.773	Monazite	16.03914	28.41594	22	20	12	
1474180750	-14.131	9.275	Monazite	16.42978	27.79106	22	17	11	
450222989	-16.621	12.761	Monazite	13.94954	31.3649	22	18	11	
1992957646	-17.119	10.769	Monazite	13.36858	29.18258	22	16	10	
1714918277	-17.617	-6.162	Monazite	12.74858	12.42726	22	17	10	
1491599215	-22.099	13.757	Monazite	8.39346	32.44386	27	14	10	
1369794970	-25.087	13.259	Monazite	5.6641	31.53594	22	17	10	
1132751790	-15.127	6.785	Monazite	15.53138	25.33522	26	15	10	
1070638950	-13.633	9.773	Monazite	17.0449	28.06458	20	17	10	
919179867	-28.075	5.291	Monazite	2.29546	23.9437	20	19	10	
850632092	-11.143	-4.17	Monazite	19.40314	14.0679	22	16	10	
671792824	-18.115	13.259	Monazite	12.53362	31.75066	22	16	10	
647516230	-14.131	11.267	Monazite	16.47858	29.90506	22	17	10	
519191760	-13.135	13.757	Monazite	17.4941	32.33162	20	17	10	
1686920904	-28.075	5.789	Monazite	2.33938	24.44658	25	14	9	
1676869437	-29.569	-14.628	Monazite	1.12842	3.6099	27	14	9	
1305906662	-28.573	7.283	Monazite	1.96826	25.72586	20	16	9	



Sample Number:	16-LV-170-1			Lab ID:	MI8173-NOV16:07				
n= 310	Stage X (mm)	Stage Y (mm)	Mineral	Particle X (mm)	Particle Y (mm)	Long Axis (µm)	Short Axis (µm)	Area (# 5 x 5 µm pixels)	
Top Left	-30.4428	19.8163		0.0887	38.2738				
Bottom Right	-10.353	-17.9677		20.1785	0.4898				
Bottom Left Marker	-30.5315	-18.4575		0	0				
Top Right Marker	-10.1373	17.0205		20.3942	35.478				
702699656	-23.095	13.259	Monazite	7.45602	31.90682	20	16	9	
396190474	-30.067	6.785	Monazite	0.58162	25.37914	26	12	9	
1768974455	-29.071	7.781	Monazite	1.56298	26.17994	22	13	8	
1474176647	-14.131	9.275	Monazite	16.61034	27.6105	19	15	8	
1424408413	-27.079	-2.178	Monazite	3.63794	16.44054	22	13	8	
873002385	-27.577	4.793	Mixed Grain	2.92034	23.31882	39	5	8	
640319444	-16.123	1.805	Monazite	14.55002	20.02338	20	16	8	
621018724	-25.585	2.801	Monazite	5.1905	21.04866	20	16	8	
284593378	-18.613	11.765	Monazite	11.8453	30.28106	20	16	8	
271974190	-15.625	12.263	Mixed Grain	15.01874	30.83274	20	16	8	
75837627	-17.617	12.761	Monazite	12.8169	31.2185	24	10	8	
2112458269	-29.569	13.757	Monazite	1.16746	32.02418	16	16	7	
1928851440	-28.573	6.287	Monazite	2.13418	24.61274	20	13	7	
1777008434	-16.123	8.279	Monazite	14.6525	26.89266	20	15	7	
1577933589	-27.079	2.801	Monazite	3.30122	21.19018	22	12	7	
1050571941	-28.075	6.785	Monazite	2.47114	25.31082	16	16	7	
948253983	-13.135	0.809	Monazite	17.21106	19.0225	22	13	7	
607812159	-15.625	11.765	Monazite	14.8333	30.16394	22	12	7	
453694083	-29.569	5.291	Monazite	0.75266	23.71922	20	13	7	
322629250	-24.091	13.757	Monazite	6.62106	32.13642	20	13	7	
255617408	-30.067	-0.684	Monazite	0.54746	17.9931	22	12	7	
227101025	-20.605	3.299	Monazite	10.06802	21.69306	20	13	7	
2040046026	-18.115	4.295	Monazite	12.2701	22.86474	16	16	6	
1984904694	-17.617	2.303	Monazite	12.85106	20.88738	16	14	6	
1847182666	-19.111	3.797	Monazite	11.24482	22.18618	20	11	6	
1769244758	-29.071	7.781	Monazite	1.3385	26.09698	19	12	6	
1762054575	-21.601	13.757	Monazite	8.92074	31.97538	20	11	6	
1335254789	-27.577	-6.162	Monazite	3.0033	12.45166	19	12	6	
1307244850	-24.091	-1.68	Monazite	6.47954	16.8507	16	14	6	
1254237415	-18.115	13.757	Monazite	12.6117	32.05834	16	14	6	
1247415820	-24.091	2.801	Monazite	6.6357	21.4781	19	12	6	
1201369407	-29.071	-3.672	Monazite	1.2653	14.57078	19	12	6	

Sample Number:	16-LV-170-1			Lab ID:	MI8173-NOV16:07				
n= 310	Stage X (mm)	Stage Y (mm)	Mineral	Particle X (mm)	Particle Y (mm)	Long Axis (µm)	Short Axis (µm)	Area (# 5 x 5 µm pixels)	
Top Left	-30.4428	19.8163		0.0887	38.2738				
Bottom Right	-10.353	-17.9677		20.1785	0.4898				
Bottom Left Marker	-30.5315	-18.4575		0	0				
Top Right Marker	-10.1373	17.0205		20.3942	35.478				
1064678975	-27.577	2.801	Monazite	3.0277	21.16578	16	14	6	
1040804648	-15.625	3.797	Monazite	14.8089	22.41554	16	14	6	
918552659	-26.581	12.263	Monazite	4.1945	30.85714	16	16	6	
793093759	-15.625	-1.182	Monazite	14.84794	17.4463	16	14	6	
668762320	-20.107	-1.182	Monazite	10.58066	17.51462	20	10	6	
584933086	-18.115	11.267	Monazite	12.64586	29.74402	20	11	6	
227375452	-20.605	3.299	Monazite	10.06802	22.0005	20	11	6	
105000542	-22.099	-8.154	Monazite	8.36418	10.51334	16	14	6	
2105745426	-26.581	9.275	Monazite	3.9993	27.76666	16	14	5	
2024984979	-15.127	12.263	Monazite	15.56066	30.93034	16	11	5	
1919415294	-20.605	11.267	Monazite	9.94114	29.7001	16	14	5	
1774881130	-18.613	13.259	Monazite	12.03074	31.95562	16	11	5	
1314189549	-27.079	5.789	Monazite	3.46226	24.15866	16	11	5	
1234383924	-15.127	13.259	Monazite	15.25322	31.68722	16	11	5	
1050600612	-28.075	6.785	Monazite	2.31986	25.4377	15	15	5	
860905443	-11.641	0.809	Monazite	18.8905	19.27626	16	11	5	
721160209	-19.609	6.287	Monazite	10.8737	24.5737	16	11	5	
561663644	-21.601	9.275	Monazite	8.74018	27.7569	20	10	5	
495153840	-15.127	12.761	Monazite	15.4289	31.22826	16	11	5	
207200343	-24.589	3.797	Monazite	5.9669	22.0105	20	10	5	
71641755	-22.597	10.271	Monazite	7.9345	28.75778	16	11	5	
70784247	-11.143	11.267	Monazite	19.3153	29.68058	16	11	5	

Sample Number:	16-LV-164-3			Lab ID:	MI8173-NOV16:04				
n= 457	Stage X (mm)	Stage Y (mm)	Mineral	Particle X (mm)	Particle Y (mm)	Long Axis (µm)	Short Axis (µm)	Area (# 5 x 5 µm pixels)	
Top Left	13.813	68.3208		2.284	35.8038				
Bottom Right	32.3503	31.5715		20.8213	-0.9455				
Bottom Left Marker	11.529	32.517		0	0				
Top Right Marker	32.0363	68.9933		20.5073	36.4763				
2094385043	17.173	40.095	Zircon	5.8148	7.73904	66	42	79	
311538784	18.667	59.517	Zircon	7.32344	27.10736	42	20	23	
1530889272	29.125	52.545	Zircon	17.80584	20.08656	33	21	21	
1860647061	17.671	34.119	Zircon	5.92728	1.61664	42	18	20	
1049039416	30.619	52.545	Zircon	18.98752	20.15976	33	19	18	
927574362	30.619	48.063	Zircon	18.92408	15.48744	27	22	17	
893692018	31.117	52.545	Zircon	19.74416	19.81816	33	18	16	
868906835	21.655	47.067	Zircon	10.1748	14.60856	25	20	15	
868285929	27.133	49.059	Zircon	15.64304	16.67864	44	16	15	
450289649	16.675	33.621	Zircon	5.09232	0.91368	29	18	15	
1425901819	18.169	54.537	Zircon	6.60096	21.9956	30	18	14	
532961224	21.655	34.119	Zircon	10.05768	1.5776	25	21	14	
1359642740	14.185	48.561	Zircon	2.5584	16.0928	30	15	13	
1241097456	12.193	54.039	Zircon	0.5908	21.46344	27	16	13	
808480752	15.181	59.517	Zircon	3.85696	26.97072	27	18	13	
1697937170	18.169	40.593	Zircon	6.52776	8.15408	30	14	12	
1580600759	15.679	49.557	Zircon	3.94504	16.93264	25	17	12	
1534701594	18.169	48.063	Zircon	6.67904	15.43864	25	17	12	
1493759095	30.121	53.541	Zircon	18.40656	20.91664	31	16	12	
1421522576	21.655	45.075	Zircon	10.36512	12.5824	29	16	12	
851016289	29.125	54.039	Zircon	17.38128	21.40976	29	16	12	
819019806	27.133	60.513	Zircon	15.64304	28.07408	30	16	12	
91725973	13.189	33.123	Zircon	1.59656	0.51328	27	16	12	
2077692356	22.153	60.513	Zircon	10.68744	28.10824	22	18	11	
2058046728	18.169	45.075	Zircon	6.6644	12.51408	24	15	11	
1983901853	13.189	48.063	Zircon	1.86008	15.36544	25	17	11	
1903890139	28.129	58.023	Zircon	16.36576	25.33032	27	20	11	
1867187546	19.663	42.585	Zircon	7.93392	10.19488	22	18	11	
1582626971	17.173	44.577	Zircon	5.7416	12.2064	25	17	11	
1121000905	14.683	60.513	Zircon	3.2028	27.78616	25	18	11	
1085932267	22.153	54.039	Zircon	10.82408	21.44392	20	20	11	
587709405	29.623	44.577	Zircon	17.89392	12.29424	25	16	11	

Sample Number:	16-LV-164-3			Lab ID:	MI8173-NOV16:04				
n= 457	Stage X (mm)	Stage Y (mm)	Mineral	Particle X (mm)	Particle Y (mm)	Long Axis (µm)	Short Axis (µm)	Area (# 5 x 5 µm pixels)	
Top Left	13.813	68.3208		2.284	35.8038				
Bottom Right	32.3503	31.5715		20.8213	-0.9455				
Bottom Left Marker	11.529	32.517		0	0				
Top Right Marker	32.0363	68.9933		20.5073	36.4763				
493517346	29.623	51.549	Zircon	18.13304	18.93928	36	16	11	
350223701	30.619	61.011	Zircon	18.99728	28.49888	22	18	11	
341466869	23.647	59.019	Zircon	12.00088	26.38	27	18	11	
303554558	24.145	44.079	Zircon	12.63064	11.52784	27	16	11	
156429059	28.627	34.119	Zircon	17.19072	1.73376	20	20	11	
43358471	31.117	37.605	Zircon	19.38304	5.04896	25	17	11	
2062349478	24.643	54.039	Zircon	13.21648	21.29264	22	16	10	
2058079500	18.169	45.075	Zircon	6.6888	12.52872	25	16	10	
2057973015	18.169	45.075	Zircon	6.52288	12.79712	20	17	10	
1210483304	27.133	43.083	Zircon	15.6772	10.40984	25	16	10	
973274121	30.619	34.617	Zircon	18.8704	1.9048	22	16	10	
842834437	23.149	53.541	Zircon	11.4248	21.2192	22	16	10	
811274892	14.683	54.537	Zircon	2.97344	21.94192	22	17	10	
708234335	13.189	43.581	Zircon	1.43064	11.0396	25	14	10	
596670018	22.651	34.617	Zircon	10.9024	2.12928	24	15	10	
578446829	30.121	35.115	Zircon	18.75792	2.57848	22	16	10	
336053939	29.623	46.071	Zircon	17.85976	13.69552	30	13	10	
103030850	25.141	36.111	Zircon	13.39728	3.60864	20	17	10	
1961187315	14.683	54.039	Zircon	3.31016	21.62448	22	14	9	
1959602202	26.635	54.537	Zircon	15.28168	22.15176	25	13	9	
1844807464	25.141	34.119	Zircon	13.39728	1.7972	27	14	9	
1833690726	22.153	57.525	Zircon	10.502	25.21784	20	16	9	
1773946144	15.181	49.059	Zircon	3.8472	16.7372	20	16	9	
1579287589	25.639	37.107	Zircon	14.10512	4.79008	20	17	9	
1577340162	17.671	54.039	Zircon	6.15664	21.33656	22	14	9	
1414427739	27.133	59.019	Zircon	15.6528	26.35072	20	16	9	
932502588	25.639	42.585	Zircon	14.25152	10.05336	20	17	9	
805255830	19.165	57.027	Zircon	7.6848	24.4368	25	13	9	
645211526	21.655	52.545	Zircon	10.20408	19.94016	22	16	9	
644359467	17.173	45.573	Zircon	5.78552	13.16336	25	13	9	
312745458	29.125	36.609	Zircon	17.83512	4.13592	22	14	9	
75617304	25.141	50.055	Zircon	13.60224	17.52336	27	11	9	

Sample Number:	16-LV-164-3			Lab ID:	MI8173-NOV16:04				
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Bottom Left Marker	11.529	32.517		0	0				
Top Right Marker	32.0363	68.9933		20.5073	36.4763				
2114173565	30.619	49.557	Zircon	19.0412	16.83992	20	17	8	
2112826085	22.651	56.031	Zircon	11.07808	23.52864	20	14	8	
1927406786	17.671	48.063	Zircon	6.38112	15.61432	20	14	8	
1892595831	24.643	44.577	Zircon	13.14816	12.1576	20	14	8	
1832577476	18.169	33.123	Zircon	6.46432	0.82072	20	14	8	
1642186494	19.663	52.545	Zircon	8.02664	19.98896	25	13	8	
1630525234	12.691	35.613	Zircon	1.01072	3.17896	20	14	8	
1548401628	24.643	42.585	Zircon	13.358	9.8484	20	14	8	
1527013489	16.177	42.585	Zircon	4.4772	10.14608	25	12	8	
1512530097	31.117	52.047	Zircon	19.48064	19.41288	19	15	8	
1385657771	31.117	40.593	Zircon	19.65144	8.25656	20	14	8	
1276633406	23.647	55.533	Zircon	12.0936	23.03552	20	14	8	
1160015941	24.643	58.023	Zircon	13.19208	25.36936	19	15	8	
1082241681	20.161	38.601	Zircon	8.61736	6.13768	22	13	8	
1037306992	28.129	45.075	Zircon	16.5512	12.52872	20	14	8	
874983804	13.687	52.545	Zircon	2.38736	19.78888	19	15	8	
832046671	12.691	42.087	Zircon	1.22056	9.63832	27	11	8	
788675067	18.169	53.541	Zircon	6.41064	21.1704	20	14	8	
752169670	12.193	40.593	Zircon	0.42488	8.1248	25	12	8	
747601538	13.189	33.621	Zircon	1.6844	1.27968	20	14	8	
732022720	19.165	56.031	Zircon	7.8068	23.30416	22	13	8	
680185787	13.189	47.565	Zircon	1.72344	14.9504	22	14	8	
610280908	19.165	37.605	Zircon	7.41152	5.14168	20	15	8	
447718587	23.647	44.079	Zircon	11.96184	11.32288	19	15	8	
360877465	20.659	37.107	Zircon	9.24224	4.65344	20	15	8	
352184509	27.631	44.079	Zircon	16.01416	11.72792	25	12	8	
299698345	28.627	52.545	Zircon	17.1468	20.0524	20	16	8	
295101709	25.639	62.007	Zircon	14.17344	29.4168	20	14	8	
160379882	18.667	60.513	Zircon	7.3332	28.10824	20	14	8	
91640178	28.129	52.545	Zircon	16.42432	20.1744	24	10	8	
2013093504	18.169	46.071	Zircon	6.67416	13.63208	20	13	7	
2012782292	18.169	46.071	Zircon	6.74248	13.77848	20	13	7	

Sample Number:	16-LV-164-3			Lab ID:	MI8173-NOV16:04			
n= 457	Stage X (mm)	Stage Y (mm)	Mineral	Particle X (mm)	Particle Y (mm)	Long Axis (µm)	Short Axis (µm)	Area (# 5 x 5 µm pixels)
Top Left	13.813	68.3208		2.284	35.8038			
Bottom Right	32.3503	31.5715		20.8213	-0.9455			
Bottom Left Marker	11.529	32.517		0	0			
Top Right Marker	32.0363	68.9933		20.5073	36.4763			
2000231991	30.619	59.517	Zircon	18.93384	26.99512	27	9	7
1963236208	26.635	42.087	Zircon	14.90104	9.41872	20	13	7
1958187616	17.173	57.027	Zircon	5.51712	24.5832	16	16	7
1887652541	22.153	34.119	Zircon	10.4288	1.38728	19	15	7
1848962179	28.129	46.071	Zircon	16.49752	13.51008	19	12	7
1752747590	16.177	50.553	Zircon	4.75048	18.1336	22	12	7
1693838022	24.145	56.031	Zircon	12.48912	23.75312	20	13	7
1630512955	12.691	35.613	Zircon	1.02536	3.16432	19	15	7
1623107257	19.165	60.513	Zircon	7.58232	27.9228	20	15	7
1622738638	19.165	60.513	Zircon	7.40664	28.11312	20	13	7
1617125117	31.117	41.091	Zircon	19.3928	8.39344	19	15	7
1614041906	12.193	38.103	Zircon	0.69328	5.83	19	15	7
1609243137	18.667	57.027	Zircon	7.0892	24.45144	19	15	7
1513676867	26.137	60.513	Zircon	14.62752	27.96184	20	13	7
1509524306	18.169	41.589	Zircon	6.75224	9.09152	24	10	7
1194560739	21.655	46.071	Zircon	10.33584	13.59792	20	13	7
1097638033	30.121	38.601	Zircon	18.75792	6.09376	22	12	7
1097633943	30.121	38.601	Zircon	18.592	5.9132	19	12	7
1026080467	26.635	56.031	Zircon	15.01328	23.57744	16	16	7
954847511	17.671	57.525	Zircon	6.07368	24.8128	19	12	7
926418885	25.639	45.075	Zircon	14.10512	12.558	16	16	7
881054168	12.691	48.561	Zircon	1.03024	16.25872	19	12	7
777860789	28.627	59.517	Zircon	16.89792	27.10736	16	16	7
768693461	29.125	48.561	Zircon	17.63504	16.10256	20	13	7
716995882	28.627	60.513	Zircon	16.91256	28.18144	19	12	7
596847880	27.133	56.031	Zircon	15.78944	23.758	19	15	7
582495098	25.141	48.561	Zircon	13.65592	16.05864	20	13	7
529705854	26.137	42.585	Zircon	14.54944	9.86792	19	12	7
414544295	30.121	50.553	Zircon	18.79696	17.97256	20	14	7
379195518	18.667	57.525	Zircon	7.36248	25.10072	19	15	7
351173984	18.169	39.597	Zircon	6.8596	7.11904	19	12	7
336330805	26.635	44.079	Zircon	14.94008	11.73768	20	13	7

Sample Number:	16-LV-164-3			Lab ID:	MI8173-NOV16:04				
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Top Left	13.813	68.3208		2.284	35.8038				
Bottom Right	32.3503	31.5715		20.8213	-0.9455				
Bottom Left Marker	11.529	32.517		0	0				
Top Right Marker	32.0363	68.9933		20.5073	36.4763				
204777377	30.121	40.095	Zircon	18.3724	7.6756	19	12	7	
160146239	13.189	37.107	Zircon	1.45016	4.57536	25	11	7	
155007739	26.635	41.589	Zircon	15.0328	9.1696	20	13	7	
85631150	24.643	34.119	Zircon	13.36288	1.75328	20	13	7	
30502078	18.169	49.557	Zircon	6.63512	17.22056	16	16	7	
92293	12.193	48.561	Zircon	0.82992	16.20016	20	13	7	
2084216086	15.181	50.553	Zircon	3.82768	17.80664	20	11	6	
2072178392	26.137	38.601	Zircon	14.8276	6.17184	20	11	6	
2037698761	17.671	55.533	Zircon	6.10296	23.26	16	14	6	
2024346649	14.185	59.019	Zircon	2.52912	26.36048	20	11	6	
1987855446	21.655	33.123	Zircon	10.06256	0.85	20	10	6	
1983176364	24.145	45.573	Zircon	12.65016	13.18288	25	10	6	
1930235841	17.173	62.007	Zircon	5.67816	29.42168	16	14	6	
1813121178	20.161	46.071	Zircon	8.78328	13.798	16	14	6	
1687844498	26.635	48.561	Zircon	14.96936	16.25384	20	10	6	
1673305867	14.185	51.051	Zircon	2.9	18.61696	20	11	6	
1640495052	29.125	42.585	Zircon	17.65456	10.20952	19	12	6	
1586108844	17.173	56.031	Zircon	5.43416	23.47496	19	15	6	
1580323945	22.651	55.035	Zircon	10.96584	22.58144	16	14	6	
1572013476	25.141	35.115	Zircon	13.4656	2.75904	20	10	6	
1551839767	15.181	40.095	Zircon	3.66664	7.59264	16	14	6	
1525874128	28.129	61.509	Zircon	16.63904	28.85536	16	14	6	
1524251960	21.157	54.537	Zircon	9.6524	22.0688	19	12	6	
1486072066	27.631	60.513	Zircon	16.18008	27.83008	16	14	6	
1435542553	31.117	49.557	Zircon	19.61728	17.19128	16	14	6	
1420272545	22.651	38.601	Zircon	11.20496	6.21576	16	14	6	
1405580429	29.125	46.569	Zircon	17.48864	14.14472	16	14	6	
1236301098	29.623	56.031	Zircon	18.25016	23.4896	16	14	6	
1233168840	19.663	53.043	Zircon	7.96808	20.3796	16	14	6	
1223662491	17.671	59.517	Zircon	5.93216	27.15616	16	14	6	
1219093974	16.675	36.111	Zircon	5.04352	3.72576	20	11	6	
1200402228	25.639	41.589	Zircon	14.0612	9.1208	16	14	6	



Sample Number:	16-LV-164-3			Lab ID:	MI8173-NOV16:04				
n= 457	Stage X (mm)	Stage Y (mm)	Mineral	Particle X (mm)	Particle Y (mm)	Long Axis (µm)	Short Axis (µm)	Area (# 5 x 5 µm pixels)	
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Bottom Right	32.3503	31.5715		20.8213	-0.9455				
Bottom Left Marker	11.529	32.517		0	0				
Top Right Marker	32.0363	68.9933		20.5073	36.4763				
1178470071	25.639	58.521	Zircon	13.94896	26.12112	20	10		6
1153000577	31.117	61.011	Zircon	19.4904	28.30368	20	11		6
1142723304	28.129	56.031	Zircon	16.80496	23.42128	20	10		6
1034149313	29.125	44.577	Zircon	17.82536	11.94288	20	11		6
1028804448	19.165	36.111	Zircon	7.5628	3.41832	19	12		6
1028404506	21.655	36.609	Zircon	10.28216	3.86752	20	10		6
1018607495	24.643	34.617	Zircon	12.87	2.28544	20	11		6
1010101233	12.691	39.099	Zircon	1.02048	6.82112	20	11		6
895825200	19.165	42.087	Zircon	7.5384	9.45776	20	11		6
865948717	27.133	41.589	Zircon	15.63328	9.06712	16	14		6
850036938	30.619	62.007	Zircon	19.1144	29.2704	16	14		6
758032551	26.635	58.023	Zircon	15.26216	25.6768	16	14		6
701714310	13.189	45.075	Zircon	1.6356	12.34816	20	11		6
537643571	18.169	42.585	Zircon	6.4692	10.12168	16	14		6
530908841	24.145	46.071	Zircon	12.59648	13.57352	20	10		6
480422456	22.651	56.529	Zircon	11.16592	23.768	16	14		6
451438442	17.173	48.063	Zircon	5.62936	15.66312	19	12		6
446059309	30.121	55.035	Zircon	18.69936	22.34232	22	10		6
407018797	20.161	41.589	Zircon	8.81744	8.9988	16	14		6
303148957	24.145	44.079	Zircon	12.54768	11.45464	20	10		6
300229424	22.651	57.525	Zircon	11.2196	24.80792	16	14		6
298909014	26.137	56.529	Zircon	14.364	23.80216	16	14		6
267822774	13.687	51.051	Zircon	2.32392	18.74872	20	11		6
267777672	13.687	51.051	Zircon	2.24584	18.56816	16	14		6
240503668	15.679	34.617	Zircon	4.15	1.87064	19	12		6
178451833	17.671	57.027	Zircon	5.98096	24.28064	16	14		6
160532373	27.133	43.581	Zircon	15.70648	11.10792	16	14		6
150308110	22.153	56.529	Zircon	10.6728	23.94368	20	10		6
146736495	21.157	49.557	Zircon	9.8476	17.2352	16	14		6
120413049	13.687	59.517	Zircon	2.33368	27.11712	20	10		6
2116140041	31.117	38.601	Zircon	19.83688	6.05472	16	11		5
2089276765	24.643	35.613	Zircon	13.30432	3.25704	16	11		5



Sample Number:	16-LV-164-3			Lab ID:	MI8173-NOV16:04				
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Bottom Left Marker	11.529	32.517		0	0				
Top Right Marker	32.0363	68.9933		20.5073	36.4763				
2039016342	18.169	57.027	Zircon	6.43016	24.44168	16	11	5	
2023593573	19.165	52.047	Zircon	7.51888	19.56904	16	11	5	
2017687644	19.663	57.027	Zircon	8.30968	24.65152	16	11	5	
2013232809	18.169	46.071	Zircon	6.65952	13.76872	16	11	5	
1998220661	16.177	40.593	Zircon	4.62848	8.0028	16	11	5	
1916015783	13.687	35.115	Zircon	1.9628	2.39792	16	11	5	
1863055844	23.647	48.063	Zircon	12.1912	15.77048	16	11	5	
1857517869	15.181	37.107	Zircon	3.85208	4.67296	24	5	5	
1845355475	12.193	61.011	Zircon	0.6884	28.72824	16	11	5	
1768623068	30.121	39.099	Zircon	18.73352	6.79184	16	11	5	
1755139750	18.169	50.553	Zircon	6.77176	18.02136	16	11	5	
1730234913	16.177	42.087	Zircon	4.526	9.34064	16	11	5	
1730177599	16.177	42.087	Zircon	4.7212	9.62368	16	11	5	
1705244332	28.129	56.529	Zircon	16.75616	24.02176	16	11	5	
1680317435	23.149	37.605	Zircon	11.50288	5.00992	16	11	5	
1650667100	13.189	42.585	Zircon	1.59656	10.06312	16	11	5	
1630324482	12.691	35.613	Zircon	0.99608	3.2424	16	11	5	
1617362595	31.117	41.091	Zircon	19.57824	8.5496	19	8	5	
1607852100	15.181	36.609	Zircon	3.60808	4.02856	16	11	5	
1581161338	26.137	62.007	Zircon	14.486	29.72424	16	11	5	
1571919242	25.141	35.115	Zircon	13.4168	2.68096	16	11	5	
1544254517	25.141	38.103	Zircon	13.49976	5.6104	16	11	5	
1512626926	25.141	46.569	Zircon	13.59736	14.27648	16	11	5	
1490689455	19.165	45.573	Zircon	7.86536	13.09016	16	11	5	
1487852521	24.643	44.079	Zircon	13.10912	11.74744	20	10	5	
1483697320	12.193	47.067	Zircon	0.5908	14.6964	16	11	5	
1463047140	22.153	46.071	Zircon	10.60936	13.4564	16	11	5	
1434516866	19.165	40.593	Zircon	7.44568	7.97352	19	8	5	
1406189237	28.627	35.613	Zircon	16.89304	3.13992	19	12	5	
1364339479	18.169	54.039	Zircon	6.82544	21.50248	16	11	5	
1359496120	18.667	35.613	Zircon	6.89888	3.05696	16	11	5	
1254948655	27.133	47.565	Zircon	15.38928	14.92112	16	11	5	

Sample Number:	16-LV-164-3			Lab ID:	MI8173-NOV16:04				
n= 457	Stage X (mm)	Stage Y (mm)	Mineral	Particle X (mm)	Particle Y (mm)	Long Axis (µm)	Short Axis (µm)	Area (# 5 x 5 µm pixels)	
Top Left	13.813	68.3208		2.284	35.8038				
Bottom Right	32.3503	31.5715		20.8213	-0.9455				
Bottom Left Marker	11.529	32.517		0	0				
Top Right Marker	32.0363	68.9933		20.5073	36.4763				
1254702925	27.133	47.565	Zircon	15.61376	15.14072	16	11	5	
1233435014	19.663	53.043	Zircon	8.00712	20.648	16	11	5	
1205807068	18.667	35.115	Zircon	7.016	2.72	16	14	5	
1173962003	18.169	34.119	Zircon	6.52288	1.80696	16	11	5	
1159513442	30.619	37.605	Zircon	19.05096	4.85864	16	11	5	
1132806274	26.137	38.103	Zircon	14.49576	5.55184	16	11	5	
1131828533	20.659	41.091	Zircon	9.02264	8.5984	16	11	5	
1123473523	27.631	55.035	Zircon	16.1996	22.58632	19	8	5	
1050038158	21.157	47.067	Zircon	9.58896	14.65248	16	11	5	
1049508136	25.141	37.605	Zircon	13.48512	4.83912	16	11	5	
1019488880	25.141	55.533	Zircon	13.42168	22.7964	16	11	5	
994197420	24.643	62.007	Zircon	13.11888	29.38752	16	11	5	
993441691	24.145	34.617	Zircon	12.86976	2.29032	24	5	5	
973368425	30.619	34.617	Zircon	18.93384	2.18296	16	11	5	
936843322	26.137	53.541	Zircon	14.6568	21.0484	16	11	5	
928775001	24.643	61.011	Zircon	13.24576	28.46472	16	11	5	
891464681	31.117	59.517	Zircon	19.56848	27.09272	16	11	5	
802451074	25.141	59.517	Zircon	13.84624	26.88776	20	10	5	
774682510	27.631	45.075	Zircon	15.9556	12.51408	16	11	5	
757880978	26.635	58.023	Zircon	14.90592	25.26688	16	11	5	
754459842	15.181	52.047	Zircon	3.68128	19.41288	16	11	5	
734202516	22.153	55.533	Zircon	10.51176	23.20632	16	11	5	
719046103	30.121	56.031	Zircon	18.77256	23.2944	16	11	5	
692609325	12.691	49.557	Zircon	0.9912	17.00096	16	11	5	
684231786	19.165	50.553	Zircon	7.44568	18.27024	16	11	5	
639633131	19.165	51.051	Zircon	7.49936	18.34368	16	11	5	
595563012	20.659	57.027	Zircon	9.03728	24.31968	20	10	5	
589717756	14.185	50.553	Zircon	2.5584	18.10432	16	11	5	
564972126	29.623	47.565	Zircon	17.90368	15.00408	16	11	5	
564173112	28.129	44.079	Zircon	16.51216	11.71816	19	8	5	
530068286	18.169	50.055	Zircon	6.6156	17.60144	16	11	5	
522196885	25.639	39.099	Zircon	14.21736	6.67472	16	11	5	

Sample Number:	16-LV-164-3			Lab ID:	MI8173-NOV16:04			
n= 457	Stage X (mm)	Stage Y (mm)	Mineral	Particle X (mm)	Particle Y (mm)	Long Axis (µm)	Short Axis (µm)	Area (# 5 x 5 µm pixels)
Top Left	13.813	68.3208		2.284	35.8038			
Bottom Right	32.3503	31.5715		20.8213	-0.9455			
Bottom Left Marker	11.529	32.517		0	0			
Top Right Marker	32.0363	68.9933		20.5073	36.4763			
503851308	23.647	59.517	Zircon	12.08872	27.12688	19	8	5
495475097	29.125	43.581	Zircon	17.35688	10.85904	24	5	5
401726037	15.679	35.115	Zircon	4.3696	2.58824	16	11	5
329556104	31.117	34.119	Zircon	19.79784	1.60688	16	11	5
322262680	28.627	61.011	Zircon	17.23952	28.5428	16	11	5
287317378	26.635	57.027	Zircon	15.22312	24.3636	16	11	5
255568122	20.161	61.509	Zircon	8.45632	28.748	16	14	5
248391413	26.137	33.123	Zircon	14.76416	0.40592	16	11	5
204469390	26.635	47.067	Zircon	15.23288	14.76472	20	10	5
155150998	26.635	41.589	Zircon	15.16944	9.21352	20	10	5
104437849	22.153	59.517	Zircon	10.60936	27.17568	19	8	5
31688904	29.623	35.613	Zircon	17.96712	3.13992	16	11	5
13201315	19.165	45.075	Zircon	7.76776	12.3628	16	11	5
173134059	15.181	49.557	Monazite	3.80328	17.13272	86	32	66
1863727546	28.129	55.035	Monazite	16.65368	22.65464	51	39	55
1645161523	12.193	40.095	Monazite	0.42976	7.75368	51	30	43
470168307	27.631	35.613	Monazite	16.11176	3.07648	42	34	41
1742200011	17.173	56.529	Monazite	5.6196	24.256	47	34	40
1087552017	12.193	46.071	Monazite	0.4688	13.59792	45	31	40
2024097328	15.181	33.621	Monazite	3.84232	1.21624	46	29	39
470237917	27.631	35.613	Monazite	16.14104	3.19848	40	31	38
2130339496	29.125	51.051	Monazite	17.75704	18.53888	53	29	35
1107884789	24.145	36.111	Monazite	12.78192	3.40368	40	29	34
1687692936	26.635	48.561	Monazite	14.984	16.17088	51	27	33
1080176172	13.687	60.015	Monazite	2.0116	27.40528	55	25	33
1034333596	29.125	44.577	Monazite	17.82048	12.20152	38	31	33
754877616	15.181	52.047	Monazite	3.60808	19.53976	40	24	28
1846599708	26.635	50.553	Monazite	14.87664	18.0848	38	27	26
179604760	12.193	36.609	Monazite	0.87872	4.32624	40	25	26
1447927821	13.189	59.019	Monazite	1.81128	26.52152	40	22	25
1369960509	14.683	52.545	Monazite	3.36872	19.8572	31	28	25

Sample Number:	16-LV-164-3			Lab ID:	MI8173-NOV16:04			
n= 457	Stage X (mm)	Stage Y (mm)	Mineral	Particle X (mm)	Particle Y (mm)	Long Axis (µm)	Short Axis (µm)	Area (# 5 x 5 µm pixels)
Top Left	13.813	68.3208		2.284	35.8038			
Bottom Right	32.3503	31.5715		20.8213	-0.9455			
Bottom Left Marker	11.529	32.517		0	0			
Top Right Marker	32.0363	68.9933		20.5073	36.4763			
1267610842	24.145	43.083	Monazite	12.79656	10.74656	35	26	25
8734511145	25.141	47.565	Monazite	13.47536	15.01872	33	27	25
269650447	23.647	33.621	Monazite	12.24488	0.92344	36	25	25
1023454141	22.153	34.617	Monazite	10.47272	2.09512	45	21	24
1369776187	14.683	52.545	Monazite	2.97832	20.1012	29	29	23
763450083	18.667	55.533	Monazite	7.01112	23.15752	33	29	23
516401516	31.117	57.525	Monazite	19.37328	25.2276	45	25	23
1411283567	23.149	36.609	Monazite	11.66392	3.85776	31	28	22
1080990850	12.691	34.119	Monazite	1.3816	1.5776	36	22	22
485262280	29.125	39.597	Monazite	17.60088	6.9092	44	18	22
271645002	27.133	41.091	Monazite	15.76992	8.78872	38	25	22
639403327	24.643	46.071	Monazite	13.2604	13.52472	32	26	21
1602427737	23.149	36.111	Monazite	11.65904	3.838	30	26	20
2083332458	14.683	50.553	Monazite	2.97832	18.10432	38	29	19
1896184284	16.177	54.039	Monazite	4.60896	21.28288	31	22	19
1742101723	17.173	56.529	Monazite	5.43416	24.02664	31	22	19
1309035365	26.635	47.565	Monazite	14.99376	15.19928	30	22	19
363694155	26.635	51.549	Monazite	14.97424	19.19792	33	23	19
31615188	29.623	35.613	Monazite	17.972	3.10576	40	22	19
1930697450	27.631	36.111	Mixed Grain	16.11664	3.70624	42	16	18
1577131360	17.671	54.039	Monazite	6.34208	21.31704	31	26	18
1492050216	26.635	33.123	Monazite	14.97424	0.6304	42	15	18
1946191099	13.189	39.099	Monazite	1.85032	6.64544	27	22	17
1358667046	26.635	39.099	Monazite	15.04744	6.59176	30	23	17
686707527	13.189	35.115	Monazite	1.86008	2.72488	29	22	17
1460342448	19.165	56.529	Monazite	7.59208	24.09984	34	15	16
1404972309	28.129	49.557	Monazite	16.78544	16.96192	30	20	16
1389573979	26.635	49.557	Monazite	15.2524	17.03512	31	20	16
1366985312	23.647	39.099	Monazite	12.24	6.46976	29	21	16
1345976671	13.189	46.569	Monazite	1.59656	14.20328	35	17	16
700927300	21.157	35.613	Monazite	9.49624	3.00816	30	18	16
639493394	24.643	46.071	Monazite	13.3336	13.63208	25	21	16

Sample Number:	16-LV-164-3			Lab ID:	MI8173-NOV16:04				
n= 457	Stage X (mm)	Stage Y (mm)	Mineral	Particle X (mm)	Particle Y (mm)	Long Axis (µm)	Short Axis (µm)	Area (# 5 x 5 µm pixels)	
Top Left	13.813	68.3208		2.284	35.8038				
Bottom Right	32.3503	31.5715		20.8213	-0.9455				
Bottom Left Marker	11.529	32.517		0	0				
Top Right Marker	32.0363	68.9933		20.5073	36.4763				
310671791	17.671	43.083	Monazite	6.142	10.7124	36	19	16	
1682647465	18.667	46.071	Monazite	6.97208	13.53936	31	19	15	
2145632740	17.671	60.015	Monazite	6.1908	27.742	26	22	14	
1203234104	28.129	46.569	Monazite	16.3804	14.10568	27	20	14	
932649999	25.639	42.585	Monazite	14.24664	10.29248	34	15	14	
763478776	18.667	55.533	Monazite	7.02576	23.20144	25	20	14	
512512319	28.627	54.537	Monazite	16.86376	22.02488	27	20	14	
373464346	21.157	45.075	Monazite	9.45232	12.47016	27	22	14	
204793762	30.121	40.095	Monazite	18.6652	7.37792	31	18	14	
2022250839	26.137	59.019	Monazite	14.64704	26.57032	27	18	13	
2011108599	27.631	42.585	Monazite	16.02392	10.22416	25	19	13	
1703269998	31.117	33.621	Monazite	19.55872	0.94784	27	20	13	
1693373909	20.161	42.585	Monazite	8.5344	10.19488	27	20	13	
1352655880	18.667	36.609	Monazite	7.07944	4.29208	35	14	13	
684366920	19.165	50.553	Monazite	7.75312	17.80664	22	20	13	
2023667298	19.165	52.047	Monazite	7.57256	19.6276	22	18	12	
1464352363	15.181	43.083	Monazite	3.78376	10.688	22	21	12	
1188414622	17.671	44.577	Monazite	5.93216	11.87456	25	17	12	
806137446	22.153	58.023	Monazite	10.87288	25.44256	30	14	12	
403418256	29.125	47.067	Monazite	17.71312	14.65248	27	18	12	
269683207	23.647	33.621	Monazite	12.24488	1.03568	25	17	12	
254216887	28.627	50.055	Monazite	17.03456	17.33792	27	18	12	
2016812	13.687	49.557	Monazite	2.28	17.07416	22	20	12	
1978508453	30.121	33.123	Monazite	18.55784	0.606	25	16	11	
1957885845	15.679	42.585	Monazite	4.21344	10.2388	24	15	11	
1895962519	18.169	48.561	Monazite	6.49848	15.85368	30	13	11	
1693312472	20.161	42.585	Monazite	8.56368	10.22416	22	18	11	
1640482740	29.125	42.585	Monazite	17.48864	10.07776	35	12	11	
1419767108	25.639	34.119	Monazite	13.97336	1.39216	29	14	11	
1405338875	29.125	46.569	Monazite	17.43008	13.808	22	18	11	
1337054856	14.683	59.517	Monazite	3.12472	27.23912	30	14	11	
1188287741	17.671	44.577	Monazite	5.92728	12.03072	24	15	11	

Sample Number:	16-LV-164-3			Lab ID:	MI8173-NOV16:04				
n= 457	Stage X (mm)	Stage Y (mm)	Mineral	Particle X (mm)	Particle Y (mm)	Long Axis (µm)	Short Axis (µm)	Area (# 5 x 5 µm pixels)	
Top Left	13.813	68.3208		2.284	35.8038				
Bottom Right	32.3503	31.5715		20.8213	-0.9455				
Bottom Left Marker	11.529	32.517		0	0				
Top Right Marker	32.0363	68.9933		20.5073	36.4763				
1136169721	29.623	40.593	Monazite	17.91344	7.86616	30	16	11	
1121131992	14.683	60.513	Monazite	3.33456	28.04968	20	20	11	
947140713	17.173	33.621	Monazite	5.53176	0.89904	22	18	11	
936470621	26.137	53.541	Monazite	14.56408	20.82392	22	18	11	
926693262	25.639	45.075	Monazite	14.31496	12.69952	30	13	11	
883885722	30.121	57.027	Monazite	18.38704	24.55392	27	16	11	
594609953	25.639	35.115	Monazite	14.3296	2.60288	27	16	11	
491720973	29.125	46.071	Monazite	17.45448	13.57352	27	18	11	
1857534255	15.181	37.107	Monazite	3.75448	4.59	20	19	10	
1425399627	13.687	42.585	Monazite	1.95304	10.0924	30	14	10	
1178873047	24.643	53.043	Monazite	12.97736	20.29176	27	16	10	
1144356470	17.173	41.091	Monazite	5.46344	8.33	22	18	10	
832388126	24.643	51.051	Monazite	12.97736	18.5584	27	16	10	
594917206	25.639	35.115	Monazite	14.34424	2.52968	20	19	10	
470625406	17.173	40.593	Monazite	5.45856	8.32	22	17	10	
236530302	13.189	58.023	Monazite	1.55752	25.7256	20	17	10	
1960371455	24.145	39.099	Monazite	12.47936	6.81624	20	16	9	
1807144487	18.667	50.553	Monazite	6.96232	18.04576	25	13	9	
1768725430	30.121	39.099	Monazite	18.43096	6.61128	26	12	9	
1760570801	13.189	47.067	Monazite	1.52824	14.49632	22	16	9	
1575559731	16.177	38.601	Monazite	4.61384	6.328	25	13	9	
1384972289	21.655	45.573	Monazite	10.15528	13.19752	20	16	9	
1289417759	25.141	44.079	Monazite	13.42168	11.60104	20	16	9	
1178592950	25.639	58.521	Monazite	13.87576	26.18456	20	16	9	
1112524225	21.157	34.617	Monazite	9.5548	2.12928	20	16	9	
1107843784	24.145	36.111	Monazite	12.59648	3.77456	20	17	9	
949880483	30.121	57.525	Monazite	18.8116	25.05192	25	13	9	
847172608	29.623	51.051	Monazite	17.93784	18.52912	25	13	9	
783477720	27.631	47.565	Monazite	16.25816	15.19928	22	16	9	
648751233	15.181	41.091	Monazite	3.55928	8.39832	30	13	9	
2114292252	30.619	49.557	Monazite	18.846	17.19128	20	14	8	
2078732515	12.193	47.565	Monazite	0.77624	14.9504	22	13	8	

Sample Number:	16-LV-164-3			Lab ID:	MI8173-NOV16:04				
n= 457	Stage X (mm)	Stage Y (mm)	Mineral	Particle X (mm)	Particle Y (mm)	Long Axis (µm)	Short Axis (µm)	Area (# 5 x 5 µm pixels)	
Top Left	13.813	68.3208		2.284	35.8038				
Bottom Right	32.3503	31.5715		20.8213	-0.9455				
Bottom Left Marker	11.529	32.517		0	0				
Top Right Marker	32.0363	68.9933		20.5073	36.4763				
1946273003	13.189	39.099	Mixed Grain	1.60632	6.51368	20	16	8	
1666744269	27.631	34.119	Monazite	15.87264	1.61176	22	13	8	
1623172764	19.165	60.513	Monazite	7.4896	27.78128	19	15	8	
1500341459	23.647	50.055	Monazite	12.1912	17.782	19	15	8	
1425043248	13.687	42.585	Monazite	2.22632	10.16072	22	16	8	
1414217834	29.125	34.119	Monazite	17.70336	1.71424	22	13	8	
1234727739	17.173	44.079	Monazite	5.80016	11.7816	25	12	8	
1228122525	24.145	55.533	Monazite	12.85512	22.97208	25	13	8	
955864535	19.663	55.533	Monazite	7.92904	22.9916	25	12	8	
843429033	12.691	56.031	Monazite	1.29864	23.62136	22	13	8	
793395154	21.157	37.107	Monazite	9.66216	4.54608	20	14	8	
788855191	18.169	53.541	Monazite	6.77664	21.024	25	12	8	
639981234	19.165	51.051	Monazite	7.50424	18.71944	22	13	8	
594654998	25.639	35.115	Monazite	14.24176	2.63704	19	15	8	
518585753	28.627	46.569	Monazite	16.93208	14.23256	20	14	8	
443438034	19.663	36.111	Monazite	8.26088	3.62328	25	12	8	
310827405	17.671	43.083	Monazite	6.1176	10.59528	20	16	8	
140048502	28.129	36.609	Monazite	16.53656	4.24816	29	10	8	
85799130	24.643	34.119	Monazite	12.95784	1.74352	20	15	8	
27644754	24.643	51.549	Monazite	12.98224	19.23208	22	13	8	
2062368419	20.659	46.071	Monazite	9.1544	13.5052	19	12	7	
1944262206	20.659	56.529	Monazite	9.28128	23.93392	20	13	7	
1553876080	25.141	40.593	Monazite	13.65104	8.2712	20	13	7	
1386799481	23.149	33.123	Monazite	11.77128	0.49376	16	16	7	
1140236185	23.647	50.553	Monazite	12.1912	17.792	16	16	7	
895472360	27.631	35.115	Monazite	16.16544	2.66632	19	15	7	
882644039	28.129	53.541	Monazite	16.41944	20.83368	24	10	7	
806116893	22.153	58.023	Monazite	10.868	25.40352	20	13	7	
805284510	19.165	57.027	Monazite	7.60672	24.3148	16	16	7	
526888526	30.619	47.067	Monazite	18.9192	14.3548	20	16	7	
491548967	29.125	46.071	Monazite	17.43008	13.798	20	13	7	
256501834	31.117	61.509	Monazite	19.48552	28.94808	19	15	7	



Sample Number:	16-LV-164-3			Lab ID:	MI8173-NOV16:04				
n= 457	Stage X (mm)	Stage Y (mm)	Mineral	Particle X (mm)	Particle Y (mm)	Long Axis (µm)	Short Axis (µm)	Area (# 5 x 5 µm pixels)	
Top Left	13.813	68.3208		2.284	35.8038				
Bottom Right	32.3503	31.5715		20.8213	-0.9455				
Bottom Left Marker	11.529	32.517		0	0				
Top Right Marker	32.0363	68.9933		20.5073	36.4763				
1957754834	15.679	42.585	Mixed Grain	4.1012	10.1412	16	14		6
1932438725	13.189	60.015	Monazite	1.42576	27.40528	16	14		6
1862998513	23.647	48.063	Monazite	12.31808	15.7168	20	10		6
1825532303	30.121	49.557	Monazite	18.84088	17.19128	16	14		6
1640396718	29.125	42.585	Monazite	17.49352	10.11192	20	10		6
1483345101	12.193	47.067	Monazite	0.8836	14.51096	16	14		6
1439315248	30.121	41.589	Monazite	18.77256	9.06224	20	11		6
1429341832	26.635	38.103	Monazite	15.19872	5.38104	16	14		6
1327615978	25.141	52.545	Monazite	13.69984	20.15488	16	14		6
1202309839	14.683	42.087	Monazite	3.10032	9.43336	16	14		6
1161171450	15.679	51.051	Monazite	3.91088	18.48032	20	10		6
1023413158	22.153	34.617	Monazite	10.61424	2.2708	20	10		6
789014960	18.169	53.541	Monazite	6.80592	21.18504	25	10		6
786028068	29.623	33.123	Monazite	18.25992	0.5816	16	14		6
773872073	21.157	36.609	Monazite	9.69144	3.87728	20	11		6
765356450	19.663	44.577	Monazite	8.32432	11.94776	19	12		6
704061184	13.687	49.059	Monazite	1.97744	16.42488	20	11		6
686519046	13.189	35.115	Monazite	1.60632	2.61264	20	11		6
477131100	19.663	55.035	Monazite	8.256	22.4936	16	14		6
382149194	19.165	33.621	Mixed Grain	7.6848	1.06496	22	10		6
2072029101	17.173	36.609	Monazite	5.75136	4.15544	19	8		5
1980473125	13.189	58.521	Monazite	1.86496	25.92592	16	11		5
1963105039	26.635	42.087	Monazite	15.11088	9.75056	16	11		5
1902439923	30.619	49.059	Monazite	19.18272	16.41024	16	11		5
1890525825	23.647	42.087	Monazite	11.91304	9.62856	16	11		5
1784831317	26.137	54.039	Monazite	14.7544	21.644	20	10		5
1764644742	22.651	58.023	Monazite	10.878	25.44256	16	11		5
1734786089	22.651	60.015	Monazite	11.01952	27.71272	16	11		5
1666838488	27.631	34.119	Monazite	15.87752	1.63616	16	11		5
1620586174	31.117	40.095	Monazite	19.83688	7.35352	20	10		5
1464553040	15.181	43.083	Monazite	3.44216	10.322	16	11		5
1212259193	14.683	42.585	Monazite	3.21744	10.03872	16	11		5



Sample Number:	16-LV-164-3			Lab ID:	MI8173-NOV16:04			
n= 457	Stage X (mm)	Stage Y (mm)	Mineral	Particle X (mm)	Particle Y (mm)	Long Axis ( $\mu$ m)	Short Axis ( $\mu$ m)	Area (# 5 x 5 $\mu$ m pixels)
Top Left	13.813	68.3208		2.284	35.8038			
Bottom Right	32.3503	31.5715		20.8213	-0.9455			
Bottom Left Marker	11.529	32.517		0	0			
Top Right Marker	32.0363	68.9933		20.5073	36.4763			
1094391619	29.623	58.521	Monazite	17.88416	26.10648	20	10	5
1082852349	13.687	58.521	Monazite	2.40688	26.13088	16	11	5
1005028581	15.679	41.589	Monazite	4.13048	9.316	16	11	5
646317188	14.683	39.597	Monazite	3.3004	7.324	16	11	5
630658509	29.125	37.107	Monazite	17.7912	4.6632	24	5	5
625564909	12.691	51.549	Monazite	1.02536	18.96368	16	11	5
624981020	21.157	35.115	Monazite	9.4816	2.63704	16	11	5
491532581	29.125	46.071	Monazite	17.70336	13.35392	15	15	5
381010076	15.679	42.087	Monazite	4.16464	9.34064	19	8	5
154936448	24.643	54.537	Monazite	12.96272	21.9468	16	14	5

Sample Number:	16-LV-035-1			Lab ID:	MI8173-NOV16:09				
n= 177	Stage X (mm)	Stage Y (mm)	Mineral	Particle X (mm)	Particle Y (mm)	Long Axis (µm)	Short Axis (µm)	Area (# 5 x 5 µm pixels)	
Top Left	42.25	21.0535		0.2207	37.4397				
Bottom Right	60.8503	-15.7575		18.821	0.6287				
Bottom Left Marker	42.0293	-16.3862		0	0				
Top Right Marker	60.6025	21.236		18.5732	37.6222				
363943601	52.407	11.765	Zircon	10.54362	28.01456	69	44	78	
532107220	55.893	-8.154	Zircon	13.8637	8.1346	55	55	71	
861224354	56.391	-14.628	Zircon	14.25434	1.59228	82	25	63	
1506472184	60.873	13.757	Zircon	18.69242	30.27008	62	34	56	
364621266	62.367	-3.672	Zircon	20.5329	12.65076	49	42	55	
1232263893	48.423	7.781	Zircon	6.2473	24.15744	54	36	52	
491065456	52.407	-1.182	Zircon	10.5241	15.44332	78	22	49	
288176264	61.371	-3.672	Zircon	19.17578	12.5678	47	36	47	
1673690796	59.877	5.291	Zircon	17.77938	21.82848	56	29	40	
2067498427	52.905	-6.66	Zircon	10.89034	9.52124	43	34	39	
851174659	57.387	2.801	Zircon	15.16738	19.34824	44	35	39	
168474338	44.439	-11.64	Zircon	2.59514	4.78524	40	39	39	
1320798221	49.419	5.789	Zircon	7.20426	22.38016	40	36	36	
408100614	48.921	6.287	Zircon	7.04786	22.58536	53	29	35	
2132259370	46.929	-3.672	Zircon	4.7533	12.63124	36	34	34	
1297450585	51.909	-13.134	Zircon	9.83578	3.26684	45	32	34	
152662317	43.941	-3.174	Zircon	1.6677	13.017	45	27	33	
1561475821	44.439	-12.138	Zircon	2.63906	4.2238	36	33	31	
1073043713	49.917	-14.13	Zircon	7.99018	2.26596	47	26	30	
168654514	44.439	-11.64	Zircon	2.41458	4.83892	49	25	30	
1966249162	47.925	-14.13	Zircon	5.98354	2.1586	40	27	28	
1708898564	53.901	11.765	Zircon	11.81314	28.27808	44	28	28	
1748926342	46.929	-7.656	Zircon	4.79234	8.657	40	27	27	
1001385657	53.901	2.801	Zircon	11.83266	18.98712	43	25	27	
739863209	60.873	-12.636	Zircon	18.95106	3.9698	39	26	27	
1127918491	45.933	-0.684	Zircon	3.89394	15.66316	35	29	26	
1017783200	53.403	-10.146	Zircon	11.43226	6.4842	32	32	26	
450494710	57.387	-2.178	Zircon	15.36258	14.43756	36	26	26	
201566365	53.901	-4.17	Zircon	12.01322	12.00636	36	30	26	
2031549010	49.419	1.307	Zircon	7.44826	17.82984	36	27	24	
1951450248	60.873	8.777	Zircon	18.8925	25.4072	38	25	24	
2035081570	45.933	-4.668	Zircon	3.8061	11.94268	31	28	23	

Sample Number:	16-LV-035-1			Lab ID:	MI8173-NOV16:09				
n= 177	Stage X (mm)	Stage Y (mm)	Mineral	Particle X (mm)	Particle Y (mm)	Long Axis (µm)	Short Axis (µm)	Area (# 5 x 5 µm pixels)	
Top Left	42.25	21.0535		0.2207	37.4397				
Bottom Right	60.8503	-15.7575		18.821	0.6287				
Bottom Left Marker	42.0293	-16.3862		0	0				
Top Right Marker	60.6025	21.236		18.5732	37.6222				
1904350339	48.921	-6.162	Zircon	6.9893	10.30716	31	28	23	
1120314549	61.371	-6.162	Zircon	19.45394	10.01436	33	25	23	
234639825	44.937	-12.636	Zircon	2.89794	3.73068	33	26	23	
1904374940	48.921	-6.162	Zircon	7.01858	10.28764	30	29	22	
1857456450	52.407	1.805	Zircon	10.59242	18.2888	34	20	22	
1846636125	43.443	-3.174	Zircon	1.6577	13.017	44	18	22	
1779932430	54.399	-5.166	Zircon	12.57954	11.4642	35	22	22	
1021873118	61.869	-4.668	Zircon	19.62986	11.94268	31	26	22	
1966220511	47.925	-14.13	Zircon	6.02258	2.1342	33	23	21	
1756290214	51.909	13.259	Zircon	9.94314	29.6696	33	23	21	
1356203343	44.439	-4.668	Zircon	2.22914	11.51324	31	25	21	
808644767	61.371	8.279	Zircon	19.47346	24.52856	36	25	21	
295136525	47.925	1.805	Zircon	5.87618	18.19608	64	13	21	
260234549	52.905	13.757	Zircon	11.04162	29.95288	40	17	21	
234746319	44.937	-12.636	Zircon	3.00042	3.59892	39	20	21	
1125498674	52.905	-7.158	Zircon	10.9733	9.36484	30	25	20	
1042995545	52.905	-13.134	Zircon	10.81714	3.27172	47	20	20	
820923787	48.921	0.311	Zircon	7.08202	16.45808	30	23	20	
1738475053	59.877	10.769	Zircon	18.0429	27.3016	30	21	18	
1247233167	52.407	13.259	Zircon	10.24106	29.51832	32	19	18	
609859806	44.937	-2.676	Zircon	2.95162	13.62724	29	25	18	
2003377742	56.391	-13.134	Zircon	14.57154	3.18388	27	22	17	
1165125880	48.921	11.267	Zircon	6.86242	27.83864	31	25	17	
511502029	62.367	-14.628	Zircon	20.1669	1.92412	40	17	17	
2049793603	45.933	-13.632	Zircon	3.99642	2.84692	40	16	16	
1655759089	62.367	-8.154	Zircon	20.39138	8.10532	31	19	16	
1563993415	43.443	8.279	Zircon	1.63818	24.74328	38	18	16	
127729011	51.411	6.287	Zircon	9.17674	22.49264	30	20	16	
78070952	50.913	-6.66	Zircon	8.79098	9.6774	27	22	16	
2146731043	44.937	-11.64	Zircon	2.80034	4.78036	31	20	15	
1943280531	59.379	-0.684	Zircon	17.11058	15.9462	29	22	15	
1325864199	52.905	-12.636	Zircon	10.78786	3.63308	25	21	15	

Sample Number:	16-LV-035-1			Lab ID:	MI8173-NOV16:09				
n= 177	Stage X (mm)	Stage Y (mm)	Mineral	Particle X (mm)	Particle Y (mm)	Long Axis (µm)	Short Axis (µm)	Area (# 5 x 5 µm pixels)	
Top Left	42.25	21.0535		0.2207	37.4397				
Bottom Right	60.8503	-15.7575		18.821	0.6287				
Bottom Left Marker	42.0293	-16.3862		0	0				
Top Right Marker	60.6025	21.236		18.5732	37.6222				
417986338	46.431	-3.174	Zircon	4.3285	13.14388	31	18	15	
1882517140	54.897	12.761	Zircon	13.00922	29.1228	32	15	14	
808665235	61.371	8.279	Zircon	19.20994	24.836	33	18	14	
490053939	48.921	9.773	Zircon	6.75018	26.01768	25	21	14	
1909703256	50.913	-8.652	Zircon	9.08866	7.75372	27	18	13	
1794269306	61.869	9.275	Zircon	19.82506	25.81736	29	17	13	
1150208867	43.443	-9.648	Zircon	1.50642	6.96268	22	22	13	
593769452	54.399	5.291	Zircon	12.30138	21.75528	25	19	13	
290264087	46.431	6.287	Zircon	4.63106	22.64392	22	20	13	
1859575243	53.403	-11.64	Zircon	11.2517	4.6242	27	16	12	
1712813187	57.387	-14.13	Zircon	15.14786	2.33916	32	12	12	
971150374	57.885	7.283	Zircon	15.82154	23.70824	25	20	12	
532061646	57.885	6.785	Zircon	15.92402	22.96136	22	21	12	
1784288713	52.905	-6.162	Zircon	10.93914	10.4682	22	20	11	
1780828672	43.941	8.279	Zircon	1.6677	24.7384	26	15	11	
1505244701	54.399	-4.668	Zircon	12.57466	11.4742	29	15	11	
1396368169	46.929	10.271	Zircon	5.0461	26.6816	22	20	11	
1358595373	51.411	-6.162	Zircon	9.1377	10.273	20	20	11	
1134018059	61.869	-7.158	Zircon	19.69818	9.38924	27	16	11	
1087158512	61.869	-9.648	Zircon	19.88362	6.52348	30	13	11	
694242978	60.873	-15.126	Zircon	18.92666	1.42612	22	18	11	
673098285	53.901	12.263	Zircon	11.6521	28.65896	20	20	11	
446274488	51.909	-11.64	Zircon	10.08466	4.7218	25	18	11	
297599618	54.897	1.805	Zircon	12.70178	18.12776	22	17	11	
263211845	56.889	6.785	Zircon	14.64498	22.97112	22	17	11	
1490046205	52.905	-8.652	Zircon	10.95866	7.59268	31	12	10	
1473409598	58.881	-11.64	Zircon	16.67602	4.80476	20	19	10	
1125670612	50.913	5.291	Zircon	8.70802	21.78944	22	18	10	
624414461	51.411	-14.13	Zircon	9.48906	2.23668	22	17	10	
133905434	45.933	-1.182	Zircon	4.00618	14.96508	22	16	10	
1977177134	46.929	-10.644	Zircon	4.88018	5.58604	20	16	9	
1653744525	55.395	-14.13	Zircon	13.45354	2.12932	22	14	9	

Sample Number:	16-LV-035-1			Lab ID:	MI8173-NOV16:09				
n= 177	Stage X (mm)	Stage Y (mm)	Mineral	Particle X (mm)	Particle Y (mm)	Long Axis (µm)	Short Axis (µm)	Area (# 5 x 5 µm pixels)	
Top Left	42.25	21.0535		0.2207	37.4397				
Bottom Right	60.8503	-15.7575		18.821	0.6287				
Bottom Left Marker	42.0293	-16.3862		0	0				
Top Right Marker	60.6025	21.236		18.5732	37.6222				
1565357100	60.375	12.263	Zircon	18.54578	28.78096	29	13	9	
1384187363	61.371	9.275	Zircon	19.0977	25.60752	20	16	9	
1116137715	59.379	-9.648	Zircon	17.2521	6.9578	20	16	9	
1080444917	44.937	10.769	Zircon	2.69786	27.38456	20	17	9	
651549801	59.379	-0.186	Zircon	17.37898	16.1758	20	16	9	
651398148	59.379	-0.186	Zircon	17.11546	15.9562	20	16	9	
450269969	49.419	8.777	Zircon	7.48242	25.1388	32	8	9	
221158973	60.873	9.275	Zircon	19.0877	25.60752	20	17	9	
134188101	45.933	-1.182	Zircon	3.93298	15.06268	22	16	9	
134184018	45.933	-1.182	Zircon	3.6597	14.96508	19	19	9	
2070714648	47.427	-3.174	Zircon	5.57338	13.14388	20	16	8	
1843906274	48.921	8.279	Zircon	6.78922	24.49928	19	15	8	
974816174	60.873	3.299	Zircon	18.85346	19.60712	22	13	8	
922291230	58.383	-0.684	Zircon	16.26098	15.83884	19	15	8	
878919401	50.913	3.299	Zircon	8.8349	19.9292	20	17	8	
569293909	45.933	8.777	Zircon	3.70362	25.26568	22	14	8	
402459198	50.415	-0.186	Zircon	8.42962	16.28804	20	16	8	
328262305	54.399	10.769	Zircon	12.22818	27.38456	22	13	8	
311332513	53.901	9.773	Zircon	11.97906	26.19336	22	14	8	
303521072	57.387	6.287	Zircon	15.19178	22.42432	20	14	8	
295017782	47.925	1.805	Zircon	5.85666	18.33272	19	15	8	
49465714	58.383	-7.656	Zircon	16.2073	8.60332	22	13	8	
2146505647	45.933	7.781	Zircon	4.10866	24.40144	22	12	7	
1836669244	54.897	-10.146	Zircon	12.67738	6.167	29	10	7	
1769337200	48.921	6.785	Zircon	6.76482	23.13704	16	16	7	
1422032792	51.411	-0.684	Zircon	9.48418	15.873	20	15	7	
1350105953	61.869	-10.644	Zircon	20.0105	5.8642	20	13	7	
1137225242	58.881	-3.672	Zircon	16.96394	12.77764	19	12	7	
779196230	43.941	-3.672	Zircon	2.03858	12.94356	19	12	7	
774625998	46.929	0.809	Zircon	4.7289	17.08296	16	16	7	
610183339	44.937	-2.676	Zircon	2.99066	13.57844	22	12	7	
450478278	57.387	-2.178	Zircon	15.55778	14.00812	22	12	7	

Sample Number:	16-LV-035-1			Lab ID:	MI8173-NOV16:09				
n= 177	Stage X (mm)	Stage Y (mm)	Mineral	Particle X (mm)	Particle Y (mm)	Long Axis (µm)	Short Axis (µm)	Area (# 5 x 5 µm pixels)	
Top Left	42.25	21.0535		0.2207	37.4397				
Bottom Right	60.8503	-15.7575		18.821	0.6287				
Bottom Left Marker	42.0293	-16.3862		0	0				
Top Right Marker	60.6025	21.236		18.5732	37.6222				
251392767	49.917	6.287	Zircon	8.0341	22.56584	27	11	7	
173369337	54.897	7.781	Zircon	12.65786	24.1672	16	16	7	
1887890097	60.375	12.761	Zircon	18.31154	29.06424	20	11	6	
1869000726	58.383	-2.676	Zircon	16.1585	13.82244	16	14	6	
1848905563	45.435	-12.138	Zircon	3.42034	4.06764	19	12	6	
1243254360	45.933	-11.64	Zircon	3.90858	4.69252	16	14	6	
1068634642	58.881	7.283	Zircon	16.68578	23.74728	16	14	6	
1059623266	58.383	-13.134	Zircon	16.43666	3.24244	16	14	6	
1042204574	55.893	13.259	Zircon	13.79538	29.44024	16	14	6	
1029253198	62.367	5.789	Zircon	20.56706	22.36064	22	10	6	
955814436	51.411	-4.17	Zircon	9.28898	12.27476	16	14	6	
926994937	60.873	13.259	Zircon	19.02426	29.72816	16	14	6	
910461086	43.443	-6.66	Zircon	1.55522	9.76036	20	11	6	
764079297	55.395	-12.138	Zircon	13.59994	4.30188	16	14	6	
739114575	56.889	8.777	Zircon	14.63034	24.95336	19	12	6	
725921310	55.893	-0.684	Zircon	13.94178	15.47284	16	14	6	
565618807	55.395	1.307	Zircon	13.36082	17.66392	16	14	6	
565577850	55.395	1.307	Zircon	13.33154	17.742	16	14	6	
521930130	45.435	-3.174	Zircon	3.31298	13.32444	20	10	6	
381542739	48.423	6.785	Zircon	6.63282	23.22976	16	14	6	
353361002	45.933	-14.13	Zircon	4.14282	2.32452	16	14	6	
269483228	56.889	1.805	Zircon	14.81578	18.02528	16	14	6	
245807999	52.905	-13.632	Zircon	11.1197	2.83716	16	14	6	
204646962	50.913	-6.162	Zircon	9.04474	10.11684	16	16	6	
64924846	44.937	-4.668	Zircon	2.79546	11.53276	16	14	6	
39616632	49.419	-6.162	Zircon	7.20914	10.0778	20	13	6	
2134438334	55.395	3.299	Zircon	13.1949	19.5144	16	11	5	
1257959805	51.411	-3.672	Zircon	9.5769	12.67516	16	11	5	
1246503972	52.407	4.793	Zircon	10.58754	21.27192	16	11	5	
1183163897	50.913	-8.154	Zircon	8.91786	8.46156	16	11	5	
1083000018	55.395	9.275	Zircon	13.52674	25.68072	16	11	5	
1016568128	54.897	-11.64	Zircon	12.66274	4.73644	15	15	5	

Sample Number:	16-LV-035-1			Lab ID:	MI8173-NOV16:09				
n= 177	Stage X (mm)	Stage Y (mm)	Mineral	Particle X (mm)	Particle Y (mm)	Long Axis (µm)	Short Axis (µm)	Area (# 5 x 5 µm pixels)	
Top Left	42.25	21.0535		0.2207	37.4397				
Bottom Right	60.8503	-15.7575		18.821	0.6287				
Bottom Left Marker	42.0293	-16.3862		0	0				
Top Right Marker	60.6025	21.236		18.5732	37.6222				
1002678156	59.877	11.267	Zircon	17.85746	27.86792	19	12	5	
1002653578	59.877	11.267	Zircon	18.01362	27.4092	19	8	5	
960512834	61.869	13.757	Zircon	19.9129	30.04072	16	11	5	
949262352	49.419	6.287	Zircon	7.42874	22.65856	16	11	5	
922430475	58.383	-0.684	Zircon	16.15362	15.74124	16	11	5	
871125438	45.933	3.797	Zircon	3.79634	20.0124	15	15	5	
706603277	47.427	-13.134	Zircon	5.44162	3.28148	19	8	5	
695360514	55.893	9.773	Zircon	13.70266	26.24216	16	11	5	
662650311	55.893	-7.656	Zircon	13.67826	8.61308	16	11	5	
565479530	55.395	1.307	Zircon	13.47794	17.47848	16	11	5	
510635555	47.925	0.311	Zircon	6.13482	16.49712	16	11	5	
461408406	46.431	7.283	Zircon	4.2065	23.6692	20	10	5	
427978250	44.937	-12.138	Zircon	2.6637	4.21892	24	5	5	
380709537	52.407	3.797	Zircon	10.45578	20.16368	20	10	5	
369120644	59.877	12.761	Zircon	17.79402	29.0984	19	8	5	
254849140	59.379	-4.668	Zircon	17.50098	11.5718	19	8	5	
123651930	54.399	-4.17	Zircon	12.57466	12.05028	16	11	5	

Sample Number:	16-LV-013-1			Lab ID:	MI8173-NOV16:11			
n= 285	Stage X (mm)	Stage Y (mm)	Mineral	Particle X (mm)	Particle Y (mm)	Long Axis (µm)	Short Axis (µm)	Area (# 5 x 5 µm pixels)
Top Left	-29.1728	-29.3317		0.1307	38.5198			
Bottom Right	-10.9268	-67.832		18.3767	0.0195			
Bottom Left Marker	-29.3035	-67.8515		0	0			
Top Right Marker	-8.8743	-28.9587		20.4292	38.8928			
766801710	-19.131	-49.884	Zircon	10.30426	17.80646	49	22	28
1616444263	-12.159	-53.868	Zircon	17.09082	13.8859	40	23	25
1693861444	-28.095	-47.394	Zircon	1.09626	20.63806	42	22	24
1513443329	-18.633	-59.346	Zircon	10.4509	8.34934	31	27	23
709198379	-24.609	-43.41	Zircon	4.57738	24.52446	38	22	22
1431375472	-25.107	-56.358	Zircon	4.0501	11.35198	29	29	21
2079129310	-22.617	-42.414	Zircon	6.77922	25.67662	35	19	19
1580805993	-19.131	-38.928	Zircon	10.25058	28.72342	30	24	19
2108930937	-24.609	-59.844	Zircon	4.72378	7.91966	36	18	18
2041007259	-20.127	-46.896	Zircon	9.0057	21.17022	35	19	18
1191651476	-23.613	-40.92	Zircon	5.66122	26.94126	29	23	18
1102193867	-30.087	-53.868	Zircon	-0.70054	13.90542	29	25	18
500718291	-27.099	-52.374	Zircon	2.01418	15.5019	38	16	18
1580859231	-19.131	-38.928	Zircon	10.00658	28.88934	34	15	17
697765164	-20.625	-50.88	Zircon	8.6053	16.96174	36	19	16
195091475	-11.661	-56.358	Zircon	17.8865	11.6155	31	21	16
2015852884	-26.103	-42.912	Zircon	3.27858	24.77846	36	16	15
1186593899	-21.621	-50.382	Zircon	7.87282	17.61102	33	17	15
965935088	-26.103	-61.338	Zircon	3.26394	6.5867	36	16	15
791289130	-20.127	-38.928	Zircon	9.3717	28.98206	27	22	15
696607224	-21.123	-39.924	Zircon	7.94626	27.7567	35	18	15
239208191	-29.091	-60.342	Zircon	0.3589	7.48022	31	21	15
2091189870	-15.147	-61.836	Zircon	13.94178	6.02526	25	21	14
1546017537	-15.645	-55.86	Zircon	13.72194	11.9427	25	20	14
252950859	-12.159	-41.916	Zircon	17.06642	26.14534	27	20	14
203424510	-16.143	-38.928	Zircon	13.15562	29.13822	31	18	14
18747577	-21.123	-43.41	Zircon	8.03898	24.6123	25	20	14
1534997745	-24.111	-36.936	Zircon	5.07538	30.73006	27	18	13
426933076	-20.127	-49.386	Zircon	8.97642	18.32398	30	15	13
301411225	-26.103	-51.378	Zircon	3.34202	16.59062	31	15	13
180581306	-24.609	-34.446	Zircon	4.61642	33.51774	31	16	13
1545890049	-24.111	-40.92	Zircon	5.0705	26.8095	30	17	12



Sample Number:	16-LV-013-1			Lab ID:	MI8173-NOV16:11				
n= 285	Stage X (mm)	Stage Y (mm)	Mineral	Particle X (mm)	Particle Y (mm)	Long Axis (µm)	Short Axis (µm)	Area (# 5 x 5 µm pixels)	
Top Left	-29.1728	-29.3317		0.1307	38.5198				
Bottom Right	-10.9268	-67.832		18.3767	0.0195				
Bottom Left Marker	-29.3035	-67.8515		0	0				
Top Right Marker	-8.8743	-28.9587		20.4292	38.8928				
1504393827	-23.115	-48.888	Zircon	6.35442	18.8415	27	16	12	
1492157419	-29.091	-50.382	Zircon	0.39794	17.38654	26	19	12	
1276120991	-18.633	-42.912	Zircon	10.53874	24.83214	27	18	12	
695239095	-26.601	-51.378	Zircon	2.69762	16.24902	22	18	12	
690202081	-22.119	-50.382	Zircon	7.15522	17.28406	30	14	12	
484204442	-27.597	-58.35	Zircon	1.86754	9.35998	27	18	12	
431086655	-28.593	-62.832	Zircon	0.7105	4.80966	27	16	12	
2058204641	-23.613	-41.418	Zircon	5.53922	26.26758	30	13	11	
2054400940	-13.155	-47.892	Zircon	16.05578	20.18398	30	13	11	
1826275034	-16.143	-49.884	Zircon	13.36546	18.1871	25	17	11	
1428527052	-16.641	-39.426	Zircon	12.69666	28.31814	31	13	11	
1201494620	-17.637	-52.872	Zircon	11.70554	14.8575	29	14	11	
1040427703	-26.601	-49.386	Zircon	2.93186	18.62166	25	18	11	
604338054	-24.609	-49.884	Zircon	4.62618	17.87478	27	18	11	
135144934	-15.645	-46.896	Zircon	13.68778	20.71638	22	18	11	
105135922	-12.657	-43.41	Zircon	16.74898	24.44638	24	20	11	
96566044	-23.115	-53.37	Zircon	6.35442	14.3107	25	17	11	
61792381	-25.107	-41.418	Zircon	4.25506	26.6287	20	20	11	
2143022003	-13.155	-40.422	Zircon	16.18754	27.29774	29	10	10	
2031790617	-26.601	-63.33	Zircon	2.46338	4.47758	24	15	10	
2024830084	-26.601	-36.438	Zircon	2.9465	31.6331	25	16	10	
1921528494	-24.609	-49.386	Zircon	4.70914	18.6851	22	16	10	
1685160364	-28.095	-36.438	Zircon	1.03282	31.52086	25	14	10	
1627032341	-16.641	-35.442	Zircon	12.62346	32.5071	27	14	10	
1525892405	-13.653	-42.912	Zircon	15.42602	24.7199	20	17	10	
1510879760	-29.589	-58.35	Zircon	-0.36846	9.6479	22	16	10	
1469272733	-11.163	-47.394	Zircon	18.2625	20.29158	20	20	10	
1210506754	-28.593	-35.442	Zircon	0.57386	32.40462	22	17	10	
1058827697	-17.139	-41.418	Zircon	12.38898	26.29686	24	15	10	
1045822924	-21.123	-35.94	Zircon	7.9853	31.67238	26	15	10	
820214847	-13.653	-54.864	Zircon	15.70418	12.77278	31	12	10	
759174990	-19.629	-58.35	Zircon	9.59642	9.38438	25	16	10	

Sample Number:	16-LV-013-1			Lab ID:	MI8173-NOV16:11				
n= 285	Stage X (mm)	Stage Y (mm)	Mineral	Particle X (mm)	Particle Y (mm)	Long Axis (µm)	Short Axis (µm)	Area (# 5 x 5 µm pixels)	
Top Left	-29.1728	-29.3317		0.1307	38.5198				
Bottom Right	-10.9268	-67.832		18.3767	0.0195				
Bottom Left Marker	-29.3035	-67.8515		0	0				
Top Right Marker	-8.8743	-28.9587		20.4292	38.8928				
751758247	-24.609	-50.88	Zircon	4.90922	17.12278	25	16	10	
645779355	-27.597	-41.418	Zircon	1.56986	26.50182	31	12	10	
354714201	-21.123	-56.358	Zircon	8.12682	11.28854	22	16	10	
2106167881	-22.617	-34.944	Zircon	6.74506	32.93678	19	19	9	
1927656029	-25.605	-61.836	Zircon	3.46426	6.01062	25	13	9	
1918945868	-18.633	-38.928	Zircon	10.44602	29.14798	22	17	9	
1879532996	-25.605	-48.888	Zircon	3.5033	18.94398	22	16	9	
1752894042	-22.119	-51.876	Zircon	7.25282	16.21462	20	17	9	
1626595026	-17.139	-35.442	Zircon	12.37922	32.32166	25	13	9	
1599611156	-29.589	-49.884	Zircon	-0.11958	18.14318	19	19	9	
1514528472	-17.139	-52.374	Zircon	12.2865	15.59462	22	14	9	
1480509211	-18.633	-50.382	Zircon	10.43626	17.7135	20	17	9	
1276485581	-18.633	-42.912	Zircon	10.68026	24.92974	20	16	9	
1222433891	-25.107	-59.346	Zircon	3.98178	8.40302	27	11	9	
1201211928	-17.637	-52.872	Zircon	11.60306	15.13566	20	20	9	
1099857716	-14.151	-35.94	Zircon	15.0793	31.71142	29	12	9	
921909754	-20.625	-57.354	Zircon	8.79562	10.62438	25	13	9	
545391017	-22.617	-41.916	Zircon	6.76946	25.75982	25	13	9	
468215159	-23.613	-63.33	Zircon	5.5441	4.58982	20	16	9	
289124770	-21.123	-56.856	Zircon	7.99506	10.97598	31	11	9	
1871167511	-14.151	-54.366	Zircon	15.09882	13.30982	20	14	8	
1822152381	-29.091	-36.936	Zircon	0.45162	30.74958	20	16	8	
1706185018	-24.609	-62.832	Zircon	4.70914	4.78038	20	14	8	
1699744593	-24.609	-54.864	Zircon	4.83602	12.74838	20	14	8	
1616022565	-23.613	-42.912	Zircon	5.62706	24.90046	22	16	8	
1572122824	-27.099	-40.422	Zircon	2.3997	27.4051	20	14	8	
1566332631	-20.625	-49.884	Zircon	8.90298	17.74302	20	14	8	
1442194660	-22.617	-46.896	Zircon	6.72554	21.16046	20	15	8	
1339384986	-19.629	-38.43	Zircon	9.75746	29.51422	19	15	8	
1228403512	-13.155	-44.406	Zircon	16.10946	23.47966	25	12	8	
1214687276	-18.135	-55.86	Zircon	11.18802	12.14766	20	14	8	
989800229	-13.653	-61.836	Zircon	15.77738	6.14726	22	13	8	

Sample Number:	16-LV-013-1			Lab ID:	MI8173-NOV16:11				
n= 285	Stage X (mm)	Stage Y (mm)	Mineral	Particle X (mm)	Particle Y (mm)	Long Axis (µm)	Short Axis (µm)	Area (# 5 x 5 µm pixels)	
Top Left	-29.1728	-29.3317		0.1307	38.5198				
Bottom Right	-10.9268	-67.832		18.3767	0.0195				
Bottom Left Marker	-29.3035	-67.8515		0	0				
Top Right Marker	-8.8743	-28.9587		20.4292	38.8928				
871255096	-14.151	-44.406	Zircon	15.40138	23.45526	20	14	8	
812045825	-12.657	-62.334	Zircon	16.78802	5.43942	20	14	8	
758099608	-13.653	-60.84	Zircon	15.76762	7.13838	20	15	8	
736329916	-21.621	-35.442	Zircon	7.61906	32.4583	19	15	8	
623922846	-25.605	-49.386	Zircon	3.61554	18.5143	19	15	8	
580667978	-28.593	-41.916	Zircon	0.93986	25.83302	22	13	8	
561455490	-15.147	-47.892	Zircon	14.09306	19.72038	20	16	8	
552404743	-14.649	-60.342	Zircon	14.46906	7.74862	22	13	8	
487899317	-20.625	-61.338	Zircon	8.77122	6.67942	25	12	8	
455130760	-17.139	-57.354	Zircon	12.23282	10.43894	19	15	8	
411293848	-21.621	-51.876	Zircon	7.91186	15.82422	20	14	8	
360162857	-25.605	-44.406	Zircon	3.5521	23.50894	19	15	8	
345128891	-17.637	-53.37	Zircon	11.85682	14.53518	20	16	8	
108248294	-29.091	-55.86	Zircon	0.17834	12.2355	26	12	8	
2121075578	-28.095	-45.9	Zircon	1.21338	21.9027	20	13	7	
2045628853	-11.163	-34.944	Zircon	18.29178	33.08318	20	14	7	
2041526137	-11.661	-47.394	Zircon	17.67178	20.59902	19	12	7	
1924534143	-23.613	-56.358	Zircon	5.8125	11.68382	19	15	7	
1868771874	-13.653	-55.362	Zircon	15.68466	12.71398	25	11	7	
1859232138	-29.589	-45.402	Zircon	-0.51974	22.2787	16	16	7	
1822523932	-14.649	-56.856	Zircon	14.87898	10.9223	19	15	7	
1789583884	-29.091	-56.856	Zircon	0.2613	10.76614	16	16	7	
1787957527	-16.143	-34.446	Zircon	13.35082	33.39574	22	12	7	
1704424636	-14.151	-46.896	Zircon	15.00122	20.9067	19	12	7	
1698523813	-14.151	-52.872	Zircon	14.97194	15.17958	20	13	7	
1647401270	-26.103	-48.888	Zircon	3.07362	18.99766	34	5	7	
1635337707	-24.111	-45.9	Zircon	5.17786	22.17598	25	11	7	
1553453366	-23.115	-49.884	Zircon	6.41786	17.76742	20	13	7	
1551080357	-13.653	-51.378	Zircon	15.4309	16.6931	16	16	7	
1539975931	-16.641	-59.346	Zircon	12.5161	8.33958	22	12	7	
1517530705	-29.091	-57.852	Zircon	0.25642	10.13126	19	12	7	
1484227891	-14.649	-41.418	Zircon	14.87898	26.4579	22	12	7	

Sample Number:	16-LV-013-1			Lab ID:	MI8173-NOV16:11				
n= 285	Stage X (mm)	Stage Y (mm)	Mineral	Particle X (mm)	Particle Y (mm)	Long Axis (µm)	Short Axis (µm)	Area (# 5 x 5 µm pixels)	
Top Left	-29.1728	-29.3317		0.1307	38.5198				
Bottom Right	-10.9268	-67.832		18.3767	0.0195				
Bottom Left Marker	-29.3035	-67.8515		0	0				
Top Right Marker	-8.8743	-28.9587		20.4292	38.8928				
1403937487	-26.103	-57.354	Zircon	3.1029	10.6195	22	13	7	
1334823915	-15.645	-38.43	Zircon	13.6097	29.40198	20	13	7	
1251869030	-18.135	-51.876	Zircon	11.1685	15.83886	20	13	7	
1218717067	-26.103	-44.904	Zircon	3.23954	23.1915	16	16	7	
1167984387	-17.637	-34.446	Zircon	11.69578	33.38598	19	12	7	
1068213844	-19.131	-38.43	Zircon	9.96266	29.41174	16	16	7	
1068000872	-19.131	-38.43	Zircon	10.16762	29.38246	19	12	7	
1019475439	-23.115	-36.936	Zircon	6.32026	31.10582	20	13	7	
883821266	-17.139	-45.9	Zircon	12.41338	22.07838	25	11	7	
751933674	-18.135	-34.446	Zircon	11.20266	33.32742	16	16	7	
724374620	-22.119	-40.422	Zircon	7.26746	27.61982	20	13	7	
708932194	-24.609	-43.41	Zircon	4.7677	24.44638	22	12	7	
648316184	-21.621	-59.346	Zircon	7.5605	8.5787	19	12	7	
545620438	-22.617	-41.916	Zircon	6.86218	25.92086	16	16	7	
542726047	-24.111	-58.35	Zircon	5.28034	9.47222	20	14	7	
520324646	-23.115	-54.366	Zircon	6.29098	13.39278	19	15	7	
411117744	-21.621	-51.876	Zircon	7.87282	15.90718	22	12	7	
396021532	-13.653	-59.346	Zircon	15.5529	8.2859	16	16	7	
345692562	-13.653	-39.426	Zircon	15.43578	28.3767	20	15	7	
293889013	-15.645	-37.932	Zircon	13.5365	29.86094	20	13	7	
292184185	-19.629	-47.394	Zircon	9.66474	20.56974	19	12	7	
267630094	-13.155	-43.41	Zircon	16.37786	24.65134	24	10	7	
246066360	-29.091	-48.888	Zircon	0.39306	18.76342	19	12	7	
116782848	-30.087	-46.896	Zircon	-0.5395	20.82862	19	15	7	
2109890915	-20.625	-53.37	Zircon	8.82978	14.57422	16	14	6	
2068584215	-29.091	-58.848	Zircon	0.05146	9.0035	20	11	6	
1967756989	-18.633	-39.924	Zircon	10.56314	27.73718	19	12	6	
1899987801	-20.625	-52.872	Zircon	8.52234	14.78918	16	14	6	
1895179365	-19.629	-43.908	Zircon	9.85994	23.6995	16	14	6	
1801296012	-14.151	-50.382	Zircon	15.05978	17.65982	16	14	6	
1781219630	-15.645	-48.888	Zircon	13.4877	18.8903	16	14	6	
1733217406	-11.661	-48.888	Zircon	17.66202	18.87566	16	14	6	

Sample Number:	16-LV-013-1			Lab ID:	MI8173-NOV16:11				
n= 285	Stage X (mm)	Stage Y (mm)	Mineral	Particle X (mm)	Particle Y (mm)	Long Axis (µm)	Short Axis (µm)	Area (# 5 x 5 µm pixels)	
Top Left	-29.1728	-29.3317		0.1307	38.5198				
Bottom Right	-10.9268	-67.832		18.3767	0.0195				
Bottom Left Marker	-29.3035	-67.8515		0	0				
Top Right Marker	-8.8743	-28.9587		20.4292	38.8928				
1717451658	-26.601	-39.426	Zircon	2.76594	28.60118	19	12	6	
1684125612	-26.601	-38.928	Zircon	2.7025	28.8747	16	14	6	
1645235787	-26.103	-50.88	Zircon	3.00042	17.20086	20	11	6	
1641999465	-17.139	-44.406	Zircon	12.30602	23.62606	20	11	6	
1600828284	-18.135	-59.844	Zircon	11.08554	7.92942	19	12	6	
1579689076	-17.139	-37.932	Zircon	12.17914	29.82678	16	14	6	
1579457838	-21.123	-55.362	Zircon	8.36594	12.57734	20	11	6	
1495439110	-21.123	-43.908	Zircon	8.3757	23.8947	16	14	6	
1492628381	-29.091	-50.382	Zircon	0.17346	17.37678	16	14	6	
1375765340	-22.617	-53.868	Zircon	6.52546	14.01278	19	12	6	
1273899337	-18.633	-46.398	Zircon	10.87546	21.49254	16	14	6	
1272909761	-17.637	-39.426	Zircon	11.8617	28.55238	19	12	6	
1266992812	-28.593	-46.896	Zircon	0.48602	20.81398	22	10	6	
1266958184	-22.617	-43.41	Zircon	6.6377	24.49518	16	14	6	
1235359725	-23.115	-55.362	Zircon	5.97866	12.6115	16	14	6	
1145100173	-27.099	-35.442	Zircon	2.23866	32.41438	16	14	6	
1137073801	-19.131	-42.414	Zircon	9.96754	25.25206	20	11	6	
1093235054	-18.135	-41.916	Zircon	11.2905	25.9599	16	14	6	
1075187741	-19.629	-45.9	Zircon	9.73306	22.18574	16	14	6	
1068123728	-19.131	-38.43	Zircon	10.11394	29.63622	20	11	6	
956582377	-16.143	-43.908	Zircon	13.27762	23.91422	16	14	6	
936983614	-29.589	-54.864	Zircon	-0.17814	12.77766	19	12	6	
854109967	-11.661	-52.872	Zircon	17.65714	14.74038	16	14	6	
804480974	-12.159	-55.86	Zircon	17.1445	12.12326	20	11	6	
804350798	-17.139	-49.884	Zircon	12.00346	17.7967	20	11	6	
766834492	-19.131	-49.884	Zircon	10.16762	18.02606	16	14	6	
681172064	-18.135	-55.362	Zircon	10.97818	12.33822	20	11	6	
558962258	-19.629	-46.398	Zircon	9.87458	21.27782	19	12	6	
537681462	-24.111	-55.362	Zircon	5.35354	12.29918	20	11	6	
491175160	-27.597	-40.92	Zircon	1.59426	27.00958	20	11	6	
453013325	-26.103	-37.932	Zircon	3.38594	29.77798	16	14	6	
440871505	-19.131	-36.936	Zircon	10.2457	31.02286	16	14	6	

Sample Number:	16-LV-013-1			Lab ID:	MI8173-NOV16:11				
n= 285	Stage X (mm)	Stage Y (mm)	Mineral	Particle X (mm)	Particle Y (mm)	Long Axis (µm)	Short Axis (µm)	Area (# 5 x 5 µm pixels)	
Top Left	-29.1728	-29.3317		0.1307	38.5198				
Bottom Right	-10.9268	-67.832		18.3767	0.0195				
Bottom Left Marker	-29.3035	-67.8515		0	0				
Top Right Marker	-8.8743	-28.9587		20.4292	38.8928				
425952968	-16.143	-41.418	Zircon	12.94578	26.6531	20	10	6	
370385879	-15.147	-46.398	Zircon	14.01498	21.6975	16	14	6	
365767051	-28.095	-51.378	Zircon	1.04258	16.65406	16	14	6	
335085027	-13.155	-44.904	Zircon	16.24122	23.12318	20	11	6	
320515408	-26.601	-44.904	Zircon	2.88794	22.7279	20	10	6	
315748733	-11.163	-56.358	Zircon	17.8965	11.6155	20	11	6	
288688643	-19.629	-58.848	Zircon	9.50858	8.93518	16	14	6	
122368862	-21.123	-57.354	Zircon	8.12682	10.4975	19	12	6	
115985468	-23.115	-44.904	Zircon	6.32026	22.9719	16	14	6	
66693047	-26.601	-46.896	Zircon	2.57562	21.00918	20	10	6	
2076349532	-15.645	-60.84	Zircon	13.8293	7.02614	16	11	5	
2057930156	-23.613	-41.418	Zircon	5.89546	26.27246	19	8	5	
2038471812	-11.661	-54.864	Zircon	17.73522	12.82646	16	11	5	
2031843851	-26.601	-63.33	Zircon	2.64882	4.75574	16	11	5	
1956646336	-12.159	-63.33	Zircon	17.03714	4.55078	16	11	5	
1926330054	-22.119	-52.872	Zircon	7.36994	15.0771	20	10	5	
1891274184	-15.147	-38.928	Zircon	14.4005	29.06502	19	8	5	
1884991415	-15.147	-52.374	Zircon	13.95642	15.43358	16	11	5	
1851345336	-28.593	-55.362	Zircon	0.9057	12.3431	24	5	5	
1839631401	-18.633	-52.374	Zircon	10.7925	15.7215	24	5	5	
1830917083	-29.091	-49.884	Zircon	0.36866	17.8699	20	10	5	
1818303590	-16.143	-49.386	Zircon	13.0385	18.42646	16	14	5	
1814164266	-20.625	-44.406	Zircon	8.79074	23.41622	16	11	5	
1810242638	-22.119	-36.936	Zircon	7.35042	31.0863	20	10	5	
1758059469	-27.597	-54.864	Zircon	1.75042	12.73862	16	11	5	
1717316560	-26.601	-39.426	Zircon	2.78058	28.30838	16	14	5	
1688048423	-13.653	-55.86	Zircon	15.83106	12.06958	20	10	5	
1663544782	-19.629	-63.33	Zircon	9.61106	4.3019	20	10	5	
1647778135	-26.103	-48.888	Zircon	3.0297	18.89518	16	11	5	
1595579666	-20.625	-56.358	Zircon	8.68338	11.2495	15	15	5	
1586024261	-27.597	-35.442	Zircon	1.87242	32.38022	16	11	5	
1566246313	-15.147	-39.426	Zircon	14.32242	28.19614	16	11	5	

Sample Number:	16-LV-013-1			Lab ID:	MI8173-NOV16:11				
n= 285	Stage X (mm)	Stage Y (mm)	Mineral	Particle X (mm)	Particle Y (mm)	Long Axis (µm)	Short Axis (µm)	Area (# 5 x 5 µm pixels)	
Top Left	-29.1728	-29.3317		0.1307	38.5198				
Bottom Right	-10.9268	-67.832		18.3767	0.0195				
Bottom Left Marker	-29.3035	-67.8515		0	0				
Top Right Marker	-8.8743	-28.9587		20.4292	38.8928				
1565469183	-15.645	-52.374	Zircon	13.5609	15.46286	16	11	5	
1543678390	-26.601	-59.346	Zircon	2.7025	8.3835	16	11	5	
1543641219	-15.147	-45.402	Zircon	13.9369	22.63006	16	11	5	
1528347327	-21.123	-53.868	Zircon	8.1805	13.83222	16	11	5	
1430209227	-17.139	-43.41	Zircon	12.1157	24.33902	16	11	5	
1421882317	-29.589	-57.354	Zircon	-0.47582	10.27302	16	11	5	
1393410653	-29.091	-55.362	Zircon	0.1149	12.72862	20	10	5	
1389818529	-12.657	-62.832	Zircon	16.61234	5.07806	16	11	5	
1279600414	-18.633	-34.446	Zircon	10.79738	33.25422	16	11	5	
1267337171	-21.123	-51.876	Zircon	8.4245	16.13166	19	12	5	
1255500833	-30.087	-45.9	Zircon	-0.60782	21.77094	20	10	5	
1206732033	-19.629	-43.41	Zircon	9.5281	24.5635	16	11	5	
1182030526	-27.099	-61.338	Zircon	2.3265	6.40126	16	11	5	
1168181561	-24.609	-36.936	Zircon	4.60666	30.89598	20	10	5	
1145091982	-27.099	-35.442	Zircon	1.96538	32.59982	19	12	5	
1122697439	-22.119	-59.346	Zircon	7.09178	8.58846	16	11	5	
1122596982	-26.601	-42.912	Zircon	2.66346	24.92974	16	11	5	
1116297886	-24.111	-62.334	Zircon	4.9485	5.62486	16	11	5	
1082556628	-14.649	-59.346	Zircon	14.85946	8.28102	16	11	5	
1025476826	-18.633	-55.86	Zircon	10.5485	11.93294	16	11	5	
1025252092	-27.099	-58.35	Zircon	2.08738	9.60886	16	11	5	
989493120	-13.653	-61.836	Zircon	15.89938	5.7715	16	11	5	
965185386	-12.159	-42.414	Zircon	17.1445	25.24718	16	11	5	
961538025	-21.621	-45.402	Zircon	7.45314	22.47878	16	11	5	
961431543	-21.621	-45.402	Zircon	7.83378	22.2055	16	11	5	
952704187	-15.645	-63.33	Zircon	13.81466	4.29702	16	11	5	
938021614	-11.163	-48.39	Zircon	17.97458	19.5347	16	11	5	
912957799	-22.119	-47.394	Zircon	6.9649	20.4331	16	11	5	
904574493	-29.589	-59.346	Zircon	-0.17814	8.44206	20	10	5	
853256768	-16.143	-43.41	Zircon	13.18978	24.50006	16	11	5	
820440159	-13.653	-54.864	Zircon	15.68466	12.94358	20	10	5	
806684307	-11.661	-59.844	Zircon	17.75474	8.1539	16	11	5	



Sample Number:	16-LV-013-1			Lab ID:	MI8173-NOV16:11				
n= 285	Stage X (mm)	Stage Y (mm)	Mineral	Particle X (mm)	Particle Y (mm)	Long Axis (µm)	Short Axis (µm)	Area (# 5 x 5 µm pixels)	
Top Left	-29.1728	-29.3317		0.1307	38.5198				
Bottom Right	-10.9268	-67.832		18.3767	0.0195				
Bottom Left Marker	-29.3035	-67.8515		0	0				
Top Right Marker	-8.8743	-28.9587		20.4292	38.8928				
804718469	-12.159	-55.86	Zircon	16.93954	11.7475	16	11		5
804342731	-11.163	-47.892	Zircon	18.06242	19.90094	15	15		5
804309855	-17.139	-49.884	Zircon	12.02298	17.8699	16	11		5
793129697	-30.087	-47.394	Zircon	-0.70054	20.51118	16	11		5
783680391	-24.609	-48.888	Zircon	4.75794	18.9147	16	11		5
736321727	-21.621	-35.442	Zircon	7.5605	32.54614	16	11		5
721740729	-12.657	-44.904	Zircon	16.86122	23.1915	16	11		5
690263455	-22.119	-50.382	Zircon	6.97466	17.69886	16	11		5
649077776	-18.633	-51.876	Zircon	10.7925	15.72174	24	5		5
487761978	-13.155	-45.9	Zircon	15.97282	22.00518	19	12		5
487110892	-28.095	-44.904	Zircon	1.23778	22.79622	16	11		5
482845550	-25.605	-48.39	Zircon	3.72778	19.28582	16	11		5
425752306	-16.143	-41.418	Zircon	13.04826	26.47742	16	11		5
402966694	-11.661	-55.86	Zircon	17.70106	11.97198	20	10		5
360576930	-14.649	-42.414	Zircon	14.76186	25.21302	20	10		5
347991887	-23.613	-60.84	Zircon	5.4465	6.93342	16	11		5
307913160	-11.661	-46.896	Zircon	17.56442	20.98966	16	11		5
249380346	-16.641	-35.94	Zircon	12.71618	31.94566	16	11		5
230041373	-14.649	-38.928	Zircon	14.57642	28.76246	16	11		5
227186590	-18.135	-61.338	Zircon	11.1685	6.55742	16	11		5
203838100	-16.143	-38.928	Zircon	13.37522	29.16262	16	11		5
192569995	-22.617	-57.354	Zircon	6.76946	10.35598	20	10		5
172665104	-19.629	-42.414	Zircon	9.81114	25.34478	16	11		5
132438032	-12.657	-55.86	Zircon	16.66114	12.19158	19	12		5
122331980	-21.123	-57.354	Zircon	8.14634	10.58534	16	11		5
114704613	-21.621	-61.836	Zircon	7.47266	5.86422	16	11		5
57729672	-17.139	-46.896	Zircon	12.39874	21.03358	16	11		5
9796580	-15.645	-53.868	Zircon	13.74146	14.13966	20	10		5
286062636	-11.163	-34.446	Monazite	18.10634	33.4299	33	17		11