

Table 3. This table contains the isotopic data for all DZHe ages shown in this paper per sample location.

Reduced (U-Th[Sm])/He Data				Price River Canyon										
Sample	mineral	Age, Ma	err., Ma	U (ppm)	Th (ppm)	147Sm (ppm)[U]e	Th/U	He (nmol/g)	mass (ug)	Ft	ESR	Final age 206 error		
z13pruc-01	zircon	236.19	18.90	187.23	143.60	0.48	220.28	0.77	205.46	2.89	0.72	41.62	577.20	4.60
z13pruc-04	zircon	126.35	10.11	53.34	32.92	1.58	60.92	0.62	30.98	3.35	0.74	44.72	1683.00	23.00
z13pruc-07	zircon	290.23	23.22	159.56	101.56	1.73	182.95	0.64	206.74	2.57	0.71	39.51	448.10	4.60
z13pruc-09	zircon	140.20	11.22	67.61	33.00	0.59	75.21	0.49	39.49	1.88	0.69	36.45	1720.30	8.50
z13pruc-14	zircon	274.27	21.94	46.58	32.03	1.72	53.96	0.69	59.22	3.24	0.73	42.78	1086.00	12.00
z13pruc-15	zircon	279.64	22.37	441.18	156.18	0.77	477.14	0.35	517.36	2.16	0.71	38.65	2487.90	4.90
z13pruc-20	zircon	324.83	25.99	103.62	33.76	0.52	111.39	0.33	157.81	6.38	0.79	55.53	1100.00	12.00
z13pruc-21	zircon	267.16	21.37	143.34	47.96	1.44	154.39	0.33	170.56	3.85	0.75	46.69	427.00	11.00
z13pruc-22	zircon	177.47	14.20	57.79	33.47	0.76	65.50	0.58	48.69	5.11	0.77	50.38	1069.00	12.00
z13pruc-27	zircon	397.21	31.78	402.96	15.36	0.97	406.50	0.04	638.13	2.28	0.71	38.76	412.90	3.20
z13pruc-36	zircon	120.21	9.62	221.97	81.64	1.01	240.76	0.37	114.32	3.03	0.73	41.94	1464.00	8.80
z13pruc-38	zircon	74.21	5.94	611.37	101.85	1.80	634.82	0.17	189.41	4.12	0.74	44.15	980.70	7.70
z13pruc-55	zircon	227.53	18.20	62.36	36.26	0.51	70.71	0.58	61.59	2.18	0.70	38.13	1467.00	13.00
z13pruc-62	zircon	168.46	13.48	62.64	49.53	1.14	74.04	0.79	50.06	3.41	0.73	44.20	1756.00	11.00
z13pruc-70	zircon	292.07	23.37	61.54	28.44	0.78	68.09	0.46	81.81	4.30	0.75	45.96	1047.00	11.00
z13pruc-73	zircon	71.09	5.69	351.33	136.67	4.17	382.81	0.39	115.44	6.20	0.78	53.84	1093.80	8.80
z13pruc-85	zircon	400.24	32.02	223.12	102.13	2.10	246.64	0.46	421.27	5.57	0.77	50.50	443.70	3.40
z13pruc-89	zircon	131.82	10.55	27.35	35.19	1.31	35.46	1.29	17.92	2.33	0.70	39.48	1055.00	14.00
z13pruc-94	zircon	388.40	31.07	169.03	145.74	1.89	202.59	0.86	309.29	2.65	0.71	40.11	1890.00	6.00
z13pruc-95	zircon	199.52	15.96	974.65	220.38	1.16	1025.39	0.23	846.32	4.08	0.76	47.21	1164.00	15.00
z13pruc-100	zircon	303.89	24.31	369.39	52.80	0.76	381.55	0.14	484.29	4.38	0.76	47.20	1969.50	7.40
z13pruc-117	zircon	212.37	16.99	207.32	133.25	0.87	238.00	0.64	202.03	3.52	0.73	43.11	523.00	5.20
z13pruc-118	zircon	327.67	26.21	85.29	37.50	0.45	93.93	0.44	120.45	2.49	0.71	39.44	1965.00	14.00
z11UPR01-6	zircon	132.49	10.60	98.91	37.32	0.39	107.50	0.38	56.97	3.09	0.73	43.45	1646.70	6.50
z11UPR01-10	zircon	217.87	17.43	63.40	50.54	1.00	75.03	0.80	59.03	1.44	0.66	33.51	1674.00	14.00
z11UPR01-11	zircon	92.41	7.39	129.62	47.24	1.01	140.50	0.36	45.96	1.32	0.65	32.06	1487.00	12.00
z11UPR01-14	zircon	116.46	9.32	441.84	172.20	1.67	481.49	0.39	228.03	4.28	0.75	45.93	447.00	5.00
z11UPR01-15	zircon	162.71	13.02	138.44	43.71	0.61	148.50	0.32	87.28	1.46	0.66	33.11	2199.00	11.00
z11UPR01-17	zircon	201.67	16.13	184.77	90.14	0.55	205.53	0.49	161.63	2.85	0.71	40.05	330.10	3.50
z11UPR01-21	zircon	214.12	17.13	88.12	63.25	1.31	102.69	0.72	77.69	1.36	0.65	31.94	1528.00	14.00
z11UPR01-22	zircon	218.37	17.47	233.09	81.33	1.93	251.82	0.35	206.99	2.07	0.69	36.21	1399.00	15.00
z11UPR01-26	zircon	84.02	6.72	116.75	63.66	4.95	131.43	0.55	41.84	2.40	0.70	37.94	1509.00	11.00
z11UPR01-28	zircon	332.80	26.62	173.56	77.50	0.95	191.40	0.45	251.06	2.46	0.71	40.17	407.30	3.40
z11UPR01-36	zircon	148.52	11.88	56.53	18.20	0.64	60.72	0.32	33.61	1.73	0.68	35.70	2738.90	7.40
z11UPR01-38	zircon	417.42	33.39	75.56	62.37	0.39	89.92	0.83	158.40	4.57	0.76	49.12	535.90	7.00
z11UPR01-49	zircon	145.35	11.63	277.85	32.51	0.98	285.33	0.12	152.58	1.58	0.68	34.12	430.70	3.80
z11UPR01-51	zircon	79.66	6.37	111.42	69.57	0.53	127.44	0.62	37.09	1.68	0.67	34.84	1681.00	10.00
z11UPR01-54	zircon	239.37	19.15	84.21	35.89	0.62	92.48	0.43	88.68	3.24	0.73	42.79	1254.30	9.90
z11UPR01-60	zircon	116.99	9.36	92.14	54.90	1.50	104.78	0.60	44.96	1.63	0.67	34.95	2260.90	8.20
z11UPR01-65	zircon	154.53	12.36	105.19	103.68	1.58	129.07	0.99	77.17	2.67	0.71	40.12	429.50	4.70
z11UPR01-66	zircon	83.25	6.66	359.26	128.43	0.42	388.83	0.36	117.14	1.57	0.67	33.69	90.80	1.40
z11UPR01-69	zircon	102.83	8.23	186.20	41.70	0.76	195.80	0.22	79.91	3.07	0.73	42.33	1290.00	13.00
z11UPR01-77	zircon	223.06	17.84	188.63	32.97	1.01	196.23	0.17	165.68	1.86	0.69	36.26	1947.10	6.70
z11UPR01-78	zircon	400.87	32.07	185.90	12.80	0.62	188.85	0.07	325.88	5.20	0.77	50.65	1159.70	8.90
z11UPR01-80	zircon	134.73	10.78	217.16	132.80	0.64	247.74	0.61	128.79	2.59	0.71	39.57	1620.80	7.00
z11UPR01-84	zircon	190.76	15.26	162.68	71.52	0.82	179.15	0.44	126.60	1.77	0.68	35.17	1847.20	9.90
z11UPR01-89	zircon	99.79	7.98	50.77	25.22	0.52	56.58	0.50	20.74	1.70	0.68	35.01	2734.60	8.10
z11UPR01-98	zircon	333.83	26.71	236.01	66.38	0.66	251.29	0.28	320.81	1.86	0.69	36.79	1513.80	5.90
z11UPR01-107	zircon	161.32	12.91	314.81	121.13	0.90	342.69	0.38	188.00	0.99	0.62	29.35	240.20	2.60
z11UPR01-117	zircon	79.63	6.37	65.55	41.40	0.68	75.08	0.63	21.31	1.47	0.66	32.97	449.90	5.00
z11UPR01-121	zircon	241.50	19.32	65.99	53.40	1.30	78.29	0.81	65.92	1.28	0.64	31.07	529.50	8.10
z11UPR02-1	zircon	135.12	10.81	30.97	22.99	0.52	36.27	0.74	17.46	1.53	0.65	32.84	1363.00	17.00
z11UPR02-2	zircon	316.32	25.31	128.69	72.63	1.09	145.41	0.56	186.76	3.25	0.74	44.10	1782.60	5.20
z11UPR02-9	zircon	398.78	31.90	131.29	44.21	0.74	141.47	0.34	215.99	1.99	0.69	36.61	1195.30	8.80
z11UPR02-13	zircon	226.96	18.16	170.36	91.82	2.71	191.51	0.54	159.99	1.81	0.67	34.62	1438.00	12.00
z11UPR02-15	zircon	93.09	7.45	311.16	72.89	0.86	327.94	0.23	111.70	1.58	0.67	34.25	1068.00	14.00
z11UPR02-21	zircon	190.35	15.23	188.77	82.85	0.99	207.84	0.44	147.05	1.72	0.68	35.44	1341.50	9.80
z11UPR02-25	zircon	225.74	18.06	161.96	88.76	1.42	182.40	0.55	158.43	2.15	0.70	38.59	1591.00	51.00
z11UPR02-29	zircon	93.32	7.47	40.81	26.27	0.61	46.86	0.64	16.65	2.22	0.70	38.50	1761.10	8.90
z11UPR02-31	zircon	297.45	23.80	235.61	61.68	1.31	249.82	0.26	279.95	1.82	0.69	35.63	1745.90	6.70
z11UPR02-32	zircon	212.61	17.01	94.79	22.66	0.79	100.01	0.24	84.93	2.86	0.73	42.21	1353.00	11.00
z11UPR02-41	zircon	213.61	17.09	299.88	132.30	1.26	330.34	0.44	266.19	1.98	0.69	36.61	1790.00	19.00
z11UPR02-43	zircon	291.87	23.35	205.37	104.45	0.75	229.42	0.51	257.40	2.27	0.70	38.01	426.70	6.40
z11UPR02-44	zircon	297.19	23.78	131.25	43.76	2.35	141.33	0.33	161.80	2.23	0.70	37.83	488.40	4.90
z11UPR02-51	zircon	353.90	28.31	102.47	173.60	3.23	142.45	1.69	180.13	1.55	0.65	32.82	549.00	11.00
z11UPR02-54	zircon	86.23	6.90	340.14	254.71	0.59	398.78	0.75	128.90	2.12	0.69	37.		

z11UPR03-28	zircon	249.25	19.94	345.36	127.14	2.03	374.63	0.37	395.26	5.72	0.77	50.88	332.10	5.60
z11UPR03-29	zircon	1077.92	86.23	61.84	37.07	0.54	70.37	0.60	343.69	5.50	0.77	50.60	1626.00	20.00
z11UPR03-26	zircon	162.10	12.97	63.63	60.74	0.74	77.62	0.95	53.63	5.98	0.78	54.35	367.90	8.00
z11UPR03-22	zircon	441.72	35.34	413.73	320.90	3.27	487.62	0.78	880.37	3.31	0.73	44.14	1461.00	28.00
z11UPR03-24	zircon	383.13	30.65	228.14	162.20	3.11	265.50	0.71	415.29	3.57	0.74	44.44	404.80	7.10
z11UPR03-34	zircon	269.13	21.53	172.11	88.80	1.15	192.56	0.52	216.82	4.90	0.76	48.93	635.00	14.00
z11UPR03-36	zircon	1321.26	105.70	50.90	61.16	2.01	64.99	1.20	406.54	8.00	0.78	55.77	3601.00	15.00
z11UPR03-37	zircon	249.46	19.96	285.83	93.64	0.60	307.39	0.33	309.82	3.44	0.74	43.58	1064.00	17.00
z11UPR03-38	zircon	496.73	39.74	45.26	26.28	1.45	51.32	0.58	112.02	6.78	0.78	54.89	1055.00	17.00
z11UPR03-53	zircon	453.96	36.32	137.92	95.64	0.87	159.94	0.69	308.88	5.43	0.76	49.77	422.10	9.60
z11UPR03-59	zircon	452.96	36.24	142.77	38.18	0.96	151.57	0.27	294.47	5.24	0.77	50.07	1061.00	19.00
z11UPR03-62	zircon	394.44	31.56	208.60	47.54	8.88	219.59	0.23	352.21	2.96	0.73	42.73	1045.00	19.00
z11UPR03-64	zircon	370.81	29.66	99.86	49.79	0.64	111.32	0.50	175.25	5.12	0.77	50.09	579.90	9.70
z11UPR03-79	zircon	312.25	24.98	324.87	188.07	0.91	368.17	0.58	476.64	4.25	0.75	47.13	341.10	5.20
z11UPR03-97	zircon	1125.45	90.04	198.48	53.27	0.58	210.74	0.27	1031.99	3.06	0.73	42.95	1050.00	14.00
z11UPR03-115	zircon	342.54	27.40	265.94	206.53	1.81	313.49	0.78	435.26	3.44	0.73	43.97	328.30	7.00
z11UPR03-121	zircon	157.81	12.62	87.81	62.70	12.89	102.31	0.71	65.38	3.99	0.74	45.39	1523.00	24.00
z11UPR04-06	zircon	195.53	15.64	33.57	30.65	3.33	40.64	0.91	27.23	1.23	0.63	30.26	571.00	15.00
z11UPR04-12	zircon	491.31	39.30	113.74	22.93	2.30	119.03	0.20	212.97	1.33	0.65	31.89	1716.00	18.00
z11UPR04-13	zircon	349.53	27.96	61.62	35.17	4.68	69.74	0.57	90.47	1.75	0.67	34.69	2129.00	22.00
z11UPR04-17	zircon	302.12	24.17	163.17	78.84	4.43	181.34	0.48	201.79	1.62	0.67	34.21	485.50	9.30
z11UPR04-18	zircon	332.78	26.62	108.73	38.13	2.94	117.52	0.35	146.20	1.74	0.68	34.98	1563.00	30.00
z11UPR04-19	zircon	279.65	22.37	142.68	53.40	10.10	155.02	0.37	142.89	0.91	0.60	27.35	605.00	10.00
z11UPR04-21	zircon	333.29	26.66	104.93	38.17	3.33	113.73	0.36	139.86	1.85	0.67	33.96	1797.00	18.00
z11UPR04-26	zircon	289.07	23.13	95.03	54.07	4.52	107.50	0.57	111.47	1.36	0.65	32.47	2694.00	11.00
z11UPR04-28	zircon	406.24	32.50	71.91	34.63	3.31	79.90	0.48	115.86	1.24	0.64	31.53	1619.00	22.00
z11UPR04-37	zircon	558.30	44.66	68.74	32.58	2.88	76.26	0.47	163.52	1.78	0.69	36.17	1072.00	21.00
z11UPR04-39	zircon	99.43	7.95	58.62	19.37	3.87	63.10	0.33	21.36	1.06	0.63	29.51	2850.00	16.00
z11UPR04-47	zircon	225.08	18.01	270.86	171.48	8.02	310.38	0.63	254.56	2.17	0.67	33.97	338.10	6.70
z11UPR04-50	zircon	172.90	13.83	176.15	199.21	9.09	222.05	1.13	133.49	1.24	0.64	31.38	1655.00	14.00
z11UPR04-57	zircon	169.88	13.59	111.36	72.37	5.51	128.04	0.65	81.86	2.05	0.69	36.94	1470.00	26.00
z11UPR04-59	zircon	283.92	22.71	168.51	199.26	10.01	214.43	1.18	211.25	1.13	0.63	30.92	617.00	11.00
z11UPR04-64	zircon	631.38	50.51	110.60	27.52	3.27	116.95	0.25	259.88	0.94	0.63	29.33	1054.00	21.00
z11UPR04-65	zircon	273.27	21.86	86.43	74.36	3.39	103.56	0.86	109.07	2.42	0.70	38.84	425.40	7.60
z11UPR04-73	zircon	421.76	33.74	232.43	171.89	14.06	272.07	0.74	435.30	1.90	0.68	36.35	415.20	7.50
z11UPR04-76	zircon	90.82	7.27	153.69	86.75	5.74	173.69	0.56	53.91	1.07	0.63	30.12	1091.00	17.00
z11UPR04-82	zircon	348.97	27.92	145.59	42.58	4.49	155.41	0.29	215.23	2.73	0.72	40.44	375.60	6.70
z11UPR04-93	zircon	153.92	12.31	130.71	77.19	4.34	148.50	0.59	74.85	0.94	0.60	27.67	1508.00	18.00
z11UPR05-X	NO DATA: ZIRCON GRAINS SMALLER THAN < 30 um													
z11UPR06-3	zircon	310.10	24.81	89.06	72.06	0.84	105.66	0.81	135.99	4.29	0.75	47.68	1780.00	12.00
z11UPR06-4	zircon	78.23	6.26	204.86	54.53	1.09	217.42	0.27	66.04	2.58	0.72	40.03	623.80	9.10
z11UPR06-9	zircon	428.55	34.28	67.36	10.54	1.34	69.79	0.16	120.28	2.62	0.72	40.84	1061.00	11.00
z11UPR06-10	zircon	369.66	29.57	80.72	38.58	0.55	89.60	0.48	135.59	3.48	0.74	44.51	1594.00	17.00
z11UPR06-13	zircon	324.74	25.98	129.44	48.71	0.75	140.66	0.38	188.43	4.04	0.75	45.81	655.90	5.80
z11UPR06-17	zircon	82.69	6.62	230.07	110.01	0.91	255.40	0.48	82.96	2.85	0.72	41.77	98.00	2.00
z11UPR06-19	zircon	284.86	22.79	104.89	32.93	0.25	112.47	0.31	120.46	1.79	0.68	35.66	411.20	5.10
z11UPR06-20	zircon	79.64	6.37	160.04	94.64	5.05	181.85	0.59	57.92	3.41	0.74	44.24	1676.80	9.10
z11UPR06-22	zircon	329.04	26.32	72.16	29.56	0.46	78.97	0.41	103.40	2.69	0.72	41.20	2608.10	7.60
z11UPR06-23	zircon	333.27	26.66	113.49	41.57	0.77	123.06	0.37	169.37	3.80	0.75	45.85	1676.00	11.00
z11UPR06-28	zircon	223.41	17.87	148.62	55.35	1.44	161.37	0.37	148.65	4.15	0.75	46.83	2605.80	6.50
z11UPR06-33	zircon	282.44	22.59	117.51	71.13	0.98	133.88	0.61	147.61	2.44	0.71	39.78	1067.00	11.00
z11UPR06-38	zircon	91.68	7.33	129.93	36.12	0.90	138.25	0.28	51.49	3.82	0.75	45.77	1699.80	8.90
z11UPR06-53	zircon	125.44	10.04	232.50	31.14	1.00	239.68	0.13	124.58	4.40	0.76	48.06	1703.40	9.40
z11UPR06-55	zircon	81.87	6.55	451.21	160.12	0.87	488.08	0.35	156.77	2.98	0.72	41.40	80.90	4.50
z11UPR06-62	zircon	323.09	25.85	105.58	85.84	2.02	125.35	0.81	155.78	2.18	0.70	38.29	1786.00	10.00
z11UPR06-65	zircon	318.15	25.45	59.61	33.87	2.77	67.42	0.57	86.47	3.64	0.73	43.15	1027.00	15.00
z11UPR06-67	zircon	299.88	23.99	94.46	64.89	0.95	109.40	0.69	126.10	2.14	0.70	38.22	2722.00	11.00
z11UPR06-69	zircon	79.85	6.39	138.70	66.89	0.40	154.10	0.48	50.04	3.89	0.75	46.45	94.20	1.80
z11UPR06-76	zircon	347.19	27.77	78.70	47.61	0.60	89.66	0.61	122.03	2.45	0.71	39.77	1655.00	17.00
z11UPR06-77	zircon	139.55	11.16	160.22	61.09	1.07	174.29	0.38	93.27	2.21	0.70	38.53	2198.00	10.00
z11UPR06-79	zircon	354.10	28.33	101.50	80.31	1.04	119.99	0.79	174.76	3.82	0.74	45.85	437.10	4.70
z11UPR06-93	zircon	183.36	14.67	196.87	48.42	0.87	208.02	0.25	155.16	4.22	0.74	44.94	463.00	10.00
z11UPR06-102	zircon	214.56	17.16	33.84	27.88	0.98	40.27	0.82	34.88	3.63	0.74	44.62	493.20	7.90
z11UPR06-114	zircon	340.03	27.20	268.18	156.84	5.41	304.32	0.58	402.55	2.22	0.70	38.99	1730.10	7.80
z11UPR06-120	zircon	418.04	33.44	130.65	50.44	0.49	142.27	0.39	235.11	2.33	0.71	39.71	625.80	6.70
z11UPR07-6	zircon	128.10	10.25	37.80	18.66	1.02	42.10	0.49	18.92	1.29	0.64	31.54	1016.00	14.00
z11UPR07-9	zircon	293.05	23.44	178.34	59.51	1.37	192.05	0.33	225.66	3.04	0.73	42.23	1242.00	

z11UPR07-89	zircon	627.03	50.16	50.23	15.30	0.49	53.75	0.30	121.49	1.14	0.64	30.87	556.00	21.00
z11UPR07-95	zircon	113.81	9.10	219.65	72.69	3.21	236.40	0.33	96.53	1.33	0.66	32.86	1710.10	9.50
z11UPR07-96	zircon	187.06	14.96	73.90	79.90	1.23	92.30	1.08	59.99	1.19	0.64	31.27	614.00	13.00
z11UPR07-100	zircon	121.24	9.70	66.17	37.32	1.03	74.77	0.56	31.13	1.10	0.63	30.30	1197.00	16.00
z11UPR07-106	zircon	185.34	14.83	66.01	26.53	0.68	72.12	0.40	45.49	0.99	0.62	29.34	2747.00	13.00
z11UPR07-114	zircon	704.33	56.35	46.48	25.33	0.79	52.31	0.55	136.01	1.42	0.65	32.52	875.00	26.00
z11UPR07-115	zircon	185.47	14.84	27.29	28.62	2.21	33.89	1.05	21.91	1.22	0.64	31.45	2979.80	7.80
z11UPR07-116	zircon	186.69	14.94	121.61	118.22	1.96	148.84	0.97	97.07	1.27	0.64	31.53	1492.00	14.00
z11UPR07-118	zircon	248.79	19.90	19.97	16.51	1.14	23.77	0.83	20.52	1.08	0.63	30.76	2662.00	33.00
zPanther-02	zircon	339.02	27.12	74.39	55.08	1.53	87.08	0.74	119.80	3.32	0.73	44.09	503.10	5.60
zPanther-05	zircon	118.97	9.52	164.89	97.72	2.68	187.40	0.59	82.54	1.89	0.68	35.70	1682.00	14.00
zPanther-07	zircon	407.55	32.60	76.75	26.30	1.53	82.81	0.34	137.29	3.30	0.73	42.99	2867.00	13.00
zPanther-08	zircon	368.70	29.50	242.55	195.68	4.40	287.62	0.81	422.68	2.76	0.72	41.73	576.30	5.00
zPanther-11	zircon	283.55	22.68	254.46	156.58	4.88	290.53	0.62	331.95	3.11	0.73	43.48	384.50	4.00
zPanther-15	zircon	149.90	11.99	71.44	75.18	4.50	88.77	1.05	52.07	2.70	0.72	41.43	1615.00	22.00
zPanther-31	zircon	263.39	21.07	170.76	81.75	5.12	189.60	0.48	192.25	2.37	0.70	38.28	418.60	4.50
zPanther-46	zircon	227.83	18.23	147.90	90.21	6.10	168.70	0.61	144.24	1.83	0.68	36.33	1895.00	28.00
zPanther-48	zircon	129.03	10.32	257.40	153.36	6.35	292.74	0.60	139.32	1.75	0.68	35.35	1042.00	11.00
zPanther-52	zircon	554.41	44.35	53.32	49.03	5.97	64.64	0.92	143.26	2.88	0.71	40.75	975.00	11.00
zPanther-55	zircon	317.98	25.44	198.10	36.06	8.28	206.44	0.18	257.90	2.45	0.71	39.27	373.30	4.80
zPanther-59	zircon	90.20	7.22	61.47	31.44	1.79	68.72	0.51	24.97	3.95	0.74	45.06	1573.00	24.00
zPanther-60	zircon	206.63	16.53	202.91	46.60	4.77	213.66	0.23	168.16	2.12	0.70	37.09	923.00	7.20
zPanther-64	zircon	308.52	24.68	123.13	60.24	2.21	137.01	0.49	180.57	5.49	0.77	52.03	1691.00	12.00
zPanther-65	zircon	851.27	68.10	37.04	15.89	1.79	40.71	0.43	139.01	2.26	0.70	37.87	970.00	12.00
zPanther-67	zircon	169.31	13.54	102.68	75.96	1.93	120.18	0.74	79.31	2.62	0.71	40.60	500.20	5.80
zPanther-73	zircon	225.75	18.06	88.88	48.91	2.38	100.15	0.55	88.50	2.55	0.71	40.39	583.60	9.00
zPanther-76	zircon	260.08	20.81	161.03	86.09	3.90	180.87	0.53	180.72	2.34	0.70	38.19	404.10	4.60
zPanther-90	zircon	375.53	30.04	209.49	114.02	6.69	235.77	0.54	331.34	1.97	0.68	35.19	1664.00	16.00
zPanther-96	zircon	107.49	8.60	99.42	56.09	3.92	112.35	0.56	46.95	2.58	0.71	40.51	1730.00	16.00
zPanther-103	zircon	152.97	12.24	119.63	45.57	8.17	130.16	0.38	77.61	2.60	0.71	40.15	1786.00	12.00
zPanther-120	zircon	189.21	15.14	68.04	105.73	20.41	92.48	1.55	64.16	1.69	0.67	35.25	2482.00	22.00

Reduced (U-Th[Sm])/He Data

N San Rafael Swell

Sample	mineral	Age, Ma	err., Ma	U (ppm)	Th (ppm)	147Sm (pp [U]e	Th/U	He (nmol/g mass (ug)	Ft	ESR	Final age 2 error			
z11UCCR04-4	zircon	290.73	23.26	32.12	31.04	0.89	39.27	0.97	43.11	2.25	0.69	36.92	1682.00	17.00
z11UCCR04-6	zircon	159.16	12.73	205.56	72.31	0.99	222.21	0.35	146.55	4.51	0.76	48.29	1753.40	9.20
z11UCCR04-8	zircon	972.64	77.81	38.76	24.52	0.68	44.41	0.63	184.66	3.58	0.73	44.02	376.90	4.70
z11UCCR04-10	zircon	380.61	30.45	60.53	24.42	0.75	66.15	0.40	100.44	3.11	0.72	41.04	1078.30	9.30
z11UCCR04-14	zircon	151.15	12.09	94.11	52.45	1.12	106.19	0.56	64.98	4.67	0.74	45.23	1070.10	7.30
z11UCCR04-15	zircon	194.50	15.56	27.34	21.66	0.70	32.33	0.79	25.97	4.79	0.75	48.14	1066.00	13.00
z11UCCR04-17	zircon	132.83	10.63	99.81	69.02	0.63	115.71	0.69	58.75	2.46	0.70	38.73	988.40	8.70
z11UCCR04-19	zircon	189.47	15.16	73.44	62.35	0.87	87.80	0.85	69.44	4.71	0.76	49.99	2807.00	5.90
z11UCCR04-22	zircon	359.26	28.74	73.81	54.70	0.63	86.40	0.74	125.56	3.50	0.73	43.50	613.80	8.90
z11UCCR04-24	zircon	265.31	21.23	93.10	31.37	1.00	100.33	0.34	111.16	4.88	0.76	48.26	1776.00	6.90
z11UCCR04-30	zircon	151.64	12.13	100.12	65.74	1.44	115.26	0.66	73.51	5.43	0.77	51.55	1473.90	7.40
z11UCCR04-34	zircon	316.95	25.36	188.04	185.62	1.40	230.77	0.99	286.71	2.78	0.71	40.45	635.20	5.90
z11UCCR04-36	zircon	154.77	12.38	113.34	63.68	1.49	128.01	0.56	83.54	5.55	0.77	51.82	1443.00	14.00
z11UCCR04-40	zircon	299.56	23.96	185.28	101.99	0.54	208.76	0.55	258.70	5.13	0.75	46.88	610.00	7.70
z11UCCR04-42	zircon	121.68	9.73	130.43	75.03	2.08	147.71	0.58	67.30	2.40	0.69	36.67	1434.00	14.00
z11UCCR04-49	zircon	335.71	26.86	76.67	34.92	0.63	84.71	0.46	120.36	4.76	0.77	49.92	1094.60	9.30
z11UCCR04-51	zircon	433.70	34.70	31.25	18.73	0.33	35.56	0.60	66.65	5.97	0.78	52.65	1465.00	15.00
z11UCCR04-54	zircon	144.42	11.55	163.49	56.07	1.05	176.40	0.34	101.73	3.39	0.73	43.04	1099.00	8.50
z11UCCR04-64	zircon	413.90	33.11	32.42	13.21	0.58	35.47	0.41	58.54	2.88	0.72	40.74	1073.00	16.00
z11UCCR04-66	zircon	305.49	24.44	68.21	53.15	1.33	80.45	0.78	95.28	2.41	0.70	39.14	2684.80	5.20
z11UCCR04-72	zircon	368.89	29.51	73.02	37.05	0.75	81.55	0.51	131.56	6.49	0.79	55.87	2476.00	7.10
z11UCCR04-80	zircon	117.44	9.40	33.44	28.08	0.64	39.91	0.84	19.27	4.67	0.75	48.26	1074.00	12.00
z11UCCR04-83	zircon	683.55	54.68	96.21	63.70	1.63	110.88	0.66	318.85	3.48	0.74	45.30	1458.00	11.00
z11UCCR04-84	zircon	312.35	24.99	47.80	15.42	0.11	51.35	0.32	68.24	4.93	0.77	50.80	2073.60	6.70
z11UCCR04-85	zircon	148.78	11.90	42.31	12.45	1.90	45.19	0.29	27.16	3.64	0.74	44.44	1677.00	14.00
z11UCCR04-92	zircon	289.76	23.18	280.53	162.59	0.69	317.96	0.58	387.85	5.18	0.76	49.85	294.40	3.40
z11UCCR04-99	zircon	330.27	26.42	52.06	34.54	0.69	60.01	0.66	77.58	2.73	0.71	39.82	481.30	5.60
z11UCCR04-101	zircon	686.66	54.93	54.89	46.78	1.63	65.67	0.85	193.41	4.52	0.75	48.44	2128.10	8.50
z11UCCR04-107	zircon	144.54	11.56	233.83	146.63	1.39	267.59	0.63	161.16	4.80	0.76	49.91	1188.10	6.60
z11UCCR04-108	zircon	83.80	6.70	113.37	90.95	5.11	134.34	0.80	43.73	2.74	0.71	40.86	1231.00	21.00
z11UCCR04-110	zircon	147.43	11.79	192.24	28.62	0.86	198.83	0.15	121.07	4.47	0.76	47.32	1695.00	10.00
z11UCCR04-112	zircon	135.27	10.82	236.64	246.21	14.33	293.39	1.04	146.45	1.83	0.68	35.77	433.80	4.90
z11UCCR04-121	zircon	220.01	17.60	71.83	31.46	0.63	79.08	0.44	70.32	3.25	0.74	44.15	2722.10	8.00
z11UCCF03-01	zircon	162.38	12.99	132.09	50.89	1.18	143.81	0.39	83.67	1.45	0.66	32.65	560.90	6.30
z11UCCF03-02	zircon	216.75	17.34	214.34	101.17	1.82	237.63	0.47	180.54	1.33	0.64	31.10	630.50	8.20
z11UCCF03-03	zircon	291.53	23.32	35.74	10.85	0.39	38.24	0.30	43.24	2.17	0.71	38.49	1044.00	12.00
z11UCCF03-05	zircon	296.47	23.72	296.64	64.35	1.14	311.45	0.22	304.91	0.87	0.60	27.10	1737.80	6.20
z11UCCF03-07	zircon	138.98	11.12	120.58	53.54	0.30	132.91	0.44	61.75	0.95	0.61	28.58	91.80	1.40
z11UCCF03-10	zircon	123.49	9.88	175.66	72.66	1.89	192.40	0.41	86.39	2.03	0.67	33.96	85.60	3.20
z11UCCF03-21	zircon	142.44	11.40	189.92	72.03	1.31	206.51	0.38	106.01	1.41	0.66	33.15	1084.00	12.00
z11UCCF03-29	zircon	574.47	45.96	142.73	74.60	1.73	159.91	0.52	325.92	1.15	0.63	30.55	1013.60	7.30
z11UCCF03-41	zircon	291.72	23.34	199.42	89.09	0.67	219.93	0.45	230.04	1.27	0.65	32.25	554.70	4.60
z11UCCF03-43	zircon	190.55	15.24	84.95	39.90	0.62	94.14	0.47	67.51	1.83	0.69	36.58	581.20	8.70
z11UCCF03-55	zircon	92.89	7.43	344.15	117.86	0.49	371.28	0.34	119.38	1.17	0.64	30.56	82.10	5.40
z11UCCF03-58	zircon	97.48	7.80	543.09	321.13	0.74	617.02	0.59	203.50	0.97	0.62	29.55	93.80	1.10
z11UCCF03-68	zircon	236.36	18.91	102.48	28.10	0.83	108.96	0.27	102.90	2.80	0.73	42.15	1000.00	8.80
z11UCCF03-81	zircon	391.53	31.32	134.38	50.14	0.38	145.93	0.37	187.28	0.75	0.59	26.79	1991.00	24.00
z11UCCF03-84	zircon	259.60	20.77	230.83	39.16	2.11	239.86	0.17	208.73	0.82	0.61	27.85	1834.20	6.90
z11UCCF03-91	zircon	403.01	32.24	404.56	123.46	1.18	432.98	0.31	662.29	1.72	0.69	35.75	1229.40	9.50
z11UCCF03-107	zircon	220.94	17.68	106.65	36.22	0.96	114.99	0.34	88.21	1.05	0.64	30.28	1774.00	10.00
z11UCCF03-115	zircon	86.85	6.95	457.72	233.20	0.51	511.40	0.51	153.36	1.14	0.64	30.68	83.70	3.30
z13EMERY-06	zircon	189.48	15.16	176.43	85.15	7.68	196.07	0.48	130.66	1.20	0.64	31.43	1645.00	16.00
z13EMERY-10	zircon	165.25	13.22	73.31	76.84	4.35	91.02	1.05	51.89	1.18	0.63	30.87	1637.00	22.00
z13EMERY-11	zircon	163.21	13.06	186.05	38.27	8.33	194.91	0.21	108.68	0.98	0.63	29.26	417.90	8.80
z13EMERY-14	zircon	236.33	18.91	164.87	112.89	4.62	190.88	0.68	166.42	1.77	0.67	34.94	1022.00	13.00
z13EMERY-16	zircon	488.06	39.04	77.33	43.93	4.79	87.46	0.57	150.46	1.07	0.63	30.56	1644.00	18.00
z13EMERY-20	zircon	347.70	27.82	133.20	25.11	2.77	138.99	0.19	179.44	1.48	0.67	33.97	703.30	9.60
z13EMERY-24	zircon	113.07	9.05	220.42	116.16	2.91	247.18	0.53	89.23	0.70	0.59	26.52	1958.00	21.00
z13EMERY-26	zircon	248.16	19.85	465.28	148.15	4.65	499.40	0.32	389.96	0.66	0.58	25.29	1059.00	10.00
z13EMERY-35	zircon	384.33	30.75	215.57	76.63	15.98	233.30	0.36	308.38	0.96	0.62	29.18	1429.00	18.00
z13EMERY-38	zircon	161.47	12.92	61.87	49.16	5.87	73.21	0.79	39.03	0.87	0.61	28.26	1590.00	23.00
z13EMERY-40	zircon	246.30	19.70	64.43	40.25	4.29	73.72	0.62	57.86	0.72	0.58	26.23	2110.00	17.00
z13EMERY-42	zircon	164.15	13.13	26.96	46.20	4.50	37.61	1.71	21.03	1.14	0.62	30.43	2718.00	23.00
z13EMERY-45	zircon	197.23	15.78	60.47	34.72	1.98	68.47	0.57	46.02	1.03	0.62	29.62	592.30	8.20
z13EMERY-46	zircon	155.67	12.45	199.02	71.84	7.68	215.59	0.36	11					

z11UCCF04-12	zircon	86.33	6.91	223.13	131.49	0.92	253.40	0.59	70.83	0.85	0.60	27.30	88.40	1.30
z11UCCF04-31	zircon	413.48	33.08	232.82	52.70	0.44	244.95	0.23	387.12	1.78	0.69	36.09	992.70	7.10
z11UCCF04-33	zircon	76.45	6.12	205.77	98.17	0.42	228.38	0.48	62.39	1.60	0.66	32.98	91.60	1.30
z11UCCF04-37	zircon	2924.42	233.95	67.62	34.21	0.92	75.50	0.51	1092.84	0.85	0.60	27.19	2850.70	8.30
z11UCCF04-42	zircon	1049.69	83.98	24.71	7.99	0.24	26.55	0.32	99.88	0.94	0.62	28.80	2699.00	16.00
z11UCCF04-43	zircon	967.81	77.42	32.93	24.05	28.95	38.61	0.73	148.60	1.85	0.69	36.77	1069.70	7.50
z11UCCF04-44	zircon	296.22	23.70	154.18	145.05	2.31	187.58	0.94	181.63	1.01	0.59	27.55	421.90	3.70
z11UCCF04-67	zircon	193.88	15.51	178.41	203.05	3.39	225.17	1.14	138.59	0.78	0.58	26.59	684.90	7.10
z11UCCF04-76	zircon	205.45	16.44	211.66	80.20	1.21	230.13	0.38	160.02	0.91	0.62	28.94	461.30	4.60
z11UCCF04-79	zircon	198.50	15.88	113.26	18.32	0.78	117.48	0.16	82.86	1.27	0.65	31.45	414.70	6.50
z11UCCF04-80	zircon	250.72	20.06	30.40	32.08	0.71	37.79	1.06	32.30	1.08	0.62	29.92	2657.00	10.00
z11UCCF04-90	zircon	151.45	12.12	87.86	30.24	1.49	94.83	0.34	53.13	1.63	0.68	35.08	1638.00	13.00
z11UCCF04-97	zircon	100.32	8.03	0.52	0.58	0.10	0.66	1.11	0.23	1.08	0.63	30.76	1490.10	8.80
z11UCCF04-101	zircon	145.05	11.60	39.24	22.72	1.01	44.48	0.58	22.48	1.31	0.64	31.15	1487.00	16.00
z11UCCF04-106	zircon	268.57	21.49	230.07	114.83	3.69	256.52	0.50	242.03	1.17	0.64	31.09	612.10	9.30
z11UCCF04-107	zircon	179.38	14.35	59.53	15.34	0.66	63.06	0.26	41.64	1.51	0.67	34.34	1773.00	14.00
z11UCCF04-111	zircon	156.63	12.53	30.50	32.85	0.71	38.06	1.08	20.79	1.24	0.64	31.60	444.60	6.50
z11UCCF04-118	zircon	629.34	50.35	24.90	31.27	1.02	32.10	1.26	70.21	1.08	0.62	29.95	1117.00	23.00

Reduced (U-Th[Sm])/He Data

Sunnyside Canyon

Sample	mineral	Age, Ma	err., Ma	U (ppm)	Th (ppm)	147Sm (pp [U]e)	Th/U	He (nmol/g mass (ug)	Ft	ESR	Final age 2 error			
z11USS01-1	zircon	239.29	19.14	119.10	11.78	0.50	121.82	0.10	118.50	4.61	0.74	43.79	428.40	5.20
z11USS01-4	zircon	133.55	10.68	786.08	947.37	6.67	1004.20	1.21	538.44	4.49	0.73	44.88	382.00	12.00
z11USS01-6	zircon	291.32	23.31	26.58	17.01	0.80	30.50	0.64	36.49	3.74	0.75	46.02	546.10	8.70
z11USS01-8	zircon	336.87	26.95	78.76	50.14	0.46	90.30	0.64	123.77	3.28	0.74	44.30	1853.00	12.00
z11USS01-13	zircon	373.56	29.88	50.22	29.85	2.21	57.10	0.59	87.07	3.45	0.74	44.30	566.50	9.10
z11USS01-14	zircon	323.81	25.91	38.08	12.91	0.77	41.05	0.34	59.05	8.12	0.80	59.90	974.00	19.00
z11USS01-15	zircon	230.91	18.47	69.21	22.54	0.38	74.40	0.33	70.70	3.93	0.75	46.34	1925.00	16.00
z11USS01-17	zircon	68.86	5.51	435.07	135.26	1.30	466.21	0.31	129.65	4.25	0.75	45.21	87.40	4.00
z11USS01-19	zircon	183.35	14.67	311.73	39.69	0.62	320.87	0.13	238.35	3.31	0.74	44.00	1005.00	11.00
z11USS01-20	zircon	152.71	12.22	161.61	56.18	0.82	174.54	0.35	106.28	3.09	0.73	42.79	1090.00	18.00
z11USS01-21	zircon	381.32	30.51	67.52	38.37	1.34	76.36	0.57	114.10	2.41	0.71	39.42	1655.50	9.50
z11USS01-25	zircon	196.78	15.74	367.52	178.24	1.62	408.55	0.48	341.37	5.70	0.78	52.46	433.60	3.80
z11USS01-28	zircon	122.83	9.83	127.28	67.06	0.66	142.72	0.53	71.74	4.18	0.75	47.06	1627.30	9.90
z11USS01-35	zircon	90.22	7.22	280.23	113.62	0.61	306.39	0.41	114.24	5.05	0.76	48.78	96.60	1.40
z11USS01-37	zircon	125.40	10.03	524.04	224.83	1.44	575.80	0.43	292.71	4.48	0.74	45.45	153.00	7.30
z11USS01-38	zircon	186.48	14.92	40.05	24.57	0.43	45.71	0.61	36.55	6.20	0.78	54.80	2700.20	7.40
z11USS01-40	zircon	552.61	44.21	65.94	23.28	0.53	71.30	0.35	177.67	8.48	0.80	58.85	1801.00	14.00
z11USS01-44	zircon	116.48	9.32	89.77	55.85	1.33	102.63	0.62	46.90	2.85	0.72	41.57	1131.00	11.00
z11USS01-45	zircon	206.54	16.52	178.98	97.58	1.15	201.45	0.55	169.27	3.79	0.74	45.38	1034.00	21.00
z11USS01-47	zircon	84.72	6.78	231.40	117.74	0.62	258.50	0.51	92.66	6.12	0.78	53.36	84.80	2.00
z11USS01-48	zircon	221.70	17.74	719.92	455.02	2.60	824.67	0.63	731.65	3.51	0.73	43.17	236.00	5.60
z11USS01-49	zircon	207.28	16.58	202.21	60.13	1.54	216.06	0.30	173.15	2.39	0.71	38.73	391.00	13.00
z11USS01-58	zircon	146.51	11.72	95.71	30.05	1.03	102.64	0.31	59.06	3.35	0.72	40.94	1688.00	14.00
z11USS01-74	zircon	558.74	44.70	203.98	60.65	2.93	217.95	0.30	514.35	3.99	0.75	46.31	1835.00	16.00
z11USS01-76	zircon	203.72	16.30	336.13	148.73	1.58	370.38	0.44	286.21	2.26	0.69	37.18	556.00	10.00
z11USS01-83	zircon	299.56	23.97	51.57	11.50	0.24	54.21	0.22	66.30	3.28	0.74	44.19	2739.00	25.00
z11USS01-87	zircon	86.99	6.96	290.12	118.97	1.15	317.52	0.41	111.83	4.51	0.75	45.62	95.10	1.40
z11USS01-93	zircon	91.29	7.30	522.75	228.17	1.27	575.28	0.44	205.18	3.18	0.72	41.00	92.40	1.80
z11USS01-104	zircon	80.01	6.40	545.28	232.38	0.78	598.77	0.43	186.83	3.01	0.72	40.85	89.00	1.40
z11USS01-114	zircon	437.03	34.96	71.31	38.04	1.00	80.07	0.53	142.24	3.37	0.73	43.06	1488.00	8.40
z11USS01-115	zircon	137.12	10.97	126.85	22.08	0.99	131.94	0.17	72.18	3.16	0.73	42.56	1456.00	14.00
z11USS01-122	zircon	98.66	7.89	257.65	78.13	0.52	275.64	0.30	116.40	8.46	0.79	55.15	97.40	1.30
z11USS02-16	zircon	90.82	7.27	163.63	58.04	0.86	176.99	0.35	64.02	3.29	0.73	43.19	1170.00	10.00
z11USS02-19	zircon	560.53	44.84	78.78	46.76	1.15	89.55	0.59	198.83	2.45	0.71	39.26	1706.00	10.00
z11USS02-20	zircon	143.16	11.45	82.78	59.62	1.15	96.51	0.72	51.55	1.99	0.68	36.42	2774.80	6.30
z11USS02-21	zircon	303.75	24.30	98.56	36.58	1.35	106.98	0.37	131.40	3.33	0.73	43.28	1139.00	14.00
z11USS02-29	zircon	130.62	10.45	184.07	180.90	1.84	225.73	0.98	121.29	4.49	0.75	48.33	1649.40	9.50
z11USS02-31	zircon	152.02	12.16	217.59	65.60	1.42	232.69	0.30	141.17	3.09	0.73	42.79	427.30	3.00
z11USS02-37	zircon	219.49	17.56	207.19	46.26	1.27	217.85	0.22	196.31	3.78	0.75	45.83	1733.00	5.90
z11USS02-42	zircon	232.10	18.57	129.24	34.72	0.68	137.24	0.27	130.28	3.69	0.75	45.28	1698.00	5.80
z11USS02-44	zircon	152.13	12.17	109.41	88.97	0.87	129.89	0.81	68.60	1.20	0.64	31.13	1590.50	9.70
z11USS02-45	zircon	246.49	19.72	164.21	132.85	1.10	194.80	0.81	189.42	2.75	0.72	41.47	2684.40	6.40
z11USS02-56	zircon	295.06	23.60	127.15	93.51	1.61	148.68	0.74	159.48	1.42	0.66	33.60	1715.50	7.90
z11USS02-64	zircon	220.92	17.67	229.04	37.83	1.34	237.76	0.17	218.91	4.22	0.76	47.95	423.50	3.50
z11USS02-72	zircon	83.10	6.65	253.11	107.49	0.46	277.86	0.42	95.50	5.26	0.76	49.03	90.20	1.20
z11USS02-73	zircon	122.81	9.82	265.17	107.86	0.79	290.00	0.41	142.96	3.54	0.74	44.05	437.20	7.20
z11USS02-74	zircon	185.38	14.83	31.88	20.33	0.53	36.56	0.64	27.45	3.77	0.74	45.09	2807.00	13.00
z11USS02-75	zircon	182.44	14.60	271.27	31.57	1.28	278.54	0.12	194.41	2.04	0.70	37.35	430.90	5.30
z11USS02-77	zircon	220.02	17.60	84.49	78.22	2.13	102.50	0.93	86.17	2.35	0.70	38.39	1140.00	18.00
z11USS02-79	zircon	242.75	19.42	106.13	73.31	0.79	123.01	0.69	119.59	3.54	0.73	43.17	1146.00	13.00
z11USS02-84	zircon	390.50	31.24	141.11	52.50	1.49	153.21	0.37	250.36	4.00	0.75	47.19	1979.50	6.00
z11USS02-87	zircon	450.99	36.08	59.42	49.16	0.69	70.74	0.83	132.14	3.78	0.74	45.92	3464.20	6.80
z11USS02-88	zircon	310.16	24.81	93.69	75.76	1.19	111.14	0.81	135.64	2.71	0.71	40.72	1051.00	10.00
z11USS02-92	zircon	108.46	8.68	352.04	72.86	0.84	368.82	0.21	155.24	2.36	0.71	39.62	2505.30	3.90
z11USS02-99	zircon	132.35	10.59	167.79	36.40	0.69	176.17	0.22	92.87	2.86	0.73	42.51	1781.80	6.40
z11USS02-101	zircon	159.49	12.76	163.82	81.56	0.63	182.60	0.50	110.64	2.16	0.70	37.69	2035.00	7.30
z11USS02-102	zircon	197.60	15.81	28.00	33.23	0.49	35.65	1.19	27.99	3.17	0.72	43.03	2750.00	25.00
z11USS02-103	zircon	598.43	47.87	98.50	54.58	1.29	111.07	0.55	260.58	2.11	0.70	37.91	1650.00	11.00
z11USS02-104	zircon	291.61	23.33	205.72	73.82	1.33	222.72	0.36	263.11	3.37	0.74	43.61	1721.00	7.10
z11USS02-105	zircon	669.75	53.58	45.86	24.70	2.00	51.56	0.54	138.95	2.56	0.71	39.90	1137.20	9.70
z11USS02-106	zircon	236.79	18.94	110.72	95.22	1.09	132.64	0.86	123.86	3.05	0.72	41.56	1949.00	12.00
z11USS02-110	zircon	165.58	13.25	96.86	79.31	0.99	115.13	0.82	77.59	3.79	0.74	46.22	1634.50	8.20
z11USS04-01	zircon	406.90	32.55	245.11	33.21	12.88	252.82	0.14	374.69	1.37	0.66	32.11	436.70	7.30
z11USS04-04	zircon	86.97	6.96	97.35	26.40	2.95	103.44	0.27	33.62	1.76	0.69	36.17	1776.00	20.00
z11USS04-07	zircon	190.74	15.26	298.76	129.76	5.45	328.66	0.43	226.18	1.53	0.66	33.11	1594.00	16.00
z11USS04-10	zircon	193.76	15.50	120.13	34.42	1.67	128.06	0.29	92.39	1.86	0.68	35.28	1868.00	15.00
z11USS04-14	zircon	629.39	50.35	66.88	49.84	1.04	78.36	0.75	167.52	1.00	0.61	28.31	398.80	5.60
z11USS04-17	zircon	732.20	58.58	18.										

z11USS04-118	zircon	311.49	24.92	304.93	47.86	3.82	315.96	0.16	346.61	1.09	0.64	30.40	1954.00	24.00
z11USS04-121	zircon	559.04	44.72	72.03	32.30	1.65	79.48	0.45	157.87	1.26	0.64	30.57	1491.00	18.00
z11USS05-1	zircon	130.93	10.47	361.57	98.93	0.75	384.35	0.27	197.13	3.26	0.72	40.66	163.20	2.30
z11USS05-8	zircon	152.10	12.17	176.49	65.53	0.77	191.58	0.37	101.22	1.15	0.64	30.62	369.20	3.90
z11USS05-10	zircon	176.59	14.13	254.88	96.33	1.55	277.06	0.38	174.88	1.44	0.66	32.41	1357.50	6.20
z11USS05-12	zircon	159.10	12.73	221.12	142.07	2.34	253.84	0.64	138.70	1.09	0.63	30.28	1082.40	6.00
z11USS05-13	zircon	293.01	23.44	167.97	86.12	0.48	187.80	0.51	214.70	2.76	0.71	39.50	1584.00	14.00
z11USS05-25	zircon	89.66	7.17	122.19	68.61	1.15	137.99	0.56	48.39	2.70	0.72	41.31	95.30	1.70
z11USS05-27	zircon	83.44	6.68	320.58	127.94	1.54	350.04	0.40	109.36	2.53	0.69	36.61	96.90	2.00
z11USS05-29	zircon	282.17	22.57	498.86	37.45	2.95	507.50	0.08	525.66	1.43	0.67	33.10	393.70	3.80
z11USS05-39	zircon	577.70	46.22	87.30	37.12	0.55	95.85	0.43	228.21	3.45	0.73	43.19	1403.00	11.00
z11USS05-41	zircon	127.19	10.18	110.53	12.90	0.44	113.50	0.12	55.62	2.25	0.71	38.43	961.00	16.00
z11USS05-46	zircon	86.97	6.96	113.18	34.14	0.48	121.04	0.30	37.87	1.83	0.66	33.13	76.90	1.50
z11USS05-54	zircon	93.21	7.46	242.52	135.81	0.69	273.79	0.56	97.55	2.27	0.70	38.80	89.30	1.00
z11USS05-55	zircon	237.78	19.02	247.38	28.42	1.93	253.93	0.11	229.63	2.13	0.69	36.42	396.50	4.70
z11USS05-59	zircon	799.53	63.96	60.02	22.01	0.57	65.09	0.37	211.46	2.31	0.71	39.38	1874.20	7.70
z11USS05-63	zircon	106.44	8.52	148.95	49.04	1.20	160.25	0.33	63.37	1.75	0.68	35.65	1781.80	6.60
z11USS05-66	zircon	441.08	35.29	164.43	40.52	1.28	173.76	0.25	307.26	2.51	0.72	40.68	2720.80	9.40
z11USS05-73	zircon	83.50	6.68	202.66	104.17	1.47	226.65	0.51	71.63	2.26	0.70	37.81	95.60	1.50
z11USS05-89	zircon	92.96	7.44	451.68	183.70	1.21	493.97	0.41	193.51	6.06	0.78	52.25	74.80	5.90
z11USS05-92	zircon	188.72	15.10	59.14	40.01	0.77	68.36	0.68	46.28	1.57	0.66	33.04	1938.50	8.30
z11USS05-93	zircon	529.44	42.36	100.69	51.76	0.33	112.61	0.51	242.65	3.04	0.73	42.33	426.40	3.90
z11USS05-96	zircon	95.21	7.62	452.95	248.30	0.74	510.11	0.55	184.36	2.41	0.70	38.07	88.50	2.20
z11USS05-109	zircon	248.47	19.88	269.44	99.28	1.00	292.30	0.37	301.08	4.45	0.75	47.37	2652.00	13.00
z11USS05-111	zircon	256.91	20.55	75.93	66.54	1.38	91.25	0.88	84.72	1.52	0.66	33.48	1653.00	11.00
z11USS05-117	zircon	252.64	20.21	31.39	39.73	1.25	40.54	1.27	39.68	2.75	0.70	39.83	1338.00	20.00
z11USS05-120	zircon	87.78	7.02	173.99	54.52	3.21	186.55	0.31	55.39	0.97	0.62	29.17	2431.00	10.00
z11USS06-03	zircon	118.97	9.52	84.08	73.33	5.34	100.99	0.87	39.84	0.92	0.61	28.66	2739.00	30.00
z11USS06-14	zircon	86.24	6.90	81.58	50.42	1.92	93.19	0.62	27.68	1.10	0.63	30.66	1632.00	17.00
z11USS06-18	zircon	181.04	14.48	92.16	33.51	1.49	99.88	0.36	63.95	1.41	0.65	31.64	1513.00	15.00
z11USS06-19	zircon	148.77	11.90	152.52	44.40	3.92	162.76	0.29	81.90	1.08	0.62	28.93	1726.00	17.00
z11USS06-20	zircon	233.10	18.65	333.70	117.72	7.93	360.83	0.35	290.61	1.15	0.63	29.96	356.20	5.00
z11USS06-21	zircon	281.78	22.54	127.13	65.89	-20.75	142.20	0.52	147.36	1.77	0.67	34.29	631.40	5.90
z11USS06-30	zircon	116.72	9.34	154.17	137.57	-29.48	185.69	0.89	74.36	1.14	0.63	30.62	1655.00	15.00
z11USS06-46	zircon	100.42	8.03	347.82	32.85	-24.45	355.26	0.09	131.43	1.55	0.68	34.42	1302.00	44.00
z11USS06-47	zircon	160.47	12.84	363.21	34.37	-48.37	370.88	0.09	183.84	0.74	0.57	24.31	558.30	4.50
z11USS06-48	zircon	96.87	7.75	43.27	10.08	-39.17	45.39	0.23	14.90	1.00	0.63	29.25	1087.00	12.00
z11USS06-52	zircon	104.85	8.39	50.79	45.52	-39.90	61.07	0.90	20.73	0.92	0.60	27.62	1149.00	19.00
z11USS06-61	zircon	178.99	14.32	183.51	16.98	-41.04	187.21	0.09	112.42	0.92	0.62	27.98	907.00	22.00
z11USS06-63	zircon	89.79	7.18	199.11	55.90	-40.67	211.77	0.28	62.55	0.88	0.61	27.65	1873.00	18.00
z11USS06-68	zircon	72.72	5.82	127.38	100.80	-23.48	150.47	0.79	38.64	1.62	0.65	32.55	76.40	2.40
z11USS06-69	zircon	194.70	15.58	31.27	55.92	-15.06	44.07	1.79	31.37	1.78	0.67	35.22	1821.00	23.00
z11USS06-71	zircon	86.62	6.93	100.19	46.28	-44.91	110.62	0.46	31.84	0.89	0.61	28.51	1521.00	16.00
z11USS06-72	zircon	223.94	17.92	120.01	103.95	-30.88	143.79	0.87	110.42	1.23	0.63	30.24	1139.50	7.20
z11USS06-82	zircon	106.07	8.49	41.11	21.52	31.52	46.22	0.52	16.53	1.00	0.62	29.14	1424.00	18.00
z11USS06-120	zircon	137.64	11.01	319.31	194.79	-21.94	364.04	0.61	174.90	1.17	0.64	31.33	480.70	3.30
z11USS07-1	zircon	844.63	67.57	52.76	36.28	1.56	61.12	0.69	228.91	5.92	0.77	51.19	1442.00	12.00
z11USS07-10	zircon	133.31	10.66	131.67	60.93	1.53	145.71	0.46	78.31	3.86	0.74	44.65	1093.50	9.70
z11USS07-11	zircon	314.39	25.15	287.07	98.56	4.64	309.78	0.34	387.70	2.61	0.72	41.21	1912.00	10.00
z11USS07-14	zircon	127.39	10.19	438.97	289.56	3.75	505.65	0.66	225.06	1.46	0.64	31.47	1431.80	6.50
z11USS07-16	zircon	75.16	6.01	248.66	213.98	1.12	297.93	0.86	83.61	2.24	0.69	36.97	75.40	1.20
z11USS07-18	zircon	628.20	50.26	60.41	41.65	1.50	70.01	0.69	192.61	5.46	0.77	52.40	2061.00	7.20
z11USS07-19	zircon	327.56	26.20	52.77	37.81	0.87	61.48	0.72	83.40	4.07	0.75	47.03	557.50	6.30
z11USS07-25	zircon	1179.95	94.40	79.40	31.59	1.29	86.68	0.40	454.15	4.14	0.74	45.24	1426.00	13.00
z11USS07-28	zircon	277.02	22.16	97.78	90.91	1.92	118.72	0.93	128.38	2.59	0.71	40.21	2652.70	4.60
z11USS07-33	zircon	128.56	10.28	229.61	72.03	1.36	246.20	0.31	133.41	5.66	0.77	51.60	1771.70	7.50
z11USS07-34	zircon	136.15	10.89	112.11	63.79	2.87	126.81	0.57	68.31	3.11	0.73	42.35	1466.00	10.00
z11USS07-35	zircon	101.68	8.13	132.06	40.19	1.03	141.32	0.30	59.37	4.70	0.76	48.36	1091.00	11.00
z11USS07-36	zircon	486.94	38.96	43.97	17.87	1.01	48.09	0.41	93.15	2.68	0.71	39.88	1452.00	17.00
z11USS07-37	zircon	120.75	9.66	287.46	138.58	6.65	319.39	0.48	157.72	4.28	0.75	46.88	1820.00	15.00
z11USS07-40	zircon	276.30	22.10	95.21	55.95	0.79	108.09	0.59	121.70	3.42	0.74	45.00	1119.20	7.20
z11USS07-43	zircon	261.23	20.90	45.62	23.80	0.73	51.10	0.52	56.82	5.55	0.77	52.07	1843.80	8.70
z11USS07-45	zircon	75.28	6.02	82.53	44.40	0.32	92.75	0.54	27.25	2.85	0.72	41.17	73.50	1.20
z11USS07-53	zircon	680.30	54.42	6.30	7.11	1.90	7.94	1.13	22.40	3.88	0.73	44.12	1069.00	14.00
z11USS07-61	zircon	158.57	12.69	157.39	109.69	1.19	182.65	0.70	121.59	5.33	0.77	51.18	2453.90	9.90
z11USS07-66	zircon	388.07	31.05	42.93	37.20	0.60	51.49	0.87	86.50	6.58	0.78	54.15	1842.00	12.00
z11USS07-69	zircon	117.25	9.38	84.41	24.41	0.97	90.03	0.29	44.86	7.36	0.78	53.27	1069.90	9.20
z11USS07-81	zircon	364.74	29.18	56.70	39.65	1.01	65.83	0.70	101.83	4.93	0.76	50.40	1490.00	14.00
z11USS07-83	zircon	117.61	9.41	107.15	43.47	0.74	117.16	0.41	55.36	3.36	0.74	44.21	1745.10	6.00
z11USS07-87	zircon	492.25	39.38	26.06	22.22	0.89	31.18	0.85	64.32	3.94	0.75	47.21	2071.00	10.00
z11USS07-89	zircon	152.14	12.17	75.96	39.54	0.63	85.06	0.52	52.55	3.59	0.74	45.59	2930.20	8.20
z11USS07-100	zircon	299.74	23.98	38.18	34.61	0.99	46.15	0.91	58.61	5.26	0.77	51.33	1929.80	8.90
z11USS07-102	zircon	63.24	5.06	124.46	76.80	0.62	142.15	0.62	33.48	1.99	0.69	36.57	75.40	1.50
z11USS07-104	zircon	184.25	14.74	180.77	75.55	1.31	198.17	0.42	146.99	4.06	0.74	43.91	1084.00	11.00
z11USS07-110	zircon	205.62	16.45	163.82	95.02	2.14	185.70	0.58	158.89	4.40	0.76	48.89	1875.00	25.00

Reduced (U-Th[Sm])/He Data

Green River

Sample	mineral	Age, Ma	err., Ma	U (ppm)	Th (ppm)	147Sm (pp [U]e)	Th/U	He (nmol/g mass (ug)	Ft	ESR	Final age 2 error			
zBluecastle-06	zircon	171.57	13.73	87.02	38.75	6.00	95.97	0.45	67.41	3.77	0.75	46.43	1023.50	8.20
zBluecastle-07	zircon	73.50	5.88	260.68	48.73	1.92	271.91	0.19	77.86	2.43	0.72	40.26	1685.00	23.00
zBluecastle-11	zircon	345.17	27.61	306.85	210.80	2.65	355.39	0.69	489.95	3.11	0.72	41.99	329.20	6.20
zBluecastle-15	zircon	77.61	6.21	367.61	166.20	1.50	405.88	0.45	129.01	7.34	0.75	47.52	68.00	1.50
zBluecastle-18	zircon	214.44	17.16	114.61	59.39	-3.21	128.26	0.52	113.83	4.52	0.76	47.83	1427.00	35.00
zBluecastle-19	zircon	505.48	40.44	114.57	35.87	0.79	122.83	0.31	260.36	3.80	0.75	45.96	1027.00	16.00
zBluecastle-23	zircon	155.57	12.45	204.95	125.79	36.41	234.09	0.61	146.12	3.62	0.73	43.99	1784.00	16.00
zBluecastle-25	zircon	268.39	21.47	119.47	86.42	0.72	139.37	0.72	145.97	2.66	0.71	40.01	616.00	6.30
zBluecastle-26	zircon	284.31	22.74	134.68	57.94	0.91	148.02	0.43	176.69	5.13	0.76	49.15	301.10	4.10
zBluecastle-30	zircon	73.36	5.87	105.38	69.23	2.54	121.33	0.66	36.87	5.84	0.76	49.75	67.00	1.70
zBluecastle-44	zircon	79.11	6.33	420.53	108.15	42.24	445.63	0.26	151.09	7.73	0.79	55.56	343.90	3.50
zBluecastle-47	zircon	244.47	19.56	44.49	44.82	0.65	54.81	1.01	57.11	5.62	0.77	53.26	1793.00	15.00
zBluecastle-52	zircon	390.06	31.20	197.33	34.26	-0.23	205.22	0.17	334.83	4.84	0.75	46.50	461.30	9.70
zBluecastle-57	zircon	144.66	11.57	79.39	136.15	1.76	110.74	1.72	60.18	2.07	0.69	37.63	1170.00	17.00
zBluecastle-58	zircon	153.39	12.27	326.33	190.70	111.64	370.79	0.58	227.31	3.27	0.73	43.39	1697.00	13.00
zBluecastle-67	zircon	470.57	37.65	204.20	150.90	-6.55	238.90	0.74	452.11	2.73	0.72	41.86	1519.00	16.00
zBluecastle-74	zircon	297.58	23.81	213.13	269.28	1.91	275.13	1.26	333.72	4.10	0.74	45.60	625.90	6.10
zBluecastle-78	zircon	458.38	36.67	195.63	77.75	0.40	213.53	0.40	408.51	4.21	0.75	46.07	457.20	5.30
zBluecastle-82	zircon	276.75	22.14	116.60	69.12	-9.13	132.47	0.59	146.38	3.18	0.73	42.40	574.00	5.00
zBluecastle-90	zircon	151.67	12.13	68.36	31.82	0.27	75.69	0.47	43.76	2.10	0.70	38.02	2744.00	19.00
zBluecastle-94	zircon	184.35	14.75	160.21	22.84	-6.38	165.43	0.14	127.75	4.72	0.77	49.23	1446.00	15.00
zBluecastle-107	zircon	260.66	20.85	141.85	71.23	-10.98	158.19	0.50	162.73	2.95	0.72	41.00	429.90	4.10
zBluecastle-109	zircon	837.31	66.99	47.26	22.24	0.75	52.39	0.47	192.16	4.45	0.76	48.65	1841.00	44.00
zBluecastle-113	zircon	311.78	24.94	86.28	72.06	-10.20	102.82	0.84	128.79	3.17	0.73	43.22	562.60	8.40
zBluecastle-118	zircon	336.28	26.90	156.23	79.00	-4.89	174.39	0.51	245.90	4.57	0.76	48.49	1087.40	9.70
zBluecastle-119	zircon	275.37	22.03	439.37	144.95	1.16	472.74	0.33	537.51	3.86	0.75	46.36	1440.00	14.00
z13GRT04-02	zircon	87.13	6.97	85.93	27.11	4.32	92.20	0.32	32.34	3.71	0.74	44.58	1177.00	14.00
z13GRT04-07	zircon	393.84	31.51	54.50	17.61	2.32	58.56	0.32	99.65	6.00	0.78	52.45	2590.80	5.40
z13GRT04-10	zircon	243.81	19.50	63.11	22.70	4.08	68.35	0.36	67.06	3.58	0.73	43.17	1039.00	10.00
z13GRT04-14	zircon	353.03	28.24	122.06	54.05	3.93	134.52	0.44	187.92	2.66	0.72	40.44	416.20	2.90
z13GRT04-17	zircon	562.79	45.02	105.18	69.46	3.39	121.19	0.66	302.49	6.79	0.79	55.89	1929.50	4.70
z13GRT04-19	zircon	224.53	17.96	45.08	40.76	5.38	54.49	0.90	49.83	3.88	0.74	45.78	1064.00	11.00
z13GRT04-23	zircon	260.47	20.84	77.82	31.61	4.38	85.12	0.41	98.60	10.22	0.81	61.73	539.80	4.40
z13GRT04-25	zircon	1286.55	102.92	30.71	25.99	1.03	36.69	0.85	215.47	5.40	0.76	49.08	341.90	3.30
z13GRT04-34	zircon	370.64	29.65	58.41	47.43	2.01	69.34	0.81	112.36	6.91	0.79	56.40	1961.90	6.40
z13GRT04-35	zircon	791.54	63.32	93.30	53.99	6.88	105.76	0.58	365.51	4.77	0.76	49.13	1439.40	7.50
z13GRT04-36	zircon	146.50	11.72	185.59	113.93	5.82	211.84	0.61	125.56	3.71	0.74	45.27	1434.40	7.80
z13GRT04-41	zircon	297.03	23.76	57.69	36.39	1.79	66.08	0.63	88.25	10.87	0.81	64.57	1903.70	7.10
z13GRT04-43	zircon	115.01	9.20	284.16	49.58	4.26	295.59	0.17	140.65	4.91	0.76	48.07	1035.70	9.80
z13GRT04-45	zircon	111.74	8.94	332.04	81.22	13.02	350.81	0.24	155.71	3.11	0.73	42.41	1715.30	6.00
z13GRT04-54	zircon	148.63	11.89	318.68	97.20	7.75	341.09	0.31	213.10	6.13	0.77	50.79	1787.90	4.50
z13GRT04-59	zircon	189.67	15.17	101.08	102.26	34.37	124.79	1.01	100.20	6.19	0.77	52.53	273.00	17.00
z13GRT04-69	zircon	80.12	6.41	89.37	45.89	1.56	99.94	0.51	33.31	5.36	0.77	50.24	86.50	1.60
z13GRT04-74	zircon	206.67	16.53	127.27	60.27	3.86	141.16	0.47	122.75	5.06	0.77	50.58	1429.20	6.30
z13GRT04-88	zircon	399.90	31.99	72.08	73.53	6.37	89.04	1.02	147.70	4.16	0.75	46.89	1933.50	6.50
z13GRT04-91	zircon	179.69	14.37	96.90	56.09	4.60	109.83	0.58	79.71	3.48	0.74	44.66	1686.00	9.70
z13GRT04-119	zircon	458.68	36.69	35.26	22.32	2.11	40.41	0.63	77.88	4.44	0.75	47.60	660.90	6.80
z13GRT03-01	zircon	83.63	6.69	156.99	73.15	2.91	173.85	0.47	59.80	5.04	0.76	48.19	79.50	1.20
z13GRT03-02	zircon	233.79	18.70	157.14	66.09	3.72	172.37	0.42	167.07	4.32	0.76	47.66	365.90	3.70
z13GRT03-21	zircon	88.88	7.11	404.39	165.04	4.49	442.41	0.41	156.96	3.42	0.74	43.62	1735.70	5.30
z13GRT03-25	zircon	274.28	21.94	66.82	83.14	2.62	85.98	1.24	96.81	4.26	0.74	46.81	2731.90	5.80
z13GRT03-28	zircon	180.95	14.48	180.88	64.54	6.24	195.77	0.36	135.23	2.13	0.70	37.76	1440.20	7.90
z13GRT03-34	zircon	140.60	11.25	67.49	24.84	2.81	73.22	0.37	40.35	2.98	0.72	40.84	966.30	7.10
z13GRT03-35	zircon	97.90	7.83	85.37	50.43	4.43	97.00	0.59	39.02	4.42	0.76	48.05	1031.00	14.00
z13GRT03-36	zircon	162.53	13.00	128.68	48.36	4.03	139.83	0.38	88.92	3.12	0.72	40.50	456.20	4.60
z13GRT03-39	zircon	86.55	6.92	309.07	49.65	2.05	320.51	0.16	116.17	6.15	0.77	50.50	1396.00	5.80
z13GRT03-40	zircon	167.72	13.42	85.48	91.02	5.55	106.47	1.06	71.58	3.65	0.73	44.28	1638.30	7.30
z13GRT03-45	zircon	162.20	12.98	170.44	89.31	2.84	191.01	0.52	125.76	3.69	0.74	45.45	172.70	1.70
z13GRT03-50	zircon	304.42	24.35	217.47	59.25	1.25	231.12	0.27	310.20	7.80	0.80	58.23	1444.50	7.80
z13GRT03-53	zircon	716.62	57.33	89.01	33.84	4.26	96.82	0.38	287.62	3.28	0.73	42.35	1098.20	6.10
z13GRT03-54	zircon	601.82	48.15	80.10	32.33	4.82	87.56	0.40	217.90	3.48	0.73	43.27	1045.20	7.20
z13GRT03-64	zircon	150.68	12.05	214.97	74.69	12.13	232.23	0.35	138.49	3.24	0.73	41.86	1454.00	10.00
z13GRT03-67	zircon	241.04	19.28	371.75	17.83	0.51	375.85	0.05	395.30	6.86	0.80	56.03	574.00	3.50
z13GRT03-72	zircon	389.56	31.16	63.13	27.94	2.14	69.57	0.44	110.90	3.58	0.74	44.17	606.10	6.10
z13GRT03-77	zircon	172.09	13.77	77.77	45.08	2.49	88.16	0.58	59.22	2.80	0.71	40.51	2716.00	10.00
z13GRT03-105	zircon	83.56	6.68	159.70	36.77	3.10	168.18	0.23	58.07	4.28	0.76	48.41	480.50	3.20
z13GRT03-107	zircon	255.62	20.45	95.69	56.38	7.76	108.71	0.59	111.67	3.34	0.73	43.32	2005.70	8.20
z13GRT03-113	zircon	437.62	35.01	161.87	105.47	4.67	186.17	0.65	335.72	3.59	0.74	45.05	546.40	4.40
z13GRT03-114	zircon	528.33	42											

z13GRT02-33	zircon	266.18	21.29	111.17	124.80	-9.69	139.85	1.12	140.14	2.42	0.68	36.93	626.40	9.00
z13GRT02-35	zircon	111.02	8.88	99.20	45.65	-10.82	109.65	0.46	47.64	2.79	0.72	41.12	1643.00	11.00
z13GRT02-38	zircon	136.98	10.96	73.68	43.93	-15.57	83.72	0.60	43.62	2.29	0.70	38.15	1065.00	13.00
z13GRT02-40	zircon	436.01	34.88	33.22	24.59	-4.64	38.86	0.74	73.16	5.53	0.77	52.83	1875.00	13.00
z13GRT02-46	zircon	216.73	17.34	74.34	60.39	0.00	88.24	0.81	78.03	3.86	0.74	46.08	1077.00	17.00
z13GRT02-62	zircon	481.21	38.50	108.65	81.98	-6.24	127.49	0.75	254.97	3.94	0.74	46.00	1818.30	7.30
z13GRT02-68	zircon	134.24	10.74	28.68	24.97	-7.49	34.39	0.87	18.54	3.73	0.74	44.77	452.20	9.80
z13GRT02-82	zircon	175.37	14.03	350.39	41.88	-5.77	360.00	0.12	261.00	4.06	0.76	47.05	1807.00	7.10
z13GRT02-87	zircon	176.59	14.13	64.59	29.41	-3.17	71.35	0.46	54.71	7.41	0.79	57.52	1023.00	13.00
z13GRT02-92	zircon	85.27	6.82	724.02	201.70	9.50	770.50	0.28	265.79	4.02	0.75	45.21	1790.40	5.60
z13GRT02-101	zircon	189.18	15.13	188.75	163.49	-9.90	226.33	0.87	169.64	3.05	0.72	42.49	463.80	5.10
z13GRT02-104	zircon	319.19	25.54	137.47	42.28	3.48	147.22	0.31	197.65	4.51	0.76	48.68	1360.00	15.00
z13GRT02-105	zircon	173.43	13.87	87.56	79.16	0.83	105.79	0.90	77.21	5.42	0.77	51.66	1108.10	8.20
z13GRT02-108	zircon	140.25	11.22	392.83	228.81	-13.63	445.43	0.58	240.01	2.37	0.70	39.06	420.90	7.70
z13GRT02-102	zircon	83.94	6.72	181.52	87.17	3.06	201.60	0.48	66.77	3.42	0.73	42.29	91.30	0.91

z13GRT01-01	zircon	293.54	23.48	113.94	46.77	4.48	124.73	0.41	160.96	8.73	0.80	58.15	991.60	6.50
z13GRT01-02	zircon	323.08	25.85	195.54	90.39	5.60	216.37	0.46	272.62	2.36	0.71	39.15	1812.80	7.90
z13GRT01-11	zircon	201.96	16.16	115.58	99.23	4.55	138.45	0.86	104.02	1.84	0.68	35.99	2725.40	5.10
z13GRT01-13	zircon	236.92	18.95	165.84	61.46	5.02	180.01	0.37	166.15	2.49	0.71	39.46	1449.90	7.30
z13GRT01-14	zircon	263.26	21.06	28.84	29.18	7.22	35.60	1.01	35.87	2.31	0.70	38.33	1656.00	12.00
z13GRT01-17	zircon	128.65	10.29	110.72	77.90	4.97	128.67	0.70	61.39	1.96	0.68	35.93	1556.20	7.90
z13GRT01-19	zircon	173.85	13.91	65.63	39.05	3.83	74.64	0.59	49.64	2.18	0.70	38.40	534.40	5.80
z13GRT01-20	zircon	253.31	20.26	107.96	82.42	5.57	126.96	0.76	125.81	2.75	0.71	40.42	2758.00	7.30
z13GRT01-23	zircon	390.46	31.24	125.58	70.70	3.36	141.88	0.56	212.84	2.28	0.69	37.41	418.40	3.70
z13GRT01-32	zircon	264.00	21.12	37.46	30.67	3.81	44.54	0.82	45.88	2.74	0.71	40.12	1099.00	10.00
z13GRT01-37	zircon	338.73	27.10	100.51	48.27	2.71	111.63	0.48	142.67	1.80	0.68	35.97	1657.70	7.70
z13GRT01-44	zircon	96.11	7.69	369.84	239.63	2.69	425.02	0.65	160.11	3.10	0.72	41.64	85.16	0.91
z13GRT01-47	zircon	140.37	11.23	76.68	45.42	6.54	87.17	0.59	47.79	2.66	0.72	40.81	1006.70	7.20
z13GRT01-57	zircon	281.62	22.53	478.93	176.30	4.84	519.54	0.37	553.17	1.87	0.69	36.27	300.40	2.20
z13GRT01-62	zircon	184.15	14.73	165.07	89.20	3.49	185.63	0.54	133.60	2.79	0.71	40.52	1642.40	6.90
z13GRT01-68	zircon	248.48	19.88	214.38	73.24	3.02	231.25	0.34	230.76	3.00	0.73	42.84	1472.00	8.30
z13GRT01-80	zircon	166.85	13.35	96.22	52.66	3.06	108.36	0.55	70.62	2.73	0.72	40.58	449.40	3.90
z13GRT01-83	zircon	392.50	31.40	178.54	54.28	4.67	191.06	0.30	277.40	1.79	0.67	33.74	1130.40	8.40
z13GRT01-106	zircon	220.23	17.62	419.98	111.52	5.05	445.68	0.27	361.45	1.79	0.67	34.19	205.10	1.70
z13GRT01-109	zircon	335.14	26.81	163.64	67.55	5.57	179.21	0.41	232.56	2.37	0.70	38.24	1647.20	8.20
z13GRT01-111	zircon	325.03	26.00	209.99	111.84	10.58	235.79	0.53	277.59	1.65	0.66	32.94	602.50	5.40
z13GRT01-115	zircon	398.75	31.90	315.31	114.26	6.08	341.64	0.36	587.69	5.97	0.78	52.22	1927.10	5.50

z13WSUN-1	zircon	230.05	18.40	165.40	66.54	1.42	180.73	0.40	170.85	3.94	0.75	46.32	455.50	4.50
z13WSUN-2	zircon	146.06	11.68	386.73	46.12	1.47	397.35	0.12	233.01	3.05	0.74	43.11	1006.90	6.20
z13WSUN-3	zircon	317.42	25.39	57.33	23.71	0.36	62.79	0.41	80.22	3.13	0.73	42.66	979.40	9.80
z13WSUN-4	zircon	240.21	19.22	76.94	17.82	0.22	81.05	0.23	82.59	5.04	0.77	51.00	236.00	4.20
z13WSUN-7	zircon	349.83	27.99	126.42	81.78	0.99	145.25	0.65	193.66	1.97	0.69	37.06	647.50	7.70
z13WSUN-9	zircon	272.43	21.79	99.47	65.93	1.24	114.65	0.66	127.03	3.38	0.74	44.89	2842.70	7.10
z13WSUN-20	zircon	94.31	7.54	364.23	202.56	1.00	410.87	0.56	145.23	1.95	0.69	36.88	77.90	4.00
z13WSUN-35	zircon	186.64	14.93	151.34	127.12	3.42	180.62	0.84	137.28	3.78	0.74	46.11	1725.00	11.00
z13WSUN-40	zircon	364.73	29.18	54.96	29.34	1.23	61.72	0.53	89.14	2.72	0.72	40.60	998.10	9.60
z13WSUN-43	zircon	186.41	14.91	482.04	120.05	1.65	509.68	0.25	363.20	2.03	0.70	37.62	1778.90	7.40
z13WSUN-46	zircon	395.13	31.61	103.21	110.63	0.82	128.68	1.07	204.48	3.06	0.72	42.87	2722.00	12.00
z13WSUN-47	zircon	110.54	8.84	358.01	257.17	1.28	417.22	0.72	189.00	4.60	0.75	47.67	483.50	4.80
z13WSUN-51	zircon	147.02	11.76	230.09	121.88	2.10	258.15	0.53	155.59	4.15	0.75	47.08	1751.00	18.00
z13WSUN-61	zircon	338.16	27.05	108.83	95.04	1.62	130.72	0.87	167.93	2.07	0.69	37.11	1580.50	8.50
z13WSUN-65	zircon	175.86	14.07	227.66	141.36	1.39	260.21	0.62	174.60	2.21	0.70	38.18	456.50	4.70
z13WSUN-67	zircon	212.12	16.97	56.88	38.08	0.92	65.65	0.67	54.56	2.74	0.72	40.77	1629.00	11.00
z13WSUN-92	zircon	96.15	7.69	257.14	92.73	3.03	278.50	0.36	103.56	2.40	0.71	39.67	1054.00	11.00
z13WSUN-116	zircon	225.24	18.02	262.30	339.04	1.62	340.35	1.29	279.46	1.73	0.66	34.56	255.50	2.20
z13WSUN-118	zircon	289.81	23.18	168.49	51.11	1.30	180.26	0.30	194.15	1.72	0.68	34.64	1536.20	7.80

z13WKEN-03	zircon	297.89	23.83	481.15	166.55	15.55	519.56	0.35	584.66	1.83	0.69	36.05	316.70	2.20
z13WKEN-04	zircon	292.11	23.37	336.60	45.33	1.92	347.05	0.13	423.04	4.22	0.76	47.17	996.60	5.70
z13WKEN-05	zircon	243.03	19.44	193.65	93.95	3.49	215.30	0.49	199.47	2.03	0.70	37.48	1982.00	11.00
z13WKEN-06	zircon	187.10	14.97	70.82	18.74	2.19	75.15	0.26	59.99	6.02	0.78	52.97	1143.00	11.00
z13WKEN-17	zircon	115.43	9.23	169.40	62.55	3.16	183.81	0.37	78.53	2.24	0.68	35.36	1094.90	7.00
z13WKEN-21	zircon	153.00	12.24	229.00	107.00	3.69	253.65	0.47	146.49	2.38	0.69	37.06	538.70	3.50
z13WKEN-24	zircon	76.65	6.13	105.26	86.82	6.52	125.28	0.82	38.34	3.55	0.73	44.29	526.80	4.40
z13WKEN-25	zircon	287.82	23.03	98.83	42.76	4.28	108.70	0.43	119.88	2.06	0.70	37.58	1518.00	13.00
z13WKEN-29	zircon	114.57	9.17	534.34	38.68	14.97	543.32	0.07	234.51	1.84	0.69	36.18	983.90	6.70
z13WKEN-31	zircon	80.08	6.41	597.53	145.22	8.55	631.00	0.24	187.99	2.32	0.69	35.74	1796.20	7.70
z13WKEN-39	zircon	493.05	39.44	125.82	58.30	8.14	139.28	0.46	275.57	2.57	0.72	40.89	1522.10	8.50
z13WKEN-47	zircon	200.07	16.01	178.41	60.47	7.73	192.37	0.34	147.07	2.14	0.70	37.69	451.50	4.00
z13WKEN-60	zircon	126.27	10.10	377.22	26.77	6.89	383.42	0.07	190.42	2.72	0.72	40.56	1740.20	6.50
z13WKEN-73	zircon	75.71	6.06	264.40	129.02	3.00	294.11	0.49	87.37	3.29	0.72	41.70	81.70	1.20
z13WKEN-91	zircon	99.86	7.99	179.07	92.31	9.91	200.37	0.52	77.64	2.78	0.71	40.27	1682.00	7.20
z13WKEN-92	zircon	145.75	11.66	254.22	83.33	4.94	273.43	0.33	155.34	2.45	0.72	40.11	2027.00	18.00
z13WKEN-105	zircon	153.14	12.25	186.70	106.74	1.61	211.28	0.57	125.82	2.74	0.71	40.24	218.70	2.20
z13WKEN-114	zircon	286.78	22.94	65.21	86.70	3.42	85.19	1.33	94.53	2.58	0.70	39.54	667.60	6.30
z13WKEN-117	zircon	396.94	31.75	226.42	146.95	10.15	260.30	0.65	424.52	3.69	0.74	45.05	1644.00	11.00

Reduced (U-Th[Sm])/He Data

Mount Garfield, CO

Sample	mineral	Age, Ma	err., Ma	U (ppm)	Th (ppm)	147Sm (pp [U]e	Th/U	He (nmol/1 mass (ug)	Ft	ESR	Final age 2 error			
z13GJR01-1	zircon	78.19	6.25	300.79	114.52	0.82	327.16	0.38	94.56	2.36	0.68	35.48	79.30	0.96
z13GJR01-6	zircon	103.72	8.30	116.09	97.10	5.54	138.47	0.84	54.16	2.15	0.69	37.71	1707.00	11.00
z13GJR01-9	zircon	316.69	25.34	230.93	138.88	1.75	262.91	0.60	310.43	1.74	0.68	35.29	556.20	4.90
z13GJR01-24	zircon	151.07	12.09	351.60	41.80	1.09	361.22	0.12	207.35	2.28	0.70	36.91	639.00	10.00
z13GJR01-29	zircon	86.33	6.91	112.44	59.39	0.97	126.12	0.53	43.13	3.43	0.73	42.85	92.40	1.90
z13GJR01-38	zircon	290.18	23.21	317.25	25.94	5.56	323.25	0.08	369.59	2.35	0.72	39.47	1191.00	12.00
z13GJR01-40	zircon	238.45	19.08	229.11	47.01	1.92	239.94	0.21	224.65	2.89	0.72	39.91	434.70	3.40
z13GJR01-45	zircon	76.75	6.14	890.65	353.07	1.68	971.94	0.40	283.23	2.14	0.70	37.96	1686.30	8.50
z13GJR01-69	zircon	253.89	20.31	228.91	185.29	2.19	271.58	0.81	274.14	3.03	0.72	42.33	327.30	2.40
z13GJR01-74	zircon	246.10	19.69	334.75	120.55	3.39	362.52	0.36	347.79	2.62	0.71	39.45	1084.00	14.00
z13GJR01-76	zircon	89.92	7.19	374.82	144.46	1.11	408.08	0.39	130.57	1.50	0.66	32.47	102.60	1.10
z13GJR01-82	zircon	229.96	18.40	163.09	40.94	0.55	172.52	0.25	154.92	2.50	0.71	39.50	1051.30	5.80
z13GJR01-83	zircon	384.24	30.74	211.71	89.96	10.87	232.47	0.42	359.52	2.78	0.73	42.08	1470.00	19.00
z13GJR01-87	zircon	316.97	25.36	212.35	79.44	1.98	230.65	0.37	271.34	1.68	0.67	34.54	1676.00	14.00
z13GJR01-92	zircon	345.16	27.61	171.70	73.75	1.77	188.68	0.43	253.70	2.19	0.71	38.82	669.30	5.40
z13GJR01-102	zircon	184.98	14.80	190.46	75.13	0.64	207.76	0.39	141.96	1.73	0.68	34.88	1505.00	11.00
z13GJR01-113	zircon	347.48	27.80	61.06	38.16	1.34	69.85	0.63	92.54	2.07	0.69	37.08	1664.00	17.00
z13GJR01-115	zircon	459.52	36.76	43.08	59.68	1.63	56.82	1.39	103.85	2.72	0.71	41.37	2725.00	28.00
zGJCOCE01-01	zircon	253.99	20.32	76.89	35.75	7.44	85.16	0.46	79.85	1.82	0.67	34.58	1170.00	12.00
zGJCOCE01-10	zircon	125.99	10.08	298.41	120.85	4.75	326.25	0.40	140.94	1.09	0.63	29.98	2677.00	8.10
zGJCOCE01-12	zircon	292.76	23.42	30.79	23.72	2.32	36.26	0.77	40.37	2.24	0.69	37.33	473.70	6.70
zGJCOCE01-18	zircon	79.61	6.37	860.95	173.35	18.58	900.95	0.20	268.29	2.19	0.69	36.11	65.50	0.92
zGJCOCE01-35	zircon	149.58	11.97	180.16	67.75	5.10	195.79	0.38	108.15	1.63	0.68	35.00	1994.30	7.80
zGJCOCE01-36	zircon	496.46	39.72	138.93	62.77	5.21	153.41	0.45	256.26	1.00	0.61	27.85	1653.00	11.00
zGJCOCE01-37	zircon	519.77	41.58	84.37	42.43	3.02	94.15	0.50	184.56	1.72	0.68	34.95	1904.80	7.70
zGJCOCE01-41	zircon	125.31	10.02	33.61	24.83	2.79	39.34	0.74	19.12	2.61	0.71	40.30	1498.00	13.00
zGJCOCE01-43	zircon	274.49	21.96	124.52	78.98	3.15	142.71	0.63	146.97	1.98	0.68	36.08	554.10	5.60
zGJCOCE01-56	zircon	120.36	9.63	31.93	35.59	3.02	40.14	1.11	17.70	1.72	0.67	35.30	2077.40	9.90
zGJCOCE01-63	zircon	188.30	15.06	155.18	67.14	8.47	170.68	0.43	118.34	1.72	0.67	34.66	1058.40	9.50
zGJCOCE01-70	zircon	132.97	10.64	57.96	56.57	11.50	71.04	0.98	33.91	1.54	0.66	33.55	487.30	5.40
zGJCOCE01-80	zircon	319.21	25.54	22.54	13.01	1.97	25.55	0.58	31.44	2.11	0.70	38.21	1056.00	20.00
zGJCOCE01-83	zircon	338.13	27.05	147.65	44.64	3.64	157.94	0.30	208.85	2.29	0.71	38.97	1661.20	8.70
zGJCOCE01-102	zircon	215.04	17.20	82.56	33.94	6.99	90.41	0.41	73.16	1.94	0.69	36.31	1446.40	8.20
zGJCOCE01-106	zircon	142.24	11.38	63.65	36.84	1.63	72.14	0.58	38.38	1.92	0.69	36.45	1621.00	10.00
zGJCOCE01-110	zircon	329.11	26.33	224.05	220.38	12.31	274.84	0.98	309.12	1.01	0.62	29.77	428.00	4.40
zGJCOCE01-112	zircon	590.63	47.25	20.29	21.35	2.00	25.22	1.05	55.69	1.56	0.67	34.65	2827.00	13.00
zGJCOCE01-118	zircon	102.19	8.18	236.52	40.73	9.71	245.95	0.17	90.83	1.39	0.67	33.09	1203.00	22.00
z13GJCO01-2	zircon	172.84	13.83	168.20	50.38	1.35	179.80	0.30	119.92	2.20	0.71	38.77	1161.10	8.40
z13GJCO01-4	zircon	371.26	29.70	139.46	108.46	2.77	164.45	0.78	231.88	2.05	0.69	36.79	1508.60	6.30
z13GJCO01-9	zircon	385.29	30.82	94.25	59.28	1.19	107.90	0.63	169.94	3.41	0.74	44.45	2569.20	7.00
z13GJCO01-15	zircon	194.84	15.59	106.76	61.25	0.73	120.86	0.57	92.39	2.60	0.72	40.92	1541.00	9.60
z13GJCO01-19	zircon	97.97	7.84	57.21	30.66	0.48	64.27	0.54	26.12	4.55	0.76	49.55	1041.10	8.00
z13GJCO01-20	zircon	89.26	7.14	386.49	194.00	1.61	431.16	0.50	130.85	1.17	0.63	29.75	514.00	4.70
z13GJCO01-22	zircon	427.65	34.21	106.57	57.88	2.52	119.91	0.54	204.27	2.58	0.72	40.78	1065.50	9.40
z13GJCO01-27	zircon	472.70	37.82	45.19	41.43	0.64	54.73	0.92	109.16	4.61	0.76	48.58	1662.80	9.70
z13GJCO01-28	zircon	1370.52	109.64	120.40	67.05	1.23	135.84	0.56	807.73	2.64	0.72	40.81	2775.30	5.00
z13GJCO01-31	zircon	76.46	6.12	136.25	49.84	0.29	147.72	0.37	44.00	2.76	0.72	40.66	80.10	1.20
z13GJCO01-38	zircon	324.13	25.93	264.58	94.36	3.52	286.32	0.36	364.22	2.61	0.71	39.58	1788.20	5.50
z13GJCO01-43	zircon	176.33	14.11	92.65	36.24	4.62	101.01	0.39	71.92	3.34	0.74	44.30	1644.00	26.00
z13GJCO01-51	zircon	308.20	24.66	30.81	29.83	1.00	37.68	0.97	45.95	2.96	0.72	41.52	587.20	7.60
z13GJCO01-54	zircon	75.73	6.06	190.86	252.95	0.58	249.09	1.33	70.98	2.31	0.69	37.97	77.90	1.00
z13GJCO01-65	zircon	280.45	22.44	260.76	164.65	1.62	298.67	0.63	330.71	2.68	0.72	41.08	563.50	7.50
z13GJCO01-87	zircon	116.07	9.29	32.67	16.40	0.35	36.45	0.50	17.25	3.98	0.75	46.53	1927.00	13.00
z13GJCO01-98	zircon	132.74	10.62	82.71	91.57	1.32	103.80	1.11	55.96	4.27	0.74	46.45	454.20	4.90
z13GJCO01-103	zircon	463.71	37.10	134.79	43.35	1.16	144.77	0.32	257.19	2.19	0.69	36.22	1066.90	7.90
z13GJCO01-106	zircon	360.03	28.80	56.53	42.72	1.31	66.37	0.76	97.19	3.87	0.73	44.22	663.10	8.40

Reduced (U-Th[Sm])/He Data

other locations in Colorado

Sample	mineral	Age, Ma	err., Ma	U (ppm)	Th (ppm)	147Sm (ppm)	[U]e	Th/U	He (nmol/g) mass (ug)	Ft	ESR	Final age 206_235error		
z13NESLEN-1	zircon	315.71	25.26	146.63	66.66	2.73	161.99	0.45	214.60	5.66	0.76	48.72	2056.70	9.30
z13NESLEN-3	zircon	86.34	6.91	102.66	97.79	1.44	125.18	0.95	44.73	4.87	0.76	49.78	1721.00	11.00
z13NESLEN-4	zircon	286.52	22.92	289.45	141.23	1.58	321.97	0.49	366.62	3.01	0.72	41.55	1446.00	17.00
z13NESLEN-17	zircon	86.47	6.92	300.49	97.64	1.06	322.97	0.32	112.01	3.42	0.74	44.11	1722.00	11.00
z13NESLEN-25	zircon	92.18	7.37	357.61	200.44	1.82	403.77	0.56	139.29	2.15	0.69	36.76	1478.00	18.00
z13NESLEN-28	zircon	343.10	27.45	139.62	76.68	1.47	157.28	0.55	212.86	2.47	0.71	40.37	382.10	4.20
z13NESLEN-29	zircon	403.55	32.28	112.75	49.89	0.44	124.24	0.44	211.30	4.42	0.76	48.32	1631.00	23.00
z13NESLEN-32	zircon	408.25	32.66	404.43	261.21	2.76	464.57	0.65	754.60	2.64	0.72	40.99	410.40	3.40
z13NESLEN-36	zircon	429.36	34.35	132.05	85.75	1.92	151.80	0.65	270.91	3.93	0.75	46.36	419.70	3.10
z13NESLEN-38	zircon	90.15	7.21	549.70	157.61	2.88	585.99	0.29	213.00	3.40	0.74	44.72	1701.60	9.60
z13NESLEN-40	zircon	84.12	6.73	285.68	174.58	1.42	325.88	0.61	115.08	5.33	0.77	52.00	2005.00	11.00
z13NESLEN-43	zircon	421.92	33.75	151.11	62.16	0.76	165.42	0.41	286.18	3.31	0.74	44.05	1038.00	12.00
z13NESLEN-46	zircon	101.04	8.08	229.08	156.24	3.21	265.06	0.68	106.10	3.06	0.73	42.95	2446.50	9.10
z13NESLEN-47	zircon	79.02	6.32	221.54	69.24	1.06	237.49	0.31	79.48	6.37	0.78	53.23	1796.90	9.70
z13NESLEN-51	zircon	253.43	20.27	134.98	51.04	0.74	146.73	0.38	157.94	5.33	0.77	51.46	1075.70	9.20
z13NESLEN-69	zircon	412.73	33.02	133.64	65.23	1.70	148.66	0.49	243.11	2.80	0.71	40.21	1043.00	12.00
z13NESLEN-100	zircon	120.44	9.64	131.51	80.30	2.29	150.01	0.61	76.71	5.77	0.78	53.70	1716.00	12.00
z13NESLEN-102	zircon	294.89	23.59	141.23	117.12	1.08	168.19	0.83	203.04	4.41	0.74	45.82	471.70	4.50
z13NESLEN-119	zircon	332.96	26.64	129.50	215.41	3.24	179.10	1.66	230.90	2.59	0.70	39.52	618.70	6.60
zS2SEGO-3	zircon	141.46	11.32	49.98	37.45	0.84	58.61	0.75	32.77	3.04	0.72	42.42	1064.50	9.30
zS2SEGO-7	zircon	242.48	19.40	175.60	91.87	0.96	196.75	0.52	186.06	2.52	0.71	39.83	278.00	3.40
zS2SEGO-9	zircon	80.65	6.45	73.15	66.89	0.65	88.55	0.91	26.61	1.96	0.69	36.80	81.70	1.80
zS2SEGO-18	zircon	314.36	25.15	44.37	31.46	0.89	51.61	0.71	62.13	2.06	0.69	37.78	560.40	5.70
zS2SEGO-21	zircon	285.28	22.82	207.69	45.63	1.59	218.21	0.22	236.84	2.06	0.69	36.47	421.80	3.60
zS2SEGO-22	zircon	355.18	28.41	111.53	41.43	0.54	121.07	0.37	163.08	1.84	0.69	36.12	1054.00	7.20
zS2SEGO-30	zircon	304.60	24.37	57.90	22.42	0.28	63.07	0.39	75.77	2.50	0.72	40.34	3017.00	14.00
zS2SEGO-36	zircon	309.60	24.77	51.99	31.49	4.03	59.26	0.61	69.39	2.05	0.69	36.53	1021.00	11.00
zS2SEGO-40	zircon	290.87	23.27	98.83	41.84	1.43	108.47	0.42	120.97	2.27	0.70	37.61	1083.00	17.00
zS2SEGO-43	zircon	465.10	37.21	153.66	81.76	1.73	172.50	0.53	333.81	3.95	0.75	45.88	1097.60	7.00
zS2SEGO-45	zircon	97.95	7.84	216.24	73.16	1.21	233.08	0.34	94.40	4.56	0.76	48.64	1704.00	13.00
zS2SEGO-46	zircon	210.91	16.87	334.70	198.77	6.55	380.49	0.59	320.39	3.17	0.73	42.90	261.90	2.20
zS2SEGO-60	zircon	178.75	14.30	123.23	70.62	1.02	139.49	0.57	89.48	1.39	0.66	32.98	1730.00	14.00
zS2SEGO-68	zircon	562.13	44.97	315.46	12.12	1.00	318.26	0.04	743.27	2.97	0.74	42.97	2016.00	10.00
zS2SEGO-80	zircon	99.91	7.99	133.06	66.49	0.79	148.37	0.50	55.89	2.16	0.69	37.31	107.20	1.40
zS2SEGO-83	zircon	159.15	12.73	188.10	67.91	2.78	203.75	0.36	124.21	2.35	0.70	38.25	1749.00	22.00
zS2SEGO-86	zircon	468.76	37.50	66.74	22.96	0.51	72.03	0.34	135.23	2.51	0.72	40.60	2105.00	20.00
zS2SEGO-87	zircon	554.97	44.40	74.13	27.93	0.47	80.56	0.38	184.13	3.02	0.73	43.20	2843.00	10.00
zS2SEGO-119	zircon	116.81	9.34	107.00	60.54	0.85	120.94	0.57	58.60	4.65	0.76	49.36	103.10	1.80
z13LOYD-1	zircon	147.72	11.82	196.19	82.51	0.77	215.19	0.42	123.37	2.47	0.71	39.81	104.40	1.30
z13LOYD-2	zircon	165.38	13.23	209.50	43.51	3.63	219.53	0.21	145.73	3.14	0.74	43.18	397.60	9.40
z13LOYD-7	zircon	105.75	8.46	149.24	34.36	1.00	157.16	0.23	61.95	1.90	0.69	35.74	1025.00	17.00
z13LOYD-18	zircon	285.18	22.81	137.40	72.91	0.57	154.18	0.53	178.54	3.35	0.74	44.34	635.50	5.10
z13LOYD-22	zircon	235.80	18.86	87.72	55.68	0.61	100.54	0.63	88.21	1.77	0.68	35.58	1063.10	8.50
z13LOYD-23	zircon	181.58	14.53	283.65	100.77	2.21	306.86	0.36	209.25	1.83	0.69	36.23	454.60	7.00
z13LOYD-34	zircon	126.54	10.12	33.08	32.55	0.68	40.57	0.98	19.24	1.98	0.69	37.12	1043.00	14.00
z13LOYD-37	zircon	177.65	14.21	53.31	14.25	0.23	56.59	0.27	38.73	2.33	0.71	38.50	2700.10	7.40
z13LOYD-44	zircon	479.23	38.34	84.09	22.83	0.39	89.35	0.27	166.28	2.06	0.70	37.21	1037.60	8.90
z13LOYD-52	zircon	87.73	7.02	689.69	330.42	1.20	765.76	0.48	263.29	2.92	0.72	41.47	101.00	1.10
z13LOYD-60	zircon	307.49	24.60	21.75	19.32	1.12	26.20	0.89	30.48	1.94	0.69	36.90	1034.00	25.00
z13LOYD-62	zircon	293.86	23.51	178.91	77.95	1.33	196.86	0.44	215.43	1.63	0.68	35.05	1569.90	8.00
z13LOYD-64	zircon	96.54	7.72	423.84	75.08	1.14	441.13	0.18	170.18	3.08	0.74	43.14	1510.10	7.40
z13LOYD-78	zircon	123.74	9.90	173.89	88.08	0.86	194.17	0.51	89.81	1.87	0.69	36.41	1726.30	8.20
z13LOYD-81	zircon	246.00	19.68	146.59	72.76	1.97	163.35	0.50	152.90	2.19	0.69	37.30	1849.00	11.00
z13LOYD-82	zircon	291.72	23.34	60.81	59.32	0.49	74.47	0.98	80.24	1.64	0.67	35.07	2723.00	18.00
z13LOYD-84	zircon	217.46	17.40	141.38	54.88	1.06	154.02	0.39	125.13	1.79	0.68	35.64	425.20	4.70
z13LOYD-86	zircon	262.09	20.97	37.20	30.30	0.43	44.17	0.81	43.75	1.89	0.69	37.01	1997.10	8.40
z13LOYD-102	zircon	188.67	15.09	424.88	104.28	1.11	448.89	0.25	311.26	1.71	0.67	34.15	1946.00	7.30
z13LOYD-124	zircon	318.26	25.46	41.85	17.33	0.38	45.84	0.41	56.98	2.85	0.71	39.23	608.90	5.90
z13LOYD-125	zircon	290.27	23.22	31.87	16.59	17.31	35.77	0.52	40.28	2.32	0.70	38.78	1670.00	15.00
z13MARAPOSI-01	zircon	360.65	28.85	100.09	52.06	9.09	112.12	0.52	175.67	6.81	0.78	54.60	1706.00	10.00
z13MARAPOSI-03	zircon	72.25	5.78	258.36	133.26	2.04	289.05	0.52	86.27	4.85	0.76	49.10	161.30	2.00
z13MARAPOSI-05	zircon	595.07	47.61	56.72	47.86	6.49	67.77	0.84	165.89	3.56	0.73	43.61	1749.40	8.90
z13MARAPOSI-06	zircon	257.06	20.57	289.26	73.35	8.33	306.18	0.25	328.36	4.50	0.76	47.96	1110.00	11.00
z13MARAPOSI-14	zircon	196.63	15.73	165.32	120.45	5.31	193.07	0.73	152.19	3.73	0.73	43.73	247.60	2.20
z13MARAPOSI-18	zircon	239.20	19.14	202.26	52.72	4.88	214.42	0.26	205.85	2.93	0.73	42.63	1433.30	8.70
z13MARAPOSI-19	zircon	183.96	14.72	253.19	72.60	17.21	269.98	0.29	196.16	2.76	0.72	41.21	1730.40	7.30
z13MARAPOSI-23	zircon	65.71	5.26	102.18	38.86	6.67	111.16	0.38	30.02	4.63	0.76	48.03	1911.20	8.10
z13MARAPOSI-26	zircon	317.92	25.43	64.31	48.95	10.35	75.63	0.76	99.28	3.94	0.75	46.67	2614.00	24.00
z13MARAPOSI-27	zircon	285.50	22.84	117.14	24.36	5.29	122.77	0.21	139.58	2.91	0.72	41.12	950.00	15.00
z13MARAPOSI-33	zircon	444.93	35.59	165.84	53.71	0.95	178.21	0.32	335.92	4.64	0.76	48.31	1020.60	5.80
z13MARAPOSI-37	zircon	318.99	25.52	285.23	151.79	7.33	320.20	0.53	410.75	3.45	0.73	42.78	452.80	2.60
z13MARAPOSI-41	zircon	461.15	36.89	160.23	66.19	7.75	175.51	0.41	335.88	4.27	0.74	45.26	438.90	6.30
z13MARAPOSI-50	zircon	259.61	20.77	68.76	57.62	4.92	82.05	0.84	88.55	4.70	0.76	48.48	2067.10	7.50
z13MARAPOSI-54	zircon	74.93	5.99	999.86	271.91	15.86	1062.53	0.27	333.96	6.15	0.77	51.30	74.50	1.70
z13MARAPOSI-65	zircon	76.81	6.14	138.49	37.47	5.33	147.14	0.27	47.25	5.16	0.77	50.63	1714.30	6.60
z13MARAPOSI-69	zircon	348.99	27.92	102.74	59.69	8.66	116.52	0.58	168.81	4.20	0.75	46.89	2098.00	12.00
z13MARAPOSI-77	zircon	115.64	9.25	165.43	63.66	5.05	180.10	0.38	82.64	3.05	0.73	42.56	1708.00	11.00
z13MARAPOSI-83	zircon	70.22	5.62	104.45	44.02	5.98	114.61	0.42	32.54	4.05	0.75	45.57	77.00	1.50

z13MARAPOS1-100	zircon	326.93	26.15	141.27	73.04	7.58	158.12	0.52	211.32	3.49	0.74	44.80	415.90	3.80
z13MARAPOS1-113	zircon	68.82	5.51	112.11	109.73	6.06	137.40	0.98	38.23	4.18	0.74	46.25	63.90	1.40
z13MARAPOS1-116	zircon	137.48	11.00	190.16	53.83	12.35	202.62	0.28	113.20	3.75	0.75	45.34	1597.30	6.80
z13MEEI-1	zircon	91.56	7.32	829.14	498.26	7.26	943.88	0.60	322.86	2.02	0.69	36.66	1209.00	13.00
z13MEEI-2	zircon	288.76	23.10	147.48	84.91	1.76	167.03	0.58	176.61	1.52	0.67	33.97	656.40	5.60
z13MEEI-4	zircon	96.46	7.72	152.53	57.87	2.00	165.86	0.38	57.63	1.41	0.66	33.32	1246.00	14.00
z13MEEI-6	zircon	96.78	7.74	328.11	189.79	0.64	371.80	0.58	145.50	4.38	0.74	45.62	87.50	1.30
z13MEEI-21	zircon	344.46	27.56	55.38	30.46	0.46	62.40	0.55	85.88	2.78	0.72	41.83	637.70	6.30
z13MEEI-22	zircon	344.30	27.54	122.87	41.97	1.61	132.54	0.34	169.91	1.66	0.68	34.58	410.70	5.00
z13MEEI-25	zircon	274.62	21.97	230.18	112.20	3.44	256.02	0.49	267.29	2.02	0.69	37.03	1039.70	8.20
z13MEEI-28	zircon	167.82	13.43	133.51	99.71	0.44	156.46	0.75	95.46	1.59	0.67	34.19	181.80	2.30
z13MEEI-36	zircon	121.23	9.70	89.97	66.98	0.79	105.39	0.74	47.29	1.78	0.68	35.86	2727.00	12.00
z13MEEI-44	zircon	90.37	7.23	573.76	218.99	0.75	624.17	0.38	203.66	1.49	0.67	33.52	93.50	0.89
z13MEEI-47	zircon	331.82	26.55	337.11	127.16	5.21	366.41	0.38	491.59	3.03	0.73	43.02	1052.00	12.00
z13MEEI-50	zircon	303.56	24.29	191.63	62.24	1.33	205.96	0.32	245.46	2.45	0.71	39.70	1392.80	5.30
z13MEEI-86	zircon	308.80	24.70	117.97	51.60	1.36	129.86	0.44	157.83	2.91	0.71	40.18	1837.40	6.60
z13MEEI-90	zircon	83.21	6.66	136.99	59.74	77.54	151.13	0.44	51.06	3.78	0.75	45.87	1831.10	6.10
z13MEEI-101	zircon	67.14	5.37	97.45	33.56	1.10	105.18	0.34	27.14	2.45	0.71	39.17	1751.90	7.30
z13MEEI-103	zircon	203.73	16.30	115.49	65.60	1.21	130.60	0.57	108.64	3.77	0.75	45.97	1671.00	12.00
z13MEEI-116	zircon	84.73	6.78	53.60	23.24	0.66	58.95	0.43	19.15	2.44	0.71	38.94	2092.00	11.00