

Appendix A: Adobe Acrobat Version of Chapter 1.

This chapter has been accepted for publication by *The American Mineralogist* as an electronic article. It is best viewed as an interactive Adobe Acrobat document, which can be found on the CD in this appendix.

The CD contains a pdf file [\\chapter1\InsideStory.pdf](#) and the vml files for appendix 1 of the chapter in [\\chapter1\vml\](#).

**Appendix B: JCU Sample Collection, Murphy Syncline
Samples, Sample V209**

Murphy Syncline Samples

JCU Collection Number	Sample Number	Latitude	Longitude	Thin sections	Porphyroblastic Phases
71998	CH2	35° 0.82' N	84° 17.02' W	0,10,20,30,40,60,90,120,130,140,150,160,170	gt, st, chl
71999	CH4	35° 0.64' N	84° 15.92' W	0,10,20,60,90,120,160,170	gt,chl
72000	CH7	35° 9.19' N	83° 39.18' W	0,20,60,90,100,110,120,130,160	gt, plag
72001	CH11	35° 24.86' N	83° 33.42' W	0,20,40,50,60,80,100,120,140,150,160	gt, st, plag, chl
72002	CH13	35° 24.86' N	83° 33.42' W	0,10,20,30,40,50,60,70,80,90,100,110,120,130,140,150,160,170	gt, bi, st
72003	CH14	35° 24.91' N	83° 33.55' W	0,10,20,30,60,80,100,120,130,150,160,170	gt
72004	CH17	35° 25.43' N	83° 33.63' W	0,10,20,40,50,60,90,120,130,140,150,160,170	gt
72005	CH20	35° 24.81' N	83° 34.06' W	0,20,30,40, 50,60,90,120,150,160	gt, st
72006	CH21	35° 24.85' N	83° 34.18' W	0,30,60,70,80,90,100,110,120,140	gt
72007	CH22	35° 24.91' N	83° 32.94' W	0,0p10,20,30,30p,40,50,60,70,80,90,100,110,120,130,140,140p,150,160,170	gt, bi, plag, st
72008	CH23	35° 24.78' N	83° 33.29' W	0,20,60,80,90,100,120,140	gt
72009	CH24	35° 26.52' N	83° 32.64' W	0,30,60,70,80,90,100,110,120,130,140,160	gt, plag, chl
72010	CH25	35° 26.54' N	83° 32.61' W	0,20,40,60,70,80,90,100,120,150	gt
72011	CH27	35° 20.11' N	83° 30.24' W	0,10,20,20p,30p,40,50p,,60,70p,80,80,100,120	gt
72012	CH30	35° 26.24' N	83° 33.70' W	0,10,20,30,60,90,120,140,160,170	gt,chl
72013	CH32	35° 26.39' N	83° 33.46' W	0,20,40,60,80,100,120,140,160	gt
72014	CH35	35° 21.85' N	83° 32.77' W	0,0p,10,20,40,50p,60,80,90,100,110,110p,120,130,140,150,160,170	gt, plag, bi, ky, st
72015	CH38	35° 23.80' N	83° 31.34' W	0,10,20,30,60,80,90,100,110,120,150,160,170	gt, ky
72016	CH40	35° 18.79' N	83° 36.05' W	0,30,60,90,120,120,150,160,	gt
72017	CH41	35° 16.46' N	83° 39.82' W	0,10,30,60,90,100,110,120,130,140,150,160,170	gt, bi
72018	CH42	35° 11.50' N	83° 38.50' W	0,20,10,60,90,120,150,160,170	gt
72019	CH43	35° 11.44' N	83° 38.61' W	0,20,40,60,80,100,120,130,140,150,160	gt, bi
72020	CH48	35° 16.73' N	83° 41.51' W	0,0,30,60,70,80,90,100,110,120,150	gt, bi
72021	CH49	35° 17.45' N	83° 46.22' W	0,20,40,60,70,80,80,90,90,100,110,120,140,160	gt, bi
72022	CH50	35° 18.27' N	83° 47.75' W	0,20,40,60,70,70,80,90,100,110,120,130,140,160	gt, st, plag
72023	CH51	35° 16.94' N	83° 49.11' W	0,30,60,90,120,140,160,170	gt
72024	CH52	35° 15.50' N	83° 49.21' W	0,30,60,100,110,120,130,140,160	gt, st, chl
72025	CH53	35° 14.46' N	83° 49.07' W	0,30,60,70,80,90,100,110,120,140,160	gt
72026	CH56	35° 22.17' N	83° 37.62' W	0,10,20,30,60,70,80,90,100,110,120,140,160	gt
72027	CH57	35° 22.86' N	83° 40.68' W	0,30,60,80,90,100,110,120,130,150,160,170	gt
72028	CH58	35° 26.36' N	83° 48.43' W	0,30,60,90,120,130,140,150,160,170	gt
72029	CH60	35° 22.87' N	83° 51.85' W	0,30,60,80,90,100,110,120,140	gt
72030	CH62	35° 17.01' N	83° 52.49' W	0,30,60,60p,90,100,110,110p,120,130,130p,150,150p,160,170	gt, st

JCU Collection Number	Sample Number	Latitude	Longitude	Thin sections*	Porphyroblastic Phases
72031	CH68	35° 9.07' N	84° 1.88' W	0,30,60,80,90,100,110,120,130,140,150,160	gt, plag
72032	CH70	35° 12.85' N	84° 2.51' W	0,20,30,40,40,50,60,70,80,100,120,150	gt, st
72033	CH71	35° 11.08' N	84° 3.10' W	0,40,50,60,70,80,120,150	gt
72034	CH72	35° 13.07' N	84° 5.95' W	0,30,60,70,80,80,90,100,100,120,150	gt, chl
72035	CH73	35° 8.09' N	83° 58.40' W	0,20,60,70,90,120,130,140,150,160,170	gt

* Thin section orientation in degrees. Repeats represent multiple thin sections. Suffix p denotes polished thin sections.

Sample V209

JCU Collection Number	Sample Number	Latitude	Longitude	Thin sections/ Drill Cores	Porphyroblastic Phases
72036	V209	43° 11' 09.6" N	72° 38' 30" W	Thin sections 360,10,20,30,40,50,60,70p, 80,90,100,110,120,130,140p, 150,160,170,181, Horizontal, 15→88, 45→88, 45→268, 15→268. Polished section of core V209-1. Cores V209-1, V209-2, V209-3, V209-4	gt

Ken Hickey collected this sample. Data collected from it was published in Bell et al. (1998). Core V209-1 has been sectioned and is no longer intact.

Appendix C: HRXCT Raw Data

Raw high resolution X-ray computed tomography (HRXCT) data for the four drill cores from sample V209. These data were used for chapters 1 and 2 of this thesis. Data is in 16-bit tiff format files with one file for each of the 918 slices imaged from each core. 8-bit jpeg versions are also included. See content.txt in the root directory of the disc for more details.