APPENDIX IV

DIAMOND DRILL CORE ASSAYS

* - Assay sample numbers correlate with 2 m sample intervals.
- All of the 1991 core was analyzed for copper and gold except for the top 300 m of hole 91-10.
- The sample intervals can be cross referenced with intervals outlined in the geological logs (Appendix III).

VOLUME III:

APPENDIX IV
APPENDIX V
APPENDIX VI
APPENDIX VII
APPENDIX VIII
APPENDIX IX

DRILLHOLE NUMBER	SAMPLE NUMBER	FROM (m)	TO (m)	INTERVAL (m)	Au g/tonne	Cu %
91-1	67001	9.75	10.00	0.25	0.21	0.152
91-1	67002	10.00	12.00	2.00	0.18	0.131
91-1	67003	12.00	14.00	2.00	0.23	0.183
91-1	67004	14.00	16.00	2.00	0.31	0.191
91-1	67005	16.00	18.00	2.00	0.47	0.299
91-1	67006	18.00	20.00	2.00	0.40	0.211
91-1	67007	20.00	22.00	2.00	0.38	0.201
91-1	67008	22.00	24.00	2.00	0.52	0.333
91-1	67009	24.00	26.00	2.00	0.50	0.319
91-1	67010	26.00	28.00	2.00	0.31	0.217
91-1	67011	28.00	30.00	2.00	0.42	0.340
91-1	67012	30.00	32.00	2.00	0.59	0.284
91-1	67013	32.00	34.00	2.00	0.72	0.349
91-1	67014	34.00	36.00	2.00	0.62	0.348
91-1	67015	36.00	38.00	2.00	0.32	0.231
91-1	67016	38.00	40.00	2.00	0.30	0.200
91-1	67017	40.00	42.00	2.00	0.51	0.279
91-1	67018	42.00	44.00	2.00	0.60	0.363
91-1	67019	44.00	46.00	2.00	0.58	0.284
91-1	67020	46.00	48.00	2.00	1.02	0.315
91-1	67021	48.00	50.00	2.00	0.37	0.260
91-1	67022	50.00	52.00	2.00	0.31	0.149
91-1	67023	52.00	54.00	2.00	0.35	0.249
91-1	67024	54.00	56.00	2.00	0.47	0.295
91-1	67025	56.00	58.00	2.00	0.62	0.344
91-1	67026	58.00	60.00	2.00	0.31	0.219
91-1	67027	60.00	62.00	2.00	0.50	0.413
91-1	67028	62.00	64.00	2.00	0.58	0.285
91-1	67029	64.00	66.00	2.00	0.55	0.303
91-1	67030	66.00	68.00	2.00	0.50	0.299
91-1	67031	68.00	70.00	2.00	1.16	0.487
91-1	67032	70.00	72.00	2.00	0.72	0.257
91-1	67033	72.00	74.00	2.00	0.36	0.172
91-1	67034	74.00	76.00	2.00	0.47	0.207
91-1	67035	76.00	78.00	2.00	0.45	0.209
91-1	67036	78.00	80.00	2.00	0.47	0.231
91-1	67037	80.00	82.00	2.00	0.69	0.312
91-1	67038	82.00	84.00	2.00	0.32	0.164
91-1	67039	84.00	86.00	2.00	0.52	0.116
91-1	67040	86.00	88.00	2.00	0.31	0.204
91-1	67041	88.00	90.00	2.00	0.30	0.156
91-1	67042	90.00	92.00	2.00	0.21	0.175
91-1	67043	92.00	94.00	2.00	0.27	0.185
91-1	67044	94.00	96.00	2.00	0.23	0.144
91-1	67045	96.00	98.00	2.00	0.30	0.154
91-1	67046	98.00	100.00	2.00	0.47	0.167
91-1	67047	100.00	102.00	2.00	0.32	0.242
91-1	67048	102.00	104.00	2.00	0.40	0.150
91-1	67049	104.00	106.00	2.00	0.25	0.157
91-1	67050	106.00	108.00	2.00	0.70	0.379

DRILLHOLE NUMBER	SAMPLE NUMBER	FROM (m)	TO (m)	INTERVAL (m)	Au g/tonne	Cu %
91-1	67051	108.00	110.00	2.00	0.31	0.190
91-1	67052	110.00	112.00	2.00	0.44	0.256
91-1	67053	112.00	114.00	2.00	1.71	0.400
91-1	67054	114.00	116.00	2.00	0.43	0.226
91-1	67055	116.00	118.00	2.00	0.30	0.201
91-1	67056	118.00	120.00	2.00	0.47	0.258
91-1	67057	120.00	122.00	2.00	0.25	0.158
91-1	67058	122.00	124.00	2.00	0.61	0.237
91-1	67059	124.00	126.00	2.00	0.42	0.271
91-1	67060	126.00	128.00	2.00	0.50	0.369
91-1	67061	128.00	130.00	2.00	0.51	0.264
91-1	67062	130.00	132.00	2.00	0.32	0.176
91-1	67063	132.00	134.00	2.00	0.48	0.337
91-1	67064	134.00	136.00	2.00	0.52	0.303
91-1	67065	136.00	138.00	2.00	0.47	0.301
91-1	67066	138.00	140.00	2.00	0.53	0.296
91-1	67067	140.00	142.00	2.00	0.57	0.235
91-1	67068	142.00	144.00	2.00	0.63	0.340
91-1	67069	144.00	146.00	2.00	0.45	0.215
91-1	67070	146.00	148.00	2.00	0.27	0.206
91-1	67071	148.00	150.00	2.00	0.21	0.131
91-1	67072	150.00	152.00	2.00	0.49	0.317
91-1	67073	152.00	154.00	2.00	0.51	0.258
91-1	67074	154.00	156.00	2.00	0.30	0.227
91-1	67075	156.00	158.00	2.00	0.29	0.226
91-1	67076	158.00	160.00	2.00	0.30	0.224
91-1	67077	160.00	162.00	2.00	0.44	0.366
91-1	67078	162.00	164.00	2.00	0.32	0.230
91-1	67079	164.00	166.00	2.00	0.19	0.191
91-1	67080	166.00	168.00	2.00	0.27	0.203
91-1	67081	168.00	170.00	2.00	0.41	0.298
91-1	67082	170.00	172.00	2.00	0.33	0.226
91-1	67083	172.00	174.00	2.00	0.41	0.303
91-1	67084	174.00	176.00	2.00	0.44	0.330
91-1	67085	176.00	178.00	2.00	0.38	0.279
91-1	67086	178.00	180.00	2.00	0.22	0.267
91-1	67087	180.00	182.00	2.00	0.41	0.215
91-1	67088	182.00	184.00	2.00	0.32	0.274
91-1	67089	184.00	186.00	2.00	0.25	0.206
91-1	67090	186.00	188.00	2.00	0.14	0.166
91-1	67091	188.00	190.00	2.00	0.45	0.260
91-1	67092	190.00	192.00	2.00	0.42	0.250
91-1	67093	192.00	194.00	2.00	0.40	0.192
91-1	67094	194.00	196.00	2.00	0.92	0.289
91-1	67095	196.00	198.00	2.00	0.83	0.431
91-1	67096	198.00	200.00	2.00	0.45	0.256
91-1	67097	200.00	202.00	2.00	0.82	0.375
91-1	67098	202.00	204.00	2.00	0.52	0.345
91-1	67099	204.00	206.00	2.00	0.98	0.417
91-1	67100	206.00	208.00	2.00	0.84	0.271

DRILLHOLE NUMBER	SAMPLE NUMBER	FROM (m)	TO (m)	INTERVAL (m)	Au g/tonne	Cu %
91-1	67101	208.00	210.00	2.00	0.61	0.393
91-1	67102	210.00	212.00	2.00	0.98	0.347
91-1	67103	212.00	214.00	2.00	0.72	0.375
91-1	67104	214.00	216.00	2.00	0.61	0.350
91-1	67105	216.00	218.00	2.00	1.28	0.329
91-1	67106	218.00	220.00	2.00	0.82	0.312
91-1	67107	220.00	222.00	2.00	0.40	0.213
91-1	67108	222.00	224.00	2.00	0.40	0.303
91-1	67109	224.00	226.00	2.00	0.79	0.538
91-1	67110	226.00	228.00	2.00	0.70	0.391
91-1	67111	228.00	230.00	2.00	0.69	0.374
91-1	67112	230.00	232.00	2.00	0.73	0.586
91-1	67113	232.00	234.00	2.00	0.42	0.207
91-1	67114	234.00	236.00	2.00	0.60	0.354
91-1	67115	236.00	238.00	2.00	0.50	0.350
91-1	67116	238.00	240.00	2.00	0.50	0.301
91-1	67117	240.00	242.00	2.00	0.61	0.221
91-1	67118	242.00	244.00	2.00	0.57	0.320
91-1	67119	244.00	246.00	2.00	0.66	0.494
91-1	67120	246.00	248.00	2.00	1.00	0.291
91-1	67121	248.00	250.00	2.00	0.55	0.349
91-1	67122	250.00	252.00	2.00	0.52	0.330
91-1	67123	252.00	254.00	2.00	2.40	0.503
91-1	67124	254.00	256.00	2.00	0.47	0.365
91-1	67125	256.00	258.00	2.00	0.50	0.348
91-1	67126	258.00	260.00	2.00	0.47	0.156
91-1	67127	260.00	262.00	2.00	0.30	0.176
91-1	67128	262.00	264.00	2.00	0.30	0.156
91-1	67129	264.00	266.00	2.00	0.23	0.198
91-1	67130	266.00	268.00	2.00	0.20	0.184
91-1	67131	268.00	270.00	2.00	0.61	0.320
91-1	67132	270.00	272.00	2.00	0.59	0.239
91-1	67133	272.00	274.00	2.00	0.81	0.459
91-1	67134	274.00	276.00	2.00	0.36	0.257
91-1	67135	276.00	278.00	2.00	0.43	0.245
91-1	67136	278.00	280.00	2.00	0.47	0.273
91-1	67137	280.00	282.00	2.00	2.25	0.394
91-1	67138	282.00	284.00	2.00	1.57	0.416
91-1	67139	284.00	286.00	2.00	0.57	0.298
91-1	67140	286.00	288.00	2.00	2.02	0.438
91-1	67141	288.00	290.00	2.00	0.53	0.401
91-1	67142	290.00	292.00	2.00	0.80	0.385
91-1	67143	292.00	294.00	2.00	0.67	0.422
91-1	67144	294.00	296.00	2.00	2.89	0.292
91-1	67145	296.00	298.00	2.00	0.57	0.316
91-1	67146	298.00	300.00	2.00	0.50	0.370
91-1	67147	300.00	302.00	2.00	0.82	0.476
91-1	67148	302.00	304.00	2.00	0.78	0.469
91-1	67149	304.00	306.00	2.00	0.53	0.318
91-1	67150	306.00	308.00	2.00	0.62	0.438

DRILLHOLE NUMBER	SAMPLE NUMBER	FROM (m)	TO (m)	INTERVAL (m)	Au g/tonne	Cu %
91-1	67151	308.00	310.00	2.00	1.00	0.500
91-1	67152	310.00	312.00	2.00	0.79	0.446
91-1	67153	312.00	314.00	2.00	0.60	0.342
91-1	67154	314.00	316.00	2.00	0.63	0.326
91-1	67155	316.00	318.00	2.00	0.73	0.350
91-1	67156	318.00	320.00	2.00	0.59	0.222
91-1	67157	320.00	322.00	2.00	0.81	0.356
91-1	67158	322.00	324.00	2.00	2.54	0.300
91-1	67159	324.00	326.00	2.00	0.51	0.302
91-1	67160	326.00	328.00	2.00	0.67	0.396
91-1	67161	328.00	330.00	2.00	1.01	0.441
91-1	67162	330.00	332.00	2.00	0.92	0.509
91-1	67163	332.00	334.00	2.00	2.16	0.408
91-1	67164	334.00	336.00	2.00	1.01	0.562
91-1	67165	336.00	338.00	2.00	1.61	0.421
91-1	67166	338.00	340.00	2.00	0.79	0.310
91-1	67167	340.00	342.00	2.00	0.63	0.313
91-1	67168	342.00	344.00	2.00	0.86	0.531
91-1	67169	344.00	346.00	2.00	0.80	0.420
91-1	67170	346.00	348.00	2.00	0.51	0.339
91-1	67171	348.00	350.00	2.00	0.98	0.416
91-1	67172	350.00	352.00	2.00	0.72	0.449
91-1	67173	352.00	354.00	2.00	0.56	0.408
91-1	67174	354.00	356.00	2.00	0.53	0.333
91-1	67175	356.00	358.00	2.00	42.00	0.858
91-1	67176	358.00	360.00	2.00	0.71	0.254
91-1	67177	360.00	362.00	2.00	24.20	0.865
91-1	67178	362.00	364.00	2.00	0.78	0.523
91-1	67179	364.00	366.00	2.00	0.43	0.216
91-1	67180	366.00	368.00	2.00	0.60	0.343
91-1	67181	368.00	370.00	2.00	0.50	0.257
91-1	67182	370.00	372.00	2.00	0.75	0.439
91-1	67183	372.00	374.00	2.00	0.76	0.385
91-1	67184	374.00	376.00	2.00	0.70	0.375
91-1	67185	376.00	378.00	2.00	0.51	0.304
91-1	67186	378.00	380.00	2.00	0.37	0.208
91-1	67187	380.00	382.00	2.00	0.92	0.482
91-1	67188	382.00	384.00	2.00	0.71	0.413
91-1	67189	384.00	386.00	2.00	1.03	0.596
91-1	67190	386.00	388.00	2.00	0.62	0.401
91-1	67191	388.00	390.00	2.00	1.02	0.372
91-1	67192	390.00	392.00	2.00	0.73	0.438
91-1	67193	392.00	394.00	2.00	0.51	0.379
91-1	67194	394.00	396.00	2.00	0.87	0.401
91-1	67195	396.00	398.00	2.00	0.74	0.435
91-1	67196	398.00	400.00	2.00	0.68	0.466
91-1	67197	400.00	402.00	2.00	0.59	0.406
91-1	67198	402.00	404.00	2.00	0.38	0.254
91-1	67199	404.00	406.00	2.00	0.54	0.301
91-1	67200	406.00	408.00	2.00	0.73	0.378

DRILLHOLE NUMBER	SAMPLE NUMBER	FROM (m)	TO (m)	INTERVAL (m)	Au g/tonne	Cu %
91-1	67201	408.00	410.00	2.00	0.75	0.445
91-1	67202	410.00	412.00	2.00	0.88	0.553
91-1	67203	412.00	414.00	2.00	0.62	0.439
91-1	67204	414.00	416.00	2.00	0.89	0.526
91-1	67205	416.00	418.00	2.00	0.41	0.347
91-1	67206	418.00	420.00	2.00	0.87	0.515
91-1	67207	420.00	422.00	2.00	0.53	0.365
91-1	67208	422.00	424.00	2.00	0.68	0.459
91-1	67209	424.00	426.00	2.00	0.65	0.369
91-1	67210	426.00	428.00	2.00	0.64	0.325
91-1	67211	428.00	430.00	2.00	0.53	0.322
91-1	67212	430.00	432.00	2.00	0.59	0.409
91-1	67213	432.00	434.00	2.00	0.40	0.230
91-1	67214	434.00	436.00	2.00	0.64	0.328
91-1	67215	436.00	438.00	2.00	0.32	0.253
91-1	67216	438.00	440.00	2.00	0.09	0.067
91-1	67217	440.00	442.00	2.00	0.01	0.002
91-1	67218	442.00	444.00	2.00	0.01	0.003
91-1	67219	444.00	446.00	2.00	0.02	0.002
91-1	67220	446.00	448.00	2.00	0.14	0.070
91-1	67221	448.00	450.00	2.00	1.09	0.850
91-1	67222	450.00	452.00	2.00	0.54	0.347
91-1	67223	452.00	454.00	2.00	0.48	0.328
91-1	67224	454.00	456.00	2.00	0.59	0.383
91-1	67225	456.00	458.00	2.00	0.73	0.543
91-1	67226	458.00	460.00	2.00	0.72	0.539
91-1	67227	460.00	462.00	2.00	0.67	0.327
91-1	67228	462.00	464.00	2.00	0.59	0.342
91-1	67229	464.00	466.00	2.00	0.70	0.365
91-1	67230	466.00	468.00	2.00	0.69	0.456
91-1	67231	468.00	470.00	2.00	0.45	0.367
91-1	67232	470.00	472.00	2.00	0.01	0.007
91-1	67233	472.00	474.00	2.00	0.30	0.223
91-1	67234	474.00	476.00	2.00	0.68	0.434
91-1	67235	476.00	478.00	2.00	1.12	0.493
91-1	67236	478.00	480.00	2.00	1.01	0.680
91-1	67237	480.00	482.00	2.00	0.66	0.459
91-1	67238	482.00	484.00	2.00	0.43	0.381
91-1	67239	484.00	486.00	2.00	0.48	0.277
91-1	67240	486.00	488.00	2.00	0.49	0.291
91-1	67241	488.00	490.00	2.00	0.54	0.344
91-1	67242	490.00	492.00	2.00	0.31	0.232
91-1	67243	492.00	494.00	2.00	0.60	0.220
91-1	67244	494.00	496.00	2.00	1.65	0.263
91-1	67245	496.00	498.00	2.00	0.54	0.433
91-1	67246	498.00	500.00	2.00	0.62	0.546
91-1	67247	500.00	502.00	2.00	0.50	0.329
91-1	67248	502.00	504.00	2.00	0.73	0.407
91-1	67249	504.00	506.00	2.00	0.86	0.574
91-1	67250	506.00	508.00	2.00	0.77	0.497

DRILLHOLE NUMBER	SAMPLE NUMBER	FROM (m)	TO (m)	INTERVAL (m)	Au g/tonne	Cu %
91-1	67251	508.00	510.00	2.00	0.68	0.418
91-1	67252	510.00	512.00	2.00	0.52	0.410
91-1	67253	512.00	514.00	2.00	0.59	0.473
91-1	67254	514.00	516.00	2.00	0.51	0.403
91-1	67255	516.00	518.00	2.00	0.72	0.498
91-1	67256	518.00	520.00	2.00	0.90	0.553
91-1	67257	520.00	522.00	2.00	0.40	0.315
91-1	67258	522.00	524.00	2.00	0.71	0.652
91-1	67259	524.00	526.00	2.00	0.60	0.403
91-1	67260	526.00	528.00	2.00	0.42	0.340
91-1	67261	528.00	530.00	2.00	0.49	0.396
91-1	67262	530.00	532.00	2.00	0.47	0.344
91-1	67263	532.00	534.00	2.00	0.97	0.614
91-1	67264	534.00	536.00	2.00	0.71	0.503
91-1	67265	536.00	538.00	2.00	0.56	0.430
91-1	67266	538.00	540.00	2.00	0.54	0.344
91-1	67267	540.00	542.00	2.00	0.39	0.407
91-1	67268	542.00	544.00	2.00	0.40	0.290
91-1	67269	544.00	546.00	2.00	0.64	0.511
91-1	67270	546.00	548.00	2.00	0.68	0.568
91-1	67271	548.00	550.00	2.00	0.62	0.501
91-1	67272	550.00	552.00	2.00	0.50	0.444
91-1	67273	552.00	554.00	2.00	0.61	0.418
91-1	67274	554.00	556.00	2.00	0.80	0.296
91-1	67275	556.00	558.00	2.00	0.28	0.241
91-1	67276	558.00	560.00	2.00	0.39	0.248
91-1	67277	560.00	562.00	2.00	0.50	0.502
91-1	67278	562.00	564.00	2.00	0.49	0.327
91-1	67279	564.00	566.00	2.00	0.43	0.294
91-1	67280	566.00	568.00	2.00	0.52	0.395
91-1	67281	568.00	570.00	2.00	0.54	0.384
91-1	67282	570.00	572.00	2.00	0.40	0.299
91-1	67283	572.00	574.00	2.00	0.41	0.240
91-1	67284	574.00	576.00	2.00	0.26	0.201
91-1	67285	576.00	578.00	2.00	0.91	0.599
91-1	67286	578.00	580.00	2.00	0.49	0.379
91-1	67287	580.00	582.00	2.00	0.42	0.380
91-1	67288	582.00	584.00	2.00	0.61	0.536
91-1	67289	584.00	586.00	2.00	0.63	0.528
91-1	67290	586.00	588.00	2.00	0.96	0.703
91-1	67291	588.00	590.00	2.00	0.93	0.627
91-1	67292	590.00	592.00	2.00	0.78	0.516
91-1	67293	592.00	594.00	2.00	0.69	0.376
91-1	67294	594.00	596.00	2.00	0.73	0.358
91-1	67295	596.00	598.00	2.00	0.61	0.628
91-1	67296	598.00	600.00	2.00	0.42	0.243
91-1	67297	600.00	602.00	2.00	0.71	0.436
91-1	67298	602.00	604.00	2.00	0.43	0.313
91-1	67299	604.00	606.00	2.00	0.76	0.466
91-1	67300	606.00	608.00	2.00	0.52	0.408

DRILLHOLE NUMBER	SAMPLE NUMBER	FROM (m)	TO (m)	INTERVAL (m)	Au g/tonne	Cu %
91-1	67301	608.00	610.00	2.00	0.49	0.313
91-1	67302	610.00	612.00	2.00	0.54	0.261
91-1	67303	612.00	614.00	2.00	0.71	0.455
91-1	67304	614.00	616.00	2.00	0.63	0.320
91-1	67305	616.00	618.00	2.00	0.45	0.336
91-1	67306	618.00	620.00	2.00	0.67	0.453
91-1	67307	620.00	622.00	2.00	0.62	0.413
91-1	67308	622.00	624.00	2.00	0.43	0.351
91-1	67309	624.00	626.00	2.00	0.50	0.396
91-1	67310	626.00	628.00	2.00	0.49	0.393
91-1	67311	628.00	630.00	2.00	0.44	0.383
91-1	67312	630.00	632.00	2.00	0.32	0.227
91-1	67313	632.00	634.00	2.00	0.70	0.580
91-1	67314	634.00	636.00	2.00	0.41	0.403
91-1	67315	636.00	638.00	2.00	0.68	0.553
91-1	67316	638.00	640.00	2.00	0.46	0.425
91-1	67317	640.00	642.00	2.00	0.74	0.478
91-1	67318	642.00	644.00	2.00	0.70	0.450
91-1	67319	644.00	646.00	2.00	0.43	0.313
91-1	67320	646.00	648.00	2.00	0.68	0.494
91-1	67321	648.00	650.00	2.00	0.57	0.422
91-1	67322	650.00	652.00	2.00	0.53	0.370
91-1	67323	652.00	654.00	2.00	0.31	0.366
91-1	67324	654.00	656.00	2.00	0.50	0.393
91-1	67325	656.00	658.00	2.00	0.36	0.302
91-1	67326	658.00	660.00	2.00	0.62	0.615
91-1	67327	660.00	662.00	2.00	0.43	0.484
91-1	67328	662.00	664.00	2.00	0.70	0.557
91-1	67329	664.00	666.00	2.00	0.28	0.275
91-1	67330	666.00	668.00	2.00	0.47	0.308
91-1	67331	668.00	670.00	2.00	0.40	0.256
91-1	67332	670.00	672.00	2.00	0.45	0.258
91-1	67333	672.00	674.00	2.00	0.38	0.219
91-1	67334	674.00	676.00	2.00	0.43	0.354
91-1	67335	676.00	678.00	2.00	0.45	0.273
91-1	67336	678.00	680.00	2.00	0.76	0.341
91-1	67337	680.00	682.00	2.00	0.59	0.365
91-1	67338	682.00	684.00	2.00	0.60	0.368
91-1	67339	684.00	686.00	2.00	0.51	0.362
91-1	67340	686.00	688.00	2.00	0.72	0.470
91-1	67341	688.00	690.00	2.00	0.57	0.377
91-1	67342	690.00	692.00	2.00	0.87	0.652
91-1	67343	692.00	694.00	2.00	0.64	0.444
91-1	67344	694.00	696.00	2.00	0.84	0.576
91-1	67345	696.00	698.00	2.00	0.95	0.645
91-1	67346	698.00	700.00	2.00	0.96	0.625
91-1	67347	700.00	702.00	2.00	0.60	0.397
91-1	67348	702.00	704.00	2.00	0.49	0.352
91-1	67349	704.00	706.00	2.00	0.64	0.526
91-1	67350	706.00	708.00	2.00	0.58	0.450

DRILLHOLE NUMBER	SAMPLE NUMBER	FROM (m)	TO (m)	INTERVAL (m)	Au g/tonne	Cu %
91-1	67351	708.00	710.00	2.00	0.41	0.260
91-1	67352	710.00	712.00	2.00	0.20	0.142
91-1	67353	712.00	713.40	1.40	0.21	0.189
91-1	67354	713.40	714.00	0.60	0.61	0.577
91-1	67355	714.00	716.00	2.00	0.94	0.669
91-1	67356	716.00	718.00	2.00	0.74	0.598
91-1	67357	718.00	720.00	2.00	0.70	0.510
91-1	67358	720.00	722.00	2.00	0.65	0.499
91-1	67359	722.00	724.00	2.00	1.13	1.052
91-1	67360	724.00	726.00	2.00	1.16	0.919
91-1	67361	726.00	728.00	2.00	0.83	0.626
91-1	67362	728.00	730.00	2.00	0.86	0.026
91-1	67363	730.00	732.00	2.00	0.61	0.461
91-1	67364	732.00	734.00	2.00	0.70	0.533
91-1	67365	734.00	736.00	2.00	0.63	0.445
91-1	67366	736.00	738.00	2.00	0.62	0.458
91-1	67367	738.00	740.00	2.00	0.51	0.326
91-1	67368	740.00	742.00	2.00	0.48	0.362
91-1	67369	742.00	744.00	2.00	0.52	0.396
91-1	67370	744.00	746.00	2.00	0.71	0.421
91-1	67371	746.00	748.00	2.00	0.43	0.308
91-1	67372	748.00	750.00	2.00	0.38	0.305
91-1	67373	750.00	752.00	2.00	0.46	0.402
91-1	67374	752.00	754.00	2.00	0.60	0.412
91-1	67375	754.00	756.00	2.00	0.50	0.522
91-1	67376	756.00	758.00	2.00	0.52	0.390
91-1	67377	758.00	760.00	2.00	0.50	0.348
91-1	67378	760.00	762.00	2.00	0.69	0.423
91-1	67379	762.00	764.00	2.00	0.41	0.332
91-1	67380	764.00	766.00	2.00	0.68	0.383
91-1	67381	766.00	768.00	2.00	0.52	0.337
91-1	67382	768.00	770.00	2.00	0.50	0.353
91-1	67383	770.00	772.00	2.00	0.91	0.667
91-1	67384	772.00	774.00	2.00	0.66	0.593
91-1	67385	774.00	776.00	2.00	0.60	0.558
91-1	67386	776.00	778.00	2.00	1.01	0.740
91-1	67387	778.00	780.00	2.00	1.05	0.757
91-1	67388	780.00	782.00	2.00	1.02	0.777
91-1	67389	782.00	784.00	2.00	0.68	0.494
91-1	67390	784.00	786.00	2.00	0.51	0.388
91-1	67391	786.00	788.00	2.00	0.74	0.590
91-1	67392	788.00	790.00	2.00	1.16	0.622
91-1	67393	790.00	792.00	2.00	0.51	0.443
91-1	67394	792.00	794.00	2.00	0.57	0.431
91-1	67395	794.00	796.00	2.00	0.71	0.482
91-1	67396	796.00	798.00	2.00	0.54	0.407
91-1	67397	798.00	800.00	2.00	0.85	0.496
91-1	67398	800.00	802.00	2.00	0.71	0.559
91-1	67399	802.00	804.00	2.00	0.58	0.396
91-1	67400	804.00	806.00	2.00	0.47	0.302

DRILLHOLE NUMBER	SAMPLE NUMBER	FROM (m)	TO (m)	INTERVAL (m)	Au g/tonne	Cu %
91-1	67401	806.00	808.00	2.00	0.33	0.195
91-1	67402	808.00	810.00	2.00	0.25	0.143
91-1	67403	810.00	812.00	2.00	0.41	0.242
91-1	67404	812.00	814.00	2.00	0.26	0.225
91-1	67405	814.00	816.00	2.00	0.29	0.206
91-1	67406	816.00	818.00	2.00	0.32	0.245
91-1	67407	818.00	820.00	2.00	0.66	0.530
91-1	67408	820.00	822.00	2.00	0.58	0.394
91-1	67409	822.00	824.00	2.00	0.32	0.247
91-1	67410	824.00	826.00	2.00	0.40	0.322
91-1	67411	826.00	828.00	2.00	0.73	0.511
91-1	67412	828.00	830.00	2.00	0.40	0.386
91-1	67413	830.00	832.00	2.00	0.82	0.759
91-1	67414	832.00	834.00	2.00	0.34	0.308
91-1	67415	834.00	836.00	2.00	0.26	0.222
91-1	67416	836.00	837.29	1.29	0.62	0.493
91-2	69001	7.62	10.00	2.38	0.38	0.304
91-2	69002	10.00	12.00	2.00	0.44	0.329
91-2	69003	12.00	14.00	2.00	0.53	0.393
91-2	69004	14.00	16.00	2.00	0.38	0.239
91-2	69005	16.00	18.00	2.00	0.51	0.248
91-2	69006	18.00	20.00	2.00	0.50	0.337
91-2	69007	20.00	22.00	2.00	0.72	0.445
91-2	69008	22.00	24.00	2.00	0.46	0.354
91-2	69009	24.00	26.00	2.00	0.70	0.367
91-2	69010	26.00	28.00	2.00	0.64	0.370
91-2	69011	28.00	30.00	2.00	0.78	0.461
91-2	69012	30.00	32.00	2.00	1.11	0.457
91-2	69013	32.00	34.00	2.00	1.10	0.558
91-2	69014	34.00	36.00	2.00	0.75	0.325
91-2	69015	36.00	38.00	2.00	0.86	0.410
91-2	69016	38.00	40.00	2.00	0.54	0.358
91-2	69017	40.00	42.00	2.00	0.69	0.346
91-2	69018	42.00	44.00	2.00	0.71	0.421
91-2	69019	44.00	46.00	2.00	0.89	0.503
91-2	69020	46.00	48.00	2.00	0.70	0.510
91-2	69021	48.00	50.00	2.00	0.62	0.417
91-2	69022	50.00	52.00	2.00	0.43	0.428
91-2	69023	52.00	54.00	2.00	0.62	0.425
91-2	69024	54.00	56.00	2.00	0.28	0.290
91-2	69025	56.00	58.00	2.00	0.40	0.332
91-2	69026	58.00	60.00	2.00	0.27	0.245
91-2	69027	60.00	62.00	2.00	0.45	0.329
91-2	69028	62.00	64.00	2.00	0.40	0.211
91-2	69029	64.00	66.00	2.00	0.40	0.295
91-2	69030	66.00	68.00	2.00	0.32	0.120
91-2	69031	68.00	70.00	2.00	0.50	0.348
91-2	69032	70.00	72.00	2.00	0.56	0.234
91-2	69033	72.00	74.00	2.00	0.29	0.169
91-2	69034	74.00	76.00	2.00	0.27	0.293

DRILLHOLE NUMBER	SAMPLE NUMBER	FROM (m)	TO (m)	INTERVAL (m)	Au g/tonne	Cu %
91-2	69035	76.00	78.00	2.00	0.39	0.177
91-2	69036	78.00	80.00	2.00	0.21	0.136
91-2	69037	80.00	82.00	2.00	0.32	0.199
91-2	69038	82.00	84.00	2.00	0.48	0.280
91-2	69039	84.00	86.00	2.00	1.49	0.637
91-2	69040	86.00	88.00	2.00	0.43	0.210
91-2	69041	88.00	90.00	2.00	0.69	0.563
91-2	69042	90.00	92.00	2.00	0.46	0.285
91-2	69043	92.00	94.00	2.00	0.40	0.223
91-2	69044	94.00	96.00	2.00	0.46	0.193
91-2	69045	96.00	98.00	2.00	0.40	0.171
91-2	69046	98.00	100.00	2.00	0.38	0.201
91-2	69047	100.00	102.00	2.00	0.14	0.179
91-2	69048	102.00	104.00	2.00	0.31	0.271
91-2	69049	104.00	106.00	2.00	0.34	0.237
91-2	69050	106.00	108.00	2.00	2.10	0.205
91-2	69051	108.00	110.00	2.00	4.90	0.201
91-2	69052	110.00	112.00	2.00	0.33	0.214
91-2	69053	112.00	114.00	2.00	0.30	0.312
91-2	69054	114.00	116.00	2.00	0.40	0.287
91-2	69055	116.00	118.00	2.00	1.02	0.323
91-2	69056	118.00	120.00	2.00	0.54	0.371
91-2	69057	120.00	122.00	2.00	0.31	0.307
91-2	69058	122.00	124.00	2.00	0.41	0.284
91-2	69059	124.00	126.00	2.00	0.60	0.334
91-2	69060	126.00	128.00	2.00	0.50	0.318
91-2	69061	128.00	130.00	2.00	0.41	0.264
91-2	69062	130.00	132.00	2.00	0.29	0.237
91-2	69063	132.00	134.00	2.00	0.25	0.251
91-2	69064	134.00	136.00	2.00	0.65	0.178
91-2	69065	136.00	138.00	2.00	0.32	0.209
91-2	69066	138.00	140.00	2.00	0.20	0.135
91-2	69067	140.00	142.00	2.00	0.30	0.155
91-2	69068	142.00	144.00	2.00	0.28	0.193
91-2	69069	144.00	146.00	2.00	0.58	0.323
91-2	69070	146.00	148.00	2.00	0.47	0.238
91-2	69071	148.00	150.00	2.00	10.44	0.247
91-2	69072	150.00	152.00	2.00	0.58	0.220
91-2	69073	152.00	154.00	2.00	2.16	0.611
91-2	69074	154.00	156.00	2.00	3.40	0.351
91-2	69075	156.00	158.00	2.00	0.59	0.376
91-2	69076	158.00	160.00	2.00	0.72	0.310
91-2	69077	160.00	162.00	2.00	0.60	0.291
91-2	69078	162.00	164.00	2.00	0.68	0.241
91-2	69079	164.00	166.00	2.00	0.51	0.461
91-2	69080	166.00	168.00	2.00	1.13	0.302
91-2	69081	168.00	170.00	2.00	0.38	0.258
91-2	69082	170.00	172.00	2.00	3.92	0.267
91-2	69083	172.00	174.00	2.00	0.80	0.263
91-2	69084	174.00	176.00	2.00	0.50	0.339

DRILLHOLE NUMBER	SAMPLE NUMBER	FROM (m)	TO (m)	INTERVAL (m)	Au g/tonne	Cu %
91-2	69085	176.00	178.00	2.00	0.51	0.193
91-2	69086	178.00	180.00	2.00	0.52	0.260
91-2	69087	180.00	182.00	2.00	0.50	0.189
91-2	69088	182.00	184.00	2.00	0.66	0.285
91-2	69089	184.00	186.00	2.00	0.50	0.301
91-2	69090	186.00	188.00	2.00	0.51	0.219
91-2	69091	188.00	190.00	2.00	0.42	0.213
91-2	69092	190.00	192.00	2.00	0.60	0.209
91-2	69093	192.00	194.00	2.00	0.49	0.208
91-2	69094	194.00	196.00	2.00	0.52	0.271
91-2	69095	196.00	198.00	2.00	0.24	0.196
91-2	69096	198.00	200.00	2.00	1.84	0.391
91-2	69097	200.00	202.00	2.00	0.39	0.232
91-2	69098	202.00	204.00	2.00	0.31	0.335
91-2	69099	204.00	206.00	2.00	0.41	0.197
91-2	69100	206.00	208.00	2.00	0.73	0.354
91-2	69101	208.00	210.00	2.00	0.52	0.337
91-2	69102	210.00	212.00	2.00	0.64	0.419
91-2	69103	212.00	214.00	2.00	0.55	0.270
91-2	69104	214.00	216.00	2.00	1.03	0.408
91-2	69105	216.00	218.00	2.00	1.00	0.409
91-2	69106	218.00	220.00	2.00	0.90	0.332
91-2	69107	220.00	222.00	2.00	0.77	0.289
91-2	69108	222.00	224.00	2.00	0.70	0.294
91-2	69109	224.00	226.00	2.00	1.88	0.577
91-2	69110	226.00	228.00	2.00	0.66	0.472
91-2	69111	228.00	230.00	2.00	0.70	0.384
91-2	69112	230.00	232.00	2.00	0.90	0.359
91-2	69113	232.00	234.00	2.00	0.71	0.607
91-2	69114	234.00	236.00	2.00	1.02	0.510
91-2	69115	236.00	238.00	2.00	0.29	0.169
91-2	69116	238.00	240.00	2.00	0.27	0.128
91-2	69117	240.00	242.00	2.00	0.48	0.196
91-2	69118	242.00	244.00	2.00	0.68	0.614
91-2	69119	244.00	246.00	2.00	0.49	0.185
91-2	69120	246.00	248.00	2.00	0.45	0.224
91-2	69121	248.00	250.00	2.00	0.81	0.161
91-2	69122	250.00	252.00	2.00	0.39	0.182
91-2	69123	252.00	254.00	2.00	0.60	0.254
91-2	69124	254.00	256.00	2.00	0.99	0.376
91-2	69125	256.00	258.00	2.00	0.51	0.215
91-2	69126	258.00	260.00	2.00	0.68	0.439
91-2	69127	260.00	262.00	2.00	6.63	0.635
91-2	69128	262.00	264.00	2.00	0.58	0.164
91-2	69129	264.00	266.00	2.00	0.53	0.271
91-2	69130	266.00	268.00	2.00	0.60	0.264
91-2	69131	268.00	270.00	2.00	12.45	0.412
91-2	69132	270.00	272.00	2.00	0.80	0.332
91-2	69133	272.00	274.00	2.00	0.72	0.378
91-2	69134	274.00	276.00	2.00	0.69	0.279

DRILLHOLE NUMBER	SAMPLE NUMBER	FROM (m)	TO (m)	INTERVAL (m)	Au g/tonne	Cu %
91-2	69135	276.00	278.00	2.00	1.44	0.336
91-2	69136	278.00	280.00	2.00	0.59	0.351
91-2	69137	280.00	282.00	2.00	0.60	0.395
91-2	69138	282.00	284.00	2.00	0.43	0.289
91-2	69139	284.00	286.00	2.00	1.34	0.434
91-2	69140	286.00	288.00	2.00	1.08	0.512
91-2	69141	288.00	290.00	2.00	0.71	0.394
91-2	69142	290.00	292.00	2.00	1.02	0.427
91-2	69143	292.00	294.00	2.00	0.66	0.385
91-2	69144	294.00	296.00	2.00	0.90	0.496
91-2	69145	296.00	298.00	2.00	0.89	0.552
91-2	69146	298.00	300.00	2.00	0.53	0.345
91-2	69147	300.00	302.00	2.00	1.09	0.453
91-2	69148	302.00	304.00	2.00	0.61	0.280
91-2	69149	304.00	306.00	2.00	0.72	0.387
91-2	69150	306.00	308.00	2.00	0.65	0.352
91-2	69151	308.00	310.00	2.00	0.78	0.384
91-2	69152	310.00	312.00	2.00	0.47	0.324
91-2	69153	312.00	314.00	2.00	0.96	0.385
91-2	69154	314.00	316.00	2.00	0.41	0.271
91-2	69155	316.00	318.00	2.00	0.32	0.308
91-2	69156	318.00	320.00	2.00	0.50	0.302
91-2	69157	320.00	322.00	2.00	0.72	0.364
91-2	69158	322.00	324.00	2.00	0.99	0.741
91-2	69159	324.00	326.00	2.00	0.92	0.595
91-2	69160	326.00	328.00	2.00	0.60	0.409
91-2	69161	328.00	330.00	2.00	0.64	0.415
91-2	69162	330.00	332.00	2.00	1.00	0.284
91-2	69163	332.00	334.00	2.00	0.73	0.425
91-2	69164	334.00	336.00	2.00	0.74	0.369
91-2	69165	336.00	338.00	2.00	1.19	0.538
91-2	69166	338.00	340.00	2.00	0.53	0.257
91-2	69167	340.00	342.00	2.00	0.49	0.253
91-2	69168	342.00	344.00	2.00	0.60	0.307
91-2	69169	344.00	346.00	2.00	0.52	0.270
91-2	69170	346.00	348.00	2.00	0.74	0.358
91-2	69171	348.00	350.00	2.00	0.60	0.381
91-2	69172	350.00	352.00	2.00	0.91	0.601
91-2	69173	352.00	354.00	2.00	0.50	0.276
91-2	69174	354.00	356.00	2.00	0.69	0.246
91-2	69175	356.00	358.00	2.00	0.39	0.208
91-2	69176	358.00	360.00	2.00	0.46	0.212
91-2	69177	360.00	362.00	2.00	0.32	0.155
91-2	69178	362.00	364.00	2.00	0.62	0.272
91-2	69179	364.00	366.00	2.00	0.30	0.211
91-2	69180	366.00	368.00	2.00	0.37	0.187
91-2	69181	368.00	370.00	2.00	0.34	0.304
91-2	69182	370.00	372.00	2.00	0.80	0.468
91-2	69183	372.00	374.00	2.00	0.32	0.377
91-2	69184	374.00	376.00	2.00	0.59	0.301

DRILLHOLE NUMBER	SAMPLE NUMBER	FROM (m)	TO (m)	INTERVAL (m)	Au g/tonne	Cu %
91-2	69185	376.00	378.00	2.00	0.61	0.550
91-2	69186	378.00	380.00	2.00	0.51	0.357
91-2	69187	380.00	382.00	2.00	0.54	0.436
91-2	69188	382.00	384.00	2.00	0.62	0.512
91-2	69189	384.00	386.00	2.00	0.70	0.419
91-2	69190	386.00	388.00	2.00	0.51	0.331
91-2	69191	388.00	390.00	2.00	0.50	0.461
91-2	69192	390.00	392.00	2.00	1.04	0.649
91-2	69193	392.00	394.00	2.00	0.50	0.240
91-2	69194	394.00	396.00	2.00	0.20	0.182
91-2	69195	396.00	398.00	2.00	0.22	0.186
91-2	69196	398.00	400.00	2.00	0.42	0.310
91-2	69197	400.00	402.00	2.00	0.30	0.276
91-2	69198	402.00	404.00	2.00	0.54	0.259
91-2	69199	404.00	406.00	2.00	0.32	0.220
91-2	69200	406.00	408.00	2.00	0.56	0.446
91-2	69201	408.00	410.00	2.00	0.46	0.354
91-2	69202	410.00	412.00	2.00	0.40	0.293
91-2	69203	412.00	414.00	2.00	0.44	0.354
91-2	69204	414.00	416.00	2.00	0.73	0.594
91-2	69205	416.00	418.00	2.00	0.46	0.306
91-2	69206	418.00	420.00	2.00	0.30	0.275
91-2	69207	420.00	422.00	2.00	0.02	0.003
91-2	69208	422.00	424.00	2.00	0.01	0.004
91-2	69209	424.00	426.00	2.00	0.01	0.020
91-2	69210	426.00	428.00	2.00	0.40	0.394
91-2	69211	428.00	430.00	2.00	0.47	0.355
91-2	69212	430.00	432.00	2.00	0.15	0.134
91-2	69213	432.00	434.00	2.00	0.44	0.382
91-2	69214	434.00	436.00	2.00	0.10	0.145
91-2	69215	436.00	438.00	2.00	0.01	0.002
91-2	69216	438.00	440.00	2.00	0.02	0.010
91-2	69217	440.00	442.00	2.00	0.39	0.450
91-2	69218	442.00	444.00	2.00	0.34	0.446
91-2	69219	444.00	446.00	2.00	0.40	0.377
91-2	69220	446.00	448.00	2.00	0.70	0.466
91-2	69221	448.00	450.00	2.00	0.60	0.525
91-2	69222	450.00	452.00	2.00	0.48	0.309
91-2	69223	452.00	454.00	2.00	0.50	0.306
91-2	69224	454.00	456.00	2.00	0.29	0.275
91-2	69225	456.00	458.00	2.00	0.02	0.315
91-2	69226	458.00	460.00	2.00	0.39	0.277
91-2	69227	460.00	462.00	2.00	0.32	0.274
91-2	69228	462.00	464.00	2.00	0.42	0.287
91-2	69229	464.00	466.00	2.00	0.81	0.326
91-2	69230	466.00	468.00	2.00	0.40	0.368
91-2	69231	468.00	470.00	2.00	0.50	0.423
91-2	69232	470.00	472.00	2.00	0.30	0.215
91-2	69233	472.00	474.00	2.00	0.40	0.370
91-2	69234	474.00	476.00	2.00	0.42	0.320

DRILLHOLE NUMBER	SAMPLE NUMBER	FROM (m)	TO (m)	INTERVAL (m)	Au g/tonne	Cu %
91-2	69235	476.00	478.00	2.00	0.50	0.405
91-2	69236	478.00	480.00	2.00	0.69	0.220
91-2	69237	480.00	482.00	2.00	0.35	0.262
91-2	69238	482.00	484.00	2.00	0.34	0.300
91-2	69239	484.00	486.00	2.00	0.29	0.222
91-2	69240	486.00	488.00	2.00	0.26	0.199
91-2	69241	488.00	490.00	2.00	0.61	0.474
91-2	69242	490.00	492.00	2.00	0.42	0.321
91-2	69243	492.00	494.00	2.00	0.32	0.495
91-2	69244	494.00	496.00	2.00	0.31	0.216
91-2	69245	496.00	498.00	2.00	0.42	0.436
91-2	69246	498.00	500.00	2.00	0.30	0.305
91-2	69247	500.00	502.00	2.00	0.57	0.371
91-2	69248	502.00	504.00	2.00	0.46	0.410
91-2	69249	504.00	506.00	2.00	0.33	0.322
91-2	69250	506.00	508.00	2.00	0.29	0.170
91-2	69251	508.00	510.00	2.00	0.32	0.312
91-2	69252	510.00	512.00	2.00	0.31	0.228
91-2	69253	512.00	514.00	2.00	0.40	0.323
91-2	69254	514.00	516.00	2.00	0.53	0.543
91-2	69255	516.00	518.00	2.00	0.38	0.350
91-2	69256	518.00	520.00	2.00	0.45	0.393
91-2	69257	520.00	522.00	2.00	0.43	0.414
91-2	69258	522.00	524.00	2.00	0.32	0.316
91-2	69259	524.00	526.00	2.00	0.49	0.374
91-2	69260	526.00	528.00	2.00	0.50	0.434
91-2	69261	528.00	530.00	2.00	0.53	0.312
91-2	69262	530.00	532.00	2.00	0.49	0.277
91-2	69263	532.00	534.00	2.00	0.90	0.405
91-2	69264	534.00	536.00	2.00	0.30	0.231
91-2	69265	536.00	538.00	2.00	0.58	0.370
91-2	69266	538.00	540.00	2.00	0.50	0.318
91-2	69267	540.00	542.00	2.00	0.31	0.256
91-2	69268	542.00	544.00	2.00	0.58	0.420
91-2	69269	544.00	546.00	2.00	0.50	0.374
91-2	69270	546.00	548.00	2.00	0.45	0.288
91-2	69271	548.00	550.00	2.00	0.39	0.298
91-2	69272	550.00	552.00	2.00	0.50	0.308
91-2	69273	552.00	554.00	2.00	5.21	0.410
91-2	69274	554.00	556.00	2.00	0.48	0.321
91-2	69275	556.00	558.00	2.00	0.70	0.477
91-2	69276	558.00	560.00	2.00	0.70	0.545
91-2	69277	560.00	562.00	2.00	0.60	0.503
91-2	69278	562.00	564.00	2.00	0.68	0.585
91-2	69279	564.00	566.00	2.00	0.51	0.446
91-2	69280	566.00	568.00	2.00	0.42	0.372
91-2	69281	568.00	570.00	2.00	0.60	0.446
91-2	69282	570.00	572.00	2.00	0.34	0.302
91-2	69283	572.00	574.00	2.00	0.21	0.170
91-2	69284	574.00	576.00	2.00	0.25	0.218

DRILLHOLE NUMBER	SAMPLE NUMBER	FROM (m)	TO (m)	INTERVAL (m)	Au g/tonne	Cu %
91-2	69285	576.00	578.00	2.00	0.39	0.303
91-2	69286	578.00	580.00	2.00	0.67	0.541
91-2	69287	580.00	582.00	2.00	0.77	0.589
91-2	69288	582.00	584.00	2.00	0.48	0.204
91-2	69289	584.00	586.00	2.00	0.51	0.405
91-2	69290	586.00	588.00	2.00	0.70	0.705
91-2	69291	588.00	590.00	2.00	0.58	0.383
91-2	69292	590.00	592.00	2.00	0.59	0.486
91-2	69293	592.00	594.00	2.00	0.37	0.290
91-2	69294	594.00	596.00	2.00	0.62	0.434
91-2	69295	596.00	598.00	2.00	0.53	0.421
91-2	69296	598.00	600.00	2.00	0.49	0.377
91-2	69297	600.00	602.00	2.00	0.30	0.270
91-2	69298	602.00	604.00	2.00	0.58	0.437
91-2	69299	604.00	606.00	2.00	0.51	0.405
91-2	69300	606.00	608.00	2.00	0.42	0.469
91-2	69301	608.00	610.00	2.00	0.70	0.438
91-2	69302	610.00	612.00	2.00	0.50	0.425
91-2	69303	612.00	614.00	2.00	2.61	0.464
91-2	69304	614.00	616.00	2.00	0.28	0.315
91-2	69305	616.00	618.00	2.00	0.20	0.220
91-2	69306	618.00	620.00	2.00	0.12	0.163
91-2	69307	620.00	622.00	2.00	0.62	0.452
91-2	69308	622.00	624.00	2.00	0.58	0.493
91-2	69309	624.00	626.00	2.00	0.32	0.312
91-2	69310	626.00	628.00	2.00	0.14	0.204
91-2	69311	628.00	630.00	2.00	0.28	0.224
91-2	69312	630.00	632.00	2.00	0.51	0.306
91-2	69313	632.00	634.00	2.00	0.23	0.227
91-2	69314	634.00	636.00	2.00	0.26	0.192
91-2	69315	636.00	638.00	2.00	0.50	0.373
91-2	69316	638.00	640.00	2.00	0.30	0.265
91-2	69317	640.00	642.00	2.00	0.36	0.274
91-2	69318	642.00	644.00	2.00	0.61	0.351
91-2	69319	644.00	646.00	2.00	0.53	0.361
91-2	69320	646.00	648.00	2.00	1.30	0.337
91-2	69321	648.00	650.00	2.00	0.45	0.257
91-2	69322	650.00	652.00	2.00	0.21	0.268
91-2	69323	652.00	654.00	2.00	0.22	0.279
91-2	69324	654.00	656.00	2.00	24.00	0.196
91-2	69325	656.00	658.00	2.00	0.29	0.269
91-2	69326	658.00	660.00	2.00	0.50	0.440
91-2	69327	660.00	662.00	2.00	0.76	0.594
91-2	69328	662.00	664.00	2.00	0.49	0.503
91-2	69329	664.00	666.00	2.00	0.30	0.301
91-2	69330	666.00	668.00	2.00	0.32	0.339
91-2	69331	668.00	670.00	2.00	0.28	0.317
91-2	69332	670.00	672.00	2.00	0.78	0.666
91-2	69333	672.00	674.00	2.00	0.55	0.522
91-2	69334	674.00	676.00	2.00	0.80	0.680

DRILLHOLE NUMBER	SAMPLE NUMBER	FROM (m)	TO (m)	INTERVAL (m)	Au g/tonne	Cu %
91-2	69335	676.00	678.00	2.00	0.91	0.648
91-2	69336	678.00	680.00	2.00	0.44	0.410
91-2	69337	680.00	682.00	2.00	0.40	0.438
91-2	69338	682.00	684.00	2.00	0.61	0.497
91-2	69339	684.00	686.00	2.00	0.61	0.489
91-2	69340	686.00	688.00	2.00	0.63	0.486
91-2	69341	688.00	690.00	2.00	0.60	0.452
91-2	69342	690.00	692.00	2.00	0.42	0.394
91-2	69343	692.00	694.00	2.00	0.21	0.229
91-2	69344	694.00	696.00	2.00	0.40	0.486
91-2	69345	696.00	698.00	2.00	0.11	0.149
91-2	69346	698.00	700.00	2.00	0.26	0.302
91-2	69347	700.00	702.00	2.00	0.21	0.371
91-2	69348	702.00	704.00	2.00	0.51	0.586
91-2	69349	704.00	706.00	2.00	0.76	0.649
91-2	69350	706.00	708.00	2.00	1.03	0.803
91-2	69351	708.00	710.00	2.00	0.66	0.727
91-2	69352	710.00	712.00	2.00	0.81	0.725
91-2	69353	712.00	714.00	2.00	0.90	0.790
91-2	69354	714.00	716.00	2.00	0.63	0.471
91-2	69355	716.00	718.00	2.00	0.52	0.463
91-2	69356	718.00	720.00	2.00	0.43	0.326
91-2	69357	720.00	722.00	2.00	0.43	0.392
91-2	69358	722.00	724.00	2.00	0.42	0.376
91-2	69359	724.00	726.00	2.00	0.39	0.383
91-2	69360	726.00	728.00	2.00	0.66	0.497
91-2	69361	728.00	730.00	2.00	0.49	0.335
91-2	69362	730.00	732.00	2.00	0.31	0.316
91-2	69363	732.00	734.00	2.00	0.31	0.241
91-2	69364	734.00	736.00	2.00	0.35	0.304
91-2	69365	736.00	738.00	2.00	0.30	0.285
91-2	69366	738.00	740.00	2.00	0.45	0.301
91-2	69367	740.00	742.00	2.00	0.38	0.248
91-2	69368	742.00	744.00	2.00	0.41	0.353
91-2	69369	744.00	746.00	2.00	0.46	0.357
91-2	69370	746.00	748.00	2.00	0.54	0.469
91-2	69371	748.00	750.00	2.00	0.58	0.695
91-2	69372	750.00	752.00	2.00	0.49	0.330
91-2	69373	752.00	754.00	2.00	0.60	0.377
91-2	69374	754.00	756.00	2.00	0.41	0.349
91-2	69375	756.00	758.00	2.00	0.46	0.340
91-2	69376	758.00	760.00	2.00	0.33	0.368
91-2	69377	760.00	762.00	2.00	0.40	0.420
91-2	69378	762.00	764.00	2.00	0.38	0.446
91-2	69379	764.00	766.00	2.00	0.19	0.294
91-2	69380	766.00	768.00	2.00	0.14	0.260
91-2	69381	768.00	770.00	2.00	0.51	0.470
91-2	69382	770.00	772.00	2.00	0.43	0.400
91-2	69383	772.00	774.00	2.00	0.18	0.316
91-2	69384	774.00	776.00	2.00	0.30	0.349

DRILLHOLE NUMBER	SAMPLE NUMBER	FROM (m)	TO (m)	INTERVAL (m)	Au g/tonne	Cu %
91-2	69385	776.00	778.00	2.00	0.28	0.322
91-2	69386	778.00	780.00	2.00	0.41	0.430
91-2	69387	780.00	782.00	2.00	0.61	0.633
91-2	69388	782.00	784.00	2.00	0.39	0.466
91-2	69389	784.00	786.00	2.00	0.61	0.361
91-2	69390	786.00	788.00	2.00	0.80	0.592
91-2	69391	788.00	790.00	2.00	0.92	0.823
91-2	69392	790.00	792.00	2.00	0.48	0.353
91-2	69393	792.00	794.00	2.00	0.74	0.676
91-2	69394	794.00	796.00	2.00	0.40	0.401
91-2	69395	796.00	798.00	2.00	0.51	0.307
91-2	69396	798.00	800.00	2.00	0.61	0.358
91-2	69397	800.00	802.00	2.00	0.18	0.156
91-2	69398	802.00	804.00	2.00	0.50	0.372
91-2	69399	804.00	806.00	2.00	0.56	0.458
91-2	69400	806.00	808.00	2.00	0.40	0.333
91-2	69401	808.00	810.00	2.00	0.33	0.285
91-2	69402	810.00	812.00	2.00	0.38	0.347
91-2	69403	812.00	814.00	2.00	0.39	0.278
91-2	69404	814.00	816.00	2.00	0.31	0.197
91-2	69405	816.00	818.00	2.00	0.82	0.630
91-2	69406	818.00	820.00	2.00	0.29	0.237
91-2	69407	820.00	822.00	2.00	0.18	0.130
91-2	69408	822.00	824.00	2.00	0.20	0.120
91-2	69409	824.00	826.92	2.92	0.12	0.053
91-3	67417	43.89	46.00	2.11	1.12	0.171
91-3	67418	46.00	48.00	2.00	0.50	0.451
91-3	67419	48.00	50.00	2.00	0.24	0.208
91-3	67420	50.00	52.00	2.00	0.27	0.181
91-3	67421	52.00	54.00	2.00	0.22	0.156
91-3	67422	54.00	56.00	2.00	0.21	0.202
91-3	67423	56.00	58.00	2.00	0.14	0.103
91-3	67424	58.00	60.00	2.00	0.19	0.143
91-3	67425	60.00	62.00	2.00	0.18	0.139
91-3	67426	62.00	64.00	2.00	0.20	0.172
91-3	67427	64.00	66.00	2.00	0.21	0.194
91-3	67428	66.00	68.00	2.00	0.56	0.305
91-3	67429	68.00	70.00	2.00	0.49	0.264
91-3	67430	70.00	72.00	2.00	0.40	0.304
91-3	67431	72.00	74.00	2.00	0.47	0.206
91-3	67432	74.00	76.00	2.00	0.32	0.213
91-3	67433	76.00	78.00	2.00	0.38	0.285
91-3	67434	78.00	80.00	2.00	0.30	0.256
91-3	67435	80.00	82.00	2.00	0.48	0.362
91-3	67436	82.00	84.00	2.00	0.47	0.287
91-3	67437	84.00	86.00	2.00	0.49	0.324
91-3	67438	86.00	88.00	2.00	0.30	0.256
91-3	67439	88.00	90.00	2.00	0.59	0.379
91-3	67440	90.00	92.00	2.00	0.72	0.327
91-3	67441	92.00	94.00	2.00	0.65	0.474

DRILLHOLE NUMBER	SAMPLE NUMBER	FROM (m)	TO (m)	INTERVAL (m)	Au g/tonne	Cu %
91-3	67442	94.00	96.00	2.00	0.49	0.420
91-3	67443	96.00	98.00	2.00	0.28	0.202
91-3	67444	98.00	100.00	2.00	0.30	0.219
91-3	67445	100.00	102.00	2.00	0.22	0.141
91-3	67446	102.00	104.00	2.00	0.23	0.142
91-3	67447	104.00	106.00	2.00	0.50	0.380
91-3	67448	106.00	108.00	2.00	0.35	0.210
91-3	67449	108.00	110.00	2.00	0.32	0.231
91-3	67450	110.00	112.00	2.00	0.41	0.348
91-3	67451	112.00	114.00	2.00	0.40	0.313
91-3	67452	114.00	116.00	2.00	0.42	0.253
91-3	67453	116.00	118.00	2.00	0.62	0.397
91-3	67454	118.00	120.00	2.00	0.43	0.343
91-3	67455	120.00	122.00	2.00	0.82	0.620
91-3	67456	122.00	124.00	2.00	0.28	0.277
91-3	67457	124.00	126.00	2.00	0.43	0.312
91-3	67458	126.00	128.00	2.00	0.52	0.340
91-3	67459	128.00	130.00	2.00	0.80	0.594
91-3	67460	130.00	132.00	2.00	0.48	0.272
91-3	67461	132.00	134.00	2.00	0.37	0.271
91-3	67462	134.00	136.00	2.00	0.51	0.314
91-3	67463	136.00	138.00	2.00	0.60	0.400
91-3	67464	138.00	140.00	2.00	0.39	0.340
91-3	67465	140.00	142.00	2.00	0.62	0.437
91-3	67466	142.00	144.00	2.00	0.57	0.369
91-3	67467	144.00	146.00	2.00	0.80	0.341
91-3	67468	146.00	148.00	2.00	0.59	0.323
91-3	67469	148.00	150.00	2.00	0.42	0.270
91-3	67470	150.00	152.00	2.00	0.38	0.236
91-3	67471	152.00	154.00	2.00	0.38	0.237
91-3	67472	154.00	156.00	2.00	0.41	0.260
91-3	67473	156.00	158.00	2.00	0.44	0.267
91-3	67474	158.00	160.00	2.00	0.27	0.193
91-3	67475	160.00	162.00	2.00	0.56	0.356
91-3	67476	162.00	164.00	2.00	0.50	0.357
91-3	67477	164.00	166.00	2.00	0.52	0.410
91-3	67478	166.00	168.00	2.00	0.43	0.291
91-3	67479	168.00	170.00	2.00	0.62	0.415
91-3	67480	170.00	172.00	2.00	0.40	0.305
91-3	67481	172.00	174.00	2.00	0.51	0.362
91-3	67482	174.00	176.00	2.00	0.54	0.471
91-3	67483	176.00	178.00	2.00	0.43	0.315
91-3	67484	178.00	180.00	2.00	0.92	0.322
91-3	67485	180.00	182.00	2.00	0.48	0.281
91-3	67486	182.00	184.00	2.00	0.37	0.251
91-3	67487	184.00	186.00	2.00	0.24	0.200
91-3	67488	186.00	188.00	2.00	0.36	0.259
91-3	67489	188.00	190.00	2.00	0.53	0.275
91-3	67490	190.00	192.00	2.00	0.27	0.194
91-3	67491	192.00	194.00	2.00	0.41	0.257

DRILLHOLE NUMBER	SAMPLE NUMBER	FROM (m)	TO (m)	INTERVAL (m)	Au g/tonne	Cu %
91-3	67492	194.00	196.00	2.00	0.44	0.344
91-3	67493	196.00	198.00	2.00	0.21	0.189
91-3	67494	198.00	200.00	2.00	0.29	0.182
91-3	67495	200.00	202.00	2.00	0.30	0.271
91-3	67496	202.00	204.00	2.00	0.26	0.375
91-3	67497	204.00	206.00	2.00	0.64	0.253
91-3	67498	206.00	208.00	2.00	0.56	0.364
91-3	67499	208.00	210.00	2.00	0.70	0.440
91-3	67500	210.00	211.25	1.25	0.56	0.287
91-3	67501	211.25	212.00	0.75	0.02	0.010
91-3	67502	212.00	214.00	2.00	0.03	0.032
91-3	67503	214.00	216.00	2.00	0.36	0.291
91-3	67504	216.00	218.00	2.00	0.32	0.411
91-3	67505	218.00	220.00	2.00	0.49	0.429
91-3	67506	220.00	222.00	2.00	0.74	0.401
91-3	67507	222.00	224.00	2.00	0.51	0.346
91-3	67508	224.00	226.00	2.00	0.62	0.389
91-3	67509	226.00	228.00	2.00	0.40	0.220
91-3	67510	228.00	230.00	2.00	0.36	0.278
91-3	67511	230.00	232.00	2.00	0.33	0.274
91-3	67512	232.00	234.00	2.00	0.42	0.320
91-3	67513	234.00	236.00	2.00	0.48	0.331
91-3	67514	236.00	238.00	2.00	0.68	0.246
91-3	67515	238.00	240.00	2.00	0.43	0.229
91-3	67516	240.00	242.00	2.00	0.34	0.184
91-3	67517	242.00	244.00	2.00	0.39	0.233
91-3	67518	244.00	246.00	2.00	1.12	0.430
91-3	67519	246.00	248.00	2.00	0.80	0.352
91-3	67520	248.00	250.00	2.00	0.77	0.380
91-3	67521	250.00	252.00	2.00	0.31	0.319
91-3	67522	252.00	254.00	2.00	0.61	0.373
91-3	67523	254.00	256.00	2.00	0.65	0.528
91-3	67524	256.00	258.00	2.00	0.20	0.117
91-3	67525	258.00	260.00	2.00	0.24	0.186
91-3	67526	260.00	262.00	2.00	0.19	0.091
91-3	67527	262.00	264.00	2.00	0.13	0.110
91-3	67528	264.00	266.00	2.00	0.50	0.239
91-3	67529	266.00	268.00	2.00	0.29	0.226
91-3	67530	268.00	270.00	2.00	0.28	0.259
91-3	67531	270.00	272.00	2.00	0.24	0.195
91-3	67532	272.00	274.00	2.00	0.40	0.310
91-3	67533	274.00	276.00	2.00	0.36	0.273
91-3	67534	276.00	278.00	2.00	1.85	0.351
91-3	67535	278.00	280.00	2.00	0.77	0.495
91-3	67536	280.00	282.00	2.00	0.31	0.345
91-3	67537	282.00	284.00	2.00	0.31	0.153
91-3	67538	284.00	286.00	2.00	0.60	0.432
91-3	67539	286.00	288.00	2.00	0.35	0.226
91-3	67540	288.00	290.00	2.00	1.20	0.360
91-3	67541	290.00	292.00	2.00	0.24	0.140

DRILLHOLE NUMBER	SAMPLE NUMBER	FROM (m)	TO (m)	INTERVAL (m)	Au g/tonne	Cu %
91-3	67542	292.00	294.00	2.00	0.63	0.521
91-3	67543	294.00	296.00	2.00	0.50	0.267
91-3	67544	296.00	298.00	2.00	0.40	0.242
91-3	67545	298.00	300.00	2.00	0.27	0.191
91-3	67546	300.00	302.00	2.00	0.60	0.421
91-3	67547	302.00	304.00	2.00	0.30	0.239
91-3	67548	304.00	306.00	2.00	0.41	0.283
91-3	67549	306.00	308.00	2.00	0.42	0.260
91-3	67550	308.00	310.00	2.00	0.28	0.189
91-3	67551	310.00	312.00	2.00	0.40	0.271
91-3	67552	312.00	314.00	2.00	0.45	0.313
91-3	67553	314.00	316.00	2.00	0.32	0.178
91-3	67554	316.00	318.00	2.00	0.37	0.309
91-3	67555	318.00	320.00	2.00	0.31	0.223
91-3	67556	320.00	322.00	2.00	0.29	0.205
91-3	67557	322.00	324.00	2.00	0.45	0.212
91-3	67558	324.00	326.00	2.00	0.50	0.280
91-3	67559	326.00	328.00	2.00	0.47	0.356
91-3	67560	328.00	330.00	2.00	0.40	0.349
91-3	67561	330.00	332.00	2.00	0.25	0.175
91-3	67562	332.00	334.00	2.00	0.30	0.230
91-3	67563	334.00	336.00	2.00	0.28	0.184
91-3	67564	336.00	338.00	2.00	0.39	0.196
91-3	67565	338.00	340.00	2.00	0.63	0.296
91-3	67566	340.00	342.00	2.00	0.30	0.161
91-3	67567	342.00	344.00	2.00	0.30	0.171
91-3	67568	344.00	346.00	2.00	0.45	0.269
91-3	67569	346.00	348.00	2.00	0.42	0.273
91-3	67570	348.00	350.00	2.00	0.48	0.241
91-3	67571	350.00	352.00	2.00	0.40	0.240
91-3	67572	352.00	354.00	2.00	0.47	0.257
91-3	67573	354.00	356.00	2.00	0.34	0.229
91-3	67574	356.00	358.00	2.00	0.35	0.254
91-3	67575	358.00	360.00	2.00	0.30	0.215
91-3	67576	360.00	362.00	2.00	0.31	0.156
91-3	67577	362.00	364.00	2.00	0.64	0.293
91-3	67578	364.00	366.00	2.00	0.50	0.214
91-3	67579	366.00	368.00	2.00	0.60	0.364
91-3	67580	368.00	370.00	2.00	0.48	0.348
91-3	67581	370.00	372.00	2.00	0.47	0.312
91-3	67582	372.00	374.00	2.00	0.40	0.210
91-3	67583	374.00	376.00	2.00	0.50	0.311
91-3	67584	376.00	378.00	2.00	0.52	0.325
91-3	67585	378.00	380.00	2.00	0.52	0.358
91-3	67586	380.00	382.00	2.00	0.40	0.292
91-3	67587	382.00	384.00	2.00	0.49	0.332
91-3	67588	384.00	386.00	2.00	0.43	0.280
91-3	67589	386.00	388.00	2.00	0.41	0.273
91-3	67590	388.00	390.00	2.00	0.39	0.245
91-3	67591	390.00	392.00	2.00	0.76	0.522

DRILLHOLE NUMBER	SAMPLE NUMBER	FROM (m)	TO (m)	INTERVAL (m)	Au g/tonne	Cu %
91-3	67592	392.00	394.00	2.00	0.78	0.568
91-3	67593	394.00	396.00	2.00	1.00	0.541
91-3	67594	396.00	398.00	2.00	0.50	0.400
91-3	67595	398.00	400.00	2.00	0.57	0.465
91-3	67596	400.00	402.00	2.00	0.55	0.448
91-3	67597	402.00	404.00	2.00	0.50	0.364
91-3	67598	404.00	406.00	2.00	0.38	0.282
91-3	67599	406.00	408.00	2.00	0.42	0.351
91-3	67600	408.00	410.00	2.00	0.59	0.445
91-3	67601	410.00	412.00	2.00	0.45	0.373
91-3	67602	412.00	414.00	2.00	0.50	0.389
91-3	67603	414.00	416.00	2.00	0.74	0.514
91-3	67604	416.00	418.00	2.00	0.58	0.286
91-3	67605	418.00	420.00	2.00	0.32	0.262
91-3	67606	420.00	422.00	2.00	0.53	0.344
91-3	67607	422.00	424.00	2.00	0.50	0.303
91-3	67608	424.00	426.00	2.00	0.70	0.406
91-3	67609	426.00	428.00	2.00	0.81	0.375
91-3	67610	428.00	430.00	2.00	0.62	0.450
91-3	67611	430.00	432.00	2.00	1.20	0.475
91-3	67612	432.00	434.00	2.00	0.70	0.473
91-3	67613	434.00	436.00	2.00	0.75	0.414
91-3	67614	436.00	438.00	2.00	0.81	0.397
91-3	67615	438.00	440.00	2.00	0.80	0.388
91-3	67616	440.00	442.00	2.00	0.71	0.370
91-3	67617	442.00	444.00	2.00	0.74	0.377
91-3	67618	444.00	446.00	2.00	2.37	0.410
91-3	67619	446.00	448.00	2.00	0.73	0.397
91-3	67620	448.00	450.00	2.00	0.83	0.471
91-3	67621	450.00	452.00	2.00	0.82	0.407
91-3	67622	452.00	454.00	2.00	0.90	0.471
91-3	67623	454.00	456.00	2.00	0.71	0.426
91-3	67624	456.00	458.00	2.00	0.73	0.399
91-3	67625	458.00	460.00	2.00	0.10	0.279
91-3	67626	460.00	462.00	2.00	0.41	0.300
91-3	67627	462.00	464.00	2.00	0.43	0.412
91-3	67628	464.00	466.00	2.00	1.71	0.482
91-3	67629	466.00	468.00	2.00	0.82	0.459
91-3	67630	468.00	470.00	2.00	0.61	0.401
91-3	67631	470.00	472.00	2.00	0.50	0.290
91-3	67632	472.00	474.00	2.00	0.51	0.316
91-3	67633	474.00	476.00	2.00	0.30	0.329
91-3	67634	476.00	478.00	2.00	0.57	0.486
91-3	67635	478.00	480.00	2.00	0.69	0.499
91-3	67636	480.00	482.00	2.00	0.91	0.538
91-3	67637	482.00	484.00	2.00	0.98	0.531
91-3	67638	484.00	486.00	2.00	0.78	0.523
91-3	67639	486.00	488.00	2.00	0.70	0.559
91-3	67640	488.00	490.00	2.00	1.14	0.695
91-3	67641	490.00	492.00	2.00	0.40	0.361

DRILLHOLE NUMBER	SAMPLE NUMBER	FROM (m)	TO (m)	INTERVAL (m)	Au g/tonne	Cu %
91-3	67642	492.00	494.00	2.00	1.40	0.507
91-3	67643	494.00	496.00	2.00	1.52	0.395
91-3	67644	496.00	498.00	2.00	0.30	0.301
91-3	67645	498.00	500.00	2.00	0.40	0.366
91-3	67646	500.00	502.00	2.00	0.52	0.548
91-3	67647	502.00	504.00	2.00	0.51	0.526
91-3	67648	504.00	506.00	2.00	0.38	0.398
91-3	67649	506.00	508.00	2.00	0.63	0.510
91-3	67650	508.00	510.00	2.00	0.80	0.464
91-3	67651	510.00	512.00	2.00	0.74	0.437
91-3	67652	512.00	514.00	2.00	0.56	0.532
91-3	67653	514.00	516.00	2.00	1.19	0.613
91-3	67654	516.00	518.00	2.00	0.70	0.330
91-3	67655	518.00	520.00	2.00	0.69	0.442
91-3	67656	520.00	522.00	2.00	0.52	0.520
91-3	67657	522.00	524.00	2.00	4.83	0.599
91-3	67658	524.00	526.00	2.00	1.13	0.481
91-3	67659	526.00	528.00	2.00	0.88	0.436
91-3	67660	528.00	530.00	2.00	1.19	0.560
91-3	67661	530.00	532.00	2.00	0.80	0.597
91-3	67662	532.00	534.00	2.00	0.68	0.526
91-3	67663	534.00	536.00	2.00	0.50	0.316
91-3	67664	536.00	538.00	2.00	0.52	0.379
91-3	67665	538.00	540.00	2.00	0.63	0.495
91-3	67666	540.00	542.00	2.00	0.81	0.555
91-3	67667	542.00	544.00	2.00	0.37	0.322
91-3	67668	544.00	546.00	2.00	0.69	0.420
91-3	67669	546.00	548.00	2.00	0.40	0.360
91-3	67670	548.00	550.00	2.00	0.74	0.441
91-3	67671	550.00	552.00	2.00	0.37	0.417
91-3	67672	552.00	554.00	2.00	0.26	0.250
91-3	67673	554.00	556.00	2.00	0.31	0.263
91-3	67674	556.00	558.00	2.00	2.25	0.538
91-3	67675	558.00	560.00	2.00	1.06	0.535
91-3	67676	560.00	562.00	2.00	0.62	0.417
91-3	67677	562.00	564.00	2.00	0.81	0.469
91-3	67678	564.00	566.00	2.00	0.70	0.497
91-3	67679	566.00	568.00	2.00	0.82	0.564
91-3	67680	568.00	570.00	2.00	0.70	0.430
91-3	67681	570.00	572.00	2.00	1.07	0.581
91-3	67682	572.00	574.00	2.00	0.62	0.428
91-3	67683	574.00	576.00	2.00	0.87	0.451
91-3	67684	576.00	578.00	2.00	0.64	0.439
91-3	67685	578.00	580.00	2.00	0.70	0.482
91-3	67686	580.00	582.00	2.00	0.48	0.406
91-3	67687	582.00	584.00	2.00	0.51	0.423
91-3	67688	584.00	586.00	2.00	0.62	0.400
91-3	67689	586.00	588.00	2.00	0.86	0.458
91-3	67690	588.00	590.00	2.00	0.79	0.570
91-3	67691	590.00	592.00	2.00	0.74	0.587

DRILLHOLE NUMBER	SAMPLE NUMBER	FROM (m)	TO (m)	INTERVAL (m)	Au g/tonne	Cu %
91-3	67692	592.00	594.00	2.00	0.88	0.755
91-3	67693	594.00	596.00	2.00	0.68	0.533
91-3	67694	596.00	598.00	2.00	0.96	0.639
91-3	67695	598.00	600.00	2.00	0.94	0.560
91-3	67696	600.00	602.00	2.00	1.07	0.636
91-3	67697	602.00	604.00	2.00	0.78	0.464
91-3	67698	604.00	606.00	2.00	0.68	0.409
91-3	67699	606.00	608.00	2.00	0.56	0.387
91-3	67700	608.00	610.00	2.00	0.70	0.434
91-3	67701	610.00	612.00	2.00	0.77	0.546
91-3	67702	612.00	614.00	2.00	0.70	0.437
91-3	67703	614.00	616.00	2.00	1.06	0.770
91-3	67704	616.00	618.00	2.00	0.73	0.410
91-3	67705	618.00	620.00	2.00	0.83	0.403
91-3	67706	620.00	622.00	2.00	0.80	0.425
91-3	67707	622.00	624.00	2.00	0.68	0.414
91-3	67708	624.00	626.00	2.00	0.65	0.391
91-3	67709	626.00	628.00	2.00	0.72	0.448
91-3	67710	628.00	630.00	2.00	0.63	0.340
91-3	67711	630.00	632.00	2.00	0.49	0.339
91-3	67712	632.00	634.00	2.00	0.62	0.433
91-3	67713	634.00	636.00	2.00	0.13	0.127
91-3	67714	636.00	638.00	2.00	0.45	0.606
91-3	67715	638.00	640.00	2.00	0.30	0.173
91-3	67716	640.00	642.00	2.00	0.31	0.224
91-3	67717	642.00	644.00	2.00	0.58	0.344
91-3	67718	644.00	646.00	2.00	0.27	0.189
91-3	67719	646.00	648.00	2.00	0.39	0.246
91-3	67720	648.00	650.00	2.00	0.23	0.156
91-3	67721	650.00	652.00	2.00	0.54	0.207
91-3	67722	652.00	654.00	2.00	0.28	0.194
91-3	67723	654.00	656.00	2.00	0.22	0.210
91-3	67724	656.00	658.00	2.00	1.75	0.528
91-3	67725	658.00	660.00	2.00	0.57	0.357
91-3	67726	660.00	662.00	2.00	0.19	0.101
91-3	67727	662.00	664.00	2.00	0.24	0.471
91-3	67728	664.00	666.00	2.00	0.29	0.234
91-3	67729	666.00	668.00	2.00	0.58	0.237
91-3	67730	668.00	670.00	2.00	0.80	0.360
91-3	67731	670.00	672.00	2.00	0.48	0.292
91-3	67732	672.00	674.00	2.00	0.57	0.412
91-3	67733	674.00	676.00	2.00	1.39	0.198
91-3	67734	676.00	678.00	2.00	0.51	0.584
91-3	67735	678.00	680.00	2.00	0.64	0.355
91-3	67736	680.00	682.00	2.00	0.29	0.239
91-3	67737	682.00	684.00	2.00	0.41	0.215
91-3	67738	684.00	686.00	2.00	0.20	0.180
91-3	67739	686.00	688.00	2.00	0.43	0.305
91-3	67740	688.00	690.00	2.00	0.29	0.294
91-3	67741	690.00	692.00	2.00	0.34	0.284

DRILLHOLE NUMBER	SAMPLE NUMBER	FROM (m)	TO (m)	INTERVAL (m)	Au g/tonne	Cu %
91-3	67742	692.00	694.00	2.00	0.42	0.328
91-3	67743	694.00	696.00	2.00	0.31	0.172
91-3	67744	696.00	698.00	2.00	0.46	0.310
91-3	67745	698.00	700.00	2.00	0.28	0.278
91-3	67746	700.00	702.00	2.00	0.43	0.191
91-3	67747	702.00	704.00	2.00	0.49	0.402
91-3	67748	704.00	706.00	2.00	0.58	0.439
91-3	67749	706.00	708.00	2.00	0.93	0.427
91-3	67750	708.00	710.00	2.00	0.32	0.231
91-3	67751	710.00	712.00	2.00	0.24	0.262
91-3	67752	712.00	714.00	2.00	0.71	0.655
91-3	67753	714.00	716.00	2.00	0.37	0.251
91-3	67754	716.00	718.00	2.00	0.78	0.426
91-3	67755	718.00	720.00	2.00	1.00	0.443
91-3	67756	720.00	722.00	2.00	0.38	0.214
91-3	67757	722.00	724.00	2.00	0.52	0.349
91-3	67758	724.00	726.00	2.00	0.34	0.235
91-3	67759	726.00	728.00	2.00	0.75	0.419
91-3	67760	728.00	730.00	2.00	0.60	0.404
91-3	67761	730.00	732.00	2.00	0.70	0.487
91-3	67762	732.00	734.00	2.00	0.68	0.483
91-3	67763	734.00	736.00	2.00	0.33	0.365
91-3	67764	736.00	738.00	2.00	0.67	0.512
91-3	67765	738.00	740.00	2.00	0.78	0.606
91-3	67766	740.00	742.00	2.00	0.31	0.286
91-3	67767	742.00	744.00	2.00	1.37	0.914
91-3	67768	744.00	746.00	2.00	0.30	0.286
91-3	67769	746.00	748.00	2.00	0.37	0.275
91-3	67770	748.00	750.00	2.00	0.42	0.421
91-3	67771	750.00	752.00	2.00	0.34	0.346
91-3	67772	752.00	754.00	2.00	0.56	0.365
91-3	67773	754.00	756.00	2.00	0.61	0.488
91-3	67774	756.00	758.00	2.00	0.40	0.331
91-3	67775	758.00	760.00	2.00	0.41	0.342
91-3	67776	760.00	762.00	2.00	0.72	0.418
91-3	67777	762.00	764.00	2.00	0.70	0.413
91-3	67778	764.00	766.00	2.00	0.42	0.297
91-3	67779	766.00	768.00	2.00	0.33	0.340
91-3	67780	768.00	770.00	2.00	0.19	0.242
91-3	67781	770.00	772.00	2.00	0.50	0.418
91-3	67782	772.00	774.00	2.00	0.70	0.484
91-3	67783	774.00	776.00	2.00	0.70	0.482
91-3	67784	776.00	778.00	2.00	0.74	0.601
91-3	67785	778.00	780.00	2.00	0.69	0.518
91-3	67786	780.00	782.00	2.00	0.51	0.573
91-3	67787	782.00	784.00	2.00	0.80	0.400
91-3	67788	784.00	786.00	2.00	0.53	0.323
91-3	67789	786.00	788.00	2.00	0.70	0.440
91-3	67790	788.00	790.00	2.00	0.13	0.087
91-3	67791	790.00	792.00	2.00	0.39	0.324

DRILLHOLE NUMBER	SAMPLE NUMBER	FROM (m)	TO (m)	INTERVAL (m)	Au g/tonne	Cu %
91-3	67792	792.00	794.00	2.00	0.40	0.292
91-3	67793	794.00	796.00	2.00	0.11	0.161
91-3	67794	796.00	798.00	2.00	0.30	0.302
91-3	67795	798.00	800.00	2.00	0.07	0.031
91-3	67796	800.00	802.00	2.00	0.25	0.338
91-3	67797	802.00	804.00	2.00	0.10	0.198
91-3	67798	804.00	806.00	2.00	0.02	0.022
91-3	67799	806.00	808.00	2.00	0.04	0.026
91-3	67800	808.00	810.00	2.00	0.12	0.020
91-3	67801	810.00	812.00	2.00	0.03	0.016
91-3	67802	812.00	814.00	2.00	0.05	0.029
91-3	67803	814.00	816.00	2.00	0.05	0.040
91-3	67804	816.00	818.00	2.00	0.10	0.050
91-3	67805	818.00	820.00	2.00	0.02	0.008
91-3	67806	820.00	822.04	2.04	0.01	0.014
91-4	67807	12.19	14.00	1.81	0.01	0.005
91-4	67808	14.00	16.00	2.00	0.01	0.004
91-4	67809	16.00	18.00	2.00	0.03	0.007
91-4	67810	18.00	20.00	2.00	0.01	0.004
91-4	67811	20.00	22.00	2.00	0.10	0.042
91-4	67812	22.00	24.00	2.00	0.22	0.149
91-4	67813	24.00	26.00	2.00	0.21	0.132
91-4	67814	26.00	28.00	2.00	0.30	0.190
91-4	67815	28.00	30.00	2.00	0.22	0.167
91-4	67816	30.00	32.00	2.00	0.21	0.173
91-4	67817	32.00	34.00	2.00	0.50	0.217
91-4	67818	34.00	36.00	2.00	0.48	0.293
91-4	67819	36.00	38.00	2.00	0.48	0.342
91-4	67820	38.00	40.00	2.00	1.53	0.775
91-4	67821	40.00	42.00	2.00	0.32	0.181
91-4	67822	42.00	44.00	2.00	0.29	0.237
91-4	67823	44.00	46.00	2.00	0.21	0.138
91-4	67824	46.00	48.00	2.00	0.32	0.185
91-4	67825	48.00	50.00	2.00	0.43	0.202
91-4	67826	50.00	52.00	2.00	0.30	0.194
91-4	67827	52.00	54.00	2.00	0.21	0.128
91-4	67828	54.00	56.00	2.00	0.54	0.187
91-4	67829	56.00	58.00	2.00	0.64	0.241
91-4	67830	58.00	60.00	2.00	0.71	0.350
91-4	67831	60.00	62.00	2.00	0.40	0.255
91-4	67832	62.00	64.00	2.00	0.61	0.286
91-4	67833	64.00	66.00	2.00	0.80	0.372
91-4	67834	66.00	68.00	2.00	0.59	0.227
91-4	67835	68.00	70.00	2.00	0.58	0.139
91-4	67836	70.00	72.00	2.00	0.64	0.191
91-4	67837	72.00	74.00	2.00	0.52	0.246
91-4	67838	74.00	76.00	2.00	0.51	0.205
91-4	67839	76.00	78.00	2.00	1.90	0.194
91-4	67840	78.00	80.00	2.00	0.58	0.246
91-4	67841	80.00	82.00	2.00	0.44	0.282

DRILLHOLE NUMBER	SAMPLE NUMBER	FROM (m)	TO (m)	INTERVAL (m)	Au g/tonne	Cu %
91-4	67842	82.00	84.00	2.00	0.68	0.249
91-4	67843	84.00	86.00	2.00	0.77	0.258
91-4	67844	86.00	88.00	2.00	0.94	0.256
91-4	67845	88.00	90.00	2.00	0.33	0.201
91-4	67846	90.00	92.00	2.00	0.75	0.238
91-4	67847	92.00	94.00	2.00	1.42	0.446
91-4	67848	94.00	96.00	2.00	0.96	0.233
91-4	67849	96.00	98.00	2.00	0.92	0.307
91-4	67850	98.00	100.00	2.00	0.45	0.271
91-4	67851	100.00	102.00	2.00	1.22	0.333
91-4	67852	102.00	104.00	2.00	0.62	0.247
91-4	67853	104.00	106.00	2.00	0.84	0.344
91-4	67854	106.00	108.00	2.00	0.48	0.265
91-4	67855	108.00	110.00	2.00	0.59	0.224
91-4	67856	110.00	112.00	2.00	0.32	0.183
91-4	67857	112.00	114.00	2.00	0.34	0.200
91-4	67858	114.00	116.00	2.00	0.43	0.217
91-4	67859	116.00	118.00	2.00	0.51	0.291
91-4	67860	118.00	120.00	2.00	0.42	0.262
91-4	67861	120.00	122.00	2.00	0.65	0.500
91-4	67862	122.00	124.00	2.00	0.44	0.289
91-4	67863	124.00	126.00	2.00	0.42	0.256
91-4	67864	126.00	128.00	2.00	0.02	0.010
91-4	67865	128.00	130.00	2.00	0.05	0.006
91-4	67866	130.00	132.00	2.00	0.38	0.165
91-4	67867	132.00	134.00	2.00	0.31	0.188
91-4	67868	134.00	136.00	2.00	0.23	0.117
91-4	67869	136.00	138.00	2.00	0.02	0.003
91-4	67870	138.00	140.00	2.00	0.04	0.025
91-4	67871	140.00	142.00	2.00	0.03	0.012
91-4	67872	142.00	144.00	2.00	0.30	0.146
91-4	67873	144.00	146.00	2.00	0.02	0.065
91-4	67874	146.00	148.00	2.00	0.01	0.006
91-4	67875	148.00	150.00	2.00	0.10	0.107
91-4	67876	150.00	152.00	2.00	0.02	0.009
91-4	67877	152.00	154.00	2.00	0.02	0.012
91-4	67878	154.00	156.00	2.00	0.01	0.008
91-4	67879	156.00	158.00	2.00	0.32	0.244
91-4	67880	158.00	160.00	2.00	0.50	0.449
91-4	67881	160.00	162.00	2.00	0.64	0.490
91-4	67882	162.00	164.00	2.00	0.47	0.278
91-4	67883	164.00	166.00	2.00	0.63	0.281
91-4	67884	166.00	168.00	2.00	0.42	0.276
91-4	67885	168.00	170.00	2.00	1.24	0.390
91-4	67886	170.00	172.00	2.00	0.36	0.162
91-4	67887	172.00	174.00	2.00	0.55	0.292
91-4	67888	174.00	176.00	2.00	0.49	0.210
91-4	67889	176.00	178.00	2.00	0.62	0.327
91-4	67890	178.00	180.00	2.00	0.46	0.310
91-4	67891	180.00	182.00	2.00	0.51	0.355

DRILLHOLE NUMBER	SAMPLE NUMBER	FROM (m)	TO (m)	INTERVAL (m)	Au g/tonne	Cu %
91-4	67892	182.00	184.00	2.00	0.63	0.356
91-4	67893	184.00	186.00	2.00	0.51	0.413
91-4	67894	186.00	188.00	2.00	0.49	0.361
91-4	67895	188.00	190.00	2.00	0.42	0.264
91-4	67896	190.00	192.00	2.00	2.40	0.457
91-4	67897	192.00	194.00	2.00	0.62	0.245
91-4	67898	194.00	196.00	2.00	0.23	0.179
91-4	67899	196.00	198.00	2.00	0.50	0.397
91-4	67900	198.00	200.00	2.00	0.38	0.285
91-4	67901	200.00	202.00	2.00	0.66	0.426
91-4	67902	202.00	204.00	2.00	0.50	0.317
91-4	67903	204.00	206.00	2.00	0.88	0.641
91-4	67904	206.00	208.00	2.00	0.80	0.529
91-4	67905	208.00	210.00	2.00	0.51	0.395
91-4	67906	210.00	212.00	2.00	0.59	0.307
91-4	67907	212.00	214.00	2.00	0.51	0.288
91-4	67908	214.00	216.00	2.00	0.32	0.244
91-4	67909	216.00	218.00	2.00	0.50	0.398
91-4	67910	218.00	220.00	2.00	0.51	0.346
91-4	67911	220.00	222.00	2.00	0.50	0.374
91-4	67912	222.00	224.00	2.00	0.65	0.360
91-4	67913	224.00	226.00	2.00	0.55	0.260
91-4	67914	226.00	228.00	2.00	0.45	0.269
91-4	67915	228.00	230.00	2.00	0.52	0.345
91-4	67916	230.00	232.00	2.00	0.64	0.375
91-4	67917	232.00	234.00	2.00	0.43	0.240
91-4	67918	234.00	236.00	2.00	0.41	0.254
91-4	67919	236.00	238.00	2.00	0.44	0.329
91-4	67920	238.00	240.00	2.00	0.52	0.315
91-4	67921	240.00	242.00	2.00	0.36	0.184
91-4	67922	242.00	244.00	2.00	0.59	0.354
91-4	67923	244.00	246.00	2.00	0.63	0.459
91-4	67924	246.00	248.00	2.00	0.47	0.326
91-4	67925	248.00	250.00	2.00	0.38	0.270
91-4	67926	250.00	252.00	2.00	0.53	0.301
91-4	67927	252.00	254.00	2.00	0.50	0.360
91-4	67928	254.00	256.00	2.00	0.43	0.288
91-4	67929	256.00	258.00	2.00	0.24	0.259
91-4	67930	258.00	260.00	2.00	0.41	0.291
91-4	67931	260.00	262.00	2.00	0.54	0.280
91-4	67932	262.00	264.00	2.00	0.39	0.275
91-4	67933	264.00	266.00	2.00	0.52	0.456
91-4	67934	266.00	268.00	2.00	0.27	0.160
91-4	67935	268.00	270.00	2.00	0.50	0.227
91-4	67936	270.00	272.00	2.00	0.23	0.151
91-4	67937	272.00	274.00	2.00	0.32	0.178
91-4	67938	274.00	276.00	2.00	0.40	0.224
91-4	67939	276.00	278.00	2.00	0.39	0.221
91-4	67940	278.00	280.00	2.00	0.64	0.547
91-4	67941	280.00	282.00	2.00	0.45	0.276

DRILLHOLE NUMBER	SAMPLE NUMBER	FROM (m)	TO (m)	INTERVAL (m)	Au g/tonne	Cu %
91-4	67942	282.00	284.00	2.00	0.50	0.249
91-4	67943	284.00	286.00	2.00	0.40	0.242
91-4	67944	286.00	288.00	2.00	0.38	0.171
91-4	67945	288.00	290.00	2.00	0.21	0.104
91-4	67946	290.00	292.00	2.00	0.25	0.141
91-4	67947	292.00	294.00	2.00	0.54	0.180
91-4	67948	294.00	296.00	2.00	0.54	0.208
91-4	67949	296.00	298.00	2.00	0.91	0.250
91-4	67950	298.00	300.00	2.00	0.43	0.333
91-4	67951	300.00	302.00	2.00	0.39	0.198
91-4	67952	302.00	304.00	2.00	0.31	0.233
91-4	67953	304.00	306.00	2.00	0.21	0.168
91-4	67954	306.00	308.00	2.00	0.43	0.290
91-4	67955	308.00	310.00	2.00	0.45	0.391
91-4	67956	310.00	312.00	2.00	0.48	0.353
91-4	67957	312.00	314.00	2.00	0.40	0.308
91-4	67958	314.00	316.00	2.00	1.70	0.244
91-4	67959	316.00	318.00	2.00	0.68	0.515
91-4	67960	318.00	320.00	2.00	0.90	0.698
91-4	67961	320.00	322.00	2.00	0.50	0.319
91-4	67962	322.00	324.00	2.00	0.65	0.476
91-4	67963	324.00	326.00	2.00	0.39	0.331
91-4	67964	326.00	328.00	2.00	2.45	0.350
91-4	67965	328.00	330.00	2.00	0.50	0.415
91-4	67966	330.00	332.00	2.00	0.40	0.385
91-4	67967	332.00	334.00	2.00	0.43	0.366
91-4	67968	334.00	336.00	2.00	0.32	0.370
91-4	67969	336.00	338.00	2.00	0.30	0.301
91-4	67970	338.00	340.00	2.00	0.51	0.399
91-4	67971	340.00	342.00	2.00	0.30	0.282
91-4	67972	342.00	344.00	2.00	0.24	0.347
91-4	67973	344.00	346.00	2.00	0.19	0.293
91-4	67974	346.00	348.00	2.00	0.35	0.453
91-4	67975	348.00	350.00	2.00	0.84	0.410
91-4	67976	350.00	352.00	2.00	0.78	0.339
91-4	67977	352.00	354.00	2.00	0.47	0.393
91-4	67978	354.00	356.00	2.00	0.40	0.279
91-4	67979	356.00	358.00	2.00	0.39	0.283
91-4	67980	358.00	360.00	2.00	0.40	0.252
91-4	67981	360.00	362.00	2.00	1.02	1.028
91-4	67982	362.00	363.47	1.47	1.00	0.393
91-4	67983	363.47	364.00	0.53	0.78	0.474
91-4	67984	364.00	366.00	2.00	0.90	0.492
91-4	67985	366.00	368.00	2.00	0.80	0.413
91-4	67986	368.00	370.00	2.00	0.65	0.402
91-4	67987	370.00	372.00	2.00	0.80	0.507
91-4	67988	372.00	374.00	2.00	0.86	0.592
91-4	67989	374.00	376.00	2.00	0.60	0.428
91-4	67990	376.00	378.00	2.00	0.56	0.400
91-4	67991	378.00	380.00	2.00	0.25	0.289

DRILLHOLE NUMBER	SAMPLE NUMBER	FROM (m)	TO (m)	INTERVAL (m)	Au g/tonne	Cu %
91-4	67992	380.00	382.00	2.00	0.60	0.325
91-4	67993	382.00	384.00	2.00	0.61	0.378
91-4	67994	384.00	386.00	2.00	0.78	0.564
91-4	67995	386.00	388.00	2.00	0.40	0.282
91-4	67996	388.00	390.00	2.00	0.40	0.278
91-4	67997	390.00	392.00	2.00	0.15	0.261
91-4	67998	392.00	394.00	2.00	0.34	0.262
91-4	67999	394.00	396.00	2.00	0.60	0.493
91-4	68000	396.00	398.00	2.00	0.49	0.391
91-4	68001	398.00	400.00	2.00	0.43	0.350
91-4	68002	400.00	402.00	2.00	0.38	0.371
91-4	68003	402.00	404.00	2.00	0.41	0.335
91-4	68004	404.00	406.00	2.00	0.70	0.567
91-4	68005	406.00	408.00	2.00	0.41	0.426
91-4	68006	408.00	410.00	2.00	0.48	0.362
91-4	68007	410.00	412.00	2.00	0.72	0.496
91-4	68008	412.00	414.00	2.00	0.30	0.231
91-4	68009	414.00	416.00	2.00	0.58	0.370
91-4	68010	416.00	418.00	2.00	0.69	0.452
91-4	68011	418.00	420.00	2.00	0.59	0.456
91-4	68012	420.00	422.00	2.00	0.52	0.386
91-4	68013	422.00	424.00	2.00	0.65	0.530
91-4	68014	424.00	426.00	2.00	0.74	0.664
91-4	68015	426.00	428.00	2.00	0.52	0.441
91-4	68016	428.00	430.00	2.00	0.61	0.506
91-4	68017	430.00	432.00	2.00	0.61	0.421
91-4	68018	432.00	434.00	2.00	0.30	0.276
91-4	68019	434.00	436.00	2.00	0.36	0.377
91-4	68020	436.00	438.00	2.00	0.94	0.627
91-4	68021	438.00	440.00	2.00	0.50	0.452
91-4	68022	440.00	442.00	2.00	0.42	0.234
91-4	68023	442.00	444.00	2.00	0.89	0.673
91-4	68024	444.00	446.00	2.00	0.64	0.537
91-4	68025	446.00	448.00	2.00	0.63	0.580
91-4	68026	448.00	450.00	2.00	0.77	0.603
91-4	68027	450.00	452.00	2.00	0.62	0.484
91-4	68028	452.00	454.00	2.00	0.64	0.486
91-4	68029	454.00	456.00	2.00	0.63	0.436
91-4	68030	456.00	458.00	2.00	0.73	0.554
91-4	68031	458.00	460.00	2.00	0.42	0.313
91-4	68032	460.00	462.00	2.00	0.71	0.427
91-4	68033	462.00	464.00	2.00	1.10	0.786
91-4	68034	464.00	466.00	2.00	0.97	0.727
91-4	68035	466.00	468.00	2.00	1.27	0.863
91-4	68036	468.00	470.00	2.00	0.79	0.541
91-4	68037	470.00	472.00	2.00	0.86	0.590
91-4	68038	472.00	474.00	2.00	0.62	0.436
91-4	68039	474.00	476.00	2.00	1.00	0.894
91-4	68040	476.00	478.00	2.00	0.27	0.154
91-4	68041	478.00	480.00	2.00	0.33	0.204

DRILLHOLE NUMBER	SAMPLE NUMBER	FROM (m)	TO (m)	INTERVAL (m)	Au g/tonne	Cu %
91-4	68042	480.00	482.00	2.00	0.32	0.312
91-4	68043	482.00	484.00	2.00	0.01	0.008
91-4	68044	484.00	486.00	2.00	0.03	0.032
91-4	68045	486.00	488.00	2.00	0.61	0.439
91-4	68046	488.00	490.00	2.00	0.30	0.220
91-4	68047	490.00	492.00	2.00	0.41	0.340
91-4	68048	492.00	494.00	2.00	0.37	0.266
91-4	68049	494.00	496.00	2.00	0.40	0.311
91-4	68050	496.00	498.00	2.00	0.22	0.216
91-4	68051	498.00	500.00	2.00	0.50	0.437
91-4	68052	500.00	502.00	2.00	0.68	0.180
91-4	68053	502.00	504.00	2.00	0.40	0.143
91-4	68054	504.00	506.00	2.00	0.21	0.174
91-4	68055	506.00	508.00	2.00	0.23	0.203
91-4	68056	508.00	510.00	2.00	0.29	0.117
91-4	68057	510.00	512.00	2.00	0.48	0.293
91-4	68058	512.00	514.00	2.00	0.27	0.144
91-4	68059	514.00	516.00	2.00	0.30	0.200
91-4	68060	516.00	518.00	2.00	0.41	0.231
91-4	68061	518.00	520.00	2.00	0.43	0.251
91-4	68062	520.00	522.00	2.00	0.29	0.132
91-4	68063	522.00	524.00	2.00	0.28	0.146
91-4	68064	524.00	526.00	2.00	0.46	0.185
91-4	68065	526.00	528.00	2.00	0.64	0.391
91-4	68066	528.00	530.00	2.00	0.41	0.366
91-4	68067	530.00	532.00	2.00	0.39	0.263
91-4	68068	532.00	534.00	2.00	0.34	0.254
91-4	68069	534.00	536.00	2.00	0.18	0.121
91-4	68070	536.00	538.00	2.00	0.21	0.180
91-4	68071	538.00	540.00	2.00	0.36	0.238
91-4	68072	540.00	542.00	2.00	0.40	0.336
91-4	68073	542.00	544.00	2.00	0.39	0.375
91-4	68074	544.00	546.00	2.00	0.45	0.237
91-4	68075	546.00	548.00	2.00	0.28	0.215
91-4	68076	548.00	550.00	2.00	0.52	0.350
91-4	68077	550.00	552.00	2.00	0.49	0.409
91-4	68078	552.00	554.00	2.00	0.57	0.376
91-4	68079	554.00	556.00	2.00	0.40	0.303
91-4	68080	556.00	558.00	2.00	0.41	0.283
91-4	68081	558.00	560.00	2.00	0.31	0.375
91-4	68082	560.00	562.00	2.00	0.37	0.380
91-4	68083	562.00	564.00	2.00	0.28	0.299
91-4	68084	564.00	566.00	2.00	0.45	0.527
91-4	68085	566.00	568.00	2.00	0.26	0.254
91-4	68086	568.00	570.00	2.00	0.22	0.220
91-4	68087	570.00	572.00	2.00	0.31	0.296
91-4	68088	572.00	574.00	2.00	1.40	0.180
91-4	68089	574.00	576.00	2.00	0.21	0.189
91-4	68090	576.00	578.00	2.00	0.36	0.332
91-4	68091	578.00	580.00	2.00	0.21	0.239

DRILLHOLE NUMBER	SAMPLE NUMBER	FROM (m)	TO (m)	INTERVAL (m)	Au g/tonne	Cu %
91-4	68092	580.00	582.00	2.00	0.22	0.240
91-4	68093	582.00	584.00	2.00	0.03	0.025
91-4	68094	584.00	586.00	2.00	0.02	0.001
91-4	68095	586.00	588.00	2.00	0.04	0.067
91-4	68096	588.00	590.00	2.00	0.30	0.244
91-4	68097	590.00	592.00	2.00	0.25	0.243
91-4	68098	592.00	594.00	2.00	0.20	0.226
91-4	68099	594.00	596.00	2.00	0.32	0.277
91-4	68100	596.00	598.00	2.00	0.29	0.251
91-4	68101	598.00	600.00	2.00	0.30	0.257
91-4	68102	600.00	602.00	2.00	0.54	0.373
91-4	68103	602.00	604.00	2.00	0.35	0.289
91-4	68104	604.00	606.00	2.00	0.20	0.202
91-4	68105	606.00	608.00	2.00	0.43	0.268
91-4	68106	608.00	610.00	2.00	1.00	0.572
91-4	68107	610.00	612.00	2.00	0.41	0.382
91-4	68108	612.00	614.00	2.00	0.52	0.401
91-4	68109	614.00	616.00	2.00	0.78	0.583
91-4	68110	616.00	618.00	2.00	0.86	0.735
91-4	68111	618.00	620.00	2.00	0.27	0.249
91-4	68112	620.00	622.00	2.00	0.47	0.425
91-4	68113	622.00	624.00	2.00	0.82	0.711
91-4	68114	624.00	626.00	2.00	0.92	0.778
91-4	68115	626.00	628.00	2.00	0.51	0.497
91-4	68116	628.00	630.00	2.00	0.58	0.547
91-4	68117	630.00	632.00	2.00	0.50	0.439
91-4	68118	632.00	634.00	2.00	0.78	0.605
91-4	68119	634.00	636.00	2.00	0.39	0.311
91-4	68120	636.00	638.00	2.00	0.39	0.322
91-4	68121	638.00	640.00	2.00	0.66	0.607
91-4	68122	640.00	642.00	2.00	0.62	0.430
91-4	68123	642.00	644.00	2.00	0.91	0.401
91-4	68124	644.00	646.00	2.00	0.80	0.604
91-4	68125	646.00	648.00	2.00	0.48	0.406
91-4	68126	648.00	650.00	2.00	0.44	0.296
91-4	68127	650.00	652.00	2.00	0.45	0.368
91-4	68128	652.00	654.00	2.00	0.48	0.404
91-4	68129	654.00	656.00	2.00	0.42	0.278
91-4	68130	656.00	658.00	2.00	0.31	0.216
91-4	68131	658.00	660.00	2.00	0.38	0.265
91-4	68132	660.00	662.00	2.00	0.46	0.268
91-4	68133	662.00	664.00	2.00	0.42	0.250
91-4	68134	664.00	666.00	2.00	0.38	0.266
91-4	68135	666.00	668.00	2.00	0.27	0.172
91-4	68136	668.00	670.00	2.00	0.62	0.529
91-4	68137	670.00	672.00	2.00	0.51	0.374
91-4	68138	672.00	674.00	2.00	0.52	0.397
91-4	68139	674.00	676.00	2.00	0.29	0.243
91-4	68140	676.00	678.00	2.00	0.33	0.262
91-4	68141	678.00	680.00	2.00	0.28	0.228

DRILLHOLE NUMBER	SAMPLE NUMBER	FROM (m)	TO (m)	INTERVAL (m)	Au g/tonne	Cu %
91-4	68142	680.00	682.00	2.00	0.54	0.503
91-4	68143	682.00	684.00	2.00	0.72	0.624
91-4	68144	684.00	686.00	2.00	0.52	0.442
91-4	68145	686.00	688.00	2.00	0.36	0.305
91-4	68146	688.00	690.00	2.00	0.84	0.339
91-4	68147	690.00	692.00	2.00	0.37	0.364
91-4	68148	692.00	694.00	2.00	0.33	0.291
91-4	68149	694.00	696.00	2.00	0.48	0.450
91-4	68150	696.00	698.00	2.00	0.51	0.392
91-4	68151	698.00	700.00	2.00	0.66	0.451
91-4	68152	700.00	702.00	2.00	0.28	0.227
91-4	68153	702.00	704.00	2.00	0.50	0.368
91-4	68154	704.00	706.00	2.00	0.68	0.350
91-4	68155	706.00	708.00	2.00	0.30	0.230
91-4	68156	708.00	710.00	2.00	0.42	0.251
91-4	68157	710.00	712.00	2.00	0.34	0.236
91-4	68158	712.00	714.00	2.00	0.25	0.164
91-4	68159	714.00	716.00	2.00	0.26	0.145
91-4	68160	716.00	718.00	2.00	0.51	0.228
91-4	68161	718.00	720.00	2.00	0.42	0.309
91-4	68162	720.00	722.00	2.00	0.53	0.390
91-4	68163	722.00	724.00	2.00	0.30	0.171
91-4	68164	724.00	726.00	2.00	0.53	0.340
91-4	68165	726.00	728.00	2.00	0.38	0.256
91-4	68166	728.00	730.00	2.00	0.32	0.243
91-4	68167	730.00	732.00	2.00	0.19	0.134
91-4	68168	732.00	734.00	2.00	0.38	0.196
91-4	68169	734.00	736.00	2.00	0.39	0.306
91-4	68170	736.00	738.00	2.00	0.52	0.264
91-4	68171	738.00	740.00	2.00	0.30	0.131
91-4	68172	740.00	742.00	2.00	0.22	0.093
91-4	68173	742.00	744.00	2.00	0.19	0.064
91-4	68174	744.00	746.00	2.00	0.22	0.081
91-4	68175	746.00	748.00	2.00	0.23	0.101
91-4	68176	748.00	750.00	2.00	0.31	0.276
91-4	68177	750.00	752.00	2.00	0.45	0.263
91-4	68178	752.00	754.00	2.00	0.38	0.229
91-4	68179	754.00	756.00	2.00	0.50	0.274
91-4	68180	756.00	758.00	2.00	0.64	0.378
91-4	68181	758.00	760.00	2.00	0.46	0.247
91-4	68182	760.00	762.00	2.00	0.23	0.174
91-4	68183	762.00	764.00	2.00	0.39	0.269
91-4	68184	764.00	766.00	2.00	0.32	0.195
91-4	68185	766.00	768.00	2.00	0.38	0.210
91-4	68186	768.00	770.00	2.00	0.31	0.222
91-4	68187	770.00	772.00	2.00	0.43	0.143
91-4	68188	772.00	774.00	2.00	0.22	0.142
91-4	68189	774.00	776.00	2.00	0.12	0.062
91-4	68190	776.00	778.00	2.00	0.38	0.218
91-4	68191	778.00	780.00	2.00	0.18	0.072

DRILLHOLE NUMBER	SAMPLE NUMBER	FROM (m)	TO (m)	INTERVAL (m)	Au g/tonne	Cu %
91-4	68192	780.00	782.00	2.00	0.24	0.166
91-4	68193	782.00	784.00	2.00	0.18	0.092
91-4	68194	784.00	786.00	2.00	0.12	0.054
91-4	68195	786.00	788.00	2.00	0.11	0.053
91-4	68196	788.00	790.00	2.00	0.38	0.205
91-4	68197	790.00	792.00	2.00	0.41	0.300
91-4	68198	792.00	794.00	2.00	0.20	0.122
91-4	68199	794.00	796.00	2.00	0.09	0.034
91-4	68200	796.00	798.00	2.00	0.20	0.081
91-4	68201	798.00	800.00	2.00	0.18	0.035
91-4	68202	800.00	802.00	2.00	0.51	0.020
91-4	68203	802.00	804.00	2.00	0.06	0.012
91-4	68204	804.00	806.00	2.00	0.27	0.046
91-4	68205	806.00	808.00	2.00	0.10	0.027
91-4	68206	808.00	810.00	2.00	0.08	0.023
91-4	68207	810.00	812.00	2.00	0.11	0.013
91-4	68208	812.00	814.00	2.00	0.02	0.009
91-4	68209	814.00	816.00	2.00	0.01	0.007
91-4	68210	816.00	817.78	1.78	0.02	0.002
91-5	69410	19.20	20.00	0.80	0.34	0.199
91-5	69411	20.00	22.00	2.00	0.61	0.352
91-5	69412	22.00	24.00	2.00	0.58	0.391
91-5	69413	24.00	26.00	2.00	0.38	0.264
91-5	69414	26.00	28.00	2.00	0.37	0.277
91-5	69415	28.00	30.00	2.00	0.43	0.256
91-5	69416	30.00	32.00	2.00	0.52	0.380
91-5	69417	32.00	34.00	2.00	0.50	0.307
91-5	69418	34.00	36.00	2.00	0.89	0.415
91-5	69419	36.00	38.00	2.00	0.60	0.311
91-5	69420	38.00	40.00	2.00	0.48	0.249
91-5	69421	40.00	42.00	2.00	1.10	0.465
91-5	69422	42.00	44.00	2.00	0.61	0.208
91-5	69423	44.00	46.00	2.00	0.65	0.291
91-5	69424	46.00	48.00	2.00	0.53	0.350
91-5	69425	48.00	50.00	2.00	0.41	0.266
91-5	69426	50.00	52.00	2.00	0.45	0.252
91-5	69427	52.00	54.00	2.00	0.93	0.360
91-5	69428	54.00	56.00	2.00	0.51	0.224
91-5	69429	56.00	58.00	2.00	0.60	0.208
91-5	69430	58.00	60.00	2.00	0.44	0.143
91-5	69431	60.00	62.00	2.00	0.53	0.198
91-5	69432	62.00	64.00	2.00	0.51	0.222
91-5	69433	64.00	66.00	2.00	0.52	0.314
91-5	69434	66.00	68.00	2.00	0.51	0.242
91-5	69435	68.00	70.00	2.00	0.52	0.137
91-5	69436	70.00	72.00	2.00	0.88	0.232
91-5	69437	72.00	74.00	2.00	0.62	0.279
91-5	69438	74.00	76.00	2.00	0.67	0.350
91-5	69439	76.00	78.00	2.00	0.53	0.245
91-5	69440	78.00	80.00	2.00	0.49	0.218

DRILLHOLE NUMBER	SAMPLE NUMBER	FROM (m)	TO (m)	INTERVAL (m)	Au g/tonne	Cu %
91-5	69441	80.00	82.00	2.00	0.67	0.304
91-5	69442	82.00	84.00	2.00	0.63	0.301
91-5	69443	84.00	86.00	2.00	0.75	0.286
91-5	69444	86.00	88.00	2.00	1.92	0.430
91-5	69445	88.00	90.00	2.00	0.92	0.223
91-5	69446	90.00	92.00	2.00	0.78	0.189
91-5	69447	92.00	94.00	2.00	1.32	0.202
91-5	69448	94.00	96.00	2.00	0.37	0.135
91-5	69449	96.00	98.00	2.00	0.29	0.204
91-5	69450	98.00	100.00	2.00	0.23	0.194
91-5	69451	100.00	102.00	2.00	0.57	0.502
91-5	69452	102.00	104.00	2.00	0.54	0.406
91-5	69453	104.00	106.00	2.00	1.01	0.337
91-5	69454	106.00	108.00	2.00	0.81	0.331
91-5	69455	108.00	110.00	2.00	0.78	0.387
91-5	69456	110.00	112.00	2.00	0.96	0.346
91-5	69457	112.00	114.00	2.00	0.50	0.379
91-5	69458	114.00	116.00	2.00	0.65	0.531
91-5	69459	116.00	118.00	2.00	1.37	0.633
91-5	69460	118.00	120.00	2.00	0.40	0.232
91-5	69461	120.00	122.00	2.00	0.31	0.183
91-5	69462	122.00	124.00	2.00	0.39	0.154
91-5	69463	124.00	126.00	2.00	0.30	0.191
91-5	69464	126.00	128.00	2.00	0.39	0.188
91-5	69465	128.00	130.00	2.00	0.42	0.270
91-5	69466	130.00	132.00	2.00	0.31	0.227
91-5	69467	132.00	134.00	2.00	0.32	0.215
91-5	69468	134.00	136.00	2.00	0.44	0.294
91-5	69469	136.00	138.00	2.00	0.23	0.190
91-5	69470	138.00	140.00	2.00	0.32	0.214
91-5	69471	140.00	142.00	2.00	0.35	0.217
91-5	69472	142.00	144.00	2.00	0.49	0.327
91-5	69473	144.00	146.00	2.00	0.40	0.260
91-5	69474	146.00	148.00	2.00	0.52	0.322
91-5	69475	148.00	150.00	2.00	0.29	0.178
91-5	69476	150.00	152.00	2.00	0.30	0.253
91-5	69477	152.00	154.00	2.00	0.16	0.147
91-5	69478	154.00	156.00	2.00	0.20	0.095
91-5	69479	156.00	158.00	2.00	0.25	0.145
91-5	69480	158.00	160.00	2.00	0.19	0.097
91-5	69481	160.00	162.00	2.00	0.14	0.171
91-5	69482	162.00	164.00	2.00	0.19	0.136
91-5	69483	164.00	166.00	2.00	0.29	0.183
91-5	69484	166.00	168.00	2.00	0.61	0.403
91-5	69485	168.00	170.00	2.00	0.70	0.349
91-5	69486	170.00	172.00	2.00	2.53	0.397
91-5	69487	172.00	174.00	2.00	0.52	0.266
91-5	69488	174.00	176.00	2.00	0.59	0.236
91-5	69489	176.00	178.00	2.00	0.80	0.349
91-5	69490	178.00	180.00	2.00	0.49	0.240

DRILLHOLE NUMBER	SAMPLE NUMBER	FROM (m)	TO (m)	INTERVAL (m)	Au g/tonne	Cu %
91-5	69491	180.00	182.00	2.00	0.50	0.327
91-5	69492	182.00	184.00	2.00	0.60	0.335
91-5	69493	184.00	186.00	2.00	0.30	0.286
91-5	69494	186.00	188.00	2.00	0.58	0.304
91-5	69495	188.00	190.00	2.00	0.97	0.325
91-5	69496	190.00	192.00	2.00	0.50	0.370
91-5	69497	192.00	194.00	2.00	0.32	0.189
91-5	69498	194.00	196.00	2.00	0.69	0.372
91-5	69499	196.00	198.00	2.00	0.60	0.369
91-5	69500	198.00	200.00	2.00	0.50	0.274
91-5	69501	200.00	202.00	2.00	0.72	0.362
91-5	69502	202.00	204.00	2.00	0.83	0.427
91-5	69503	204.00	206.00	2.00	1.00	0.235
91-5	69504	206.00	208.00	2.00	0.72	0.298
91-5	69505	208.00	210.00	2.00	0.80	0.297
91-5	69506	210.00	212.00	2.00	0.64	0.222
91-5	69507	212.00	214.00	2.00	0.52	0.216
91-5	69508	214.00	216.00	2.00	0.86	0.332
91-5	69509	216.00	218.00	2.00	0.70	0.246
91-5	69510	218.00	220.00	2.00	0.52	0.200
91-5	69511	220.00	222.00	2.00	0.73	0.225
91-5	69512	222.00	224.00	2.00	0.68	0.321
91-5	69513	224.00	226.00	2.00	0.46	0.204
91-5	69514	226.00	228.00	2.00	0.32	0.280
91-5	69515	228.00	230.00	2.00	0.77	0.251
91-5	69516	230.00	232.00	2.00	0.53	0.356
91-5	69517	232.00	234.00	2.00	0.62	0.349
91-5	69518	234.00	236.00	2.00	0.60	0.229
91-5	69519	236.00	238.00	2.00	0.51	0.203
91-5	69520	238.00	240.00	2.00	0.79	0.238
91-5	69521	240.00	242.00	2.00	0.45	0.213
91-5	69522	242.00	244.00	2.00	0.17	0.080
91-5	69523	244.00	246.00	2.00	0.39	0.151
91-5	69524	246.00	248.00	2.00	0.57	0.296
91-5	69525	248.00	250.00	2.00	0.38	0.195
91-5	69526	250.00	252.00	2.00	0.56	0.309
91-5	69527	252.00	254.00	2.00	0.47	0.284
91-5	69528	254.00	256.00	2.00	0.29	0.175
91-5	69529	256.00	258.00	2.00	0.37	0.217
91-5	69530	258.00	260.00	2.00	0.33	0.450
91-5	69531	260.00	262.00	2.00	0.63	0.430
91-5	69532	262.00	264.00	2.00	0.41	0.203
91-5	69533	264.00	266.00	2.00	0.52	0.281
91-5	69534	266.00	268.00	2.00	0.60	0.314
91-5	69535	268.00	270.00	2.00	0.72	0.368
91-5	69536	270.00	272.00	2.00	0.59	0.252
91-5	69537	272.00	274.00	2.00	0.45	0.384
91-5	69538	274.00	276.00	2.00	0.33	0.101
91-5	69539	276.00	278.00	2.00	0.68	0.237
91-5	69540	278.00	280.00	2.00	0.40	0.251

DRILLHOLE NUMBER	SAMPLE NUMBER	FROM (m)	TO (m)	INTERVAL (m)	Au g/tonne	Cu %
91-5	69541	280.00	282.00	2.00	0.30	0.290
91-5	69542	282.00	284.00	2.00	0.29	0.337
91-5	69543	284.00	286.00	2.00	0.32	0.259
91-5	69544	286.00	288.00	2.00	0.50	0.379
91-5	69545	288.00	290.00	2.00	0.41	0.189
91-5	69546	290.00	292.00	2.00	0.30	0.238
91-5	69547	292.00	294.00	2.00	0.51	0.328
91-5	69548	294.00	296.00	2.00	0.54	0.370
91-5	69549	296.00	298.00	2.00	0.43	0.276
91-5	69550	298.00	300.00	2.00	0.70	0.330
91-5	69551	300.00	302.00	2.00	0.51	0.300
91-5	69552	302.00	304.00	2.00	0.58	0.225
91-5	69553	304.00	306.00	2.00	0.56	0.298
91-5	69554	306.00	308.00	2.00	0.39	0.263
91-5	69555	308.00	310.00	2.00	0.31	0.338
91-5	69556	310.00	312.00	2.00	0.28	0.320
91-5	69557	312.00	314.00	2.00	0.30	0.314
91-5	69558	314.00	316.00	2.00	0.22	0.212
91-5	69559	316.00	318.00	2.00	0.01	0.007
91-5	69560	318.00	320.00	2.00	0.01	0.005
91-5	69561	320.00	322.00	2.00	0.01	0.008
91-5	69562	322.00	324.00	2.00	0.21	0.169
91-5	69563	324.00	326.00	2.00	0.30	0.300
91-5	69564	326.00	328.00	2.00	0.48	0.406
91-5	69565	328.00	330.00	2.00	0.31	0.340
91-5	69566	330.00	332.00	2.00	0.28	0.185
91-5	69567	332.00	334.00	2.00	0.37	0.220
91-5	69568	334.00	336.00	2.00	0.32	0.268
91-5	69569	336.00	338.00	2.00	0.33	0.135
91-5	69570	338.00	340.00	2.00	0.54	0.165
91-5	69571	340.00	342.00	2.00	0.58	0.127
91-5	69572	342.00	344.00	2.00	0.78	0.217
91-5	69573	344.00	346.00	2.00	0.89	0.232
91-5	69574	346.00	348.00	2.00	0.90	0.189
91-5	69575	348.00	350.00	2.00	0.80	0.280
91-5	69576	350.00	351.43	1.43	0.31	0.235
91-5	69577	351.43	352.00	0.57	0.50	0.258
91-5	69578	352.00	354.00	2.00	0.39	0.224
91-5	69579	354.00	356.00	2.00	0.38	0.333
91-5	69580	356.00	358.00	2.00	0.31	0.162
91-5	69581	358.00	360.00	2.00	0.32	0.202
91-5	69582	360.00	362.00	2.00	0.49	0.348
91-5	69583	362.00	364.00	2.00	0.30	0.178
91-5	69584	364.00	366.00	2.00	0.38	0.207
91-5	69585	366.00	368.00	2.00	0.19	0.121
91-5	69586	368.00	370.00	2.00	0.31	0.177
91-5	69587	370.00	372.00	2.00	0.35	0.252
91-5	69588	372.00	374.00	2.00	0.32	0.207
91-5	69589	374.00	376.00	2.00	0.76	0.374
91-5	69590	376.00	378.00	2.00	0.40	0.341

DRILLHOLE NUMBER	SAMPLE NUMBER	FROM (m)	TO (m)	INTERVAL (m)	Au g/tonne	Cu %
91-5	69591	378.00	380.00	2.00	0.45	0.358
91-5	69592	380.00	382.00	2.00	0.50	0.332
91-5	69593	382.00	384.00	2.00	0.39	0.334
91-5	69594	384.00	386.00	2.00	0.29	0.209
91-5	69595	386.00	388.00	2.00	0.27	0.173
91-5	69596	388.00	390.00	2.00	0.20	0.233
91-5	69597	390.00	392.00	2.00	0.44	0.481
91-5	69598	392.00	394.00	2.00	0.40	0.303
91-5	69599	394.00	396.00	2.00	0.02	0.057
91-5	69600	396.00	398.00	2.00	0.01	0.001
91-5	69601	398.00	400.00	2.00	0.40	0.298
91-5	69602	400.00	402.00	2.00	0.45	0.333
91-5	69603	402.00	404.00	2.00	0.61	0.476
91-5	69604	404.00	406.00	2.00	0.36	0.337
91-5	69605	406.00	408.00	2.00	0.48	0.407
91-5	69606	408.00	410.00	2.00	0.46	0.408
91-5	69607	410.00	412.00	2.00	0.80	0.626
91-5	69608	412.00	414.00	2.00	0.45	0.294
91-5	69609	414.00	416.00	2.00	0.20	0.287
91-5	69610	416.00	418.00	2.00	0.39	0.314
91-5	69611	418.00	420.00	2.00	0.61	0.421
91-5	69612	420.00	422.00	2.00	0.82	0.485
91-5	69613	422.00	424.00	2.00	0.39	0.335
91-5	69614	424.00	426.00	2.00	0.31	0.247
91-5	69615	426.00	428.00	2.00	0.38	0.365
91-5	69616	428.00	430.00	2.00	0.71	0.634
91-5	69617	430.00	432.00	2.00	0.50	0.307
91-5	69618	432.00	434.00	2.00	0.51	0.392
91-5	69619	434.00	436.00	2.00	0.52	0.313
91-5	69620	436.00	438.00	2.00	0.64	0.300
91-5	69621	438.00	440.00	2.00	0.38	0.172
91-5	69622	440.00	442.00	2.00	1.82	0.270
91-5	69623	442.00	444.00	2.00	0.60	0.265
91-5	69624	444.00	446.00	2.00	0.43	0.230
91-5	69625	446.00	448.00	2.00	0.54	0.332
91-5	69626	448.00	450.00	2.00	0.31	0.257
91-5	69627	450.00	452.00	2.00	0.39	0.342
91-5	69628	452.00	454.00	2.00	0.58	0.292
91-5	69629	454.00	456.00	2.00	0.54	0.248
91-5	69630	456.00	458.00	2.00	0.46	0.227
91-5	69631	458.00	460.00	2.00	0.60	0.320
91-5	69632	460.00	462.00	2.00	0.48	0.288
91-5	69633	462.00	464.00	2.00	0.31	0.213
91-5	69634	464.00	466.00	2.00	0.71	0.402
91-5	69635	466.00	468.00	2.00	0.47	0.325
91-5	69636	468.00	470.00	2.00	0.50	0.384
91-5	69637	470.00	472.00	2.00	0.51	0.350
91-5	69638	472.00	474.00	2.00	0.51	0.237
91-5	69639	474.00	476.00	2.00	0.44	0.296
91-5	69640	476.00	478.00	2.00	0.40	0.343

DRILLHOLE NUMBER	SAMPLE NUMBER	FROM (m)	TO (m)	INTERVAL (m)	Au g/tonne	Cu %
91-5	69641	478.00	480.00	2.00	0.38	0.309
91-5	69642	480.00	482.00	2.00	0.72	0.332
91-5	69643	482.00	484.00	2.00	2.26	0.215
91-5	69644	484.00	486.00	2.00	0.60	0.281
91-5	69645	486.00	488.00	2.00	1.54	0.279
91-5	69646	488.00	490.00	2.00	0.38	0.236
91-5	69647	490.00	492.00	2.00	0.78	0.412
91-5	69648	492.00	494.00	2.00	0.50	0.403
91-5	69649	494.00	496.00	2.00	0.33	0.253
91-5	69650	496.00	498.00	2.00	0.51	0.372
91-5	69651	498.00	500.00	2.00	0.48	0.294
91-5	69652	500.00	502.00	2.00	0.47	0.436
91-5	69653	502.00	504.00	2.00	0.51	0.296
91-5	69654	504.00	506.00	2.00	0.50	0.239
91-5	69655	506.00	508.00	2.00	1.90	0.302
91-5	69656	508.00	510.00	2.00	4.07	0.296
91-5	69657	510.00	512.00	2.00	0.68	0.242
91-5	69658	512.00	514.00	2.00	1.47	0.275
91-5	69659	514.00	516.00	2.00	0.42	0.297
91-5	69660	516.00	518.00	2.00	0.38	0.230
91-5	69661	518.00	520.00	2.00	0.31	0.272
91-5	69662	520.00	522.00	2.00	0.94	0.446
91-5	69663	522.00	524.00	2.00	0.40	0.345
91-5	69664	524.00	526.00	2.00	0.39	0.407
91-5	69665	526.00	528.00	2.00	0.27	0.292
91-5	69666	528.00	530.00	2.00	0.40	0.365
91-5	69667	530.00	532.00	2.00	0.39	0.337
91-5	69668	532.00	534.00	2.00	1.41	0.815
91-5	69669	534.00	536.00	2.00	0.69	0.485
91-5	69670	536.00	538.00	2.00	0.30	0.234
91-5	69671	538.00	540.00	2.00	0.32	0.406
91-5	69672	540.00	542.00	2.00	0.42	0.338
91-5	69673	542.00	544.00	2.00	0.70	0.423
91-5	69674	544.00	546.00	2.00	0.41	0.370
91-5	69675	546.00	548.00	2.00	0.60	0.400
91-5	69676	548.00	550.00	2.00	0.19	0.245
91-5	69677	550.00	552.00	2.00	0.22	0.235
91-5	69678	552.00	554.00	2.00	0.20	0.212
91-5	69679	554.00	556.00	2.00	0.24	0.262
91-5	69680	556.00	558.00	2.00	0.41	0.346
91-5	69681	558.00	560.00	2.00	0.72	0.623
91-5	69682	560.00	562.00	2.00	0.64	0.661
91-5	69683	562.00	564.00	2.00	0.41	0.374
91-5	69684	564.00	566.00	2.00	0.37	0.233
91-5	69685	566.00	568.00	2.00	0.44	0.272
91-5	69686	568.00	570.00	2.00	0.51	0.297
91-5	69687	570.00	572.00	2.00	1.14	0.522
91-5	69688	572.00	574.00	2.00	0.71	0.605
91-5	69689	574.00	576.00	2.00	0.93	0.473
91-5	69690	576.00	578.00	2.00	0.54	0.385

DRILLHOLE NUMBER	SAMPLE NUMBER	FROM (m)	TO (m)	INTERVAL (m)	Au g/tonne	Cu %
91-5	69691	578.00	580.00	2.00	0.40	0.328
91-5	69692	580.00	582.00	2.00	0.41	0.369
91-5	69693	582.00	584.00	2.00	0.52	0.494
91-5	69694	584.00	586.00	2.00	0.61	0.422
91-5	69695	586.00	588.00	2.00	0.40	0.317
91-5	69696	588.00	590.00	2.00	0.23	0.327
91-5	69697	590.00	592.00	2.00	0.51	0.351
91-5	69698	592.00	594.00	2.00	0.48	0.469
91-5	69699	594.00	596.00	2.00	0.33	0.405
91-5	69700	596.00	598.00	2.00	0.42	0.420
91-5	69701	598.00	600.00	2.00	0.39	0.397
91-5	69702	600.00	602.00	2.00	0.79	0.443
91-5	69703	602.00	604.00	2.00	0.29	0.276
91-5	69704	604.00	606.00	2.00	0.40	0.353
91-5	69705	606.00	608.00	2.00	0.76	0.454
91-5	69706	608.00	610.00	2.00	0.68	0.389
91-5	69707	610.00	612.00	2.00	0.48	0.261
91-5	69708	612.00	614.00	2.00	0.46	0.286
91-5	69709	614.00	616.00	2.00	0.32	0.332
91-5	69710	616.00	618.00	2.00	0.60	0.377
91-5	69711	618.00	620.00	2.00	0.43	0.305
91-5	69712	620.00	622.00	2.00	0.22	0.245
91-5	69713	622.00	624.00	2.00	0.35	0.266
91-5	69714	624.00	626.00	2.00	0.49	0.432
91-5	69715	626.00	628.00	2.00	0.40	0.378
91-5	69716	628.00	630.00	2.00	0.48	0.340
91-5	69717	630.00	632.00	2.00	0.61	0.409
91-5	69718	632.00	634.00	2.00	0.20	0.209
91-5	69719	634.00	636.00	2.00	0.40	0.424
91-5	69720	636.00	638.00	2.00	0.42	0.259
91-5	69721	638.00	640.00	2.00	0.21	0.145
91-5	69722	640.00	642.00	2.00	0.49	0.398
91-5	69723	642.00	644.00	2.00	0.24	0.158
91-5	69724	644.00	646.00	2.00	0.40	0.246
91-5	69725	646.00	648.00	2.00	0.40	0.272
91-5	69726	648.00	650.00	2.00	0.38	0.246
91-5	69727	650.00	652.00	2.00	0.42	0.275
91-5	69728	652.00	654.00	2.00	0.50	0.280
91-5	69729	654.00	656.00	2.00	0.34	0.156
91-5	69730	656.00	658.00	2.00	0.46	0.274
91-5	69731	658.00	660.00	2.00	0.37	0.184
91-5	69732	660.00	662.00	2.00	0.32	0.179
91-5	69733	662.00	664.00	2.00	0.39	0.230
91-5	69734	664.00	666.00	2.00	0.43	0.273
91-5	69735	666.00	668.00	2.00	0.41	0.268
91-5	69736	668.00	670.00	2.00	0.60	0.307
91-5	69737	670.00	672.00	2.00	0.47	0.375
91-5	69738	672.00	674.00	2.00	0.38	0.166
91-5	69739	674.00	676.00	2.00	0.28	0.184
91-5	69740	676.00	678.00	2.00	0.13	0.114

DRILLHOLE NUMBER	SAMPLE NUMBER	FROM (m)	TO (m)	INTERVAL (m)	Au g/tonne	Cu %
91-5	69741	678.00	680.00	2.00	0.34	0.286
91-5	69742	680.00	682.00	2.00	0.40	0.525
91-5	69743	682.00	684.00	2.00	0.10	0.096
91-5	69744	684.00	686.00	2.00	0.02	0.005
91-5	69745	686.00	688.00	2.00	0.38	0.108
91-5	69746	688.00	690.00	2.00	0.22	0.132
91-5	69747	690.00	692.00	2.00	0.47	0.214
91-5	69748	692.00	694.00	2.00	0.34	0.288
91-5	69749	694.00	696.00	2.00	0.90	0.501
91-5	69750	696.00	698.00	2.00	0.89	0.516
91-5	69751	698.00	700.00	2.00	0.68	0.555
91-5	69752	700.00	702.00	2.00	0.65	0.474
91-5	69753	702.00	704.00	2.00	0.61	0.535
91-5	69754	704.00	706.00	2.00	0.67	0.544
91-5	69755	706.00	708.00	2.00	0.51	0.451
91-5	69756	708.00	710.00	2.00	0.30	0.291
91-5	69757	710.00	712.00	2.00	0.18	0.146
91-5	69758	712.00	714.00	2.00	0.19	0.202
91-5	69759	714.00	716.00	2.00	0.41	0.360
91-5	69760	716.00	718.00	2.00	0.40	0.349
91-5	69761	718.00	720.00	2.00	0.48	0.393
91-5	69762	720.00	722.00	2.00	0.31	0.304
91-5	69763	722.00	724.00	2.00	0.30	0.335
91-5	69764	724.00	726.00	2.00	0.37	0.372
91-5	69765	726.00	728.00	2.00	0.23	0.270
91-5	69766	728.00	730.00	2.00	0.38	0.243
91-5	69767	730.00	732.00	2.00	0.11	0.162
91-5	69768	732.00	734.00	2.00	0.61	0.741
91-5	69769	734.00	736.00	2.00	0.37	0.437
91-5	69770	736.00	738.00	2.00	0.23	0.263
91-5	69771	738.00	740.00	2.00	0.07	0.091
91-5	69772	740.00	742.00	2.00	0.19	0.131
91-5	69773	742.00	744.00	2.00	0.14	0.165
91-5	69774	744.00	746.00	2.00	0.07	0.050
91-5	69775	746.00	748.00	2.00	0.03	0.024
91-5	69776	748.00	750.00	2.00	0.01	0.033
91-5	69777	750.00	752.00	2.00	0.02	0.024
91-5	69778	752.00	754.00	2.00	0.01	0.040
91-5	69779	754.00	756.00	2.00	0.01	0.007
91-5	69780	756.00	758.00	2.00	0.03	0.008
91-5	69781	758.00	760.00	2.00	0.07	0.012
91-5	69782	760.00	762.00	2.00	0.08	0.034
91-5	69783	762.00	764.13	2.13	0.04	0.019
91-6	68211	10.67	12.00	1.33	0.26	0.189
91-6	68212	12.00	14.00	2.00	0.22	0.144
91-6	68213	14.00	16.00	2.00	0.27	0.212
91-6	68214	16.00	18.00	2.00	0.20	0.115
91-6	68215	18.00	20.00	2.00	0.21	0.103
91-6	68216	20.00	22.00	2.00	0.12	0.105
91-6	68217	22.00	24.00	2.00	6.95	0.483

DRILLHOLE NUMBER	SAMPLE NUMBER	FROM (m)	TO (m)	INTERVAL (m)	Au g/tonne	Cu %
91-6	68218	24.00	26.00	2.00	0.20	0.118
91-6	68219	26.00	28.00	2.00	0.42	0.195
91-6	68220	28.00	30.00	2.00	0.61	0.367
91-6	68221	30.00	32.00	2.00	0.44	0.258
91-6	68222	32.00	34.00	2.00	0.64	0.463
91-6	68223	34.00	36.00	2.00	0.87	0.250
91-6	68224	36.00	38.00	2.00	0.28	0.175
91-6	68225	38.00	40.00	2.00	0.30	0.212
91-6	68226	40.00	42.00	2.00	1.00	0.281
91-6	68227	42.00	44.00	2.00	0.56	0.205
91-6	68228	44.00	46.00	2.00	0.21	0.165
91-6	68229	46.00	48.00	2.00	0.20	0.147
91-6	68230	48.00	50.00	2.00	0.30	0.144
91-6	68231	50.00	52.00	2.00	0.41	0.304
91-6	68232	52.00	54.00	2.00	0.20	0.119
91-6	68233	54.00	56.00	2.00	2.13	0.253
91-6	68234	56.00	58.00	2.00	0.89	0.144
91-6	68235	58.00	60.00	2.00	0.50	0.141
91-6	68236	60.00	62.00	2.00	0.80	0.415
91-6	68237	62.00	64.00	2.00	0.12	0.400
91-6	68238	64.00	66.00	2.00	0.23	0.110
91-6	68239	66.00	68.00	2.00	0.50	0.149
91-6	68240	68.00	70.00	2.00	0.48	0.280
91-6	68241	70.00	72.00	2.00	0.22	0.196
91-6	68242	72.00	74.00	2.00	0.38	0.110
91-6	68243	74.00	76.00	2.00	0.21	0.150
91-6	68244	76.00	78.00	2.00	0.30	0.260
91-6	68245	78.00	80.00	2.00	0.47	0.315
91-6	68246	80.00	82.00	2.00	0.55	0.339
91-6	68247	82.00	84.00	2.00	0.32	0.237
91-6	68248	84.00	86.00	2.00	0.44	0.306
91-6	68249	86.00	88.00	2.00	0.30	0.205
91-6	68250	88.00	90.00	2.00	0.72	0.300
91-6	68251	90.00	92.00	2.00	0.16	0.084
91-6	68252	92.00	94.00	2.00	0.47	0.234
91-6	68253	94.00	96.00	2.00	0.40	0.262
91-6	68254	96.00	98.00	2.00	0.55	0.246
91-6	68255	98.00	100.00	2.00	0.69	0.204
91-6	68256	100.00	102.00	2.00	0.23	0.190
91-6	68257	102.00	104.00	2.00	0.48	0.350
91-6	68258	104.00	106.00	2.00	0.24	0.195
91-6	68259	106.00	108.00	2.00	0.18	0.151
91-6	68260	108.00	110.00	2.00	0.82	0.260
91-6	68261	110.00	112.00	2.00	0.52	0.225
91-6	68262	112.00	114.00	2.00	0.30	0.230
91-6	68263	114.00	116.00	2.00	0.23	0.156
91-6	68264	116.00	118.00	2.00	0.30	0.194
91-6	68265	118.00	120.00	2.00	0.52	0.261
91-6	68266	120.00	122.00	2.00	0.31	0.165
91-6	68267	122.00	124.00	2.00	0.32	0.193

DRILLHOLE NUMBER	SAMPLE NUMBER	FROM (m)	TO (m)	INTERVAL (m)	Au g/tonne	Cu %
91-6	68268	124.00	126.00	2.00	0.19	0.150
91-6	68269	126.00	128.00	2.00	0.28	0.216
91-6	68270	128.00	130.00	2.00	0.15	0.077
91-6	68271	130.00	132.00	2.00	0.23	0.196
91-6	68272	132.00	134.00	2.00	0.29	0.202
91-6	68273	134.00	136.00	2.00	0.28	0.227
91-6	68274	136.00	138.00	2.00	0.30	0.186
91-6	68275	138.00	140.00	2.00	0.56	0.246
91-6	68276	140.00	142.00	2.00	0.31	0.261
91-6	68277	142.00	144.00	2.00	1.48	0.274
91-6	68278	144.00	146.00	2.00	0.61	0.180
91-6	68279	146.00	148.00	2.00	0.50	0.371
91-6	68280	148.00	150.00	2.00	0.49	0.307
91-6	68281	150.00	152.00	2.00	0.24	0.222
91-6	68282	152.00	154.00	2.00	0.33	0.238
91-6	68283	154.00	156.00	2.00	0.28	0.206
91-6	68284	156.00	158.00	2.00	0.17	0.135
91-6	68285	158.00	160.00	2.00	0.34	0.251
91-6	68286	160.00	162.00	2.00	0.36	0.191
91-6	68287	162.00	164.00	2.00	0.21	0.223
91-6	68288	164.00	166.00	2.00	0.34	0.404
91-6	68289	166.00	168.00	2.00	0.28	0.305
91-6	68290	168.00	170.00	2.00	0.18	0.180
91-6	68291	170.00	172.00	2.00	0.21	0.268
91-6	68292	172.00	174.00	2.00	0.17	0.149
91-6	68293	174.00	176.00	2.00	0.19	0.154
91-6	68294	176.00	178.00	2.00	0.20	0.175
91-6	68295	178.00	180.00	2.00	0.31	0.227
91-6	68296	180.00	182.00	2.00	0.12	0.126
91-6	68297	182.00	184.00	2.00	0.23	0.166
91-6	68298	184.00	186.00	2.00	0.28	0.290
91-6	68299	186.00	188.00	2.00	0.22	0.197
91-6	68300	188.00	190.00	2.00	0.24	0.199
91-6	68301	190.00	192.00	2.00	0.38	0.166
91-6	68302	192.00	194.00	2.00	0.25	0.161
91-6	68303	194.00	196.00	2.00	0.41	0.214
91-6	68304	196.00	198.00	2.00	0.30	0.231
91-6	68305	198.00	200.00	2.00	0.32	0.199
91-6	68306	200.00	202.00	2.00	0.43	0.188
91-6	68307	202.00	204.00	2.00	0.31	0.226
91-6	68308	204.00	206.00	2.00	0.28	0.179
91-6	68309	206.00	208.00	2.00	0.18	0.135
91-6	68310	208.00	210.00	2.00	0.29	0.148
91-6	68311	210.00	212.00	2.00	0.24	0.172
91-6	68312	212.00	214.00	2.00	0.30	0.274
91-6	68313	214.00	216.00	2.00	0.39	0.286
91-6	68314	216.00	218.00	2.00	0.24	0.186
91-6	68315	218.00	220.00	2.00	0.43	0.159
91-6	68316	220.00	222.00	2.00	0.40	0.229
91-6	68317	222.00	224.00	2.00	0.31	0.219

DRILLHOLE NUMBER	SAMPLE NUMBER	FROM (m)	TO (m)	INTERVAL (m)	Au g/tonne	Cu %
91-6	68318	224.00	226.00	2.00	0.22	0.184
91-6	68319	226.00	228.00	2.00	4.65	0.226
91-6	68320	228.00	230.00	2.00	0.35	0.296
91-6	68321	230.00	232.00	2.00	0.22	0.173
91-6	68322	232.00	234.00	2.00	0.38	0.306
91-6	68323	234.00	236.00	2.00	0.39	0.332
91-6	68324	236.00	238.00	2.00	0.48	0.247
91-6	68325	238.00	240.00	2.00	0.26	0.217
91-6	68326	240.00	242.00	2.00	0.38	0.237
91-6	68327	242.00	244.00	2.00	1.23	0.218
91-6	68328	244.00	246.00	2.00	3.10	0.305
91-6	68329	246.00	248.00	2.00	0.44	0.279
91-6	68330	248.00	250.00	2.00	0.37	0.243
91-6	68331	250.00	252.00	2.00	0.50	0.214
91-6	68332	252.00	254.00	2.00	0.51	0.272
91-6	68333	254.00	256.00	2.00	0.50	0.241
91-6	68334	256.00	258.00	2.00	0.34	0.259
91-6	68335	258.00	260.00	2.00	0.22	0.165
91-6	68336	260.00	262.00	2.00	0.26	0.222
91-6	68337	262.00	264.00	2.00	3.85	0.239
91-6	68338	264.00	266.00	2.00	0.24	0.193
91-6	68339	266.00	268.00	2.00	0.21	0.159
91-6	68340	268.00	270.00	2.00	0.40	0.261
91-6	68341	270.00	272.00	2.00	0.18	0.116
91-6	68342	272.00	274.00	2.00	0.21	0.124
91-6	68343	274.00	276.00	2.00	0.02	0.086
91-6	68344	276.00	278.00	2.00	0.12	0.178
91-6	68345	278.00	280.00	2.00	0.36	0.257
91-6	68346	280.00	282.00	2.00	0.32	0.179
91-6	68347	282.00	284.00	2.00	0.33	0.209
91-6	68348	284.00	286.00	2.00	0.32	0.305
91-6	68349	286.00	288.00	2.00	0.25	0.164
91-6	68350	288.00	290.00	2.00	0.19	0.112
91-6	68351	290.00	292.00	2.00	0.30	0.231
91-6	68352	292.00	294.00	2.00	0.32	0.264
91-6	68353	294.00	296.00	2.00	0.48	0.366
91-6	68354	296.00	298.00	2.00	0.29	0.227
91-6	68355	298.00	300.00	2.00	0.40	0.221
91-6	68356	300.00	302.00	2.00	0.52	0.136
91-6	68357	302.00	304.00	2.00	0.31	0.204
91-6	68358	304.00	306.00	2.00	0.51	0.306
91-6	68359	306.00	308.00	2.00	0.53	0.337
91-6	68360	308.00	310.00	2.00	0.50	0.358
91-6	68361	310.00	312.00	2.00	0.40	0.307
91-6	68362	312.00	314.00	2.00	0.33	0.236
91-6	68363	314.00	316.00	2.00	0.41	0.306
91-6	68364	316.00	318.00	2.00	0.79	0.331
91-6	68365	318.00	320.00	2.00	0.82	0.299
91-6	68366	320.00	322.00	2.00	1.50	0.400
91-6	68367	322.00	324.00	2.00	0.50	0.434

DRILLHOLE NUMBER	SAMPLE NUMBER	FROM (m)	TO (m)	INTERVAL (m)	Au g/tonne	Cu %
91-6	68368	324.00	326.00	2.00	0.68	0.502
91-6	68369	326.00	328.00	2.00	0.87	0.436
91-6	68370	328.00	330.00	2.00	0.63	0.419
91-6	68371	330.00	332.00	2.00	0.59	0.355
91-6	68372	332.00	334.00	2.00	0.67	0.291
91-6	68373	334.00	336.00	2.00	3.32	0.400
91-6	68374	336.00	338.00	2.00	0.93	0.387
91-6	68375	338.00	340.00	2.00	0.52	0.332
91-6	68376	340.00	342.00	2.00	0.64	0.413
91-6	68377	342.00	344.00	2.00	0.68	0.396
91-6	68378	344.00	346.00	2.00	0.54	0.355
91-6	68379	346.00	348.00	2.00	0.50	0.383
91-6	68380	348.00	350.00	2.00	0.84	0.260
91-6	68381	350.00	352.00	2.00	0.60	0.345
91-6	68382	352.00	354.00	2.00	0.49	0.220
91-6	68383	354.00	356.00	2.00	0.48	0.301
91-6	68384	356.00	358.00	2.00	0.57	0.369
91-6	68385	358.00	360.00	2.00	0.30	0.234
91-6	68386	360.00	362.00	2.00	0.72	0.439
91-6	68387	362.00	364.00	2.00	1.38	0.313
91-6	68388	364.00	366.00	2.00	0.97	0.443
91-6	68389	366.00	368.00	2.00	0.60	0.420
91-6	68390	368.00	370.00	2.00	0.65	0.546
91-6	68391	370.00	372.00	2.00	0.49	0.415
91-6	68392	372.00	374.00	2.00	0.40	0.362
91-6	68393	374.00	376.00	2.00	0.94	0.667
91-6	68394	376.00	378.00	2.00	0.73	0.403
91-6	68395	378.00	380.00	2.00	0.60	0.353
91-6	68396	380.00	382.00	2.00	0.68	0.359
91-6	68397	382.00	384.00	2.00	0.59	0.336
91-6	68398	384.00	386.00	2.00	0.58	0.296
91-6	68399	386.00	388.00	2.00	0.41	0.277
91-6	68400	388.00	390.00	2.00	0.70	0.408
91-6	68401	390.00	392.00	2.00	4.15	0.530
91-6	68402	392.00	394.00	2.00	0.62	0.372
91-6	68403	394.00	396.00	2.00	0.46	0.269
91-6	68404	396.00	398.00	2.00	0.61	0.406
91-6	68405	398.00	400.00	2.00	0.81	0.584
91-6	68406	400.00	402.00	2.00	0.66	0.483
91-6	68407	402.00	404.00	2.00	0.74	0.317
91-6	68408	404.00	406.00	2.00	0.72	0.550
91-6	68409	406.00	408.00	2.00	0.50	0.305
91-6	68410	408.00	410.00	2.00	0.95	0.543
91-6	68411	410.00	412.00	2.00	0.57	0.397
91-6	68412	412.00	414.00	2.00	0.71	0.394
91-6	68413	414.00	416.00	2.00	0.52	0.271
91-6	68414	416.00	418.00	2.00	0.64	0.325
91-6	68415	418.00	420.00	2.00	0.95	0.725
91-6	68416	420.00	422.00	2.00	0.53	0.288
91-6	68417	422.00	424.00	2.00	0.45	0.312

DRILLHOLE NUMBER	SAMPLE NUMBER	FROM (m)	TO (m)	INTERVAL (m)	Au g/tonne	Cu %
91-6	68418	424.00	426.00	2.00	0.48	0.260
91-6	68419	426.00	428.00	2.00	0.33	0.242
91-6	68420	428.00	430.00	2.00	0.59	0.382
91-6	68421	430.00	432.00	2.00	0.43	0.269
91-6	68422	432.00	434.00	2.00	0.52	0.333
91-6	68423	434.00	436.00	2.00	0.42	0.260
91-6	68424	436.00	438.00	2.00	0.31	0.260
91-6	68425	438.00	440.00	2.00	0.39	0.259
91-6	68426	440.00	442.00	2.00	0.37	0.234
91-6	68427	442.00	444.00	2.00	0.61	0.253
91-6	68428	444.00	446.00	2.00	0.72	0.254
91-6	68429	446.00	448.00	2.00	0.62	0.373
91-6	68430	448.00	450.00	2.00	0.60	0.418
91-6	68431	450.00	452.00	2.00	0.38	0.263
91-6	68432	452.00	454.00	2.00	0.09	0.058
91-6	68433	454.00	456.00	2.00	0.02	0.002
91-6	68434	456.00	458.00	2.00	0.01	0.010
91-6	68435	458.00	460.00	2.00	0.40	0.320
91-6	68436	460.00	462.00	2.00	0.48	0.375
91-6	68437	462.00	464.00	2.00	0.17	0.155
91-6	68438	464.00	466.00	2.00	0.01	0.006
91-6	68439	466.00	468.00	2.00	0.01	0.003
91-6	68440	468.00	470.00	2.00	0.22	0.190
91-6	68441	470.00	472.00	2.00	0.31	0.307
91-6	68442	472.00	474.00	2.00	0.39	0.328
91-6	68443	474.00	476.00	2.00	0.32	0.264
91-6	68444	476.00	478.00	2.00	0.54	0.469
91-6	68445	478.00	480.00	2.00	0.60	0.409
91-6	68446	480.00	482.00	2.00	0.32	0.264
91-6	68447	482.00	484.00	2.00	0.38	0.332
91-6	68448	484.00	486.00	2.00	0.49	0.314
91-6	68449	486.00	488.00	2.00	0.54	0.358
91-6	68450	488.00	490.00	2.00	0.38	0.359
91-6	68451	490.00	492.00	2.00	0.40	0.422
91-6	68452	492.00	494.00	2.00	0.42	0.359
91-6	68453	494.00	496.00	2.00	0.51	0.448
91-6	68454	496.00	498.00	2.00	0.39	0.373
91-6	68455	498.00	500.00	2.00	0.66	0.546
91-6	68456	500.00	502.00	2.00	0.50	0.468
91-6	68457	502.00	504.00	2.00	0.41	0.256
91-6	68458	504.00	506.00	2.00	0.55	0.423
91-6	68459	506.00	508.00	2.00	0.41	0.325
91-6	68460	508.00	510.00	2.00	0.40	0.311
91-6	68461	510.00	512.00	2.00	0.41	0.360
91-6	68462	512.00	514.00	2.00	0.47	0.350
91-6	68463	514.00	516.00	2.00	0.48	0.364
91-6	68464	516.00	518.00	2.00	0.69	0.521
91-6	68465	518.00	520.00	2.00	0.60	0.412
91-6	68466	520.00	522.00	2.00	0.69	0.520
91-6	68467	522.00	524.00	2.00	0.61	0.406

DRILLHOLE NUMBER	SAMPLE NUMBER	FROM (m)	TO (m)	INTERVAL (m)	Au g/tonne	Cu %
91-6	68468	524.00	526.00	2.00	0.43	0.433
91-6	68469	526.00	528.00	2.00	0.49	0.410
91-6	68470	528.00	530.00	2.00	0.38	0.256
91-6	68471	530.00	532.00	2.00	0.40	0.280
91-6	68472	532.00	534.00	2.00	0.21	0.207
91-6	68473	534.00	536.00	2.00	0.50	0.443
91-6	68474	536.00	538.00	2.00	0.70	0.646
91-6	68475	538.00	540.00	2.00	0.91	0.685
91-6	68476	540.00	542.00	2.00	0.43	0.368
91-6	68477	542.00	544.00	2.00	0.70	0.581
91-6	68478	544.00	546.00	2.00	0.53	0.381
91-6	68479	546.00	548.00	2.00	0.62	0.544
91-6	68480	548.00	550.00	2.00	0.89	0.606
91-6	68481	550.00	552.00	2.00	0.27	0.308
91-6	68482	552.00	554.00	2.00	0.68	0.570
91-6	68483	554.00	556.00	2.00	0.33	0.272
91-6	68484	556.00	558.00	2.00	0.32	0.279
91-6	68485	558.00	560.00	2.00	0.22	0.161
91-6	68486	560.00	562.00	2.00	0.29	0.274
91-6	68487	562.00	564.00	2.00	0.32	0.269
91-6	68488	564.00	566.00	2.00	0.42	0.417
91-6	68489	566.00	568.00	2.00	0.36	0.262
91-6	68490	568.00	570.00	2.00	0.30	0.237
91-6	68491	570.00	572.00	2.00	0.28	0.270
91-6	68492	572.00	574.00	2.00	0.27	0.221
91-6	68493	574.00	576.00	2.00	0.41	0.361
91-6	68494	576.00	578.00	2.00	0.40	0.397
91-6	68495	578.00	580.00	2.00	0.47	0.404
91-6	68496	580.00	582.00	2.00	0.46	0.415
91-6	68497	582.00	584.00	2.00	0.86	0.716
91-6	68498	584.00	586.00	2.00	0.28	0.181
91-6	68499	586.00	588.00	2.00	0.53	0.383
91-6	68500	588.00	590.00	2.00	0.36	0.310
91-6	68501	590.00	592.00	2.00	0.46	0.353
91-6	68502	592.00	594.00	2.00	0.49	0.440
91-6	68503	594.00	596.00	2.00	0.34	0.284
91-6	68504	596.00	598.00	2.00	0.32	0.263
91-6	68505	598.00	600.00	2.00	0.26	0.201
91-6	68506	600.00	602.00	2.00	0.30	0.232
91-6	68507	602.00	604.00	2.00	0.28	0.270
91-6	68508	604.00	606.00	2.00	0.34	0.302
91-6	68509	606.00	608.00	2.00	0.40	0.337
91-6	68510	608.00	610.00	2.00	0.55	0.417
91-6	68511	610.00	612.00	2.00	0.52	0.424
91-6	68512	612.00	614.00	2.00	0.33	0.297
91-6	68513	614.00	616.00	2.00	0.60	0.498
91-6	68514	616.00	618.00	2.00	0.51	0.486
91-6	68515	618.00	620.00	2.00	0.58	0.555
91-6	68516	620.00	622.00	2.00	0.51	0.520
91-6	68517	622.00	624.00	2.00	0.37	0.354

DRILLHOLE NUMBER	SAMPLE NUMBER	FROM (m)	TO (m)	INTERVAL (m)	Au g/tonne	Cu %
91-6	68518	624.00	626.00	2.00	0.42	0.374
91-6	68519	626.00	628.00	2.00	0.35	0.373
91-6	68520	628.00	630.00	2.00	0.34	0.311
91-6	68521	630.00	632.00	2.00	0.28	0.230
91-6	68522	632.00	634.00	2.00	0.66	0.661
91-6	68523	634.00	636.00	2.00	0.25	0.296
91-6	68524	636.00	638.00	2.00	0.30	0.280
91-6	68525	638.00	640.00	2.00	0.22	0.216
91-6	68526	640.00	642.00	2.00	0.15	0.139
91-6	68527	642.00	644.00	2.00	0.17	0.171
91-6	68528	644.00	646.00	2.00	0.28	0.243
91-6	68529	646.00	648.00	2.00	0.20	0.200
91-6	68530	648.00	650.00	2.00	0.12	0.122
91-6	68531	650.00	652.00	2.00	0.23	0.243
91-6	68532	652.00	654.00	2.00	0.28	0.272
91-6	68533	654.00	656.00	2.00	0.45	0.441
91-6	68534	656.00	658.00	2.00	0.90	0.559
91-6	68535	658.00	660.00	2.00	0.51	0.516
91-6	68536	660.00	662.00	2.00	0.30	0.262
91-6	68537	662.00	664.00	2.00	0.28	0.290
91-6	68538	664.00	666.00	2.00	0.24	0.288
91-6	68539	666.00	668.00	2.00	0.38	0.334
91-6	68540	668.00	670.00	2.00	0.30	0.259
91-6	68541	670.00	672.00	2.00	0.20	0.228
91-6	68542	672.00	674.00	2.00	0.54	0.443
91-6	68543	674.00	676.00	2.00	0.58	0.394
91-6	68544	676.00	678.00	2.00	0.65	0.566
91-6	68545	678.00	680.00	2.00	0.61	0.583
91-6	68546	680.00	682.00	2.00	0.45	0.389
91-6	68547	682.00	684.00	2.00	0.27	0.240
91-6	68548	684.00	686.00	2.00	0.90	0.801
91-6	68549	686.00	688.00	2.00	0.40	0.293
91-6	68550	688.00	690.00	2.00	0.32	0.264
91-6	68551	690.00	692.00	2.00	0.44	0.385
91-6	68552	692.00	694.00	2.00	0.31	0.254
91-6	68553	694.00	696.00	2.00	0.40	0.309
91-6	68554	696.00	698.00	2.00	0.38	0.358
91-6	68555	698.00	700.00	2.00	0.32	0.256
91-6	68556	700.00	702.00	2.00	0.64	0.658
91-6	68557	702.00	704.00	2.00	0.25	0.267
91-6	68558	704.00	706.00	2.00	0.03	0.003
91-6	68559	706.00	708.00	2.00	0.25	0.242
91-6	68560	708.00	710.00	2.00	0.27	0.261
91-6	68561	710.00	712.00	2.00	0.31	0.304
91-6	68562	712.00	714.00	2.00	0.31	0.359
91-6	68563	714.00	716.00	2.00	0.59	0.599
91-6	68564	716.00	718.00	2.00	0.31	0.334
91-6	68565	718.00	720.00	2.00	0.42	0.404
91-6	68566	720.00	722.00	2.00	0.33	0.236
91-6	68567	722.00	724.00	2.00	0.41	0.339

DRILLHOLE NUMBER	SAMPLE NUMBER	FROM (m)	TO (m)	INTERVAL (m)	Au g/tonne	Cu %
91-6	68568	724.00	726.00	2.00	0.37	0.209
91-6	68569	726.00	728.00	2.00	0.43	0.493
91-6	68570	728.00	730.00	2.00	0.47	0.353
91-6	68571	730.00	732.00	2.00	0.34	0.648
91-6	68572	732.00	734.00	2.00	0.59	0.701
91-6	68573	734.00	736.00	2.00	0.40	0.387
91-6	68574	736.00	738.00	2.00	0.31	0.505
91-6	68575	738.00	740.00	2.00	0.63	0.584
91-6	68576	740.00	742.00	2.00	0.35	0.370
91-6	68577	742.00	744.00	2.00	0.24	0.174
91-6	68578	744.00	746.00	2.00	0.38	0.395
91-6	68579	746.00	748.00	2.00	0.36	0.318
91-6	68580	748.00	750.00	2.00	0.39	0.376
91-6	68581	750.00	752.00	2.00	0.32	0.263
91-6	68582	752.00	754.00	2.00	0.43	0.407
91-6	68583	754.00	756.00	2.00	0.49	0.683
91-6	68584	756.00	758.00	2.00	1.32	1.353
91-6	68585	758.00	760.00	2.00	0.30	0.330
91-6	68586	760.00	762.00	2.00	0.19	0.189
91-6	68587	762.00	764.00	2.00	0.17	0.231
91-6	68588	764.00	766.00	2.00	0.21	0.228
91-6	68589	766.00	768.00	2.00	0.31	0.254
91-6	68590	768.00	770.00	2.00	0.23	0.268
91-6	68591	770.00	772.00	2.00	0.39	0.436
91-6	68592	772.00	774.00	2.00	0.22	0.259
91-6	68593	774.00	776.00	2.00	0.64	0.849
91-6	68594	776.00	778.00	2.00	0.40	0.540
91-6	68595	778.00	780.00	2.00	0.31	0.286
91-6	68596	780.00	782.00	2.00	0.40	0.257
91-6	68597	782.00	784.00	2.00	0.30	0.297
91-6	68598	784.00	786.00	2.00	0.35	0.290
91-6	68599	786.00	788.00	2.00	0.14	0.174
91-6	68600	788.00	790.00	2.00	0.28	0.224
91-6	68601	790.00	792.00	2.00	0.60	0.596
91-6	68602	792.00	794.00	2.00	0.52	0.515
91-6	68603	794.00	796.00	2.00	0.28	0.260
91-6	68604	796.00	798.00	2.00	0.10	0.099
91-6	68605	798.00	800.00	2.00	0.12	0.159
91-6	68606	800.00	801.93	1.93	0.09	0.118
91-7	69784	15.24	16.00	0.76	0.13	0.129
91-7	69785	16.00	18.00	2.00	0.24	0.157
91-7	69786	18.00	20.00	2.00	0.26	0.161
91-7	69787	20.00	22.00	2.00	0.29	0.170
91-7	69788	22.00	24.00	2.00	0.28	0.203
91-7	69789	24.00	26.00	2.00	0.31	0.117
91-7	69790	26.00	28.00	2.00	0.40	0.093
91-7	69791	28.00	30.00	2.00	0.30	0.175
91-7	69792	30.00	32.00	2.00	0.29	0.171
91-7	69793	32.00	34.00	2.00	0.41	0.235
91-7	69794	34.00	36.00	2.00	0.28	0.201

DRILLHOLE NUMBER	SAMPLE NUMBER	FROM (m)	TO (m)	INTERVAL (m)	Au g/tonne	Cu %
91-7	69795	36.00	38.00	2.00	0.40	0.341
91-7	69796	38.00	40.00	2.00	0.62	0.245
91-7	69797	40.00	42.00	2.00	0.38	0.266
91-7	69798	42.00	44.00	2.00	0.28	0.204
91-7	69799	44.00	46.00	2.00	0.41	0.226
91-7	69800	46.00	48.00	2.00	0.38	0.225
91-7	69801	48.00	50.00	2.00	0.54	0.247
91-7	69802	50.00	52.00	2.00	0.17	0.080
91-7	69803	52.00	54.00	2.00	0.23	0.100
91-7	69804	54.00	56.00	2.00	0.40	0.251
91-7	69805	56.00	58.00	2.00	0.30	0.235
91-7	69806	58.00	60.00	2.00	0.42	0.271
91-7	69807	60.00	62.00	2.00	0.43	0.314
91-7	69808	62.00	64.00	2.00	0.51	0.248
91-7	69809	64.00	66.00	2.00	0.64	0.464
91-7	69810	66.00	68.00	2.00	0.49	0.330
91-7	69811	68.00	70.00	2.00	4.52	0.198
91-7	69812	70.00	72.00	2.00	0.60	0.356
91-7	69813	72.00	74.00	2.00	0.41	0.272
91-7	69814	74.00	76.00	2.00	0.34	0.207
91-7	69815	76.00	78.00	2.00	0.44	0.261
91-7	69816	78.00	80.00	2.00	0.50	0.316
91-7	69817	80.00	82.00	2.00	0.58	0.340
91-7	69818	82.00	84.00	2.00	0.40	0.252
91-7	69819	84.00	86.00	2.00	0.42	0.295
91-7	69820	86.00	88.00	2.00	0.80	0.412
91-7	69821	88.00	90.00	2.00	0.54	0.266
91-7	69822	90.00	92.00	2.00	0.53	0.314
91-7	69823	92.00	94.00	2.00	0.72	0.330
91-7	69824	94.00	96.00	2.00	0.56	0.269
91-7	69825	96.00	98.00	2.00	0.60	0.373
91-7	69826	98.00	100.00	2.00	0.51	0.319
91-7	69827	100.00	102.00	2.00	0.50	0.252
91-7	69828	102.00	104.00	2.00	0.78	0.320
91-7	69829	104.00	106.00	2.00	0.72	0.345
91-7	69830	106.00	108.00	2.00	0.69	0.379
91-7	69831	108.00	110.00	2.00	0.72	0.296
91-7	69832	110.00	112.00	2.00	0.72	0.338
91-7	69833	112.00	114.00	2.00	0.61	0.430
91-7	69834	114.00	116.00	2.00	0.63	0.391
91-7	69835	116.00	118.00	2.00	0.70	0.319
91-7	69836	118.00	120.00	2.00	0.52	0.226
91-7	69837	120.00	122.00	2.00	0.54	0.378
91-7	69838	122.00	124.00	2.00	0.42	0.247
91-7	69839	124.00	126.00	2.00	0.90	0.261
91-7	69840	126.00	128.00	2.00	1.07	0.236
91-7	69841	128.00	130.00	2.00	1.29	0.441
91-7	69842	130.00	132.00	2.00	0.63	0.337
91-7	69843	132.00	134.00	2.00	0.83	0.283
91-7	69844	134.00	136.00	2.00	0.68	0.396

DRILLHOLE NUMBER	SAMPLE NUMBER	FROM (m)	TO (m)	INTERVAL (m)	Au g/tonne	Cu %
91-7	69845	136.00	138.00	2.00	0.49	0.321
91-7	69846	138.00	140.00	2.00	0.63	0.400
91-7	69847	140.00	142.00	2.00	0.63	0.338
91-7	69848	142.00	144.00	2.00	0.23	0.203
91-7	69849	144.00	146.00	2.00	0.86	0.207
91-7	69850	146.00	148.00	2.00	0.38	0.105
91-7	69851	148.00	150.00	2.00	0.74	0.131
91-7	69852	150.00	152.00	2.00	0.30	0.145
91-7	69853	152.00	154.00	2.00	0.22	0.150
91-7	69854	154.00	156.00	2.00	0.29	0.168
91-7	69855	156.00	158.00	2.00	0.48	0.185
91-7	69856	158.00	160.00	2.00	0.38	0.186
91-7	69857	160.00	162.00	2.00	0.24	0.170
91-7	69858	162.00	164.00	2.00	0.37	0.195
91-7	69859	164.00	166.00	2.00	0.12	0.198
91-7	69860	166.00	168.00	2.00	0.20	0.186
91-7	69861	168.00	170.00	2.00	0.29	0.209
91-7	69862	170.00	172.00	2.00	0.35	0.292
91-7	69863	172.00	174.00	2.00	0.36	0.333
91-7	69864	174.00	176.00	2.00	0.15	0.219
91-7	69865	176.00	178.00	2.00	0.20	0.238
91-7	69866	178.00	180.00	2.00	0.30	0.160
91-7	69867	180.00	182.00	2.00	0.29	0.282
91-7	69868	182.00	184.00	2.00	0.31	0.197
91-7	69869	184.00	186.00	2.00	0.13	0.113
91-7	69870	186.00	188.00	2.00	0.18	0.151
91-7	69871	188.00	190.00	2.00	0.20	0.236
91-7	69872	190.00	192.00	2.00	0.21	0.248
91-7	69873	192.00	194.00	2.00	0.31	0.330
91-7	69874	194.00	196.00	2.00	0.20	0.225
91-7	69875	196.00	198.00	2.00	0.15	0.198
91-7	69876	198.00	200.00	2.00	0.21	0.187
91-7	69877	200.00	202.00	2.00	0.24	0.206
91-7	69878	202.00	204.00	2.00	0.27	0.215
91-7	69879	204.00	206.00	2.00	0.28	0.230
91-7	69880	206.00	208.00	2.00	0.57	0.270
91-7	69881	208.00	210.00	2.00	0.61	0.349
91-7	69882	210.00	212.00	2.00	0.53	0.207
91-7	69883	212.00	214.00	2.00	0.22	0.199
91-7	69884	214.00	216.00	2.00	0.36	0.269
91-7	69885	216.00	218.00	2.00	0.28	0.213
91-7	69886	218.00	220.00	2.00	0.39	0.339
91-7	69887	220.00	222.00	2.00	0.35	0.294
91-7	69888	222.00	224.00	2.00	0.36	0.374
91-7	69889	224.00	226.00	2.00	0.37	0.278
91-7	69890	226.00	228.00	2.00	0.48	0.342
91-7	69891	228.00	230.00	2.00	0.32	0.132
91-7	69892	230.00	232.00	2.00	0.20	0.172
91-7	69893	232.00	234.00	2.00	0.18	0.146
91-7	69894	234.00	236.00	2.00	0.21	0.141

DRILLHOLE NUMBER	SAMPLE NUMBER	FROM (m)	TO (m)	INTERVAL (m)	Au g/tonne	Cu %
91-7	69895	236.00	238.00	2.00	0.19	0.090
91-7	69896	238.00	240.00	2.00	0.30	0.177
91-7	69897	240.00	242.00	2.00	0.31	0.141
91-7	69898	242.00	244.00	2.00	0.23	0.143
91-7	69899	244.00	246.00	2.00	0.20	0.076
91-7	69900	246.00	248.00	2.00	0.21	0.174
91-7	69901	248.00	250.00	2.00	0.19	0.146
91-7	69902	250.00	252.00	2.00	0.20	0.163
91-7	69903	252.00	254.00	2.00	0.12	0.079
91-7	69904	254.00	256.00	2.00	0.30	0.145
91-7	69905	256.00	258.00	2.00	0.19	0.132
91-7	69906	258.00	260.00	2.00	0.40	0.115
91-7	69907	260.00	262.00	2.00	0.32	0.128
91-7	69908	262.00	264.00	2.00	0.15	0.110
91-7	69909	264.00	266.00	2.00	0.12	0.060
91-7	69910	266.00	268.00	2.00	0.12	0.101
91-7	69911	268.00	270.00	2.00	0.10	0.076
91-7	69912	270.00	272.00	2.00	0.19	0.118
91-7	69913	272.00	274.00	2.00	0.11	0.093
91-7	69914	274.00	276.00	2.00	0.24	0.138
91-7	69915	276.00	278.00	2.00	0.10	0.052
91-7	69916	278.00	280.00	2.00	0.14	0.079
91-7	69917	280.00	282.00	2.00	0.10	0.095
91-7	69918	282.00	284.00	2.00	0.11	0.056
91-7	69919	284.00	286.00	2.00	0.34	0.150
91-7	69920	286.00	288.00	2.00	0.19	0.098
91-7	69921	288.00	290.00	2.00	0.28	0.163
91-7	69922	290.00	292.00	2.00	0.40	0.178
91-7	69923	292.00	294.00	2.00	0.62	0.311
91-7	69924	294.00	296.00	2.00	0.42	0.210
91-7	69925	296.00	298.00	2.00	0.38	0.138
91-7	69926	298.00	300.00	2.00	0.40	0.181
91-7	69927	300.00	302.00	2.00	0.21	0.080
91-7	69928	302.00	304.00	2.00	0.17	0.117
91-7	69929	304.00	306.00	2.00	0.18	0.118
91-7	69930	306.00	308.00	2.00	0.25	0.148
91-7	69931	308.00	310.00	2.00	0.17	0.087
91-7	69932	310.00	312.00	2.00	0.21	0.096
91-7	69933	312.00	314.00	2.00	0.35	0.129
91-7	69934	314.00	316.00	2.00	0.66	0.143
91-7	69935	316.00	318.00	2.00	0.31	0.084
91-7	69936	318.00	320.00	2.00	0.22	0.089
91-7	69937	320.00	322.00	2.00	0.21	0.090
91-7	69938	322.00	324.00	2.00	0.32	0.116
91-7	69939	324.00	326.00	2.00	0.35	0.128
91-7	69940	326.00	328.00	2.00	0.32	0.126
91-7	69941	328.00	330.00	2.00	0.17	0.085
91-7	69942	330.00	332.00	2.00	0.40	0.150
91-7	69943	332.00	334.00	2.00	0.31	0.116
91-7	69944	334.00	336.00	2.00	0.26	0.136

DRILLHOLE NUMBER	SAMPLE NUMBER	FROM (m)	TO (m)	INTERVAL (m)	Au g/tonne	Cu %
91-7	69945	336.00	338.00	2.00	0.20	0.152
91-7	69946	338.00	340.00	2.00	0.49	0.274
91-7	69947	340.00	342.00	2.00	0.27	0.195
91-7	69948	342.00	344.00	2.00	0.32	0.194
91-7	69949	344.00	346.00	2.00	0.21	0.160
91-7	69950	346.00	348.00	2.00	0.19	0.220
91-7	69951	348.00	350.00	2.00	0.19	0.157
91-7	69952	350.00	352.00	2.00	0.24	0.153
91-7	69953	352.00	354.00	2.00	0.42	0.204
91-7	69954	354.00	356.00	2.00	0.23	0.110
91-7	69955	356.00	358.00	2.00	0.18	0.148
91-7	69956	358.00	360.00	2.00	0.28	0.175
91-7	69957	360.00	362.00	2.00	0.22	0.243
91-7	69958	362.00	364.00	2.00	0.32	0.224
91-7	69959	364.00	366.00	2.00	0.29	0.256
91-7	69960	366.00	368.00	2.00	0.21	0.183
91-7	69961	368.00	370.00	2.00	0.29	0.109
91-7	69962	370.00	372.00	2.00	0.30	0.138
91-7	69963	372.00	374.00	2.00	0.24	0.236
91-7	69964	374.00	375.74	1.74	0.12	0.131
91-7	69965	375.74	378.00	2.26	0.01	0.006
91-7	69966	378.00	380.00	2.00	0.01	0.003
91-7	69967	380.00	382.00	2.00	0.02	0.009
91-7	69968	382.00	384.00	2.00	0.19	0.284
91-7	69969	384.00	386.00	2.00	0.11	0.099
91-7	69970	386.00	388.00	2.00	0.02	0.004
91-7	69971	388.00	390.00	2.00	0.02	0.005
91-7	69972	390.00	392.00	2.00	0.12	0.109
91-7	69973	392.00	394.00	2.00	0.17	0.120
91-7	69974	394.00	396.00	2.00	0.48	0.284
91-7	69975	396.00	398.00	2.00	0.27	0.153
91-7	69976	398.00	400.00	2.00	0.18	0.105
91-7	69977	400.00	402.00	2.00	0.20	0.135
91-7	69978	402.00	404.00	2.00	0.30	0.158
91-7	69979	404.00	406.00	2.00	0.38	0.191
91-7	69980	406.00	408.00	2.00	0.38	0.195
91-7	69981	408.00	410.00	2.00	0.70	0.198
91-7	69982	410.00	412.00	2.00	0.43	0.229
91-7	69983	412.00	414.00	2.00	0.21	0.091
91-7	69984	414.00	416.00	2.00	0.18	0.107
91-7	69985	416.00	418.00	2.00	0.26	0.154
91-7	69986	418.00	420.00	2.00	0.24	0.116
91-7	69987	420.00	422.00	2.00	0.15	0.079
91-7	69988	422.00	424.00	2.00	0.23	0.138
91-7	69989	424.00	426.00	2.00	0.20	0.116
91-7	69990	426.00	428.00	2.00	0.19	0.122
91-7	69991	428.00	430.00	2.00	0.17	0.095
91-7	69992	430.00	432.00	2.00	0.18	0.096
91-7	69993	432.00	434.00	2.00	0.13	0.162
91-7	69994	434.00	436.00	2.00	0.18	0.097

DRILLHOLE NUMBER	SAMPLE NUMBER	FROM (m)	TO (m)	INTERVAL (m)	Au g/tonne	Cu %
91-7	69995	436.00	438.00	2.00	0.22	0.138
91-7	69996	438.00	440.00	2.00	0.10	0.074
91-7	69997	440.00	442.00	2.00	0.18	0.108
91-7	69998	442.00	444.00	2.00	0.38	0.234
91-7	69999	444.00	446.00	2.00	0.21	0.171
91-7	70000	446.00	448.00	2.00	0.35	0.183
91-7	70001	448.00	450.00	2.00	0.40	0.183
91-7	70002	450.00	452.00	2.00	0.28	0.153
91-7	70003	452.00	454.00	2.00	0.19	0.095
91-7	70004	454.00	456.00	2.00	0.21	0.130
91-7	70005	456.00	458.00	2.00	0.25	0.159
91-7	70006	458.00	460.00	2.00	0.30	0.183
91-7	70007	460.00	462.00	2.00	0.12	0.098
91-7	70008	462.00	464.00	2.00	0.13	0.105
91-7	70009	464.00	466.00	2.00	0.22	0.180
91-7	70010	466.00	468.00	2.00	0.17	0.118
91-7	70011	468.00	470.00	2.00	0.10	0.073
91-7	70012	470.00	472.00	2.00	0.18	0.108
91-7	70013	472.00	474.00	2.00	0.16	0.078
91-7	70014	474.00	476.00	2.00	0.20	0.130
91-7	70015	476.00	478.00	2.00	0.12	0.098
91-7	70016	478.00	480.00	2.00	0.18	0.120
91-7	70017	480.00	482.00	2.00	0.19	0.116
91-7	70018	482.00	484.00	2.00	0.07	0.085
91-7	70019	484.00	486.00	2.00	0.06	0.066
91-7	70020	486.00	488.00	2.00	0.11	0.084
91-7	70021	488.00	490.00	2.00	0.15	0.084
91-7	70022	490.00	492.00	2.00	0.53	0.252
91-7	70023	492.00	494.00	2.00	0.21	0.160
91-7	70024	494.00	496.00	2.00	0.20	0.096
91-7	70025	496.00	498.00	2.00	0.09	0.057
91-7	70026	498.00	500.00	2.00	0.20	0.089
91-7	70027	500.00	502.00	2.00	0.08	0.052
91-7	70028	502.00	504.00	2.00	0.09	0.052
91-7	70029	504.00	506.00	2.00	0.18	0.100
91-7	70030	506.00	508.00	2.00	0.13	0.094
91-7	70031	508.00	510.00	2.00	0.10	0.065
91-7	70032	510.00	512.00	2.00	0.06	0.044
91-7	70033	512.00	514.00	2.00	0.11	0.066
91-7	70034	514.00	516.00	2.00	0.11	0.081
91-7	70035	516.00	518.00	2.00	0.12	0.078
91-7	70036	518.00	520.00	2.00	0.17	0.090
91-7	70037	520.00	522.00	2.00	0.16	0.063
91-7	70038	522.00	524.00	2.00	0.12	0.057
91-7	70039	524.00	526.00	2.00	0.11	0.044
91-7	70040	526.00	528.00	2.00	0.13	0.088
91-7	70041	528.00	530.00	2.00	0.21	0.114
91-7	70042	530.00	532.00	2.00	0.51	0.152
91-7	70043	532.00	534.00	2.00	0.18	0.074
91-7	70044	534.00	536.00	2.00	0.11	0.052

DRILLHOLE NUMBER	SAMPLE NUMBER	FROM (m)	TO (m)	INTERVAL (m)	Au g/tonne	Cu %
91-7	70045	536.00	538.00	2.00	0.18	0.089
91-7	70046	538.00	540.00	2.00	0.15	0.097
91-7	70047	540.00	542.00	2.00	0.16	0.120
91-7	70048	542.00	544.00	2.00	0.09	0.044
91-7	70049	544.00	546.00	2.00	0.20	0.086
91-7	70050	546.00	548.00	2.00	0.21	0.112
91-7	70051	548.00	550.00	2.00	0.22	0.102
91-7	70052	550.00	552.00	2.00	0.17	0.059
91-7	70053	552.00	554.00	2.00	0.22	0.112
91-7	70054	554.00	556.00	2.00	0.69	0.255
91-7	70055	556.00	558.00	2.00	0.40	0.152
91-7	70056	558.00	560.00	2.00	0.19	0.085
91-7	70057	560.00	562.00	2.00	0.24	0.106
91-7	70058	562.00	564.00	2.00	0.20	0.128
91-7	70059	564.00	566.00	2.00	0.16	0.077
91-7	70060	566.00	568.00	2.00	0.11	0.069
91-7	70061	568.00	570.00	2.00	0.04	0.034
91-7	70062	570.00	572.00	2.00	0.14	0.058
91-7	70063	572.00	574.00	2.00	0.13	0.116
91-7	70064	574.00	576.00	2.00	0.11	0.092
91-7	70065	576.00	578.00	2.00	0.16	0.107
91-7	70066	578.00	580.00	2.00	0.27	0.086
91-7	70067	580.00	582.00	2.00	0.10	0.083
91-7	70068	582.00	584.00	2.00	0.41	0.215
91-7	70069	584.00	586.00	2.00	0.17	0.091
91-7	70070	586.00	588.00	2.00	0.18	0.098
91-7	70071	588.00	590.00	2.00	0.11	0.062
91-7	70072	590.00	592.00	2.00	0.29	0.127
91-7	70073	592.00	594.00	2.00	0.12	0.059
91-7	70074	594.00	596.00	2.00	0.29	0.098
91-7	70075	596.00	598.00	2.00	0.20	0.099
91-7	70076	598.00	600.00	2.00	0.24	0.123
91-7	70077	600.00	602.00	2.00	0.27	0.149
91-7	70078	602.00	604.00	2.00	0.26	0.127
91-7	70079	604.00	606.00	2.00	0.25	0.119
91-7	70080	606.00	608.00	2.00	0.39	0.210
91-7	70081	608.00	610.00	2.00	0.20	0.130
91-7	70082	610.00	612.00	2.00	0.23	0.139
91-7	70083	612.00	614.00	2.00	0.40	0.120
91-7	70084	614.00	616.00	2.00	0.12	0.043
91-7	70085	616.00	618.00	2.00	0.01	0.003
91-7	70086	618.00	620.00	2.00	0.01	0.002
91-7	70087	620.00	622.00	2.00	0.40	0.064
91-7	70088	622.00	624.00	2.00	0.11	0.047
91-7	70089	624.00	626.00	2.00	0.05	0.046
91-7	70090	626.00	628.00	2.00	0.05	0.053
91-7	70091	628.00	630.00	2.00	0.14	0.074
91-7	70092	630.00	632.00	2.00	0.34	0.151
91-7	70093	632.00	634.00	2.00	0.16	0.083
91-7	70094	634.00	636.00	2.00	0.09	0.047

DRILLHOLE NUMBER	SAMPLE NUMBER	FROM (m)	TO (m)	INTERVAL (m)	Au g/tonne	Cu %
91-7	70095	636.00	638.00	2.00	0.21	0.031
91-7	70096	638.00	640.00	2.00	0.07	0.051
91-7	70097	640.00	642.00	2.00	0.79	0.305
91-7	70098	642.00	644.00	2.00	0.10	0.078
91-7	70099	644.00	646.00	2.00	0.47	0.124
91-7	70100	646.00	648.00	2.00	1.20	0.191
91-7	70101	648.00	650.00	2.00	0.49	0.115
91-7	70102	650.00	652.00	2.00	0.20	0.081
91-7	70103	652.00	654.00	2.00	0.31	0.119
91-7	70104	654.00	656.00	2.00	0.13	0.080
91-7	70105	656.00	658.00	2.00	0.10	0.038
91-7	70106	658.00	660.00	2.00	0.50	0.154
91-7	70107	660.00	662.00	2.00	0.70	0.204
91-7	70108	662.00	664.00	2.00	0.09	0.037
91-7	70109	664.00	666.00	2.00	0.28	0.111
91-7	70110	666.00	668.00	2.00	0.08	0.028
91-7	70111	668.00	670.00	2.00	0.03	0.022
91-7	70112	670.00	672.00	2.00	0.02	0.019
91-7	70113	672.00	674.00	2.00	0.02	0.017
91-7	70114	674.00	676.00	2.00	0.05	0.031
91-7	70115	676.00	678.00	2.00	0.01	0.012
91-7	70116	678.00	680.00	2.00	0.08	0.032
91-7	70117	680.00	682.00	2.00	0.08	0.033
91-7	70118	682.00	684.00	2.00	0.04	0.016
91-7	70119	684.00	686.00	2.00	0.03	0.023
91-7	70120	686.00	688.00	2.00	0.05	0.033
91-7	70121	688.00	690.00	2.00	0.09	0.039
91-7	70122	690.00	692.00	2.00	0.04	0.022
91-7	70123	692.00	694.00	2.00	0.06	0.065
91-7	70124	694.00	696.00	2.00	0.20	0.073
91-7	70125	696.00	698.00	2.00	0.34	0.082
91-7	70126	698.00	700.00	2.00	0.10	0.037
91-7	70127	700.00	702.00	2.00	0.11	0.047
91-7	70128	702.00	704.00	2.00	0.10	0.057
91-7	70129	704.00	706.00	2.00	0.09	0.044
91-7	70130	706.00	708.00	2.00	0.10	0.037
91-7	70131	708.00	710.00	2.00	0.08	0.036
91-7	70132	710.00	712.00	2.00	0.02	0.002
91-7	70133	712.00	714.00	2.00	0.01	0.019
91-7	70134	714.00	716.00	2.00	0.02	0.032
91-7	70135	716.00	718.00	2.00	0.03	0.040
91-7	70136	718.00	720.00	2.00	0.02	0.024
91-7	70137	720.00	722.00	2.00	0.03	0.022
91-7	70138	722.00	724.00	2.00	0.02	0.032
91-7	70139	724.00	726.00	2.00	0.05	0.041
91-7	70140	726.00	728.00	2.00	0.09	0.056
91-7	70141	728.00	730.00	2.00	0.03	0.024
91-7	70142	730.00	732.00	2.00	0.04	0.038
91-7	70143	732.00	734.00	2.00	0.07	0.032
91-7	70144	734.00	736.00	2.00	0.01	0.017

DRILLHOLE NUMBER	SAMPLE NUMBER	FROM (m)	TO (m)	INTERVAL (m)	Au g/tonne	Cu %
91-7	70145	736.00	738.00	2.00	0.10	0.050
91-7	70146	738.00	740.00	2.00	0.22	0.098
91-7	70147	740.00	742.00	2.00	0.07	0.031
91-7	70148	742.00	744.00	2.00	0.08	0.066
91-7	70149	744.00	746.00	2.00	0.07	0.034
91-7	70150	746.00	748.00	2.00	0.10	0.040
91-7	70151	748.00	750.00	2.00	0.05	0.026
91-7	70152	750.00	752.00	2.00	0.16	0.057
91-7	70153	752.00	754.00	2.00	0.17	0.077
91-7	70154	754.00	756.00	2.00	0.02	0.017
91-7	70155	756.00	758.00	2.00	0.04	0.031
91-7	70156	758.00	760.00	2.00	0.07	0.044
91-7	70157	760.00	762.00	2.00	0.09	0.033
91-7	70158	762.00	764.00	2.00	0.12	0.039
91-7	70159	764.00	766.00	2.00	0.10	0.046
91-7	70160	766.00	768.00	2.00	0.09	0.043
91-7	70161	768.00	770.00	2.00	0.02	0.027
91-7	70162	770.00	772.00	2.00	0.03	0.036
91-7	70163	772.00	774.00	2.00	0.02	0.026
91-7	70164	774.00	776.00	2.00	0.05	0.042
91-7	70165	776.00	778.00	2.00	0.02	0.023
91-7	70166	778.00	780.00	2.00	0.01	0.037
91-7	70167	780.00	782.00	2.00	0.02	0.029
91-7	70168	782.00	784.00	2.00	0.01	0.027
91-7	70169	784.00	786.00	2.00	0.01	0.024
91-7	70170	786.00	788.00	2.00	0.01	0.038
91-7	70171	788.00	790.00	2.00	0.02	0.032
91-7	70172	790.00	792.00	2.00	0.16	0.110
91-7	70173	792.00	794.00	2.00	0.13	0.107
91-7	70174	794.00	796.00	2.00	0.06	0.051
91-7	70175	796.00	798.00	2.00	0.10	0.078
91-7	70176	798.00	800.71	2.71	0.11	0.093
91-8	68607	57.91	60.00	2.09	0.11	0.015
91-8	68608	60.00	62.00	2.00	0.20	0.037
91-8	68609	62.00	64.00	2.00	0.02	0.030
91-8	68610	64.00	66.00	2.00	0.02	0.030
91-8	68611	66.00	68.00	2.00	0.03	0.037
91-8	68612	68.00	70.00	2.00	0.05	0.056
91-8	68613	70.00	72.00	2.00	0.21	0.064
91-8	68614	72.00	74.00	2.00	0.02	0.021
91-8	68615	74.00	76.00	2.00	0.02	0.023
91-8	68616	76.00	78.00	2.00	0.11	0.061
91-8	68617	78.00	80.00	2.00	0.08	0.038
91-8	68618	80.00	82.00	2.00	0.02	0.016
91-8	68619	82.00	84.00	2.00	0.42	0.045
91-8	68620	84.00	86.00	2.00	0.09	0.053
91-8	68621	86.00	88.00	2.00	0.03	0.035
91-8	68622	88.00	90.00	2.00	0.10	0.071
91-8	68623	90.00	92.00	2.00	0.13	0.148
91-8	68624	92.00	94.00	2.00	0.08	0.068

DRILLHOLE NUMBER	SAMPLE NUMBER	FROM (m)	TO (m)	INTERVAL (m)	Au g/tonne	Cu %
91-8	68625	94.00	96.00	2.00	0.05	0.044
91-8	68626	96.00	98.00	2.00	0.08	0.052
91-8	68627	98.00	100.00	2.00	0.09	0.067
91-8	68628	100.00	102.00	2.00	0.12	0.043
91-8	68629	102.00	104.00	2.00	0.02	0.036
91-8	68630	104.00	106.00	2.00	0.09	0.061
91-8	68631	106.00	108.00	2.00	0.10	0.082
91-8	68632	108.00	110.00	2.00	0.26	0.132
91-8	68633	110.00	112.00	2.00	0.09	0.063
91-8	68634	112.00	114.00	2.00	0.10	0.068
91-8	68635	114.00	116.00	2.00	0.09	0.049
91-8	68636	116.00	118.00	2.00	0.07	0.048
91-8	68637	118.00	120.00	2.00	0.19	0.051
91-8	68638	120.00	122.00	2.00	0.04	0.037
91-8	68639	122.00	124.00	2.00	0.06	0.050
91-8	68640	124.00	126.00	2.00	0.10	0.059
91-8	68641	126.00	128.00	2.00	0.10	0.058
91-8	68642	128.00	130.00	2.00	0.09	0.048
91-8	68643	130.00	132.00	2.00	0.07	0.042
91-8	68644	132.00	134.00	2.00	0.10	0.050
91-8	68645	134.00	136.00	2.00	0.04	0.039
91-8	68646	136.00	138.00	2.00	0.20	0.120
91-8	68647	138.00	140.00	2.00	0.07	0.061
91-8	68648	140.00	142.00	2.00	0.11	0.108
91-8	68649	142.00	144.00	2.00	0.32	0.091
91-8	68650	144.00	146.00	2.00	0.11	0.103
91-8	68651	146.00	148.00	2.00	0.29	0.164
91-8	68652	148.00	150.00	2.00	0.08	0.105
91-8	68653	150.00	152.00	2.00	0.01	0.004
91-8	68654	152.00	154.00	2.00	0.03	0.033
91-8	68655	154.00	156.00	2.00	0.04	0.052
91-8	68656	156.00	158.00	2.00	0.10	0.060
91-8	68657	158.00	160.00	2.00	0.05	0.053
91-8	68658	160.00	162.00	2.00	0.17	0.104
91-8	68659	162.00	164.00	2.00	0.20	0.172
91-8	68660	164.00	166.00	2.00	0.06	0.066
91-8	68661	166.00	168.00	2.00	0.04	0.071
91-8	68662	168.00	170.00	2.00	0.13	0.128
91-8	68663	170.00	172.00	2.00	0.18	0.156
91-8	68664	172.00	174.00	2.00	0.21	0.160
91-8	68665	174.00	176.00	2.00	0.16	0.146
91-8	68666	176.00	178.00	2.00	0.27	0.200
91-8	68667	178.00	180.00	2.00	0.28	0.182
91-8	68668	180.00	182.00	2.00	0.30	0.180
91-8	68669	182.00	184.00	2.00	0.29	0.205
91-8	68670	184.00	186.00	2.00	0.34	0.154
91-8	68671	186.00	188.00	2.00	0.40	0.249
91-8	68672	188.00	190.00	2.00	0.13	0.096
91-8	68673	190.00	192.00	2.00	0.19	0.121
91-8	68674	192.00	194.00	2.00	0.18	0.068

DRILLHOLE NUMBER	SAMPLE NUMBER	FROM (m)	TO (m)	INTERVAL (m)	Au g/tonne	Cu %
91-8	68675	194.00	196.00	2.00	0.61	0.146
91-8	68676	196.00	198.00	2.00	0.16	0.105
91-8	68677	198.00	200.00	2.00	0.33	0.249
91-8	68678	200.00	202.00	2.00	0.41	0.246
91-8	68679	202.00	204.00	2.00	0.31	0.206
91-8	68680	204.00	206.00	2.00	0.25	0.150
91-8	68681	206.00	208.00	2.00	0.53	0.345
91-8	68682	208.00	210.00	2.00	0.48	0.253
91-8	68683	210.00	212.00	2.00	0.40	0.223
91-8	68684	212.00	214.00	2.00	0.33	0.263
91-8	68685	214.00	216.00	2.00	0.39	0.294
91-8	68686	216.00	218.00	2.00	0.58	0.393
91-8	68687	218.00	220.00	2.00	0.38	0.279
91-8	68688	220.00	222.00	2.00	0.58	0.404
91-8	68689	222.00	224.00	2.00	0.64	0.391
91-8	68690	224.00	226.00	2.00	0.73	0.479
91-8	68691	226.00	228.00	2.00	0.42	0.321
91-8	68692	228.00	230.00	2.00	0.43	0.313
91-8	68693	230.00	232.00	2.00	0.42	0.310
91-8	68694	232.00	234.00	2.00	0.59	0.397
91-8	68695	234.00	236.00	2.00	0.55	0.320
91-8	68696	236.00	238.00	2.00	0.32	0.269
91-8	68697	238.00	240.00	2.00	0.56	0.330
91-8	68698	240.00	242.00	2.00	0.40	0.296
91-8	68699	242.00	244.00	2.00	0.37	0.241
91-8	68700	244.00	246.00	2.00	0.44	0.225
91-8	68701	246.00	248.00	2.00	0.28	0.197
91-8	68702	248.00	250.00	2.00	0.41	0.321
91-8	68703	250.00	252.00	2.00	0.38	0.307
91-8	68704	252.00	254.00	2.00	0.32	0.255
91-8	68705	254.00	256.00	2.00	0.42	0.342
91-8	68706	256.00	258.00	2.00	0.49	0.250
91-8	68707	258.00	260.00	2.00	0.46	0.302
91-8	68708	260.00	262.00	2.00	0.38	0.289
91-8	68709	262.00	264.00	2.00	0.36	0.299
91-8	68710	264.00	266.00	2.00	0.32	0.316
91-8	68711	266.00	268.00	2.00	0.68	0.394
91-8	68712	268.00	270.00	2.00	0.40	0.292
91-8	68713	270.00	272.00	2.00	0.21	0.160
91-8	68714	272.00	274.00	2.00	0.46	0.300
91-8	68715	274.00	276.00	2.00	0.33	0.276
91-8	68716	276.00	278.00	2.00	0.32	0.261
91-8	68717	278.00	280.00	2.00	0.41	0.358
91-8	68718	280.00	282.00	2.00	0.52	0.374
91-8	68719	282.00	284.00	2.00	0.44	0.329
91-8	68720	284.00	286.00	2.00	0.30	0.310
91-8	68721	286.00	288.00	2.00	0.39	0.346
91-8	68722	288.00	290.00	2.00	0.50	0.309
91-8	68723	290.00	292.00	2.00	0.44	0.329
91-8	68724	292.00	294.00	2.00	0.31	0.264

DRILLHOLE NUMBER	SAMPLE NUMBER	FROM (m)	TO (m)	INTERVAL (m)	Au g/tonne	Cu %
91-8	68725	294.00	296.00	2.00	0.39	0.272
91-8	68726	296.00	298.00	2.00	0.40	0.299
91-8	68727	298.00	300.00	2.00	0.48	0.356
91-8	68728	300.00	302.00	2.00	0.43	0.333
91-8	68729	302.00	304.00	2.00	0.92	0.691
91-8	68730	304.00	306.00	2.00	0.53	0.395
91-8	68731	306.00	308.00	2.00	0.38	0.287
91-8	68732	308.00	310.00	2.00	0.66	0.401
91-8	68733	310.00	312.00	2.00	0.30	0.225
91-8	68734	312.00	314.00	2.00	0.43	0.284
91-8	68735	314.00	316.00	2.00	0.71	0.625
91-8	68736	316.00	318.00	2.00	0.44	0.401
91-8	68737	318.00	320.00	2.00	0.41	0.306
91-8	68738	320.00	322.00	2.00	0.20	0.280
91-8	68739	322.00	324.00	2.00	0.47	0.450
91-8	68740	324.00	326.00	2.00	0.85	0.604
91-8	68741	326.00	328.00	2.00	0.30	0.277
91-8	68742	328.00	330.00	2.00	0.70	0.396
91-8	68743	330.00	332.00	2.00	0.50	0.352
91-8	68744	332.00	334.00	2.00	0.41	0.229
91-8	68745	334.00	336.00	2.00	0.59	0.284
91-8	68746	336.00	338.00	2.00	0.53	0.269
91-8	68747	338.00	340.00	2.00	0.52	0.255
91-8	68748	340.00	342.00	2.00	0.46	0.321
91-8	68749	342.00	344.00	2.00	0.41	0.292
91-8	68750	344.00	346.00	2.00	0.51	0.320
91-8	68751	346.00	348.00	2.00	0.40	0.204
91-8	68752	348.00	350.00	2.00	0.42	0.327
91-8	68753	350.00	352.00	2.00	0.57	0.387
91-8	68754	352.00	354.00	2.00	0.63	0.332
91-8	68755	354.00	356.00	2.00	3.64	0.406
91-8	68756	356.00	358.00	2.00	0.52	0.265
91-8	68757	358.00	360.00	2.00	0.80	0.561
91-8	68758	360.00	360.43	0.43	0.70	0.423
91-9	70177	51.82	54.00	2.18	1.28	0.449
91-9	70178	54.00	56.00	2.00	2.50	0.516
91-9	70179	56.00	58.00	2.00	0.58	0.171
91-9	70180	58.00	60.00	2.00	0.17	0.100
91-9	70181	60.00	62.00	2.00	0.75	0.135
91-9	70182	62.00	64.00	2.00	0.50	0.103
91-9	70183	64.00	66.00	2.00	0.38	0.105
91-9	70184	66.00	68.00	2.00	3.94	0.197
91-9	70185	68.00	70.00	2.00	0.37	0.129
91-9	70186	70.00	72.00	2.00	0.43	0.209
91-9	70187	72.00	74.00	2.00	0.50	0.243
91-9	70188	74.00	76.00	2.00	0.11	0.056
91-9	70189	76.00	78.00	2.00	0.04	0.041
91-9	70190	78.00	80.00	2.00	0.03	0.049
91-9	70191	80.00	82.00	2.00	0.07	0.077
91-9	70192	82.00	84.00	2.00	0.02	0.040

DRILLHOLE NUMBER	SAMPLE NUMBER	FROM (m)	TO (m)	INTERVAL (m)	Au g/tonne	Cu %
91-9	70193	84.00	86.00	2.00	0.10	0.117
91-9	70194	86.00	88.00	2.00	0.20	0.146
91-9	70195	88.00	90.00	2.00	0.13	0.043
91-9	70196	90.00	92.00	2.00	0.20	0.107
91-9	70197	92.00	94.00	2.00	0.25	0.091
91-9	70198	94.00	96.00	2.00	0.19	0.131
91-9	70199	96.00	98.00	2.00	0.13	0.129
91-9	70200	98.00	100.00	2.00	0.18	0.093
91-9	70201	100.00	102.00	2.00	0.12	0.074
91-9	70202	102.00	104.00	2.00	0.10	0.068
91-9	70203	104.00	106.00	2.00	0.14	0.132
91-9	70204	106.00	108.00	2.00	0.31	0.126
91-9	70205	108.00	110.00	2.00	0.18	0.144
91-9	70206	110.00	112.00	2.00	0.59	0.355
91-9	70207	112.00	114.00	2.00	0.30	0.165
91-9	70208	114.00	116.00	2.00	0.53	0.356
91-9	70209	116.00	118.00	2.00	0.24	0.337
91-9	70210	118.00	120.00	2.00	0.09	0.094
91-9	70211	120.00	122.00	2.00	0.07	0.066
91-9	70212	122.00	124.00	2.00	0.12	0.153
91-9	70213	124.00	126.00	2.00	0.63	0.383
91-9	70214	126.00	128.00	2.00	0.24	0.203
91-9	70215	128.00	130.00	2.00	0.21	0.189
91-9	70216	130.00	132.00	2.00	0.20	0.126
91-9	70217	132.00	134.00	2.00	0.11	0.090
91-9	70218	134.00	136.00	2.00	0.09	0.098
91-9	70219	136.00	138.00	2.00	0.42	0.547
91-9	70220	138.00	140.00	2.00	0.10	0.246
91-9	70221	140.00	142.00	2.00	0.51	0.319
91-9	70222	142.00	144.00	2.00	0.20	0.143
91-9	70223	144.00	146.00	2.00	0.66	0.321
91-9	70224	146.00	148.00	2.00	0.30	0.155
91-9	70225	148.00	150.00	2.00	0.21	0.139
91-9	70226	150.00	152.00	2.00	0.28	0.177
91-9	70227	152.00	154.00	2.00	0.26	0.138
91-9	70228	154.00	156.00	2.00	0.21	0.180
91-9	70229	156.00	158.00	2.00	0.12	0.128
91-9	70230	158.00	160.00	2.00	0.47	0.163
91-9	70231	160.00	162.00	2.00	0.48	0.103
91-9	70232	162.00	164.00	2.00	0.61	0.133
91-9	70233	164.00	166.00	2.00	0.29	0.189
91-9	70234	166.00	168.00	2.00	0.43	0.487
91-9	70235	168.00	170.00	2.00	0.24	0.113
91-9	70236	170.00	172.00	2.00	0.20	0.123
91-9	70237	172.00	174.00	2.00	0.17	0.144
91-9	70238	174.00	176.00	2.00	0.14	0.125
91-9	70239	176.00	178.00	2.00	0.13	0.122
91-9	70240	178.00	180.00	2.00	0.17	0.165
91-9	70241	180.00	182.00	2.00	0.15	0.086
91-9	70242	182.00	184.00	2.00	0.10	0.077

DRILLHOLE NUMBER	SAMPLE NUMBER	FROM (m)	TO (m)	INTERVAL (m)	Au g/tonne	Cu %
91-9	70243	184.00	186.00	2.00	0.09	0.054
91-9	70244	186.00	188.00	2.00	0.10	0.066
91-9	70245	188.00	190.00	2.00	0.31	0.204
91-9	70246	190.00	192.00	2.00	0.22	0.146
91-9	70247	192.00	194.00	2.00	0.19	0.125
91-9	70248	194.00	196.00	2.00	0.21	0.148
91-9	70249	196.00	198.00	2.00	0.27	0.165
91-9	70250	198.00	200.00	2.00	0.32	0.241
91-9	70251	200.00	202.00	2.00	0.32	0.191
91-9	70252	202.00	204.00	2.00	0.31	0.176
91-9	70253	204.00	206.00	2.00	0.19	0.086
91-9	70254	206.00	208.00	2.00	0.30	0.189
91-9	70255	208.00	210.00	2.00	0.10	0.041
91-9	70256	210.00	212.00	2.00	0.05	0.001
91-9	70257	212.00	214.00	2.00	0.16	0.106
91-9	70258	214.00	216.00	2.00	0.27	0.206
91-9	70259	216.00	218.00	2.00	0.25	0.189
91-9	70260	218.00	220.00	2.00	0.22	0.192
91-9	70261	220.00	222.00	2.00	0.09	0.111
91-9	70262	222.00	224.00	2.00	0.28	0.173
91-9	70263	224.00	226.00	2.00	0.33	0.246
91-9	70264	226.00	228.00	2.00	0.22	0.199
91-9	70265	228.00	230.00	2.00	0.17	0.134
91-9	70266	230.00	232.00	2.00	0.27	0.217
91-9	70267	232.00	234.00	2.00	0.43	0.265
91-9	70268	234.00	236.00	2.00	0.36	0.258
91-9	70269	236.00	238.00	2.00	0.16	0.143
91-9	70270	238.00	240.00	2.00	0.16	0.125
91-9	70271	240.00	242.00	2.00	0.26	0.147
91-9	70272	242.00	244.00	2.00	0.34	0.233
91-9	70273	244.00	246.00	2.00	0.39	0.273
91-9	70274	246.00	248.00	2.00	0.40	0.269
91-9	70275	248.00	250.00	2.00	0.10	0.098
91-9	70276	250.00	252.00	2.00	0.21	0.148
91-9	70277	252.00	254.00	2.00	0.18	0.126
91-9	70278	254.00	256.00	2.00	0.36	0.138
91-9	70279	256.00	258.00	2.00	0.19	0.134
91-9	70280	258.00	260.00	2.00	0.11	0.098
91-9	70281	260.00	262.00	2.00	0.42	0.222
91-9	70282	262.00	264.00	2.00	0.29	0.297
91-9	70283	264.00	266.00	2.00	0.20	0.214
91-9	70284	266.00	268.00	2.00	0.32	0.198
91-9	70285	268.00	270.00	2.00	0.21	0.162
91-9	70286	270.00	272.00	2.00	0.20	0.186
91-9	70287	272.00	274.00	2.00	0.26	0.140
91-9	70288	274.00	276.00	2.00	0.40	0.170
91-9	70289	276.00	278.00	2.00	0.38	0.285
91-9	70290	278.00	280.00	2.00	0.28	0.138
91-9	70291	280.00	282.00	2.00	0.30	0.156
91-9	70292	282.00	284.00	2.00	0.28	0.196

DRILLHOLE NUMBER	SAMPLE NUMBER	FROM (m)	TO (m)	INTERVAL (m)	Au g/tonne	Cu %
91-9	70293	284.00	286.00	2.00	0.14	0.111
91-9	70294	286.00	288.00	2.00	0.09	0.064
91-9	70295	288.00	290.00	2.00	0.20	0.107
91-9	70296	290.00	292.00	2.00	0.18	0.117
91-9	70297	292.00	294.00	2.00	0.16	0.122
91-9	70298	294.00	296.00	2.00	0.32	0.193
91-9	70299	296.00	298.00	2.00	0.07	0.022
91-9	70300	298.00	300.00	2.00	0.10	0.119
91-9	70301	300.00	302.00	2.00	0.12	0.075
91-9	70302	302.00	304.00	2.00	0.92	0.439
91-9	70303	304.00	306.00	2.00	0.37	0.184
91-9	70304	306.00	308.00	2.00	0.34	0.193
91-9	70305	308.00	310.00	2.00	0.19	0.109
91-9	70306	310.00	312.00	2.00	0.52	0.206
91-9	70307	312.00	314.00	2.00	0.30	0.169
91-9	70308	314.00	316.00	2.00	0.40	0.138
91-9	70309	316.00	318.00	2.00	0.29	0.102
91-9	70310	318.00	320.00	2.00	0.25	0.160
91-9	70311	320.00	322.00	2.00	0.30	0.164
91-9	70312	322.00	324.00	2.00	0.42	0.238
91-9	70313	324.00	326.00	2.00	0.38	0.245
91-9	70314	326.00	328.00	2.00	0.17	0.078
91-9	70315	328.00	330.00	2.00	0.24	0.258
91-9	70316	330.00	332.00	2.00	0.10	0.082
91-9	70317	332.00	334.00	2.00	0.19	0.106
91-9	70318	334.00	336.00	2.00	0.22	0.074
91-9	70319	336.00	338.00	2.00	0.48	0.126
91-9	70320	338.00	340.00	2.00	0.51	0.188
91-9	70321	340.00	342.00	2.00	0.13	0.147
91-9	70322	342.00	344.00	2.00	0.28	0.186
91-9	70323	344.00	346.00	2.00	0.29	0.146
91-9	70324	346.00	348.00	2.00	0.42	0.223
91-9	70325	348.00	350.00	2.00	0.41	0.258
91-9	70326	350.00	352.00	2.00	0.62	0.294
91-9	70327	352.00	354.00	2.00	0.29	0.276
91-9	70328	354.00	356.00	2.00	0.20	0.233
91-9	70329	356.00	358.00	2.00	0.31	0.253
91-9	70330	358.00	360.00	2.00	0.19	0.168
91-9	70331	360.00	362.00	2.00	0.67	0.518
91-9	70332	362.00	364.00	2.00	0.20	0.219
91-9	70333	364.00	366.00	2.00	0.08	0.061
91-9	70334	366.00	368.00	2.00	0.28	0.277
91-9	70335	368.00	370.00	2.00	0.16	0.195
91-9	70336	370.00	372.00	2.00	0.19	0.268
91-9	70337	372.00	374.00	2.00	0.17	0.210
91-9	70338	374.00	376.00	2.00	0.02	0.357
91-9	70339	376.00	378.00	2.00	0.23	0.369
91-9	70340	378.00	380.00	2.00	0.19	0.220
91-9	70341	380.00	382.00	2.00	0.18	0.235
91-9	70342	382.00	384.00	2.00	0.32	0.314

DRILLHOLE NUMBER	SAMPLE NUMBER	FROM (m)	TO (m)	INTERVAL (m)	Au g/tonne	Cu %
91-9	70343	384.00	386.00	2.00	1.21	0.729
91-9	70344	386.00	388.00	2.00	0.50	0.491
91-9	70345	388.00	390.00	2.00	0.24	0.176
91-9	70346	390.00	392.00	2.00	0.41	0.300
91-9	70347	392.00	394.00	2.00	0.42	0.343
91-9	70348	394.00	396.00	2.00	0.42	0.292
91-9	70349	396.00	398.00	2.00	0.41	0.270
91-9	70350	398.00	400.00	2.00	0.15	0.148
91-9	70351	400.00	402.00	2.00	0.02	0.007
91-9	70352	402.00	404.00	2.00	0.01	0.004
91-9	70353	404.00	406.00	2.00	0.01	0.008
91-9	70354	406.00	408.00	2.00	0.02	0.002
91-9	70355	408.00	410.00	2.00	0.01	0.007
91-9	70356	410.00	412.00	2.00	0.01	0.009
91-9	70357	412.00	414.00	2.00	0.02	0.008
91-9	70358	414.00	416.00	2.00	0.02	0.002
91-9	70359	416.00	418.00	2.00	0.02	0.025
91-9	70360	418.00	420.00	2.00	0.43	0.201
91-9	70361	420.00	422.00	2.00	0.86	0.400
91-9	70362	422.00	424.00	2.00	0.66	0.458
91-9	70363	424.00	426.00	2.00	1.02	0.467
91-9	70364	426.00	428.00	2.00	0.50	0.446
91-9	70365	428.00	430.00	2.00	0.49	0.389
91-9	70366	430.00	432.00	2.00	0.61	0.321
91-9	70367	432.00	434.00	2.00	0.41	0.456
91-9	70368	434.00	436.00	2.00	0.22	0.248
91-9	70369	436.00	438.00	2.00	0.30	0.276
91-9	70370	438.00	440.00	2.00	0.26	0.216
91-9	70371	440.00	442.00	2.00	0.19	0.291
91-9	70372	442.00	444.00	2.00	0.30	0.324
91-9	70373	444.00	446.00	2.00	0.23	0.225
91-9	70374	446.00	448.00	2.00	0.31	0.350
91-9	70375	448.00	450.00	2.00	0.39	0.282
91-9	70376	450.00	452.00	2.00	0.33	0.263
91-9	70377	452.00	454.00	2.00	0.96	0.369
91-9	70378	454.00	456.00	2.00	0.37	0.301
91-9	70379	456.00	458.00	2.00	0.34	0.333
91-9	70380	458.00	460.00	2.00	0.32	0.423
91-9	70381	460.00	462.00	2.00	0.42	0.362
91-9	70382	462.00	464.00	2.00	0.35	0.358
91-9	70383	464.00	466.00	2.00	0.78	0.446
91-9	70384	466.00	468.00	2.00	0.45	0.269
91-9	70385	468.00	470.00	2.00	0.40	0.360
91-9	70386	470.00	472.00	2.00	0.52	0.340
91-9	70387	472.00	474.00	2.00	0.39	0.356
91-9	70388	474.00	476.00	2.00	0.84	0.346
91-9	70389	476.00	478.00	2.00	0.47	0.379
91-9	70390	478.00	480.00	2.00	0.45	0.336
91-9	70391	480.00	482.00	2.00	0.60	0.267
91-9	70392	482.00	484.00	2.00	0.40	0.212

DRILLHOLE NUMBER	SAMPLE NUMBER	FROM (m)	TO (m)	INTERVAL (m)	Au g/tonne	Cu %
91-9	70393	484.00	486.00	2.00	0.41	0.284
91-9	70394	486.00	488.00	2.00	0.34	0.283
91-9	70395	488.00	490.00	2.00	0.50	0.206
91-9	70396	490.00	492.00	2.00	0.51	0.311
91-9	70397	492.00	494.00	2.00	0.50	0.426
91-9	70398	494.00	496.00	2.00	0.30	0.294
91-9	70399	496.00	498.00	2.00	0.31	0.218
91-9	70400	498.00	500.00	2.00	0.58	0.219
91-9	70401	500.00	502.00	2.00	0.40	0.278
91-9	70402	502.00	504.00	2.00	0.50	0.172
91-9	70403	504.00	506.00	2.00	0.56	0.265
91-9	70404	506.00	508.00	2.00	0.46	0.304
91-9	70405	508.00	510.00	2.00	0.80	0.382
91-9	70406	510.00	512.00	2.00	0.39	0.235
91-9	70407	512.00	514.00	2.00	0.29	0.236
91-9	70408	514.00	516.00	2.00	0.41	0.334
91-9	70409	516.00	518.00	2.00	0.21	0.260
91-9	70410	518.00	520.00	2.00	0.20	0.159
91-9	70411	520.00	522.00	2.00	0.51	0.205
91-9	70412	522.00	524.00	2.00	0.29	0.236
91-9	70413	524.00	526.00	2.00	0.19	0.167
91-9	70414	526.00	528.00	2.00	0.20	0.207
91-9	70415	528.00	530.00	2.00	0.23	0.189
91-9	70416	530.00	532.00	2.00	0.35	0.232
91-9	70417	532.00	534.00	2.00	0.26	0.259
91-9	70418	534.00	536.00	2.00	0.20	0.235
91-9	70419	536.00	538.00	2.00	0.21	0.259
91-9	70420	538.00	540.00	2.00	0.19	0.198
91-9	70421	540.00	542.00	2.00	0.23	0.212
91-9	70422	542.00	544.00	2.00	0.26	0.210
91-9	70423	544.00	546.00	2.00	0.62	0.256
91-9	70424	546.00	548.00	2.00	0.39	0.343
91-9	70425	548.00	550.00	2.00	0.22	0.135
91-9	70426	550.00	552.00	2.00	0.32	0.209
91-9	70427	552.00	554.00	2.00	0.30	0.227
91-9	70428	554.00	556.00	2.00	0.44	0.265
91-9	70429	556.00	558.00	2.00	0.43	0.322
91-9	70430	558.00	560.00	2.00	0.22	0.257
91-9	70431	560.00	562.00	2.00	0.39	0.251
91-9	70432	562.00	564.00	2.00	0.41	0.322
91-9	70433	564.00	566.00	2.00	0.50	0.392
91-9	70434	566.00	568.00	2.00	1.04	0.365
91-9	70435	568.00	570.00	2.00	0.38	0.276
91-9	70436	570.00	572.00	2.00	0.47	0.405
91-9	70437	572.00	574.00	2.00	0.34	0.310
91-9	70438	574.00	576.00	2.00	0.37	0.293
91-9	70439	576.00	578.00	2.00	0.40	0.301
91-9	70440	578.00	580.00	2.00	0.38	0.214
91-9	70441	580.00	582.00	2.00	0.50	0.329
91-9	70442	582.00	584.00	2.00	0.58	0.308

DRILLHOLE NUMBER	SAMPLE NUMBER	FROM (m)	TO (m)	INTERVAL (m)	Au g/tonne	Cu %
91-9	70443	584.00	586.00	2.00	0.46	0.415
91-9	70444	586.00	588.00	2.00	0.31	0.233
91-9	70445	588.00	590.00	2.00	0.32	0.246
91-9	70446	590.00	592.00	2.00	0.32	0.199
91-9	70447	592.00	594.00	2.00	0.22	0.256
91-9	70448	594.00	596.00	2.00	0.37	0.201
91-9	70449	596.00	598.00	2.00	0.41	0.299
91-9	70450	598.00	600.00	2.00	0.28	0.283
91-9	70451	600.00	602.00	2.00	0.43	0.249
91-9	70452	602.00	604.00	2.00	0.36	0.331
91-9	70453	604.00	606.00	2.00	0.34	0.320
91-9	70454	606.00	608.00	2.00	0.20	0.223
91-9	70455	608.00	610.00	2.00	0.37	0.266
91-9	70456	610.00	612.00	2.00	0.31	0.210
91-9	70457	612.00	614.00	2.00	0.42	0.258
91-9	70458	614.00	616.00	2.00	0.47	0.379
91-9	70459	616.00	618.00	2.00	0.44	0.193
91-9	70460	618.00	620.00	2.00	0.28	0.132
91-9	70461	620.00	622.00	2.00	0.34	0.211
91-9	70462	622.00	624.00	2.00	0.19	0.154
91-9	70463	624.00	626.00	2.00	0.25	0.174
91-9	70464	626.00	628.00	2.00	0.18	0.173
91-9	70465	628.00	630.00	2.00	0.43	0.461
91-9	70466	630.00	632.00	2.00	0.38	0.345
91-9	70467	632.00	634.00	2.00	0.41	0.243
91-9	70468	634.00	636.00	2.00	0.50	0.258
91-9	70469	636.00	638.00	2.00	0.42	0.294
91-9	70470	638.00	640.00	2.00	0.31	0.175
91-9	70471	640.00	642.00	2.00	0.34	0.239
91-9	70472	642.00	644.00	2.00	0.47	0.267
91-9	70473	644.00	646.00	2.00	0.45	0.338
91-9	70474	646.00	648.00	2.00	0.48	0.216
91-9	70475	648.00	650.00	2.00	0.40	0.170
91-9	70476	650.00	652.00	2.00	0.34	0.182
91-9	70477	652.00	654.00	2.00	0.41	0.181
91-9	70478	654.00	656.00	2.00	0.70	0.337
91-9	70479	656.00	658.00	2.00	0.70	0.393
91-9	70480	658.00	660.00	2.00	0.42	0.231
91-9	70481	660.00	662.00	2.00	0.42	0.199
91-9	70482	662.00	664.00	2.00	0.01	0.005
91-9	70483	664.00	666.00	2.00	0.50	0.235
91-9	70484	666.00	668.00	2.00	0.41	0.207
91-9	70485	668.00	670.00	2.00	0.42	0.338
91-9	70486	670.00	672.00	2.00	0.45	0.268
91-9	70487	672.00	674.00	2.00	0.34	0.225
91-9	70488	674.00	676.00	2.00	0.38	0.199
91-9	70489	676.00	678.00	2.00	0.30	0.210
91-9	70490	678.00	680.00	2.00	0.40	0.260
91-9	70491	680.00	682.00	2.00	0.34	0.204
91-9	70492	682.00	684.00	2.00	0.27	0.224

DRILLHOLE NUMBER	SAMPLE NUMBER	FROM (m)	TO (m)	INTERVAL (m)	Au g/tonne	Cu %
91-9	70493	684.00	686.00	2.00	0.41	0.253
91-9	70494	686.00	688.00	2.00	0.34	0.163
91-9	70495	688.00	690.00	2.00	0.37	0.244
91-9	70496	690.00	692.00	2.00	0.24	0.231
91-9	70497	692.00	694.00	2.00	3.34	0.157
91-9	70498	694.00	696.00	2.00	0.10	0.038
91-9	70499	696.00	698.00	2.00	0.12	0.119
91-9	70500	698.00	700.00	2.00	0.29	0.247
91-9	70501	700.00	702.00	2.00	0.30	0.275
91-9	70502	702.00	704.00	2.00	0.15	0.094
91-9	70503	704.00	706.00	2.00	0.03	0.024
91-9	70504	706.00	708.00	2.00	0.01	0.003
91-9	70505	708.00	710.00	2.00	0.03	0.081
91-9	70506	710.00	712.00	2.00	0.01	0.005
91-9	70507	712.00	714.00	2.00	0.01	0.003
91-9	70508	714.00	716.00	2.00	0.01	0.002
91-9	70509	716.00	718.00	2.00	0.01	0.006
91-9	70510	718.00	720.00	2.00	0.02	0.015
91-9	70511	720.00	722.00	2.00	0.14	0.010
91-9	70512	722.00	724.00	2.00	0.10	0.007
91-9	70513	724.00	726.00	2.00	0.13	0.004
91-9	70514	726.00	728.00	2.00	0.01	0.002
91-9	70515	728.00	730.00	2.00	0.01	0.004
91-9	70516	730.00	732.00	2.00	0.28	0.057
91-9	70517	732.00	734.00	2.00	0.31	0.090
91-9	70518	734.00	736.00	2.00	0.02	0.018
91-9	70519	736.00	738.00	2.00	0.01	0.004
91-9	70520	738.00	740.00	2.00	0.01	0.006
91-9	70521	740.00	741.27	1.27	0.01	0.002
91-10	68765	360.00	362.00	2.00	0.31	0.201
91-10	68766	362.00	364.00	2.00	0.40	0.327
91-10	68767	364.00	366.00	2.00	0.29	0.215
91-10	68768	366.00	368.00	2.00	0.54	0.328
91-10	68769	368.00	370.00	2.00	0.22	0.181
91-10	68770	370.00	372.00	2.00	0.28	0.220
91-10	68771	372.00	374.00	2.00	0.42	0.358
91-10	68772	374.00	376.00	2.00	0.44	0.302
91-10	68773	376.00	378.00	2.00	0.50	0.345
91-10	68774	378.00	380.00	2.00	0.41	0.310
91-10	68775	380.00	382.00	2.00	0.53	0.397
91-10	68776	382.00	384.00	2.00	0.39	0.291
91-10	68777	384.00	386.00	2.00	0.45	0.282
91-10	68778	386.00	388.00	2.00	0.96	0.184
91-10	68779	388.00	390.00	2.00	0.92	0.219
91-10	68780	390.00	392.00	2.00	0.23	0.216
91-10	68781	392.00	394.00	2.00	0.33	0.245
91-10	68782	394.00	396.00	2.00	4.52	0.408
91-10	68783	396.00	398.00	2.00	0.40	0.281
91-10	68784	398.00	400.00	2.00	0.39	0.281
91-10	68785	400.00	402.00	2.00	0.40	0.281

DRILLHOLE NUMBER	SAMPLE NUMBER	FROM (m)	TO (m)	INTERVAL (m)	Au g/tonne	Cu %
91-10	68786	402.00	404.00	2.00	0.48	0.354
91-10	68787	404.00	406.00	2.00	0.46	0.389
91-10	68788	406.00	408.00	2.00	0.37	0.315
91-10	68789	408.00	410.00	2.00	0.36	0.264
91-10	68790	410.00	412.00	2.00	1.97	0.354
91-10	68791	412.00	414.00	2.00	1.65	0.498
91-10	68792	414.00	416.00	2.00	0.54	0.406
91-10	68793	416.00	418.00	2.00	0.49	0.367
91-10	68794	418.00	420.00	2.00	0.50	0.312
91-10	68795	420.00	422.00	2.00	0.52	0.361
91-10	68796	422.00	424.00	2.00	0.62	0.376
91-10	68797	424.00	426.00	2.00	0.58	0.312
91-10	68798	426.00	428.00	2.00	0.46	0.277
91-10	68799	428.00	430.00	2.00	2.31	0.298
91-10	68800	430.00	432.00	2.00	0.51	0.285
91-10	68801	432.00	434.00	2.00	0.91	0.237
91-10	68802	434.00	436.00	2.00	0.61	0.359
91-10	68803	436.00	438.00	2.00	0.52	0.371
91-10	68804	438.00	440.00	2.00	0.24	0.158
91-10	68805	440.00	442.00	2.00	0.38	0.250
91-10	68806	442.00	444.00	2.00	0.98	0.544
91-10	68807	444.00	446.00	2.00	0.80	0.469
91-10	68808	446.00	448.00	2.00	0.60	0.362
91-10	68809	448.00	450.00	2.00	0.58	0.313
91-10	68810	450.00	452.00	2.00	0.66	0.393
91-10	68811	452.00	454.00	2.00	0.53	0.439
91-10	68812	454.00	456.00	2.00	0.62	0.356
91-10	68813	456.00	458.00	2.00	0.52	0.381
91-10	68814	458.00	460.00	2.00	0.61	0.302
91-10	68815	460.00	462.00	2.00	0.70	0.414
91-10	68816	462.00	464.00	2.00	0.70	0.385
91-10	68817	464.00	466.00	2.00	0.47	0.317
91-10	68818	466.00	468.00	2.00	0.49	0.342
91-10	68819	468.00	470.00	2.00	0.42	0.303
91-10	68820	470.00	472.00	2.00	0.84	0.305
91-10	68821	472.00	474.00	2.00	0.71	0.351
91-10	68822	474.00	476.00	2.00	0.60	0.368
91-10	68823	476.00	478.00	2.00	0.48	0.287
91-10	68824	478.00	480.00	2.00	0.63	0.291
91-10	68825	480.00	482.00	2.00	0.40	0.179
91-10	68826	482.00	484.00	2.00	0.41	0.223
91-10	68827	484.00	486.00	2.00	0.49	0.320
91-10	68828	486.00	488.00	2.00	3.48	0.329
91-10	68829	488.00	490.00	2.00	1.67	0.328
91-10	68830	490.00	492.00	2.00	0.68	0.303
91-10	68831	492.00	494.00	2.00	0.53	0.312
91-10	68832	494.00	496.00	2.00	0.61	0.402
91-10	68833	496.00	498.00	2.00	0.88	0.533
91-10	68834	498.00	500.00	2.00	1.10	0.514
91-10	68835	500.00	502.00	2.00	0.47	0.273

DRILLHOLE NUMBER	SAMPLE NUMBER	FROM (m)	TO (m)	INTERVAL (m)	Au g/tonne	Cu %
91-10	68836	502.00	504.00	2.00	0.52	0.312
91-10	68837	504.00	506.00	2.00	0.63	0.356
91-10	68838	506.00	508.00	2.00	0.50	0.364
91-10	68839	508.00	510.00	2.00	0.49	0.268
91-10	68840	510.00	512.00	2.00	0.61	0.310
91-10	68841	512.00	514.00	2.00	0.38	0.311
91-10	68842	514.00	516.00	2.00	0.58	0.354
91-10	68843	516.00	518.00	2.00	0.68	0.366
91-10	68844	518.00	520.00	2.00	0.78	0.531
91-10	68845	520.00	522.00	2.00	0.51	0.425
91-10	68846	522.00	524.00	2.00	0.49	0.283
91-10	68847	524.00	526.00	2.00	0.56	0.278
91-10	68848	526.00	528.00	2.00	0.64	0.331
91-10	68849	528.00	530.00	2.00	0.48	0.293
91-10	68850	530.00	532.00	2.00	0.60	0.535
91-10	68851	532.00	534.00	2.00	0.83	0.447
91-10	68852	534.00	536.00	2.00	0.55	0.279
91-10	68853	536.00	538.00	2.00	0.61	0.436
91-10	68854	538.00	540.00	2.00	0.49	0.327
91-10	68855	540.00	542.00	2.00	0.65	0.347
91-10	68856	542.00	544.00	2.00	0.50	0.323
91-10	68857	544.00	546.00	2.00	1.32	0.367
91-10	68858	546.00	548.00	2.00	0.52	0.318
91-10	68859	548.00	550.00	2.00	0.51	0.247
91-10	68860	550.00	552.00	2.00	0.60	0.342
91-10	68861	552.00	554.00	2.00	0.67	0.424
91-10	68862	554.00	556.00	2.00	0.76	0.423
91-10	68863	556.00	558.00	2.00	0.52	0.372
91-10	68864	558.00	560.00	2.00	0.54	0.397
91-10	68865	560.00	562.00	2.00	0.61	0.319
91-10	68866	562.00	564.00	2.00	0.60	0.392
91-10	68867	564.00	566.00	2.00	0.31	0.207
91-10	68868	566.00	568.00	2.00	0.52	0.330
91-10	68869	568.00	570.00	2.00	0.56	0.368
91-10	68870	570.00	572.00	2.00	0.63	0.498
91-10	68871	572.00	574.00	2.00	0.32	0.241
91-10	68872	574.00	576.00	2.00	0.48	0.353
91-10	68873	576.00	578.00	2.00	0.51	0.316
91-10	68874	578.00	580.00	2.00	0.41	0.276
91-10	68875	580.00	582.00	2.00	0.29	0.259
91-10	68876	582.00	584.00	2.00	0.40	0.299
91-10	68877	584.00	586.00	2.00	0.51	0.338
91-10	68878	586.00	588.00	2.00	0.44	0.276
91-10	68879	588.00	590.00	2.00	0.60	0.312
91-10	68880	590.00	592.00	2.00	0.43	0.273
91-10	68881	592.00	594.00	2.00	0.52	0.341
91-10	68882	594.00	596.00	2.00	0.63	0.304
91-10	68883	596.00	598.00	2.00	0.23	0.301
91-10	68884	598.00	600.00	2.00	0.22	0.158
91-10	68885	600.00	602.00	2.00	0.34	0.203

DRILLHOLE NUMBER	SAMPLE NUMBER	FROM (m)	TO (m)	INTERVAL (m)	Au g/tonne	Cu %
91-10	68886	602.00	604.00	2.00	0.54	0.342
91-10	68887	604.00	606.00	2.00	0.18	0.190
91-10	68888	606.00	608.00	2.00	0.21	0.179
91-10	68889	608.00	610.00	2.00	0.32	0.249
91-10	68890	610.00	612.00	2.00	0.20	0.155
91-10	68891	612.00	614.00	2.00	0.39	0.233
91-10	68892	614.00	616.00	2.00	0.66	0.380
91-10	68893	616.00	618.00	2.00	0.30	0.300
91-10	68894	618.00	620.00	2.00	0.32	0.388
91-10	68895	620.00	622.00	2.00	0.50	0.372
91-10	68896	622.00	624.00	2.00	0.18	0.172
91-10	68897	624.00	626.00	2.00	0.60	0.379
91-10	68898	626.00	628.00	2.00	0.75	0.431
91-10	68899	628.00	630.00	2.00	0.63	0.408
91-10	68900	630.00	632.00	2.00	0.62	0.426
91-10	68901	632.00	634.00	2.00	0.83	0.476
91-10	68902	634.00	636.00	2.00	0.39	0.276
91-10	68903	636.00	638.00	2.00	0.37	0.307
91-10	68904	638.00	640.00	2.00	0.39	0.257
91-10	68905	640.00	642.00	2.00	0.34	0.302
91-10	68906	642.00	644.00	2.00	0.74	0.298
91-10	68907	644.00	646.00	2.00	0.16	0.132
91-10	68908	646.00	648.00	2.00	0.30	0.261
91-10	68909	648.00	650.00	2.00	0.31	0.260
91-10	68910	650.00	652.00	2.00	0.28	0.202
91-10	68911	652.00	654.00	2.00	0.22	0.190
91-10	68912	654.00	656.00	2.00	0.53	0.343
91-10	68913	656.00	658.00	2.00	0.20	0.148
91-10	68914	658.00	660.00	2.00	0.41	0.291
91-10	68915	660.00	662.00	2.00	0.21	0.212
91-10	68916	662.00	664.00	2.00	0.13	0.130
91-10	68917	664.00	666.00	2.00	0.83	0.320
91-10	68918	666.00	668.00	2.00	0.42	0.251
91-10	68919	668.00	670.00	2.00	0.25	0.207
91-10	68920	670.00	672.00	2.00	0.22	0.206
91-10	68921	672.00	674.00	2.00	0.23	0.203
91-10	68922	674.00	676.00	2.00	0.29	0.270
91-10	68923	676.00	678.00	2.00	0.26	0.286
91-10	68924	678.00	680.00	2.00	0.20	0.230
91-10	68925	680.00	682.00	2.00	0.54	0.347
91-10	68926	682.00	684.00	2.00	0.43	0.330
91-10	68927	684.00	686.00	2.00	0.46	0.419
91-10	68928	686.00	688.00	2.00	0.30	0.318
91-10	68929	688.00	690.00	2.00	0.45	0.402
91-10	68930	690.00	692.00	2.00	0.80	0.519
91-10	68931	692.00	694.00	2.00	0.66	0.547
91-10	68932	694.00	696.00	2.00	0.48	0.350
91-10	68933	696.00	698.00	2.00	0.27	0.326
91-10	68934	698.00	700.00	2.00	0.80	0.574
91-10	68935	700.00	702.00	2.00	0.21	0.368

DRILLHOLE NUMBER	SAMPLE NUMBER	FROM (m)	TO (m)	INTERVAL (m)	Au g/tonne	Cu %
91-10	68936	702.00	704.00	2.00	0.57	0.344
91-10	68937	704.00	706.00	2.00	0.27	0.403
91-10	68938	706.00	708.00	2.00	0.40	0.674
91-10	68939	708.00	710.00	2.00	0.13	0.293
91-10	68940	710.00	712.00	2.00	0.22	0.423
91-10	68941	712.00	714.00	2.00	0.31	0.566
91-10	68942	714.00	716.00	2.00	0.33	0.425
91-10	68943	716.00	718.00	2.00	0.34	0.421
91-10	68944	718.00	720.00	2.00	0.26	0.296
91-10	68945	720.00	722.00	2.00	0.20	0.175
91-10	68946	722.00	724.00	2.00	0.01	0.029
91-10	68947	724.00	726.00	2.00	0.01	0.008
91-10	68948	726.00	728.00	2.00	0.04	0.094
91-10	68949	728.00	730.00	2.00	0.11	0.083
91-10	68950	730.00	732.00	2.00	0.09	0.078
91-10	68951	732.00	733.50	1.50	0.01	0.065

APPENDIX V

SPERRY-SUN SURVEY RESULTS

91-1

Depth (m)	Dip	Azimuth	Elevation (m)
11.27	-88.50°	033	1469.73
154.53	-89.00°	117	1326.47
306.93	-89.00°	216	1174.07
373.99	-89.25°	213	1107.01
532.49	-89.00°	215	948.51
687.93	-89.00°	204	793.07
837.29	-88.70°	244	643.71

91-2

Depth	Dip	Azimuth	Elevation
7.6	-89.00°	093	1459.40
152.4	-89.50°	209	1314.60
304.8	-89.50°	280	1162.20
374.9	-89.15°	233	1092.10
457.2	-89.00°	230	1009.80
609.76	-88.67°	245	857.24
762.19	-89.00°	258	762.19

91-3

Depth	Dip	Azimuth	Elevation
20.42	-89.00°	243	1440.50
154.5	-88.20°	283	1306.40
306.93	-87,90°	273	1154.00
358.75	-87.80°	273	1102.10
457.20	-87.87°	284	1003.70
611.73	-87.15°	277	849.40
764.13	-87.15°	273	696.80

91-4

Depth	Dip	Azimuth	Elevation
14.30	-89.70°	040	1458.70
154.53	-89.90°	267	1318.47
304.80	-89.75°	307	1168.20
365.76	-89.75°	-	1107.24
459.33	-89.50°	273	1013.67
611.70	-89.50°	225	861.30
764.13	-88.75°	250	708.87

91-5

Depth	Dip	Azimuth	Elevation
35.05	-88.10°	272	1413.95
152.40	-87.50°	298	1296.60
304.80	-87.85°	298	1144.20
350.52	-87.75°	295	1098.48
457.20	-88.12°	300	991.80
609.60	-88.00°	319	839.40
762.00	-87.00°	321	687.00

91-6

Depth	Dip	Azimuth	Elevation
17.07	-89.30°	030	1475.93
154.43	-89.12°	320	1338.57
306.93	-88.60°	323	1186.07
393.80	-88.37°	313	1099.20
456.29	-88.20°	320	1035.71
611.73	-87.85°	316	881.27
764.13	-88.10°	319	728.87
801.92	-87.50°	320	691.08

91-7

Depth	Dip	Azimuth	Elevation
17.37	-89.00°	267	1456.63
152.40	-89.25°	277	1321.60
304.80	-89.12°	286	1169.20
374.90	-89.80°	273	1099.10
457.20	-88.70°	275	1016.80
608.70	-88.60°	307	865.30
762.00	-87.87°	320	712.00
800.71	-87.90°	320	673.29

91-8

Depth	Dip	Azimuth	Elevation
63.09	-88.90°	319	1397.91
154.53	-89.20°	305	1306.47
306.93	-89.00°	303	1154.07
360.27	-88.90°	318	1100.73

91-9

Depth	Dip	Azimuth	Elevation
57.00	-89.60°	299	1386.60
154.53	-88.82°	006	1289.07
459.33	-88.80°	309	984.27
306.93	-88.95°	299	1136.67
611.73	-88.65°	330	831.87
740.66	-88.45°	333	702.94

91-10

Depth	Dip	Azimuth	Elevation
101.15	-88.80°	210	1359.85
154.53	-88.80°	204	1306.47
306.63	-88.60°	187	1154.37
459.33	-88.40°	188	1001.67
611.73	-88.10°	202	849.27

APPENDIX VI

ANALYTICAL PROCEDURES

MINERAL
• ENVIRONMENTS
LABORATORIES

Division of Assayers Corp. Ltd.

AG, CU, PB, ZN, NI, AND CO ASSAY PROCEDURE

Samples are dried @ 95 C and when dry are crushed on a jaw crusher. The -1/4 inch output of the jaw crusher is put through a secondary roll crusher to reduce it to -1/8 inch. The whole sample is then riffled on a Jones Riffle down to a statistically representative 300-400 gram sub-sample (in accordance with Gy's statistical rules.) This sub-sample is then pulverized in a ring pulverizer to 95% minus 120 mesh, rolled and bagged for analysis. The remaining reject from the Jones Riffle is bagged and stored.

A sub-sample is weighed from the pulp bag for analysis, usually 0.200 to 2.000 gram, depending upon estimated range. Each batch of 70 assays has a natural standard and a reagent blank included. The assays are digested using a HNO3 - KCLO4 mixture and when reaction subsides, HCL is added to assay before it is placed on a hotplate to digest. After digestion is complete the assays are cooled, diluted to volume and mixed.

The assays are analyzed on atomic absorption spectrometers using the appropriate standard sets. The natural standard digested along with this set must be within 2 standard deviations of its known or the whole set is re-assayed. If any of the assays are >1% they are re-assayed at a lower weight.

OFFICE AND LABORATORIES:
705 WEST FIFTEENTH STREET, NORTH VANCOUVER, B.C.
CANADA V7M 1T2

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TELEX: VIA USA 7601067
FAX: (604) 980-9621

MINERAL
• ENVIRONMENTS
LABORATORIES

Division of Assayers Corp. Ltd.

GOLD ASSAY PROCEDURE:

Samples are dried @ 95 C and when dry are crushed on a jaw crusher. The 1/4 inch output of the jaw crusher is put through a secondary roll crusher to reduce it to - 15 mesh. The whole sample is then riffled on a Jones Riffle down to a statistically representative 500 gram sub-sample (in accordance with Gy's statistical rules.) This sub-sample is then pulverized on a ring pulverizer to 95% minus 120 mesh, rolled and bagged for analysis. The remaining reject from the Jones Riffle is bagged and stored.

Samples are fire assayed using one assay ton sample weight. The samples are fluxed, a silver inquart added and mixed. The assays are fused in batches of 24 assays along with a natural standard and a blank. This batch of 26 assays is carried through the whole procedure as a set. After cupellation the precious metal beads are transferred into new glassware, dissolved, diluted to volume and mixed.

These aqua regia solutions are analyzed on an atomic absorption spectrometer using a suitable standard set. The natural standard fused along with this set must be within 2 standard deviations of its known or the whole set is re-assayed. Likewise the blank must be less than 0.015 g/tonne.

The top 10% of all assays per page are rechecked and reported in duplicate along with the standard and blank.

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APPENDIX VII

STATEMENT OF COSTS

• STATEMENT OF COSTS •
1991 DIAMOND DRILL PROGRAM
FISH LAKE PROPERTY

EXPLORATION COSTS		TOTALS
Mobilization and Demobilization Costs	$ 9,720.00	$ 9,720.00
7277.71 metres HQ/NQ Diamond Core Drilling (average $ 66.74/m)	485,741.18	485,741.18
Diamond Drilling Cost Plus (muds, Sperry Sun, consumables)	57,745.75	57,745.75
Road Building/Camp Construction	9,515.72	9,515.72
Equipment Purchases	19,522.84	19,522.84
Equipment Rental (Sperry Sun, mobile radios, photocopier)	28,303.02	28,303.02
Truck Rental	10,541.40	10,541.40
Room and Board	17,260.00	17,260.00
Geochemical Analysis Costs		
Au Assay/Total Cu: 3,058 samples x $ 17.00/unit	51,986.00	
Total Cu Analyses: 486 samples x $ 21.00/unit	12,206.00	
Au fire Assay: 106 samples x $ 6.00/unit	636.00	
Check Assays:	4,809.01	
Other Charges (shipping, supplies, etc.)	9,875.82	
G.S.T. Charges	4,539.27	84,052.10
Preparation of Petrographic Thin Sections	4,858.87	4,858.87
Expediting Costs	454.15	454.15
Transportation Costs	7,763.95	7,763.95
Salary Costs:		
N. Caira 07/18 - 10/15, 1991 88.5 days x $ 225/day + G.S.T.	20,293.73	
D. Piroschco 07/24 - 10/15, 1991 83.0 days x $ 185/day	9,789.08	
G. Feist 09/09 - 10/15, 1991 38.5 days x $ 110/day	3,001.03	
V. Chow-Meza 07/30 - 10/15, 1991 80.0 days x $ 110/day	6,109.85	
G. Dirom 07/24 - 10/15, 1991 87.0 days x $ 110/day	9,469.07	48,662.76
Preparation of Assessment Report:		
S. Heinrich 11/23 - 12/03, 1991 9 days x $ 175/day	1,575.00	
D. Piroschco 11/25 - 11/27, 1991 3 days x $ 185/day	555.00	
J. Botifan 12/05 - 12/07, 1991 3 days x $ 240/day	720.00	2,850.00
TOTAL 1991 FISH LAKE EXPLORATION PROGRAM EXPENDITURES		$ 786,991.74

APPENDIX VIII

PETROGRAPHIC REPORT

Vancouver Petrographics Ltd.

JAMES VINNELL, Manager
JOHN G. PAYNE, Ph.D. Geologist
CRAIG LEITCH, Ph.D. Geologist
JEFF HARRIS, Ph.D. Geologist
KEN E. NORTHCOTE, Ph.D. Geologist

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Report for: **Nadia Caira,**
Taseko Mines Ltd.,
1020 - 800 West Pender
VANCOUVER, B.C., V6C 2V6

Job 236
September 1991

Samples: DDH 91-1 103.5, 128.62, 222.5, 226.3, 260.8, 297.5, 282.25, 395.4, 400.5, 403.0, 581.5, 626.25, 635.0, 784.0
DDH 91-2 65.5, 155.5, 322.07, 446.07, 520.2, 573.4, 792.2, 793.65
DDH 91-3 60.0, 99.0, 293.5, 373.0, 374.5
FL-81-8 43.0, 56.1, 245.0
FL-81-9 44.0, 239.2
FL-81-13 160.0
FL-81-14 123.0, 219.5, 280.0, 293.5, 351.95
FL-81-19 155.5, 280.4, 282.0, 314.0
FL-81-20 248.75
F-89-1 86.75
F-89-3 103.9
Q-73-10 69.0, 136.5, 248.0, 250.75

49
2

A: Identification of Minerals

Carbonates were divided into two groups by refractive index. Carbonate with high refractive index was designated, ankerite. That with a lower refractive index was designated, calcite. In a few samples, the refractive index was not definitive; in these carbonate is not subdivided. No systematic tests were made regarding reaction with dilute, cold HCl.

Sulfides were identified in polished sections. In thin sections, textures were used to identify some sulfides; however, except for euhedral and subhedral pyrite, these are tentative, and minor phases would not be identified, e.g.,native gold. More polished sections were made than originally requested. In one of these, a grain of native gold was identified.

Some, mainly late veins contain a few minerals which, in large part, were removed from the sections during preparation because of their physical properties. These include gypsum, an unknown clay mineral, Mineral Y, montmorillonite(?), and to a lesser extent kaolinite and illite. For these minerals, the powder of the material was examined in mineral oils of known refractive index. This helped to identify the vein species in several samples. In a few samples, this test was not diagnostic. Proper identification of these minerals could be done using X-Ray diffraction.

Mineral Y has the following properties: cryptocrystalline to extremely fine grained (less than 0.005 mm), isotropic or very low birefringence, light brown color, R.I. about 1.44-1.46, very soft.

Gypsum is preserved only in a few samples. Locally it occurs with anhydrite and in some of these localities it is replacing anhydrite.

One sample contains a clay mineral like Mineral Y, but with R.I. about 1.50 (similar to that of montmorillonite).

B: Nature of Biotite

The presence of biotite in the deposit has been explained in the past by two models, one that it is early and of contact metamorphic origin, associated with the intrusion of the diorite, and the other that it is of hydrothermal origin. A few samples in this study contain biotite; for them, textural evidence is not conclusive, but suggests to me a contact metamorphic origin. If biotite is of hydrothermal origin, it would have to be early, because it commonly is altered to chlorite and other minerals typical of the overall hydrothermal alteration assemblage in the sample.

C: Summary Descriptions of Individual Samples

Sample 91-1 103.5 m is a **Porphyritic Dacite** containing phenocrysts of plagioclase and less abundant ones of quartz in an extremely fine grained groundmass dominated by plagioclase with less quartz and ankerite. Alteration of plagioclase is to sericite-ankerite. Veins are of quartz-(opaque-muscovite) and a veinlet is of kaolinite-(ankerite).

Sample 91-1 128.62 m is a **Hypabyssal Quartz Diorite** containing phenocrysts of plagioclase in a groundmass of quartz, plagioclase, and biotite, with minor magnetite and chalcopyrite. A mafic inclusion is dominated by biotite, less quartz, and minor apatite. Plagioclase and biotite are altered to ankerite and kaolinite, mainly in one half of the section. Minor replacement patches are dominated by chalcopyrite with much less quartz and minor ankerite and bornite and a trace of apatite and molybdenite. Early veinlets of ankerite-chalcopyrite, ankerite-kaolinite, and quartz-calcite-apatite are cut by a late veinlet of calcite.

Sample 91-1 222.5 m is a **Porphyritic Latite** containing phenocrysts of plagioclase and hornblende in a groundmass dominated by plagioclase, ankerite, and sericite/muscovite. Phenocrysts are altered completely to sericite/muscovite and ankerite; those of hornblende also contain secondary Ti-oxide and primary apatite. Replacement patches are of quartz and of pyrite-ankerite- sericite/muscovite. Early veins of quartz-ankerite-(opaque- muscovite-kaolinite) are cut by later ones of ankerite-pyrite- (quartz-kaolinite).

Sample 91-1 226.3 m is a **Hypabyssal Porphyritic Dacite** containing phenocrysts of plagioclase, and minor ones of quartz, and biotite in a groundmass of plagioclase and quartz, with minor ankerite and sericite. Plagioclase phenocrysts are altered to ankerite-sericite-kaolinite. Biotite phenocrysts are altered to muscovite-ankerite-quartz-kaolinite. A major, zoned vein has an outer zone dominated by quartz and a core dominated by ankerite with lenses of muscovite and interstitial patches of kaolinite.

Sample 91-1 260.8 m is an **altered Porphyritic Dacite/Latite** containing phenocrysts of plagioclase (altered completely to sericite) in a groundmass of extremely fine grained plagioclase/sericite-quartz-(pyrite). Minor replacement patches are of quartz-muscovite. Abundant veinlets are of quartz and of pyrite. Veins are of quartz-pyrite-chalcopyrite-ankerite-muscovite and ankerite. Illite forms veins, veinlets, and lenses.

Sample 91-1 282.25 m is a **Latite Dust Tuff** containing abundant replacement patches of muscovite-quartz-plagioclase-ankerite. A vein is of quartz-muscovite-pyrite-chalcopyrite, and veinlets are of kaolinite-ankerite, ankerite, and pyrite.

Sample 91-1 297.5 m is a **Dacite/Latite Lapilli Tuff** containing fragments averaging 1.5-7 mm across of a few volcanic and hypabyssal rock types in a groundmass dominated by plagioclase with less chlorite and sericite. Alteration to sericite, ankerite, chlorite, and quartz has obscured many fragment borders. Plagioclase phenocrysts in fragments of porphyritic latite are replaced by sericite. Replacement patches are of two or more of muscovite/sericite, chlorite, and quartz, with minor ankerite and Ti-oxide. A vein and veinlet are dominated by quartz with minor to moderately abundant chlorite and opaque, and minor muscovite, ankerite, apatite, and gypsum(?). A vein is of gypsum-ankerite.

Sample 91-1 357.0 m is a **Strongly Altered Rock** of uncertain origin, dominated by quartz and sericite/muscovite, with less calcite and disseminated sulfides, dominated by pyrite. It is cut and replaced by veins of quartz-calcite with patches of sulfides, dominated by pyrite, tetrahedrite and chalcopyrite, with minor native gold and two unknown metallic phases, one of which may be bournonite. Pyrite was formed early and was brecciated moderately to strongly. A late vein is of gypsum and Mineral Y.

Sample 91-1 360.0 m is a **Strongly Altered Rock** dominated by sericite with less abundant quartz and minor patches of ankerite and disseminated grains of pyrite. It is replaced/cut by veins of pyrite with interstitial patches of calcite/ankerite-(quartz-muscovite-tetrahedrite-chalcopyrite). A late(?) vein is of calcite.

Sample 91-1 364.0 m contains a band up to 1 mm wide which contains discontinuous patches of **altered Latite(?)**, dominated by sericite/muscovite, less ankerite and plagioclase, and minor quartz, pyrite, and Ti-oxide. Most of the sample is a medium to coarse grained **Calcite-Pyrite Vein.** Pyrite was brecciated slightly to strongly in irregular patches and a few seams; in these zones calcite is interstitial to pyrite.

Sample 91-1 395.4 m is an **Altered Dacite Tuff** containing minor phenocrysts of quartz in a variable groundmass whose texture suggests that the original rock may have been fragmental. A major vein is of quartz-gypsum-chalcopyrite; gypsum-rich zones have halos of plagioclase-chlorite of uncertain origin. Other veinlets are of calcite/ankerite-chlorite.

Sample 91-1 400.5 m is an **altered Apatite-rich Dacite** dominated by plagioclase and biotite, with less apatite, ankerite, quartz, and magnetite. Irregular patches of extremely fine grain size are intergrown with coarser grained patches, possibly of replacement origin. In both zones are very abundant disseminated apatite grains of uncertain origin. Replacement patches are of quartz and less abundantly of pyrite-(quartz-biotite). Early veinlets and veins are dominated by ankerite with less pyrite, quartz, and chlorite. Late veins are dominated by Mineral Y with minor ankerite.

Sample 91-1 403.0 m is an **altered Porphyritic Dacite** containing phenocrysts of plagioclase and quartz in a groundmass dominated by plagioclase and sericite with less ankerite. Replacement patches are of quartz and of chalcopyrite-sericite-ankerite. Large veins and a few small veins are of quartz, calcite, montmorillonite(?), pyrite, and chalcopyrite. A few veinlets are of ankerite-(pyrite).

Sample 91-1 581.5 m is an **altered Dacite/Latite** containing minor phenocrysts of plagioclase, hornblende(?) and quartz in a groundmass dominated by plagioclase-sericite, with minor quartz, chlorite, and calcite/ankerite. Veins are of quartz with minor anhydrite, calcite/ankerite, and opaque. A zoned vein has a centerline of anhydrite, opaque, and calcite/ankerite. Late veinlets in the major quartz vein are of opaque and of calcite/ankerite.

Sample 91-1 626.25 m is a **Slightly Porphyritic Dacitic Andesite** containing minor phenocrysts of hornblende/plagioclase, plagioclase, and quartz in a groundmass dominated by plagioclase with interstitial chlorite and moderately abundant patches of magnetite. Early veins dominated by quartz with minor chalcopyrite and anhydrite are cut by late veins dominated by ankerite, chlorite, pyrite, magnetite, and chalcopyrite, with less anhydrite/gypsum and minor quartz.

Sample 91-1 635.0 m is an **Altered Porphyritic Andesitic Dacite** containing phenocrysts of hornblende, plagioclase, and quartz in a groundmass dominated by ankerite, plagioclase, and quartz, with minor sericite and opaque. Veins are of quartz with minor ankerite.

Sample 91-1 784.0 m is an **Altered Latite** dominated by very fine grained plagioclase altered moderately to sericite and kaolinite. Other minerals include minor quartz, chalcopyrite, and Ti-oxide, and trace amounts of bornite and pyrite. Coarser grained replacement patches are dominated by muscovite/sericite, ankerite, and chalcopyrite. Veins are of quartz-plagioclase-muscovite-chalcopyrite-(bornite-pyrite-Ti-oxide).

Sample 91-2 65.5 m is an **altered Porphyritic Dacite** containing phenocrysts of plagioclase, quartz, and minor biotite and hornblende in an extremely fine grained groundmass of quartz and kaolinite. Replacement patches are of quartz-kaolinite. A large vein is of quartz-chalcopyrite-pyrite-muscovite-ankerite-(hematite-native gold). Smaller veins and veinlets are of ankerite-kaolinite or ankerite.

Sample 91-2 155.5 m is a **strongly altered Porphyritic Latite/Dacite** containing phenocrysts of plagioclase, hornblende, and biotite in a groundmass dominated by quartz, sericite, and ankerite with minor kaolinite. Veins are dominated by quartz and ankerite, with less abundant chalcopyrite, pyrite, kaolinite, and muscovite, and minor chalcocite, bornite, and galena. A few veinlets are of ankerite.

Sample 91-2 322.67 m is a **Slightly Porphyritic Hypabyssal Dacite** containing minor phenocrysts of plagioclase in a groundmass dominated by plagioclase with less quartz and biotite. Veinlets of apatite, chalcopyrite-quartz, pyrite, and ankerite are cut by late veinlets of calcite. A major vein is of ankerite and chalcopyrite, with less abundant quartz and chlorite, and minor pyrite and hematite.

Sample 91-2 446.67 m is a **Hornfelsed, Slightly Porphyritic Latite** containing small phenocrysts of plagioclase in a groundmass of plagioclase and biotite with minor quartz. Replacement patches are of one or more of quartz, anhydrite, biotite, and opaque. Veins and veinlets are of quartz-ankerite-gypsum/anhydrite-(biotite-opaque), ankerite-(anhydrite), and quartz-apatite-opaque-(biotite). A late veinlet is of Mineral Y and minor anhydrite.

Sample 91-2 520.2 m is a **Dacite** containing minor phenocrysts of plagioclase and quartz in a groundmass dominated by plagioclase with much less biotite. The rock is replaced in diffuse to sharply defined patches up to a few cm across by 1) sericite and 2) biotite with disseminated patches of chalcopyrite. The origin of the patches is uncertain. Veins are of quartz- (biotite-chalcopyrite), plagioclase-chalcopyrite-(quartz-calcite) and Mineral Y-ankerite.

Sample 91-2 573.4 m is a **strongly altered Latite** with a variable texture. Scattered patches of relic plagioclase are enclosed in an unoriented aggregate of sericite/ muscovite, with much less quartz, ankerite, and opaque (pyrite). A main vein is of pyrite with a border zone of quartz-(muscovite), and a halo containing abundant tourmaline. A few veinlets are of quartz-muscovite-(opaque-ankerite). Late veinlets and patches are of ankerite and ankerite-kaolinite.

Sample 91-2 792.2 m is a **Latite Dust Tuff** dominated by extremely fine grained plagioclase with less ankerite and minor pyrite and sericite. Early veins are of quartz with minor ankerite. A later vein of quartz, ankerite, less muscovite, pyrite, and plagioclase has a moderate sericitic halo. Late veins are of quartz-ankerite-pyrite-muscovite.

Sample 91-2 793.65 m is a **Porphyritic Dacite** containing phenocrysts of plagioclase, less abundant quartz, and minor biotite in an extremely fine grained groundmass dominated by plagioclase with much less quartz. Disseminated alteration is moderate to ankerite and sericite. Anhydrite forms anhedral porphyroblasts and irregular replacement patches. Early veinlets are of anhydrite, chalcopyrite, ankerite, and quartz. A late vein of chalcopyrite-ankerite-Mineral Y-quartz-(muscovite) has a patchy, chalcopyrite-rich halo.

Sample 91-3 60.0 m is a fine **Latite/Dacite Tuff** dominated by fragments of plagioclase and much less chlorite and quartz, in a groundmass dominated by plagioclase/quartz with minor disseminated magnetite. Alteration of plagioclase fragments is moderate to sericite-(ankerite). Patches up to 10 mm across (in hand sample), possibly of replacement origin, are dominated by chlorite, muscovite/sericite, and quartz, with minor magnetite. A veinlet is dominated by hematite/ magnetite with less quartz and minor chlorite, muscovite, and chalcopyrite. A vein is dominated by chlorite and muscovite with much less quartz and minor chalcopyrite. Veinlets of quartz and pyrite have prominent halos of sericite.

Sample 91-3 99.Ø m is a **Latite Tuff** containing scattered very fine grains of quartz and plagioclase in an extremely fine grained groundmass of plagioclase altered moderately to sericite and ankerite and much less chlorite. Early veins and stringers of quartz-muscovite are cut by veins of chlorite-muscovite-quartz, and both are cut by a late vein of ankerite. Replacement patches of chlorite-muscovite-quartz may be related in origin to the veins of similar composition and texture.

Sample 91-3 293.5 m is a **Porphyritic Dacite** containing phenocrysts of plagioclase and minor ones of quartz, apatite, and biotite in a groundmass dominated by secondary quartz, sericite/muscovite and ankerite, with interstitial patches of kaolinite and minor disseminated chalcopyrite. A vein is dominated by quartz, ankerite, pyrite and chalcopyrite-(bornite), with minor muscovite. A veinlet is of ankerite.

Sample 91-3 373.Ø m is a **Dacite Tuff** dominated by very fine grained plagioclase altered moderately to sericite-ankerite, and much less abundant quartz, with some patches containing abundant apatite. Replacement patches are of several types, dominated by quartz, plagioclase, biotite, chalcopyrite, bornite, and gypsum. A few types of veins cut the rock; some earlier ones are dominated by quartz with less abundant plagioclase, muscovite, kaolinite, and ankerite. A later vein is dominated by ankerite and pyrite with less abundant chalcopyrite and quartz.

Sample 91-3 374.5 m is a **Hypabyssal Diorite/Andesite** with fragments of fine grained **Diorite**. The hypabyssal diorite is dominated by plagioclase, which is altered moderately to sericite and ankerite. Veins and replacement patches are of quartz-chlorite-opaque-(gypsum-plagioclase. Veinlets are of ankerite-(chlorite) and of gypsum.

Sample 91-4 239.2 m is a **strongly altered Porphyritic Dacite** containing phenocrysts of plagioclase (altered completely to sericite-[ankerite]), minor ones of quartz and scattered mafic patches dominated by ankerite, with less Ti-oxide, muscovite, and opaque in a strongly altered groundmass dominated by quartz with less abundant sericite and ankerite. Veinlets are dominated by pyrite with minor quartz and muscovite.

Sample FL-81-8 43.Ø m is a **Latite/Dacite** dominated by very fine grained plagioclase and less quartz with less ankerite and chlorite, and minor opaque. It contains replacement patches of chlorite-muscovite-ankerite-pyrite. Early pyrite seams and veins of pyrite-quartz-ankerite-apatite and quartz are truncated and offset along later veins dominated by carbonate with minor kaolinite.

Sample FL-81-8 56.1 m is a **Porphyritic Hypabyssal Dacite** containing phenocrysts of plagioclase, quartz and minor biotite in a groundmass of plagioclase, quartz, biotite, and opaque. Plagioclase is altered moderately to sericite-carbonate. Minor replacement patches are of carbonate-(opaque). Carbonate is both ankerite and calcite. Veinlets are of calcite.

Sample FL-81-8 245.Ø m is a **Porphyritic Dacitic Andesite Flow** containing phenocrysts of plagioclase and minor hornblende and unusual patches of apatite-chlorite in a groundmass dominated by plagioclase. Abundant replacement or recrystallized patches are dominated by plagioclase and chlorite with less abundant epidote, muscovite, and quartz, and minor apatite. Veins are of quartz-chlorite and of Mineral Y-(calcite). Veinlets are of calcite.

Sample FL-81-9 44.Ø m is a **Hypabyssal Quartz Diorite Porphyry** containing phenocrysts of plagioclase and mafic clusters dominated by biotite and magnetite in a groundmass dominated by quartz, plagioclase, and biotite. A veinlet is of quartz with less biotite and opaque, and minor calcite and kaolinite.

Sample FL-81-13 160 m is the **Contact** between a **Hornfelsed Porphyritic Dacite/Andesite(?)** and a **Hypabyssal Quartz Diorite.** The hypabyssal quartz diorite contains plagioclase and biotite megacrysts in a groundmass dominated by quartz, plagioclase, biotite, and opaque. It has a sharp to gradational contact with a metamorphosed porphyritic dacite contains phenocrysts(?) of plagioclase in a groundmass dominated by plagioclase and biotite. Veins and veinlets are of quartz with much less abundant plagioclase biotite and opaque, and minor apatite.

Sample FL-81-14 123.Ø m is a **Bedded Latite Tuff** in which most layers are dominated by extremely fine grained plagioclase with minor quartz, sericite, ankerite, and opaque. A few coarser grained plagioclase-rich layers are replaced moderately by patches of muscovite and minor Ti-oxide and apatite. Wispy veinlets are of Ti-oxide.

Sample FL-81-14 219.5 m is a **Latite Tuff** dominated by very fine grained plagioclase altered slightly to sericite and replaced moderately by ankerite porphyroblasts. A layer 2 mm wide is of quartz-muscovite. Replacement patches are mainly of chlorite-apatite-Ti-oxide; one is of quartz-chlorite-muscovite-(opaque).

Sample FL-81-14 280.Ø m is a **Bedded Latite Dust/Fine Tuff.** Most of the sample is a massive latite dust tuff dominated by plagioclase-sericite. At one end is a layer of medium latite tuff containing fragments of latite tuff in a dust tuff groundmass. Gash-filling veinlets are dominated by muscovite with much less ankerite and minor chlorite and opaque.

Sample FL-81-14 293.5 m is a **Porphyritic Latite/Andesite** containing phenocrysts of plagioclase in a groundmass dominated by extremely fine grained plagioclase. Abundant replacement patches are of chlorite-tourmaline-apatite-pyrite-plagioclase-quartz-Ti-oxide. Minor veinlets are of ankerite.

Sample FL-81-14 351.95 m is a **Porphyritic Dacite** containing phenocrysts of plagioclase and minor quartz in a groundmass dominated by extremely fine grained plagioclase altered moderately to sericite and ankerite. Ankerite also forms porphyroblasts. Replacement patches are of chlorite, quartz, ankerite, pyrite, and Ti-oxide, with minor apatite and trace chalcopyrite. A vein and veinlet are of calcite/ankerite.

Sample FL-81-19 155.5 m is a **strongly altered Porphyritic Hypabyssal Dacite** containing phenocrysts of plagioclase, biotite and hornblende in an altered groundmass dominated by quartz with less abundant muscovite and ankerite. Two subparallel, zoned veins are dominated by rims of early formed and granulated ankerite and cores of undeformed ankerite-calcite, with or without pyrite. Abundant wispy seams of pyrite are subparallel to the main veins. Late veinlets are of calcite.

Sample FL-81-19 280.4 m is an **altered Dacite(?)** dominated by very fine grained plagioclase (altered moderately to sericite and less ankerite) with minor interstitial quartz and disseminated pyrite. Abundant coarser grained patches are of muscovite/sericite-quartz-ankerite-(pyrite). A zoned vein is of ankerite with a core of pyrite. Smaller veins and veinlets are of quartz-(muscovite) and of pyrite-(quartz-muscovite).

Sample FL-81-19 282.0 m is a **strongly altered Latite(?)** dominated by sericite. A major vein is of quartz-ankerite-pyrite-clay(?). Several veinlets are of quartz-pyrite-(muscovite).

Sample FL-81-19 314.0 m is an **altered Porphyritic Rhyodacite Tuff(?)** containing phenocrysts of quartz and minor ones of plagioclase in a very fine grained groundmass dominated by sericite and quartz, with less plagioclase, chlorite and ankerite. The patchy nature of the groundmass suggests a tuffaceous origin. Veins are of Mineral Y with very minor ankerite.

Sample FL-81-20 248.75 m is a **Hypabyssal Porphyritic Dacitic Andesite** containing phenocrysts of plagioclase, less hornblende and minor quartz in a very fine grained groundmass dominated by plagioclase with minor chlorite and ankerite. Replacement patches are dominated by muscovite, chlorite, pyrite and quartz. Veinlets are of ankerite.

Sample F-89-1 86.75 m contains relic patches of **Latite** dominated by plagioclase and a few patches of uncertain origin of very fine to fine grained plagioclase-(quartz). They are surrounded by very fine to fine grained replacement patches dominated by muscovite/sericite, chlorite, and quartz, with much less ankerite, pyrite, and Ti-oxide. A vein is of quartz-(muscovite) and a veinlet is of quartz.

Sample F-89-3 103.9 m is a **Latite Flow** containing minor phenocrysts of plagioclase in an extremely fine grained groundmass dominated by plagioclase. Very fine grained patches of plagioclase may be early magmatic segregations. Replacement patches are dominated by muscovite with much less quartz, ankerite, chalcopyrite, chlorite, and pyrite. A few veins and veinlets are of two or more of quartz, muscovite, ankerite, chalcopyrite, and pyrite. Wispy veinlets are of sericite and of ankerite.

Sample Q-73-1Ø 69.Ø m is a **Dacite/Latite Tuff(?)** containing altered phenocrysts(?) of plagioclase and minor grains of quartz in a groundmass dominated by very fine grained plagioclase altered moderately to strongly to ankerite-sericite. Magnetite forms disseminated clusters. Pervasive replacement patches are of quartz. A vein is dominated by quartz and ankerite, with less abundant magnetite, biotite, kaolinite, bornite and tetrahedrite. A few veinlets are dominated by ankerite. Pyrite forms a network of stringers which offset an earlier ankerite-rich veinlet and are cut by a late ankerite-rich veinlet.

Sample Q-73-1Ø 136.5 m is a **Hornfelsed Slightly Porphyritic Dacite** containing phenocrysts of plagioclase in a groundmass dominated by plagioclase and less biotite and quartz. Inclusions(?) are of several types, containing one or more of plagioclase, kaolinite/illite, biotite, quartz, chlorite, and apatite. Replacement patches are of quartz and pyrite, with minor to abundant biotite and chlorite. Veins are of quartz, quartz-plagioclase-kaolinite/illite, and kaolinite/illite-ankerite.

Sample Q-73-1Ø 248.Ø m is a **Porphyritic Hypabyssal Dacite** containing phenocrysts of plagioclase, quartz, and minor biotite and hornblende(?) and patches of magnetite in a groundmass dominated by albite. Inclusions are of hypabyssal diorite/quartz diorite composed of plagioclase, biotite, quartz. Replacement patches are dominated by quartz with less gypsum and much less chalcopyrite-(bornite-tetrahedrite-Ti-oxide). A vein and veinlet are dominated by quartz, gypsum, chalcopyrite, and ankerite. A veinlet is of ankerite.

Sample Q-73-1Ø 250.75 m is a **Hornfelsed(?) Slightly Porphyritic Latite/Dacite** containing scattered phenocrysts of plagioclase in a groundmass dominated by very fine grained plagioclase and biotite (altered completely to chlorite-(Ti-oxide-ankerite). Quartz forms minor pervasive replacement patches. Early veins of quartz-pyrite-ankerite-(muscovite-apatite-plagioclase-Mineral Y) are cut by later veinlets of ankerite with minor quartz and apatite.

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Sample DDH 91-1 103.5 m Porphyritic Dacite: Sericite/Muscovite-Ankerite Alteration; Veins of Quartz-(Opaque-Muscovite) and a Veinlet of Kaolinite-Ankerite

Phenocrysts of plagioclase and less abundant ones of quartz are set in an extremely fine grained groundmass dominated by plagioclase with less quartz and ankerite. Alteration of plagioclase is to sericite-ankerite. Veins are of quartz-(opaque-muscovite) and a veinlet is of kaolinite-(ankerite).

phenocrysts		replacement	
plagioclase	15-17%	quartz	4- 5%
quartz	4- 5		
groundmass		veins	
plagioclase	45-50	1) quartz	4- 5
quartz	8-10	opaque	0.7
kaolinite	5- 7	muscovite	0.1
ankerite	3- 4	2) kaolinite	0.3
Ti-oxide	0.5	ankerite	0.1
opaque	0.1		
apatite	trace	K = 2120	
zircon	trace	Mg = 6560	
		Al = 5320	Fe = 31080

Plagioclase forms subhedral to euhedral phenocrysts averaging 0.7-2 mm in size, and a few are up to 3 mm long. Alteration generally is strong to complete to intergrowths of extremely fine to very fine grained sericite/muscovite and ankerite. Some larger grains contain moderately abundant radiating aggregates of muscovite flakes averaging 0.1 mm long. One large phenocryst also contains a few anhedral grains up to 0.4 mm in size of apatite(?). In a few phenocrysts, irregular clusters of opaque grains averaging 0.03-0.08 mm in size occur with patches of ankerite.

Quartz forms a few anhedral to subhedral, equant phenocrysts, ranging from 1-2.5 mm in size, and one elongate grain 2.5 mm long. The margin of one anhedral grain is intergrown with groundmass quartz. A subhedral grain is cut by a veinlet 0.01-0.02 mm wide of calcite.

The groundmass is dominated by slightly interlocking plagioclase grains averaging 0.01-0.02 mm in size with interstitial grains and patches of kaolinite averaging 0.01 mm in grain size. Quartz forms disseminated grains averaging 0.02-0.05 mm in size. Ankerite forms irregular grains and patches averaging 0.02-0.05 mm in size. Opaque forms a few patches up to 0.5 mm long and disseminated grains averaging 0.03-0.05 mm in size.

Ti-oxide forms clusters up to 0.4 mm across of anhedral grains averaging 0.02-0.07 mm in size, commonly associated with sericite/muscovite, and possibly secondary after sphene.

Zircon forms a subhedral, rectangular grain 0.13 mm long by 0.1 mm wide.

Irregular patches up to 1.5 mm across of quartz averaging 0.03-0.10 mm in grain size may represent early siliceous replacement of the groundmass.

Veins up to 0.7 mm wide are dominated by quartz grains averaging 0.1-0.3 mm in size. Opaque forms anhedral patches up to 0.2 mm across. Muscovite forms scattered flakes up to 0.08 mm long.

One veinlet up to 0.3 mm wide is dominated by extremely fine grained kaolinite with patches of ankerite along its margins.

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Sample 91-01 128.62 m **Hypabyssal Quartz Diorite; Ankerite-Kaolinite-(Sericite) Alteration; Replacement Patches of Chalcopyrite-(Quartz-Calcite-Bornite); Veinlets of Ankerite-Chalcopyrite, Ankerite-Kaolinite, Quartz-Calcite-Apatite, and a Late Veinlet of Calcite**

Phenocrysts of plagioclase are set in a groundmass of quartz, plagioclase, and biotite, with minor magnetite and chalcopyrite. A mafic inclusion is dominated by biotite, less quartz, and minor apatite. Plagioclase and biotite are altered to ankerite and kaolinite, mainly in one half of the section. Minor replacement patches are dominated by chalcopyrite with much less quartz and minor ankerite and bornite and a trace of apatite and molybdenite. Early veinlets of ankerite-chalcopyrite, ankerite-kaolinite, and quartz-calcite-apatite are cut by a late veinlet of calcite.

phenocrysts			
plagioclase	50-55%		
groundmass			
quartz	20-25	chalcopyrite	0.2%
biotite	8-10	bornite	trace
plagioclase	8-10	molybdenite	trace
magnetite	1		
inclusion			
biotite-quartz-(apatite)	1- 2		
replacement patches			
chalcopyrite	1	bornite	trace
quartz	0.2	apatite	trace
carbonate	0.1	molybdenite	trace
veinlets			
quartz-calcite-apatite		0.2%	
ankerite-kaolinite		0.2	
ankerite-chalcopyrite-(quartz)		0.1	
calcite (late)		0.3	

K= 2730
Mg = 16970
Al= 9930

Plagioclase forms euhedral to subhedral phenocrysts averaging 0.7-2.0 mm in size. Many show strong compositional zoning from more calcic cores to more sodic rims; composition range is andesine to andesine/oligoclase. Alteration varies strongly. At one end it is slight to moderate to ankerite with minor to moderately abundant disseminated flakes of sericite. At the other end it is moderate to complete to ankerite and patches of kaolinite.

One patch up to 3.5 mm across is of very fine grained biotite (altered strongly to ankerite and kaolinite) and quartz, with less abundant sericite, and minor calcite and magnetite. It may be an inclusion of a more mafic metamorphic rock.

The groundmass contains scattered plagioclase grains averaging 0.2-0.4 mm in size and altered slightly to ankerite. Interstitial patches are dominated by grains of quartz averaging 0.2-0.5 mm in size, which contain abundant disseminated patches of plagioclase altered slightly to strongly to ankerite. Quartz also forms single grains and clusters of a few grains averaging 0.1-0.2 mm in size, which are free of plagioclase inclusions.

(continued)

Biotite is concentrated in patches averaging 0.5-1.5 mm across as aggregates of grains averaging 0.03-0.06 mm in size. The grain size and texture suggests that biotite is secondary. Pleochroism is from pale to medium brown. Alteration varies from fresh at one end to complete to ankerite and kaolinite with minor to moderately abundant quartz and minor calcite at the other. Associated with some of these clusters are minor to abundant grains and clusters of apatite averaging 0.03-0.1 mm in grain size, magnetite averaging 0.05-0.1 mm in size, and zircon averaging 0.03-0.05 mm in size. Some clusters also contain replacement patches up to 0.5 mm in size of chalcopyrite-(bornite).

Magnetite forms disseminated, subhedral grains averaging 0.1-0.2 mm in size; alteration is strong to complete to hematite. Chalcopyrite forms disseminated grains averaging 0.05-0.3 mm in size. Molybdenite forms disseminated grains averaging 0.03-0.05 mm in size.

Several replacement patches up to 1.3 mm in size are dominated by chalcopyrite with much less quartz, carbonate, and apatite. The largest patch of chalcopyrite contains minor, extremely fine grained bornite along one border and a few inclusions 0.015-0.02 mm across of molybdenite.

A veinlet 0.05 mm wide is of extremely fine grained ankerite and patches of chalcopyrite, with minor quartz. A veinlet averaging 0.1 mm wide is of quartz, calcite, and apatite. A veinlet averaging 0.05-0.1 mm wide is of ankerite and less abundant patches of kaolinite. A late veinlet 0.05-0.07 mm wide is of calcite.

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Sample DDH 91-1 222.5 m **Porphyritic Latite;**
Sericite-Ankerite-Pyrite-Quartz Alteration;
Early Veins of Quartz-Ankerite-Opaque-Muscovite-(Kaolinite);
Late Vein of Ankerite-Pyrite-(Quartz-Kaolinite)

Phenocrysts of plagioclase and hornblende are set in a groundmass dominated by plagioclase, ankerite, and sericite/muscovite. Phenocrysts are altered completely to sericite/muscovite and ankerite; those of hornblende also contain secondary Ti-oxide and primary apatite. Replacement patches are of quartz and of pyrite-ankerite-sericite/muscovite. Early veins of quartz-ankerite-(opaque-muscovite-kaolinite) are cut by later ones of ankerite-pyrite-(quartz-kaolinite).

phenocrysts		veins	
plagioclase	12-15%	1) quartz	2- 3%
hornblende(?)	4- 5	ankerite	1
groundmass		opaque	Ø.2
plagioclase	5Ø-55	muscovite	Ø.1
sericite	1Ø-12	kaolinite	minor
ankerite	7- 8		
quartz	5- 7	2) ankerite	2- 3
opaque	1	pyrite	1- 2
apatite	Ø.2	quartz	Ø.3
replacement patches		kaolinite	minor
quartz	4- 5		
ankerite	1- 2	K = 1610	
opaque	1- 2	Mg = 13820	
muscovite/sericite	Ø.5	Al = 4310	

Plagioclase forms scattered subhedral phenocrysts up to 2.5 mm in size. Alteration is strong to complete to sericite and/or muscovite and much less abundant patches of ankerite. A few also contain minor anhedral opaque inclusions averaging Ø.Ø2-Ø.Ø5 mm in size.

Hornblende(?) forms subhedral phenocrysts averaging 1.5-2.5 mm in size. These are altered completely to aggregates of feathery sericite/muscovite and less ankerite, with minor to moderately abundant patches of Ti-oxide. Associated with several of these are ragged grains of apatite. The combination of Ti-oxide and apatite suggest that these originally were hornblende rather than plagioclase.

The groundmass contains anhedral, equant plagioclase grains averaging Ø.1-Ø.2 mm in size. These are replaced slightly to moderately by sericite and ankerite, and are intergrown with patches of sericite and of ankerite, such that the original groundmass texture commonly is obscure.

Patches up to Ø.3 mm in size consists of intergrowths of very fine grained Ti-oxide, sericite and ankerite; these may be after original sphene grains.

Apatite forms scattered anhedral grains up to Ø.5 mm in size.

Quartz forms irregular patches of grains averaging Ø.Ø5-Ø.2 mm in grain size; these probably are of replacement origin. A few replacement patches up to 2 mm in size are dominated by cores of opaque surrounded by irregular rims of ankerite and muscovite, with locally minor quartz or kaolinite.

(continued)

A vein up to 1.3 mm wide is dominated by fine grained quartz and ankerite with less abundant patches consisting of opaque grains intergrown with flakes of muscovite. Kaolinite forms an interstitial patch up to 0.6 mm across of equant flakes averaging 0.02 mm in size.

Another vein averaging 0.5-0.8 mm wide is dominated by patches of quartz and others of ankerite, with grain size averaging 0.1-0.3 mm.

A smaller vein is dominated by quatrz with much less ankerite and minor kaolinite and opaque.

These veins are offset along a composite vein which averages 0.5-1.7 mm wide. It is dominated by anhedral ankerite grains, which average 0.2-0.5 mm in size and show wavy extinction. Less abundant are interstitial lenses of very fine grained quartz and others of opaque (pyrite). On one side of the vein is a band up to 0.5 mm wide dominated by subhedral opaque (pyrite) grains averaging 0.1-0.5 mm in size. Some pyrite grains have thin halos of ankerite in comb textures extending outwards from pyrite crystal faces. Associated with pyrite are a few broken grains of apatite up to 0.7 mm in length, possibly inclusions of the host rock. The vein is lensy, and where it is narrowest and locally disappears, the fracture is occupied by narrow seams and lenses of extremely fine grained kaolinite.

A few other discontinuous veinlets up to 0.2 mm wide and subparallel to this vein zone are dominated by subhedral opaque (pyrite) grains.

67110

Sample 91-1 226.3 m **Hypabyssal Porphyritic Dacite: Strong Ankerite-Sericite-Kaolinite Alteration; Vein of Quartz-Ankerite-Muscovite-Kaolinite**

Phenocryst of plagioclase, and minor ones of quartz, and biotite are set in a groundmass of plagioclase and quartz, with minor ankerite and sericite. Plagioclase phenocrysts are altered to ankerite-sericite-kaolinite. Biotite phenocrysts are altered to muscovite-ankerite-quartz-kaolinite. A major, zoned vein has an outer zone dominated by quartz and a core dominated by ankerite with lenses of muscovite and interstitial patches of kaolinite.

phenocrysts		vein	
plagioclase	12-15%	ankerite	20-25%
biotite	1- 2	quartz	10-12
quartz	1	muscovite	4- 5
groundmass		kaolinite	3- 4
plagioclase	25-28	pyrite	0.2
quartz	10-12		
ankerite	2- 3		
biotite	1- 2		
apatite	0.3		

K = 2740
Mg = 11480
Al = 6110

Plagioclase forms subhedral to euhedral phenocrysts averaging 1-3 mm in size. Alteration is complete, more commonly to aggregates of ankerite and sericite, and less commonly to extremely fine grained kaolinite with abundant patches and seams of ankerite-sericite.

Biotite forms anhedral to subhedral phenocrysts averaging 0.3-0.7 mm in size. Alteration is complete to pseudomorphic muscovite, lenses of ankerite, abundant patches of quartz, and minor ones of kaolinite. One grain 1.2 mm in size near the vein is altered to quartz with less abundant kaolinite and ankerite. Kaolinite occurs as pseudomorphs after muscovite and as patches of equant, extremely fine grained flakes. One patch 1.7 mm across in the vein is probably an altered mafic phenocryst. It consists of an aggregate of very fine to fine grained quartz, patches of kaolinite and of ankerite, and moderately abundant opaque.

Quartz forms two adjacent phenocrysts up to 1.7 mm in size enclosed in the vein.

The groundmass is dominated by plagioclase and less abundant quartz grains averaging 0.01-0.02 mm in size. Ankerite-(sericite) forms irregular patches averaging 0.05-0.1 mm in size, probably as replacements of plagioclase. Biotite forms disseminated flakes averaging 0.1-0.3 mm in size, which are altered as in the phenocrysts. Apatite forms disseminated anhedral grains averaging 0.05-0.15 mm in size, and a few up to 0.3 mm across. Ti-oxide forms a few patches up to 0.3 mm across of very fine grained aggregates.

The vein has border zones up to 1 mm wide of quartz which ranges from zones averaging 0.02-0.03 mm in size near the margin to patches and zones averaging 0.1-0.2 mm in size towards the core. Ankerite forms a few porphyroblasts up to 1 mm in size. Pyrite forms subhedral, disseminated grains averaging 0.2-0.5 mm in size, in part associated with patches of ankerite. In a few seams up to 0.1 mm wide, quartz is sheared moderately and recrystallized to much finer subgrain aggregates.

(continued)

Much of the core of the vein is of fine grained ankerite, with minor to locally moderately abundant patches of extremely fine grained kaolinite and minor irregular patches and lenses of very fine grained opaque (pyrite?).

A few lenses up to 1 mm wide, mainly between the quartz-rich border zone and the ankerite-rich core are of very fine grained muscovite. Muscovite also forms much smaller, irregular patches in both the quartz-rich and ankerite-rich zones.

A vein 0.3 mm wide and a few veinlets from 0.05-0.2 mm in width are of very fine grained quartz and much less abundant patches of extremely fine grained kaolinite. The vein cuts across the finer grained quartz part of the large vein and grades into the coarser grained quartz in the main vein.

The finer grained quartz border zone of the vein and the rock are cut by veinlets up to 0.1 mm wide of ankerite; these probably are related to the ankeritic core of the main vein.

A lens 1.5 mm long and 0.05-0.1 mm wide of pyrite occurs along one border of the vein.

67127

Sample 91-1 260.8 m **Altered Porphyritic Dacite/Latite: Sericite-Quartz-Ankerite Alteration; Veins of Quartz-Pyrite-Chalcopyrite-Ankerite-Muscovite, Ankerite, and Illite; Veinlets of Quartz, Pyrite, and Illite**

Phenocrysts of plagioclase (altered completely to sericite) are set in a groundmass of extremely fine grained plagioclase/sericite-quartz-(pyrite). Minor replacement patches are of quartz-muscovite. Abundant veinlets are of quartz and of pyrite. Veins are of quartz-pyrite-chalcopyrite-ankerite-muscovite and ankerite. Illite forms veins, veinlets, and lenses.

K = 1750
Mg = 4410
Al = 5400

phenocrysts	
plagioclase	8-10%
biotite(?)	minor
groundmass	
plagioclase/sericite	60-65
quartz	15-17
pyrite	1
apatite	0.3
chalcopyrite	0.1
replacement patches	
quartz-muscovite-(pyrite-ankerite)	1- 2
veins, veinlets, lenses	
quartz veinlets	2- 3
pyrite veinlets	1- 2
quartz-pyrite-chalcopyrite-ankerite-muscovite vein	1
ankerite vein	0.3
illite veins, veinlets, lenses	3- 4

Plagioclase forms subhedral to euhedral phenocrysts averaging 0.7-1.5 mm in size. Alteration is complete to extremely fine grained sericite and less commonly to very fine grained sericite/muscovite or sericite-ankerite.

Biotite(?) forms a few flakes up to 0.8 mm long. Alteration is complete to very fine grained aggregates of muscovite and disseminated patches of pyrite.

The groundmass is dominated by quartz and plagioclase grains averaging 0.01-0.02 mm in size. Plagioclase is altered moderately to strongly to sericite. Pyrite forms disseminated, subhedral grains averaging 0.05-0.1 mm in size and a few anhedral aggregates up to 0.8 mm across and euhedral porphyroblasts up to 0.3 mm across. A few extremely fine grained pyrite patches up to 0.2 mm in size may be secondary after marcasite/pyrrhotite. Ankerite forms scattered replacement patches up to 05 mm in size; they may be related in origin to the ankerite vein. Apatite forms disseminated, anhedral to euhedral grains averaging 0.1-0.25 mm in size. Chalcopyrite forms disseminated patches averaging 0.02-0.05 mm in size, and a few up to 0.25 mm across. Ti-oxide forms patches up to 0.5 mm in size of extremely fine grains intergrown with silicates and replaced moderately by chalcopyrite, pyrite, and pyrrhotite(?).

Replacement patches averaging 0.3-0.8 mm in size are of very fine grained quartz with or without minor to moderately abundant muscovite, and locally with ankerite and pyrite and minor Ti-oxide. Textures of a few suggest that they may be strongly altered hornblende(?) phenocrysts.

(continued)

Several discontinuous veinlets averaging 0.05-0.1 mm wide are of very fine grained quartz. A discontinuous early veinlet averaging 0.1-0.2 mm wide is dominated by quartz grains averaging 0.05-0.1 mm in size and contains minor pyrite and sericite.

Pyrite forms abundant wispy veinlets averaging 0.01 mm wide and related disseminated patches of extremely fine grains.

A discontinuous vein up to 0.8 mm wide is dominated by very fine to fine grained quartz with patches of pyrite, chalcopyrite, ankerite and clusters of feathery muscovite flakes. A few pyrite grains are fractured and fractures are filled by ankerite and minor chalcopyrite.

A vein up to 0.4 mm wide, partly removed from the section consist of extremely fine grained illite. A subparallel vein of similar width is of very fine grained ankerite. Illite also forms wispy veinlets averaging 0.05-0.1 mm in width. In the hand sample, lenses up to several mm long are of illite/sericite(?); these have been lost from the section during sample preparation.

67137

Sample 91-1 282.25 m **Latite Dust Tuff; Abundant Replacement Patches of Muscovite-Quartz-Plagioclase; Vein of Quartz-Muscovite-Pyrite-Chalcopyrite, Veinlets of Kaolinite/Ankerite and Pyrite**

The host rock is dominated by plagioclase with common ankerite porphyroblasts. It is replaced by patches of muscovite, quartz, less plagioclase, and minor ankerite and pyrite. A vein is of quartz-muscovite-pyrite-chalcopyrite. Veinlets are of quartz-sericite-pyrite, kaolinite-ankerite and pyrite.

plagioclase/sericite	45-50%	chalcopyrite	0.1%
ankerite	5- 7	apatite	minor
pyrite	0.3	Ti-oxide/(hematite)	minor
quartz	0.3	bornite	trace
replacement patches			
muscovite	20-25	pyrite	1- 2
quartz	10-12	chalcopyrite	0.2
plagioclase	5- 7	Ti-oxide-(hematite)	0.1
ankerite	2- 3		
veinlets			
quartz-muscovite-pyrite-(chalcopyrite)	0.3%		
quartz-sericite-pyrite	0.1		
pyrite	minor		
kaolinite-ankerite	1		

K=7250
Mg=7320
Al=14880

The host rock is dominated by extremely fine grained plagioclase altered moderately to sericite. Ankerite forms ragged porphyroblasts averaging 0.07-0.15 mm in size. Pyrite forms disseminated, subhedral grains averaging 0.03-0.05 mm in size. Quartz forms disseminated grains averaging 0.02-0.03 mm in size. Apatite forms ragged grains averaging 0.1 mm in size.

Pyrite forms disseminated euhedral to anhedral grains averaging 0.05-0.1 mm in size, and a few up to 0.8 mm across. It forms a few clusters up to 0.6 mm in size of very fine grained aggregates with minor to moderately abundant interstitial silicates. A few pyrite grains contain minor irregular inclusions up to 0.03 mm in size of chalcopyrite or much more rarely chalcopyrite-bornite.

Chalcopyrite forms disseminated patches averaging 0.02-0.07 mm in size, and a few up to 0.5 mm across intergrown finely with ankerite.

Ti-oxide forms disseminated, commonly tabular grains averaging 0.03-0.07 mm long. It forms a few patches up to 0.2 mm in size in which it contains abundant exsolution plates of hematite.

Equant, in part subrounded replacement patches up to a few mm in size are of very fine to fine grained quartz, muscovite, and plagioclase. One contains a patch 1 mm in size of slightly interlocking plagioclase grains averaging 0.2-0.7 mm in size. Some contain minor to moderately abundant patches of one or more of ankerite, apatite, pyrite, and chalcopyrite, and Ti-oxide. In one patch is a cluster 0.4 mm across of extremely fine Ti-oxide grains intergrown with quartz.

A vein averaging 0.2-0.3 mm wide and a discontinuous veinlet averaging 0.1-0.15 mm wide are of quartz, muscovite, pyrite, and chalcopyrite. A few veinlets 0.03 mm wide are of quartz with minor patches of chalcopyrite. A veinlet 0.05 mm wide is of quartz-sericite with patches of pyrite.

(continued)

Pyrite is concentrated in a wispy, discontinuous veinlet averaging 0.03-0.05 mm in width, and locally up to 0.5 mm across. A few wispy stringers averaging 0.01 mm wide are of pyrite.

A vein up to 0.4 mm wide along the major fracture in the section is of extremely fine grained kaolinite with patches of very fine grained ankerite/calcite. A few wispy veinlets ranging from 0.01-0.15 mm wide are of extremely fine grained kaolinite and minor ankerite. The widest contains a patch of strongly granulated pyrite.

67145

Sample 91-1 297.5 m **Dacite/Latite Lapilli Tuff: Sericite-Ankerite-Chlorite Alteration; Replacement Patches of Muscovite/Sericite, Chlorite, Quartz; Veins of Quartz-Chlorite-Opaque-(Muscovite-Gypsum[?]); Vein of Gypsum-Ankerite**

The rock contains fragments averaging 1.5-7 mm across of a few volcanic and hypabyssal rock types in a groundmass dominated by plagioclase with less chlorite and sericite. Alteration to sericite, ankerite, chlorite, and quartz has obscured many fragment borders. Plagioclase phenocrysts in fragments of porphyritic latite are replaced by sericite. Replacement patches are of two or more of muscovite/sericite, chlorite, and quartz, with minor ankerite and Ti-oxide. A vein and veinlet are dominated by quartz with minor to moderately abundant chlorite and opaque, and minor muscovite, ankerite, apatite, and gypsum(?). A vein is of gypsum-ankerite.

K=3320
Mg=21780
Al=24030

identifiable fragments			
hypabyssal diorite(?)	8-10%		
porphyritic latite	4- 5		
quartz phenocrysts	1		
groundmass			
plagioclase	35-40	ankerite	1- 2%
sericite	4- 5	Ti-oxide	1- 2
chlorite	4- 5		
replacement patches			
quartz	10-12	ankerite	0.5
muscovite/sericite	15-17	Ti-oxide	0.2
chlorite	4- 5	pyrite	minor
veins			
quartz-chlorite-opaque-(muscovite-ankerite-apatite)	3- 4		
gypsum(?)-ankerite	1		

Fragments of hypabyssal diorite consist of intergrowths of fine to very fine grained plagioclase with patches of secondary chlorite, sericite, and less Ti-oxide, possibly after hornblende and/or plagioclase.

A few fragments of porphyritic latite contain subhedral to euhedral plagioclase phenocrysts averaging 0.7-1 mm long in a groundmass of extremely fine grained plagioclase. Alteration of phenocrysts is complete to sericite or sericite/muscovite with minor Ti-oxide.

Quartz forms anhedral grains averaging 0.5-0.8 mm in size which may be phenocrysts.

The groundmass is dominated by extremely fine to very fine grained plagioclase, with less abundant sericite and chlorite, either as disseminated flakes or dense patches. Ankerite forms disseminated, extremely fine grained patches, probably secondary after plagioclase. Ti-oxide forms patches up to 0.2 mm across of extremely fine grained aggregates intergrown with silicates, mainly chlorite and/or sericite.

Replacement patches up to a few mm across of uncertain origin are of muscovite/sericite-chlorite-(ankerite-Ti-oxide). A few are of muscovite-chlorite-gypsum(?)-ankerite. Others are of quartz-chlorite-muscovite-(Ti-oxide). Some of these may represent altered, fine grained fragments of hypabyssal diorite.

Quartz forms numerous replacement patches up to 1.5 mm in size of submosaic to granular aggregates averaging 0.05-0.1 mm in grain size.

(continued)

A vein up to 1.5 mm wide is dominated by fine grained quartz with several patches of chlorite and a few of opaque, muscovite, and apatite. Locally the core of the vein is empty, and is bordered by euhedrally terminated quartz grains. The core was filled with gypsum. A similar veinlet averaging 0.2-0.4 mm wide is of quartz, chlorite, and opaque.

A vein up to 0.6 mm wide is of gypsum (almost entirely removed from the section) and ankerite. A wispy veinlet averaging 0.03-0.05 mm wide is of extremely fine grained ankerite.

67175

Sample DDH 91-1 357.0 m **Strongly Altered Rock: Quartz-Sericite-Calcite/Ankerite-(Pyrite); Veins of Pyrite-Quartz-Tetrahedrite-Chalcopyrite-Calcite-Sericite-(Bournonite[?]-Native Gold); Vein of Gypsum-Mineral Y**

The sample is a strongly altered rock of uncertain origin, dominated by quartz and sericite/muscovite, with less calcite and disseminated sulfides, dominated by pyrite. It is cut and replaced by veins of quartz-calcite with patches of sulfides, dominated by pyrite, tetrahedrite and chalcopyrite, with minor native gold and two unknown metallic phases. Pyrite was formed early and was brecciated moderately to strongly. A late vein is of gypsum-MIneral Y.

K= 4610
Mg = 1990
Al= 7850

host rock			
quartz	17-20%		
sericite-(plagioclase)	17-20		
pyrite	4- 5		
calcite/ankerite	3- 4		
chalcopyrite	0.3		
tetrahedrite	0.3		
Ti-oxide	0.2		
kaolinite	minor		
apatite	minor		
veins			
pyrite	25-30	bournonite(?)	0.1%
quartz	8-10	native gold	minor
tetrahedrite	4- 5	Mineral X	minor
chalcopyrite	3- 4	sphalerite	minor
calcite	4- 5	galena	minor
sericite	0.5		
late vein			
gypsum-Mineral Y	2		

The host rock was altered strongly to completely to a very fine grained aggregate dominated by quartz and sericite/muscovite. Intergrown with sericite/muscovite may be minor relic plagioclase; it cannot be distinguished from quartz. Calcite/ankerite forms irregular replacement patches and veinlike zones up to 1.5 mm across of aggregates of ragged, very fine to fine grains.

Pyrite forms disseminated grains ranging from 0.05-1.0 mm in size. Some contain inclusions or veinlets of tetrahedrite-chalcopyrite, and others contain moderately abundant inclusions of silicates. Tetrahedrite and chalcopyrite commonly occur together as patches averaging 0.03-0.15 mm in size.

Kaolinite forms one patch 0.2 mm across of equant flakes averaging 0.005-0.01 mm in size.

Ti-oxide forms clusters up to 0.15 mm in size of extremely fine grains. Apatite forms scattered raged grains averaging 0.05-0.07 mm in size.

The main vein zone up to a few cm wide is dominated by patches of coarse grained quartz and pyrite, lesser ones of finer grained tetrahedrite/chalcopyrite, and interstitial calcite and quartz. Quartz commonly shows wavy extinction, and locally was brecciated strongly. Sericite forms clusters up to 0.7 mm across of feathery flakes as in the groundmass; these are intergrown with quartz in patches interstitial to pyrite.

(continued)

Pyrite was formed early, then was brecciated moderately to very strongly and fragments healed by calcite and quartz.

Tetrahedrite and less chalcopyrite are concentrated in a few patches several mm across in which they are intergrown coarsely with less abundant quartz and calcite. Tetrahedrite contains scattered, euhedral pyrite grains and clusters averaging 0.01-0.02 mm in grain size. Tetrahedrite and chalcopyrite also form veinlets and minor inclusions in coarse grained pyrite.

Where pyrite was brecciated most strongly, the breccia matrix contains several clusters of irregular grains of native gold averaging 0.01-0.02 mm in size, and a few grains up to 0.03 mm across. A few grains of native gold up to 0.025 mm in size occur as inclusions in pyrite grains near the most strongly brecciated zone of pyrite. A few veinlets in pyrite up to 0.1 mm long and 0.015 mm wide are dominated by native gold alone or intergrown coarsely with chalcopyrite and tetrahedrite.

A few patches up to 0.1 mm long consist of very fine grained intergrowths of two anisotropic phases of unknown composition. One of these resembles galena in color and texture, and may be bournonite. The other resembles pyrrhotite in color. Bournonite(?) also forms a few grains up to 0.1 mm in size intergrown with tetrahedrite.

Sphalerite forms a few grains up to 0.1 mm in size in pyrite. Some grains contain minor exsolution blebs of pyrrhotite.

Galena forms a very few grains up to 0.05 mm in size in quartz.

A vein 0.7 mm wide in the host rock is composed of fine grained intergrowths of quartz with much less ankerite and muscovite, and patches of sulfides, including subhedral pyrite grains surrounded by patches of tetrahedrite and/or chalcopyrite.

A late vein up to 1 mm wide of fine grained gypsum and Mineral Y cuts the most strongly brecciated zone of pyrite.

67177

Sample DDH 91-1 360.0 m **Strongly Altered Rock: Sericite-Quartz-Calcite/Ankerite-(Pyrite); Vein/Replacement Zone of Pyrite-Calcite-(Quartz-Tetrahedrite-Chalcopyrite-Muscovite-Native Gold)**

The host rock is altered completely to sericite with less quartz and minor patches of ankerite and disseminated grains of pyrite. It is replaced/cut by veins of pyrite with interstitial patches of calcite/ankerite-(quartz-muscovite-tetrahedrite-chalcopyrite-native gold). A late(?) vein is of calcite.

host rock			
sericite	25-30%	pyrite	1- 2%
quartz	4- 5	Ti-oxide	0.1
ankerite	1- 2	apatite	minor
replacement/vein			
pyrite	50-55	chalcopyrite	0.3%
calcite/ankerite	12-15	muscovite	0.3
quartz	3- 4	sphalerite	minor
tetrahedrite	1	native gold	*
late(?) vein			
calcite	0.2		

K-4840 Al-7920 Mg-2730

Much of the host rock is dominated by extremely fine to locally very and fine grained aggregates of feathery sericite and sericite/muscovite. Quartz forms irregular patches of anhedral grains averaging 0.1-1 mm in size, commonly intergrown along their borders with sericite. Ankerite forms patches up to 0.5 mm in size of grains averaging 0.1-0.3 mm across. Pyrite forms disseminated, subhedral to euhedral grains averaging 0.2-0.5 mm in size. Ti-oxide forms disseminated grains and clusters up to 0.2 mm in size of extremely fine grained aggregates intergrown with sericite or much less commonly with quartz. Apatite forms ragged grains averaging 0.05-0.15 mm in size, mainly associated with quartz.

Borders between the host rock and the replacement/vein zone generally are gradational, with increased abundance of calcite/ankerite, quartz, and pyrite towards the replacement/vein zone.

In the replacement/vein zone, pyrite forms clusters of ragged to locally subhedral grains ranging from 0.2-1 mm in size. Pyrite grains and aggregates commonly are fractured and brecciated coarsely, with interstitial patches dominated by calcite/ankerite with less abundant quartz and minor muscovite. Locally pyrite was brecciated more strongly; in a few patches, the fragments were healed by tetrahedrite. Chalcopyrite and tetrahedrite from inclusions up to 0.03 mm in size in pyrite grains, and occur in irregular patches interstitial to pyrite grains and in veinlets cutting pyrite. Native gold forms a grain 0.01 x 0.02 mm in size with a patch of quartz included in a pyrite grain.

A few patches up to 2 mm across are of fine grained tetrahedrite intergrown coarsely with calcite/ankerite. These contain minor to locally abundant chalcopyrite patches, mainly along borders of tetrahedrite and calcite/ankerite. Sphalerite forms a few grain up to 0.03 mm in size associated with tetrahedrite and chalcopyrite. Locally sphalerite grains form a thin rim between a grain of chalcopyrite and surrounding tetrahedrite.

Some interstitial calcite/ankerite patches consists of medium to coarse grained aggregates, which are slightly to moderately strained.

In one corner of the section is a vein 0.4 mm wide of very fine to fine grained calcite.

67179

Sample DDH-91-1 364.0 m **Minor Altered Latite: Sericite/Muscovite-Ankerite Alteration; Calcite-Pyrite Vein**

A band up to 1 mm wide contains discontinuous patches of altered latite(?), dominated by sericite/muscovite, less ankerite and plagioclase, and minor quartz, pyrite, and Ti-oxide. Most of the sample is a vein of medium to coarse grained calcite and patches of pyrite. Pyrite was brecciated slightly to strongly in irregular patches and a few seams; in these zones calcite is interstitial to pyrite.

host rock		
sericite/muscovite-ankerite-plagioclase-(quartz-pyrite-Ti-oxide)		4- 5%
vein		
calcite	55-60%	k = 5810
pyrite	35-40	
quartz	minor	
chalcopyrite	trace	
Mineral X	*	

The host rock is dominated by very fine grained, in part feathery sericite/muscovite aggregates. Ankerite forms irregular replacement, very fine grains and aggregates. Plagioclase forms patches of slightly to moderately intergrown grains averaging 0.02-0.05 mm in size. Quartz forms scattered grains averaging 0.02-0.05 mm in size. Pyrite forms extremely fine to very fine grained replacement patches. Ti-oxide forms a few clusters of extremely fine grains.

In the vein, calcite forms large patches of medium to very coarse grains which show no signs of deformation.

Pyrite forms anhedral grains averaging 0.5-1.5 mm in size. These are fractured slightly to moderately, and locally brecciated finely. Pyrite also forms very fine to fine grained aggregates with minor very fine grained, interstitial calcite. A very few coarse pyrite grains contain minor inclusions averaging 0.01 mm in size of chalcopyrite and of a grey, unidentified reflective phase, possibly argentite or galena.

Quartz forms minor patches up to 0.2 mm in size of extremely fine to very fine, slightly to moderately interlocking grains interstitial to coarse grained calcite and fine to medium grained pyrite.

67194

Sample DDH-91-1 395.4 m **Altered Dacite Tuff: Quartz-Sericite-Chlorite-Chalcopyrite Alteration and Replacement; Veins of Quartz-Gypsum-Chalcopyrite, Halo(?) of Plagioclase-Chlorite; Veinlets of Calcite/Ankerite-Chlorite**

Minor phenocrysts of quartz are set in a variable groundmass whose texture suggests that the original rock may have been fragmental. A major vein is of quartz-gypsum-chalcopyrite; gypsum-rich zones have halos of plagioclase-chlorite of uncertain origin. Other veinlets are of calcite/ankerite-chlorite.

phenocrysts	
quartz	1- 2%
groundmass	
quartz	25-30
sericite	20-25
plagioclase	17-20
chlorite	10-12
chalcopyrite	2
Ti-oxide	0.3
apatite	0.1
replacement patches	
sericite/muscovite-quartz-chalcopyrite-chlorite-(pyrite)	7- 8
veins	
quartz-gypsum-chalcopyrite-(calcite)	4- 5
plagioclase-chlorite halo(?)	1- 2
calcite/ankerite-chlorite	1- 2

K= 3160
Mg= 18690
Al= 20210

A few quartz patches up to 1.2 mm in size probably are original phenocrysts. The largest one is recrystallized slightly and cut by wispy veinlets of calcite.

The groundmass is variable in composition and texture. Much of it is dominated by intergrowths of extremely fine grained sericite, plagioclase, and quartz. In some patches, plagioclase forms subhedral to anhedral grains up to 0.2 mm in size; alteration of these is moderate to sericite. Quartz forms replacement patches up to 1.5 mm in size of submosaic grains averaging 0.02-0.03 mm in size.

Very fine to fine grained patches, probably in part of replacement origin, consist of intergrowths of sericite/muscovite, chlorite, quartz, and chalcopyrite. In these, chalcopyrite forms grains up to 0.2 mm in size, and commonly is intergrown intimately with sericite/muscovite and/or chlorite flakes. One replacement patch 1 mm across consists of very fine to fine grained quartz, chlorite, pyrite and chalcopyrite. Chlorite also forms a few patches up to 1 mm across. It is pale to light green in color, and generally contains disseminated patches of Ti-oxide.

Ti-oxide forms disseminated grains averaging 0.03-0.05 mm in size and a few clusters of much finer grained aggregates.

Chalcopyrite also forms disseminated patches averaging 0.03-0.05 mm in size.

Apatite forms anhedral grains averaging 0.1-0.3 mm in size.

(continued)

A vein up to 1 mm wide is patchy, with zones dominated by each of quartz, gypsum, and chalcopyrite. Calcite/ankerite forms disseminated patches in quartz and a few veinlets cutting quartz grains. Gypsum is concentrated in patches in the core of the vein, in part with chalcopyrite; commonly it is bordered by aggregates of fine grained plagioclase with interstitial chlorite, and locally it is bordered by subhedral to euhedral quartz grains. Although the plagioclase-chlorite aggregate occurs along the border, its texture is unusual, and is more typical of what would be expected in a fragment.

A few veinlets averaging Ø.1-Ø.3 mm wide are dominated by calcite/ankerite and less chlorite. Some of these broaden sharply into zones up to 1.5 mm wide in tension gashes; in these, carbonate grains commonly are oriented parallel to the length of the tension gash. Much of the chlorite appears to form a replacement of the host rock bordering the vein.

67/97

Sample 91-1 400.5 m **Altered Apatite-rich Dacite; Veins of Pyrite-Ankerite, Ankerite-(Chlorite), Ankerite-Quartz; Late Veins of Mineral Y--(Ankerite)**

The rock is an unusual, slightly porphyritic dacite dominated by plagioclase and biotite, with less apatite, ankerite, quartz, and magnetite. Irregular patches of extremely fine grain size are intergrown with coarser grained patches, possibly of replacement origin. In both zones are very abundant disseminated apatite grains of uncertain origin. Replacement patches are of quartz and less abundantly of pyrite-(quartz-biotite). Early veinlets and veins are dominated by ankerite with less pyrite, quartz, and chlorite. Late veins are dominated by Mineral Y with minor ankerite.

phenocrysts	
plagioclase	2- 3%
quartz	minor
groundmass	
plagioclase	40-45
biotite	12-15
sericite	8-10
apatite	5- 7
quartz	5- 7
ankerite	3- 4
magnetite	1- 2
replacement patches	
quartz	7- 8
pyrite	2- 3
biotite	0.3
veins, veinlets	
ankerite-pyrite	0.5
ankerite-(chlorite)	1
ankerite-quartz	0.2
Mineral Y-(ankerite)	4- 5

K=4080
Mg=18730
Al=22000

Plagioclase forms a few anhedral phenocrysts averaging 0.5-1.5 mm in size. Alteration is complete to extremely fine grained sericite. Quartz forms a very few phenocrysts up to 0.4 mm in size.

The groundmass is variable and patchy. Part of it consists of extremely fine grained plagioclase with minor disseminated ankerite. Other patches are of extremely fine grained biotite altered to chlorite and sericite and semiopaque. Apatite forms abundant disseminated grains averaging 0.02-0.05 mm in size. Magnetite occurs in clusters up to 0.8 mm in size of grains averaging 0.05 mm in size intergrown with minor to abundant silicates, mainly quartz and chlorite.

Coarser grained patches of possibly replacement origin consist of intergrowths of very fine grained plagioclase, sericite, biotite, quartz, apatite, and opaque. Plagioclase is altered slightly to moderately to sericite. Biotite forms flakes averaging 0.1-0.15 mm in size. Locally it is relatively fresh, with pleochroism from light to medium brown. Generally it is altered completely to pseudomorphic chlorite and minor Ti-oxide. Apatite forms abundant disseminated grains averaging 0.03-0.05 mm in size and clusters of grains averaging 0.05-0.1 mm in size. Pyrite forms replacement patches averaging 0.2-0.8 mm in size.

(continued)

Quartz forms irregular to lensy replacement patches up to 1.5 mm in size of very fine grained, submosaic aggregates.

An early, discontinuous vein from 0.1-0.3 mm wide is of pyrite with minor ankerite. A parallel lensy vein ranging from 0.05-0.3 mm wide is dominated by ankerite with abundant patches of pyrite and minor apatite.

A zoned vein 1.5 mm wide has a margin at one side 0.2-0.3 mm wide of very fine grained ankerite, a core of fine to medium grained ankerite with minor patches of extremely fine grained chlorite, and a border zone on the others side 0.02 mm wide of ankerite.

A lensy vein up to 1 mm wide is dominated by ankerite and quartz; it is truncated by the late kaolinite/illite-ankerite vein.

A veinlet 0.2 mm wide is of very fine grained ankerite and much less quartz oriented perpendicular to vein walls.

A late vein and veinlet up to 1 mm wide are dominated by extremely fine grained Mineral Y with a thin border zone of chlorite and minor ankerite.

67190

Sample DDH 91-1 403.0 m **Altered Porphyritic Dacite: Alteration to Sericite-Ankerite-Quartz-Pyrite-Chalcopyrite; Veins of Quartz-Calcite-Montmorillonite-Pyrite-Chalcopyrite-(Muscovite-Chlorite) and Veinlets of Ankerite-(Pyrite)**

Phenocrysts of plagioclase and quartz are set in a groundmass dominated by plagioclase and sericite with less ankerite. Replacement patches are of quartz and of chalcopyrite-sericite-ankerite. Large veins and a few small veins are of quartz, calcite, montmorillonite, pyrite, and chalcopyrite. A few veinlets are of ankerite-(pyrite).

phenocrysts		replacement	
plagioclase	5- 7%	quartz	3- 4%
quartz	1	chalcopyrite	0.3
biotite(?)	minor	sericite	0.3
groundmass		ankerite	0.2
plagioclase	30-35		
sericite	30-35		
quartz	7- 8		
ankerite	7- 8		
pyrite	1- 2		
chalcopyrite	0.3		
Ti-oxide	0.2		
apatite	minor		
veins			
1) quartz-calcite-montmorillonite-pyrite-chalcopyrite-(muscovite-chlorite)			8-10%
2) ankerite-(pyrite)			0.5

Plagioclase forms scattered phenocrysts up to 0.8 mm in size. Alteration is slight to moderate to sericite. Probably other phenocrysts were destroyed during alteration.

Quartz forms angular to subrounded phenocrysts from 0.3-1.0 mm in size.

One patch 1 mm long may represent an altered biotite phenocryst. It consists of moderately oriented, extremely fine grained sericite and ankerite, with kaolinite concentrated along the margins.

In the groundmass, plagioclase forms interlocking aggregates averaging 0.02-0.04 mm in grain size. It is intergrown with minor to abundant sericite. Patches of sericite and muscovite up to a few mm across probably represent altered plagioclase, both groundmass and possibly phenocrysts. Ankerite forms disseminated grains and clusters of grains, commonly intergrown with sericite.

Pyrite forms disseminated grains averaging 0.2-0.5 mm in size. A few contain minor inclusions up to 0.01 mm in size of chalcopyrite and of pyrrhotite. Chalcopyrite forms disseminated patches averaging 0.05-0.1 mm in size.

Ti-oxide occurs in clusters up to 0.5 mm in size of grains averaging 0.02-0.03 mm in size, intergrown with sericite and ankerite. These patches probably are after original sphene grains. One is replaced moderately by very fine grained pyrite.

Apatite forms ragged grains up to 0.3 mm in size.

Quartz forms patches up to 1.5 mm in size of grains averaging 0.05-0.1 mm. Some patches have subhedral outlines suggesting that quartz formed by replacement of phenocrysts, probably of plagioclase.

A few replacement patches up to 1.5 mm in size consist of intergrowths of chalcopyrite intergrown with muscovite and ankerite.

(continued)

A vein 3 mm wide at one end of the section is dominated by fine to medium grained montmorillonite, possibly pseudomorphic after biotite or chlorite. It contains patches of very fine grained quartz and disseminated grains of pyrite and chalcopyrite averaging 0.3-0.7 mm in size. A vein up to 4 mm wide at the other end contains coarse grained calcite, quartz, pyrite, and chalcopyrite, patches of montmorillonite, and minor patches of muscovite and of pale green chlorite. A few of the quartz grains are euhedral and are surrounded by calcite. A diffuse vein up to 0.3 mm wide contains quartz, ankerite, montmorillonite, and chalcopyrite.

Two veinlets averaging 0.1 mm wide are dominated by ankerite with scattered grains of pyrite averaging 0.05-0.1 mm in size.

6728 7

Sample DDH 91-1 581.5 m **Altered Dacite/Latite; Veins of Quartz-(Anhydrite-Calcite/Ankerite-Opaque); Late Veinlets of Opaque and Calcite/Ankerite**

Minor phenocrysts of plagioclase, hornblende(?) and quartz are set in a groundmass dominated by plagioclase-sericite, with minor quartz, chlorite, and calcite/ankerite. Veins are of quartz with minor anhydrite, calcite/ankerite, and opaque. A zoned vein has a centerline of anhydrite, opaque, and calcite/ankerite. Late veinlets in the major quartz vein are of opaque and of calcite/ankerite.

phenocrysts		veins	
plagioclase	1- 2%	quartz	30-35%
hornblende (?)	1- 2	anhydrite	0.8
quartz	0.1	calcite/ankerite	0.1
groundmass		opaque	0.1
plagioclase	30-35	chlorite	trace
sericite	25-30	late veinlets	
quartz	4- 5	opaque	0.4
chlorite	4- 5	calcite/ankerite	0.1
calcite/ankerite	4- 5	anhydrite	minor
opaque	1- 2		
anhydrite	0.3		
Ti-oxide	0.1		

Plagioclase forms a few grains up to 0.4 mm across; alteration is slight to moderate to sericite. One ragged plagioclase grain 1 mm across in the core of a large quartz vein may be a relic phenocryst; it is altered slightly to anhydrite, calcite, and dusty hematite.

Ragged clusters up to 2.0 mm across dominated by muscovite and chlorite, with less abundant quartz and ankerite, and minor to moderately abundant disseminated opaque maybe secondary after mafic aggregates or phenocrysts.

Quartz forms anhedral phenocrysts averaging 0.3-0.5 mm in size.

The groundmass is dominated by equant plagioclase grains, whose grain size is difficult to determine because of the alteration. Where grains are less strongly altered, they average 0.05-0.2 mm in size. Plagioclase is altered moderately to strongly to extremely fine grained sericite. Quartz forms disseminated grains and aggregates averaging 0.02-0.05 mm in grain size. Calcite/ankerite forms disseminated grains and clusters of grains averaging 0.03-0.07 mm in size. Chlorite forms disseminated clusters of flakes averaging 0.03-0.07 mm in grain size. Opaque (pyrite?) forms clusters of disseminated grains averaging 0.02-0.03 mm in size, commonly associated with ankerite-rich patches. Anhydrite forms ragged grains averaging 0.1-0.2 mm in size. Ti-oxide forms patches up to 0.2 mm across of extremely fine grained aggregates.

A few replacement patches up to 1 mm in size are dominated quartz with less abundant anhydrite and muscovite, and minor opaque. Others are dominated by muscovite and chlorite.

Veins up to 8 mm wide are dominated by quartz grains averaging 0.05-0.15 mm in size, with a few patches of grains up to 0.4 mm in size in the core of the zoned vein. Anhydrite forms disseminated, commonly interstitial grains averaging 0.1-0.2 mm in size. Calcite/ankerite forms interstitial grains averaging 0.02-0.07 mm in size. Opaque (pyrite?) forms anhedral grains averaging 0.1-0.3 mm in size. A zoned quartz vein has a distinct centerline averaging 0.2-0.4 mm wide of anhydrite, opaque and minor ankerite.

Several veinlets up to 0.2 mm wide of opaque and a few stringers of ankerite and one of anhydrite cut the major quartz vein perpendicular and subparallel to its length.

67310

Sample DDH 91-1 626.25 m **Slightly Porphyritic Dacitic Andesite: Weak Sericite-Quartz-Chlorite-Anhydrite Alteration; Veins of Quartz; Late Veins of Ankerite-Chlorite-Pyrite-Chalcopyrite-Magnetite-Anhydrite-(Quartz)**

Minor phenocrysts of hornblende/plagioclase, plagioclase, and quartz are set in a groundmass dominated by plagioclase with interstitial chlorite and moderately abundant patches of magnetite. Early veins dominated by quartz with minor chalcopyrite and anhydrite are cut by late veins dominated by ankerite, chlorite, pyrite, magnetite, and chalcopyrite, with less anhydrite/gypsum and minor quartz.

phenocrysts	
hornblende/plagioclase	3- 4%
plagioclase	1
quartz	0.2
groundmass	
plagioclase	55-60
sericite	10-12
chlorite	10-12
magnetite	3- 4
chalcopyrite	2- 3
pyrite	minor
apatite	minor
veins	
1) quartz-(chalcopyrite-anhydrite-bornite)	3- 4%
2) ankerite-chlorite-pyrite-chalcopyrite-magnetite-anhydrite/gypsum-(quartz)	3- 4

Plagioclase or hornblende forms elongate phenocrysts averaging 1.5-2.5 mm in length. Alteration is complete to extremely fine grained aggregates of sericite and less quartz, with minor trains of opaque and chlorite parallel to the c-axis of the original phenocryst. One of these appears to contain minor relic plagioclase; however, the texture is more typical of the hornblende phenocrysts in Sample 91-1 635.0 m.

Plagioclase forms anhedral phenocrysts averaging 0.4-0.7 mm in size, with a few up to 1.2 mm in size. Alteration is slight to strong to extremely fine grained sericite.

Quartz forms subrounded phenocrysts averaging 0.2-0.6 mm in size.

In the groundmass, plagioclase forms disseminated subhedral to euhedral, equant grains averaging 0.2-0.4 mm in size. Some of these are zoned strongly. They are surrounded by slightly interlocking plagioclase grains averaging 0.05-0.08 mm in size intergrown with moderately abundant interstitial chlorite and patches of magnetite. Alteration of plagioclase is slight to sericite. Chlorite forms pale to light green flakes averaging 0.01-0.03 mm in size.

Magnetite forms disseminated grains and clusters of grains averaging 0.02-0.1 mm in size. One magnetite-rich lens contains grains up to 0.5 mm in size. Grains are altered moderately to strongly to hematite, and in places are replaced slightly to moderately by chalcopyrite.

Chalcopyrite forms disseminated, irregular patches averaging 0.05-0.2 mm in size intergrown with silicates.

Anhydrite forms disseminated grains averaging 0.07-0.15 mm in size.

Apatite forms anhedral grains up to 0.4 mm in size.

(continued)

A few replacement patches up to 2.0 mm long are of submosaic quartz grains averaging 0.02-0.03 mm in size. A few replacement patches up to 1 mm in size consist of fine grained quartz, chlorite, and chalcopyrite.

Two quartz veins are 0.4-0.8 and 1.5 mm wide, respectively; they are dominated by anhedral grains averaging 0.05-0.2 mm in size. The wider vein contains moderately abundant ragged grains of muscovite, calcite, and chlorite. The narrower vein contains scattered grains up to 0.15 mm in size of chalcopyrite and of anhydrite.

These veins are cut by ragged veins averaging 0.3-0.7 mm in width and veinlets averaging 0.1-0.2 mm wide. The veins are dominated by ankerite, with abundant patches of chlorite, pyrite, magnetite, chalcopyrite, and anhydrite, and minor patches of quartz. A few cavities in the section along the vein probably represent original gypsum grains removed during sample preparation. Some of the veins have a vague to well developed halo up to 1 mm widen which plagioclase was altered moderately to strongly to very fine grained sericite/ muscovite. The veinlets are dominated by ankerite with only minor other minerals.

67314

Sample DDH 91-1 635.0 m **Altered Porphyritic Andesitic Dacite: Ankerite-Quartz-(Sericite-Opaque) Alteration; Veins of Quartz-(Ankerite)**

Phenocrysts of hornblende and lesser ones of plagioclase and quartz are set in a groundmass dominated by ankerite, plagioclase, and quartz, with minor sericite and opaque. Veins are dominated by quartz with minor ankerite.

phenocrysts	
hornblende	12-15%
plagioclase	3- 4
quartz	Ø.3
groundmass	
ankerite	35-4Ø
plagioclase	2Ø-25
quartz	1Ø-12
sericite	2- 3
opaque	1
apatite	minor
zircon	trace
veins	
quartz-(ankerite)	3- 4
quartz-ankerite-muscovite-(Ti-oxide-opaque)	Ø.5

Hornblende forms subhedral to euhedral, prismatic phenocrysts averaging 1.5-4.Ø mm long. Alteration is complete to aggregates of sericite with less quartz, ankerite, and opaque. Opaque and ankerite have a characteristic texture, forming trains of grains parallel to the c-axis of the original amphibole grain.

Plagioclase forms anhedral, equant phenocrysts averaging Ø.7-1 mm in size. Alteration is complete to sericite and much less quartz, ankerite, and unoriented opaque and Ti-oxide, and locally minor albite. A few contain replacement patches up to Ø.5 mm across of slightly interlocking quartz grains averaging Ø.Ø1-Ø.Ø2 mm in size. A few plagioclase grains from Ø.1-Ø.2 mm in size are relatively fresh.

Quartz forms phenocrysts averaging Ø.3-Ø.5 mm in size. A few patches up to Ø.9 mm across consist of a few quartz grains with patches of dusty inclusions. Patches have subhedral outlines and texture suggesting that they may have been formed by early(?) replacement of plagioclase phenocryst.

The groundmass is dominated by ankerite with less plagioclase and quartz and much less sericite. Ankerite and quartz form equant, slightly interlocking grains averaging Ø.ØØ5-Ø.Ø15 mm in size, with local coarser grained patches up to Ø.Ø3 mm in grain size. A few relic patches consist of intergrowths of strongly interlocking plagioclase grains averaging Ø.ØØ5-Ø.Ø3 mm in grain size. Sericite forms extremely fine grained, interstitial patches, mainly less than Ø.Ø5 mm in size. Opaque (pyrite and leucoxene) form disseminated grains and clusters of grains averaging Ø.ØØ5-Ø.Ø2 mm in size. Apatite forms a few anhedral grains averaging Ø.Ø5-Ø.1 mm in size. Zircon forms a rhombic grain Ø.Ø8 mm in size and a few subrounded grains averaging Ø.Ø2-Ø.Ø3 mm across.

Three subparallel veins cut the rock. A vein Ø.8 mm wide and one Ø.1 mm wide are dominated by submosaic quartz grains averaging Ø.Ø3-Ø.Ø7 mm in size, with ragged, disseminated grains of ankerite up to Ø.1 mm in size. A veinlet Ø.1-Ø.15 mm wide is dominated by quartz with moderately abundant ankerite and muscovite and scattered patches of opaque and of Ti-oxide.

Sample DDH 91-1 784.0 m **Latite; Sericite/Muscovite-Ankerite-Kaolinite-Chalcopyrite Alteration and Replacement; Veins of Quartz-Plagioclase-Muscovite-Chalcopyrite-(Pyrite-Bornite)**

The rock is dominated by very fine grained plagioclase altered moderately to sericite and kaolinite. Other minerals include minor quartz, chalcopyrite, and Ti-oxide, and trace amounts of bornite and pyrite. Coarser grained replacement patches are dominated by muscovite/sericite, ankerite, and chalcopyrite. Veins are of quartz-plagioclase-muscovite-chalcopyrite-(bornite-pyrite-Ti-oxide).

plagioclase	40-45%		
sericite	12-15		
kaolinite	10-12		
quartz	0.3		
chalcopyrite	0.2		
Ti-oxide	0.1		
bornite	trace		
pyrite	trace		
replacement patches			
muscovite	17-20	quartz	minor
ankerite	3- 4	bornite	minor
chalcopyrite	0.2	Ti-oxide	minor
veins/replacement			
quartz-muscovite-plagioclase-chalcopyrite-ankerite-(bornite-pyrite-Ti-oxide)	5- 7		

The rock is dominated by extremely fine to very fine grained plagioclase, which is altered moderately to locally strongly to extremely fine to very fine grained sericite/muscovite and extremely fine grained kaolinite.

Quartz forms scattered grains averaging 0.03-0.1 mm in size.

Ti-oxide forms disseminated grains and clusters of grains averaging 0.005-0.02 mm in size. It also forms clusters of equant grains averaging 0.02-0.03 mm in size, and a few up to 0.2 mm across. Some of these were loci of formation of sulfide grains.

Chalcopyrite forms disseminated patches up to 0.6 mm in size intergrown intimately with sericite/plagioclase. Locally intergrown with chalcopyrite is minor to moderately abundant bornite.

Pyrite forms a few clusters of subhedral grains averaging 0.05-0.1 mm in size, and a few grains up to 0.4 mm in size. A few contain inclusions of chalcopyrite and have patches of chalcopyrite and bornite along their borders.

Coarser grained replacement patches up to 2 mm in size are dominated by very fine grained muscovite with scattered patches of ankerite. These may be related in origin to the veins. In halos up to 1.0 mm wide along several fractures, some of which contain minor ankerite, the rock is altered and recrystallized to very fine grained muscovite.

Several discontinuous veins up to 1 mm wide are dominated by quartz with less abundant muscovite and plagioclase, and moderately abundant patches of chalcopyrite-(bornite) and minor ones of pyrite and Ti-oxide.

Sample 91-3 60.0 m **Latite/Dacite Tuff: Patches of Chlorite-Muscovite-Quartz-Magnetite; Veins of Chlorite-Muscovite-(Quartz-Chalcopyrite); Veinlets of Quartz-Pyrite with Sericite Halos**

The rock is a fine latite/dacite tuff dominated by fragments of plagioclase and much less chlorite and quartz, in a groundmass dominated by plagioclase/quartz with minor disseminated magnetite. Alteration of plagioclase fragments is moderate to sericite-(ankerite). Patches up to 10 mm across (in hand sample), possibly of replacement origin, are dominated by chlorite, muscovite/sericite, and quartz, with minor magnetite. A veinlet up to 0.2 mm wide is dominated by hematite/magnetite with less quartz and minor chlorite, muscovite, and chalcopyrite. A vein up to 1 mm wide is dominated by chlorite and muscovite with much less quartz and minor chalcopyrite. Veinlets up to 0.3 mm wide of quartz and pyrite have prominent halos of sericite.

coarser grains	
plagioclase	30-35%
quartz	3- 4
chlorite	4- 5
groundmass	
plagioclase/quartz	35-40
magnetite/hematite	0.4
chalcopyrite	0.2
Ti-oxide	0.1
apatite	0.1
patches	
chlorite-muscovite-sericite-quartz-magnetite	15-17%
veins and veinlets	
hematite/magnetite-quartz-(chalcopyrite-muscovite-chlorite)	0.2
chlorite-muscovite-(quartz-chalcopyrite-Ti-oxide)	2- 3
quartz-pyrite, with sericite halo	1- 2

The rock contains subhedral to anhedral grains of plagioclase, much fewer ones of quartz, and flakes of chlorite averaging 0.05-0.1 mm in size, enclosed in a groundmass dominated by plagioclase/quartz averaging 0.005-0.01 mm in size. Coarser plagioclase grains are altered strongly to sericite and locally to ankerite.

Magnetite forms disseminated grains averaging 0.02-0.04 mm in size; many are altered strongly to hematite. Chalcopyrite forms disseminated grains and patches ranging up to 0.3 mm in size; most of the larger patches are close to the chlorite-muscovite veins. Ti-oxide forms disseminated grains averaging 0.01-0.03 mm in size, and a few up to 0.05 mm across. Apatite forms scattered, equant grains averaging 0.05-0.07 mm in size.

Patches of uncertain origin range from 0.5-10 mm in size. They consist of irregular intergrowths of very fine to fine grained chlorite, muscovite, and quartz, with disseminated patches of extremely fine grained Ti-oxide and hematite/magnetite.

The main vein and a few replacement patches up to 2 mm across are dominated by fine grained, radiating aggregates of chlorite and muscovite, with much less quartz, mainly along vein borders, and minor disseminated interstitial chalcopyrite and Ti-oxide grains averaging 0.03-0.07 mm in size. They may be related in origin to the patches described above.

(continued)

A veinlet 0.1-0.15 mm wide is dominated by hematite (after magnetite) and patches of quartz with less chlorite and muscovite, and minor chalcopyrite.

A vein 0.15 mm wide and a veinlet 0.03 mm wide consist of quartz with lenses of pyrite up to 1.5 mm long. They have a halo averaging 0.8 and 0.4 mm wide, respectively, of extremely fine grained sericite.

Sample 91-3 99.0 m **Latite Tuff: Moderate to Weak Sericite-Ankerite Alteration; Veins of Quartz-Muscovite; Veins and Replacement Patches of Chlorite-Muscovite-Quartz; Veins of Ankerite**

The rock contains scattered very fine grains of quartz and plagioclase in an extremely fine grained groundmass of plagioclase altered moderately to sericite and ankerite and much less chlorite. Early veins and stringers of quartz-muscovite are cut by veins of chlorite-muscovite-quartz, and both are cut by a late vein of ankerite. Replacement patches of chlorite-muscovite-quartz may be related in origin to the veins of similar composition and texture.

fragments	
plagioclase grains	4- 5%
plagioclase aggregate	1
quartz grains	0.5
groundmass	
plagioclase	70-75
chlorite	4- 5
ankerite	3- 4
Ti-oxide	0.4
opaque	0.1
veins and replacement patches	
quartz-muscovite	1- 2
chlorite-muscovite-quartz-(opaque-Ti-oxide-apatite)	7- 8
ankerite	3- 4

Plagioclase forms equant grains averaging 0.1-0.15 mm in size, and a few up to 0.4 mm across. Many of these are altered strongly to sericite and a few are relatively fresh. Quartz forms scattered equant grains and shard-like fragments averaging 0.07-0.12 mm in size.

One fragment 1.2 mm across consists of an aggregate of slightly interlocking, equant plagioclase grains averaging 0.1-0.15 mm across. Alteration is slight to moderate to sericite flakes and patches of ankerite.

The groundmass is dominated by plagioclase grains averaging 0.005-0.015 mm in size. Alteration is moderate to sericite and less abundant ankerite. Chlorite forms disseminated flakes averaging 0.01-0.03 mm in size. Ti-oxide forms disseminated grains averaging 0.01-0.02 mm in size, with a few up to 0.04 mm across. Opaque forms disseminated grains averaging 0.01-0.03 mm in size.

Early stringers up to 0.05 mm wide are of very fine grained quartz with minor muscovite. Fine to very fine grained veins up to 0.5 mm wide are dominated by quartz and/or muscovite. Some contain patches of chlorite and minor opaque and Ti-oxide; these are gradational into the next type of vein.

Veins up to 0.5 mm wide are dominated by chlorite and muscovite with less quartz. One of them cuts a quartz-(muscovite) stringer. In vague halos up to 0.5 mm wide bordering these veins, ankerite alteration of plagioclase is moderately stronger than away from the veins. Replacement patches ranging from 0.2-1.5 mm in size have a similar mineralogy and texture to these veins.

A late vein averaging 1 mm wide is of fine grained ankerite with a trace of very fine grained quartz.

Sample 91-3 293.5 ■ **Porphyritic Dacite: Strongly Altered to Quartz-Muscovite-Ankerite; Vein of Quartz-Ankerite-Pyrite-Chalcopyrite-(Muscovite-Bornite); Vein of Ankerite**

Phenocrysts of plagioclase and minor ones of quartz, apatite, and biotite are set in a groundmass dominated by secondary quartz, sericite/muscovite and ankerite, with interstitial patches of kaolinite and minor disseminated chalcopyrite. A vein up to 1 mm wide is dominated by quartz, ankerite, pyrite and chalcopyrite-(bornite), with minor muscovite. A veinlet up to 0.2 mm wide is of ankerite.

phenocrysts			
plagioclase	15-17%	apatite	0.5%
quartz	0.7	biotite	minor
groundmass			
plagioclase	3- 4	chalcopyrite	0.7
quartz	50-55	apatite	0.3
ankerite	12-15	pyrite	minor
sericite/muscovite	7- 8	Ti-oxide	minor
kaolinite	3- 4	zircon	trace
vein			
quartz-ankerite-pyrite-chalcopyrite-(muscovite)			4- 5%
ankerite	0.4		

Plagioclase forms subhedral phenocrysts averaging 1-2 mm in size. In most, alteration is complete to sericite/muscovite and less ankerite, but several are only slightly altered to these minerals.

Apatite forms euhedral prismatic to anhedral phenocrysts averaging 1-1.5 mm in size. Quartz forms subrounded phenocrysts averaging 0.5-0.8 mm in size. Biotite forms anhedral phenocrysts up to 0.5 mm in size; alteration is complete to pseudomorphic muscovite, lenses of ankerite, and minor patches of Ti-oxide.

In the groundmass, a few relic patches consist of plagioclase aggregates averaging 0.02-0.05 mm in grain size; alteration of these is moderate to strong to sericite and ankerite. Scattered, fresh plagioclase grains averaging 0.2-0.3 mm in size are intergrown with quartz-sericite-ankerite intergrowths. Apatite forms anhedral grains averaging 0.1-0.3 mm in size. Zircon forms subhedral to euhedral, stubby to elongate prismatic grains up to 0.13 mm long.

Much of the groundmass was replaced by quartz-sericite/muscovite-ankerite. Quartz forms anhedral grains averaging 0.1-0.5 mm in size. It is intergrown with patches of very fine grained sericite and fine grained muscovite flakes and ragged, equant grains of ankerite. Kaolinite forms patches averaging 0.1-0.5 mm in size and a few up to 1.5 mm long of equant flakes averaging 0.01 mm in size. Chalcopyrite is concentrated moderately to strongly in patches up to 0.5 mm in size in which it is intergrown coarsely to finely with groundmass minerals. A few patches of chalcopyrite contain minor bornite. Pyrite and Ti-oxide each form disseminated grains averaging 0.02-0.04 mm in size.

A vein up to 1 mm wide is dominated by very fine to fine grained quartz, ankerite, pyrite and chalcopyrite. Bornite and minor chalcocite occur in patches of chalcopyrite, commonly near their borders. A few chalcopyrite-bornite intergrowths are extremely fine grained. Chalcopyrite patches in the groundmass are most abundant near the vein.

A veinlet 0.1-0.2 mm wide is of very fine grained ankerite.

Sample 91-3 373.0 m **Dacite Tuff: Moderate Alteration to Ankerite-Sericite; Replacement Patches of Silicates-Cu-Sulfides-Gypsum/Anhydrite; Several Types of Veins**

The rock is dominated by very fine grained plagioclase altered moderately to sericite-ankerite, and much less abundant quartz, with some patches containing abundant apatite. Replacement patches up to 1.5 mm in size are of several types, dominated by quartz, plagioclase, biotite, chalcopyrite, bornite, and gypsum. A few types of veins cut the rock; some earlier ones are dominated by quartz with less abundant plagioclase, muscovite, kaolinite, and ankerite. A later vein is dominated by ankerite and pyrite with less abundant chalcopyrite and quartz.

plagioclase	70-75%
quartz	10-12
sericite/muscovite	3- 4
apatite	1- 2
chalcopyrite	0.3
magnetite	0.1
zircon	trace
replacement patches	3- 4
veins	
1) quartz-(plagioclase-kaolinite-muscovite)	2- 3%
2) quartz-kaolinite-(plagioclase-muscovite-ankerite)	2- 3
3) ankerite-pyrite-(chalcopyrite-quartz)	1- 2
4) ankerite	0.5
5) kaolinite	0.1

Plagioclase forms anhedral grains averaging 0.03-0.07 mm in size. Alteration is moderate to strong to extremely fine grained aggregates of sericite and ankerite.

Quartz forms interstitial grains averaging 0.03-0.07 mm in size.

Sericite/muscovite forms flakes averaging 0.03-0.05 mm in length, and a few up to 0.1 mm long.

Apatite forms disseminated, equant grains averaging 0.03-0.07 mm in size. A few patches up to 0.4 mm across are of equant grains averaging 0.05-0.1 mm in size.

Chalcopyrite forms disseminated patches averaging 0.03-0.1 mm in size; these are most abundant near some of the veins.

Zircon forms equant, subhedral grains averaging 0.03 mm in size.

Replacement patches up to 1.2 mm in size are of very fine to extremely fine grained intergrowths of Cu-sulfides, silicates, and gypsum(?). One is dominated by chalcopyrite-bornite in a coarse to fine intergrowth, surrounded by quartz, ankerite (after plagioclase) and gypsum(?). Another has a core of very fine grained chalcopyrite-tetrahedrite-bornite intergrown with ankerite, quartz, and apatite. Chalcopyrite and bornite occur alone and in intimate to coarse intergrowths. Tetrahedrite is rimmed by bornite. This alteration patch is surrounded by a halo up to 0.2 mm wide in the host rock containing very abundant interstitial bornite. Another patch 1.2 mm across is dominated by quartz, ankerite (after plagioclase), less apatite and chalcopyrite, and minor chlorite (after biotite?). Another consists of quartz-plagioclase/ankerite with interstitial patches of gypsum(?) and minor chalcopyrite. A few smaller patches up to 0.3 mm in size are of bornite and quartz, with minor chalcopyrite intergrown with bornite.

(continued)

Another patch 1.2 mm across is of gypsum(?) surrounded by fine grained chlorite-ankerite intergrowths (after biotite) and less abundant quartz. Another smaller patch is similar, except that in the center of the cavity of gypsum(?) is a grain Ø.15 mm across of anhydrite.

An early vein averaging Ø.8 mm wide is dominated by quartz grains averaging Ø.1-Ø.5 mm in size, with minor interstitial plagioclase, muscovite, and kaolinite. Another discontinuous vein is of quartz and plagioclase with a few patches up to Ø.5 mm in size of magnetite-(chalcopyrite). Magnetite is replaced strongly to completely by hematite. A discontinuous early(?) veinlet up to Ø.15 mm wide is of quartz with patches of chalcopyrite-bornite and of apatite.

The largest of these is cut by two parallel veins. It is offset several mm along a vein 1-1.5 mm wide dominated by quartz with moderately abundant patches of kaolinite and minor plagioclase and muscovite (as in the earlier vein). Cavities at one end of the section may indicate the presence of gypsum. A second, irregular vein averaging Ø.2-Ø.5 mm in width is similar to this vein, being dominated by quartz with patches of gypsum(?) and chalcopyrite, and minor apatite.

The first vein is cut by a vein averaging 1 mm wide dominated by ankerite and pyrite, with less abundant chalcopyrite and muscovite and minor quartz. Some chalcopyrite grains contain minor intergrowths of bornite. Bordering the vein are a few chalcopyrite-rich patches averaging Ø.1-Ø.3 mm in size.

An unusual vein averaging Ø.2-Ø.3 mm wide is dominated by elongate to equant grains of ankerite with much less interstitial quartz. Textures of ankerite grains suggests that they may be secondary after biotite.

A few late veinlets up to Ø.Ø8 mm in width are of kaolinite with or without minor ankerite.

Sample 91-3 374.5 m Hypabyssal Diorite/Andesite; Diorite Fragments; Replacement Patches and Veins of Quartz-Chlorite-Opaque-(Gypsum); Veinlet of Ankerite-(Chlorite) and of Gypsum

Fragments of fine grained diorite are set in a groundmass of hypabyssal, very fine grained, leucocratic diorite dominated by plagioclase, which is altered moderately to sericite and ankerite. Veins and replacement patches are of quartz-chlorite-opaque-(gypsum-plagioclase. Veinlets are of ankerite-(chlorite) and of gypsum.

fragments			
fine grained diorite	10-12%		
groundmass			
plagioclase	70-75	Ti-oxide	1%
chlorite	4- 5	opaque	0.3
quartz	2- 3	apatite	minor
replacement			
quartz	3- 4	chlorite	1
opaque	1- 2	gypsum/anhydrite	0.2
veins, veinlets			
quartz-(plagioclase-chlorite-opaque-(gypsum)			2%
ankerite-(chlorite)		0.2	
gypsum(?)		0.5	

In the diorite fragments, plagioclase forms equant grains averaging 0.2-0.5 mm in size. Alteration is mainly moderate to sericite and ankerite. A few sericite patches up to 1.5 mm in size may represent altered plagioclase megacrysts. Chlorite forms flakes averaging 0.2-0.3 mm across, probably pseudomorphic after biotite. Opaque forms disseminated patches averaging 0.05-0.2 mm in size. Ti-oxide forms disseminated patches averaging 0.02-0.1 mm in size. A few patches up to 1.5 mm in size are dominated by very fine grained aggregates of ankerite. with less chlorite and Ti-oxide; these may be after hornblende megacrysts.

In the groundmass, plagioclase forms equant grains averaging 0.03-0.07 mm in size. Alteration is moderate to strong to patches of ankerite and disseminated flakes of sericite. Chlorite forms ragged, interstitial flakes averaging 0.03-0.07 mm in size. Quartz forms interstitial patches up to 0.1 mm long. Ti-oxide and opaque each forms disseminated patches averaging 0.02-0.05 mm in size. Magnetite/hematite forms clusters of several equant grains averaging 0.05-0.1 mm in size. Apatite forms anhedral grains from 0.02-0.15 mm in size.

Replacement patches averaging 0.5-1.5 mm in size are dominated by fine grained aggregates of two or more of quartz, chlorite, and opaque. Several patches are almost entirely of quartz grains averaging 0.05-0.15 mm in size. Gypsum forms a few interstitial grains averaging 0.5-0.8 mm in size. One contains a tiny relic core of anhydrite. Ankerite forms a few replacement grains averaging 0.1-0.2 mm across. In one zone up to 2.5 mm across, opaque (chalcopyrite?) forms abundant interstitial grains intergrown with groundmass plagioclase.

A vein up to 0.4 mm wide and a few smaller veinlets are is dominated by quartz with minor plagioclase, muscovite, chlorite, and gypsum.

A few wispy stringers averaging 0.02-0.05 mm in width are of ankerite. One locally widens to 0.2 mm across, where it contains abundant chlorite flakes averaging 0.1-0.2 mm in size.

One veinlet from 0.05-0.4 mm wide is of gypsum(?), which was completely removed from the section.

Sample 91-4 239.2 m **Strongly Altered Porphyritic Dacite: Quartz-Sericite-Ankerite Alteration; Veinlets of Pyrite-Quartz-(Muscovite)** (thin section only)

Phenocrysts of plagioclase (altered completely to sericite-[ankerite]), minor ones of quartz and scattered mafic patches dominated by ankerite, with less Ti-oxide, muscovite, and opaque are set in a strongly altered groundmass dominated by quartz with less abundant sericite and ankerite. Veinlets are dominated by pyrite with minor quartz and muscovite.

phenocrysts	
plagioclase	10-12%
mafic patches	2- 3
quartz	1- 2
groundmass	
quartz	65-70
sericite	15-17
ankerite	3- 4
muscovite	0.5
apatite	0.2
opaque (chalcopyrite?)	0.1
veinlets	
pyrite-quartz-(muscovite)	0.3%

Plagioclase forms subhedral to anhedral phenocrysts averaging 1-2 mm in size, and a few over 3 mm long. Alteration is complete, generally to extremely fine grained sericite and minor to moderately abundant patches of ankerite. In a few phenocrysts are coarser grained, recrystallized patches of muscovite-ankerite, and a few others are replaced completely by very fine to fine grained muscovite and minor to moderately abundant patches of ankerite.

Mafic patches (probably after mafic phenocrysts) averaging 0.3-0.6 mm in size consist of aggregates of ankerite, muscovite (pseudomorphic after biotite?), opaque, and Ti-oxide.

Quartz forms equant phenocrysts averaging 0.3-1.0 mm in size.

The groundmass is dominated by quartz grains averaging 0.05-0.1 mm in size and interstitial patches of extremely fine grained sericite and much less ankerite. Muscovite forms scattered grains and aggregates of a few flakes averaging 0.07-0.2 mm in length. Opaque (chalcopyrite?) forms scattered patches up to 0.2 mm in size, intergrown coarsely with muscovite flakes. Apatite forms scattered ragged grains averaging 0.07-0.15 mm in size and one grain 0.4 mm across. Zircon forms a euhedral equant grain 0.05 mm across and an elongate subhedral grain 0.08 mm long.

A veinlet averaging 0.15-0.2 mm wide is dominated by subhedral pyrite grains averaging 0.1-0.5 mm in size, with scattered patches of quartz and minor muscovite. Quartz and muscovite grade texturally into the surrounding altered host rock. Scattered lenses of pyrite up to 0.6 mm long define an incipient veinlet up to 0.1 mm wide.

Sample 91-Ø2 65.5 m **Altered Porphyritic Dacite: Replacement Patches of Quartz-Kaolinite; Vein of Quartz-Chalcopyrite-Pyrite-Muscovite-(Ankerite-Hematite-Native Gold); Veins of Ankerite-Kaolinite**

Phenocrysts of plagioclase, quartz, and biotite are set in an extremely fine grained groundmass of quartz and kaolinite. Replacement patches are of quartz-kaolinite. A large vein is of quartz-chalcopyrite-pyrite-muscovite-ankerite-(hematite-native gold). Smaller veins and veinlets are of ankerite-kaolinite or ankerite.

phenocrysts		replacement	
plagioclase	15-17%	quartz	5- 7%
quartz	4- 5	kaolinite	1
biotite	Ø.5		
hornblende	Ø.5		
groundmass			
quartz	45-5Ø	apatite	Ø.1%
kaolinite	15-17	pyrite	Ø.1
ankerite	2- 3	carbonaceous opaque	Ø.1
chalcopyrite	Ø.5	bornite	trace
Ti-oxide/hematite	Ø.1		
veins			
quartz-chalcopyrite-pyrite-muscovite-ankerite-(hematite-native gold)		5- 7%	
ankerite-kaolinite		1- 2	

Plagioclase forms subhedral phenocrysts averaging Ø.8-1.5 mm in size. Alteration is moderate to complete to ankerite, kaolinite, and less abundant sericite.

Quartz forms subrounded to irregular phenocrysts averaging 1-2.5 mm in size.

Hornblende forms a subhedral prismatic phenocryst 1.5 mm long. It is replaced completely by an intergrowth of fine grained chlorite and ankerite. It contains several angular inclusions of zircon and Ti-oxide averaging Ø.Ø2-Ø.Ø3 mm in size.

Biotite forms ragged phenocrysts averaging Ø.5-1.2 mm in length. Alteration is complete to partially pseudomorphic flakes of chlorite and/or muscovite, patches of ankerite, and disseminated grains of Ti-oxide.

The groundmass is dominated by equant quartz grains averaging Ø.Ø1-Ø.Ø15 mm in size with interstitial patches of kaolinite averaging Ø.ØØ5-Ø.Ø1 mm in grain size. Ankerite forms disseminated patches averaging Ø.Ø5-Ø.15 mm in size. Apatite forms ragged grains averaging Ø.2-Ø.6 mm in size. A few patches from Ø.3-Ø.5 mm across consist of cryptocrystalline non-reflective opaque and minor quartz, pyrite, and chalcopyrite. One patch Ø.5 mm across is an intergrowth of extremely fine grained Ti-oxide and hematite/limonite.

A few replacement patches up to a few mm across are dominated by medium grained quartz. One contains a zone up to 1 mm across of extremely fine grained flakes of kaolinite.

A vein at one side of the section up to 2.5 mm wide is dominated by medium to coarse grained quartz, with less abundant pyrite, chalcopyrite, muscovite, and ankerite, and minor hematite. On a pyrite-chalcopyrite grain border is an equant grain Ø.Ø18 mm across of light yellow native gold.

A few veinlets averaging Ø.Ø5-Ø.3 mm wide are of ankerite with or without minor kaolinite. One vein averaging Ø.2-Ø.4 mm in width has a central zone of extremely fine grained kaolinite surrounded by a discontinuous rim of very fine grained ankerite.

Sample 91-2 155.5 m **Strongly Altered Porphyritic Latite/Dacite: Quartz-Sericite-Ankerite Alteration; Veins of Quartz-Ankerite-Chalcopyrite-Pyrite-Muscovite-Kaolinite-Bornite-Chalcocite-Galena); Veinlets of Ankerite**

Phenocrysts of plagioclase, hornblende, and biotite are set in a groundmass dominated by quartz, sericite, and ankerite with minor kaolinite. Veins are dominated by quartz and ankerite, with less abundant chalcopyrite, pyrite, kaolinite, and muscovite, and minor chalcocite, bornite, and galena. A few veinlets are of ankerite.

phenocrysts			
plagioclase	15-17%		
biotite	2		
hornblende	1		
groundmass			
quartz	45-50	chalcopyrite	0.3%
ankerite	10-12	apatite	0.1
kaolinite	8-10	chalcocite	trace
plagioclase	5- 7	bornite	trace
sericite	2- 3		
veins, replacement patches			
quartz-ankerite-chalcopyrite-pyrite-muscovite-kaolinite (bornite-chalcocite-galena)	4- 5%		
ankerite	0.5		

Plagioclase forms subhedral to euhedral phenocrysts averaging 0.5-0.9 mm in size, with a few up to 1.3 mm long. Alteration is strong to complete to ankerite, sericite, and minor kaolinite.

Biotite forms ragged phenocrysts averaging 0.5-0.8 mm in size. Alteration is complete to pseudomorphic chlorite/kaolinite, lenses of ankerite, and disseminated patches of Ti-oxide.

Hornblende forms equant phenocrysts up to 1 mm in size. Alteration is complete to fine grained chlorite/muscovite flakes containing abundant Ti-oxide inclusions and patches of ankerite.

The groundmass is dominated by very fine grained quartz with patches of extremely fine grained ankerite, kaolinite, and sericite.

Apatite forms a cluster 1.0 mm long of several anhedral grains averaging 0.2-0.3 mm in size, surrounded by several flakes of altered biotite. Apatite also forms scattered other anhedral grains up to 0.2 mm in size.

The main vein at one end is a few mm wide and is dominated by fine to medium grained quartz and ankerite. It contains a sulfide-rich lens up to 1.5 mm wide dominated by chalcopyrite and pyrite. Along the borders of chalcopyrite-rich patches are minor to moderately abundant zones of bornite, chalcocite, and minor galena. At the other end of the section, the veinlike zone up to several mm wide grades in texture into a replacement zone. This zone is dominated by quartz with much less ankerite and minor sulfides. Both vein zones and smaller replacement patches contain scattered clusters up to 0.15 mm in size of subradiating muscovite flakes, and patches up to 0.2 mm in size of extremely fine grained kaolinite.

A few veinlets up to 0.2 mm wide are of ankerite.

Sample 91-2 322.67 m **Slightly Porphyritic Hypabyssal Dacite; Veinlets of Apatite, Chalcopyrite-Quartz, Pyrite, Ankerite, Calcite; Vein of Ankerite-Chalcopyrite-(Quartz-Chlorite)**

The rock contains minor small phenocrysts of plagioclase in a very fine grained groundmass dominated by plagioclase with less quartz and biotite. Veinlets of apatite, chalcopyrite-quartz, pyrite, and ankerite are cut by late veinlets of calcite. A major vein is of ankerite and chalcopyrite, with less abundant quartz and chlorite, and minor pyrite and hematite.

phenocrysts			
plagioclase	7- 8%		
groundmass			
plagioclase	45-50	pyrite	0.5%
quartz	10-12	apatite	0.2
biotite	10-12	Ti-oxide	minor
chalcopyrite	2- 3	muscovite	trace
ankerite	1		
veins			
apatite	0.2		
chalcopyrite-quartz	0.1		
ankerite	0.1		
pyrite	0.1		
ankerite-chalcopyrite-(quartz-chlorite-pyrite-hematite)	15-17		
calcite	0.2		

Plagioclase forms subhedral to anhedral phenocrysts averaging 0.5-0.8 mm in size and a few up to 1.5 mm across. In the groundmass, plagioclase forms anhedral to subhedral grains averaging 0.1-0.4 mm in size. Alteration is slight to locally moderate to sericite and locally to very fine grained muscovite.

Quartz forms interstitial grains averaging 0.05-0.15 mm in size.

Biotite is concentrated in clusters up to 1 mm in size of grains averaging 0.05-0.08 mm, and locally from 0.1-0.15 mm in size. In some of the coarser grained clusters, abundant pyrite is intergrown along biotite cleavage planes, rendering the grains opaque. Alteration of biotite is complete to pseudomorphic chlorite-muscovite, and minor patches of ankerite and disseminated grains of Ti-oxide.

A few clusters up to 1.2 mm in size are dominated by apatite grains averaging 0.1-0.2 mm in size. One patch 0.2 mm across contains abundant disseminated Ti-oxide grains intergrown with muscovite(?).

Pyrite and chalcopyrite form disseminated grains averaging 0.02-0.05 mm in size. Pyrite and much less Ti-oxide are common as wispy grains along cleavage planes of biotite (altered to chlorite).

Chalcopyrite forms replacement patches averaging 0.2-0.5 mm in size away from the vein, and a cluster of several porphyroblastic patches up to 1 mm in size near the vein. In these, chalcopyrite is intergrown intimately with groundmass minerals, including very fine to fine grained plagioclase, chlorite (after biotite) and muscovite. Pyrite and chalcopyrite occur in a few replacement patches up to 1.5 mm in size. In one of these, a few extremely fine grained patches averaging 0.2 mm across of sericite are rimmed by thin zones of pyrite.

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A discontinuous veinlet 0.1-0.15 mm wide is dominated by apatite and is bordered by a wispy seam of biotite/pyrite.

Several wispy seams averaging 0.01 mm wide are of pyrite.

A discontinuous veinlet 0.05-0.08 mm wide is of chalcopyrite and quartz.

A few, irregular, late veinlets averaging 0.05-0.1 mm wide are of ankerite. Where one cuts an apatite patch, it forms braided seams and patches rather than a discrete vein.

A vein up to 7 mm wide is dominated by medium to coarse grained ankerite and chalcopyrite, with much less fine grained quartz and chlorite. A few chlorite patches are of radiating flakes. Minor very fine grained to fine grained pyrite and extremely fine grained hematite occur with chalcopyrite. A few of the larger pyrite grains are strongly and finely fractured, and many fractures are filled by chalcopyrite. Bornite forms a very few grains 0.01-0.02 mm in size on the borders of a few chalcopyrite patches.

A few veinlets averaging 0.03-0.10 mm in width of very fine grained calcite cut veinlets of apatite, ankerite, and pyrite.

Sample 91-2 446.67 m **Hornfelsed Slightly Porphyritic Latite; Replacement Patches of Quartz-Anhydrite-Biotite-Opaque; Veins of Quartz-Ankerite-Gypsum/Anhydrite-(Biotite-Pyrite); Quartz-Apatite-Opaque-(Biotite), Veinlets of Ankerite-Anhydrite, Mineral Y**

Small phenocrysts of plagioclase are set in a groundmass of plagioclase and biotite with minor quartz. Replacement patches up to Ø.8 mm in size are of one or more of quartz, anhydrite, biotite, and opaque. Veins and veinlets are of quartz-ankerite-gypsum/anhydrite-(biotite-opaque), ankerite-(anhydrite), and quartz-apatite-opaque-(biotite). A late veinlet is of Mineral Y-(anhydrite).

phenocrysts		replacement patches	
plagioclase	40-45%	quartz	4- 5%
quartz	trace	biotite	Ø.5
groundmass		anhydrite	Ø.3
plagioclase	25-3Ø	opaque	Ø.3
biotite	17-2Ø		
quartz	1- 2		
opaque	Ø.1		
Ti-oxide	minor		
veins, veinlets			
quartz-ankerite-gypsum/anhydrite-biotite-opaque			3- 4
quartz-apatite-opaque-(biotite)			Ø.7
ankerite-(anhydrite-apatite)			Ø.2
Mineral Y-(anhydrite)			Ø.1

Plagioclase forms subhedral, equant to prismatic grains averaging Ø.15-Ø.7 mm in size. Alteration is slight to sericite and biotite. Quartz forms an anhedral phenocryst up to Ø.35 mm across.

In the groundmass, plagioclase forms aggregates of grains averaging Ø.Ø1-Ø.Ø3 mm in size. These are intergrown with minor to abundant biotite flakes of similar grain size. Biotite also is concentrated in clusters averaging Ø.2-Ø.7 mm in size and locally up to 1.5 mm across of slightly coarser grained flakes. In some of these it contains minor, extremely fine grained ankerite. Pleochroism of biotite is from pale to medium brown. Textures of biotite suggest that it was formed by contact metamorphism. A few patches up to Ø.15 mm in size contain abundant extremely fine grained Ti-oxide grains intergrown with biotite.

Replacement patches averaging Ø.3-Ø.8 mm in size are of quartz and anhydrite with minor to abundant opaque and biotite. Quartz forms irregular replacement patches averaging Ø.2-Ø.5 mm in size and discontinuous veinlets up to Ø.Ø7 mm wide of submosaic aggregates averaging Ø.Ø3-Ø.Ø5 mm in grain size. One lensy quartz patch is 1.1 mm long. Anhydrite forms disseminated, replacement grains averaging Ø.1-Ø.2 mm in size and locally up to Ø.35 mm across. Some of these are rimmed by aggregates of very fine grained biotite.

A vein Ø.3-1.Ø mm wide and offshoot Ø.3-Ø.5 mm wide are dominated by quartz with less ankerite and minor opaque and biotite. A very few grains are of anhydrite. Abundant cavities probably represent original gypsum. A poorly defined veinlet Ø.Ø5-Ø.1 mm wide is of extremely fine grained ankerite and minor anhydrite and apatite. A discontinuous veinlet Ø.1 mm wide is of ankerite, quartz, and less apatite. A discontinuous vein Ø.1-Ø.3 mm wide is of very fine grained quartz, apatite, and opaque, with minor biotite. It is cut by a veinlet Ø.2 mm wide of Mineral Y-(anhydrite).

Sample 91-2 520.2 m **Dacite: Patchy Sericite-Biotite-(Chalcopyrite) Alteration; Veins of Quartz-(Biotite-Chalcopyrite), Plagioclase-Chalcopyrite-(Quartz-Calcite), and Mineral Y-Ankerite**

Minor phenocrysts of plagioclase and quartz are set in a groundmass dominated by extremely fine grained plagioclase with much less biotite. The rock is replaced in diffuse to sharply defined patches up to a few cm across by 1) sericite and 2) biotite with disseminated patches of chalcopyrite. The origin of the patches is uncertain. Veins are of quartz-(biotite-chalcopyrite), plagioclase-chalcopyrite-(quartz-calcite) and Mineral Y-ankerite.

phenocrysts			
plagioclase	0.3%		
quartz	minor		
groundmass			
plagioclase	30-35	apatite	0.2%
biotite	7- 8	Ti-oxide	trace
magnetite	1- 2		
quartz	2- 3		
replacement			
sericite	30-35		
biotite	17-20		
chalcopyrite	1- 2		
magnetite	0.5		
molybdenite	trace		
veins			
quartz-(biotite-chalcopyrite)			1%
plagioclase-chalcopyrite-(calcite-quartz-pyrite-Mineral Y?)			0.5
Mineral Y-ankerite			0.1

Plagioclase forms subhedral to anhedral phenocrysts averaging 0.1-0.2 mm in size. Grains are altered slightly to sericite.

Quartz forms scattered phenocrysts averaging 0.15 mm in size.

The groundmass is dominated by anhedral, slightly interlocking plagioclase averaging 0.02-0.08 mm in size and less abundant biotite flakes averaging 0.02-0.03 mm in grain size. Biotite is pleochroic from pale to light/medium greenish brown. Quartz forms scattered grains averaging 0.03-0.05 mm in size. Magnetite forms disseminated clusters up to 0.4 mm in size of grains averaging 0.01-0.03 mm in size, and is altered strongly to hematite. Apatite forms an elongate patch 1.0 mm long of grains averaging 0.1-0.15 mm in size.

Replacement patches are up to a few cm across. In about half the section they are sharply defined. There they are dominated by patches up to a few mm across of extremely fine grained sericite intergrown with patches up to 15 mm across of very fine grained biotite containing minor to abundant patches of chalcopyrite-(pyrite) averaging 0.1-0.2 mm in size. Biotite is pleochroic from pale to medium brown. Finer grained biotite-rich patches appear to contain relic host rock material interstitial to biotite flakes. A few coarser grained patches of biotite contain clusters of a few quartz grains up to 0.15 mm in grain size. Molybdenite forms a patch 0.08 mm in size of flakes averaging 0.02-0.03 mm in size in a biotite-rich patch. Clusters of magnetite grains (as in the host rock) occur in both types of patches. Bordering the alteration patches, the host rock contains much more biotite than normal.

(continued)

In the other half of the section, replacement patches are much more diffuse. These patches consist of intergrowths of biotite, quartz, and less sericite and grade into patches of host rock containing abundant disseminated biotite and minor replacement patches of quartz, biotite, and sericite. Magnetite and sulfides are about as abundant as in the more sharply defined replacement patches.

Veins and veinlets up to 0.3 mm wide are dominated by quartz grains averaging 0.05-0.2 mm in size, with minor flakes of biotite and patches of chalcopyrite.

One vein 0.2-0.3 mm wide is dominated by fine to very fine grained plagioclase and chalcopyrite, less calcite and quartz, and minor pyrite and MIneral Y(?). Calcite commonly forms rims on chalcopyrite grains.

One discontinuous veinlet 0.1-0.2 mm wide consists of a core of Mineral Y rimmed by ankerite.

Sample 91-2 573.4 m **Strongly Altered Latite: Muscovite/Sericite-(Quartz-Ankerite-Opaque) Alteration; Vein of Pyrite-Quartz-Muscovite with Tourmaline-Bearing Halo; Veinlets & Patches of Ankerite-Kaolinite**

The rock has a variable texture. Scattered patches of relic plagioclase are enclosed in an unoriented aggregate of sericite/muscovite, with much less quartz, ankerite, and opaque (pyrite). A main vein is of pyrite with a border zone of quartz-(muscovite), and a halo containing abundant tourmaline(?) suns. A few veinlets are of quartz-muscovite-(opaque-ankerite). Late veinlets and patches are of ankerite and ankerite-kaolinite.

sericite/muscovite	75-78%	
plagioclase	5- 7	
quartz	4- 5	
ankerite	1- 2	
tourmaline (?)	1- 2	(in halo of main vein)
opaque	1	
Ti-oxide	Ø.2	
veins		
1) pyrite-quartz-(muscovite-ankerite)	4- 5%	
2) quartz-muscovite-(ankerite-opaque)	2- 3	
3) ankerite-kaolinite	1	

Sericite/muscovite forms a dense aggregate of unoriented flakes ranging in size from extremely fine grained up to Ø.5 mm. Finer grained patches may contain some relic, extremely fine grained plagioclase.

Plagioclase forms a few relic patches of anhedral, equant grains averaging Ø.Ø3-Ø.Ø5 mm in size. A few patches up to 1.5 mm in size consist of aggregates of equant plagioclase/quartz grains averaging Ø.Ø1 mm in size, intergrown with abundant disseminated patches of ankerite and much less abundant ones of sericite. Two of these patches are connected by a veinlike zone Ø.1 mm wide of very fine grained plagioclase.

Quartz forms disseminated grains and patches averaging Ø.2-1.Ø mm in size, mainly intergrown coarsely with muscovite.

Ankerite forms scattered patches up to Ø.2 mm across and veinlike zones up to Ø.Ø8 mm wide of grains averaging Ø.Ø2-Ø.Ø5 mm in size.

Opaque (mainly pyrite) forms disseminated patches averaging Ø.Ø3-Ø.Ø5 mm in size, and a few grains up to Ø.5 mm across, mainly associated with coarser grained patches of muscovite.

Ti-oxide forms disseminated clusters averaging Ø.Ø2-Ø.Ø5 mm in size of grains averaging Ø.Ø1 mm in size.

The main vein is up to 2 mm wide and is dominated by coarse grained opaque (pyrite). A border zone Ø.3-Ø.5 mm wide is dominated by fine grained quartz. Muscovite forms clusters of flakes along the border of the vein. Ankerite forms a few grains up to Ø.15 mm in size enclosed in pyrite. In a halo extending up to 2 mm from the vein, are very abundant radiating clusters averaging Ø.15-Ø.2 mm across of colorless, extremely fine grained tourmaline(?).

A vein averaging Ø.3 mm wide and a few veinlets averaging Ø.Ø5-Ø.2 mm wide are dominated by very fine to fine grained quartz and muscovite, with scattered patches of ankerite and of opaque.

Numerous, late, wispy veinlets averaging Ø.Ø3-Ø.Ø5 mm wide are dominated by ankerite. One wider vein has a lens up to Ø.1 mm wide of extremely fine grained kaolinite. A few patches up to 1 mm long of kaolinite occur bordering some veinlets.

Sample 91-2 792.2 m **Latite Dust Tuff; Early Veins of Quartz; Intermediate Vein of Quartz-Ankerite-(Muscovite-Plagioclase-Pyrite) with Sericite Halo; Later Veins of Quartz-Ankerite-Muscovite-Pyrite**

The rock is dominated by extremely fine grained plagioclase with less ankerite and minor pyrite and sericite. Early veins are of quartz with minor ankerite. A later vein of quartz, ankerite, less muscovite, pyrite, and plagioclase has a moderate sericitic halo. Late veins are of quartz-ankerite-pyrite-muscovite.

plagioclase	60-65%	
ankerite	8-10	
sericite	5- 7	
opaque	0.3	
quartz	minor	
replacement patches		
muscovite	8-10	
ankerite	1- 2	
opaque	0.3	
quartz	0.2	
veins		
1) quartz-(ankerite)	5- 7%	
2) quartz-ankerite-(muscovite-pyrite-plagioclase)		1- 2
sericite in halo	1	
2) quartz-ankerite-pyrite-muscovite	2- 3	

The rock is an aggregate of plagioclase and less ankerite grains averaging 0.005-0.01 mm in size. A few patches up to 1.5 mm in size dominated by extremely fine grained sericite may represent plagioclase phenocrysts. Ankerite forms anhedral grains averaging 0.01-0.03 mm in size. Quartz forms scattered angular grains averaging 0.1 mm in size.

Replacement patches averaging 0.5-1.5 mm in size are of extremely fine to very fine grained muscovite/sericite with irregular patches of ankerite, and minor grains of opaque.

One patch 2.5 mm across is dominated by sericite/muscovite intergrown with patches of very fine grained muscovite, ankerite, and quartz. Opaque forms abundant grains averaging 0.03-0.05 mm in size, commonly interstitial to muscovite.

Early veins up to 1.8 mm wide are of submosaic quartz grains averaging 0.03-0.15 mm in grain size with minor disseminated ankerite grains averaging 0.01-0.03 mm in size.

A later vein up to 0.6 mm wide and at 90° to the first is of very fine grained quartz and ankerite, with less abundant muscovite, pyrite, and plagioclase, and minor Ti-oxide. A halo up to 0.5 mm wide on either side of the vein contains moderately abundant, disseminated flakes of sericite.

Late veinlets up to 0.3 mm wide cutting the others at about 45° are of very fine grained ankerite, quartz, pyrite, and muscovite.

Sample 91-2 793.65 m **Porphyritic Dacite: Alteration to Ankerite-Sericite-Anhydrite; Veinlets of Anhydrite-(Chalcopyrite-Ankerite-Quartz); Late Vein of Chalcopyrite-Ankerite-Mineral Y-(Quartz-Muscovite) with Chalcopyrite-rich Halo**

Phenocrysts of plagioclase, less abundant quartz, and minor biotite are set in an extremely fine grained groundmass dominated by plagioclase with much less quartz. Disseminated alteration is moderate to ankerite and sericite. Anhydrite forms anhedral porphyroblasts and irregular replacement patches. Early veinlets are of anhydrite with or without chalcopyrite, ankerite, and quartz. A late vein of chalcopyrite-ankerite-Mineral Y-quartz-(muscovite) has a patchy, chalcopyrite-rich halo.

phenocrysts			
plagioclase	20-25%		
quartz	4- 5		
biotite	0.5		
groundmass			
plagioclase	40-45	Ti-oxide	0.1%
quartz	8-10	magnetite	0.1
ankerite	5- 7	pyrite	minor
sericite	2- 3	molybdenite	trace
chalcopyrite	1	* (mostly in halo of late vein)	
replacement patches			
anhydrite	2- 3		
quartz	0.5		
ankerite	0.2		
kaolinite	minor		
chalcopyrite	minor		
pyrite	trace		
veins, veinlets			
1) anhydrite-(chalcopyrite-quartz-ankerite)			1- 2
2) chalcopyrite-ankerite-Mineral Y-(quartz-pyrite)			3- 4%

Plagioclase forms subhedral to euhedral phenocrysts averaging 1-1.5 mm in size, with a few up to 2.5 mm across. Alteration is slight to strong to ankerite, sericite, and minor anhydrite and kaolinite.

Quartz forms subrounded to subhedral phenocrysts averaging 0.5-1 mm in size, with a few from 1.5-4 mm in size. The largest is replaced slightly by ankerite and anhydrite.

Biotite forms flakes averaging 0.5-0.8 mm long. Alteration is complete to pseudomorphic muscovite intergrown with quartz, lenses of ankerite, and disseminated Ti-oxide.

The groundmass is dominated by plagioclase and much less quartz grains averaging 0.02-0.03 mm in size. Disseminated alteration is slight to moderate to extremely fine grained ankerite and sericite.

Magnetite forms disseminated grains averaging 0.05-0.15 mm in size and a few up to 0.3 mm across; alteration is moderate to strong to hematite.

Ti-oxide forms disseminated grains averaging 0.05-0.07 mm in size, and a few up to 0.15 mm across. One patch 0.6 mm across contains moderately abundant Ti-oxide intergrown with ankerite, with a coarser grain of chalcopyrite and of anhydrite. This patch may be after an original sphene grain.

Zircon forms a euhedral, elongate prismatic grain 0.1 mm long.

(continued)

Chalcopyrite and pyrite form disseminated grains averaging 0.01-0.02 mm in size, with a few of pyrite up to 0.4 mm across and a few of chalcopyrite up to 0.2 mm across. The largest pyrite grains contain a few inclusions of chalcopyrite and Ti-oxide up to 0.03 mm in size. Molybdenite forms a grain 0.06 mm across.

A replacement patch up to 1.5 mm in size is of very fine grained quartz, ankerite, and chalcopyrite, with minor pyrite. Another up to 1.5 mm across is of medium grained quartz.

Anhydrite forms anhedral, replacement grains averaging 0.3-1 mm in size, and locally up to 1.5 mm across. One replacement patch 1.5 mm across consists of several, submosaic grains.

Kaolinite forms a few replacement patches up to 0.2 mm in size of grains averaging 0.005 mm in size.

A few veinlets up to 0.3 mm wide are dominated by anhydrite. Another 0.1 mm wide is dominated by ankerite with minor anhydrite. One 0.3 mm across is dominated by chalcopyrite with less abundant ankerite and quartz and minor muscovite.

The late vein is up to 1 mm wide and commonly has a lensy core of coarse to medium grained chalcopyrite surrounded by ankerite. One chalcopyrite grain contains several irregular inclusions up to 0.01 mm in size of bornite. Mineral Y occurs at one end as clusters of grains averaging 0.1-0.3 mm in size in the core of the vein; it is bordered by ankerite. Quartz forms a patch up to 1.5 mm across containing abundant veinlets of ankerite. Sericite forms scattered extremely fine grained patches. Bordering the vein in a halo up to 1.5 mm wide, the rock contains patches of extremely fine grained chalcopyrite intergrown intimately with groundmass minerals.

Sample Q-73-10 250.75 m **Hornfelsed(?) Slightly Porphyritic Latite/Dacite; Replacement Patches of Quartz; Veins of Quartz-Pyrite-Ankerite-(Muscovite-Apatite-Plagioclase-Mineral Y; Late Veinlets of Ankerite-(Quartz-Apatite)**

Scattered phenocrysts of plagioclase are set in a groundmass dominated by very fine grained plagioclase and biotite (altered completely to chlorite-(Ti-oxide-ankerite). Quartz forms minor pervasive replacement patches. Early veins of quartz-pyrite-ankerite-(muscovite-apatite-plagioclase-Mineral Y are cut by later veinlets of ankerite with minor quartz and apatite.

phenocrysts			
plagioclase	7- 8%	quartz(?)	0.5%
groundmass			
plagioclase	65-70	opaque (pyrite)	0.5
biotite	12-15	apatite	0.3
replacement patches			
quartz	8-10		
veins			
quartz-pyrite-ankerite-(muscovite-apatite-plagioclase-Mineral Y)	2- 3%		
ankerite-(quartz-apatite)	1		

Plagioclase forms anhedral phenocrysts averaging 0.2-0.6 mm in size. Alteration varies from slight to sericite to moderate to sericite and ankerite.

A few quartz grains up to 0.6 mm in size may be phenocrysts or replacement patches. If they were phenocrysts, they were recrystallized along their margins to fine subgrain aggregates.

In the groundmass, plagioclase forms anhedral grains averaging 0.02-0.1 mm in size. Alteration is slight to moderate to sericite and ankerite.

Biotite forms flakes averaging 0.07-0.1 mm in size. It is concentrated locally in irregular patches up to 1.5 mm long. Alteration is complete to pseudomorphic chlorite, patches of ankerite, and minor Ti-oxide. A few tiny biotite grains enclosed in quartz were preserved.

Opaque forms disseminated patches averaging 0.05-0.2 mm in size of very fine grained aggregates, commonly associated with clusters of biotite. Apatite forms single grains and clusters of grains up to 0.4 mm across averaging 0.05-0.15 mm in grain size.

Quartz forms irregular, pervasive replacement patches averaging 0.05-0.15 mm in grain size. Pyrite forms disseminated grains up to 0.6 mm in size of replacement origin.

A vein and veinlet averaging 0.3-0.8 mm and 0.1-0.3 mm wide, respectively are dominated by quartz with minor to moderately abundant pyrite, apatite, and ankerite and minor plagioclase. Moderately abundant cavities in one may represent plucked Mineral Y.

In one corner of the section is a vein at least 0.5 mm wide with a border zone of extremely fine grained ankerite and a core of very fine to fine grained quartz, with fine grained patches of pyrite and very fine grained aggregates of feathery muscovite.

Two veinlets averaging 0.1-0.2 mm wide are of ankerite; one also contains less abundant quartz and minor apatite. They cuts the quartz-rich vein and veinlet, with the latter being offset 0.7 mm. Two other veinlets 0.05-0.1 mm wide are of extremely fine grained ankerite.

Sample FL-81-8 43.0 m **Latite/Dacite; Replacement Patches of Chlorite-Muscovite-Ankerite-Pyrite; Pyrite Seams; Vein of Pyrite-Quartz-Ankerite-Apatite, Quartz; Later Veins of Carbonate-(Kaolinite)**

The rock is dominated by very fine grained plagioclase and less quartz with less ankerite and chlorite, and minor opaque. Early veins of pyrite-quartz-ankerite-apatite and quartz are truncated and offset along later veins dominated by carbonate with minor kaolinite.

plagioclase/sericite	50-55%
quartz	5- 7
ankerite	5- 7
chlorite	2- 3
opaque (pyrite)	0.5
apatite	minor
muscovite	minor
replacement patches	
chlorite-muscovite-(ankerite-pyrite-quartz)	10-12
veins	
1) pyrite seams	0.3%
1) pyrite-quartz-ankerite-apatite	2- 3
sericite halo	3- 4
2) quartz	0.5
3) carbonate-(kaolinite)	15-17

Equant plagioclase and quartz grains averaging 0.1-0.2 mm in size are set in a groundmass dominated by plagioclase averaging 0.01-0.03 mm in grain size. Plagioclase is altered slightly to moderately to sericite.

Chlorite forms disseminated grains and clusters of grains up to 0.2 mm in size. Ankerite forms anhedral to subhedral grains averaging 0.05-0.1 mm in size. Apatite forms disseminated grains averaging 0.1-0.2 mm in size. Opaque (pyrite?) forms disseminated grains averaging 0.03-0.1 mm in size and wispy seams and patches of extremely fine grained aggregates.

In diffuse patches up to a few mm across, the rock is altered moderately to strongly to variable aggregates of very fine to locally fine grained chlorite and/or muscovite with minor to moderately abundant ankerite and pyrite and minor quartz.

Pyrite forms locally abundant, wispy seams averaging 0.01 mm in width. Commonly they occur in zones of moderately abundant disseminated pyrite.

A vein 1.5 mm across of fine to very fine grained pyrite-quartz-ankerite-apatite has a halo of extremely fine grained sericite extending 0.8 mm outwards on either side of the vein. It is cut and offset up to several mm along later carbonate veins.

A vein 0.7 mm across is dominated by very fine grained quartz with much less abundant ankerite and minor opaque. It is truncated by a later carbonate vein.

Veins up to 5 mm wide are of medium to coarse grained carbonate (calcite/ankerite?). In cores of the larger veins are a few clusters of patches up to 1 mm in size of extremely fine grained kaolinite rimmed by thin selvages of ankerite stained orange by limonite.

Diffuse seams and veinlets up to 0.2 mm wide of extremely fine grained ankerite and calcite/ankerite cut the rock. The largest of these cuts a sericite-rich halo about the pyrite-quartz-ankerite-apatite vein. They may be related to the large carbonate veins.

Sample FL-81-8 56.1 m — **Porphyritic Hypabyssal Dacite; Weak Carbonate-Sericite-(Chlorite/Kaolinite) Alteration; Veinlets of Calcite**

Phenocrysts of plagioclase, quartz and minor biotite are set in a groundmass of plagioclase, quartz, biotite, and opaque. Plagioclase is altered moderately to sericite-carbonate. Minor replacement patches are of carbonate-(opaque). Carbonate is both ankerite and calcite. Veinlets are of calcite.

phenocrysts			
plagioclase	17-20%	biotite	Ø.3%
quartz	3- 4	apatite	Ø.1
groundmass			
plagioclase	35-4Ø	Ti-oxide/sphene	Ø.4
quartz	25-3Ø	apatite	Ø.1
biotite	1- 2	muscovite	trace
carbonate	1- 2	zircon	trace
opaque	1- 2		
replacement patches			
carbonate-(opaque)	2- 3		
vein, veinlets			
quartz-ankerite-muscovite-opaque	2%		
calcite	2		

Plagioclase forms subhedral phenocrysts averaging 1-2 mm in size. Alteration is slight to moderate to sericite and carbonate.

Quartz forms rounded phenocrysts averaging Ø.2-Ø.7 mm in size and a few up to 2 mm across. Larger grains are cut by irregular veinlets up to Ø.3 mm wide of calcite.

Biotite forms a slender phenocryst 1.1 mm long. Alteration is complete to pseudomorphic, colorless chlorite/kaolinite, abundant patches of ankerite and minor calcite and Ti-oxide. More irregular patches averaging Ø.3-Ø.8 mm in size of ankerite-chlorite-(opaque) and ankerite-calcite-muscovite-Ti-oxide may also be after biotite phenocrysts.

Apatite forms one anhedral phenocrysts 1 mm in size.

The groundmass is dominated by plagioclase and quartz averaging Ø.Ø5-Ø.1 mm in grain size. Plagioclase is altered slightly to moderately to sericite and ankerite. Equant biotite grains up to Ø.3 mm in size are replaced as in the phenocrysts. Carbonate, mainly calcite, forms grains averaging Ø.Ø5-Ø.1 mm in size. Ti-oxide forms a few patches up to Ø.5 mm in size of extremely fine grained aggregates, probably after original sphene. Other patches are dominated by Ti-oxide intergrown with minor to moderately abundant ankerite and/or sericite. Opaque forms scattered patches up to Ø.5 mm in size. It forms moderately abundant, disseminated grains and wispy trains of grains averaging Ø.ØØ5 mm in grain size. Apatite forms a few grains up to Ø.15 mm in size. Muscovite forms scattered flakes averaging Ø.Ø5 mm in size. Zircon forms a subhedral grain Ø.Ø7 mm long enclosed in opaque.

Replacement patches up to 1.2 mm long are of very fine grained carbonate, with or without minor to abundant opaque.

A replacement(?) vein averaging Ø.6 mm wide is of very fine to fine grained quartz, ankerite, opaque, and muscovite. Where the vein cuts plagioclase and apatite phenocrysts, it is poorly developed and discontinuous. The apatite phenocryst is replaced on abundant fractures by carbonate.

Veinlets averaging Ø.1-Ø.15 mm wide are of very fine grained calcite.

Sample FL-81-8 245.0 m **Porphyritic Dacitic Andesite Flow; Replacement Patches of Plagioclase-Chlorite-Muscovite; Veins of Quartz-Chlorite and Gypsum-Mineral Y-(Calcite); Veinlets of Calcite**

Phenocrysts of plagioclase and minor hornblende and unusual patches of apatite-chlorite are set in a groundmass dominated by plagioclase. Abundant replacement or recrystallized patches are dominated by plagioclase and chlorite with less abundant epidote, muscovite, and quartz, and minor apatite. Veins are of quartz-chlorite and of gypsum-Mineral Y-(calcite). Veinlets are of calcite.

phenocrysts			
plagioclase	15-17%		
hornblende	1- 2		
apatite-chlorite	1		
groundmass			
plagioclase	60-65	chlorite	1%
quartz	1- 2	Ti-oxide	0.1
replacement			
plagioclase-chlorite-muscovite-(quartz-epidote-apatite-gypsum[?])	10-12		
epidote	1- 2		
veins			
1) quartz-chlorite-(muscovite)	1- 2		
2) calcite	0.3		
3) gypsum-Mineral Y-(calcite)	3- 4		

Plagioclase forms subhedral to euhedral phenocrysts averaging 0.5-1 mm in size. Alteration is slight to locally moderate to sericite. A few phenocrysts are altered moderately to strongly to very fine grained sericite/muscovite and epidote.

One elongate, euhedral hornblende grain 1.5 mm long is replaced by very fine grained chlorite and minor epidote and quartz. Several anhedral patches up to 1.5 mm across of very fine to fine grained aggregates of chlorite, muscovite, epidote and Ti-oxide also may be secondary after hornblende phenocrysts.

A few primary patches up to 1.0 mm in size consist of single grains and aggregates of apatite averaging 0.1-0.15 mm in grain size surrounded by very fine grained aggregates of pale green chlorite.

The groundmass is dominated by anhedral to locally prismatic plagioclase grains averaging 0.02-0.05 mm in size. The texture is typical of dacitic andesite to andesite. Quartz forms interstitial grains averaging 0.05-0.1 mm in size, and is concentrated moderately in replacement(?) patches up to 0.5 mm in size.

Recrystallized or replacement patches up to a few mm across consist of irregular intergrowths of very fine to locally fine grained plagioclase, chlorite, muscovite, and less abundant quartz, epidote, apatite, and Ti-oxide. A few smaller patches contain moderately abundant gypsum.

A few irregular veinlike patches up to 2.5 mm long and 0.5 mm wide are dominated by fine to very fine grained epidote.

Two veins 0.3-0.5 mm wide consist of very fine grained quartz with minor to abundant patches of chlorite and minor clusters of muscovite/sericite flakes.

Several discontinuous veinlets averaging 0.05-0.15 mm wide are of very fine grained calcite.

Two veins up to 1.5 mm wide and a smaller veinlet are dominated by gypsum and Mineral Y with less abundant calcite mainly along their borders.

Sample FL-81-9 44.0 m **Hypabyssal Quartz Diorite Porphyry; Weak Alteration: Sericite-Chlorite; Veinlet of Quartz-Biotite-Opaque**

Phenocrysts of plagioclase and mafic clusters dominated by biotite and magnetite are set in a groundmass dominated by quartz, plagioclase, and biotite. A veinlet is of quartz with less biotite and opaque, and minor calcite and kaolinite.

phenocrysts	
plagioclase	45-50%
mafic patches - biotite-magnetite	5- 7
groundmass	
quartz	20-25
plagioclase	12-15
biotite	10-12
magnetite	0.5
apatite	minor
veinlet	
quartz-biotite-opaque-(calcite-kaolinite)	0.3%

Plagioclase forms subhedral to euhedral phenocrysts averaging 1-2.5 mm in size. Compositional growth zoning is prominent from more calcic cores (andesine) to more sodic rims (andesine/oligoclase). Alteration is slight to extremely fine grained, seams and disseminated flakes of sericite and biotite.

Mafic patches up to 3 mm in size are dominated by very fine grained biotite and generally less abundant magnetite, mainly concentrated in the core of the patch. The largest patch contains a core up to 2.5 mm across of aggregates of magnetite averaging 0.1-0.2 mm in grain size. Biotite is altered slightly to strongly in the cores of patches to pale to light brownish green chlorite. Magnetite may be altered partly to hematite. A few patches contain minor calcite grains up to 0.1 mm in size. In one patch 0.3 mm across, opaque forms a thin rim about a core of biotite.

In the groundmass, quartz forms aggregates of fine grains interstitial to plagioclase phenocrysts. Most of these contain abundant tiny inclusions of plagioclase. Plagioclase also forms scattered patches up to 1 mm in size containing a few subhedral grains from 0.07-0.1 mm in size in a groundmass of anhedral grains averaging 0.03-0.05 mm in size. Biotite forms aggregates of grains averaging 0.02-0.03 mm in size, and also occurs as minor to abundant disseminated grains enclosed in groundmass quartz. Opaque (magnetite/hematite?) forms disseminated grains averaging 0.05-0.15 mm in size, and a few from 0.3-0.5 mm in size. Apatite forms anhedral grains averaging 0.05-0.15 mm in size.

A discontinuous veinlet averaging 0.05-0.1 mm wide is dominated by quartz with less biotite and opaque, and minor calcite and kaolinite.

Sample FL-81-13 160 m **Contact: Hornfelsed Porphyritic Dacite/Andesite(?) and Hypabyssal Quartz Diorite; Veins of Quartz-(Plagioclase-Biotite-Opaque)**

The hypabyssal quartz diorite contains plagioclase and biotite megacrysts in a groundmass dominated by quartz, plagioclase, biotite, and opaque. It has a sharp to gradational contact with a metamorphosed porphyritic dacite contains phenocrysts(?) of plagioclase in a groundmass dominated by plagioclase and biotite. Veins and veinlets are of quartz with much less abundant plagioclase biotite and opaque, and minor apatite.

hypabyssal quartz diorite (42-47% of section)			
plagioclase	50-55%	opaque	2%
quartz	30-33	muscovite	0.1
biotite	12-15		
porphyritic dacite (40-45% of section)			
plagioclase phenocrysts	5- 7		
groundmass			
plagioclase	50-55	opaque	1- 2
biotite	30-33	apatite	minor
quartz	8-10		
veins and replacement patches (12-15% of section)			
quartz-(plagioclase-biotite-opaque-apatite)			

quartz diorite

Plagioclase forms phenocrysts averaging 1-2.5 mm in size. Many are compositionally zoned from more calcic cores (andesine) to more sodic rims (oligoclase). Alteration is slight to moderate to sericite and less ankerite and chlorite. Muscovite forms a few replacement patches of subradiating flakes up to 0.1 mm long.

Biotite forms ragged phenocrysts up to 1.2 mm in size. Alteration is complete to pseudomorphic, light to medium green chlorite with lenses of ankerite and minor patches of Ti-oxide.

In the groundmass, quartz forms grains averaging 0.2-0.5 mm in size. Plagioclase forms grains averaging 0.1-0.3 mm across; alteration is as in the phenocrysts. Biotite forms flakes averaging 0.2-0.3 mm long; alteration is as in the phenocrysts. Opaque forms disseminated, equant grains averaging 0.05-0.2 mm in size, with a few up to 0.5 mm across.

dacite

Plagioclase forms phenocrysts averaging 0.3-0.7 mm in size. Alteration is slight to sericite and biotite. The groundmass is dominated by plagioclase and biotite averaging 0.02-0.03 mm in grain size. Biotite is pleochroic from light to medium brown, and generally fresh. Quartz forms interstitial grains averaging 0.05-0.1 mm in size, and a few patches of slightly coarser grain size, in part intergrown with biotite flakes averaging 0.05-0.1 mm in size. Opaque forms disseminated grains averaging 0.05-0.1 mm in size. Apatite forms scattered grains up to 0.1 mm in size.

Veins up to 1.5 mm wide and irregular replacement patches are dominated by quartz grains averaging 0.1-0.2 mm in size, and locally over 0.5 mm across. Quartz-rich replacement patches are mainly in the dacite. Plagioclase forms scattered interstitial grains and clusters of grains averaging 0.05-0.15 mm in size. Biotite, generally altered to chlorite-(Ti-oxide) forms flakes averaging 0.05-0.1 mm in size. Opaque forms equant grains averaging 0.03-0.1 mm in size. Apatite forms a few anhedral grains averaging 0.07-0.1 mm in size.

Sample FL-81-14 123.0 m **Bedded Latite Tuff; Replacement Patches of Muscovite-(Ti-oxide-Apatite); Wispy Ti-oxide Veinlets**

The rock is a bedded latite tuff in which most layers are dominated by extremely fine grained plagioclase with minor quartz, sericite, ankerite, and opaque. A few coarser grained plagioclase-rich layers are replaced moderately by patches of muscovite and minor Ti-oxide. Wispy veinlets are of Ti-oxide.

plagioclase	82-85%
sericite	4- 5
ankerite	1- 2
apatite	0.3
Ti-oxide	0.2
quartz	0.2
opaque	0.2
hematite	0.1
replacement patches	
muscovite	7- 8
Ti-oxide	0.2
veinlets	
Ti-oxide	0.1

In finer grained layers, plagioclase and quartz form scattered grains averaging 0.02-0.03 mm in size, with a few from 0.05-0.1 mm long. These are set in a groundmass of plagioclase-sericite averaging 0.005-0.01 mm in grain size. Dusty hematite gives the layers a pink color in hand sample. A few patches up to 0.5 mm in size are of very fine grained sericite/muscovite and minor Ti-oxide. One patch 0.8 mm across is of very fine grained muscovite, quartz, and opaque.

Ankerite forms ragged replacement patches averaging 0.1-0.2 mm in size and locally up to 0.4 mm across. Apatite forms ragged, disseminated grains averaging 0.02-0.03 mm in size. Ti-oxide and opaque form disseminated grains averaging 0.01-0.02 mm in size. Opaque forms disseminated patches averaging 0.05-0.15 mm in size.

A few layers up to 5 mm thick contain ragged, coarser grained plagioclase grains averaging 0.1-0.5 mm in size set in a groundmass dominated by plagioclase grains averaging 0.05 mm in size. One patch 1.0 mm long of very fine grained muscovite flakes may be secondary after a biotite crystal. These layers contain abundant patches averaging 1-3 mm in size dominated by very fine to fine grained muscovite and less commonly dense patches of extremely fine grained sericite. Most replacement patches also contain aggregates of extremely fine grained Ti-oxide averaging 0.05-0.1 mm in size and locally up to 0.3 mm across. A few others contain a few apatite grains averaging 0.05-0.1 mm in size.

A few wispy, highly irregular veinlets are of Ti-oxide.

Sample FL-81-14 219.5 m **Latite Tuff; Layer of Quartz-Muscovite; Replacement Patches of Chlorite-Apatite-Ti-oxide and of Quartz-Chlorite-Muscovite-(Opaque)**

The rock is dominated by very fine grained plagioclase altered slightly to sericite and replaced moderately by ankerite porphyroblasts. A layer 2 mm wide is of quartz-muscovite. Replacement patches are mainly of chlorite-apatite-Ti-oxide; one is of quartz-chlorite-muscovite-(opaque).

plagioclase	80-82%
ankerite	4- 5
quartz	0.3
Ti-oxide	0.3
zircon	trace
layer (possibly replacement)	
quartz-muscovite-(chlorite-Ti-oxide-apatite)	4- 5
replacement patches	
chlorite-apatite-Ti-oxide	7- 8
quartz-chlorite-muscovite-(opaque)	1- 2

Plagioclase forms a very few prismatic grains up to 0.5 mm in length set in a groundmass dominated by anhedral grains of plagioclase averaging 0.02-0.04 mm in size. Alteration is slight to sericite. Quartz forms disseminated grains averaging 0.03-0.10 mm in size. Ti-oxide forms disseminated grains averaging 0.02-0.03 mm in size.

Ankerite forms anhedral, commonly ragged porphyroblasts averaging 0.1-0.4 mm in size.

One layer averaging 2 mm wide is dominated by very fine grained quartz and muscovite, with minor chlorite, Ti-oxide and apatite. It contains a replacement patch 1.7 mm across of irregular, fine grained opaque (pyrite) and apatite, intergrown with very fine grained chlorite and a similar one of apatite and Ti-oxide intergrown with chlorite, muscovite, and quartz. A few other patches up to 2 mm across are of very fine to fine grained chlorite and minor Ti-oxide.

Most other replacement patches, ranging from 0.2-2.5 mm in size, are dominated by very fine to fine grained chlorite. Ti-oxide forms disseminated anhedral to euhedral grains averaging 0.05-0.1 mm in size. Apatite forms equant grains up to 0.4 mm in size. Muscovite forms scattered flakes up to 0.1 mm in size.

One replacement patch 3.5 mm long is dominated by very fine grained quartz and chlorite, with less abundant muscovite and a grain of opaque (pyrite) 0.5 mm long.

One replacement patch up to 0.7 mm across is of very fine grained apatite, Ti-oxide, and quartz.

Sample FL-81-14 280.0 m **Bedded Latite Dust/Fine Tuff; Veinlets of Muscovite-(Ankerite-Chlorite-Opaque)**

Most of the sample is a massive latite dust tuff dominated by plagioclase-sericite. At one end is a layer of medium latite tuff containing fragments of latite tuff in a dust tuff groundmass. Gash-filling veinlets are dominated by muscovite with much less ankerite and minor chlorite and opaque.

fragments		
latite tuff	2%	(in one layer)
plagioclase	Ø.5	
quartz	Ø.1	
groundmass		
plagioclase-sericite	94-96	
Ti-oxide	Ø.1	
ankerite	Ø.1	
chlorite-semiopaque patches	2- 3	
veinlets		
sericite/muscovite-ankerite-(opaque)	Ø.4	
ankerite	minor	
chlorite	trace	

In the main layer, quartz forms minor fragments averaging Ø.Ø3-Ø.Ø7 mm in size, with a few from Ø.1-Ø.2 mm in size. One patch Ø.25 mm across is of a few equant grains.

Plagioclase forms a few equant fragments from Ø.15-Ø.3 mm in size. Textures suggest that the grains are andesine or andesine-oligoclase in composition. Grains are altered moderately to sericite along their margins.

A few anhedral to subhedral patches up to 1 mm in size are dominated by slightly oriented, extremely fine grained sericite; most of these are relatively free of disseminated Ti-oxide. They may be secondary after plagioclase phenocrysts. One patch Ø.3 mm long contains moderately abundant disseminated opaque grains averaging Ø.Ø1-Ø.Ø2 mm in size.

One fragment up to Ø.3 mm across is dominated by extremely fine grained, moderately interlocking quartz; it contains patches of dusty opaque which give part of the fragment a light brown color.

The groundmass is of plagioclase averaging less than Ø.ØØ5 mm in grain size and altered moderately to equant sericite flakes of similar grain size. Wispy patches are of slightly coarser grained sericite flakes. Ankerite forms disseminated patches averaging Ø.Ø1-Ø.Ø2 mm in size. Ti-oxide forms disseminated grains averaging Ø.ØØ5 mm in size. Opaque forms a few disseminated grains up to Ø.Ø7 mm in size.

Scattered replacement(?) patches from Ø.1-Ø.15 mm in size are extremely fine grained and appear to consists of chlorite and semiopaque.

At one end of the section, a discontinuous layer 3 mm wide contains angular fragments of dust tuff as described above up to Ø.6 mm in size and minor angular quartz fragments in an extremely fine grained to cryptocrystalline groundmass containing much less sericite than the fragments or the main layer in the rock. The groundmass may contain chlorite, but grain size is too fine for positive identification of minerals.

A few discontinuous veinlets and patches up to Ø.3 mm wide are dominated by very fine grained muscovite. A few contain minor patches of one or more of ankerite, chlorite, and opaque.

A wispy veinlet up to Ø.Ø4 mm wide is of extremely fine grained ankerite. A wispy, discontinuous veinlet up to Ø.Ø2 mm wide is of extremely fine grained chlorite.

Sample FL-81-14 293.5 m **Porphyritic Latite/Andesite; Replacement Patches of Chlorite-Tourmaline-Apatite-Pyrite-Plagioclase-Quartz-Ti-oxide; Veinlets of Ankerite**

Phenocrysts of plagioclase are set in a groundmass dominated by extremely fine grained plagioclase. Abundant replacement patches are of chlorite-tourmaline-apatite-pyrite-plagioclase-quartz-Ti-oxide. Minor veinlets are of ankerite.

phenocrysts			
plagioclase	35-40%		
groundmass			
plagioclase	40-45	chalcopyrite	0.2%
sericite	4- 5	pyrite	0.1
ankerite	1		
Ti-oxide	1		
replacement patches			
chlorite	5- 7	plagioclase	1
tourmaline	3- 4	quartz	0.5
apatite	1- 2	Ti-oxide	0.2
pyrite	1- 2		
veinlets			
ankerite	minor		

Plagioclase forms anhedral to subhedral phenocrysts averaging 0.1-0.3 mm in size. Alteration is slight to sericite. Quartz forms a few angular grains averaging 0.1-0.3 mm in size.

The groundmass is dominated by feathery plagioclase grains averaging 0.01-0.03 mm in size. One elongate patch 0.75 mm long is of plagioclase grains averaging 0.005-0.01 mm in size, with minor interstitial sericite. Muscovite/sericite forms disseminated flakes averaging 0.05-0.1 mm in size. Ti-oxide forms disseminated patches averaging 0.03-0.05 mm in size. Ankerite forms disseminated patches averaging 0.05-0.2 mm in size. Chalcopyrite forms disseminated patches averaging 0.02-0.07 mm in size, and a few from 0.15-0.3 mm across. Pyrite forms disseminated subhedral to euhedral grains averaging 0.05-0.07 mm in size.

Replacement patches up to a few mm across are of several types of aggregates of fine to medium grains. Most are dominated by very fine to fine grained flakes of chlorite. Tourmaline forms prismatic grains and a few subradiating clusters of grains averaging 0.1-0.5 mm long. It is pleochroic from colorless to pale or light green. Apatite forms anhedral grains up to 1 mm in size, and is dominant in some patches. Pyrite forms clusters of grains averaging 0.2-0.5 mm in grain size. Plagioclase is abundant in a few patches as anhedral grains averaging 0.2-0.3 mm in size. Ti-oxide forms subhedral to euhedral prismatic grains averaging 0.1-0.2 mm long.

Minor discontinuous veinlets up to 0.05 mm wide are of ankerite.

Sample FL-81-14 351.95 ■ Porphyritic Dacite: Moderate Alteration to Ankerite-Sericite; Replacement Patches of Chlorite, Quartz, Pyrite, Ankerite, Ti-oxide; Vein and Veinlet of Calcite/Ankerite

Phenocrysts of plagioclase and minor quartz are set in a groundmass dominated by extremely fine grained plagioclase altered moderately to sericite and ankerite. Ankerite also forms porphyroblasts. Replacement patches are of chlorite, quartz, ankerite, pyrite, and Ti-oxide, with minor apatite and trace chalcopyrite. A vein and veinlet are of calcite/ankerite.

phenocrysts			
plagioclase	7- 8%		
quartz	1- 2		
groundmass			
plagioclase/sericite	70-75	pyrite	Ø.5%
ankerite	3- 4	Ti-oxide	Ø.2
Ti-oxide	Ø.2		
replacement patches			
chlorite	7- 8	ankerite	Ø.3
quartz	3- 4	apatite	minor
pyrite	1- 2	chalcopyrite	trace
Ti-oxide	Ø.3		
vein, veinlet			
calcite/ankerite	1- 2		

Plagioclase forms anhedral phenocrysts averaging Ø.3-Ø.5 mm in size, and a few prismatic grains up to 1 mm long. Alteration is slight to moderate to sericite and ankerite, and locally strong to ankerite.

Quartz forms phenocrysts averaging Ø.2-Ø.5 mm in size. One patch Ø.9 mm across may be a phenocryst which was recrystallized slightly to an irregular subgrain aggregate of fine grains.

The groundmass is dominated by plagioclase grains averaging Ø.ØØ5-Ø.Ø15 mm in size. Alteration is moderate to sericite and patches of ankerite. Ankerite also forms anhedral porphyroblasts averaging Ø.2-Ø.4 mm in size.

Pyrite forms subhedral porphyroblasts averaging Ø.2-Ø.5 mm in size. Chalcopyrite forms scattered grains up to Ø.15 mm in size and is concentrated in a few patches up to Ø.3 mm in size as moderately abundant disseminated grains averaging Ø.Ø1-Ø.Ø2 mm in size.

Irregular replacement patches averaging Ø.2-1.Ø mm in size are dominated by very fine grained chlorite with irregular patches of extremely fine grained Ti-oxide. One patch 1.5 mm across is of about equal amounts of chlorite, ankerite, quartz, and Ti-oxide. A few patches up to Ø.4 mm in size are of Ti-oxide. Apatite forms scattered anhedral grains averaging Ø.1-Ø.15 mm in size.

Quartz forms patches averaging Ø.1-Ø.3 mm in size of aggregates averaging Ø.Ø5-Ø.Ø8 mm in grain size. It also forms patches up to 1.2 mm in size of grains averaging Ø.Ø2-Ø.Ø5 mm in size. A few patches are of intergrown quartz and chlorite.

Pyrite occurs in cores of several large patches as aggregates up to 1.5 mm in size intergrown with chlorite and Ti-oxide. Chalcopyrite forms scattered grains up to Ø.1 mm in size associated with pyrite.

A vein averaging Ø.3 mm wide and an irregular veinlet averaging Ø.Ø3 mm wide are of fine grained and very fine grained calcite/ankerite, respectively.

Sample FL-81-19 155.5 m **Strongly Altered Porphyritic Hypabyssal Dacite; Quartz-Muscovite-Ankerite-Chlorite Alteration; Calcite-(Quartz-Ankerite) Vein; Pyrite Veinlets; Late Calcite Veinlets**

Phenocrysts of plagioclase, biotite and hornblende are set in an altered groundmass dominated by quartz with less abundant muscovite and ankerite. Two subparallel, zoned veins are dominated by rims of early formed and granulated ankerite and cores of undeformed ankerite-calcite, with or without pyrite. Abundant wispy seams of pyrite are subparallel to the main veins. Late veinlets are of calcite.

phenocrysts			
plagioclase	12-15		
biotite	3- 4		
hornblende	3- 4		
groundmass			
quartz	45-50	chlorite	Ø.3%
muscovite	17-20	Ti-oxide	Ø.1
ankerite	3- 4	apatite	Ø.1
pyrite	1	chalcopyrite	minor
veins, veinlets			
calcite-ankerite-pyrite	5- 7		
pyrite	Ø.8		
late carbonate	Ø.1		

Plagioclase forms subhedral to euhedral phenocrysts averaging 1-1.5 mm in size, with a few over 2 mm across. Alteration is strong to complete to sericite-ankerite with less abundant patches of quartz. A few are replaced completely by muscovite; these are difficult to distinguish from biotite phenocrysts.

Anhedral patches up to 2 mm in size of very fine grained chlorite, ankerite, muscovite, and minor Ti-oxide probably are after hornblende phenocrysts. One patch 2 mm across contains abundant inclusions of pyrite.

Two phenocrysts 1.7-2 mm across and several much smaller ones are of biotite(?) altered completely to sub-pseudomorphic, feathery muscovite and much less chlorite, with minor patches of ankerite and only a trace of Ti-oxide.

The groundmass is dominated by secondary quartz grains averaging Ø.3-Ø.7 mm in size containing abundant inclusions of sericite/ muscovite and less abundant ankerite. A few groundmass patches of much finer grained (Ø.Ø1-Ø.Ø2 mm) quartz and plagioclase(?) may have been formed by cataclastic deformation and granulation. Chlorite forms scattered patches averaging Ø.1-Ø.2 mm in size. Ti-oxide forms disseminated patches up to Ø.2 mm in size of extremely fine grained aggregates, some of which are replaced slightly by pyrite. Apatite forms anhedral grains averaging Ø.1-Ø.25 mm in size.

Pyrite forms disseminated grains averaging Ø.Ø5-Ø.1 mm in size. A few subhedral to anhedral pyrite porphyroblasts averaging Ø.5-1 mm in size contain up to 5% inclusions of chalcopyrite averaging Ø.Ø1-Ø.Ø2 mm in size, and a few contain an inclusion of pyrrhotite or pyrrhotite-chalcopyrite. Chalcopyrite forms disseminated patches averaging Ø.Ø2-Ø.Ø5 mm in size.

(continued)

A vein Ø.3-1.5 mm wide is dominated by very fine to fine grained ankerite with abundant disseminated grains and clusters of very fine to fine grained pyrite. Wider parts of the vein have a border zone of strained and partly granulated ankerite and a core of unoriented, unsheared, calcite/ankerite and patches of very fine to fine grained pyrite. Narrower parts of the vein are of extremely fine grained, granulated ankerite and moderately brecciated pyrite. Chalcopyrite forms minor patches associated with pyrite and a few inclusions in pyrite. Quartz forms a few grains up to Ø.1 mm in size.

A subparallel vein averaging Ø.5-1 mm in width is of submosaic, very fine to fine grained calcite with a very thin rim of granulated ankerite.

Abundant discontinuous, in part braided, wispy veinlets and seams are of extremely fine grained pyrite.

Late gash veinlets up to Ø.Ø2 mm wide of carbonate cut the rock at a high angle to the other veins, and cut some of the pyrite stringers.

Sample FL-81-19 280.4 m **Altered Dacite(?); Quartz-Sericite/ Muscovite-Ankerite Alteration; Vein of Ankerite-Pyrite; Veins and Veinlets of Quartz-(Muscovite) and Pyrite-(Quartz-Muscovite)**

The rock is dominated by very fine grained plagioclase (altered moderately to sericite and less ankerite) with minor interstitial quartz and disseminated pyrite. Abundant coarser grained patches up to 2 mm in size are of muscovite/sericite-quartz-ankerite-(pyrite). A zoned vein is of ankerite with a core of pyrite. Smaller veins and veinlets are of quartz-(muscovite) and of pyrite-(quartz-muscovite).

plagioclase	20-25%
sericite	25-30
quartz	17-20
muscovite	12-15
ankerite	7- 8
pyrite	2- 3
Ti-oxide	0.2
chalcopyrite	minor
veins, veinlets	
ankerite-pyrite-(chalcopyrite)	1- 2%
pyrite-(quartz-muscovite)	1- 2
quartz-(muscovite)	3- 4

Plagioclase forms aggregates averaging 0.03-0.05 mm in grain size and minor patches averaging 0.005-0.01 mm in grain size. Alteration is slight to strong to sericite.

Sericite forms aggregates of extremely fine grained, equant flakes, which contain scattered grains and clusters of coarser grained sericite and muscovite flakes. Much of it is secondary after plagioclase.

Quartz forms equant, possibly primary grains averaging 0.15-0.2 mm in size, and finer grained patches intergrown with plagioclase/ sericite.

Ankerite forms ragged grains averaging 0.07-0.15 mm in size.

Recrystallized patches with diffuse outlines and of uncertain origin from 1.0-2.5 mm in size are of very fine grained muscovite, quartz, and minor to moderately abundant ankerite and pyrite. A few replacement patches up to 1.2 mm in size are dominated by very fine grained, submosaic quartz.

Pyrite forms disseminated grains and clusters averaging 0.1-0.15 mm in grain size.

Chalcopyrite forms disseminated grains averaging 0.03-0.07 mm in size and a few irregular patches up to 0.1 mm across.

Ti-oxide forms patches up to 0.15 mm in size of extremely fine grains.

A vein 1.4 mm wide has a core 0.4 mm wide of fine to medium grained pyrite contained in an outer zone of fine grained ankerite in which grains are oriented perpendicular to the walls of the vein. A small fracture in one pyrite grain is filled by chalcopyrite.

A few discontinuous veins and veinlets averaging 0.2-0.5 mm wide are dominated by pyrite with minor to moderately abundant patches of quartz and muscovite.

A few veins 0.3-0.4 mm wide and discontinuous veinlets 0.1-0.2 mm wide are of very fine grained quartz and minor muscovite.

Sample FL-81-19 282.0 m **Strongly Altered Latite(?): Sericite Alteration; Vein of Quartz-Ankerite-Pyrite-Clay(?); Veinlets of Quartz-Pyrite-(Muscovite)**

The rock is a strongly altered latite(?) dominated by sericite. A major vein is of quartz-ankerite-pyrite-clay(?). Several veinlets are of quartz-pyrite-(muscovite).

sericite	70-75%
plagioclase	3- 4
pyrite	3- 4
Ti-oxide	0.7
quartz	minor
veins	
quartz-ankerite-pyrite-clay(?)	17-20%
quartz-pyrite-muscovite-(chlorite)	1
ankerite	minor

Plagioclase forms relic patches up to 1 mm in size of extremely fine grained aggregates. Most of the plagioclase was replaced by dense aggregates of extremely fine grained sericite with minor very fine grained sericite/muscovite. Pyrite forms disseminated, euhedral to subhedral grains averaging 0.2-1.0 mm in size. Ti-oxide forms disseminated dusty to extremely fine grains and a few patches up to 0.3 mm long of extremely fine grained aggregates. Quartz forms scattered angular grains up to 0.1 mm in size. These may be relic fragments in a dust tuff. Irregular patches averaging 0.3-1.5 mm in size show different textures and sericite/Ti-oxide ratios; however, patterns are too diffuse to be used to interpret original texture.

A major vein is of fine to coarse grained quartz and ankerite, with patches of medium to coarse grained pyrite. Locally, quartz was granulated along a few shear zones up to 0.1 mm wide. Ankerite commonly is interstitial to subhedral to euhedral quartz and pyrite grains. Lensy to irregular patches up to 2 mm in size of extremely fine grained sericite are fragments of altered host rock. In the section, the vein has a large cavity. In hand sample, this contains a soft, white clay(?) mineral. Examination of the powder in mineral oil shows that the mineral is isotropic and/or cryptocrystalline with a light to medium brown color with a refractive index of about 1.500 (similar to montmorillonite).

Many veinlets from 0.1-0.4 mm in size are of very fine grained quartz and fine grained pyrite, with moderately abundant patches of very fine grained sericite/muscovite and minor chlorite. A few veinlets are dominated by pyrite with much less quartz and minor chlorite.

A few lenses from 0.01-0.1 mm wide are of ankerite.

Sample FL-81-19 314.0 m **Altered Porphyritic Rhyodacite Tuff(?): Sericite-Quartz-Chlorite-Ankerite Alteration; Veins of Mineral Y**

Phenocrysts of quartz and minor ones of plagioclase are set in a very fine grained groundmass dominated by sericite and quartz, with less plagioclase, chlorite and ankerite. The patchy nature of the groundmass suggests a tuffaceous origin. Veins are of Mineral Y with very minor ankerite.

phenocrysts	
quartz	10-12%
plagioclase	0.3
groundmass	
sericite/muscovite	45-48
quartz	17-20
plagioclase	10-12
chlorite	4- 5
ankerite	3- 4
muscovite	0.5
apatite	0.1
Ti-oxide	0.1
pyrite	minor
veins	
Mineral Y-(ankerite)	5- 7

Quartz forms anhedral phenocrysts averaging 0.4-0.8 mm in size, and a few from 1.0-1.2 mm across. A few were recrystallized to very fine subgrain aggregates.

Plagioclase forms anhedral phenocrysts averaging 0.3-0.5 mm in size. Alteration is slight to sericite.

In the groundmass, relic patches up to 1.0 mm in size are of plagioclase grains averaging 0.01-0.03 mm in size with minor to moderately abundant interstitial and replacement sericite flakes and minor patches of ankerite. One patch 0.7 mm across is of slightly interlocking plagioclase grains averaging 0.03-0.05 mm in size, altered moderately to sericite.

The groundmass is dominated by extremely fine grained sericite (probably after plagioclase) and less abundant quartz averaging 0.02-0.05 mm in grain size. Chlorite forms patches up to 0.7 mm in size intergrown coarsely to finely with sericite. Ankerite forms irregular patches averaging 0.1-0.2 mm in size, intergrown with sericite. In sericite-rich patches, muscovite forms scattered flakes and clusters of flakes averaging 0.07-0.15 mm in length and locally up to 0.25 mm long.

Apatite forms scattered, anhedral grains up to 0.3 mm in size. Ti-oxide forms disseminated grains and clusters of grains of extremely fine grain size. Pyrite forms disseminated subhedral to euhedral grains averaging 0.03-0.05 mm in size.

A vein up to 2 mm wide at one end of the section and a veinlet 0.4-1.2 mm wide cutting the section are of very fine grained Mineral Y with minor patches of ankerite. Much of the vein material was removed from the section during sample preparation.

Sample FL-81-20 248.75 m Hypabyssal Porphyritic Dacitic Andesite; Replacement Patches of Muscovite-Chlorite-Pyrite-Quartz; Veinlets of Ankerite

Phenocrysts of plagioclase, less hornblende and minor quartz are set in a very fine grained groundmass dominated by plagioclase with minor chlorite and ankerite. Replacement patches are dominated by muscovite, chlorite, pyrite and quartz. Veinlets are of ankerite.

phenocrysts		replacement patches	
plagioclase	18-22%	muscovite	7- 8%
hornblende	3- 4	chlorite	3
quartz	0.5	pyrite	2
groundmass		quartz	2
plagioclase	55-60	Ti-oxide	0.3
chlorite	3- 4	kaolinite-illite(?)	0.2
ankerite	0.5	apatite	minor
apatite	0.1		
opaque	0.1		
Ti-oxide	minor		
zircon	trace		
veinlets			
ankerite	1- 2		

Plagioclase forms phenocrysts and clusters of a few phenocrysts averaging 1-2 mm in grain size. Composition appears to be andesine. Alteration is mainly slight to moderate to wispy seams and patches of extremely fine grained sericite and minor ankerite. A few phenocrysts are altered strongly to sericite-muscovite-(chlorite).

Hornblende forms equant to prismatic phenocrysts averaging 0.3-0.7 mm in size, with a few over 1 mm long. Alteration is complete to unoriented aggregates of very fine grained chlorite with minor Ti-oxide. A few grains contain inclusions of anhedral apatite grains and clusters of grains averaging 0.05-0.1 mm in grain size.

Quartz forms subrounded, equant to elongate phenocrysts averaging 0.15-0.6 mm in size.

The groundmass is dominated by slightly interlocking plagioclase grains averaging 0.01-0.02 mm in size, with minor interstitial chlorite and patches of ankerite. Plagioclase (probably oligoclase) is altered slightly to sericite. Chlorite forms patches averaging 0.05-0.2 mm in size, probably secondary after hornblende, and disseminated flakes averaging 0.01-0.03 mm in size. Ankerite forms ragged replacement grains averaging 0.05-0.25 mm in size.

Opaque forms disseminated, anhedral to subhedral grains averaging 0.05-0.07 mm in size. Apatite forms a few ragged prismatic grains averaging 0.07-0.1 mm long. Zircon forms subhedral to anhedral prismatic grains averaging 0.06-0.15 mm long included in hornblende phenocrysts.

Replacement patches up to 3.5 mm in size are of very fine grained muscovite, chlorite, pyrite, quartz, and minor ankerite. Pyrite forms anhedral grains from 0.3-1.5 mm in size in cores of patches. Apatite forms a few grains up to 0.25 mm across in cores of patches. Ti-oxide forms single grains up to 0.07 mm across and ragged patches up to 0.3 mm long of extremely fine grained to cryptocrystalline aggregates. Kaolinite/illite(?) forms a few patches up to 0.4 mm in size of extremely fine grained aggregates.

Several veinlets averaging 0.07-0.12 mm in width are of very fine grained ankerite.

Sample F-89-1 86.75 m **Latite; Abundant Replacement Patches of Muscovite-Chlorite-Quartz-Ankerite-Pyrite-Ti-oxide; Vein of Quartz-(Muscovite)**

Relic patches of extremely fine grained latite dominated by plagioclase and a few patches of uncertain origin of very fine to fine grained plagioclase-(quartz) are surrounded by very fine to fine grained replacement patches dominated by muscovite/sericite, chlorite, and quartz, with much less ankerite, pyrite, and Ti-oxide. A vein is of quartz-(muscovite) and a veinlet is of quartz.

plagioclase	30-35%	quartz	0.2%
sericite/muscovite	8-10	Ti-oxide	minor
ankerite porphyroblasts	3- 4	opaque	minor
replacement patches			
muscovite	35-40	ankerite	2- 3
chlorite	12-15	pyrite	1- 2
quartz	4- 5	Ti-oxide	0.3
vein, veinlet			
quartz-(muscovite)	1- 2		

Latite patches up to a few mm across are dominated by slightly to moderately interlocking plagioclase grains averaging 0.01-0.03 mm in size. Quartz forms a few angular phenocrysts averaging 0.15-0.3 mm in size and minor grains averaging 0.01-0.02 mm in size in the groundmass. Alteration of plagioclase ranges from minor to moderate or strong to extremely fine to very fine grained sericite. With increasing content of sericite/muscovite, latite patches grade into replacement patches. Ankerite forms ragged porphyroblasts averaging 0.1-0.2 mm in size. Ti-oxide and opaque each forms disseminated grains averaging 0.01-0.02 mm in size.

A few patches up to 1 mm in size are of aggregates of plagioclase and less quartz; in some grain size averages 0.05-0.2 mm in size, and a few others it averages 0.1-0.4 mm. In these plagioclase is altered slightly to sericite. They probably are primary coarser grained fragments or patches, but alternately, they may represent an early replacement assemblage.

In strongly replaced patches, muscovite forms aggregates of feathery to subradiating flakes averaging 0.05-0.15 mm in size, and locally up to 0.3 mm long.

Chlorite forms patches up to 3.5 mm in size of flakes averaging 0.05-0.1 mm in size. These contain minor disseminated flakes of sericite and minor to moderately abundant patches of extremely fine grained Ti-oxide.

Quartz forms patches of equant grains averaging 0.1-0.3 mm in size and single grains and patches averaging 0.03-0.05 mm in grain size interstitial to muscovite.

Ankerite forms ragged grains averaging 0.1-0.2 mm in size, with a few up to 0.5 mm across. Opaque (pyrite) forms disseminated grains averaging 0.1-0.3 mm in size.

A vein up to 0.8 mm wider is dominated by very fine to fine grained quartz with less abundant patches of muscovite and minor chlorite and Ti-oxide. A discontinuous veinlet averaging 0.03 mm wide is of quartz.

Sample F-89-3 103.9 m **Latite Flow: Replacement Patches of Muscovite-(Quartz-Ankerite); Veins of Quartz-Muscovite-Ankerite-Pyrite-Chalcopyrite; Veinlets of Sericite, Ankerite**

Minor phenocrysts of plagioclase are set in an extremely fine grained groundmass dominated by plagioclase. Very fine grained patches of plagioclase may be early magmatic segregations. Replacement patches are dominated by muscovite with much less quartz, ankerite, chalcopyrite, chlorite, and pyrite. A few veins and veinlets are of two or more of quartz, muscovite, ankerite, chalcopyrite, and pyrite. Wispy veinlets are of sericite and of ankerite.

phenocrysts			
plagioclase	0.3%		
quartz	minor		
groundmass			
plagioclase		pyrite	0.3%
extremely fine	73-75	chalcopyrite	0.3
very fine patches	7- 8	Ti-oxide	0.1
ankerite	5- 7	hematite	trace
quartz	0.3	molybdenite	trace
apatite	trace	zircon	trace
replacement patches			
muscovite/sericite	5- 7	chlorite	0.2
ankerite	1	pyrite	0.1
quartz	0.5	tetrahedrite	trace
chalcopyrite	0.3		
veins, veinlets			
quartz-muscovite-ankerite-pyrite-chalcopyrite			4- 5%
sericite	0.3		
ankerite	0.1		

Plagioclase forms scattered anhedral to subhedral phenocrysts averaging 0.1-0.25 mm in size. They are altered slightly to sericite. Quartz forms a few angular phenocrysts averaging 0.15-0.2 mm in size.

The groundmass is dominated by slightly interlocking grains of plagioclase averaging 0.005-0.02 mm in size. Ankerite forms ragged porphyroblasts averaging 0.1-0.3 mm in size. Sericite forms disseminated flakes, probably as a replacement of plagioclase. Pyrite forms disseminated subhedral grains averaging 0.01-0.03 mm in size, and a few from 0.05-0.15 mm across. Chalcopyrite forms disseminated patches averaging 0.01-0.05 mm in size, and a few from 0.1-0.5 mm across. The largest patch of chalcopyrite contains a grain 0.05 mm across of hematite. Adjacent to this patch is a euhedral grain 0.03 mm across of molybdenite. Quartz forms disseminated grains averaging 0.02 mm in size. Ti-oxide forms disseminated grains averaging 0.01-0.02 mm in size. Apatite forms ragged grains averaging 0.1-0.2 mm in size. Zircon forms a euhedral, rhombic grain 0.03 mm across.

Scattered patches up to 1.2 mm across are of plagioclase and minor quartz averaging 0.02-0.03 mm in grain size. These probably are primary segregations of magmatic origin. Cores of these are loci for replacement aggregates dominated by very fine to fine grained muscovite, with minor quartz grains and ankerite patches.

(continued)

Many sericite/muscovite replacement patches up to 2 mm in size contain no very fine grained plagioclase; either it was not present or was replaced completely. Chalcopyrite and pyrite form disseminated patches averaging 0.05-0.15 mm in size. A few chalcopyrite patches are up to 1 mm long. Associated with chalcopyrite in one patch 0.3 mm across is a grain of tetrahedrite 0.1 mm long. One subhedral pyrite grain is 0.6 mm across.

A few replacement patches averaging 0.5-1 mm across are dominated by ankerite and chlorite, with less abundant patches of chalcopyrite and minor sericite.

Veins up to 0.9 mm wide are of very fine grained quartz, muscovite, ankerite, pyrite and chalcopyrite. Trace hematite is associated with chalcopyrite in on e vein. A discontinuous veinlet up to 0.05 mm wide is of quartz and calcite with one grain 0.3 mm long of apatite. A discontinuous veinlet up to 0.03 mm wide is of chalcopyrite-quartz. A discontinuous veinlet 0.05-0.1 mm wide is of quartz and pyrite.

Wispy seams averaging 0.02-0.03 mm wide are of sericite and of ankerite.

Sample Q-73-10 69.0 m **Dacite/Latite Tuff(?): Replacement Patches of Quartz; Vein of Quartz-Ankerite-(Magnetite-Biotite-Kaolinite-Bornite-Tetrahedrite); Veinlets of Ankerite; Stringers of Pyrite; Late Ankerite Veinlet**

Altered phenocrysts(?) of plagioclase and minor grains of quartz are set in a groundmass dominated by very fine grained plagioclase altered moderately to strongly to ankerite-sericite. Magnetite forms disseminated clusters. Pervasive replacement patches are of quartz. A vein is dominated by quartz and ankerite, with less abundant magnetite, biotite, kaolinite, bornite and tetrahedrite. A few veinlets are dominated by ankerite. Pyrite forms a network of stringers which offset an earlier ankerite-rich veinlet and are cut by a late ankerite-rich veinlet.

phenocrysts			
plagioclase(?)	4- 5%		
quartz	0.2		
groundmass			
plagioclase	75-78	chalcopyrite	0.3%
biotite	1- 2	apatite	0.1
magnetite	2- 3	Ti-oxide	minor
pyrite	1		
replacement patches			
quartz	10-12		
ankerite-kaolinite-(Ti-oxide)	1		
veins, veinlets			
quartz-ankerite-(magnetite-biotite-kaolinite-bornite-tetrahedrite)		1- 2%	
ankerite-(quartz)	0.5		
pyrite	1- 2		
late ankerite	0.1		

Discrete patches of sericite averaging 0.3-0.7 mm in size may represent altered plagioclase phenocrysts. These grade into more diffuse patches of sericite-ankerite, which may represent altered groundmass plagioclase.

Quartz forms scattered phenocrysts averaging 0.1-0.3 mm in size, and one 0.6 mm across.

The groundmass is dominated by plagioclase grains, averaging 0.03-0.05 mm in size, with a few patches of coarser grained aggregates averaging 0.1-0.4 mm in grain size in which plagioclase is intergrown with biotite and quartz. Alteration of plagioclase generally is strong to complete to ankerite and less abundant, interstitial patches of kaolinite and/or sericite.

Disseminated patches up to 1 mm in size are of clusters of equant, subhedral magnetite grains averaging 0.05-0.1 mm in size. Alteration is complete to opaque hematite and locally to red-brown hematite.

Biotite forms flakes averaging 0.1-0.2 mm and locally up to 0.5 mm in length. Alteration is complete to pseudomorphic kaolinite and lenses of ankerite.

Pyrite is concentrated in a zone up to 5 mm wide (see below). Chalcopyrite and much less pyrite and bornite form disseminated grains and patches averaging 0.01-0.05 mm in size and locally up to 0.2 mm across.

Apatite forms scattered anhedral to locally subhedral prismatic grains averaging 0.08-0.15 mm in size, and a few anhedral grains from 0.2-0.4 mm across. Ti-oxide forms clusters of a few to several extremely fine grains.

(continued)

Irregular to equant replacement patches averaging 0.2-0.5 mm in size and locally up to 1.5 mm across are of submosaic quartz averaging 0.02-0.07 mm in grain size.

Several patches up to 0.5 mm in size are of very fine grained, subhedral ankerite and minor to abundant interstitial patches of kaolinite. Ti-oxide forms tiny grains in kaolinite and in one patch also forms a prismatic grain 0.08 mm long.

A vein 0.3-0.5 mm wide is of very fine grained quartz and less ankerite. It contains a patch 0.3 mm across of bornite and tetrahedrite and a few patches up to 0.4 mm across of subhedral magnetite grains, replaced strongly by hematite. A discontinuous veinlet up to 0.3 mm wide is of quartz with much less plagioclase.

A veinlet 0.2-0.3 mm wide is dominated by very fine grained ankerite. Another 0.2 mm wide is offset 0.1-0.3 mm along a few pyrite stringers.

Pyrite is concentrated strongly in a zone up to 5 mm wide as disseminated grains, incipient veinlets and as abundant wispy, commonly subparallel stringers. One pyrite veinlet is up to 0.2 mm wide. Textures suggest that in this zone, the rock was fractured strongly and pyrite introduced along the fractures. Ankerite with minor chalcopyrite-bornite forms wispy stringers in the same zone.

A late vein up to 0.2 mm wide of extremely fine grained ankerite cuts the pyrite stringers.

Sample Q-73-10 136.5 m **Hornfelsed Slightly Porphyritic Dacite: Inclusions(?) of Plagioclase-Kaolinite/Illite-Biotite, Quartz-Chlorite-Apatite; Replacement Patches of Quartz-Pyrite-(Biotite-Chlorite); Veins of Quartz, Quartz-Plagioclase-Kaolinite/Illite; Kaolinite/Illite-Ankerite**

Phenocrysts of plagioclase are set in a groundmass dominated by plagioclase and less biotite and quartz. Inclusions(?) up o 2 mm across are of several types, containing one or more of plagioclase, kaolinite/illite, biotite, quartz, chlorite, and apatite. Replacement patches are of quartz and pyrite, with minor to abundant biotite and chlorite. Veins are of quartz, quartz-plagioclase-kaolinite/illite, and kaolinite/illite-ankerite.

phenocrysts	
plagioclase	7- 8%
groundmass	
plagioclase	55-60
biotite	12-15
quartz	8-10
pyrite	0.2
Ti-oxide	0.1
inclusions	4- 5
replacement patches	1
veins	
quartz-plagioclase-kaolinite/illite-(apatite)	4- 5
kaolinite/illite-ankerite	2- 3

Plagioclase forms anhedral to subhedral phenocrysts averaging 0.2-0.5 mm in size. These grade downwards in size to groundmass plagioclase. Alteration is slight to moderate to sericite and biotite.

Quartz forms a few phenocrysts averaging 0.2-0.3 mm in size.

The groundmass consists of plagioclase with less quartz and biotite averaging 0.02-0.05 mm in grain size. Biotite is pleochroic from pale to medium brown. It ranges from fresh to altered completely to chlorite-Ti-oxide; the latter occurs mainly in biotite-rich patches up to 0.5 mm in size. Some of the quartz may be of replacement origin. Pyrite forms disseminated patches up to 0.2 mm in size. Ti-oxide forms disseminated patches averaging 0.01-0.05 mm in size.

Scattered coarser grained patches up to 2 mm in size may be inclusions of hypabyssal rocks.

A few patches up to 1.5 mm in size are of intergrowths of plagioclase, biotite, and less chlorite averaging 0.05-0.15 mm in grain size. Some of these also contain interstitial patches of kaolinite/illite, some of which was removed from the section during sample preparation.

One patch 2 mm long is a very fine grained aggregate of biotite flakes, patches of chlorite, patches of kaolinite/illite, quartz, pyrite, and apatite. It sits in part across the quartz-rich vein, and appears not to have been affected by the vein.

One patch 1.2 mm across on the border of the quartz-plagioclase-kaolinite/illite veinlet is dominated by kaolinite/illite with much less biotite and minor quartz.

A few patches up to 0.7 mm in size of very fine to fine grained quartz and pyrite with or without biotite and chlorite are definitely of replacement origin.

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Two veins, 0.6-0.7 and 0.15-0.2 mm wide, respectively, are dominated by very fine to fine grained quartz with less plagioclase and patches of kaolinite/illite (as in the kaolinite/illite-ankerite vein). One contains an apatite grain 0.3 mm across. A vein 0.7 mm wide is dominated by very fine to fine grained quartz with minor interstitial, extremely fine grained ankerite and chlorite.

A late fracture-filling vein 0.6-1.0 mm wide is of kaolinite/illite-(ankerite). Along the border of the vein are zones up to 0.2 mm wide of equant kaolinite flakes averaging 0.005 mm in size and patches of ankerite averaging 0.1-0.2 mm in size. The core of the vein is dominated by composite kaolinite/illite(?) flakes oriented at a high angle to the walls of the vein. These flakes extend the width of the vein, and have an extremely fine internal texture. An offshoot up to 0.25 mm wide from the main vein is dominated by kaolinite-ankerite as along the border of the main vein.

Sample Q-73-10 248.0 m **Porphyritic Hypabyssal Dacite; Sericite-Chlorite-Ankerite Alteration; Inclusions of Hypabyssal Diorite/Quartz Diorite; Replacement Patches of Quartz-Gypsum-Chalcopyrite-Bornite-(Ti-oxide); Veins of Quartz-Gypsum(?)-Chalcopyrite-Ankerite; Veinlet of Ankerite**

Phenocrysts of plagioclase, quartz, and minor biotite and hornblende(?) and patches of magnetite are set in a groundmass dominated by albite. Inclusions are of hypabyssal diorite/quartz diorite composed of plagioclase, biotite, quartz. Replacement patches are dominated by quartz with less gypsum and much less chalcopyrite-(bornite-tetrahedrite-Ti-oxide). A vein and veinlet are dominated by quartz, gypsum(?), chalcopyrite, and ankerite. A veinlet is of ankerite.

phenocrysts	
plagioclase	17-20%
quartz	4- 5
hornblende (?)	1- 2
biotite	1
magnetite patches	0.5
inclusions (hypabyssal diorite/quartz diorite)	
plagioclase-biotite-quartz	4- 5
groundmass	
plagioclase	50-55
biotite	2- 3
magnetite	0.3
replacement patches	
quartz	8-10
gypsum(?)	1
chalcopyrite-(bornite-tetrahedrite)	0.7-1
veins, veinlet	
quartz-gypsum(?)-chalcopyrite-ankerite	2
ankerite	0.3

Plagioclase forms subhedral to euhedral phenocrysts averaging 0.7-3.0 mm in size. Alteration is slight to moderate to sericite and ankerite.

Quartz forms subrounded phenocrysts ranging from 1.5-2.5 mm in size.

Patches up to 1.5 mm in size of very fine to fine grained chlorite flakes (after biotite) and minor interstitial quartz may represent mafic inclusions or altered hornblende phenocrysts.

Biotite forms flakes up to 1.5 mm long. Alteration is complete to pseudomorphic chlorite, patches of ankerite, and disseminated Ti-oxide.

A few rounded patches up to 0.5 mm in size are of very fine grained magnetite and interstitial biotite flakes. Magnetite is altered to hematite, and biotite is altered to chlorite-ankerite. Several magnetite patches are intergrown with minor to abundant chalcopyrite and one is intergrown with ankerite and bornite.

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One diorite inclusion 3.5 mm across is an aggregate of medium grained plagioclase grains with interstitial patches of magnetite (altered moderately to strongly to hematite), quartz, and chalcopyrite-(bornite). Another plagioclase-rich diorite inclusion contains patches up to 1.5 mm in size of muscovite-chlorite and minor ones of chalcopyrite-(tetrahedrite). Tetrahedrite forms inclusions in chalcopyrite averaging 0.02-0.05 mm in size. Several smaller inclusions are aggregates of very fine grained plagioclase, chlorite (after biotite), magnetite, and minor quartz and apatite.

The groundmass is dominated by slightly interlocking grains of plagioclase averaging 0.01-0.02 mm in size. The freshness of the groundmass suggests that the plagioclase is albite. Biotite forms disseminated flakes averaging 0.05-0.3 mm in size; alteration is complete to pseudomorphic chlorite with lenses of ankerite and disseminated grains of Ti-oxide. One patch 0.,5 mm across is of an intimate intergrowth of extremely fine grained Ti-oxide and plates of hematite. Magnetite/hematite forms disseminated patches averaging 0.05-0.1 mm in size. Zircon forms a subhedral prismatic grain 0.11 mm long.

Patches up to 1 mm across of quartz averaging 0.05-0.08 mm in grain size, with or without chlorite, ankerite, chalcopyrite, and Ti-oxide are of replacement origin. Quartz also forms pervasive replacement zones in the groundmass in which it is intergrown irregularly with groundmass plagioclase, with grain size averaging 0.03-0.07 mm.

Gypsum(?) forms disseminated patches of replacement origin averaging 0.2-1 mm in size.

Disseminated replacement patches up to 0.3 mm in size are of chalcopyrite with or without minor tetrahedrite and bornite.

A vein 0.5-0.7 mm in width is of very fine to fine grained quartz, gypsum(?), chalcopyrite, and ankerite.

Wispy veinlets up to 0.2 mm wide which cut the groundmass but not plagioclase phenocrysts are of quartz with patches of gypsum(?), chalcopyrite, and minor bornite, magnetite, and apatite.

A veinlet averaging 0.1-0.15 mm wide is of extremely fine to very fine grained ankerite.

APPENDIX IX

STATEMENT OF QUALIFICATIONS

I, DARWIN W. PIROSHCO, OF 3548 POINT GREY ROAD, of the city of Vancouver, British Columbia do hereby certify that:

1. I am currently employed as a Geologist by Taseko Mines Limited at 1020-800 W. Pender Street, Vancouver, B.C.

2. I graduated from Queen's University in geology, having obtained a Master of Science degree in 1985.

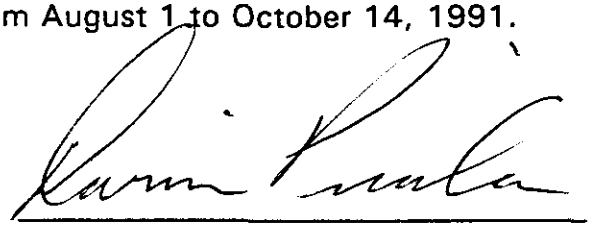
3. I graduated from the University of Calgary in geology, having obtained a Bachelor of Science degree in 1981.

4. I have worked in the field of mineral exploration in B.C., Ontario and the Northwest Territories.

5. I have worked as a field geologist for the government of Ontario, Ministry of Northern Development and Mines.

6. The foregoing report is based on:

   a. A study of all available company and government reports.
   b. Examination of drill core from August 1 to October 14, 1991.



Darwin W. Piroshco, B.Sc., M.Sc.
Geologist

STATEMENT OF QUALIFICATIONS

I, NADIA CAIRA, OF 303 - 122 W. 4 ST., of the city of North Vancouver, British Columbia do hereby certify that:

1. I am currently employed as a Geologist by Taseko Mines Limited at 1020-800 W. Pender Street, Vancouver, B.C.

2. I graduated from the University of British Columbia in geology, having obtained a Bachelor of Science degree in 1981.

4. I have worked in the field of mineral exploration in B.C., Ontario, Quebec, Yukon Territories, California, and Arizona.

5. The foregoing report is based on:

   a. A study of all available company and government reports.
   b. Examination of drill core from August 1 to October 15, 1991.

Nadia M. Caira, B.Sc., FGAC.
Geologist