Table A1. Archive of EDS analyses from WP3-LP3.
Elements presented as weight%. For locations of analyses see plates A1-A2.

sample	site	no.	oxygen by	type	phase	notes	wt%																					
							O	Na	Mg	Al	Si	P	S	K	Ca	Ti	V	Cr	Mn	Fe	Cu	Zn	Ge	As	Mo	Ag	Sn	Sb	Ba	Pb	Total
LP3-1	SOI 2	1	analysed	point	gahnite		31.74		0.37	27.95										1.49		35.23									96.79
LP3-1	SOI 2	2	analysed	point	willemite?	zinc silcate	26.17		0.34		12.58											58.66									97.76
LP3-1	SOI 2	3	analysed	point	zincite		18.07													0.22	0.40	79.96									98.66
LP3-1	SOI 2	4	analysed	point	zincite		17.42													0.26	0.35	78.78									96.82
LP3-1	SOI 2	5	analysed	point	gahnite		32.16		0.60	28.19		0.13						0.52		2.00		35.05									98.64
LP3-1	SOI 2	6	analysed	point	gahnite		32.83		0.44	28.46										2.05		34.70									98.47
LP3-1	SOI 2	7	analysed	point	willemite?	zinc silcate	26.94		0.98	0.18	12.69	0.19			0.13					0.41		56.58									98.10
LP3-1	SOI 2	8	analysed	point	willemite/gahnite	mixed?	23.74			1.24	10.14				0.14							53.60									88.84
LP3-1	SOI 2	9	analysed	point	ateration		59.41		0.66	8.23	25.53			0.96	5.34	0.70				1.40	0.87	16.24								4.82	124.16
LP3-1	SOI 2	10	analysed	point	gahnite		32.21			25.16	1.41				0.23	0.35				2.95		35.99					0.45				98.76
LP3-1	SOI 2	11	analysed	point	glass	altered zone	38.17		0.50	6.19	21.68			0.86	5.48	0.71				1.39	0.88	15.66								4.50	96.03
LP3-1	SOI 2	12	analysed	point	glass		36.15		0.55	5.43	20.28			0.74	5.19	0.67				1.25	1.25	17.03								4.43	92.97
LP3-2	SOI 2	1	analysed	point	zincite		19.57			0.46										0.81	1.06	77.05									98.95
LP3-2	SOI 2	2	analysed	point	gahnite		33.89			28.88										0.84		35.29									98.91
LP3-2	SOI 2	3	analysed	point	willemite		30.07		0.61	0.50	13.22									0.39	0.57	57.45									102.81
LP3-2	SOI 2	4	analysed	point	willemite/glass		36.45			6.66	16.08	0.36		0.89	4.23	1.09				1.57	4.64	8.76								7.24	87.97
LP3-2	SOI 2	5	analysed	point	glass		39.47		0.27	6.61	20.75	0.36		0.63	5.74	1.26				1.93	5.32	7.55								10.47	100.35
LP3-2	SOI 2	6	analysed	point	gahnite/glass		33.53		0.38	12.34	3.74				0.59	3.41				15.30	1.66	31.38					1.84			1.10	105.27
LP3-2	SOI 2	7	analysed	point	glass		38.03		0.27	5.17	20.89	0.28		0.58	5.55	1.29				1.66	5.50	9.06								10.68	98.95
LP3-2	SOI 2	8	analysed	point	willemite		29.07			0.55	12.81									0.22		58.12									100.77
LP3-3	SOI 2	1	analysed	area	bulk		44.71	1.24	0.78	13.72	23.21			1.55	4.14	0.60				10.09											100.04
LP3-3	SOI 3	1	analysed	point	plagioclase	bytownite	46.34	1.22		17.26	22.84			0.32	11.19					1.10											100.27
LP3-3	SOI 3	2	analysed	point	plagioclase	bytownite	46.79	1.23		17.70	22.39			0.24	11.88					1.08											101.31
LP3-3	SOI 3	3	analysed	point	hercynite		35.31		2.93	21.02	0.77				0.15	0.97	0.49			40.07											101.73
LP3-3	SOI 3	4	analysed	point	hercynite		37.61	0.26	3.20	22.00	3.47			0.39	0.18	0.63	0.30			34.93											102.97
LP3-3	SOI 3	5	analysed	point	glass		46.54	1.30	0.43	7.76	32.40	0.24		3.48	0.77	1.12				3.53											97.56
LP3-3	SOI 3	6	analysed	point	glass		46.41	1.05	0.38	8.02	31.50	0.22		3.32	0.97	1.19				3.53											96.58
LP3-3	SOI 3	7	analysed	point	glass		47.64	1.24	0.27	8.45	30.52	0.24		2.96	2.09	0.90				3.49											97.80
LP3-3	SOI 4	1	analysed	point	Al-magnetite		37.74	0.98	1.90	9.76	6.16			1.15		1.32		0.19		50.08											109.28
LP3-3	SOI 4	2	analysed	point	Al-magnetite		36.63	0.54	1.74	16.18	2.56			0.20	0.49	2.56			0.19	40.96											102.06
LP3-3	SOI 4	3	analysed	point	Al-magnetite		37.71	0.54	1.19	13.34	3.20				0.97	2.35				44.29											103.59
LP3-3	SOI 4	4	analysed	point	Al-magnetite		41.32	1.02	1.26	16.13	6.00			0.46	1.11	2.27				40.54											110.12
LP3-3	SOI 4	5	analysed	point	Mg-hercynite		40.44	0.37	4.99	26.15	3.01			0.75		0.43		0.21		22.80											99.15
LP3-3	SOI 4	6	analysed	point	Mg-hercynite		38.89	0.36	5.01	24.75	3.44			0.99		0.61		0.18		23.05											97.30
LP3-3	SOI 4	7	analysed	point	Mg-hercynite		38.69	2.35	1.34	13.94	17.37			2.98	1.08	0.57				10.45											88.79
LP3-3	SOI 6	1	analysed	point	Al-magnetite		32.25		1.16	5.25	0.30				0.21	3.03				56.59											98.81
LP3-3	SOI 6	2	analysed	point	Al-magnetite		41.79		1.29	3.51	0.47				0.46	1.33				62.66											111.49
LP3-3	SOI 6	3	analysed	point	Al-magnetite		35.44		1.08	2.59	0.44				0.40	1.92				62.47											104.34
LP3-3	SOI 6	4	analysed	point	Al-magnetite		39.13	0.80	1.25	8.74	3.51				1.13	1.02				56.41											111.98

sample	site	no.	oxygen by	type	phase	notes	wt%																						
							O	Na	Mg	Al	Si	P	S	K	Ca	Ti	V	Cr	Mn	Fe	Cu	Zn	Ge	As	Mo	Ag	Sn	Sb	Ba	Pb	Total
LP3-3	SOI 6	5	analysed	point	Mg-hercynite?		45.41	0.70	7.50	26.87	6.25	0.12			2.75				0.23	14.20											104.01
LP3-4	SOI 1	1	analysed	point	melilite		40.91	1.49	4.62	6.29	18.15			0.19	27.07					1.91											100.63
LP3-4	SOI 1	2	analysed	point	melilite		40.45	1.35	3.85	6.60	17.28			0.22	26.36					2.88											99.00
LP3-4	SOI 1	3	analysed	point	melilite		40.38	2.01	1.67	7.44	16.87			0.23	24.76					5.94											99.30
LP3-4	SOI 1	4	analysed	point	melilite		39.33	2.11	1.05	7.03	17.71			0.56	23.48	0.31				6.70											98.29
LP3-4	SOI 1	5	analysed	point	melilite		39.82	1.64	3.44	6.91	17.17			0.36	25.65					3.33							0.56				98.89
LP3-4	SOI 1	6	analysed	point	melilite		39.83	1.46	4.27	6.43	17.63			0.17	26.08					2.08											97.96
LP3-4	SOI 1	7	analysed	point	melilite		40.64	1.43	4.50	6.39	17.69			0.14	26.46					1.86											99.12
LP3-4	SOI 1	8	analysed	point	glass		41.59	0.43		7.60	19.65	0.17	0.11	2.03	18.82	1.23				5.59											97.22
LP3-4	SOI 1	9	analysed	point	glass		42.13	0.64		7.73	20.52	0.16	0.18	2.39	19.27	1.46				4.86											99.34
LP3-4	SOI 4	1	analysed	point	Al-diopside	"= fassaite	40.53	0.28	1.32	8.20	15.11	0.14			17.20	2.08		0.18		18.02											103.06
LP3-4	SOI 4	2	analysed	point	Al-diopside	"= fassaite	41.02	0.34	1.47	7.82	15.77			0.14	16.99	2.05				17.58											103.18
LP3-4	SOI 4	3	analysed	point	glass		43.46	1.23		8.90	21.89	0.16	0.23	2.62	18.39	1.28				3.31											101.48
LP3-4	SOI 4	4	analysed	point	melilite		42.50	1.30	5.65	5.73	18.95			0.13	28.31					1.77											104.34
LP3-4	SOI 4	5	analysed	point	melilite		42.15	1.46	4.45	6.51	18.09			0.17	27.60					2.99											103.41

Table A2. Archive of EDS analyses from WP3-LP4.
Elements presented as weight%. For locations of analyses see plates A3-A28.

sample	site	no.	oxygen by	type	phase	notes	wt%																							
							O	Na	Mg	Al	Si	P	S	Cl	K	Ca	Ti	V	Cr	Mn	Fe	Co	Ni	Cu	Zn	As	Mo	Sn	Sb	W	Pb	Total
LP4-01	SOI 3	1	analysed	area	bulk	leaded gunmetal	1.98			0.52											0.33			78.77	4.77	<		11.74	0.61		3.36	102.09
LP4-01	SOI 4	1	analysed	point	copper dendrite	alpha	1.33			0.43											0.34			83.07	5.32			8.59				99.08
LP4-01	SOI 4	2	analysed	point	copper dendrite	alpha	1.29			0.38											0.30			81.60	4.87			9.22				97.66
LP4-01	SOI 4	3	analysed	point	copper dendrite	alpha	1.04			0.32											0.31			84.77	5.77			6.17				98.38
LP4-01	SOI 4	4	analysed	area	bulk copper dendrite	alpha	1.61			0.39											0.33			83.73	5.27			7.35				98.69
LP4-01	SOI 4	5	analysed	area	bulk copper dendrite	alpha	1.36			0.49											0.26			80.61	5.13			9.96				97.80
LP4-01	SOI 4	6	analysed	point	interdendritic	alpha+delta	1.54																	65.50	1.20			30.56	1.31			100.11
LP4-01	SOI 4	7	analysed	point	interdendritic	alpha+delta	1.98																0.31	65.09	1.36			30.04	1.36			100.15
LP4-01	SOI 4	8	analysed	point	interdendritic	alpha+delta	1.58																0.33	63.97	1.19			30.07	1.31			98.45
LP4-01	SOI 4	9	analysed	point	interdendritic	alpha+delta	1.43																	64.84	1.13			30.56	1.50			99.46
LP4-01	SOI 4	10	analysed	point	lead phase	lead phase	19.01			6.13														4.24	0.51						92.40	122.29
LP4-01	SOI 4	11	analysed	point	lead phase	lead phase	11.61			1.96														10.44	0.72			0.75			87.83	113.29
LP4-01	SOI 4	12	analysed	area	bulk interdendritic	alpha+delta	1.59			0.24														68.21	1.89			25.05	1.37			98.35
LP4-01	SOI 4	13	analysed	area	bulk interdendritic	alpha+delta	1.37			0.23														67.51	1.70			25.56	1.15			97.52
LP4-01	SOI4b	1	analysed	area	lead phase		14.00			2.84														4.91							93.28	115.03
LP4-02	SOI 1	1	analysed	area	bulk	leaded gunmetal	2.88			0.56			0.19								0.45			83.24	4.59			10.33			2.63	104.87
LP4-02	SOI 2	1	analysed	area	bulk	leaded gunmetal	2.79			0.57											0.34			82.50	4.70	<		10.39	0.66		2.56	104.50
LP4-02	SOI 1	1	analysed	area	bulk	reprocessed after recalibration	3.00			0.56			0.19								0.45		0.22	83.28	4.58			10.47	0.40		2.62	105.77
LP4-03	SOI 1	1	analysed	area	bulk	leaded gunmetal with inclusions	4.64			1.24	5.61										0.41		<	72.55	4.20	<		11.73	<		2.35	102.73
LP4-03	SOI 2	1	analysed	area	bulk	leaded gunmetal with inclusions	4.23			1.21	4.91										0.22		0.25	72.71	4.12	<		11.64	0.37		2.64	102.30
LP4-04	SOI 1	1	analysed	area	bulk	leaded gunmetal	2.40			0.55			0.19								0.34		<	78.53	4.43			9.95	0.38		2.89	99.65
LP4-04	SOI 2	1	analysed	area	bulk	leaded gunmetal	2.17			0.60											0.33		<	75.59	4.10			9.25	0.41		2.40	94.84
LP4-04	SOI 3	1	analysed	area	bulk	alpha Cu dendrite	1.67			0.43											0.36		0.24	81.29	4.04			10.42	<			98.45
LP4-04	SOI 3	2	analysed	area	bulk	delta interdendritic	1.24																0.65	63.39	1.05			29.90	1.20			97.44
LP4-04	SOI 3	3	analysed	point	interdendritic alpha		1.30			0.32														78.82	3.30			11.74	0.79			96.28
LP4-04	SOI 3	4	analysed	point	interdendritic alpha		1.44			0.34													0.37	77.19	3.23			13.13				95.70
LP4-04	SOI 3	5	analysed	point	delta interdendritic		1.56																0.66	63.06	0.71			30.20	1.72			97.91
LP4-04	SOI 3	6	analysed	point	delta interdendritic		1.44																0.62	63.14	0.69			30.63	1.59			98.11
LP4-04	SOI 3	7	analysed	point	lead phase		2.25			0.21														14.49				6.33			85.34	108.62
LP4-04	SOI 3	8	analysed	point	lead phase	heavily oxidised	11.44			2.02														8.36							93.05	114.87
LP4-04	SOI 3	9	analysed	point	alpha Cu dendrite		1.78			0.35											0.47		<	79.05	4.16			11.41	0.77			97.99
LP4-04	SOI 3	10	analysed	point	alpha Cu dendrite		1.38			0.32											0.29		0.21	80.15	4.28			10.36				96.99
LP4-05	SOI 4	1	analysed	area	bulk	pearlite					1.08	0.26									95.52											96.85
LP4-05	SOI 4	2	analysed	area	bulk	pearlite					0.77	1.09								0.36	94.28											96.49
LP4-05	SOI 4	3	analysed	area	bulk	steadite				<	0.29	7.90								0.27	88.30											96.76
LP4-05	SOI 4	4	analysed	area	bulk	pearlite?					0.91	0.38									95.42											96.71
LP4-05	SOI 4	5	analysed	point	iron phosphide					<	0.22	14.28								0.49	81.94											96.92
LP4-05	SOI 4	6	analysed	point	iron in steadite													0.22		0.47	88.06											88.75
LP4-05	SOI 4	7	analysed	point	iron in steadite						0.61	0.36									94.58											95.55
LP4-05	SOI 4	8	analysed	point	iron in steadite						0.62	0.32								0.17	93.71											94.82
LP4-05	SOI 4	9	analysed	point	point in pearlite?						0.97	0.39									93.65											95.01
LP4-05	SOI 4	10	analysed	point	point in pearlite?						1.12	0.25									92.18											93.55
LP4-05	SOI 4	11	analysed	point	iron phosphide							13.96								0.35	79.51											93.82

sample	site	no.	oxygen by	type	phase	notes	wt%																							
							O	Na	Mg	Al	Si	P	S	Cl	K	Ca	Ti	V	Cr	Mn	Fe	Co	Ni	Cu	Zn	As	Mo	Sn	Sb	W	Pb	Total
LP4-05	SOI 5		analysed	area	bulk	overall specimen				0.36	0.88	1.28	0.15							0.47	84.02											87.16
LP4-06	SOI 3	1	analysed	area	bulk	overall specimen				0.40	1.00	0.86	0.20							0.21	81.13											83.80
LP4-06	SOI 4	1	analysed	area	bulk	pearlite					1.06	0.31									86.45											87.82
LP4-06	SOI 4	2	analysed	area	bulk	pearlite					1.31	0.21									85.88											87.40
LP4-06	SOI 4	3	analysed	area	bulk	pearlite				0.18	1.25	0.32									85.48											87.23
LP4-06	SOI 4	4	analysed	point	MnFe S	large inclusion							31.43				0.32	0.25	0.20	39.66	15.27											87.12
LP4-06	SOI 4	5	analysed	point	MnFe S	large inclusion							31.07				0.28	0.29	0.22	40.06	15.03										1.41	88.37
LP4-06	SOI 4	6	analysed	point	cementite?	dark in pearlite					1.26	0.30									86.37											87.92
LP4-06	SOI 4	7	analysed	point	cementite? (oxidised)	dark in pearlite	11.51	0.40		5.13	1.07	1.06				0.34					80.87											100.37
LP4-06	SOI 6	1	analysed	point	iron						0.54	0.39									81.55											82.48
LP4-06	SOI 6	2	analysed	area	bulk	grey iron particle				0.64	0.69	0.36									73.29											74.97
LP4-06	SOI 6	3	analysed	quartz			41.23			0.20	38.99					0.72	0.67															81.80
LP4-06	SOI 6	4	analysed	area	bulk	slag	32.45	0.20	0.43	7.75	19.54		0.13		0.74	1.82	0.79			5.49	7.51											76.84
LP4-06	SOI 6	5	analysed	quartz			42.24				4<																					82.24
LP4-06	SOI 7	1	analysed	point	iron/glass	mixed	12.78		0.36	3.24	6.50		0.10			0.53	0.15			1.45	72.79											97.91
LP4-06	SOI 7	2	analysed	point	iron/glass	mixed	21.71	0.29	0.51	5.61	12.39		0.12		0.33	0.95	0.47			2.84	56.10											101.31
LP4-06	SOI 7	3	analysed	point	iron	with P						0.72								0.46	83.47											84.65
LP4-06	SOI 7	4	analysed	point	glass		33.37	0.18	0.47	7.93	20.37		0.12		0.80	1.98	0.84			6.01	7.46											79.55
LP4-06	SOI 7	5	analysed	area	bulk	slag	34.14		0.50	7.69	20.34		0.09		0.77	2.04	0.88			5.88	7.82											80.15
LP4-7	SOI 5	1	analysed	area	bulk		3.90			0.57	2.86	0.22				0.13				0.48	84.11											92.28
LP4-7	SOI 5	2	analysed	area	bulk	iron					3.19	0.23								0.48	95.06											98.96
LP4-7	SOI 5	3	analysed	area	bulk	area of fine graphite	2.77				2.96	0.23	0.15							0.48	85.24											91.84
LP4-7	SOI 5	4	analysed	point	iron						2.99	0.34								0.48	96.62											100.43
LP4-7	SOI 5	5	analysed	point	iron phosphide						0.29	14.13								1.35	82.21											97.98
LP4-7	SOI 5	6	analysed	point	iron	between graphite					3.17	0.19									96.16											99.52
LP4-7	SOI 5	7	analysed	point	iron	between graphite					3.23	0.18								0.36	96.84											100.60
LP4-7	SOI 5	8	analysed	point	iron	dark - cementite?					2.81	0.33								0.54	94.39											98.08
LP4-7	SOI 5	9	analysed	point	iron	between graphite					3.11	0.18								0.39	95.57											99.25
LP4-7	SOI 5	10	analysed	point	iron	between graphite					3.31	0.20								0.37	97.51											101.39
LP4-7	SOI 6	1	analysed	point	iron						3.33										83.02											86.35
LP4-7	SOI 6	2	analysed	area	bulk	whole sample	3.54			0.48	2.29	1.10				0.16				0.51	75.16											83.25
LP4-8	SOI 2	1	analysed	point	high Si iron					0.95	8.91	0.62							0.34	0.34	87.65											98.82
LP4-8	SOI 2	2	analysed	point	high Si iron					3.59	8.64	0.45				0.13		0.19	0.42	0.37	84.80						0.40					98.99
LP4-8	SOI 2	3	analysed	point	mullite core		45.50			38.10	11.62	0.15					0.39															95.77
LP4-8	SOI 2	4	analysed	point	mullite		44.66			37.70	12.03	0.14					0.36															94.88
LP4-8	SOI 2	5	analysed	point	mullite?	brighter margin	47.69		0.31	27.68	21.43				0.71	0.89	0.60			0.39												99.71
LP4-8	SOI 2	6	analysed	point	mullite core		45.76			38.17	11.87	0.13					0.58															96.52
LP4-8	SOI 2	7	analysed	point	mullite?	brighter margin	49.26			31.65	20.25	0.17			0.53	0.49	1.14															103.49
LP4-8	SOI 2	8	analysed	point	glass		45.92	0.28	0.80	11.33	30.30		0.07		1.84	3.19	0.98			1.24												95.95
LP4-8	SOI 2	9	analysed	point	glass		45.13	0.26	0.93	11.63	29.31				1.79	3.48	1.13			1.41												95.08
LP4-8	SOI 2	10	analysed	point	glass		49.77	0.19	0.56	14.87	30.91				1.59	1.49	1.24			0.79												101.41
LP4-8	SOI 2	11	analysed	point	glass		46.54	0.22	0.99	12.46	29.67				1.74	3.65	1.06			1.58												97.92
LP4-8	SOI 2	12	analysed	area	bulk	slag	46.00		0.51	23.05	24.00				1.11	1.67	0.80			0.70	0.78											98.62
LP4-8	SOI 3	1	analysed	point	SiC?		0.54			0.17	65.55										0.63								0.59			67.50
LP4-8	SOI 3	2	analysed	point	ferrosilicon						29.43	1.10					1.61	0.24		0.24	62.43											95.04
LP4-8	SOI 3	3	analysed	point	ferrosilicon						21.43	0.27					0.61	0.27		0.87	70.43											93.88
LP4-8	SOI 3	4	analysed	point	hole		24.41			31.61	1.50	0.10				0.14					3.03											60.81
LP4-8	SOI 3	5	analysed	point	glass		49.58	0.22	0.24	10.21	33.91				1.51	0.48	0.34				0.21						0.32					97.03
LP4-8	SOI 3	6	analysed	area	bulk		4.74			2.08	18.52	0.35					0.62	0.19	0.17	0.80	64.55											92.02

sample	site	no.	oxygen by	type	phase	notes	wt%																							
							O	Na	Mg	Al	Si	P	S	Cl	K	Ca	Ti	V	Cr	Mn	Fe	Co	Ni	Cu	Zn	As	Mo	Sn	Sb	W	Pb	Total
LP4-8	SOI 4	1	analysed	point	mullite	core	46.70			34.21	13.82	0.13			0.25	0.15	0.81															96.08
LP4-8	SOI 4	2	analysed	point	mullite/glass	mixed/margin	43.34	0.16	0.34	16.15	25.64				1.37	0.73	0.88			0.33	0.21											89.15
LP4-8	SOI 4	3	analysed	point	mullite/glass	mixed/margin	50.49		0.26	26.92	24.60				0.81	0.41	0.73															104.22
LP4-8	SOI 4	4	analysed	point	glass		46.49	0.27	0.84	9.53	32.47				2.05	1.60	1.10			0.63	0.39											95.36
LP4-8	SOI 4	5	analysed	point	glass		47.08	0.32	0.88	9.70	33.07		0.11		2.08	1.66	1.13			0.60	0.30											96.93
LP4-8	SOI 4	6	analysed	point	glass		47.17	0.21	0.87	10.08	32.63				2.02	1.66	1.24			0.61	0.33											96.81
LP4-8	SOI 4	7	analysed	point	iron	bleb				0.22	0.83	0.78					0.19				95.26											97.27
LP4-8	SOI 4	8	analysed	point	iron/glass	bleb	14.77		0.40	5.72	9.57	0.72			0.44	0.37	0.21				79.01											111.20
LP4-8	SOI 4	9	analysed	point	iron/glass	bleb	16.98	0.38	0.83	5.97	15.15	0.42			0.66	0.61	0.42			0.20	72.24											113.87
LP4-8	SOI 4	10	analysed	point	iron/glass	bleb	7.41			3.39	3.77	0.56				0.20					89.45											104.78
LP4-9	SOI 2	1	analysed	point	iron (high Si)						3.60	0.22								0.28	90.90											95.00
LP4-9	SOI 2	2	analysed	point	iron (high Si)						3.82	0.14								0.25	90.66											94.87
LP4-9	SOI 2	3	analysed	point	iron (high Si)						3.62	0.32									98.19											102.13
LP4-9	SOI 2	4	analysed	area	rusted area		13.67			3.49	2.41	0.15	0.88			0.34				1.38	61.83											84.16
LP4-9	SOI 2	5	analysed	area	iron (high Si)					0.24	3.06	2.12									87.20											92.62
LP4-9	SOI 2	6	analysed	area	iron (high Si)						3.23	1.37								0.27	89.17											94.04
LP4-9	SOI 2	7	analysed	area	iron with graphite		3.10			0.43	3.12	0.29								0.32	76.04											83.30
LP4-9	SOI 2	8	analysed	area	bulk	whole sample	5.08			0.99	3.16	0.75	0.14			0.20				0.27	80.81											91.39
LP4-9	SOI 2	9	analysed	point	oxidised iron		37.47	0.28		16.40	2.84		0.28	0.90		0.93					35.88											94.98
LP4-9	SOI 2	10	analysed	point	oxidised iron		21.15	<		4.75	3.15	0.17		0.29		0.38				0.23	72.03											102.16
LP4-9	SOI 3	1	analysed	point	iron/glass	mixed	9.05	0.33		2.30	1.21	2.20		0.36	0.19	0.61				0.29	86.12											102.67
LP4-9	SOI 3	2	analysed	point	iron/glass	mixed	7.81			1.95	1.94	1.15	0.57	0.45	0.14	0.30					80.15											94.46
LP4-9	SOI 3	3	analysed	point	iron/glass	mixed	6.37			1.53	2.67	0.79	0.92		0.14	0.17	0.17				91.38											104.14
LP4-9	SOI 3	4	analysed	point	mullite	core	47.09			36.85	10.97	0.13					0.44															95.48
LP4-9	SOI 3	5	analysed	point	mullite	margin	48.73			32.54	16.25	0.17			0.28	0.21	0.87			0.18	0.24											99.47
LP4-9	SOI 3	6	analysed	point	glass		45.76	0.21	0.89	9.58	28.67				1.80	1.81	1.13			2.06	1.58											93.46
LP4-9	SOI 3	7	analysed	point	glass		46.59	0.24	0.89	9.88	28.73				1.84	1.81	1.17			2.20	1.62											94.97
LP4-9	SOI 3	8	analysed	area	bulk	slag	46.89		0.75	15.13	26.21				1.50	1.40	1.07			1.65	1.76											96.36
LP4-10	SOI 1	1	analysed	point	error		7.79			0.26	1.87	0.09	0.12			0.12				0.16	11.68											22.09
LP4-10	SOI 1	2	analysed	area	area of grey iron	oxidised	35.01			0.99	5.04	1.46	0.90	0.87		0.15				0.49	48.12											93.04
LP4-10	SOI 1	3	analysed	area	area of grey iron	oxidised	27.16			1.56	4.50	1.59	0.68	0.82		0.27				0.34	32.84											69.76
LP4-10	SOI 1	4	analysed	area	area of grey iron	oxidised	18.03			1.77	3.29	0.74	0.50	0.30		0.18				0.39	25.51											50.70
LP4-10	SOI 1	5	analysed	area	area of grey iron	oxidised	18.58			0.88	4.12	1.44	0.45	0.29		0.26				0.53	17.98											44.53
LP4-10	SOI 3	1	analysed	point	iron phosphide						0.26	14.24								0.53	79.61											94.63
LP4-10	SOI 3	2	analysed	point	weathered iron	bright	28.73			0.12	0.20	0.20	0.22	0.18						0.26	67.39											97.29
LP4-10	SOI 3	3	analysed	point	weathered iron	dull	28.10			0.41	10.73	0.76	1.23	0.17		0.44					38.37											80.21
LP4-10	SOI 3	4	analysed	point	weathered iron	bright	32.89				0.21	0.78	0.19	0.22						0.61	57.52											92.42
LP4-10	SOI 3	5	analysed	point	weathered iron	dark	37.96				11.64	0.58	0.66	0.80				0.20	0.16		41.60	0.36										93.95
LP4-10	SOI 3	6	analysed	point	iron phosphide						0.25	14.17		0.13						0.78	83.14											98.47
LP4-10	SOI 3	7	analysed	point	weathered iron	bright striated	30.78			0.17			1.01	2.43						0.29	55.81											90.49
LP4-10	SOI 3	8	analysed	point	weathered iron	in steadite	23.60				3.51	5.19	0.69	0.23				0.13	0.19	0.36	45.50											79.41
LP4-10	SOI 3	9	analysed	point	weathered iron	dark	37.05			0.22	7.10	4.61	0.81	0.37						0.58	40.56											91.30
LP4-10	SOI 3	10	analysed	area	bulk	weathered steadite	11.27			0.22	1.06	11.94		0.22						0.69	70.63											96.01
LP4-10	SOI 3	11	analysed	area	bulk	between graphite areas	35.11			0.17	8.20	0.53	0.97	1.41						0.32	44.04											90.75
LP4-10	SOI 3	12	analysed	area	bulk	edge of graphite area	35.65			0.30	2.90	0.28	1.01	2.97						0.22	48.77											92.11
LP4-10	SOI 3	13	analysed	area	bulk	core of graphite area	32.16			0.67	7.51	0.47	0.58	1.87		0.20				0.21	39.35											83.01
LP4-10	SOI 4	1	analysed	area	bulk	weathered ?pearlite	20.79			3.06	5.19	0.39	0.50	0.25		0.48				0.18	24.04											54.88
LP4-10	SOI 4	2	analysed	area	bulk	weathered graphite area	16.47			0.75	3.99	0.25	0.28	0.12		0.25				0.18	21.67											43.97
LP4-10	SOI 4	3	analysed	area	bulk	weathered iron	19.54			4.29	4.01	1.27	0.46	0.21		0.38				0.68	26.57											57.40
LP4-10	SOI 4	4	analysed	area	bulk	weathered steadite	10.95			0.70	2.02	12.23				<	0.13	0.19		0.60	63.36											90.18

sample	site	no.	oxygen by	type	phase	notes	wt%																							
							O	Na	Mg	Al	Si	P	S	Cl	K	Ca	Ti	V	Cr	Mn	Fe	Co	Ni	Cu	Zn	As	Mo	Sn	Sb	W	Pb	Total
LP4-11	SOI 1	1	analysed	area	bulk	quartz	53.71			1.00	42.99		<								0.26							0.27				98.24
LP4-11	SOI 1	2	analysed	area	bulk	iron with P and S						3.90	2.18								90.18											96.26
LP4-11	SOI 1	3	analysed	area	bulk	slag	43.98	0.26	0.54	6.92	26.14				0.75	2.27	1.37			8.90	10.16						0.69					101.98
LP4-11	SOI 1	4	analysed	area	bulk	quartz	44.93			0.64	39.21																					84.78
LP4-11	SOI 1	5	analysed	area	bulk	quartz	47.12			1.15	39.78		0.08			0.08	0.09			0.23	0.38											88.91
LP4-11	SOI 2	1	analysed	point	hole/graphite		6.42			0.64	0.32	3.33	0.12		0.11	0.45					75.05											86.43
LP4-11	SOI 2	2	analysed	point	FeS	inclusion				0.16			33.97							0.25	64.66											99.04
LP4-11	SOI 2	3	analysed	point	oxidised iron		5.30					2.45									96.35											104.09
LP4-11	SOI 2	4	analysed	point	iron							1.79									97.75											99.54
LP4-11	SOI 2	5	analysed	point	steadite?							11.39	0.95								88.67											101.01
LP4-11	SOI 2	6	analysed	area	bulk							2.08									97.76											99.84
LP4-11	SOI 2	7	analysed	area	bulk							10.72	0.62								87.62											98.96
LP4-11	SOI 2	8	analysed	area	bulk								35.61							0.39	63.64											99.64
LP4-11	SOI 2	9	analysed	point	graphite		17.34			13.46	0.82	3.23	0.17			1.23					61.98											98.24
LP4-11	SOI 2	10	analysed	point	sulphide rim								36.22							0.53	65.81											102.57
LP4-11	SOI 2	11	analysed	point	altered rim	P rich				0.24	0.44	12.84	0.35								86.31											100.17
LP4-11	SOI 2	12	analysed	point	hole/graphite		18.74			0.15		7.69		0.21	0.13	0.47					82.90											110.28
LP4-11	SOI 2	13	analysed	point	FeS	inclusion						0.20	34.74							0.43	65.07											100.44
LP4-11	SOI 3	1	analysed	point	iron with P							2.48									100.23											102.71
LP4-11	SOI 3	2	analysed	point	iron with P							2.22									98.47											100.69
LP4-11	SOI 3	3	analysed	point	FeS	inclusion						0.17	35.85								65.04											101.05
LP4-11	SOI 3	4	analysed	area	bulk	iron						2.45									97.78											100.24
LP4-11	SOI 3	5	analysed	area	bulk	particle	4.84			0.52		2.36	2.44			0.19					92.06											102.41
LP4-11	SOI 3	6	analysed	area	bulk	slag	41.94	0.39	0.48	7.13	25.26		0.22		0.85	2.29	1.33			8.15	9.24											97.28
Lp4-12	SOI 2	Sum	analysed	sum	bulk	grey iron	2.9973			0.50	3.06	0.81	0.33			0.04				0.27	85.85											93.85
LP4-12	SOI 3	1	analysed	area	bulk	graphite area				0.75	2.90	0.26									90.14											94.04
LP4-12	SOI 3	2	analysed	area	bulk	steadite zone?					1.31	8.10	0.24								88.09											97.74
LP4-12	SOI 3	3	analysed	area	bulk	pearlite cell					3.80										95.94											99.74
LP4-12	SOI 3	4	analysed	area	bulk	graphite area	4.33			0.57	3.10	0.28									92.65											100.93
LP4-12	SOI 3	5	analysed	area	bulk	sample					3.03	1.75	0.34							0.24	94.22											99.58
LP4-12	SOI 4	1	analysed	point	in fine steadite						0.20	0.95						0.32			90.42											91.89
LP4-12	SOI 4	2	analysed	point	in fine steadite						1.71	9.84									87.63											99.18
LP4-12	SOI 4	3	analysed	point	in fine steadite						0.74	4.35									89.41											94.50
LP4-12	SOI 4	4	analysed	point	cementite	in pearlite					3.50	0.23									94.88											98.60
LP4-12	SOI 4	5	analysed	point	ferrite	in pearlite					3.55	0.25									95.41											99.21
LP4-12	SOI 5	1	analysed	area	bulk	slag	45.84		0.41	16.25	26.70				1.36	0.87	0.82			0.61	4.12											96.98
LP4-12	SOI 5	2	analysed	point	iron with P and Ni							1.14									91.02		2.40									94.55
LP4-12	SOI 5	3	analysed	point	glass		43.88	0.25	0.50	8.96	29.54				1.64	1.25	0.84			0.86	5.42											93.15
LP4-12	SOI 5	4	analysed	point	mullite	core	45.22			37.18	11.33						0.35				0.26											94.35
LP4-12	SOI 5	5	analysed	point	mullite	core	46.54			33.91	14.98	0.18			0.19		0.73				0.53											97.05
LP4-12	SOI 6	1	analysed	point	iron	with Ni	1.80			1.29	0.89				0.03	0.05					37.88		3.54	0.27								45.76
LP4-12	SOI 6	2	analysed	point	iron/glass	with Ni and P, S	14.54		0.28	5.41	11.45	4.24	2.64	0.23	0.64	0.47	0.28			0.31	40.09		2.81									83.40
LP4-12	SOI 6	3	analysed	area	bulk	slag	39.71		0.47	13.76	24.92			0.16	1.24	1.02	0.73			0.62	3.87											86.49
LP4-12	SOI 6	4	analysed	point	mullite	core	37.65			34.50	11.54	0.14		0.40			0.25				0.24											84.72
LP4-12	SOI 6	5	analysed	point	mullite		43.50			31.81	14.00	0.16			0.21	0.18	0.42				0.71											90.98
LP4-12	SOI 6	6	analysed	point	glass		42.28	0.32	0.54	9.05	27.92				1.64	1.39	0.90			0.88	5.50											90.42
LP4-13	SOI 1	1	analysed	area	bulk	iron drop	5.07			1.08	1.20	0.73	0.22			0.33				0.37	62.79											71.79
LP4-13	SOI 1	2	analysed	area	bulk	slag	36.80	0.29	1.39	7.21	22.74		0.11		0.74	7.72	0.82			3.75	7.60											89.19
LP4-13	SOI 1	3	analysed	area	bulk	quartz	20.14			1.31	18.26				0.27						0.22											40.20

sample	site	no.	oxygen by	type	phase	notes	wt%																							
							O	Na	Mg	Al	Si	P	S	Cl	K	Ca	Ti	V	Cr	Mn	Fe	Co	Ni	Cu	Zn	As	Mo	Sn	Sb	W	Pb	Total
LP4-13	SOI 1	4	analysed	point	quartz/hole		19.52	0.16	0.19	2.60	14.97				1.31	1.65	0.20			0.62	1.63											42.85
LP4-13	SOI 1	5	analysed	point	quartz		19.28			0.41	20.05										0.31											40.05
LP4-13	SOI 1	6	analysed	point	quartz		20.38				19.68										0.20											40.26
LP4-13	SOI 1	7	analysed	point	hole		0.38			0.16	0.05					0.03					0.05											0.67
LP4-13	SOI 2	1	analysed	point	node in graphite		27.20	0.39	0.13	9.80	2.40	0.11	0.33			1.37				0.44	40.66											82.81
LP4-13	SOI 2	2	analysed	area	bulk	iron sample	6.51			1.60	1.62	1.19	0.20			0.40				0.32	79.50											91.34
LP4-13	SOI 3	1	analysed	point	iron/glass	small bleb	9.85		0.78	3.58	9.45		1.56		0.24	2.62	0.27			1.18	73.07											102.59
LP4-13	SOI 3	2	analysed	point	phosphide rich							6.80	0.22								83.58		0.34									90.95
LP4-13	SOI 3	3	analysed	point	FeS rim		3.79			0.48	1.28	1.33	27.92			0.67				0.85	61.99			0.32								98.63
LP4-13	SOI 3	4	analysed	point	weathered zone		24.55	0.88	<	0.67	0.57	9.89	0.24		0.99	1.75					46.64		0.38	0.33								86.86
LP4-13	SOI 3	5	analysed	point	intergrowth zone		14.71	0.57		1.49	0.76	9.43	0.17		0.29	1.20					63.05		0.39									92.06
LP4-13	SOI 3	6	analysed	point	glass		38.19	0.32	1.40	7.27	23.26		0.12		0.89	8.01	0.91			3.71	7.06											91.14
LP4-13	SOI 3	7	analysed	point	glass		36.99	0.21	1.45	7.26	23.10				0.79	7.98	0.88			3.82	7.24											89.73
LP4-13	SOI 3	8	analysed	point	phosphide rich						0.19	3.52									91.26											94.97
LP4-13	SOI 3	9	analysed	point	weathered zone		31.01	1.66		0.53	0.41	10.29	0.24		1.27	2.04					38.99		0.48	0.34								87.26
LP4-14	SOI 2	1	analysed	point	mullite		48.59			32.16	14.13					0.19	0.48		0.18	0.56	7.92											104.21
LP4-14	SOI 2	2	analysed	point	mullite		49.77			32.19	11.87	0.14					0.47				10.71											105.14
LP4-14	SOI 2	3	analysed	point	mullite		51.12			36.07	11.89						0.42				5.88											105.38
LP4-14	SOI 2	4	analysed	point	mullite		51.03			34.01	12.54	0.15					0.42				9.55											107.70
LP4-14	SOI 2	5	analysed	point	glass		49.04	0.28	0.43	9.41	28.64	0.35			1.21	2.43	1.12			2.68	8.79											104.40
LP4-14	SOI 2	6	analysed	point	glass		49.38	0.24	0.50	10.13	28.23				1.21	2.59	1.17			2.77	7.54											103.76
LP4-14	SOI 2	7	analysed	point	Al-magnetite		32.33		0.76	8.07	0.17						0.80			3.63	58.53											104.28
LP4-14	SOI 2	8	analysed	point	Al-magnetite		31.80		0.77	8.31	0.28					0.16	0.81			3.89	57.18											103.20
LP4-14	SOI 2	9	analysed	point	Al-magnetite		35.75	0.30	0.69	7.93	8.58				0.31	0.29	0.93			3.52	50.72											109.04
LP4-14	SOI 3	1	analysed	point	iron	with Ni						2.42									97.82		0.94									101.18
LP4-14	SOI 3	2	analysed	point	weathered	with Ni and Cu	32.10	1.78		0.56	0.26	7.41	1.10		0.88	0.62					50.02		1.29	0.40								96.42
LP4-14	SOI 3	3	analysed	point	FeS					1.21	0.34		30.80								69.76											102.12
LP4-14	SOI 3	4	analysed	point	iron/glass		12.23			6.36	4.11	1.95			0.16						91.31		0.55									116.68
LP4-14	SOI 3	5	analysed	point	iron/glass		33.46		0.30	11.23	14.07	2.25	1.54		0.41		0.33				73.06		0.53									137.18
LP4-14	SOI 3	6	analysed	point	mullite	core	52.98			40.03	12.70	0.16					0.42															106.30
LP4-14	SOI 3	7	analysed	point	mullite	margin	52.86			35.29	15.59	0.17			0.31		0.65				0.29											105.17
LP4-14	SOI 3	8	analysed	point	glass		52.69	0.24	0.65	8.51	35.68				2.13	0.82	1.11		0.33		1.91											104.08
LP4-14	SOI 3	9	analysed	point	glass		52.28	0.29	0.65	8.36	35.23				2.21	0.83	1.05		0.29		2.04											103.22
LP4-14	SOI 3	10	analysed	area	bulk	slag	52.70	0.27	0.54	11.87	34.13				1.87	0.68	0.93				2.11											105.09
LP4-15	SOI 9	1	analysed	point	alpha phase	replaces SOI2	0.45																	19.36	0.84		0.77					21.43
LP4-15	SOI 9	2	analysed	point	alpha phase		0.76			0.22														20.38	0.85		0.52					22.73
LP4-15	SOI 9	3	analysed	point	lead phase/oxidised		6.30			0.29			0.29	0.22										1.17					19.80		28.07
LP4-15	SOI 9	4	analysed	area	grain	leaded gunmetal	1.14			0.12			0.15											19.18	0.72	<	0.99		2.64		24.93
LP4-15	SOI 10	1	analysed	area	grain	leaded gunmetal	4.12			0.49			0.46	0.20										78.53	3.61		4.57		7.45		99.43
LP4-15	SOI 10	2	analysed	point	alpha phase		1.23			0.35														88.52	4.04		1.97				96.11
LP4-15	SOI 10	3	analysed	point	alpha phase		1.96						0.17											86.22	3.63		2.98				94.96
LP4-15	SOI 10	4	analysed	point	lead phase		11.86			0.97				0.31										2.43					90.09		105.67
LP4-15	SOI 10	5	analysed	point	alpha phase		1.14																	87.22	2.82		6.83				98.00
LP4-15	SOI 10	6	analysed	point	weatehred margin		8.08			0.25			0.49								0.74			46.72	1.77		6.24		26.38		90.67
LP4-16	SOI 3	1	analysed	area	iron						0.48									0.92	98.48											99.88
LP4-16	SOI 3	2	analysed	area	bulk	whole sample	6.80			0.88	0.66			0.29						0.95	89.50											99.08
LP4-16	SOI 3	3	analysed	area	cavity?		26.27			0.33	0.53	0.13		0.41		0.48				0.79	62.26											91.21
LP4-16	SOI 3	4	analysed	area	iron						0.43									0.88	98.92											100.24
LP4-16	SOI 3	5	analysed	area	iron						0.52									0.79	101.55											102.85

sample	site	no.	oxygen by	type	phase	notes	wt%																							
							O	Na	Mg	Al	Si	P	S	Cl	K	Ca	Ti	V	Cr	Mn	Fe	Co	Ni	Cu	Zn	As	Mo	Sn	Sb	W	Pb	Total
LP4-16	SOI 5	1	analysed	area	iron						0.72									0.39	100.67										101.78
LP4-16	SOI 5	2	analysed	point	graphite/corrosion		14.13			0.83	0.25	0.90	0.20			0.50				1.21	76.25										94.27
LP4-16	SOI 5	3	analysed	point	iron						0.65	0.16								0.33	100.50										101.64
LP4-16	SOI 5	4	analysed	point	iron		6.95			0.16	0.58									0.68	97.33										105.70
LP4-16	SOI 6	1	analysed	area	bulk	whole texture	5.88			1.77	0.71	0.84	0.53							0.76	90.03										100.51
LP4-16	SOI 6	2	analysed	area	iron						0.62	0.23								0.51	96.56										97.92
LP4-16	SOI 6	3	analysed	area	iron						0.66	0.36								0.40	94.36										95.79
LP4-16	SOI 6	4	analysed	area	iron						0.58	0.54									98.55										99.67
LP4-16	SOI 6	5	analysed	point	iron						0.67	0.34								0.27	96.96										98.24
LP4-16	SOI 6	6	analysed	point	iron						0.57	0.28								0.33	97.77										98.94
LP4-16	SOI 6	7	analysed	point	iron						0.52	0.21								0.60	96.87										98.21
LP4-16	SOI 6	8	analysed	point	iron						1.08	0.27		0.14						0.47	94.24										96.20
LP4-16	SOI 6	9	analysed	point	MnS								36.47					0.47		42.82	20.64										100.42
LP4-16	SOI 6	10	analysed	point	MnS						0.26		35.61							42.84	19.77										98.49
LP4-16	SOI 6	11	analysed	point	weathered iron		13.14				0.73					0.20				0.40	87.33										101.80
LP4-16	SOI 6	12	analysed	point	iron						0.69	0.31								0.26	93.49										94.75
LP4-16	SOI 6	13	analysed	point	weathered iron		14.33				0.81	0.40		0.20		0.15				0.36	89.98										106.23
LP4-16	SOI 6	14	analysed	point	iron						0.62	0.63									97.11										98.36
LP4-16	SOI 6	15	analysed	point	hole/graphite?		30.63			24.47	0.70	0.89	0.27			4.54				0.21	33.33										95.04
LP4-16	SOI 6	16	analysed	point	hole/graphite?		18.15			8.51	0.41	0.65	0.36	0.15		0.24				0.65	63.62										92.74
LP4-16	SOI 6	17	analysed	point	hole/graphite?		24.62			13.23	0.71	1.42	0.37			0.99					52.52										93.84
LP4-16	SOI 6	18	analysed	point	hole/graphite?		28.88			14.77	0.58	1.28	0.60			0.37					40.45										86.93
LP4-16	SOI 6	19	analysed	point	hole/graphite?		30.34			9.56	2.59	3.49	0.81			0.63					45.95								0.67		94.05
LP4-16	SOI 6	20	analysed	point	MnS								28.91				0.35	0.41		35.61	34.43										99.71
LP4-16	SOI 6	21	analysed	point	hole		23.48			10.38	0.52	1.42	0.51			0.14					32.79										69.24
LP4-16	SOI 7	1	analysed	area	iron						0.36	0.16								0.86	98.45										99.84
LP4-16	SOI 7	2	analysed	area	iron						0.49									0.80	98.02										99.31
LP4-16	SOI 7	3	analysed	point	MnS inclusion		0.87						37.20							62.93	2.19										103.19
LP4-16	SOI 7	4	analysed	point	graphite/hole/corrosion		2.92			5.10	0.68		0.11		0.08	0.80				0.77	29.75										40.20
LP4-16	SOI 7	5	analysed	point	graphite/hole/corrosion		25.43			0.48	0.44		0.36	0.22		0.24				0.37	65.17										92.72
LP4-17	SOI 2	1	analysed	area	iron remnant						0.59	0.18								0.68	82.80										84.25
LP4-17	SOI 2	2	analysed	point	corrosion		23.55				0.45										64.37										88.37
LP4-17	SOI 2	3	analysed	point	corrosion		20.52				0.53									0.50	52.39										73.93
LP4-17	SOI 2	4	analysed	point	corrosion		6.61			2.37	0.57		0.15							0.77	75.68										86.16
LP4-17	SOI 2	5	analysed	point	corrosion	cavity in iron	24.22			12.07	1.05	0.22	0.39	0.17		1.57				0.26	45.80										85.75
LP4-17	SOI 2	6	analysed	point	corrosion	cavity in iron	2.37			1.65	0.18		0.19	0.14		0.31				0.19	34.64										39.67
LP4-17	SOI 2	7	analysed	point	corrosion	cavity in iron	24.66					0.21	0.16							0.24	47.67										72.94
LP4-17	SOI 2	8	analysed	point	corrosion	cavity in iron	21.47			11.32	1.07	0.73	0.35	0.20	0.12	0.42				0.24	46.60										82.52
LP4-17	SOI 2	9	analysed	point	corrosion	cavity in iron	3.69			3.28	0.20	0.15	0.19	0.13	0.11	0.34				0.27	44.26										52.61
LP4-17	SOI 2	10	analysed	point	corrosion	cavity in iron	10.64			6.01	0.71	0.17	0.40	0.17						0.40	41.04										59.54
LP4-18	SOI 2	1	analysed	point	Al-magnetite		34.85		1.90	26.85							0.23			0.62	33.64										98.10
LP4-18	SOI 2	2	analysed	point	Al-magnetite		32.77		0.57	16.11	9.95		0.24		0.85	0.92	0.57		0.16	0.20	26.66										89.00
LP4-18	SOI 2	3	analysed	point	mixed	bright groundmass	37.63		0.52	7.06	21.59	0.33	0.35		1.08	2.75	0.71			0.21	22.32										94.55
LP4-18	SOI 2	4	analysed	point	mixed	dark groundmass	43.98	0.32		9.14	25.55	0.41	0.79		1.70	3.35	1.01				8.51										94.75
LP4-18	SOI 2	5	analysed	area	bulk	bright groundmass	37.71		0.48	7.31	21.86	0.28	0.39		1.18	2.92	0.66			0.24	21.27										94.31
LP4-18	SOI 2	6	analysed	area	bulk	dark groundmass	43.71	0.29	0.16	8.88	25.46	0.40	0.63		1.75	3.54	0.92				9.21										94.97
LP4-18	SOI 2	7	analysed	point	magnetite rich rim/hole		28.67			0.35	2.45	0.47	0.54			0.13					52.72										85.34
LP4-18	SOI 2	8	analysed	area	bulk	dark groundmass with magnetite	38.22	0.28	0.63	15.57	16.66	0.18	0.19		1.50	1.43	0.48				20.68										95.81
LP4-18	SOI 3	1	analysed	point	Fe hercynite	in bright groundmass	33.87		0.93	25.38	0.40						0.55	0.22			36.41	0.27									98.03
LP4-18	SOI 3	2	analysed	point	mixed feldspar?	dark groundmass	46.12	0.38	0.18	9.84	26.78	0.26	0.56		1.81	3.67	0.96				9.98										100.54
LP4-18	SOI 3	3	analysed	point	mixed iron oxide?	dendrite in bright groundmass	38.60	0.31	0.77	6.39	21.34	0.19			1.21	1.85	0.49			0.23	30.34				0.63						102.35
LP4-18	SOI 3	4	analysed	point	Fe hercynite	in dark groundmass	35.49		1.33	28.01	0.61					0.13	0.35	0.28			33.85	0.33									100.39

sample	site	no.	oxygen by	type	phase	notes	wt%																							
							O	Na	Mg	Al	Si	P	S	Cl	K	Ca	Ti	V	Cr	Mn	Fe	Co	Ni	Cu	Zn	As	Mo	Sn	Sb	W	Pb	Total
LP4-18	SOI 5	1	analysed	point	Fe-hercynite		31.83		1.38	27.67	0.28						0.16	0.63	0.33		31.74											94.02
LP4-18	SOI 5	2	analysed	point	Fe-hercynite		35.39		2.55	30.39	0.22							0.47	0.21	0.47	29.57											99.27
LP4-18	SOI 5	3	analysed	point	hydrated Fe-oxide?	Fe oxide rim to vesicle	42.17			0.43	2.16		0.69								55.75											101.20
LP4-18	SOI 5	4	analysed	point	hydrated Fe-oxide?	Fe oxide rim to vesicle	48.28	<	<	0.59	1.48	1.07	0.98			0.17					54.21											106.78
LP4-18	SOI 5	5	analysed	point		dendrites in bright groundmass	40.38		0.59	6.74	23.03	0.37	0.26		1.00	1.60	0.56				24.63											99.16
LP4-18	SOI 5	6	analysed	point		dull groundmass	42.09	0.39	0.19	8.78	26.24	0.24	0.53		1.77	2.45	0.78				11.00											94.46
LP4-18	SOI 5	7	analysed	point		glass? In mod. bright area	40.42	0.37	0.18	9.40	22.81	0.41	0.61		1.15	2.65	0.90				15.70											94.59
LP4-18	SOI 5	8	analysed	area	bulk	bright with hercynite	42.62		0.55	10.61	20.93				1.03	1.65	0.57				23.80						0.90					102.66
LP4-18	SOI 5	9	analysed	area		dull	41.23	0.46	0.19	9.50	25.00	0.30	0.49		1.64	2.25	0.73				12.02											93.79
LP4-18	SOI 5	10	analysed	area	bulk	dull	40.93	0.38	0.24	8.30	21.60	0.40	0.47		1.16	2.16	0.71				19.19											95.52
LP4-20	SOI 1	1	analysed	point	MnFe S inclusion								36.70					0.24		29.53	33.65									1.21	101.33
LP4-20	SOI 1	2	analysed	point	corrosion		36.223			12.69	1.83		0.14			9.24				0.32	27.55	<								0.67	88.66
LP4-20	SOI 1	3	analysed	point	corrosion	some Ca-rich slag?	24.525		0.21	7.49	1.13	1.11	0.21			2.65					67.95			1.27		0.82					1.48	108.85
LP4-20	SOI 1	4	analysed	area	bulk	iron					0.73	0.17								0.48	96.98										98.36
LP4-20	SOI 1	5	analysed	area	bulk	typical				0.55	0.68		0.32			0.22				0.69	95.28										97.74
LP4-20	SOI 1	6	analysed	area	bulk	iron					0.70									0.41	95.70										96.80
LP4-20	SOI 1	7	analysed	point	corrosion		31.779				1.42	0.33	0.40			0.99				2.25	51.41	0.44		0.60		0.47					90.10
LP4-20	SOI 1	8	analysed	point	corrosion	some Ca-rich slag?	47.531		0.27	8.68	1.39		0.23			15.01				0.38	22.42										95.90
LP4-20	SOI 1	9	analysed	point	corrosion	some Ca-rich slag?	36.834		0.26	15.11	1.79	0.35	0.20			3.10				0.27	38.20			0.47						1.55	98.12
LP4-20	SOI 1	10	analysed	point	corrosion	some Ca-rich slag?	35.295		0.22	16.03	0.75	0.51	0.29	0.12	0.13	15.92					24.01			0.41							93.68
LP4-20	SOI 1	11	analysed	point	corrosion		33.649		0.27	30.31	0.65	0.70	0.24			1.49					54.26			0.59							122.17
LP4-20	SOI 1	12	analysed	point	corrosion	some Ca-rich slag?	34.176		0.31	16.22	0.71	0.63	0.15			10.59					41.60			0.50						0.85	105.75
LP4-20	SOI 1	13	analysed	point	corrosion	some Ca-rich slag?	22.513			9.71	1.11	0.66	0.29			3.99				0.26	67.05			0.72		0.79				0.75	107.85
LP4-20	SOI 1	14	analysed	point	oxidised iron		11.233			0.36	0.51		0.22			0.19				0.61	90.79										103.92
LP4-20	SOI 3	1	analysed	point	hydrated fe oxides		32.01				0.38		0.24			0.46				0.69	55.55										89.32
LP4-20	SOI 3	2	analysed	point	hydrated fe oxides		31.86				0.46	0.16		0.66							59.47										92.60
LP4-20	SOI 3	3	analysed	point	hydrated fe oxides		29.13				0.32					0.51					65.38										95.34
LP4-20	SOI 3	4	analysed	point	hydrated fe oxides		29.67			0.26	0.90		0.12			0.81				1.12	50.65										83.54
LP4-20	SOI 3	5	analysed	point	hydrated fe oxides		29.41			12.96	1.62	0.55	0.22			1.40					61.26					0.52				2.95	110.89
LP4-20	SOI 3	6	analysed	area	hydrated fe oxides		33.14				0.44		0.19			1.15				0.61	52.57										88.11
LP4-20	SOI 3	7	analysed	area	hydrated fe oxides		33.17				0.27					3.88					56.69										94.02
LP4-20	SOI 4	1	analysed	point	corrosion	some Ca-rich slag?	22.43			6.31	0.70	0.22	0.33	0.18		1.12				0.95	51.69										83.94
LP4-20	SOI 4	2	analysed	point	corrosion	some Ca-rich slag?	18.46			3.72	0.76	0.25	0.29	0.21		0.86				1.15	64.95										90.64
LP4-20	SOI 4	3	analysed	point	corrosion	some Ca-rich slag?	22.23			7.05	0.90	0.25	0.44	0.15		0.46				0.60	55.51										87.58
LP4-20	SOI 4	4	analysed	point	corrosion	some Ca-rich slag?	32.52			16.08	1.44	0.25	0.55	0.20		2.29				0.45	35.95									2.92	92.66
LP4-20	SOI 4	5	analysed	point	corrosion	some Ca-rich slag?	26.96			11.45	1.36	0.16	0.65	0.14		0.74				0.75	53.24									1.51	96.96
LP4-20	SOI 4	6	analysed	point	corrosion	some Ca-rich slag?	17.94			0.66	0.63	0.24	0.28	0.14		0.29				1.22	77.05					0.44					98.90
LP4-20	SOI 4	7	analysed	point	corrosion	some Ca-rich slag?	27.08			16.57	1.04	0.19	0.50	0.22		1.78				0.68	43.90									1.09	93.05
LP4-20	SOI 4	8	analysed	area	bulk	typical					0.28									0.76	100.18										101.23
LP4-20	SOI 4	9	analysed	area	bulk	iron					0.34									0.82	100.76										101.92
LP4-20	SOI 4	10	analysed	point	iron						0.23									0.81	100.47										101.52
LP4-20	SOI 4	11	analysed	point	iron						0.31									0.92	102.55										103.79
LP4-20	SOI 5	1	analysed	area	bulk	typical				0.25	0.31									0.64	99.52										100.71
LP4-20	SOI 5	2	analysed	point	iron						0.31									0.50	99.85										100.66
LP4-20	SOI 5	3	analysed	point	iron						0.37									0.47	100.18										101.02
LP4-20	SOI 5	4	analysed	point	corrosion	some Ca-rich slag?	28.15	0.21		0.56	0.39	0.17	0.46	0.12		8.34				0.98	44.04	0.30									83.73
LP4-20	SOI 5	5	analysed	point	corrosion	some Ca-rich slag?	14.75			4.46	0.19	0.14	0.20	0.38		15.60				0.31	10.12										46.14
LP4-20	SOI 6	1	analysed	point	corrosion		20.13			0.64	0.51					0.44				1.45	64.04						0.43				88.77
LP4-20	SOI 6	2	analysed	point	corrosion	some Ca-rich slag?	21.44	0.37		5.24	1.28	0.24	0.29	0.13		4.84				0.92	43.20		0.39								78.35
LP4-20	SOI 6	3	analysed	point	corrosion		13.61			7.56	1.43		7.77			0.47				14.68	38.34										83.87
LP4-20	SOI 6	4	analysed	point	corrosion		28.67			17.94	1.22		0.81			0.24				0.36	32.35										81.59

sample	site	no.	oxygen by	type	phase	notes	wt%																						
							O	Na	Mg	Al	Si	P	S	Cl	K	Ca	Ti	V	Cr	Mn	Fe	Co	Ni	Cu	Zn	As	Mo	Sn	Sb	W	Pb	Total
LP4-20	SOI 6	5	analysed	area	bulk	typical					0.27									0.91	97.26											98.44
LP4-20	SOI 6	6	analysed	area	bulk	iron					0.29									0.64	95.28											96.21
LP4-21	SOI 1	1	analysed	area	bulk	typical					0.35									0.60	99.17											100.13
LP4-21	SOI 1	2	analysed	point	oxidised iron	in graphite	3.30			1.49	0.28		0.29			0.24					26.07			0.36								32.03
LP4-21	SOI 1	3	analysed	point	oxidised iron	in graphite	17.82			10.72	0.45	0.16	0.77			1.61				1.54	55.15											88.22
LP4-21	SOI 2	1	analysed	area	bulk	typical				0.33	0.43									1.00	98.33											100.09
LP4-21	SOI 2	2	analysed	point		in possible graphite	18.58			7.06	0.70	0.17	0.23			0.57				2.17	69.61											99.09
LP4-21	SOI 2	3	analysed	point		in possible graphite	18.90			16.98	1.04	0.16	0.12			1.89				0.48	41.93											81.51
LP4-21	SOI 2	4	analysed	point		in possible graphite	21.18			9.76	1.33	0.17	0.35			0.66				0.86	52.31											86.61
LP4-21	SOI 2	5	analysed	point		in possible graphite	20.51			14.02	0.54	0.12	0.58			0.51				1.41	51.45			0.52								89.68
LP4-21	SOI 2	6	analysed	point		in possible graphite	29.99			21.90	0.63	0.23	0.66			0.16				0.78	37.41											91.76
LP4-21	SOI 2	7	analysed	point		in possible graphite	23.02			11.36	1.35	0.19	0.18	0.11		2.44				1.29	48.96											88.91
LP4-21	SOI 3	1	analysed	point	MnS inclusion						0.15		19.01				0.23			26.31	55.56			<								101.26
LP4-21	SOI 3	2	analysed	point	MnS inclusion		3.91			0.95	0.27		26.86							40.45	27.91			<								100.34
LP4-21	SOI 3	3	analysed	point	corrosion	some Ca-rich slag?	29.98			14.07	0.98	0.18	0.23	0.12		7.46				0.69	29.74											83.44
LP4-21	SOI 3	4	analysed	point	MnS inclusion								30.99							48.27	20.99			<								100.24
LP4-21	SOI 3	5	analysed	area	bulk	iron					0.37									0.60	96.99											97.96
LP4-21	SOI 3	6	analysed	area	bulk	typical					0.33		0.30							1.03	98.15											99.80
LP4-21	SOI 3	7	analysed	area	bulk	iron					0.31									0.82	99.63											100.76
LP4-21	SOI 3	8	analysed	point	MnS inclusion						0.75		3.42				0.26			4.24	89.61											98.29
LP4-21	SOI 4	1	analysed	point	MnS inclusion	in ?graphite							35.88							59.91	3.89											101.82
LP4-21	SOI 4	2	analysed	point	MnS inclusion	in ?graphite	18.55			2.73	0.50		3.17		0.35	0.22				14.89	37.40			<								77.82
LP4-21	SOI 4	3	analysed	area	typical						0.42									0.87	97.08											98.37
LP4-21	SOI 4	4	analysed	area	typical						0.46		0.44							1.21	98.41											100.52
LP4-21	SOI 5	1	analysed	point	MnS inclusion		42.41			48.02		0.22	5.75							8.87	7.77											113.03
LP4-21	SOI 5	2	analysed	point	MnS inclusion		1.14			0.41			25.90							39.63	36.16											103.23
LP4-21	SOI 5	3	analysed	point	corrosion	some Ca-rich slag?	6.56			3.21	0.52					0.26				0.66	91.50						0.37					103.09
LP4-21	SOI 5	4	analysed	point	corrosion	some Ca-rich slag?	7.64			4.06	0.52					0.36				0.64	89.70											102.93
LP4-21	SOI 5	5	analysed	area	bulk	typical					0.36		0.15							0.94	100.49											101.93
LP4- 22	SOI 2	1	analysed	point	iron															0.36	91.91											92.28
LP4- 22	SOI 2	2	analysed	point	iron															0.41	93.12											93.54
LP4- 22	SOI 2	3	analysed	area	bulk	typical														0.45	94.31											94.77
LP4- 22	SOI 2	4	analysed	point	MnS inclusion					0.25			8.47							13.08	71.04			0.42								93.26
LP4- 22	SOI 2	5	analysed	point	hole in iron		6.37			4.84	0.65					0.17				0.27	79.32											91.62
LP4- 22	SOI 2	6	analysed	point	MnS inclusion								9.08							16.04	66.47											91.59
LP4- 22	SOI 3	1	analysed	area	bulk	typical														0.55	83.27											83.82
LP4- 22	SOI 3	2	analysed	area	bulk	iron														0.57	88.67											89.25
LP4- 22	SOI 3	3	analysed	point	corrosion	some Ca-rich slag?	1.34			1.20	0.07					0.09				0.37	42.25											45.31
LP4- 22	SOI 3	4	analysed	point	corrosion	some Ca-rich slag?	15.44	0.23	0.36	4.72	4.77		0.64	0.51	0.48	2.38	0.17				5.82											35.54
LP4- 22	SOI 3	5	analysed	point	corrosion	some Na-rich slag?	4.31	0.88	0.19	0.98	1.36		0.62	0.81	0.42	0.30				0.15	18.81											28.83
LP4- 22	SOI 3	6	analysed	point	corrosion	some Ca-rich slag?	1.32			0.78	0.12					0.05				0.24	26.55											29.06
LP4- 22	SOI 3	7	analysed	point	corrosion	some Ca-rich slag?	4.14			2.40	0.40					0.15				0.48	68.96			<								76.53
LP4- 22	SOI 3	8	analysed	point	iron															0.46	80.19											80.65
LP4- 22	SOI 3	9	analysed	point	iron															0.55	80.21											80.76
LP4- 22	SOI 5	1	analysed	point			25.08	0.54			0.17		10.06			12.14				0.22	46.84											95.05
LP4- 22	SOI 5	2	analysed	area	bulk	iron outside casting "flaw"														0.49	91.35											91.84
LP4- 22	SOI 5	3	analysed	area	bulk	iron inside casting "flaw"														0.40	89.74											90.13
LP4- 22	SOI 5	4	analysed	point	CaS (oldhamite)	hole on flaw	20.39	0.50		0.29	0.36		7.45			8.77					59.68											97.44
LP4- 22	SOI 5	5	analysed	point	CaS (oldhamite)	hole on flaw	16.97	0.43		0.25	0.23		5.36			6.37				0.28	65.83											95.72

sample	site	no.	oxygen by	type	phase	notes	wt%																							
							O	Na	Mg	Al	Si	P	S	Cl	K	Ca	Ti	V	Cr	Mn	Fe	Co	Ni	Cu	Zn	As	Mo	Sn	Sb	W	Pb	Total
LP4- 22	SOI 5	6	analysed	point	CaS (oldhamite)	hole on flaw	26.26	0.70		0.22	0.40		9.30			11.71				0.25	47.66										1.05	97.55
LP4- 22	SOI 5	7	analysed	point	CaS (oldhamite)	hole on flaw	15.01	1.31		1.03	0.22		5.33	0.17	0.35	6.22				0.29	65.04											94.96
LP4- 22	SOI 5	8	analysed	point	CaS (oldhamite)	hole on flaw	14.96	1.53		0.63	0.26		5.35	0.22	0.45	7.25				0.34	60.48											91.47
LP4-23	SOI 3	1	analysed	area	bulk	particle	37.14	0.21	0.34	15.49	17.91	0.20			0.42	1.76	0.48				6.04											79.98
LP4-23	SOI 4	1	analysed	area	bulk	typical	46.07	0.24	0.42	20.13	23.25				0.56	2.25	0.58				8.24											101.74
LP4-23	SOI 4	2	analysed	point	glass		43.48	0.38	0.65	10.99	24.89				0.86	3.47	0.74				12.10											97.57
LP4-23	SOI 4	3	analysed	point	mullite		47.17			39.64	12.10						0.23	0.18			0.53											99.85
LP4-23	SOI 4	4	analysed	point	mullite		45.66			38.57	12.20	0.15					0.27	0.20			1.09											98.14
LP4-23	SOI 4	5	analysed	point	glass		43.91	0.35	0.64	10.50	25.95				0.80	3.38	0.62				11.00											97.16
LP4-23	SOI 4	6	analysed	point	mullite		46.91			39.90	11.83	0.20					0.37	0.18			0.33											99.72
LP4-23	SOI 5	1	analysed	area	bulk	fuel remnant?	38.08		0.64	16.80	18.28		0.16	0.10	3.02	0.20	0.39				1.13											78.81
LP4-23	SOI 5	2	analysed	area	bulk	slag	34.94	0.50	0.85	13.27	16.98				5.14	0.62	0.46				3.45											76.21
LP4-23	SOI 6	1	analysed	point	cf mullite	core	51.69	0.37	0.75	30.57	13.73				5.31	0.39	0.51				1.33											104.65
LP4-23	SOI 6	2	analysed	point	cf mullite	margin	49.40	0.33	0.79	30.71	12.75	0.16			5.12	0.43	0.49				1.32											101.50
LP4-23	SOI 6	3	analysed	point	Fe-spinel (pleonaste)		44.01		11.32	36.06	2.28				0.69		0.15		0.52		9.26											104.29
LP4-23	SOI 6	4	analysed	point	glass		44.09	0.73	1.04	12.82	26.04				7.71	1.06	0.73				3.50											97.73
LP4-23	SOI 6	5	analysed	point	glass		44.67	0.66	1.40	12.60	26.95				8.16	0.59	0.72				2.12											97.88
LP4-23	SOI 6	6	analysed	point	Al-magnetite		32.71		3.71	14.13	0.27						0.40			0.59	48.09											99.90
LP4-23	SOI 6	7	analysed	point	spinel/glass	rod	55.78	0.26	0.54	43.67	11.54	0.24			2.57		0.26				0.84											116.10
LP4-23	SOI 6	8	analysed	point	spinel/glass	rod	48.07	0.36	8.33	29.57	12.28				3.49	0.30	0.34				5.92											108.65
LP4-23	SOI 6	9	analysed	point	spinel/glass	rod	58.50	0.38	0.79	38.70	15.68	0.23			4.02	0.31	0.40				1.11											120.12
LP4-23	SOI 8	1	analysed	area	bulk	slag	29.10		0.22	4.37	8.57				0.57	0.66	0.16			0.29	49.43											93.37
LP4-23	SOI 8	2	analysed	area	bulk	slag	31.88			4.95	10.02				0.63	0.71	0.18			0.31	51.89											100.58
LP4-23	SOI 8	3	analysed	area	bulk	slag	25.87			3.87	7.89				0.51	0.59	0.20			0.20	41.04											80.16
LP4-23	SOI 9	1	analysed	point	A-magnetite	core of euhedral grain	27.53			3.55							0.20				68.22											99.49
LP4-23	SOI 9	2	analysed	point	A-magnetite	outer euhedral	29.74		0.24	3.73							0.20			0.35	67.82											102.07
LP4-23	SOI 9	3	analysed	point	A-magnetite	coarse dendrite	27.15		0.28	3.47							0.19			0.30	67.31											98.71
LP4-23	SOI 9	4	analysed	point	A-magnetite	coarse dendrite	27.34		0.34	3.54	0.16						0.18			0.31	67.01											98.89
LP4-23	SOI 9	5	analysed	point	A-magnetite	fine late dendrite	27.00		0.26	3.75	0.92					0.15	0.25			0.43	64.99											97.76
LP4-23	SOI 9	6	analysed	point	glass		46.46	0.21		7.34	31.34	0.33			2.40	2.67	0.27				8.18											99.19
LP4-23	SOI 9	7	analysed	point	glass		44.78	0.33		6.94	28.54	0.31			2.06	2.50					13.14											98.61
LP4-23	SOI 11	1	analysed	point	corundum	core	45.69			52.74		0.22					0.18		0.18		0.65											100.02
LP4-23	SOI 11	2	analysed	point	corundum	core	43.82			51.49	0.24	0.18					0.15	0.37	0.27		0.66											97.17
LP4-23	SOI 11	3	analysed	point	corundum	margin	47.92			49.87	0.49	0.14					0.17		0.35		7.46											106.59
LP4-23	SOI 11	4	analysed	point	corundum	margin	46.78			49.17	2.01	0.23			0.38	0.40	0.22				1.91											101.27
LP4-23	SOI 11	5	analysed	point	glass		44.71	0.51	0.54	10.70	27.56	0.31			2.93	4.01	0.86				5.30											97.44
LP4-23	SOI 11	6	analysed	point	glass		43.12	0.41	0.67	10.47	27.32	0.23			3.06	3.54	0.83				8.49											98.14
LP4-23	SOI 11	7	analysed	point	Al-magnetite	dendrite	36.12		1.55	12.26	10.92				1.49	1.18	0.76				33.21											97.51
LP4-23	SOI 11	8	analysed	point	Al-magnetite	dendrite	37.52		2.54	15.74	4.71				0.53	0.50	0.80				42.85											105.17
LP4-23	SOI 11	9	analysed	point	mullite		45.51			33.83	13.49	0.15			0.36	0.42	0.31				5.39											99.45
LP4-23	SOI 11	10	analysed	point	corundum/glass	margin	47.23			42.63	4.94	0.19			0.59	0.57	0.24		0.24		6.83											103.45
LP4-23	SOI 11	11	analysed	point	mullite	core	45.27			35.50	12.68	0.15			0.16	0.18	0.29				3.72											97.95
LP4-23	SOI 11	12	analysed	area	bulk	typical	43.99	0.28	0.66	22.75	18.02	0.24			1.88	2.07	0.66				12.52											103.08
LP4-23	SOI 11	13	analysed	point	Al-magnetite	dendrite	32.81		2.01	14.10	4.22				0.53	0.46	0.82				43.11											98.06
LP4-23	SOI 13	1	analysed	area	bulk	ceramic? clast	46.01		0.45	9.86	34.44		0.30		0.48		0.64				1.26											93.42
LP4-23	SOI 13	2	analysed	area	bulk	magnetite-rich clot	35.37		1.15	12.72	7.71				0.85	0.78	0.51				33.76											92.86
LP4-23	SOI 13	3	analysed	area	bulk	typical	40.49		0.73	14.05	18.11				1.90	1.79	0.55				13.93											91.56
LP4-23	SOI 14	1	analysed	point	mullite/glass		45.67		0.21	32.05	14.18				0.43	0.45	0.35				5.50											98.86

sample	site	no.	oxygen by	type	phase	notes	wt%																						
							O	Na	Mg	Al	Si	P	S	Cl	K	Ca	Ti	V	Cr	Mn	Fe	Co	Ni	Cu	Zn	As	Mo	Sn	Sb	W	Pb	Total
LP4-23	SOI 14	2	analysed	point	glass		44.10	0.22	1.02	11.13	24.49				2.14	3.80	0.69				10.07											97.65
LP4-23	SOI 14	3	analysed	point	mullite/glass		48.63		0.36	29.72	16.08				0.76	0.92	0.39				7.03											103.88
LP4-23	SOI 14	4	analysed	point	Al-magnetite	fine dendrite	37.15		1.70	10.45	8.30				0.76	0.77	0.46				48.16											107.74
LP4-23	SOI 14	5	analysed	point	Al-magnetite	core	30.60		2.18	12.26							0.44		0.24		51.84	0.48	0.35									98.38
LP4-23	SOI 14	6	analysed	point	glass/Al-magnetite		46.92	0.31	0.80	15.76	24.53				2.35	3.20	0.64				7.99											102.49
LP4-23	SOI 14	7	analysed	point	glass		44.61	0.23	0.99	11.02	25.10				2.30	3.85	0.71				9.77											98.58
LP4-23	SOI 14	8	analysed	point	mullite/glass		46.79		0.24	32.89	13.71				0.34	0.39	0.38				5.05											99.78
LP4-24	SOI 7	1	analysed	point	magnetite	plate	25.72			1.90	3.75						0.14				64.20											95.71
LP4-24	SOI 7	2	analysed	point	magnetite	plate	25.31			0.63	2.98										67.22											96.15
LP4-24	SOI 7	3	analysed	point	magnetite	plate	25.17			0.76	4.06	0.16									65.51											95.66
LP4-24	SOI 7	4	analysed	point	magnetite?	crust?	26.31			0.97											69.40											96.68
LP4-24	SOI 7	5	analysed	point	glass/fayalite		30.32		0.14	0.69	12.85	1.96	0.17			0.41					42.82											89.36
LP4-24	SOI 7	6	analysed	point	glass/fayalite		31.28		0.20	0.30	11.60	1.46				0.32					47.77											92.92
LP4-24	SOI 7	7	analysed	point	wustite		23.85			0.50	0.13	<	<								72.75											97.23
LP4-24	SOI 7	8	analysed	point	wustite		21.96			0.37	0.17										72.73											95.23
LP4-24	SOI 9	1	analysed	point	wustite		21.41			0.40											71.77											93.57
LP4-24	SOI 9	2	analysed	point	magnetite	euhedral	25.98			2.81	0.61						0.23				64.76											94.39
LP4-24	SOI 9	3	analysed	point	magnetite	euhedral	28.10			1.87	0.83										66.56											97.37
LP4-24	SOI 9	4	analysed	point	magnetite	plate	25.48			2.23	3.03						0.24				63.24											94.23
LP4-24	SOI 9	5	analysed	point	magnetite	plate	25.26			1.10	3.46										64.30											94.12
LP4-24	SOI 9	6	analysed	point	magnetite	surface crust	23.60				0.46					0.40					67.60											92.06
LP4-24	SOI 11	1	analysed	point	magnetite	M zone	23.65			0.31											68.75											92.71
LP4-24	SOI 11	2	analysed	point	magnetite	M zone	24.19														68.82											93.01
LP4-24	SOI 11	3	analysed	point	wustite	W zone with some slag	21.22			0.39											72.21											93.83
LP4-24	SOI 11	4	analysed	point	altered fayalite		32.49			1.11	11.71	0.54				0.29					46.74											92.87
LP4-24	SOI 11	5	analysed	point	altered fayalite		31.82			0.44	12.44	0.29	0.11			0.12					46.29											91.51
LP4-24	SOI 11	6	analysed	point	altered fayalite		32.29			0.32	12.94	0.60									46.58											92.73
LP4-24	SOI 11	7	analysed	point	wustite		21.76			0.33	0.35										70.72											93.16
LP4-24	SOI 11	8	analysed	area	bulk	slag zone	25.02			0.85	5.35	0.26									59.12											90.61
LP4-24	SOI 11	9	analysed	area	bulk	W zone with some slag	22.18			0.42	1.85										67.68											92.12
LP4-24	SOI 11	10	analysed	point	void		18.82	3.34		12.68	6.15	0.11				0.19					25.62											66.92
LP4-24	SOI 12	1	analysed	point	fayalite		28.86			0.27	12.75	0.27									52.51											94.67
LP4-24	SOI 12	2	analysed	point	fayalite		26.98			0.30	12.11	0.28									52.15											91.83
LP4-24	SOI 12	3	analysed	point	altered fayalite		33.35			0.48	12.58	0.51				0.23					46.37											93.52
LP4-24	SOI 12	4	analysed	point	Al-magnetite		29.26			12.08	1.10						0.16				53.06											95.65
LP4-24	SOI 12	5	analysed	point	Al-magnetite		29.52			10.76	1.27						0.27				54.26											96.09
LP4-24	SOI 12	6	analysed	point	altered fayalite		32.14			0.29	12.82	0.51				0.11					46.41											92.28
LP4-24	SOI 12	7	analysed	point	magnetite		26.70			4.52	0.68						0.25				63.57											95.71
LP4-24	SOI 12	8	analysed	point	hole		16.68			1.54	7.16	0.44				0.19					49.29											75.31
LP4-24	SOI 12	9	analysed	point	hole		32.98			11.92	8.93	0.54		0.12		0.37					39.57											94.43
LP4-24	SOI 15	1	analysed	point	wustite		21.31			0.47											72.55											94.33
LP4-24	SOI 15	2	analysed	point	fayalite/glass	honeycomb	32.41			2.27	11.79	0.59	0.21								47.61											94.88
LP4-24	SOI 15	3	analysed	point	hydrated oxides		34.38			0.52	1.80	0.22	0.52								53.97											91.41
LP4-24	SOI 15	4	analysed	point	wusttie	bleb in slag layer	22.27			0.46											73.89											96.62
LP4-24	SOI 15	5	analysed	point	wustite	W layer	22.70			0.36											74.25											97.31
LP4-24	SOI 15	6	analysed	point	magnetite	surface	25.02				0.24					0.35				0.24	68.67											94.53
LP4-24	SOI 15	7	analysed	point	magnetite	honeycomb	24.36			0.31	0.81				0.17					0.22	69.47											95.34
LP4-24	SOI 15	8	analysed	point	magnetite	plate?	24.97			1.30	4.67	0.16									63.54											94.64
LP4-24	SOI 15	9	analysed	point	wustite	in plate	22.78			0.52	0.53										73.06											96.90
LP4-24	SOI 15	10	analysed	point	magnetite	plate?	25.19			1.41	1.92										68.32											96.84
LP4-24	SOI 15	11	analysed	point	magnetite	honeycomb	26.18			0.29	0.63										70.54											97.65
LP4-24	SOI 15	12	analysed	point	magnetite	surface	26.52				0.23					0.13					70.61											97.50

sample	site	no.	oxygen by	type	phase	notes	wt%																							
							O	Na	Mg	Al	Si	P	S	Cl	K	Ca	Ti	V	Cr	Mn	Fe	Co	Ni	Cu	Zn	As	Mo	Sn	Sb	W	Pb	Total
LP4-24	SOI 17	1	analysed	point	wustite	fractured	24.11			0.69										78.73											103.54
LP4-24	SOI 17	2	analysed	point	magnetite	M layer	26.57				<									72.94											99.50
LP4-24	SOI 17	3	analysed	point	magnetite	inner face	24.73			0.14	0.11									73.47											98.45
LP4-24	SOI 17	4	analysed	point	wustite	W layer	23.11			0.17	<									76.36											99.64
LP4-24	SOI 17	5	analysed	area	bulk	W layer with slag penetration	23.11			0.33	0.53									74.16											98.13
LP4-24	SOI 17	6	analysed	area	bulk	W layer	22.73			0.14	<									75.45											98.32
LP4-24	SOI 17	7	analysed	point	slag in hole		22.95	0.27	<	1.22	7.49	4.96	0.13	0.12	0.17	0.84				45.10											83.25
LP4-24	SOI 17	8	analysed	point	hole		12.63			0.59	0.49									61.88											75.59
LP4-24	SOI 17	9	analysed	point	hole		16.71			0.13	0.21									72.01											89.05
LP4-24	SOI 17	10	analysed	point	hole		19.06			0.16	0.28									71.13											90.64
LP4-24	SOI 17	11	analysed	point	haematite	H layer	27.64													72.36											10<
LP4-24	SOI 23	1	analysed	point	magnetite	surface	24.45			0.21	0.37									70.66											95.68
LP4-24	SOI 23	2	analysed	point	altered fayalite		33.82			0.45	10.06	0.57	0.26							50.54											95.70
LP4-24	SOI 23	3	analysed	point	altered fayalite		34.81			0.48	11.17	0.49	0.25							49.32											96.52
LP4-24	SOI 23	4	analysed	point	fayalite/Al-magnetite?		32.43			3.28	4.92	0.34	0.15							57.35											98.47
LP4-24	SOI 23	5	analysed	area	bulk	fayalitic slag	33.31			0.96	1<	0.52	0.21							50.15											95.14
LP4-24	SOI 23	6	analysed	area	bulk	fayalitic slag	32.62			1.04	9.46	0.47	0.20		0.14					51.00											94.92
LP4-24	SOI 23	7	analysed	area	bulk	W layer	22.36			0.20										74.75											97.32
LP4-24	SOI 23	8	analysed	area	bulk	W-rich slag	24.64			0.62	4.14	0.18	0.11							62.64											92.33
LP4-24	SOI 24	1	analysed	point	altered fayalite/glass		32.95			0.61	11.11	0.43	0.20							51.42											96.70
LP4-24	SOI 24	2	analysed	point	magnetite	plate	27.13			0.50	3.07									67.56											98.27
LP4-24	SOI 24	3	analysed	point	magnetite	plate	25.73			0.59	3.77									67.83											97.93
LP4-24	SOI 24	4	analysed	point	magnetite	plate	27.24			0.42	4.79									67.46											99.91
LP4-24	SOI 24	5	analysed	point	magnetite	equant	26.61			0.93	1.36									68.77											97.67
LP4-24	SOI 24	6	analysed	point	magnetite	equant	26.26			0.28	0.21									70.98											97.73
LP4-24	SOI 24	7	analysed	point	magnetite	plate	26.29			1.46	0.95									68.56											97.26
LP4-24	SOI 24	8	analysed	point	magnetite	surface	26.19			0.20	0.31					0.13				69.99											96.82
LP4-24	SOI 24	9	analysed	point	magnetite	surface	28.36													70.40											98.76
LP4-24	SOI 24	10	analysed	point	magnetite	equant	26.44			0.68	0.79									70.22											98.12
LP4-24	SOI 24	11	analysed	point	fayalite		29.07			0.64	13.71	0.34			0.18					53.21											97.16
LP4-24	SOI 24	12	analysed	point	altered fayalite/glass		32.20			0.84	16.34	0.34			0.72	0.27				45.66											96.37
LP4-24	SOI 24	13	analysed	point	wustite		23.47			0.26	0.78									73.93											98.45
LP4-24	SOI 24	14	analysed	point	wustite	in plate	24.13			0.40	1.18									72.63											98.35
LP4-24	SOI 24	15	analysed	point	wustite		22.57			0.28										75.15											98.00
LP4-24	SOI 24	16	analysed	point	fayalite	in hole	20.44			0.61	6.78	0.32	0.14							54.55											82.85
LP4-24	SOI 24	17	analysed	point	fayalite		30.51			0.39	10.89	0.27								59.06											101.11
LP4-24	SOI 26	1	analysed	area	bulk	dendritic magnetite zone	29.22			0.86	8.24	0.15			0.18					55.92											94.56
LP4-24	SOI 26	2	analysed	area	bulk	inner coarse magnetite	26.15			0.84	3.53									64.35											94.88
LP4-24	SOI 26	3	analysed	area	bulk	fine wustite zone	25.51			0.73	5.46									64.29											95.98
LP4-24	SOI 26	4	analysed	area	bulk	coarse wustite zone	22.94			0.48	2.48									69.23											95.14
LP4-24	SOI 26	5	analysed	area	bulk	silicate zone	29.45			0.97	11.62	0.33								55.62											97.98
LP4-24	SOI 26	6	analysed	area	bulk	silicate zone/oxide crust	27.37			0.77	8.99	0.30								56.63											94.07
LP4-24	SOI 26	7	analysed	point	outer hydated oxides		35.86			0.79	16.70	0.25			0.43					46.28											100.31
LP4-24	SOI 26	8	analysed	point	hole		16.43			22.48	0.66		0.14	1.64		0.24				4.34											45.93
LP4-24	SOI 26	9	analysed	point	magnetite	euhedral	25.32			0.62	1.44									66.79											94.18
LP4-24	SOI 26	10	analysed	point	fayalite		29.20			0.26	13.10									54.35											96.91
LP4-24	SOI 27	1	analysed	point	altered fayalite		32.02				14.39	0.20								48.59											95.20
LP4-24	SOI 27	2	analysed	point	oxide crust		25.19			0.99	1.21				0.39					65.24											93.03
LP4-24	SOI 27	3	analysed	point	fayalite		29.46			0.35	13.10	0.18								53.86											96.96
LP4-24	SOI 27	4	analysed	point	hole		35.41			42.23	0.73		0.22	0.27						1.69											80.54
LP4-24	SOI 28	1	analysed	point	fayalite?	delicate material at outer surface	35.55			0.76	15.34	0.43			0.38	0.26			0.20	48.93											101.84

sample	site	no.	oxygen by	type	phase	notes	wt%																						
							O	Na	Mg	Al	Si	P	S	Cl	K	Ca	Ti	V	Cr	Mn	Fe	Co	Ni	Cu	Zn	As	Mo	Sn	Sb	W	Pb	Total
LP4-24	SOI 32	1	analysed	point	fayalite	in slag zone	28.27			0.96	11.54	1.27				<				0.18	52.99										95.22
LP4-24	SOI 34	1	analysed	point	Al-magnetite inner		28.39			5.37	0.31						0.24				66.79										101.10
LP4-24	SOI 34	2	analysed	point	Al-magnetite outer		27.71			4.05	0.21						0.25				69.04										101.26
LP4-24	SOI 34	3	analysed	point	Al-magnetite inner		29.74		0.22	10.28	0.22						0.26	0.17			59.32										100.21
LP4-24	SOI 34	4	analysed	point	Al-magnetite inner		30.64		0.28	12.61	0.19						0.29				57.69										101.70
LP4-24	SOI 34	5	analysed	point	Hercynite core		33.47		1.06	26.56	0.36						0.35	0.44	0.27		35.39										97.88
LP4-24	SOI 34	6	analysed	point	haematite	H layer	31.51														71.09										102.60
LP4-24	SOI 34	7	analysed	point	magnetite	M layer	26.54			0.36											73.28										100.17
LP4-24	SOI 34	8	analysed	area	bulk	inclusion below M layer	28.10			2.53	2.83					0.17					66.25										99.88
LP4-24	SOI 34	9	analysed	point	fayalite/glass		34.56		0.48		13.01	2.07	0.15			0.63					48.61										99.51
LP4-24	SOI 34	10	analysed	point	fayalite/glass		33.01		0.41	0.87	14.65	0.78	0.19			0.53				0.28	47.29										98.01
LP4-24	SOI 34	11	analysed	point	hole?		19.73	0.18		1.32	7.42	0.13				0.89					54.89										84.57
LP4-24	SOI 34	12	analysed	point	fayalite/glass		34.86		0.53	0.17	13.44	1.83	0.21			0.36				0.26	49.96										101.61
LP4-24	SOI 38	1	analysed	point	Fe-Ni arsenide		8.93				0.31		10.14								40.77		12.97			37.19					110.31
LP4-24	SOI 38	2	analysed	point	wustite		23.16			0.58											75.12										98.86
LP4-24	SOI 38	3	analysed	point	magnetite		26.25			0.60	0.36		0.28								70.77										98.27
LP4-24	SOI 38	4	analysed	point	magnetite	pore fill - plates?	25.81			1.55	3.87	0.33									66.97										98.53
LP4-24	SOI 38	5	analysed	point	magnetite	pore fill - plates?	26.69	0.63		1.77	4.46	5.96	0.94		0.31	7.62					41.93										90.30
LP4-24	SOI 38	6	analysed	point	hole		13.70			0.46											70.78										84.95
LP4-24	SOI 38	7	analysed	point	hole		27.69			20.88	0.41	0.13				0.35					51.73										101.20
LP4-24	SOI 38	8	analysed	point	slag	phosphate-rich	27.02	0.72		0.81	6.34	5.87	1.21		0.23	7.86				0.22	39.53										89.80
LP4-24	SOI 38	9	analysed	point	hole		21.89			7.52	2.27	0.46	0.64			0.54					52.60										85.92
LP4-24	SOI 38	10	analysed	point	hole with P-rich slag		24.26	0.36		1.87	4.46	1.88	0.43			2.51					59.87										95.63
LP4-24	SOI 41	1	analysed	point	magnetite	plate	26.91			2.38	4.18									0.53	65.31										99.31
LP4-24	SOI 41	2	analysed	point	magnetite	plate	25.70			1.65	2.92									0.53	68.64										99.44
LP4-24	SOI 41	3	analysed	point	wustite		23.11			0.82										0.59	74.87										99.38
LP4-24	SOI 41	4	analysed	point	Fe-Ni arsenide		10.02			0.81	0.93		2.22								42.57		18.93	0.97		30.10			3.55		110.10
LP4-24	SOI 41	5	analysed	point	Fe-sulphide		17.08		<	0.14	1.02	0.15	18.17		0.14	0.28				0.51	68.65			0.44						1.25	107.84
LP4-24	SOI 41	6	analysed	point	magnetite	plate	27.29		0.21	2.97	4.26									0.49	66.26										101.47
LP4-24	SOI 41	7	analysed	point	magnetite	plate	26.73			2.65	3.94									0.51	66.38										100.22
LP4-24	SOI 41	8	analysed	point	magnetite	plate	26.87			2.58	4.13									0.54	65.58										99.70
LP4-24	SOI 41	9	analysed	point	magnetite	plate	25.40			2.45	3.81									0.62	65.64										97.92
LP4-24	SOI 41	10	analysed	point	glass?		36.46			0.57	7.91	0.82	0.60			1.02				0.52	52.50										100.41
LP4-24	SOI 41	11	analysed	point	glass?		31.69			0.76	8.44	0.94	0.22			1.46				0.71	49.97										94.20
LP4-24	SOI 41	12	analysed	point	wusttie		23.45			0.92										0.50	75.85										100.72
LP4-24	SOI 41	13	analysed	area	bulk	typical zone with plates	24.15			1.49	1.35		0.37							0.53	72.28										100.17
LP4-24	SOI 41	14	analysed	point	hole/rust		37.37	0.30	0.27	4.64	4.32	1.01	0.43	0.14		0.81					47.19				0.37						96.85
LP4-24	SOI 42	1	analysed	point	hydrated oxides	surface alteration	34.98				1.98		0.64								54.89										92.48
LP4-24	SOI 42	2	analysed	point	Fe-oxides	surface alteration	23.03			0.28										0.61	72.57										96.49
LP4-24	SOI 42	3	analysed	point	Fe-oxides	surface alteration	26.12													0.42	68.85										95.38
LP4-24	SOI 42	4	analysed	area	bulk	typical slagged zone	24.91			1.38	2.36									0.57	70.32	0.43									99.98
LP4-24	SOI 43	1	analysed	area	bulk	typical dense flake	22.48			0.31	0.23					<				<	72.65										95.67
LP4-25	SOI 14	1	analysed	area	bulk	typical	42.52	0.43	0.56	14.20	21.37	0.15			1.21	1.97	0.67				15.70										98.79
LP4-25	SOI 14	2	analysed	point	mullite		45.84		0.28	27.49	15.03	0.18			0.35	1.11	0.43				8.53										99.24
LP4-25	SOI 14	3	analysed	point	mullite		43.56		0.23	29.80	13.62	0.13			0.27	0.52	0.34				7.22										95.69
LP4-25	SOI 14	4	analysed	point	glass		43.36	0.54	0.61	9.77	24.75	0.19			1.29	3.26	0.65				11.86										96.27
LP4-25	SOI 14	5	analysed	point	glass		42.37	0.41	0.66	9.72	24.16	0.18			1.25	3.12	0.66				13.73										96.26
LP4-25	SOI 14	6	analysed	point	mullite/glass		40.96	0.26	0.70	11.80	20.94	0.16			0.68	3.43	0.61				17.23										96.77
LP4-25	SOI 14	7	analysed	point	mullite/glass		44.06	0.26	0.32	18.34	22.23	0.20			1.27	1.68	0.42				7.74										96.51

sample	site	no.	oxygen by	type	phase	notes	wt%																							
							O	Na	Mg	Al	Si	P	S	Cl	K	Ca	Ti	V	Cr	Mn	Fe	Co	Ni	Cu	Zn	As	Mo	Sn	Sb	W	Pb	Total
LP4-25	SOI 15	1	analysed	point	wustite	scale remnant	22.85		0.15	0.44	0.09						0.13			0.19	73.37											97.22
LP4-25	SOI 15	2	analysed	point	Fe-hercynite	core	32.85		0.35	24.42	0.60						0.53	0.16		0.18	37.74											96.83
LP4-25	SOI 15	3	analysed	point	Al-magnetite	margin	30.99		0.19	9.96	0.87						1.01			0.14	57.26											100.42
LP4-25	SOI 15	4	analysed	point	Al-magnetite	margin	25.80		0.23	8.31	1.89			<			0.78			0.18	52.65											89.83
LP4-25	SOI 15	5	analysed	point	slag outer coating?		30.25	0.25	0.20	2.05	10.21	0.13			0.52	1.14	0.10			0.57	49.50											94.91
LP4-25	SOI 15	6	analysed	point	magnetite?	rounded mass	24.82		0.15	0.78	1.61	0.53	0.48			0.49					60.53				<							89.38
LP4-25	SOI 15	7	analysed	point	hole		11.30		<	6.18	7.80	<	0.07		0.08	0.26	0.13				19.78				0.32							45.93
LP4-25	SOI 16	1	analysed	point	altered fayalite		32.46	0.20	<	0.82	12.21	0.16			0.15					0.32	50.27											96.60
LP4-25	SOI 16	2	analysed	point	fayalite		30.17			1.09	12.44	0.08			0.09	0.09				0.37	53.93											98.27
LP4-25	SOI 16	3	analysed	area	bulk	altered fayalite dendrites	31.09		<	2.17	12.43	0.19			0.28	0.18	<			0.25	50.75											97.33
LP4-25	SOI 18	1	analysed	point	hercynite	coarse, resorbed	34.51		0.67	27.92								0.28	0.38		30.96											94.73
LP4-25	SOI 18	2	analysed	point	hercynite	coarse, resorbed	33.82		1.16	26.47							0.22		0.37		32.79											94.84
LP4-25	SOI 18	3	analysed	point	Al-magnetite	o/g to resorbed hercynite	29.55		0.62	10.70							0.34				55.48											96.70
LP4-25	SOI 18	4	analysed	point	Al-magnetite	o/g to resorbed hercynite	29.21		0.23	7.15	0.86					0.10	0.61				58.25											96.41
LP4-25	SOI 18	5	analysed	point		Fe, Al silicate? Fe-gehlenite?	42.71			15.61	8.16	0.19				1.52	1.03				33.61											102.83
LP4-25	SOI 18	6	analysed	point	glass		47.85	0.21	0.39	10.53	28.83	0.51				5.48	0.45	<	<		5.67											99.91
LP4-25	SOI 18	7	analysed	point	glass		43.12	<	0.25	10.47	26.44	0.41			0.08	4.27	0.60				6.77											92.41
LP4-25	SOI 18	8	analysed	point	corundum	eutectic with magnetite?	39.02			38.80	1.19	0.10				0.24	0.20	0.32	0.39		14.47											94.72
LP4-25	SOI 18	9	analysed	point	Al-magnetite	dendrites	30.39			4.01	3.13					0.33	0.78				57.22											95.86
LP4-25	SOI 18	10	analysed	point	glass		42.08		0.34	7.53	27.30	0.33			0.14	4.33	0.18				10.33											92.55
LP4-25	SOI 18	11	analysed	point	Al-magnetite	o/g to resorbed hercynite	29.74		0.68	10.02							0.20	0.19	0.22		57.45											98.50
LP4-25	SOI 20	1	analysed	area	bulk	typical no early hercynite	36.18	0.20	0.44	7.33	14.78	0.18				2.30	0.43				39.96											101.80
LP4-25	SOI 20	2	analysed	area	bulk	typical with early hercynites	34.20	0.24	0.43	13.62	9.39	0.18				1.22	0.35	0.15			36.45											96.21
LP4-25	SOI 20	3	analysed	area	bulk	typical with early hercynites	35.84	<	0.50	10.05	12.96	0.21				1.86	0.37				38.22											100.01
LP4-25	SOI 21	1	analysed	area	bulk	fine dendrite/glass	44.75	0.23	0.31	10.83	23.39	0.42			0.18	4.30	0.80				12.50									1.26		98.97
LP4-25	SOI 21	2	analysed	point	glass		43.34	0.18	0.34	11.63	25.62	0.44			0.18	5.02	0.52				5.22									1.12		93.61
LP4-25	SOI 21	3	analysed	point	glass		43.38	0.19	0.21	9.20	27.68	0.50			0.23	5.42	0.51				5.02									1.44		93.77
LP4-25	SOI 21	4	analysed	point	Al-magnetite	denrdritic	29.48		0.36	8.14	0.18						0.54				59.63											98.32
LP4-25	SOI 21	5	analysed	point	?	?glass	45.78			12.56	26.51					0.65	0.70				13.88											100.09
LP4-25	SOI 21	6	analysed	point	?	mullite/glass	47.53		0.19	26.55	19.91	0.25				1.57	0.29				7.88											104.18
LP4-25	SOI 21	7	analysed	point	Al-magnetite	denrdritic	32.00		0.68	9.82	0.20						0.35		0.44		58.02											101.51
LP4-25	SOI 21	8	analysed	point	Al-magnetite	denrdritic	29.07		0.71	10.04							0.36		0.31		56.80											97.30
LP4-25	SOI 22	1	analysed	point	magnetite	outer layer	27.22		0.17												70.78											98.17
LP4-25	SOI 22	2	analysed	point	wustite/magnetite	core of flake	22.48		0.17												74.00											96.65
LP4-25	SOI 22	3	analysed	point	Al-magnetite	euhedral in slag margin	27.04		5.12	0.39							0.22				64.07											96.83
LP4-25	SOI 22	4	analysed	point	wustite/magnetite	in slag	23.35		0.86	0.21											74.29											98.71
LP4-25	SOI 22	5	analysed	point	fayalite/glass	in slag	33.88	0.19	3.94	14.78	0.45	0.34			0.36	0.95					44.75											99.64
LP4-25	SOI 22	6	analysed	area	bulk	typical internal	26.96		2.37	5.63	0.16	0.13			0.11	0.34	0.17				62.96											98.85
LP4-25	SOI 23	1	analysed	area	external oxides		32.99		0.21	0.30	1.23	0.22	0.23			0.23					54.23											89.64
LP4-25	SOI 23	2	analysed	area	iron	high Ni				<	2.42	1.54									83.49	4.40	0.40									92.25
LP4-25	SOI 23	3	analysed	area	iron + FeS	high Ni				0.21	<	0.20	13.83								81.27	0.47	0.92									96.90
LP4-25	SOI 23	4	analysed	area	hydrated oxides	rusted iron	32.09	<	0.13	0.79	2.58	3.31	0.46		0.10	1.33					44.21		<	0.39								85.38
LP4-25	SOI 23	5	analysed	area	external oxides		34.52		0.23	0.85	1.80	0.69	0.24			0.32					51.37	0.22	0.33									90.58
LP4-25	SOI 23	6	analysed	area	bulk	mullite free glass	44.11	0.25	1.07	13.13	24.23		0.11		1.75	3.61	1.18				6.60											96.03
LP4-25	SOI 23	7	analysed	area	bulk	glass with mullite	44.29		1.03	16.30	22.98				1.43	3.45	1.15				6.92											97.55
LP4-25	SOI 23	8	analysed	point	glass	near margin, no mullite	42.30	0.28	0.76	12.19	22.88	0.20			1.86	2.68	0.73				11.23											95.12
LP4-25	SOI 23	9	analysed	point	hydrated oxides	rusted iron	30.01	<	0.20	1.52	2.45	0.25	0.25			0.35	<			0.23	50.37											85.64
LP4-25	SOI 23	10	analysed	point	mullite/glass	mixed	44.92	0.23	0.59	20.47	22.23				1.66	2.08	0.98				3.34											96.49
LP4-25	SOI 23	11	analysed	point	glass	in mullite zone	45.34	0.22	1.06	13.56	25.84				2.22	3.31	0.93				3.88											96.36
LP4-25	SOI 23	12	analysed	point	glass	no mullite	43.90	0.25	1.00	12.60	25.03				1.79	3.51	1.23				6.22											95.52
LP4-25	SOI 23	13	analysed	point	glass + iron with S and P		13.26		0.57	5.04	8.67	4.49	1.41		0.66	1.20	0.40				54.53	4.91										95.14

sample	site	no.	oxygen by	type	phase	notes	wt%																							
							O	Na	Mg	Al	Si	P	S	Cl	K	Ca	Ti	V	Cr	Mn	Fe	Co	Ni	Cu	Zn	As	Mo	Sn	Sb	W	Pb	Total
LP4-25	SOI 23	14	analysed	point	glass fragment in external rust		47.56	0.19		22.88	23.28										3.03											96.94
LP4-25	SOI 24	1	analysed	point	clear glass		37.36	<	0.62	8.17	19.74	0.32			0.82	3.90	0.44				21.89											93.26
LP4-25	SOI 24	2	analysed	point	clear glass	near quartz	42.57	0.40	0.74	14.07	21.57				1.41	4.26	0.58				8.01											93.61
LP4-25	SOI 24	3	analysed	point	quartz		46.66				43.65										0.20											90.51
LP4-25	SOI 24	4	analysed	point	Al-magnetite	coarse dendrites	28.27		0.43	6.35	2.49				0.14	0.44	0.38		0.26		55.05		0.26									94.07
LP4-25	SOI 24	5	analysed	area	bulk	typical slag	36.05		0.60	8.08	17.28	0.24			0.71	3.36	0.55				27.95											94.83
LP4-25	SOI 24	6	analysed	point	Al-magnetite	coarse dendrites	25.75		0.52	3.63	1.39				0.16	0.33	0.32				60.34		0.33									92.78
LP4-25	SOI 25	1	analysed	area	bulk	mullite in fine groundmass	46.07	0.44	0.37	16.74	24.61				3.41	1.40	0.73	0.26			4.68											98.70
LP4-25	SOI 25	2	analysed	point	Al-magnetite in glass		33.81		2.26	7.75	1.60				0.31	0.23	0.53	0.25			55.72		0.27									102.73
LP4-25	SOI 25	3	analysed	point	Al-magnetite in glass		32.20		1.60	14.10	3.85				0.44	0.20	0.45	0.18			47.97											100.98
LP4-25	SOI 25	4	analysed	point	Al-magnetite in glass		35.15		1.92	10.77	6.14				0.73	0.39	0.73				48.52											104.35
LP4-25	SOI 25	5	analysed	point	Al-magnetite in glass		44.35	0.28	0.59	23.28	19.00				1.57	0.88	0.49				10.39											100.83
LP4-25	SOI 25	6	analysed	point	mullite		45.75			31.85	16.84				0.78	0.34	0.41	0.32	0.30		1.37											97.97
LP4-25	SOI 25	7	analysed	point	groundmass to (1)		43.17	0.46	0.51	12.47	26.53				3.73	1.61	0.84	0.18			5.26											94.75
LP4-25	SOI 25	8	analysed	point	mullite		43.78			36.18	11.64	0.14			0.26	0.23	0.23		0.23		1.16											93.85
LP4-25	SOI 26	1	analysed	area	bulk	overall	24.55		0.29	2.96	3.95	0.26	0.72		0.13	0.44	0.20				52.89											86.39
LP4-25	SOI 26	2	analysed	area	bulk	bright matrix	24.51		0.28	3.16	6.72	0.29	2.07		0.20	0.97	0.19			0.20	53.36											91.94
LP4-25	SOI 26	3	analysed	area	bulk	dark matrix	18.88			1.83	1.88	0.18	0.12				0.24				52.58											75.71
LP4-25	SOI 29	1	analysed	area	bulk	typical	28.06			3.30	8.64	0.19	0.35		0.24	0.40	0.17			0.20	57.99											99.54
LP4-25	SOI 29	2	analysed	area	magnetite	fuzzy dendrite	22.90			0.87	0.29						0.26				73.81											98.14
LP4-25	SOI 29	3	analysed	area	glass?		33.46			4.51	15.47	0.30	0.51		0.37	0.75					42.78											98.16
LP4-25	SOI 30	1	analysed	area	bulk	typical	24.61			2.18	4.37		0.30			0.49	<			0.51	64.44											96.90
LP4-25	SOI 32	1	analysed	area	bulk	typical dendrites with plates	27.40			1.84	7.41	0.44	0.32		0.24	0.21				0.23	6<											98.09
LP4-25	SOI 32	2	analysed	point	magnetite	coarse parts of dendrite	26.36			2.22	0.49						0.17				69.10											98.35
LP4-25	SOI 32	3	analysed	point	magnetite	coarse parts of dendrite	25.75			2.34	0.47										69.07											97.62
LP4-25	SOI 32	4	analysed	point	glass/fayalite		29.36			1.05	13.68	0.87	0.52		0.31	0.43				0.24	50.37											96.82
LP4-25	SOI 32	5	analysed	point	glass/fayalite		29.64			1.19	13.39	0.73	0.56		0.27	0.46				0.23	51.22											97.69
LP4-25	SOI 33	1	analysed	area	bulk	typical	44.40	0.20	0.81	17.29	22.82		0.08		0.79	3.77	0.90				9.37											100.43
LP4-25	SOI 33	2	analysed	point	iron with P and Ni							2.70									94.24		0.70									97.65
LP4-25	SOI 33	3	analysed	point	iron with P and Ni				<	0.15	0.11	2.69									94.14		0.75									97.83
LP4-25	SOI 33	4	analysed	point	iron with P and Ni	sulphidised				0.30	<	0.70	15.83								83.75		0.46									101.05
LP4-25	SOI 33	5	analysed	point	iron with P and Ni	sulphidised	4.33			2.79	0.24	0.52	18.39			0.13					75.98		0.59									102.97
LP4-25	SOI 33	6	analysed	point	iron with P					0.13	0.13	0.49				0.18	<				100.13											101.06
LP4-25	SOI 33	7	analysed	point	iron with P					0.35	0.33	0.26				0.20					98.45											99.60
LP4-25	SOI 33	8	analysed	point	mullite		46.28			33.65	15.74				0.38	0.63	0.52	0.29			1.70											99.19
LP4-25	SOI 33	9	analysed	point	mullite		45.78		0.22	32.32	15.97				0.41	0.74	0.51	0.26			2.16											98.37
LP4-25	SOI 33	10	analysed	point	glass		43.26		1.05	13.80	22.42				0.70	4.35	0.95				10.76											97.29
LP4-25	SOI 33	11	analysed	point	iron in glass					2.08	1.97	0.12	0.17			0.22					95.33											99.89
LP4-25	SOI 33	12	analysed	point	iron in glass		23.87	0.31	0.79	8.82	11.95		0.10		0.28	1.73	0.31				73.42											121.58
LP4-25	SOI 33	13	analysed	point	iron with P and Ni in glass		18.61		0.48	4.60	8.12	1.39	0.57		0.27	0.91	0.20				85.46		0.31									120.92
LP4-25	SOI 34	1	analysed	area	bulk	typical	28.58			1.20	6.18	0.31	0.14			0.20					58.71											95.32
LP4-25	SOI 34	2	analysed	point	magnetite	coarse dendrite	28.44			2.82	0.49						0.23				68.83											100.81
LP4-25	SOI 34	3	analysed	point	magnetite	fuzzy dendrite	26.26			2.93	0.35						0.23				67.87											97.64
LP4-25	SOI 34	4	analysed	point	fayalite/glass		34.03			0.80	10.57	0.47	0.15			0.40					50.14											96.54
LP4-25	SOI 34	5	analysed	point	magnetite	coarse dendrite	27.58			3.31	0.43						0.18				67.87											99.37
LP4-25	SOI 35	1	analysed	area	bulk	typical	23.67			1.73	3.60	0.24				0.22					64.19											93.66
LP4-25	SOI 36	1	analysed	point	magnetite	surface rim	20.30														68.96											89.26

sample	site	no.	oxygen by	type	phase	notes	wt%																						
							O	Na	Mg	Al	Si	P	S	Cl	K	Ca	Ti	V	Cr	Mn	Fe	Co	Ni	Cu	Zn	As	Mo	Sn	Sb	W	Pb	Total
LP4-25	SOI 36	2	analysed	point	magnetite	in-facing subhedral	21.54			1.21	0.26										67.93											90.94
LP4-25	SOI 36	3	analysed	point	magnetite	after wustite?	22.15			0.58	0.33										68.43											91.49
LP4-25	SOI 36	4	analysed	point	magnetite	after wustite?	21.40			0.72	0.39										67.56											90.06
LP4-25	SOI 36	5	analysed	point	wustite/magnetite	interface	22.83			0.75	0.48										70.48											94.54
LP4-25	SOI 36	6	analysed	point	wustite		21.84			0.83	0.33										71.43											94.44
LP4-25	SOI 36	7	analysed	point	wustite		22.04			0.71	0.23										72.40											95.38
LP4-25	SOI 38	1	analysed	point	Al-magnetite		24.83			3.65							0.16				65.13											93.78
LP4-25	SOI 38	2	analysed	point	Al-magnetite		23.62			3.73											64.98											92.33
LP4-25	SOI 39	1	analysed	point	hercynite		30.56		3.23	24.77							0.31		0.19		28.87		0.34									88.28
LP4-25	SOI 39	2	analysed	point	hercynite		34.67		2.64	25.64	2.86				0.31	0.43	0.78				24.62											91.96
LP4-25	SOI 39	3	analysed	point	hercynite		34.45		3.06	25.25	0.58						0.69		0.15		31.23											95.41
LP4-25	SOI 39	4	analysed	point	corundum	core to spinels	38.44		0.70	40.61	0.36	0.13					0.27	0.15	0.35		14.59											95.60
LP4-25	SOI 39	5	analysed	area	bulk	crystal-rich slag	37.41	0.25	0.85	18.33	15.97				1.17	2.07	1.09				12.17											89.32
LP4-25	SOI 39	6	analysed	area	bulk	glassy slag	36.61	0.29	0.79	9.05	27.65		0.07		2.84	1.42	0.32				3.61											82.64
LP4-25	SOI 39	7	analysed	area	bulk	iron with Si				0.35	2.02		0.24			0.11					89.71											92.44
LP4-25	SOI 40	1	analysed	point	iron (oxidised)	poss corrosion around graphite?	6.51			0.34	0.55		0.25	0.14							81.81		0.36	0.48								90.45
LP4-25	SOI 40	2	analysed	point	iron					1.07	1.75					0.15					89.48		0.26	<								92.71
LP4-25	SOI 40	3	analysed	point	iron						1.81										92.82											94.63
LP4-25	SOI 40	4	analysed	point	corrosion		11.24			0.20	1.70										89.37											102.52
LP4-25	SOI 41	1	analysed	point	magnetite	coarse	25.26			0.34											71.75											97.36
LP4-25	SOI 41	2	analysed	point	magnetite	coarsse dendrite	28.50			1.43	1.96										65.17											97.06
LP4-25	SOI 41	3	analysed	point	magnetite	coarse	23.81			0.30	0.28										70.38											94.77
LP4-25	SOI 41	4	analysed	point	glass/fayalite		31.61			1.35	16.32	0.76			0.14	0.55				0.46	45.33											96.52
LP4-25	SOI 41	5	analysed	area	bulk	typical	25.70			1.15	4.60	0.16									62.73											94.34
LP4-25	SOI 42	1	analysed	area	bulk	typical	23.31			1.63	1.79	0.51					0.29	0.22			62.53											90.26
LP4-25	SOI 42	2	analysed	point	magnetite	euhedral	22.77			5.22	0.57							0.26			61.47											90.28
LP4-25	SOI 42	3	analysed	point	weathering?		29.56			1.06	1.89	2.32	1.06	0.12			0.86				49.73											86.58
LP4-25	SOI 42	4	analysed	point	magnetite	euhedral	26.58			5.60	0.46							0.37			61.44											94.45
LP4-25	SOI 43	1	analysed	point	glass/fayalite		56.21	0.20		1.47	16.11	0.24	0.22		0.16	0.51					24.87											
LP4-25	SOI 43	2	analysed	point	glass/fayalite		56.08	0.19		1.41	16.59	0.17	0.20		0.26	0.54					24.57											
LP4-25	SOI 43	3	analysed	area	bulk	typical	56.97	<		1.69	10.68		0.19		0.13	0.35					29.99											
LP4-25	SOI 43	4	analysed	point	magnetite	dendrite	55.41			1.95	0.49										42.15											
LP4-25	SOI 45	1	analysed	point	magnetite	outer layer	23.54			0.41						0.16					69.31											93.42
LP4-25	SOI 45	2	analysed	point	magnetite	base of in-growing dendrites	25.78			3.79	0.27						0.20				65.24											95.28
LP4-25	SOI 45	3	analysed	point	magnetite	in-growing dendrite	25.15			4.58	0.26						0.17				63.80											93.97
LP4-25	SOI 45	4	analysed	point	magnetite	in-growing dendrite	19.70			3.26	0.32						0.19				64.02											87.49
LP4-25	SOI 45	5	analysed	area	bulk	typical	25.11			2.27	5.28	0.24				0.30	0.17				60.41											93.79
LP4-25	SOI 45	6	analysed	point	glass/magnetite	adjacent to mag dendrite	28.82	0.21		1.14	13.21	0.56	0.09		0.08	0.50				0.18	49.57											94.35
LP4-25	SOI 45	7	analysed	point	glass?		32.00			1.11	8.90	0.62	0.14			0.28					49.40											92.45
LP4-25	SOI 45	8	analysed	point	glass?	adjacent to mag dendrite	28.93	0.28		1.81	14.69	0.47	0.59		0.32	1.19					45.59											93.88
LP4-25	SOI 45	9	analysed	point	magnetite	outer layer	23.22														66.91											90.13
LP4-25	SOI 45	10	analysed	point	magnetite	in-growing dendrite	26.99			5.59	0.28							0.24			65.00											98.11
LP4-25	SOI 45	11	analysed	point	magnetite	euhedral with wustite core	25.55			6.56	0.28							0.36			61.44											94.19
LP4-25	SOI 45	12	analysed	point	wustite	overgrown by plates	21.14			0.75	0.23										72.51											94.63

Table A3. Archive of EDS analyses from WP5.
Elements presented as weight%. For locations of analyses see plates A29-A92.

sample	site	no.	oxygen by	type	phase	notes	wt%																										
							O	F	Na	Mg	Al	Si	P	S	Cl	K	Ca	Ti	V	Cr	Mn	Fe	Co	Ni	Cu	Zn	Ge	As	Zr	Mo	Sn	Sb	Ba	W	Pb	Total
Gov4	SOI 6	1	analysed	point	oldhamite	coarse dendrite	3.82			0.48	0.39	1.06		53.62		<	48.85				6.57															114.79
Gov4	SOI 6	2	analysed	point	oldhamite	coarse dendrite	3.13			1.02	1.17	3.98		41.48		0.18	43.89				3.41															98.25
Gov4	SOI 6	3	analysed	point	oldhamite	coarse dendrite	12.07			1.10	1.28	3.25		44.65		0.20	48.85				2.83															114.24
Gov4	SOI 6	4	analysed	point	melilite		44.82			4.74	8.56	16.35		<		0.11	28.91				<															103.48
Gov4	SOI 6	5	analysed	point	melilite		45.52			5.01	8.41	16.48		<		<	29.39				<															104.80
Gov4	SOI 6	6	analysed	point	melilite		44.91			4.86	8.47	16.71		<		0.17	29.17				<															104.28
Gov4	SOI 6	7	analysed	area		fine melilite/oldhamite eutectic	44.24			4.74	8.03	15.86		2.35		0.17	29.91				0.25															105.54
Gov4	SOI 6	8	analysed	area		coarse dendrites in melilite	47.50			4.39	6.91	13.68		10.90		0.18	33.53				0.71															117.80
Gov4	SOI 7	1	analysed	point	melilite		42.99	<	<	4.66	7.26	15.69	<	2.84		0.21	29.15	<			0.51	<														103.32
Gov4	SOI 7	2	analysed	point	melilite		44.17	<	0.23	5.47	6.82	17.10	<	<		0.24	28.27	<			<	<														102.31
Gov4	SOI 7	3	analysed	point	melilite		44.01	<	0.27	5.95	5.51	17.87	<	<		0.40	28.07	<			0.18	<														102.27
Gov4	SOI 7	4	analysed	point	melilite		44.00	<	0.25	5.38	6.69	16.80	<	<		0.26	27.88	<			<	<														101.27
Gov4	SOI 7	5	analysed	point	oldhamite	mixed	34.67	<	0.16	1.66	4.11	6.18	<	36.87		2.55	27.72	0.40			14.15	0.50														128.97
Gov4	SOI 7	6	analysed	point	oldhamite		4.77	<	<	0.73	0.69	1.76	<	48.10		0.15	44.34	<			7.93	0.22														108.68
Gov4	SOI 7	7	analysed	point	oldhamite	mixed	12.98	<	<	2.48	2.51	6.16	<	31.26		0.70	31.73	0.43			10.52	0.27														99.04
Gov4	SOI 7	8	analysed	point	oldhamite	mixed	20.77	0.82	<	2.28	2.31	6.50	<	31.62		0.57	33.48	<			8.91	0.28														107.54
Gov4	SOI 7	9	analysed	point	void		49.42	3.50	<	6.64	7.72	11.89	<	14.18		3.01	20.71	2.32			3.42	<														122.81
Gov4	SOI 7	10	analysed	point	melilite		44.99	<	0.23	4.87	8.32	15.85	<	1.17		0.47	27.25	0.17			0.21	<														103.53
Gov4	SOI 7	11	analysed	point	melilite		44.27	<	<	4.60	8.55	15.67	<	0.13		0.17	28.27	<			<	<														101.66
Gov4	SOI 7	12	analysed	point	melilite		43.36	<	0.14	4.81	7.78	15.94	<	0.83		0.29	27.34	<			0.25	<														100.74
Gov4	SOI 7	13	analysed	point	melilite		43.06	<	<	5.01	7.96	15.70	<	0.77		0.47	27.45	0.14			0.19	<														100.74
Gov4	SOI 7	14	analysed	point	irregular	Mg, Ti rich material	45.26	<	<	13.68	12.57	13.83	<	<		0.23	10.53	4.94			<	<														101.04
Gov4	SOI 7	15	analysed	point		Mg, Ti rich material	45.55	<	0.13	11.69	11.95	14.27	<	0.28		1.91	10.48	4.65			<	<														100.90
Gov4	SOI 7	16	analysed	point		Mg, Ti rich material	46.90	<	0.14	11.32	12.62	14.89	<	0.37		2.90	8.98	4.09			0.16	<														102.37
Gov4	SOI 7	17	analysed	point		Mg, Ti rich material	46.30	<	<	11.82	12.55	13.87	<	0.24		1.37	10.05	4.90			0.15	<														101.26
Gov4	SOI 7	18	analysed	point	irregular	Mg, Ti rich material	55.66	<	0.17	13.67	12.91	14.26	0.22	1.21		0.25	9.88	4.98			1.90	<														115.10
Gov4	SOI 7	19	analysed	point	irregular	Mg, Ti rich material	59.98	<	<	14.81	13.96	15.03	0.13	0.48		0.11	9.86	5.05			0.17	0.15														119.73
Gov4	SOI 7	20	analysed	point	void		44.00	<	0.23	6.42	7.49	11.97	0.26	1.05		1.01	11.47	1.58			0.50	0.21														86.18
Gov4	SOI 7	21	analysed	point	void		28.33	<	0.17	3.43	5.10	9.76	0.27	2.02		0.48	10.82	0.28			1.35	<														62.02
Gov4	SOI 7	22	analysed	point	melilite		43.84	<	0.24	5.61	6.09	16.89	<	<		0.28	27.18	<			<	<														100.11
Gov4	SOI 7	23	analysed	point	melilite		43.41	<	0.17	5.21	7.00	16.34	<	<		0.24	27.60	<			<	<														99.97
Gov5	SOI 3	1	analysed	point	melilite	with corroded eutectic	39.12		<	4.50	8.62	15.35		0.85		<	30.24	<			0.15								<							98.83
Gov5	SOI 3	2	analysed	point	melilite	no eutectic	39.36		<	3.76	10.56	14.81		<		<	30.19	<			<								<							98.68
Gov5	SOI 3	3	analysed	point	void	in eutectic (ex-oldhamite)	34.69		0.14	7.55	1.58	14.52		1.87		<	13.47	0.25			2.22								<							76.29
Gov5	SOI 3	4	analysed	point	void		17.25		0.14	0.73	1.70	4.92		0.46		0.10	14.82	0.89			0.64								<							41.65
Gov5	SOI 3	5	analysed	point		Zr/Ti mineral	40.16		0.20	2.48	3.56	6.89		0.09		<	30.59	18.06			<								2.71							104.75
Gov5	SOI 3	6	analysed	point	melilite	between coarse eutectic	39.46		0.15	12.77	2.20	17.57		<		<	26.85	0.31			0.53								<							99.83
Gov5	SOI 3	7	analysed	point	void	in eutectic (ex-oldhamite)	31.73		0.16	7.00	2.54	11.95		1.09		<	16.72	0.14			0.62								<							71.96
Gov6	SOI 4	1	analysed	point	melilite	has probable fine oldhamite eutectic	40.24			4.30	8.17	14.54		0.20			27.26	<			0.16									<						94.87
Gov6	SOI 4	2	analysed	point	melilite	has probable fine oldhamite eutectic	39.46			4.42	8.07	14.50		<			27.02	<			0.15									<						93.62
Gov6	SOI 4	3	analysed	point	melilite		40.30			4.34	8.68	15.05		<			27.59	<			<									<						95.96
Gov6	SOI 4	4	analysed	area	melilite	has probable fine oldhamite eutectic	39.35			6.84	5.98	14.53		0.38			25.43	1.04			0.38									<						93.93
Gov6	SOI 4	5	analysed	point	melilite	has probable fine oldhamite eutectic	42.14			5.68	8.82	14.62		<			23.69	0.15			0.45									<						95.55
Gov6	SOI 4	6	analysed	point	melilite		40.34			6.67	4.99	16.37		<			27.16	0.12			0.12									0.54						96.31
Gov6	SOI 4	7	analysed	point	melilite		39.11			4.20	8.68	14.52		<			27.10	<			0.13									<						93.74
Gov7	SOI 3	1	analysed	point	glass		38.20			0.61	9.18	19.59	<	0.63		0.29	20.89	0.69	<		1.02	0.14														91.24
Gov7	SOI 3	2	analysed	area	glass		38.18			0.61	9.21	19.52	<	0.65		0.24	20.84	0.66	<		0.95	<														90.86
Gov7	SOI 3	3	analysed	point	iron, with P	bleb	4.18			<	0.67	2.66	0.40	<		<	0.27	<	0.17		0.64	75.50														84.48
Gov7	SOI 3	4	analysed	point	iron, with P	bleb	2.56			<	0.18	2.93	0.40	0.09		<	0.46	<	0.23		0.60	81.58														89.03
Gov7	SOI 3	5	analysed	point	iron, with P	bleb	2.21			<	0.12	3.83	0.66	<		<	0.35	<	<		0.46	83.49														91.13
Gov7	SOI 3	6	analysed	point	glass	bleb (miss)	37.52			0.66	9.19	20.07	<	0.55		0.23	20.69	0.68	<		0.97	0.53														91.11
Gov7	SOI 3	7	analysed	point	glass	bleb	13.96			0.48	5.82	12.37	0.20	0.56		0.17	9.38	0.40	<		1.13	47.43														91.91
Gov7	SOI 3	8	analysed	point	iron, with P	bleb	8.41			0.29	3.97	8.80	0.38	0.38		<	6.34	0.21	0.13		0.94	55.50														85.36
Gov7	SOI 3	9	analysed	point	iron, with P	bleb	13.37			0.36	4.51	9.63	0.67	1.11		0.11	8.62	0.23	0.17		2.00	41.36														82.12
Gov7	SOI 3	10	analysed	point	iron, with P	bleb	12.90			0.41	5.42	11.13	0.39	0.29		0.11	8.59	0.34	0.18		0.75	47.94														88.44

sample	site	no.	oxygen by	type	phase	notes	wt%																										
							O	F	Na	Mg	Al	Si	P	S	Cl	K	Ca	Ti	V	Cr	Mn	Fe	Co	Ni	Cu	Zn	Ge	As	Zr	Mo	Sn	Sb	Ba	W	Pb	Total
Gov8	SOI 1	1	analysed	area	iron	iron with very high Si and some P	5.65				0.20	10.37	0.67				0.17	0.43			2.81	78.07														98.37
Gov8	SOI 1	2	analysed	area	bulk slag	bulk glassy slag	46.39			0.69	9.07	22.47		0.51		0.40	17.43	0.94			1.66														99.56
Gov8	SOI 2	1	analysed	point	iron	high P, S iron, oxidised	6.30					2.30	1.24				0.61		0.16		0.47	98.80													109.87
Gov8	SOI 2	2	analysed	point	iron	high P, S iron, oxidised	8.62				0.51	2.81	1.23	0.17	0.17		0.60		0.22		0.48	79.18				<									93.99
Gov8	SOI 2	3	analysed	point	iron	high P, S iron, oxidised	7.07				0.77	2.23	1.49	1.17		0.15	1.29	0.20			1.50	80.69			0.47										97.02
Gov8	SOI 2	4	analysed	area		bleb	36.88		0.23	0.58	6.84	15.44	0.57	0.38		0.33	11.03	12.59			1.02	9.96													95.86
Gov9	SOI 2	1	analysed	point	haematite		29.17			<	0.87	0.36						0.12			<	66.65													97.17
Gov9	SOI 2	2	analysed	point		oxidised fayalite?	42.82			0.31	0.53	19.07	0.35			0.41	0.21				0.47	55.72													119.89
Gov9	SOI 2	3	analysed	point		oxidised fayalite?	39.19			0.18	0.57	17.47	0.36			0.40	0.15				0.47	49.20													108.00
Gov9	SOI 2	4	analysed	point	haematite		27.51				0.81	0.37										63.58													92.27
Gov9	SOI 2	5	analysed	point	haematite		30.57				1.08	0.32										70.57													102.54
Gov9	SOI 2	6	analysed	point	haematite		30.72				1.04	0.34										70.48													102.59
Gov9	SOI 2	7	analysed	point	haematite		29.89			<	1.27	0.12						0.14			0.26	69.27													100.95
Gov9	SOI 2	8	analysed	area	bulk oxidised fayalite		39.04		0.22	<	0.80	22.85	0.45			0.13	0.20				0.22	30.61													94.53
Gov9	SOI 4	1	analysed	point	haematite		32.84				1.17	0.35						0.13				72.58													107.05
Gov9	SOI 4	2	analysed	point	haematite		31.80				2.16	0.41									0.20	71.38													105.96
Gov9	SOI 4	3	analysed	point	haematite		32.65				1.91	0.50										71.87													106.94
Gov9	SOI 4	4	analysed	point	haematite		32.97				2.91	0.43										70.59													106.91
Gov9	SOI 4	5	analysed	point	silica		59.63				0.15	47.89		<								1.19													108.86
Gov9	SOI 4	6	analysed	point	silica		59.02				0.49	46.56		<		0.28						2.55													108.91
Gov9	SOI 4	7	analysed	point	Mélonjosephite?		40.66			1.22		0.28	17.86				9.90				1.92	32.50													104.35
Gov9	SOI 4	8	analysed	point	Mélonjosephite?		40.20			1.40	<	0.21	17.67				9.88				2.01	31.25													102.63
Gov9	SOI 6	1	analysed	point	fayalitic glass?		35.90			0.61		14.20									0.81	55.41													106.93
Gov9	SOI 6	2	analysed	point	Si-rich glass		43.96		0.16	0.10	3.62	27.01	0.30			3.28	0.36				0.31	18.20													97.29
Gov9	SOI 6	3	analysed	point	Si-rich glass		53.54				1.93	35.23	0.43			1.96	0.48					7.32													100.89
Gov9	SOI 6	4	analysed	point	Mélonjosephite?		40.66			0.86	0.14	1.03	17.09				10.20				1.64	32.87													104.50
Gov9	SOI 6	5	analysed	point	haematite		31.59				2.36	0.56										70.27													104.77
Gov9	SOI 6	6	analysed	point	fayalitic glass?		35.94			0.59		14.26									0.73	55.54													107.07
Gov9	SOI 11	1	analysed	point	haematite		33.09				3.73	0.32										69.72													106.86
Gov9	SOI 11	2	analysed	point	haematite		30.92				2.15	0.41										70.85													104.34
Gov9	SOI 11	3	analysed	point	haematite		33.86				3.39	0.46										69.93													107.65
Gov9	SOI 11	4	analysed	area	bubble free fayalitic glass		36.32			0.24	0.37	13.96	0.52				0.22				0.62	54.75													107.00
Gov9	SOI 11	5	analysed	area	bubble-rich fayalitic glass		38.41			0.30	0.51	17.31	0.39			0.40	0.14				0.47	49.44													107.36
Gov9	SOI 11	6	analysed	area	bulk of fayalitic area		38.97			0.20	0.65	18.49	0.41			0.29	0.20				0.46	47.84													107.50
Gov9	SOI 18	1	analysed	point	fayalitic glass spot		35.77			0.25		13.90	0.16				0.12				0.44	55.24													105.90
Gov9	SOI 18	2	analysed	point	bubbly glass		34.26			0.29		13.37	0.26								0.51	53.83													102.51
Gov9	SOI 18	3	analysed	area	bubbly glass		37.18			0.24	0.58	16.65	0.19			0.39					0.48	49.17													104.88
Gov9	SOI 18	4	analysed	area	bulk of fayalitic area		37.82			0.22	1.14	17.01	0.57			0.33	0.58				0.38	46.62													104.67
Gov9	SOI 18	5	analysed	point	haematite		32.36				1.52	0.41						0.21				72.42													106.93
Gov9	SOI 18	6	analysed	point	hole		0.68				0.76	0.84			0.05		0.23					1.85													4.41
Gov10	SOI 10	1	analysed	point	fayalite?		30.24		<		0.15	13.49	0.33			<	<	<			0.56	54.59													99.37
Gov10	SOI 10	2	analysed	point	fayalite?		29.96		<		<	13.52	0.24			<	0.10	<			0.52	53.95													98.29
Gov10	SOI 10	3	analysed	point	mag inside w bleb		25.44		<		0.43	0.58	<			<	<	<			<	70.24													96.70
Gov10	SOI 10	4	analysed	point	mag inside w bleb		26.20		<		2.27	0.60	<			<	<	0.12			<	67.76													96.95
Gov10	SOI 10	5	analysed	point	mag inside w bleb		26.75		<		2.11	0.78	<			<	<	0.14			<	68.45													98.23
Gov10	SOI 10	6	analysed	point	wustite		22.43		<		0.13	0.26	<			<	<	<			<	74.65													97.47
Gov10	SOI 10	7	analysed	point	wustite		21.88		<		0.16	0.27	<			<	<	<			0.18	74.51													96.99
Gov10	SOI 10	8	analysed	point	wustite		21.92		<		0.14	0.29	<			<	<	<			<	75.01													97.36
Gov10	SOI 10	9	analysed	point	wustite		22.24		<		<	0.25	<			<	<	<			0.17	74.66													97.32
Gov10	SOI 10	10	analysed	point	mag inside w bleb		25.77		<		1.43	0.55	<			<	<	0.21			<	69.20													97.17
Gov10	SOI 10	11	analysed	point	mag bridge		27.90		<		2.81	1.91	<			<	<	0.29			<	66.08													98.98
Gov10	SOI 10	12	analysed	point	dark in fayalite		35.09		0.34		<	0.90	15.93			6.51	5.65	0.16			0.58	33.96													99.10
Gov10	SOI 10	13	analysed	point	mag bridge		25.65		<		0.49	4.18	0.10			<	<	<			0.20	66.87													97.49

sample	site	no.	oxygen by	type	phase	notes	wt%																										
							O	F	Na	Mg	Al	Si	P	S	Cl	K	Ca	Ti	V	Cr	Mn	Fe	Co	Ni	Cu	Zn	Ge	As	Zr	Mo	Sn	Sb	Ba	W	Pb	Total
Gov10	SOI 11	1	analysed	point	wustite		22.35				<	0.27	<	<			<	<			<	73.62		<	<			<				<				96.24
Gov10	SOI 11	2	analysed	point	angular mag		26.38				2.92	0.49	<	<			<	0.18			<	66.34		<	<			<				<				96.31
Gov10	SOI 11	3	analysed	point	angular mag		26.03				1.27	0.43	<	<			<	0.10			<	68.92		<	<			<				<				96.75
Gov10	SOI 11	4	analysed	point	mag invading wustite		26.25				1.82	1.35	<	<			<	0.20			<	68.02		<	0.28			<				<				97.93
Gov10	SOI 11	5	analysed	point	wustite		22.33				<	0.28	<	<			<	<			0.14	73.99		<	<			<				<				96.74
Gov10	SOI 11	6	analysed	point	angular		26.38				1.61	0.44	<	<			<	0.12			<	68.51		<	<			<				<				97.06
Gov10	SOI 11	7	analysed	point	fayalite		30.63				<	13.10	0.39	<			<	<			0.50	53.11		<	<			<				<				97.74
Gov10	SOI 11	8	analysed	point	fayalite		30.01				<	13.08	0.40	<			0.10	<			0.51	53.67		<	<			<				<				97.77
Gov10	SOI 11	9	analysed	point	sulphide bleb		20.98				<	2.23	0.18	7.33			<	<			<	63.80		1.63	0.66			4.18				0.59				101.58
Gov10	SOI 11	10	analysed	point	hole in fayalite		23.20				10.42	5.96	1.00	0.26			0.90	<			0.35	39.03		<	<			<				<				81.12
Gov10	SOI 12	1	analysed	point	glass	slag invasive vein into scale	29.15			0.17	0.10	10.18	2.20				0.17				1.08	54.76														97.82
Gov10	SOI 12	2	analysed	point	magnetite	large belb	24.27			<	0.18	1.42	2.43				<				0.36	67.52														96.17
Gov10	SOI 12	3	analysed	point	magnetite	large bleb	24.13			<	0.22	1.71	2.31				<				0.30	66.38														95.05
Gov10	SOI 12	4	analysed	point	magnetite	internal bleb	24.14			<	0.18	2.15	1.41				<				0.35	67.17														95.40
Gov10	SOI 12	5	analysed	point	magnetite	internal bleb	24.18			<	0.17	2.56	1.40				<				0.33	66.95														95.59
Gov10	SOI 12	6	analysed	point	wustite		21.61			<	0.20	0.12	<				<				0.21	73.09														95.23
Gov10	SOI 12	7	analysed	point	wustite		21.97			<	0.16	0.13	<				<				0.18	73.56														96.00
Gov10	SOI 12	8	analysed	area		wustite/magnetite	22.63			<	0.46	0.54	0.61				<				0.35	71.64														96.23
Gov10	SOI 13	1	analysed	point	wustite	external w	21.34			<	0.32	0.34	<			<	<				<	71.21														93.21
Gov10	SOI 13	2	analysed	point	fayalite	external fayalite	28.49			0.15	0.13	12.46	0.57			<	<				0.80	51.27														93.87
Gov10	SOI 13	3	analysed	point	fayalite	external fayalite	27.05			0.20	<	12.55	0.51			<	0.10				0.70	51.86														92.97
Gov10	SOI 13	4	analysed	point	fayalite	external fayalite (syn)	28.47			0.12	0.17	13.12	0.33			<	0.10				0.65	51.93														94.89
Gov10	SOI 13	5	analysed	point	fayalite	external fayalite	29.13			0.18	0.12	12.96	0.59			<	<				0.75	51.24														94.97
Gov10	SOI 13	6	analysed	point	magnetite?	marginal altered w	24.12			<	0.43	1.44	2.16			<	0.09				0.16	66.17														94.57
Gov10	SOI 13	7	analysed	point	magnetite?	external arc	24.80			<	0.78	3.13	1.62			0.14	0.27				0.32	64.09														95.16
Gov10	SOI 13	8	analysed	point	magnetite?	internal mag?	24.05			<	0.27	1.34	2.58			<	<				0.29	66.85														95.40
Gov10	SOI 13	9	analysed	point	wustite	internal w	21.12			<	0.32	0.19	<			<	<				0.25	72.89														94.77
Gov10	SOI 13	10	analysed	point	magnetite	external altered w	23.67			<	0.78	1.80	1.38			0.23	0.52				0.29	63.61														92.28
Gov10	SOI 14	1	analysed	point	magnetite	internal mag lath	23.24			<	0.49	3.40	0.30	<			<	<			0.26	63.70		<												91.39
Gov10	SOI 14	2	analysed	point	magnetite	internal belb	23.40			<	0.26	1.77	1.90	0.21			0.11	<			0.32	64.17		<												92.15
Gov10	SOI 14	3	analysed	point	fayalite/glass	fayalite vein	28.73			0.19	0.16	11.84	1.20	<			0.13	<			0.60	50.31		<												93.15
Gov10	SOI 14	4	analysed	point	wustite	wustite	21.47			<	0.21	0.20	<	<			<	<			<	71.75		<												93.63
Gov10	SOI 14	5	analysed	point	fayalite/glass	fayalite on margin	28.45			<	0.19	11.62	0.72	<			<	<			0.69	53.72		<												95.40
Gov10	SOI 14	6	analysed	point	fayalite/glass	fayalite	28.75			0.15	0.22	12.41	0.53	<			<	<			0.53	50.99		<												93.57
Gov10	SOI 14	7	analysed	point	magnetite	external lamina	25.39			<	1.51	3.32	0.53	<			<	0.12			0.19	63.24		<												94.29
Gov10	SOI 14	8	analysed	point	magnetite	external lamina	26.82			<	4.36	1.22	0.19	<			0.11	0.31			<	62.81		<												95.83
Gov10	SOI 14	9	analysed	point	wustite	external wustite	21.70			<	0.30	0.23	<	<			<	<			<	74.52		<												96.74
Gov10	SOI 14	10	analysed	point	magnetite	external lamina	25.08			<	0.91	4.02	0.57	<			<	<			0.20	63.41		<												94.19
Gov10	SOI 14	11	analysed	point	fayalite/glass	external fayalite	29.34			0.13	0.14	12.65	0.64	<			<	<			0.58	52.32		0.22												96.01
Gov10	SOI 17	1	analysed	point	magnetite	lamina	24.95			<	0.49	3.95	<				<				0.17	63.70														93.25
Gov10	SOI 17	2	analysed	point	magnetite	lamina	24.62			0.14	0.51	4.08	<				<				0.25	63.21														92.81
Gov10	SOI 17	3	analysed	point	magnetite	lamina	24.73			<	0.53	4.04	<				<				0.27	63.35														92.92
Gov10	SOI 17	4	analysed	point	magnetite	lamina	24.86			<	0.43	4.06	<				<				0.14	63.04														92.54
Gov10	SOI 17	5	analysed	point	magnetite	lamina	24.72			0.15	0.42	3.96	<				<				0.23	62.92														92.41
Gov10	SOI 17	6	analysed	point	wustite	wustite	21.00			<	0.13	0.28	<				<				<	71.07														92.48
Gov10	SOI 17	7	analysed	point	wustite	wustite	21.33			<	0.21	0.29	<				<				0.16	70.67														92.66
Gov10	SOI 17	8	analysed	point	wustite	altering wustite	21.08			<	0.13	0.19	<				<				0.14	69.89														91.42
Gov10	SOI 17	9	analysed	point	wustite	altering wustite	21.13			<	0.15	0.20	<				<				0.14	69.69														91.32
Gov10	SOI 17	10	analysed	point	fayalite	wustite bleb	20.60			<	0.12	0.30	<				<				0.19	72.15														93.36
Gov10	SOI 17	11	analysed	point	fayalite	fayalite	29.06			0.18	0.14	12.07	0.81				0.20				0.56	50.77														93.78
Gov10	SOI 17	12	analysed	point	magnetite	lamina	24.48			<	0.59	3.90	<				<				0.14	63.55														92.66
Gov10	SOI 17	13	analysed	point	magnetite	lamina	24.22			<	0.50	3.87	0.09				<				0.14	62.97														91.80
Gov11	SOI 4	1	analysed	point	fayalite		31.90	<			0.12	13.78	0.10	<	<	<	0.10	<			0.50	55.36		<												101.86
Gov11	SOI 4	2	analysed	point	fayalite		31.95	<			0.17	13.90	0.13	<	<	<	<	<			0.59	55.32		<												102.06
Gov11	SOI 4	3	analysed	point	fayalite		31.29	<			<	13.95	0.10	<	<	<	<	<			0.48	55.37		<												101.19
Gov11	SOI 4	4	analysed	point	fayalite		31.67	<			0.18	13.77	0.47	<	<	<	<	<			0.46	55.44		<												101.98

sample	site	no.	oxygen by	type	phase	notes	wt%																											
							O	F	Na	Mg	Al	Si	P	S	Cl	K	Ca	Ti	V	Cr	Mn	Fe	Co	Ni	Cu	Zn	Ge	As	Zr	Mo	Sn	Sb	Ba	W	Pb	Total
Gov11	SOI 4	5	analysed	point	fayalite		33.01		0.24		<	1<	5.10	<	<	<	0.09	<			0.62	52.95			<											102.01
Gov11	SOI 4	6	analysed	point	Si-rich glass?	void - cotectic	42.45		0.31		4.95	29.20	0.43	<	<	2.64	0.69	<			0.21	13.21			<											94.09
Gov11	SOI 4	7	analysed	point	Si-rich glass?	void - cotectic	38.74		0.33		3.98	25.33	0.39	<	<	1.60	0.42	<			0.32	33.69			<											104.80
Gov11	SOI 4	8	analysed	point	iron sulphide	sulphide	4.05		<		0.16	0.14	0.10	45.63	<	<	<	<			<	60.23			5.94											116.25
Gov11	SOI 4	9	analysed	point	magnetite	angular mag	27.42		<		1.11	0.46	<	<	<	<	<	0.35			0.21	71.69			<											101.24
Gov11	SOI 4	10	analysed	point	magnetite	angular mag	27.06		<		1.18	0.52	<	<	<	<	<	0.40			<	71.50			<											100.65
Gov11	SOI 4	11	analysed	point	magnetite	angular mag	28.02		<		2.23	0.48	<	<	<	<	<	0.43			<	70.18			<											101.34
Gov11	SOI 4	12	analysed	point	Si-rich glass?	dark phase	43.28		0.33		5.36	29.21	0.32	0.12	<	2.75	0.76	<			<	11.82			<											93.94
Gov11	SOI 4	13	analysed	point		intergrowth	45.43		<		13.91	15.95	1.30	0.14	<	1.05	1.02	0.16			<	35.89			<											114.83
Gov11	SOI 4	14	analysed	point		intergrowth	42.78		0.21		13.38	20.14	0.42	<	<	1.81	0.41	<			<	24.17			<											103.33
Gov11	SOI 4	15	analysed	point	Si-rich glass?	dark phase	47.80		0.34		6.12	32.48	0.78	0.15	<	2.87	1.12	<			0.13	10.96			<											102.75
Gov11	SOI 4	16	analysed	point	void	crack/glass?	24.64		0.25		13.89	2.88	0.31	0.35	0.19	<	1.25	0.13			0.23	40.29			<											84.41
Gov11	SOI 4	17	analysed	point	magnetite	angular mag	27.11		<		1.08	0.43	<	<	<	<	<	0.36			<	72.33			<											101.30
Gov11	SOI 4	18	analysed	point	magnetite	angular mag	27.82		0.29		1.66	0.53	<	<	<	<	<	0.41			<	71.04			<											101.75
Gov11	SOI 4	19	analysed	point	Si-rich glass?	void - cotectic	39.44		0.25		4.25	25.99	0.69	<	<	2.47	0.61	<			0.21	16.71			<											90.61
Gov11	SOI 4	20	analysed	point	Si-rich glass?	dark phase	48.32		0.33		5.84	33.37	0.42	<	<	3.21	0.74	<			<	8.00			<											100.22
Gov11	SOI 4	21	analysed	point	Si-rich glass?	dark phase	44.83		0.18		5.20	29.80	0.42	<	<	3.08	0.86	<			<	8.20			<											92.56
Gov12	SOI 3	1	analysed	area	iron	main iron mass - white cast iron?							0.25									100.88													101.13
Gov12	SOI 3	2	analysed	point	iron	bleb within slag-filled crack							0.25									99.90													100.16
Gov12	SOI 3	3	analysed	point	iron	bleb within slag-filled crack							0.15									99.39													99.54
Gov12	SOI 3	4	analysed	point	Fe-sulphide	sub-hedral initial phase on crack wall							0.15	34.48								63.56													98.19
Gov12	SOI 3	5	analysed	point	Fe-sulphide	sub-hedral initial phase on crack wall					0.17	0.14	0.13	33.36								63.38													97.18
Gov12	SOI 3	6	analysed	point	olivine		33.10				0.17	12.79	1.13								1.55	52.76													101.50
Gov12	SOI 3	7	analysed	point	hercynite		37.62			0.15	0.11	0.39	16.84				6.41				2.70	36.13													100.36
Gov12	SOI 3	8	analysed	point	olivine		32.31					11.99	1.70								1.51	52.07													99.58
Gov12	SOI 3	9	analysed	point	olivine	olive earlier than cotectic	31.96					12.71	0.80								1.56	52.09													99.12
Gov12	SOI 3	10	analysed	point	leucite		46.95		0.87		10.02	27.89	0.86			11.75		0.15				1.69													100.16
Gov12	SOI 3	11	analysed	point	leucite	in cotectic with fayalite	45.08		0.99		8.77	28.08	0.92			10.60					0.19	3.58													98.20
Gov12	SOI 3	12	analysed	point	? Hole		29.05				22.81	1.21	0.21	0.13	0.13	0.26	1.39					18.59													73.78
Gov12	SOI 3	13	analysed	area	slag	representative area of slag in crack	36.87		0.41		6.20	13.86	3.72	0.17		3.51	1.07	<			0.93	34.34													101.08
Gov12	SOI 3	14	analysed	point	olivine		27.41				4.18		0.11			14.64	2.78	1.25			0.61	45.73													96.71
Gov12	SOI 3	15	analysed	point	hercynite		36.29				0.12	0.41	16.22				5.79				2.69	35.48													97.00
Gov12	SOI 3	16	analysed	point	olivine		33.81				0.21	6.91	7.84				4.86				1.05	41.96													96.65
Gov12	SOI 3	17	analysed	point	hercynite		36.38			<	0.09	0.40	16.02			0.09	5.59				2.38	35.55													96.50
Gov12	SOI 3	18	analysed	point	leucite		45.66		0.75		10.61	27.42	0.73			11.65	0.35					1.17													98.78
Gov12	SOI 3	19	analysed	point	leucite		44.83		1.63		8.67	21.78	4.66	0.17	0.12	9.10	0.85	0.15			0.63	12.23													104.82
Gov12	SOI 3	20	analysed	point	olivine	in cotectic with leucite	34.12				1.34	12.42	2.10			0.34					1.43	47.83													99.58
Gov12	SOI 4	1	analysed	point	olivine		30.09				0.29	11.51	0.88								0.51	49.23													92.52
Gov12	SOI 4	2	analysed	point	?wustite		22.56				0.29							0.16				70.57													93.58
Gov12	SOI 4	3	analysed	point	Fe III oxide		25.25				0.47	1.82	1.90					0.31				63.72													93.48
Gov12	SOI 4	4	analysed	point	hole?		0.92				0.57		0.03				0.30					11.13													12.95
Gov12	SOI 4	5	analysed	point	hercynite		35.08				24.13							0.57				37.13													96.91
Gov12	SOI 4	6	analysed	point	olivine		31.11				0.28	12.45	0.46								0.49	51.86													96.65
Gov12	SOI 4	7	analysed	point	iron						0.37											87.77	4.03					0.77							94.11
Gov12	SOI 4	8	analysed	point	?wustite		23.36				0.19	0.16						0.29			0.30	73.46													97.77
Gov12	SOI 4	9	analysed	point	hercynite		35.80				24.86							0.32				36.05													97.03
Gov12	SOI 4	10	analysed	point	hole?		27.85				19.53	0.76	0.14		1.08		1.33					11.31								0.43					62.44
Gov12	SOI 4	11	analysed	area	slag	spheroidal-textured material	25.63				3.15	1.32	1.51	0.15			0.92	0.18				58.94													91.80
Gov12	SOI 5	1	analysed	point	Fe-oxide		23.18				0.33	0.44	0.43					0.13	<	<	<	67.23													91.73
Gov12	SOI 5	2	analysed	point	olivine		30.24			0.24	0.16	12.16	0.23								0.54	49.14													92.71
Gov12	SOI 5	3	analysed	point	Fe-oxide		21.99				0.21										0.25	66.97	0.34													89.76
Gov12	SOI 5	4	analysed	point	hercynite		34.63				22.65	0.24						1.03				37.06													95.61
Gov12	SOI 11	1	analysed	area	inner cotectic slag		27.44				2.70	8.95	0.56				0.37				0.46	44.11													84.58
Gov12	SOI 11	2	analysed	area	mottled oxide		22.71				2.00	0.86	1.14				0.44	0.19			0.21	52.31													79.86
Gov12	SOI 11	3	analysed	area	outer slag		28.46				3.62	8.93	0.53				0.17				0.78	45.26													87.74
Gov12	SOI 11	4	analysed	area	outer slag		27.63				6.03	7.09	0.85				0.30	0.19			0.72	40.61													83.42

sample	site	no.	oxygen by	type	phase	notes	wt%																										
							O	F	Na	Mg	Al	Si	P	S	Cl	K	Ca	Ti	V	Cr	Mn	Fe	Co	Ni	Cu	Zn	Ge	As	Zr	Mo	Sn	Sb	Ba	W	Pb	Total
Gov12	SOI 17	1	analysed	area			26.68				3.87	0.68	0.52				0.49	0.16				67.99														100.38
Gov12	SOI 17	2	analysed	area			28.02				2.38	7.44	0.56				0.18				0.29	56.50													95.37
Gov12	SOI 17	3	analysed	area			10.97				0.33	3.85	0.50									63.73													79.38
Gov12	SOI 17	4	analysed	point	wustite?		20.81				0.29											66.98													88.08
Gov12	SOI 17	5	analysed	point	Fe-oxide		23.22				1.72	0.16					0.12					58.69													83.91
Gov12	SOI 17	6	analysed	point	weathering?		24.86		0.66		0.25	4.00	5.48			1.04	1.73				0.18	37.51													75.72
Gov12	SOI 17	7	analysed	point	hole?		29.74				0.59	2.14	2.07					0.21				70.62													105.37
Gov12	SOI 17	8	analysed	point	hole?		26.17				0.22											84.16													110.54
Gov12	SOI 18	1	analysed	point	olivine		31.15			0.23	0.21	12.78	0.18								0.46	52.80													97.81
Gov12	SOI 18	2	analysed	point	iron																	102.78													102.78
Gov12	SOI 18	3	analysed	point	wustite	oxide attached to iron	24.30				0.35	0.16										77.72													102.53
Gov12	SOI 18	4	analysed	point	impure magnetite	oxide attached to iron	27.59				0.71	1.66	1.97					0.31				69.77													102.01
Gov12	SOI 18	5	analysed	point	impure magnetite	oxide attached to iron	27.88				0.43	1.58	2.64					0.23				71.10													103.86
Gov12	SOI 18	6	analysed	point	wustite	oxide attached to iron	23.85				0.33											76.53													100.71
Gov12	SOI 18	7	analysed	point	hercynite	pre fayalite	36.09				25.17							0.78				38.37													100.42
Gov12	SOI 18	8	analysed	point	hercynite	pre fayalite	35.19			0.32	25.39	0.19						0.42	0.20	0.25		37.48													99.42
Gov12	SOI 18	9	analysed	point	hercynite	pre fayalite	35.67			0.30	25.85	0.19						0.39			0.19	37.64													100.22
Gov12	SOI 18	10	analysed	point	impure magnetite	oxide attached to iron	27.02				0.52	1.95	1.93					0.26				68.84													100.51
Gov12	SOI 18	11	analysed	point	wustite	oxide attached to iron	23.93			<	0.29	0.17						<				76.97													101.36
Gov12	SOI 18	12	analysed	point	iron																	97.41													97.41
Gov12	SOI 18	13	analysed	point	olivine		31.31			0.20	0.25	12.49	0.49				0.13				0.37	51.91													97.13
Gov12	SOI 18	14	analysed	point	hercynite	in cotectic with fayalite	36.21				24.06	0.21						0.94				38.33													99.76
Gov12	SOI 18	15	analysed	point	hercynite	in cotectic with fayalite	24.15				20.17	0.54		0.13		0.13	2.34	0.47				27.15													75.07
Gov12	SOI 18	16	analysed	point	olivine		30.81				0.25	12.16	0.83								0.32	52.58													96.96
Gov12	SOI 18	17	analysed	point	wustite	oxide attached to iron	23.25				0.23							0.17				73.08													96.73
Gov12	SOI 18	18	analysed	point	wustite	oxide attached to iron	24.44				0.28	0.15		0.08				0.19				76.32													101.46
Gov12	SOI 18	19	analysed	point	impure magnetite	oxide attached to iron	27.47				0.38	1.50	2.66					0.20				69.99													102.21
Gov12	SOI 18	20	analysed	point	hole/glass/weathering		7.16				3.70	0.14	0.06	0.11			1.71					25.04													37.91
Gov12	SOI 18	21	analysed	point	hole/glass/weathering		72.72			0.43	20.27	2.39	0.96	0.22			6.72					31.81													135.52
Gov12	SOI 18	22	analysed	point	hercynite	pre fayalite	34.49				26.65	1.18	0.12	0.25	0.17		1.53					22.45													86.84
Gov12	SOI 18	23	analysed	point	hercynite	pre fayalite	32.45				20.55	1.98	0.21	0.25			1.68					28.70													85.82
Gov12	SOI 18	24	analysed	point	olivine	in cotectic with hercynite	30.99				0.25	13.12									0.27	52.78													97.42
Gov12	SOI 19	1	analysed	point	iron nickel arsenide									<								85.72	4.44	5.53	0.51		1.37	2.62			0.42				100.62
Gov12	SOI 19	2	analysed	point	wustite		23.83				0.30	0.18										75.91													100.23
Gov12	SOI 19	3	analysed	point	iron nickel arsenide						0.53											88.71		1.38	0.36			0.45			<				91.42
Gov12	SOI 19	4	analysed	point	hercynite		33.03				19.00	0.85	0.11	0.38			2.25					21.46													77.09
Gov12	SOI 19	5	analysed	point	weathering		36.19			0.24	2.48	0.71	0.37	0.23			5.47					45.94													91.62
Gov12	SOI 19	6	analysed	point	hercynite		42.04		0.18	0.18	18.86	1.63	0.42	0.17	0.11		4.30					29.19													97.08
Gov12	SOI 19	7	analysed	point	magnetite		25.62				0.26	0.68						0.26				74.58													101.40
Gov12	SOI 19	8	analysed	point	altered hercynite?		31.33				17.22	1.95	0.21	0.35			1.81					30.35													83.21
Gov13	SOI 14	1	analysed	point	outer dense M layer		26.07				<	<	<	<			<	<			<	72.25													98.32
Gov13	SOI 14	2	analysed	point	inner porous M layer		25.37				0.20	0.11	0.20	<			<	0.38			<	71.70													97.96
Gov13	SOI 14	3	analysed	point	platey boundary stitching		24.66				0.12	1.97	2.70	<			<	0.15			<	67.70													97.30
Gov13	SOI 14	4	analysed	point	platey boundary stitching		25.11				0.20	2.44	2.63	<			<	0.27			<	67.78													98.44
Gov13	SOI 14	5	analysed	point	test on void		30.61				0.10	2.64	11.82	0.26			1.55	<			0.46	49.75													97.19
Gov13	SOI 14	6	analysed	point	W in W layer		21.55				<	<	<	<			<	0.18			<	75.28													97.01
Gov13	SOI 14	7	analysed	point	W in W layer		22.01				0.14	<	<	<			<	0.18			<	76.28													98.61
Gov13	SOI 14	8	analysed	point	M in W layer		24.44				0.14	<	<	<			<	0.25			<	72.83													97.67
Gov13	SOI 14	9	analysed	point	M in W layer		23.83				0.16	0.12	<	<			<	0.17			<	73.32													97.59
Gov13	SOI 15	1	analysed	point	M layer (outer end of trav)		27.13															70.78													97.91
Gov13	SOI 15	2	analysed	point	M layer		28.23															71.21													99.44
Gov13	SOI 15	3	analysed	point	M layer		28.98															71.12													100.10
Gov13	SOI 15	4	analysed	point	W layer		25.98															73.28													99.26
Gov13	SOI 15	5	analysed	point	W layer		26.47															73.62													100.09
Gov13	SOI 15	6	analysed	point	W layer		27.49															73.76													101.25
Gov13	SOI 15	7	analysed	point	W layer		27.62															73.79													101.41
Gov13	SOI 15	8	analysed	point	W layer		25.25															73.05													98.30

sample	site	no.	oxygen by	type	phase	notes	wt%																												
							O	F	Na	Mg	Al	Si	P	S	Cl	K	Ca	Ti	V	Cr	Mn	Fe	Co	Ni	Cu	Zn	Ge	As	Zr	Mo	Sn	Sb	Ba	W	Pb	Total
Gov13	SOI 15	9	analysed	point	W layer inner end of traverse)		25.18															72.09														97.26
Gov13	SOI 16	1	analysed	point	magnetite	euhedral M in W layer	24.46															72.85														97.31
Gov13	SOI 16	2	analysed	point	magnetite	euhedral M in W layer	24.69															72.60														97.29
Gov13	SOI 16	3	analysed	point	magnetite	M dendrite in W layer	25.14															72.39														97.53
Gov13	SOI 16	4	analysed	point	magnetite	M dendrite in W layer	24.47															72.29														96.76
Gov13	SOI 16	5	analysed	point	magnetite	M dendrite in W layer	24.24															72.80														97.04
Gov13	SOI 16	6	analysed	point	magnetite	outer M layer	25.30															72.95														98.25
Gov13	SOI 16	7	analysed	point	magnetite	inner M layer	24.99															72.77														97.76
Gov13	SOI 16	8	analysed	point	wustite	W in outer W layer	21.91															75.95														97.85
Gov13	SOI 16	9	analysed	point	wustite	W in inner W layer	21.64															75.98														97.61
Gov13	SOI 16	10	analysed	point	magnetite	euhedral M in W layer	24.57															72.24														96.82
Gov13	SOI 16	11	analysed	point	magnetite	not shown	24.39															72.31														96.70
Gov13	SOI 18	1	analysed	point	phosphatic glass	? Glass	29.71				0.15	5.21	8.73	4.25			0.09	<				54.68			<										102.81
Gov13	SOI 18	2	analysed	point	phosphatic glass	? Glass	29.52				0.14	5.16	8.78	4.20			0.15	<				54.52			<										102.46
Gov13	SOI 18	3	analysed	point	phosphatic glass	? Glass	29.57				<	5.32	8.81	4.01			0.10	<				54.17			<										101.98
Gov13	SOI 18	4	analysed	point	phosphatic glass	dark on boundary with M	32.26				<	5.75	9.71	1.24			0.49	<				52.88			<										102.34
Gov13	SOI 18	5	analysed	point	phosphatic glass	dark on boundary with M	30.20				<	5.42	9.27	2.54			0.20	<				53.40			<										101.03
Gov13	SOI 18	6	analysed	point	phosphatic glass	dark on boundary with M	31.50				<	5.77	9.87	0.57			0.31	<				52.57			<										100.59
Gov13	SOI 18	7	analysed	point	phosphatic glass	? glass	29.46				0.12	5.25	8.43	4.06			0.42	<				54.31			<										102.05
Gov13	SOI 18	8	analysed	point	magnetite	dendritic M	25.93				0.17	0.19	<	0.14			<	0.19				73.67			<										100.28
Gov13	SOI 18	9	analysed	point	magnetite	dendritic M	26.69				<	0.66	0.81	0.26			0.09	0.17				71.14			<										99.81
Gov13	SOI 18	10	analysed	point	magnetite	M marginal to W	26.27				0.12	0.20	<	<			<	0.25				73.83			<										100.67
Gov13	SOI 18	11	analysed	point	magnetite	M marginal to W	26.74				0.24	0.63	0.26	0.13			<	0.29				71.89			<										100.19
Gov13	SOI 18	12	analysed	point	wustite	W	22.61				0.15	<	<	<			<	<				78.19			<										100.95
Gov13	SOI 18	13	analysed	point	wustite	W	22.91				<	<	<	<			<	0.11				77.82			<										100.84
Gov13	SOI 18	14	analysed	point	iron sulphide	bright bleb	7.89				<	0.25	0.30	28.88			<	<				67.29			0.66										105.27
Gov13	SOI 18	15	analysed	point	iron sulphide	bright bleb	8.84				<	0.41	0.34	27.99			<	<				66.27			0.46										104.31
Gov13	SOI 18	16	analysed	point	iron sulphide	bright bleb	11.92				<	1.37	2.15	22.98			<	<				62.65			0.56										101.62
Gov13	SOI 18	17	analysed	point	iron sulphide	bright bleb	11.16				0.16	1.19	1.99	21.61			0.30	<				62.82			0.28										99.50
Gov13	SOI 18	18	analysed	point	iron sulphide	bright bleb	10.04				<	1.42	1.94	22.91			0.18	<				61.97			0.43										98.88
Gov13	SOI 18	19	analysed	point	iron sulphide	bright bleb	7.98				<	0.64	0.90	27.09			0.15	<				64.80			0.94										102.51
Gov13	SOI 18	20	analysed	point	magnetite	M marginal to W	26.32				<	0.24	0.16	<			<	<				74.59			<										101.30
Gov13	SOI 18	21	analysed	area	bulk area	interstitial area	30.32				0.14	5.22	8.68	3.97			0.30	<				53.87			<										102.50
Gov13	SOI 19	1	analysed	area	bulk area	complete section	19.02				0.23	0.38	0.21	<	0.11							59.75														79.69
Gov13	SOI 19	2	analysed	area	bulk area	complete section	18.48				0.23	0.34	0.35	0.08	0.20							55.80														75.48
Gov13	SOI 19	3	analysed	area	bulk area	outer W layer	22.25				0.13	0.11	<	<	<							75.13														97.62
Gov13	SOI 19	4	analysed	area	bulk area	inner W layer with slag films	20.27				0.22	0.50	0.62	0.37	<							64.18														86.16
Gov13	SOI 19	5	analysed	area	bulk area	complete section ex M/H layers	20.42				0.31	0.34	0.18	0.11	0.08							67.49														88.91
Gov13	SOI 20	1	analysed	area	bulk area	complete section	21.26					0.23										72.23														93.72
Gov13	SOI 25	1	analysed	area	bulk area	complete section	22.12				0.46	0.17										71.22														93.98
Gov14	SOI18	1	analysed	point	iron	bleb in magnetite	7.77				0.16	<	<				<	96.88																		104.81
Gov14	SOI18	2	analysed	point	iron	bleb in magnetite	9.30				0.73	<	<				<	93.30																		103.33
Gov14	SOI18	3	analysed	point	iron	bleb in magnetite	17.42				0.20	0.15	<				<	82.41																		100.17
Gov14	SOI18	4	analysed	point	magnetite		26.22				0.15	0.36	<				<	71.83																		98.56
Gov14	SOI18	5	analysed	point	magnetite		25.62				0.41	0.28	<				<	71.26																		97.58
Gov14	SOI18	6	analysed	point	?magnetite/wustite		24.53				0.28	0.48	0.21				0.13	73.47																		99.09
Gov14	SOI18	7	analysed	point	?magnetite/wustite		25.71				0.22	0.13	<				<	75.47																		101.54
Gov14	SOI18	8	analysed	area			23.47				0.36	0.18	<				<	76.30																		100.31
Gov14	SOI19	1	analysed	point	magnetite	dense magnetite	25.57				0.23	0.40	<					72.56																		98.77
Gov14	SOI19	2	analysed	point	magnetite	dense magnetite	25.87				0.17	0.35	<					72.28																		98.67
Gov14	SOI19	3	analysed	point	wustite		21.98				0.28	0.15	<					76.74																		99.14
Gov14	SOI19	4	analysed	point	wustite		21.94				0.20	0.20	<					76.25																		98.58
Gov14	SOI19	5	analysed	point	magnetite	lamella	24.29				0.28	0.23	<					73.25																		98.05
Gov14	SOI19	6	analysed	point	magnetite	lamella	24.74				0.25	0.22	<					72.72																		97.93

sample	site	no.	oxygen by	type	phase	notes	wt%																										
							O	F	Na	Mg	Al	Si	P	S	Cl	K	Ca	Ti	V	Cr	Mn	Fe	Co	Ni	Cu	Zn	Ge	As	Zr	Mo	Sn	Sb	Ba	W	Pb	Total
Gov14	SOI19	7	analysed	point	magnetite		26.29				0.36	1.44	0.27					69.57																	97.93
Gov14	SOI19	8	analysed	point	magnetite		24.62				0.22	0.73	<					72.31																	97.87
Gov17	SOI 3	1	analysed	error		mounting medium	2.41				<	<	<	<	0.98							<													3.39
Gov17	SOI 3	2	analysed	area		interface area	24.97				1.69	2.06	0.30	0.15	<							69.54													98.71
Gov17	SOI 3	3	analysed	area		magnetite zone	27.72				2.01	3.17	0.39	0.17	<							64.14													97.60
Gov17	SOI 3	4	analysed	area		inner wustite zone	24.63				1.33	1.77	0.28	0.20	<							71.52													99.73
Gov17	SOI 4	1	analysed	point	magnetite	poor dendrite	28.01			<	5.01	0.21	<	<		<	<	0.14			<	66.77													100.14
Gov17	SOI 4	2	analysed	point	magnetite	coarse	27.41			<	3.43	0.29	<	<		<	<	0.19			<	68.08													99.41
Gov17	SOI 4	3	analysed	point	magnetite	core of coarse zoned	27.47			<	5.99	0.29	<	<		<	<	0.19			<	64.87													98.82
Gov17	SOI 4	4	analysed	point	magnetite	margin of coarse zoned	26.60			<	2.35	0.32	<	<		<	<	0.12			<	70.68													100.07
Gov17	SOI 4	5	analysed	point	magnetite	coarse	26.50			<	2.76	0.48	<	<		<	<	<			<	68.83													98.57
Gov17	SOI 4	6	analysed	point	fayalite/glass		32.42			0.26	0.77	14.49	2.24	0.89		0.20	0.71	<			<	48.87													100.84
Gov17	SOI 4	7	analysed	point	fayalite/glass		31.84			0.26	0.86	13.48	2.48	1.03		0.12	1.13	<			0.24	47.61													99.06
Gov17	SOI 4	8	analysed	point	wustite	pseudodendrite	23.29			<	0.78	<	<	<		<	<	<			<	76.90													100.97
Gov17	SOI 4	9	analysed	point	wustite		23.11			<	0.83	0.10	<	<		<	<	<			<	76.50													100.55
Gov17	SOI 4	10	analysed	point	platey magnetite		27.13			<	2.52	1.18	0.15	0.20		<	0.11	<			<	68.14													99.44
Gov17	SOI 4	11	analysed	point	magnetite		26.44			<	1.21	1.04	<	<		<	<	<			<	70.52													99.21
Gov17	SOI 4	12	analysed	point	wustite	relic	23.78			<	0.35	0.21	<	<		<	<	<			<	76.02													100.35
Gov17	SOI 4	13	analysed	point	wustite	relic	23.34			<	0.57	0.31	<	<		<	<	<			<	76.51													100.73
Gov17	SOI 4	14	analysed	point	platey magnetite		26.32			<	1.89	1.22	0.11	<		<	<	<			<	69.85													99.39
Gov17	SOI 4	15	analysed	point	magnetite	outer of coarse zoned	26.35			<	1.02	1.09	<	<		<	<	<			<	71.49													99.95
Gov17	SOI 4	16	analysed	point	magnetite	core of coarse zoned	27.55			0.18	5.96	0.18	<	<		<	<	0.22			<	65.26													99.36
Gov17	SOI 4	17	analysed	point	magnetite	inner of coarse zoned	27.10			<	5.10	0.21	<	<		<	<	0.19			<	66.22													98.82
Gov17	SOI 4	18	analysed	point	magnetite	outer of coarse zoned	26.64			<	2.62	0.53	<	<		<	<	0.10			<	69.79													99.67
Gov17	SOI 4	19	analysed	point	magnetite		26.46			<	0.35	<	<	<		<	<	<			<	71.68													98.49
Gov17	SOI 6	1	analysed	point	magnetite	coarse	26.05				2.99	0.18	<	<		<	<	0.19			<	69.73													99.14
Gov17	SOI 6	2	analysed	point	magnetite	coarse	26.41				2.64	<	<	<		<	<	0.21			<	71.19													100.46
Gov17	SOI 6	3	analysed	point	magnetite	coarse	26.25				2.25	0.15	<	<		<	<	<			<	70.79													99.45
Gov17	SOI 6	4	analysed	point	glass		30.31				0.71	14.33	1.04	1.88		0.27	0.79	<			0.18	49.87													99.37
Gov17	SOI 6	5	analysed	point	wustite		22.22				0.59	<	<	<		<	<	<			<	74.71													97.52
Gov17	SOI 6	6	analysed	point	wustite		22.63				0.72	<	<	<		<	<	<			<	75.20													98.54
Gov17	SOI 6	7	analysed	point	magnetite		26.96				0.60	0.24	<	<		<	<	<			0.16	72.69													100.65
Gov17	SOI 6	8	analysed	point	magnetite		26.58				0.74	<	<	<		<	<	<			0.18	71.42													98.92
Gov17	SOI 6	9	analysed	point	magnetite		26.30				0.54	0.69	<	<		<	<	<			0.20	69.44													97.17
Gov17	SOI 6	10	analysed	point	magnetite		25.36				0.63	0.45	<	<		<	<	<			0.29	69.58													96.31
Gov17	SOI 6	11	analysed	point	magnetite		25.69				0.57	<	<	<		<	<	<			0.22	72.13													98.61
Gov17	SOI 6	12	analysed	point	magnetite	coarse	27.09				2.35	0.26	<	<		<	<	<			<	71.30													101.00
Gov17	SOI 6	13	analysed	point	magnetite	margin of grain	26.08				1.10	<	<	<		<	<	<			<	70.97													98.15
Gov17	SOI 6	14	analysed	point	magnetite		25.89				0.56	0.10	<	<		<	<	<			0.28	72.08													98.90
Gov17	SOI 6	15	analysed	point	wustite		22.79				0.56	0.28	<	<		<	<	<			<	75.67													99.30
Gov17	SOI 6	16	analysed	area	bulk	grain to left	27.46				0.63	3.83	1.12	<		<	0.27	<			0.38	64.70													98.39
Gov17	SOI 6	17	analysed	area	bulk	grain to right	24.80				1.12	2.24	0.09	0.26		<	0.09	<			<	70.20													98.80
Gov17	SOI 6	18	analysed	area	bulk	grain to left	26.70				0.63	1.73	0.28	<		<	0.10	<			0.22	68.41													98.07
Gov17	SOI 7	1	analysed	point	fayalite/glass		32.01	<	0.18		2.95	13.90	0.57	0.52		0.59	0.46	<				47.34													98.51
Gov17	SOI 7	2	analysed	point	fayalite/glass		31.70	0.17	0.27		3.06	14.01	0.49	0.64		0.64	0.62	<				46.33													97.94
Gov17	SOI 7	3	analysed	point	fayalite/glass		33.99	0.36	0.25		3.13	14.62	0.58	0.56		0.69	0.62	<				47.11													101.92
Gov17	SOI 7	4	analysed	point	magnetite	core of large zoned grain	32.29	<	0.34		21.33	0.54	<	<		<	<	0.54				43.16													98.20
Gov17	SOI 7	5	analysed	point	magnetite	inner of zoned grain	28.57	<	0.22		10.28	0.63	<	<		<	<	0.48				58.31													98.49
Gov17	SOI 7	6	analysed	point	magnetite	inner of zoned grain	30.11	<	0.25		14.56	0.53	0.10	<		<	<	0.45				51.79													97.79
Gov17	SOI 7	7	analysed	point	magnetite	outer of zoned grain	28.88	<	0.22		10.26	0.98	<	<		<	<	0.48				57.15													97.97
Gov17	SOI 7	8	analysed	point	magnetite	inner of largezoned grain	31.12	<	0.35		16.25	1.40	<	<		0.11	<	0.48				45.72													95.43
Gov17	SOI 7	9	analysed	point	magnetite	outer of zoned grain	29.59	<	<		10.36	1.18	<	<		0.08	<	0.49				57.41													99.12
Gov17	SOI 7	10	analysed	point	magnetite	inner of zoned grain	29.27	<	0.21		11.28	0.41	<	<		<	<	0.52				56.74													98.42
Gov17	SOI 7	11	analysed	point	magnetite	outer of zoned grain	28.63	<	0.17		8.93	1.53	<	<		<	<	0.55				58.49													98.30
Gov17	SOI 7	12	analysed	point	magnetite	platy magnetite	29.98	0.29	0.20		2.90	9.42	0.35	0.29		0.44	0.31	0.16				55.76													100.10
Gov17	SOI 7	13	analysed	point	magnetite	outer of large zoned grain	31.34	<	0.25		11.97	1.32	<	<		<	<	0.55				55.20													100.63
Gov17	SOI 7	14	analysed	point	wustite	large grain	22.62	<	<		0.78	0.15	<	<		<	<	<				73.87													97.42

sample	site	no.	oxygen by	type	phase	notes	wt%																										
							O	F	Na	Mg	Al	Si	P	S	Cl	K	Ca	Ti	V	Cr	Mn	Fe	Co	Ni	Cu	Zn	Ge	As	Zr	Mo	Sn	Sb	Ba	W	Pb	Total
Gov17	SOI 7	15	analysed	point	wustite	large grain	22.44		<	0.15	0.80	0.13	<	<		<	<	<				73.62														97.14
Gov17	SOI 7	16	analysed	point	wustite	dendrite	23.25		<	<	0.90	1.13	<	<		<	<	0.11				72.80														98.18
Gov17	SOI 7	17	analysed	point	wustite	dendrite	22.86		<	<	0.76	0.72	<	<		0.08	<	0.12				73.15														97.70
Gov17	SOI 7	18	analysed	point	fayalite/glass		30.91		0.27	0.18	2.97	13.20	0.52	0.46		0.61	0.43	0.12				48.29														97.96
Gov17	SOI 7	19	analysed	area	bulk	slaggy area near big wustite grain	29.07		<	<	4.60	8.51	0.36	0.30		0.44	0.28	0.19				54.69														98.44
Gov17	SOI 10	1	analysed	point	wustite	dendrite	24.82		0.22	0.24	0.94	5.00	0.16	0.73		0.15	0.32	<				64.09														96.66
Gov17	SOI 10	2	analysed	point	magnetite	fuzzy dendrite	26.60		<	0.18	2.73	1.01	<	0.15		<	0.13	0.25				66.37														97.41
Gov17	SOI 10	3	analysed	point	magnetite	fuzzy dendrite	26.07		<	0.19	2.14	0.34	<	0.09		<	<	0.18				67.92														96.94
Gov17	SOI 10	4	analysed	point	wustite	core overgrown by angular and dendritic magnetite	22.27		<	0.17	0.36	<	<	<		<	<	<				74.16														96.97
Gov17	SOI 10	5	analysed	point	magnetite	inner of angular magnetite, base of dendrite	26.42		<	0.16	3.11	0.33	<	<		<	<	0.28				67.17														97.47
Gov17	SOI 10	6	analysed	point	magnetite	outer of angular magnetite, base of dendrite	26.03		<	<	2.71	0.93	<	<		<	<	0.22				67.47														97.36
Gov17	SOI 10	7	analysed	point	magnetite	angualr magnetite	25.13		<	<	1.44	0.18	<	<		<	<	<				68.99														95.75
Gov17	SOI 10	8	analysed	point	magnetite	fine dendrite	26.89		<	<	2.62	1.23	<	0.15		<	<	0.22				66.76														97.86
Gov17	SOI 10	9	analysed	point	magnetite	dendrite	25.80		<	0.14	2.57	0.61	<	<		<	<	0.14				67.21														96.48
Gov17	SOI 10	10	analysed	point	magnetite	grain margin	25.47		0.37	<	1.07	1.08	<	<		0.15	0.56	0.11				66.43														95.24
Gov17	SOI 10	11	analysed	point	glass		30.10		0.27	0.31	1.41	13.69	0.36	2.37		0.47	0.77	<				49.08														98.82
Gov17	SOI 10	12	analysed	point	glass		30.10		0.48	0.29	1.93	13.47	0.37	2.27		0.44	0.84	<				48.85														99.04
Gov17	SOI 10	13	analysed	area	bulk		28.42		<	0.22	1.62	9.74	0.29	1.45		0.30	0.51	<				56.18														98.73
Gov17	SOI 10	14	analysed	point	magnetite	fine dendrite	27.36		<	<	2.53	1.69	<	<		<	<	0.21				66.74														98.53
Gov17	SOI 10	15	analysed	point	magnetite	fuzzy dendrite	25.76		<	<	2.83	0.37	<	<		<	<	0.18				66.59														95.72
Gov17	SOI 12	1	analysed	point			38.00		0.16	0.18	5.07	20.75	0.56			1.76	1.74	0.19				31.10														99.52
Gov17	SOI 12	2	analysed	area			33.18		0.26	0.19	5.37	12.42	0.28			0.76	0.76	0.20				47.34														100.76
Gov17	SOI 12	3	analysed	point			27.58		<	0.25	5.95	0.16	<			<	<	0.23				65.80														99.97
Gov17	SOI 12	4	analysed	point			27.77		<	0.20	6.34	0.29	<			<	<	0.20				64.20														99.00
Gov17	SOI 12	5	analysed	point	glass		40.21		0.35	0.22	5.56	24.34	0.72			1.07	1.28	0.16				24.63														98.54
Gov17	SOI 12	6	analysed	point	glass		41.77		0.23	0.18	5.72	24.81	0.93			1.38	1.31	0.11				23.60														100.04
Gov17	SOI 12	7	analysed	point	metakaolinite?	clinker bleb?	48.66		<	<	24.14	24.93	0.11			0.63	<	<				0.53														98.99
Gov17	SOI 12	8	analysed	point	metakaolinite?	clinker bleb?	46.80		0.18	<	24.02	23.97	0.09			0.85	0.16	<				0.79														96.85
Gov17	SOI 12	9	analysed	point	magnetite	angular in grain rim	26.39		<	0.16	1.29	2.65	0.16			<	0.55	<				65.28														96.48
Gov17	SOI 12	10	analysed	point	magnetite	angular in grain rim	28.33		<	<	2.59	1.58	<			<	0.19	0.15				69.08														101.91
Gov17	SOI 12	11	analysed	point	glass	in magnetite core	33.22		0.18	0.18	5.81	13.11	0.32			0.68	0.73	0.27				44.87														99.37
Gov17	SOI 14	1	analysed	area	bulk		22.53				0.48	0.61	0.38	0.13								74.89														99.02
Gov17	SOI 14	2	analysed	point	wustite		21.55				<	<	<	<								76.93														98.48
Gov17	SOI 14	3	analysed	point	wustite		21.88				<	<	<	<								77.64														99.52
Gov17	SOI 14	4	analysed	point	wustite		21.86				<	<	<	<								78.40														100.27
Gov17	SOI 16	1	analysed	point	magnetite	coarse	25.80				1.09	0.29	<									72.83														100.01
Gov17	SOI 16	2	analysed	point	magnetite	coarse	26.31				0.95	0.10	<									71.49														98.85
Gov17	SOI 16	3	analysed	point	magnetite	dendrite	25.75				1.03	0.11	<									74.53														101.41
Gov17	SOI 16	4	analysed	area	bulk		26.56				1.30	1.88	0.17									69.48														99.39
Gov17	SOI 18	1	analysed	area	bulk		27.86				1.69	2.21										66.25														98.01
Gov17	SOI 18	2	analysed	point	magnetite	coarse dendrites	27.17			0.29	1.65											70.05														99.16
Gov17	SOI 18	3	analysed	point	magnetite	coarse dendrites	27.75			0.22	1.82											69.52														99.32
Gov17	SOI 18	4	analysed	point	magnetite	coarse dendrites	26.93				1.73											70.44														99.10
Gov17	SOI 18	5	analysed	point	magnetite	coarse dendrites	26.39			0.23	1.52											69.79														97.93
Gov17	SOI 19	1	analysed	point	glass		36.82			0.33	6.11	16.15	0.23			0.35	0.90	0.24				40.40														101.52
Gov17	SOI 19	2	analysed	area	bulk		33.7				6.19	10.70				0.47	0.59	0.20				48.84														100.68
Gov17	SOI 22	1	analysed	area	bulk		26.91			0.14	0.89	2.91	0.70				0.18	0.10		<		66.99														98.83
Gov17	SOI 22	2	analysed	point	magnetite	inner part of margin	25.21			<	0.68	<	<				<	<		<		72.62														98.52
Gov17	SOI 22	3	analysed	point	magnetite	outer blistered margin?	27.16			0.24	3.16	1.13	<				0.08	0.25		<		64.83														96.85
Gov17	SOI 22	4	analysed	point	magnetite	dendrite	25.70			<	0.92	0.12	<				<	<		<		72.07														98.82
Gov17	SOI 22	5	analysed	point	magnetite	dendrite	25.19			0.17	1.04	0.13	<				<	<		<		72.53														99.06
Gov17	SOI 22	6	analysed	point	glass		33.04			0.17	1.30	11.44	5.58				1.40	0.14		0.50		45.97														99.54
Gov17	SOI 22	7	analysed	point	magnetite	dendrite	25.20			<	1.10	<	<				<	<		<		72.42														98.72

sample	site	no.	oxygen by	type	phase	notes	wt%																										
							O	F	Na	Mg	Al	Si	P	S	Cl	K	Ca	Ti	V	Cr	Mn	Fe	Co	Ni	Cu	Zn	Ge	As	Zr	Mo	Sn	Sb	Ba	W	Pb	Total
Gov17	SOI 22	8	analysed	point	glass		31.44			<	1.30	10.05	4.51				1.03	0.19			0.41	52.61														101.53
Gov17	SOI 24	1	analysed	point	glass		31.31				0.18	11.04	4.13	0.56		0.16	0.22				0.53	54.31														102.45
Gov17	SOI 24	2	analysed	point	magnetite	outer crust	26.00				0.39	0.11	<	<		<	<				<	72.14														98.63
Gov17	SOI 24	3	analysed	point	magnetite	main dendrite phase	26.00				0.51	0.18	<	<		<	<				<	71.75														98.45
Gov17	SOI 24	4	analysed	point	magnetite	inner dendrites	25.29				0.49	0.14	<	<		<	<				<	72.20														98.12
Gov17	SOI 24	5	analysed	point	glass/magnetite		28.16				0.17	6.26	2.05	0.09		<	<				0.41	65.55														102.68
Gov17	SOI 24	6	analysed	area	bulk		26.82				0.35	3.13	1.00	0.10		<	<				0.27	67.60														99.26
Gov17	SOI 27	1	analysed	area	bulk		24.76			0.24	0.81	1.53	0.27	0.30		<	0.25				0.26	73.44														101.85
Gov17	SOI 27	2	analysed	area	bulk		24.84			0.29	1.22	1.16	0.27	0.22		<	0.17				<	73.16														101.33
Gov17	SOI 27	3	analysed	point	magnetite	outer crust	26.45			0.16	0.14	<	<	<		<	<				0.17	72.67														99.58
Gov17	SOI 27	4	analysed	point	magnetite	dendrite	26.81			0.20	2.80	0.16	<	<		<	<				<	70.11														100.09
Gov17	SOI 27	5	analysed	point	magnetite	altered wustite	26.13			<	0.55	0.19	<	<		<	<				<	73.44														100.31
Gov17	SOI 27	6	analysed	point	magnetite	altered wustite	26.13			0.20	0.74	<	<	<		<	<				<	73.60														100.67
Gov17	SOI 27	7	analysed	point	magnetite	altered wustite	25.87			0.22	0.68	0.13	<	<		<	<				<	74.11														101.02
Gov17	SOI 27	8	analysed	point	wustite		23.21			0.27	0.62	<	<	<		<	<				0.23	76.81														101.13
Gov17	SOI 27	9	analysed	point	wustite		23.23			0.38	0.43	<	<	<		<	<				0.17	77.55														101.77
Gov17	SOI 27	10	analysed	point	wustite		23.50			0.27	0.61	0.09	<	<		<	<				<	77.24														101.72
Gov17	SOI 27	11	analysed	point	wustite		23.40			0.17	0.65	<	<	<		<	<				0.16	76.96														101.34
Gov17	SOI 27	12	analysed	point	glass		32.72			0.34	0.71	12.59	3.02	1.44		0.22	1.47				0.36	51.36														104.23
Gov17	SOI 27	13	analysed	point	glass		31.35			0.44	0.71	12.53	2.94	1.89		0.14	1.91				0.38	49.44														101.74
Gov17	SOI 27	14	analysed	point	glass/magnetite		27.14			0.34	1.43	6.93	1.45	0.99		<	0.89				0.19	63.72														103.07
Gov17	SOI 29	1	analysed	point	magnetite	inner crust	26.88		<	<	0.17	0.10	<	<		<	<	<				72.53														99.67
Gov17	SOI 29	2	analysed	point	glass		34.22		<	0.27	1.65	15.46	1.34	1.75		0.32	0.63	<				47.56														103.19
Gov17	SOI 29	3	analysed	point	magnetite	coarse	27.74		<	<	4.25	0.63	<	<		<	<	0.29				67.63														100.55
Gov17	SOI 29	4	analysed	point	magnetite	dendritic	28.16		<	<	4.35	0.50	<	<		<	<	0.33				68.98														102.32
Gov17	SOI 29	5	analysed	point	magnetite	outer part of flake	26.89		<	<	1.04	1.04	<	<		<	<	<				71.65														100.62
Gov17	SOI 29	6	analysed	point	wustite	core of flake	23.47		<	<	0.24	0.14	<	<		<	<	<				76.94														100.79
Gov17	SOI 29	7	analysed	point	wustite	core of flake	23.10		<	<	0.31	0.16	<	<		<	<	<				77.34														100.91
Gov17	SOI 29	8	analysed	point	magnetite	dendritic	27.65		<	<	4.07	0.69	<	<		<	<	0.28				68.02														100.71
Gov17	SOI 29	9	analysed	point	magnetite	coarse	27.87		<	<	4.75	0.35	<	<		<	<	0.39				66.55														99.92
Gov17	SOI 29	10	analysed	point	magnetite	platy magnetite	27.73		<	<	3.80	0.71	<	<		<	<	0.33				68.44														101.01
Gov17	SOI 29	11	analysed	point	glass		32.11		0.39	0.18	2.21	14.88	0.58	0.94		0.37	0.64	<				47.81														100.10
Gov17	SOI 29	12	analysed	point	wustite	dendrite core	23.37		<	<	0.81	0.38	<	<		0.09	<	0.14				76.42														101.21
Gov17	SOI 29	13	analysed	point	magnetite	overgrowth to dendrite	27.40		0.26	<	5.04	0.58	<	<		<	<	0.36				66.77														100.42
Gov17	SOI 29	14	analysed	point	wustite	dendrite with plates	23.20		<	<	0.90	1.52	0.10	<		<	0.14	<				70.99														96.85
Gov17	SOI 29	15	analysed	area	bulk	magnetite-rich area	29.91		0.21	0.19	2.33	8.43	0.34	0.32		0.16	0.30	<				59.28														101.47
Gov17	SOI 29	16	analysed	area	bulk	included flake scale	24.45		<	0.16	0.16	1.16	0.28	0.17		<	<	<				72.75														99.14
Gov17	SOI 29	17	analysed	area	bulk	magnetite-rich area	29.30		0.21	0.13	2.34	8.12	0.28	0.40		0.22	0.29	0.11				59.53														100.95
Gov17	SOI 29	18	analysed	area	bulk	plate-dominated area	27.78		0.29	0.18	2.23	7.26	0.38	0.32		0.21	0.22	0.10				61.02														99.99
Gov17	SOI 29	19	analysed	area	bulk	wustite dominated area	27.37		<	0.19	2.26	6.78	0.27	0.20		0.22	0.25	<				63.35														100.89
Gov17	SOI 29	20	analysed	area	bulk	overall	29.91		<	0.15	2.46	7.45	0.32	0.31		0.22	0.20	0.14				62.22														103.40
Gov17	SOI 35	1	analysed	point	magnetite	outer crust	25.03		<		0.90	<	<	<		<	<					70.62														96.55
Gov17	SOI 35	2	analysed	point	magnetite	dendrite	25.95		<		2.41	0.45	<	<		<	<					69.55														98.36
Gov17	SOI 35	3	analysed	point	magnetite	dendrite - overgrowth to 4	25.59		<		1.18	0.24	<	<		<	<					70.55														97.56
Gov17	SOI 35	4	analysed	point	wustite	core to magnetite dendrite	22.32		<		0.46	<	<	<		<	<					75.19														97.96
Gov17	SOI 35	5	analysed	point	wustite	with speckled alteration to magnetite	22.38		<		0.82	<	<	<		<	<					72.80														96.00
Gov17	SOI 35	6	analysed	point	wustite	dendrite - on inner margin	26.92		<		0.55	0.31	<	<		<	<					75.09														102.87
Gov17	SOI 35	7	analysed	point	glass		30.33		<		1.52	14.10	0.83	1.15		0.33	0.52					49.86														98.64
Gov17	SOI 35	8	analysed	point	glass		31.40		0.29		0.99	15.28	0.74	1.06		0.31	0.67					49.94														100.67
Gov17	SOI 35	9	analysed	area	bulk		27.48		<		1.98	4.24	0.17	0.22		0.11	0.17					65.20														99.57
Gov17	SOI 48	1	analysed	point	iron	high S and P	0.70		<	<	<	0.13	0.89	2.19		<	0.11	<	<	<		94.05	<													98.08
Gov17	SOI 48	2	analysed	point	glass + FeS	bright bleb	20.51		<	<	7.50	2.94	<	28.56		0.40	0.32	0.18	<	<		53.70	<													114.12
Gov17	SOI 48	3	analysed	point	glass + Fe/FeS	bright bleb	1.24		<	<	0.28	0.37	0.10	14.91		0.11	0.10	<	<	<		84.98	0.55													102.64
Gov17	SOI 48	4	analysed	point	mullite?	dark prism	48.84		<	0.17	36.59	13.31	0.19	<		0.38	0.21	0.60	0.15	<		1.36	<													101.81
Gov17	SOI 48	5	analysed	point	mullite?	dark prism	48.48		<	0.10	38.20	12.22	0.13	<		0.13	0.08	0.31	<	<		0.74	<													100.41
Gov17	SOI 48	6	analysed	point	glass		44.96		0.83	0.80	11.56	24.58	<	0.20		3.13	1.78	1.26	<	0.15		11.02	<													100.26

sample	site	no.	oxygen by	type	phase	notes	wt%																										
							O	F	Na	Mg	Al	Si	P	S	Cl	K	Ca	Ti	V	Cr	Mn	Fe	Co	Ni	Cu	Zn	Ge	As	Zr	Mo	Sn	Sb	Ba	W	Pb	Total
Gov17	SOI 48	7	analysed	point	glass		44.64		0.76	0.85	11.18	24.73	<	0.07		2.86	1.87	1.23	<		<	11.59			<											99.78
Gov17	SOI 48	8	analysed	area	bulk	typical	46.15		0.59	0.69	17.80	22.92	0.08	0.24		2.49	1.36	1.06	<		<	9.06			<											102.45
Gov17	SOI 48	9	analysed	point	mullite + Fe/FeS	bright bleb	38.75		0.53	0.52	17.60	20.08	0.12	3.90		2.10	0.94	0.69	<		0.12	16.66			<											102.02
Gov17	SOI 48	10	analysed	point	mullite + Fe/FeS	bright bleb	30.89		0.23	0.26	27.56	9.66	0.14	2.64		0.89	0.68	0.36	<		<	9.78			<											83.10
Gov17	SOI 48	11	analysed	point	glass + Fe/FeS	bright bleb	45.83		0.59	0.76	14.73	23.11	0.11	0.38		2.87	1.47	1.13	<		0.20	10.15			<											101.34
Gov17	SOI 48	12	analysed	point	mullite + Fe/FeS	bright bleb	30.19		<	0.15	3<	7.32	0.21	0.17		0.66	0.35	0.34	<		<	6.04			<											75.43
Gov17	SOI 48	13	analysed	point	mullite + Fe/FeS	bright bleb	40.70		0.33	0.33	25.96	17.85	<	0.33		1.19	0.50	0.62	0.13		<	5.32			<											93.26
Gov17	SOI 48	14	analysed	point	glass + Fe/FeS	bright bleb	42.60		0.87	0.75	11.08	23.82	0.11	0.73		2.99	1.75	1.25	<		<	12.96			<											98.91
Gov17	SOI 48	15	analysed	point	glass + Fe/FeS	bright bleb	41.55		0.90	0.80	10.93	23.00	0.12	2.03		3.03	1.69	1.17	<		0.14	14.88			<											100.23
Gov17	SOI 49	1	analysed	point	mullite	dark prism/glass	44.45		0.42	0.15	30.81	16.89	0.17	0.13		1.22	0.37	0.76	<			2.62														97.99
Gov17	SOI 49	2	analysed	point	mullite/hercynite	cont of prism outside glass	38.72		<	0.57	28.72	3.30	<	0.32		0.49	0.10	0.37	0.11			27.87														100.59
Gov17	SOI 49	3	analysed	point		cont of prism outside glass	39.49		<	0.43	29.54	4.39	0.09	<		0.34	0.11	0.39	<			21.76														96.54
Gov17	SOI 49	4	analysed	point	mullite	dark spinel core	42.59		<	4.79	42.44	0.29	0.17	<		<	<	0.26	0.15			8.95														99.63
Gov17	SOI 49	5	analysed	point	hercynite	spinel outer	35.80		<	0.77	27.50	0.27	<	<		<	<	0.29	<			35.96														100.58
Gov17	SOI 49	6	analysed	point	hercynite	spinel outer	36.20		<	0.81	28.34	0.10	<	<		<	<	0.32	0.16			35.25														101.18
Gov17	SOI 49	7	analysed	point	fayalite		32.06		<	0.62	0.59	13.82	0.19	0.29		0.18	0.23	<	<			51.26														99.25
Gov17	SOI 49	8	analysed	point	fayalite		36.55		0.20	0.34	1.14	14.03	0.29	0.11		0.30	0.43	0.25	<			44.29														97.94
Gov17	SOI 49	9	analysed	point	fayalite		33.06		<	0.44	0.98	14.95	0.20	0.11		0.15	0.22	0.13	<			52.12														102.38
Gov17	SOI 49	10	analysed	point	haematite	outer crust	32.23		<	<	<	0.37	<	0.10		<	0.08	<	<			65.41														98.19
Gov17	SOI 49	11	analysed	point	haematite	outer crust	29.55		0.23	<	0.17	0.29	0.10	0.16		<	0.13	<	<			66.37														96.99
Gov17	SOI 49	12	analysed	point	glass	outer glass?	38.53		0.44	0.12	9.34	19.88	0.69	0.79		2.41	1.73	0.79	<			23.35														98.07
Gov17	SOI 49	13	analysed	point	glass	outer glass?	41.75		0.69	<	9.17	22.57	0.75	0.38		2.65	2.46	0.74	<			19.40														100.56
Gov17	SOI 49	14	analysed	point	mullite	dark spinel core	35.48		<	0.15	45.90	0.71	0.17	<		0.27	<	0.28	0.21			1.61														84.78
Gov17	SOI 49	15	analysed	point	hercynite	spinel outer	36.44		<	0.80	28.27	0.28	<	<		<	<	0.38	<			35.64														101.80
Gov17	SOI 49	16	analysed	point	fayalite	fayalite	32.09		<	0.45	0.65	14.03	0.24	<		0.23	0.14	0.16	<			52.36														100.35
Gov17	SOI 49	17	analysed	point	fayalite	fayalite	38.37		0.22	0.24	1.47	14.18	0.42	0.08		0.28	0.45	0.21	<			45.49														101.39
Gov17	SOI 49	18	analysed	point	glass	outer glass?	45.85		0.60	<	12.25	21.03	0.62	0.32		2.80	2.38	1.53	<			18.10														105.47
Gov17	SOI 49	19	analysed	point	mullite	inner glass?	48.12		<	<	40.06	11.29	0.17	<		<	<	0.17	<			0.77														100.58
Gov17	SOI 49	20	analysed	area		outer slag	36.13		0.18	0.36	11.31	12.35	0.32	0.55		0.75	0.69	0.37	<			36.88														99.88
Gov17	SOI 49	21	analysed	point	glass	outer glass?	45.45		0.38	<	12.17	21.06	0.69	0.48		2.89	2.57	1.11	<			17.07														103.88
Gov17	SOI 50	1	analysed	point	"limonite"	outer fibrous layer	35.29		0.30		<	0.74	<	0.29	<	<	0.13					56.52														93.27
Gov17	SOI 50	2	analysed	point	"limonite"	outer fibrous layer	34.71		<		<	0.40	<	0.36	<	<	0.10					57.72														93.29
Gov17	SOI 50	3	analysed	point	haematite?	inner fibrous layer	29.96		<		0.47	0.74	<	0.68	<	<	0.09					65.17														97.12
Gov17	SOI 50	4	analysed	point	haematite?	inner fibrous layer	28.39		<		0.34	0.62	<	1.87	<	<	<					63.34														94.55
Gov17	SOI 50	5	analysed	point	hydrated Fe-oxide?	altered iron?	29.10		0.22		0.34	0.39	<	3.05	<	0.17	0.10					63.01														96.39
Gov17	SOI 50	6	analysed	point	hydrated Fe-oxide?	altered iron?	33.87		0.46		0.50	0.37	0.14	7.11	<	1.45	0.21					46.52														90.63
Gov17	SOI 50	7	analysed	point	hydrated Fe-oxide?	altered iron?	30.18		<		0.34	0.30	0.20	3.51	0.08	0.91	0.14					56.12														91.78
Gov17	SOI 50	8	analysed	point	hydrated Fe-oxide?	groundmass	29.94		<		2.00	2.88	0.16	0.29	0.16	<	0.18					43.94														79.58
Gov17	SOI 50	9	analysed	point	hydrated Fe-oxide?	groundmass	42.34		0.32		0.30	0.14	<	14.36	0.09	2.77	0.08					30.61														91.01
Gov17	SOI 50	10	analysed	point	hydrated Fe-oxide?	groundmass	7.75		<		2.03	1.55	0.19	0.33	0.76	<	0.23					25.88														38.71
Gov17	SOI 50	11	analysed	area	bulk	typical "iron" clast	22.14		<		1.91	0.96	0.16	1.47	0.13	0.39	0.15					45.64														72.95
Gov17	SOI 51	1	analysed	area	bulk	typical	34.49			0.29	6.02	12.64	0.18	0.67		0.51	0.82	0.27				45.60														101.49
Gov17	SOI 51	2	analysed	point	Al-magnetite	spinel inner	33.68			0.40	16.14	2.90	<	0.09		0.20	0.17	0.14				48.18														101.91
Gov17	SOI 51	3	analysed	point	Al-magnetite	spinel inner	32.66			0.29	13.61	1.23	<	<		0.12	<	0.28				54.87														103.06
Gov17	SOI 51	4	analysed	point	Al-magnetite	spinel inner	31.77			0.25	12.53	0.42	<	<		<	<	0.26				56.92														102.15
Gov17	SOI 51	5	analysed	point	Al-magnetite	spinel outer	31.17			0.28	10.51	0.99	<	<		0.11	<	0.39				58.62														102.05
Gov17	SOI 51	6	analysed	point	glass		35.09			0.30	5.00	15.01	0.18	1.00		0.50	0.94	0.23				43.78														102.03
Gov17	SOI 51	7	analysed	point	glass		35.14			0.37	4.89	15.60	0.25	1.05		0.54	1.06	0.20				42.79														101.90
Gov17	SOI 51	8	analysed	point	magnetite/haematite	outer crust	28.96			0.31	2.24	0.14	<	<		<	<	<				68.72														100.37
Gov17	SOI 51	9	analysed	point	Al-magnetite	dendrite base	32.03			0.32	13.34	1.74	<	<		0.17	0.13	0.30				53.41														101.43
Gov17	SOI 52	1	analysed	point	magnetite	outer crust	25.55			0.27	0.76	<	<	<		<	0.42	<		<		70.59														97.60
Gov17	SOI 52	2	analysed	point	Al-magnetite	spinel	28.95			0.21	7.39	0.35	<	<		<	<	0.41		<		63.19														100.50
Gov17	SOI 52	3	analysed	point	Al-magnetite	spinel	28.40			0.29	8.15	0.43	<	<		<	<	0.33		<		62.52														100.12
Gov17	SOI 52	4	analysed	point	Al-magnetite	spinel	29.97			0.41	11.25	0.54	<	<		<	0.09	0.45		<		58.69														101.40
Gov17	SOI 52	5	analysed	point	Al-magnetite	spinel outer	28.81			0.30	8.75	0.51	<	<		<	0.12	0.42		<		61.60														100.51
Gov17	SOI 52	6	analysed	point	Fe-hercynite	dark spinel core	34.36			0.81	25.43	0.42	<	<		<	<	0.36		<		39.42														100.80
Gov17	SOI 52	7	analysed	point	Fe-hercynite	dark spinel core	33.99			0.60	23.66	0.48	<	<		<	<	0.45		<		41.91														101.09

sample	site	no.	oxygen by	type	phase	notes	wt%																										
							O	F	Na	Mg	Al	Si	P	S	Cl	K	Ca	Ti	V	Cr	Mn	Fe	Co	Ni	Cu	Zn	Ge	As	Zr	Mo	Sn	Sb	Ba	W	Pb	Total
Gov17	SOI 52	8	analysed	point	wustite	dendrite - wustite?	23.14			0.15	1.04	0.32	<	<		<	<	<		<		75.21														99.86
Gov17	SOI 52	9	analysed	point	wustite	dendrite - wustite?	24.60			0.18	0.73	1.19	<	<		<	0.19	0.16		<		73.67														100.73
Gov17	SOI 52	10	analysed	point	glass		32.86			0.44	4.06	14.69	0.36	0.35		0.74	1.52	<		<		45.35														100.39
Gov17	SOI 52	11	analysed	point	glass		32.67			0.48	3.03	14.88	0.41	0.30		0.61	1.48	<		<		45.73														99.60
Gov17	SOI 52	12	analysed	area		typical	30.68			0.38	4.59	9.07	0.22	0.20		0.46	0.87	0.16		<		54.42														101.04
Gov17	SOI 52	13	analysed	point	Al-magnetite?	variegated spinel core	32.16			0.58	16.37	3.02	<	<		0.16	0.26	0.29		0.19		46.52														99.54
Gov18	SOI3	1	analysed	area	wustite+magnetite	dense large bleb	22.73		<	0.38	0.70	<	<	<	<		<	0.11			<	70.70														94.62
Gov18	SOI3	2	analysed	area	wustite+magnetite	wustite pseudodendritic bleb	23.33		<	0.68	4.78	1.58	0.30	<	<		0.53	0.19			<	55.07														86.46
Gov18	SOI3	3	analysed	area	hydrated oxides?	inner corroded metal?	26.44		<	0.35	2.42	1.30	0.13	<	<		0.65	0.10			<	61.55														92.94
Gov18	SOI3	4	analysed	area	slag	clinker inclusion?	34.61		<	1.39	11.79	7.57	0.10	0.09	<		3.06	0.46			<	37.86														96.93
Gov18	SOI3	5	analysed	area	slag	messy slaggy area	25.89		0.24	0.45	4.89	3.39	0.98	0.20	<		1.95	0.30			<	46.73														85.02
Gov18	SOI3	6	analysed	area	wustite+magnetite	outer coherent scale	22.20		<	0.14	1.19	0.30	0.08	0.09	<		0.09	<			<	67.80														91.89
Gov18	SOI3	7	analysed	point	hydrated oxides?	inner corrosion layer?	33.32		0.20	<	0.28	0.47	<	<	<		0.09	<			<	58.65														93.00
Gov18	SOI3	8	analysed	point	wustite+magnetite	wustite pseudodendritic bleb	23.21		<	0.29	0.70	0.13	<	<	<		<	0.20			<	71.16														95.69
Gov18	SOI3	9	analysed	point	slag?	slag inclusion	31.68		<	1.33	2.75	11.07	1.56	<	<		2.29	<			0.33	45.30														96.32
Gov18	SOI3	10	analysed	point	void?		4.03		<	0.06	12.50	1.11	<	0.29	1.65		0.28	<			<	3.30														23.23
Gov18	SOI3	11	analysed	point	void?		1.62		0.07	<	8.03	0.18	<	0.20	0.12		0.76	<			<	12.20														23.18
Gov18	SOI5	1	analysed	point	wustite	inner? Spongy wustite	21.34			<	0.27	<	<	<	<		<	<			<	71.75														93.35
Gov18	SOI5	2	analysed	point	wustite	main equant wustite	21.25			<	0.23	<	<	<	<		<	<			<	73.57														95.06
Gov18	SOI5	3	analysed	point	wustite	main equant wustite	21.83			<	0.14	<	<	<	<		<	<			<	73.64														95.60
Gov18	SOI5	4	analysed	point	magnetite	magnetite layer	25.50			<	0.23	0.18	0.46	<	<		0.62	<			<	68.82														95.81
Gov18	SOI5	5	analysed	point	magnetite	outer magnetite mass	26.03			0.91	1.30	<	<	<	<		0.16	<			0.25	67.72														96.37
Gov18	SOI5	6	analysed	point	clinker?		29.50			0.86	8.66	0.23	<	0.32	<		0.14	0.60			0.17	56.21														96.69
Gov18	SOI5	7	analysed	point	magnetite	outer magnetite mass	25.99			<	0.50	0.25	<	<	<		0.10	<			0.18	71.03														98.05
Gov18	SOI5	8	analysed	point	clinker?		19.43			0.32	0.32	2.12	0.11	<	0.12		1.33	<			0.17	41.07														65.00
Gov18	SOI5	9	analysed	point	magnetite	outer magnetite mass	23.07			<	0.21	0.21	<	<	0.08		<	<			0.26	74.53														98.37
Gov18	SOI8	1	analysed	point	fayalite (impure)		29.71				0.36	11.70	0.33				0.13					56.47														98.69
Gov18	SOI8	2	analysed	point	fayalite (impure)		30.60				0.38	12.27	0.37				0.20					54.87														98.69
Gov18	SOI8	3	analysed	point	magnetite	outer magnetite layer	26.15				<	<	<				<					70.20														96.35
Gov18	SOI8	4	analysed	point	magnetite	inner magnetite zone	26.54				<	0.20	<				<					71.61														98.35
Gov18	SOI13	1	analysed	point	magnetite?	inner wispy layer	25.51			0.17	0.56	0.54	<	<	<	<	<	<				70.30														97.08
Gov18	SOI13	2	analysed	point	magnetite	surface against wispy layer	24.44			<	0.18	0.65	<	<	<	<	<	<				68.66														93.94
Gov18	SOI13	3	analysed	point	wustite	in inner zone	20.96			<	0.21	0.13	<	<	<	<	<	<				72.78														94.09
Gov18	SOI13	4	analysed	point	wustite	inner part of zone	21.30			<	0.32	0.10	<	<	<	<	<	<				72.75														94.45
Gov18	SOI13	5	analysed	point	magnetite	altered inner face of wustite zone	25.33			<	0.30	0.16	<	<	<	<	<	<				70.27														96.06
Gov18	SOI13	6	analysed	point	wustite	inner wustite layer	21.03			<	0.21	<	<	<	<	<	<	<				74.21														95.45
Gov18	SOI13	7	analysed	point	magnetite	outer magnetite layer	22.81			<	<	<	<	<	<	<	<	<				72.79														95.60
Gov18	SOI13	8	analysed	point	slag?	inner wispy layer	26.64			0.15	0.62	2.14	0.22	0.43	<	<	0.25	<				42.55														73.01
Gov18	SOI13	9	analysed	point	slag?	inner wispy layer	7.41			0.42	3.77	8.11	<	0.15	0.50	0.81	0.13	0.14				7.79														29.25
Gov18	SOI16	1	analysed	point	magnetite	outer magnetite zone	23.65			<	0.13	<	0.14					<				69.85														93.77
Gov18	SOI16	2	analysed	point	wustite	wustite zone	20.86			<	0.14	<	<					<				73.20														94.20
Gov18	SOI16	3	analysed	point	magnetite	in wustite zone	23.17			<	0.50	<	<					<				70.05														93.72
Gov18	SOI16	4	analysed	point	Al-magnetite	coarse crystals in internal void	26.59			0.17	8.92	0.28	<					0.44				58.01														94.42
Gov18	SOI16	5	analysed	point	Al-magnetite	coarse crystals in internal void	27.41			0.23	10.33	0.26	<					0.31				56.10														94.63
Gov18	SOI16	6	analysed	point	magnetite	plate	24.08			0.27	1.82	4.25	<					<				62.58														93.00
Gov18	SOI16	7	analysed	point	magnetite	plate	24.33			0.29	1.84	4.45	0.08					<				62.30														93.28
Gov18	SOI16	8	analysed	point	magnetite	plate	26.53			0.27	2.18	4.63	<					<				62.98														96.59
Gov18	SOI16	9	analysed	point	Al-magnetite	coarse crystals in internal void	27.05			0.13	9.58	0.26	<					0.38				56.60														94.01
Gov18	SOI16	10	analysed	point	wustite	enclave within plate	20.09			<	0.26	0.10	0.08					<				71.11														91.64
Gov18	SOI16	11	analysed	point	wustite	enclave within plate	21.22			<	0.23	0.28	<					<				71.36														93.10
Gov18	SOI16	12	analysed	point	magnetite	plate	24.06			0.23	2.16	4.19	<					0.17				62.54														93.35
Gov18	SOI21		analysed	Sum	bulk	magnetite rich area with abundant plates around void with more equant magnetite	21.83				1.29	1.02	0.41	0.15			0.07					64.18	0.44														89.39
Gov18	SOI22	1	analysed	point	glass?		30.77				0.22	5.32	10.39								0.21	51.00														97.91

sample	site	no.	oxygen by	type	phase	notes	wt%																										
							O	F	Na	Mg	Al	Si	P	S	Cl	K	Ca	Ti	V	Cr	Mn	Fe	Co	Ni	Cu	Zn	Ge	As	Zr	Mo	Sn	Sb	Ba	W	Pb	Total
Gov18	SOI22	2	analysed	point	glass?		30.48				0.20	5.40	10.04								0.22	50.65														96.98
Gov18	SOI22	3	analysed	point	magnetite	in wustite layer	24.97				0.48	<	<								<	72.98														98.43
Gov18	SOI22	4	analysed	point	magnetite	in wustite layer	24.75				0.45	3.63	1.02								<	68.57														98.43
Gov18	SOI22	5	analysed	point	magnetite	plate	25.21				0.56	3.76	0.61								<	68.93														99.09
Gov18	SOI22	6	analysed	point	magnetite	plate	24.82				0.53	3.87	0.77								<	68.13														98.12
Gov18	SOI22	7	analysed	point	magnetite	plate	25.00				0.57	4.05	0.71								<	68.49														98.82
Gov18	SOI22	8	analysed	point	magnetite	in wustite layer	25.01				0.84	0.53	<								<	71.84														98.23
Gov18	SOI22	9	analysed	point	magnetite	in wustite layer	24.55				0.59	0.15	<								<	73.24														98.53
Gov18	SOI22	10	analysed	point	wustite	in wustite layer	21.86				0.16	<	<								<	76.54														98.56
Gov18	SOI22	11	analysed	point	magnetite	in wustite layer	24.60				0.60	0.52	<								<	72.16														97.88
Gov18	SOI22	12	analysed	point	magnetite	in wustite layer	24.40				0.60	0.12	<								<	72.52														97.64
Gov18	SOI22	13	analysed	point	magnetite	massive?	24.33				<	<	<								<	72.30														96.63
Gov18	SOI22	14	analysed	point	magnetite	massive?	24.41				<	<	<								<	73.04														97.45
Gov18	SOI22	15	analysed	point	magnetite	plate	24.93				0.62	3.74	0.96								<	66.63														96.89
Gov18	SOI22	16	analysed	point	magnetite	plate	24.08				0.83	0.61	0.09								<	70.72														96.33
Gov18	SOI22	17	analysed	point	magnetite	plate	24.51				0.55	3.87	0.59								<	67.64														97.15
Gov18	SOI23	1	analysed	point	wustite	wustite layer	21.98			<	0.23	<		<			<	<				77.05														99.26
Gov18	SOI23	2	analysed	point	Al-magnetite	coarse	27.45			<	7.23	0.41		<			<	0.38				63.39														98.84
Gov18	SOI23	3	analysed	point	Al-magnetite	coarse	27.75			0.21	9.63	0.23		<			<	0.36				60.49														98.68
Gov18	SOI23	4	analysed	point	Al-magnetite	coarse	28.27			0.18	11.97	0.24		<			<	0.37				57.56														98.60
Gov18	SOI23	5	analysed	point	Al-magnetite	coarse	30.22			0.22	11.93	1.16		<			0.08	0.41				56.50														100.51
Gov18	SOI23	6	analysed	point	magnetite	plate	24.86			0.33	2.16	4.04		0.12			0.12	0.20				66.36														98.18
Gov18	SOI23	7	analysed	point	magnetite	plate	24.83			0.24	2.08	4.25		<			<	<				65.64														97.03
Gov18	SOI23	8	analysed	point	magnetite	blocky replacement of wustite	25.41			0.26	2.34	4.68		<			<	0.11				65.12														97.92
Gov18	SOI23	9	analysed	point	magnetite	plate	25.02			0.31	1.89	4.11		<			<	0.15				66.37														97.84
Gov18	SOI23	10	analysed	point	void		27.80			0.21	15.85	3.65		0.19			0.62	0.10				50.39														98.81
Gov19	SOI 3	1	analysed	area	bulk	glass with fine magnetite	37.62			0.64	12.01	18.25	<			1.40	1.92	0.68				24.42														96.92
Gov19	SOI 3	2	analysed	area	bulk	iron poor glass	43.86			0.41	20.30	22.24	<			2.07	1.61	0.21				5.37														96.07
Gov19	SOI 3	3	analysed	area	bulk	glass with coarse magnetite	38.67			0.35	15.23	18.36	0.13			1.28	2.83	0.57				16.43														93.85
Gov19	SOI 3	4	analysed	point	magnetite	coarse magnetite	30.83			0.98	20.20	0.11	<			<	0.10	0.61				43.82														96.65
Gov19	SOI 3	5	analysed	point	magnetite	coarse magnetite	31.59			1.00	21.13	0.75	<			<	<	0.70				42.97														98.13
Gov19	SOI 3	6	analysed	point	glass	glass near coarse magnetite	24.10			0.30	5.51	17.88	<			1.52	3.26	0.37				12.60														65.56
Gov19	SOI 3	7	analysed	point	glass	pale area of low iron glass	41.34			0.55	10.22	25.16	0.09			2.17	3.80	0.54				10.89														94.76
Gov19	SOI 3	8	analysed	point	glass	dark area of low iron glass	45.13			0.33	30.32	16.25	0.15			0.95	0.69	0.21				4.97														98.99
Gov19	SOI 3	9	analysed	point	glass	dark area of low iron glass	42.35			0.12	30.14	14.61	0.15			0.39	0.74	0.23				4.28														93.00
Gov19	SOI 3	10	analysed	point	magnetite	magnetite at base of dendrite	31.19			1.11	21.58	0.17	<			<	<	0.42				40.53														95.01
Gov19	SOI 3	11	analysed	point	glass	glass near coarse magnetite	40.29			0.43	9.22	24.15	0.11			1.33	4.46	0.84				12.45														93.28
Gov19	SOI 11	1	analysed	point	wustite	coarse polygonal wustite	21.11															75.16														96.27
Gov19	SOI 11	2	analysed	point	wustite	wustite pseudodendrite	20.46															73.34														93.80
Gov19	SOI 11	3	analysed	point	wustite	wustite pseudodendrite	20.55															72.73														93.28
Gov19	SOI 13	1	analysed	point	magnetite	polygonal magnetite	26.10				0.60	0.10										71.69														98.49
Gov19	SOI 13	2	analysed	point	magnetite	polygonal magnetite	25.08				0.64	<										71.25														96.96
Gov19	SOI 13	3	analysed	point	magnetite	polygonal magnetite	25.20				0.81	0.16										70.86														97.03
Gov19	SOI 13	4	analysed	point	magnetite	polygonal magnetite	24.86				0.53	<										71.07														96.46
Gov19	SOI 13	5	analysed	area	bulk	typical	24.63				0.80	1.29										68.27														94.99
Gov19	SOI 14	1	analysed	area	bulk	typical	26.39				1.53	4.34					0.15					62.55														94.95
Gov19	SOI 14	2	analysed	point	magnetite	dendritic magnetite	26.05				1.23	2.63					<					67.12														97.03
Gov19	SOI 14	3	analysed	point	magnetite	dendritic magnetite	26.22				1.54	1.29					<					69.02														98.08
Gov19	SOI 14	4	analysed	point	magnetite	dendritic magnetite	26.42				1.32	1.43					<					67.54														96.70
Gov19	SOI 19	1	analysed	point	magnetite	magnetite near outer crust	24.81				0.12	0.19	<	<							0.36	70.49														95.98
Gov19	SOI 19	2	analysed	point	magnetite	polygonal magnetite	23.76				0.15	0.32	0.15	<							0.15	71.96														96.48
Gov19	SOI 19	3	analysed	point	magnetite	euhedral magnetite	24.90				0.26	0.12	<	<							<	72.46														97.74
Gov19	SOI 19	4	analysed	point	magnetite	euhedral magnetite	24.47				0.18	<	<	<							<	72.63														97.29
Gov19	SOI 19	5	analysed	point	magnetite	magnetite ?plate	24.86				0.37	0.44	<	<							<	71.88														97.54
Gov19	SOI 19	6	analysed	point	magnetite	magnetite ?plate	24.37				0.31	0.48	<	<							<	72.64														97.79

sample	site	no.	oxygen by	type	phase	notes	wt%																										
							O	F	Na	Mg	Al	Si	P	S	Cl	K	Ca	Ti	V	Cr	Mn	Fe	Co	Ni	Cu	Zn	Ge	As	Zr	Mo	Sn	Sb	Ba	W	Pb	Total
Gov19	SOI 19	7	analysed	point	magnetite	magnetite ?plate	24.59				0.14	0.53	0.13	0.64							<	72.17														98.21
Gov19	SOI 19	8	analysed	point	magnetite	magnetite plates	24.38				0.24	0.79	0.15	<							<	70.96														96.52
Gov19	SOI 19	9	analysed	point	magnetite	magnetite ?plate	24.70				0.22	0.29	<	<							<	71.55														96.76
Gov19	SOI 19	10	analysed	point	wustite	wustite grain	21.40				0.18	<	<	<							<	76.33														97.90
Gov19	SOI 19	11	analysed	point	wustite	wustite grain	21.66				0.17	<	<	<							0.14	76.37														98.35
Gov19	SOI 19	12	analysed	point	wustite	wustite grain	21.87				0.26	<	<	<							<	77.39														99.52
Gov19	SOI 19	13	analysed	area	bulk	typical	23.23				1.26	0.82	0.19	0.24							<	71.89														97.64
Gov19	SOI 21	1	analysed	area	bulk	typical	29.05			0.90	1.37	10.86	0.21	0.49		0.15	2.92					51.70														97.65
Gov19	SOI 21	2	analysed	point	wustite	wustite? node at centre of dendrite	22.48			0.52	0.36	<	<	<		<	<					73.70														97.07
Gov19	SOI 21	3	analysed	point	wustite	wustite? node at centre of dendrite	22.22			0.58	0.39	0.82	<	<		<	0.20					70.15														94.35
Gov19	SOI 21	4	analysed	point	glass	glass	31.72			0.89	1.14	16.21	0.30	0.76		0.14	4.24					40.88														96.27
Gov19	SOI 23	1	analysed	area	bulk	iron-rich clot	39.32		0.22	0.32	7.41	11.68	0.08	0.19		0.54	3.88	0.45	<		<	31.86		<												95.96
Gov19	SOI 23	2	analysed	area	bulk	crystalline area	41.23		0.31	1.80	12.23	22.21	0.10	0.20		0.93	6.69	0.99	<		0.28	7.77		<												94.74
Gov19	SOI 23	3	analysed	area	bulk	crystalline area	40.41		0.37	1.31	14.93	22.21	0.09	<		1.23	2.62	0.88	<		0.17	8.26		<												92.49
Gov19	SOI 23	4	analysed	area	bulk	variegated glass	44.45		<	0.36	26.05	18.11	0.12	<		1.19	0.74	0.61	<		<	2.05		<												93.70
Gov19	SOI 23	5	analysed	point	anorthite		42.09		0.41	0.24	16.40	21.10	<	<		0.22	11.73	0.18	<		<	1.30		<												93.67
Gov19	SOI 23	6	analysed	point	anorthite		42.93		0.28	0.22	16.56	20.77	<	<		0.21	12.49	<	<		<	1.12		<												94.58
Gov19	SOI 23	7	analysed	point	anorthite		42.88		0.34	0.20	16.74	21.14	<	<		0.31	12.41	0.11	<		<	0.86		<												94.99
Gov19	SOI 23	8	analysed	point	amphibole?	bright phase - pyroxene?	38.27		0.22	3.63	7.60	22.45	0.17	0.12		1.18	1.68	1.55	0.13		0.43	14.39		<												91.82
Gov19	SOI 23	9	analysed	point	amphibole?	bright phase - pyroxene?	36.74		0.33	3.10	7.97	22.43	0.23	0.12		1.22	1.98	1.80	0.17		0.37	13.26		<												89.75
Gov19	SOI 23	10	analysed	point		bright in iron clot	41.00		0.31	1.29	7.50	12.19	0.15	0.14		0.68	0.67	0.61	<		0.18	35.89		0.51												101.12
Gov19	SOI 23	11	analysed	point	anorthite		42.51		0.66	0.21	11.85	24.90	0.11	<		0.97	7.40	0.51	<		<	2.65		<												91.78
Gov19	SOI 23	12	analysed	point	anorthite		41.71		0.53	0.96	10.69	24.71	0.11	<		1.25	5.56	0.72	<		0.13	5.77		<												92.15
Gov19	SOI 23	13	analysed	point	FeS	bright bleb	3.26		<	0.29	0.50	0.97	0.13	30.12		<	0.38	1.06	0.12		<	61.75		2.37												100.95
Gov19	SOI 24	1	analysed	point		bright speck in iron-rich area	44.08		0.41	0.19	5.35	2.00	0.11	0.17		0.10	0.39	3.11	<	<	<	56.36		<												112.26
Gov19	SOI 24	2	analysed	point		bright speck in iron-rich area	43.23		0.46	0.17	4.78	1.30	0.16	0.16		0.08	0.46	0.62	0.13	<	<	57.84		<												109.39
Gov19	SOI 24	3	analysed	point		bright speck in iron-rich area	38.20		0.62	0.28	2.89	1.03	0.10	0.19		0.09	0.42	1.63	0.45	0.12	<	55.40		0.48												101.90
Gov19	SOI 24	4	analysed	point	amphibole?	bright phase - pyroxene?	39.37		0.19	5.09	7.24	23.10	0.22	<		1.17	0.80	1.65	0.17	<	0.36	15.96		<												95.31
Gov19	SOI 24	5	analysed	point	amphibole?	bright phase - pyroxene?	39.99		0.22	4.65	7.37	22.81	0.28	<		1.10	1.37	1.66	0.16	<	0.31	15.54		<												95.46
Gov19	SOI 24	6	analysed	point	amphibole?	bright phase - pyroxene?	38.72		0.15	4.98	6.74	22.92	0.23	<		1.08	0.59	1.65	0.21	<	0.42	18.20		<												95.90
Gov19	SOI 24	7	analysed	point	amphibole?	bright phase - pyroxene?	40.14		0.20	4.99	7.02	22.65	0.33	0.11		0.95	1.14	1.62	0.27	<	0.36	17.70		<												97.49
Gov19	SOI 24	8	analysed	point	anorthite	dark prism	41.53		0.51	0.48	13.26	23.78	0.09	<		1.05	8.01	0.72	<	<	0.13	3.81		<												93.38
Gov19	SOI 24	9	analysed	point	anorthite	dark prism	42.60		0.37	0.31	16.71	21.09	<	<		0.18	12.08	0.15	<	<	<	1.10		<												94.58
Gov19	SOI 24	10	analysed	point	anorthite	dark prism	42.40		0.46	0.27	16.56	21.63	<	<		0.24	11.76	0.11	<	<	<	0.85		<												94.27
Gov19	SOI 24	11	analysed	point		bright speck in iron-rich area	5.97		<	0.12	1.99	1.69	<	<		0.15	1.55	0.10	<	<	<	41.22		0.15												52.94
Gov19	SOI 24	12	analysed	point		bright speck in iron-rich area	48.56		0.44	0.23	14.17	15.11	0.12	0.11		0.22	7.21	0.13	<	<	<	24.01		<												110.31
Gov19	SOI 24	13	analysed	area		iron-rich area	38.84		0.37	0.63	8.86	4.36	0.17	0.19		0.19	0.65	0.31	<	<	0.16	47.91		<												102.65
Gov19	SOI 24	14	analysed	area		iron-rich area	7.96		<	0.59	4.58	1.31	<	0.04		0.16	0.35	0.32	0.54	0.25	<	26.00		0.18												42.28
Gov19	SOI 24	15	analysed	point	FeS	bright bleb	10.57		<	0.73	5.07	6.43	<	13.45		0.13	2.07	0.15	<	<	<	63.69		5.47												107.76
Gov19	SOI 24	16	analysed	point	amphibole?	bright phase - pyroxene?	40.18		<	4.33	8.09	22.70	0.24	<		1.19	1.05	1.74	0.20	<	0.50	15.81		<												96.02
Gov19	SOI 26	1	analysed	point	fayalite	fayalite	28.44				0.75	13.45	0.23			0.19	0.35	<				52.57														95.98
Gov19	SOI 26	2	analysed	point	magnetite	magnetite cross	25.22				1.03	0.62	<			<	<	0.17				70.49														97.53
Gov19	SOI 26	3	analysed	point	magnetite/fayalite	magnetite dendrite core	26.35				0.99	3.06	<			<	0.09	0.13				68.04														98.65
Gov19	SOI 26	4	analysed	point	magnetite/fayalite	magnetite dendrite - mixed?	27.97				0.79	8.26	0.13			<	0.15	<				60.85														98.14
Gov19	SOI 26	5	analysed	point	magnetite/fayalite	magnetite plate - mixed?	26.79				1.22	4.90	0.14			<	0.17	<				62.68														95.90
Gov19	SOI 26	6	analysed	point	magnetite/fayalite	magnetite plate - mixed?	29.54				0.84	10.70	0.19			0.10	0.24	<				57.70														99.31
Gov19	SOI 30	1	analysed	area	bulk	iron poor inner	43.45		0.57	0.82	12.67	26.63	<	<		3.26	0.85	0.88				5.65														94.78
Gov19	SOI 30	2	analysed	area	bulk	iron rich outer	31.94		<	0.32	7.14	12.13	0.40	0.65		0.72	0.59	0.29				45.35														99.52
Gov19	SOI 32	1	analysed	point	mullite/glass		43.00		0.22	0.33	27.52	18.37	0.10	<		1.27	0.34	0.62	<			1.10			<											92.86
Gov19	SOI 32	2	analysed	point	mullite/glass		44.55		<	0.17	33.59	13.85	0.11	<		0.69	0.12	0.49	<			0.55			<											94.12
Gov19	SOI 32	3	analysed	point	mullite/glass		42.35		0.20	0.33	25.74	19.11	<	<		1.64	0.33	0.58	<			1.18			<											91.47
Gov19	SOI 32	4	analysed	point	mullite/glass		42.49		0.27	0.61	22.83	19.58	0.09	<		1.94	0.55	0.59	0.10			2.57			<											91.63
Gov19	SOI 32	5	analysed	point	mullite?		44.10		<	0.14	35.34	12.10	0.17	<		0.34	0.07	0.63	0.17			0.57			<											93.63
Gov19	SOI 32	6	analysed	point	mullite/glass		43.42		<	0.19	32.00	14.65	<	<		0.72	0.16	0.57	<			0.65			<											92.37
Gov19	SOI 32	7	analysed	point	mullite/glass		44.42		<	0.18	33.73	14.17	0.15	<		0.47	0.11	0.59	0.18			0.48			<											94.48

sample	site	no.	oxygen by	type	phase	notes	wt%																										
							O	F	Na	Mg	Al	Si	P	S	Cl	K	Ca	Ti	V	Cr	Mn	Fe	Co	Ni	Cu	Zn	Ge	As	Zr	Mo	Sn	Sb	Ba	W	Pb	Total
Gov19	SOI 32	8	analysed	point	mullite/glass		46.03		0.30	0.65	20.82	24.05	0.10	<		2.29	0.70	0.82	<			2.79			<											98.55
Gov19	SOI 32	9	analysed	point	glass	glass	42.81		0.54	0.96	10.64	27.34	<	<		3.55	0.93	0.83	<			3.65			<											91.26
Gov19	SOI 32	10	analysed	point	iron (with P)	bright beb	3.44		<	0.12	3.10	2.16	0.28	1.20		0.26	0.42	0.10	<			75.70			0.61											87.38
Gov19	SOI 32	11	analysed	point	iron (with P)	bright beb	39.05		0.55	0.96	10.11	27.53	<	0.41		3.43	0.93	0.83	<			11.94			<											95.73
Gov19	SOI 32	12	analysed	point	iron (with P)	bright beb	31.57		0.58	0.97	9.20	23.73	0.24	1.80		2.54	0.57	0.48	<			35.93			0.39											108.00
Gov19	SOI 33	1	analysed	point	glass	interior glass	31.23			0.27	6.90	11.81	0.26	0.70		0.72	0.71	0.26				42.58														95.44
Gov19	SOI 33	2	analysed	point	glass	exterior glass	31.58			0.33	6.64	12.76	0.38	0.89		0.46	0.71	0.28				42.93														96.95
Gov19	SOI 33	3	analysed	point	hercynite	equant Fe-hercynite	29.71			0.27	13.27	3.36	0.13	<		0.49	0.18	0.40				46.97														94.78
Gov19	SOI 33	4	analysed	point	hercynite	equant Fe-hercynite	29.74			0.40	16.30	0.60	<	<		0.14	0.10	0.37				47.96														95.62
Gov19	SOI 33	5	analysed	point	magnetite	external crust Al-magnetite	26.68			0.17	3.84	0.91	<	<		0.09	<	0.29				64.63														96.61
Gov19	SOI 33	6	analysed	point	magnetite	external crust Al-magnetite	24.96			0.27	3.51	0.49	<	<		<	<	0.23				64.52														93.98
Gov19	SOI 35	1	analysed	point	magnetite	magnetite in outer crust	26.38			0.16	0.83	0.36	<				<					70.28														98.01
Gov19	SOI 35	2	analysed	point	wustite	pseudodendrite	24.89			0.15	0.89	0.84	<				0.11					72.66														99.54
Gov19	SOI 35	3	analysed	area	bulk	typical	23.65			0.24	1.51	2.87	0.33				0.62					68.06														97.30
Gov19	SOI 37	1	analysed	area	bulk	typical	25.02				0.94	3.67									0.65	64.16														94.43
Gov19	SOI 37	2	analysed	point	magnetite	dendritic magnetite	25.39				0.93	<									0.68	72.06														99.05
Gov19	SOI 37	3	analysed	point	magnetite	dendritic magnetite	25.51				0.70	0.15									0.78	71.62														98.76
Gov19	SOI 37	4	analysed	point	magnetite	dendritic magnetite	25.97				0.88	0.39									0.65	71.59														99.48
Gov19	SOI 39	1	analysed	area	bulk	typical	43.59			0.67	15.09	22.49				1.73	4.28	0.84				10.89														99.58
Gov19	SOI 40	1	analysed	point	mullite	prism core	44.21		<	0.29	3<	14.66				0.46	1.19	0.58	0.21	0.35		5.82														97.78
Gov19	SOI 40	2	analysed	point	mullite	prism core	44.69		<	0.34	30.57	14.07				0.58	1.03	0.59	0.11	0.51		4.86														97.37
Gov19	SOI 40	3	analysed	point	mullite	prism core	46.63		<	0.37	29.94	14.98				0.68	1.38	0.64	0.27	0.40		4.69														99.97
Gov19	SOI 40	4	analysed	point	mullite/glass/hercynite	bright prism margin	43.38		<	0.82	14.31	21.04				1.54	4.30	1.10	0.14	<		12.03														98.68
Gov19	SOI 40	5	analysed	point	glass	glass	43.58		0.23	0.29	12.59	25.38				0.90	8.86	0.84	<	<		3.57														96.24
Gov19	SOI 40	6	analysed	point	glass	bright prism margin	43.73	0.18	0.82		12.01	24.29				1.50	6.08	0.96	<	<		8.93														98.50
Gov19	SOI 40	7	analysed	point	mullite/glass/hercynite	bright prism margin	45.93		<	0.50	21.09	18.27				1.13	3.38	0.77	<	<		9.07														100.14
Gov19	SOI 40	8	analysed	point	glass	glass	44.13	0.16	0.22		12.22	25.84				0.92	9.12	0.83	<	<		2.92														96.35
Gov19	SOI 40	9	analysed	point	glass	glass	42.91	0.15	0.60		11.09	26.29				2.07	6.45	0.93	<	<		4.53														95.02
Gov19	SOI 40	10	analysed	point	mullite/glass/hercynite	dendrite	38.96	<	1.79		10.70	13.80				1.29	1.44	1.03	0.17	<		38.58														107.77
Gov19	SOI 40	11	analysed	point	mullite/glass/hercynite	dendrite	35.83	<	1.56		9.63	13.28				1.38	1.50	0.92	<	<		35.86														99.95
Gov19	SOI 40	12	analysed	point	mullite/glass/hercynite	bright prism margin	47.70	<	0.68		25.09	18.98				1.00	1.79	0.71	<	<		9.56														105.51
Gov19	SOI 40	13	analysed	point	mullite/glass/hercynite	dendrite	38.33	<	1.34		10.40	15.94				1.61	2.17	0.89	<	<		31.21														101.88
Gov20	SOI 4	1	analysed				28.53					<	<									69.83														98.36
Gov20	SOI 4	2	analysed				25.98					<	<									73.83														99.81
Gov20	SOI 4	3	analysed				22.63					0.12	<									77.41														100.16
Gov20	SOI 4	4	analysed				25.05					2.56	1.02									71.33														99.97
Gov20	SOI 4	5	analysed				24.32					2.14	1.18									71.39														99.04
Gov20	SOI 7	1	analysed	point	iron	bright belb	8.08				2.96	<	<	0.73								91.20														102.98
Gov20	SOI 7	2	analysed	point	iron	bright belb	3.41				<	<	0.10	0.17								96.97														100.66
Gov20	SOI 7	3	analysed	point	magnetite	m veining on grain boundary	25.13				<	1.81	2.21	<								69.85														99.00
Gov20	SOI 7	4	analysed	point	magnetite	m inclusion in w	25.58				<	<	0.12	<								72.65														98.35
Gov20	SOI 7	5	analysed	point	wustite	w	22.54				<	0.14	<	<								78.17														100.85
Gov20	SOI 7	6	analysed	point	wustite	w	22.80				<	0.10	<	<								76.26														99.16
Gov20	SOI 7	7	analysed	point	wustite	w	21.81				<	0.19	<	<								77.76														99.76
Gov20	SOI 7	8	analysed	point	magnetite	m veining on grain boundary	26.22				<	1.96	2.74	<								68.51														99.43
Gov20	SOI 7	9	analysed	area	bulk	general area	23.40				0.43	0.19	0.20	<								75.82														100.04
Gov20	SOI 7	10	analysed	area	bulk	area around spot 2	18.57				0.19	0.14	0.30	<								78.92														98.12
Gov20	SOI 27	1	analysed	point	magnetite	coarse W?	26.18				<	0.18	<	<						<		73.34														99.71
Gov20	SOI 27	2	analysed	point	magnetite	coarse W?	25.63				<	0.13	<	<						<		73.80														99.57
Gov20	SOI 27	3	analysed	point	magnetite	coarse W?	25.98				0.11	0.10	0.13	<						<		72.70														99.02
Gov20	SOI 27	4	analysed	point	haematite	m dendrite	27.81				0.13	<	<	0.11						<		70.41														98.46
Gov20	SOI 27	5	analysed	point	haematite	blocky M	28.62				0.14	0.21	0.15	<						<		71.12														100.24
Gov20	SOI 27	6	analysed	point	haematite	blocky M	28.52				0.12	<	0.12	<						<		71.19														99.95

sample	site	no.	oxygen by	type	phase	notes	wt%																										
							O	F	Na	Mg	Al	Si	P	S	Cl	K	Ca	Ti	V	Cr	Mn	Fe	Co	Ni	Cu	Zn	Ge	As	Zr	Mo	Sn	Sb	Ba	W	Pb	Total
Gov20	SOI 27	7	analysed	point	void	void	23.64				14.97	0.41	0.09	0.11			0.48					33.39														73.09
Gov20	SOI 28	1	analysed	point	iron	bright bleb	2.41					<										101.05													103.47
Gov20	SOI 28	2	analysed	point	magnetite	M layer	26.27					<										72.59													98.86
Gov20	SOI 28	3	analysed	point	wustite	W in W layer	21.56					0.15										78.32													100.03
Gov20	SOI 28	4	analysed	point	magnetite	dendritic mass of M in W layer	25.46					<										73.64													99.11
Gov20	SOI 29	1	analysed	point	magnetite	equant W	25.55				0.11	<	<				<				<	72.67													98.34
Gov20	SOI 29	2	analysed	point	haematite?	block M	27.38				0.14	0.50	0.13				<				<	68.09													96.24
Gov20	SOI 29	3	analysed	point	haematite?	block M	27.19				<	<	<				<				<	69.98													97.17
Gov20	SOI 29	4	analysed	point	haematite?	block M	27.68				0.16	<	<				0.11				<	68.87													96.81
Gov20	SOI 29	5	analysed	point	haematite?	M veener	26.23				<	<	<				<				<	67.97													94.20
Gov20	SOI 29	6	analysed	point	magnetite	dense W in main flake	24.25				<	<	<				<				<	70.78													95.04
Gov20	SOI 29	7	analysed	point	glass	slag in grain boundary	28.88				0.15	8.31	6.01				0.25				0.37	49.82													93.78
Gov20	SOI 30	1	analysed	point	haematite	H layer	27.87				<	0.10										69.28													97.26
Gov20	SOI 30	2	analysed	point	magnetite	M layer	25.24				<	0.13										72.51													97.87
Gov20	SOI 30	3	analysed	point	magnetite	M layer	25.58				<	0.15										72.08													97.82
Gov20	SOI 30	4	analysed	point	wustite	w	22.21				<	0.13										75.72													98.06
Gov20	SOI 30	5	analysed	point	wustite	w	22.55				<	<										74.16													96.72
Gov20	SOI 30	6	analysed	point	magnetite	m rosette in W layer	24.87				0.16	<										71.58													96.62
Gov20	SOI 30	7	analysed	point	magnetite	m rosette in W layer	25.30				0.16	<										71.97													97.44
Gov20	SOI 30	8	analysed	point	wustite	w	22.16				0.29	<										73.93													96.37
Gov20	SOI 30	9	analysed	point	wustite	w	22.35				0.20	<										73.52													96.07
Gov20	SOI 33	1	analysed	point	magnetite?	slag on grain boundary	23.75				0.20	3.10	0.74	<			<					70.52													98.31
Gov20	SOI 33	2	analysed	point	magnetite?	slag on grain boundary	24.92				0.23	3.19	0.90	<			<					70.95													100.18
Gov20	SOI 33	3	analysed	point	magnetite?	slag on grain boundary	25.64				0.17	3.13	1.02	<			<					70.67													100.63
Gov20	SOI 33	4	analysed	point	wustite		22.16				0.13	0.19	<	<			<					76.88													99.36
Gov20	SOI 33	5	analysed	point	wustite		22.29				0.12	0.23	<	<			<					75.66													98.30
Gov20	SOI 33	6	analysed	area	wustite area		22.55				<	0.17	<	<			<					76.45													99.17
Gov20	SOI 33	7	analysed	point	hole		15.35				18.84	0.34	0.11	<			0.58					41.82													77.03
Gov20	SOI 33	8	analysed	point	hole		21.39				17.41	0.16	<	0.08			<					47.66													86.71
Gov20	SOI 33	9	analysed	point	hole		16.38				19.25	0.29	<	0.08			0.11					45.10													81.20
Gov20	SOI 33	10	analysed	point	hole		24.86				24.35	0.58	0.22	0.21			0.26					29.63													80.10
Gov20	SOI 33	11	analysed	area	wustite area		22.15				0.15	0.22	<	<			<					75.31													97.84
Gov20	SOI 33	12	analysed	area	wustite area with cavities		22.50				1.27	0.16	<	<			<					74.57													98.49
Gov20	SOI 40	1	analysed	point	magnetite	plate	26.06	<			1.63	3.72	0.34	<		<	<					68.16													99.91
Gov20	SOI 40	2	analysed	point	magnetite	coarse fill cf plates	26.36	0.23			1.69	4.15	0.39	<		<	<					67.08													99.90
Gov20	SOI 40	3	analysed	point	magnetite	plate	27.14	<			1.93	4.84	0.61	<		<	0.17					66.05													100.73
Gov20	SOI 40	4	analysed	point	wustite		22.94	<			0.54	0.16	<	<		<	<					76.68													100.31
Gov20	SOI 40	5	analysed	point	wustite		22.42	<			0.59	<	<	<		<	<					76.45													99.47
Gov20	SOI 40	6	analysed	point	wustite		22.80	<			0.61	<	<	<		<	<					77.66													101.06
Gov20	SOI 40	7	analysed	point	fayalite/glass	dendrite	31.92	0.28			1.26	10.58	4.28	0.38		0.57	0.93					50.31													100.52
Gov20	SOI 40	8	analysed	point	fayalite/glass		33.39	0.55			1.46	10.92	4.75	0.14		1.03	1.12					46.89													100.24
Gov20	SOI 40	9	analysed	point	fayalite/glass	dendrite	33.94	0.20			1.50	10.73	4.30	0.57		0.53	0.97					50.70													103.45
Gov20	SOI 40	10	analysed	point	magnetite	altered wustite	25.96	<			0.68	0.21	<	<		<	<					73.46													100.31
Gov20	SOI 40	11	analysed	area	area of slag		30.07	0.30			2.16	9.82	3.94	0.91		0.69	1.56					49.39													98.85
Gov20	SOI 41	1	analysed	point	iron nickel arsenide	traces of Cu and S as well as Sb	1.62	<		<	<	<	1.56	<	<	<						53.34	18.67	3.13		20.70					3.97					102.98
Gov20	SOI 41	2	analysed	point	magnetite	magnetite layer	25.96	<		<	<	<	<	<	<	<						72.95	<	<		<					<					98.91
Gov20	SOI 41	3	analysed	point	wustite	outer part of W layer	22.70	<		<	<	<	<	<	<	<						76.96	<	<		<					<					99.66
Gov20	SOI 41	4	analysed	point	wustite	bleb in slag zone	22.58	<		0.61	<	<	<	<	<	<						77.51	<	<		<					<					100.70
Gov20	SOI 41	5	analysed	point	wustite	bleb in slag zone	22.45	<		0.63	0.17	<	<	<	<	<	0.16					76.62	<	<		<					<					100.03
Gov20	SOI 41	6	analysed	point	wustite	bleb in slag zone	22.91	<		0.50	0.11	<	<	<	<	<	<					78.43	<	<		<					<					101.96
Gov20	SOI 41	7	analysed	point	magnetite	on inner boundary	25.79	<		0.37	0.22	<	<	<	<	<	<					73.86	<	<		<					<					100.23
Gov20	SOI 41	8	analysed	point	magnetite	plates and related material	26.10	<		2.06	4.20	0.16	<	<	<	<	0.11					68.13	<	<		<					<					100.76
Gov20	SOI 41	9	analysed	point	magnetite	plates and related material	25.97	<		1.71	4.34	0.16	<	<	<	<	0.12					67.34	<	<		<					<					99.64
Gov20	SOI 41	10	analysed	point	magnetite	plates and related material	26.94	<		1.92	4.40	0.22	<	<	<	<	<					68.05	<	<		<					<					101.52
Gov20	SOI 41	11	analysed	area	area of slag		30.99	<		2.03	10.37	3.07	0.79	0.33	0.94	<						50.20	<	<		<					<					98.73

sample	site	no.	oxygen by	type	phase	notes	wt%																										
							O	F	Na	Mg	Al	Si	P	S	Cl	K	Ca	Ti	V	Cr	Mn	Fe	Co	Ni	Cu	Zn	Ge	As	Zr	Mo	Sn	Sb	Ba	W	Pb	Total
Gov20	SOI 41	12	analysed	area	area of slag		30.33		<		1.52	10.17	3.22	0.81		0.22	0.71	<				51.83		<	<			<				<				98.81
Gov20	SOI 41	13	analysed	point	fayalite/glass		32.17		<		2.59	11.62	2.99	1.01		0.66	1.78	<				48.53		<	<			<				<				101.35
Gov20	SOI 41	14	analysed	point	void		32.64		0.41		3.36	12.80	2.80	1.43		1.09	3.73	<				41.36		<	0.23			<				<				99.85
Gov20	SOI 41	15	analysed	point	fayalite/glass		30.76		<		1.72	10.11	3.41	1.00		0.35	0.79	<				52.37		<	<			<				<				100.51
Gov20	SOI 44	1	analysed	point	fayalite	main phase	28.44		<	0.21	0.16	14.03	0.24	<	<	<	<	<			0.19	55.75													99.02
Gov20	SOI 44	2	analysed	point	fayalite	main phase	29.15		<	0.33	0.21	13.80	0.24	<	<	<	0.09	<			0.18	56.76													100.77
Gov20	SOI 44	3	analysed	point	fayalite	main phase	29.45		<	0.17	0.14	14.09	0.15	<	<	<	0.08	<			0.15	56.68													100.92
Gov20	SOI 44	4	analysed	point	fayalite	main phase	30.07		<	0.32	0.28	13.73	0.26	<	<	<	<	<			<	56.27													100.93
Gov20	SOI 44	5	analysed	point	wustite		21.77		<	<	0.15	<	<	<	<	<	<	<			<	77.67													99.59
Gov20	SOI 44	6	analysed	point	magnetite	altered outer to 5	25.25		<	<	0.58	0.36	<	<	<	<	<	0.26			<	73.84													100.29
Gov20	SOI 44	7	analysed	point	wustite	core in decomposed flake	22.49		<	<	0.41	<	<	<	<	<	<	<			<	77.00													99.90
Gov20	SOI 44	8	analysed	point	magnetite	altered outer to 7	25.51		<	<	0.50	0.87	<	<	<	<	<	0.16			<	72.03													99.08
Gov20	SOI 44	9	analysed	point	magnetite	euhedral in decomposed scale	26.57		<	<	0.40	0.40	<	<	<	<	<	0.16			<	74.03													101.56
Gov20	SOI 44	10	analysed	point	magnetite	plate	25.64		<	0.25	1.04	4.70	<	<	<	<	<	0.14			<	67.51													99.28
Gov20	SOI 44	11	analysed	point	magnetite	plate	25.80		<	<	0.91	4.22	<	<	<	<	<	0.21			<	69.04													100.18
Gov20	SOI 44	12	analysed	point	magnetite	plate	26.82		<	<	0.92	4.16	<	<	<	<	<	0.19			<	69.82													101.91
Gov20	SOI 44	13	analysed	point	magnetite	euhedral in decomposed scale	25.94		<	0.15	0.89	0.76	<	<	<	<	<	<			<	73.81													101.55
Gov20	SOI 44	14	analysed	point	magnetite	euhedral in decomposed scale	25.57		0.23	<	0.92	1.30	<	<	<	0.08	0.09	<			<	71.87													100.07
Gov20	SOI 44	15	analysed	point	magnetite	euhedral	27.04		<	<	1.64	1.51	<	<	<	<	<	0.36			<	71.23													101.78
Gov20	SOI 44	16	analysed	point	void		16.19		0.56	0.22	1.14	16.37	0.62	0.19	0.31	0.36	0.28	<			0.17	39.87													76.28
Gov20	SOI 44	17	analysed	point	fayalite/glass	late dendrites	33.17		0.62	<	1.94	17.05	0.66	0.19	<	0.46	0.60	<			0.15	47.30													102.16
Gov20	SOI 44	18	analysed	area	area of slag	area of late dendrites	33.40		0.58	<	2.27	17.13	0.66	0.36	<	0.47	0.84	<			0.22	46.01													101.93
Gov20	SOI 44	19	analysed	point	void		9.19		<	<	3.10	1.43	<	<	0.34	<	0.11	0.16			<	37.90													52.23
Gov20	SOI 44	20	analysed	point	fayalite/glass	late dendrites	33.67		0.89	<	2.99	16.12	0.39	0.29	<	0.74	0.63	0.19			<	46.62													102.53
Gov20	SOI 44	21	analysed	point	fayalite/glass	late dendrites	29.80		0.53	0.19	1.49	17.90	0.50	0.19	<	0.46	0.50	<			0.24	45.32													97.13
Gov20	SOI 45	1	analysed	point	magnetite	plate	26.32		0.22	<	0.97	4.70	0.10	<		<	<	<			<	68.36													100.66
Gov20	SOI 45	2	analysed	point	magnetite	plate	25.24		<	0.15	0.63	2.40	<	<		<	<	0.18			<	73.71													102.32
Gov20	SOI 45	3	analysed	point	magnetite	plate	26.91		<	<	1.11	5.29	0.15	<		0.10	0.11	0.22			<	68.30													102.18
Gov20	SOI 45	4	analysed	point	magnetite	plate	26.74		<	0.25	1.10	4.97	<	<		<	0.09	0.17			<	68.34													101.67
Gov20	SOI 45	5	analysed	point	wustite		23.07		<	0.15	0.58	0.41	<	<		<	<	0.23			<	76.45													100.90
Gov20	SOI 45	6	analysed	point	wustite		23.57		<	<	0.88	0.47	<	<		<	<	0.22			<	76.66													101.78
Gov20	SOI 45	7	analysed	point	fayalite		30.47		<	0.24	0.25	13.73	0.21	<		<	0.11	<			<	56.77													101.78
Gov20	SOI 45	8	analysed	point	fayalite		30.33		<	0.36	0.27	13.73	0.16	<		<	<	<			0.14	56.73													101.72
Gov20	SOI 45	9	analysed	point	fayalite		31.21		<	0.23	0.21	14.01	0.27	<		<	0.09	<			<	56.39													102.40
Gov20	SOI 45	10	analysed	point	fayalite		30.15		<	0.33	0.25	13.88	0.28	<		<	0.12	<			0.18	56.55													101.74
Gov20	SOI 45	11	analysed	point	fayalite		30.06		<	0.35	0.22	14.04	0.25	<		<	<	<			0.24	55.93													101.09
Gov20	SOI 45	12	analysed	point	magnetite	plate	26.97		<	<	1.79	4.13	0.18	0.15		0.17	0.19	0.19			<	70.32													104.08
Gov20	SOI 45	13	analysed	point	wustite		23.46		<	0.15	0.70	0.44	<	<		<	<	0.29			<	75.91													100.96
Gov20	SOI 45	14	analysed	point	glass		31.44		0.92	<	5.81	12.49	1.20	1.54		1.17	1.80	0.23			0.21	42.27													99.10
Gov20	SOI 45	15	analysed	point	glass		32.50		1.25	<	7.17	13.15	1.37	1.28		1.47	2.17	<			<	37.88													98.25
Gov20	SOI 45	16	analysed	point	glass		32.37		0.94	<	4.92	14.27	1.31	1.39		1.12	1.42	0.11			<	43.04													100.89
Gov20	SOI 50	1	analysed	point	wustite	bleb near inner face	23.29			<	1.60	<	<	<		<	<	0.13				76.71		<											101.72
Gov20	SOI 50	2	analysed	point	magnetite	altered surface of 1	26.07			<	0.67	0.12	<	<		<	<	<				73.45		<											100.31
Gov20	SOI 50	3	analysed	point	mixed?	altered zone around hole	29.15			<	2.09	4.96	0.21	<		<	<	0.11				64.65		<											101.16
Gov20	SOI 50	4	analysed	point	magnetite		25.84			<	0.62	0.65	<	0.21		<	<	<				71.12		<											98.45
Gov20	SOI 50	5	analysed	point	magnetite/fayalite	edge of magnetite plate	28.53			<	1.53	6.54	0.56	<		<	0.15	<				64.99		<											102.30
Gov20	SOI 50	6	analysed	point	magnetite	magnetite plate	26.82			0.14	1.99	4.61	0.15	<		<	0.09	<				66.60		<											100.40
Gov20	SOI 50	7	analysed	point	magnetite	magnetite plate	26.84			<	2.40	4.64	0.14	<		<	<	0.14				66.62		<											100.78
Gov20	SOI 50	8	analysed	point	magnetite	magnetite plate	26.22			0.13	2.01	4.46	0.11	<		<	<	0.11				66.28		<											99.33
Gov20	SOI 50	9	analysed	point	wustite	within magnetite plate	23.02			<	0.61	0.59	<	0.20		0.08	0.20	<				75.24		<											99.94
Gov20	SOI 50	10	analysed	point	Al-magnetite	outer part of slag zone	27.78			<	8.05	0.32	<	<		<	<	0.24				61.62		<											98.00
Gov20	SOI 50	11	analysed	point	Al-magnetite	outer part of slag zone	29.48			0.18	11.98	0.31	<	<		<	<	0.25				57.94		<											100.14
Gov20	SOI 50	12	analysed	point	Al-magnetite	outer part of slag zone	29.43			<	12.36	0.34	<	<		<	<	0.29				57.36		<											99.78
Gov20	SOI 50	13	analysed	point	magnetite	M layer	25.46			<	0.35	<	<	<		<	0.12	<				73.10		<											99.02
Gov20	SOI 50	14	analysed	point	haematite	H layer	29.00			<	<	<	<	<		<	0.09	<				71.76		<											100.85
Gov20	SOI 50	15	analysed	point	fayalite/glass	possibly altered slag	30.49			0.24	4.81	9.62	1.05	0.43		0.54	1.13	0.21				50.93		<											99.44
Gov20	SOI 50	16	analysed	point	Al-magnetite	outer part of slag zone	29.56			<	11.61	0.38	<	<		<	<	0.28				58.96		<											100.79
Gov20	SOI 50	17	analysed	area	area of mainly M zone		25.05			<	0.73	0.34	<	<		<	0.15	<				71.46		<											97.73

sample	site	no.	oxygen by	type	phase	notes	wt%																									
							O	F	Na	Mg	Al	Si	P	S	Cl	K	Ca	Ti	V	Cr	Mn	Fe	Co	Ni	Cu	Zn	Ge	As	Zr	Mo	Sn	Sb	Ba	W	Pb	Total
Gov20	SOI 50	18	analysed	area	area of slagged altered zone		26.01			<	2.75	4.26	0.35	<		0.11	0.43	<				64.80								<						98.70
Gov20	SOI 50	19	analysed	area	area of W with slag on boundaries		23.56			<	1.25	1.94	0.19	<		<	0.25	0.11				72.28								<						99.59
Gov20	SOI 54	1	analysed	point	nickel arsenide		14.02				<	<	<	0.65	<		<					44.68		17.39	6.15			14.37				11.32		0.53		109.11
Gov20	SOI 54	2	analysed	point	magnetite	inner face of flake	26.99				<	0.13	<	<	<		<					73.42		<	<			<				<		<		100.54
Gov20	SOI 54	3	analysed	point	wustite		22.61				<	<	<	<	<		<					77.79		<	<			<				<		<		100.40
Gov20	SOI 54	4	analysed	point	wustite		22.84				<	<	<	<	<		<					78.86		<	<			<				<		<		101.70
Gov20	SOI 54	5	analysed	point	magnetite	growth on grain boundary	26.12				<	<	<	<	<		<					74.60		<	<			<				<		<		100.72
Gov20	SOI 54	6	analysed	point	void		14.64				12.84	0.20	0.21	0.16	0.15		0.69					40.99		<	<			<				<		<		69.89
Gov20	SOI 59	1	analysed	point	magnetite	M zone	26.04				0.11	<	<	<		<	<				0.18	74.92														101.26
Gov20	SOI 59	2	analysed	point	magnetite	magnetite plate	25.70				0.24	3.66	1.28	<		<	<				0.35	69.53														100.76
Gov20	SOI 59	3	analysed	point	slag	? Glass phase or phosphate?	30.84				0.37	6.59	7.44	1.51		0.23	3.16				1.01	47.59														98.75
Gov20	SOI 59	4	analysed	point	slag	? Glass phase or phosphate?	30.22				0.12	6.60	7.25	0.95		<	0.89				1.16	51.29														98.48
Gov20	SOI 59	5	analysed	point	magnetite	magnetite plate	26.45				0.36	3.91	1.23	<		<	<				0.38	68.97														101.32
Gov20	SOI 59	6	analysed	point	wustite		22.50				0.22	<	<	<		<	<				0.16	77.27														100.16
Gov20	SOI 64	1	analysed	point	tin		29.22				2.34	0.16	<	<			<					47.19			<						28.44					107.35
Gov20	SOI 64	2	analysed	point	FeS		12.76				<	1.35	0.43	18.67			<					68.45			0.24						<					101.92
Gov20	SOI 64	3	analysed	point	FeS		8.47				0.13	0.87	0.24	24.36			0.10					66.60			0.51						<					101.27
Gov20	SOI 64	4	analysed	point	FeS		12.27				0.28	2.54	0.94	18.62			0.50					61.82			<						<					96.96
Gov20	SOI 64	5	analysed	point	FeS		8.70				0.14	0.93	0.36	24.74			<					64.63			0.48						<					99.97
Gov22	SOI 8	1	analysed	area	nickel arsenide?		26.43				0.46	1.49	0.57	0.72			0.29					74.79		0.37	0.37			2.37									107.88
Gov22	SOI 8	2	analysed	point	magnetite		26.08				0.34											79.32														105.74
Gov22	SOI 8	3	analysed	point	magnetite		25.64				0.20											80.48														106.32
Gov22	SOI 8	4	analysed	point	glass	interstitial	32.46				1.26	8.71	3.74	1.53			2.84					55.18														105.73
Gov22	SOI 8	5	analysed	point	glass	interstitial	32.92				1.27	9.47	3.99	1.77			3.37					51.70														104.49
Gov22	SOI 8	6	analysed	area	nickel arsenide?		26.39					1.52	0.66	0.47			0.38					75.06						2.24								106.73
Gov22	SOI 13	1	analysed	point	wustite?		25.94															78.15														104.08
Gov22	SOI 13	2	analysed	point	magnetite	plate	29.61				0.69	4.30	0.61									69.84														105.06
Gov22	SOI 13	3	analysed	point	glass		33.85	0.33			0.72	7.30	8.21	1.39		0.25	4.79					45.49														102.34
Gov22	SOI 13	4	analysed	point	wustite?		26.59					0.23										78.78														105.60
Gov22	SOI 13	5	analysed	point	wustite?		26.74				0.24	0.23										79.08														106.28
Gov22	SOI 13	6	analysed	point	magnetite	plate	30.59				0.70	4.44	0.57									70.63														106.93
Gov22	SOI 13	7	analysed	point	glass		35.24				0.61	8.50	7.51	1.31		0.21	5.26					45.06														103.70
Gov22	SOI 13	8	analysed	point	hole		4.40								0.35							13.46														18.21
Gov22	SOI 13	9	analysed	point	hole/slag		36.53	0.33			0.20	2.72	11.89	0.74		0.45	8.44					41.55														102.86
Gov22	SOI 16	1	analysed	point	iron nickel arsenide		8.52	0.38						2.30								18.73		30.05	0.31			49.93				0.51				110.75
Gov22	SOI 19	1	analysed	point	nickel arsenide	dense grain (Ni2As) cf. orsellite	0.64															6.21		59.35	1.65			36.03		0.48						104.36
Gov22	SOI 19	2	analysed	point	FeCuS-Ni2As	eutectic?	1.20							3.23								6.32		47.55	7.34			29.42				0.86				95.92
Gov22	SOI 19	3	analysed	point	FeCuS-Ni2As	eutectic?	1.11							2.26								6.05		50.09	6.22			36.59				0.70				103.02
Gov22	SOI 23	1	analysed	point	hercynite	zoned crystal inner	37.71			0.87	28.17								0.22			36.23														103.21
Gov22	SOI 23	2	analysed	point	hercynite	to	37.55			0.76	27.31							0.16				37.83														103.62
Gov22	SOI 23	3	analysed	point	hercynite	to	37.13			0.88	27.43											37.29														102.74
Gov22	SOI 23	4	analysed	point	hercynite	to	37.12			0.83	26.50											38.20														102.66
Gov22	SOI 23	5	analysed	point	hercynite	to	36.41			0.71	25.10	0.18						0.19				39.62														102.21
Gov22	SOI 23	6	analysed	point	Al-magnetite	to	30.84				6.96	0.34						0.18				66.26														104.57
Gov22	SOI 23	7	analysed	point	magnetite	zoned crystal outer	29.12				1.79	0.45										71.63														102.99
Gov22	SOI 23	8	analysed	point	wustite?	relict in magnetite	25.75					0.67		0.19								73.20														99.81
Gov22	SOI 23	9	analysed	point	Al-magnetite	zoned euhedral grain	31.61				10.60	0.52										58.15														100.87
Gov22	SOI 23	10	analysed	point	hercynite	zoned euhedral grain	34.56			0.41	19.74	0.31						0.27				45.68														100.97
Gov22	SOI 23	11	analysed	point	magnetite	zoned euhedral grain	28.67				2.50	0.36										69.35														100.88
Gov22	SOI 23	12	analysed	point	fayalite/glass	interstitial slag	33.66	0.27	0.20		0.89	12.70	2.19	0.45		0.73	2.09					47.01														100.19
Gov22	SOI 23	13	analysed	point	fayalite/glass	interstitial slag	36.96				2.23	10.98	1.12	1.44			1.15					53.09														106.98
Gov22	SOI 23	14	analysed	area	bulk		30.97				6.69	2.30	0.28	0.50			0.40					62.49														103.62

sample	site	no.	oxygen by	type	phase	notes	wt%																										
							O	F	Na	Mg	Al	Si	P	S	Cl	K	Ca	Ti	V	Cr	Mn	Fe	Co	Ni	Cu	Zn	Ge	As	Zr	Mo	Sn	Sb	Ba	W	Pb	Total
Gov22	SOI 23	15	analysed	point	fayalite/glass	interstitial slag	29.62				0.84	10.93	1.03	5.79		0.28	1.42					49.74														99.65
Gov22	SOI 23	16	analysed	point	magnetite	euhedral grain core	29.34				4.02	0.45										66.20														100.02
Gov22	SOI 23	17	analysed	point	magnetite	euhedral grain margin	28.00				1.61	0.53		0.83								70.24														101.21
Gov22	SOI 23	18	analysed	point	magnetite		27.62															72.82														100.44
Gov23	SOI 1	1	analysed	area	bulk		42.91			4.68	7.70	11.53	0.32				12.09	0.45			0.59	14.87														95.15
Gov23	SOI 1	2	analysed	area	bulk	calcium rich area	41.05			4.14	7.47	11.31					21.49	0.33			0.37	11.77														97.93
Gov23	SOI 1	3	analysed	area	bulk	silica rich area	43.27			4.57	7.22	15.15	0.28	0.16			7.65	0.38			0.65	16.10														95.42
Gov23	SOI 1	4	analysed	point	calcite	included grain	39.63							0.18			39.45																		79.25
Gov23	SOI 2	1	analysed	point	hole		27.41			1.60	3.53	25.16					1.78	0.20				7.01								0.55						67.25
Gov23	SOI 2	2	analysed	point	glass		37.20			14.42	14.62	0.20					0.71	0.25			1.57	33.68	0.28													102.94
Gov23	SOI 2	3	analysed	point	hole	possibly lime remnant	35.96			3.95	3.23	1.25		0.30			19.01				0.78	18.36														82.83
Gov23	SOI 3	1	analysed	point	Mg, Al - magnetite	spinel group	35.39			1<	8.91	1.03					2.08	0.21			0.95	44.35		0.32												103.24
Gov23	SOI 3	2	analysed	point		melilite group	37.96			5.55	9.19	7.11					9.94	0.86			0.51	30.72														101.84
Gov23	SOI 3	3	analysed	point	fe-akermanite?	melilite group	41.18			2.32	6.88	14.02					17.41	1.53			0.41	18.58														102.34
Gov23	SOI 3	4	analysed	point		melilite group	42.22			0.27	4.44	17.48	0.75	0.16		0.70	26.84	1.42	0.83		0.40	4.32														99.82
Gov23	SOI 3	5	analysed	point	melilite	melilite group	42.83			3.31	10.02	14.49					28.69					4.35														103.68
Gov23	SOI 3	6	analysed	point	melilite	melilite group	43.29			3.53	9.90	14.74					28.73					4.18														104.36
Gov23	SOI 3	7	analysed	point		melilite group	42.62			0.28	4.79	17.70	0.61			0.87	26.61	1.33	0.82		0.39	4.54														100.55
Gov23	SOI 3	8	analysed	point	fe-akermanite?	melilite group	41.11			2.22	7.39	13.73	0.23				16.97	1.64			0.32	19.81														103.43
Gov23	SOI 3	9	analysed	point	Mg, Al - magnetite	spinel group	44.08			9.23	11.99	3.86					7.69	0.19			0.99	35.71														113.74
Gov23	SOI 3	10	analysed	point	Fe, Mg hercynite	spinel group	40.26			13.93	25.02						0.52			0.16	0.78	21.59														102.26
Gov23	SOI 3	11	analysed	point	Mg, Al - magnetite	spinel group	33.89			9.44	5.07	0.74					2.12	0.28			1.34	49.35		0.30												102.54
Gov23	SOI 3	12	analysed	point		melilite group	38.82			2.99	6.77	10.39					14.15	1.17			0.63	26.36														101.28
Gov23	SOI 3	13	analysed	point	Fe, Mg hercynite	spinel group	39.14			13.83	21.74	0.18					0.59	0.21		0.21	0.60	26.76	0.33														103.59
Gov23	SOI 3	14	analysed	point	fe-akermanite?	melilite group	42.38			5.97	11.15	11.16					20.46				0.42	15.89														107.43
Gov23	SOI 3	15	analysed	point	melilite	melilite group	43.17			4.05	7.17	15.67					28.83					6.14														105.03
Gov23	SOI 3	16	analysed	point		melilite group	40.84			0.21	3.21	15.42	1.01	0.24		0.66	27.54	2.01	1.21		0.44	5.89														98.67
Gov23	SOI 3	17	analysed	point	glass?	inside fuel	31.66	0.18		0.41	2.86	26.77	0.27	0.20		0.13	5.75	0.59			0.63	5.18														74.63
Gov23	SOI 3	18	analysed	point	glass?	inside fuel	52.67			1.92	8.73	16.82					24.49	0.18				8.44														113.26
Gov23	SOI 3	19	analysed	point		melilite group	37.60			5.04	8.14	6.56					9.99	0.88			0.54	33.89														102.65
Gov23	SOI 3	20	analysed	point	fe-akermanite?	melilite group	40.77			3.21	4.94	15.63					17.35	1.45			0.38	17.93														101.66
Gov23	SOI 3	21	analysed	point	Mg, Al - magnetite	spinel group	32.37			9.89	5.67	0.59					1.34	0.17			1.50	50.51		0.30												102.35
Gov23	SOI 4	1	analysed	area	bulk	typcial slag	48.48	0.93	0.44	18.58	22.24			0.12	0.50	5.17	0.38					11.88														108.72
Gov23	SOI 4	2	analysed	point	rust	bleb	30.89				0.22	0.28	0.62	0.25			0.18					50.98	0.45													83.86
Gov23	SOI 4	3	analysed	point	rust	outer crust	32.24					0.59	0.37	0.15			0.25					53.99	0.57													88.16
Gov23	SOI 5	1	analysed	point	glass with P-rich iron		25.02	0.97	0.33	12.01	13.20	1.30	0.87	0.35	2.34	0.16					54.33		1.47													112.36
Gov23	SOI 5	2	analysed	point	glass		44.95	0.85	0.48	17.41	20.04			0.37	5.21	0.34					10.01														99.66
Gov23	SOI 5	3	analysed	point	mullite		47.17			37.21	12.14				0.50		0.54				1.09														98.65
Gov23	SOI 5	4	analysed	point	glass		25.45	0.89	0.36	12.80	13.34	1.12	1.48	0.29	2.37	0.18					51.94		1.59													111.81
Gov23	SOI 5	5	analysed	point	mulllite		47.60			37.78	12.55	0.15			0.26	0.16	0.46				0.69														99.66
Gov23	SOI 5	6	analysed	point	glass		45.30	0.90	0.48	17.22	20.24	0.19		0.37	5.15	0.30					9.68														99.83
Gov23	SOI 7	1	analysed	point	glass		30.87				2.35	10.99	1.24	0.31	0.39	0.83					0.53	54.27														101.79
Gov23	SOI 7	2	analysed	area	bulk	spheroid	27.95				1.21	5.80	0.57		0.12	0.40					0.34	65.96	0.61													102.95
Gov23	SOI 7	3	analysed	area	bulk	attached oxide ?scale	27.76				0.75	2.44				0.27					0.39	72.90	0.42							0.40						105.32
Gov23	SOI 7	4	analysed	area	bulk	slag between spheroid and ?scale	33.54	0.35			2.02	12.18	1.28	0.25	0.35	1.23					0.63	53.68														105.50
Gov23	SOI 7	5	analysed	point	wustite/magnetite		24.34															77.46														101.80
Gov23	SOI 9	1	analysed	point	magnetite	rim	28.24														0.28	72.22														100.73
Gov23	SOI 9	2	analysed	point	magnetite	dendrite	28.00				0.54	1.12										71.55														101.21
Gov23	SOI 9	3	analysed	point	wustite	bleb	24.61				0.49											76.28														101.38
Gov23	SOI 9	4	analysed	point	wustite	dendrite	25.88				0.67	1.57	0.21				0.13					71.86														100.32
Gov23	SOI 9	5	analysed	point	fayalite/glass		31.83				0.93	12.10	1.23	0.17	0.19	0.57					0.65	55.24														102.90
Gov23	SOI 9	6	analysed	point	fayalite/glass		28.67				0.96	11.66	1.06	0.31	0.16	0.71					0.67	53.24														97.44
Gov23	SOI 10	1	analysed	area	glass		37.65			1.96	11.11	16.15			0.50	6.90	0.38					10.40														85.05

sample	site	no.	oxygen by	type	phase	notes	wt%																										
							O	F	Na	Mg	Al	Si	P	S	Cl	K	Ca	Ti	V	Cr	Mn	Fe	Co	Ni	Cu	Zn	Ge	As	Zr	Mo	Sn	Sb	Ba	W	Pb	Total
Gov23	SOI 10	2	analysed	area	glass with spinel		41.75			1.12	12.01	16.12				0.54	4.26	0.26				26.57				0.26										102.62
Gov23	SOI 10	3	analysed	area	glass		40.78			1.39	11.99	17.32				0.60	5.05	0.55				18.11													95.79
Gov23	SOI 10	4	analysed	area	fuel?		25.75		0.14	0.21	10.72	12.94			0.18	0.74	0.21	0.13				0.93													51.96
Gov23	SOI 11	1	analysed	point	hercynite	euhedral spinel	38.67			9.82	24.94	0.27					0.24			0.28	0.27	26.32		0.66												101.47
Gov23	SOI 11	2	analysed	point	fe-hercynite	euhedral spinel	39.46			10.18	18.36	1.67					1.09	0.15		0.52	0.47	32.12		0.47												104.50
Gov23	SOI 11	3	analysed	point	glass?	matrix outside oxide rim	45.64			2.71	14.01	19.58				0.66	10.02	0.44	0.20	0.17	0.24	11.23														104.89
Gov23	SOI 11	4	analysed	point	fe-hercynite		36.53			9.19	16.38	1.46					0.38	0.17		5.19	0.44	35.84		0.43												106.00
Gov23	SOI 11	5	analysed	point	anorthite?		44.76		0.28	1.12	15.29	20.20				0.58	10.86	0.38				9.10														102.58
Gov23	SOI 11	6	analysed	point	glass/spinel	glass/fine dendrite	45.57			2.36	13.38	19.08				0.69	9.85	0.54	0.17		0.22	12.31														104.16
Gov23	SOI 11	7	analysed	point	glass/spinel	glass/fine dendrite	45.76			1.96	13.38	19.06				0.68	9.72	0.49				12.44														103.49
Gov23	SOI 11	8	analysed	point	glass/spinel	glass/fine dendrite	48.96			1<	10.23	22.48				0.46	6.04	0.63			0.44	9.84														109.07
Gov23	SOI 11	9	analysed	area	bulk	glass/fine dendrite	45.28			2.61	13.12	19.18				0.62	9.59	0.51	0.20			12.15														103.25
Gov23	SOI 12	1	analysed	point	anorthite	phenocryst	46.62		0.26	0.90	16.50	21.29				0.47	11.42	0.40				8.17														106.03
Gov23	SOI 12	2	analysed	point	anorthite	phenocryst	46.99			0.59	15.97	20.43				0.43	12.64	0.16				4.54														101.75
Gov23	SOI 12	3	analysed	point	anorthite	phenocryst	47.62		0.23	0.25	17.84	20.95				0.19	13.49					1.99														102.56
Gov23	SOI 12	4	analysed	point	glass/spinel	fringing oxide	44.95			6.18	11.05	19.12				1.24	4.51	0.84			0.33	18.55														106.77
Gov23	SOI 12	5	analysed	point	glass/spinel	fringing oxide	43.94			2.97	12.31	19.41				0.85	7.33	0.76	0.16		0.25	14.82				<										102.80
Gov23	SOI 12	6	analysed	point	glass/spinel	fringing oxide	43.48			5.05	11.01	19.35				0.85	6.10	0.72	0.21		0.35	17.71														104.84
Gov23	SOI 12	7	analysed	point	glass/spinel	oxide - euhedral	41.33			8.45	17.97	6.27				0.25	2.23	0.33		0.62	0.34	30.01		0.39												108.21
Gov23	SOI 12	8	analysed	point	glass/spinel	oxide - euhedral	44.24			7.24	16.99	9.55				0.41	3.41	0.45		0.40	0.32	28.34		0.47												111.82
Gov23	SOI 12	9	analysed	point	glass/spinel	oxide - euhedral	35.01			7.57	13.29	4.90				0.24	1.56	0.43		3.18	0.52	34.65		0.47												101.80
Gov23	SOI 12	10	analysed	area		typical	46.13			2.46	13.80	19.79				0.74	9.10	0.60				11.72														104.32
Gov23	SOI 12	11	analysed	area		groundmass only	46.30		0.21	2.67	13.70	19.75				0.74	9.04	0.57				11.43														104.41
Gov23	SOI 13	1	analysed	point	magnetite	core	31.90			1.62	8.04							0.17				59.16														100.88
Gov23	SOI 13	2	analysed	point	magnetite	margin	33.69			1.76	9.26	0.71					0.23	0.17				59.30														105.12
Gov23	SOI 13	3	analysed	point	glass		42.22		0.41	0.77	12.79	22.25				0.68	6.98	0.34				16.81														103.24
Gov23	SOI 13	4	analysed	point	magnetite	crust	28.55			2.30	6.25	0.23								0.30	0.31	59.71														97.66
Gov23	SOI 13	5	analysed	area	bulk	glass+ fine dendrites	43.55		0.24	0.99	12.09	19.63				0.77	5.45	0.40				18.70														101.82
Gov23	SOI 13	6	analysed	area	bulk	typical	40.42		0.27	1.09	11.01	14.93				0.56	4.01	0.30				31.72														104.31
Gov23	SOI 13	7	analysed	point	glass		50.35			0.67	13.46	23.16				0.74	6.59	0.30				14.23														109.50
Gov23	SOI 14	1	analysed	point	spinel	euhedral in slag	38.52			7.43	20.53	3.73				0.12	0.86	0.18		0.69	0.30	32.34	0.57													105.26
Gov23	SOI 14	2	analysed	point	fe silicate?	bright speck in carbon	15.04			0.59	2.09	11.56				0.20	0.38				1.03	43.85														74.74
Gov23	SOI 14	3	analysed	point	CuO	bright speck in carbon	5.32				3.62	1.91					0.25	0.16				1.05			38.77						3.04				54.13
Gov23	SOI 14	4	analysed	point	zircon	bright speck in carbon	52.59			0.25	5.68	20.50				0.85	0.27	0.11				0.73						29.29								110.43
Gov23	SOI 14	5	analysed	point	glass	in fuel	52.52		0.31	0.48	23.90	25.56			0.24	1.35	0.19	0.39				2.02				<										106.95
Gov23	SOI 14	6	analysed	point	glass	in fuel	49.21		0.31	0.52	19.60	26.13				1.56	0.23	0.46				2.13														100.15
Gov23	SOI 14	7	analysed	point	void/carbon		9.12			0.18	5.58	8.01			0.56	0.46	0.18	0.13				1.13														25.35
Gov23	SOI 14	8	analysed	point	silica	melted quartz grain?	54.06				1.12	44.65				0.25						0.32														100.40
Gov23	SOI 14	9	analysed	point	glass	interface between fuel and slag	49.37			0.68	16.19	25.51				1.53	2.61	0.71				5.65														102.25
Gov23	SOI 14	10	analysed	point	spinel/glass		45.26		0.30	2.07	13.95	20.72				0.75	6.24	0.61				12.04														101.96
Gov23	SOI 14	11	analysed	area	bulk	fuel	35.52		0.20	0.32	16.02	18.11			0.13	1.10	0.35	0.28				1.56			0.50										74.10
Gov23	SOI 14	12	analysed	area	bulk	slag	45.52			2.25	13.57	19.67				0.65	7.66	0.56			0.22	12.14														102.23
Gov23	SOI 15	1	analysed	area	bulk	typical	26.94				1.62	2.34	0.38	0.18			1.12					69.53														102.11
Gov23	SOI 15	2	analysed	area	bulk	typical	28.52				1.60	2.53	0.26	0.28			1.18					74.28														108.64
Gov23	SOI 16	1	analysed	point	magnetite	euhedral near rim	27.42				3.44	0.21										68.02														99.10
Gov23	SOI 16	2	analysed	point	magnetite	euhedral near rim	26.85				2.08	0.17										69.95														99.06
Gov23	SOI 16	3	analysed	point	magnetite	euhedral near rim	28.38				2.97											69.25														100.59
Gov23	SOI 16	4	analysed	point	magnetite	in adhering material	26.78															72.85														99.63
Gov23	SOI 16	5	analysed	point	wustite	in adhering material	24.21															76.74														100.95
Gov23	SOI 16	6	analysed	point	wustite		23.97				0.91											73.99														98.87
Gov23	SOI 16	7	analysed	point	wustite		23.55				0.85											74.14														98.54
Gov23	SOI 16	8	analysed	point	glass	in adhering material	35.09			0.18	1.17	15.25	2.20	0.56		0.23	6.72				0.28	39.11														100.80
Gov23	SOI 18	1	analysed	area	bulk	typical	43.56		0.63	0.66	14.45	18.44	0.23			0.59	9.37	0.39				15.60														103.92
Gov23	SOI 18	2	analysed	area	bulk	Fe-rich vesicle fill	33.48		0.59	0.27	9.21	13.64				0.62	3.38	0.19				26.04														87.42

sample	site	no.	oxygen by	type	phase	notes	wt%																										
							O	F	Na	Mg	Al	Si	P	S	Cl	K	Ca	Ti	V	Cr	Mn	Fe	Co	Ni	Cu	Zn	Ge	As	Zr	Mo	Sn	Sb	Ba	W	Pb	Total
Gov23	SOI 20	1	analysed	point	anorthite		45.24		0.59		16.35	20.50				0.23	13.07	0.18				4.01														100.16
Gov23	SOI 20	2	analysed	point	anorthite/fe-oxide		37.81		0.85	0.61	8.59	16.38	0.68			1.48	14.04	0.98	0.32			19.57														101.32
Gov23	SOI 20	3	analysed	point	anorthite/fe-oxide		41.83		0.79	0.46	11.11	19.27	0.83			1.61	14.29	1.09	0.39			6.49														98.15
Gov23	SOI 20	4	analysed	point	anorthite		45.05		0.59	0.20	15.09	20.58	0.25			0.78	13.95	0.35				4.39														101.22
Gov23	SOI 20	5	analysed	point	anorthite		43.93		0.42		14.54	18.85	0.17			0.23	13.93	0.24				4.06														96.38
Gov23	SOI 20	6	analysed	point	anorthite		40.69		0.55	0.17	15.28	17.71	0.16			0.37	11.16					11.78														97.89
Gov23	SOI 20	7	analysed	point	anorthite		44.76		0.35		15.91	20.26	0.17				13.43	0.23				4.19														99.31
Gov23	SOI 20	8	analysed	point	al-magnetite	coarse	30.87			2.73	6.69	0.79					0.95	0.20			0.34	56.74		0.34												99.64
Gov23	SOI 20	9	analysed	point	al-magnetite	coarse	30.26			2.58	6.27	0.80					0.88	0.20			0.41	57.29														98.68
Gov23	SOI 20	10	analysed	point	al-magnetite	dendrite	31.34			2.90	7.55	1.42					1.05	0.27			0.30	55.54		0.34												100.72
Gov23	SOI 20	11	analysed	point	fe-oxide	or glass?	42.35		0.28	1.07	10.33	14.16	0.18				15.47	0.62				19.72														104.18
Gov23	SOI 20	12	analysed	area	bulk	groundmass	43.98		0.72	0.48	14.05	18.93	0.26			0.78	12.00	0.50				10.65														102.36
Gov23	SOI 20	13	analysed	point	al-magnetite	coarse	29.49			2.54	5.60	0.41					0.61	0.24			0.36	58.55														97.80
Gov23	SOI 21	1	analysed	point	anorthite	6% albite	46.90		0.48		18.58	21.42				0.16	13.30					1.48														102.33
Gov23	SOI 21	2	analysed	point	glass		44.01		0.41	1.65	6.46	25.21	0.72			1.90	5.51	0.29			0.23	14.44								0.36						101.18
Gov23	SOI 22	1	analysed	point	magnetite	outside vesicle	31.27			1.65	13.74	0.25						0.24	0.16			50.44														97.74
Gov23	SOI 22	2	analysed	point	magnetite	vesicle rim	28.69			0.76	7.58						0.14	0.24				61.06														98.48
Gov23	SOI 22	3	analysed	point	glass		47.52		0.71	0.21	13.32	26.34				0.88	8.74	0.21				4.51														102.43
Gov23	SOI 22	4	analysed	point	magnetite	inside vesicle	29.82			0.80	8.78	0.25						0.33				58.54														98.52
Gov23	SOI 23	1	analysed	area	bulk	wustite-rich	18.86				1.42	0.67										58.07														79.01
Gov23	SOI 23	2	analysed	area	bulk	central corroded area	21.17				2.00	0.77	0.13	0.26	0.12		0.21					49.17														73.84
Gov23	SOI 23	3	analysed	area	bulk	marginal corroded area	23.25				1.56	3.95	0.99	0.59	0.24		1.63					32.96														65.15
Gov23	SOI 23	4	analysed	area	bulk	whole	21.21				2.06	1.89	0.28	0.13	0.16		0.37					53.68														79.78
Gov23	SOI 24	1	analysed	area	bulk	typical	25.12			0.25	2.78	6.95	0.24			0.22	2.19					52.24														9<
Gov23	SOI 24	2	analysed	area	bulk	typical	30.91			0.30	3.34	7.17	0.18	0.15		0.17	2.23					65.67														110.11
Gov23	SOI 24	3	analysed	area	bulk	soil/contamination	17.31			0.16	6.45	1.50	0.19	0.25	0.19		0.67					0.66			1<					6.08						43.46
Gov23	SOI 25	1	analysed	point	glass		35.34			0.39	5.96	15.15	0.58	0.17		0.42	5.60					36.57														100.18
Gov23	SOI 25	2	analysed	point	wustite	inner part of enclosed flake	22.12			0.28	0.65											74.16														97.21
Gov23	SOI 25	3	analysed	point	magnetite	M layer of enclosed flake	25.58				0.64											70.55	0.63													97.40
Gov23	SOI 25	4	analysed	point	magnetite/haematite	rim	31.86				0.57	0.74					0.92					65.82	0.52													100.43
Gov23	SOI 25	5	analysed	area	bulk	slag	28.01				3.35	8.32	0.23			0.18	2.71	0.14			0.17	56.37														99.50
Gov23	SOI 26	Sum	analysed	sum	bulk	soil + bronze corrosion	13.74			0.08	3.91	0.79	0.13	0.15	0.39		0.47					0.42			5.92					3.79						29.79
Gov23	SOI 27	1	analysed	area	bulk	main slag	42.29	0.92		0.24	16.66	18.46	0.32			0.33	6.86	0.29				10.27								0.40						97.04
Gov23	SOI 27	2	analysed	area	bulk	main slag margin	45.05	1.50		0.21	18.47	21.09	0.20	0.11		0.49	7.29	0.31				4.56														99.29
Gov23	SOI 27	3	analysed	area	bulk	external slag	45.06	0.56			25.73	21.53				0.86						0.20														93.94
Gov23	SOI 27	4	analysed	area	hole/coal	external slag inclusion	4.45				0.28			0.16	0.11		0.44																			5.46
Gov23	SOI 27	5	analysed	point	fe-oxide	on margin of main grain	30.29				0.67	0.71			0.12		0.14					58.86														90.79
Gov23	SOI 28	1	analysed	point	FeS		11.66	0.57			4.82	6.15		24.03		0.14	2.26					50.69		0.45	0.37											101.13
Gov23	SOI 28	2	analysed	point	hercynite	coarse euhedral spinel	36.08			1.57	30.03	1.70				0.14	0.12	0.27	0.35	0.22		28.05														98.53
Gov23	SOI 28	3	analysed	point	glass		45.16	1.57			16.79	22.34				0.25	10.11	0.19				1.35														97.77
Gov23	SOI 28	4	analysed	point	FeS/glass		30.64	1.84			8.76	10.50	0.27	18.64		0.21	2.75					50.57														124.17
Gov23	SOI 28	5	analysed	point	mullite		47.44	0.59			30.74	14.03	0.16			0.22	3.03	0.25	0.20			2.81														99.49
Gov23	SOI 28	6	analysed	point	mullite		46.47	0.34			33.81	12.29	0.16			0.14	1.99	0.23	0.22			2.27														97.92
Gov23	SOI 28	7	analysed	point	iron	FeS and P-rich iron in glass	7.45				4.31	2.72	0.72	4.01			0.65					83.10		1.52												104.49
Gov23	SOI 29	1	analysed	point	glass	fuel ash	48.77	0.48			23.96	24.57				1.04						0.23														99.05
Gov23	SOI 29	2	analysed	point	glass	fuel ash	51.79	0.47			26.47	23.74				0.79																				103.26
Gov23	SOI 29	3	analysed	point	glass	fuel ash	52.89	0.50			24.93	22.87	0.18			0.76						0.22														102.34
Gov23	SOI 29	4	analysed	point	glass	fuel ash	49.90	0.42			24.60	25.36				0.88																				101.17
Gov23	SOI 30	1	analysed	area	bulk	typical	23.72				1.28	2.58	0.25				0.90					59.92														88.65
Gov23	SOI 30	2	analysed	area	bulk	typical	26.13				1.87	2.37	0.29				0.93					69.21														100.80
Gov23	SOI 30	3	analysed	point	quartz		50.01					45.38										0.53														95.93

sample	site	no.	oxygen by	type	phase	notes	wt%																										
							O	F	Na	Mg	Al	Si	P	S	Cl	K	Ca	Ti	V	Cr	Mn	Fe	Co	Ni	Cu	Zn	Ge	As	Zr	Mo	Sn	Sb	Ba	W	Pb	Total
Gov23	SOI 30	4	analysed	point	hole		6.10		0.54		0.48	1.35		0.11	0.34	0.09	0.23					14.63														23.88
Gov23	SOI 30	5	analysed	point	hole	in quartz	4.79				0.77	9.41										1.48														16.44
Gov23	SOI 32	1	analysed	point	magnetite		26.63				2.27											70.14														99.04
Gov23	SOI 32	2	analysed	point	magnetite		26.95				2.34	0.21										69.33														98.83
Gov23	SOI 32	3	analysed	point	glass		33.64				0.81	16.84	0.19				1.02					47.23														99.73
Gov23	SOI 32	4	analysed	point	glass		32.36				0.78	16.51	0.18				1.04					47.21														98.08
Gov23	SOI 32	5	analysed	point	glass		31.59				0.88	15.10	0.23				0.83					49.25														97.88
Gov23	SOI 32	6	analysed	point	quartz		55.99					48.82		0.08								0.54														105.43
Gov23	SOI 32	7	analysed	point	hole		28.94				33.42	0.79	0.29		0.18		0.33					6.55														70.49
Gov23	SOI 32	8	analysed	point	magnetite		26.63				2.98	0.18										67.05														96.85
Gov23	SOI 32	9	analysed	point	wustite		23.89				0.84											71.57														96.31
Gov23	SOI 32	10	analysed	point	wustite		22.87				0.77											71.88														95.53
Gov23	SOI 32	11	analysed	point	magnetite		26.63				1.10	0.49										69.18														97.40
Gov23	SOI 34	1	analysed	area	bulk	overall	29.44			1.67	5.42	7.31	0.12	0.18			10.57	0.13			0.36	9.21														64.39
Gov23	SOI 34	2	analysed	area	bulk	slag	34.10			2.81	7.41	11.31	0.15	0.17		0.11	9.33	0.14			0.51	13.33														79.37
Gov23	SOI 34	3	analysed	area	bulk	hole	11.14			0.10	1.87	0.66	0.07	0.19	0.08		5.12					1.38			1.39					0.95					22.94
Gov23	SOI 34	4	analysed	area	bulk	slag	41.93			3.34	8.83	11.61	0.23	0.16			13.48	0.15			0.48	14.84														95.05
Gov23	SOI 35	1	analysed	point	calcite?	crystalline phase in void	50.90					0.19		0.63			38.66					0.20									0.54	1.25				92.36
Gov23	SOI 35	2	analysed	point	calcite?	crystalline phase in void	42.17					0.18	0.19	0.48			38.16					0.23									0.55	1.27				83.24
Gov23	SOI 35	3	analysed	point		hole	22.42			4.68	2.09	18.51				0.17	1.45					6.45														55.76
Gov23	SOI 35	4	analysed	point	calcite?	hole	39.79			0.15		0.78		0.79			36.61					0.21										0.86				79.18
Gov23	SOI 35	5	analysed	point	(calcite)	hole	2.52				0.23	0.15		0.15	0.48		10.37					0.44														14.34
Gov23	SOI 35	6	analysed	point		hole	10.51			1.75	1.38	9.36		0.95	0.17		1.06					2.20														27.39
Gov23	SOI 35	7	analysed	point	(calcite)	hole	4.79					0.11			0.50		9.42					0.26														15.09
Gov23	SOI 36	1	analysed	point	glass?	phase 1	38.15			3.47	9.06	17.78	0.27	0.18		0.14	3.27	0.18			0.49	10.79														83.78
Gov23	SOI 36	2	analysed	point	glass?	phase 1	36.23			3.77	9.57	18.50	0.46			0.17	4.07				0.24	7.63								0.35						80.98
Gov23	SOI 36	3	analysed	point	melilite group?	phase 2a	27.69			6.54	14.19	6.69					12.81				1.31	28.87														98.11
Gov23	SOI 36	4	analysed	point	melilite	phase 2	39.18			0.24	18.22	10.11		0.36			24.81	0.43				2.78										1.43				97.56
Gov23	SOI 36	5	analysed	point	magnesiowustite	phase 3	27.03			17.39	0.20	0.16					1.17				2.34	52.42														100.70
Gov23	SOI 36	6	analysed	point	magnesiowustite	phase 3	27.36			17.49	0.29	0.28					1.10				2.41	52.64														101.56
Gov23	SOI 36	7	analysed	point	melilite	phase 2	43.88			0.47	18.93	11.55					26.99					2.21														104.03
Gov23	SOI 38	1	analysed	point	altered fayalite?	inner iron-rich material	30.62			0.55		12.11	2.08				0.39				0.42	50.28														96.46
Gov23	SOI 38	2	analysed	point	altered fayalite?	outer iron-rich material	29.62				3.08	9.90	3.89	2.81			3.92				0.33	41.94														95.50
Gov23	SOI 38	3	analysed	point	quartz		50.99				0.27	46.30																							97.56
Gov23	SOI 38	4	analysed	point	iron	20% P							10.49	1.16			0.22					81.51														93.38
Gov23	SOI 38	5	analysed	area	bulk	typical	45.18		0.42	0.61	14.21	24.28		<		0.32	12.89	0.57				1.16														99.63
Gov23	SOI 39	1	analysed	point	anorthite?	mixture of anorthite and glass?	44.79		0.41	0.74	13.01	24.68		0.20		0.26	12.87	0.57				0.69														98.21
Gov23	SOI 39	2	analysed	point	silicate + iron	iron has very high S and P (+ Si?)	22.43			0.48	9.23	14.39	1.79	6.14		0.19	6.10	0.24				47.01														108.00
Gov23	SOI 39	3	analysed	point	silicate + iron	iron has very high S and P (+ Si?)	26.71		0.30	0.63	10.66	17.00	2.86	3.26		0.18	7.43	0.33				38.32														107.69
Gov23	SOI 39	4	analysed	point	silicate + iron	iron has very high S and P (+ Si?)	24.31		0.32	0.42	11.12	15.66	2.17	0.92		0.15	6.76	0.22				46.88														108.91
Gov23	SOI 39	5	analysed	point	silicate + iron	iron has very high S and P (+ Si?)	26.91		0.49	0.46	11.41	17.87	0.97	2.58		0.22	8.84	0.28				28.99														99.00
Gov23	SOI 39	6	analysed	point	silicate + iron	iron has very high S and P (+ Si?)	30.96		0.38	0.65	12.07	18.74	1.63	3.01			8.45	0.42				32.29														108.61
Gov23	SOI 39	7	analysed	point	silicate + iron	iron has very high S and P (+ Si?)	44.27		0.39	0.58	14.73	23.47		0.42		0.19	12.91	0.40				1.16														98.53
Gov23	SOI 39	8	analysed	point	anorthite?	mixture of anorthite and glass?	43.86		0.44	0.49	14.52	23.35		0.71		0.24	12.55	0.51				2.38														99.04
Gov24a	SOI 1	1	analysed	area	Fe (9% Si, 0.3P, 2.3Mn)	typical area					0.58	8.73	0.25				0.26				2.16	80.28														92.26
Gov24a	SOI 1	2	analysed	area	iron	rusted area	9.98				0.63	9.30	0.20				0.33				1.68	63.42														85.54
Gov24a	SOI 1	3	analysed	point	iron	rusted area	9.49		0.48			13.63	0.40								2.77	100.25														127.01
Gov24a	SOI 1	4	analysed	point	iron phosphide with Mn						<	2.50	8.51							0.11	5.96	74.81														91.89
Gov24a	SOI 1	5	analysed	area	iron	area with no inclusions						10.17	0.18								2.38	92.22														104.95
Gov24a	SOI 1	6	analysed	point	iron	spot in area as 5						9.96	0.34								2.30	91.38														103.98
Gov24a	SOI 1	7	analysed	point	iron							9.89	0.27								2.42	91.55														104.14
Gov24a	SOI 1	8	analysed	point	graphite/slag/iron	Ca and S show here too	11.73		0.18	0.13	4.03	1.12	0.38	0.42	0.08		3.38				0.37	22.43														44.25
Gov24a	SOI 1	9	analysed	point	graphite/slag/iron	Ca and S show here too	2.32		0.47			0.12		0.42			0.25				0.15	2.48														6.21
Gov24a	SOI 1	10	analysed	point	graphite/slag/iron	Ca and S show here too	8.46				5.94	2.55	0.75	0.84	0.13	0.11	3.10				0.25	18.40														40.54

sample	site	no.	oxygen by	type	phase	notes	wt%																										
							O	F	Na	Mg	Al	Si	P	S	Cl	K	Ca	Ti	V	Cr	Mn	Fe	Co	Ni	Cu	Zn	Ge	As	Zr	Mo	Sn	Sb	Ba	W	Pb	Total
Gov24a	SOI 1	11	analysed	point	graphite/slag/iron	Ca and S show here too	3.45					0.30		0.11			0.22				0.28	3.35														7.71
Gov24a	SOI 5	1	analysed	point	anorthite		49.16		0.23	0.29	17.51	21.67				0.25	14.08																		103.20
Gov24a	SOI 5	2	analysed	point	anorthite		48.41		0.33	0.31	17.55	21.64				0.21	13.55																		101.99
Gov24a	SOI 5	3	analysed	point	iron	high Si					0.23	6.78					0.69					90.47													98.18
Gov24a	SOI 5	4	analysed	point	MnS		12.54			0.23	1.93	7.41		26.75		0.50	2.73	3.45			47.09				0.27										102.90
Gov24a	SOI 5	5	analysed	point	MnS		16.31				4.37	8.38		25.57			8.19				45.87	0.47			0.34										109.50
Gov24a	SOI 5	6	analysed	point	CaSiO3	wollastonite	44.43				0.64	23.42				0.09	34.16	0.23																	102.96
Gov24a	SOI 5	7	analysed	point	CaSiO3	wollastonite	45.39				2.34	23.79					31.46				0.29														103.26
Gov24a	SOI 5	8	analysed	point	glass	interstitial to 6, 7	50.66				7.87	29.32				1.93	9.85	1.03			1.79					<			0.38						102.83
Gov24a	SOI 5	9	analysed	point	glass		48.77			0.61	8.40	27.84		0.48		1.49	10.23	1.63			2.73														102.18
Gov24a	SOI 5	10	analysed	area	bulk	typical	48.35			0.75	10.44	23.62		0.54		0.48	17.75	1.04			1.80	0.43													105.20
Gov24b	SOI 7	1	analysed	point	MnS, TiO		16.68				0.85	1.28		17.24			1.43	39.29			26.70	0.39													103.86
Gov24b	SOI 7	2	analysed	point	MnS		12.70			0.12	2.46	2.28		28.66		0.12	1.94	5.80			49.12	0.84			<										104.03
Gov24b	SOI 7	3	analysed	point	MnS		10.13				3.65	4.99		25.75			4.09				43.86														92.47
Gov24b	SOI 7	4	analysed	point	anorthite		47.51		0.18		18.10	20.86					13.98																		100.62
Gov24b	SOI 7	5	analysed	point	anorthite		47.11		0.16	0.24	16.72	21.77				0.18	14.46				0.20														100.84
Gov24b	SOI 7	6	analysed	point	glass		45.75		0.23	0.84	8.26	26.36		0.28		0.66	15.86	0.40			0.69														99.34
Gov24b	SOI 7	7	analysed	point	glass		46.86			0.94	7.91	26.53		0.36		0.59	16.06	0.37			0.69														100.32
Gov24b	SOI 7	8	analysed	point	anorthite		47.03		0.20	0.17	18.32	20.50					13.95																		100.16
Gov24b	SOI 7	9	analysed	area	bulk	typical	46.75		0.28	0.69	11.11	25.01		0.79		0.53	15.14	0.40			1.28														101.97
Gov24b	SOI 7	10	analysed	point	MnS		13.67		<	0.32	2.89	7.86		25.13		0.17	4.73	0.14			43.41	0.39													98.71
Gov24b	SOI 7	11	analysed	point	MnS		11.66			0.17	1.42	3.96		28.31			2.63				48.59	0.54			<										97.28
Gov24b	SOI 7	12	analysed	point	MnS		25.93			0.50	3.36	9.71		26.52		0.21	4.92				47.50														118.66
Gov24b	SOI 8	1	analysed	area	iron	very high Si					0.31	8.63						0.26			2.08	78.51													89.78
Gov24b	SOI 8	2	analysed	point	hole/graphite		50.83				23.54	2.70	0.29	0.51			2.03				0.18	25.40													105.48
Gov24b	SOI 8	3	analysed	point	Ti, V - nitride?	inclusion					0.09	0.14		<				62.93	6.72			1.50								<					71.37
Gov24b	SOI 8	4	analysed	point	hole?		3.86				0.25	8.79			0.86	0.22					1.39	53.26													68.63
Gov24b	SOI 8	5	analysed	point	Fe, Mn P	bright area					<	3.83	7.26					0.12			5.59	74.91													91.72
Gov24c	SOI 1	1	stoichiometry	point	anorthite		43.32		0.24	0.15	16.77	20.32	<	<		0.18	12.63	<			<	<													93.61
Gov24c	SOI 1	2	stoichiometry	point	anorthite		42.96		0.24	0.18	16.80	19.91	<	<		0.09	12.69	<			0.12	<													93.00
Gov24c	SOI 1	3	stoichiometry	point	anorthite		43.56		0.31	0.14	17.13	20.08	<	<		0.19	12.89	0.10			<	<													94.39
Gov24c	SOI 1	4	stoichiometry	point	anorthite		43.20		0.20	0.28	13.86	21.56	<	<		0.28	14.65	0.09			0.31	<													94.44
Gov24c	SOI 1	5	stoichiometry	point	anorthite		43.70		0.33	0.15	16.87	20.48	<	<		0.15	12.81	<			<	<													94.49
Gov24c	SOI 1	6	stoichiometry	point	anorthite		43.51		0.15	0.17	17.22	19.91	<	<		0.14	13.32	<			<	<													94.42
Gov24c	SOI 1	7	stoichiometry	point	anorthite		43.24		0.28	0.23	16.85	20.03	<	<		0.12	12.92	<			<	<													93.67
Gov24c	SOI 1	8	stoichiometry	point	anorthite		41.61		0.22	0.16	16.40	19.12	<	<		0.11	12.60	<			<	<													90.23
Gov24c	SOI 1	9	stoichiometry	point	anorthite		42.10		0.23	0.18	16.43	19.49	<	<		0.13	12.36	0.10			0.18	<													91.21
Gov24c	SOI 1	10	stoichiometry	area	bulk	typical	42.67		0.15	0.54	10.23	21.70	<	0.57		0.40	16.10	0.86			1.58	0.16													94.94
Gov24c	SOI 1	11	stoichiometry	point	wollastonite		37.37		<	0.55	0.44	21.49	<	<		<	28.91	0.33			1.27	<													90.36
Gov24c	SOI 1	12	stoichiometry	point	wollastonite		38.09		<	0.82	0.34	21.94	<	<		0.07	28.93	0.34			1.58	<													92.11
Gov24c	SOI 1	13	stoichiometry	point	iron	high Si	32.64		<	<	0.25	6.10	0.18	0.17		<	0.60	<			0.30	86.05													126.30
Gov24c	SOI 1	14	stoichiometry	point	MnS		63.38		<	<	0.39	2.63	<	29.20		<	2.24	0.41			51.29	0.79													150.34
Gov24c	SOI 1	15	stoichiometry	point	MnS		60.72		<	0.30	1.55	8.95	<	17.97		0.44	2.71	15.57			28.46	7.62													144.29
Gov24c	SOI 2	1	analysed	point	MnS		<		<	<	<	<	<	<		<	<	<	<	<	<	<			<										<
Gov24c	SOI 2	2	analysed	point	anorthite		<		<	<	<	<	<	<		<	<	<	<	<	<	<			<										<
Gov24c	SOI 2	3	analysed	point	iron	high Si	<		<	<	<	<	<	<		<	<	<	<	<	<	<			<										<
Gov24c	SOI 2	4	analysed	point	MnS mixed		<		<	<	<	<	<	<		<	<	<	<	<	<	<			<										<
Gov24c	SOI 2	5	analysed	point	anorthite		<		<	<	<	<	<	<		<	<	<	<	<	<	<			<										<
Gov24c	SOI 2	6	analysed	point	MnS mixed		<		<	<	<	<	<	<		<	<	<	<	<	<	<			<										<
Gov24c	SOI 2	7	analysed	point	anorthite		<		<	<	<	<	<	<		<	<	<	<	<	<	<			<										<
Gov24c	SOI 2	8	analysed	point	anorthite/MnS/Ti		<		<	<	<	<	<	<		<	<	<	<	<	<	<			<										<
Gov24c	SOI 2	9	analysed	point	MnS mixed		<		<	<	<	<	<	<		<	<	<	<	<	<	<			<										<
Gov24c	SOI 2	10	analysed	point	MnS mixed		<		<	<	<	<	<	<		<	<	<	<	<	<	<			<										<
Gov24c	SOI 2	11	analysed	point	MnS mixed		<		<	<	<	<	<	<		<	<	<	<	<	<	<			<										<
Gov24c	SOI 2	12	analysed	point	CPX?		<		<	<	<	<	<	<		<	<	<	<	<	<	<			<										<
Gov24c	SOI 2	13	analysed	point	CPX?		<		<	<	<	<	<	<		<	<	<	<	<	<	<			<										<

sample	site	no.	oxygen by	type	phase	notes	wt%																										
							O	F	Na	Mg	Al	Si	P	S	Cl	K	Ca	Ti	V	Cr	Mn	Fe	Co	Ni	Cu	Zn	Ge	As	Zr	Mo	Sn	Sb	Ba	W	Pb	Total
Gov24c	SOI 2	14	analysed	point	wollastonite		<		<	<	<	<	<	<		<	<	<	<		<	<			<										<
Gov24c	SOI 2	15	analysed	point	wollastonite		<		<	<	<	<	<	<		<	<	<	<		<	<			<										<
Gov24c	SOI 2	16	analysed	point	wollastonite		<		<	<	<	<	<	<		<	<	<	<		<	<			<										<
Gov24c	SOI 2	17	analysed	point	wollastonite		<		<	<	<	<	<	<		<	<	<	<		<	<			<										<
Gov24c	SOI 2	18	analysed	point	MnS mixed		<		<	<	<	<	<	<		<	<	<	<		<	<			<										<
Gov24c	SOI 2	19	analysed	point	glass?		<		<	<	<	<	<	<		<	<	<	<		<	<			<										<
Gov24c	SOI 2	20	analysed	point	glass?		<		<	<	<	<	<	<		<	<	<	<		<	<			<										<
Gov24c	SOI 2	21	analysed	point	CPX?		<		<	<	<	<	<	<		<	<	<	<		<	<			<										<
Gov24c	SOI 3	1	analysed	area	typical	iron, high Si, high Mn, mod, P	5.50				0.21	8.64	0.30								2.21	77.58													94.44
Gov24c	SOI 3	2	analysed	area	typical	iron, high Si, high Mn, mod, P	4.81				0.19	8.76	0.23								2.11	79.37													95.47
Gov24c	SOI 3	3	analysed	point	iron	iron, high Si, high Mn, mod, P	5.23				0.15	8.97	0.24								2.13	79.76													96.48
Gov24c	SOI 3	4	analysed	point	iron	iron, high Si, high Mn, mod, P	5.74				<	9.43	0.30								2.11	79.75													97.34
Gov24c	SOI 3	5	analysed	point	iron	iron, high Si, high Mn, mod, P	4.47				<	8.74	0.15								2.25	79.16													94.78
Gov24c	SOI 3	6	analysed	point	iron	iron, high Si, high Mn, mod, P	11.80				<	11.08	0.29								2.17	76.28													101.63
Gov24c	SOI 4	1	analysed	point	MnS/TiO2		16.75		0.22	<	2.06	7.21		20.66		0.45	2.65	12.12			34.30	2.80													99.21
Gov24c	SOI 4	2	analysed	point	anorthite		43.71		0.27	0.31	16.90	20.51		<		0.23	13.38	0.12			0.16	0.64													96.24
Gov24c	SOI 4	3	analysed	point	wollastonite		42.34		<	<	1.05	23.20		<		0.19	29.38	0.22			0.49	0.89													97.75
Gov24c	SOI 5	1	analysed	?	?		38.57		0.15	0.66	6.35	20.81		1.74		0.39	16.99	1.09			3.62	0.90													91.29
Gov24c	SOI 5	2	analysed	point	cpx		43.09		0.13	0.72	12.68	22.77		<		0.38	13.79	0.19			0.32	0.65													94.71
Gov24c	SOI 5	3	analysed	point	cpx		43.67		0.24	0.74	11.77	23.22		0.17		0.47	13.98	0.53			0.61	0.78													96.17
Gov24c	SOI 5	4	analysed	point	cpx		41.92		0.22	0.77	12.28	23.67		<		0.50	13.47	0.36			0.57	0.87													94.64
Gov24c	SOI 5	5	analysed	point	cpx?	bright part of i/g	45.23		0.26	1.44	5.83	26.30		0.13		1.16	11.51	4.47			2.88	0.83													100.04
Gov24c	SOI 5	6	analysed	point	wollastonite		41.85		<	<	0.46	22.99		<		<	32.31	0.17			0.90	0.85													99.52
Gov24c	SOI 5	7	analysed	point	wollastonite		41.86		<	<	0.74	22.97		<		<	32.31	<			0.50	0.74													99.12
Gov24c	SOI 5	8	analysed	point	cpx	dark part of i/g	43.64		0.26	0.79	11.50	23.93		0.12		0.51	13.80	0.52			0.62	0.65													96.33
Gov24c	SOI 5	9	analysed	point	anorthite		43.70		0.21	0.31	16.83	21.39		<		0.23	13.51	<			0.26	0.71													97.16
Gov24c	SOI 5	10	analysed	point	cpx		44.71		0.37	0.47	12.24	25.10		0.16		0.67	12.78	0.28			0.54	0.74													98.06
Gov25A	SOI 2	1	analysed	point	Mn,Fe S									34.08				0.48			47.97	11.75													94.27
Gov25A	SOI 2	2	analysed	point	Mn,Fe S						0.11			34.15				0.54			48.63	11.52													94.95
Gov25A	SOI 2	3	analysed	area	iron	ferrite																86.22													86.22
Gov25A	SOI 2	4	analysed	area	iron	mod Si, P						2.21	0.15									85.37													87.73
Gov25A	SOI 2	5	analysed	area	iron	mod Si, P						2.60	0.29									88.17													91.06
Gov25A	SOI 2	6	analysed	area	iron																	86.94													86.94
Gov25A	SOI 2	7	analysed	area	bulk	typical						1.88	1.15	0.99							1.15	85.32													90.48
Gov25A	SOI 2	8	analysed	point	hole?		22.04		0.91		5.46	3.83	0.40	0.41		0.80						70.50													104.36
Gov25A	SOI 2	9	analysed	point	hole?		20.19		0.81	0.96	0.66	3.58	0.38	0.66	0.19	0.97						67.18													95.58
Gov25A	SOI 3	1	analysed	point	high Si,P area of iron							3.12	0.37									85.90													89.39
Gov25A	SOI 3	2	analysed	area	bulk	typical	3.74				0.58	1.73	1.08	3.07				0.21			4.11	75.01													89.54
Gov25A	SOI 3	3	analysed	point	Mn,Fe S						<	0.08		33.81				0.41			52.16	7.20													93.66
Gov25A	SOI 4	1	analysed	point	error							1.14										69.88													71.02
Gov25A	SOI 4	2	analysed	area	bulk	typical					0.33	1.61	1.24	1.07							1.42	79.75													85.42
Gov25A	SOI 6	1	analysed	area	bulk	typical	8.03				2.56	7.08	1.23	0.40			0.23				0.37	66.97	0.29												87.16
Gov25A	SOI 6	2	analysed	area	bulk	interstial areas	19.55				5.81	12.24	0.30	0.25	0.14		0.29					44.97	0.34												83.89
Gov25A	SOI 6	3	analysed	area	iron	dendrite?																81.78													81.78
Gov25A	SOI 6	4	analysed	point	hole		27.94				13.86	3.69	0.40	0.69	0.24	0.13	0.33					33.16													80.45
Gov25A	SOI 6	5	analysed	point	rust?		9.78				3.18	7.88	0.50	0.18								64.58													86.10
Gov25A	SOI 6	6	analysed	point	iron								0.14									81.17													81.30
Gov25A	SOI 6	7	analysed	point	iron																	80.71	<												80.71
Gov25A	SOI 6	8	analysed	point	hole		3.36				0.30	50.65	0.64									8.01													62.96
Gov25A	SOI 6	9	analysed	point	hole		27.15			0.19	16.48	2.51	0.14	0.66	0.31		0.67					32.04													80.17
Gov25A	SOI 6	10	analysed	point	hole		26.17				11.48	3.85	0.53	0.72	0.31	0.16	0.46					32.81													76.49
Gov25A	SOI 8	1	analysed	area	bulk	typical of area rich in MnS no graphite						1.93	1.47	0.72							0.84	89.63													94.59

sample	site	no.	oxygen by	type	phase	notes	wt%																										
							O	F	Na	Mg	Al	Si	P	S	Cl	K	Ca	Ti	V	Cr	Mn	Fe	Co	Ni	Cu	Zn	Ge	As	Zr	Mo	Sn	Sb	Ba	W	Pb	Total
Gov25c	SOI 1	1	analysed	area	bulk	typical - weathered GI	29.58				1.65	4.49	0.86	0.71	0.29		0.45				0.65	53.84														92.51
Gov25c	SOI 1	2	analysed	area	bulk	graphite-rich	28.02					0.72		0.94	0.12						0.45	55.11													85.36
Gov25c	SOI 1	3	analysed	area	bulk	graphite-rich	31.32				2.18	7.68	0.67	0.51			1.21				0.55	34.47													78.60
Gov25c	SOI 1	4	analysed	area	bulk	steadite	6.37				0.99	2.59	2.11								0.81	111.02													123.89
Gov25c	SOI 1	5	analysed	area	bulk	steadite	6.25				1.35	1.87	2.22					0.22			0.76	89.92													102.59
Gov25c	SOI 3	1	analysed	area	bulk - weathering		30.98				0.23	0.43										66.15													97.79
Gov25c	SOI 3	2	analysed	area	bulk - weathering		35.47				0.51	0.46									0.32	56.54								0.64					93.94
Gov25c	SOI 3	3	analysed	area	bulk - grain		45.39		0.29	6.26	4.93	15.85	0.33	0.27		0.22	3.17	0.88			0.22	24.85													102.66
Gov25c	SOI 3	4	analysed	point	inclusion	Ti-magnetite?	31.17				1.47	1.08						16.75	0.37	0.57	1.79	44.47													97.67
Gov25c	SOI 3	5	analysed	point	grain	looks like serpentine, but not	38.54			6.88	5.72	15.86		0.34		0.13	0.47				0.29	24.01													92.22
Gov26A	SOI 1	1	analysed	area	bulk	weathered gunmetal	5.84				0.66			3.86											78.31	8.27		0.44			1.24				3.61	102.24
Gov26A	SOI 3	1	analysed	area	bulk	slag	36.86		0.47	0.96	5.13	21.87	0.14	0.37		0.47	1.33					30.73			0.35	0.84									99.53
Gov26A	SOI 3	2	analysed	point	olivine	Fa90Fo10 with 3% Zn	31.30			2.47		14.49										50.47	0.55			1.07									100.35
Gov26A	SOI 3	3	analysed	point	olivine	Fa91Fo9 with 3% Zn	31.48			2.22		14.28										51.78	0.48			1.18									101.42
Gov26A	SOI 3	4	analysed	point	olivine	Fa91Fo9 with 3% Zn	30.62			2.08	0.23	14.48									0.23	49.16	0.45			1.02									98.28
Gov26A	SOI 3	5	analysed	point	CuFeS									34.17								34.57	0.31		27.83	0.64					2.32			1.52	101.35
Gov26A	SOI 3	6	analysed	point	Fe, CuFeS?		3.85				0.18	2.41		27.31								36.60	0.39		23.09	0.72					1.93			1.30	97.78
Gov26A	SOI 3	7	analysed	point	CuS		2.53				0.49	1.24		26.61			0.23					3.59			58.86	<									93.56
Gov26A	SOI 3	8	analysed	point	glass		42.06			0.29	7.98	26.72	0.24	0.23		0.72	2.77	0.19				14.00				0.74									95.95
Gov26A	SOI 3	9	analysed	point	glass		43.27			0.33	8.51	26.57	0.28	0.29		0.69	3.23	0.16				14.08				0.48									97.88
Gov26A	SOI 4	1	analysed	point	pyroxene core	ferrosilite with Al subs?, Mg bearing	35.80			3.90	2.66	20.68					0.21				0.23	32.95				0.87									97.30
Gov26A	SOI 4	2	analysed	point	pyroxene core	ferrosilite with Al subs?, Mg bearing	36.39			3.54	2.36	20.70					0.25					33.43				0.94									97.61
Gov26A	SOI 4	3	analysed	point	pyroxene outer	ferrosilite with Al subs?, Mg bearing	34.49			0.57	4.08	19.09					0.52	0.17			0.22	37.00				1.04									97.17
Gov26A	SOI 4	4	analysed	point	Fe,Cu sulphide					<	0.12	0.16		33.38								37.63			22.15	0.84					1.12				95.40
Gov26A	SOI 4	5	analysed	point	Al-magnetite		25.20			0.24	5.25	0.45						1.50	0.27	0.17		59.52				1.13									93.71
Gov26A	SOI 4	6	analysed	point	Al-magnetite		27.18				7.11	0.43						1.53				57.58				1.46									95.29
Gov26A	SOI 4	7	analysed	point	glass?		40.34		0.67		8.40	23.36	0.40	0.28		1.03	4.64	0.11				12.72				0.66		0.43							93.04
Gov26A	SOI 4	8	analysed	point	glass?		38.70		0.70		8.16	22.81	0.35	0.33		0.91	4.53	0.18				13.25				0.55									90.46
Gov26A	SOI 4	9	analysed	point	late pyroxene	ferrosilite with Al subs?	34.71				4.69	19.39	0.21			0.16	1.52	0.16			0.22	32.96				0.88									94.90
Gov26A	SOI 4	10	analysed	point	late pyroxene	ferrosilite with Al subs?	37.18				4.94	20.42					1.07	0.18				35.45				1.20									100.44
Gov26A	SOI 4	11	analysed	point	late pyroxene	ferrosilite with Al subs?	36.33			0.29	4.74	19.47					1.03					34.95				1.11									97.91
Gov26A	SOI 4	12	analysed	point	Al-magnetite		26.74				5.36	3.42				0.13		1.44	0.20			55.56				1.32									94.17
Gov26A	SOI 4	13	analysed	point	glass?		39.98				8.88	22.83	0.40	0.39		1.30	3.42	0.19				14.68			0.25	1.41		0.45							94.17
Gov26A	SOI 4	14	analysed	area	bulk	slag	36.95			1.17	5.39	20.76		0.54		0.51	1.73					27.93			0.36	0.98									96.31
Gov26A	SOI 4	15	analysed	point	late pyroxene	ferrosilite with Al subs?	35.21			0.24	4.19	19.40				0.12	0.89	0.16			0.25	35.62			<	1.16									97.23
Gov26A	SOI 4	16	analysed	point	late pyroxene	ferrosilite with Al subs?	34.26			0.20	3.63	19.11		0.13			0.76	0.12			0.18	35.53			<	0.94									94.84
Gov26A	SOI 5	1	analysed	point	haematite+rutile?	bright	29.08				0.19							7.94	0.23			59.89													97.32
Gov26A	SOI 5	2	analysed	point	haematite+rutile?	bright	29.75				1.02							6.37	0.22			61.35													98.71
Gov26A	SOI 5	3	analysed	point	TiO2	pale	37.95				0.62							58.47	0.55			1.51													99.11
Gov26A	SOI 5	4	analysed	point	haematite+rutile?	bright	30.31				0.18							7.60				60.11													98.19
Gov26A	SOI 5	5	analysed	point	corundum	main grey phase	44.50				40.72	0.16	0.21					0.24				1.13													86.96
				point																															
Gov26A	SOI 6	1	analysed	point	chloritoid	FeAl2SiO7	41.10			0.84	20.37	10.85									0.21	20.43													93.80
Gov26A	SOI 6	2	analysed	point	haematite+rutile?	bright	27.33				0.38							6.60	0.27	0.24		58.90													93.70
Gov26A	SOI 6	3	analysed	point	haematite+rutile?	bright	25.75		0.34		0.72	0.21						2.81	0.26	0.30		62.69													93.08
Gov26A	SOI 6	4	analysed	point	corundum	pale grey	44.23				48.28		0.17					1.91				11.11													105.70
Gov26A	SOI 6	5	analysed	point	gibbsite	dark grey	41.75				31.55							4.65				5.28													83.24
Gov26A	SOI 6	6	analysed	point	gibbsite	dark grey	51.65				33.85	0.25	0.17	0.11								1.87													88.15
Gov26A	SOI 8	1	analysed	point	chloritoid	FeSiAl2O7	45.40			0.26	36.27	4.86	0.14									8.88													95.82
Gov26A	SOI 8	2	analysed	point	chloritoid	FeSiAl2O7	41.91			0.25	18.81	11.37										20.44													92.78
Gov26A	SOI 8	3	analysed	point	chloritoid	FeSiAl2O7	36.21			0.83	17.51	8.13	0.30									22.56													85.55
Gov26A	SOI 8	4	analysed	point	magnetite		24.65			2.28	2.41							2.94	0.46		0.38	57.49													90.61
Gov26A	SOI 8	5	analysed	point	chloritoid	FeSiAl2O7	44.19			0.32	22.31	11.68										22.88													101.37
Gov26A	SOI 8	6	analysed	point	chloritoid	FeSiAl2O7	41.20			0.86	20.50	10.58									0.20	20.13													93.46

sample	site	no.	oxygen by	type	phase	notes	wt%																									
							O	F	Na	Mg	Al	Si	P	S	Cl	K	Ca	Ti	V	Cr	Mn	Fe	Co	Ni	Cu	Zn	Ge	As	Zr	Mo	Sn	Sb	Ba	W	Pb	Total
Gov26A	SOI 10	1	analysed	point	quartz		47.55				0.28	44.20										0.67														92.70
Gov26A	SOI 10	2	analysed	point	Fe,Cu sulphide									32.57								37.43			20.75	1.12					1.10					92.96
Gov26A	SOI 10	3	analysed	point	Fe,Cu sulphide							0.13		33.10								37.39			18.38	2.92					2.05					93.97
Gov26A	SOI 10	4	analysed	point	glass+magnetite?		27.00				2.94	7.84				0.37	0.24	0.76	0.23	0.17		48.67				0.89				0.57							89.68
Gov26A	SOI 10	5	analysed	point	olivine	Fo8Fa93	28.82			1.83		13.23										48.35				0.77											92.99
Gov26A	SOI 10	6	analysed	point	olivine	Fo9Fa91	28.53			1.98		13.83									0.28	48.11				0.83											93.54
Gov26A	SOI 10	7	analysed	point	glass		38.77				7.32	23.61	0.27	0.23		0.67	4.04	0.21				14.26				0.75		0.53									90.66
Gov26A	SOI 10	8	analysed	point	glass		37.55			0.17	7.96	22.80	0.35	0.42		0.83	5.10					11.94			0.35	0.71		0.38									88.57
Gov26A	SOI 10	9	analysed	area	bulk	typical	33.68		0.48	0.65	4.81	18.77	0.16	0.52		0.55	1.92	0.17				30.08				0.85											92.64
Gov26A	SOI 10	10	analysed	point	olivine	Fo5Fa95	28.72			1.05	0.36	13.67	0.21				0.30				0.30	48.30				1.21											94.12
Gov26b	SOI 3	1	analysed	area	Cu-alloy	oxidised leaded gunmetal	10.10				4.54	0.78		0.68								0.80			82.63	6.87					7.14				7.23	120.76
Gov26b	SOI 3	2	analysed	area	Cu-alloy	oxidised leaded gunmetal	8.88				3.62	0.42		0.68								0.49			75.51	6.07					7.16				7.95	110.79
Gov26b	SOI 3	3	analysed	area	Cu-alloy	oxidised leaded gunmetal	8.29				3.81	1.09		0.24								0.40			71.58	5.64					6.30				6.60	103.97
Gov26b	SOI 4	1	analysed	area	Cu-alloy	oxidised leaded gunmetal	21.18				10.48	0.56		0.63								1.15			87.27	4.25					7.55				6.19	139.26
Gov27a	SOI 7	1	analysed	point	magnetite?	bright inclusion	23.54				0.63	0.35						0.44	0.14		1.15	69.80														96.05
Gov27a	SOI 7	2	analysed	point	magnetite?	bright inclusion	24.34				0.48	0.84						0.42	0.11		1.54	70.30														98.03
Gov27a	SOI 7	3	analysed	point	glass	matrix	31.17			0.30	0.19	10.21	4.04								5.13	46.65														97.68
Gov27a	SOI 7	4	analysed	point	glass	matrix	30.46			0.35	0.21	10.55	3.42								5.00	46.48														96.48
Gov27a	SOI 7	5	analysed	point	glass	matrix	30.58			0.51	0.19	10.75	3.29								4.97	46.73														97.01
Gov27a	SOI 7	6	analysed	point	magnetite?	bright inclusion	24.21				0.49	1.12	0.18					0.30			1.69	69.59														97.57
Gov27a	SOI 7	7	analysed	point	void	small hole (after sulphide?)	5.29				1.69	1.70	0.78	0.68			0.10	0.93	0.21	0.19	1.66	33.77														47.00
Gov27a	SOI 7	8	analysed	point	void	small hole (after sulphide?)	11.89				2.56	1.60	1.13	1.21	0.18		0.11	1.14	0.25	0.24	0.74	26.32														47.37
Gov27a	SOI 7	9	analysed	point	void	small hole (after sulphide?)	7.51				1.20	2.36	0.81	0.59	0.14		0.15	0.31	0.14		2.55	32.38														48.15
Gov27a	SOI 7	10	analysed	point	void	large hole (after sulphide?)	16.48				7.94	0.39	0.28	0.72	0.36		0.08	0.15				10.41														36.81
Gov27a	SOI 7	11	analysed	point	void	large hole	9.39				4.45	0.73	0.61	1.49	0.17		0.10	0.49	0.15		0.38	19.13				0.25										37.34
Gov27b	SOI 4	1	analysed	point	glass		44.88	0.27	1.42		10.93	21.21	0.23			0.37	7.37	0.70			0.54	13.96														101.88
Gov27b	SOI 4	2	analysed	point	Al-magnetite		30.71		2.03		4.68							0.20			0.67	62.49	0.33													101.09
Gov27b	SOI 4	3	analysed	point	Al-magnetite		30.80		2.24		4.88							0.17			0.83	60.81														99.74
Gov27b	SOI 4	4	analysed	point	alteration in ves		14.34				17.52	0.58	0.11	0.42	2.50		0.57					3.88														39.93
Gov27b	SOI 6	1	analysed	point	quartz	in vesicular band	56.98					47.81		0.07								0.35														105.21
Gov27b	SOI 6	2	analysed	point	mixed	glass with magnetite? dendrites	47.45		2.38		13.40	18.76				0.71	2.62	0.47			0.44	23.98	0.57														110.78
Gov27b	SOI 6	3	analysed	point	glass		45.23		2.38		10.12	22.55				0.71	5.52	0.60			0.54	11.70														99.33
Gov27b	SOI 6	4	analysed	point	glass		45.99		1.46		12.54	24.27				1.13	2.54	0.59			0.34	9.88														98.74
Gov27b	SOI 6	5	analysed	point	inclusion		27.90		0.83		9.04	12.88	0.16	0.81		0.66	1.58	0.60			0.38	20.51					<									75.37
Gov27b	SOI 6	6	analysed	point	glass	in vesicular band	50.71	0.21	0.65		20.87	23.97				1.27	0.24	0.26				2.88														101.06
Gov28	SOI 2	1	analysed	point	wollastonite + sulphide	feathery laths	43.57		0.16		0.87	22.66		1.98		0.13	34.60				0.21																104.17
Gov28	SOI 2	2	analysed	point	wollastonite + sulphide	feathery laths	44.12				0.49	22.66		1.67			34.74				0.23																103.91
Gov28	SOI 2	3	analysed	point	titanium N or C	bright belb	52.06	0.27	2.09		7.43	14.88		0.61		1.07	15.88	25.97			0.24																130.57
Gov28	SOI 2	4	analysed	point	glass	bright belb (missed)	44.44		2.03		6.76	21.05		0.67		1.16	25.89	0.12			0.60																102.73
Gov28	SOI 2	5	analysed	point	wollastonite + sulphide	bright belb (missed)	43.59		0.25		1.17	22.10		2.24		0.22	33.95				0.64																104.15
Gov28	SOI 2	6	analysed	point	glass		47.41	0.39	3.44		11.23	19.54		0.53		1.85	20.68	0.25			0.27																105.58
Gov28	SOI 2	7	analysed	point	glass		44.97		0.47		1.86	22.15		2.20		0.27	33.45				0.42																105.79
Gov28	SOI 2	8	analysed	area	bulk	typical	47.04	0.23	1.75		5.87	21.52		1.53		0.96	28.27	0.33			0.41																107.90
Gov28	SOI 3	1	analysed	point	titanium N or C	bright linear	37.55		4.12		6.34	12.99		4.05		0.54	15.83	25.80			1.25	0.50															108.97
Gov28	SOI 3	2	analysed	point	titanium N or C	bright linear	45.55	0.42	1.49		4.63	12.34		0.70		0.63	14.18	38.96			0.60																119.49
Gov28	SOI 3	3	analysed	point	titanium N or C	bright linear	41.04		0.55		2.19	3.77		0.16		0.22	4.39	69.99	0.48																	122.81
Gov28	SOI 5	1	analysed	point	titanium N or C						0.40	1.34					2.66	67.24	1.22			2.91														75.78
Gov28	SOI 5	2	analysed	point	iron		4.97		0.58		0.68	1.53					1.76		0.44			89.22														99.17
Gov36	SOI 3	1	analysed	point	hole/rust		28.10					0.46	0.29	0.49			0.18					49.21														78.72
Gov36	SOI 6	1	analysed	point	high Si, P magnetite??		28.33				0.25	5.20	6.91	2.60			0.27					52.74														96.30
Gov36	SOI 6	2	analysed	point	wustite		20.53				<	<	<	0.12			<					78.53														99.18

sample	site	no.	oxygen by	type	phase	notes	wt%																										
							O	F	Na	Mg	Al	Si	P	S	Cl	K	Ca	Ti	V	Cr	Mn	Fe	Co	Ni	Cu	Zn	Ge	As	Zr	Mo	Sn	Sb	Ba	W	Pb	Total
Gov36	SOI 6	3	analysed	point	high Si, P magnetite??		25.67				0.25	3.33	2.44	0.20			<					67.90													99.79
Gov36	SOI 6	4	analysed	point	high Si, P magnetite??	poor data	26.43				0.20	1.27	1.58	2.22			0.24					59.92													91.87
Gov36	SOI 7	1	analysed	point	magnetite	magnetite layer, poor	22.98				0.11	<	<	<								71.75													94.85
Gov36	SOI 7	2	analysed	point	magnetite	plate	23.61				0.19	2.00	1.09	0.26								72.00													99.15
Gov36	SOI 7	3	analysed	point	magnetite	plate	24.03				0.18	2.62	2.23	0.16								66.92													96.14
Gov36	SOI 7	4	analysed	point	magnetite	plate	24.09				0.23	3.12	2.17	0.57								65.94													96.11
Gov36	SOI 11	1	analysed	point	hole		39.15				33.77	0.42	0.72	0.44	0.20		0.99					14.10			<								<	89.78
Gov36	SOI 11	2	analysed	point	altered fayalite	dendrites	34.31				2.53	12.14	3.65	1.24	<		4.72					46.69			<								<	105.27
Gov36	SOI 11	3	analysed	point	altered fayalite	dendrites	30.11				0.19	12.08	3.51	0.78	<		3.59					48.86			<								<	99.12
Gov36	SOI 11	4	analysed	point	FeS	sulphide rim	15.10				<	3.05	0.67	20.78	<		1.12					64.03			0.62								0.94	106.32
Gov36	SOI 11	5	analysed	point	magnetite	plate	22.65				0.14	3.29	0.13	1.50	<		<					70.20			<								<	97.90
Gov36	SOI 11	6	analysed	point	magnetite	plate	25.39				<	4.65	0.43	0.22	<		0.41					69.02			<								<	100.12
Gov36	SOI 11	7	analysed	point	magnetite	plate	23.60				0.16	0.76	<	0.17	<		<					72.92			<								<	97.61
Gov36	SOI 11	8	analysed	point	magnetite	grain boundary	23.68				0.18	0.23	<	<	<		<					73.74			<								<	97.83
Gov36	SOI 11	9	analysed	point	FeS	sulphide rim	7.06				<	0.48	0.12	31.76	<		<					64.40			1.06								1.47	106.35
Gov36	SOI 11	10	analysed	point	FeS	sulphide rim	11.39				<	1.26	0.16	20.35	<		0.26					66.26			0.71								0.83	101.21
Gov36	SOI 11	11	analysed	point	wustite	wustite	21.26				<	0.12	<	<	<		<					76.67			<								<	98.05
Gov36	SOI 11	12	analysed	point	magnetite	grain boundary	23.79				<	0.21	<	<	<		<					73.70			<								<	97.71
Gov36	SOI 16	1	analysed	area	area of M layer		25.18				<	<	<									78.86													104.04
Gov36	SOI 16	2	analysed	area	area of W layer		22.12				0.14	<	<									78.07													100.33
Gov36	SOI 16	3	analysed	area	area of W inside void line		19.93				0.48	0.69	0.46									66.60													88.17
Gov36	SOI 16	4	analysed	area	area of H layer		27.23				0.74	<	<									77.82													105.80
Gov36	SOI 18	1	analysed	point	H layer (outside)		27.20				<											69.70													96.90
Gov36	SOI 18	2	analysed	point	H layer		26.54				<											69.27													95.81
Gov36	SOI 18	3	analysed	point	outer M layer		23.95				<											72.12													96.06
Gov36	SOI 18	4	analysed	point	M layer		24.54				<											72.36													96.90
Gov36	SOI 18	5	analysed	point	M layer		24.24				<											72.57													96.80
Gov36	SOI 18	6	analysed	point	inner M layer		23.03				0.41											73.00													96.44
Gov36	SOI 18	7	analysed	point	outer W layer		21.15				<											76.23													97.38
Gov36	SOI 21	1	analysed	point	Fe-Ni arsenide	centre of inclusion	1.56				<	<	<			<	<	<				44.53	13.03	2.51		38.76				3.53					103.93
Gov36	SOI 21	2	analysed	area	Fe-Ni arsenide	15-20 micron inclusion area	3.73				0.41	0.16	0.17			<	0.19	<				44.02	11.70	2.25		38.04				3.47					104.14
Gov36	SOI 21	3	analysed	point	wustite		21.04				0.57	0.21	<			<	<	<				75.91	<	<		<				<					97.74
Gov36	SOI 21	4	analysed	point	wustite		21.12				0.63	0.18	<			<	<	<				76.34	<	<		<				<					98.27
Gov36	SOI 21	5	analysed	point	magnetite	plate	24.85				1.71	4.79	0.15			<	<	<				66.26	<	<		<				<					97.76
Gov36	SOI 21	6	analysed	point	magnetite	plate	24.89				1.69	4.59	0.19			<	<	0.17				66.51	<	<		<				<					98.04
Gov36	SOI 21	7	analysed	point	magnetite	rim	25.30				1.68	4.90	0.24			<	0.13	<				65.32	<	<		<				<					97.57
Gov36	SOI 21	8	analysed	area	slag area		31.57				3.10	14.25	1.28			0.63	2.32	<				46.01	<	<		<				<					99.16
Gov36	SOI 21	9	analysed	point	fayalite (mixed)	dendrite	24.01				2.85	11.53	0.99			0.28	1.59	<				48.03	<	<		<				<					89.30
Gov36	SOI 21	10	analysed	point	wustite		21.91				0.63	0.31	<			<	<	<				76.47	<	<		<				<					99.31
Gov37	SOI 2	1	analysed	area	bulk	typical area - type 6	43.90	0.25	0.61		25.20	18.72	0.13	0.10	<	0.66	2.61	1.11	<			3.88												<	97.17
Gov37	SOI 2	2	analysed	point	iron	bleb	2.67	<	<		1.44	0.67	0.20	2.19	<	<	0.19	0.11	<			92.15												<	99.60
Gov37	SOI 2	3	analysed	point	iron	bleb	1.00	<	<		0.28	0.14	0.32	<	<	<	0.10	0.17	<			98.25												<	100.27
Gov37	SOI 2	4	analysed	point	hydrated oxide	external	22.82	<	<		1.44	3.40	0.67	0.12	0.20	<	0.71	<	<			41.28												0.59	71.24
Gov37	SOI 2	5	analysed	point	glass		44.65	0.45	1.18		13.58	26.57	0.12	0.21	<	1.72	5.55	1.54	<			0.21												<	95.78
Gov37	SOI 2	6	analysed	point	glass		45.62	0.39	1.16		13.64	25.81	<	0.11	<	1.58	5.18	1.86	<			2.06												<	97.43
Gov37	SOI 2	7	analysed	point	glass		44.13	0.34	1.11		13.84	24.33	<	0.09	<	1.04	5.18	1.85	<			5.33												<	97.25
Gov37	SOI 2	8	analysed	point	glass		43.70	0.23	1.10		14.16	22.80	<	0.11	<	0.77	4.67	1.71	<			7.68												<	96.93
Gov37	SOI 2	9	analysed	point	glass		42.99	0.26	0.96		13.27	22.36	<	0.11	<	0.78	4.19	1.62	<			10.17												<	96.71
Gov37	SOI 2	10	analysed	point	mullite		44.54	<	<		38.90	10.79	0.18	<	<	<	0.15	0.47	<			0.26												<	95.30
Gov37	SOI 2	11	analysed	point	mullite		45.04	<	<		39.73	10.34	0.13	<	<	<	0.08	0.47	0.10			0.27												<	96.16
Gov37	SOI 2	12	analysed	point	mullite		45.47	<	<		40.20	10.69	0.13	<	<	<	0.12	0.45	0.16			0.25												<	97.47
Gov37	SOI 2	13	analysed	point	mullite		46.82	<	<		39.94	11.53	0.17	<	<	<	0.13	1.04	<			0.21												<	99.84
Gov37	SOI 4	1	analysed	point	magnetite		25.49				0.63	0.12	<		<						0.31	70.04													96.58
Gov37	SOI 4	2	analysed	point	magnetite	rim	26.27				0.47	0.13	<		<						0.31	70.16													97.35

sample	site	no.	oxygen by	type	phase	notes	wt%																										
							O	F	Na	Mg	Al	Si	P	S	Cl	K	Ca	Ti	V	Cr	Mn	Fe	Co	Ni	Cu	Zn	Ge	As	Zr	Mo	Sn	Sb	Ba	W	Pb	Total
Gov37	SOI 4	3	analysed	point	magnetite		25.06				0.65	0.11	<		<						0.28	70.91														97.02
Gov37	SOI 4	4	analysed	point	magnetite		26.11				0.52	0.42	<		<						0.28	71.78														99.11
Gov37	SOI 4	5	analysed	point	mixture	material on grain boundary	9.48				0.28	5.29	0.12		0.19						0.21	42.13														57.71
Gov37	SOI 4	6	analysed	point	altered fayalite?	material on grain boundary	29.54				0.53	11.63	0.11		0.08						0.16	46.86														88.91
Gov37	SOI 4	7	analysed	point	altered fayalite?	material on grain boundary	29.93				0.59	11.97	0.17		<						<	46.80														89.46
Gov37	SOI 4	8	analysed	area	altered fayalite?	small area of grain boundary	23.73				0.65	9.71	0.10		0.09						<	52.85														87.13
Gov37	SOI 4	9	analysed	area	bulk	area type 1c	25.89				0.64	3.52	<		<						0.27	65.33														95.63
Gov37	SOI 6	1	analysed	area	bulk	area type 1c	26.85				0.69	2.42	0.23				0.22					68.58														98.99
Gov37	SOI 6	2	analysed	point	magnetite		25.95				0.71	<	<				<					70.62														97.28
Gov37	SOI 6	3	analysed	point	magnetite		25.78				0.60	<	<				<					72.16														98.54
Gov37	SOI 6	4	analysed	point	magnetite		25.52				0.59	<	<				<					71.84														97.94
Gov37	SOI 6	5	analysed	point	magnetite		26.32				0.72	3.99	0.25				0.14					69.20														100.61
Gov37	SOI 7	1	analysed	point	high Zn brass	contamination?	0.80		2.82	<	<	<				<	<					3.45			50.84	34.17									18.02	110.10
Gov37	SOI 7	2	analysed	area	bulk	area type 2a	30.04		0.34	0.23	1.56	12.03				0.31	0.30					57.05			<	<									<	101.87
Gov37	SOI 8	1	analysed	point	magnetite	rim	25.91		<	0.29	0.30	0.20	<	<		<	0.12	<				71.09														97.90
Gov37	SOI 8	2	analysed	point	magnetite	coarse dendrite	26.61		<	<	1.35	1.48	<	<		<	<	0.17				68.55														98.17
Gov37	SOI 8	3	analysed	point	glass		32.15		0.29	0.30	1.34	17.09	0.16	0.21		0.31	0.38	<				47.45														99.69
Gov37	SOI 8	4	analysed	point	glass		32.33		0.20	0.25	1.44	17.12	0.20	0.19		0.31	0.43	<				46.51														98.99
Gov37	SOI 8	5	analysed	point	magnetite	dendrite in plate zone	26.16		<	<	1.51	1.98	<	<		<	<	0.25				67.81														97.72
Gov37	SOI 10	1	analysed	point	olivine	feathery dendrites	29.41			0.22	1.22	11.25		<		0.21	0.23					56.98														99.53
Gov37	SOI 10	2	analysed	point	olivine	feathery dendrites	31.63			0.19	1.34	13.19		0.17		0.27	0.40					54.08														101.28
Gov37	SOI 12	1	analysed	point	magnetite	dendrite	27.71			0.24	6.65	3.14				0.13	0.23	0.43			0.32	57.27														96.12
Gov37	SOI 12	2	analysed	point	magnetite	dendrite	27.25				7.20	1.75						0.48			0.23	59.21														96.11
Gov37	SOI 12	3	analysed	point	magnetite	dendrite	26.7			0.31	6.97	2.65	0.15	0.15		0.14	0.34	0.36				56.52														94.31
Gov37	SOI 12	4	analysed	point	wustite		24.01				1.09	2.95	0.17				0.25				0.28	68.48														97.22
Gov37	SOI 12	5	analysed	point	wustite		24.53				1.30	4.33	0.25	0.22		0.18	0.44				0.29	63.83														95.38
Gov37	SOI 12	6	analysed	point	glass		30.48			0.42	3.84	13.41	0.77	0.63		0.48	1.15				0.47	44.99														96.64
Gov37	SOI 12	7	analysed	point	glass		31.16	0.32		0.29	3.31	13.11	0.76	0.61		0.39	1.09				0.47	47.74														99.25
Gov37	SOI 12	8	analysed	point	glass		30.51	0.40		0.36	3.54	14.03	0.82	0.68		0.42	1.17				0.59	43.36														95.88
Gov37	SOI 12	9	analysed	area	bulk		28.19			0.34	3.78	8.98	0.48	0.38		0.34	0.67				0.29	53.75														97.21
Gov37	SOI 12	10	analysed	point	hole		19.36	0.30		0.23	5.49	13.67	0.32		0.13	0.38	2.76					22.83														65.46