X-644-68-237
PREPRINT

NASA TM X- 63273

THE MAJOR-ELEMENT COMPOSITION OF 82 BJURBOLE CHONDRULES

LOUIS S. WALTER

JULY 1968

GSFC — GODDARD SPACE FLIGHT CENTER

GREENBELT, MARYLAND

The Major-Element Composition of 82 Bjurböle Chondrules

Louis S. Walter
Planetology Branch
Goddard Space Flight Center
Greenbelt, Maryland

This work presents the major-element analysis of 82 individual Bjurböle chondrules. These chondrules were first fused in a mixture of lithium tetraborate and lanthanum oxide. Process C chondrules were fused in closed gold tubes under pressure so that sulphur would be retained and could be analyzed. Process O chondrules were fused in open gold crucibles.

The homogenized chondrules were analyzed on the electron microprobe. Results presented here are the averages of five analyses for each element. Further details regarding sample preparation and analysis are presented elsewhere (Walter, 1968).

Results for 53 Process C chondrules are given on the first 53 pages, followed by the results for 29 Process O chondrules. The density (D in g/cm^3) and weight (W in mg.) of each chondrule is given at the heading of each page. In the calculations, an attempt is made to determine the amount of metal present in each chondrule, using the analytical value obtained for NiO. Two factors for the ratio Fe/Ni were used: 6.2 and 8.8. Thus, each analysis is shown on each page with two corresponding sets of calculations.

Calculations

The first line of each set presents the initial, averaged analysis of the chondrule in weight per cent. The number of digits after the decimal point does not reflect the proposed precision or accuracy of these analyses - they are merely the result of the format statements in the computer program.

The second line (CSUM) presents the sum of this analysis. In the third line, the original analysis is normalized to 100%.

In the fourth line, the removal of FeO corresponding to the Fe/Ni ratio of 6.2 or 8.8, as applicable, has been effected. The weight of FeO is added to the NiO column. In Process C analyses, an FeO mole equivalent corresponding to the number of moles of S in the analysis has also been subtracted from the FeO and added to S at this stage. The sum (CSUM) which follows in line five is the sum of the constituents other than NiO (+ FeO) - in other words, the silicate fraction of the analysis. This silicate fraction is shown, normalized to 100%, in the sixth line. This is followed, in the seventh line, by the normative composition of the silicate fraction.

Norm Calculation

The abbreviated norm calculation used in these calculations can be broken down into seven steps:

1. All constituents are recalculated to mole ratios. K_2O is combined with Na_2O; TiO_2 is combined with SiO_2. Then, albite is determined.

2. Na_2O, Al_2O_3, CaO and SiO_2 are balanced to determine anorthite, corundum and disodium silicate.

3. Excess CaO is combined to form diopside.

4. The remaining MgO is combined with FeO; the ratio of available FeO/FeO + MgO is determined and normative olivine and pyroxene are determined.

5. Residual SiO_2 is assigned to quartz; residual (FeO + MgO) is assigned to magnesio-wüstite.

6. If magnesio-wüstite appears, it is assumed that it originally occurred in the metal phase. Therefore,

7. FeO is subtracted from the silicate portion of the analysis, equivalent to the number of moles of (FeO + MgO) appearing as magnesio-wüstite. The norm calculation is then performed on this new analysis.

The seventh line, if it appears, therefore, gives the amount of iron (FE = ___) which has been added to the metal phase and indicates the amount of FeO which has been subtracted from the silicate phase. The next line gives the new sum (CSUM) of the silicate phase. This is followed by the new silicate-phase analysis which has been normalized to 100%. Finally, a recalculated norm appears in the last line.

Symbols Used in Presentation of Norm Calculation

There are thirteen columns used in the presentation of the norm calculation data. These are explained below, in order, reading from left to right:

1, 2 and 3. The bulk composition of the phases in the system SiO_2-FeO-MgO (olivine + pyroxene + quartz or wüstite). This composition has been normalized to 100%.

4. Ab = Albite (weighted ratio of albite + orthoclase)

5. Di = Diopside

6. Py = Pyroxene (weighted ratio of enstatite + ferrosilite)

7. Ol = Olivine (weighted ratio of forsterite + Fayalite)

8. Q = Quartz

9. An = Anorthite

10. NS = DiSodium Silicate (weighted ratio of Na and K end-members)

11. Wu = Magnesio-wüstite (weighted ratio of periclase and wüstite)

12. Co = Corundum

13. $M_{FeO}/M_{FeO} + M_{MgO}$ in olivine, pyroxene and magnesio-wüstite

Process C 1 D 2.940, W 19.0

Fe/Ni 6.2

	SiO_2	Al_2O_3	FeO	MgO	CaO	Na_2O	K_2O	NiO	S				
Original Anal.	48.020	8.350	7.850	17.290	5.010	4.290	0.290	0.0	0.100				
	*********CSUM =		91.200*********										
Normalized	52.654	9.156	8.607	18.958	5.493	4.704	0.318	0.0	0.110				
$M_{FeO} = M_{NiO} + M_S$	52.654	9.156	8.416	18.958	5.493	4.704	0.318	0.0	0.301				
	*********CSUM =		99.699*********										
Silicate = 100%	52.812	9.183	8.442	19.016	5.510	4.718	0.319						
Norm	34.1	23.2	42.6	41.8	19.0	0.0	32.0	0.0	2.9	0.0	4.3	0.0	0.233
Wüstite = Metal FE =	5.1												
	*********CSUM =		93.445*********										
Recalc Silicate	56.517	9.828	2.019	20.349	5.897	5.049	0.341						
Recalc Norm	41.6	6.3	52.0	44.7	20.3	0.0	31.9	0.0	3.1	0.0	0.0	0.0	0.063

Fe/Ni 8.8

	SiO_2	Al_2O_3	FeO	MgO	CaO	Na_2O	K_2O	NiO	S				
Original Anal.	48.020	8.350	7.850	17.290	5.010	4.290	0.290	0.0	0.100				
	*********CSUM =		91.200*********										
Normalized	52.654	9.156	8.607	18.958	5.493	4.704	0.318	0.0	0.110				
$M_{FeO} = M_{NiO} + M_S$	52.654	9.156	8.416	18.958	5.493	4.704	0.318	0.0	0.301				
	*********CSUM =		99.699*********										
Silicate = 100%	52.812	9.183	8.442	19.016	5.510	4.718	0.319						
Norm	34.1	23.2	42.6	41.8	19.0	0.0	32.0	0.0	2.9	0.0	4.3	0.0	0.233
Wüstite = Metal FE =	5.1												
	*********CSUM =		93.445*********										
Recalc Silicate	56.517	9.828	2.019	20.349	5.897	5.049	0.341						
Recalc Norm	41.6	6.3	52.0	44.7	20.3	0.0	31.9	0.0	3.1	0.0	0.0	0.0	0.063

SiO_2	FeO	MgO	Ab	Di	Py	Ol	Q	An	Ns	Wu	Co	$\frac{M_{FeO}}{M_{FeO} + M_{MgO}}$
Comp. of Normative Ol + Py + Q												

Process C 2 D 3.172, W 3.05

Fe/Ni 6.2

	SiO_2	Al_2O_3	FeO	MgO	CaO	Na_2O	K_2O	NiO	S
Original Anal.	49.230	1.660	11.870	26.700	5.230	1.120	0.160	0.020	0.370
	*********CSUM =		96.360*********						
Normalized	51.090	1.723	12.318	27.709	5.428	1.162	0.166	0.021	0.384
$M_{FeO} = M_{NiO} + M_S$	51.090	1.723	11.520	27.709	5.428	1.162	0.166	0.149	1.054
	*********CSUM =		98.797*********						
Silicate = 100%	51.712	1.744	11.660	28.046	5.494	1.176	0.168		
Norm	48.4	16.8	34.8	9.0	21.2	37.9	31.5	0.0	0.0

Norm	0.5	0.0	0.0	0.212								

Wüstite = Metal

Recalc Silicate
Recalc Norm

Fe/Ni 8.8

	SiO_2	Al_2O_3	FeO	MgO	CaO	Na_2O	K_2O	NiO	S
Original Anal.	49.230	1.660	11.870	26.700	5.230	1.120	0.160	0.020	0.370
	*********CSUM =		96.360*********						
Normalized	51.090	1.723	12.318	27.709	5.428	1.162	0.166	0.021	0.384
$M_{FeO} = M_{NiO} + M_S$	51.090	1.723	11.466	27.709	5.428	1.162	0.166	0.203	1.054
	*********CSUM =		98.743*********						
Silicate = 100%	51.740	1.745	11.612	28.061	5.497	1.177	0.168		
Norm	48.5	16.7	34.8	9.0	21.2	37.9	31.4	0.0	0.0

Norm	0.5	0.0	0.0	0.211								

Wüstite = Metal

Recalc Silicate
Recalc Norm

SiO_2	FeO	MgO	Ab	Di	Py	Ol	Q	An	Ns	Wu	Co	$\frac{M_{FeO}}{M_{FeO} + M_{MgO}}$
Comp. of Normative Ol + Py + Q												

Process C 3 D 3.179, W 5.36

Fe/Ni 6.2

	SiO_2	Al_2O_3	FeO	MgO	CaO	Na_2O	K_2O	NiO	S	
Original Anal.	55.250	2.550	9.800	24.230	2.710	1.220	0.130	0.0	0.290	
	*********	CSUM =	96.180	*********						
Normalized	57.444	2.651	10.189	25.192	2.818	1.268	0.135	0.0	0.302	
$M_{FeO} = M_{NiO} + M_S$	57.444	2.651	9.663	25.192	2.818	1.268	0.135	0.0	0.828	
	*********	CSUM =	99.172	*********						
Silicate = 100%	57.924	2.673	9.744	25.403	2.841	1.279	0.136			
Norm	56.9	12.6	30.5	11.6	10.1	76.7	0.0	0.5	1.1	0.0	0.0	0.0	0.187

Wüstite = Metal

Recalc Silicate
Recalc Norm

Fe/Ni 8.8

	SiO_2	Al_2O_3	FeO	MgO	CaO	Na_2O	K_2O	NiO	S	
Original Anal.	55.250	2.550	9.800	24.230	2.710	1.220	0.130	0.0	0.290	
	*********	CSUM =	96.180	*********						
Normalized	57.444	2.651	10.189	25.192	2.818	1.268	0.135	0.0	0.302	
$M_{FeO} = M_{NiO} + M_S$	57.444	2.651	9.663	25.192	2.818	1.268	0.135	0.0	0.828	
	*********	CSUM =	99.172	*********						
Silicate = 100%	57.924	2.673	9.744	25.403	2.841	1.279	0.136			
Norm	56.9	12.6	30.5	11.6	10.1	76.7	0.0	0.5	1.1	0.0	0.0	0.0	0.187

Wüstite = Metal

Recalc Silicate
Recalc Norm

SiO_2	FeO	MgO	Ab	Di	Py	Ol	Q	An	Ns	Wu	Co	$\frac{M_{FeO}}{M_{FeO} + M_{MgO}}$
Comp. of Normative Ol + Py + Q												

Process C 4 D 3.220, W 10.28

Fe/Ni 6.2

	SiO_2	Al_2O_3	FeO	MgO	CaO	Na_2O	K_2O	NiO	S				
Original Anal.	54.070	1.750	14.350	23.680	2.230	0.990	0.120	0.200	0.700				
	********* CSUM =		98.090 *********										
Normalized	55.123	1.784	14.629	24.141	2.273	1.009	0.122	0.204	0.714				
$M_{FeO} = M_{NiO} + M_S$	55.123	1.784	12.120	24.141	2.273	1.009	0.122	1.468	1.959				
	********* CSUM =		96.573 *********										
Silicate = 100%	57.079	1.847	12.550	24.998	2.354	1.045	0.127						
Norm	55.9	15.4	28.7	9.5	9.1	81.3	0.0	0.1	0.0	0.0	0.0	0.0	0.231

Wüstite = Metal

Recalc Silicate
Recalc Norm

Fe/Ni 8.8

	SiO_2	Al_2O_3	FeO	MgO	CaO	Na_2O	K_2O	NiO	S				
Original Anal.	54.070	1.750	14.350	23.680	2.230	0.990	0.120	0.200	0.700				
	********* CSUM =		98.090 *********										
Normalized	55.123	1.784	14.629	24.141	2.273	1.009	0.122	0.204	0.714				
$M_{FeO} = M_{NiO} + M_S$	55.123	1.784	11.590	24.141	2.273	1.009	0.122	1.998	1.959				
	********* CSUM =		96.043 *********										
Silicate = 100%	57.394	1.858	12.067	25.136	2.367	1.051	0.127						
Norm	56.3	14.8	28.8	9.6	9.1	80.7	0.0	0.5	0.0	0.0	0.0	0.0	0.223

Wüstite = Metal

Recalc Silicate
Recalc Norm

SiO_2	FeO	MgO	Ab	Di	Py	Ol	Q	An	Ns	Wu	Co	$\frac{M_{FeO}}{M_{FeO} + M_{MgO}}$

Comp. of Normative
Ol + Py + Q

Process C 5 D 3.240, W 0.68

Fe/Ni 6.2

	SiO_2	Al_2O_3	FeO	MgO	CaO	Na_2O	K_2O	NiO	S
Original Anal.	50.790	2.700	10.530	29.210	4.760	1.550	0.250	0.0	0.310
	********* CSUM = 100.100 *********								
Normalized	50.739	2.697	10.519	29.181	4.755	1.548	0.250	0.0	0.310
$M_{FeO} = M_{NiO} + M_S$	50.739	2.697	9.979	29.181	4.755	1.548	0.250	0.0	0.850
	********* CSUM = 99.150 *********								
Silicate = 100%	51.174	2.720	10.065	29.431	4.796	1.562	0.252		
Norm	46.4	15.0	38.6	14.1	18.5	26.6	40.7	0.0	0.0	0.2	0.0	0.0	0.177

Wüstite = Metal

Recalc Silicate
Recalc Norm

Fe/Ni 8.8

	SiO_2	Al_2O_3	FeO	MgO	CaO	Na_2O	K_2O	NiO	S
Original Anal.	50.790	2.700	10.530	29.210	4.760	1.550	0.250	0.0	0.310
	********* CSUM = 100.100 *********								
Normalized	50.739	2.697	10.519	29.181	4.755	1.548	0.250	0.0	0.310
$M_{FeO} = M_{NiO} + M_S$	50.739	2.697	9.979	29.181	4.755	1.548	0.250	0.0	0.850
	********* CSUM = 99.150 *********								
Silicate = 100%	51.174	2.720	10.065	29.431	4.796	1.562	0.252		
Norm	46.4	15.0	38.6	14.1	18.5	26.6	40.7	0.0	0.0	0.2	0.0	0.0	0.177

Wüstite = Metal

Recalc Silicate
Recalc Norm

SiO_2	FeO	MgO	Ab	Di	Py	Ol	Q	An	Ns	Wu	Co	$\frac{M_{FeO}}{M_{FeO} + M_{MgO}}$
Comp. of Normative Ol + Py + Q												

Process C 6 D 3.248, W 5.40

Fe/Ni 6.2

	SiO_2	Al_2O_3	FeO	MgO	CaO	Na_2O	K_2O	NiO	S				
Original Anal.	54.440	3.150	10.660	24.430	2.890	1.310	0.090	0.070	0.110				
	*********	CSUM =	97.150	*********									
Normalized	56.037	3.242	10.973	25.147	2.975	1.348	0.093	0.072	0.113				
$M_{FeO} = M_{NiO} + M_S$	56.037	3.242	10.328	25.147	2.975	1.348	0.093	0.519	0.311				
	*********	CSUM =	99.170	*********									
Silicate = 100%	56.506	3.270	10.415	25.357	3.000	1.360	0.093						
Norm	55.2	13.7	31.1	12.0	9.6	70.2	5.6	0.0	2.5	0.0	0.0	0.0	0.197

Wüstite = Metal

Recalc Silicate
Recalc Norm

Fe/Ni 8.8

	SiO_2	Al_2O_3	FeO	MgO	CaO	Na_2O	K_2O	NiO	S				
Original Anal	54.440	3.150	10.660	24.430	2.890	1.310	0.090	0.070	0.110				
	*********	CSUM =	97.150	*********									
Normalized	56.037	3.242	10.973	25.147	2.975	1.348	0.093	0.072	0.113				
$M_{FeO} = M_{NiO} + M_S$	56.037	3.242	10.141	25.147	2.975	1.348	0.093	0.706	0.311				
	*********	CSUM =	98.983	*********									
Silicate = 100%	56.613	3.276	10.245	25.405	3.005	1.362	0.094						
Norm	55.3	13.5	31.2	12.1	9.6	70.6	5.2	0.0	2.5	0.0	0.0	0.0	0.195

Wüstite = Metal

Recalc Silicate
Recalc Norm

SiO_2	FeO	MgO	Ab	Di	Py	Ol	Q	An	Ns	Wu	Co	$\frac{M_{FeO}}{M_{FeO} + M_{MgO}}$
Comp. of Normative Ol + Py + Q												

Process C 7 D 3.254, W 6.60

Fe/Ni 6.2

	SiO_2	Al_2O_3	FeO	MgO	CaO	Na_2O	K_2O	NiO	S		
Original Anal.	49.050	2.880	18.990	33.630	4.130	2.070	0.330	0.340	0.100		
	*********CSUM = 111.520*********										
Normalized	43.983	2.582	17.028	30.156	3.703	1.856	0.296	0.305	0.090		
$M_{FeO} = M_{NiO} + M_S$	43.983	2.582	14.982	30.156	3.703	1.856	0.296	2.195	0.246		
	*********CSUM = 97.559*********										
Silicate = 100%	45.084	2.647	15.357	30.911	3.796	1.903	0.303				
Norm	38.4	21.7	39.9	13.7	14.7	0.0	70.1	0.0	0.0	1.0	0.6	0.0	0.233

Wüstite = Metal FE = 0.8

	*********CSUM = 99.028*********												
Recalc Silicate	45.526	2.673	14.526	31.214	3.833	1.921	0.306						
Recalc Norm	38.9	20.6	40.4	13.8	14.8	0.0	70.4	0.0	0.0	1.0	0.0	0.0	0.221

Fe/Ni 8.8

Original Anal.	49.050	2.880	18.990	33.630	4.130	2.070	0.330	0.340	0.100				
	*********CSUM = 111.520*********												
Normalized	43.983	2.582	17.028	30.156	3.703	1.856	0.296	0.305	0.090				
$M_{FeO} = M_{NiO} + M_S$	43.983	2.582	14.189	30.156	3.703	1.856	0.296	2.988	0.246				
	*********CSUM = 96.766*********												
Silicate = 100%	45.453	2.669	14.663	31.164	3.827	1.918	0.306						
Norm	38.8	20.8	40.4	13.8	14.8	0.0	70.4	0.0	0.0	1.0	0.1	0.0	0.223

Wüstite = Metal FE = 0.1

	*********CSUM = 99.839*********												
Recalc Silicate	45.526	2.673	14.526	31.214	3.833	1.921	0.306						
Recalc Norm	38.9	20.6	40.4	13.8	14.8	0.0	70.4	0.0	0.0	1.0	0.0	0.0	0.221

SiO_2	FeO	MgO	Ab	Di	Py	Ol	Q	An	Ns	Wu	Co	$\frac{M_{FeO}}{M_{FeO} + M_{MgO}}$
Comp. of Normative Ol + Py + Q												

Process C 8 D 3.216, W 5.80

Fe/Ni 6.2

	SiO_2	Al_2O_3	FeO	MgO	CaO	Na_2O	K_2O	NiO	S
Original Anal.	61.360	1.500	17.210	25.410	3.090	0.120	0.780	0.030	0.440
	********* CSUM = 109.940 *********								
Normalized	55.812	1.364	15.654	23.113	2.811	0.109	0.709	0.027	0.400
$M_{FeO} = M_{NiO} + M_S$	55.812	1.364	14.786	23.113	2.811	0.109	0.709	0.196	1.099
	********* CSUM = 98.705 *********								
Silicate = 100%	56.545	1.382	14.980	23.416	2.848	0.111	0.719		

Norm													
	56.3	17.9	25.8	5.2	10.1	81.3	0.0	2.3	1.2	0.0	0.0	0.0	0.279

Wüstite = Metal

Recalc Silicate
Recalc Norm

Fe/Ni 8.8

	SiO_2	Al_2O_3	FeO	MgO	CaO	Na_2O	K_2O	NiO	S
Original Anal	61.360	1.500	17.210	25.410	3.090	0.120	0.780	0.030	0.440
	********* CSUM = 109.940 *********								
Normalized	55.812	1.364	15.654	23.113	2.811	0.109	0.709	0.027	0.400
$M_{FeO} = M_{NiO} + M_S$	55.812	1.364	14.715	23.113	2.811	0.109	0.709	0.267	1.099
	********* CSUM = 98.634 *********								
Silicate = 100%	56.585	1.383	14.919	23.433	2.850	0.111	0.719		

Norm													
	56.3	17.9	25.8	5.2	10.1	81.3	0.0	2.3	1.2	0.0	0.0	0.0	0.278

Wüstite = Metal

Recalc Silicate
Recalc Norm

SiO_2 Comp. of Normative Ol + Py + Q	FeO	MgO	Ab	Di	Py	Ol	Q	An	Ns	Wu	Co	$\frac{M_{FeO}}{M_{FeO} + M_{MgO}}$

Process C 9 D 3.261, W 4.59

Fe/Ni 6.2

	SiO_2	Al_2O_3	FeO	MgO	CaO	Na_2O	K_2O	NiO	S				
Original Anal.	51.120	2.700	8.170	24.890	2.640	1.500	0.130	0.060	0.120				
	*********	CSUM =	91.330	*********									
Normalized	55.973	2.956	8.946	27.253	2.891	1.642	0.142	0.066	0.131				
$M_{FeO} = M_{NiO} + M_S$	55.973	2.956	8.309	27.253	2.891	1.642	0.142	0.473	0.361				
	*********	CSUM =	99.166	*********									
Silicate = 100%	56.443	2.981	8.379	27.482	2.915	1.656	0.144						
Norm	54.2	11.3	34.4	14.8	11.0	61.1	12.7	0.0	0.3	0.0	0.0	0.0	0.155

Wüstite = Metal

Recalc Silicate
Recalc Norm

Fe/Ni 8.8

	SiO_2	Al_2O_3	FeO	MgO	CaO	Na_2O	K_2O	NiO	S				
Original Anal.	51.120	2.700	8.170	24.890	2.640	1.500	0.130	0.060	0.120				
	*********	CSUM =	91.330	*********									
Normalized	55.973	2.956	8.946	27.253	2.891	1.642	0.142	0.066	0.131				
$M_{FeO} = M_{NiO} + M_S$	55.973	2.956	8.138	27.253	2.891	1.642	0.142	0.644	0.361				
	*********	CSUM =	98.995	*********									
Silicate = 100%	56.541	2.986	8.221	27.529	2.920	1.659	0.144						
Norm	54.3	11.1	34.5	14.9	11.1	61.5	12.4	0.0	0.3	0.0	0.0	0.0	0.152

Wüstite = Metal

Recalc Silicate
Recalc Norm

SiO_2	FeO	MgO	Ab	Di	Py	Ol	Q	An	Ns	Wu	Co	$\frac{M_{FeO}}{M_{FeO} + M_{MgO}}$
Comp. of Normative Ol + Py + Q												

Process C 10 D 3.261, W 0.42

Fe/Ni 6.2

	SiO_2	Al_2O_3	FeO	MgO	CaO	Na_2O	K_2O	NiO	S	
Original Anal.	49.220	2.150	6.650	24.830	2.080	0.920	0.070	0.040	0.180	
	*********CSUM =		86.140*********							
Normalized	57.140	2.496	7.720	28.825	2.415	1.068	0.081	0.046	0.209	
$M_{FeO} = M_{NiO} + M_S$	57.140	2.496	7.067	28.825	2.415	1.068	0.081	0.334	0.574	
	*********CSUM =		99.092*********							
Silicate = 100%	57.663	2.519	7.132	29.089	2.437	1.078	0.082			
Norm	56.9	8.8	34.2	9.6	8.0	77.0	3.6	0.0	1.8	0.0 0.0 0.0 0.126

Wüstite = Metal

Recalc Silicate
Recalc Norm

Fe/Ni 8.8

	SiO_2	Al_2O_3	FeO	MgO	CaO	Na_2O	K_2O	NiO	S	
Original Anal.	49.220	2.150	6.650	24.830	2.080	0.920	0.070	0.040	0.180	
	*********CSUM =		86.140*********							
Normalized	57.140	2.496	7.720	28.825	2.415	1.068	0.081	0.046	0.209	
$M_{FeO} = M_{NiO} + M_S$	57.140	2.496	6.947	28.825	2.415	1.068	0.081	0.455	0.574	
	*********CSUM =		98.971*********							
Silicate = 100%	57.733	2.522	7.019	29.125	2.440	1.079	0.082			
Norm	57.0	8.7	34.3	9.6	8.0	77.2	3.4	0.0	1.8	0.0 0.0 0.0 0.124

Wüstite = Metal

Recalc Silicate
Recalc Norm

SiO_2	FeO	MgO	Ab	Di	Py	Ol	Q	An	Ns	Wu	Co	$\frac{M_{FeO}}{M_{FeO} + M_{MgO}}$
Comp. of Normative Ol + Py + Q												

Process C 11 D 3.254, W 9.20

Fe/Ni 6.2

	SiO_2	Al_2O_3	FeO	MgO	CaO	Na_2O	K_2O	NiO	S				
Original Anal.	71.050	2.580	12.120	35.180	4.750	1.870	0.290	0.010	0.540				
	*********	CSUM =	128.390	*********									
Normalized	55.339	2.010	9.440	27.401	3.700	1.457	0.226	0.008	0.421				
$M_{FeO} = M_{NiO} + M_S$	55.339	2.010	8.658	27.401	3.700	1.457	0.226	0.056	1.155				
	*********	CSUM =	98.789	*********									
Silicate = 100%	56.017	2.034	8.764	27.737	3.745	1.474	0.229						
Norm	54.5	11.8	33.7	10.5	14.5	63.2	11.1	0.0	0.0	0.8	0.0	0.0	0.163

Wüstite = Metal

Recalc Silicate
Recalc Norm

Fe/Ni 8.8

	SiO_2	Al_2O_3	FeO	MgO	CaO	Na_2O	K_2O	NiO	S				
Original Anal.	71.050	2.580	12.120	35.180	4.750	1.870	0.290	0.010	0.540				
	*********	CSUM =	128.390	*********									
Normalized	55.339	2.010	9.440	27.401	3.700	1.457	0.226	0.008	0.421				
$M_{FeO} = M_{NiO} + M_S$	55.339	2.010	8.638	27.401	3.700	1.457	0.226	0.076	1.155				
	*********	CSUM =	98.769	*********									
Silicate = 100%	56.029	2.035	8.745	27.742	3.746	1.475	0.229						
Norm	54.5	11.8	33.8	10.5	14.5	63.2	11.1	0.0	0.0	0.8	0.0	0.0	0.163

Wüstite = Metal

Recalc Silicate
Recalc Norm

SiO_2	FeO	MgO	Ab	Di	Py	Ol	Q	An	Ns	Wu	Co	$\frac{M_{FeO}}{M_{FeO} + M_{MgO}}$
Comp. of Normative Ol + Py + Q												

Process C 12 D 3.261, W 1.01

Fe/Ni 6.2

	SiO_2	Al_2O_3	FeO	MgO	CaO	Na_2O	K_2O	NiO	S				
Original Anal.	46.680	2.810	21.780	32.750	1.310	1.830	0.150	0.270	0.700				
	*********CSUM = 108.280*********												
Normalized	43.110	2.595	20.115	30.246	1.210	1.690	0.139	0.249	0.646				
$M_{FeO} = M_{NiO} + M_S$	43.110	2.595	17.440	30.246	1.210	1.690	0.139	1.795	1.775				
	*********CSUM = 96.430*********												
Silicate = 100%	44.706	2.691	18.086	31.365	1.255	1.753	0.144						
Norm	40.0	22.4	37.7	13.9	4.8	7.0	73.9	0.0	0.0	0.4	0.0	0.0	0.249

Wüstite = Metal

Recalc Silicate
Recalc Norm

Fe/Ni 8.8

	SiO_2	Al_2O_3	FeO	MgO	CaO	Na_2O	K_2O	NiO	S				
Original Anal.	46.680	2.810	21.780	32.750	1.310	1.830	0.150	0.270	0.700				
	*********CSUM = 108.280*********												
Normalized	43.110	2.595	20.115	30.246	1.210	1.690	0.139	0.249	0.646				
$M_{FeO} = M_{NiO} + M_S$	43.110	2.595	16.792	30.246	1.210	1.690	0.139	2.444	1.775				
	*********CSUM = 95.782*********												
Silicate = 100%	45.009	2.709	17.532	31.578	1.263	1.764	0.145						
Norm	40.3	21.7	38.0	14.0	4.9	8.0	72.7	0.0	0.0	0.4	0.0	0.0	0.242

Wüstite = Metal

Recalc Silicate
Recalc Norm

SiO_2	FeO	MgO	Ab	Di	Py	Ol	Q	An	Ns	Wu	Co	$\frac{M_{FeO}}{M_{FeO} + M_{MgO}}$
Comp. of Normative Ol + Py + Q												

Process C 13 D 3.261, W 23.62

Fe/Ni 6.2

	SiO_2	Al_2O_3	FeO	MgO	CaO	Na_2O	K_2O	NiO	S				
Original Anal.	52.150	1.950	29.340	36.660	5.330	2.370	0.570	0.030	0.650				
	*********CSUM = 129.050*********												
Normalized	40.411	1.511	22.735	28.408	4.130	1.836	0.442	0.023	0.504				
$M_{FeO} = M_{NiO} + M_S$	40.411	1.511	21.712	28.408	4.130	1.836	0.442	0.167	1.383				
	*********CSUM = 98.450*********												
Silicate = 100%	41.047	1.535	22.054	28.855	4.195	1.865	0.449						
Norm	34.7	30.1	35.2	7.9	16.2	0.0	68.1	0.0	0.0	2.5	5.2	0.0	0.322
Wüstite = Metal	FE = 5.8												
	*********CSUM = 92.517*********												
Recalc Silicate	44.367	1.659	15.750	31.189	4.535	2.016	0.485						
Recalc Norm	38.6	22.1	39.2	8.6	17.5	0.0	71.2	0.0	0.0	2.7	0.0	0.0	0.239

Fe/Ni 8.8

	SiO_2	Al_2O_3	FeO	MgO	CaO	Na_2O	K_2O	NiO	S				
Original Anal.	52.150	1.950	29.340	36.660	5.330	2.370	0.570	0.030	0.650				
	*********CSUM = 129.050*********												
Normalized	40.411	1.511	22.735	28.408	4.130	1.836	0.442	0.023	0.504				
$M_{FeO} = M_{NiO} + M_S$	40.411	1.511	21.652	28.408	4.130	1.836	0.442	0.228	1.383				
	*********CSUM = 98.390*********												
Silicate = 100%	41.072	1.536	22.006	28.873	4.198	1.867	0.449						
Norm	34.7	30.0	35.3	8.0	16.2	0.0	68.2	0.0	0.0	2.5	5.2	0.0	0.321
Wüstite = Metal	FE = 5.8												
	*********CSUM = 92.574*********												
Recalc Silicate	44.367	1.659	15.750	31.189	4.535	2.016	0.485						
Recalc Norm	38.6	22.1	39.2	8.6	17.5	0.0	71.2	0.0	0.0	2.7	0.0	0.0	0.239

SiO_2 Comp. of Normative Ol + Py + Q	FeO	MgO	Ab	Di	Py	Ol	Q	An	Ns	Wu	Co	$\frac{M_{FeO}}{M_{FeO} + M_{MgO}}$

Process C 14 D 3.268, W 2.02

Fe/Ni 6.2

	SiO_2	Al_2O_3	FeO	MgO	CaO	Na_2O	K_2O	NiO	S				
Original Anal.	51.940	1.670	10.690	23.170	2.770	1.120	0.200	0.0	0.300				
	********* CSUM =		91.860 *********										
Normalized	56.543	1.818	11.637	25.223	3.015	1.219	0.218	0.0	0.327				
$M_{FeO} = M_{NiO} + M_S$	56.543	1.818	11.067	25.223	3.015	1.219	0.218	0.0	0.896				
	********* CSUM =		99.104 *********										
Silicate = 100%	57.054	1.834	11.167	25.451	3.043	1.230	0.220						
Norm	56.0	14.3	29.7	9.5	11.7	77.2	1.0	0.0	0.0	0.5	0.0	0.0	0.211

Wüstite = Metal

Recalc Silicate
Recalc Norm

Fe/Ni 8.8

	SiO_2	Al_2O_3	FeO	MgO	CaO	Na_2O	K_2O	NiO	S				
Original Anal.	51.940	1.670	10.690	23.170	2.770	1.120	0.200	0.0	0.300				
	********* CSUM =		91.860 *********										
Normalized	56.543	1.818	11.637	25.223	3.015	1.219	0.218	0.0	0.327				
$M_{FeO} = M_{NiO} + M_S$	56.543	1.818	11.067	25.223	3.015	1.219	0.218	0.0	0.896				
	********* CSUM =		99.104 *********										
Silicate = 100%	57.054	1.834	11.167	25.451	3.043	1.230	0.220						
Norm	56.0	14.3	29.7	9.5	11.7	77.2	1.0	0.0	0.0	0.5	0.0	0.0	0.211

Wüstite = Metal

Recalc Silicate
Recalc Norm

SiO_2	FeO	MgO	Ab	Di	Py	Ol	Q	An	Ns	Wu	Co	$\frac{M_{FeO}}{M_{FeO} + M_{MgO}}$

Comp. of Normative
Ol + Py + Q

Process C 15 D 3.272, W 16.60

Fe/Ni 6.2

	SiO_2	Al_2O_3	FeO	MgO	CaO	Na_2O	K_2O	NiO	S				
Original Anal.	43.340	2.220	13.460	28.300	3.760	1.540	0.300	0.030	0.320				
	*********CSUM =		93.270*********										
Normalized	46.467	2.380	14.431	30.342	4.031	1.651	0.322	0.032	0.343				
$M_{FeO} = M_{NiO} + M_S$	46.467	2.380	13.633	30.342	4.031	1.651	0.322	0.232	0.942				
	*********CSUM =		98.827*********										
Silicate = 100%	47.019	2.408	13.795	30.702	4.079	1.671	0.325						
Norm	41.4	19.4	39.2	12.5	15.7	10.0	61.0	0.0	0.0	0.9	0.0	0.0	0.217

Wüstite = Metal

Recalc Silicate
Recalc Norm

Fe/Ni 8.8

	SiO_2	Al_2O_3	FeO	MgO	CaO	Na_2O	K_2O	NiO	S				
Original Anal.	43.340	2.220	13.460	28.300	3.760	1.540	0.300	0.030	0.320				
	*********CSUM =		93.270*********										
Normalized	46.467	2.380	14.431	30.342	4.031	1.651	0.322	0.032	0.343				
$M_{FeO} = M_{NiO} + M_S$	46.467	2.380	13.549	30.342	4.031	1.651	0.322	0.315	0.942				
	*********CSUM =		98.743*********										
Silicate = 100%	47.059	2.410	13.722	30.728	4.083	1.672	0.326						
Norm	41.5	19.3	39.2	12.5	15.8	10.1	60.8	0.0	0.0	0.9	0.0	0.0	0.216

Wüstite = Metal

Recalc Silicate
Recalc Norm

SiO_2 Comp. of Normative Ol + Py + Q	FeO	MgO	Ab	Di	Py	Ol	Q	An	Ns	Wu	Co	$\frac{M_{FeO}}{M_{FeO} + M_{MgO}}$

Process C 16 D 3.282, W 35.42

Fe/Ni 6.2

	SiO_2	Al_2O_3	FeO	MgO	CaO	Na_2O	K_2O	NiO	S
Original Anal.	48.500	2.880	19.800	30.680	3.880	1.770	0.350	0.260	0.080
	********* CSUM = 108.200*********								
Normalized	44.824	2.662	18.299	28.355	3.586	1.636	0.323	0.240	0.074
$M_{FeO} = M_{NiO} + M_S$	44.824	2.662	16.681	28.355	3.586	1.636	0.323	1.730	0.203
	********* CSUM = 98.067*********								
Silicate = 100%	45.708	2.714	17.009	28.914	3.657	1.668	0.330		

Norm													
	39.3	23.8	36.8	14.0	14.1	4.6	66.8	0.0	0.0	0.5	0.0	0.0	0.265

Wüstite = Metal

Recalc Silicate
Recalc Norm

Fe/Ni 8.8

	SiO_2	Al_2O_3	FeO	MgO	CaO	Na_2O	K_2O	NiO	S
Original Anal.	48.500	2.880	19.800	30.680	3.880	1.770	0.350	0.260	0.080
	********* CSUM = 108.200*********								
Normalized	44.824	2.662	18.299	28.355	3.586	1.636	0.323	0.240	0.074
$M_{FeO} = M_{NiO} + M_S$	44.824	2.662	16.056	28.355	3.586	1.636	0.323	2.355	0.203
	********* CSUM = 97.442*********								
Silicate = 100%	46.001	2.732	16.477	29.099	3.680	1.679	0.332		

Norm													
	39.7	23.1	37.2	14.1	14.2	5.5	65.7	0.0	0.0	0.5	0.0	0.0	0.257

Wüstite = Metal

Recalc Silicate
Recalc Norm

SiO_2 Comp. of Normative Ol + Py + Q	FeO	MgO	Ab	Di	Py	Ol	Q	An	Ns	Wu	Co	$\frac{M_{FeO}}{M_{FeO} + M_{MgO}}$

Process C 17 D 3.292, W 19.53

Fe/Ni 6.2

	SiO_2	Al_2O_3	FeO	MgO	CaO	Na_2O	K_2O	NiO	S				
Original Anal.	43.400	2.410	14.230	27.830	3.530	1.400	0.250	0.010	0.300				
	*********	CSUM =	93.360	*********									
Normalized	46.487	2.581	15.242	29.809	3.781	1.500	0.268	0.011	0.321				
$M_{FeO} = M_{NiO} + M_S$	46.487	2.581	14.615	29.809	3.781	1.500	0.268	0.077	0.882				
	*********	CSUM =	99.041	*********									
Silicate = 100%	46.937	2.606	14.756	30.098	3.818	1.514	0.270						
Norm	41.2	20.6	38.2	13.5	14.7	10.0	61.6	0.0	0.0	0.2	0.0	0.0	0.231

Wüstite = Metal

Recalc Silicate
Recalc Norm

Fe/Ni 8.8

Original Anal.	43.400	2.410	14.230	27.830	3.530	1.400	0.250	0.010	0.300				
	*********	CSUM =	93.360	*********									
Normalized	46.487	2.581	15.242	29.809	3.781	1.500	0.268	0.011	0.321				
$M_{FeO} = M_{NiO} + M_S$	46.487	2.581	14.587	29.809	3.781	1.500	0.268	0.105	0.882				
	*********	CSUM =	99.013	*********									
Silicate = 100%	46.950	2.607	14.733	30.106	3.819	1.515	0.270						
Norm	41.2	20.6	38.2	13.5	14.7	10.0	61.6	0.0	0.0	0.2	0.0	0.0	0.231

Wüstite = Metal

Recalc Silicate
Recalc Norm

SiO_2	FeO	MgO	Ab	Di	Py	Ol	Q	An	Ns	Wu	Co	$\frac{M_{FeO}}{M_{FeO} + M_{MgO}}$

Comp. of Normative
Ol + Py + Q

Process C 18 D 3.299, W 11.30

Fe/Ni 6.2

	SiO_2	Al_2O_3	FeO	MgO	CaO	Na_2O	K_2O	NiO	S
Original Anal.	50.670	0.720	8.930	29.110	1.200	2.080	0.030	0.020	0.050
	*********	CSUM =	92.810	*********					
Normalized	54.595	0.776	9.622	31.365	1.293	2.241	0.032	0.022	0.054
$M_{FeO} = M_{NiO} + M_S$	54.595	0.776	9.394	31.365	1.293	2.241	0.032	0.155	0.148
	*********	CSUM =	99.697	*********					
Silicate = 100%	54.761	0.778	9.423	31.460	1.297	2.248	0.032		

Norm												
	54.3	10.8	34.9	4.0	5.0	72.2	15.3	0.0	0.0	3.6	0.0	0.0	0.147

Wüstite = Metal

Recalc Silicate
Recalc Norm

Fe/Ni 8.8

	SiO_2	Al_2O_3	FeO	MgO	CaO	Na_2O	K_2O	NiO	S
Original Anal.	50.670	0.720	8.930	29.110	1.200	2.080	0.030	0.020	0.050
	*********	CSUM =	92.810	*********					
Normalized	54.595	0.776	9.622	31.365	1.293	2.241	0.032	0.022	0.054
$M_{FeO} = M_{NiO} + M_S$	54.595	0.776	9.338	31.365	1.293	2.241	0.032	0.211	0.148
	*********	CSUM =	99.641	*********					
Silicate = 100%	54.792	0.779	9.372	31.478	1.298	2.249	0.032		

Norm												
	54.3	10.7	34.9	4.0	5.0	72.3	15.2	0.0	0.0	3.6	0.0	0.0	0.146

Wüstite = Metal

Recalc Silicate
Recalc Norm

SiO_2 Comp. of Normative Ol + Py + Q	FeO	MgO	Ab	Di	Py	Ol	Q	An	Ns	Wu	Co	$\frac{M_{FeO}}{M_{FeO} + M_{MgO}}$

Process C 19 D 3.303, W 3.00

Fe/Ni 6.2

	SiO_2	Al_2O_3	FeO	MgO	CaO	Na_2O	K_2O	NiO	S	
Original Anal.	48.090	2.430	10.640	27.190	3.650	1.360	0.190	0.020	0.620	
	*********	CSUM =	94.190	*********						
Normalized	51.056	2.580	11.296	28.867	3.875	1.444	0.202	0.021	0.658	
$M_{FeO} = M_{NiO} + M_S$	51.056	2.580	10.016	28.867	3.875	1.444	0.202	0.153	1.807	
	*********	CSUM =	98.040	*********						
Silicate = 100%	52.077	2.631	10.216	29.444	3.953	1.473	0.206			
Norm	48.2	14.4	37.4	13.6	15.3	35.6	35.6	0.0	0.0	0.0	0.0	0.0	0.176

Wüstite = Metal

Recalc Silicate
Recalc Norm

Fe/Ni 8.8

	SiO_2	Al_2O_3	FeO	MgO	CaO	Na_2O	K_2O	NiO	S	
Original Anal.	48.090	2.430	10.640	27.190	3.650	1.360	0.190	0.020	0.620	
	*********	CSUM =	94.190	*********						
Normalized	51.056	2.580	11.296	28.867	3.875	1.444	0.202	0.021	0.658	
$M_{FeO} = M_{NiO} + M_S$	51.056	2.580	9.961	28.867	3.875	1.444	0.202	0.208	1.807	
	*********	CSUM =	97.985	*********						
Silicate = 100%	52.106	2.633	10.166	29.461	3.955	1.474	0.206			
Norm	48.3	14.3	37.4	13.6	15.3	35.7	35.5	0.0	0.0	0.0	0.0	0.0	0.175

Wüstite = Metal

Recalc Silicate
Recalc Norm

SiO_2	FeO	MgO	Ab	Di	Py	Ol	Q	An	Ns	Wu	Co	$\frac{M_{FeO}}{M_{FeO} + M_{MgO}}$
Comp. of Normative Ol + Py + Q												

Process C 20 D 3.313, W 7.27

Fe/Ni 6.2

	SiO_2	Al_2O_3	FeO	MgO	CaO	Na_2O	K_2O	NiO	S	
Original Anal.	53.270	1.630	9.720	24.680	1.860	0.880	0.080	0.040	0.640	
	********* CSUM =		92.800 *********							
Normalized	57.403	1.756	10.474	26.595	2.004	0.948	0.086	0.043	0.690	
$M_{FeO} = M_{NiO} + M_S$	57.403	1.756	9.003	26.595	2.004	0.948	0.086	0.310	1.893	
	********* CSUM =		97.797 *********							
Silicate = 100%	58.696	1.796	9.206	27.194	2.049	0.970	0.088			
Norm	58.0	11.0	30.9	8.7	7.7	81.3	0.0	2.0	0.3	0.0 0.0 0.0 0.166

Wüstite = Metal

Recalc Silicate
Recalc Norm

Fe/Ni 8.8

Original Anal.	53.270	1.630	9.720	24.680	1.860	0.880	0.080	0.040	0.640	
	********* CSUM =		92.800 *********							
Normalized	57.403	1.756	10.474	26.595	2.004	0.948	0.086	0.043	0.690	
$M_{FeO} = M_{NiO} + M_S$	57.403	1.756	8.891	26.595	2.004	0.948	0.086	0.422	1.893	
	********* CSUM =		97.684 *********							
Silicate = 100%	58.764	1.798	9.102	27.225	2.052	0.971	0.088			
Norm	58.1	10.9	31.0	8.7	7.7	81.2	0.0	2.1	0.3	0.0 0.0 0.0 0.164

Wüstite = Metal

Recalc Silicate
Recalc Norm

SiO_2 Comp. of Normative Ol + Py + Q	FeO	MgO	Ab	Di	Py	Ol	Q	An	Ns	Wu	Co	$\frac{M_{FeO}}{M_{FeO} + M_{MgO}}$

Process C 21 D 3.330, W 3.13

Fe/Ni 6.2

	SiO_2	Al_2O_3	FeO	MgO	CaO	Na_2O	K_2O	NiO	S
Original Anal.	62.170	1.190	6.710	28.970	2.780	0.850	0.090	0.0	0.600
	*********CSUM = 103.360*********								
Normalized	60.149	1.151	6.492	28.028	2.690	0.822	0.087	0.0	0.580
$M_{FeO} = M_{NiO} + M_S$	60.149	1.151	5.479	28.028	2.690	0.822	0.087	0.0	1.593
	*********CSUM = 98.407*********								
Silicate = 100%	61.123	1.170	5.568	28.482	2.733	0.836	0.088		
Norm	61.4	6.7	31.9	6.0	10.6	76.5	0.0	6.6	0.0	0.4	0.0	0.0	0.105

Wüstite = Metal

Recalc Silicate
Recalc Norm

Fe/Ni 8.8

	SiO_2	Al_2O_3	FeO	MgO	CaO	Na_2O	K_2O	NiO	S
Original Anal.	62.170	1.190	6.710	28.970	2.780	0.850	0.090	0.0	0.600
	*********CSUM = 103.360*********								
Normalized	60.149	1.151	6.492	28.028	2.690	0.822	0.087	0.0	0.580
$M_{FeO} = M_{NiO} + M_S$	60.149	1.151	5.479	28.028	2.690	0.822	0.087	0.0	1.593
	*********CSUM = 98.407*********								
Silicate = 100%	61.123	1.170	5.568	28.482	2.733	0.836	0.088		
Norm	61.4	6.7	31.9	6.0	10.6	76.5	0.0	6.6	0.0	0.4	0.0	0.0	0.105

Wüstite = Metal

Recalc Silicate
Recalc Norm

SiO_2 Comp. of Normative Ol + Py + Q	FeO	MgO	Ab	Di	Py	Ol	Q	An	Ns	Wu	Co	$\frac{M_{FeO}}{M_{FeO} + M_{MgO}}$

Process C 22 D 3.334, W 24.88

Fe/Ni 6.2

	SiO_2	Al_2O_3	FeO	MgO	CaO	Na_2O	K_2O	NiO	S				
Original Anal.	51.070	1.700	13.100	25.840	2.420	0.930	0.110	0.0	0.360				
	*********CSUM =		95.530*********										
Normalized	53.460	1.780	13.713	27.049	2.533	0.974	0.115	0.0	0.377				
$M_{FeO} = M_{NiO} + M_S$	53.460	1.780	13.055	27.049	2.533	0.974	0.115	0.0	1.034				
	*********CSUM =		98.966*********										
Silicate = 100%	54.018	1.798	13.192	27.332	2.560	0.984	0.116						
Norm	52.3	16.3	31.5	9.0	9.8	63.4	17.7	0.0	0.1	0.0	0.0	0.0	0.224

Wüstite = Metal

Recalc Silicate
Recalc Norm

Fe/Ni 8.8

	SiO_2	Al_2O_3	FeO	MgO	CaO	Na_2O	K_2O	NiO	S				
Original Anal.	51.070	1.700	13.100	25.840	2.420	0.930	0.110	0.0	0.360				
	*********CSUM =		95.530*********										
Normalized	53.460	1.780	13.713	27.049	2.533	0.974	0.115	0.0	0.377				
$M_{FeO} = M_{NiO} + M_S$	53.460	1.780	13.055	27.049	2.533	0.974	0.115	0.0	1.034				
	*********CSUM =		98.966*********										
Silicate = 100%	54.018	1.798	13.192	27.332	2.560	0.984	0.116						
Norm	52.3	16.3	31.5	9.0	9.8	63.4	17.7	0.0	0.1	0.0	0.0	0.0	0.224

Wüstite = Metal

Recalc Silicate
Recalc Norm

SiO_2	FeO	MgO	Ab	Di	Py	Ol	Q	An	Ns	Wu	Co	$\frac{M_{FeO}}{M_{FeO} + M_{MgO}}$
Comp. of Normative Ol + Py + Q												

Process C 23 D 3.338, W 14.59

Fe/Ni 6.2

	SiO_2	Al_2O_3	FeO	MgO	CaO	Na_2O	K_2O	NiO	S		
Original Anal.	43.430	2.890	12.540	26.020	1.860	1.280	0.180	0.0	0.480		
	*********	CSUM =	88.680	*********							
Normalized	48.974	3.259	14.141	29.341	2.097	1.443	0.203	0.0	0.541		
$M_{FeO} = M_{NiO} + M_S$	48.974	3.259	13.196	29.341	2.097	1.443	0.203	0.0	1.486		
	*********	CSUM =	98.514	*********							
Silicate = 100%	49.712	3.308	13.395	29.784	2.129	1.465	0.206				
Norm	46.1	17.2	36.7	13.6	6.8	31.6	46.2	0.0	1.8	0.0	0.0	0.0	0.207

Wüstite = Metal

Recalc Silicate
Recalc Norm

Fe/Ni 8.8

	SiO_2	Al_2O_3	FeO	MgO	CaO	Na_2O	K_2O	NiO	S		
Original Anal.	43.430	2.890	12.540	26.020	1.860	1.280	0.180	0.0	0.480		
	*********	CSUM =	88.680	*********							
Normalized	48.974	3.259	14.141	29.341	2.097	1.443	0.203	0.0	0.541		
$M_{FeO} = M_{NiO} + M_S$	48.974	3.259	13.196	29.341	2.097	1.443	0.203	0.0	1.486		
	*********	CSUM =	98.514	*********							
Silicate = 100%	49.712	3.308	13.395	29.784	2.129	1.465	0.206				
Norm	46.1	17.2	36.7	13.6	6.8	31.6	46.2	0.0	1.8	0.0	0.0	0.0	0.207

Wüstite = Metal

Recalc Silicate
Recalc Norm

SiO_2	FeO	MgO	Ab	Di	Py	Ol	Q	An	Ns	Wu	Co	$\frac{M_{FeO}}{M_{FeO} + M_{MgO}}$
Comp. of Normative Ol + Py + Q												

Process C 24 D 3.341, W 13.61

Fe/Ni 6.2

	SiO_2	Al_2O_3	FeO	MgO	CaO	Na_2O	K_2O	NiO	S			
Original Anal.	43.570	2.660	14.250	28.130	3.790	1.680	0.330	0.020	0.320			
	********* CSUM =		94.750 *********									
Normalized	45.984	2.807	15.040	29.689	4.000	1.773	0.348	0.021	0.338			
$M_{FeO} = M_{NiO} + M_S$	45.984	2.807	14.319	29.689	4.000	1.773	0.348	0.152	0.927			
	********* CSUM =		98.921 *********									
Silicate = 100%	46.486	2.838	14.476	30.012	4.044	1.792	0.352					
Norm	39.8	20.9	39.2	14.7	15.6	4.1	65.0	0.0	0.0	0.6	0.0	0.0	0.229

Wüstite = Metal

Recalc Silicate
Recalc Norm

Fe/Ni 8.8

	SiO_2	Al_2O_3	FeO	MgO	CaO	Na_2O	K_2O	NiO	S			
Original Anal.	43.570	2.660	14.250	28.130	3.790	1.680	0.330	0.020	0.320			
	********* CSUM =		94.750 *********									
Normalized	45.984	2.807	15.040	29.689	4.000	1.773	0.348	0.021	0.338			
$M_{FeO} = M_{NiO} + M_S$	45.984	2.807	14.264	29.689	4.000	1.773	0.348	0.207	0.927			
	********* CSUM =		98.866 *********									
Silicate = 100%	46.512	2.840	14.428	30.029	4.046	1.793	0.352					
Norm	39.9	20.9	39.3	14.7	15.6	4.2	64.9	0.0	0.0	0.6	0.0	0.0	0.228

Wüstite = Metal

Recalc Silicate
Recalc Norm

SiO_2 Comp. of Normative Ol + Py + Q	FeO	MgO	Ab	Di	Py	Ol	Q	An	Ns	Wu	Co	$\frac{M_{FeO}}{M_{FeO} + M_{MgO}}$

Process C 25 D 3.341, W 0.31

Fe/Ni 6.2

	SiO_2	Al_2O_3	FeO	MgO	CaO	Na_2O	K_2O	NiO	S				
Original Anal.	46.210	0.770	14.080	28.410	0.880	0.130	0.0	0.010	0.170				
	*********	CSUM =	90.660	*********									
Normalized	50.971	0.849	15.531	31.337	0.971	0.143	0.0	0.011	0.188				
$M_{FeO} = M_{NiO} + M_S$	50.971	0.849	15.135	31.337	0.971	0.143	0.0	0.079	0.515				
	*********	CSUM =	99.406	*********									
Silicate = 100%	51.275	0.854	15.225	31.524	0.976	0.144	0.0						
Norm	51.1	16.1	32.8	1.2	2.5	66.6	28.0	0.0	1.7	0.0	0.0	0.0	0.214

Wüstite = Metal

Recalc Silicate
Recalc Norm

Fe/Ni 8.8

	SiO_2	Al_2O_3	FeO	MgO	CaO	Na_2O	K_2O	NiO	S				
Original Anal.	46.210	0.770	14.080	28.410	0.880	0.130	0.0	0.010	0.170				
	*********	CSUM =	90.660	*********									
Normalized	50.971	0.849	15.531	31.337	0.971	0.143	0.0	0.011	0.188				
$M_{FeO} = M_{NiO} + M_S$	50.971	0.849	15.106	31.337	0.971	0.143	0.0	0.108	0.515				
	*********	CSUM =	99.377	*********									
Silicate = 100%	51.290	0.855	15.201	31.533	0.977	0.144	0.0						
Norm	51.1	16.1	32.8	1.2	2.5	66.7	28.0	0.0	1.7	0.0	0.0	0.0	0.214

Wüstite = Metal

Recalc Silicate
Recalc Norm

SiO_2 Comp. of Normative Ol + Py + Q	FeO	MgO	Ab	Di	Py	Ol	Q	An	Ns	Wu	Co	$\frac{M_{FeO}}{M_{FeO} + M_{MgO}}$

Process C 26 D 3.345, W 7.95

Fe/Ni 6.2

	SiO_2	Al_2O_3	FeO	MgO	CaO	Na_2O	K_2O	NiO	S
Original Anal.	38.410	3.230	14.640	27.160	2.150	0.710	0.030	0.0	0.140
	********* CSUM =		86.470 *********						
Normalized	44.420	3.735	16.931	31.410	2.486	0.821	0.035	0.0	0.162
$M_{FeO} = M_{NiO} + M_S$	44.420	3.735	16.648	31.410	2.486	0.821	0.035	0.0	0.444
	********* CSUM =		99.556 *********						
Silicate = 100%	44.618	3.752	16.723	31.550	2.498	0.825	0.035		

Norm												
42.0	20.5	37.5	7.2	4.6	15.6	66.1	0.0	6.4	0.0	0.0	0.0	0.233

Wüstite = Metal

Recalc Silicate
Recalc Norm

Fe/Ni 8.8

	SiO_2	Al_2O_3	FeO	MgO	CaO	Na_2O	K_2O	NiO	S
Original Anal.	38.410	3.230	14.640	27.160	2.150	0.710	0.030	0.0	0.140
	********* CSUM =		86.470 *********						
Normalized	44.420	3.735	16.931	31.410	2.486	0.821	0.035	0.0	0.162
$M_{FeO} = M_{NiO} + M_S$	44.420	3.735	16.648	31.410	2.486	0.821	0.035	0.0	0.444
	********* CSUM =		99.556 *********						
Silicate = 100%	44.618	3.752	16.723	31.550	2.498	0.825	0.035		

Norm												
42.0	20.5	37.5	7.2	4.6	15.6	66.1	0.0	6.4	0.0	0.0	0.0	0.233

Wüstite = Metal

Recalc Silicate
Recalc Norm

SiO_2	FeO	MgO	Ab	Di	Py	Ol	Q	An	Ns	Wu	Co	$\frac{M_{FeO}}{M_{FeO} + M_{MgO}}$
Comp. of Normative Ol + Py + Q												

Process C 27 D 3.355, W 4.57

Fe/Ni 6.2

	SiO_2	Al_2O_3	FeO	MgO	CaO	Na_2O	K_2O	NiO	S			
Original Anal.	53.840	1.350	12.920	25.640	1.760	0.780	0.140	0.010	0.430			
	*********CSUM =		96.870*********									
Normalized	55.580	1.394	13.337	26.468	1.817	0.805	0.145	0.010	0.444			
$M_{FeO} = M_{NiO} + M_S$	55.580	1.394	12.499	26.468	1.817	0.805	0.145	0.074	1.218			
	*********CSUM =		98.707*********									
Silicate = 100%	56.308	1.412	12.663	26.815	1.841	0.816	0.146					
Norm	55.4	14.8	29.8	7.3	7.1	81.7	3.8	0.0	0.0	0.1	0.0	0.0	0.217

Wüstite = Metal

Recalc Silicate
Recalc Norm

Fe/Ni 8.8

	SiO_2	Al_2O_3	FeO	MgO	CaO	Na_2O	K_2O	NiO	S			
Original Anal.	53.840	1.350	12.920	25.640	1.760	0.780	0.140	0.010	0.430			
	*********CSUM =		96.870*********									
Normalized	55.580	1.394	13.337	26.468	1.817	0.805	0.145	0.010	0.444			
$M_{FeO} = M_{NiO} + M_S$	55.580	1.394	12.472	26.468	1.817	0.805	0.145	0.101	1.218			
	*********CSUM =		98.680*********									
Silicate = 100%	56.323	1.412	12.639	26.822	1.841	0.816	0.146					
Norm	55.4	14.8	29.8	7.3	7.1	81.8	3.7	0.0	0.0	0.1	0.0	0.0	0.216

Wüstite = Metal

Recalc Silicate
Recalc Norm

SiO_2 Comp. of Normative Ol + Py + Q	FeO	MgO	Ab	Di	Py	Ol	Q	An	Ns	Wu	Co	$\frac{M_{FeO}}{M_{FeO} + M_{MgO}}$

Process C 28 D 3.355, W 1.56

Fe/Ni 6.2

	SiO_2	Al_2O_3	FeO	MgO	CaO	Na_2O	K_2O	NiO	S				
Original Anal.	40.870	2.200	13.930	26.470	3.500	1.220	0.180	0.020	0.460				
	*********	CSUM =	88.850	*********									
Normalized	45.999	2.476	15.678	29.792	3.939	1.373	0.203	0.023	0.518				
$M_{FeO} = M_{NiO} + M_S$	45.999	2.476	14.635	29.792	3.939	1.373	0.203	0.162	1.421				
	*********	CSUM =	98.417	*********									
Silicate = 100%	46.739	2.516	14.871	30.271	4.003	1.395	0.206						
Norm	40.9	20.8	38.3	13.0	15.5	9.1	62.5	0.0	0.0	0.0	0.0	0.0	0.232

Wüstite = Metal

Recalc Silicate
Recalc Norm

Fe/Ni 8.8

	SiO_2	Al_2O_3	FeO	MgO	CaO	Na_2O	K_2O	NiO	S				
Original Anal.	40.870	2.200	13.930	26.470	3.500	1.220	0.180	0.020	0.460				
	*********	CSUM =	88.850	*********									
Normalized	45.999	2.476	15.678	29.792	3.939	1.373	0.203	0.023	0.518				
$M_{FeO} = M_{NiO} + M_S$	45.999	2.476	14.577	29.792	3.939	1.373	0.203	0.221	1.421				
	*********	CSUM =	98.358	*********									
Silicate = 100%	46.767	2.517	14.820	30.289	4.005	1.396	0.206						
Norm	41.0	20.7	38.3	13.0	15.5	9.2	62.4	0.0	0.0	0.0	0.0	0.0	0.231

Wüstite = Metal

Recalc Silicate
Recalc Norm

SiO_2	FeO	MgO	Ab	Di	Py	Ol	Q	An	Ns	Wu	Co	$\frac{M_{FeO}}{M_{FeO} + M_{MgO}}$

Comp. of Normative
Ol + Py + Q

Process C 29 D 3.086, W 2.14

Fe/Ni 6.2

	SiO_2	Al_2O_3	FeO	MgO	CaO	Na_2O	K_2O	NiO	S				
Original Anal.	48.740	2.620	8.060	25.470	2.290	1.320	0.130	0.0	0.180				
	********* CSUM =		88.810 *********										
Normalized	54.881	2.950	9.076	28.679	2.579	1.486	0.146	0.0	0.203				
$M_{FeO} = M_{NiO} + M_S$	54.881	2.950	8.722	28.679	2.579	1.486	0.146	0.0	0.556				
	********* CSUM =		99.444 *********										
Silicate = 100%	55.188	2.967	8.771	28.840	2.593	1.495	0.147						
Norm	53.0	11.5	35.6	13.5	9.3	57.4	18.9	0.0	0.9	0.0	0.0	0.0	0.153

Wüstite = Metal

Recalc Silicate
Recalc Norm

Fe/Ni 8.8

	SiO_2	Al_2O_3	FeO	MgO	CaO	Na_2O	K_2O	NiO	S				
Original Anal.	48.740	2.620	8.060	25.470	2.290	1.320	0.130	0.0	0.180				
	********* CSUM =		88.810 *********										
Normalized	54.881	2.950	9.076	28.679	2.579	1.486	0.146	0.0	0.203				
$M_{FeO} = M_{NiO} + M_S$	54.881	2.950	8.722	28.679	2.579	1.486	0.146	0.0	0.556				
	********* CSUM =		99.444 *********										
Silicate = 100%	55.188	2.967	8.771	28.840	2.593	1.495	0.147						
Norm	53.0	11.5	35.6	13.5	9.3	57.4	18.9	0.0	0.9	0.0	0.0	0.0	0.153

Wüstite = Metal

Recalc Silicate
Recalc Norm

SiO_2	FeO	MgO	Ab	Di	Py	Ol	Q	An	Ns	Wu	Co	$\frac{M_{FeO}}{M_{FeO} + M_{MgO}}$
Comp. of Normative Ol + Py + Q												

Process C 30 D 3.155, W 4.27

Fe/Ni 6.2

	SiO_2	Al_2O_3	FeO	MgO	CaO	Na_2O	K_2O	NiO	S
Original Anal.	55.190	4.320	7.910	23.720	1.550	1.610	0.090	0.010	0.440
	********* CSUM =		94.840 *********						
Normalized	58.193	4.555	8.340	25.011	1.634	1.698	0.095	0.011	0.464
$M_{FeO} = M_{NiO} + M_S$	58.193	4.555	7.465	25.011	1.634	1.698	0.095	0.076	1.274
	********* CSUM =		98.651 *********						
Silicate = 100%	58.989	4.617	7.568	25.353	1.657	1.721	0.096		
Norm	58.2	9.8	32.0	15.1	2.8	75.9	0.0	1.5	4.6	0.0	0.0	0.0	0.145

Wüstite = Metal

Recalc Silicate
Recalc Norm

Fe/Ni 8.8

Original Anal.	55.190	4.320	7.910	23.720	1.550	1.610	0.090	0.010	0.440
	********* CSUM =		94.840 *********						
Normalized	58.193	4.555	8.340	25.011	1.634	1.698	0.095	0.011	0.464
$M_{FeO} = M_{NiO} + M_S$	58.193	4.555	7.438	25.011	1.634	1.698	0.095	0.103	1.274
	********* CSUM =		98.623 *********						
Silicate = 100%	59.005	4.619	7.542	25.360	1.657	1.721	0.096		
Norm	58.2	9.7	32.1	15.1	2.8	75.9	0.0	1.6	4.6	0.0	0.0	0.0	0.145

Wüstite = Metal

Recalc Silicate
Recalc Norm

SiO_2	FeO	MgO	Ab	Di	Py	Ol	Q	An	Ns	Wu	Co	$\frac{M_{FeO}}{M_{FeO} + M_{MgO}}$
Comp. of Normative Ol + Py + Q												

Process C 31 D 3.197, W 6.40

Fe/Ni 6.2

	SiO_2	Al_2O_3	FeO	MgO	CaO	Na_2O	K_2O	NiO	S				
Original Anal.	40.530	5.020	15.070	23.110	1.410	2.670	0.190	0.010	0.470				
	*********CSUM =		88.480*********										
Normalized	45.807	5.674	17.032	26.119	1.594	3.018	0.215	0.011	0.531				
$M_{FeO} = M_{NiO} + M_S$	45.807	5.674	16.035	26.119	1.594	3.018	0.215	0.081	1.458				
	*********CSUM =		98.460*********										
Silicate = 100%	46.523	5.762	16.286	26.527	1.618	3.065	0.218						
Norm	36.9	24.6	38.6	27.2	5.2	0.0	63.8	0.0	1.3	0.0	2.5	0.0	0.262
Wüstite = Metal	FE = 2.8												
	*********CSUM =		96.345*********										
Recalc Silicate	48.288	5.981	13.110	27.534	1.680	3.181	0.226						
Recalc Norm	39.0	20.2	40.8	28.2	5.4	0.0	65.0	0.0	1.4	0.0	0.0	0.0	0.216

Fe/Ni 8.8

Original Anal.	40.530	5.020	15.070	23.110	1.410	2.670	0.190	0.010	0.470				
	*********CSUM =		88.480*********										
Normalized	45.807	5.674	17.032	26.119	1.594	3.018	0.215	0.011	0.531				
$M_{FeO} = M_{NiO} + M_S$	45.807	5.674	16.006	26.119	1.594	3.018	0.215	0.111	1.458				
	*********CSUM =		98.431*********										
Silicate = 100%	46.537	5.764	16.261	26.535	1.619	3.066	0.218						
Norm	36.9	24.5	38.6	27.2	5.2	0.0	63.8	0.0	1.3	0.0	2.4	0.0	0.262
Wüstite = Metal	FE = 2.8												
	*********CSUM =		96.373*********										
Recalc Silicate	48.288	5.981	13.110	27.534	1.680	3.181	0.226						
Recalc Norm	39.0	20.2	40.8	28.2	5.4	0.0	65.0	0.0	1.4	0.0	0.0	0.0	0.216

SiO_2 Comp. of Normative Ol + Py + Q	FeO	MgO	Ab	Di	Py	Ol	Q	An	Ns	Wu	Co	$\frac{M_{FeO}}{M_{FeO} + M_{MgO}}$

Process C 32 D 3.208, W 3.42

Fe/Ni 6.2

	SiO_2	Al_2O_3	FeO	MgO	CaO	Na_2O	K_2O	NiO	S	
Original Anal.	53.650	2.240	9.890	24.040	2.300	1.200	0.100	0.030	0.430	
	*********	CSUM =	93.880	*********						
Normalized	57.147	2.386	10.535	25.607	2.450	1.278	0.107	0.032	0.458	
$M_{FeO} = M_{NiO} + M_S$	57.147	2.386	9.537	25.607	2.450	1.278	0.107	0.230	1.257	
	*********	CSUM =	98.513	*********						
Silicate = 100%	58.010	2.422	9.681	25.994	2.487	1.298	0.108			
Norm	56.8	12.3	30.9	11.6	9.2	78.5	0.0	0.3	0.5	0.0	0.0	0.0	0.182

Wüstite = Metal

Recalc Silicate
Recalc Norm

Fe/Ni 8.8

	SiO_2	Al_2O_3	FeO	MgO	CaO	Na_2O	K_2O	NiO	S	
Original Anal.	53.650	2.240	9.890	24.040	2.300	1.200	0.100	0.030	0.430	
	*********	CSUM =	93.880	*********						
Normalized	57.147	2.386	10.535	25.607	2.450	1.278	0.107	0.032	0.458	
$M_{FeO} = M_{NiO} + M_S$	57.147	2.386	9.454	25.607	2.450	1.278	0.107	0.313	1.257	
	*********	CSUM =	98.430	*********						
Silicate = 100%	58.059	2.424	9.605	26.016	2.489	1.299	0.108			
Norm	56.9	12.2	30.9	11.6	9.2	78.4	0.0	0.3	0.5	0.0	0.0	0.0	0.180

Wüstite = Metal

Recalc Silicate
Recalc Norm

SiO_2 Comp. of Normative Ol + Py + Q	FeO	MgO	Ab	Di	Py	Ol	Q	An	Ns	Wu	Co	$\frac{M_{FeO}}{M_{FeO} + M_{MgO}}$

Process C 33 D 3.228, W 4.83

Fe/Ni 6.2

	SiO_2	Al_2O_3	FeO	MgO	CaO	Na_2O	K_2O	NiO	S				
Original Anal.	43.060	2.660	14.310	26.160	0.920	1.390	0.090	0.0	0.360				
	********* CSUM =		88.950 *********										
Normalized	48.409	2.990	16.088	29.410	1.034	1.563	0.101	0.0	0.405				
$M_{FeO} = M_{NiO} + M_S$	48.409	2.990	15.381	29.410	1.034	1.563	0.101	0.0	1.111				
	********* CSUM =		98.889 *********										
Silicate = 100%	48.953	3.024	15.554	29.740	1.046	1.580	0.102						
Norm	45.4	19.0	35.6	14.0	3.4	31.6	50.2	0.0	0.9	0.0	0.0	0.0	0.229

Wüstite = Metal

Recalc Silicate
Recalc Norm

Fe/Ni 8.8

	SiO_2	Al_2O_3	FeO	MgO	CaO	Na_2O	K_2O	NiO	S				
Original Anal.	43.060	2.660	14.310	26.160	0.920	1.390	0.090	0.0	0.360				
	********* CSUM =		88.950 *********										
Normalized	48.409	2.990	16.088	29.410	1.034	1.563	0.101	0.0	0.405				
$M_{FeO} = M_{NiO} + M_S$	48.409	2.990	15.381	29.410	1.034	1.563	0.101	0.0	1.111				
	********* CSUM =		98.889 *********										
Silicate = 100%	48.953	3.024	15.554	29.740	1.046	1.580	0.102						
Norm	45.4	19.0	35.6	14.0	3.4	31.6	50.2	0.0	0.9	0.0	0.0	0.0	0.229

Wüstite = Metal

Recalc Silicate
Recalc Norm

SiO_2 Comp. of Normative Ol + Py + Q	FeO	MgO	Ab	Di	Py	Ol	Q	An	Ns	Wu	Co	$\frac{M_{FeO}}{M_{FeO} + M_{MgO}}$

Process C 34 D 3.231, W 1.91

Fe/Ni 6.2

	SiO_2	Al_2O_3	FeO	MgO	CaO	Na_2O	K_2O	NiO	S				
Original Anal.	47.770	2.110	13.080	25.690	1.760	1.010	0.120	0.020	0.500				
	*********	CSUM =	92.060	*********									
Normalized	51.890	2.292	14.208	27.906	1.912	1.097	0.130	0.022	0.543				
$M_{FeO} = M_{NiO} + M_S$	51.890	2.292	13.126	27.906	1.912	1.097	0.130	0.156	1.491				
	*********	CSUM =	98.353	*********									
Silicate = 100%	52.759	2.330	13.346	28.373	1.944	1.115	0.133						
Norm	50.7	16.3	33.0	10.2	6.8	56.0	26.1	0.0	1.0	0.0	0.0	0.0	0.215

Wüstite = Metal

Recalc Silicate
Recalc Norm

Fe/Ni 8.8

	SiO_2	Al_2O_3	FeO	MgO	CaO	Na_2O	K_2O	NiO	S				
Original Anal.	47.770	2.110	13.080	25.690	1.760	1.010	0.120	0.020	0.500				
	*********	CSUM =	92.060	*********									
Normalized	51.890	2.292	14.208	27.906	1.912	1.097	0.130	0.022	0.543				
$M_{FeO} = M_{NiO} + M_S$	51.890	2.292	13.069	27.906	1.912	1.097	0.130	0.213	1.491				
	*********	CSUM =	98.296	*********									
Silicate = 100%	52.789	2.332	13.296	28.389	1.945	1.116	0.133						
Norm	50.7	16.2	33.1	10.2	6.8	56.1	26.0	0.0	1.0	0.0	0.0	0.0	0.214

Wüstite = Metal

Recalc Silicate
Recalc Norm

SiO_2	FeO	MgO	Ab	Di	Py	Ol	Q	An	Ns	Wu	Co	$\frac{M_{FeO}}{M_{FeO} + M_{MgO}}$
Comp. of Normative Ol + Py + Q												

Process C 35 D 3.245, W 5.46

Fe/Ni 6.2

	SiO_2	Al_2O_3	FeO	MgO	CaO	Na_2O	K_2O	NiO	S	
Original Anal.	56.570	1.850	11.310	27.990	2.910	1.390	0.180	0.030	0.450	
	*********CSUM = 102.680*********									
Normalized	55.094	1.802	11.015	27.259	2.834	1.354	0.175	0.029	0.438	
$M_{FeO} = M_{NiO} + M_S$	55.094	1.802	10.069	27.259	2.834	1.354	0.175	0.210	1.203	
	*********CSUM = 98.587*********									
Silicate = 100%	55.883	1.828	10.213	27.650	2.875	1.373	0.178			
Norm	54.5	13.0	32.5	9.4	11.1	68.7	10.1	0.0	0.0	0.8	0.0	0.0	0.182

Wüstite = Metal

Recalc Silicate
Recalc Norm

Fe/Ni 8.8

	SiO_2	Al_2O_3	FeO	MgO	CaO	Na_2O	K_2O	NiO	S	
Original Anal.	56.570	1.850	11.310	27.990	2.910	1.390	0.180	0.030	0.450	
	*********CSUM = 102.680*********									
Normalized	55.094	1.802	11.015	27.259	2.834	1.354	0.175	0.029	0.438	
$M_{FeO} = M_{NiO} + M_S$	55.094	1.802	9.993	27.259	2.834	1.354	0.175	0.286	1.203	
	*********CSUM = 98.511*********									
Silicate = 100%	55.926	1.829	10.144	27.672	2.877	1.374	0.178			
Norm	54.6	12.9	32.5	9.4	11.1	68.8	9.9	0.0	0.0	0.8	0.0	0.0	0.181

Wüstite = Metal

Recalc Silicate
Recalc Norm

SiO_2	FeO	MgO	Ab	Di	Py	Ol	Q	An	Ns	Wu	Co	$\frac{M_{FeO}}{M_{FeO} + M_{MgO}}$
Comp. of Normative Ol + Py + Q												

Process C 36 D 3.264, W 4.41

Fe/Ni 6.2

	SiO_2	Al_2O_3	FeO	MgO	CaO	Na_2O	K_2O	NiO	S			
Original Anal.	47.000	1.580	11.700	25.710	3.690	0.970	0.040	0.010	0.340			
	********* CSUM =		91.040 *********									
Normalized	51.626	1.736	12.852	28.240	4.053	1.065	0.044	0.011	0.373			
$M_{FeO} = M_{NiO} + M_S$	51.626	1.736	12.132	28.240	4.053	1.065	0.044	0.079	1.025			
	********* CSUM =		98.896 *********									
Silicate = 100%	52.202	1.755	12.267	28.556	4.098	1.077	0.044					
Norm	49.5	16.3	34.1	9.0	15.8	45.8	29.3	0.0	0.0	0.1	0.0	0.0 0.211

Wüstite = Metal

Recalc Silicate
Recalc Norm

Fe/Ni 8.8

	SiO_2	Al_2O_3	FeO	MgO	CaO	Na_2O	K_2O	NiO	S			
Original Anal.	47.000	1.580	11.700	25.710	3.690	0.970	0.040	0.010	0.340			
	********* CSUM =		91.040 *********									
Normalized	51.626	1.736	12.852	28.240	4.053	1.065	0.044	0.011	0.373			
$M_{FeO} = M_{NiO} + M_S$	51.626	1.736	12.103	28.240	4.053	1.065	0.044	0.108	1.025			
	********* CSUM =		98.867 *********									
Silicate = 100%	52.217	1.755	12.242	28.564	4.100	1.078	0.044					
Norm	49.6	16.3	34.1	9.0	15.8	45.8	29.3	0.0	0.0	0.1	0.0	0.0 0.210

Wüstite = Metal

Recalc Silicate
Recalc Norm

SiO_2	FeO	MgO	Ab	Di	Py	Ol	Q	An	Ns	Wu	Co	$\frac{M_{FeO}}{M_{FeO} + M_{MgO}}$
Comp. of Normative Ol + Py + Q												

Process C 37 D 3.268, W 5.60

Fe/Ni 6.2

	SiO_2	Al_2O_3	FeO	MgO	CaO	Na_2O	K_2O	NiO	S
Original Anal.	47.830	2.260	10.640	28.470	4.020	1.480	0.240	0.0	0.450
	*********	CSUM =	95.390	*********					
Normalized	50.142	2.369	11.154	29.846	4.214	1.552	0.252	0.0	0.472
$M_{FeO} = M_{NiO} + M_S$	50.142	2.369	10.331	29.846	4.214	1.552	0.252	0.0	1.295
	*********	CSUM =	98.705	*********					
Silicate = 100%	50.799	2.400	10.467	30.237	4.270	1.572	0.255		
Norm	46.6	14.8	38.5	12.4	16.5	28.8	41.8	0.0	0.0

Norm	0.6	0.0	0.0	0.177							

Wüstite = Metal

Recalc Silicate
Recalc Norm

Fe/Ni 8.8

	SiO_2	Al_2O_3	FeO	MgO	CaO	Na_2O	K_2O	NiO	S
Original Anal.	47.830	2.260	10.640	28.470	4.020	1.480	0.240	0.0	0.450
	*********	CSUM =	95.390	*********					
Normalized	50.142	2.369	11.154	29.846	4.214	1.552	0.252	0.0	0.472
$M_{FeO} = M_{NiO} + M_S$	50.142	2.369	10.331	29.846	4.214	1.552	0.252	0.0	1.295
	*********	CSUM =	98.705	*********					
Silicate = 100%	50.799	2.400	10.467	30.237	4.270	1.572	0.255		
Norm	46.6	14.8	38.5	12.4	16.5	28.8	41.8	0.0	0.0

Norm	0.6	0.0	0.0	0.177							

Wüstite = Metal

Recalc Silicate
Recalc Norm

SiO_2	FeO	MgO	Ab	Di	Py	Ol	Q	An	Ns	Wu	Co	$\frac{M_{FeO}}{M_{FeO} + M_{MgO}}$
Comp. of Normative Ol + Py + Q												

Process C 38 D 3.273, W 1.59

Fe/Ni 6.2

	SiO_2	Al_2O_3	FeO	MgO	CaO	Na_2O	K_2O	NiO	S				
Original Anal.	50.510	2.410	12.170	27.340	4.280	1.340	0.230	0.020	0.540				
	********* CSUM =		98.840 *********										
Normalized	51.103	2.438	12.313	27.661	4.330	1.356	0.233	0.020	0.546				
$M_{FeO} = M_{NiO} + M_S$	51.103	2.438	11.234	27.661	4.330	1.356	0.233	0.146	1.500				
	********* CSUM =		98.355 *********										
Silicate = 100%	51.958	2.479	11.422	28.124	4.403	1.378	0.237						
Norm	48.1	16.3	35.6	12.8	17.0	36.5	33.7	0.0	0.0	0.1	0.0	0.0	0.203

Wüstite = Metal

Recalc Silicate
Recalc Norm

Fe/Ni 8.8

Original Anal.	50.510	2.410	12.170	27.340	4.280	1.340	0.230	0.020	0.540				
	********* CSUM =		98.840 *********										
Normalized	51.103	2.438	12.313	27.661	4.330	1.356	0.233	0.020	0.546				
$M_{FeO} = M_{NiO} + M_S$	51.103	2.438	11.181	27.661	4.330	1.356	0.233	0.198	1.500				
	********* CSUM =		98.302 *********										
Silicate = 100%	51.986	2.480	11.375	28.139	4.405	1.379	0.237						
Norm	48.2	16.2	35.6	12.8	17.0	36.5	33.6	0.0	0.0	0.1	0.0	0.0	0.202

Wüstite = Metal

Recalc Silicate
Recalc Norm

SiO_2	FeO	MgO	Ab	Di	Py	Ol	Q	An	Ns	Wu	Co	$\frac{M_{FeO}}{M_{FeO} + M_{MgO}}$
Comp. of Normative Ol + Py + Q												

Process C 39 D 3.273, W 3.13

Fe/Ni 6.2

	SiO_2	Al_2O_3	FeO	MgO	CaO	Na_2O	K_2O	NiO	S	
Original Anal.	53.910	2.300	7.870	25.220	1.870	1.360	0.130	0.030	0.490	
	*********	CSUM =	93.180	*********						
Normalized	57.856	2.468	8.446	27.066	2.007	1.460	0.140	0.032	0.526	
$M_{FeO} = M_{NiO} + M_S$	57.856	2.468	7.329	27.066	2.007	1.460	0.140	0.232	1.443	
	*********	CSUM =	98.325	*********						
Silicate = 100%	58.842	2.510	7.454	27.527	2.041	1.484	0.142			
Norm	57.6	9.4	33.0	12.9	7.9	78.8	0.0	0.3	0.0	0.1	0.0	0.0	0.137

Wüstite = Metal

Recalc Silicate
Recalc Norm

Fe/Ni 8.8

	SiO_2	Al_2O_3	FeO	MgO	CaO	Na_2O	K_2O	NiO	S	
Original Anal.	53.910	2.300	7.870	25.220	1.870	1.360	0.130	0.030	0.490	
	*********	CSUM =	93.180	*********						
Normalized	57.856	2.468	8.446	27.066	2.007	1.460	0.140	0.032	0.526	
$M_{FeO} = M_{NiO} + M_S$	57.856	2.468	7.245	27.066	2.007	1.460	0.140	0.316	1.443	
	*********	CSUM =	98.241	*********						
Silicate = 100%	58.892	2.513	7.375	27.551	2.043	1.486	0.142			
Norm	57.7	9.3	33.0	13.0	7.9	78.7	0.0	0.3	0.0	0.1	0.0	0.0	0.136

Wüstite = Metal

Recalc Silicate
Recalc Norm

SiO_2	FeO	MgO	Ab	Di	Py	Ol	Q	An	Ns	Wu	Co	$\frac{M_{FeO}}{M_{FeO} + M_{MgO}}$
Comp. of Normative Ol + Py + Q												

Process C 40 D 3.277, W 2.22

Fe/Ni 6.2

	SiO_2	Al_2O_3	FeO	MgO	CaO	Na_2O	K_2O	NiO	S				
Original Anal.	50.890	2.620	10.540	26.510	1.940	1.360	0.130	0.0	0.340				
	*********	CSUM =	94.330	*********									
Normalized	53.949	2.777	11.174	28.103	2.057	1.442	0.138	0.0	0.360				
$M_{FeO} = M_{NiO} + M_S$	53.949	2.777	10.545	28.103	2.057	1.442	0.138	0.0	0.989				
	*********	CSUM =	99.011	*********									
Silicate = 100%	54.488	2.805	10.650	28.384	2.077	1.456	0.139						
Norm	52.2	13.5	34.3	13.1	7.5	57.7	21.0	0.0	0.7	0.0	0.0	0.0	0.180

Wüstite = Metal

Recalc Silicate
Recalc Norm

Fe/Ni 8.8

	SiO_2	Al_2O_3	FeO	MgO	CaO	Na_2O	K_2O	NiO	S				
Original Anal.	50.890	2.620	10.540	26.510	1.940	1.360	0.130	0.0	0.340				
	*********	CSUM =	94.330	*********									
Normalized	53.949	2.777	11.174	28.103	2.057	1.442	0.138	0.0	0.360				
$M_{FeO} = M_{NiO} + M_S$	53.949	2.777	10.545	28.103	2.057	1.442	0.138	0.0	0.989				
	*********	CSUM =	99.011	*********									
Silicate = 100%	54.488	2.805	10.650	28.384	2.077	1.456	0.139						
Norm	52.2	13.5	34.3	13.1	7.5	57.7	21.0	0.0	0.7	0.0	0.0	0.0	0.180

Wüstite = Metal

Recalc Silicate
Recalc Norm

SiO_2	FeO	MgO	Ab	Di	Py	Ol	Q	An	Ns	Wu	Co	$\frac{M_{FeO}}{M_{FeO} + M_{MgO}}$
Comp. of Normative Ol + Py + Q												

Process C 41 D 3.281, W 4.18

Fe/Ni 6.2

	SiO_2	Al_2O_3	FeO	MgO	CaO	Na_2O	K_2O	NiO	S	
Original Anal.	52.720	2.580	11.320	28.720	3.140	1.360	0.120	0.010	0.560	
	*********	CSUM =	100.530	*********						
Normalized	52.442	2.566	11.260	28.569	3.123	1.353	0.119	0.010	0.557	
$M_{FeO} = M_{NiO} + M_S$	52.442	2.566	10.227	28.569	3.123	1.353	0.119	0.072	1.529	
	*********	CSUM =	98.399	*********						
Silicate = 100%	53.295	2.608	10.393	29.033	3.174	1.375	0.121			
Norm	50.5	13.8	35.7	12.3	11.8	47.9	27.4	0.0	0.6	0.0	0.0	0.0	0.177

Wüstite = Metal

Recalc Silicate
Recalc Norm

Fe/Ni 8.8

	SiO_2	Al_2O_3	FeO	MgO	CaO	Na_2O	K_2O	NiO	S	
Original Anal.	52.720	2.580	11.320	28.720	3.140	1.360	0.120	0.010	0.560	
	*********	CSUM =	100.530	*********						
Normalized	52.442	2.566	11.260	28.569	3.123	1.353	0.119	0.010	0.557	
$M_{FeO} = M_{NiO} + M_S$	52.442	2.566	10.201	28.569	3.123	1.353	0.119	0.097	1.529	
	*********	CSUM =	98.373	*********						
Silicate = 100%	53.309	2.609	10.369	29.041	3.175	1.375	0.121			
Norm	50.6	13.8	35.7	12.3	11.8	47.9	27.4	0.0	0.6	0.0	0.0	0.0	0.177

Wüstite = Metal

Recalc Silicate
Recalc Norm

SiO_2	FeO	MgO	Ab	Di	Py	Ol	Q	An	Ns	Wu	Co	$\frac{M_{FeO}}{M_{FeO} + M_{MgO}}$
Comp. of Normative Ol + Py + Q												

Process C 42 D 3.281, W 3.66

Fe/Ni 6.2

	SiO_2	Al_2O_3	FeO	MgO	CaO	Na_2O	K_2O	NiO	S			
Original Anal.	48.440	2.520	12.000	25.860	3.370	1.410	0.260	0.010	0.310			
	********* CSUM =		94.180 *********									
Normalized	51.433	2.676	12.742	27.458	3.578	1.497	0.276	0.011	0.329			
$M_{FeO} = M_{NiO} + M_S$	51.433	2.676	12.101	27.458	3.578	1.497	0.276	0.076	0.904			
	********* CSUM =		99.020 *********									
Silicate = 100%	51.942	2.702	12.221	27.730	3.614	1.512	0.279					
Norm	48.1	17.0	34.9	14.0	14.0	38.0	34.0	0.0	0.0	0.1	0.0	0.0	0.213

Wüstite = Metal

Recalc Silicate
Recalc Norm

Fe/Ni 8.8

Original Anal.	48.440	2.520	12.000	25.860	3.370	1.410	0.260	0.010	0.310			
	********* CSUM =		94.180 *********									
Normalized	51.433	2.676	12.742	27.458	3.578	1.497	0.276	0.011	0.329			
$M_{FeO} = M_{NiO} + M_S$	51.433	2.676	12.074	27.458	3.578	1.497	0.276	0.104	0.904			
	********* CSUM =		98.992 *********									
Silicate = 100%	51.957	2.703	12.197	27.738	3.615	1.512	0.279					
Norm	48.1	16.9	34.9	14.0	14.0	38.0	33.9	0.0	0.0	0.1	0.0	0.0	0.213

Wüstite = Metal

Recalc Silicate
Recalc Norm

SiO_2	FeO	MgO	Ab	Di	Py	Ol	Q	An	Ns	Wu	Co	$\frac{M_{FeO}}{M_{FeO} + M_{MgO}}$
Comp. of Normative Ol + Py + Q												

Process C 43 D 3.288, W 5.93

Fe/Ni 6.2

	SiO_2	Al_2O_3	FeO	MgO	CaO	Na_2O	K_2O	NiO	S	
Original Anal.	50.730	1.610	11.120	25.660	3.120	1.210	0.180	0.030	0.610	
	*********	CSUM =	94.270	*********						
Normalized	53.814	1.708	11.796	27.220	3.310	1.284	0.191	0.032	0.647	
$M_{FeO} = M_{NiO} + M_S$	53.814	1.708	10.469	27.220	3.310	1.284	0.191	0.229	1.776	
	*********	CSUM =	97.995	*********						
Silicate = 100%	54.915	1.743	10.684	27.777	3.377	1.310	0.195			
Norm	53.3	13.8	32.8	9.0	13.0	62.6	14.6	0.0	0.0	0.8	0.0	0.0	0.190

Wüstite = Metal

Recalc Silicate
Recalc Norm

Fe/Ni 8.8

	SiO_2	Al_2O_3	FeO	MgO	CaO	Na_2O	K_2O	NiO	S	
Original Anal.	50.730	1.610	11.120	25.660	3.120	1.210	0.180	0.030	0.610	
	*********	CSUM =	94.270	*********						
Normalized	53.814	1.708	11.796	27.220	3.310	1.284	0.191	0.032	0.647	
$M_{FeO} = M_{NiO} + M_S$	53.814	1.708	10.387	27.220	3.310	1.284	0.191	0.312	1.776	
	*********	CSUM =	97.912	*********						
Silicate = 100%	54.961	1.744	10.608	27.800	3.380	1.311	0.195			
Norm	53.4	13.7	32.9	9.0	13.0	62.7	14.5	0.0	0.0	0.8	0.0	0.0	0.189

Wüstite = Metal

Recalc Silicate
Recalc Norm

SiO_2 Comp. of Normative Ol + Py + Q	FeO	MgO	Ab	Di	Py	Ol	Q	An	Ns	Wu	Co	$\frac{M_{FeO}}{M_{FeO} + M_{MgO}}$

Process C 44 D 3.298, W 5.93

Fe/Ni 6.2

	SiO_2	Al_2O_3	FeO	MgO	CaO	Na_2O	K_2O	NiO	S				
Original Anal.	45.550	2.740	13.750	27.250	4.650	1.500	0.170	0.0	0.430				
	*********	CSUM =	96.040	*********									
Normalized	47.428	2.853	14.317	28.374	4.842	1.562	0.177	0.0	0.448				
$M_{FeO} = M_{NiO} + M_S$	47.428	2.853	13.536	28.374	4.842	1.562	0.177	0.0	1.229				
	*********	CSUM =	98.771	*********									
Silicate = 100%	48.018	2.888	13.704	28.727	4.902	1.581	0.179						
Norm	41.5	20.6	37.9	14.4	18.7	10.8	55.9	0.0	0.3	0.0	0.0	0.0	0.232

Wüstite = Metal

Recalc Silicate
Recalc Norm

Fe/Ni 8.8

	SiO_2	Al_2O_3	FeO	MgO	CaO	Na_2O	K_2O	NiO	S				
Original Anal.	45.550	2.740	13.750	27.250	4.650	1.500	0.170	0.0	0.430				
	*********	CSUM =	96.040	*********									
Normalized	47.428	2.853	14.317	28.374	4.842	1.562	0.177	0.0	0.448				
$M_{FeO} = M_{NiO} + M_S$	47.428	2.853	13.536	28.374	4.842	1.562	0.177	0.0	1.229				
	*********	CSUM =	98.771	*********									
Silicate = 100%	48.018	2.888	13.704	28.727	4.902	1.581	0.179						
Norm	41.5	20.6	37.9	14.4	18.7	10.8	55.9	0.0	0.3	0.0	0.0	0.0	0.232

Wüstite = Metal

Recalc Silicate
Recalc Norm

SiO_2	FeO	MgO	Ab	Di	Py	Ol	Q	An	Ns	Wu	Co	$\frac{M_{FeO}}{M_{FeO} + M_{MgO}}$
Comp. of Normative Ol + Py + Q												

Process C 45 D 3.310, W 4.62

Fe/Ni 6.2

	SiO_2	Al_2O_3	FeO	MgO	CaO	Na_2O	K_2O	NiO	S			
Original Anal.	53.960	1.530	7.980	24.310	3.750	1.140	0.280	0.030	0.570			
	*********CSUM =		93.550*********									
Normalized	57.680	1.635	8.530	25.986	4.009	1.219	0.299	0.032	0.609			
$M_{FeO} = M_{NiO} + M_S$	57.680	1.635	7.268	25.986	4.009	1.219	0.299	0.231	1.673			
	*********CSUM =		98.097*********									
Silicate = 100%	58.800	1.667	7.409	26.490	4.086	1.242	0.305					
Norm	58.5	9.9	31.5	8.6	15.8	72.5	0.0	2.2	0.0	0.9	0.0	0.0	0.149

Wüstite = Metal

Recalc Silicate
Recalc Norm

Fe/Ni 8.8

	SiO_2	Al_2O_3	FeO	MgO	CaO	Na_2O	K_2O	NiO	S			
Original Anal.	53.960	1.530	7.980	24.310	3.750	1.140	0.280	0.030	0.570			
	*********CSUM =		93.550*********									
Normalized	57.680	1.635	8.530	25.986	4.009	1.219	0.299	0.032	0.609			
$M_{FeO} = M_{NiO} + M_S$	57.680	1.635	7.185	25.986	4.009	1.219	0.299	0.314	1.673			
	*********CSUM =		98.013*********									
Silicate = 100%	58.850	1.669	7.330	26.513	4.090	1.243	0.305					
Norm	58.6	9.8	31.6	8.6	15.8	72.4	0.0	2.3	0.0	0.9	0.0	0.0	0.148

Wüstite = Metal

Recalc Silicate
Recalc Norm

SiO_2	FeO	MgO	Ab	Di	Py	Ol	Q	An	Ns	Wu	Co	$\frac{M_{FeO}}{M_{FeO} + M_{MgO}}$
Comp. of Normative Ol + Py + Q												

Process C 46 D 3.325, W 3.82

Fe/Ni 6.2

	SiO_2	Al_2O_3	FeO	MgO	CaO	Na_2O	K_2O	NiO	S
Original Anal.	52.250	2.580	13.690	27.600	1.700	1.220	0.110	0.0	0.350
	********* CSUM =		99.500 *********						
Normalized	52.513	2.593	13.759	27.739	1.709	1.226	0.111	0.0	0.352
$M_{FeO} = M_{NiO} + M_S$	52.513	2.593	13.145	27.739	1.709	1.226	0.111	0.0	0.966
	********* CSUM =		99.034 *********						
Silicate = 100%	53.025	2.618	13.273	28.009	1.725	1.238	0.112		

Norm													
	50.9	16.2	32.9	11.1	5.7	56.9	25.0	0.0	1.3	0.0	0.0	0.0	0.215

Wüstite = Metal

Recalc Silicate
Recalc Norm

Fe/Ni 8.8

	SiO_2	Al_2O_3	FeO	MgO	CaO	Na_2O	K_2O	NiO	S
Original Anal.	52.250	2.580	13.690	27.600	1.700	1.220	0.110	0.0	0.350
	********* CSUM =		99.500 *********						
Normalized	52.513	2.593	13.759	27.739	1.709	1.226	0.111	0.0	0.352
$M_{FeO} = M_{NiO} + M_S$	52.513	2.593	13.145	27.739	1.709	1.226	0.111	0.0	0.966
	********* CSUM =		99.034 *********						
Silicate = 100%	53.025	2.618	13.273	28.009	1.725	1.238	0.112		

Norm													
	50.9	16.2	32.9	11.1	5.7	56.9	25.0	0.0	1.3	0.0	0.0	0.0	0.215

Wüstite = Metal

Recalc Silicate
Recalc Norm

SiO_2	FeO	MgO	Ab	Di	Py	Ol	Q	An	Ns	Wu	Co	$\frac{M_{FeO}}{M_{FeO} + M_{MgO}}$
Comp. of Normative Ol + Py + Q												

Process C 47 D 3.325; W 5.61

Fe/Ni 6.2

	SiO_2	Al_2O_3	FeO	MgO	CaO	Na_2O	K_2O	NiO	S
Original Anal.	55.270	2.350	16.240	28.650	4.070	1.280	0.150	0.010	0.350
	********* CSUM = 108.370 *********								
Normalized	51.001	2.168	14.986	26.437	3.756	1.181	0.138	0.009	0.323
$M_{FeO} = M_{NiO} + M_S$	51.001	2.168	14.365	26.437	3.756	1.181	0.138	0.066	0.887
	********* CSUM = 99.047 *********								
Silicate = 100%	51.492	2.189	14.503	26.692	3.792	1.193	0.140		
Norm	48.3	19.5	32.3	10.9	14.5	42.7	31.7	0.0	0.2

0.0 0.0 0.0 0.252

Wüstite = Metal

Recalc Silicate
Recalc Norm

Fe/Ni 8.8

	SiO_2	Al_2O_3	FeO	MgO	CaO	Na_2O	K_2O	NiO	S
Original Anal.	55.270	2.350	16.240	28.650	4.070	1.280	0.150	0.010	0.350
	********* CSUM = 108.370 *********								
Normalized	51.001	2.168	14.986	26.437	3.756	1.181	0.138	0.009	0.323
$M_{FeO} = M_{NiO} + M_S$	51.001	2.168	14.341	26.437	3.756	1.181	0.138	0.090	0.887
	********* CSUM = 99.023 *********								
Silicate = 100%	51.504	2.190	14.482	26.698	3.793	1.193	0.140		
Norm	48.3	19.5	32.3	10.9	14.5	42.8	31.7	0.0	0.2

0.0 0.0 0.0 0.251

Wüstite = Metal

Recalc Silicate
Recalc Norm

SiO_2	FeO	MgO	Ab	Di	Py	Ol	Q	An	Ns	Wu	Co	$\frac{M_{FeO}}{M_{FeO} + M_{MgO}}$
Comp. of Normative Ol + Py + Q												

Process C 48 D 3.345, W 2.90

Fe/Ni 6.2

	SiO_2	Al_2O_3	FeO	MgO	CaO	Na_2O	K_2O	NiO	S	
Original Anal.	55.440	1.630	15.000	26.210	2.340	0.980	0.090	0.020	0.390	
	********* CSUM = 102.100 *********									
Normalized	54.300	1.596	14.691	25.671	2.292	0.960	0.088	0.020	0.382	
$M_{FeO} = M_{NiO} + M_S$	54.300	1.596	13.903	25.671	2.292	0.960	0.088	0.141	1.049	
	********* CSUM = 98.810 *********									
Silicate = 100%	54.953	1.616	14.071	25.980	2.319	0.971	0.089			
Norm	53.5	17.0	29.4	8.3	9.0	72.4	10.3	0.0	0.0	0.1 0.0 0.0 0.244

Wüstite = Metal

Recalc Silicate

Recalc Norm

Fe/Ni 8.8

	SiO_2	Al_2O_3	FeO	MgO	CaO	Na_2O	K_2O	NiO	S	
Original Anal.	55.440	1.630	15.000	26.210	2.340	0.980	0.090	0.020	0.390	
	********* CSUM = 102.100 *********									
Normalized	54.300	1.596	14.691	25.671	2.292	0.960	0.088	0.020	0.382	
$M_{FeO} = M_{NiO} + M_S$	54.300	1.596	13.853	25.671	2.292	0.960	0.088	0.192	1.049	
	********* CSUM = 98.759 *********									
Silicate = 100%	54.982	1.617	14.027	25.993	2.321	0.972	0.089			
Norm	53.6	17.0	29.5	8.3	9.0	72.5	10.2	0.0	0.0	0.1 0.0 0.0 0.243

Wüstite = Metal

Recalc Silicate

Recalc Norm

SiO_2 Comp. of Normative Ol + Py + Q	FeO	MgO	Ab	Di	Py	Ol	Q	An	Ns	Wu	Co	$\frac{M_{FeO}}{M_{FeO} + M_{MgO}}$

Process C 49 D 3.374, W 4.95

Fe/Ni 6.2

	SiO_2	Al_2O_3	FeO	MgO	CaO	Na_2O	K_2O	NiO	S			
Original Anal.	44.020	2.350	11.360	28.300	3.620	1.620	0.260	0.010	0.360			
	*********	CSUM =	91.900	*********								
Normalized	47.900	2.557	12.361	30.794	3.939	1.763	0.283	0.011	0.392			
$M_{FeO} = M_{NiO} + M_S$	47.900	2.557	11.610	30.794	3.939	1.763	0.283	0.078	1.075			
	*********	CSUM =	98.846	*********								
Silicate = 100%	48.459	2.587	11.746	31.154	3.985	1.783	0.286					
Norm	43.2	16.7	40.2	13.4	15.4	15.2	55.3	0.0	0.0	0.8	0.0	0.0	0.188

Wüstite = Metal

Recalc Silicate
Recalc Norm

Fe/Ni 8.8

	SiO_2	Al_2O_3	FeO	MgO	CaO	Na_2O	K_2O	NiO	S			
Original Anal.	44.020	2.350	11.360	28.300	3.620	1.620	0.260	0.010	0.360			
	*********	CSUM =	91.900	*********								
Normalized	47.900	2.557	12.361	30.794	3.939	1.763	0.283	0.011	0.392			
$M_{FeO} = M_{NiO} + M_S$	47.900	2.557	11.582	30.794	3.939	1.763	0.283	0.107	1.075			
	*********	CSUM =	98.818	*********								
Silicate = 100%	48.473	2.588	11.720	31.163	3.986	1.784	0.286					
Norm	43.2	16.6	40.2	13.4	15.4	15.2	55.2	0.0	0.0	0.8	0.0	0.0	0.187

Wüstite = Metal

Recalc Silicate
Recalc Norm

SiO_2 Comp. of Normative Ol + Py + Q	FeO	MgO	Ab	Di	Py	Ol	Q	An	Ns	Wu	Co	$\frac{M_{FeO}}{M_{FeO} + M_{MgO}}$

Process C 50 D 3.383, W 2.81

Fe/Ni 6.2

	SiO_2	Al_2O_3	FeO	MgO	CaO	Na_2O	K_2O	NiO	S	
Original Anal.	50.130	1.850	14.660	27.710	1.500	1.000	0.340	0.020	0.420	
	********* CSUM =		97.630 *********							
Normalized	51.347	1.895	15.016	28.383	1.536	1.024	0.348	0.020	0.430	
$M_{FeO} = M_{NiO} + M_S$	51.347	1.895	14.138	28.383	1.536	1.024	0.348	0.147	1.181	
	********* CSUM =		98.672 *********							
Silicate = 100%	52.038	1.920	14.329	28.765	1.557	1.038	0.353			
Norm	49.9	17.1	33.0	10.0	6.0	54.0	29.8	0.0	0.0	0.2 0.0 0.0 0.224

Wüstite = Metal

Recalc Silicate
Recalc Norm

Fe/Ni 8.8

	SiO_2	Al_2O_3	FeO	MgO	CaO	Na_2O	K_2O	NiO	S	
Original Anal.	50.130	1.850	14.660	27.710	1.500	1.000	0.340	0.020	0.420	
	********* CSUM =		97.630 *********							
Normalized	51.347	1.895	15.016	28.383	1.536	1.024	0.348	0.020	0.430	
$M_{FeO} = M_{NiO} + M_S$	51.347	1.895	14.085	28.383	1.536	1.024	0.348	0.201	1.181	
	********* CSUM =		98.618 *********							
Silicate = 100%	52.066	1.921	14.282	28.780	1.558	1.039	0.353			
Norm	49.9	17.0	33.0	10.0	6.0	54.1	29.7	0.0	0.0	0.2 0.0 0.0 0.223

Wüstite = Metal

Recalc Silicate
Recalc Norm

SiO_2	FeO	MgO	Ab	Di	Py	Ol	Q	An	Ns	Wu	Co	$\frac{M_{FeO}}{M_{FeO} + M_{MgO}}$
Comp. of Normative Ol + Py + Q												

Process C 51 D 3.383, W 11.87

Fe/Ni 6.2

	SiO_2	Al_2O_3	FeO	MgO	CaO	Na_2O	K_2O	NiO	S	
Original Anal.	42.810	2.160	12.010	22.880	2.470	1.190	0.170	0.0	0.410	
	*********	CSUM =	84.100	*********						
Normalized	50.904	2.568	14.281	27.206	2.937	1.415	0.202	0.0	0.488	
$M_{FeO} = M_{NiO} + M_S$	50.904	2.568	13.430	27.206	2.937	1.415	0.202	0.0	1.338	
	*********	CSUM =	98.662	*********						
Silicate = 100%	51.594	2.603	13.612	27.575	2.977	1.434	0.205			
Norm	48.0	18.1	33.9	13.3	11.4	40.6	34.6	0.0	0.1	0.0 0.0 0.0 0.230

Wüstite = Metal

Recalc Silicate
Recalc Norm

Fe/Ni 8.8

	SiO_2	Al_2O_3	FeO	MgO	CaO	Na_2O	K_2O	NiO	S	
Original Anal.	42.810	2.160	12.010	22.880	2.470	1.190	0.170	0.0	0.410	
	*********	CSUM =	84.100	*********						
Normalized	50.904	2.568	14.281	27.206	2.937	1.415	0.202	0.0	0.488	
$M_{FeO} = M_{NiO} + M_S$	50.904	2.568	13.430	27.206	2.937	1.415	0.202	0.0	1.338	
	*********	CSUM =	98.662	*********						
Silicate = 100%	51.594	2.603	13.612	27.575	2.977	1.434	0.205			
Norm	48.0	18.1	33.9	13.3	11.4	40.6	34.6	0.0	0.1	0.0 0.0 0.0 0.230

Wüstite = Metal

Recalc Silicate
Recalc Norm

SiO_2	FeO	MgO	Ab	Di	Py	Ol	Q	An	Ns	Wu	Co	$\frac{M_{FeO}}{M_{FeO} + M_{MgO}}$
Comp. of Normative Ol + Py + Q												

Process C 52 D 3.393, W 6.59

Fe/Ni 6.2

	SiO_2	Al_2O_3	FeO	MgO	CaO	Na_2O	K_2O	NiO	S	
Original Anal.	44.430	1.910	14.370	23.770	2.620	1.260	0.180	0.010	0.410	
	*********	CSUM =	88.960	*********						
Normalized	49.944	2.147	16.153	26.720	2.945	1.416	0.202	0.011	0.461	
$M_{FeO} = M_{NiO} + M_S$	49.944	2.147	15.279	26.720	2.945	1.416	0.202	0.081	1.265	
	*********	CSUM =	98.654	*********						
Silicate = 100%	50.625	2.176	15.488	27.084	2.985	1.436	0.205			
Norm	47.3	20.2	32.5	11.2	11.5	40.2	36.5	0.0	0.0	0.5	0.0	0.0	0.257

Wüstite = Metal

Recalc Silicate
Recalc Norm

Fe/Ni 8.8

Original Anal.	44.430	1.910	14.370	23.770	2.620	1.260	0.180	0.010	0.410	
	*********	CSUM =	88.960	*********						
Normalized	49.944	2.147	16.153	26.720	2.945	1.416	0.202	0.011	0.461	
$M_{FeO} = M_{NiO} + M_S$	49.944	2.147	15.250	26.720	2.945	1.416	0.202	0.110	1.265	
	*********	CSUM =	98.625	*********						
Silicate = 100%	50.640	2.177	15.463	27.092	2.986	1.436	0.205			
Norm	47.3	20.1	32.5	11.2	11.5	40.3	36.5	0.0	0.0	0.5	0.0	0.0	0.257

Wüstite = Metal

Recalc Silicate
Recalc Norm

SiO_2	FeO	MgO	Ab	Di	Py	Ol	Q	An	Ns	Wu	Co	$\frac{M_{FeO}}{M_{FeO} + M_{MgO}}$
Comp. of Normative Ol + Py + Q												

Process C 53 D 3.422, W 3.46

Fe/Ni 6.2

	SiO_2	Al_2O_3	FeO	MgO	CaO	Na_2O	K_2O	NiO	S
Original Anal.	29.110	2.090	17.860	27.130	0.700	1.240	0.100	0.0	0.340
	*********CSUM =		78.570*********						
Normalized	37.050	2.660	22.731	34.530	0.891	1.578	0.127	0.0	0.433
$M_{FeO} = M_{NiO} + M_S$	37.050	2.660	21.976	34.530	0.891	1.578	0.127	0.0	1.188
	*********CSUM =		98.812*********						
Silicate = 100%	37.495	2.692	22.240	34.945	0.902	1.597	0.129		
Norm	31.5	26.9	41.5	13.9	3.5	0.0	68.1	0.0	0.0

Norm	31.5	26.9	41.5	13.9	3.5	0.0	68.1	0.0	0.0	0.1	14.5	0.0	0.265
Wüstite = Metal	FE =	16.7										
	*********CSUM =		78.511*********									
Recalc Silicate	47.758	3.429	0.957	44.509	1.148	2.034	0.164					
Recalc Norm	42.6	1.2	56.2	17.7	4.4	0.0	77.8	0.0	0.0	0.1	0.0	0.0	0.012

Fe/Ni 8.8

	SiO_2	Al_2O_3	FeO	MgO	CaO	Na_2O	K_2O	NiO	S
Original Anal.	29.110	2.090	17.860	27.130	0.700	1.240	0.100	0.0	0.340
	*********CSUM =		78.570*********						
Normalized	37.050	2.660	22.731	34.530	0.891	1.578	0.127	0.0	0.433
$M_{FeO} = M_{NiO} + M_S$	37.050	2.660	21.976	34.530	0.891	1.578	0.127	0.0	1.188
	*********CSUM =		98.812*********						
Silicate = 100%	37.495	2.692	22.240	34.945	0.902	1.597	0.129		
Norm	31.5	26.9	41.5	13.9	3.5	0.0	68.1	0.0	0.0

Norm	31.5	26.9	41.5	13.9	3.5	0.0	68.1	0.0	0.0	0.1	14.5	0.0	0.265
Wüstite = Metal	FE =	16.7										
	*********CSUM =		78.511*********									
Recalc Silicate	47.758	3.429	0.957	44.509	1.148	2.034	0.164					
Recalc Norm	42.6	1.2	56.2	17.7	4.4	0.0	77.8	0.0	0.0	0.1	0.0	0.0	0.012

SiO_2 Comp. of Normative Ol + Py + Q	FeO	MgO	Ab	Di	Py	Ol	Q	An	Ns	Wu	Co	$\frac{M_{FeO}}{M_{FeO} + M_{MgO}}$

Process O 1 W 2.74

Fe/Ni 6.2

	SiO_2	Al_2O_3	FeO	MgO	CaO	Na_2O	K_2O	TiO_2	NiO	S			
Original Anal	47.900	2.960	19.000	28.400	2.880	1.300	0.150	0.240	0.700	0.0			
	*********CSUM = 103.530*********												
Normalized	46.267	2.859	18.352	27.432	2.782	1.256	0.145	0.232	0.676	0.0			
$M_{FeO} = M_{NiO} + M_S$	46.267	2.859	14.160	27.432	2.782	1.256	0.145	0.232	4.868	0.0			
	*********CSUM = 95.132*********												
Silicate = 100%	48.634	3.005	14.885	28.835	2.924	1.320	0.152	0.244					
Norm	44.9	19.6	35.5	12.1	9.9	27.5	48.5	0.0	1.8	0.0	0.0	0.0	0.235

Wüstite = Metal

Recalc Silicate
Recalc Norm

Fe/Ni 8.8

Original Anal.	47.900	2.960	19.000	28.400	2.880	1.300	0.150	0.240	0.700	0.0			
	*********CSUM = 103.530*********												
Normalized	46.267	2.859	18.352	27.432	2.782	1.256	0.145	0.232	0.676	0.0			
$M_{FeO} = M_{NiO} + M_S$	46.267	2.859	12.402	27.432	2.782	1.256	0.145	0.232	6.626	0.0			
	*********CSUM = 93.374*********												
Silicate = 100%	49.550	3.062	13.282	29.378	2.979	1.345	0.155	0.248					
Norm	46.0	17.6	36.4	12.3	10.1	30.6	45.0	0.0	1.9	0.0	0.0	0.0	0.212

Wüstite = Metal

Recalc Silicate
Recalc Norm

SiO_2	FeO	MgO	Ab	Di	Py	Ol	Q	An	Ns	Wu	Co	$\frac{M_{FeO}}{M_{FeO} + M_{MgO}}$
Comp. of Normative Ol + Py + Q												

Process O 2 W 16.32

Fe/Ni 6.2

	SiO_2	Al_2O_3	FeO	MgO	CaO	Na_2O	K_2O	TiO_2	NiO	S			
Original Anal.	46.500	2.920	18.100	29.900	3.100	1.490	0.210	0.170	0.140	0.0			
	*********CSUM = 102.530*********												
Normalized	45.353	2.848	17.653	29.162	3.024	1.453	0.205	0.166	0.137	0.0			
$M_{FeO} = M_{NiO} + M_S$	45.353	2.848	16.807	29.162	3.024	1.453	0.205	0.166	0.983	0.0			
	*********CSUM = 99.017*********												
Silicate = 100%	45.803	2.876	16.974	29.452	3.054	1.468	0.207	0.167					
Norm	40.3	22.8	36.8	13.6	11.3	8.5	65.8	0.0	0.6	0.0	0.0	0.0	0.257

Wüstite = Metal

Recalc Silicate
Recalc Norm

Fe/Ni 8.8

	SiO_2	Al_2O_3	FeO	MgO	CaO	Na_2O	K_2O	TiO_2	NiO	S			
Original Anal.	46.500	2.920	18.100	29.900	3.100	1.490	0.210	0.170	0.140	0.0			
	*********CSUM = 102.530*********												
Normalized	45.353	2.848	17.653	29.162	3.024	1.453	0.205	0.166	0.137	0.0			
$M_{FeO} = M_{NiO} + M_S$	45.353	2.848	16.452	29.162	3.024	1.453	0.205	0.166	1.338	0.0			
	*********CSUM = 98.662*********												
Silicate = 100%	45.968	2.887	16.675	29.558	3.065	1.473	0.208	0.168					
Norm	40.5	22.5	37.0	13.7	11.3	9.1	65.1	0.0	0.7	0.0	0.0	0.0	0.253

Wüstite = Metal

Recalc Silicate
Recalc Norm

SiO_2 Comp. of Normative Ol + Py + Q	FeO	MgO	Ab	Di	Py	Ol	Q	An	Ns	Wu	Co	$\frac{M_{FeO}}{M_{FeO} + M_{MgO}}$

Process O 3 W 2.56

Fe/Ni 6.2

	SiO_2	Al_2O_3	FeO	MgO	CaO	Na_2O	K_2O	TiO_2	NiO	S		
Original Anal.	49.600	2.790	19.500	28.400	2.230	1.160	0.100	0.150	0.750	0.0		
	*********CSUM = 104.680*********											
Normalized	47.383	2.665	18.628	27.130	2.130	1.108	0.096	0.143	0.716	0.0		
$M_{FeO} = M_{NiO} + M_S$	47.383	2.665	14.186	27.130	2.130	1.108	0.096	0.143	5.159	0.0		
	*********CSUM = 94.841*********											
Silicate = 100%	49.960	2.810	14.958	28.606	2.246	1.168	0.101	0.151				
Norm	47.3	18.6	34.0	10.5	7.0	40.4	39.9	0.0	2.1	0.0	0.0	0.0 0.234

Wüstite = Metal

Recalc Silicate
Recalc Norm

Fe/Ni 8.8

	SiO_2	Al_2O_3	FeO	MgO	CaO	Na_2O	K_2O	TiO_2	NiO	S		
Original Anal.	49.600	2.790	19.500	28.400	2.230	1.160	0.100	0.150	0.750	0.0		
	*********CSUM = 104.680*********											
Normalized	47.383	2.665	18.628	27.130	2.130	1.108	0.096	0.143	0.716	0.0		
$M_{FeO} = M_{NiO} + M_S$	47.383	2.665	12.323	27.130	2.130	1.108	0.096	0.143	7.021	0.0		
	*********CSUM = 92.979*********											
Silicate = 100%	50.961	2.867	13.254	29.179	2.291	1.192	0.103	0.154				
Norm	48.5	16.6	34.9	10.7	7.2	43.9	36.0	0.0	2.2	0.0	0.0	0.0 0.210

Wüstite = Metal

Recalc Silicate
Recalc Norm

SiO_2 Comp. of Normative Ol + Py + Q	FeO	MgO	Ab	Di	Py	Ol	Q	An	Ns	Wu	Co	$\frac{M_{FeO}}{M_{FeO} + M_{MgO}}$

Process O 4 W 1.60

Fe/Ni 6.2

	SiO_2	Al_2O_3	FeO	MgO	CaO	Na_2O	K_2O	TiO_2	NiO	S		
Original Anal.	55.800	1.850	13.100	26.800	1.900	0.890	0.040	0.110	0.0	0.0		
	********* CSUM = 100.490 *********											
Normalized	55.528	1.841	13.036	26.669	1.891	0.886	0.040	0.109	0.0	0.0		
$M_{FeO} = M_{NiO} + M_S$	55.528	1.841	13.036	26.669	1.891	0.886	0.040	0.109	0.0	0.0		
	********* CSUM = 100.000 *********											
Silicate = 100%	55.528	1.841	13.036	26.669	1.891	0.886	0.040	0.109				
Norm	54.5	15.4	30.1	7.7	6.6	77.4	7.3	0.0	0.9	0.0	0.0	0.0	0.222

Wüstite = Metal

Recalc Silicate
Recalc Norm

Fe/Ni 8.8

	SiO_2	Al_2O_3	FeO	MgO	CaO	Na_2O	K_2O	TiO_2	NiO	S		
Original Anal.	55.800	1.850	13.100	26.800	1.900	0.890	0.040	0.110	0.0	0.0		
	********* CSUM = 100.490 *********											
Normalized	55.528	1.841	13.036	26.669	1.891	0.886	0.040	0.109	0.0	0.0		
$M_{FeO} = M_{NiO} + M_S$	55.528	1.841	13.036	26.669	1.891	0.886	0.040	0.109	0.0	0.0		
	********* CSUM = 100.000 *********											
Silicate = 100%	55.528	1.841	13.036	26.669	1.891	0.886	0.040	0.109				
Norm	54.5	15.4	30.1	7.7	6.6	77.4	7.3	0.0	0.9	0.0	0.0	0.0	0.222

Wüstite = Metal

Recalc Silicate
Recalc Norm

SiO_2	FeO	MgO	Ab	Di	Py	Ol	Q	An	Ns	Wu	Co	$\frac{M_{FeO}}{M_{FeO} + M_{MgO}}$
Comp. of Normative Ol + Py + Q												

Process O 5 W 13.80

Fe/Ni 6.2

	SiO_2	Al_2O_3	FeO	MgO	CaO	Na_2O	K_2O	TiO_2	NiO	S			
Original Anal.	46.400	2.970	18.500	29.700	3.040	1.220	0.450	0.060	0.110	0.0			
	*********CSUM = 102.450*********												
Normalized	45.290	2.899	18.058	28.990	2.967	1.191	0.439	0.059	0.107	0.0			
$M_{FeO} = M_{NiO} + M_S$	45.290	2.899	17.392	28.990	2.967	1.191	0.439	0.059	0.773	0.0			
	*********CSUM = 99.227*********												
Silicate = 100%	45.643	2.922	17.527	29.216	2.990	1.200	0.443	0.059					
Norm	40.6	23.3	36.2	12.7	10.6	10.2	65.1	0.0	1.3	0.0	0.0	0.0	0.264

Wüstite = Metal

Recalc Silicate
Recalc Norm

Fe/Ni 8.8

	SiO_2	Al_2O_3	FeO	MgO	CaO	Na_2O	K_2O	TiO_2	NiO	S			
Original Anal.	46.400	2.970	18.500	29.700	3.040	1.220	0.450	0.060	0.110	0.0			
	*********CSUM = 102.450*********												
Normalized	45.290	2.899	18.058	28.990	2.967	1.191	0.439	0.059	0.107	0.0			
$M_{FeO} = M_{NiO} + M_S$	45.290	2.899	17.113	28.990	2.967	1.191	0.439	0.059	1.052	0.0			
	*********CSUM = 98.948*********												
Silicate = 100%	45.772	2.930	17.295	29.298	2.999	1.203	0.444	0.059					
Norm	40.7	23.0	36.3	12.8	10.6	10.7	64.6	0.0	1.3	0.0	0.0	0.0	0.261

Wüstite = Metal

Recalc Silicate
Recalc Norm

SiO_2	FeO	MgO	Ab	Di	Py	Ol	Q	An	Ns	Wu	Co	$\frac{M_{FeO}}{M_{FeO} + M_{MgO}}$
Comp. of Normative Ol + Py + Q												

Process O 6 W 10.10

Fe/Ni 6.2

	SiO_2	Al_2O_3	FeO	MgO	CaO	Na_2O	K_2O	TiO_2	NiO	S				
Original Anal.	49.700	2.370	17.700	27.800	2.410	0.870	0.120	0.070	0.180	0.0				
	*********CSUM = 101.220*********													
Normalized	49.101	2.341	17.487	27.465	2.381	0.860	0.119	0.069	0.178	0.0				
$M_{FeO} = M_{NiO} + M_S$	49.101	2.341	16.384	27.465	2.381	0.860	0.119	0.069	1.280	0.0				
	*********CSUM = 98.720*********													
Silicate = 100%	49.738	2.372	16.597	27.821	2.412	0.871	0.120	0.070						
Norm	47.6	20.2	32.2	8.1	7.6	44.5	37.6	0.0	2.2	0.0	0.0	0.0	0.259	

Wüstite = Metal

Recalc Silicate
Recalc Norm

Fe/Ni 8.8

	SiO_2	Al_2O_3	FeO	MgO	CaO	Na_2O	K_2O	TiO_2	NiO	S				
Original Anal.	49.700	2.370	17.700	27.800	2.410	0.870	0.120	0.070	0.180	0.0				
	*********CSUM = 101.220*********													
Normalized	49.101	2.341	17.487	27.465	2.381	0.860	0.119	0.069	0.178	0.0				
$M_{FeO} = M_{NiO} + M_S$	49.101	2.341	15.922	27.465	2.381	0.860	0.119	0.069	1.743	0.0				
	*********CSUM = 98.257*********													
Silicate = 100%	49.972	2.383	16.204	27.952	2.423	0.875	0.121	0.070						
Norm	47.9	19.8	32.4	8.1	7.6	45.4	36.6	0.0	2.2	0.0	0.0	0.0	0.254	

Wüstite = Metal

Recalc Silicate
Recalc Norm

SiO_2 Comp. of Normative Ol + Py + Q	FeO	MgO	Ab	Di	Py	Ol	Q	An	Ns	Wu	Co	$\frac{M_{FeO}}{M_{FeO} + M_{MgO}}$

Process O 7 W 3.38

Fe/Ni 6.2

	SiO_2	Al_2O_3	FeO	MgO	CaO	Na_2O	K_2O	TiO_2	NiO	S	
Original Anal.	55.900	2.740	13.600	25.800	2.910	0.880	0.080	0.120	0.030	0.0	
	********* CSUM = 102.060 *********										
Normalized	54.772	2.685	13.326	25.279	2.851	0.862	0.078	0.118	0.029	0.0	
$M_{FeO} = M_{NiO} + M_S$	54.772	2.685	13.143	25.279	2.851	0.862	0.078	0.118	0.212	0.0	
	********* CSUM = 99.788 *********										
Silicate = 100%	54.888	2.690	13.171	25.333	2.857	0.864	0.079	0.118			
Norm	54.1	16.4	29.6	7.8	8.5	72.2	8.1	0.0	3.2	0.0	0.0	0.0	0.236

Wüstite = Metal

Recalc Silicate
Recalc Norm

Fe/Ni 8.8

	SiO_2	Al_2O_3	FeO	MgO	CaO	Na_2O	K_2O	TiO_2	NiO	S	
Original Anal.	55.900	2.740	13.600	25.800	2.910	0.880	0.080	0.120	0.030	0.0	
	********* CSUM = 102.060 *********										
Normalized	54.772	2.685	13.326	25.279	2.851	0.862	0.078	0.118	0.029	0.0	
$M_{FeO} = M_{NiO} + M_S$	54.772	2.685	13.067	25.279	2.851	0.862	0.078	0.118	0.288	0.0	
	********* CSUM = 99.712 *********										
Silicate = 100%	54.930	2.692	13.105	25.352	2.860	0.865	0.079	0.118			
Norm	54.1	16.3	29.6	7.8	8.5	72.4	8.0	0.0	3.2	0.0	0.0	0.0	0.235

Wüstite = Metal

Recalc Silicate
Recalc Norm

SiO_2	FeO	MgO	Ab	Di	Py	Ol	Q	An	Ns	Wu	Co	$\frac{M_{FeO}}{M_{FeO} + M_{MgO}}$
Comp. of Normative Ol + Py + Q												

Process O 8 W 9.16

Fe/Ni 6.2

	SiO_2	Al_2O_3	FeO	MgO	CaO	Na_2O	K_2O	TiO_2	NiO	S			
Original Anal.	52.400	1.960	17.200	29.400	1.990	0.910	0.060	0.100	0.210	0.0			
	*********CSUM = 104.230*********												
Normalized	50.273	1.880	16.502	28.207	1.909	0.873	0.058	0.096	0.201	0.0			
$M_{FeO} = M_{NiO} + M_S$	50.273	1.880	15.253	28.207	1.909	0.873	0.058	0.096	1.451	0.0			
	*********CSUM = 98.549*********												
Silicate = 100%	51.013	1.908	15.477	28.622	1.937	0.886	0.058	0.097					
Norm	49.2	18.3	32.5	7.8	6.7	52.1	32.3	0.0	1.1	0.0	0.0	0.0	0.239

Wüstite = Metal

Recalc Silicate
Recalc Norm

Fe/Ni 8.8

	SiO_2	Al_2O_3	FeO	MgO	CaO	Na_2O	K_2O	TiO_2	NiO	S			
Original Anal.	52.400	1.960	17.200	29.400	1.990	0.910	0.060	0.100	0.210	0.0			
	*********CSUM = 104.230*********												
Normalized	50.273	1.880	16.502	28.207	1.909	0.873	0.058	0.096	0.201	0.0			
$M_{FeO} = M_{NiO} + M_S$	50.273	1.880	14.729	28.207	1.909	0.873	0.058	0.096	1.974	0.0			
	*********CSUM = 98.025*********												
Silicate = 100%	51.286	1.918	15.026	28.775	1.948	0.891	0.059	0.098					
Norm	49.5	17.8	32.7	7.9	6.7	53.1	31.2	0.0	1.1	0.0	0.0	0.0	0.233

Wüstite = Metal

Recalc Silicate
Recalc Norm

SiO_2	FeO	MgO	Ab	Di	Py	Ol	Q	An	Ns	Wu	Co	$\frac{M_{FeO}}{M_{FeO} + M_{MgO}}$

Comp. of Normative
Ol + Py + Q

Process O 9 W 13.22

Fe/Ni 6.2

	SiO_2	Al_2O_3	FeO	MgO	CaO	Na_2O	K_2O	TiO_2	NiO	S				
Original Anal.	48.000	2.440	18.800	33.300	1.250	0.590	0.030	0.130	0.440	0.0				
	********* CSUM = 104.980 *********													
Normalized	45.723	2.324	17.908	31.720	1.191	0.562	0.029	0.124	0.419	0.0				
$M_{FeO} = M_{NiO} + M_S$	45.723	2.324	15.310	31.720	1.191	0.562	0.029	0.124	3.018	0.0				
	********* CSUM = 96.982 *********													
Silicate = 100%	47.146	2.397	15.786	32.707	1.228	0.579	0.029	0.128						
Norm	46.0	17.7	36.3	5.1	1.7	36.3	53.0	0.0	3.8	0.0	0.0	0.0	0.214	

Wüstite = Metal

Recalc Silicate
Recalc Norm

Fe/Ni 8.8

Original Anal.	48.000	2.440	18.800	33.300	1.250	0.590	0.030	0.130	0.440	0.0				
	********* CSUM = 104.980 *********													
Normalized	45.723	2.324	17.908	31.720	1.191	0.562	0.029	0.124	0.419	0.0				
$M_{FeO} = M_{NiO} + M_S$	45.723	2.324	14.220	31.720	1.191	0.562	0.029	0.124	4.107	0.0				
	********* CSUM = 95.893 *********													
Silicate = 100%	47.682	2.424	14.829	33.079	1.242	0.586	0.030	0.129						
Norm	46.6	16.6	36.8	5.1	1.8	38.2	50.9	0.0	3.9	0.0	0.0	0.0	0.201	

Wüstite = Metal

Recalc Silicate
Recalc Norm

SiO_2 Comp. of Normative Ol + Py + Q	FeO	MgO	Ab	Di	Py	Ol	Q	An	Ns	Wu	Co	$\frac{M_{FeO}}{M_{FeO} + M_{MgO}}$

Process O 10 W 3.58

Fe/Ni 6.2

	SiO_2	Al_2O_3	FeO	MgO	CaO	Na_2O	K_2O	TiO_2	NiO	S			
Original Anal.	46.800	2.430	17.900	30.400	3.860	1.330	0.190	0.100	0.020	0.0			
	********* CSUM = 103.030 *********												
Normalized	45.424	2.359	17.374	29.506	3.746	1.291	0.184	0.097	0.019	0.0			
$M_{FeO} = M_{NiO} + M_S$	45.424	2.359	17.253	29.506	3.746	1.291	0.184	0.097	0.140	0.0			
	********* CSUM = 99.860 *********												
Silicate = 100%	45.487	2.362	17.277	29.547	3.752	1.293	0.185	0.097					
Norm	39.8	23.5	36.6	12.0	14.4	6.8	66.6	0.0	0.1	0.0	0.0	0.0	0.264

Wüstite = Metal

Recalc Silicate
Recalc Norm

Fe/Ni 8.8

	SiO_2	Al_2O_3	FeO	MgO	CaO	Na_2O	K_2O	TiO_2	NiO	S			
Original Anal.	46.800	2.430	17.900	30.400	3.860	1.330	0.190	0.100	0.020	0.0			
	********* CSUM = 103.030 *********												
Normalized	45.424	2.359	17.374	29.506	3.746	1.291	0.184	0.097	0.019	0.0			
$M_{FeO} = M_{NiO} + M_S$	45.424	2.359	17.203	29.506	3.746	1.291	0.184	0.097	0.190	0.0			
	********* CSUM = 99.810 *********												
Silicate = 100%	45.510	2.363	17.236	29.562	3.754	1.293	0.185	0.097					
Norm	39.9	23.5	36.6	12.0	14.4	6.9	66.5	0.0	0.1	0.0	0.0	0.0	0.263

Wüstite = Metal

Recalc Silicate
Recalc Norm

SiO_2	FeO	MgO	Ab	Di	Py	Ol	Q	An	Ns	Wu	Co	$\frac{M_{FeO}}{M_{FeO} + M_{MgO}}$
Comp. of Normative Ol + Py + Q												

Process O 11 W 21.60

Fe/Ni 6.2

	SiO_2	Al_2O_3	FeO	MgO	CaO	Na_2O	K_2O	TiO_2	NiO	S			
Original Anal.	43.290	2.870	18.310	31.760	3.270	1.570	0.160	0.080	0.170	0.0			
	*********CSUM = 101.480*********												
Normalized	42.659	2.828	18.043	31.297	3.222	1.547	0.158	0.079	0.168	0.0			
$M_{FeO} = M_{NiO} + M_S$	42.659	2.828	17.004	31.297	3.222	1.547	0.158	0.079	1.206	0.0			
	*********CSUM = 98.794*********												
Silicate = 100%	43.179	2.863	17.212	31.679	3.262	1.566	0.160	0.080					
Norm	36.2	23.5	40.2	14.2	12.4	0.0	68.8	0.0	0.3	0.0	4.3	0.0	0.246
Wüstite = Metal	FE = 5.1												
	*********CSUM = 93.488*********												
Recalc Silicate	46.187	3.062	11.445	33.886	3.489	1.675	0.171	0.085					
Recalc Norm	39.8	16.1	44.1	15.2	13.2	0.0	71.2	0.0	0.3	0.0	0.0	0.0	0.169

Fe/Ni 8.8

Original Anal.	43.290	2.870	18.310	31.760	3.270	1.570	0.160	0.080	0.170	0.0			
	*********CSUM = 101.480*********												
Normalized	42.659	2.828	18.043	31.297	3.222	1.547	0.158	0.079	0.168	0.0			
$M_{FeO} = M_{NiO} + M_S$	42.659	2.828	16.569	31.297	3.222	1.547	0.158	0.079	1.642	0.0			
	*********CSUM = 98.358*********												
Silicate = 100%	43.371	2.875	16.845	31.819	3.276	1.573	0.160	0.080					
Norm	36.5	23.1	40.5	14.2	12.4	0.0	68.9	0.0	0.3	0.0	4.0	0.0	0.241
Wüstite = Metal	FE = 4.7												
	*********CSUM = 93.902*********												
Recalc Silicate	46.187	3.062	11.445	33.886	3.489	1.675	0.171	0.085					
Recalc Norm	39.8	16.1	44.1	15.2	13.2	0.0	71.2	0.0	0.3	0.0	0.0	0.0	0.169

SiO_2	FeO	MgO	Ab	Di	Py	Ol	Q	An	Ns	Wu	Co	$\frac{M_{FeO}}{M_{FeO} + M_{MgO}}$
Comp. of Normative Ol + Py + Q												

Process O 12 W 16.18

Fe/Ni 6.2

	SiO_2	Al_2O_3	FeO	MgO	CaO	Na_2O	K_2O	TiO_2	NiO	S			
Original Anal.	41.910	2.520	15.830	30.950	2.900	1.330	0.130	0.110	0.090	0.0			
	********* CSUM = 95.770 *********												
Normalized	43.761	2.631	16.529	32.317	3.028	1.389	0.136	0.115	0.094	0.0			
$M_{FeO} = M_{NiO} + M_S$	43.761	2.631	15.947	32.317	3.028	1.389	0.136	0.115	0.677	0.0			
	********* CSUM = 99.323 *********												
Silicate = 100%	44.059	2.649	16.055	32.537	3.049	1.398	0.137	0.116					
Norm	38.3	21.3	40.4	12.6	11.3	0.0	74.4	0.0	0.5	0.0	1.0	0.0	0.227
Wüstite = Metal	FE = 1.2												
	********* CSUM = 98.511 *********												
Recalc Silicate	44.725	2.689	14.786	33.029	3.095	1.419	0.139	0.117					
Recalc Norm	39.1	19.7	41.2	12.8	11.5	0.0	75.0	0.0	0.6	0.0	0.0	0.0	0.210

Fe/Ni 8.8

	SiO_2	Al_2O_3	FeO	MgO	CaO	Na_2O	K_2O	TiO_2	NiO	S			
Original Anal.	41.910	2.520	15.830	30.950	2.900	1.330	0.130	0.110	0.090	0.0			
	********* CSUM = 95.770 *********												
Normalized	43.761	2.631	16.529	32.317	3.028	1.389	0.136	0.115	0.094	0.0			
$M_{FeO} = M_{NiO} + M_S$	43.761	2.631	15.702	32.317	3.028	1.389	0.136	0.115	0.921	0.0			
	********* CSUM = 99.079 *********												
Silicate = 100%	44.168	2.656	15.848	32.617	3.056	1.402	0.137	0.116					
Norm	38.5	21.0	40.5	12.7	11.4	0.0	74.5	0.0	0.5	0.0	0.8	0.0	0.224
Wüstite = Metal	FE = 1.0												
	********* CSUM = 98.754 *********												
Recalc Silicate	44.725	2.689	14.786	33.029	3.095	1.419	0.139	0.117					
Recalc Norm	39.1	19.7	41.2	12.8	11.5	0.0	75.0	0.0	0.6	0.0	0.0	0.0	0.210

SiO_2	FeO	MgO	Ab	Di	Py	Ol	Q	An	Ns	Wu	Co	$\frac{M_{FeO}}{M_{FeO} + M_{MgO}}$

Comp. of Normative Ol + Py + Q

Process O 13 W 13.98

Fe/Ni 6.2

	SiO_2	Al_2O_3	FeO	MgO	CaO	Na_2O	K_2O	TiO_2	NiO	S			
Original Anal.	49.310	2.670	18.160	29.380	2.820	1.410	0.240	0.070	0.440	0.0			
	*********CSUM = 104.500*********												
Normalized	47.187	2.555	17.378	28.115	2.699	1.349	0.230	0.067	0.421	0.0			
$M_{FeO} = M_{NiO} + M_S$	47.187	2.555	14.767	28.115	2.699	1.349	0.230	0.067	3.032	0.0			
	*********CSUM = 96.968*********												
Silicate = 100%	48.662	2.635	15.229	28.994	2.783	1.391	0.237	0.069					
Norm	44.4	20.0	35.6	13.2	10.6	25.5	50.5	0.0	0.2	0.0	0.0	0.0	0.239

Wüstite = Metal

Recalc Silicate

Recalc Norm

Fe/Ni 8.8

Original Anal.	49.310	2.670	18.160	29.380	2.820	1.410	0.240	0.070	0.440	0.0			
	*********CSUM = 104.500*********												
Normalized	47.187	2.555	17.378	28.115	2.699	1.349	0.230	0.067	0.421	0.0			
$M_{FeO} = M_{NiO} + M_S$	47.187	2.555	13.673	28.115	2.699	1.349	0.230	0.067	4.126	0.0			
	*********CSUM = 95.874*********												
Silicate = 100%	49.218	2.665	14.261	29.325	2.815	1.407	0.240	0.070					
Norm	45.0	18.8	36.1	13.3	10.7	27.4	48.4	0.0	0.2	0.0	0.0	0.0	0.225

Wüstite = Metal

Recalc Silicate

Recalc Norm

SiO_2	FeO	MgO	Ab	Di	Py	Ol	Q	An	Ns	Wu	Co	$\frac{M_{FeO}}{M_{FeO} + M_{MgO}}$
Comp. of Normative Ol + Py + Q												

Process O 14

Fe/Ni 6.2

	SiO_2	Al_2O_3	FeO	MgO	CaO	Na_2O	K_2O	TiO_2	NiO	S				
Original Anal.	42.670	2.240	16.500	30.560	2.970	1.180	0.080	0.070	0.370	0.0				
	*********CSUM = 96.640*********													
Normalized	44.154	2.318	17.074	31.623	3.073	1.221	0.083	0.072	0.383	0.0				
$M_{FeO} = M_{NiO} + M_S$	44.154	2.318	14.700	31.623	3.073	1.221	0.083	0.072	2.757	0.0				
	*********CSUM = 97.243*********													
Silicate = 100%	45.405	2.384	15.117	32.519	3.160	1.256	0.085	0.074						
Norm	40.6	19.8	39.7	11.1	11.7	7.0	69.5	0.0	0.6	0.0	0.0	0.0	0.217	

Wüstite = Metal

Recalc Silicate
Recalc Norm

Fe/Ni 8.8

Original Anal.	42.670	2.240	16.500	30.560	2.970	1.180	0.080	0.070	0.370	0.0				
	*********CSUM = 96.640*********													
Normalized	44.154	2.318	17.074	31.623	3.073	1.221	0.083	0.072	0.383	0.0				
$M_{FeO} = M_{NiO} + M_S$	44.154	2.318	13.704	31.623	3.073	1.221	0.083	0.072	3.752	0.0				
	*********CSUM = 96.248*********													
Silicate = 100%	45.875	2.408	14.239	32.855	3.193	1.269	0.086	0.075						
Norm	41.1	18.7	40.2	11.2	11.8	8.6	67.7	0.0	0.6	0.0	0.0	0.0	0.206	

Wüstite = Metal

Recalc Silicate
Recalc Norm

SiO_2	FeO	MgO	Ab	Di	Py	Ol	Q	An	Ns	Wu	Co	$\frac{M_{FeO}}{M_{FeO} + M_{MgO}}$
Comp. of Normative Ol + Py + Q												

Process O 15

Fe/Ni 6.2

	SiO_2	Al_2O_3	FeO	MgO	CaO	Na_2O	K_2O	TiO_2	NiO	S
Original Anal.	55.000	2.220	15.370	24.830	3.920	1.020	0.200	0.080	0.230	0.0
	*********CSUM = 102.870*********									
Normalized	53.466	2.158	14.941	24.137	3.811	0.992	0.194	0.078	0.224	0.0
$M_{FeO} = M_{NiO} + M_S$	53.466	2.158	13.555	24.137	3.811	0.992	0.194	0.078	1.610	0.0
	*********CSUM = 98.390*********									
Silicate = 100%	54.340	2.193	13.777	24.532	3.873	1.008	0.198	0.079		
Norm	52.5	18.3	29.1	9.7	14.3	62.4	12.7	0.0	0.9	0.0 0.0 0.0 0.260

Wüstite = Metal

Recalc Silicate
Recalc Norm

Fe/Ni 8.8

	SiO_2	Al_2O_3	FeO	MgO	CaO	Na_2O	K_2O	TiO_2	NiO	S
Original Anal.	55.000	2.220	15.370	24.830	3.920	1.020	0.200	0.080	0.230	0.0
	*********CSUM = 102.870*********									
Normalized	53.466	2.158	14.941	24.137	3.811	0.992	0.194	0.078	0.224	0.0
$M_{FeO} = M_{NiO} + M_S$	53.466	2.158	12.974	24.137	3.811	0.992	0.194	0.078	2.191	0.0
	*********CSUM = 97.809*********									
Silicate = 100%	54.663	2.206	13.264	24.678	3.896	1.014	0.199	0.080		
Norm	52.9	17.7	29.4	9.7	14.4	63.5	11.5	0.0	0.9	0.0 0.0 0.0 0.251

Wüstite = Metal

Recalc Silicate
Recalc Norm

SiO_2	FeO	MgO	Ab	Di	Py	Ol	Q	An	Ns	Wu	Co	$\frac{M_{FeO}}{M_{FeO} + M_{MgO}}$
Comp. of Normative Ol + Py + Q												

Process O 16

Fe/Ni 6.2

	SiO_2	Al_2O_3	FeO	MgO	CaO	Na_2O	K_2O	TiO_2	NiO	S				
Original Anal.	50.160	1.950	16.420	28.570	1.730	0.510	0.150	0.130	0.070	0.0				
	*********CSUM = 99.690*********													
Normalized	50.316	1.956	16.471	28.659	1.735	0.512	0.150	0.130	0.070	0.0				
$M_{FeO} = M_{NiO} + M_S$	50.316	1.956	16.036	28.659	1.735	0.512	0.150	0.130	0.506	0.0				
	*********CSUM = 99.494*********													
Silicate = 100%	50.572	1.966	16.117	28.804	1.744	0.514	0.151	0.131						
Norm	49.6	18.5	32.0	5.2	4.7	56.1	31.2	0.0	2.6	0.0	0.0	0.0	0.243	

Wüstite = Metal

Recalc Silicate
Recalc Norm

Fe/Ni 8.8

	SiO_2	Al_2O_3	FeO	MgO	CaO	Na_2O	K_2O	TiO_2	NiO	S				
Original Anal.	50.160	1.950	16.420	28.570	1.730	0.510	0.150	0.130	0.070	0.0				
	*********CSUM = 99.690*********													
Normalized	50.316	1.956	16.471	28.659	1.735	0.512	0.150	0.130	0.070	0.0				
$M_{FeO} = M_{NiO} + M_S$	50.316	1.956	15.853	28.659	1.735	0.512	0.150	0.130	0.688	0.0				
	*********CSUM = 99.312*********													
Silicate = 100%	50.665	1.970	15.963	28.857	1.747	0.515	0.152	0.131						
Norm	49.7	18.3	32.1	5.2	4.7	56.4	30.9	0.0	2.6	0.0	0.0	0.0	0.241	

Wüstite = Metal

Recalc Silicate
Recalc Norm

SiO_2	FeO	MgO	Ab	Di	Py	Ol	Q	An	Ns	Wu	Co	$\frac{M_{FeO}}{M_{FeO} + M_{MgO}}$
Comp. of Normative Ol + Py + Q												

Process O 17

Fe/Ni 6.2

	SiO_2	Al_2O_3	FeO	MgO	CaO	Na_2O	K_2O	TiO_2	NiO	S			
Original Anal.	43.590	2.750	19.830	29.780	3.090	1.600	0.150	0.120	0.130	0.0			
	********* CSUM = 101.040*********												
Normalized	43.141	2.722	19.626	29.473	3.058	1.584	0.148	0.119	0.129	0.0			
$M_{FeO} = M_{NiO} + M_S$	43.141	2.722	18.828	29.473	3.058	1.584	0.148	0.119	0.926	0.0			
	********* CSUM = 99.074*********												
Silicate = 100%	43.545	2.747	19.004	29.749	3.087	1.598	0.150	0.120					
Norm	36.9	25.8	37.3	14.2	11.9	0.0	71.6	0.0	0.0	0.1	2.2	0.0	0.278
Wüstite = Metal	FE = 2.5												
	********* CSUM = 96.740*********												
Recalc Silicate	45.012	2.840	16.275	30.752	3.191	1.652	0.155	0.124					
Recalc Norm	38.6	22.3	39.1	14.6	12.3	0.0	72.9	0.0	0.0	0.1	0.0	0.0	0.242

Fe/Ni 8.8

Original Anal.	43.590	2.750	19.830	29.780	3.090	1.600	0.150	0.120	0.130	0.0			
	********* CSUM = 101.040*********												
Normalized	43.141	2.722	19.626	29.473	3.058	1.584	0.148	0.119	0.129	0.0			
$M_{FeO} = M_{NiO} + M_S$	43.141	2.722	18.494	29.473	3.058	1.584	0.148	0.119	1.261	0.0			
	********* CSUM = 98.739*********												
Silicate = 100%	43.692	2.756	18.730	29.850	3.097	1.604	0.150	0.120					
Norm	37.1	25.4	37.5	14.2	12.0	0.0	71.7	0.0	0.0	0.1	2.0	0.0	0.274
Wüstite = Metal	FE = 2.3												
	********* CSUM = 97.068*********												
Recalc Silicate	45.012	2.840	16.275	30.752	3.191	1.652	0.155	0.124					
Recalc Norm	38.6	22.3	39.1	14.6	12.3	0.0	72.9	0.0	0.0	0.1	0.0	0.0	0.242

SiO_2	FeO	MgO	Ab	Di	Py	Ol	Q	An	Ns	Wu	Co	$\frac{M_{FeO}}{M_{FeO} + M_{MgO}}$
Comp. of Normative Ol + Py + Q												

Process O 18

Fe/Ni 6.2

	SiO_2	Al_2O_3	FeO	MgO	CaO	Na_2O	K_2O	TiO_2	NiO	S			
Original Anal.	42.230	2.800	18.100	30.000	3.130	1.240	0.240	0.040	0.110	0.0			
	********* CSUM = 97.890 *********												
Normalized	43.140	2.860	18.490	30.647	3.197	1.267	0.245	0.041	0.112	0.0			
$M_{FeO} = M_{NiO} + M_S$	43.140	2.860	17.793	30.647	3.197	1.267	0.245	0.041	0.809	0.0			
	********* CSUM = 99.191 *********												
Silicate = 100%	43.492	2.884	17.939	30.897	3.224	1.277	0.247	0.041					
Norm	37.7	23.9	38.4	12.2	11.4	0.0	73.6	0.0	1.4	0.0	1.3	0.0	0.258
Wüstite = Metal	FE = 1.6												
	********* CSUM = 97.994 *********												
Recalc Silicate	44.382	2.943	16.259	31.529	3.290	1.303	0.252	0.042					
Recalc Norm	38.7	21.8	39.5	12.5	11.6	0.0	74.5	0.0	1.4	0.0	0.0	0.0	0.236

Fe/Ni 8.8

Original Anal.	42.230	2.800	18.100	30.000	3.130	1.240	0.240	0.040	0.110	0.0			
	********* CSUM = 97.890 *********												
Normalized	43.140	2.860	18.490	30.647	3.197	1.267	0.245	0.041	0.112	0.0			
$M_{FeO} = M_{NiO} + M_S$	43.140	2.860	17.501	30.647	3.197	1.267	0.245	0.041	1.101	0.0			
	********* CSUM = 98.899 *********												
Silicate = 100%	43.621	2.892	17.696	30.988	3.233	1.281	0.248	0.041					
Norm	37.8	23.6	38.6	12.3	11.4	0.0	73.7	0.0	1.4	0.0	1.1	0.0	0.254
Wüstite = Metal	FE = 1.3												
	********* CSUM = 98.284 *********												
Recalc Silicate	44.382	2.943	16.259	31.529	3.290	1.303	0.252	0.042					
Recalc Norm	38.7	21.8	39.5	12.5	11.6	0.0	74.5	0.0	1.4	0.0	0.0	0.0	0.236

SiO_2 Comp. of Normative Ol + Py + Q	FeO	MgO	Ab	Di	Py	Ol	Q	An	Ns	Wu	Co	$\frac{M_{FeO}}{M_{FeO} + M_{MgO}}$

Process O 19

Fe/Ni 6.2

	SiO_2	Al_2O_3	FeO	MgO	CaO	Na_2O	K_2O	TiO_2	NiO	S
Original Anal.	46.090	1.840	23.000	23.020	1.360	0.810	0.150	0.040	0.330	0.0
	*********CSUM = 96.640*********									
Normalized	47.692	1.904	23.800	23.820	1.407	0.838	0.155	0.041	0.341	0.0
$M_{FeO} = M_{NiO} + M_S$	47.692	1.904	21.683	23.820	1.407	0.838	0.155	0.041	2.459	0.0
	*********CSUM = 97.541*********									
Silicate = 100%	48.895	1.952	22.229	24.421	1.443	0.859	0.159	0.042		
Norm	46.8	25.9	27.4	8.2	4.8	49.2	36.8	0.0	1.0	0.0 0.0 0.0 0.345

Wüstite = Metal

Recalc Silicate
Recalc Norm

Fe/Ni 8.8

Original Anal.	46.090	1.840	23.000	23.020	1.360	0.810	0.150	0.040	0.330	0.0
	*********CSUM = 96.640*********									
Normalized	47.692	1.904	23.800	23.820	1.407	0.838	0.155	0.041	0.341	0.0
$M_{FeO} = M_{NiO} + M_S$	47.692	1.904	20.795	23.820	1.407	0.838	0.155	0.041	3.346	0.0
	*********CSUM = 96.654*********									
Silicate = 100%	49.344	1.970	21.515	24.645	1.456	0.867	0.161	0.043		
Norm	47.3	25.1	27.7	8.3	4.8	50.9	34.9	0.0	1.0	0.0 0.0 0.0 0.335

Wüstite = Metal

Recalc Silicate
Recalc Norm

SiO_2	FeO	MgO	Ab	Di	Py	Ol	Q	An	Ns	Wu	Co	$\frac{M_{FeO}}{M_{FeO} + M_{MgO}}$
Comp. of Normative Ol + Py + Q												

Process O 20

Fe/Ni 6.2

	SiO_2	Al_2O_3	FeO	MgO	CaO	Na_2O	K_2O	TiO_2	NiO	S			
Original Anal.	43.930	2.840	19.010	27.140	3.510	1.450	0.560	0.050	0.520	0.0			
	*********CSUM = 99.010*********												
Normalized	44.369	2.868	19.200	27.411	3.545	1.464	0.566	0.050	0.525	0.0			
$M_{FeO} = M_{NiO} + M_S$	44.369	2.868	15.944	27.411	3.545	1.464	0.566	0.050	3.781	0.0			
	*********CSUM = 96.219*********												
Silicate = 100%	46.113	2.981	16.570	28.489	3.684	1.522	0.588	0.052					
Norm	39.4	23.7	36.9	15.5	14.2	4.8	65.3	0.0	0.0	0.2	0.0	0.0	0.263

Wüstite = Metal

Recalc Silicate
Recalc Norm

Fe/Ni 8.8

Original Anal.	43.930	2.840	19.010	27.140	3.510	1.450	0.560	0.050	0.520	0.0			
	*********CSUM = 99.010*********												
Normalized	44.369	2.868	19.200	27.411	3.545	1.464	0.566	0.050	0.525	0.0			
$M_{FeO} = M_{NiO} + M_S$	44.369	2.868	14.578	27.411	3.545	1.464	0.566	0.050	5.147	0.0			
	*********CSUM = 94.853*********												
Silicate = 100%	46.777	3.024	15.369	28.899	3.737	1.544	0.596	0.053					
Norm	40.2	22.1	37.7	15.7	14.4	7.0	62.7	0.0	0.0	0.2	0.0	0.0	0.246

Wüstite = Metal

Recalc Silicate
Recalc Norm

SiO_2 Comp. of Normative Ol + Py + Q	FeO	MgO	Ab	Di	Py	Ol	Q	An	Ns	Wu	Co	$\frac{M_{FeO}}{M_{FeO} + M_{MgO}}$

Process O 21

Fe/Ni 6.2

	SiO_2	Al_2O_3	FeO	MgO	CaO	Na_2O	K_2O	TiO_2	NiO	S			
Original Anal.	38.610	2.910	22.750	29.340	2.090	1.220	0.400	0.050	0.190	0.0			
	*********CSUM = 97.560*********												
Normalized	39.576	2.983	23.319	30.074	2.142	1.251	0.410	0.051	0.195	0.0			
$M_{FeO} = M_{NiO} + M_S$	39.576	2.983	22.112	30.074	2.142	1.251	0.410	0.051	1.402	0.0			
	*********CSUM = 98.598*********												
Silicate = 100%	40.138	3.025	22.426	30.502	2.173	1.268	0.416	0.052					
Norm	34.0	28.7	37.3	13.2	7.4	0.0	70.4	0.0	1.3	0.0	7.7	0.0	0.300
Wüstite = Metal	FE = 8.7												
	*********CSUM = 88.820*********												
Recalc Silicate	45.191	3.406	12.661	34.341	2.446	1.428	0.468	0.059					
Recalc Norm	39.7	16.8	43.5	14.8	8.3	0.0	75.3	0.0	1.5	0.0	0.0	0.0	0.177

Fe/Ni 8.8

Original Anal.	38.610	2.910	22.750	29.340	2.090	1.220	0.400	0.050	0.190	0.0			
	*********CSUM = 97.560*********												
Normalized	39.576	2.983	23.319	30.074	2.142	1.251	0.410	0.051	0.195	0.0			
$M_{FeO} = M_{NiO} + M_S$	39.576	2.983	21.605	30.074	2.142	1.251	0.410	0.051	1.909	0.0			
	*********CSUM = 98.091*********												
Silicate = 100%	40.346	3.041	22.026	30.659	2.184	1.275	0.418	0.052					
Norm	34.2	28.2	37.6	13.2	7.4	0.0	70.6	0.0	1.3	0.0	7.4	0.0	0.295
Wüstite = Metal	FE = 8.3												
	*********CSUM = 89.278*********												
Recalc Silicate	45.191	3.406	12.661	34.341	2.446	1.428	0.468	0.059					
Recalc Norm	39.7	16.8	43.5	14.8	8.3	0.0	75.3	0.0	1.5	0.0	0.0	0.0	0.177

SiO_2 Comp. of Normative Ol + Py + Q	FeO	MgO	Ab	Di	Py	Ol	Q	An	Ns	Wu	Co	$\frac{M_{FeO}}{M_{FeO} + M_{MgO}}$

Process O 22

Fe/Ni 6.2

	SiO_2	Al_2O_3	FeO	MgO	CaO	Na_2O	K_2O	TiO_2	NiO	S	
Original Anal.	47.670	2.860	15.340	27.660	3.240	1.310	0.130	0.100	0.020	0.0	
	*********CSUM = 98.330*********										
Normalized	48.480	2.909	15.601	28.130	3.295	1.332	0.132	0.102	0.020	0.0	
$M_{FeO} = M_{NiO} + M_S$	48.480	2.909	15.474	28.130	3.295	1.332	0.132	0.102	0.146	0.0	
	*********CSUM = 99.854*********										
Silicate = 100%	48.551	2.913	15.497	28.171	3.300	1.334	0.132	0.102			
Norm	44.4	20.7	34.8	12.1	11.5	26.1	48.7	0.0	1.6	0.0	0.0	0.0	0.249

Wüstite = Metal

Recalc Silicate
Recalc Norm

Fe/Ni 8.8

	SiO_2	Al_2O_3	FeO	MgO	CaO	Na_2O	K_2O	TiO_2	NiO	S	
Original Anal.	47.670	2.860	15.340	27.660	3.240	1.310	0.130	0.100	0.020	0.0	
	*********CSUM = 98.330*********										
Normalized	48.480	2.909	15.601	28.130	3.295	1.332	0.132	0.102	0.020	0.0	
$M_{FeO} = M_{NiO} + M_S$	48.480	2.909	15.422	28.130	3.295	1.332	0.132	0.102	0.199	0.0	
	*********CSUM = 99.801*********										
Silicate = 100%	48.576	2.914	15.452	28.186	3.302	1.335	0.132	0.102			
Norm	44.5	20.7	34.9	12.1	11.5	26.2	48.6	0.0	1.6	0.0	0.0	0.0	0.248

Wüstite = Metal

Recalc Silicate
Recalc Norm

SiO_2	FeO	MgO	Ab	Di	Py	Ol	Q	An	Ns	Wu	Co	$\frac{M_{FeO}}{M_{FeO} + M_{MgO}}$
Comp. of Normative Ol + Py + Q												

Process O 23

Fe/Ni 6.2

	SiO_2	Al_2O_3	FeO	MgO	CaO	Na_2O	K_2O	TiO_2	NiO	S		
Original Anal.	49.040	3.340	14.410	28.440	3.420	1.580	0.120	0.140	0.020	0.0		
	*********CSUM = 100.510*********											
Normalized	48.791	3.323	14.337	28.296	3.403	1.572	0.119	0.139	0.020	0.0		
$M_{FeO} = M_{NiO} + M_S$	48.791	3.323	14.214	28.296	3.403	1.572	0.119	0.139	0.143	0.0		
	*********CSUM = 99.857*********											
Silicate = 100%	48.861	3.328	14.234	28.336	3.408	1.574	0.120	0.139				
Norm	44.2	19.7	36.1	14.0	11.9	23.1	49.3	0.0	1.7	0.0	0.0	0.0	0.233

Wüstite = Metal

Recalc Silicate
Recalc Norm

Fe/Ni 8.8

	SiO_2	Al_2O_3	FeO	MgO	CaO	Na_2O	K_2O	TiO_2	NiO	S		
Original Anal.	49.040	3.340	14.410	28.440	3.420	1.580	0.120	0.140	0.020	0.0		
	*********CSUM = 100.510*********											
Normalized	48.791	3.323	14.337	28.296	3.403	1.572	0.119	0.139	0.020	0.0		
$M_{FeO} = M_{NiO} + M_S$	48.791	3.323	14.162	28.296	3.403	1.572	0.119	0.139	0.195	0.0		
	*********CSUM = 99.805*********											
Silicate = 100%	48.887	3.330	14.189	28.351	3.409	1.575	0.120	0.140				
Norm	44.2	19.6	36.2	14.0	11.9	23.1	49.2	0.0	1.7	0.0	0.0	0.0	0.232

Wüstite = Metal

Recalc Silicate
Recalc Norm

SiO_2	FeO	MgO	Ab	Di	Py	Ol	Q	An	Ns	Wu	Co	$\frac{M_{FeO}}{M_{FeO} + M_{MgO}}$
Comp. of Normative Ol + Py + Q												

Process O 24

Fe/Ni 6.2

	SiO_2	Al_2O_3	FeO	MgO	CaO	Na_2O	K_2O	TiO_2	NiO	S			
Original Anal	42.140	2.870	17.570	29.540	3.520	1.330	0.320	0.080	0.030	0.0			
	*********CSUM = 97.400*********												
Normalized	43.265	2.947	18.039	30.329	3.614	1.366	0.329	0.082	0.031	0.0			
$M_{FeO} = M_{NiO} + M_S$	43.265	2.947	17.848	30.329	3.614	1.366	0.329	0.082	0.222	0.0			
	*********CSUM = 99.778*********												
Silicate = 100%	43.361	2.953	17.888	30.396	3.622	1.369	0.329	0.082					
Norm	36.6	24.8	38.7	13.5	13.3	0.0	69.0	0.0	0.9	0.0	3.2	0.0	0.263
Wüstite = Metal	FE = 3.7												
	*********CSUM = 95.194*********												
Recalc Silicate	45.550	3.102	13.742	31.930	3.805	1.438	0.346	0.086					
Recalc Norm	39.2	19.4	41.4	14.2	13.9	0.0	70.8	0.0	1.0	0.0	0.0	0.0	0.207

Fe/Ni 8.8

	SiO_2	Al_2O_3	FeO	MgO	CaO	Na_2O	K_2O	TiO_2	NiO	S			
Original Anal.	42.140	2.870	17.570	29.540	3.520	1.330	0.320	0.080	0.030	0.0			
	*********CSUM = 97.400*********												
Normalized	43.265	2.947	18.039	30.329	3.614	1.366	0.329	0.082	0.031	0.0			
$M_{FeO} = M_{NiO} + M_S$	43.265	2.947	17.768	30.329	3.614	1.366	0.329	0.082	0.302	0.0			
	*********CSUM = 99.698*********												
Silicate = 100%	43.396	2.956	17.822	30.420	3.625	1.370	0.330	0.082					
Norm	36.6	24.7	38.7	13.5	13.3	0.0	69.0	0.0	0.9	0.0	3.2	0.0	0.262
Wüstite = Metal	FE = 3.7												
	*********CSUM = 95.271*********												
Recalc Silicate	45.550	3.102	13.742	31.930	3.805	1.438	0.346	0.086					
Recalc Norm	39.2	19.4	41.4	14.2	13.9	0.0	70.8	0.0	1.0	0.0	0.0	0.0	0.207

SiO_2	FeO	MgO	Ab	Di	Py	Ol	Q	An	Ns	Wu	Co	$\frac{M_{FeO}}{M_{FeO} + M_{MgO}}$
Comp. of Normative Ol + Py + Q												

Process O 25

Fe/Ni 6.2

	SiO_2	Al_2O_3	FeO	MgO	CaO	Na_2O	K_2O	TiO_2	NiO	S	
Original Anal.	47.400	2.890	16.440	26.310	3.460	1.130	0.260	0.130	0.270	0.0	
	********* CSUM = 98.290 *********										
Normalized	48.225	2.940	16.726	26.768	3.520	1.150	0.265	0.132	0.275	0.0	
$M_{FeO} = M_{NiO} + M_S$	48.225	2.940	15.023	26.768	3.520	1.150	0.265	0.132	1.978	0.0	
	********* CSUM = 98.022 *********										
Silicate = 100%	49.198	3.000	15.326	27.308	3.591	1.173	0.270	0.135			
Norm	45.5	20.7	33.8	11.5	12.2	30.6	43.4	0.0	2.1	0.0	0.0	0.0	0.254

Wüstite = Metal

Recalc Silicate
Recalc Norm

Fe/Ni 8.8

	SiO_2	Al_2O_3	FeO	MgO	CaO	Na_2O	K_2O	TiO_2	NiO	S	
Original Anal.	47.400	2.890	16.440	26.310	3.460	1.130	0.260	0.130	0.270	0.0	
	********* CSUM = 98.290 *********										
Normalized	48.225	2.940	16.726	26.768	3.520	1.150	0.265	0.132	0.275	0.0	
$M_{FeO} = M_{NiO} + M_S$	48.225	2.940	14.309	26.768	3.520	1.150	0.265	0.132	2.692	0.0	
	********* CSUM = 97.308 *********										
Silicate = 100%	49.559	3.022	14.705	27.508	3.618	1.181	0.272	0.136			
Norm	45.9	19.9	34.2	11.6	12.3	31.9	42.0	0.0	2.1	0.0	0.0	0.0	0.245

Wüstite = Metal

Recalc Silicate
Recalc Norm

SiO_2	FeO	MgO	Ab	Di	Py	Ol	Q	An	Ns	Wu	Co	$\frac{M_{FeO}}{M_{FeO} + M_{MgO}}$
Comp. of Normative Ol + Py + Q												

Process O 26

Fe/Ni 6.2

	SiO_2	Al_2O_3	FeO	MgO	CaO	Na_2O	K_2O	TiO_2	NiO	S			
Original Anal.	42.800	2.830	18.360	29.670	3.090	1.180	0.020	0.110	0.260	0.0			
	********* CSUM = 98.320 *********												
Normalized	43.531	2.878	18.674	30.177	3.143	1.200	0.020	0.112	0.264	0.0			
$M_{FeO} = M_{NiO} + M_S$	43.531	2.878	17.034	30.177	3.143	1.200	0.020	0.112	1.904	0.0			
	********* CSUM = 98.096 *********												
Silicate = 100%	44.376	2.934	17.365	30.763	3.204	1.223	0.021	0.114					
Norm	39.6	22.7	37.7	10.5	10.5	5.3	71.2	0.0	2.5	0.0	0.0	0.0	0.251

Wüstite = Metal

Recalc Silicate
Recalc Norm

Fe/Ni 8.8

	SiO_2	Al_2O_3	FeO	MgO	CaO	Na_2O	K_2O	TiO_2	NiO	S			
Original Anal.	42.800	2.830	18.360	29.670	3.090	1.180	0.020	0.110	0.260	0.0			
	********* CSUM = 98.320 *********												
Normalized	43.531	2.878	18.674	30.177	3.143	1.200	0.020	0.112	0.264	0.0			
$M_{FeO} = M_{NiO} + M_S$	43.531	2.878	16.347	30.177	3.143	1.200	0.020	0.112	2.592	0.0			
	********* CSUM = 97.408 *********												
Silicate = 100%	44.689	2.955	16.781	30.980	3.226	1.232	0.021	0.115					
Norm	40.0	22.0	38.0	10.5	10.5	6.4	69.9	0.0	2.5	0.0	0.0	0.0	0.244

Wüstite = Metal

Recalc Silicate
Recalc Norm

SiO_2 Comp. of Normative Ol + Py + Q	FeO	MgO	Ab	Di	Py	Ol	Q	An	Ns	Wu	Co	$\frac{M_{FeO}}{M_{FeO} + M_{MgO}}$

Process O 27

Fe/Ni 6.2

	SiO_2	Al_2O_3	FeO	MgO	CaO	Na_2O	K_2O	TiO_2	NiO	S	
Original Anal.	43.140	2.810	17.250	28.980	3.620	1.160	0.130	0.120	0.090	0.0	
	*********	CSUM =	97.300	*********							
Normalized	44.337	2.888	17.729	29.784	3.720	1.192	0.134	0.123	0.092	0.0	
$M_{FeO} = M_{NiO} + M_S$	44.337	2.888	17.155	29.784	3.720	1.192	0.134	0.123	0.666	0.0	
	*********	CSUM =	99.334	*********							
Silicate = 100%	44.634	2.907	17.270	29.984	3.745	1.200	0.135	0.124			
Norm	39.4	23.3	37.3	10.9	12.8	4.4	69.6	0.0	2.1	0.0	0.0	0.0	0.258

Wüstite = Metal

Recalc Silicate
Recalc Norm

Fe/Ni 8.8

	SiO_2	Al_2O_3	FeO	MgO	CaO	Na_2O	K_2O	TiO_2	NiO	S	
Original Anal.	43.140	2.810	17.250	28.980	3.620	1.160	0.130	0.120	0.090	0.0	
	*********	CSUM =	97.300	*********							
Normalized	44.337	2.888	17.729	29.784	3.720	1.192	0.134	0.123	0.092	0.0	
$M_{FeO} = M_{NiO} + M_S$	44.337	2.888	16.915	29.784	3.720	1.192	0.134	0.123	0.906	0.0	
	*********	CSUM =	99.093	*********							
Silicate = 100%	44.743	2.914	17.069	30.057	3.754	1.203	0.135	0.124			
Norm	39.5	23.1	37.4	11.0	12.8	4.8	69.2	0.0	2.2	0.0	0.0	0.0	0.256

Wüstite = Metal

Recalc Silicate
Recalc Norm

SiO_2	FeO	MgO	Ab	Di	Py	Ol	Q	An	Ns	Wu	Co	$\frac{M_{FeO}}{M_{FeO} + M_{MgO}}$
Comp. of Normative Ol + Py + Q												

Process O 28

Fe/Ni 6.2

	SiO_2	Al_2O_3	FeO	MgO	CaO	Na_2O	K_2O	TiO_2	NiO	S		
Original Anal.	46.640	2.260	14.610	27.630	3.900	1.180	0.100	0.100	0.030	0.0		
	********* CSUM = 96.450 *********											
Normalized	48.357	2.343	15.148	28.647	4.044	1.223	0.104	0.104	0.031	0.0		
$M_{FeO} = M_{NiO} + M_S$	48.357	2.343	14.955	28.647	4.044	1.223	0.104	0.104	0.224	0.0		
	********* CSUM = 99.776 *********											
Silicate = 100%	48.465	2.348	14.988	28.711	4.053	1.226	0.104	0.104				
Norm	44.1	20.5	35.4	11.0	15.2	23.7	49.4	0.0	0.6	0.0	0.0	0.0	0.244

Wüstite = Metal

Recalc Silicate
Recalc Norm

Fe/Ni 8.8

	SiO_2	Al_2O_3	FeO	MgO	CaO	Na_2O	K_2O	TiO_2	NiO	S		
Original Anal.	46.640	2.260	14.610	27.630	3.900	1.180	0.100	0.100	0.030	0.0		
	********* CSUM = 96.450 *********											
Normalized	48.357	2.343	15.148	28.647	4.044	1.223	0.104	0.104	0.031	0.0		
$M_{FeO} = M_{NiO} + M_S$	48.357	2.343	14.874	28.647	4.044	1.223	0.104	0.104	0.305	0.0		
	********* CSUM = 99.695 *********											
Silicate = 100%	48.505	2.350	14.920	28.735	4.056	1.227	0.104	0.104				
Norm	44.2	20.4	35.4	11.0	15.2	23.9	49.3	0.0	0.6	0.0	0.0	0.0	0.243

Wüstite = Metal

Recalc Silicate
Recalc Norm

SiO_2 Comp. of Normative Ol + Py + Q	FeO	MgO	Ab	Di	Py	Ol	Q	An	Ns	Wu	Co	$\frac{M_{FeO}}{M_{FeO} + M_{MgO}}$

Process O 29

Fe/Ni 6.2

	SiO_2	Al_2O_3	FeO	MgO	CaO	Na_2O	K_2O	TiO_2	NiO	S			
Original Anal.	45.430	2.850	17.530	29.180	4.030	1.220	0.460	0.110	0.120	0.0			
	*********CSUM = 100.930*********												
Normalized	45.011	2.824	17.368	28.911	3.993	1.209	0.456	0.109	0.119	0.0			
$M_{FeO} = M_{NiO} + M_S$	45.011	2.824	16.631	28.911	3.993	1.209	0.456	0.109	0.856	0.0			
	*********CSUM = 99.144*********												
Silicate = 100%	45.400	2.848	16.775	29.161	4.027	1.219	0.460	0.110					
Norm	39.3	23.6	37.1	13.0	14.8	4.1	67.0	0.0	0.9	0.0	0.0	0.0	0.261

Wüstite = Metal

Recalc Silicate
Recalc Norm

Fe/Ni 8.8

	SiO_2	Al_2O_3	FeO	MgO	CaO	Na_2O	K_2O	TiO_2	NiO	S			
Original Anal.	45.430	2.850	17.530	29.180	4.030	1.220	0.460	0.110	0.120	0.0			
	*********CSUM = 100.930*********												
Normalized	45.011	2.824	17.368	28.911	3.993	1.209	0.456	0.109	0.119	0.0			
$M_{FeO} = M_{NiO} + M_S$	45.011	2.824	16.322	28.911	3.993	1.209	0.456	0.109	1.165	0.0			
	*********CSUM = 98.835*********												
Silicate = 100%	45.542	2.857	16.515	29.252	4.040	1.223	0.461	0.110					
Norm	39.5	23.2	37.3	13.0	14.9	4.6	66.5	0.0	0.9	0.0	0.0	0.0	0.258

Wüstite = Metal

Recalc Silicate
Recalc Norm

SiO_2	FeO	MgO	Ab	Di	Py	Ol	Q	An	Ns	Wu	Co	$\frac{M_{FeO}}{M_{FeO} + M_{MgO}}$
Comp. of Normative Ol + Py + Q												