0 wt % Ni
A. 0,031C-0,026N-2,07Mn-0,48Cr-0,26Si-0,64Mo-(0...10)Ni-bal.Fe
---

Temperature = 673.0000 K

Fixed pressure = 1.013250E+05 Pa, 1.000000E+00 atm

Component	Ref.Phase	Chem.Pot.	Activity	Amount/mol	Mass/kg
C		-2.218019E+04	1.899049E-02	2.580967E+00	3.100000E-02
Si		-1.626997E+05	2.357451E-13	8.901390E+00	2.500000E-01
Mn		-3.807279E+04	1.109353E-03	3.767884E+01	2.070000E+00
Cr		-3.815420E+04	1.093329E-03	9.231479E+00	4.800000E-01
Mo		-2.803320E+04	6.672190E-03	6.670836E+00	6.400000E-01
Ni		undef	undef	3.000000E-12	1.760700E-13
N		-1.162482E+05	9.498749E-10	1.856255E+00	2.600000E-02
Fe		-2.324863E+04	1.568959E-02	1.727989E+03	9.650300E+01
Total				1.794909E+03	1.000000E+02

Amount compnt moles	Phase	Mole fraction of component within phase		
		C	Si	Mn
1.7811E+03	BCC_A2	0.0000001	0.0049978	0.0190906
3.8983E+00	FCC_A1	0.0233307	0.0000000	0.0000136
9.9592E+00	CEMENTITE	0.2500000	0.0000000	0.3692480
		Cr	Mo	Ni
1.7811E+03	BCC_A2	0.0027121	0.0036096	0.0000000
3.8983E+00	FCC_A1	0.4481954	0.0522732	0.0000000
9.9592E+00	CEMENTITE	0.2664688	0.0038406	0.0000000
		N	Fe	
1.7811E+03	BCC_A2	0.0000000	0.9695897	
3.8983E+00	FCC_A1	0.4761728	0.0000143	
9.9592E+00	CEMENTITE	0.0000000	0.1104426	

Gibbs Energy = -4.3871297498E+07 J System Enthalpy = 1.8995524635E+07 J
     723.000
*** MULTIPHASE - Stage 1* Results ***

Temperature = 723.0000 K

Fixed pressure = 1.013250E+05 Pa, 1.000000E+00 atm

Component	Ref.Phase	Chem.Pot.	Activity	Amount/mol	Mass/kg
C		-1.951057E+04	3.894518E-02	2.580967E+00	3.100000E-02
Si		-1.657066E+05	1.067780E-12	8.901390E+00	2.500000E-01
Mn		-4.300191E+04	7.821960E-04	3.767884E+01	2.070000E+00
Cr		-4.285924E+04	8.009824E-04	9.231479E+00	4.800000E-01
Mo		-3.355111E+04	3.767831E-03	6.670836E+00	6.400000E-01
Ni		undef	undef	3.000000E-12	1.760700E-13
N		-1.156019E+05	4.449478E-09	1.856255E+00	2.600000E-02

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Fe                          -2.585373E+04 1.355784E-02 1.727989E+03 9.650300E+01
Total                                                  1.794909E+03 1.000000E+02

Amount      Phase               Mole fraction of component within phase
compnt moles
                                C               Si              Mn
 1.7811E+03 BCC_A2             0.0000009       0.0049976       0.0193041
 3.9878E+00 FCC_A1             0.0339278       0.0000000       0.0000274
 9.7761E+00 CEMENTITE          0.2500000       0.0000000       0.3370844

                                Cr              Mo              Ni
 1.7811E+03 BCC_A2             0.0029527       0.0035876       0.0000000
 3.9878E+00 FCC_A1             0.4443988       0.0561468       0.0000000
 9.7761E+00 CEMENTITE          0.2250441       0.0058121       0.0000000

                                N               Fe
 1.7811E+03 BCC_A2             0.0000000       0.9691570
 3.9878E+00 FCC_A1             0.4654712       0.0000281
 9.7761E+00 CEMENTITE          0.0000000       0.1820594

Gibbs Energy = -4.8657723947E+07 J   System Enthalpy =  2.2218975640E+07 J
     773.000
*** MULTIPHASE - Stage 1* Results ***

Temperature =   773.0000 K

Fixed pressure =  1.013250E+05 Pa,    1.000000E+00 atm

Component      Ref.Phase     Chem.Pot.    Activity     Amount/mol   Mass/kg
C                           -1.771487E+04 6.352830E-02 2.580967E+00 3.100000E-02
Si                          -1.688559E+05 3.890774E-12 8.901390E+00 2.500000E-01
Mn                          -4.814563E+04 5.580757E-04 3.767884E+01 2.070000E+00
Cr                          -4.767451E+04 6.005201E-04 9.231479E+00 4.800000E-01
Mo                          -3.919145E+04 2.247743E-03 6.670836E+00 6.400000E-01
Ni                          undef        undef         3.000000E-12 1.760700E-13
N                           -1.150111E+05 1.692181E-08 1.856255E+00 2.600000E-02
Fe                          -2.858470E+04 1.170761E-02 1.727989E+03 9.650300E+01
Total                                                  1.794909E+03 1.000000E+02

Amount      Phase               Mole fraction of component within phase
compnt moles
                                C               Si              Mn
 1.7812E+03 BCC_A2             0.0000050       0.0049973       0.0195703
 4.0593E+00 FCC_A1             0.0420847       0.0000000       0.0000500
 9.6051E+00 CEMENTITE          0.2500000       0.0000000       0.2935062

                                Cr              Mo              Ni
 1.7812E+03 BCC_A2             0.0031849       0.0035671       0.0000000
 4.0593E+00 FCC_A1             0.4411454       0.0594447       0.0000000
 9.6051E+00 CEMENTITE          0.1840298       0.0078712       0.0000000

                                N               Fe
 1.7812E+03 BCC_A2             0.0000001       0.9686753
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 4.0593E+00 FCC_A1             0.4572248       0.0000504
 9.6051E+00 CEMENTITE          0.0000000       0.2645928

Gibbs Energy = -5.3673478099E+07 J   System Enthalpy =  2.5630581978E+07 J
     823.000
*** MULTIPHASE - Stage 1* Results ***

Temperature =   823.0000 K

Fixed pressure =  1.013250E+05 Pa,    1.000000E+00 atm

Component      Ref.Phase     Chem.Pot.    Activity     Amount/mol   Mass/kg
C                            -1.671375E+04 8.694189E-02 2.580967E+00 3.100000E-02
Si                           -1.721546E+05 1.185415E-11 8.901390E+00 2.500000E-01
Mn                           -5.354106E+04 3.998628E-04 3.767884E+01 2.070000E+00
Cr                           -5.264293E+04 4.559449E-04 9.231479E+00 4.800000E-01
Mo                           -4.494999E+04 1.403331E-03 6.670836E+00 6.400000E-01
Ni                           undef        undef         3.000000E-12 1.760700E-13
N                            -1.143916E+05 5.494301E-08 1.856255E+00 2.600000E-02
Fe                           -3.144010E+04 1.010630E-02 1.727989E+03 9.650300E+01
Total                                                   1.794909E+03 1.000000E+02

Amount      Phase               Mole fraction of component within phase
compnt moles
                                C               Si              Mn
 1.7814E+03 BCC_A2             0.0000195       0.0049969       0.0198512
 4.0963E+00 FCC_A1             0.0463709       0.0000000       0.0000850
 9.4248E+00 CEMENTITE          0.2500000       0.0000000       0.2457075

                                Cr              Mo              Ni
 1.7814E+03 BCC_A2             0.0033905       0.0035515       0.0000000
 4.0963E+00 FCC_A1             0.4386607       0.0619218       0.0000000
 9.4248E+00 CEMENTITE          0.1479848       0.0096071       0.0000000

                                N               Fe
 1.7814E+03 BCC_A2             0.0000006       0.9681896
 4.0963E+00 FCC_A1             0.4528807       0.0000808
 9.4248E+00 CEMENTITE          0.0000000       0.3467005

Gibbs Energy = -5.8916744898E+07 J   System Enthalpy =  2.9259456707E+07 J
     873.000
*** MULTIPHASE - Stage 1* Results ***

Temperature =   873.0000 K

Fixed pressure =  1.013250E+05 Pa,    1.000000E+00 atm

Component      Ref.Phase     Chem.Pot.    Activity     Amount/mol   Mass/kg
C                            -1.637401E+04 1.047877E-01 2.580967E+00 3.100000E-02
Si                           -1.756080E+05 3.111873E-11 8.901390E+00 2.500000E-01
Mn                           -5.922604E+04 2.860149E-04 3.767884E+01 2.070000E+00
Cr                           -5.777278E+04 3.494137E-04 9.231479E+00 4.800000E-01
Mo                           -5.082317E+04 9.102256E-04 6.670836E+00 6.400000E-01
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Ni                          undef        undef         3.000000E-12 1.760700E-13
N                           -1.137163E+05 1.570832E-07 1.856255E+00 2.600000E-02
Fe                          -3.441410E+04 8.728424E-03 1.727989E+03 9.650300E+01
Total                                                  1.794909E+03 1.000000E+02

Amount      Phase              Mole fraction of component within phase
compnt moles
                               C               Si              Mn
 1.7817E+03 BCC_A2            0.0000604       0.0049960       0.0201253
 4.0948E+00 FCC_A1            0.0469802       0.0000000       0.0001352
 9.1237E+00 CEMENTITE         0.2500000       0.0000000       0.1996108

                               Cr              Mo              Ni
 1.7817E+03 BCC_A2            0.0035680       0.0035427       0.0000000
 4.0948E+00 FCC_A1            0.4369058       0.0636154       0.0000000
 9.1237E+00 CEMENTITE         0.1189517       0.0107799       0.0000000

                               N               Fe
 1.7817E+03 BCC_A2            0.0000025       0.9677050
 4.0948E+00 FCC_A1            0.4522468       0.0001165
 9.1237E+00 CEMENTITE         0.0000000       0.4206576

Gibbs Energy = -6.4388166235E+07 J   System Enthalpy =  3.3151630401E+07 J
     923.000
*** MULTIPHASE - Stage 1* Results ***

Temperature =   923.0000 K

Fixed pressure =  1.013250E+05 Pa,    1.000000E+00 atm

Component      Ref.Phase     Chem.Pot.    Activity     Amount/mol   Mass/kg
C                           -1.648333E+04 1.167334E-01 2.580967E+00 3.100000E-02
Si                          -1.788346E+05 7.578872E-11 8.901390E+00 2.500000E-01
Mn                          -6.648533E+04 1.727990E-04 3.767884E+01 2.070000E+00
Cr                          -6.160879E+04 3.262182E-04 9.231479E+00 4.800000E-01
Mo                          -5.637559E+04 6.451483E-04 6.670836E+00 6.400000E-01
Ni                          undef        undef         3.000000E-12 1.760700E-13
N                           -8.935278E+04 8.779165E-06 1.856255E+00 2.600000E-02
Fe                          -3.750179E+04 7.546456E-03 1.727989E+03 9.650300E+01
Total                                                  1.794909E+03 1.000000E+02

Amount      Phase              Mole fraction of component within phase
compnt moles
                               C               Si              Mn
 1.6862E+03 BCC_A2            0.0001569       0.0050738       0.0172034
 1.0687E+02 FCC_A1            0.0174115       0.0032365       0.0787959
 1.8221E+00 CEMENTITE         0.2500000       0.0000000       0.1367033

                               Cr              Mo              Ni
 1.6862E+03 BCC_A2            0.0044958       0.0037202       0.0000000
 1.0687E+02 FCC_A1            0.0134274       0.0035281       0.0000000
 1.8221E+00 CEMENTITE         0.1182813       0.0113351       0.0000000
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                                N               Fe
 1.6862E+03 BCC_A2             0.0001810       0.9691689
 1.0687E+02 FCC_A1             0.0145133       0.8690873
 1.8221E+00 CEMENTITE          0.0000000       0.4836804

Gibbs Energy = -7.0052327094E+07 J   System Enthalpy =  3.7879946114E+07 J
     973.000
*** MULTIPHASE - Stage 1* Results ***

Temperature =   973.0000 K

Fixed pressure =  1.013250E+05 Pa,    1.000000E+00 atm

Component      Ref.Phase     Chem.Pot.    Activity     Amount/mol   Mass/kg
C                            -2.347711E+04 5.491413E-02 2.580967E+00 3.100000E-02
Si                           -1.825086E+05 1.593814E-10 8.901390E+00 2.500000E-01
Mn                           -7.345323E+04 1.139798E-04 3.767884E+01 2.070000E+00
Cr                           -6.696490E+04 2.541788E-04 9.231479E+00 4.800000E-01
Mo                           -6.221011E+04 4.574989E-04 6.670836E+00 6.400000E-01
Ni                           undef        undef         2.000000E-12 1.173800E-13
N                            -9.575509E+04 7.237739E-06 1.856255E+00 2.600000E-02
Fe                           -4.071981E+04 6.517008E-03 1.727989E+03 9.650300E+01
Total                                                   1.794909E+03 1.000000E+02

Amount      Phase               Mole fraction of component within phase
compnt moles
                                C               Si              Mn
 1.5755E+03 BCC_A2             0.0001579       0.0050993       0.0163367
 2.1943E+02 FCC_A1             0.0106280       0.0039534       0.0544165

                                Cr              Mo              Ni
 1.5755E+03 BCC_A2             0.0046495       0.0038301       0.0000000
 2.1943E+02 FCC_A1             0.0086874       0.0029013       0.0000000

                                N               Fe
 1.5755E+03 BCC_A2             0.0001924       0.9697340
 2.1943E+02 FCC_A1             0.0070780       0.9123354

Gibbs Energy = -7.6026955275E+07 J   System Enthalpy =  4.2712774212E+07 J
     1023.00
*** MULTIPHASE - Stage 1* Results ***

Temperature =  1023.0000 K

Fixed pressure =  1.013250E+05 Pa,    1.000000E+00 atm

Component      Ref.Phase     Chem.Pot.    Activity     Amount/mol   Mass/kg
C                            -3.256920E+04 2.172954E-02 2.580967E+00 3.100000E-02
Si                           -1.861943E+05 3.112523E-10 8.901390E+00 2.500000E-01
Mn                           -8.089182E+04 7.408794E-05 3.767884E+01 2.070000E+00
Cr                           -7.270492E+04 1.939822E-04 9.231479E+00 4.800000E-01
Mo                           -6.795807E+04 3.389467E-04 6.670836E+00 6.400000E-01
Ni                           undef        undef         2.000000E-12 1.173800E-13
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N                          -1.035110E+05 5.186045E-06 1.856255E+00 2.600000E-02
Fe                         -4.407009E+04 5.621174E-03 1.727989E+03 9.650300E+01
Total                                                 1.794909E+03 1.000000E+02

Amount      Phase               Mole fraction of component within phase
compnt moles
                                C              Si             Mn
 1.3626E+03 BCC_A2             0.0001247      0.0052209      0.0154768
 4.3230E+02 FCC_A1             0.0055775      0.0041346      0.0383765

                                Cr             Mo             Ni
 1.3626E+03 BCC_A2             0.0046500      0.0040302      0.0000000
 4.3230E+02 FCC_A1             0.0066975      0.0027278      0.0000000

                                N              Fe
 1.3626E+03 BCC_A2             0.0001737      0.9703238
 4.3230E+02 FCC_A1             0.0037466      0.9387395

Gibbs Energy = -8.2259580730E+07 J   System Enthalpy =  4.7882439682E+07 J
     1073.00
*** MULTIPHASE - Stage 1* Results ***

Temperature =  1073.0000 K

Fixed pressure =  1.013250E+05 Pa,    1.000000E+00 atm

Component      Ref.Phase     Chem.Pot.    Activity     Amount/mol   Mass/kg
C                            -4.360914E+04 7.535639E-03 2.580967E+00 3.100000E-02
Si                           -1.891535E+05 6.195333E-10 8.901390E+00 2.500000E-01
Mn                           -8.877164E+04 4.771149E-05 3.767884E+01 2.070000E+00
Cr                           -7.859271E+04 1.493242E-04 9.231479E+00 4.800000E-01
Mo                           -7.287763E+04 2.833600E-04 6.670836E+00 6.400000E-01
Ni                           undef        undef         2.000000E-12 1.173800E-13
N                            -1.134589E+05 2.998159E-06 1.856255E+00 2.600000E-02
Fe                           -4.755383E+04 4.842766E-03 1.727989E+03 9.650300E+01
Total                                                   1.794909E+03 1.000000E+02

Amount      Phase               Mole fraction of component within phase
compnt moles
                                C              Si             Mn
 8.0435E+02 BCC_A2             0.0000809      0.0055694      0.0132033
 9.9056E+02 FCC_A1             0.0025398      0.0044638      0.0273167

                                Cr             Mo             Ni
 8.0435E+02 BCC_A2             0.0045414      0.0046118      0.0000000
 9.9056E+02 FCC_A1             0.0056318      0.0029895      0.0000000

                                N              Fe
 8.0435E+02 BCC_A2             0.0001225      0.9718706
 9.9056E+02 FCC_A1             0.0017745      0.9552839

Gibbs Energy = -8.8735379424E+07 J   System Enthalpy =  5.2674313226E+07 J
     1123.00
```

*** MULTIPHASE - Stage 1* Results ***

Temperature = 1123.0000 K

Fixed pressure = 1.013250E+05 Pa,   1.000000E+00 atm

Component	Ref.Phase	Chem.Pot.	Activity	Amount/mol	Mass/kg
C		-5.336483E+04	3.295176E-03	2.580967E+00	3.100000E-02
Si		-1.916287E+05	1.221543E-09	8.901390E+00	2.500000E-01
Mn		-9.644684E+04	3.266139E-05	3.767884E+01	2.070000E+00
Cr		-8.450312E+04	1.173721E-04	9.231479E+00	4.800000E-01
Mo		-7.697685E+04	2.628022E-04	6.670836E+00	6.400000E-01
Ni		undef	undef	1.000000E-12	5.869000E-14
N		-1.226336E+05	1.977097E-06	1.856255E+00	2.600000E-02
Fe		-5.117871E+04	4.164472E-03	1.727989E+03	9.650300E+01
Total				1.794909E+03	1.000000E+02

Amount	Phase	Mole fraction of component within phase		
compnt moles				
		C	Si	Mn
1.7949E+03	FCC_A1	0.0014379	0.0049592	0.0209921
		Cr	Mo	Ni
1.7949E+03	FCC_A1	0.0051431	0.0037165	0.0000000
		N	Fe	
1.7949E+03	FCC_A1	0.0010342	0.9627169	

Gibbs Energy = -9.5434625015E+07 J   System Enthalpy = 5.7054648373E+07 J
     1173.00
*** MULTIPHASE - Stage 1* Results ***

Temperature = 1173.0000 K

Fixed pressure = 1.013250E+05 Pa,   1.000000E+00 atm

Component	Ref.Phase	Chem.Pot.	Activity	Amount/mol	Mass/kg
C		-5.821223E+04	2.557570E-03	2.580967E+00	3.100000E-02
Si		-1.955516E+05	1.959505E-09	8.901390E+00	2.500000E-01
Mn		-1.018413E+05	2.917682E-05	3.767884E+01	2.070000E+00
Cr		-9.005881E+04	9.765836E-05	9.231479E+00	4.800000E-01
Mo		-8.333877E+04	1.945138E-04	6.670836E+00	6.400000E-01
Ni		undef	undef	1.000000E-12	5.869000E-14
N		-1.276619E+05	2.066599E-06	1.856255E+00	2.600000E-02
Fe		-5.494018E+04	3.577099E-03	1.727989E+03	9.650300E+01
Total				1.794909E+03	1.000000E+02

Amount	Phase	Mole fraction of component within phase		
compnt moles				
		C	Si	Mn
1.7949E+03	FCC_A1	0.0014379	0.0049592	0.0209921
		Cr	Mo	Ni

```
 1.7949E+03 FCC_A1             0.0051431       0.0037165       0.0000000

                                N               Fe
 1.7949E+03 FCC_A1             0.0010342       0.9627169

Gibbs Energy = -1.0229018996E+08 J   System Enthalpy =  6.0078419722E+07 J
     1223.00
*** MULTIPHASE - Stage 1* Results ***

Temperature =  1223.0000 K

Fixed pressure =  1.013250E+05 Pa,    1.000000E+00 atm

Component      Ref.Phase     Chem.Pot.    Activity     Amount/mol   Mass/kg
C                           -6.310701E+04 2.017213E-03 2.580967E+00 3.100000E-02
Si                          -1.995180E+05 3.011288E-09 8.901390E+00 2.500000E-01
Mn                          -1.073239E+05 2.607857E-05 3.767884E+01 2.070000E+00
Cr                          -9.568809E+04 8.189186E-05 9.231479E+00 4.800000E-01
Mo                          -8.976080E+04 1.466865E-04 6.670836E+00 6.400000E-01
Ni                          undef        undef         1.000000E-12 5.869000E-14
N                           -1.328051E+05 2.128166E-06 1.856255E+00 2.600000E-02
Fe                          -5.877649E+04 3.088194E-03 1.727989E+03 9.650300E+01
Total                                                  1.794909E+03 1.000000E+02

Amount      Phase               Mole fraction of component within phase
compnt moles
                                C               Si              Mn
 1.7949E+03 FCC_A1             0.0014379       0.0049592       0.0209921

                                Cr              Mo              Ni
 1.7949E+03 FCC_A1             0.0051431       0.0037165       0.0000000

                                N               Fe
 1.7949E+03 FCC_A1             0.0010342       0.9627169

Gibbs Energy = -1.0927549677E+08 J   System Enthalpy =  6.3140852138E+07 J
     1273.00
*** MULTIPHASE - Stage 1* Results ***

Temperature =  1273.0000 K

Fixed pressure =  1.013250E+05 Pa,    1.000000E+00 atm

Component      Ref.Phase     Chem.Pot.    Activity     Amount/mol   Mass/kg
C                           -6.804108E+04 1.614956E-03 2.580967E+00 3.100000E-02
Si                          -2.036001E+05 4.425329E-09 8.901390E+00 2.500000E-01
Mn                          -1.128805E+05 2.335190E-05 3.767884E+01 2.070000E+00
Cr                          -1.014073E+05 6.903787E-05 9.231479E+00 4.800000E-01
Mo                          -9.623832E+04 1.125073E-04 6.670836E+00 6.400000E-01
Ni                          undef        undef         1.000000E-12 5.869000E-14
N                           -1.380481E+05 2.165992E-06 1.856255E+00 2.600000E-02
Fe                          -6.267656E+04 2.680871E-03 1.727989E+03 9.650300E+01
Total                                                  1.794909E+03 1.000000E+02
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Amount      Phase               Mole fraction of component within phase
compnt moles
                                C               Si              Mn
 1.7949E+03 FCC_A1             0.0014379       0.0049592       0.0209921

                                Cr              Mo              Ni
 1.7949E+03 FCC_A1             0.0051431       0.0037165       0.0000000

                                N               Fe
 1.7949E+03 FCC_A1             0.0010342       0.9627169

Gibbs Energy = -1.1638682104E+08 J   System Enthalpy =  6.6242017109E+07 J
     1323.00
*** MULTIPHASE - Stage 1* Results ***

Temperature =  1323.0000 K

Fixed pressure =  1.013250E+05 Pa,    1.000000E+00 atm

Component      Ref.Phase     Chem.Pot.    Activity     Amount/mol   Mass/kg
C                           -7.303332E+04 1.307898E-03 2.580967E+00 3.100000E-02
Si                          -2.076562E+05 6.331895E-09 8.901390E+00 2.500000E-01
Mn                          -1.185265E+05 2.091511E-05 3.767884E+01 2.070000E+00
Cr                          -1.071461E+05 5.885318E-05 9.231479E+00 4.800000E-01
Mo                          -1.027958E+05 8.740251E-05 6.670836E+00 6.400000E-01
Ni                          undef        undef         1.000000E-12 5.869000E-14
N                           -1.434117E+05 2.177546E-06 1.856255E+00 2.600000E-02
Fe                          -6.665133E+04 2.336365E-03 1.727989E+03 9.650300E+01
Total                                                  1.794909E+03 1.000000E+02

Amount      Phase               Mole fraction of component within phase
compnt moles
                                C               Si              Mn
 1.7949E+03 FCC_A1             0.0014379       0.0049592       0.0209921

                                Cr              Mo              Ni
 1.7949E+03 FCC_A1             0.0051431       0.0037165       0.0000000

                                N               Fe
 1.7949E+03 FCC_A1             0.0010342       0.9627169

Gibbs Energy = -1.2362073430E+08 J   System Enthalpy =  6.9382002412E+07 J
     1373.00
*** MULTIPHASE - Stage 1* Results ***

Temperature =  1373.0000 K

Fixed pressure =  1.013250E+05 Pa,    1.000000E+00 atm

Component      Ref.Phase     Chem.Pot.    Activity     Amount/mol   Mass/kg
C                           -7.806443E+04 1.071961E-03 2.580967E+00 3.100000E-02
Si                          -2.118016E+05 8.757651E-09 8.901390E+00 2.500000E-01
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Mn                          -1.242203E+05 1.880443E-05 3.767884E+01 2.070000E+00
Cr                          -1.130120E+05 5.019494E-05 9.231479E+00 4.800000E-01
Mo                          -1.093997E+05 6.887864E-05 6.670836E+00 6.400000E-01
Ni                          undef        undef         1.000000E-12 5.869000E-14
N                           -1.488684E+05 2.170540E-06 1.856255E+00 2.600000E-02
Fe                          -7.069324E+04 2.044572E-03 1.727989E+03 9.650300E+01
Total                                                  1.794909E+03 1.000000E+02

Amount      Phase               Mole fraction of component within phase
compnt moles
                                C               Si              Mn
 1.7949E+03 FCC_A1             0.0014379       0.0049592       0.0209921

                                Cr              Mo              Ni
 1.7949E+03 FCC_A1             0.0051431       0.0037165       0.0000000

                                N               Fe
 1.7949E+03 FCC_A1             0.0010342       0.9627169

Gibbs Energy = -1.3097407101E+08 J   System Enthalpy =  7.2560909176E+07 J
     1423.00
*** MULTIPHASE - Stage 1* Results ***

Temperature =  1423.0000 K

Fixed pressure =  1.013250E+05 Pa,    1.000000E+00 atm

Component      Ref.Phase     Chem.Pot.    Activity     Amount/mol   Mass/kg
C                           -8.313834E+04 8.877369E-04 2.580967E+00 3.100000E-02
Si                          -2.159952E+05 1.179166E-08 8.901390E+00 2.500000E-01
Mn                          -1.300054E+05 1.690286E-05 3.767884E+01 2.070000E+00
Cr                          -1.189265E+05 4.311484E-05 9.231479E+00 4.800000E-01
Mo                          -1.160578E+05 5.494479E-05 6.670836E+00 6.400000E-01
Ni                          undef        undef         1.000000E-12 5.869000E-14
N                           -1.544250E+05 2.145853E-06 1.856255E+00 2.600000E-02
Fe                          -7.479767E+04 1.796556E-03 1.727989E+03 9.650300E+01
Total                                                  1.794909E+03 1.000000E+02

Amount      Phase               Mole fraction of component within phase
compnt moles
                                C               Si              Mn
 1.7949E+03 FCC_A1             0.0014379       0.0049592       0.0209921

                                Cr              Mo              Ni
 1.7949E+03 FCC_A1             0.0051431       0.0037165       0.0000000

                                N               Fe
 1.7949E+03 FCC_A1             0.0010342       0.9627169

Gibbs Energy = -1.3844390021E+08 J   System Enthalpy =  7.5778849636E+07 J
     1473.00
*** MULTIPHASE - Stage 1* Results ***
```

Temperature = 1473.0000 K

Fixed pressure = 1.013250E+05 Pa,   1.000000E+00 atm

Component	Ref.Phase	Chem.Pot.	Activity	Amount/mol	Mass/kg
C		-8.827513E+04	7.408314E-04	2.580967E+00	3.100000E-02
Si		-2.201981E+05	1.554759E-08	8.901390E+00	2.500000E-01
Mn		-1.358325E+05	1.525144E-05	3.767884E+01	2.070000E+00
Cr		-1.249602E+05	3.705508E-05	9.231479E+00	4.800000E-01
Mo		-1.227556E+05	4.436342E-05	6.670836E+00	6.400000E-01
Ni		undef	undef	1.000000E-12	5.869000E-14
N		-1.600910E+05	2.104232E-06	1.856255E+00	2.600000E-02
Fe		-7.892274E+04	1.589863E-03	1.727989E+03	9.650300E+01
Total				1.794909E+03	1.000000E+02

Amount	Phase	Mole fraction of component within phase		
compnt moles				
		C	Si	Mn
1.7949E+03	FCC_A1	0.0014379	0.0049592	0.0209921
		Cr	Mo	Ni
1.7949E+03	FCC_A1	0.0051431	0.0037165	0.0000000
		N	Fe	
1.7949E+03	FCC_A1	0.0010342	0.9627169	

Gibbs Energy = -1.4602750119E+08 J   System Enthalpy = 7.9035945351E+07 J
     1523.00
*** MULTIPHASE - Stage 1* Results ***

Temperature = 1523.0000 K

Fixed pressure = 1.013250E+05 Pa,   1.000000E+00 atm

Component	Ref.Phase	Chem.Pot.	Activity	Amount/mol	Mass/kg
C		-9.340940E+04	6.257482E-04	2.580967E+00	3.100000E-02
Si		-2.245283E+05	1.992973E-08	8.901390E+00	2.500000E-01
Mn		-1.417925E+05	1.370995E-05	3.767884E+01	2.070000E+00
Cr		-1.309623E+05	3.224576E-05	9.231479E+00	4.800000E-01
Mo		-1.295358E+05	3.609085E-05	6.670836E+00	6.400000E-01
Ni		undef	undef	1.000000E-12	5.869000E-14
N		-1.658207E+05	2.055683E-06	1.856255E+00	2.600000E-02
Fe		-8.319463E+04	1.401938E-03	1.727989E+03	9.650300E+01
Total				1.794909E+03	1.000000E+02

Amount	Phase	Mole fraction of component within phase		
compnt moles				
		C	Si	Mn
1.7949E+03	FCC_A1	0.0014379	0.0049592	0.0209921
		Cr	Mo	Ni
1.7949E+03	FCC_A1	0.0051431	0.0037165	0.0000000

```
                                N               Fe
 1.7949E+03 FCC_A1             0.0010342       0.9627169

Gibbs Energy = -1.5372234279E+08 J   System Enthalpy =  8.2332332420E+07 J
     1573.00
*** MULTIPHASE - Stage 1* Results ***

Temperature =  1573.0000 K

Fixed pressure =  1.013250E+05 Pa,    1.000000E+00 atm

Component      Ref.Phase     Chem.Pot.    Activity     Amount/mol   Mass/kg
C                            -9.860687E+04 5.316705E-04 2.580967E+00 3.100000E-02
Si                           -2.288580E+05 2.514789E-08 8.901390E+00 2.500000E-01
Mn                           -1.477846E+05 1.237759E-05 3.767884E+01 2.070000E+00
Cr                           -1.370701E+05 2.808183E-05 9.231479E+00 4.800000E-01
Mo                           -1.363564E+05 2.965677E-05 6.670836E+00 6.400000E-01
Ni                           undef        undef         1.000000E-12 5.869000E-14
N                            -1.716587E+05 1.994672E-06 1.856255E+00 2.600000E-02
Fe                           -8.747817E+04 1.245043E-03 1.727989E+03 9.650300E+01
Total                                                   1.794909E+03 1.000000E+02

Amount      Phase               Mole fraction of component within phase
compnt moles
                                C               Si              Mn
 1.7949E+03 FCC_A1             0.0014379       0.0049592       0.0209921

                                Cr              Mo              Ni
 1.7949E+03 FCC_A1             0.0051431       0.0037165       0.0000000

                                N               Fe
 1.7949E+03 FCC_A1             0.0010342       0.9627169

Gibbs Energy = -1.6152607568E+08 J   System Enthalpy =  8.5669156484E+07 J
     1623.00
*** MULTIPHASE - Stage 1* Results ***

Temperature =  1623.0000 K

Fixed pressure =  1.013250E+05 Pa,    1.000000E+00 atm

Component      Ref.Phase     Chem.Pot.    Activity     Amount/mol   Mass/kg
C                            -1.038376E+05 4.551720E-04 2.580967E+00 3.100000E-02
Si                           -2.332516E+05 3.113290E-08 8.901390E+00 2.500000E-01
Mn                           -1.538652E+05 1.117185E-05 3.767884E+01 2.070000E+00
Cr                           -1.432692E+05 2.449855E-05 9.231479E+00 4.800000E-01
Mo                           -1.432224E+05 2.458361E-05 6.670836E+00 6.400000E-01
Ni                           undef        undef         1.000000E-12 5.869000E-14
N                            -1.775728E+05 1.928147E-06 1.856255E+00 2.600000E-02
Fe                           -9.183407E+04 1.107864E-03 1.727989E+03 9.650300E+01
Total                                                   1.794909E+03 1.000000E+02

Amount      Phase               Mole fraction of component within phase
```

```
compnt moles
                                C               Si              Mn
 1.7949E+03 FCC_A1             0.0014379       0.0049592       0.0209921

                                Cr              Mo              Ni
 1.7949E+03 FCC_A1             0.0051431       0.0037165       0.0000000

                                N               Fe
 1.7949E+03 FCC_A1             0.0010342       0.9627169

Gibbs Energy = -1.6943653373E+08 J   System Enthalpy =  8.9046671788E+07 J
     1673.00
*** MULTIPHASE - Stage 1* Results ***

Temperature =  1673.0000 K

Fixed pressure =  1.013250E+05 Pa,    1.000000E+00 atm

Component      Ref.Phase     Chem.Pot.    Activity     Amount/mol   Mass/kg
C                           -1.091091E+05 3.921631E-04 2.580967E+00 3.100000E-02
Si                          -2.376828E+05 3.795097E-08 8.901390E+00 2.500000E-01
Mn                          -1.600062E+05 1.010162E-05 3.767884E+01 2.070000E+00
Cr                          -1.495264E+05 2.145778E-05 9.231479E+00 4.800000E-01
Mo                          -1.501412E+05 2.053002E-05 6.670836E+00 6.400000E-01
Ni                          undef        undef         1.000000E-12 5.869000E-14
N                           -1.835755E+05 1.855776E-06 1.856255E+00 2.600000E-02
Fe                          -9.624349E+04 9.888904E-04 1.727989E+03 9.650300E+01
Total                                                  1.794909E+03 1.000000E+02

Amount      Phase               Mole fraction of component within phase
compnt moles
                                C               Si              Mn
 1.7949E+03 FCC_A1             0.0014379       0.0049592       0.0209921

                                Cr              Mo              Ni
 1.7949E+03 FCC_A1             0.0051431       0.0037165       0.0000000

                                N               Fe
 1.7949E+03 FCC_A1             0.0010342       0.9627169

Gibbs Energy = -1.7745167349E+08 J   System Enthalpy =  9.2464364851E+07 J
     1723.00
*** MULTIPHASE - Stage 1* Results ***

Temperature =  1723.0000 K

Fixed pressure =  1.013250E+05 Pa,    1.000000E+00 atm

Component      Ref.Phase     Chem.Pot.    Activity     Amount/mol   Mass/kg
C                           -1.081595E+05 5.261496E-04 2.580967E+00 3.100000E-02
Si                          -2.424605E+05 4.464055E-08 8.901390E+00 2.500000E-01
Mn                          -1.656467E+05 9.514020E-06 3.767884E+01 2.070000E+00
Cr                          -1.564317E+05 1.810181E-05 9.231479E+00 4.800000E-01
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Mo                          -1.592029E+05 1.491805E-05 6.670836E+00 6.400000E-01
Ni                          undef        undef         2.000000E-12 1.173800E-13
N                           -1.840914E+05 2.625474E-06 1.856255E+00 2.600000E-02
Fe                          -1.007244E+05 8.841084E-04 1.727989E+03 9.650300E+01
Total                                                  1.794909E+03 1.000000E+02

Amount      Phase               Mole fraction of component within phase
compnt moles
                                C               Si              Mn
 1.1596E+03 BCC_A2              0.0010170       0.0050073       0.0204916
 6.3533E+02 FCC_A1              0.0022063       0.0048715       0.0219055

                                Cr              Mo              Ni
 1.1596E+03 BCC_A2              0.0052220       0.0039790       0.0000000
 6.3533E+02 FCC_A1              0.0049993       0.0032375       0.0000000

                                N               Fe
 1.1596E+03 BCC_A2              0.0007711       0.9635120
 6.3533E+02 FCC_A1              0.0015143       0.9612656

Gibbs Energy = -1.8557733382E+08 J   System Enthalpy =  9.7262998737E+07 J
     1773.00
*** MULTIPHASE - Stage 1* Results ***

Temperature =  1773.0000 K

Fixed pressure =  1.013250E+05 Pa,    1.000000E+00 atm

Component      Ref.Phase     Chem.Pot.    Activity     Amount/mol   Mass/kg
C                           -1.182875E+05 3.274911E-04 2.580967E+00 3.100000E-02
Si                          -2.484515E+05 4.791979E-08 8.901390E+00 2.500000E-01
Mn                          -1.725778E+05 8.237336E-06 3.767884E+01 2.070000E+00
Cr                          -1.634012E+05 1.535087E-05 9.231479E+00 4.800000E-01
Mo                          -1.676166E+05 1.153304E-05 6.670836E+00 6.400000E-01
Ni                          undef        undef         2.000000E-12 1.173800E-13
N                           -1.907995E+05 2.393129E-06 1.856255E+00 2.600000E-02
Fe                          -1.052437E+05 7.933694E-04 1.727989E+03 9.650300E+01
Total                                                  1.794909E+03 1.000000E+02

Amount      Phase               Mole fraction of component within phase
compnt moles
                                C               Si              Mn
 2.3469E+02 LIQUID              0.0055293       0.0082722       0.0283964
 1.5602E+03 BCC_A2              0.0008225       0.0044609       0.0198783

                                Cr              Mo              Ni
 2.3469E+02 LIQUID              0.0057216       0.0045195       0.0000000
 1.5602E+03 BCC_A2              0.0050561       0.0035958       0.0000000

                                N               Fe
 2.3469E+02 LIQUID              0.0027625       0.9447985
 1.5602E+03 BCC_A2              0.0007742       0.9654121
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Gibbs Energy = -1.9386512166E+08 J   System Enthalpy =  1.0469873981E+08 J
     1823.00
*** MULTIPHASE - Stage 1* Results ***

Temperature =  1823.0000 K

Fixed pressure =  1.013250E+05 Pa,    1.000000E+00 atm

Component      Ref.Phase     Chem.Pot.    Activity     Amount/mol   Mass/kg
C                           -1.438521E+05 7.555985E-05 2.580967E+00 3.100000E-02
Si                          -2.604533E+05 3.446583E-08 8.901390E+00 2.500000E-01
Mn                          -1.832545E+05 5.614585E-06 3.767884E+01 2.070000E+00
Cr                          -1.711264E+05 1.249737E-05 9.231479E+00 4.800000E-01
Mo                          -1.772033E+05 8.369542E-06 6.670836E+00 6.400000E-01
Ni                          undef        undef         1.000000E-12 5.869000E-14
N                           -2.122478E+05 8.290700E-07 1.856255E+00 2.600000E-02
Fe                          -1.099845E+05 7.057965E-04 1.727989E+03 9.650300E+01
Total                                                  1.794909E+03 1.000000E+02

Amount      Phase               Mole fraction of component within phase
compnt moles
                                C               Si              Mn
 1.7949E+03 LIQUID             0.0014379       0.0049592       0.0209921

                                Cr              Mo              Ni
 1.7949E+03 LIQUID             0.0051431       0.0037165       0.0000000

                                N               Fe
 1.7949E+03 LIQUID             0.0010342       0.9627169

Gibbs Energy = -2.0279428199E+08 J   System Enthalpy =  1.2946223354E+08 J
     1873.00
*** MULTIPHASE - Stage 1* Results ***

Temperature =  1873.0000 K

Fixed pressure =  1.013250E+05 Pa,    1.000000E+00 atm

Component      Ref.Phase     Chem.Pot.    Activity     Amount/mol   Mass/kg
C                           -1.492011E+05 6.904791E-05 2.580967E+00 3.100000E-02
Si                          -2.653460E+05 3.982519E-08 8.901390E+00 2.500000E-01
Mn                          -1.903439E+05 4.917914E-06 3.767884E+01 2.070000E+00
Cr                          -1.775277E+05 1.119933E-05 9.231479E+00 4.800000E-01
Mo                          -1.840394E+05 7.372219E-06 6.670836E+00 6.400000E-01
Ni                          undef        undef         1.000000E-12 5.869000E-14
N                           -2.189294E+05 7.845180E-07 1.856255E+00 2.600000E-02
Fe                          -1.150305E+05 6.195623E-04 1.727989E+03 9.650300E+01
Total                                                  1.794909E+03 1.000000E+02

Amount      Phase               Mole fraction of component within phase
compnt moles
                                C               Si              Mn
 1.7949E+03 LIQUID             0.0014379       0.0049592       0.0209921
```

```
                                Cr              Mo              Ni
 1.7949E+03 LIQUID             0.0051431       0.0037165       0.0000000

                                N               Fe
 1.7949E+03 LIQUID             0.0010342       0.9627169

Gibbs Energy = -2.1196309953E+08 J   System Enthalpy =  1.3357657298E+08 J

*********************************************************************

_____________________________________________________________________________________________
______
2 wt% Ni

MULTIPHASE OPTION ? set w(6)=2 !
 MULTIPHASE OPTION ? com pr br pr mol !
 NUMBER OF STEPS =  25

     673.000
*** MULTIPHASE - Stage 1* Results ***

Temperature =   673.0000 K

Fixed pressure =  1.013250E+05 Pa,    1.000000E+00 atm

Component      Ref.Phase     Chem.Pot.    Activity     Amount/mol   Mass/kg
C                           -1.606687E+04 5.662490E-02 2.580967E+00 3.100000E-02
Si                          -1.607455E+05 3.342801E-13 8.901390E+00 2.500000E-01
Mn                          -4.336789E+04 4.306283E-04 3.767884E+01 2.070000E+00
Cr                          -3.818835E+04 1.086677E-03 9.231479E+00 4.800000E-01
Mo                          -2.798345E+04 6.731781E-03 6.670836E+00 6.400000E-01
Ni                          -4.482533E+04 3.318842E-04 3.407736E+01 2.000000E+00
N                           -7.094262E+04 3.118564E-06 1.856255E+00 2.600000E-02
Fe                          -2.324065E+04 1.571199E-02 1.692177E+03 9.450300E+01
Total                                                  1.793174E+03 1.000000E+02

Amount      Phase              Mole fraction of component within phase
compnt moles
                                C               Si              Mn
 1.7061E+03 BCC_A2             0.0000003       0.0052174       0.0077819
 7.7031E+01 FCC_A1             0.0009308       0.0000001       0.2888541
 1.0035E+01 CEMENTITE          0.2500000       0.0000000       0.2143810

                                Cr              Mo              Ni
 1.7061E+03 BCC_A2             0.0026731       0.0035196       0.0080284
 7.7031E+01 FCC_A1             0.0107671       0.0082121       0.2642380
 1.0035E+01 CEMENTITE          0.3827991       0.0033363       0.0025507

                                N               Fe
 1.7061E+03 BCC_A2             0.0000085       0.9727708
 7.7031E+01 FCC_A1             0.0239082       0.4030896
 1.0035E+01 CEMENTITE          0.0000000       0.1469328
```

Gibbs Energy = -4.4631830328E+07 J   System Enthalpy = 1.8781725726E+07 J
     723.000
*** MULTIPHASE - Stage 1* Results ***

Temperature =   723.0000 K

Fixed pressure = 1.013250E+05 Pa,   1.000000E+00 atm

Component	Ref.Phase	Chem.Pot.	Activity	Amount/mol	Mass/kg
C		-1.500979E+04	8.234051E-02	2.580967E+00	3.100000E-02
Si		-1.635319E+05	1.533199E-12	8.901390E+00	2.500000E-01
Mn		-4.747869E+04	3.714410E-04	3.767884E+01	2.070000E+00
Cr		-4.254519E+04	8.439401E-04	9.231479E+00	4.800000E-01
Mo		-3.353678E+04	3.776821E-03	6.670836E+00	6.400000E-01
Ni		-4.853288E+04	3.116946E-04	3.407736E+01	2.000000E+00
N		-7.446422E+04	4.171699E-06	1.856255E+00	2.600000E-02
Fe		-2.586806E+04	1.352556E-02	1.692177E+03	9.450300E+01
Total				1.793174E+03	1.000000E+02

Amount compnt moles	Phase	Mole fraction of component within phase		
		C	Si	Mn
1.7051E+03	BCC_A2	0.0000017	0.0052203	0.0097863
7.8388E+01	FCC_A1	0.0020597	0.0000023	0.2414949
9.6666E+00	CEMENTITE	0.2500000	0.0000000	0.2132926
		Cr	Mo	Ni
1.7051E+03	BCC_A2	0.0031341	0.0034955	0.0101591
7.8388E+01	FCC_A1	0.0120353	0.0083913	0.2133406
9.6666E+00	CEMENTITE	0.3045618	0.0054573	0.0032622
		N	Fe	
1.7051E+03	BCC_A2	0.0000185	0.9681845	
7.8388E+01	FCC_A1	0.0232790	0.4993970	
9.6666E+00	CEMENTITE	0.0000000	0.2234260	

Gibbs Energy = -4.9466697935E+07 J   System Enthalpy = 2.2223695745E+07 J
     773.000
*** MULTIPHASE - Stage 1* Results ***

Temperature =   773.0000 K

Fixed pressure = 1.013250E+05 Pa,   1.000000E+00 atm

Component	Ref.Phase	Chem.Pot.	Activity	Amount/mol	Mass/kg
C		-1.447882E+04	1.051076E-01	2.580967E+00	3.100000E-02
Si		-1.664740E+05	5.636196E-12	8.901390E+00	2.500000E-01
Mn		-5.201499E+04	3.056555E-04	3.767884E+01	2.070000E+00
Cr		-4.710016E+04	6.566556E-04	9.231479E+00	4.800000E-01
Mo		-3.917302E+04	2.254198E-03	6.670836E+00	6.400000E-01
Ni		-5.262072E+04	2.781643E-04	3.407736E+01	2.000000E+00
N		-7.800276E+04	5.360194E-06	1.856255E+00	2.600000E-02

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Fe                          -2.862335E+04 1.163743E-02 1.692177E+03 9.450300E+01
Total                                                  1.793174E+03 1.000000E+02

Amount      Phase               Mole fraction of component within phase
compnt moles
                                C              Si             Mn
 1.6971E+03 BCC_A2             0.0000073      0.0052427      0.0115897
 8.7255E+01 FCC_A1             0.0040829      0.0000481      0.1864752
 8.8495E+00 CEMENTITE          0.2500000      0.0000000      0.1965619

                                Cr             Mo             Ni
 1.6971E+03 BCC_A2             0.0035464      0.0034902      0.0119988
 8.7255E+01 FCC_A1             0.0126677      0.0077879      0.1568031
 8.8495E+00 CEMENTITE          0.2381632      0.0076997      0.0036996

                                N              Fe
 1.6971E+03 BCC_A2             0.0000361      0.9640887
 8.7255E+01 FCC_A1             0.0205712      0.6115639
 8.8495E+00 CEMENTITE          0.0000000      0.3038756

Gibbs Energy = -5.4546529634E+07 J   System Enthalpy =  2.5868632511E+07 J
     823.000
*** MULTIPHASE - Stage 1* Results ***

Temperature =   823.0000 K

Fixed pressure =  1.013250E+05 Pa,    1.000000E+00 atm

Component      Ref.Phase     Chem.Pot.    Activity     Amount/mol   Mass/kg
C                           -1.435192E+04 1.227798E-01 2.580967E+00 3.100000E-02
Si                          -1.695812E+05 1.726609E-11 8.901390E+00 2.500000E-01
Mn                          -5.716792E+04 2.353558E-04 3.767884E+01 2.070000E+00
Cr                          -5.177379E+04 5.176952E-04 9.231479E+00 4.800000E-01
Mo                          -4.484741E+04 1.424526E-03 6.670836E+00 6.400000E-01
Ni                          -5.724840E+04 2.326039E-04 3.407736E+01 2.000000E+00
N                           -8.180542E+04 6.427727E-06 1.856255E+00 2.600000E-02
Fe                          -3.149258E+04 1.002908E-02 1.692177E+03 9.450300E+01
Total                                                  1.793174E+03 1.000000E+02

Amount      Phase               Mole fraction of component within phase
compnt moles
                                C              Si             Mn
 1.6700E+03 BCC_A2             0.0000248      0.0052991      0.0126953
 1.1634E+02 FCC_A1             0.0071175      0.0004466      0.1317874
 6.8457E+00 CEMENTITE          0.2500000      0.0000000      0.1672862

                                Cr             Mo             Ni
 1.6700E+03 BCC_A2             0.0039345      0.0035209      0.0130450
 1.1634E+02 FCC_A1             0.0117322      0.0062348      0.1054320
 6.8457E+00 CEMENTITE          0.1893112      0.0095746      0.0038140

                                N              Fe
 1.6700E+03 BCC_A2             0.0000629      0.9614175
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 1.1634E+02 FCC_A1             0.0150527       0.7221968
 6.8457E+00 CEMENTITE          0.0000000       0.3800139

Gibbs Energy = -5.9869654040E+07 J   System Enthalpy =  2.9758500330E+07 J
     873.000
*** MULTIPHASE - Stage 1* Results ***

Temperature =   873.0000 K

Fixed pressure =  1.013250E+05 Pa,    1.000000E+00 atm

Component      Ref.Phase     Chem.Pot.    Activity     Amount/mol   Mass/kg
C                           -1.459150E+04 1.339558E-01 2.580967E+00 3.100000E-02
Si                          -1.728409E+05 4.556050E-11 8.901390E+00 2.500000E-01
Mn                          -6.317529E+04 1.659957E-04 3.767884E+01 2.070000E+00
Cr                          -5.636648E+04 4.241133E-04 9.231479E+00 4.800000E-01
Mo                          -5.054676E+04 9.455552E-04 6.670836E+00 6.400000E-01
Ni                          -6.258254E+04 1.801203E-04 3.407736E+01 2.000000E+00
N                           -8.709198E+04 6.153384E-06 1.856255E+00 2.600000E-02
Fe                          -3.447019E+04 8.661246E-03 1.692177E+03 9.450300E+01
Total                                                  1.793174E+03 1.000000E+02

Amount      Phase               Mole fraction of component within phase
compnt moles
                                C               Si              Mn
 1.5916E+03 BCC_A2             0.0000705       0.0053989       0.0125843
 2.0046E+02 FCC_A1             0.0109413       0.0015385       0.0873308
 1.1019E+00 CEMENTITE          0.2500000       0.0000000       0.1296316

                                Cr              Mo              Ni
 1.5916E+03 BCC_A2             0.0044073       0.0035876       0.0129061
 2.0046E+02 FCC_A1             0.0101881       0.0047338       0.0675031
 1.1019E+00 CEMENTITE          0.1583815       0.0108052       0.0036038

                                N               Fe
 1.5916E+03 BCC_A2             0.0000838       0.9609615
 2.0046E+02 FCC_A1             0.0085941       0.8091704
 1.1019E+00 CEMENTITE          0.0000000       0.4475779

Gibbs Energy = -6.5439693158E+07 J   System Enthalpy =  3.4041093301E+07 J
     923.000
*** MULTIPHASE - Stage 1* Results ***

Temperature =   923.0000 K

Fixed pressure =  1.013250E+05 Pa,    1.000000E+00 atm

Component      Ref.Phase     Chem.Pot.    Activity     Amount/mol   Mass/kg
C                           -2.115500E+04 6.350698E-02 2.580967E+00 3.100000E-02
Si                          -1.763040E+05 1.053928E-10 8.901390E+00 2.500000E-01
Mn                          -6.967580E+04 1.140223E-04 3.767884E+01 2.070000E+00
Cr                          -6.168112E+04 3.231583E-04 9.231479E+00 4.800000E-01
Mo                          -5.620747E+04 6.594370E-04 6.670836E+00 6.400000E-01
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Ni                          -6.833995E+04 1.357021E-04 3.407736E+01 2.000000E+00
N                           -9.288024E+04 5.544108E-06 1.856255E+00 2.600000E-02
Fe                          -3.756511E+04 7.484451E-03 1.692177E+03 9.450300E+01
Total                                                  1.793174E+03 1.000000E+02

Amount      Phase               Mole fraction of component within phase
compnt moles
                                C               Si              Mn
 1.4583E+03 BCC_A2             0.0000782       0.0054935       0.0121702
 3.3492E+02 FCC_A1             0.0073658       0.0026587       0.0595118

                                Cr              Mo              Ni
 1.4583E+03 BCC_A2             0.0044954       0.0037237       0.0123453
 3.3492E+02 FCC_A1             0.0079901       0.0037045       0.0479962

                                N               Fe
 1.4583E+03 BCC_A2             0.0001010       0.9615928
 3.3492E+02 FCC_A1             0.0051026       0.8656703

Gibbs Energy = -7.1264497054E+07 J   System Enthalpy =  3.8618092776E+07 J
     973.000
*** MULTIPHASE - Stage 1* Results ***

Temperature =   973.0000 K

Fixed pressure =  1.013250E+05 Pa,    1.000000E+00 atm

Component      Ref.Phase     Chem.Pot.    Activity     Amount/mol   Mass/kg
C                           -2.979140E+04 2.516029E-02 2.580967E+00 3.100000E-02
Si                          -1.797883E+05 2.230843E-10 8.901390E+00 2.500000E-01
Mn                          -7.692157E+04 7.424004E-05 3.767884E+01 2.070000E+00
Cr                          -6.733141E+04 2.429206E-04 9.231479E+00 4.800000E-01
Mo                          -6.174611E+04 4.845051E-04 6.670836E+00 6.400000E-01
Ni                          -7.476185E+04 9.695667E-05 3.407736E+01 2.000000E+00
N                           -1.002381E+05 4.158561E-06 1.856255E+00 2.600000E-02
Fe                          -4.077911E+04 6.469412E-03 1.692177E+03 9.450300E+01
Total                                                  1.793174E+03 1.000000E+02

Amount      Phase               Mole fraction of component within phase
compnt moles
                                C               Si              Mn
 1.1836E+03 BCC_A2             0.0000667       0.0057077       0.0112627
 6.0959E+02 FCC_A1             0.0041044       0.0035202       0.0399423

                                Cr              Mo              Ni
 1.1836E+03 BCC_A2             0.0044511       0.0039673       0.0111469
 6.0959E+02 FCC_A1             0.0065014       0.0032402       0.0342592

                                N               Fe
 1.1836E+03 BCC_A2             0.0000984       0.9632992
 6.0959E+02 FCC_A1             0.0028540       0.9055783

Gibbs Energy = -7.7350003085E+07 J   System Enthalpy =  4.3724208184E+07 J
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     1023.00
*** MULTIPHASE - Stage 1* Results ***

Temperature =  1023.0000 K

Fixed pressure =  1.013250E+05 Pa,    1.000000E+00 atm

Component      Ref.Phase     Chem.Pot.    Activity     Amount/mol   Mass/kg
C                           -3.957738E+04 9.532792E-03 2.580967E+00 3.100000E-02
Si                          -1.828650E+05 4.603668E-10 8.901390E+00 2.500000E-01
Mn                          -8.487048E+04 4.640888E-05 3.767884E+01 2.070000E+00
Cr                          -7.323294E+04 1.823063E-04 9.231479E+00 4.800000E-01
Mo                          -6.670365E+04 3.928084E-04 6.670836E+00 6.400000E-01
Ni                          -8.197467E+04 6.523164E-05 3.407736E+01 2.000000E+00
N                           -1.090444E+05 2.705870E-06 1.856255E+00 2.600000E-02
Fe                          -4.412711E+04 5.583611E-03 1.692177E+03 9.450300E+01
Total                                                  1.793174E+03 1.000000E+02

Amount      Phase               Mole fraction of component within phase
compnt moles
                                C              Si              Mn
 6.0445E+02 BCC_A2             0.0000509      0.0063049       0.0101792
 1.1887E+03 FCC_A1             0.0021453      0.0042822       0.0265209

                                Cr             Mo              Ni
 6.0445E+02 BCC_A2             0.0043520      0.0045561       0.0094445
 1.1887E+03 FCC_A1             0.0055529      0.0032951       0.0238648

                                N              Fe
 6.0445E+02 BCC_A2             0.0000815      0.9650309
 1.1887E+03 FCC_A1             0.0015201      0.9328185

Gibbs Energy = -8.3712250566E+07 J   System Enthalpy =  4.9291568495E+07 J
     1073.00
*** MULTIPHASE - Stage 1* Results ***

Temperature =  1073.0000 K

Fixed pressure =  1.013250E+05 Pa,    1.000000E+00 atm

Component      Ref.Phase     Chem.Pot.    Activity     Amount/mol   Mass/kg
C                           -4.774632E+04 4.739401E-03 2.580967E+00 3.100000E-02
Si                          -1.856134E+05 9.212819E-10 8.901390E+00 2.500000E-01
Mn                          -9.191308E+04 3.355045E-05 3.767884E+01 2.070000E+00
Cr                          -7.900095E+04 1.426451E-04 9.231479E+00 4.800000E-01
Mo                          -7.134547E+04 3.364523E-04 6.670836E+00 6.400000E-01
Ni                          -8.868557E+04 4.817400E-05 3.407736E+01 2.000000E+00
N                           -1.167852E+05 2.065061E-06 1.856255E+00 2.600000E-02
Fe                          -4.766075E+04 4.785075E-03 1.692177E+03 9.450300E+01
Total                                                  1.793174E+03 1.000000E+02

Amount      Phase               Mole fraction of component within phase
compnt moles
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                                C               Si              Mn
 1.7932E+03 FCC_A1             0.0014393       0.0049640       0.0210124

                                Cr              Mo              Ni
 1.7932E+03 FCC_A1             0.0051481       0.0037201       0.0190039

                                N               Fe
 1.7932E+03 FCC_A1             0.0010352       0.9436769

Gibbs Energy = -9.0332143283E+07 J   System Enthalpy =  5.3678948478E+07 J
     1123.00
*** MULTIPHASE - Stage 1* Results ***

Temperature =  1123.0000 K

Fixed pressure =  1.013250E+05 Pa,    1.000000E+00 atm

Component      Ref.Phase     Chem.Pot.    Activity     Amount/mol   Mass/kg
C                           -5.253479E+04 3.601518E-03 2.580967E+00 3.100000E-02
Si                          -1.895139E+05 1.532035E-09 8.901390E+00 2.500000E-01
Mn                          -9.721135E+04 3.009370E-05 3.767884E+01 2.070000E+00
Cr                          -8.449494E+04 1.174750E-04 9.231479E+00 4.800000E-01
Mo                          -7.748931E+04 2.487674E-04 6.670836E+00 6.400000E-01
Ni                          -9.382079E+04 4.326918E-05 3.407736E+01 2.000000E+00
N                           -1.216973E+05 2.185641E-06 1.856255E+00 2.600000E-02
Fe                          -5.135706E+04 4.085682E-03 1.692177E+03 9.450300E+01
Total                                                  1.793174E+03 1.000000E+02

Amount      Phase               Mole fraction of component within phase
compnt moles
                                C               Si              Mn
 1.7932E+03 FCC_A1             0.0014393       0.0049640       0.0210124

                                Cr              Mo              Ni
 1.7932E+03 FCC_A1             0.0051481       0.0037201       0.0190039

                                N               Fe
 1.7932E+03 FCC_A1             0.0010352       0.9436769

Gibbs Energy = -9.7111077744E+07 J   System Enthalpy =  5.6660332133E+07 J
     1173.00
*** MULTIPHASE - Stage 1* Results ***

Temperature =  1173.0000 K

Fixed pressure =  1.013250E+05 Pa,    1.000000E+00 atm

Component      Ref.Phase     Chem.Pot.    Activity     Amount/mol   Mass/kg
C                           -5.737151E+04 2.787820E-03 2.580967E+00 3.100000E-02
Si                          -1.934702E+05 2.425679E-09 8.901390E+00 2.500000E-01
Mn                          -1.025962E+05 2.700381E-05 3.767884E+01 2.070000E+00
Cr                          -9.006220E+04 9.762446E-05 9.231479E+00 4.800000E-01
Mo                          -8.369763E+04 1.874869E-04 6.670836E+00 6.400000E-01
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Ni                          -9.902909E+04 3.892834E-05 3.407736E+01 2.000000E+00
N                           -1.267265E+05 2.274616E-06 1.856255E+00 2.600000E-02
Fe                          -5.512929E+04 3.508409E-03 1.692177E+03 9.450300E+01
Total                                                  1.793174E+03 1.000000E+02

Amount      Phase               Mole fraction of component within phase
compnt moles
                                C               Si              Mn
 1.7932E+03 FCC_A1             0.0014393       0.0049640       0.0210124

                                Cr              Mo              Ni
 1.7932E+03 FCC_A1             0.0051481       0.0037201       0.0190039

                                N               Fe
 1.7932E+03 FCC_A1             0.0010352       0.9436769

Gibbs Energy = -1.0402364624E+08 J   System Enthalpy =  5.9680386003E+07 J
     1223.00
*** MULTIPHASE - Stage 1* Results ***

Temperature =  1223.0000 K

Fixed pressure =  1.013250E+05 Pa,    1.000000E+00 atm

Component      Ref.Phase     Chem.Pot.    Activity     Amount/mol   Mass/kg
C                           -6.225708E+04 2.193065E-03 2.580967E+00 3.100000E-02
Si                          -1.974851E+05 3.677664E-09 8.901390E+00 2.500000E-01
Mn                          -1.080621E+05 2.425250E-05 3.767884E+01 2.070000E+00
Cr                          -9.570275E+04 8.177387E-05 9.231479E+00 4.800000E-01
Mo                          -8.996834E+04 1.437231E-04 6.670836E+00 6.400000E-01
Ni                          -1.043082E+05 3.508198E-05 3.407736E+01 2.000000E+00
N                           -1.318684E+05 2.333517E-06 1.856255E+00 2.600000E-02
Fe                          -5.897300E+04 3.029087E-03 1.692177E+03 9.450300E+01
Total                                                  1.793174E+03 1.000000E+02

Amount      Phase               Mole fraction of component within phase
compnt moles
                                C               Si              Mn
 1.7932E+03 FCC_A1             0.0014393       0.0049640       0.0210124

                                Cr              Mo              Ni
 1.7932E+03 FCC_A1             0.0051481       0.0037201       0.0190039

                                N               Fe
 1.7932E+03 FCC_A1             0.0010352       0.9436769

Gibbs Energy = -1.1106579935E+08 J   System Enthalpy =  6.2739160828E+07 J
     1273.00
*** MULTIPHASE - Stage 1* Results ***

Temperature =  1273.0000 K

Fixed pressure =  1.013250E+05 Pa,    1.000000E+00 atm
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```
Component      Ref.Phase     Chem.Pot.    Activity     Amount/mol   Mass/kg
C                           -6.718555E+04 1.750912E-03 2.580967E+00 3.100000E-02
Si                          -2.015616E+05 5.365273E-09 8.901390E+00 2.500000E-01
Mn                          -1.136224E+05 2.177129E-05 3.767884E+01 2.070000E+00
Cr                          -1.014212E+05 6.894751E-05 9.231479E+00 4.800000E-01
Mo                          -9.630539E+04 1.117966E-04 6.670836E+00 6.400000E-01
Ni                          -1.096667E+05 3.163678E-05 3.407736E+01 2.000000E+00
N                           -1.371126E+05 2.366141E-06 1.856255E+00 2.600000E-02
Fe                          -6.288678E+04 2.628149E-03 1.692177E+03 9.450300E+01
Total                                                  1.793174E+03 1.000000E+02

Amount      Phase               Mole fraction of component within phase
compnt moles
                                C               Si              Mn
 1.7932E+03 FCC_A1             0.0014393       0.0049640       0.0210124

                                Cr              Mo              Ni
 1.7932E+03 FCC_A1             0.0051481       0.0037201       0.0190039

                                N               Fe
 1.7932E+03 FCC_A1             0.0010352       0.9436769

Gibbs Energy = -1.1823382154E+08 J   System Enthalpy =  6.5836726900E+07 J
     1323.00
*** MULTIPHASE - Stage 1* Results ***

Temperature =  1323.0000 K

Fixed pressure =  1.013250E+05 Pa,    1.000000E+00 atm

Component      Ref.Phase     Chem.Pot.    Activity     Amount/mol   Mass/kg
C                           -7.216681E+04 1.415091E-03 2.580967E+00 3.100000E-02
Si                          -2.056808E+05 7.577474E-09 8.901390E+00 2.500000E-01
Mn                          -1.192341E+05 1.961200E-05 3.767884E+01 2.070000E+00
Cr                          -1.071997E+05 5.856710E-05 9.231479E+00 4.800000E-01
Mo                          -1.026901E+05 8.824602E-05 6.670836E+00 6.400000E-01
Ni                          -1.150717E+05 2.863252E-05 3.407736E+01 2.000000E+00
N                           -1.424721E+05 2.371717E-06 1.856255E+00 2.600000E-02
Fe                          -6.686774E+04 2.290850E-03 1.692177E+03 9.450300E+01
Total                                                  1.793174E+03 1.000000E+02

Amount      Phase               Mole fraction of component within phase
compnt moles
                                C               Si              Mn
 1.7932E+03 FCC_A1             0.0014393       0.0049640       0.0210124

                                Cr              Mo              Ni
 1.7932E+03 FCC_A1             0.0051481       0.0037201       0.0190039

                                N               Fe
 1.7932E+03 FCC_A1             0.0010352       0.9436769
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Gibbs Energy = -1.2552429244E+08 J   System Enthalpy = 6.8973170511E+07 J
     1373.00
*** MULTIPHASE - Stage 1* Results ***

Temperature = 1373.0000 K

Fixed pressure = 1.013250E+05 Pa,   1.000000E+00 atm

Component	Ref.Phase	Chem.Pot.	Activity	Amount/mol	Mass/kg
C		-7.719505E+04	1.156785E-03	2.580967E+00	3.100000E-02
Si		-2.098526E+05	1.038803E-08	8.901390E+00	2.500000E-01
Mn		-1.249255E+05	1.767808E-05	3.767884E+01	2.070000E+00
Cr		-1.130488E+05	5.003355E-05	9.231479E+00	4.800000E-01
Mo		-1.091324E+05	7.051071E-05	6.670836E+00	6.400000E-01
Ni		-1.205456E+05	2.594523E-05	3.407736E+01	2.000000E+00
N		-1.479317E+05	2.356152E-06	1.856255E+00	2.600000E-02
Fe		-7.091310E+04	2.005573E-03	1.692177E+03	9.450300E+01
Total				1.793174E+03	1.000000E+02

Amount	Phase	Mole fraction of component within phase		
compnt moles				
		C	Si	Mn
1.7932E+03	FCC_A1	0.0014393	0.0049640	0.0210124
		Cr	Mo	Ni
1.7932E+03	FCC_A1	0.0051481	0.0037201	0.0190039
		N	Fe	
1.7932E+03	FCC_A1	0.0010352	0.9436769	

Gibbs Energy = -1.3293405394E+08 J   System Enthalpy = 7.2148591058E+07 J
     1423.00
*** MULTIPHASE - Stage 1* Results ***

Temperature = 1423.0000 K

Fixed pressure = 1.013250E+05 Pa,   1.000000E+00 atm

Component	Ref.Phase	Chem.Pot.	Activity	Amount/mol	Mass/kg
C		-8.225230E+04	9.567699E-04	2.580967E+00	3.100000E-02
Si		-2.140867E+05	1.385575E-08	8.901390E+00	2.500000E-01
Mn		-1.307088E+05	1.592717E-05	3.767884E+01	2.070000E+00
Cr		-1.189790E+05	4.292399E-05	9.231479E+00	4.800000E-01
Mo		-1.156417E+05	5.691139E-05	6.670836E+00	6.400000E-01
Ni		-1.261020E+05	2.350937E-05	3.407736E+01	2.000000E+00
N		-1.534769E+05	2.324896E-06	1.856255E+00	2.600000E-02
Fe		-7.503091E+04	1.761487E-03	1.692177E+03	9.450300E+01
Total				1.793174E+03	1.000000E+02

Amount	Phase	Mole fraction of component within phase		
compnt moles				
		C	Si	Mn
1.7932E+03	FCC_A1	0.0014393	0.0049640	0.0210124

```
                                Cr              Mo              Ni
 1.7932E+03 FCC_A1             0.0051481       0.0037201       0.0190039

                                N               Fe
 1.7932E+03 FCC_A1             0.0010352       0.9436769

Gibbs Energy = -1.4046018193E+08 J   System Enthalpy =  7.5363098834E+07 J
     1473.00
*** MULTIPHASE - Stage 1* Results ***

Temperature =  1473.0000 K

Fixed pressure =  1.013250E+05 Pa,    1.000000E+00 atm

Component      Ref.Phase     Chem.Pot.    Activity     Amount/mol   Mass/kg
C                           -8.735826E+04 7.984210E-04 2.580967E+00 3.100000E-02
Si                          -2.183638E+05 1.805962E-08 8.901390E+00 2.500000E-01
Mn                          -1.365555E+05 1.437710E-05 3.767884E+01 2.070000E+00
Cr                          -1.249719E+05 3.701988E-05 9.231479E+00 4.800000E-01
Mo                          -1.221991E+05 4.642587E-05 6.670836E+00 6.400000E-01
Ni                          -1.317117E+05 2.135196E-05 3.407736E+01 2.000000E+00
N                           -1.591222E+05 2.277436E-06 1.856255E+00 2.600000E-02
Fe                          -7.920634E+04 1.553471E-03 1.692177E+03 9.450300E+01
Total                                                  1.793174E+03 1.000000E+02

Amount      Phase               Mole fraction of component within phase
compnt moles
                                C               Si              Mn
 1.7932E+03 FCC_A1             0.0014393       0.0049640       0.0210124

                                Cr              Mo              Ni
 1.7932E+03 FCC_A1             0.0051481       0.0037201       0.0190039

                                N               Fe
 1.7932E+03 FCC_A1             0.0010352       0.9436769

Gibbs Energy = -1.4809996195E+08 J   System Enthalpy =  7.8616813313E+07 J
     1523.00
*** MULTIPHASE - Stage 1* Results ***

Temperature =  1523.0000 K

Fixed pressure =  1.013250E+05 Pa,    1.000000E+00 atm

Component      Ref.Phase     Chem.Pot.    Activity     Amount/mol   Mass/kg
C                           -9.250241E+04 6.722117E-04 2.580967E+00 3.100000E-02
Si                          -2.226926E+05 2.303881E-08 8.901390E+00 2.500000E-01
Mn                          -1.424797E+05 1.298581E-05 3.767884E+01 2.070000E+00
Cr                          -1.310358E+05 3.205926E-05 9.231479E+00 4.800000E-01
Mo                          -1.288130E+05 3.821063E-05 6.670836E+00 6.400000E-01
Ni                          -1.373888E+05 1.941191E-05 3.407736E+01 2.000000E+00
N                           -1.648547E+05 2.218636E-06 1.856255E+00 2.600000E-02
```

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Fe                            -8.344866E+04 1.374094E-03 1.692177E+03 9.450300E+01
Total                                                    1.793174E+03 1.000000E+02

Amount      Phase               Mole fraction of component within phase
compnt moles
                                C               Si              Mn
 1.7932E+03 FCC_A1             0.0014393       0.0049640       0.0210124

                                Cr              Mo              Ni
 1.7932E+03 FCC_A1             0.0051481       0.0037201       0.0190039

                                N               Fe
 1.7932E+03 FCC_A1             0.0010352       0.9436769

Gibbs Energy = -1.5585086863E+08 J   System Enthalpy =  8.1909868360E+07 J
     1573.00
*** MULTIPHASE - Stage 1* Results ***

Temperature =  1573.0000 K

Fixed pressure =  1.013250E+05 Pa,    1.000000E+00 atm

Component      Ref.Phase     Chem.Pot.    Activity     Amount/mol   Mass/kg
C                            -9.769100E+04 5.702366E-04 2.580967E+00 3.100000E-02
Si                           -2.270618E+05 2.884995E-08 8.901390E+00 2.500000E-01
Mn                           -1.484645E+05 1.175061E-05 3.767884E+01 2.070000E+00
Cr                           -1.371635E+05 2.788206E-05 9.231479E+00 4.800000E-01
Mo                           -1.354727E+05 3.172990E-05 6.670836E+00 6.400000E-01
Ni                           -1.431144E+05 1.768958E-05 3.407736E+01 2.000000E+00
N                            -1.706816E+05 2.149399E-06 1.856255E+00 2.600000E-02
Fe                           -8.774469E+04 1.219927E-03 1.692177E+03 9.450300E+01
Total                                                    1.793174E+03 1.000000E+02

Amount      Phase               Mole fraction of component within phase
compnt moles
                                C               Si              Mn
 1.7932E+03 FCC_A1             0.0014393       0.0049640       0.0210124

                                Cr              Mo              Ni
 1.7932E+03 FCC_A1             0.0051481       0.0037201       0.0190039

                                N               Fe
 1.7932E+03 FCC_A1             0.0010352       0.9436769

Gibbs Energy = -1.6371055796E+08 J   System Enthalpy =  8.5243407266E+07 J
     1623.00
*** MULTIPHASE - Stage 1* Results ***

Temperature =  1623.0000 K

Fixed pressure =  1.013250E+05 Pa,    1.000000E+00 atm

Component      Ref.Phase     Chem.Pot.    Activity     Amount/mol   Mass/kg
```

```
C                          -1.029121E+05 4.874824E-04 2.580967E+00 3.100000E-02
Si                         -2.314845E+05 3.548869E-08 8.901390E+00 2.500000E-01
Mn                         -1.545286E+05 1.063598E-05 3.767884E+01 2.070000E+00
Cr                         -1.433670E+05 2.432158E-05 9.231479E+00 4.800000E-01
Mo                         -1.421921E+05 2.653411E-05 6.670836E+00 6.400000E-01
Ni                         -1.489085E+05 1.613049E-05 3.407736E+01 2.000000E+00
N                          -1.765869E+05 2.074297E-06 1.856255E+00 2.600000E-02
Fe                         -9.210627E+04 1.085740E-03 1.692177E+03 9.450300E+01
Total                                                 1.793174E+03 1.000000E+02

Amount      Phase               Mole fraction of component within phase
compnt moles
                                C               Si              Mn
 1.7932E+03 FCC_A1             0.0014393       0.0049640       0.0210124

                                Cr              Mo              Ni
 1.7932E+03 FCC_A1             0.0051481       0.0037201       0.0190039

                                N               Fe
 1.7932E+03 FCC_A1             0.0010352       0.9436769

Gibbs Energy = -1.7167686871E+08 J   System Enthalpy =  8.8617681841E+07 J
     1673.00
*** MULTIPHASE - Stage 1* Results ***

Temperature =  1673.0000 K

Fixed pressure =  1.013250E+05 Pa,    1.000000E+00 atm

Component      Ref.Phase     Chem.Pot.    Activity     Amount/mol   Mass/kg
C                          -1.081737E+05 4.194400E-04 2.580967E+00 3.100000E-02
Si                         -2.359499E+05 4.298589E-08 8.901390E+00 2.500000E-01
Mn                         -1.606602E+05 9.637649E-06 3.767884E+01 2.070000E+00
Cr                         -1.496347E+05 2.129137E-05 9.231479E+00 4.800000E-01
Mo                         -1.489654E+05 2.234083E-05 6.670836E+00 6.400000E-01
Ni                         -1.547730E+05 1.471556E-05 3.407736E+01 2.000000E+00
N                          -1.825738E+05 1.994339E-06 1.856255E+00 2.600000E-02
Fe                         -9.653010E+04 9.687235E-04 1.692177E+03 9.450300E+01
Total                                                 1.793174E+03 1.000000E+02

Amount      Phase               Mole fraction of component within phase
compnt moles
                                C               Si              Mn
 1.7932E+03 FCC_A1             0.0014393       0.0049640       0.0210124

                                Cr              Mo              Ni
 1.7932E+03 FCC_A1             0.0051481       0.0037201       0.0190039

                                N               Fe
 1.7932E+03 FCC_A1             0.0010352       0.9436769

Gibbs Energy = -1.7974776196E+08 J   System Enthalpy =  9.2032176042E+07 J
     1723.00
```

*** MULTIPHASE - Stage 1* Results ***

Temperature = 1723.0000 K

Fixed pressure = 1.013250E+05 Pa,   1.000000E+00 atm

Component	Ref.Phase	Chem.Pot.	Activity	Amount/mol	Mass/kg
C		-1.134734E+05	3.630916E-04	2.580967E+00	3.100000E-02
Si		-2.404499E+05	5.136651E-08	8.901390E+00	2.500000E-01
Mn		-1.668509E+05	8.746984E-06	3.767884E+01	2.070000E+00
Cr		-1.559627E+05	1.870423E-05	9.231479E+00	4.800000E-01
Mo		-1.557643E+05	1.896506E-05	6.670836E+00	6.400000E-01
Ni		-1.606657E+05	1.346992E-05	3.407736E+01	2.000000E+00
N		-1.886534E+05	1.909452E-06	1.856255E+00	2.600000E-02
Fe		-1.009935E+05	8.676597E-04	1.692177E+03	9.450300E+01
Total				1.793174E+03	1.000000E+02

Amount compnt moles	Phase	Mole fraction of component within phase		
		C	Si	Mn
1.7932E+03	FCC_A1	0.0014393	0.0049640	0.0210124
		Cr	Mo	Ni
1.7932E+03	FCC_A1	0.0051481	0.0037201	0.0190039
		N	Fe	
1.7932E+03	FCC_A1	0.0010352	0.9436769	

Gibbs Energy = -1.8792130795E+08 J   System Enthalpy = 9.5486495176E+07 J
     1773.00
*** MULTIPHASE - Stage 1* Results ***

Temperature = 1773.0000 K

Fixed pressure = 1.013250E+05 Pa,   1.000000E+00 atm

Component	Ref.Phase	Chem.Pot.	Activity	Amount/mol	Mass/kg
C		-1.274257E+05	1.761916E-04	2.580967E+00	3.100000E-02
Si		-2.494241E+05	4.486011E-08	8.901390E+00	2.500000E-01
Mn		-1.746412E+05	7.161378E-06	3.767884E+01	2.070000E+00
Cr		-1.637689E+05	1.497272E-05	9.231479E+00	4.800000E-01
Mo		-1.678860E+05	1.132425E-05	6.670836E+00	6.400000E-01
Ni		-1.665762E+05	1.237645E-05	3.407736E+01	2.000000E+00
N		-1.958519E+05	1.698712E-06	1.856255E+00	2.600000E-02
Fe		-1.054565E+05	7.820021E-04	1.692177E+03	9.450300E+01
Total				1.793174E+03	1.000000E+02

Amount compnt moles	Phase	Mole fraction of component within phase		
		C	Si	Mn
7.1337E+02	LIQUID	0.0029715	0.0067997	0.0256319
1.0798E+03	BCC_A2	0.0004271	0.0037513	0.0179605

```
                                Cr              Mo              Ni
 7.1337E+02 LIQUID             0.0055047       0.0041006       0.0214654
 1.0798E+03 BCC_A2             0.0049126       0.0034688       0.0173778

                                N               Fe
 7.1337E+02 LIQUID             0.0018329       0.9316933
 1.0798E+03 BCC_A2             0.0005082       0.9515938

Gibbs Energy = -1.9625717516E+08 J   System Enthalpy =  1.1070605898E+08 J
     1823.00
*** MULTIPHASE - Stage 1* Results ***

Temperature =  1823.0000 K

Fixed pressure =  1.013250E+05 Pa,    1.000000E+00 atm

Component      Ref.Phase     Chem.Pot.    Activity     Amount/mol   Mass/kg
C                           -1.435835E+05 7.691121E-05 2.580967E+00 3.100000E-02
Si                          -2.588867E+05 3.821866E-08 8.901390E+00 2.500000E-01
Mn                          -1.840873E+05 5.314440E-06 3.767884E+01 2.070000E+00
Cr                          -1.710498E+05 1.256071E-05 9.231479E+00 4.800000E-01
Mo                          -1.762508E+05 8.912315E-06 6.670836E+00 6.400000E-01
Ni                          -1.748279E+05 9.789496E-06 3.407736E+01 2.000000E+00
N                           -2.110919E+05 8.947713E-07 1.856255E+00 2.600000E-02
Fe                          -1.102850E+05 6.919426E-04 1.692177E+03 9.450300E+01
Total                                                  1.793174E+03 1.000000E+02

Amount      Phase               Mole fraction of component within phase
compnt moles
                                C               Si              Mn
 1.7932E+03 LIQUID             0.0014393       0.0049640       0.0210124

                                Cr              Mo              Ni
 1.7932E+03 LIQUID             0.0051481       0.0037201       0.0190039

                                N               Fe
 1.7932E+03 LIQUID             0.0010352       0.9436769

Gibbs Energy = -2.0532450185E+08 J   System Enthalpy =  1.2887578207E+08 J
     1873.00
*** MULTIPHASE - Stage 1* Results ***

Temperature =  1873.0000 K

Fixed pressure =  1.013250E+05 Pa,    1.000000E+00 atm

Component      Ref.Phase     Chem.Pot.    Activity     Amount/mol   Mass/kg
C                           -1.489262E+05 7.027756E-05 2.580967E+00 3.100000E-02
Si                          -2.638362E+05 4.387963E-08 8.901390E+00 2.500000E-01
Mn                          -1.911582E+05 4.667355E-06 3.767884E+01 2.070000E+00
Cr                          -1.774632E+05 1.124583E-05 9.231479E+00 4.800000E-01
Mo                          -1.830749E+05 7.843234E-06 6.670836E+00 6.400000E-01
Ni                          -1.812731E+05 8.805289E-06 3.407736E+01 2.000000E+00
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N                          -2.177614E+05 8.456186E-07 1.856255E+00 2.600000E-02
Fe                         -1.153377E+05 6.074614E-04 1.692177E+03 9.450300E+01
Total                                                 1.793174E+03 1.000000E+02

Amount      Phase               Mole fraction of component within phase
compnt moles
                                C               Si              Mn
 1.7932E+03 LIQUID             0.0014393       0.0049640       0.0210124

                                Cr              Mo              Ni
 1.7932E+03 LIQUID             0.0051481       0.0037201       0.0190039

                                N               Fe
 1.7932E+03 LIQUID             0.0010352       0.9436769

Gibbs Energy = -2.1454651037E+08 J   System Enthalpy =  1.3298119032E+08 J

********************************************************************************
***
4 wt% Ni


 MULTIPHASE OPTION ? set w(6)=4 !
 MULTIPHASE OPTION ? comp pr br pr mol !
 NUMBER OF STEPS =  25

     673.000
*** MULTIPHASE - Stage 1* Results ***

Temperature =   673.0000 K

Fixed pressure =  1.013250E+05 Pa,    1.000000E+00 atm

Component      Ref.Phase     Chem.Pot.    Activity     Amount/mol   Mass/kg
C                           -1.849766E+04 3.667309E-02 2.580967E+00 3.100000E-02
Si                          -1.574548E+05 6.018806E-13 8.901390E+00 2.500000E-01
Mn                          -4.000537E+04 7.853748E-04 3.767884E+01 2.070000E+00
Cr                          -3.915106E+04 9.149183E-04 9.231479E+00 4.800000E-01
Mo                          -2.805987E+04 6.640466E-03 6.670836E+00 6.400000E-01
Ni                          -3.674671E+04 1.406015E-03 6.815471E+01 4.000000E+00
N                           -1.155356E+05 1.078881E-09 1.856255E+00 2.600000E-02
Fe                          -2.345896E+04 1.511082E-02 1.656365E+03 9.250300E+01
Total                                                  1.791439E+03 1.000000E+02

Amount      Phase               Mole fraction of component within phase
compnt moles
                                C               Si              Mn
 1.7777E+03 BCC_A2             0.0000002       0.0050073       0.0193858
 4.0087E+00 FCC_A1             0.0363976       0.0000000       0.0000101
 9.7389E+00 CEMENTITE          0.2500000       0.0000000       0.3303010

                                Cr              Mo              Ni
 1.7777E+03 BCC_A2             0.0026907       0.0035944       0.0382870
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 4.0087E+00 FCC_A1             0.4416899       0.0588303       0.0000000
 9.7389E+00 CEMENTITE          0.2749494       0.0046416       0.0094691

                                N               Fe
 1.7777E+03 BCC_A2             0.0000000       0.9310346
 4.0087E+00 FCC_A1             0.4630524       0.0000197
 9.7389E+00 CEMENTITE          0.0000000       0.1306389

Gibbs Energy = -4.5082679816E+07 J   System Enthalpy =  1.9651192530E+07 J
     723.000
*** MULTIPHASE - Stage 1* Results ***

Temperature =   723.0000 K

Fixed pressure =  1.013250E+05 Pa,    1.000000E+00 atm

Component      Ref.Phase     Chem.Pot.    Activity     Amount/mol   Mass/kg
C                           -1.187431E+04 1.387194E-01 2.580967E+00 3.100000E-02
Si                          -1.621973E+05 1.914331E-12 8.901390E+00 2.500000E-01
Mn                          -5.145272E+04 1.917718E-04 3.767884E+01 2.070000E+00
Cr                          -4.288145E+04 7.980286E-04 9.231479E+00 4.800000E-01
Mo                          -3.361211E+04 3.729788E-03 6.670836E+00 6.400000E-01
Ni                          -4.545393E+04 5.201985E-04 6.815471E+01 4.000000E+00
N                           -6.908749E+04 1.020368E-05 1.856255E+00 2.600000E-02
Fe                          -2.588597E+04 1.348532E-02 1.656365E+03 9.250300E+01
Total                                                  1.791439E+03 1.000000E+02

Amount      Phase              Mole fraction of component within phase
compnt moles
                                C               Si              Mn
 1.6345E+03 BCC_A2             0.0000026       0.0054458       0.0052770
 1.4742E+02 FCC_A1             0.0013955       0.0000009       0.1883890
 9.4840E+00 CEMENTITE          0.2500000       0.0000000       0.1350463

                                Cr              Mo              Ni
 1.6345E+03 BCC_A2             0.0029901       0.0033996       0.0162393
 1.4742E+02 FCC_A1             0.0075737       0.0071941       0.2818642
 9.4840E+00 CEMENTITE          0.3403103       0.0056425       0.0061307

                                N               Fe
 1.6345E+03 BCC_A2             0.0000405       0.9666052
 1.4742E+02 FCC_A1             0.0121429       0.5014397
 9.4840E+00 CEMENTITE          0.0000000       0.2628702

Gibbs Energy = -5.0136629916E+07 J   System Enthalpy =  2.2104866949E+07 J
     773.000
*** MULTIPHASE - Stage 1* Results ***

Temperature =   773.0000 K

Fixed pressure =  1.013250E+05 Pa,    1.000000E+00 atm

Component      Ref.Phase     Chem.Pot.    Activity     Amount/mol   Mass/kg
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C                          -1.201872E+04 1.541233E-01 2.580967E+00 3.100000E-02
Si                         -1.649901E+05 7.099925E-12 8.901390E+00 2.500000E-01
Mn                         -5.569074E+04 1.725256E-04 3.767884E+01 2.070000E+00
Cr                         -4.721567E+04 6.449595E-04 9.231479E+00 4.800000E-01
Mo                         -3.936886E+04 2.186549E-03 6.670836E+00 6.400000E-01
Ni                         -4.962286E+04 4.434791E-04 6.815471E+01 4.000000E+00
N                          -7.479806E+04 8.825300E-06 1.856255E+00 2.600000E-02
Fe                         -2.864158E+04 1.160447E-02 1.656365E+03 9.250300E+01
Total                                                 1.791439E+03 1.000000E+02

Amount      Phase               Mole fraction of component within phase
compnt moles
                                C               Si              Mn
 1.6071E+03 BCC_A2             0.0000098       0.0055366       0.0068190
 1.7614E+02 FCC_A1             0.0029453       0.0000194       0.1456783
 8.1858E+00 CEMENTITE          0.2500000       0.0000000       0.1294386

                                Cr              Mo              Ni
 1.6071E+03 BCC_A2             0.0035101       0.0033295       0.0183077
 1.7614E+02 FCC_A1             0.0081247       0.0071307       0.2195944
 8.1858E+00 CEMENTITE          0.2637849       0.0078187       0.0063473

                                N               Fe
 1.6071E+03 BCC_A2             0.0000537       0.9624336
 1.7614E+02 FCC_A1             0.0100486       0.6064587
 8.1858E+00 CEMENTITE          0.0000000       0.3426105

Gibbs Energy = -5.5257969853E+07 J   System Enthalpy =  2.5864817384E+07 J
     823.000
*** MULTIPHASE - Stage 1* Results ***

Temperature =   823.0000 K

Fixed pressure =  1.013250E+05 Pa,    1.000000E+00 atm

Component      Ref.Phase     Chem.Pot.    Activity     Amount/mol   Mass/kg
C                          -1.253224E+04 1.601831E-01 2.580967E+00 3.100000E-02
Si                         -1.678597E+05 2.220504E-11 8.901390E+00 2.500000E-01
Mn                         -6.061445E+04 1.422277E-04 3.767884E+01 2.070000E+00
Cr                         -5.166906E+04 5.256792E-04 9.231479E+00 4.800000E-01
Mo                         -4.514799E+04 1.363307E-03 6.670836E+00 6.400000E-01
Ni                         -5.417583E+04 3.644379E-04 6.815471E+01 4.000000E+00
N                          -8.110259E+04 7.123014E-06 1.856255E+00 2.600000E-02
Fe                         -3.151632E+04 9.994354E-03 1.656365E+03 9.250300E+01
Total                                                 1.791439E+03 1.000000E+02

Amount      Phase               Mole fraction of component within phase
compnt moles
                                C               Si              Mn
 1.5428E+03 BCC_A2             0.0000300       0.0057329       0.0079813
 2.4404E+02 FCC_A1             0.0056941       0.0002322       0.1018181
 4.5805E+00 CEMENTITE          0.2500000       0.0000000       0.1128880
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```
                                Cr              Mo              Ni
 1.5428E+03 BCC_A2             0.0040208       0.0033078       0.0195637
 2.4404E+02 FCC_A1             0.0084769       0.0062459       0.1554749
 4.5805E+00 CEMENTITE          0.2094372       0.0094360       0.0062615

                                N               Fe
 1.5428E+03 BCC_A2             0.0000635       0.9593000
 2.4404E+02 FCC_A1             0.0072049       0.7148530
 4.5805E+00 CEMENTITE          0.0000000       0.4119773

Gibbs Energy = -6.0633326511E+07 J   System Enthalpy =  2.9982555998E+07 J
     873.000
*** MULTIPHASE - Stage 1* Results ***

Temperature =   873.0000 K

Fixed pressure =  1.013250E+05 Pa,    1.000000E+00 atm

Component      Ref.Phase     Chem.Pot.    Activity     Amount/mol   Mass/kg
C                           -1.611171E+04 1.086437E-01 2.580967E+00 3.100000E-02
Si                          -1.708374E+05 6.004258E-11 8.901390E+00 2.500000E-01
Mn                          -6.633653E+04 1.073876E-04 3.767884E+01 2.070000E+00
Cr                          -5.645567E+04 4.189337E-04 9.231479E+00 4.800000E-01
Mo                          -5.078719E+04 9.147489E-04 6.670836E+00 6.400000E-01
Ni                          -5.924484E+04 2.852749E-04 6.815471E+01 4.000000E+00
N                           -8.775472E+04 5.616438E-06 1.856255E+00 2.600000E-02
Fe                          -3.450047E+04 8.625182E-03 1.656365E+03 9.250300E+01
Total                                                  1.791439E+03 1.000000E+02

Amount      Phase               Mole fraction of component within phase
compnt moles
                                C               Si              Mn
 1.4113E+03 BCC_A2             0.0000531       0.0060273       0.0084739
 3.8018E+02 FCC_A1             0.0065916       0.0010396       0.0676525

                                Cr              Mo              Ni
 1.4113E+03 BCC_A2             0.0043743       0.0034011       0.0196187
 3.8018E+02 FCC_A1             0.0080440       0.0049215       0.1064438

                                N               Fe
 1.4113E+03 BCC_A2             0.0000703       0.9579813
 3.8018E+02 FCC_A1             0.0046217       0.8006853

Gibbs Energy = -6.6272451196E+07 J   System Enthalpy =  3.4502888806E+07 J
     923.000
*** MULTIPHASE - Stage 1* Results ***

Temperature =   923.0000 K

Fixed pressure =  1.013250E+05 Pa,    1.000000E+00 atm

Component      Ref.Phase     Chem.Pot.    Activity     Amount/mol   Mass/kg
C                           -2.416192E+04 4.291978E-02 2.580967E+00 3.100000E-02
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Si                          -1.739949E+05 1.423930E-10 8.901390E+00 2.500000E-01
Mn                          -7.276807E+04 7.620711E-05 3.767884E+01 2.070000E+00
Cr                          -6.198931E+04 3.104376E-04 9.231479E+00 4.800000E-01
Mo                          -5.627176E+04 6.539356E-04 6.670836E+00 6.400000E-01
Ni                          -6.486388E+04 2.134520E-04 6.815471E+01 4.000000E+00
N                           -9.465587E+04 4.398934E-06 1.856255E+00 2.600000E-02
Fe                          -3.760227E+04 7.448299E-03 1.656365E+03 9.250300E+01
Total                                                  1.791439E+03 1.000000E+02

Amount      Phase               Mole fraction of component within phase
compnt moles
                                C               Si              Mn
 1.1781E+03 BCC_A2             0.0000494       0.0063714       0.0084480
 6.1331E+02 FCC_A1             0.0041134       0.0022746       0.0452073

                                Cr              Mo              Ni
 1.1781E+03 BCC_A2             0.0043275       0.0036143       0.0186551
 6.1331E+02 FCC_A1             0.0067390       0.0039340       0.0752910

                                N               Fe
 1.1781E+03 BCC_A2             0.0000741       0.9584602
 6.1331E+02 FCC_A1             0.0028842       0.8595566

Gibbs Energy = -7.2178828986E+07 J   System Enthalpy =  3.9392309588E+07 J
     973.000
*** MULTIPHASE - Stage 1* Results ***

Temperature =   973.0000 K

Fixed pressure =  1.013250E+05 Pa,    1.000000E+00 atm

Component      Ref.Phase     Chem.Pot.    Activity     Amount/mol   Mass/kg
C                           -3.327215E+04 1.636287E-02 2.580967E+00 3.100000E-02
Si                          -1.770025E+05 3.147886E-10 8.901390E+00 2.500000E-01
Mn                          -8.006655E+04 5.032769E-05 3.767884E+01 2.070000E+00
Cr                          -6.774095E+04 2.309294E-04 9.231479E+00 4.800000E-01
Mo                          -6.143321E+04 5.036116E-04 6.670836E+00 6.400000E-01
Ni                          -7.125893E+04 1.494941E-04 6.815471E+01 4.000000E+00
N                           -1.027817E+05 3.036650E-06 1.856255E+00 2.600000E-02
Fe                          -4.081623E+04 6.439795E-03 1.656365E+03 9.250300E+01
Total                                                  1.791439E+03 1.000000E+02

Amount      Phase               Mole fraction of component within phase
compnt moles
                                C               Si              Mn
 7.0639E+02 BCC_A2             0.0000409       0.0070133       0.0078899
 1.0851E+03 FCC_A1             0.0023520       0.0036379       0.0295889

                                Cr              Mo              Ni
 7.0639E+02 BCC_A2             0.0042240       0.0040227       0.0164729
 1.0851E+03 FCC_A1             0.0057579       0.0035291       0.0520882

                                N               Fe
```

```
 7.0639E+02 BCC_A2             0.0000673       0.9602691
 1.0851E+03 FCC_A1             0.0016670       0.9013789

Gibbs Energy = -7.8367451463E+07 J   System Enthalpy =  4.4948509843E+07 J
     1023.00
*** MULTIPHASE - Stage 1* Results ***

Temperature =  1023.0000 K

Fixed pressure =  1.013250E+05 Pa,    1.000000E+00 atm

Component      Ref.Phase     Chem.Pot.    Activity     Amount/mol   Mass/kg
C                           -4.217064E+04 7.027663E-03 2.580967E+00 3.100000E-02
Si                          -1.795012E+05 6.836802E-10 8.901390E+00 2.500000E-01
Mn                          -8.748046E+04 3.414585E-05 3.767884E+01 2.070000E+00
Cr                          -7.357107E+04 1.752013E-04 9.231479E+00 4.800000E-01
Mo                          -6.598607E+04 4.273851E-04 6.670836E+00 6.400000E-01
Ni                          -7.791623E+04 1.051182E-04 6.815471E+01 4.000000E+00
N                           -1.110371E+05 2.140730E-06 1.856255E+00 2.600000E-02
Fe                          -4.420423E+04 5.533217E-03 1.656365E+03 9.250300E+01
Total                                                  1.791439E+03 1.000000E+02

Amount      Phase               Mole fraction of component within phase
compnt moles
                                C               Si              Mn
 1.7914E+03 FCC_A1             0.0014407       0.0049688       0.0210327

                                Cr              Mo              Ni
 1.7914E+03 FCC_A1             0.0051531       0.0037237       0.0380447

                                N               Fe
 1.7914E+03 FCC_A1             0.0010362       0.9246000

Gibbs Energy = -8.4852191618E+07 J   System Enthalpy =  5.0331479936E+07 J
     1073.00
*** MULTIPHASE - Stage 1* Results ***

Temperature =  1073.0000 K

Fixed pressure =  1.013250E+05 Pa,    1.000000E+00 atm

Component      Ref.Phase     Chem.Pot.    Activity     Amount/mol   Mass/kg
C                           -4.690025E+04 5.210865E-03 2.580967E+00 3.100000E-02
Si                          -1.833701E+05 1.184675E-09 8.901390E+00 2.500000E-01
Mn                          -9.268513E+04 3.076914E-05 3.767884E+01 2.070000E+00
Cr                          -7.898970E+04 1.428251E-04 9.231479E+00 4.800000E-01
Mo                          -7.192016E+04 3.154627E-04 6.670836E+00 6.400000E-01
Ni                          -8.267058E+04 9.454110E-05 6.815471E+01 4.000000E+00
N                           -1.158345E+05 2.297260E-06 1.856255E+00 2.600000E-02
Fe                          -4.783130E+04 4.694468E-03 1.656365E+03 9.250300E+01
Total                                                  1.791439E+03 1.000000E+02

Amount      Phase               Mole fraction of component within phase
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```
compnt moles
                                C               Si              Mn
 1.7914E+03 FCC_A1             0.0014407       0.0049688       0.0210327

                                Cr              Mo              Ni
 1.7914E+03 FCC_A1             0.0051531       0.0037237       0.0380447

                                N               Fe
 1.7914E+03 FCC_A1             0.0010362       0.9246000

Gibbs Energy = -9.1529929954E+07 J   System Enthalpy =  5.3270381711E+07 J
     1123.00
*** MULTIPHASE - Stage 1* Results ***

Temperature =  1123.0000 K

Fixed pressure =  1.013250E+05 Pa,    1.000000E+00 atm

Component      Ref.Phase     Chem.Pot.    Activity     Amount/mol   Mass/kg
C                           -5.167825E+04 3.947528E-03 2.580967E+00 3.100000E-02
Si                          -1.873022E+05 1.941524E-09 8.901390E+00 2.500000E-01
Mn                          -9.797481E+04 2.773098E-05 3.767884E+01 2.070000E+00
Cr                          -8.449217E+04 1.175099E-04 9.231479E+00 4.800000E-01
Mo                          -7.792035E+04 2.375442E-04 6.670836E+00 6.400000E-01
Ni                          -8.750336E+04 8.511708E-05 6.815471E+01 4.000000E+00
N                           -1.207506E+05 2.418851E-06 1.856255E+00 2.600000E-02
Fe                          -5.153796E+04 4.007288E-03 1.656365E+03 9.250300E+01
Total                                                  1.791439E+03 1.000000E+02

Amount      Phase               Mole fraction of component within phase
compnt moles
                                C               Si              Mn
 1.7914E+03 FCC_A1             0.0014407       0.0049688       0.0210327

                                Cr              Mo              Ni
 1.7914E+03 FCC_A1             0.0051531       0.0037237       0.0380447

                                N               Fe
 1.7914E+03 FCC_A1             0.0010362       0.9246000

Gibbs Energy = -9.8345553831E+07 J   System Enthalpy =  5.6247988067E+07 J
     1173.00
*** MULTIPHASE - Stage 1* Results ***

Temperature =  1173.0000 K

Fixed pressure =  1.013250E+05 Pa,    1.000000E+00 atm

Component      Ref.Phase     Chem.Pot.    Activity     Amount/mol   Mass/kg
C                           -5.650604E+04 3.046519E-03 2.580967E+00 3.100000E-02
Si                          -1.912949E+05 3.031774E-09 8.901390E+00 2.500000E-01
Mn                          -1.033475E+05 2.500158E-05 3.767884E+01 2.070000E+00
Cr                          -9.006951E+04 9.755127E-05 9.231479E+00 4.800000E-01
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Mo                          -8.398547E+04 1.820343E-04 6.670836E+00 6.400000E-01
Ni                          -9.241037E+04 7.673532E-05 6.815471E+01 4.000000E+00
N                           -1.257821E+05 2.505887E-06 1.856255E+00 2.600000E-02
Fe                          -5.531915E+04 3.440771E-03 1.656365E+03 9.250300E+01
Total                                                  1.791439E+03 1.000000E+02

Amount      Phase               Mole fraction of component within phase
compnt moles
                                C               Si              Mn
 1.7914E+03 FCC_A1             0.0014407       0.0049688       0.0210327

                                Cr              Mo              Ni
 1.7914E+03 FCC_A1             0.0051531       0.0037237       0.0380447

                                N               Fe
 1.7914E+03 FCC_A1             0.0010362       0.9246000

Gibbs Energy = -1.0529464484E+08 J   System Enthalpy =  5.9264325163E+07 J
     1223.00
*** MULTIPHASE - Stage 1* Results ***

Temperature =  1223.0000 K

Fixed pressure =  1.013250E+05 Pa,    1.000000E+00 atm

Component      Ref.Phase     Chem.Pot.    Activity     Amount/mol   Mass/kg
C                           -6.138199E+04 2.390154E-03 2.580967E+00 3.100000E-02
Si                          -1.953454E+05 4.538973E-09 8.901390E+00 2.500000E-01
Mn                          -1.088041E+05 2.254577E-05 3.767884E+01 2.070000E+00
Cr                          -9.572034E+04 8.163250E-05 9.231479E+00 4.800000E-01
Mo                          -9.011333E+04 1.416883E-04 6.670836E+00 6.400000E-01
Ni                          -9.738705E+04 6.929138E-05 6.815471E+01 4.000000E+00
N                           -1.309244E+05 2.560521E-06 1.856255E+00 2.600000E-02
Fe                          -5.917249E+04 2.970241E-03 1.656365E+03 9.250300E+01
Total                                                  1.791439E+03 1.000000E+02

Amount      Phase               Mole fraction of component within phase
compnt moles
                                C               Si              Mn
 1.7914E+03 FCC_A1             0.0014407       0.0049688       0.0210327

                                Cr              Mo              Ni
 1.7914E+03 FCC_A1             0.0051531       0.0037237       0.0380447

                                N               Fe
 1.7914E+03 FCC_A1             0.0010362       0.9246000

Gibbs Energy = -1.1237316324E+08 J   System Enthalpy =  6.2319442946E+07 J
     1273.00
*** MULTIPHASE - Stage 1* Results ***

Temperature =  1273.0000 K
```

Fixed pressure = 1.013250E+05 Pa,   1.000000E+00 atm

Component	Ref.Phase	Chem.Pot.	Activity	Amount/mol	Mass/kg
C		-6.630423E+04	1.902946E-03	2.580967E+00	3.100000E-02
Si		-1.994521E+05	6.548544E-09	8.901390E+00	2.500000E-01
Mn		-1.143517E+05	2.032169E-05	3.767884E+01	2.070000E+00
Cr		-1.014438E+05	6.880022E-05	9.231479E+00	4.800000E-01
Mo		-9.630228E+04	1.118294E-04	6.670836E+00	6.400000E-01
Ni		-1.024241E+05	6.271435E-05	6.815471E+01	4.000000E+00
N		-1.361728E+05	2.585852E-06	1.856255E+00	2.600000E-02
Fe		-6.309555E+04	2.576819E-03	1.656365E+03	9.250300E+01
Total				1.791439E+03	1.000000E+02

Amount	Phase	Mole fraction of component within phase		
compnt moles				
		C	Si	Mn
1.7914E+03	FCC_A1	0.0014407	0.0049688	0.0210327
		Cr	Mo	Ni
1.7914E+03	FCC_A1	0.0051531	0.0037237	0.0380447
		N	Fe	
1.7914E+03	FCC_A1	0.0010362	0.9246000	

Gibbs Energy = -1.1957740235E+08 J   System Enthalpy = 6.5413410537E+07 J
     1323.00
*** MULTIPHASE - Stage 1* Results ***

Temperature = 1323.0000 K

Fixed pressure = 1.013250E+05 Pa,   1.000000E+00 atm

Component	Ref.Phase	Chem.Pot.	Activity	Amount/mol	Mass/kg
C		-7.127282E+04	1.534899E-03	2.580967E+00	3.100000E-02
Si		-2.036120E+05	9.145371E-09	8.901390E+00	2.500000E-01
Mn		-1.199527E+05	1.837181E-05	3.767884E+01	2.070000E+00
Cr		-1.072377E+05	5.836500E-05	9.231479E+00	4.800000E-01
Mo		-1.025492E+05	8.938328E-05	6.670836E+00	6.400000E-01
Ni		-1.075492E+05	5.673539E-05	6.815471E+01	4.000000E+00
N		-1.415246E+05	2.585055E-06	1.856255E+00	2.600000E-02
Fe		-6.708754E+04	2.245530E-03	1.656365E+03	9.250300E+01
Total				1.791439E+03	1.000000E+02

Amount	Phase	Mole fraction of component within phase		
compnt moles				
		C	Si	Mn
1.7914E+03	FCC_A1	0.0014407	0.0049688	0.0210327
		Cr	Mo	Ni
1.7914E+03	FCC_A1	0.0051531	0.0037237	0.0380447
		N	Fe	
1.7914E+03	FCC_A1	0.0010362	0.9246000	

Gibbs Energy = -1.2690394991E+08 J   System Enthalpy = 6.8546312779E+07 J
     1373.00
*** MULTIPHASE - Stage 1* Results ***

Temperature = 1373.0000 K

Fixed pressure = 1.013250E+05 Pa,   1.000000E+00 atm

Component	Ref.Phase	Chem.Pot.	Activity	Amount/mol	Mass/kg
C		-7.628455E+04	1.252827E-03	2.580967E+00	3.100000E-02
Si		-2.078251E+05	1.240703E-08	8.901390E+00	2.500000E-01
Mn		-1.256509E+05	1.658970E-05	3.767884E+01	2.070000E+00
Cr		-1.131028E+05	4.979752E-05	9.231479E+00	4.800000E-01
Mo		-1.088543E+05	7.224915E-05	6.670836E+00	6.400000E-01
Ni		-1.127233E+05	5.148075E-05	6.815471E+01	4.000000E+00
N		-1.469747E+05	2.562200E-06	1.856255E+00	2.600000E-02
Fe		-7.114531E+04	1.965189E-03	1.656365E+03	9.250300E+01
Total				1.791439E+03	1.000000E+02

Amount compnt moles	Phase	Mole fraction of component within phase		
		C	Si	Mn
1.7914E+03	FCC_A1	0.0014407	0.0049688	0.0210327
		Cr	Mo	Ni
1.7914E+03	FCC_A1	0.0051531	0.0037237	0.0380447
		N	Fe	
1.7914E+03	FCC_A1	0.0010362	0.9246000	

Gibbs Energy = -1.3434965525E+08 J   System Enthalpy = 7.1718247336E+07 J
     1423.00
*** MULTIPHASE - Stage 1* Results ***

Temperature = 1423.0000 K

Fixed pressure = 1.013250E+05 Pa,   1.000000E+00 atm

Component	Ref.Phase	Chem.Pot.	Activity	Amount/mol	Mass/kg
C		-8.132952E+04	1.034378E-03	2.580967E+00	3.100000E-02
Si		-2.120979E+05	1.639207E-08	8.901390E+00	2.500000E-01
Mn		-1.314330E+05	1.498151E-05	3.767884E+01	2.070000E+00
Cr		-1.190464E+05	4.268011E-05	9.231479E+00	4.800000E-01
Mo		-1.152240E+05	5.895670E-05	6.670836E+00	6.400000E-01
Ni		-1.179802E+05	4.670501E-05	6.815471E+01	4.000000E+00
N		-1.525114E+05	2.522575E-06	1.856255E+00	2.600000E-02
Fe		-7.527478E+04	1.725550E-03	1.656365E+03	9.250300E+01
Total				1.791439E+03	1.000000E+02

Amount compnt moles	Phase	Mole fraction of component within phase		
		C	Si	Mn

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 1.7914E+03 FCC_A1             0.0014407       0.0049688       0.0210327

                                Cr              Mo              Ni
 1.7914E+03 FCC_A1             0.0051531       0.0037237       0.0380447

                                N               Fe
 1.7914E+03 FCC_A1             0.0010362       0.9246000

Gibbs Energy = -1.4191160106E+08 J   System Enthalpy =  7.4929322601E+07 J
     1473.00
*** MULTIPHASE - Stage 1* Results ***

Temperature =  1473.0000 K

Fixed pressure =  1.013250E+05 Pa,    1.000000E+00 atm

Component      Ref.Phase     Chem.Pot.    Activity     Amount/mol   Mass/kg
C                           -8.643666E+04 8.608199E-04 2.580967E+00 3.100000E-02
Si                          -2.164002E+05 2.120014E-08 8.901390E+00 2.500000E-01
Mn                          -1.372455E+05 1.358960E-05 3.767884E+01 2.070000E+00
Cr                          -1.250393E+05 3.681667E-05 9.231479E+00 4.800000E-01
Mo                          -1.216282E+05 4.864116E-05 6.670836E+00 6.400000E-01
Ni                          -1.232775E+05 4.251254E-05 6.815471E+01 4.000000E+00
N                           -1.581604E+05 2.463508E-06 1.856255E+00 2.600000E-02
Fe                          -7.945414E+04 1.522356E-03 1.656365E+03 9.250300E+01
Total                                                  1.791439E+03 1.000000E+02

Amount      Phase              Mole fraction of component within phase
compnt moles
                                C               Si              Mn
 1.7914E+03 FCC_A1             0.0014407       0.0049688       0.0210327

                                Cr              Mo              Ni
 1.7914E+03 FCC_A1             0.0051531       0.0037237       0.0380447

                                N               Fe
 1.7914E+03 FCC_A1             0.0010362       0.9246000

Gibbs Energy = -1.4958707917E+08 J   System Enthalpy =  7.8179655974E+07 J
     1523.00
*** MULTIPHASE - Stage 1* Results ***

Temperature =  1523.0000 K

Fixed pressure =  1.013250E+05 Pa,    1.000000E+00 atm

Component      Ref.Phase     Chem.Pot.    Activity     Amount/mol   Mass/kg
C                           -9.157147E+04 7.234925E-04 2.580967E+00 3.100000E-02
Si                          -2.207653E+05 2.682616E-08 8.901390E+00 2.500000E-01
Mn                          -1.431706E+05 1.229628E-05 3.767884E+01 2.070000E+00
Cr                          -1.311154E+05 3.185836E-05 9.231479E+00 4.800000E-01
Mo                          -1.281001E+05 4.042373E-05 6.670836E+00 6.400000E-01
Ni                          -1.286433E+05 3.872628E-05 6.815471E+01 4.000000E+00
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N                          -1.638842E+05 2.395371E-06 1.856255E+00 2.600000E-02
Fe                         -8.370771E+04 1.346270E-03 1.656365E+03 9.250300E+01
Total                                                 1.791439E+03 1.000000E+02

Amount      Phase               Mole fraction of component within phase
compnt moles
                                C               Si              Mn
 1.7914E+03 FCC_A1             0.0014407       0.0049688       0.0210327

                                Cr              Mo              Ni
 1.7914E+03 FCC_A1             0.0051531       0.0037237       0.0380447

                                N               Fe
 1.7914E+03 FCC_A1             0.0010362       0.9246000

Gibbs Energy = -1.5737356997E+08 J   System Enthalpy =  8.1469379097E+07 J
     1573.00
*** MULTIPHASE - Stage 1* Results ***

Temperature =  1573.0000 K

Fixed pressure =  1.013250E+05 Pa,    1.000000E+00 atm

Component      Ref.Phase     Chem.Pot.    Activity     Amount/mol   Mass/kg
C                          -9.675041E+04 6.127573E-04 2.580967E+00 3.100000E-02
Si                         -2.251692E+05 3.334199E-08 8.901390E+00 2.500000E-01
Mn                         -1.491375E+05 1.116126E-05 3.767884E+01 2.070000E+00
Cr                         -1.372516E+05 2.769474E-05 9.231479E+00 4.800000E-01
Mo                         -1.346159E+05 3.387814E-05 6.670836E+00 6.400000E-01
Ni                         -1.340741E+05 3.531097E-05 6.815471E+01 4.000000E+00
N                          -1.697027E+05 2.316438E-06 1.856255E+00 2.600000E-02
Fe                         -8.801036E+04 1.195397E-03 1.656365E+03 9.250300E+01
Total                                                 1.791439E+03 1.000000E+02

Amount      Phase               Mole fraction of component within phase
compnt moles
                                C               Si              Mn
 1.7914E+03 FCC_A1             0.0014407       0.0049688       0.0210327

                                Cr              Mo              Ni
 1.7914E+03 FCC_A1             0.0051531       0.0037237       0.0380447

                                N               Fe
 1.7914E+03 FCC_A1             0.0010362       0.9246000

Gibbs Energy = -1.6526873479E+08 J   System Enthalpy =  8.4799632893E+07 J
     1623.00
*** MULTIPHASE - Stage 1* Results ***

Temperature =  1623.0000 K

Fixed pressure =  1.013250E+05 Pa,    1.000000E+00 atm
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```
Component      Ref.Phase     Chem.Pot.    Activity     Amount/mol   Mass/kg
C                           -1.019654E+05 5.229111E-04 2.580967E+00 3.100000E-02
Si                          -2.296195E+05 4.074832E-08 8.901390E+00 2.500000E-01
Mn                          -1.551872E+05 1.012934E-05 3.767884E+01 2.070000E+00
Cr                          -1.434564E+05 2.416103E-05 9.231479E+00 4.800000E-01
Mo                          -1.411854E+05 2.858929E-05 6.670836E+00 6.400000E-01
Ni                          -1.395619E+05 3.224419E-05 6.815471E+01 4.000000E+00
N                           -1.756027E+05 2.231237E-06 1.856255E+00 2.600000E-02
Fe                          -9.237713E+04 1.064165E-03 1.656365E+03 9.250300E+01
Total                                                  1.791439E+03 1.000000E+02

Amount      Phase               Mole fraction of component within phase
compnt moles
                                C               Si              Mn
 1.7914E+03 FCC_A1             0.0014407       0.0049688       0.0210327

                                Cr              Mo              Ni
 1.7914E+03 FCC_A1             0.0051531       0.0037237       0.0380447

                                N               Fe
 1.7914E+03 FCC_A1             0.0010362       0.9246000

Gibbs Energy = -1.7327041730E+08 J   System Enthalpy =  8.8170666723E+07 J
     1673.00
*** MULTIPHASE - Stage 1* Results ***

Temperature =  1673.0000 K

Fixed pressure =  1.013250E+05 Pa,    1.000000E+00 atm

Component      Ref.Phase     Chem.Pot.    Activity     Amount/mol   Mass/kg
C                           -1.072068E+05 4.496337E-04 2.580967E+00 3.100000E-02
Si                          -2.341205E+05 4.902779E-08 8.901390E+00 2.500000E-01
Mn                          -1.613124E+05 9.196174E-06 3.767884E+01 2.070000E+00
Cr                          -1.497428E+05 2.112643E-05 9.231479E+00 4.800000E-01
Mo                          -1.478080E+05 2.427915E-05 6.670836E+00 6.400000E-01
Ni                          -1.451183E+05 2.945843E-05 6.815471E+01 4.000000E+00
N                           -1.815781E+05 2.142325E-06 1.856255E+00 2.600000E-02
Fe                          -9.680013E+04 9.500996E-04 1.656365E+03 9.250300E+01
Total                                                  1.791439E+03 1.000000E+02

Amount      Phase               Mole fraction of component within phase
compnt moles
                                C               Si              Mn
 1.7914E+03 FCC_A1             0.0014407       0.0049688       0.0210327

                                Cr              Mo              Ni
 1.7914E+03 FCC_A1             0.0051531       0.0037237       0.0380447

                                N               Fe
 1.7914E+03 FCC_A1             0.0010362       0.9246000

Gibbs Energy = -1.8137658310E+08 J   System Enthalpy =  9.1581962053E+07 J
```

```
     1723.00
*** MULTIPHASE - Stage 1* Results ***

Temperature =  1723.0000 K

Fixed pressure =  1.013250E+05 Pa,    1.000000E+00 atm

Component      Ref.Phase     Chem.Pot.    Activity     Amount/mol   Mass/kg
C                           -1.124986E+05 3.886587E-04 2.580967E+00 3.100000E-02
Si                          -2.386529E+05 5.823142E-08 8.901390E+00 2.500000E-01
Mn                          -1.675017E+05 8.358557E-06 3.767884E+01 2.070000E+00
Cr                          -1.560811E+05 1.855017E-05 9.231479E+00 4.800000E-01
Mo                          -1.544879E+05 2.073233E-05 6.670836E+00 6.400000E-01
Ni                          -1.507172E+05 2.697483E-05 6.815471E+01 4.000000E+00
N                           -1.876396E+05 2.049474E-06 1.856255E+00 2.600000E-02
Fe                          -1.012795E+05 8.505097E-04 1.656365E+03 9.250300E+01
Total                                                  1.791439E+03 1.000000E+02

Amount      Phase               Mole fraction of component within phase
compnt moles
                                C               Si              Mn
 1.7914E+03 FCC_A1             0.0014407       0.0049688       0.0210327

                                Cr              Mo              Ni
 1.7914E+03 FCC_A1             0.0051531       0.0037237       0.0380447

                                N               Fe
 1.7914E+03 FCC_A1             0.0010362       0.9246000

Gibbs Energy = -1.8958530661E+08 J   System Enthalpy =  9.5033121575E+07 J
     1773.00
*** MULTIPHASE - Stage 1* Results ***

Temperature =  1773.0000 K

Fixed pressure =  1.013250E+05 Pa,    1.000000E+00 atm

Component      Ref.Phase     Chem.Pot.    Activity     Amount/mol   Mass/kg
C                           -1.369483E+05 9.235173E-05 2.580967E+00 3.100000E-02
Si                          -2.518030E+05 3.817484E-08 8.901390E+00 2.500000E-01
Mn                          -1.776433E+05 5.841910E-06 3.767884E+01 2.070000E+00
Cr                          -1.645127E+05 1.423600E-05 9.231479E+00 4.800000E-01
Mo                          -1.684010E+05 1.093546E-05 6.670836E+00 6.400000E-01
Ni                          -1.579787E+05 2.217589E-05 6.815471E+01 4.000000E+00
N                           -2.024649E+05 1.084677E-06 1.856255E+00 2.600000E-02
Fe                          -1.055989E+05 7.744820E-04 1.656365E+03 9.250300E+01
Total                                                  1.791439E+03 1.000000E+02

Amount      Phase               Mole fraction of component within phase
compnt moles
                                C               Si              Mn
 1.6597E+03 LIQUID             0.0015378       0.0051316       0.0215055
 1.3169E+02 BCC_A2             0.0002176       0.0029181       0.0150744
```

```
                                Cr              Mo              Ni
 1.6597E+03 LIQUID             0.0051920       0.0037566       0.0386291
 1.3169E+02 BCC_A2             0.0046631       0.0033098       0.0306790

                                N               Fe
 1.6597E+03 LIQUID             0.0010944       0.9231532
 1.3169E+02 BCC_A2             0.0003030       0.9428351

Gibbs Energy = -1.9798520846E+08 J   System Enthalpy =  1.2251722588E+08 J
     1823.00
*** MULTIPHASE - Stage 1* Results ***

Temperature =  1823.0000 K

Fixed pressure =  1.013250E+05 Pa,    1.000000E+00 atm

Component      Ref.Phase     Chem.Pot.    Activity     Amount/mol   Mass/kg
C                           -1.432356E+05 7.869663E-05 2.580967E+00 3.100000E-02
Si                          -2.572617E+05 4.254371E-08 8.901390E+00 2.500000E-01
Mn                          -1.849144E+05 5.032223E-06 3.767884E+01 2.070000E+00
Cr                          -1.709847E+05 1.261470E-05 9.231479E+00 4.800000E-01
Mo                          -1.753308E+05 9.470040E-06 6.670836E+00 6.400000E-01
Ni                          -1.643029E+05 1.960318E-05 6.815471E+01 4.000000E+00
N                           -2.099288E+05 9.661321E-07 1.856255E+00 2.600000E-02
Fe                          -1.105824E+05 6.784967E-04 1.656365E+03 9.250300E+01
Total                                                  1.791439E+03 1.000000E+02

Amount      Phase               Mole fraction of component within phase
compnt moles
                                C               Si              Mn
 1.7914E+03 LIQUID             0.0014407       0.0049688       0.0210327

                                Cr              Mo              Ni
 1.7914E+03 LIQUID             0.0051531       0.0037237       0.0380447

                                N               Fe
 1.7914E+03 LIQUID             0.0010362       0.9246000

Gibbs Energy = -2.0712757249E+08 J   System Enthalpy =  1.2827936674E+08 J
     1873.00
*** MULTIPHASE - Stage 1* Results ***

Temperature =  1873.0000 K

Fixed pressure =  1.013250E+05 Pa,    1.000000E+00 atm

Component      Ref.Phase     Chem.Pot.    Activity     Amount/mol   Mass/kg
C                           -1.485817E+05 7.184971E-05 2.580967E+00 3.100000E-02
Si                          -2.622671E+05 4.853119E-08 8.901390E+00 2.500000E-01
Mn                          -1.919802E+05 4.427403E-06 3.767884E+01 2.070000E+00
Cr                          -1.774106E+05 1.128386E-05 9.231479E+00 4.800000E-01
Mo                          -1.821431E+05 8.326837E-06 6.670836E+00 6.400000E-01
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Ni                          -1.704596E+05 1.763213E-05 6.815471E+01 4.000000E+00
N                           -2.165868E+05 9.118645E-07 1.856255E+00 2.600000E-02
Fe                          -1.156486E+05 5.954512E-04 1.656365E+03 9.250300E+01
Total                                                  1.791439E+03 1.000000E+02

Amount      Phase               Mole fraction of component within phase
compnt moles
                                C               Si              Mn
 1.7914E+03 LIQUID             0.0014407       0.0049688       0.0210327

                                Cr              Mo              Ni
 1.7914E+03 LIQUID             0.0051531       0.0037237       0.0380447

                                N               Fe
 1.7914E+03 LIQUID             0.0010362       0.9246000

Gibbs Energy = -2.1638255495E+08 J   System Enthalpy =  1.3237584380E+08 J

********************************************************************************
**
6 wt % Ni


 MULTIPHASE OPTION ? set w(6)=6 !
 MULTIPHASE OPTION ? com pr br pr mol !
 NUMBER OF STEPS =  25

     673.000
*** MULTIPHASE - Stage 1* Results ***

Temperature =   673.0000 K

Fixed pressure =  1.013250E+05 Pa,    1.000000E+00 atm

Component      Ref.Phase     Chem.Pot.    Activity     Amount/mol   Mass/kg
C                           -9.911377E+03 1.701185E-01 2.580967E+00 3.100000E-02
Si                          -1.584809E+05 5.010402E-13 8.901390E+00 2.500000E-01
Mn                          -5.131696E+04 1.040288E-04 3.767884E+01 2.070000E+00
Cr                          -3.926087E+04 8.971376E-04 9.231479E+00 4.800000E-01
Mo                          -2.813773E+04 6.548716E-03 6.670836E+00 6.400000E-01
Ni                          -3.959167E+04 8.456392E-04 1.022321E+02 6.000000E+00
N                           -6.007543E+04 2.174631E-05 1.856255E+00 2.600000E-02
Fe                          -2.328411E+04 1.559044E-02 1.620553E+03 9.050300E+01
Total                                                  1.789704E+03 1.000000E+02

Amount      Phase               Mole fraction of component within phase
compnt moles
                                C               Si              Mn
 1.5840E+03 BCC_A2             0.0000007       0.0056194       0.0020678
 1.9570E+02 FCC_A1             0.0004619       0.0000000       0.1717788
 9.9576E+00 CEMENTITE          0.2500000       0.0000000       0.0788847

                                Cr              Mo              Ni
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 1.5840E+03 BCC_A2            0.0022705       0.0033496       0.0192552
 1.9570E+02 FCC_A1            0.0057268       0.0067939       0.3660870
 9.9576E+00 CEMENTITE         0.4533301       0.0035460       0.0086660

                               N               Fe
 1.5840E+03 BCC_A2            0.0000496       0.9673871
 1.9570E+02 FCC_A1            0.0090839       0.4400678
 9.9576E+00 CEMENTITE         0.0000000       0.2055731

Gibbs Energy = -4.5811973676E+07 J   System Enthalpy =  1.8606362398E+07 J
     723.000
*** MULTIPHASE - Stage 1* Results ***

Temperature =   723.0000 K

Fixed pressure =  1.013250E+05 Pa,    1.000000E+00 atm

Component      Ref.Phase     Chem.Pot.    Activity     Amount/mol   Mass/kg
C                           -9.548585E+03 2.042490E-01 2.580967E+00 3.100000E-02
Si                          -1.611059E+05 2.295423E-12 8.901390E+00 2.500000E-01
Mn                          -5.464919E+04 1.126822E-04 3.767884E+01 2.070000E+00
Cr                          -4.354635E+04 7.144680E-04 9.231479E+00 4.800000E-01
Mo                          -3.378901E+04 3.621634E-03 6.670836E+00 6.400000E-01
Ni                          -4.364398E+04 7.029580E-04 1.022321E+02 6.000000E+00
N                           -6.867240E+04 1.093313E-05 1.856255E+00 2.600000E-02
Fe                          -2.591139E+04 1.342841E-02 1.620553E+03 9.050300E+01
Total                                                  1.789704E+03 1.000000E+02

Amount      Phase               Mole fraction of component within phase
compnt moles
                               C               Si              Mn
 1.8807E+00 LIQUID            0.0000010       0.0000000       0.0466779
 1.5633E+03 BCC_A2            0.0000036       0.0056938       0.0032351
 2.1521E+02 FCC_A1            0.0011657       0.0000006       0.1471863
 9.2980E+00 CEMENTITE         0.2500000       0.0000000       0.0921926

                               Cr              Mo              Ni
 1.8807E+00 LIQUID            0.3509117       0.0447180       0.0000159
 1.5633E+03 BCC_A2            0.0027111       0.0032697       0.0214520
 2.1521E+02 FCC_A1            0.0054440       0.0065789       0.3188182
 9.2980E+00 CEMENTITE         0.3400234       0.0063747       0.0088308

                               N               Fe
 1.8807E+00 LIQUID            0.3684869       0.1891887
 1.5633E+03 BCC_A2            0.0000402       0.9635944
 2.1521E+02 FCC_A1            0.0051128       0.5156934
 9.2980E+00 CEMENTITE         0.0000000       0.3025785

Gibbs Energy = -5.0725298588E+07 J   System Enthalpy =  2.2096203906E+07 J
     773.000
*** MULTIPHASE - Stage 1* Results ***

Temperature =   773.0000 K
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Fixed pressure =  1.013250E+05 Pa,    1.000000E+00 atm

Component      Ref.Phase     Chem.Pot.    Activity     Amount/mol   Mass/kg
C                           -1.052171E+04 1.945471E-01 2.580967E+00 3.100000E-02
Si                          -1.637668E+05 8.588467E-12 8.901390E+00 2.500000E-01
Mn                          -5.880044E+04 1.063467E-04 3.767884E+01 2.070000E+00
Cr                          -4.736973E+04 6.296836E-04 9.231479E+00 4.800000E-01
Mo                          -3.967831E+04 2.083764E-03 6.670836E+00 6.400000E-01
Ni                          -4.790799E+04 5.790969E-04 1.022321E+02 6.000000E+00
N                           -7.320785E+04 1.130274E-05 1.856255E+00 2.600000E-02
Fe                          -2.866849E+04 1.155597E-02 1.620553E+03 9.050300E+01
Total                                                  1.789704E+03 1.000000E+02

Amount      Phase               Mole fraction of component within phase
compnt moles
                                C               Si              Mn
 1.5118E+03 BCC_A2             0.0000116       0.0058852       0.0043660
 2.7028E+02 FCC_A1             0.0024609       0.0000145       0.1125186
 7.5930E+00 CEMENTITE          0.2500000       0.0000000       0.0877933

                                Cr              Mo              Ni
 1.5118E+03 BCC_A2             0.0034630       0.0031349       0.0232942
 2.7028E+02 FCC_A1             0.0069952       0.0069282       0.2477046
 7.5930E+00 CEMENTITE          0.2772787       0.0077434       0.0086416

                                N               Fe
 1.5118E+03 BCC_A2             0.0000644       0.9597806
 2.7028E+02 FCC_A1             0.0065077       0.6168703
 7.5930E+00 CEMENTITE          0.0000000       0.3685429

Gibbs Energy = -5.5891105959E+07 J   System Enthalpy =  2.5983597058E+07 J
     823.000
*** MULTIPHASE - Stage 1* Results ***

Temperature =   823.0000 K

Fixed pressure =  1.013250E+05 Pa,    1.000000E+00 atm

Component      Ref.Phase     Chem.Pot.    Activity     Amount/mol   Mass/kg
C                           -1.146587E+04 1.871958E-01 2.580967E+00 3.100000E-02
Si                          -1.664307E+05 2.736195E-11 8.901390E+00 2.500000E-01
Mn                          -6.350972E+04 9.316008E-05 3.767884E+01 2.070000E+00
Cr                          -5.161632E+04 5.297467E-04 9.231479E+00 4.800000E-01
Mo                          -4.555283E+04 1.284990E-03 6.670836E+00 6.400000E-01
Ni                          -5.255385E+04 4.619192E-04 1.022321E+02 6.000000E+00
N                           -8.073752E+04 7.513350E-06 1.856255E+00 2.600000E-02
Fe                          -3.154071E+04 9.958789E-03 1.620553E+03 9.050300E+01
Total                                                  1.789704E+03 1.000000E+02

Amount      Phase               Mole fraction of component within phase
compnt moles
                                C               Si              Mn
```

```
 1.4088E+03 BCC_A2            0.0000332       0.0062717       0.0054001
 3.7832E+02 FCC_A1            0.0049622       0.0001747       0.0789379
 2.6277E+00 CEMENTITE         0.2500000       0.0000000       0.0790403

                               Cr              Mo              Ni
 1.4088E+03 BCC_A2            0.0040777       0.0030709       0.0240881
 3.7832E+02 FCC_A1            0.0076712       0.0061350       0.1804731
 2.6277E+00 CEMENTITE         0.2225626       0.0090182       0.0081642

                               N               Fe
 1.4088E+03 BCC_A2            0.0000633       0.9569950
 3.7832E+02 FCC_A1            0.0046708       0.7169751
 2.6277E+00 CEMENTITE         0.0000000       0.4312147

Gibbs Energy = -6.1320271036E+07 J   System Enthalpy =  3.0288397050E+07 J
     873.000
*** MULTIPHASE - Stage 1* Results ***

Temperature =   873.0000 K

Fixed pressure =  1.013250E+05 Pa,    1.000000E+00 atm

Component      Ref.Phase     Chem.Pot.    Activity     Amount/mol   Mass/kg
C                           -1.750495E+04 8.966932E-02 2.580967E+00 3.100000E-02
Si                          -1.690678E+05 7.661926E-11 8.901390E+00 2.500000E-01
Mn                          -6.898035E+04 7.460518E-05 3.767884E+01 2.070000E+00
Cr                          -5.669318E+04 4.054474E-04 9.231479E+00 4.800000E-01
Mo                          -5.113735E+04 8.716678E-04 6.670836E+00 6.400000E-01
Ni                          -5.762096E+04 3.567989E-04 1.022321E+02 6.000000E+00
N                           -8.812366E+04 5.338101E-06 1.856255E+00 2.600000E-02
Fe                          -3.452931E+04 8.590983E-03 1.620553E+03 9.050300E+01
Total                                                  1.789704E+03 1.000000E+02

Amount      Phase               Mole fraction of component within phase
compnt moles
                               C               Si              Mn
 1.2223E+03 BCC_A2            0.0000415       0.0068796       0.0060694
 5.6742E+02 FCC_A1            0.0044592       0.0008680       0.0533296

                               Cr              Mo              Ni
 1.2223E+03 BCC_A2            0.0042460       0.0031809       0.0237746
 5.6742E+02 FCC_A1            0.0071228       0.0049044       0.1289568

                               N               Fe
 1.2223E+03 BCC_A2            0.0000633       0.9557447
 5.6742E+02 FCC_A1            0.0031350       0.7972242

Gibbs Energy = -6.7024942269E+07 J   System Enthalpy =  3.4992188568E+07 J
     923.000
*** MULTIPHASE - Stage 1* Results ***

Temperature =   923.0000 K
```

```
Fixed pressure =  1.013250E+05 Pa,    1.000000E+00 atm

Component      Ref.Phase     Chem.Pot.    Activity     Amount/mol   Mass/kg
C                           -2.609808E+04 3.334942E-02 2.580967E+00 3.100000E-02
Si                          -1.716842E+05 1.924213E-10 8.901390E+00 2.500000E-01
Mn                          -7.530135E+04 5.478168E-05 3.767884E+01 2.070000E+00
Cr                          -6.229515E+04 2.983092E-04 9.231479E+00 4.800000E-01
Mo                          -5.645850E+04 6.382160E-04 6.670836E+00 6.400000E-01
Ni                          -6.324475E+04 2.635893E-04 1.022321E+02 6.000000E+00
N                           -9.583688E+04 3.771489E-06 1.856255E+00 2.600000E-02
Fe                          -3.763203E+04 7.419466E-03 1.620553E+03 9.050300E+01
Total                                                  1.789704E+03 1.000000E+02

Amount      Phase               Mole fraction of component within phase
compnt moles
                                C               Si              Mn
 8.8211E+02 BCC_A2             0.0000364       0.0077357       0.0062508
 9.0759E+02 FCC_A1             0.0028084       0.0022892       0.0354398

                                Cr              Mo              Ni
 8.8211E+02 BCC_A2             0.0041560       0.0034422       0.0222053
 9.0759E+02 FCC_A1             0.0061321       0.0040045       0.0910589

                                N               Fe
 8.8211E+02 BCC_A2             0.0000608       0.9561128
 9.0759E+02 FCC_A1             0.0019862       0.8562810

Gibbs Energy = -7.3011788040E+07 J   System Enthalpy =  4.0234792938E+07 J
     973.000
*** MULTIPHASE - Stage 1* Results ***

Temperature =   973.0000 K

Fixed pressure =  1.013250E+05 Pa,    1.000000E+00 atm

Component      Ref.Phase     Chem.Pot.    Activity     Amount/mol   Mass/kg
C                           -3.545662E+04 1.249082E-02 2.580967E+00 3.100000E-02
Si                          -1.738537E+05 4.645733E-10 8.901390E+00 2.500000E-01
Mn                          -8.253476E+04 3.709425E-05 3.767884E+01 2.070000E+00
Cr                          -6.807400E+04 2.216153E-04 9.231479E+00 4.800000E-01
Mo                          -6.125063E+04 5.151066E-04 6.670836E+00 6.400000E-01
Ni                          -6.959544E+04 1.836221E-04 1.022321E+02 6.000000E+00
N                           -1.043769E+05 2.493206E-06 1.856255E+00 2.600000E-02
Fe                          -4.085519E+04 6.408860E-03 1.620553E+03 9.050300E+01
Total                                                  1.789704E+03 1.000000E+02

Amount      Phase               Mole fraction of component within phase
compnt moles
                                C               Si              Mn
 2.2454E+02 BCC_A2             0.0000296       0.0092751       0.0060112
 1.5652E+03 FCC_A1             0.0016448       0.0043566       0.0232110

                                Cr              Mo              Ni
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 2.2454E+02 BCC_A2             0.0040414       0.0039799       0.0193417
 1.5652E+03 FCC_A1             0.0053183       0.0036911       0.0625422

                                N               Fe
 2.2454E+02 BCC_A2             0.0000534       0.9572677
 1.5652E+03 FCC_A1             0.0011783       0.8980577

Gibbs Energy = -7.9302564694E+07 J   System Enthalpy =  4.6216009535E+07 J
     1023.00
*** MULTIPHASE - Stage 1* Results ***

Temperature =  1023.0000 K

Fixed pressure =  1.013250E+05 Pa,    1.000000E+00 atm

Component      Ref.Phase     Chem.Pot.    Activity     Amount/mol   Mass/kg
C                           -4.131185E+04 7.774268E-03 2.580967E+00 3.100000E-02
Si                          -1.771230E+05 9.042346E-10 8.901390E+00 2.500000E-01
Mn                          -8.825747E+04 3.116483E-05 3.767884E+01 2.070000E+00
Cr                          -7.354753E+04 1.756868E-04 9.231479E+00 4.800000E-01
Mo                          -6.660462E+04 3.974082E-04 6.670836E+00 6.400000E-01
Ni                          -7.463369E+04 1.546254E-04 1.022321E+02 6.000000E+00
N                           -1.100721E+05 2.397920E-06 1.856255E+00 2.600000E-02
Fe                          -4.436441E+04 5.429994E-03 1.620553E+03 9.050300E+01
Total                                                  1.789704E+03 1.000000E+02

Amount      Phase               Mole fraction of component within phase
compnt moles
                                C               Si              Mn
 1.7897E+03 FCC_A1             0.0014421       0.0049737       0.0210531

                                Cr              Mo              Ni
 1.7897E+03 FCC_A1             0.0051581       0.0037273       0.0571223

                                N               Fe
 1.7897E+03 FCC_A1             0.0010372       0.9054862

Gibbs Energy = -8.5861620081E+07 J   System Enthalpy =  4.9909825061E+07 J
     1073.00
*** MULTIPHASE - Stage 1* Results ***

Temperature =  1073.0000 K

Fixed pressure =  1.013250E+05 Pa,    1.000000E+00 atm

Component      Ref.Phase     Chem.Pot.    Activity     Amount/mol   Mass/kg
C                           -4.602857E+04 5.745699E-03 2.580967E+00 3.100000E-02
Si                          -1.810327E+05 1.539511E-09 8.901390E+00 2.500000E-01
Mn                          -9.345280E+04 2.823224E-05 3.767884E+01 2.070000E+00
Cr                          -7.898466E+04 1.429058E-04 9.231479E+00 4.800000E-01
Mo                          -7.240705E+04 2.987075E-04 6.670836E+00 6.400000E-01
Ni                          -7.921073E+04 1.393301E-04 1.022321E+02 6.000000E+00
N                           -1.148722E+05 2.558907E-06 1.856255E+00 2.600000E-02
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Fe                          -4.800431E+04 4.604309E-03 1.620553E+03 9.050300E+01
Total                                                  1.789704E+03 1.000000E+02

Amount      Phase               Mole fraction of component within phase
compnt moles
                                C               Si              Mn
 1.7897E+03 FCC_A1             0.0014421       0.0049737       0.0210531

                                Cr              Mo              Ni
 1.7897E+03 FCC_A1             0.0051581       0.0037273       0.0571223

                                N               Fe
 1.7897E+03 FCC_A1             0.0010372       0.9054862

Gibbs Energy = -9.2567993813E+07 J   System Enthalpy =  5.2844889151E+07 J
     1123.00
*** MULTIPHASE - Stage 1* Results ***

Temperature =  1123.0000 K

Fixed pressure =  1.013250E+05 Pa,    1.000000E+00 atm

Component      Ref.Phase     Chem.Pot.    Activity     Amount/mol   Mass/kg
C                           -5.079741E+04 4.338056E-03 2.580967E+00 3.100000E-02
Si                          -1.850013E+05 2.484064E-09 8.901390E+00 2.500000E-01
Mn                          -9.873481E+04 2.556325E-05 3.767884E+01 2.070000E+00
Cr                          -8.449662E+04 1.174538E-04 9.231479E+00 4.800000E-01
Mo                          -7.827513E+04 2.286877E-04 6.670836E+00 6.400000E-01
Ni                          -8.385774E+04 1.257717E-04 1.022321E+02 6.000000E+00
N                           -1.197928E+05 2.680155E-06 1.856255E+00 2.600000E-02
Fe                          -5.172119E+04 3.929418E-03 1.620553E+03 9.050300E+01
Total                                                  1.789704E+03 1.000000E+02

Amount      Phase               Mole fraction of component within phase
compnt moles
                                C               Si              Mn
 1.7897E+03 FCC_A1             0.0014421       0.0049737       0.0210531

                                Cr              Mo              Ni
 1.7897E+03 FCC_A1             0.0051581       0.0037273       0.0571223

                                N               Fe
 1.7897E+03 FCC_A1             0.0010372       0.9054862

Gibbs Energy = -9.9412075585E+07 J   System Enthalpy =  5.5818718561E+07 J
     1173.00
*** MULTIPHASE - Stage 1* Results ***

Temperature =  1173.0000 K

Fixed pressure =  1.013250E+05 Pa,    1.000000E+00 atm

Component      Ref.Phase     Chem.Pot.    Activity     Amount/mol   Mass/kg
```

```
C                          -5.561558E+04 3.337765E-03 2.580967E+00 3.100000E-02
Si                         -1.890302E+05 3.824237E-09 8.901390E+00 2.500000E-01
Mn                         -1.041002E+05 2.314474E-05 3.767884E+01 2.070000E+00
Cr                         -9.008388E+04 9.740768E-05 9.231479E+00 4.800000E-01
Mo                         -8.420856E+04 1.779177E-04 6.670836E+00 6.400000E-01
Ni                         -8.858175E+04 1.136272E-04 1.022321E+02 6.000000E+00
N                          -1.248268E+05 2.763777E-06 1.856255E+00 2.600000E-02
Fe                         -5.551189E+04 3.373439E-03 1.620553E+03 9.050300E+01
Total                                                 1.789704E+03 1.000000E+02

Amount      Phase               Mole fraction of component within phase
compnt moles
                                C               Si              Mn
 1.7897E+03 FCC_A1             0.0014421       0.0049737       0.0210531

                                Cr              Mo              Ni
 1.7897E+03 FCC_A1             0.0051581       0.0037273       0.0571223

                                N               Fe
 1.7897E+03 FCC_A1             0.0010372       0.9054862

Gibbs Energy = -1.0638945760E+08 J   System Enthalpy =  5.8831339137E+07 J
     1223.00
*** MULTIPHASE - Stage 1* Results ***

Temperature =  1223.0000 K

Fixed pressure =  1.013250E+05 Pa,    1.000000E+00 atm

Component      Ref.Phase     Chem.Pot.    Activity     Amount/mol   Mass/kg
C                          -6.047741E+04 2.612521E-03 2.580967E+00 3.100000E-02
Si                         -1.931196E+05 5.649643E-09 8.901390E+00 2.500000E-01
Mn                         -1.095487E+05 2.095384E-05 3.767884E+01 2.070000E+00
Cr                         -9.574736E+04 8.141587E-05 9.231479E+00 4.800000E-01
Mo                         -9.020746E+04 1.403827E-04 6.670836E+00 6.400000E-01
Ni                         -9.338364E+04 1.027215E-04 1.022321E+02 6.000000E+00
N                          -1.299672E+05 2.813240E-06 1.856255E+00 2.600000E-02
Fe                         -5.937643E+04 2.911264E-03 1.620553E+03 9.050300E+01
Total                                                 1.789704E+03 1.000000E+02

Amount      Phase               Mole fraction of component within phase
compnt moles
                                C               Si              Mn
 1.7897E+03 FCC_A1             0.0014421       0.0049737       0.0210531

                                Cr              Mo              Ni
 1.7897E+03 FCC_A1             0.0051581       0.0037273       0.0571223

                                N               Fe
 1.7897E+03 FCC_A1             0.0010372       0.9054862

Gibbs Energy = -1.1349610980E+08 J   System Enthalpy =  6.1882800057E+07 J
     1273.00
```

*** MULTIPHASE - Stage 1* Results ***

Temperature = 1273.0000 K

Fixed pressure = 1.013250E+05 Pa,   1.000000E+00 atm

Component	Ref.Phase	Chem.Pot.	Activity	Amount/mol	Mass/kg
C		-6.539096E+04	2.074432E-03	2.580967E+00	3.100000E-02
Si		-1.972643E+05	8.052222E-09	8.901390E+00	2.500000E-01
Mn		-1.150904E+05	1.895166E-05	3.767884E+01	2.070000E+00
Cr		-1.014826E+05	6.854876E-05	9.231479E+00	4.800000E-01
Mo		-9.626654E+04	1.122077E-04	6.670836E+00	6.400000E-01
Ni		-9.824791E+04	9.305159E-05	1.022321E+02	6.000000E+00
N		-1.352133E+05	2.831215E-06	1.856255E+00	2.600000E-02
Fe		-6.330734E+04	2.525770E-03	1.620553E+03	9.050300E+01
Total				1.789704E+03	1.000000E+02

Amount compnt moles	Phase	Mole fraction of component within phase		
		C	Si	Mn
1.7897E+03	FCC_A1	0.0014421	0.0049737	0.0210531
		Cr	Mo	Ni
1.7897E+03	FCC_A1	0.0051581	0.0037273	0.0571223
		N	Fe	
1.7897E+03	FCC_A1	0.0010372	0.9054862	

Gibbs Energy = -1.2072833434E+08 J   System Enthalpy = 6.4973169287E+07 J
     1323.00
*** MULTIPHASE - Stage 1* Results ***

Temperature = 1323.0000 K

Fixed pressure = 1.013250E+05 Pa,   1.000000E+00 atm

Component	Ref.Phase	Chem.Pot.	Activity	Amount/mol	Mass/kg
C		-7.035421E+04	1.668583E-03	2.580967E+00	3.100000E-02
Si		-2.014552E+05	1.112633E-08	8.901390E+00	2.500000E-01
Mn		-1.206782E+05	1.719917E-05	3.767884E+01	2.070000E+00
Cr		-1.072813E+05	5.813413E-05	9.231479E+00	4.800000E-01
Mo		-1.023767E+05	9.079603E-05	6.670836E+00	6.400000E-01
Ni		-1.031738E+05	8.445009E-05	1.022321E+02	6.000000E+00
N		-1.405683E+05	2.819866E-06	1.856255E+00	2.600000E-02
Fe		-6.730985E+04	2.200604E-03	1.620553E+03	9.050300E+01
Total				1.789704E+03	1.000000E+02

Amount compnt moles	Phase	Mole fraction of component within phase		
		C	Si	Mn
1.7897E+03	FCC_A1	0.0014421	0.0049737	0.0210531
		Cr	Mo	Ni

```
 1.7897E+03 FCC_A1             0.0051581       0.0037273       0.0571223

                                N               Fe
 1.7897E+03 FCC_A1             0.0010372       0.9054862

Gibbs Energy = -1.2808272707E+08 J   System Enthalpy =  6.8102530220E+07 J
     1373.00
*** MULTIPHASE - Stage 1* Results ***

Temperature =  1373.0000 K

Fixed pressure =  1.013250E+05 Pa,    1.000000E+00 atm

Component      Ref.Phase     Chem.Pot.    Activity     Amount/mol   Mass/kg
C                           -7.535763E+04 1.358795E-03 2.580967E+00 3.100000E-02
Si                          -2.057053E+05 1.493868E-08 8.901390E+00 2.500000E-01
Mn                          -1.263622E+05 1.558749E-05 3.767884E+01 2.070000E+00
Cr                          -1.131571E+05 4.956127E-05 9.231479E+00 4.800000E-01
Mo                          -1.085509E+05 7.419518E-05 6.670836E+00 6.400000E-01
Ni                          -1.081746E+05 7.668184E-05 1.022321E+02 6.000000E+00
N                           -1.460141E+05 2.787113E-06 1.856255E+00 2.600000E-02
Fe                          -7.137943E+04 1.925296E-03 1.620553E+03 9.050300E+01
Total                                                  1.789704E+03 1.000000E+02

Amount      Phase               Mole fraction of component within phase
compnt moles
                                C               Si              Mn
 1.7897E+03 FCC_A1             0.0014421       0.0049737       0.0210531

                                Cr              Mo              Ni
 1.7897E+03 FCC_A1             0.0051581       0.0037273       0.0571223

                                N               Fe
 1.7897E+03 FCC_A1             0.0010372       0.9054862

Gibbs Energy = -1.3555614475E+08 J   System Enthalpy =  7.1270978833E+07 J
     1423.00
*** MULTIPHASE - Stage 1* Results ***

Temperature =  1423.0000 K

Fixed pressure =  1.013250E+05 Pa,    1.000000E+00 atm

Component      Ref.Phase     Chem.Pot.    Activity     Amount/mol   Mass/kg
C                           -8.040243E+04 1.118690E-03 2.580967E+00 3.100000E-02
Si                          -2.100035E+05 1.956634E-08 8.901390E+00 2.500000E-01
Mn                          -1.321168E+05 1.414028E-05 3.767884E+01 2.070000E+00
Cr                          -1.190999E+05 4.248752E-05 9.231479E+00 4.800000E-01
Mo                          -1.147782E+05 6.122051E-05 6.670836E+00 6.400000E-01
Ni                          -1.132328E+05 6.976248E-05 1.022321E+02 6.000000E+00
N                           -1.515568E+05 2.734534E-06 1.856255E+00 2.600000E-02
Fe                          -7.551030E+04 1.691541E-03 1.620553E+03 9.050300E+01
Total                                                  1.789704E+03 1.000000E+02
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Amount      Phase               Mole fraction of component within phase
compnt moles
                                C               Si              Mn
 1.7897E+03 FCC_A1             0.0014421       0.0049737       0.0210531

                                Cr              Mo              Ni
 1.7897E+03 FCC_A1             0.0051581       0.0037273       0.0571223

                                N               Fe
 1.7897E+03 FCC_A1             0.0010372       0.9054862

Gibbs Energy = -1.4314567690E+08 J   System Enthalpy =  7.4478621609E+07 J
     1473.00
*** MULTIPHASE - Stage 1* Results ***

Temperature =  1473.0000 K

Fixed pressure =  1.013250E+05 Pa,    1.000000E+00 atm

Component      Ref.Phase     Chem.Pot.    Activity     Amount/mol   Mass/kg
C                           -8.548946E+04 9.300379E-04 2.580967E+00 3.100000E-02
Si                          -2.143488E+05 2.506594E-08 8.901390E+00 2.500000E-01
Mn                          -1.379355E+05 1.284514E-05 3.767884E+01 2.070000E+00
Cr                          -1.251094E+05 3.660638E-05 9.231479E+00 4.800000E-01
Mo                          -1.210574E+05 5.096165E-05 6.670836E+00 6.400000E-01
Ni                          -1.183517E+05 6.356055E-05 1.022321E+02 6.000000E+00
N                           -1.571930E+05 2.665988E-06 1.856255E+00 2.600000E-02
Fe                          -7.970414E+04 1.491596E-03 1.620553E+03 9.050300E+01
Total                                                  1.789704E+03 1.000000E+02

Amount      Phase               Mole fraction of component within phase
compnt moles
                                C               Si              Mn
 1.7897E+03 FCC_A1             0.0014421       0.0049737       0.0210531

                                Cr              Mo              Ni
 1.7897E+03 FCC_A1             0.0051581       0.0037273       0.0571223

                                N               Fe
 1.7897E+03 FCC_A1             0.0010372       0.9054862

Gibbs Energy = -1.5084862162E+08 J   System Enthalpy =  7.7725573848E+07 J
     1523.00
*** MULTIPHASE - Stage 1* Results ***

Temperature =  1523.0000 K

Fixed pressure =  1.013250E+05 Pa,    1.000000E+00 atm

Component      Ref.Phase     Chem.Pot.    Activity     Amount/mol   Mass/kg
C                           -9.061079E+04 7.805157E-04 2.580967E+00 3.100000E-02
Si                          -2.187553E+05 3.144082E-08 8.901390E+00 2.500000E-01
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Mn                          -1.438543E+05 1.164999E-05 3.767884E+01 2.070000E+00
Cr                          -1.312007E+05 3.164433E-05 9.231479E+00 4.800000E-01
Mo                          -1.274029E+05 4.271168E-05 6.670836E+00 6.400000E-01
Ni                          -1.235555E+05 5.787595E-05 1.022321E+02 6.000000E+00
N                           -1.629041E+05 2.588129E-06 1.856255E+00 2.600000E-02
Fe                          -8.396776E+04 1.318905E-03 1.620553E+03 9.050300E+01
Total                                                  1.789704E+03 1.000000E+02

Amount      Phase               Mole fraction of component within phase
compnt moles
                                C               Si              Mn
 1.7897E+03 FCC_A1             0.0014421       0.0049737       0.0210531

                                Cr              Mo              Ni
 1.7897E+03 FCC_A1             0.0051581       0.0037273       0.0571223

                                N               Fe
 1.7897E+03 FCC_A1             0.0010372       0.9054862

Gibbs Energy = -1.5866246506E+08 J   System Enthalpy =  8.1011964993E+07 J
     1573.00
*** MULTIPHASE - Stage 1* Results ***

Temperature =  1573.0000 K

Fixed pressure =  1.013250E+05 Pa,    1.000000E+00 atm

Component      Ref.Phase     Chem.Pot.    Activity     Amount/mol   Mass/kg
C                           -9.578415E+04 6.597419E-04 2.580967E+00 3.100000E-02
Si                          -2.231931E+05 3.878029E-08 8.901390E+00 2.500000E-01
Mn                          -1.498137E+05 1.059884E-05 3.767884E+01 2.070000E+00
Cr                          -1.373446E+05 2.749856E-05 9.231479E+00 4.800000E-01
Mo                          -1.337848E+05 3.610097E-05 6.670836E+00 6.400000E-01
Ni                          -1.287938E+05 5.287474E-05 1.022321E+02 6.000000E+00
N                           -1.687163E+05 2.497913E-06 1.856255E+00 2.600000E-02
Fe                          -8.828211E+04 1.170815E-03 1.620553E+03 9.050300E+01
Total                                                  1.789704E+03 1.000000E+02

Amount      Phase               Mole fraction of component within phase
compnt moles
                                C               Si              Mn
 1.7897E+03 FCC_A1             0.0014421       0.0049737       0.0210531

                                Cr              Mo              Ni
 1.7897E+03 FCC_A1             0.0051581       0.0037273       0.0571223

                                N               Fe
 1.7897E+03 FCC_A1             0.0010372       0.9054862

Gibbs Energy = -1.6658487389E+08 J   System Enthalpy =  8.4338933626E+07 J
     1623.00
*** MULTIPHASE - Stage 1* Results ***
```

Temperature = 1623.0000 K

Fixed pressure = 1.013250E+05 Pa,   1.000000E+00 atm

Component	Ref.Phase	Chem.Pot.	Activity	Amount/mol	Mass/kg
C		-1.009898E+05	5.621167E-04	2.580967E+00	3.100000E-02
Si		-2.276823E+05	4.703875E-08	8.901390E+00	2.500000E-01
Mn		-1.558556E+05	9.639830E-06	3.767884E+01	2.070000E+00
Cr		-1.435623E+05	2.397211E-05	9.231479E+00	4.800000E-01
Mo		-1.402234E+05	3.070177E-05	6.670836E+00	6.400000E-01
Ni		-1.340985E+05	4.833727E-05	1.022321E+02	6.000000E+00
N		-1.746054E+05	2.402379E-06	1.856255E+00	2.600000E-02
Fe		-9.265971E+04	1.042112E-03	1.620553E+03	9.050300E+01
Total				1.789704E+03	1.000000E+02

Amount	Phase	Mole fraction of component within phase		
compnt moles				
		C	Si	Mn
1.7897E+03	FCC_A1	0.0014421	0.0049737	0.0210531
		Cr	Mo	Ni
1.7897E+03	FCC_A1	0.0051581	0.0037273	0.0571223
		N	Fe	
1.7897E+03	FCC_A1	0.0010372	0.9054862	

Gibbs Energy = -1.7461369666E+08 J   System Enthalpy = 8.7706726661E+07 J
     1673.00
*** MULTIPHASE - Stage 1* Results ***

Temperature = 1673.0000 K

Fixed pressure = 1.013250E+05 Pa,   1.000000E+00 atm

Component	Ref.Phase	Chem.Pot.	Activity	Amount/mol	Mass/kg
C		-1.062313E+05	4.822976E-04	2.580967E+00	3.100000E-02
Si		-2.322178E+05	5.621420E-08	8.901390E+00	2.500000E-01
Mn		-1.619657E+05	8.774305E-06	3.767884E+01	2.070000E+00
Cr		-1.498544E+05	2.095760E-05	9.231479E+00	4.800000E-01
Mo		-1.467139E+05	2.626597E-05	6.670836E+00	6.400000E-01
Ni		-1.394630E+05	4.423607E-05	1.022321E+02	6.000000E+00
N		-1.805733E+05	2.302808E-06	1.856255E+00	2.600000E-02
Fe		-9.709599E+04	9.301048E-04	1.620553E+03	9.050300E+01
Total				1.789704E+03	1.000000E+02

Amount	Phase	Mole fraction of component within phase		
compnt moles				
		C	Si	Mn
1.7897E+03	FCC_A1	0.0014421	0.0049737	0.0210531
		Cr	Mo	Ni
1.7897E+03	FCC_A1	0.0051581	0.0037273	0.0571223

```
                                N               Fe
 1.7897E+03 FCC_A1             0.0010372       0.9054862

Gibbs Energy = -1.8274690351E+08 J   System Enthalpy =  9.1114823027E+07 J
     1723.00
*** MULTIPHASE - Stage 1* Results ***

Temperature =  1723.0000 K

Fixed pressure =  1.013250E+05 Pa,    1.000000E+00 atm

Component      Ref.Phase     Chem.Pot.    Activity     Amount/mol   Mass/kg
C                           -1.115115E+05 4.163806E-04 2.580967E+00 3.100000E-02
Si                          -2.367926E+05 6.630585E-08 8.901390E+00 2.500000E-01
Mn                          -1.681463E+05 7.990785E-06 3.767884E+01 2.070000E+00
Cr                          -1.562022E+05 1.839413E-05 9.231479E+00 4.800000E-01
Mo                          -1.532508E+05 2.260226E-05 6.670836E+00 6.400000E-01
Ni                          -1.448847E+05 4.052945E-05 1.022321E+02 6.000000E+00
N                           -1.866218E+05 2.200377E-06 1.856255E+00 2.600000E-02
Fe                          -1.015884E+05 8.323620E-04 1.620553E+03 9.050300E+01
Total                                                  1.789704E+03 1.000000E+02

Amount      Phase               Mole fraction of component within phase
compnt moles
                                C               Si              Mn
 1.7897E+03 FCC_A1             0.0014421       0.0049737       0.0210531

                                Cr              Mo              Ni
 1.7897E+03 FCC_A1             0.0051581       0.0037273       0.0571223

                                N               Fe
 1.7897E+03 FCC_A1             0.0010372       0.9054862

Gibbs Energy = -1.9098257304E+08 J   System Enthalpy =  9.4562822841E+07 J
     1773.00
*** MULTIPHASE - Stage 1* Results ***

Temperature =  1773.0000 K

Fixed pressure =  1.013250E+05 Pa,    1.000000E+00 atm

Component      Ref.Phase     Chem.Pot.    Activity     Amount/mol   Mass/kg
C                           -1.375154E+05 8.886650E-05 2.580967E+00 3.100000E-02
Si                          -2.505499E+05 4.156196E-08 8.901390E+00 2.500000E-01
Mn                          -1.787591E+05 5.416038E-06 3.767884E+01 2.070000E+00
Cr                          -1.645569E+05 1.419333E-05 9.231479E+00 4.800000E-01
Mo                          -1.676956E+05 1.147139E-05 6.670836E+00 6.400000E-01
Ni                          -1.522083E+05 3.280038E-05 1.022321E+02 6.000000E+00
N                           -2.021364E+05 1.109115E-06 1.856255E+00 2.600000E-02
Fe                          -1.058829E+05 7.597059E-04 1.620553E+03 9.050300E+01
Total                                                  1.789704E+03 1.000000E+02

Amount      Phase               Mole fraction of component within phase
```

```
compnt moles
                                C               Si              Mn
 1.7897E+03 LIQUID             0.0014421       0.0049737       0.0210531

                                Cr              Mo              Ni
 1.7897E+03 LIQUID             0.0051581       0.0037273       0.0571223

                                N               Fe
 1.7897E+03 LIQUID             0.0010372       0.9054862

Gibbs Energy = -1.9948056977E+08 J   System Enthalpy =  1.2361952182E+08 J
     1823.00
*** MULTIPHASE - Stage 1* Results ***

Temperature =  1823.0000 K

Fixed pressure =  1.013250E+05 Pa,    1.000000E+00 atm

Component      Ref.Phase     Chem.Pot.    Activity     Amount/mol   Mass/kg
C                           -1.428262E+05 8.085123E-05 2.580967E+00 3.100000E-02
Si                          -2.555808E+05 4.753324E-08 8.901390E+00 2.500000E-01
Mn                          -1.857465E+05 4.763399E-06 3.767884E+01 2.070000E+00
Cr                          -1.709316E+05 1.265904E-05 9.231479E+00 4.800000E-01
Mo                          -1.744437E+05 1.004080E-05 6.670836E+00 6.400000E-01
Ni                          -1.581311E+05 2.945543E-05 1.022321E+02 6.000000E+00
N                           -2.087590E+05 1.043647E-06 1.856255E+00 2.600000E-02
Fe                          -1.108980E+05 6.645162E-04 1.620553E+03 9.050300E+01
Total                                                  1.789704E+03 1.000000E+02

Amount      Phase               Mole fraction of component within phase
compnt moles
                                C               Si              Mn
 1.7897E+03 LIQUID             0.0014421       0.0049737       0.0210531

                                Cr              Mo              Ni
 1.7897E+03 LIQUID             0.0051581       0.0037273       0.0571223

                                N               Fe
 1.7897E+03 LIQUID             0.0010372       0.9054862

Gibbs Energy = -2.0864864407E+08 J   System Enthalpy =  1.2767431727E+08 J
     1873.00
*** MULTIPHASE - Stage 1* Results ***

Temperature =  1873.0000 K

Fixed pressure =  1.013250E+05 Pa,    1.000000E+00 atm

Component      Ref.Phase     Chem.Pot.    Activity     Amount/mol   Mass/kg
C                           -1.481713E+05 7.376845E-05 2.580967E+00 3.100000E-02
Si                          -2.606413E+05 5.387187E-08 8.901390E+00 2.500000E-01
Mn                          -1.928055E+05 4.198877E-06 3.767884E+01 2.070000E+00
Cr                          -1.773701E+05 1.131323E-05 9.231479E+00 4.800000E-01
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Mo                          -1.812446E+05 8.821385E-06 6.670836E+00 6.400000E-01
Ni                          -1.641130E+05 2.650305E-05 1.022321E+02 6.000000E+00
N                           -2.154060E+05 9.836954E-07 1.856255E+00 2.600000E-02
Fe                          -1.159732E+05 5.831717E-04 1.620553E+03 9.050300E+01
Total                                                  1.789704E+03 1.000000E+02

Amount      Phase               Mole fraction of component within phase
compnt moles
                                C               Si              Mn
 1.7897E+03 LIQUID             0.0014421       0.0049737       0.0210531

                                Cr              Mo              Ni
 1.7897E+03 LIQUID             0.0051581       0.0037273       0.0571223

                                N               Fe
 1.7897E+03 LIQUID             0.0010372       0.9054862

Gibbs Energy = -2.1792862918E+08 J   System Enthalpy =  1.3176186313E+08 J

*******************************************************************************
*****
8 wt % Ni


 MULTIPHASE OPTION ? set w(6)=8 !
 MULTIPHASE OPTION ? com pr br r^?
 R  KEYWORD NOT RECOGNISED
 CALCULATION OPTIONS ? pr br pr mol !
 NUMBER OF STEPS =  25

     673.000
*** MULTIPHASE - Stage 1* Results ***

Temperature =   673.0000 K

Fixed pressure =  1.013250E+05 Pa,    1.000000E+00 atm

Component      Ref.Phase     Chem.Pot.    Activity     Amount/mol   Mass/kg
C                           -7.170648E+03 2.776303E-01 2.580967E+00 3.100000E-02
Si                          -1.576332E+05 5.830015E-13 8.901390E+00 2.500000E-01
Mn                          -5.395380E+04 6.493845E-05 3.767884E+01 2.070000E+00
Cr                          -4.042554E+04 7.285620E-04 9.231479E+00 4.800000E-01
Mo                          -2.836796E+04 6.284738E-03 6.670836E+00 6.400000E-01
Ni                          -3.843446E+04 1.039918E-03 1.363094E+02 8.000000E+00
N                           -6.506086E+04 8.921819E-06 1.856255E+00 2.600000E-02
Fe                          -2.330643E+04 1.552836E-02 1.584740E+03 8.850300E+01
Total                                                  1.787970E+03 1.000000E+02

Amount      Phase               Mole fraction of component within phase
compnt moles
                                C               Si              Mn
 3.6861E+00 LIQUID             0.0000003       0.0000000       0.0268574
 1.5180E+03 BCC_A2             0.0000011       0.0058637       0.0013403
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 2.5640E+02 FCC_A1             0.0004682       0.0000000       0.1363556
 9.8367E+00 CEMENTITE          0.2500000       0.0000000       0.0593010

                                Cr              Mo              Ni
 3.6861E+00 LIQUID             0.3543068       0.0589042       0.0000070
 1.5180E+03 BCC_A2             0.0018672       0.0031945       0.0233826
 2.5640E+02 FCC_A1             0.0037766       0.0060712       0.3927454
 9.8367E+00 CEMENTITE          0.4191095       0.0048399       0.0114645

                                N               Fe
 3.6861E+00 LIQUID             0.3748277       0.1850965
 1.5180E+03 BCC_A2             0.0000192       0.9643313
 2.5640E+02 FCC_A1             0.0017373       0.4588456
 9.8367E+00 CEMENTITE          0.0000000       0.2552852

Gibbs Energy = -4.6311507182E+07 J   System Enthalpy =  1.8606515981E+07 J
     723.000
*** MULTIPHASE - Stage 1* Results ***

Temperature =   723.0000 K

Fixed pressure =  1.013250E+05 Pa,    1.000000E+00 atm

Component      Ref.Phase     Chem.Pot.    Activity     Amount/mol   Mass/kg
C                           -8.852912E+03 2.293079E-01 2.580967E+00 3.100000E-02
Si                          -1.601126E+05 2.707827E-12 8.901390E+00 2.500000E-01
Mn                          -5.753303E+04 6.974468E-05 3.767884E+01 2.070000E+00
Cr                          -4.342787E+04 7.286893E-04 9.231479E+00 4.800000E-01
Mo                          -3.416904E+04 3.399766E-03 6.670836E+00 6.400000E-01
Ni                          -4.249905E+04 8.504431E-04 1.363094E+02 8.000000E+00
N                           -6.515039E+04 1.964234E-05 1.856255E+00 2.600000E-02
Fe                          -2.593651E+04 1.337243E-02 1.584740E+03 8.850300E+01
Total                                                  1.787970E+03 1.000000E+02

Amount      Phase               Mole fraction of component within phase
compnt moles
                                C               Si              Mn
 1.4755E+03 BCC_A2             0.0000038       0.0060326       0.0020778
 3.0332E+02 FCC_A1             0.0009609       0.0000008       0.1123043
 9.1353E+00 CEMENTITE          0.2500000       0.0000000       0.0601055

                                Cr              Mo              Ni
 1.4755E+03 BCC_A2             0.0028026       0.0030394       0.0255402
 3.0332E+02 FCC_A1             0.0058298       0.0070371       0.3248169
 9.1353E+00 CEMENTITE          0.3642902       0.0056602       0.0111016

                                N               Fe
 1.4755E+03 BCC_A2             0.0000695       0.9604341
 3.0332E+02 FCC_A1             0.0057819       0.5432684
 9.1353E+00 CEMENTITE          0.0000000       0.3088425

Gibbs Energy = -5.1261782186E+07 J   System Enthalpy =  2.2267063034E+07 J
     773.000
```

*** MULTIPHASE - Stage 1* Results ***

Temperature =   773.0000 K

Fixed pressure = 1.013250E+05 Pa,   1.000000E+00 atm

Component	Ref.Phase	Chem.Pot.	Activity	Amount/mol	Mass/kg
C		-9.615532E+03	2.240048E-01	2.580967E+00	3.100000E-02
Si		-1.626819E+05	1.016775E-11	8.901390E+00	2.500000E-01
Mn		-6.135977E+04	7.141412E-05	3.767884E+01	2.070000E+00
Cr		-4.748876E+04	6.181295E-04	9.231479E+00	4.800000E-01
Mo		-4.009273E+04	1.953645E-03	6.670836E+00	6.400000E-01
Ni		-4.685304E+04	6.823954E-04	1.363094E+02	8.000000E+00
N		-7.260729E+04	1.240980E-05	1.856255E+00	2.600000E-02
Fe		-2.868937E+04	1.151850E-02	1.584740E+03	8.850300E+01
Total				1.787970E+03	1.000000E+02

Amount compnt moles	Phase	Mole fraction of component within phase		
		C	Si	Mn
1.4045E+03	BCC_A2	0.0000128	0.0063339	0.0030210
3.7652E+02	FCC_A1	0.0021961	0.0000144	0.0876510
6.9443E+00	CEMENTITE	0.2500000	0.0000000	0.0624688
		Cr	Mo	Ni
1.4045E+03	BCC_A2	0.0034254	0.0029047	0.0269203
3.7652E+02	FCC_A1	0.0064882	0.0067445	0.2614158
6.9443E+00	CEMENTITE	0.2847647	0.0074538	0.0104326
		N	Fe	
1.4045E+03	BCC_A2	0.0000679	0.9573139	
3.7652E+02	FCC_A1	0.0046769	0.6308132	
6.9443E+00	CEMENTITE	0.0000000	0.3848802	

Gibbs Energy = -5.6477250379E+07 J   System Enthalpy = 2.6199890034E+07 J
     823.000
*** MULTIPHASE - Stage 1* Results ***

Temperature =   823.0000 K

Fixed pressure = 1.013250E+05 Pa,   1.000000E+00 atm

Component	Ref.Phase	Chem.Pot.	Activity	Amount/mol	Mass/kg
C		-1.084893E+04	2.048573E-01	2.580967E+00	3.100000E-02
Si		-1.650977E+05	3.324652E-11	8.901390E+00	2.500000E-01
Mn		-6.589415E+04	6.575022E-05	3.767884E+01	2.070000E+00
Cr		-5.155723E+04	5.343410E-04	9.231479E+00	4.800000E-01
Mo		-4.602471E+04	1.199364E-03	6.670836E+00	6.400000E-01
Ni		-5.157364E+04	5.330614E-04	1.363094E+02	8.000000E+00
N		-8.081269E+04	7.431266E-06	1.856255E+00	2.600000E-02
Fe		-3.156331E+04	9.925954E-03	1.584740E+03	8.850300E+01
Total				1.787970E+03	1.000000E+02

```
Amount      Phase               Mole fraction of component within phase
compnt moles
                                C               Si              Mn
 1.2623E+03 BCC_A2             0.0000349       0.0069844       0.0039125
 5.2503E+02 FCC_A1             0.0045101       0.0001624       0.0622842
 6.7604E-01 CEMENTITE          0.2500000       0.0000000       0.0580462

                                Cr              Mo              Ni
 1.2623E+03 BCC_A2             0.0041307       0.0028224       0.0271486
 5.2503E+02 FCC_A1             0.0073529       0.0059092       0.1943404
 6.7604E-01 CEMENTITE          0.2321766       0.0084285       0.0095992

                                N               Fe
 1.2623E+03 BCC_A2             0.0000606       0.9549060
 5.2503E+02 FCC_A1             0.0033899       0.7220508
 6.7604E-01 CEMENTITE          0.0000000       0.4417495

Gibbs Energy = -6.1963227894E+07 J   System Enthalpy =  3.0679935956E+07 J
     873.000
*** MULTIPHASE - Stage 1* Results ***

Temperature =   873.0000 K

Fixed pressure =  1.013250E+05 Pa,    1.000000E+00 atm

Component      Ref.Phase     Chem.Pot.    Activity     Amount/mol   Mass/kg
C                           -1.864123E+04 7.667574E-02 2.580967E+00 3.100000E-02
Si                          -1.672891E+05 9.789553E-11 8.901390E+00 2.500000E-01
Mn                          -7.115975E+04 5.525496E-05 3.767884E+01 2.070000E+00
Cr                          -5.694061E+04 3.918593E-04 9.231479E+00 4.800000E-01
Mo                          -5.153548E+04 8.251439E-04 6.670836E+00 6.400000E-01
Ni                          -5.665133E+04 4.077916E-04 1.363094E+02 8.000000E+00
N                           -8.856658E+04 5.022106E-06 1.856255E+00 2.600000E-02
Fe                          -3.455906E+04 8.555849E-03 1.584740E+03 8.850300E+01
Total                                                  1.787970E+03 1.000000E+02

Amount      Phase               Mole fraction of component within phase
compnt moles
                                C               Si              Mn
 1.0230E+03 BCC_A2             0.0000339       0.0080694       0.0046109
 7.6502E+02 FCC_A1             0.0033285       0.0008455       0.0430866

                                Cr              Mo              Ni
 1.0230E+03 BCC_A2             0.0041064       0.0029478       0.0263674
 7.6502E+02 FCC_A1             0.0065761       0.0047782       0.1429204

                                N               Fe
 1.0230E+03 BCC_A2             0.0000576       0.9538066
 7.6502E+02 FCC_A1             0.0023494       0.7961154

Gibbs Energy = -6.7733699471E+07 J   System Enthalpy =  3.5536809493E+07 J
     923.000
*** MULTIPHASE - Stage 1* Results ***
```

Temperature =   923.0000 K

Fixed pressure = 1.013250E+05 Pa,   1.000000E+00 atm

Component	Ref.Phase	Chem.Pot.	Activity	Amount/mol	Mass/kg
C		-2.750043E+04	2.777974E-02	2.580967E+00	3.100000E-02
Si		-1.690961E+05	2.695970E-10	8.901390E+00	2.500000E-01
Mn		-7.734653E+04	4.196591E-05	3.767884E+01	2.070000E+00
Cr		-6.256800E+04	2.878893E-04	9.231479E+00	4.800000E-01
Mo		-5.670399E+04	6.181233E-04	6.670836E+00	6.400000E-01
Ni		-6.224823E+04	3.001386E-04	1.363094E+02	8.000000E+00
N		-9.671913E+04	3.361907E-06	1.856255E+00	2.600000E-02
Fe		-3.766609E+04	7.386607E-03	1.584740E+03	8.850300E+01
Total				1.787970E+03	1.000000E+02

Amount	Phase	Mole fraction of component within phase		
compnt moles				
		C	Si	Mn
5.8472E+02	BCC_A2	0.0000288	0.0098622	0.0049310
1.2033E+03	FCC_A1	0.0021310	0.0026052	0.0289180
		Cr	Mo	Ni
5.8472E+02	BCC_A2	0.0039990	0.0032262	0.0242457
1.2033E+03	FCC_A1	0.0057288	0.0039762	0.1015020
		N	Fe	
5.8472E+02	BCC_A2	0.0000528	0.9536542	
1.2033E+03	FCC_A1	0.0015170	0.8536217	

Gibbs Energy = -7.3800712266E+07 J   System Enthalpy = 4.1093468069E+07 J
     973.000
*** MULTIPHASE - Stage 1* Results ***

Temperature =   973.0000 K

Fixed pressure = 1.013250E+05 Pa,   1.000000E+00 atm

Component	Ref.Phase	Chem.Pot.	Activity	Amount/mol	Mass/kg
C		-3.577324E+04	1.201141E-02	2.580967E+00	3.100000E-02
Si		-1.707839E+05	6.789656E-10	8.901390E+00	2.500000E-01
Mn		-8.394079E+04	3.117648E-05	3.767884E+01	2.070000E+00
Cr		-6.817839E+04	2.187741E-04	9.231479E+00	4.800000E-01
Mo		-6.151558E+04	4.985102E-04	6.670836E+00	6.400000E-01
Ni		-6.797080E+04	2.244606E-04	1.363094E+02	8.000000E+00
N		-1.044063E+05	2.484179E-06	1.856255E+00	2.600000E-02
Fe		-4.096054E+04	6.325940E-03	1.584740E+03	8.850300E+01
Total				1.787970E+03	1.000000E+02

Amount	Phase	Mole fraction of component within phase		
compnt moles				
		C	Si	Mn
1.7880E+03	FCC_A1	0.0014435	0.0049785	0.0210735

```
                                Cr              Mo              Ni
 1.7880E+03 FCC_A1             0.0051631       0.0037310       0.0762370

                                N               Fe
 1.7880E+03 FCC_A1             0.0010382       0.8863352

Gibbs Energy = -8.0185030513E+07 J   System Enthalpy =  4.6579973086E+07 J
     1023.00
*** MULTIPHASE - Stage 1* Results ***

Temperature =  1023.0000 K

Fixed pressure =  1.013250E+05 Pa,    1.000000E+00 atm

Component      Ref.Phase     Chem.Pot.    Activity     Amount/mol   Mass/kg
C                           -4.042812E+04 8.625452E-03 2.580967E+00 3.100000E-02
Si                          -1.746627E+05 1.207549E-09 8.901390E+00 2.500000E-01
Mn                          -8.903175E+04 2.845319E-05 3.767884E+01 2.070000E+00
Cr                          -7.354017E+04 1.758390E-04 9.231479E+00 4.800000E-01
Mo                          -6.712861E+04 3.736653E-04 6.670836E+00 6.400000E-01
Ni                          -7.233584E+04 2.025848E-04 1.363094E+02 8.000000E+00
N                           -1.090924E+05 2.690651E-06 1.856255E+00 2.600000E-02
Fe                          -4.453045E+04 5.325017E-03 1.584740E+03 8.850300E+01
Total                                                  1.787970E+03 1.000000E+02

Amount      Phase               Mole fraction of component within phase
compnt moles
                                C               Si              Mn
 1.7880E+03 FCC_A1             0.0014435       0.0049785       0.0210735

                                Cr              Mo              Ni
 1.7880E+03 FCC_A1             0.0051631       0.0037310       0.0762370

                                N               Fe
 1.7880E+03 FCC_A1             0.0010382       0.8863352

Gibbs Energy = -8.6772071199E+07 J   System Enthalpy =  4.9472370587E+07 J
     1073.00
*** MULTIPHASE - Stage 1* Results ***

Temperature =  1073.0000 K

Fixed pressure =  1.013250E+05 Pa,    1.000000E+00 atm

Component      Ref.Phase     Chem.Pot.    Activity     Amount/mol   Mass/kg
C                           -4.513527E+04 6.350800E-03 2.580967E+00 3.100000E-02
Si                          -1.786073E+05 2.020451E-09 8.901390E+00 2.500000E-01
Mn                          -9.421794E+04 2.591187E-05 3.767884E+01 2.070000E+00
Cr                          -7.898617E+04 1.428817E-04 9.231479E+00 4.800000E-01
Mo                          -7.280955E+04 2.855305E-04 6.670836E+00 6.400000E-01
Ni                          -7.677995E+04 1.829678E-04 1.363094E+02 8.000000E+00
N                           -1.138994E+05 2.853724E-06 1.856255E+00 2.600000E-02
```

```
Fe                          -4.818011E+04 4.514466E-03 1.584740E+03 8.850300E+01
Total                                                  1.787970E+03 1.000000E+02

Amount      Phase               Mole fraction of component within phase
compnt moles
                                C               Si              Mn
 1.7880E+03 FCC_A1             0.0014435       0.0049785       0.0210735

                                Cr              Mo              Ni
 1.7880E+03 FCC_A1             0.0051631       0.0037310       0.0762370

                                N               Fe
 1.7880E+03 FCC_A1             0.0010382       0.8863352

Gibbs Energy = -9.3501470509E+07 J   System Enthalpy =  5.2403597105E+07 J
     1123.00
*** MULTIPHASE - Stage 1* Results ***

Temperature =  1123.0000 K

Fixed pressure =  1.013250E+05 Pa,    1.000000E+00 atm

Component      Ref.Phase     Chem.Pot.    Activity     Amount/mol   Mass/kg
C                           -4.989359E+04 4.778965E-03 2.580967E+00 3.100000E-02
Si                          -1.826136E+05 3.207876E-09 8.901390E+00 2.500000E-01
Mn                          -9.949088E+04 2.357489E-05 3.767884E+01 2.070000E+00
Cr                          -8.450859E+04 1.173033E-04 9.231479E+00 4.800000E-01
Mo                          -7.855775E+04 2.218695E-04 6.670836E+00 6.400000E-01
Ni                          -8.130018E+04 1.654021E-04 1.363094E+02 8.000000E+00
N                           -1.188236E+05 2.973306E-06 1.856255E+00 2.600000E-02
Fe                          -5.190646E+04 3.852219E-03 1.584740E+03 8.850300E+01
Total                                                  1.787970E+03 1.000000E+02

Amount      Phase               Mole fraction of component within phase
compnt moles
                                C               Si              Mn
 1.7880E+03 FCC_A1             0.0014435       0.0049785       0.0210735

                                Cr              Mo              Ni
 1.7880E+03 FCC_A1             0.0051631       0.0037310       0.0762370

                                N               Fe
 1.7880E+03 FCC_A1             0.0010382       0.8863352

Gibbs Energy = -1.0036840036E+08 J   System Enthalpy =  5.5373649622E+07 J
     1173.00
*** MULTIPHASE - Stage 1* Results ***

Temperature =  1173.0000 K

Fixed pressure =  1.013250E+05 Pa,    1.000000E+00 atm

Component      Ref.Phase     Chem.Pot.    Activity     Amount/mol   Mass/kg
```

```
C                          -5.470323E+04 3.665069E-03 2.580967E+00 3.100000E-02
Si                         -1.866785E+05 4.867027E-09 8.901390E+00 2.500000E-01
Mn                         -1.048472E+05 2.143821E-05 3.767884E+01 2.070000E+00
Cr                         -9.010458E+04 9.720108E-05 9.231479E+00 4.800000E-01
Mo                         -8.436956E+04 1.750048E-04 6.670836E+00 6.400000E-01
Ni                         -8.588915E+04 1.497556E-04 1.363094E+02 8.000000E+00
N                          -1.238614E+05 3.051350E-06 1.856255E+00 2.600000E-02
Fe                         -5.570820E+04 3.306218E-03 1.584740E+03 8.850300E+01
Total                                                 1.787970E+03 1.000000E+02

Amount      Phase               Mole fraction of component within phase
compnt moles
                                C               Si              Mn
 1.7880E+03 FCC_A1             0.0014435       0.0049785       0.0210735

                                Cr              Mo              Ni
 1.7880E+03 FCC_A1             0.0051631       0.0037310       0.0762370

                                N               Fe
 1.7880E+03 FCC_A1             0.0010382       0.8863352

Gibbs Energy = -1.0736846357E+08 J   System Enthalpy =  5.8382553694E+07 J
     1223.00
*** MULTIPHASE - Stage 1* Results ***

Temperature =  1223.0000 K

Fixed pressure =  1.013250E+05 Pa,    1.000000E+00 atm

Component      Ref.Phase     Chem.Pot.    Activity     Amount/mol   Mass/kg
C                          -5.955802E+04 2.859737E-03 2.580967E+00 3.100000E-02
Si                         -1.908048E+05 7.093887E-09 8.901390E+00 2.500000E-01
Mn                         -1.102959E+05 1.946936E-05 3.767884E+01 2.070000E+00
Cr                         -9.577769E+04 8.117340E-05 9.231479E+00 4.800000E-01
Mo                         -9.024773E+04 1.398279E-04 6.670836E+00 6.400000E-01
Ni                         -9.055202E+04 1.357056E-04 1.363094E+02 8.000000E+00
N                          -1.290032E+05 3.092994E-06 1.856255E+00 2.600000E-02
Fe                         -5.958442E+04 2.852323E-03 1.584740E+03 8.850300E+01
Total                                                 1.787970E+03 1.000000E+02

Amount      Phase               Mole fraction of component within phase
compnt moles
                                C               Si              Mn
 1.7880E+03 FCC_A1             0.0014435       0.0049785       0.0210735

                                Cr              Mo              Ni
 1.7880E+03 FCC_A1             0.0051631       0.0037310       0.0762370

                                N               Fe
 1.7880E+03 FCC_A1             0.0010382       0.8863352

Gibbs Energy = -1.1449763975E+08 J   System Enthalpy =  6.1430357736E+07 J
     1273.00
```

*** MULTIPHASE - Stage 1* Results ***

Temperature = 1273.0000 K

Fixed pressure = 1.013250E+05 Pa,   1.000000E+00 atm

Component	Ref.Phase	Chem.Pot.	Activity	Amount/mol	Mass/kg
C		-6.446367E+04	2.264372E-03	2.580967E+00	3.100000E-02
Si		-1.949813E+05	9.990586E-09	8.901390E+00	2.500000E-01
Mn		-1.158072E+05	1.771082E-05	3.767884E+01	2.070000E+00
Cr		-1.015175E+05	6.832318E-05	9.231479E+00	4.800000E-01
Mo		-9.618102E+04	1.131180E-04	6.670836E+00	6.400000E-01
Ni		-9.528429E+04	1.231192E-04	1.363094E+02	8.000000E+00
N		-1.342542E+05	3.099733E-06	1.856255E+00	2.600000E-02
Fe		-6.352446E+04	2.474486E-03	1.584740E+03	8.850300E+01
Total				1.787970E+03	1.000000E+02

Amount	Phase	Mole fraction of component within phase		
compnt moles				
		C	Si	Mn
1.7880E+03	FCC_A1	0.0014435	0.0049785	0.0210735
		Cr	Mo	Ni
1.7880E+03	FCC_A1	0.0051631	0.0037310	0.0762370
		N	Fe	
1.7880E+03	FCC_A1	0.0010382	0.8863352	

Gibbs Energy = -1.2175223991E+08 J   System Enthalpy = 6.4517128581E+07 J
     1323.00
*** MULTIPHASE - Stage 1* Results ***

Temperature = 1323.0000 K

Fixed pressure = 1.013250E+05 Pa,   1.000000E+00 atm

Component	Ref.Phase	Chem.Pot.	Activity	Amount/mol	Mass/kg
C		-6.941693E+04	1.816989E-03	2.580967E+00	3.100000E-02
Si		-1.992141E+05	1.364064E-08	8.901390E+00	2.500000E-01
Mn		-1.214028E+05	1.610277E-05	3.767884E+01	2.070000E+00
Cr		-1.073308E+05	5.787313E-05	9.231479E+00	4.800000E-01
Mo		-1.021755E+05	9.247256E-05	6.670836E+00	6.400000E-01
Ni		-1.000851E+05	1.118262E-04	1.363094E+02	8.000000E+00
N		-1.396027E+05	3.078579E-06	1.856255E+00	2.600000E-02
Fe		-6.753902E+04	2.155232E-03	1.584740E+03	8.850300E+01
Total				1.787970E+03	1.000000E+02

Amount	Phase	Mole fraction of component within phase		
compnt moles				
		C	Si	Mn
1.7880E+03	FCC_A1	0.0014435	0.0049785	0.0210735
		Cr	Mo	Ni

```
 1.7880E+03 FCC_A1             0.0051631       0.0037310       0.0762370

                                N               Fe
 1.7880E+03 FCC_A1             0.0010382       0.8863352

Gibbs Energy = -1.2912886800E+08 J   System Enthalpy =  6.7642948152E+07 J
     1373.00
*** MULTIPHASE - Stage 1* Results ***

Temperature =  1373.0000 K

Fixed pressure =  1.013250E+05 Pa,    1.000000E+00 atm

Component      Ref.Phase     Chem.Pot.    Activity     Amount/mol   Mass/kg
C                           -7.440653E+04 1.476852E-03 2.580967E+00 3.100000E-02
Si                          -2.034994E+05 1.812305E-08 8.901390E+00 2.500000E-01
Mn                          -1.270739E+05 1.464546E-05 3.767884E+01 2.070000E+00
Cr                          -1.132146E+05 4.931220E-05 9.231479E+00 4.800000E-01
Mo                          -1.082273E+05 7.632844E-05 6.670836E+00 6.400000E-01
Ni                          -1.049504E+05 1.017067E-04 1.363094E+02 8.000000E+00
N                           -1.450472E+05 3.033467E-06 1.856255E+00 2.600000E-02
Fe                          -7.161506E+04 1.885965E-03 1.584740E+03 8.850300E+01
Total                                                  1.787970E+03 1.000000E+02

Amount      Phase               Mole fraction of component within phase
compnt moles
                                C               Si              Mn
 1.7880E+03 FCC_A1             0.0014435       0.0049785       0.0210735

                                Cr              Mo              Ni
 1.7880E+03 FCC_A1             0.0051631       0.0037310       0.0762370

                                N               Fe
 1.7880E+03 FCC_A1             0.0010382       0.8863352

Gibbs Energy = -1.3662438821E+08 J   System Enthalpy =  7.0807910741E+07 J
     1423.00
*** MULTIPHASE - Stage 1* Results ***

Temperature =  1423.0000 K

Fixed pressure =  1.013250E+05 Pa,    1.000000E+00 atm

Component      Ref.Phase     Chem.Pot.    Activity     Amount/mol   Mass/kg
C                           -7.943782E+04 1.213716E-03 2.580967E+00 3.100000E-02
Si                          -2.078390E+05 2.349421E-08 8.901390E+00 2.500000E-01
Mn                          -1.328225E+05 1.332152E-05 3.767884E+01 2.070000E+00
Cr                          -1.191716E+05 4.223098E-05 9.231479E+00 4.800000E-01
Mo                          -1.143384E+05 6.353906E-05 6.670836E+00 6.400000E-01
Ni                          -1.098878E+05 9.255640E-05 1.363094E+02 8.000000E+00
N                           -1.505810E+05 2.969613E-06 1.856255E+00 2.600000E-02
Fe                          -7.576171E+04 1.655977E-03 1.584740E+03 8.850300E+01
Total                                                  1.787970E+03 1.000000E+02
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Amount      Phase               Mole fraction of component within phase
compnt moles
                                C               Si              Mn
 1.7880E+03 FCC_A1             0.0014435       0.0049785       0.0210735

                                Cr              Mo              Ni
 1.7880E+03 FCC_A1             0.0051631       0.0037310       0.0762370

                                N               Fe
 1.7880E+03 FCC_A1             0.0010382       0.8863352

Gibbs Energy = -1.4423589688E+08 J   System Enthalpy =  7.4012120936E+07 J
     1473.00
*** MULTIPHASE - Stage 1* Results ***

Temperature =  1473.0000 K

Fixed pressure =  1.013250E+05 Pa,    1.000000E+00 atm

Component      Ref.Phase     Chem.Pot.    Activity     Amount/mol   Mass/kg
C                           -8.451099E+04 1.007390E-03 2.580967E+00 3.100000E-02
Si                          -2.122290E+05 2.980253E-08 8.901390E+00 2.500000E-01
Mn                          -1.386475E+05 1.211964E-05 3.767884E+01 2.070000E+00
Cr                          -1.251985E+05 3.634099E-05 9.231479E+00 4.800000E-01
Mo                          -1.205047E+05 5.331414E-05 6.670836E+00 6.400000E-01
Ni                          -1.148900E+05 8.432233E-05 1.363094E+02 8.000000E+00
N                           -1.562037E+05 2.890267E-06 1.856255E+00 2.600000E-02
Fe                          -7.997115E+04 1.459428E-03 1.584740E+03 8.850300E+01
Total                                                  1.787970E+03 1.000000E+02

Amount      Phase               Mole fraction of component within phase
compnt moles
                                C               Si              Mn
 1.7880E+03 FCC_A1             0.0014435       0.0049785       0.0210735

                                Cr              Mo              Ni
 1.7880E+03 FCC_A1             0.0051631       0.0037310       0.0762370

                                N               Fe
 1.7880E+03 FCC_A1             0.0010382       0.8863352

Gibbs Energy = -1.5196069837E+08 J   System Enthalpy =  7.7255691954E+07 J
     1523.00
*** MULTIPHASE - Stage 1* Results ***

Temperature =  1523.0000 K

Fixed pressure =  1.013250E+05 Pa,    1.000000E+00 atm

Component      Ref.Phase     Chem.Pot.    Activity     Amount/mol   Mass/kg
C                           -8.962818E+04 8.434935E-04 2.580967E+00 3.100000E-02
Si                          -2.166648E+05 3.708433E-08 8.901390E+00 2.500000E-01
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Mn                          -1.445562E+05 1.102178E-05 3.767884E+01 2.070000E+00
Cr                          -1.312919E+05 3.141733E-05 9.231479E+00 4.800000E-01
Mo                          -1.267219E+05 4.507154E-05 6.670836E+00 6.400000E-01
Ni                          -1.199395E+05 7.700412E-05 1.363094E+02 8.000000E+00
N                           -1.619154E+05 2.798295E-06 1.856255E+00 2.600000E-02
Fe                          -8.423701E+04 1.291157E-03 1.584740E+03 8.850300E+01
Total                                                  1.787970E+03 1.000000E+02

Amount      Phase               Mole fraction of component within phase
compnt moles
                                C               Si              Mn
 1.7880E+03 FCC_A1             0.0014435       0.0049785       0.0210735

                                Cr              Mo              Ni
 1.7880E+03 FCC_A1             0.0051631       0.0037310       0.0762370

                                N               Fe
 1.7880E+03 FCC_A1             0.0010382       0.8863352

Gibbs Energy = -1.5979628463E+08 J   System Enthalpy =  8.0538751028E+07 J
     1573.00
*** MULTIPHASE - Stage 1* Results ***

Temperature =  1573.0000 K

Fixed pressure =  1.013250E+05 Pa,    1.000000E+00 atm

Component      Ref.Phase     Chem.Pot.    Activity     Amount/mol   Mass/kg
C                           -9.479315E+04 7.116746E-04 2.580967E+00 3.100000E-02
Si                          -2.211374E+05 4.538088E-08 8.901390E+00 2.500000E-01
Mn                          -1.504968E+05 1.005951E-05 3.767884E+01 2.070000E+00
Cr                          -1.374433E+05 2.729177E-05 9.231479E+00 4.800000E-01
Mo                          -1.329810E+05 3.838926E-05 6.670836E+00 6.400000E-01
Ni                          -1.250506E+05 7.039565E-05 1.363094E+02 8.000000E+00
N                           -1.677214E+05 2.695337E-06 1.856255E+00 2.600000E-02
Fe                          -8.855863E+04 1.146321E-03 1.584740E+03 8.850300E+01
Total                                                  1.787970E+03 1.000000E+02

Amount      Phase               Mole fraction of component within phase
compnt moles
                                C               Si              Mn
 1.7880E+03 FCC_A1             0.0014435       0.0049785       0.0210735

                                Cr              Mo              Ni
 1.7880E+03 FCC_A1             0.0051631       0.0037310       0.0762370

                                N               Fe
 1.7880E+03 FCC_A1             0.0010382       0.8863352

Gibbs Energy = -1.6774032763E+08 J   System Enthalpy =  8.3862434379E+07 J
     1623.00
*** MULTIPHASE - Stage 1* Results ***
```

Temperature = 1623.0000 K

Fixed pressure = 1.013250E+05 Pa,   1.000000E+00 atm

Component	Ref.Phase	Chem.Pot.	Activity	Amount/mol	Mass/kg
C		-9.998947E+04	6.053683E-04	2.580967E+00	3.100000E-02
Si		-2.256609E+05	5.464011E-08	8.901390E+00	2.500000E-01
Mn		-1.565264E+05	9.172363E-06	3.767884E+01	2.070000E+00
Cr		-1.436681E+05	2.378497E-05	9.231479E+00	4.800000E-01
Mo		-1.392963E+05	3.288522E-05	6.670836E+00	6.400000E-01
Ni		-1.302167E+05	6.444840E-05	1.363094E+02	8.000000E+00
N		-1.736036E+05	2.587515E-06	1.856255E+00	2.600000E-02
Fe		-9.294476E+04	1.020330E-03	1.584740E+03	8.850300E+01
Total				1.787970E+03	1.000000E+02

Amount	Phase	Mole fraction of component within phase		
compnt moles				
		C	Si	Mn
1.7880E+03	FCC_A1	0.0014435	0.0049785	0.0210735
		Cr	Mo	Ni
1.7880E+03	FCC_A1	0.0051631	0.0037310	0.0762370
		N	Fe	
1.7880E+03	FCC_A1	0.0010382	0.8863352	

Gibbs Energy = -1.7579068083E+08 J   System Enthalpy = 8.7226986516E+07 J
     1673.00
*** MULTIPHASE - Stage 1* Results ***

Temperature = 1673.0000 K

Fixed pressure = 1.013250E+05 Pa,   1.000000E+00 atm

Component	Ref.Phase	Chem.Pot.	Activity	Amount/mol	Mass/kg
C		-1.052227E+05	5.185660E-04	2.580967E+00	3.100000E-02
Si		-2.302342E+05	6.482998E-08	8.901390E+00	2.500000E-01
Mn		-1.626335E+05	8.362974E-06	3.767884E+01	2.070000E+00
Cr		-1.499658E+05	2.079055E-05	9.231479E+00	4.800000E-01
Mo		-1.456668E+05	2.831953E-05	6.670836E+00	6.400000E-01
Ni		-1.354522E+05	5.902017E-05	1.363094E+02	8.000000E+00
N		-1.795597E+05	2.476877E-06	1.856255E+00	2.600000E-02
Fe		-9.739543E+04	9.102970E-04	1.584740E+03	8.850300E+01
Total				1.787970E+03	1.000000E+02

Amount	Phase	Mole fraction of component within phase		
compnt moles				
		C	Si	Mn
1.7880E+03	FCC_A1	0.0014435	0.0049785	0.0210735
		Cr	Mo	Ni
1.7880E+03	FCC_A1	0.0051631	0.0037310	0.0762370

```
                                N               Fe
 1.7880E+03 FCC_A1             0.0010382       0.8863352

Gibbs Energy = -1.8394531890E+08 J   System Enthalpy =  9.0631883802E+07 J
     1723.00
*** MULTIPHASE - Stage 1* Results ***

Temperature =  1723.0000 K

Fixed pressure =  1.013250E+05 Pa,    1.000000E+00 atm

Component      Ref.Phase     Chem.Pot.    Activity     Amount/mol   Mass/kg
C                           -1.105604E+05 4.449639E-04 2.580967E+00 3.100000E-02
Si                          -2.347705E+05 7.635807E-08 8.901390E+00 2.500000E-01
Mn                          -1.688525E+05 7.606412E-06 3.767884E+01 2.070000E+00
Cr                          -1.562412E+05 1.834408E-05 9.231479E+00 4.800000E-01
Mo                          -1.516476E+05 2.527846E-05 6.670836E+00 6.400000E-01
Ni                          -1.407147E+05 5.422348E-05 1.363094E+02 8.000000E+00
N                           -1.856834E+05 2.349337E-06 1.856255E+00 2.600000E-02
Fe                          -1.018411E+05 8.178082E-04 1.584740E+03 8.850300E+01
Total                                                  1.787970E+03 1.000000E+02

Amount      Phase               Mole fraction of component within phase
compnt moles
                                C               Si              Mn
 1.7880E+03 FCC_A1             0.0014435       0.0049785       0.0210735

                                Cr              Mo              Ni
 1.7880E+03 FCC_A1             0.0051631       0.0037310       0.0762370

                                N               Fe
 1.7880E+03 FCC_A1             0.0010382       0.8863352

Gibbs Energy = -1.9220232460E+08 J   System Enthalpy =  9.4076723783E+07 J
     1773.00
*** MULTIPHASE - Stage 1* Results ***

Temperature =  1773.0000 K

Fixed pressure =  1.013250E+05 Pa,    1.000000E+00 atm

Component      Ref.Phase     Chem.Pot.    Activity     Amount/mol   Mass/kg
C                           -1.370387E+05 9.178736E-05 2.580967E+00 3.100000E-02
Si                          -2.487689E+05 4.689898E-08 8.901390E+00 2.500000E-01
Mn                          -1.796001E+05 5.115695E-06 3.767884E+01 2.070000E+00
Cr                          -1.644968E+05 1.425129E-05 9.231479E+00 4.800000E-01
Mo                          -1.668467E+05 1.215142E-05 6.670836E+00 6.400000E-01
Ni                          -1.479358E+05 4.382790E-05 1.363094E+02 8.000000E+00
N                           -2.009709E+05 1.200368E-06 1.856255E+00 2.600000E-02
Fe                          -1.061938E+05 7.438498E-04 1.584740E+03 8.850300E+01
Total                                                  1.787970E+03 1.000000E+02

Amount      Phase               Mole fraction of component within phase
```

```
compnt moles
                                C               Si              Mn
 1.7880E+03 LIQUID             0.0014435       0.0049785       0.0210735

                                Cr              Mo              Ni
 1.7880E+03 LIQUID             0.0051631       0.0037310       0.0762370

                                N               Fe
 1.7880E+03 LIQUID             0.0010382       0.8863352

Gibbs Energy = -2.0079386191E+08 J   System Enthalpy =  1.2301539785E+08 J
     1823.00
*** MULTIPHASE - Stage 1* Results ***

Temperature =  1823.0000 K

Fixed pressure =  1.013250E+05 Pa,    1.000000E+00 atm

Component      Ref.Phase     Chem.Pot.    Activity     Amount/mol   Mass/kg
C                           -1.423500E+05 8.343193E-05 2.580967E+00 3.100000E-02
Si                          -2.538465E+05 5.329548E-08 8.901390E+00 2.500000E-01
Mn                          -1.865801E+05 4.508515E-06 3.767884E+01 2.070000E+00
Cr                          -1.708904E+05 1.269348E-05 9.231479E+00 4.800000E-01
Mo                          -1.735903E+05 1.062240E-05 6.670836E+00 6.400000E-01
Ni                          -1.537355E+05 3.936488E-05 1.363094E+02 8.000000E+00
N                           -2.075829E+05 1.127854E-06 1.856255E+00 2.600000E-02
Fe                          -1.112169E+05 6.506845E-04 1.584740E+03 8.850300E+01
Total                                                  1.787970E+03 1.000000E+02

Amount      Phase               Mole fraction of component within phase
compnt moles
                                C               Si              Mn
 1.7880E+03 LIQUID             0.0014435       0.0049785       0.0210735

                                Cr              Mo              Ni
 1.7880E+03 LIQUID             0.0051631       0.0037310       0.0762370

                                N               Fe
 1.7880E+03 LIQUID             0.0010382       0.8863352

Gibbs Energy = -2.0998182593E+08 J   System Enthalpy =  1.2706197403E+08 J
     1873.00
*** MULTIPHASE - Stage 1* Results ***

Temperature =  1873.0000 K

Fixed pressure =  1.013250E+05 Pa,    1.000000E+00 atm

Component      Ref.Phase     Chem.Pot.    Activity     Amount/mol   Mass/kg
C                           -1.476913E+05 7.607768E-05 2.580967E+00 3.100000E-02
Si                          -2.589611E+05 6.000905E-08 8.901390E+00 2.500000E-01
Mn                          -1.936289E+05 3.982625E-06 3.767884E+01 2.070000E+00
Cr                          -1.773419E+05 1.133374E-05 9.231479E+00 4.800000E-01
```

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Mo                          -1.803800E+05 9.325007E-06 6.670836E+00 6.400000E-01
Ni                          -1.595930E+05 3.542810E-05 1.363094E+02 8.000000E+00
N                           -2.142193E+05 1.061587E-06 1.856255E+00 2.600000E-02
Fe                          -1.162984E+05 5.711190E-04 1.584740E+03 8.850300E+01
Total                                                  1.787970E+03 1.000000E+02

Amount      Phase               Mole fraction of component within phase
compnt moles
                                C               Si              Mn
 1.7880E+03 LIQUID             0.0014435       0.0049785       0.0210735

                                Cr              Mo              Ni
 1.7880E+03 LIQUID             0.0051631       0.0037310       0.0762370

                                N               Fe
 1.7880E+03 LIQUID             0.0010382       0.8863352

Gibbs Energy = -2.1928146034E+08 J   System Enthalpy =  1.3114058869E+08 J

********************************************************************************
****
10 wt % Ni


 MULTIPHASE OPTION ? set w(6)=10 !
 MULTIPHASE OPTION ? com pr br pr mol !
 NUMBER OF STEPS =  25

     673.000
*** MULTIPHASE - Stage 1* Results ***

Temperature =   673.0000 K

Fixed pressure =  1.013250E+05 Pa,    1.000000E+00 atm

Component      Ref.Phase     Chem.Pot.    Activity     Amount/mol   Mass/kg
C                           -1.352813E+04 8.913456E-02 2.580967E+00 3.100000E-02
Si                          -1.491574E+05 2.651543E-12 8.901390E+00 2.500000E-01
Mn                          -4.295708E+04 4.634322E-04 3.767884E+01 2.070000E+00
Cr                          -4.057894E+04 7.088604E-04 9.231479E+00 4.800000E-01
Mo                          -2.800505E+04 6.705843E-03 6.670836E+00 6.400000E-01
Ni                          -3.170440E+04 3.462082E-03 1.703868E+02 1.000000E+01
N                           -1.147090E+05 1.250625E-09 1.856255E+00 2.600000E-02
Fe                          -2.379275E+04 1.423577E-02 1.548928E+03 8.650300E+01
Total                                                  1.786235E+03 1.000000E+02

Amount      Phase               Mole fraction of component within phase
compnt moles
                                C               Si              Mn
 1.7727E+03 BCC_A2             0.0000003       0.0050213       0.0198547
 4.2686E+00 FCC_A1             0.0643745       0.0000000       0.0000062
 9.2223E+00 CEMENTITE          0.2500000       0.0000000       0.2690776
```

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                                Cr              Mo              Ni
 1.7727E+03 BCC_A2             0.0027039       0.0035560       0.0959582
 4.2686E+00 FCC_A1             0.4282270       0.0724943       0.0000000
 9.2223E+00 CEMENTITE          0.2830291       0.0062418       0.0300864

                                N               Fe
 1.7727E+03 BCC_A2             0.0000000       0.8729056
 4.2686E+00 FCC_A1             0.4348621       0.0000359
 9.2223E+00 CEMENTITE          0.0000000       0.1615651

Gibbs Energy = -4.6003294500E+07 J   System Enthalpy =  2.0600155172E+07 J
     723.000
*** MULTIPHASE - Stage 1* Results ***

Temperature =   723.0000 K

Fixed pressure =  1.013250E+05 Pa,    1.000000E+00 atm

Component      Ref.Phase     Chem.Pot.    Activity     Amount/mol   Mass/kg
C                           -1.203262E+04 1.351140E-01 2.580967E+00 3.100000E-02
Si                          -1.524098E+05 9.752427E-12 8.901390E+00 2.500000E-01
Mn                          -4.791784E+04 3.452733E-04 3.767884E+01 2.070000E+00
Cr                          -4.506139E+04 5.553007E-04 9.231479E+00 4.800000E-01
Mo                          -3.347339E+04 3.816858E-03 6.670836E+00 6.400000E-01
Ni                          -3.565066E+04 2.657104E-03 1.703868E+02 1.000000E+01
N                           -1.143442E+05 5.484953E-09 1.856255E+00 2.600000E-02
Fe                          -2.643719E+04 1.230378E-02 1.548928E+03 8.650300E+01
Total                                                  1.786235E+03 1.000000E+02

Amount      Phase               Mole fraction of component within phase
compnt moles
                                C               Si              Mn
 1.7729E+03 BCC_A2             0.0000020       0.0050209       0.0200583
 4.3812E+00 FCC_A1             0.0753873       0.0000000       0.0000129
 8.9883E+00 CEMENTITE          0.2500000       0.0000000       0.2356491

                                Cr              Mo              Ni
 1.7729E+03 BCC_A2             0.0029920       0.0035275       0.0959477
 4.3812E+00 FCC_A1             0.4243875       0.0764586       0.0000000
 8.9883E+00 CEMENTITE          0.2300503       0.0091255       0.0316486

                                N               Fe
 1.7729E+03 BCC_A2             0.0000000       0.8724515
 4.3812E+00 FCC_A1             0.4236835       0.0000701
 8.9883E+00 CEMENTITE          0.0000000       0.2435264

Gibbs Energy = -5.1068872622E+07 J   System Enthalpy =  2.3868176124E+07 J
     773.000
*** MULTIPHASE - Stage 1* Results ***

Temperature =   773.0000 K

Fixed pressure =  1.013250E+05 Pa,    1.000000E+00 atm
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```
Component      Ref.Phase     Chem.Pot.    Activity     Amount/mol   Mass/kg
C                           -9.043333E+03 2.448623E-01 2.580967E+00 3.100000E-02
Si                          -1.616672E+05 1.190668E-11 8.901390E+00 2.500000E-01
Mn                          -6.344302E+04 5.164341E-05 3.767884E+01 2.070000E+00
Cr                          -4.758040E+04 6.093780E-04 9.231479E+00 4.800000E-01
Mo                          -4.057415E+04 1.812653E-03 6.670836E+00 6.400000E-01
Ni                          -4.618057E+04 7.576636E-04 1.703868E+02 1.000000E+01
N                           -7.254174E+04 1.253702E-05 1.856255E+00 2.600000E-02
Fe                          -2.870904E+04 1.148330E-02 1.548928E+03 8.650300E+01
Total                                                  1.786235E+03 1.000000E+02

Amount      Phase              Mole fraction of component within phase
compnt moles
                               C              Si             Mn
 1.2869E+03 BCC_A2            0.0000135      0.0069108      0.0022367
 4.9308E+02 FCC_A1            0.0020374      0.0000157      0.0699844
 6.2359E+00 CEMENTITE         0.2500000      0.0000000      0.0468644

                               Cr             Mo             Ni
 1.2869E+03 BCC_A2            0.0033942      0.0026620      0.0293817
 4.9308E+02 FCC_A1            0.0062059      0.0064923      0.2687210
 6.2359E+00 CEMENTITE         0.2891981      0.0070408      0.0117637

                               N              Fe
 1.2869E+03 BCC_A2            0.0000668      0.9553343
 4.9308E+02 FCC_A1            0.0035902      0.6429531
 6.2359E+00 CEMENTITE         0.0000000      0.3951331

Gibbs Energy = -5.7033827750E+07 J   System Enthalpy =  2.6475590022E+07 J
     823.000
*** MULTIPHASE - Stage 1* Results ***

Temperature =   823.0000 K

Fixed pressure =  1.013250E+05 Pa,    1.000000E+00 atm

Component      Ref.Phase     Chem.Pot.    Activity     Amount/mol   Mass/kg
C                           -1.120188E+04 1.945588E-01 2.580967E+00 3.100000E-02
Si                          -1.637648E+05 4.039673E-11 8.901390E+00 2.500000E-01
Mn                          -6.783194E+04 4.953496E-05 3.767884E+01 2.070000E+00
Cr                          -5.167522E+04 5.252062E-04 9.231479E+00 4.800000E-01
Mo                          -4.649403E+04 1.119861E-03 6.670836E+00 6.400000E-01
Ni                          -5.092283E+04 5.862487E-04 1.703868E+02 1.000000E+01
N                           -8.099874E+04 7.231939E-06 1.856255E+00 2.600000E-02
Fe                          -3.158489E+04 9.894694E-03 1.548928E+03 8.650300E+01
Total                                                  1.786235E+03 1.000000E+02

Amount      Phase              Mole fraction of component within phase
compnt moles
                               C              Si             Mn
 1.1101E+03 BCC_A2            0.0000319      0.0079184      0.0030119
 6.7617E+02 FCC_A1            0.0037647      0.0001648      0.0507796
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                                Cr              Mo              Ni
 1.1101E+03 BCC_A2             0.0040649       0.0025891       0.0291640
 6.7617E+02 FCC_A1             0.0069794       0.0056151       0.2041104

                                N               Fe
 1.1101E+03 BCC_A2             0.0000576       0.9531623
 6.7617E+02 FCC_A1             0.0026508       0.7259353

Gibbs Energy = -6.2578268739E+07 J   System Enthalpy =  3.1081239529E+07 J
     873.000
*** MULTIPHASE - Stage 1* Results ***

Temperature =   873.0000 K

Fixed pressure =  1.013250E+05 Pa,    1.000000E+00 atm

Component      Ref.Phase     Chem.Pot.    Activity     Amount/mol   Mass/kg
C                           -1.958450E+04 6.733184E-02 2.580967E+00 3.100000E-02
Si                          -1.653301E+05 1.282248E-10 8.901390E+00 2.500000E-01
Mn                          -7.295156E+04 4.316813E-05 3.767884E+01 2.070000E+00
Cr                          -5.717462E+04 3.794278E-04 9.231479E+00 4.800000E-01
Mo                          -5.194290E+04 7.801058E-04 6.670836E+00 6.400000E-01
Ni                          -5.598789E+04 4.468209E-04 1.703868E+02 1.000000E+01
N                           -8.901438E+04 4.721644E-06 1.856255E+00 2.600000E-02
Fe                          -3.458165E+04 8.529258E-03 1.548928E+03 8.650300E+01
Total                                                  1.786235E+03 1.000000E+02

Amount      Phase               Mole fraction of component within phase
compnt moles
                                C               Si              Mn
 8.2032E+02 BCC_A2             0.0000285       0.0097779       0.0036878
 9.6591E+02 FCC_A1             0.0026479       0.0009114       0.0358765

                                Cr              Mo              Ni
 8.2032E+02 BCC_A2             0.0039647       0.0027086       0.0278836
 9.6591E+02 FCC_A1             0.0061901       0.0046059       0.1527188

                                N               Fe
 8.2032E+02 BCC_A2             0.0000531       0.9518958
 9.6591E+02 FCC_A1             0.0018767       0.7951726

Gibbs Energy = -6.8414330418E+07 J   System Enthalpy =  3.6098824509E+07 J
     923.000
*** MULTIPHASE - Stage 1* Results ***

Temperature =   923.0000 K

Fixed pressure =  1.013250E+05 Pa,    1.000000E+00 atm

Component      Ref.Phase     Chem.Pot.    Activity     Amount/mol   Mass/kg
C                           -2.847386E+04 2.447039E-02 2.580967E+00 3.100000E-02
Si                          -1.659810E+05 4.045742E-10 8.901390E+00 2.500000E-01
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Mn                          -7.900483E+04 3.381056E-05 3.767884E+01 2.070000E+00
Cr                          -6.277131E+04 2.803628E-04 9.231479E+00 4.800000E-01
Mo                          -5.697682E+04 5.965343E-04 6.670836E+00 6.400000E-01
Ni                          -6.148236E+04 3.316370E-04 1.703868E+02 1.000000E+01
N                           -9.729955E+04 3.117018E-06 1.856255E+00 2.600000E-02
Fe                          -3.771373E+04 7.340897E-03 1.548928E+03 8.650300E+01
Total                                                  1.786235E+03 1.000000E+02

Amount      Phase              Mole fraction of component within phase
compnt moles
                               C              Si             Mn
 3.0507E+02 BCC_A2            0.0000240      0.0132891      0.0041204
 1.4812E+03 FCC_A1            0.0017376      0.0032726      0.0245900

                               Cr             Mo             Ni
 3.0507E+02 BCC_A2            0.0038684      0.0029620      0.0252731
 1.4812E+03 FCC_A1            0.0054358      0.0038937      0.1098304

                               N              Fe
 3.0507E+02 BCC_A2            0.0000484      0.9504147
 1.4812E+03 FCC_A1            0.0012433      0.8499966

Gibbs Energy = -7.4558915024E+07 J   System Enthalpy =  4.1885712077E+07 J
     973.000
*** MULTIPHASE - Stage 1* Results ***

Temperature =   973.0000 K

Fixed pressure =  1.013250E+05 Pa,    1.000000E+00 atm

Component      Ref.Phase     Chem.Pot.    Activity     Amount/mol   Mass/kg
C                           -3.488086E+04 1.341218E-02 2.580967E+00 3.100000E-02
Si                          -1.682008E+05 9.343654E-10 8.901390E+00 2.500000E-01
Mn                          -8.471313E+04 2.833777E-05 3.767884E+01 2.070000E+00
Cr                          -6.816390E+04 2.191663E-04 9.231479E+00 4.800000E-01
Mo                          -6.206182E+04 4.659617E-04 6.670836E+00 6.400000E-01
Ni                          -6.630892E+04 2.756478E-04 1.703868E+02 1.000000E+01
N                           -1.034081E+05 2.810399E-06 1.856255E+00 2.600000E-02
Fe                          -4.111727E+04 6.204572E-03 1.548928E+03 8.650300E+01
Total                                                  1.786235E+03 1.000000E+02

Amount      Phase              Mole fraction of component within phase
compnt moles
                               C              Si             Mn
 1.7862E+03 FCC_A1            0.0014449      0.0049833      0.0210940

                               Cr             Mo             Ni
 1.7862E+03 FCC_A1            0.0051681      0.0037346      0.0953888

                               N              Fe
 1.7862E+03 FCC_A1            0.0010392      0.8671471

Gibbs Energy = -8.1002209704E+07 J   System Enthalpy =  4.6131767774E+07 J
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```
     1023.00
*** MULTIPHASE - Stage 1* Results ***

Temperature =  1023.0000 K

Fixed pressure =  1.013250E+05 Pa,    1.000000E+00 atm

Component      Ref.Phase     Chem.Pot.    Activity     Amount/mol   Mass/kg
C                           -3.952693E+04 9.589493E-03 2.580967E+00 3.100000E-02
Si                          -1.721093E+05 1.630338E-09 8.901390E+00 2.500000E-01
Mn                          -8.980053E+04 2.599429E-05 3.767884E+01 2.070000E+00
Cr                          -7.353956E+04 1.758516E-04 9.231479E+00 4.800000E-01
Mo                          -6.756142E+04 3.551270E-04 6.670836E+00 6.400000E-01
Ni                          -7.057115E+04 2.492929E-04 1.703868E+02 1.000000E+01
N                           -1.081021E+05 3.022850E-06 1.856255E+00 2.600000E-02
Fe                          -4.470212E+04 5.218625E-03 1.548928E+03 8.650300E+01
Total                                                  1.786235E+03 1.000000E+02

Amount      Phase               Mole fraction of component within phase
compnt moles
                                C               Si              Mn
 1.7862E+03 FCC_A1             0.0014449       0.0049833       0.0210940

                                Cr              Mo              Ni
 1.7862E+03 FCC_A1             0.0051681       0.0037346       0.0953888

                                N               Fe
 1.7862E+03 FCC_A1             0.0010392       0.8671471

Gibbs Energy = -8.7608112283E+07 J   System Enthalpy =  4.9020267272E+07 J
     1073.00
*** MULTIPHASE - Stage 1* Results ***

Temperature =  1073.0000 K

Fixed pressure =  1.013250E+05 Pa,    1.000000E+00 atm

Component      Ref.Phase     Chem.Pot.    Activity     Amount/mol   Mass/kg
C                           -4.422218E+04 7.035211E-03 2.580967E+00 3.100000E-02
Si                          -1.760985E+05 2.676563E-09 8.901390E+00 2.500000E-01
Mn                          -9.498016E+04 2.378997E-05 3.767884E+01 2.070000E+00
Cr                          -7.899618E+04 1.427214E-04 9.231479E+00 4.800000E-01
Mo                          -7.313361E+04 2.753450E-04 6.670836E+00 6.400000E-01
Ni                          -7.491291E+04 2.255598E-04 1.703868E+02 1.000000E+01
N                           -1.129144E+05 3.186852E-06 1.856255E+00 2.600000E-02
Fe                          -4.835857E+04 4.425057E-03 1.548928E+03 8.650300E+01
Total                                                  1.786235E+03 1.000000E+02

Amount      Phase               Mole fraction of component within phase
compnt moles
                                C               Si              Mn
 1.7862E+03 FCC_A1             0.0014449       0.0049833       0.0210940
```

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                                Cr              Mo              Ni
 1.7862E+03 FCC_A1             0.0051681       0.0037346       0.0953888

                                N               Fe
 1.7862E+03 FCC_A1             0.0010392       0.8671471

Gibbs Energy = -9.4356184341E+07 J   System Enthalpy =  5.1947656156E+07 J
     1123.00
*** MULTIPHASE - Stage 1* Results ***

Temperature =  1123.0000 K

Fixed pressure =  1.013250E+05 Pa,    1.000000E+00 atm

Component      Ref.Phase     Chem.Pot.    Activity     Amount/mol   Mass/kg
C                           -4.897107E+04 5.275242E-03 2.580967E+00 3.100000E-02
Si                          -1.801417E+05 4.180164E-09 8.901390E+00 2.500000E-01
Mn                          -1.002446E+05 2.174660E-05 3.767884E+01 2.070000E+00
Cr                          -8.452725E+04 1.170691E-04 9.231479E+00 4.800000E-01
Mo                          -7.877108E+04 2.168578E-04 6.670836E+00 6.400000E-01
Ni                          -7.932411E+04 2.043867E-04 1.703868E+02 1.000000E+01
N                           -1.178442E+05 3.302145E-06 1.856255E+00 2.600000E-02
Fe                          -5.209857E+04 3.773767E-03 1.548928E+03 8.650300E+01
Total                                                  1.786235E+03 1.000000E+02

Amount      Phase               Mole fraction of component within phase
compnt moles
                                C               Si              Mn
 1.7862E+03 FCC_A1             0.0014449       0.0049833       0.0210940

                                Cr              Mo              Ni
 1.7862E+03 FCC_A1             0.0051681       0.0037346       0.0953888

                                N               Fe
 1.7862E+03 FCC_A1             0.0010392       0.8671471

Gibbs Energy = -1.0124160944E+08 J   System Enthalpy =  5.4913931706E+07 J
     1173.00
*** MULTIPHASE - Stage 1* Results ***

Temperature =  1173.0000 K

Fixed pressure =  1.013250E+05 Pa,    1.000000E+00 atm

Component      Ref.Phase     Chem.Pot.    Activity     Amount/mol   Mass/kg
C                           -5.376985E+04 4.033160E-03 2.580967E+00 3.100000E-02
Si                          -1.842451E+05 6.246322E-09 8.901390E+00 2.500000E-01
Mn                          -1.055937E+05 1.985838E-05 3.767884E+01 2.070000E+00
Cr                          -9.013350E+04 9.691336E-05 9.231479E+00 4.800000E-01
Mo                          -8.447377E+04 1.731448E-04 6.670836E+00 6.400000E-01
Ni                          -8.381327E+04 1.852770E-04 1.703868E+02 1.000000E+01
N                           -1.228843E+05 3.372879E-06 1.856255E+00 2.600000E-02
Fe                          -5.591004E+04 3.238498E-03 1.548928E+03 8.650300E+01
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```
Total                                                 1.786235E+03 1.000000E+02

Amount      Phase               Mole fraction of component within phase
compnt moles
                                C               Si              Mn
 1.7862E+03 FCC_A1             0.0014449       0.0049833       0.0210940

                                Cr              Mo              Ni
 1.7862E+03 FCC_A1             0.0051681       0.0037346       0.0953888

                                N               Fe
 1.7862E+03 FCC_A1             0.0010392       0.8671471

Gibbs Energy = -1.0826000100E+08 J   System Enthalpy =  5.7919119189E+07 J
     1223.00
*** MULTIPHASE - Stage 1* Results ***

Temperature =  1223.0000 K

Fixed pressure =  1.013250E+05 Pa,    1.000000E+00 atm

Component      Ref.Phase     Chem.Pot.    Activity     Amount/mol   Mass/kg
C                           -5.861810E+04 3.136672E-03 2.580967E+00 3.100000E-02
Si                          -1.884050E+05 8.982124E-09 8.901390E+00 2.500000E-01
Mn                          -1.110244E+05 1.812342E-05 3.767884E+01 2.070000E+00
Cr                          -9.581198E+04 8.090017E-05 9.231479E+00 4.800000E-01
Mo                          -9.023793E+04 1.399627E-04 6.670836E+00 6.400000E-01
Ni                          -8.837071E+04 1.681744E-04 1.703868E+02 1.000000E+01
N                           -1.280319E+05 3.403020E-06 1.856255E+00 2.600000E-02
Fe                          -5.979249E+04 2.794550E-03 1.548928E+03 8.650300E+01
Total                                                  1.786235E+03 1.000000E+02

Amount      Phase               Mole fraction of component within phase
compnt moles
                                C               Si              Mn
 1.7862E+03 FCC_A1             0.0014449       0.0049833       0.0210940

                                Cr              Mo              Ni
 1.7862E+03 FCC_A1             0.0051681       0.0037346       0.0953888

                                N               Fe
 1.7862E+03 FCC_A1             0.0010392       0.8671471

Gibbs Energy = -1.1540734832E+08 J   System Enthalpy =  6.0963266260E+07 J
     1273.00
*** MULTIPHASE - Stage 1* Results ***

Temperature =  1273.0000 K

Fixed pressure =  1.013250E+05 Pa,    1.000000E+00 atm

Component      Ref.Phase     Chem.Pot.    Activity     Amount/mol   Mass/kg
C                           -6.351023E+04 2.477814E-03 2.580967E+00 3.100000E-02
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Si                          -1.926256E+05 1.248095E-08 8.901390E+00 2.500000E-01
Mn                          -1.165485E+05 1.651271E-05 3.767884E+01 2.070000E+00
Cr                          -1.015677E+05 6.799981E-05 9.231479E+00 4.800000E-01
Mo                          -9.606778E+04 1.143347E-04 6.670836E+00 6.400000E-01
Ni                          -9.300551E+04 1.526961E-04 1.703868E+02 1.000000E+01
N                           -1.332766E+05 3.399691E-06 1.856255E+00 2.600000E-02
Fe                          -6.374552E+04 2.423340E-03 1.548928E+03 8.650300E+01
Total                                                  1.786235E+03 1.000000E+02

Amount      Phase               Mole fraction of component within phase
compnt moles
                                C               Si              Mn
 1.7862E+03 FCC_A1             0.0014449       0.0049833       0.0210940

                                Cr              Mo              Ni
 1.7862E+03 FCC_A1             0.0051681       0.0037346       0.0953888

                                N               Fe
 1.7862E+03 FCC_A1             0.0010392       0.8671471

Gibbs Energy = -1.2267997126E+08 J   System Enthalpy =  6.4046438598E+07 J
     1323.00
*** MULTIPHASE - Stage 1* Results ***

Temperature =  1323.0000 K

Fixed pressure =  1.013250E+05 Pa,    1.000000E+00 atm

Component      Ref.Phase     Chem.Pot.    Activity     Amount/mol   Mass/kg
C                           -6.845242E+04 1.983499E-03 2.580967E+00 3.100000E-02
Si                          -1.968916E+05 1.684727E-08 8.901390E+00 2.500000E-01
Mn                          -1.221232E+05 1.508190E-05 3.767884E+01 2.070000E+00
Cr                          -1.073859E+05 5.758386E-05 9.231479E+00 4.800000E-01
Mo                          -1.019478E+05 9.440680E-05 6.670836E+00 6.400000E-01
Ni                          -9.769446E+04 1.389722E-04 1.703868E+02 1.000000E+01
N                           -1.386283E+05 3.363728E-06 1.856255E+00 2.600000E-02
Fe                          -6.776865E+04 2.110707E-03 1.548928E+03 8.650300E+01
Total                                                  1.786235E+03 1.000000E+02

Amount      Phase               Mole fraction of component within phase
compnt moles
                                C               Si              Mn
 1.7862E+03 FCC_A1             0.0014449       0.0049833       0.0210940

                                Cr              Mo              Ni
 1.7862E+03 FCC_A1             0.0051681       0.0037346       0.0953888

                                N               Fe
 1.7862E+03 FCC_A1             0.0010392       0.8671471

Gibbs Energy = -1.3007448186E+08 J   System Enthalpy =  6.7168716710E+07 J
     1373.00
*** MULTIPHASE - Stage 1* Results ***
```

Temperature = 1373.0000 K

Fixed pressure = 1.013250E+05 Pa,   1.000000E+00 atm

Component	Ref.Phase	Chem.Pot.	Activity	Amount/mol	Mass/kg
C		-7.343367E+04	1.608228E-03	2.580967E+00	3.100000E-02
Si		-2.012166E+05	2.213473E-08	8.901390E+00	2.500000E-01
Mn		-1.277894E+05	1.375564E-05	3.767884E+01	2.070000E+00
Cr		-1.132812E+05	4.902520E-05	9.231479E+00	4.800000E-01
Mo		-1.078917E+05	7.860547E-05	6.670836E+00	6.400000E-01
Ni		-1.024617E+05	1.264824E-04	1.703868E+02	1.000000E+01
N		-1.440680E+05	3.305140E-06	1.856255E+00	2.600000E-02
Fe		-7.185929E+04	1.846045E-03	1.548928E+03	8.650300E+01
Total				1.786235E+03	1.000000E+02

Amount	Phase	Mole fraction of component within phase		
compnt moles				
		C	Si	Mn
1.7862E+03	FCC_A1	0.0014449	0.0049833	0.0210940
		Cr	Mo	Ni
1.7862E+03	FCC_A1	0.0051681	0.0037346	0.0953888
		N	Fe	
1.7862E+03	FCC_A1	0.0010392	0.8671471	

Gibbs Energy = -1.3758775174E+08 J   System Enthalpy = 7.0330193168E+07 J
     1423.00
*** MULTIPHASE - Stage 1* Results ***

Temperature = 1423.0000 K

Fixed pressure = 1.013250E+05 Pa,   1.000000E+00 atm

Component	Ref.Phase	Chem.Pot.	Activity	Amount/mol	Mass/kg
C		-7.846218E+04	1.318043E-03	2.580967E+00	3.100000E-02
Si		-2.055885E+05	2.841647E-08	8.901390E+00	2.500000E-01
Mn		-1.335275E+05	1.255088E-05	3.767884E+01	2.070000E+00
Cr		-1.192422E+05	4.197972E-05	9.231479E+00	4.800000E-01
Mo		-1.138874E+05	6.600773E-05	6.670836E+00	6.400000E-01
Ni		-1.072837E+05	1.153436E-04	1.703868E+02	1.000000E+01
N		-1.496033E+05	3.225447E-06	1.856255E+00	2.600000E-02
Fe		-7.601119E+04	1.621425E-03	1.548928E+03	8.650300E+01
Total				1.786235E+03	1.000000E+02

Amount	Phase	Mole fraction of component within phase		
compnt moles				
		C	Si	Mn
1.7862E+03	FCC_A1	0.0014449	0.0049833	0.0210940
		Cr	Mo	Ni
1.7862E+03	FCC_A1	0.0051681	0.0037346	0.0953888

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                                N               Fe
 1.7862E+03 FCC_A1             0.0010392       0.8671471

Gibbs Energy = -1.4521688407E+08 J   System Enthalpy =  7.3530970654E+07 J
     1473.00
*** MULTIPHASE - Stage 1* Results ***

Temperature =  1473.0000 K

Fixed pressure =  1.013250E+05 Pa,    1.000000E+00 atm

Component      Ref.Phase     Chem.Pot.    Activity     Amount/mol   Mass/kg
C                           -8.352362E+04 1.091969E-03 2.580967E+00 3.100000E-02
Si                          -2.100186E+05 3.569725E-08 8.901390E+00 2.500000E-01
Mn                          -1.393544E+05 1.143993E-05 3.767884E+01 2.070000E+00
Cr                          -1.252810E+05 3.609700E-05 9.231479E+00 4.800000E-01
Mo                          -1.199462E+05 5.580149E-05 6.670836E+00 6.400000E-01
Ni                          -1.121824E+05 1.051856E-04 1.703868E+02 1.000000E+01
N                           -1.552181E+05 3.132482E-06 1.856255E+00 2.600000E-02
Fe                          -8.023239E+04 1.428627E-03 1.548928E+03 8.650300E+01
Total                                                  1.786235E+03 1.000000E+02

Amount      Phase               Mole fraction of component within phase
compnt moles
                                C               Si              Mn
 1.7862E+03 FCC_A1             0.0014449       0.0049833       0.0210940

                                Cr              Mo              Ni
 1.7862E+03 FCC_A1             0.0051681       0.0037346       0.0953888

                                N               Fe
 1.7862E+03 FCC_A1             0.0010392       0.8671471

Gibbs Energy = -1.5295918949E+08 J   System Enthalpy =  7.6771160340E+07 J
     1523.00
*** MULTIPHASE - Stage 1* Results ***

Temperature =  1523.0000 K

Fixed pressure =  1.013250E+05 Pa,    1.000000E+00 atm

Component      Ref.Phase     Chem.Pot.    Activity     Amount/mol   Mass/kg
C                           -8.863967E+04 9.119774E-04 2.580967E+00 3.100000E-02
Si                          -2.144818E+05 4.406156E-08 8.901390E+00 2.500000E-01
Mn                          -1.452206E+05 1.045837E-05 3.767884E+01 2.070000E+00
Cr                          -1.313735E+05 3.121543E-05 9.231479E+00 4.800000E-01
Mo                          -1.260432E+05 4.755316E-05 6.670836E+00 6.400000E-01
Ni                          -1.171234E+05 9.618292E-05 1.703868E+02 1.000000E+01
N                           -1.609334E+05 3.023945E-06 1.856255E+00 2.600000E-02
Fe                          -8.450613E+04 1.264007E-03 1.548928E+03 8.650300E+01
Total                                                  1.786235E+03 1.000000E+02
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Amount      Phase               Mole fraction of component within phase
compnt moles
                                C               Si              Mn
 1.7862E+03 FCC_A1             0.0014449       0.0049833       0.0210940

                                Cr              Mo              Ni
 1.7862E+03 FCC_A1             0.0051681       0.0037346       0.0953888

                                N               Fe
 1.7862E+03 FCC_A1             0.0010392       0.8671471

Gibbs Energy = -1.6081216569E+08 J   System Enthalpy =  8.0050887197E+07 J
     1573.00
*** MULTIPHASE - Stage 1* Results ***

Temperature =  1573.0000 K

Fixed pressure =  1.013250E+05 Pa,    1.000000E+00 atm

Component      Ref.Phase     Chem.Pot.    Activity     Amount/mol   Mass/kg
C                           -9.378150E+04 7.689086E-04 2.580967E+00 3.100000E-02
Si                          -2.190057E+05 5.341436E-08 8.901390E+00 2.500000E-01
Mn                          -1.511838E+05 9.544690E-06 3.767884E+01 2.070000E+00
Cr                          -1.375481E+05 2.707410E-05 9.231479E+00 4.800000E-01
Mo                          -1.322060E+05 4.073280E-05 6.670836E+00 6.400000E-01
Ni                          -1.221471E+05 8.789470E-05 1.703868E+02 1.000000E+01
N                           -1.667177E+05 2.910329E-06 1.856255E+00 2.600000E-02
Fe                          -8.884714E+04 1.121310E-03 1.548928E+03 8.650300E+01
Total                                                  1.786235E+03 1.000000E+02

Amount      Phase               Mole fraction of component within phase
compnt moles
                                C               Si              Mn
 1.7862E+03 FCC_A1             0.0014449       0.0049833       0.0210940

                                Cr              Mo              Ni
 1.7862E+03 FCC_A1             0.0051681       0.0037346       0.0953888

                                N               Fe
 1.7862E+03 FCC_A1             0.0010392       0.8671471

Gibbs Energy = -1.6877348999E+08 J   System Enthalpy =  8.3371285142E+07 J
     1623.00
*** MULTIPHASE - Stage 1* Results ***

Temperature =  1623.0000 K

Fixed pressure =  1.013250E+05 Pa,    1.000000E+00 atm

Component      Ref.Phase     Chem.Pot.    Activity     Amount/mol   Mass/kg
C                           -9.897358E+04 6.527007E-04 2.580967E+00 3.100000E-02
Si                          -2.235639E+05 6.382648E-08 8.901390E+00 2.500000E-01
Mn                          -1.572008E+05 8.725204E-06 3.767884E+01 2.070000E+00
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Cr                          -1.437792E+05 2.358990E-05 9.231479E+00 4.800000E-01
Mo                          -1.384083E+05 3.512192E-05 6.670836E+00 6.400000E-01
Ni                          -1.272052E+05 8.056175E-05 1.703868E+02 1.000000E+01
N                           -1.725936E+05 2.788597E-06 1.856255E+00 2.600000E-02
Fe                          -9.324383E+04 9.979663E-04 1.548928E+03 8.650300E+01
Total                                                  1.786235E+03 1.000000E+02

Amount      Phase               Mole fraction of component within phase
compnt moles
                                C               Si              Mn
 1.7862E+03 FCC_A1             0.0014449       0.0049833       0.0210940

                                Cr              Mo              Ni
 1.7862E+03 FCC_A1             0.0051681       0.0037346       0.0953888

                                N               Fe
 1.7862E+03 FCC_A1             0.0010392       0.8671471

Gibbs Energy = -1.7684102075E+08 J   System Enthalpy =  8.6732596225E+07 J
     1673.00
*** MULTIPHASE - Stage 1* Results ***

Temperature =  1673.0000 K

Fixed pressure =  1.013250E+05 Pa,    1.000000E+00 atm

Component      Ref.Phase     Chem.Pot.    Activity     Amount/mol   Mass/kg
C                           -1.042004E+05 5.581143E-04 2.580967E+00 3.100000E-02
Si                          -2.281708E+05 7.519660E-08 8.901390E+00 2.500000E-01
Mn                          -1.632892E+05 7.977950E-06 3.767884E+01 2.070000E+00
Cr                          -1.500823E+05 2.061712E-05 9.231479E+00 4.800000E-01
Mo                          -1.446648E+05 3.043465E-05 6.670836E+00 6.400000E-01
Ni                          -1.323369E+05 7.383522E-05 1.703868E+02 1.000000E+01
N                           -1.785433E+05 2.664634E-06 1.856255E+00 2.600000E-02
Fe                          -9.769998E+04 8.905835E-04 1.548928E+03 8.650300E+01
Total                                                  1.786235E+03 1.000000E+02

Amount      Phase               Mole fraction of component within phase
compnt moles
                                C               Si              Mn
 1.7862E+03 FCC_A1             0.0014449       0.0049833       0.0210940

                                Cr              Mo              Ni
 1.7862E+03 FCC_A1             0.0051681       0.0037346       0.0953888

                                N               Fe
 1.7862E+03 FCC_A1             0.0010392       0.8671471

Gibbs Energy = -1.8501273715E+08 J   System Enthalpy =  9.0134294301E+07 J
     1723.00
*** MULTIPHASE - Stage 1* Results ***

Temperature =  1723.0000 K
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Fixed pressure =  1.013250E+05 Pa,    1.000000E+00 atm

Component      Ref.Phase     Chem.Pot.    Activity     Amount/mol   Mass/kg
C                           -1.094586E+05 4.805366E-04 2.580967E+00 3.100000E-02
Si                          -2.328223E+05 8.748111E-08 8.901390E+00 2.500000E-01
Mn                          -1.694551E+05 7.293091E-06 3.767884E+01 2.070000E+00
Cr                          -1.564547E+05 1.807272E-05 9.231479E+00 4.800000E-01
Mo                          -1.509723E+05 2.649860E-05 6.670836E+00 6.400000E-01
Ni                          -1.375200E+05 6.776964E-05 1.703868E+02 1.000000E+01
N                           -1.845669E+05 2.539765E-06 1.856255E+00 2.600000E-02
Fe                          -1.022138E+05 7.968094E-04 1.548928E+03 8.650300E+01
Total                                                  1.786235E+03 1.000000E+02

Amount      Phase               Mole fraction of component within phase
compnt moles
                                C               Si              Mn
 1.7862E+03 FCC_A1             0.0014449       0.0049833       0.0210940

                                Cr              Mo              Ni
 1.7862E+03 FCC_A1             0.0051681       0.0037346       0.0953888

                                N               Fe
 1.7862E+03 FCC_A1             0.0010392       0.8671471

Gibbs Energy = -1.9328672616E+08 J   System Enthalpy =  9.3575974275E+07 J
     1773.00
*** MULTIPHASE - Stage 1* Results ***

Temperature =  1773.0000 K

Fixed pressure =  1.013250E+05 Pa,    1.000000E+00 atm

Component      Ref.Phase     Chem.Pot.    Activity     Amount/mol   Mass/kg
C                           -1.365019E+05 9.519115E-05 2.580967E+00 3.100000E-02
Si                          -2.469304E+05 5.312837E-08 8.901390E+00 2.500000E-01
Mn                          -1.804485E+05 4.829604E-06 3.767884E+01 2.070000E+00
Cr                          -1.644538E+05 1.429292E-05 9.231479E+00 4.800000E-01
Mo                          -1.660383E+05 1.283636E-05 6.670836E+00 6.400000E-01
Ni                          -1.446067E+05 5.493193E-05 1.703868E+02 1.000000E+01
N                           -1.997989E+05 1.299690E-06 1.856255E+00 2.600000E-02
Fe                          -1.065098E+05 7.280779E-04 1.548928E+03 8.650300E+01
Total                                                  1.786235E+03 1.000000E+02

Amount      Phase               Mole fraction of component within phase
compnt moles
                                C               Si              Mn
 1.7862E+03 LIQUID             0.0014449       0.0049833       0.0210940

                                Cr              Mo              Ni
 1.7862E+03 LIQUID             0.0051681       0.0037346       0.0953888

                                N               Fe
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```
 1.7862E+03 LIQUID             0.0010392       0.8671471

Gibbs Energy = -2.0196770565E+08 J   System Enthalpy =  1.2240533117E+08 J
     1823.00
*** MULTIPHASE - Stage 1* Results ***

Temperature =  1823.0000 K

Fixed pressure =  1.013250E+05 Pa,    1.000000E+00 atm

Component      Ref.Phase     Chem.Pot.    Activity     Amount/mol   Mass/kg
C                           -1.418146E+05 8.643168E-05 2.580967E+00 3.100000E-02
Si                          -2.520612E+05 5.995743E-08 8.901390E+00 2.500000E-01
Mn                          -1.874161E+05 4.266585E-06 3.767884E+01 2.070000E+00
Cr                          -1.708614E+05 1.271776E-05 9.231479E+00 4.800000E-01
Mo                          -1.727710E+05 1.121235E-05 6.670836E+00 6.400000E-01
Ni                          -1.503126E+05 4.933838E-05 1.703868E+02 1.000000E+01
N                           -2.064008E+05 1.219335E-06 1.856255E+00 2.600000E-02
Fe                          -1.115491E+05 6.365774E-04 1.548928E+03 8.650300E+01
Total                                                  1.786235E+03 1.000000E+02

Amount      Phase               Mole fraction of component within phase
compnt moles
                                C               Si              Mn
 1.7862E+03 LIQUID             0.0014449       0.0049833       0.0210940

                                Cr              Mo              Ni
 1.7862E+03 LIQUID             0.0051681       0.0037346       0.0953888

                                N               Fe
 1.7862E+03 LIQUID             0.0010392       0.8671471

Gibbs Energy = -2.1117145925E+08 J   System Enthalpy =  1.2644368807E+08 J
     1873.00
*** MULTIPHASE - Stage 1* Results ***

Temperature =  1873.0000 K

Fixed pressure =  1.013250E+05 Pa,    1.000000E+00 atm

Component      Ref.Phase     Chem.Pot.    Activity     Amount/mol   Mass/kg
C                           -1.471530E+05 7.875313E-05 2.580967E+00 3.100000E-02
Si                          -2.572292E+05 6.706802E-08 8.901390E+00 2.500000E-01
Mn                          -1.944606E+05 3.775527E-06 3.767884E+01 2.070000E+00
Cr                          -1.773262E+05 1.134523E-05 9.231479E+00 4.800000E-01
Mo                          -1.795498E+05 9.835598E-06 6.670836E+00 6.400000E-01
Ni                          -1.560626E+05 4.444277E-05 1.703868E+02 1.000000E+01
N                           -2.130270E+05 1.146055E-06 1.856255E+00 2.600000E-02
Fe                          -1.166389E+05 5.587680E-04 1.548928E+03 8.650300E+01
Total                                                  1.786235E+03 1.000000E+02

Amount      Phase               Mole fraction of component within phase
compnt moles
```

		C	Si	Mn
1.7862E+03	LIQUID	0.0014449	0.0049833	0.0210940

		Cr	Mo	Ni
1.7862E+03	LIQUID	0.0051681	0.0037346	0.0953888

		N	Fe
1.7862E+03	LIQUID	0.0010392	0.8671471

Gibbs Energy = -2.2048664281E+08 J System Enthalpy = 1.3051337153E+08 J