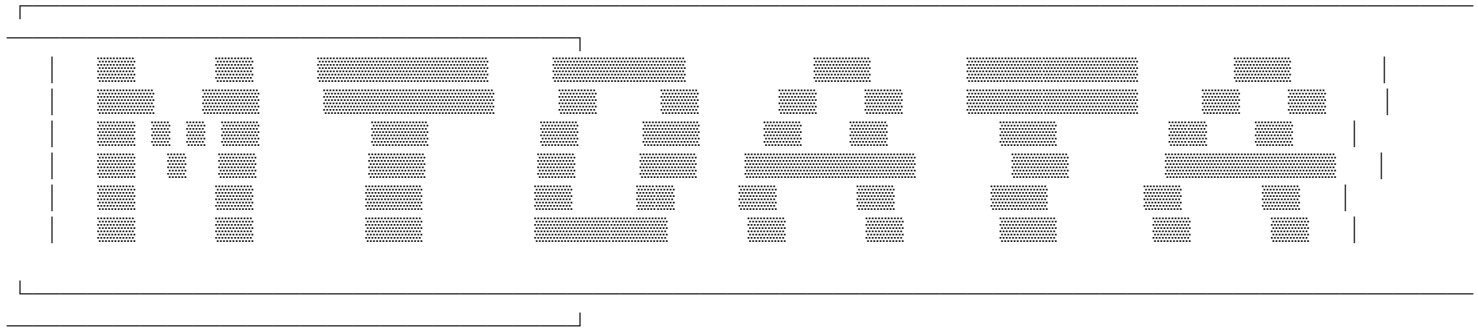

- THERMODYNAMICS AND PROCESS MODELLING GROUP -
- NPL MATERIALS CENTRE -
- NATIONAL PHYSICAL LABORATORY -

Authorised for use by Dr H K D H Bhadeshia
at University of Cambridge
under the terms and conditions of NPL 79/199-3

VERSION 4.73 FOR LNX RH 7.3
2002-11-15

```
 ********************************
 * USING DEFAULT MTCONFIG FILE *
 ********************************
17 of 18 DATABASES ARE AVAILABLE

 WHICH MODULE ? access
 ACCESS OPTION ? def source all !
 ACCESS OPTION ? li sys p !
 SYSTEM NOT YET DEFINED OR MULTIPLE SAVES ATTEMPTED
 ACCESS OPTION ? def sys 'Fe,C,Si,Mn,Ni,Mo,Cr' !

 SEARCHING FOR SYSTEM Fe,C,Si,Mn,Ni,Mo,Cr

 SEARCHING DATABASE(S) :

 sgte_sol        - SGTE Solution Database 3.01 - 19/7/93
 plus            - SGTE Solution Database plus 3.02 - 17/11/93
 sub_sgte        - SGTE Substance Database v10.0 - 9 May 2001
 ni_1            - First Ni database from Thermotech.
 ni_2            - Second Ni database from Thermotech
 m23c6_p         - Modified unaries to add pressure dependency to M23C6, use in conjonction
with pl
 hcpa3_p         - Modified unaries to add pressure dependency, use in conjonction with
plus.
 cementite_Si    - Data to allow Si to enter cementite
 substances_p    - Modified pure substances data for
NNb,NTi,CNb,CTi,C0.479Nb,C0.877Nb,C0.98Nb
 organic         - SGTE Substance Database organic suppl. v10.0 - 9 May 2001
 aqdata          - Database for ideal aqueous species v1.20 - 20 September 2000
 aqextras        - Data for CONVENTIONAL aqueous electron - (use only in COPLOT) - 29/3/93
 hotaq           - Database for ideal aqueous system 'Fe,Cr,Ni,C,S,H,O,/-' - 26/3/93
 mtdemo          - MTDATA demonstration database version 2.1 beta - 21/9/1998
 demo_1          - Test database - use only with macro 'testmt.mac'
 demo_2          - Test database - use only with macro 'testmt.mac'
 unary           - SGTE Unary Database version v4.4 - 20 July 2001


 ACCESS OPTION ? li sys p !

 NUMBER    PHASE                    STATUS      MODEL
```

```
   1      DIAMOND_A4              NORMAL      PURE SUBSTANCE
   2      GRAPHITE                NORMAL      PURE SUBSTANCE
   3      LIQUID                  NORMAL      PURE SUBSTANCE
   4      GAS                     NORMAL      IDEAL GAS
   5      BCC_A2:1:3              1  M-G      PURE SUBSTANCE
   6      CEMENTITE:3:1           NORMAL      PURE SUBSTANCE
   7      FCC_A1:1:1              NORMAL      PURE SUBSTANCE
   8      HCP_A3:1:.5             NORMAL      PURE SUBSTANCE
   9      KSI_CARBIDE:3:1         NORMAL      PURE SUBSTANCE
  10      M3C2:3:2                NORMAL      PURE SUBSTANCE
  11      M7C3:7:3                NORMAL      PURE SUBSTANCE
  12      M23C6:20:3:6            NORMAL      PURE SUBSTANCE
  13      M6C:2:2:2:1             NORMAL      PURE SUBSTANCE
  14      CBCC_A12:1:1            NORMAL      PURE SUBSTANCE
  15      CUB_A13:1:1             NORMAL      PURE SUBSTANCE
  16      FE4N:4:1                NORMAL      PURE SUBSTANCE
  17      FECN_CHI:2.2:1          NORMAL      PURE SUBSTANCE
  18      M5C2:5:2                NORMAL      PURE SUBSTANCE
  19      V3C2:3:2                NORMAL      PURE SUBSTANCE
  20      FE8SI2C:8:2:1           NORMAL      PURE SUBSTANCE
  21      MC_ETA:1:1              NORMAL      PURE SUBSTANCE

ACCESS OPTION ? class abs p(*) !
ACCESS OPTION ? class norm p(5) p(6) p(7) p(12) p(13) !
ACCESS OPTION ? ?

DEFINE
LIST
CLASSIFY
SAVE_DATA
RETURN
<'Macro name'>

ACCESS OPTION ? define output 'bearing.mpi' !
ACCESS OPTION ? save

             ***************************************************
             * FOR MISSING INTERACTION DATA SEE FILE misbin.dbl *
             ***************************************************
ACCESS OPTION ? re
WHICH MODULE ? multi
MULTIPHASE OPTION ? def data 'bearing.mpi' !
Date and time of run  8-NOV-2009  11:11:32
* DATAFILE = /numerobis/users/hkdb/bearing.mpi -  CREATED 11:11:03  8-NOV-2009
* SYSTEM = Fe,C,Si,Mn,Ni,Mo,Cr,
* NUMBER OF PHASES  =    5
* NUMBER OF SPECIES =   42

MULTIPHASE OPTION ? li sys co !

NUMBER    COMPONENT               STATUS      AMOUNT     DELTA    REF.P
   1      Fe                      NORMAL     undefined
   2      C                       NORMAL     undefined
   3      Si                      NORMAL     undefined
   4      Mn                      NORMAL     undefined
   5      Ni                      NORMAL     undefined
   6      Mo                      NORMAL     undefined
   7      Cr                      NORMAL     undefined



MULTIPHASE OPTION ? cl normal p(*) !
MULTIPHASE OPTION ? li sys p !

NUMBER    PHASE                   STATUS      MODEL
```

```
    1      BCC_A2                  1  M-G      SUBLATTICE
    2      CEMENTITE               NORMAL      SUBLATTICE
    3      FCC_A1                  NORMAL      SUBLATTICE
    4      M23C6                   NORMAL      SUBLATTICE
    5      M6C                     NORMAL      SUBLATTICE

 MULTIPHASE OPTION ? set w=100 !
 MULTIPHASE OPTION ? set w1
 W1  KEYWORD NOT RECOGNISED
 SET WHAT ? w(2)=1.04 w(3)=0.25 w(4)= ^?
   KEYWORD NOT RECOGNISED
 SET WHAT ? w(2)=1.04 w(3)=0.25 w(4)=0.35 w(5)=0.125 w(6)=0.05 w(7)=1.45 !
 MULTIPHASE OPTION ? li sys co !

 NUMBER    COMPONENT               STATUS      AMOUNT     DELTA    REF.P
    1      Fe                      # TO BAL    1732.14
    2      C                       NORMAL      86.5873
    3      Si                      NORMAL      8.90139
    4      Mn                      NORMAL      6.37082
    5      Ni                      NORMAL      2.12983
    6      Mo                      NORMAL     0.521159
    7      Cr                      NORMAL      27.8868

 MULTIPHASE OPTION ? step temp 673 1573 10 !

 MULTIPHASE OPTION ? compute pr br pr mole !
 NUMBER OF STEPS =  91

     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
Fe                          -2.313062E+04 1.602401E-02 1.732143E+03 9.673500E+01
C                            3.146213E+03 1.754632E+00 8.658730E+01 1.040000E+00
Si                          -1.608712E+05 3.268563E-13 8.901390E+00 2.500000E-01
Mn                          -6.313527E+04 1.258646E-05 6.370818E+00 3.500000E-01
Ni                          -5.444337E+04 5.949835E-05 2.129835E+00 1.250000E-01
Mo                          -8.159193E+04 4.649784E-07 5.211591E-01 5.000000E-02
Cr                          -5.035465E+04 1.235496E-04 2.788676E+01 1.450000E+00
Total                                                  1.864540E+03 1.000000E+02

Amount      Phase               Mole fraction of component within phase
compnt moles
                                 Fe             C              Si
 1.5173E+03 BCC_A2              0.9923337      0.0000064      0.0058666
 3.4179E+02 CEMENTITE           0.6536078      0.2500000      0.0000000
 5.4636E+00 M23C6               0.5658147      0.2068966      0.0000000

                                 Mn             Ni             Mo
 1.5173E+03 BCC_A2              0.0002070      0.0013041      0.0000002
 3.4179E+02 CEMENTITE           0.0177152      0.0003592      0.0000030
 5.4636E+00 M23C6               0.0003433      0.0051944      0.0951317

                                 Cr
 1.5173E+03 BCC_A2              0.0002820
 3.4179E+02 CEMENTITE           0.0783147
 5.4636E+00 M23C6               0.1266193

Gibbs Energy = -4.3189826797E+07 J   System Enthalpy =  2.0807151039E+07 J
     683.000
*** MULTIPHASE - Stage 1* Results ***
```

Temperature =   683.0000 K

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

Component	Ref.Phase	Chem.Pot.	Activity	Amount/mol	Mass/kg
Fe		-2.363948E+04	1.556466E-02	1.732143E+03	9.673500E+01
C		2.633287E+03	1.589952E+00	8.658730E+01	1.040000E+00
Si		-1.614344E+05	4.509124E-13	8.901390E+00	2.500000E-01
Mn		-6.394785E+04	1.286780E-05	6.370818E+00	3.500000E-01
Ni		-5.558434E+04	5.611961E-05	2.129835E+00	1.250000E-01
Mo		-8.165794E+04	5.689865E-07	5.211591E-01	5.000000E-02
Cr		-5.095671E+04	1.267706E-04	2.788676E+01	1.450000E+00
Total				1.864540E+03	1.000000E+02

Amount compnt moles	Phase	Mole fraction of component within phase		
		Fe	C	Si
1.5173E+03	BCC_A2	0.9922783	0.0000078	0.0058666
3.4176E+02	CEMENTITE	0.6538277	0.2500000	0.0000000
5.4902E+00	M23C6	0.5676060	0.2068966	0.0000000
		Mn	Ni	Mo
1.5173E+03	BCC_A2	0.0002275	0.0013049	0.0000003
3.4176E+02	CEMENTITE	0.0176256	0.0003584	0.0000040
5.4902E+00	M23C6	0.0003565	0.0050118	0.0945874
		Cr		
1.5173E+03	BCC_A2	0.0003146		
3.4176E+02	CEMENTITE	0.0781844		
5.4902E+00	M23C6	0.1255417		

Gibbs Energy = -4.4145380596E+07 J   System Enthalpy = 2.1434741768E+07 J
     693.000
*** MULTIPHASE - Stage 1* Results ***

Temperature =   693.0000 K

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

Component	Ref.Phase	Chem.Pot.	Activity	Amount/mol	Mass/kg
Fe		-2.415338E+04	1.511795E-02	1.732143E+03	9.673500E+01
C		2.118873E+03	1.444459E+00	8.658730E+01	1.040000E+00
Si		-1.619999E+05	6.160563E-13	8.901390E+00	2.500000E-01
Mn		-6.476833E+04	1.312901E-05	6.370818E+00	3.500000E-01
Ni		-5.673093E+04	5.297036E-05	2.129835E+00	1.250000E-01
Mo		-8.172617E+04	6.919474E-07	5.211591E-01	5.000000E-02
Cr		-5.156404E+04	1.298602E-04	2.788676E+01	1.450000E+00
Total				1.864540E+03	1.000000E+02

Amount compnt moles	Phase	Mole fraction of component within phase		
		Fe	C	Si
1.5173E+03	BCC_A2	0.9922187	0.0000094	0.0058666
3.4173E+02	CEMENTITE	0.6540651	0.2500000	0.0000000
5.5173E+00	M23C6	0.5693948	0.2068966	0.0000000
		Mn	Ni	Mo
1.5173E+03	BCC_A2	0.0002494	0.0013056	0.0000004
3.4173E+02	CEMENTITE	0.0175299	0.0003574	0.0000052
5.5173E+00	M23C6	0.0003697	0.0048386	0.0940161
		Cr		
1.5173E+03	BCC_A2	0.0003499		
3.4173E+02	CEMENTITE	0.0780424		

```
 5.5173E+00 M23C6              0.1244842

Gibbs Energy = -4.5110164010E+07 J   System Enthalpy =  2.2067923555E+07 J
     703.000
*** MULTIPHASE - Stage 1* Results ***

Temperature =   703.0000 K

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

Component      Ref.Phase     Chem.Pot.    Activity     Amount/mol   Mass/kg
Fe                          -2.467285E+04 1.468224E-02 1.732143E+03 9.673500E+01
C                            1.603168E+03 1.315577E+00 8.658730E+01 1.040000E+00
Si                          -1.625741E+05 8.329981E-13 8.901390E+00 2.500000E-01
Mn                          -6.559787E+04 1.336715E-05 6.370818E+00 3.500000E-01
Ni                          -5.788398E+04 5.002486E-05 2.129835E+00 1.250000E-01
Mo                          -8.179856E+04 8.362142E-07 5.211591E-01 5.000000E-02
Cr                          -5.217742E+04 1.327964E-04 2.788676E+01 1.450000E+00
Total                                                  1.864540E+03 1.000000E+02

Amount      Phase               Mole fraction of component within phase
compnt moles
                                 Fe              C               Si
 1.5173E+03 BCC_A2              0.9921546       0.0000114       0.0058666
 3.4169E+02 CEMENTITE           0.6543203       0.2500000       0.0000000
 5.5446E+00 M23C6               0.5711859       0.2068966       0.0000000

                                 Mn              Ni              Mo
 1.5173E+03 BCC_A2              0.0002726       0.0013063       0.0000006
 3.4169E+02 CEMENTITE           0.0174281       0.0003565       0.0000067
 5.5446E+00 M23C6               0.0003830       0.0046739       0.0934175

                                 Cr
 1.5173E+03 BCC_A2              0.0003878
 3.4169E+02 CEMENTITE           0.0778885
 5.5446E+00 M23C6               0.1234431

Gibbs Energy = -4.6084125617E+07 J   System Enthalpy =  2.2706848803E+07 J
     713.000
*** MULTIPHASE - Stage 1* Results ***

Temperature =   713.0000 K

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

Component      Ref.Phase     Chem.Pot.    Activity     Amount/mol   Mass/kg
Fe                          -2.519703E+04 1.425946E-02 1.732143E+03 9.673500E+01
C                            1.085854E+03 1.201014E+00 8.658730E+01 1.040000E+00
Si                          -1.631528E+05 1.116007E-12 8.901390E+00 2.500000E-01
Mn                          -6.643565E+04 1.358385E-05 6.370818E+00 3.500000E-01
Ni                          -5.904262E+04 4.727430E-05 2.129835E+00 1.250000E-01
Mo                          -8.187502E+04 1.004517E-06 5.211591E-01 5.000000E-02
Cr                          -5.279617E+04 1.355909E-04 2.788676E+01 1.450000E+00
Total                                                  1.864540E+03 1.000000E+02

Amount      Phase               Mole fraction of component within phase
compnt moles
                                 Fe              C               Si
 1.5173E+03 BCC_A2              0.9920859       0.0000137       0.0058665
 3.4166E+02 CEMENTITE           0.6545937       0.2500000       0.0000000
 5.5717E+00 M23C6               0.5729833       0.2068966       0.0000000

                                 Mn              Ni              Mo
 1.5173E+03 BCC_A2              0.0002974       0.0013071       0.0000008
 3.4166E+02 CEMENTITE           0.0173199       0.0003554       0.0000086
```

```
 5.5717E+00 M23C6              0.0003963       0.0045172       0.0927913

                                Cr
 1.5173E+03 BCC_A2             0.0004287
 3.4166E+02 CEMENTITE          0.0777224
 5.5717E+00 M23C6              0.1224153

Gibbs Energy = -4.7067217679E+07 J   System Enthalpy =  2.3351677447E+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
Fe                          -2.572622E+04 1.384850E-02 1.732143E+03 9.673500E+01
C                            5.675801E+02 1.099018E+00 8.658730E+01 1.040000E+00
Si                          -1.637360E+05 1.482000E-12 8.901390E+00 2.500000E-01
Mn                          -6.728225E+04 1.377768E-05 6.370818E+00 3.500000E-01
Ni                          -6.020714E+04 4.470121E-05 2.129835E+00 1.250000E-01
Mo                          -8.195507E+04 1.199872E-06 5.211591E-01 5.000000E-02
Cr                          -5.342062E+04 1.382336E-04 2.788676E+01 1.450000E+00
Total                                                  1.864540E+03 1.000000E+02

Amount      Phase               Mole fraction of component within phase
compnt moles
                                Fe              C               Si
 1.5173E+03 BCC_A2             0.9920123       0.0000163       0.0058665
 3.4162E+02 CEMENTITE          0.6548857       0.2500000       0.0000000
 5.5981E+00 M23C6              0.5747912       0.2068966       0.0000000

                                Mn              Ni              Mo
 1.5173E+03 BCC_A2             0.0003236       0.0013078       0.0000011
 3.4162E+02 CEMENTITE          0.0172052       0.0003543       0.0000109
 5.5981E+00 M23C6              0.0004096       0.0043678       0.0921372

                                Cr
 1.5173E+03 BCC_A2             0.0004724
 3.4162E+02 CEMENTITE          0.0775440
 5.5981E+00 M23C6              0.1213977

Gibbs Energy = -4.8059396094E+07 J   System Enthalpy =  2.4002577461E+07 J
     733.000
*** MULTIPHASE - Stage 1* Results ***

Temperature =   733.0000 K

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

Component      Ref.Phase     Chem.Pot.    Activity     Amount/mol   Mass/kg
Fe                          -2.626057E+04 1.344871E-02 1.732143E+03 9.673500E+01
C                            4.829878E+01 1.007956E+00 8.658730E+01 1.040000E+00
Si                          -1.643248E+05 1.951054E-12 8.901390E+00 2.500000E-01
Mn                          -6.813799E+04 1.394796E-05 6.370818E+00 3.500000E-01
Ni                          -6.137762E+04 4.229145E-05 2.129835E+00 1.250000E-01
Mo                          -8.203930E+04 1.425306E-06 5.211591E-01 5.000000E-02
Cr                          -5.405094E+04 1.407179E-04 2.788676E+01 1.450000E+00
Total                                                  1.864540E+03 1.000000E+02

Amount      Phase               Mole fraction of component within phase
compnt moles
                                Fe              C               Si
 1.5173E+03 BCC_A2             0.9919337       0.0000194       0.0058664
 3.4158E+02 CEMENTITE          0.6551963       0.2500000       0.0000000
```

```
 5.6233E+00 M23C6              0.5766129       0.2068966       0.0000000

                                Mn              Ni              Mo
 1.5173E+03 BCC_A2             0.0003513       0.0013085       0.0000014
 3.4158E+02 CEMENTITE          0.0170838       0.0003532       0.0000138
 5.6233E+00 M23C6              0.0004228       0.0042252       0.0914550

                                Cr
 1.5173E+03 BCC_A2             0.0005192
 3.4158E+02 CEMENTITE          0.0773529
 5.6233E+00 M23C6              0.1203875

Gibbs Energy = -4.9060620366E+07 J   System Enthalpy =  2.4659725794E+07 J
     743.000
*** MULTIPHASE - Stage 1* Results ***

Temperature =   743.0000 K

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

Component      Ref.Phase     Chem.Pot.    Activity     Amount/mol   Mass/kg
Fe                          -2.680008E+04 1.305988E-02 1.732143E+03 9.673500E+01
C                           -4.715406E+02 9.265107E-01 8.658730E+01 1.040000E+00
Si                          -1.649198E+05 2.547101E-12 8.901390E+00 2.500000E-01
Mn                          -6.900313E+04 1.409420E-05 6.370818E+00 3.500000E-01
Ni                          -6.255415E+04 4.003205E-05 2.129835E+00 1.250000E-01
Mo                          -8.212809E+04 1.684026E-06 5.211591E-01 5.000000E-02
Cr                          -5.468734E+04 1.430371E-04 2.788676E+01 1.450000E+00
Total                                                  1.864540E+03 1.000000E+02

Amount      Phase               Mole fraction of component within phase
compnt moles
                                Fe              C               Si
 1.5174E+03 BCC_A2             0.9918499       0.0000230       0.0058664
 3.4154E+02 CEMENTITE          0.6555259       0.2500000       0.0000000
 5.6465E+00 M23C6              0.5784515       0.2068966       0.0000000

                                Mn              Ni              Mo
 1.5174E+03 BCC_A2             0.0003805       0.0013092       0.0000019
 3.4154E+02 CEMENTITE          0.0169557       0.0003520       0.0000173
 5.6465E+00 M23C6              0.0004359       0.0040889       0.0907447

                                Cr
 1.5174E+03 BCC_A2             0.0005691
 3.4154E+02 CEMENTITE          0.0771491
 5.6465E+00 M23C6              0.1193824

Gibbs Energy = -5.0070853585E+07 J   System Enthalpy =  2.5323309115E+07 J
     753.000
*** MULTIPHASE - Stage 1* Results ***

Temperature =   753.0000 K

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

Component      Ref.Phase     Chem.Pot.    Activity     Amount/mol   Mass/kg
Fe                          -2.734430E+04 1.268262E-02 1.732143E+03 9.673500E+01
C                           -9.918280E+02 8.534929E-01 8.658730E+01 1.040000E+00
Si                          -1.655198E+05 3.299066E-12 8.901390E+00 2.500000E-01
Mn                          -6.987775E+04 1.421650E-05 6.370818E+00 3.500000E-01
Ni                          -6.373657E+04 3.791300E-05 2.129835E+00 1.250000E-01
Mo                          -8.222109E+04 1.979579E-06 5.211591E-01 5.000000E-02
Cr                          -5.532933E+04 1.452019E-04 2.788676E+01 1.450000E+00
Total                                                  1.864540E+03 1.000000E+02
```

```
Amount      Phase               Mole fraction of component within phase
compnt moles
                                Fe              C               Si
 1.5174E+03 BCC_A2             0.9917608       0.0000272       0.0058663
 3.4149E+02 CEMENTITE          0.6558745       0.2500000       0.0000000
 5.6668E+00 M23C6              0.5803100       0.2068966       0.0000000

                                Mn              Ni              Mo
 1.5174E+03 BCC_A2             0.0004113       0.0013099       0.0000024
 3.4149E+02 CEMENTITE          0.0168206       0.0003508       0.0000217
 5.6668E+00 M23C6              0.0004489       0.0039586       0.0900060

                                Cr
 1.5174E+03 BCC_A2             0.0006221
 3.4149E+02 CEMENTITE          0.0769324
 5.6668E+00 M23C6              0.1183799

Gibbs Energy = -5.1090062412E+07 J   System Enthalpy =  2.5993524522E+07 J
     763.000
*** MULTIPHASE - Stage 1* Results ***

Temperature =   763.0000 K

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

Component      Ref.Phase     Chem.Pot.    Activity     Amount/mol   Mass/kg
Fe                          -2.789356E+04 1.231593E-02 1.732143E+03 9.673500E+01
C                           -1.512722E+03 7.878479E-01 8.658730E+01 1.040000E+00
Si                          -1.661252E+05 4.240648E-12 8.901390E+00 2.500000E-01
Mn                          -7.076200E+04 1.431487E-05 6.370818E+00 3.500000E-01
Ni                          -6.492482E+04 3.592425E-05 2.129835E+00 1.250000E-01
Mo                          -8.231791E+04 2.315767E-06 5.211591E-01 5.000000E-02
Cr                          -5.597817E+04 1.471825E-04 2.788676E+01 1.450000E+00
Total                                                  1.864540E+03 1.000000E+02

Amount      Phase               Mole fraction of component within phase
compnt moles
                                Fe              C               Si
 1.5174E+03 BCC_A2             0.9916660       0.0000320       0.0058662
 3.4145E+02 CEMENTITE          0.6562421       0.2500000       0.0000000
 5.6832E+00 M23C6              0.5821909       0.2068966       0.0000000

                                Mn              Ni              Mo
 1.5174E+03 BCC_A2             0.0004437       0.0013106       0.0000032
 3.4145E+02 CEMENTITE          0.0166786       0.0003495       0.0000269
 5.6832E+00 M23C6              0.0004617       0.0038337       0.0892390

                                Cr
 1.5174E+03 BCC_A2             0.0006783
 3.4145E+02 CEMENTITE          0.0767029
 5.6832E+00 M23C6              0.1173781

Gibbs Energy = -5.2118217090E+07 J   System Enthalpy =  2.6670580869E+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
Fe                          -2.844773E+04 1.195979E-02 1.732143E+03 9.673500E+01
C                           -2.033610E+03 7.287598E-01 8.658730E+01 1.040000E+00
Si                          -1.667357E+05 5.411287E-12 8.901390E+00 2.500000E-01
Mn                          -7.165640E+04 1.438858E-05 6.370818E+00 3.500000E-01
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Ni                          -6.611909E+04 3.405544E-05 2.129835E+00 1.250000E-01
Mo                          -8.242167E+04 2.695164E-06 5.211591E-01 5.000000E-02
Cr                          -5.663194E+04 1.490233E-04 2.788676E+01 1.450000E+00
Total                                                  1.864540E+03 1.000000E+02

Amount      Phase               Mole fraction of component within phase
compnt moles
                                 Fe              C               Si
 1.5174E+03 BCC_A2              0.9915655       0.0000375       0.0058661
 3.4141E+02 CEMENTITE           0.6566286       0.2500000       0.0000000
 5.6944E+00 M23C6               0.5840963       0.2068966       0.0000000

                                 Mn              Ni              Mo
 1.5174E+03 BCC_A2              0.0004777       0.0013113       0.0000041
 3.4141E+02 CEMENTITE           0.0165294       0.0003482       0.0000332
 5.6944E+00 M23C6               0.0004743       0.0037140       0.0884436

                                 Cr
 1.5174E+03 BCC_A2              0.0007379
 3.4141E+02 CEMENTITE           0.0764606
 5.6944E+00 M23C6               0.1163752

Gibbs Energy = -5.3155291462E+07 J   System Enthalpy =  2.7354699687E+07 J
     783.000
*** MULTIPHASE - Stage 1* Results ***

Temperature =   783.0000 K

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

Component      Ref.Phase     Chem.Pot.    Activity     Amount/mol   Mass/kg
Fe                          -2.900685E+04 1.161384E-02 1.732143E+03 9.673500E+01
C                           -2.554342E+03 6.754634E-01 8.658730E+01 1.040000E+00
Si                          -1.673516E+05 6.856537E-12 8.901390E+00 2.500000E-01
Mn                          -7.256111E+04 1.443793E-05 6.370818E+00 3.500000E-01
Ni                          -6.731938E+04 3.229807E-05 2.129835E+00 1.250000E-01
Mo                          -8.252945E+04 3.122657E-06 5.211591E-01 5.000000E-02
Cr                          -5.729231E+04 1.506866E-04 2.788676E+01 1.450000E+00
Total                                                  1.864540E+03 1.000000E+02

Amount      Phase               Mole fraction of component within phase
compnt moles
                                 Fe              C               Si
 1.5175E+03 BCC_A2              0.9914591       0.0000437       0.0058659
 3.4137E+02 CEMENTITE           0.6570339       0.2500000       0.0000000
 5.6988E+00 M23C6               0.5860282       0.2068966       0.0000000

                                 Mn              Ni              Mo
 1.5175E+03 BCC_A2              0.0005132       0.0013120       0.0000052
 3.4137E+02 CEMENTITE           0.0163731       0.0003468       0.0000408
 5.6988E+00 M23C6               0.0004866       0.0035991       0.0876198

                                 Cr
 1.5175E+03 BCC_A2              0.0008008
 3.4137E+02 CEMENTITE           0.0762054
 5.6988E+00 M23C6               0.1153698

Gibbs Energy = -5.4201263001E+07 J   System Enthalpy =  2.8046116632E+07 J
     793.000
*** MULTIPHASE - Stage 1* Results ***

Temperature =   793.0000 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
Fe		-2.957103E+04	1.127756E-02	1.732143E+03	9.673500E+01
C		-3.074586E+03	6.273114E-01	8.658730E+01	1.040000E+00
Si		-1.679743E+05	8.627249E-12	8.901390E+00	2.500000E-01
Mn		-7.347656E+04	1.446258E-05	6.370818E+00	3.500000E-01
Ni		-6.852581E+04	3.064378E-05	2.129835E+00	1.250000E-01
Mo		-8.264206E+04	3.601910E-06	5.211591E-01	5.000000E-02
Cr		-5.795983E+04	1.521605E-04	2.788676E+01	1.450000E+00
Total				1.864540E+03	1.000000E+02

Amount compnt moles	Phase	Mole fraction of component within phase		
		Fe	C	Si
1.5175E+03	BCC_A2	0.9913465	0.0000509	0.0058658
3.4133E+02	CEMENTITE	0.6574576	0.2500000	0.0000000
5.6947E+00	M23C6	0.5879880	0.2068966	0.0000000
		Mn	Ni	Mo
1.5175E+03	BCC_A2	0.0005504	0.0013127	0.0000066
3.4133E+02	CEMENTITE	0.0162094	0.0003455	0.0000499
5.6947E+00	M23C6	0.0004986	0.0034886	0.0867679
		Cr		
1.5175E+03	BCC_A2	0.0008672		
3.4133E+02	CEMENTITE	0.0759376		
5.6947E+00	M23C6	0.1143604		

Gibbs Energy = -5.5256112863E+07 J System Enthalpy = 2.8745082509E+07 J
     803.000
*** MULTIPHASE - Stage 1* Results ***

Temperature =   803.0000 K

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

Component	Ref.Phase	Chem.Pot.	Activity	Amount/mol	Mass/kg
Fe		-3.014021E+04	1.095086E-02	1.732143E+03	9.673500E+01
C		-3.594412E+03	5.837026E-01	8.658730E+01	1.040000E+00
Si		-1.686017E+05	1.078560E-11	8.901390E+00	2.500000E-01
Mn		-7.440279E+04	1.446332E-05	6.370818E+00	3.500000E-01
Ni		-6.973819E+04	2.908638E-05	2.129835E+00	1.250000E-01
Mo		-8.275821E+04	4.137777E-06	5.211591E-01	5.000000E-02
Cr		-5.863471E+04	1.534426E-04	2.788676E+01	1.450000E+00
Total				1.864540E+03	1.000000E+02

Amount compnt moles	Phase	Mole fraction of component within phase		
		Fe	C	Si
1.5176E+03	BCC_A2	0.9912276	0.0000590	0.0058656
3.4129E+02	CEMENTITE	0.6578996	0.2500000	0.0000000
5.6797E+00	M23C6	0.5899770	0.2068966	0.0000000
		Mn	Ni	Mo
1.5176E+03	BCC_A2	0.0005892	0.0013134	0.0000083
3.4129E+02	CEMENTITE	0.0160384	0.0003440	0.0000607
5.6797E+00	M23C6	0.0005103	0.0033824	0.0858877
		Cr		
1.5176E+03	BCC_A2	0.0009369		
3.4129E+02	CEMENTITE	0.0756573		
5.6797E+00	M23C6	0.1133460		

Gibbs Energy = -5.6319825948E+07 J System Enthalpy = 2.9451865524E+07 J
     813.000
*** MULTIPHASE - Stage 1* Results ***

Temperature =   813.0000 K

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

Component	Ref.Phase	Chem.Pot.	Activity	Amount/mol	Mass/kg
Fe		-3.071436E+04	1.063348E-02	1.732143E+03	9.673500E+01
C		-4.113104E+03	5.441803E-01	8.658730E+01	1.040000E+00
Si		-1.692354E+05	1.339767E-11	8.901390E+00	2.500000E-01
Mn		-7.534059E+04	1.443929E-05	6.370818E+00	3.500000E-01
Ni		-7.095699E+04	2.761732E-05	2.129835E+00	1.250000E-01
Mo		-8.288680E+04	4.728460E-06	5.211591E-01	5.000000E-02
Cr		-5.931219E+04	1.546437E-04	2.788676E+01	1.450000E+00
Total				1.864540E+03	1.000000E+02

Amount compnt moles	Phase	Mole fraction of component within phase		
		Fe	C	Si
1.5176E+03	BCC_A2	0.9911021	0.0000682	0.0058653
3.4126E+02	CEMENTITE	0.6583592	0.2500000	0.0000000
5.6515E+00	M23C6	0.5919962	0.2068966	0.0000000
		Mn	Ni	Mo
1.5176E+03	BCC_A2	0.0006296	0.0013141	0.0000104
3.4126E+02	CEMENTITE	0.0158599	0.0003426	0.0000734
5.6515E+00	M23C6	0.0005216	0.0032801	0.0849797
		Cr		
1.5176E+03	BCC_A2	0.0010102		
3.4126E+02	CEMENTITE	0.0753649		
5.6515E+00	M23C6	0.1123258		

Gibbs Energy = -5.7392390986E+07 J   System Enthalpy = 3.0166752417E+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
Fe		-3.129348E+04	1.032518E-02	1.732143E+03	9.673500E+01
C		-4.631544E+03	5.082178E-01	8.658730E+01	1.040000E+00
Si		-1.698746E+05	1.654143E-11	8.901390E+00	2.500000E-01
Mn		-7.628978E+04	1.439190E-05	6.370818E+00	3.500000E-01
Ni		-7.218179E+04	2.623251E-05	2.129835E+00	1.250000E-01
Mo		-8.301423E+04	5.386882E-06	5.211591E-01	5.000000E-02
Cr		-5.999906E+04	1.556114E-04	2.788676E+01	1.450000E+00
Total				1.864540E+03	1.000000E+02

Amount compnt moles	Phase	Mole fraction of component within phase		
		Fe	C	Si
1.5177E+03	BCC_A2	0.9909698	0.0000786	0.0058650
3.4123E+02	CEMENTITE	0.6588360	0.2500000	0.0000000
5.6070E+00	M23C6	0.5940463	0.2068966	0.0000000
		Mn	Ni	Mo
1.5177E+03	BCC_A2	0.0006717	0.0013149	0.0000130
3.4123E+02	CEMENTITE	0.0156739	0.0003411	0.0000884
5.6070E+00	M23C6	0.0005325	0.0031815	0.0840440
		Cr		
1.5177E+03	BCC_A2	0.0010870		
3.4123E+02	CEMENTITE	0.0750606		

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 5.6070E+00 M23C6              0.1112992

Gibbs Energy = -5.8473800634E+07 J   System Enthalpy =  3.0890050513E+07 J
     833.000
*** MULTIPHASE - Stage 1* Results ***

Temperature =   833.0000 K

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

Component      Ref.Phase     Chem.Pot.    Activity     Amount/mol   Mass/kg
Fe                          -3.187734E+04 1.002604E-02 1.732143E+03 9.673500E+01
C                           -5.147967E+03 4.755502E-01 8.658730E+01 1.040000E+00
Si                          -1.705203E+05 2.030083E-11 8.901390E+00 2.500000E-01
Mn                          -7.725099E+04 1.432093E-05 6.370818E+00 3.500000E-01
Ni                          -7.341285E+04 2.492541E-05 2.129835E+00 1.250000E-01
Mo                          -8.314867E+04 6.111631E-06 5.211591E-01 5.000000E-02
Cr                          -6.069351E+04 1.563901E-04 2.788676E+01 1.450000E+00
Total                                                  1.864540E+03 1.000000E+02

Amount      Phase               Mole fraction of component within phase
compnt moles
                                Fe              C               Si
 1.5178E+03 BCC_A2             0.9908305       0.0000904       0.0058647
 3.4121E+02 CEMENTITE          0.6593293       0.2500000       0.0000000
 5.5427E+00 M23C6              0.5961275       0.2068966       0.0000000

                                Mn              Ni              Mo
 1.5178E+03 BCC_A2             0.0007153       0.0013156       0.0000162
 3.4121E+02 CEMENTITE          0.0154804       0.0003396       0.0001059
 5.5427E+00 M23C6              0.0005429       0.0030863       0.0830809

                                Cr
 1.5178E+03 BCC_A2             0.0011673
 3.4121E+02 CEMENTITE          0.0747448
 5.5427E+00 M23C6              0.1102657

Gibbs Energy = -5.9564051601E+07 J   System Enthalpy =  3.1622090032E+07 J
     843.000
*** MULTIPHASE - Stage 1* Results ***

Temperature =   843.0000 K

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

Component      Ref.Phase     Chem.Pot.    Activity     Amount/mol   Mass/kg
Fe                          -3.246625E+04 9.735338E-03 1.732143E+03 9.673500E+01
C                           -5.664402E+03 4.456836E-01 8.658730E+01 1.040000E+00
Si                          -1.711711E+05 2.477561E-11 8.901390E+00 2.500000E-01
Mn                          -7.822420E+04 1.422761E-05 6.370818E+00 3.500000E-01
Ni                          -7.464995E+04 2.369173E-05 2.129835E+00 1.250000E-01
Mo                          -8.329129E+04 6.905080E-06 5.211591E-01 5.000000E-02
Cr                          -6.139221E+04 1.570591E-04 2.788676E+01 1.450000E+00
Total                                                  1.864540E+03 1.000000E+02

Amount      Phase               Mole fraction of component within phase
compnt moles
                                Fe              C               Si
 1.5179E+03 BCC_A2             0.9906840       0.0001036       0.0058644
 3.4121E+02 CEMENTITE          0.6598383       0.2500000       0.0000000
 5.4546E+00 M23C6              0.5982400       0.2068966       0.0000000

                                Mn              Ni              Mo
 1.5179E+03 BCC_A2             0.0007606       0.0013164       0.0000199
 3.4121E+02 CEMENTITE          0.0152792       0.0003381       0.0001264
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 5.4546E+00 M23C6              0.0005529       0.0029945       0.0820908

                                Cr
 1.5179E+03 BCC_A2             0.0012511
 3.4121E+02 CEMENTITE          0.0744181
 5.4546E+00 M23C6              0.1092252

Gibbs Energy = -6.0663144788E+07 J   System Enthalpy =  3.2363226724E+07 J
     853.000
*** MULTIPHASE - Stage 1* Results ***

Temperature =   853.0000 K

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

Component      Ref.Phase     Chem.Pot.    Activity     Amount/mol   Mass/kg
Fe                          -3.306046E+04 9.452521E-03 1.732143E+03 9.673500E+01
C                           -6.176706E+03 4.185722E-01 8.658730E+01 1.040000E+00
Si                          -1.718293E+05 3.006481E-11 8.901390E+00 2.500000E-01
Mn                          -7.921087E+04 1.411025E-05 6.370818E+00 3.500000E-01
Ni                          -7.589411E+04 2.252351E-05 2.129835E+00 1.250000E-01
Mo                          -8.343958E+04 7.773025E-06 5.211591E-01 5.000000E-02
Cr                          -6.209940E+04 1.575263E-04 2.788676E+01 1.450000E+00
Total                                                  1.864540E+03 1.000000E+02

Amount      Phase              Mole fraction of component within phase
compnt moles
                                Fe              C               Si
 1.5180E+03 BCC_A2             0.9905299       0.0001185       0.0058639
 3.4121E+02 CEMENTITE          0.6603622       0.2500000       0.0000000
 5.3380E+00 M23C6              0.6003835       0.2068966       0.0000000

                                Mn              Ni              Mo
 1.5180E+03 BCC_A2             0.0008074       0.0013172       0.0000245
 3.4121E+02 CEMENTITE          0.0150703       0.0003365       0.0001501
 5.3380E+00 M23C6              0.0005623       0.0029058       0.0810741

                                Cr
 1.5180E+03 BCC_A2             0.0013386
 3.4121E+02 CEMENTITE          0.0740809
 5.3380E+00 M23C6              0.1081777

Gibbs Energy = -6.1771085450E+07 J   System Enthalpy =  3.3113843399E+07 J
     863.000
*** MULTIPHASE - Stage 1* Results ***

Temperature =   863.0000 K

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

Component      Ref.Phase     Chem.Pot.    Activity     Amount/mol   Mass/kg
Fe                          -3.365902E+04 9.178641E-03 1.732143E+03 9.673500E+01
C                           -6.691785E+03 3.935300E-01 8.658730E+01 1.040000E+00
Si                          -1.724921E+05 3.629646E-11 8.901390E+00 2.500000E-01
Mn                          -8.020947E+04 1.397330E-05 6.370818E+00 3.500000E-01
Ni                          -7.714344E+04 2.142255E-05 2.129835E+00 1.250000E-01
Mo                          -8.359535E+04 8.717009E-06 5.211591E-01 5.000000E-02
Cr                          -6.281086E+04 1.578901E-04 2.788676E+01 1.450000E+00
Total                                                  1.864540E+03 1.000000E+02

Amount      Phase              Mole fraction of component within phase
compnt moles
                                Fe              C               Si
 1.5181E+03 BCC_A2             0.9903680       0.0001351       0.0058634
 3.4124E+02 CEMENTITE          0.6608999       0.2500000       0.0000000
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 5.1875E+00 M23C6              0.6025576       0.2068966       0.0000000

                                Mn              Ni              Mo
 1.5181E+03 BCC_A2             0.0008558       0.0013180       0.0000299
 3.4124E+02 CEMENTITE          0.0148537       0.0003350       0.0001776
 5.1875E+00 M23C6              0.0005712       0.0028200       0.0800314

                                Cr
 1.5181E+03 BCC_A2             0.0014297
 3.4124E+02 CEMENTITE          0.0737339
 5.1875E+00 M23C6              0.1071233

Gibbs Energy = -6.2887883391E+07 J   System Enthalpy =  3.3874354125E+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
Fe                          -3.426335E+04 8.911599E-03 1.732143E+03 9.673500E+01
C                           -7.200992E+03 3.708091E-01 8.658730E+01 1.040000E+00
Si                          -1.731627E+05 4.358464E-11 8.901390E+00 2.500000E-01
Mn                          -8.122270E+04 1.381289E-05 6.370818E+00 3.500000E-01
Ni                          -7.840041E+04 2.037735E-05 2.129835E+00 1.250000E-01
Mo                          -8.375653E+04 9.742734E-06 5.211591E-01 5.000000E-02
Cr                          -6.353113E+04 1.580544E-04 2.788676E+01 1.450000E+00
Total                                                  1.864540E+03 1.000000E+02

Amount      Phase               Mole fraction of component within phase
compnt moles
                                Fe              C               Si
 1.5183E+03 BCC_A2             0.9901980       0.0001538       0.0058629
 3.4128E+02 CEMENTITE          0.6614503       0.2500000       0.0000000
 4.9968E+00 M23C6              0.6047613       0.2068966       0.0000000

                                Mn              Ni              Mo
 1.5183E+03 BCC_A2             0.0009058       0.0013189       0.0000364
 3.4128E+02 CEMENTITE          0.0146293       0.0003333       0.0002092
 4.9968E+00 M23C6              0.0005794       0.0027370       0.0789632

                                Cr
 1.5183E+03 BCC_A2             0.0015244
 3.4128E+02 CEMENTITE          0.0733778
 4.9968E+00 M23C6              0.1060625

Gibbs Energy = -6.4013553173E+07 J   System Enthalpy =  3.4645206398E+07 J
     883.000
*** MULTIPHASE - Stage 1* Results ***

Temperature =   883.0000 K

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

Component      Ref.Phase     Chem.Pot.    Activity     Amount/mol   Mass/kg
Fe                          -3.487229E+04 8.652691E-03 1.732143E+03 9.673500E+01
C                           -7.709598E+03 3.498996E-01 8.658730E+01 1.040000E+00
Si                          -1.738390E+05 5.207882E-11 8.901390E+00 2.500000E-01
Mn                          -8.224951E+04 1.363267E-05 6.370818E+00 3.500000E-01
Ni                          -7.966342E+04 1.938918E-05 2.129835E+00 1.250000E-01
Mo                          -8.392514E+04 1.085075E-05 5.211591E-01 5.000000E-02
Cr                          -6.425785E+04 1.580762E-04 2.788676E+01 1.450000E+00
Total                                                  1.864540E+03 1.000000E+02
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```
Amount      Phase               Mole fraction of component within phase
compnt moles
                                Fe              C               Si
 1.5184E+03 BCC_A2              0.9900194       0.0001746       0.0058622
 3.4135E+02 CEMENTITE           0.6620124       0.2500000       0.0000000
 4.7588E+00 M23C6               0.6069937       0.2068966       0.0000000

                                Mn              Ni              Mo
 1.5184E+03 BCC_A2              0.0009573       0.0013198       0.0000440
 3.4135E+02 CEMENTITE           0.0143971       0.0003317       0.0002455
 4.7588E+00 M23C6               0.0005871       0.0026567       0.0778701

                                Cr
 1.5184E+03 BCC_A2              0.0016227
 3.4135E+02 CEMENTITE           0.0730133
 4.7588E+00 M23C6               0.1049959

Gibbs Energy = -6.5148114366E+07 J   System Enthalpy =  3.5426886002E+07 J
     893.000
*** MULTIPHASE - Stage 1* Results ***

Temperature =   893.0000 K

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

Component      Ref.Phase     Chem.Pot.    Activity     Amount/mol   Mass/kg
Fe                          -3.548642E+04 8.400971E-03 1.732143E+03 9.673500E+01
C                           -8.215502E+03 3.307190E-01 8.658730E+01 1.040000E+00
Si                          -1.745222E+05 6.192350E-11 8.901390E+00 2.500000E-01
Mn                          -8.329094E+04 1.343226E-05 6.370818E+00 3.500000E-01
Ni                          -8.093324E+04 1.845252E-05 2.129835E+00 1.250000E-01
Mo                          -8.410129E+04 1.204344E-05 5.211591E-01 5.000000E-02
Cr                          -6.499106E+04 1.579594E-04 2.788676E+01 1.450000E+00
Total                                                  1.864540E+03 1.000000E+02

Amount      Phase               Mole fraction of component within phase
compnt moles
                                Fe              C               Si
 1.5186E+03 BCC_A2              0.9898320       0.0001978       0.0058615
 3.4145E+02 CEMENTITE           0.6625848       0.2500000       0.0000000
 4.4652E+00 M23C6               0.6092535       0.2068966       0.0000000

                                Mn              Ni              Mo
 1.5186E+03 BCC_A2              0.0010103       0.0013207       0.0000530
 3.4145E+02 CEMENTITE           0.0141570       0.0003300       0.0002869
 4.4652E+00 M23C6               0.0005940       0.0025788       0.0767530

                                Cr
 1.5186E+03 BCC_A2              0.0017247
 3.4145E+02 CEMENTITE           0.0726412
 4.4652E+00 M23C6               0.1039242

Gibbs Energy = -6.6291591822E+07 J   System Enthalpy =  3.6219919122E+07 J
     903.000
*** MULTIPHASE - Stage 1* Results ***

Temperature =   903.0000 K

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

Component      Ref.Phase     Chem.Pot.    Activity     Amount/mol   Mass/kg
Fe                          -3.610554E+04 8.156495E-03 1.732143E+03 9.673500E+01
C                           -8.719277E+03 3.130692E-01 8.658730E+01 1.040000E+00
Si                          -1.752121E+05 7.328189E-11 8.901390E+00 2.500000E-01
Mn                          -8.434743E+04 1.321264E-05 6.370818E+00 3.500000E-01
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Ni                          -8.220973E+04 1.756480E-05 2.129835E+00 1.250000E-01
Mo                          -8.428429E+04 1.332421E-05 5.211591E-01 5.000000E-02
Cr                          -6.573115E+04 1.577007E-04 2.788676E+01 1.450000E+00
Total                                                  1.864540E+03 1.000000E+02

Amount      Phase               Mole fraction of component within phase
compnt moles
                                 Fe              C               Si
 1.5188E+03 BCC_A2              0.9896354       0.0002236       0.0058606
 3.4159E+02 CEMENTITE           0.6631660       0.2500000       0.0000000
 4.1066E+00 M23C6               0.6115389       0.2068966       0.0000000

                                 Mn              Ni              Mo
 1.5188E+03 BCC_A2              0.0010647       0.0013217       0.0000635
 3.4159E+02 CEMENTITE           0.0139090       0.0003283       0.0003341
 4.1066E+00 M23C6               0.0006003       0.0025033       0.0756126

                                 Cr
 1.5188E+03 BCC_A2              0.0018304
 3.4159E+02 CEMENTITE           0.0722625
 4.1066E+00 M23C6               0.1028483

Gibbs Energy = -6.7444015983E+07 J   System Enthalpy =  3.7024878237E+07 J
     913.000
*** MULTIPHASE - Stage 1* Results ***

Temperature =   913.0000 K

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

Component      Ref.Phase     Chem.Pot.    Activity     Amount/mol   Mass/kg
Fe                          -3.672980E+04 7.918888E-03 1.732143E+03 9.673500E+01
C                           -9.220213E+03 2.968285E-01 8.658730E+01 1.040000E+00
Si                          -1.759088E+05 8.632662E-11 8.901390E+00 2.500000E-01
Mn                          -8.541958E+04 1.297450E-05 6.370818E+00 3.500000E-01
Ni                          -8.349308E+04 1.672272E-05 2.129835E+00 1.250000E-01
Mo                          -8.447564E+04 1.469243E-05 5.211591E-01 5.000000E-02
Cr                          -6.647762E+04 1.573158E-04 2.788676E+01 1.450000E+00
Total                                                  1.864540E+03 1.000000E+02

Amount      Phase               Mole fraction of component within phase
compnt moles
                                 Fe              C               Si
 1.5191E+03 BCC_A2              0.9894290       0.0002524       0.0058597
 3.4178E+02 CEMENTITE           0.6637546       0.2500000       0.0000000
 3.6723E+00 M23C6               0.6138481       0.2068966       0.0000000

                                 Mn              Ni              Mo
 1.5191E+03 BCC_A2              0.0011206       0.0013227       0.0000759
 3.4178E+02 CEMENTITE           0.0136530       0.0003266       0.0003876
 3.6723E+00 M23C6               0.0006058       0.0024302       0.0744498

                                 Cr
 1.5191E+03 BCC_A2              0.0019398
 3.4178E+02 CEMENTITE           0.0718782
 3.6723E+00 M23C6               0.1017696

Gibbs Energy = -6.8605423234E+07 J   System Enthalpy =  3.7842386488E+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
Fe		-3.735914E+04	7.688039E-03	1.732143E+03	9.673500E+01
C		-9.718238E+03	2.818623E-01	8.658730E+01	1.040000E+00
Si		-1.766127E+05	1.012374E-10	8.901390E+00	2.500000E-01
Mn		-8.650802E+04	1.271864E-05	6.370818E+00	3.500000E-01
Ni		-8.478339E+04	1.592352E-05	2.129835E+00	1.250000E-01
Mo		-8.467234E+04	1.615562E-05	5.211591E-01	5.000000E-02
Cr		-6.723224E+04	1.567736E-04	2.788676E+01	1.450000E+00
Total				1.864540E+03	1.000000E+02

Amount compnt moles	Phase	Mole fraction of component within phase		
		Fe	C	Si
1.5194E+03	BCC_A2	0.9892123	0.0002842	0.0058586
3.4201E+02	CEMENTITE	0.6643490	0.2500000	0.0000000
3.1501E+00	M23C6	0.6161790	0.2068966	0.0000000
		Mn	Ni	Mo
1.5194E+03	BCC_A2	0.0011779	0.0013238	0.0000902
3.4201E+02	CEMENTITE	0.0133889	0.0003249	0.0004481
3.1501E+00	M23C6	0.0006105	0.0023592	0.0732658
		Cr		
1.5194E+03	BCC_A2	0.0020530		
3.4201E+02	CEMENTITE	0.0714891		
3.1501E+00	M23C6	0.1006890		

Gibbs Energy = -6.9775856286E+07 J System Enthalpy = 3.8673123108E+07 J
     933.000
*** MULTIPHASE - Stage 1* Results ***

Temperature =   933.0000 K

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

Component	Ref.Phase	Chem.Pot.	Activity	Amount/mol	Mass/kg
Fe		-3.799392E+04	7.463424E-03	1.732143E+03	9.673500E+01
C		-1.021312E+04	2.680561E-01	8.658730E+01	1.040000E+00
Si		-1.773244E+05	1.182014E-10	8.901390E+00	2.500000E-01
Mn		-8.761374E+04	1.244541E-05	6.370818E+00	3.500000E-01
Ni		-8.608107E+04	1.516401E-05	2.129835E+00	1.250000E-01
Mo		-8.488167E+04	1.769954E-05	5.211591E-01	5.000000E-02
Cr		-6.799046E+04	1.561722E-04	2.788676E+01	1.450000E+00
Total				1.864540E+03	1.000000E+02

Amount compnt moles	Phase	Mole fraction of component within phase		
		Fe	C	Si
1.5197E+03	BCC_A2	0.9889848	0.0003195	0.0058573
3.4232E+02	CEMENTITE	0.6649475	0.2500000	0.0000000
2.5259E+00	M23C6	0.6185290	0.2068966	0.0000000
		Mn	Ni	Mo
1.5197E+03	BCC_A2	0.0012366	0.0013249	0.0001069
3.4232E+02	CEMENTITE	0.0131167	0.0003231	0.0005162
2.5259E+00	M23C6	0.0006144	0.0022902	0.0720616
		Cr		
1.5197E+03	BCC_A2	0.0021699		
3.4232E+02	CEMENTITE	0.0710965		
2.5259E+00	M23C6	0.0996082		

Gibbs Energy = -7.0955364615E+07 J System Enthalpy = 3.9517829503E+07 J
     943.000
*** MULTIPHASE - Stage 1* Results ***

Temperature =   943.0000 K

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

Component	Ref.Phase	Chem.Pot.	Activity	Amount/mol	Mass/kg
Fe		-3.863366E+04	7.245344E-03	1.732143E+03	9.673500E+01
C		-1.070487E+04	2.553001E-01	8.658730E+01	1.040000E+00
Si		-1.780432E+05	1.374307E-10	8.901390E+00	2.500000E-01
Mn		-8.873697E+04	1.215647E-05	6.370818E+00	3.500000E-01
Ni		-8.738583E+04	1.444268E-05	2.129835E+00	1.250000E-01
Mo		-8.509628E+04	1.934049E-05	5.211591E-01	5.000000E-02
Cr		-6.875717E+04	1.554176E-04	2.788676E+01	1.450000E+00
Total				1.864540E+03	1.000000E+02

Amount compnt moles	Phase	Mole fraction of component within phase		
		Fe	C	Si
1.5201E+03	BCC_A2	0.9887459	0.0003586	0.0058559
3.4269E+02	CEMENTITE	0.6655482	0.2500000	0.0000000
1.7839E+00	M23C6	0.6208954	0.2068966	0.0000000
		Mn	Ni	Mo
1.5201E+03	BCC_A2	0.0012965	0.0013261	0.0001261
3.4269E+02	CEMENTITE	0.0128364	0.0003213	0.0005927
1.7839E+00	M23C6	0.0006175	0.0022233	0.0708385
		Cr		
1.5201E+03	BCC_A2	0.0022908		
3.4269E+02	CEMENTITE	0.0707015		
1.7839E+00	M23C6	0.0985287		

Gibbs Energy = -7.2144004948E+07 J   System Enthalpy = 4.0377316244E+07 J
     953.000
*** MULTIPHASE - Stage 1* Results ***

Temperature =   953.0000 K

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

Component	Ref.Phase	Chem.Pot.	Activity	Amount/mol	Mass/kg
Fe		-3.927886E+04	7.033165E-03	1.732143E+03	9.673500E+01
C		-1.119419E+04	2.434746E-01	8.658730E+01	1.040000E+00
Si		-1.787700E+05	1.591226E-10	8.901390E+00	2.500000E-01
Mn		-8.987859E+04	1.185256E-05	6.370818E+00	3.500000E-01
Ni		-8.869776E+04	1.375727E-05	2.129835E+00	1.250000E-01
Mo		-8.532078E+04	2.106796E-05	5.211591E-01	5.000000E-02
Cr		-6.952878E+04	1.545866E-04	2.788676E+01	1.450000E+00
Total				1.864540E+03	1.000000E+02

Amount compnt moles	Phase	Mole fraction of component within phase		
		Fe	C	Si
1.5205E+03	BCC_A2	0.9884949	0.0004019	0.0058543
3.4316E+02	CEMENTITE	0.6661492	0.2500000	0.0000000
9.0610E-01	M23C6	0.6232754	0.2068966	0.0000000
		Mn	Ni	Mo
1.5205E+03	BCC_A2	0.0013577	0.0013274	0.0001482
3.4316E+02	CEMENTITE	0.0125478	0.0003194	0.0006782
9.0610E-01	M23C6	0.0006197	0.0021583	0.0695978
		Cr		
1.5205E+03	BCC_A2	0.0024156		
3.4316E+02	CEMENTITE	0.0703054		

```
 9.0610E-01 M23C6              0.0974522

Gibbs Energy = -7.3341841802E+07 J   System Enthalpy =  4.1252470667E+07 J
     963.000
*** MULTIPHASE - Stage 1* Results ***

Temperature =   963.0000 K

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

Component      Ref.Phase     Chem.Pot.    Activity     Amount/mol   Mass/kg
Fe                          -3.992930E+04 6.826942E-03 1.732143E+03 9.673500E+01
C                           -1.167697E+04 2.326155E-01 8.658729E+01 1.040000E+00
Si                          -1.795055E+05 1.834775E-10 8.901390E+00 2.500000E-01
Mn                          -9.103912E+04 1.153504E-05 6.370818E+00 3.500000E-01
Ni                          -9.001969E+04 1.310126E-05 2.129835E+00 1.250000E-01
Mo                          -8.568390E+04 2.251580E-05 5.211589E-01 4.999999E-02
Cr                          -7.031132E+04 1.535675E-04 2.788676E+01 1.450000E+00
Total                                                  1.864540E+03 1.000000E+02

Amount      Phase               Mole fraction of component within phase
compnt moles
                                Fe              C               Si
 1.5209E+03 BCC_A2             0.9882342       0.0004496       0.0058526
 3.4361E+02 CEMENTITE          0.6667705       0.2500000       0.0000000

                                Mn              Ni              Mo
 1.5209E+03 BCC_A2             0.0014204       0.0013286       0.0001708
 3.4361E+02 CEMENTITE          0.0122535       0.0003175       0.0007609

                                Cr
 1.5209E+03 BCC_A2             0.0025438
 3.4361E+02 CEMENTITE          0.0698976

Gibbs Energy = -7.4548947511E+07 J   System Enthalpy =  4.2143301815E+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
Fe                          -4.058455E+04 6.626889E-03 1.732143E+03 9.673500E+01
C                           -1.215160E+04 2.226736E-01 8.658730E+01 1.040000E+00
Si                          -1.802499E+05 2.107114E-10 8.901390E+00 2.500000E-01
Mn                          -9.220708E+04 1.122199E-05 6.370818E+00 3.500000E-01
Ni                          -9.135315E+04 1.247128E-05 2.129835E+00 1.250000E-01
Mo                          -8.706843E+04 2.118004E-05 5.211591E-01 5.000000E-02
Cr                          -7.111283E+04 1.522183E-04 2.788676E+01 1.450000E+00
Total                                                  1.864540E+03 1.000000E+02

Amount      Phase               Mole fraction of component within phase
compnt moles
                                Fe              C               Si
 1.5212E+03 BCC_A2             0.9879868       0.0005023       0.0058514
 3.4329E+02 CEMENTITE          0.6675660       0.2500000       0.0000000

                                Mn              Ni              Mo
 1.5212E+03 BCC_A2             0.0014863       0.0013289       0.0001730
 3.4329E+02 CEMENTITE          0.0119715       0.0003153       0.0007515

                                Cr
 1.5212E+03 BCC_A2             0.0026713
 3.4329E+02 CEMENTITE          0.0693957
```

Gibbs Energy = -7.5765349880E+07 J System Enthalpy = 4.3043869052E+07 J
     983.000
*** MULTIPHASE - Stage 1* Results ***

Temperature =   983.0000 K

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

Component	Ref.Phase	Chem.Pot.	Activity	Amount/mol	Mass/kg
Fe		-4.124554E+04	6.432064E-03	1.732143E+03	9.673500E+01
C		-1.261993E+04	2.135104E-01	8.658730E+01	1.040000E+00
Si		-1.810027E+05	2.410604E-10	8.901390E+00	2.500000E-01
Mn		-9.339407E+04	1.089814E-05	6.370818E+00	3.500000E-01
Ni		-9.269592E+04	1.186998E-05	2.129835E+00	1.250000E-01
Mo		-8.846411E+04	1.992113E-05	5.211591E-01	5.000000E-02
Cr		-7.192077E+04	1.507896E-04	2.788676E+01	1.450000E+00
Total				1.864540E+03	1.000000E+02

Amount compnt moles	Phase	Mole fraction of component within phase		
		Fe	C	Si
1.5216E+03	BCC_A2	0.9877294	0.0005604	0.0058500
3.4294E+02	CEMENTITE	0.6683767	0.2500000	0.0000000

Amount compnt moles	Phase	Mole fraction of component within phase		
		Mn	Ni	Mo
1.5216E+03	BCC_A2	0.0015539	0.0013292	0.0001752
3.4294E+02	CEMENTITE	0.0116827	0.0003130	0.0007423

Amount compnt moles	Phase	Mole fraction of component within phase
		Cr
1.5216E+03	BCC_A2	0.0028019
3.4294E+02	CEMENTITE	0.0688853

Gibbs Energy = -7.6991098006E+07 J System Enthalpy = 4.3962202171E+07 J
     993.000
*** MULTIPHASE - Stage 1* Results ***

Temperature =   993.0000 K

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

Component	Ref.Phase	Chem.Pot.	Activity	Amount/mol	Mass/kg
Fe		-4.191162E+04	6.242870E-03	1.732143E+03	9.673500E+01
C		-1.308436E+04	2.049947E-01	8.658730E+01	1.040000E+00
Si		-1.817670E+05	2.746484E-10	8.901390E+00	2.500000E-01
Mn		-9.460382E+04	1.056074E-05	6.370818E+00	3.500000E-01
Ni		-9.404948E+04	1.129414E-05	2.129835E+00	1.250000E-01
Mo		-8.986022E+04	1.875921E-05	5.211591E-01	5.000000E-02
Cr		-7.274235E+04	1.491561E-04	2.788676E+01	1.450000E+00
Total				1.864540E+03	1.000000E+02

Amount compnt moles	Phase	Mole fraction of component within phase		
		Fe	C	Si
1.5220E+03	BCC_A2	0.9874617	0.0006244	0.0058485
3.4255E+02	CEMENTITE	0.6692023	0.2500000	0.0000000

Amount compnt moles	Phase	Mole fraction of component within phase		
		Mn	Ni	Mo
1.5220E+03	BCC_A2	0.0016230	0.0013294	0.0001774
3.4255E+02	CEMENTITE	0.0113870	0.0003107	0.0007333

Amount compnt moles	Phase	Mole fraction of component within phase
		Cr
1.5220E+03	BCC_A2	0.0029356
3.4255E+02	CEMENTITE	0.0683667

Gibbs Energy = -7.8226283428E+07 J System Enthalpy = 4.4899479885E+07 J
     1003.00
*** MULTIPHASE - Stage 1* Results ***

Temperature = 1003.0000 K

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

Component	Ref.Phase	Chem.Pot.	Activity	Amount/mol	Mass/kg
Fe		-4.262869E+04	6.025897E-03	1.732143E+03	9.673500E+01
C		-1.353376E+04	1.973337E-01	8.658730E+01	1.040000E+00
Si		-1.825321E+05	3.120764E-10	8.901390E+00	2.500000E-01
Mn		-9.583054E+04	1.021938E-05	6.370818E+00	3.500000E-01
Ni		-9.539588E+04	1.076614E-05	2.129835E+00	1.250000E-01
Mo		-9.112186E+04	1.797375E-05	5.211590E-01	5.000000E-02
Cr		-7.367945E+04	1.455420E-04	2.788676E+01	1.450000E+00
Total				1.864540E+03	1.000000E+02

Amount compnt moles	Phase	Mole fraction of component within phase		
		Fe	C	Si
1.5224E+03	BCC_A2	0.9871831	0.0006948	0.0058469
3.4212E+02	CEMENTITE	0.6700425	0.2500000	0.0000000
		Mn	Ni	Mo
1.5224E+03	BCC_A2	0.0016938	0.0013297	0.0001795
3.4212E+02	CEMENTITE	0.0110845	0.0003083	0.0007244
		Cr		
1.5224E+03	BCC_A2	0.0030723		
3.4212E+02	CEMENTITE	0.0678404		

Gibbs Energy = -7.9471008310E+07 J System Enthalpy = 4.5857002279E+07 J
     1013.00
*** MULTIPHASE - Stage 1* Results ***

Temperature = 1013.0000 K

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

Component	Ref.Phase	Chem.Pot.	Activity	Amount/mol	Mass/kg
Fe		-4.327314E+04	5.870929E-03	1.732143E+03	9.673500E+01
C		-1.441040E+04	1.806992E-01	8.658730E+01	1.040000E+00
Si		-1.808470E+05	4.731378E-10	8.901390E+00	2.500000E-01
Mn		-1.007126E+05	6.411425E-06	6.370818E+00	3.500000E-01
Ni		-1.024158E+05	5.237636E-06	2.129835E+00	1.250000E-01
Mo		-9.064847E+04	2.117837E-05	5.211591E-01	5.000000E-02
Cr		-7.250255E+04	1.826209E-04	2.788676E+01	1.450000E+00
Total				1.864540E+03	1.000000E+02

Amount compnt moles	Phase	Mole fraction of component within phase		
		Fe	C	Si
4.6820E+02	BCC_A2	0.9856022	0.0007350	0.0075929
2.0705E+02	CEMENTITE	0.6580660	0.2500000	0.0000000
1.1893E+03	FCC_A1	0.9538729	0.0289925	0.0044955
		Mn	Ni	Mo
4.6820E+02	BCC_A2	0.0011629	0.0006645	0.0002266
2.0705E+02	CEMENTITE	0.0068596	0.0001540	0.0008549
1.1893E+03	FCC_A1	0.0037048	0.0015024	0.0002002
		Cr		
4.6820E+02	BCC_A2	0.0040159		
2.0705E+02	CEMENTITE	0.0840655		

```
 1.1893E+03 FCC_A1             0.0072318

Gibbs Energy = -8.0742847177E+07 J   System Enthalpy =  5.1402451338E+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
Fe                          -4.399932E+04 5.668133E-03 1.732143E+03 9.673500E+01
C                           -1.508056E+04 1.698253E-01 8.658730E+01 1.040000E+00
Si                          -1.800601E+05 6.402028E-10 8.901390E+00 2.500000E-01
Mn                          -1.031450E+05 5.414079E-06 6.370818E+00 3.500000E-01
Ni                          -1.053214E+05 4.191777E-06 2.129835E+00 1.250000E-01
Mo                          -9.105036E+04 2.244207E-05 5.211591E-01 5.000000E-02
Cr                          -7.231806E+04 2.030088E-04 2.788676E+01 1.450000E+00
Total                                                  1.864540E+03 1.000000E+02

Amount      Phase               Mole fraction of component within phase
compnt moles
                                Fe              C               Si
 1.4544E+02 CEMENTITE          0.6494749       0.2500000       0.0000000
 1.7191E+03 FCC_A1             0.9526395       0.0292175       0.0051779

                                Mn              Ni              Mo
 1.4544E+02 CEMENTITE          0.0057654       0.0001276       0.0009156
 1.7191E+03 FCC_A1             0.0032181       0.0012281       0.0002257

                                Cr
 1.4544E+02 CEMENTITE          0.0937165
 1.7191E+03 FCC_A1             0.0082932

Gibbs Energy = -8.2067089932E+07 J   System Enthalpy =  5.4086039952E+07 J
     1033.00
*** MULTIPHASE - Stage 1* Results ***

Temperature =  1033.0000 K

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

Component      Ref.Phase     Chem.Pot.    Activity     Amount/mol   Mass/kg
Fe                          -4.472827E+04 5.474305E-03 1.732143E+03 9.673500E+01
C                           -1.544026E+04 1.656793E-01 8.658730E+01 1.040000E+00
Si                          -1.806938E+05 7.299219E-10 8.901390E+00 2.500000E-01
Mn                          -1.043302E+05 5.303639E-06 6.370818E+00 3.500000E-01
Ni                          -1.065563E+05 4.092737E-06 2.129835E+00 1.250000E-01
Mo                          -9.247924E+04 2.107736E-05 5.211591E-01 5.000000E-02
Cr                          -7.309025E+04 2.014719E-04 2.788676E+01 1.450000E+00
Total                                                  1.864540E+03 1.000000E+02

Amount      Phase               Mole fraction of component within phase
compnt moles
                                Fe              C               Si
 1.3767E+02 CEMENTITE          0.6494100       0.2500000       0.0000000
 1.7269E+03 FCC_A1             0.9512807       0.0302108       0.0051546

                                Mn              Ni              Mo
 1.3767E+02 CEMENTITE          0.0057108       0.0001304       0.0009034
 1.7269E+03 FCC_A1             0.0032340       0.0012230       0.0002298

                                Cr
 1.3767E+02 CEMENTITE          0.0938454
 1.7269E+03 FCC_A1             0.0086672
```

Gibbs Energy = -8.3401304304E+07 J System Enthalpy = 5.4762811338E+07 J
     1043.00
*** MULTIPHASE - Stage 1* Results ***

Temperature = 1043.0000 K

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

Component	Ref.Phase	Chem.Pot.	Activity	Amount/mol	Mass/kg
Fe		-4.546368E+04	5.286695E-03	1.732143E+03	9.673500E+01
C		-1.580052E+04	1.617007E-01	8.658730E+01	1.040000E+00
Si		-1.813310E+05	8.297778E-10	8.901390E+00	2.500000E-01
Mn		-1.055197E+05	5.194973E-06	6.370818E+00	3.500000E-01
Ni		-1.077944E+05	3.996384E-06	2.129835E+00	1.250000E-01
Mo		-9.391123E+04	1.981237E-05	5.211591E-01	5.000000E-02
Cr		-7.386351E+04	1.999510E-04	2.788676E+01	1.450000E+00
Total				1.864540E+03	1.000000E+02

Amount compnt moles	Phase	Mole fraction of component within phase		
		Fe	C	Si
1.2970E+02	CEMENTITE	0.6493584	0.2500000	0.0000001
1.7348E+03	FCC_A1	0.9498972	0.0312209	0.0051309

Amount compnt moles	Phase	Mole fraction of component within phase		
		Mn	Ni	Mo
1.2970E+02	CEMENTITE	0.0056578	0.0001332	0.0008914
1.7348E+03	FCC_A1	0.0032493	0.0012177	0.0002338

Amount compnt moles	Phase	Mole fraction of component within phase
		Cr
1.2970E+02	CEMENTITE	0.0939592
1.7348E+03	FCC_A1	0.0090502

Gibbs Energy = -8.4742087293E+07 J System Enthalpy = 5.5443110493E+07 J
     1053.00
*** MULTIPHASE - Stage 1* Results ***

Temperature = 1053.0000 K

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

Component	Ref.Phase	Chem.Pot.	Activity	Amount/mol	Mass/kg
Fe		-4.620149E+04	5.107490E-03	1.732143E+03	9.673500E+01
C		-1.616092E+04	1.578879E-01	8.658730E+01	1.040000E+00
Si		-1.819653E+05	9.413202E-10	8.901390E+00	2.500000E-01
Mn		-1.067135E+05	5.088037E-06	6.370818E+00	3.500000E-01
Ni		-1.090359E+05	3.902579E-06	2.129835E+00	1.250000E-01
Mo		-9.535162E+04	1.862731E-05	5.211591E-01	5.000000E-02
Cr		-7.464361E+04	1.983154E-04	2.788676E+01	1.450000E+00
Total				1.864540E+03	1.000000E+02

Amount compnt moles	Phase	Mole fraction of component within phase		
		Fe	C	Si
1.2152E+02	CEMENTITE	0.6493206	0.2500000	0.0000001
1.7430E+03	FCC_A1	0.9484893	0.0322477	0.0051069

Amount compnt moles	Phase	Mole fraction of component within phase		
		Mn	Ni	Mo
1.2152E+02	CEMENTITE	0.0056062	0.0001360	0.0008794
1.7430E+03	FCC_A1	0.0032642	0.0012124	0.0002377

Amount compnt moles	Phase	Mole fraction of component within phase
		Cr
1.2152E+02	CEMENTITE	0.0940577
1.7430E+03	FCC_A1	0.0094418

Gibbs Energy = -8.6089409914E+07 J System Enthalpy = 5.6126981501E+07 J
     1063.00
*** MULTIPHASE - Stage 1* Results ***

Temperature = 1063.0000 K

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

Component	Ref.Phase	Chem.Pot.	Activity	Amount/mol	Mass/kg
Fe		-4.694170E+04	4.936228E-03	1.732143E+03	9.673500E+01
C		-1.652021E+04	1.542538E-01	8.658730E+01	1.040000E+00
Si		-1.826025E+05	1.064986E-09	8.901390E+00	2.500000E-01
Mn		-1.079125E+05	4.982361E-06	6.370818E+00	3.500000E-01
Ni		-1.102815E+05	3.810871E-06	2.129835E+00	1.250000E-01
Mo		-9.680019E+04	1.751726E-05	5.211591E-01	5.000000E-02
Cr		-7.543053E+04	1.965717E-04	2.788676E+01	1.450000E+00
Total				1.864540E+03	1.000000E+02

Amount compnt moles	Phase	Mole fraction of component within phase		
		Fe	C	Si
1.1312E+02	CEMENTITE	0.6492966	0.2500000	0.0000001
1.7514E+03	FCC_A1	0.9470570	0.0332913	0.0050824

Amount compnt moles	Phase	Mole fraction of component within phase		
		Mn	Ni	Mo
1.1312E+02	CEMENTITE	0.0055562	0.0001388	0.0008675
1.7514E+03	FCC_A1	0.0032787	0.0012071	0.0002415

Amount compnt moles	Phase	Mole fraction of component within phase
		Cr
1.1312E+02	CEMENTITE	0.0941408
1.7514E+03	FCC_A1	0.0098420

Gibbs Energy = -8.7443244260E+07 J System Enthalpy = 5.6814481102E+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
Fe		-4.768782E+04	4.770577E-03	1.732143E+03	9.673500E+01
C		-1.688105E+04	1.507424E-01	8.658730E+01	1.040000E+00
Si		-1.832375E+05	1.202414E-09	8.901390E+00	2.500000E-01
Mn		-1.091145E+05	4.879062E-06	6.370818E+00	3.500000E-01
Ni		-1.115295E+05	3.722021E-06	2.129835E+00	1.250000E-01
Mo		-9.825185E+04	1.648652E-05	5.211591E-01	5.000000E-02
Cr		-7.621914E+04	1.948386E-04	2.788676E+01	1.450000E+00
Total				1.864540E+03	1.000000E+02

Amount compnt moles	Phase	Mole fraction of component within phase		
		Fe	C	Si
1.0451E+02	CEMENTITE	0.6492869	0.2500000	0.0000001
1.7600E+03	FCC_A1	0.9456004	0.0343519	0.0050575

Amount compnt moles	Phase	Mole fraction of component within phase		
		Mn	Ni	Mo
1.0451E+02	CEMENTITE	0.0055075	0.0001416	0.0008558
1.7600E+03	FCC_A1	0.0032927	0.0012017	0.0002453

Amount compnt moles	Phase	Mole fraction of component within phase
		Cr
1.0451E+02	CEMENTITE	0.0942082
1.7600E+03	FCC_A1	0.0102505

Gibbs Energy = -8.8803563487E+07 J System Enthalpy = 5.7505669354E+07 J

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     1083.00
*** MULTIPHASE - Stage 1* Results ***

Temperature =  1083.0000 K

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

Component      Ref.Phase     Chem.Pot.    Activity     Amount/mol   Mass/kg
Fe                          -4.843641E+04 4.612128E-03 1.732143E+03 9.673500E+01
C                           -1.724030E+04 1.473998E-01 8.658730E+01 1.040000E+00
Si                          -1.838752E+05 1.354123E-09 8.901390E+00 2.500000E-01
Mn                          -1.103219E+05 4.776977E-06 6.370818E+00 3.500000E-01
Ni                          -1.127818E+05 3.635056E-06 2.129835E+00 1.250000E-01
Mo                          -9.970899E+04 1.552437E-05 5.211591E-01 5.000000E-02
Cr                          -7.701765E+04 1.929400E-04 2.788676E+01 1.450000E+00
Total                                                  1.864540E+03 1.000000E+02

Amount      Phase               Mole fraction of component within phase
compnt moles
                                Fe              C               Si
 9.5669E+01 CEMENTITE          0.6492912       0.2500000       0.0000001
 1.7689E+03 FCC_A1             0.9441196       0.0354294       0.0050322

                                Mn              Ni              Mo
 9.5669E+01 CEMENTITE          0.0054603       0.0001444       0.0008442
 1.7689E+03 FCC_A1             0.0033063       0.0011963       0.0002490

                                Cr
 9.5669E+01 CEMENTITE          0.0942599
 1.7689E+03 FCC_A1             0.0106673

Gibbs Energy = -9.0170341815E+07 J   System Enthalpy =  5.8200606588E+07 J
     1093.00
*** MULTIPHASE - Stage 1* Results ***

Temperature =  1093.0000 K

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

Component      Ref.Phase     Chem.Pot.    Activity     Amount/mol   Mass/kg
Fe                          -4.919006E+04 4.459217E-03 1.732143E+03 9.673500E+01
C                           -1.760228E+04 1.441469E-01 8.658730E+01 1.040000E+00
Si                          -1.845087E+05 1.522385E-09 8.901390E+00 2.500000E-01
Mn                          -1.115310E+05 4.677914E-06 6.370818E+00 3.500000E-01
Ni                          -1.140350E+05 3.551283E-06 2.129835E+00 1.250000E-01
Mo                          -1.011720E+05 1.462498E-05 5.211591E-01 5.000000E-02
Cr                          -7.781072E+04 1.912086E-04 2.788676E+01 1.450000E+00
Total                                                  1.864540E+03 1.000000E+02

Amount      Phase               Mole fraction of component within phase
compnt moles
                                Fe              C               Si
 8.6599E+01 CEMENTITE          0.6493096       0.2500000       0.0000001
 1.7779E+03 FCC_A1             0.9426147       0.0365240       0.0050066

                                Mn              Ni              Mo
 8.6599E+01 CEMENTITE          0.0054146       0.0001472       0.0008326
 1.7779E+03 FCC_A1             0.0033195       0.0011908       0.0002526

                                Cr
 8.6599E+01 CEMENTITE          0.0942960
 1.7779E+03 FCC_A1             0.0110919

Gibbs Energy = -9.1543554509E+07 J   System Enthalpy =  5.8899356343E+07 J
     1103.00
```

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

Temperature = 1103.0000 K

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

Component	Ref.Phase	Chem.Pot.	Activity	Amount/mol	Mass/kg
Fe		-4.994437E+04	4.313700E-03	1.732143E+03	9.673500E+01
C		-1.795916E+04	1.411016E-01	8.658730E+01	1.040000E+00
Si		-1.851468E+05	1.707048E-09	8.901390E+00	2.500000E-01
Mn		-1.127482E+05	4.578604E-06	6.370818E+00	3.500000E-01
Ni		-1.152956E+05	3.468138E-06	2.129835E+00	1.250000E-01
Mo		-1.026535E+05	1.376487E-05	5.211591E-01	5.000000E-02
Cr		-7.861985E+04	1.891921E-04	2.788676E+01	1.450000E+00
Total				1.864540E+03	1.000000E+02

Amount compnt moles	Phase	Mole fraction of component within phase		
		Fe	C	Si
7.7291E+01	CEMENTITE	0.6493422	0.2500000	0.0000001
1.7872E+03	FCC_A1	0.9410857	0.0376358	0.0049805
		Mn	Ni	Mo
7.7291E+01	CEMENTITE	0.0053701	0.0001500	0.0008212
1.7872E+03	FCC_A1	0.0033324	0.0011852	0.0002561
		Cr		
7.7291E+01	CEMENTITE	0.0943163		
1.7872E+03	FCC_A1	0.0115244		

Gibbs Energy = -9.2923177883E+07 J   System Enthalpy = 5.9601985293E+07 J
     1113.00
*** MULTIPHASE - Stage 1* Results ***

Temperature = 1113.0000 K

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

Component	Ref.Phase	Chem.Pot.	Activity	Amount/mol	Mass/kg
Fe		-5.070419E+04	4.172937E-03	1.732143E+03	9.673500E+01
C		-1.831783E+04	1.381467E-01	8.658730E+01	1.040000E+00
Si		-1.857834E+05	1.910489E-09	8.901390E+00	2.500000E-01
Mn		-1.139676E+05	4.482046E-06	6.370818E+00	3.500000E-01
Ni		-1.165577E+05	3.387832E-06	2.129835E+00	1.250000E-01
Mo		-1.041335E+05	1.297162E-05	5.211591E-01	5.000000E-02
Cr		-7.943004E+04	1.872111E-04	2.788676E+01	1.450000E+00
Total				1.864540E+03	1.000000E+02

Amount compnt moles	Phase	Mole fraction of component within phase		
		Fe	C	Si
6.7739E+01	CEMENTITE	0.6493888	0.2500000	0.0000001
1.7968E+03	FCC_A1	0.9395329	0.0387648	0.0049540
		Mn	Ni	Mo
6.7739E+01	CEMENTITE	0.0053271	0.0001529	0.0008100
1.7968E+03	FCC_A1	0.0033448	0.0011796	0.0002595
		Cr		
6.7739E+01	CEMENTITE	0.0943212		
1.7968E+03	FCC_A1	0.0119644		

Gibbs Energy = -9.4309189296E+07 J   System Enthalpy = 6.0308562293E+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
Fe		-5.146732E+04	4.037720E-03	1.732143E+03	9.673500E+01
C		-1.867553E+04	1.353188E-01	8.658730E+01	1.040000E+00
Si		-1.864197E+05	2.133967E-09	8.901390E+00	2.500000E-01
Mn		-1.151915E+05	4.387113E-06	6.370818E+00	3.500000E-01
Ni		-1.178235E+05	3.309450E-06	2.129835E+00	1.250000E-01
Mo		-1.056211E+05	1.222694E-05	5.211591E-01	5.000000E-02
Cr		-8.024654E+04	1.851604E-04	2.788676E+01	1.450000E+00
Total				1.864540E+03	1.000000E+02

Amount compnt moles	Phase	Mole fraction of component within phase		
		Fe	C	Si
5.7934E+01	CEMENTITE	0.6494496	0.2500000	0.0000001
1.8066E+03	FCC_A1	0.9379564	0.0399112	0.0049271
		Mn	Ni	Mo
5.7934E+01	CEMENTITE	0.0052853	0.0001557	0.0007988
1.8066E+03	FCC_A1	0.0033569	0.0011739	0.0002629
		Cr		
5.7934E+01	CEMENTITE	0.0943104		
1.8066E+03	FCC_A1	0.0124117		

Gibbs Energy = -9.5701567147E+07 J   System Enthalpy = 6.1019159886E+07 J
     1133.00
*** MULTIPHASE - Stage 1* Results ***

Temperature = 1133.0000 K

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

Component	Ref.Phase	Chem.Pot.	Activity	Amount/mol	Mass/kg
Fe		-5.223411E+04	3.907638E-03	1.732143E+03	9.673500E+01
C		-1.903317E+04	1.325980E-01	8.658730E+01	1.040000E+00
Si		-1.870561E+05	2.378917E-09	8.901390E+00	2.500000E-01
Mn		-1.164189E+05	4.294187E-06	6.370818E+00	3.500000E-01
Ni		-1.190922E+05	3.233219E-06	2.129835E+00	1.250000E-01
Mo		-1.071147E+05	1.152979E-05	5.211591E-01	5.000000E-02
Cr		-8.106607E+04	1.831088E-04	2.788676E+01	1.450000E+00
Total				1.864540E+03	1.000000E+02

Amount compnt moles	Phase	Mole fraction of component within phase		
		Fe	C	Si
4.7871E+01	CEMENTITE	0.6495245	0.2500000	0.0000001
1.8167E+03	FCC_A1	0.9363562	0.0410749	0.0048998
		Mn	Ni	Mo
4.7871E+01	CEMENTITE	0.0052449	0.0001586	0.0007878
1.8167E+03	FCC_A1	0.0033687	0.0011682	0.0002661
		Cr		
4.7871E+01	CEMENTITE	0.0942841		
1.8167E+03	FCC_A1	0.0128660		

Gibbs Energy = -9.7100290878E+07 J   System Enthalpy = 6.1733853788E+07 J
     1143.00
*** MULTIPHASE - Stage 1* Results ***

Temperature = 1143.0000 K

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

Component	Ref.Phase	Chem.Pot.	Activity	Amount/mol	Mass/kg
Fe		-5.300321E+04	3.782994E-03	1.732143E+03	9.673500E+01
C		-1.938923E+04	1.299997E-01	8.658730E+01	1.040000E+00
Si		-1.876933E+05	2.646734E-09	8.901390E+00	2.500000E-01
Mn		-1.176510E+05	4.202756E-06	6.370818E+00	3.500000E-01
Ni		-1.203650E+05	3.158696E-06	2.129835E+00	1.250000E-01
Mo		-1.086147E+05	1.087617E-05	5.211591E-01	5.000000E-02
Cr		-8.189549E+04	1.809270E-04	2.788676E+01	1.450000E+00
Total				1.864540E+03	1.000000E+02

Amount compnt moles	Phase	Mole fraction of component within phase		
		Fe	C	Si
3.7541E+01	CEMENTITE	0.6496129	0.2500000	0.0000001
1.8270E+03	FCC_A1	0.9347326	0.0422562	0.0048721
		Mn	Ni	Mo
3.7541E+01	CEMENTITE	0.0052058	0.0001614	0.0007770
1.8270E+03	FCC_A1	0.0033801	0.0011624	0.0002693
		Cr		
3.7541E+01	CEMENTITE	0.0942428		
1.8270E+03	FCC_A1	0.0133272		

Gibbs Energy = -9.8505340977E+07 J   System Enthalpy = 6.2452722343E+07 J
     1153.00
*** MULTIPHASE - Stage 1* Results ***

Temperature = 1153.0000 K

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

Component	Ref.Phase	Chem.Pot.	Activity	Amount/mol	Mass/kg
Fe		-5.377610E+04	3.662940E-03	1.732143E+03	9.673500E+01
C		-1.974466E+04	1.275045E-01	8.658730E+01	1.040000E+00
Si		-1.883300E+05	2.939384E-09	8.901390E+00	2.500000E-01
Mn		-1.188869E+05	4.113142E-06	6.370818E+00	3.500000E-01
Ni		-1.216410E+05	3.086079E-06	2.129835E+00	1.250000E-01
Mo		-1.101219E+05	1.026239E-05	5.211591E-01	5.000000E-02
Cr		-8.272911E+04	1.787300E-04	2.788676E+01	1.450000E+00
Total				1.864540E+03	1.000000E+02

Amount compnt moles	Phase	Mole fraction of component within phase		
		Fe	C	Si
2.6936E+01	CEMENTITE	0.6497150	0.2500000	0.0000001
1.8376E+03	FCC_A1	0.9330858	0.0434551	0.0048440
		Mn	Ni	Mo
2.6936E+01	CEMENTITE	0.0051679	0.0001643	0.0007662
1.8376E+03	FCC_A1	0.0033912	0.0011566	0.0002724
		Cr		
2.6936E+01	CEMENTITE	0.0941864		
1.8376E+03	FCC_A1	0.0137950		

Gibbs Energy = -9.9916698979E+07 J   System Enthalpy = 6.3175848654E+07 J
     1163.00
*** MULTIPHASE - Stage 1* Results ***

Temperature = 1163.0000 K

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

Component	Ref.Phase	Chem.Pot.	Activity	Amount/mol	Mass/kg
Fe		-5.455451E+04	3.546636E-03	1.732143E+03	9.673500E+01
C		-2.009993E+04	1.251009E-01	8.658730E+01	1.040000E+00
Si		-1.889663E+05	3.258630E-09	8.901390E+00	2.500000E-01
Mn		-1.201261E+05	4.025585E-06	6.370818E+00	3.500000E-01
Ni		-1.229198E+05	3.015485E-06	2.129835E+00	1.250000E-01
Mo		-1.116325E+05	9.689442E-06	5.211591E-01	5.000000E-02
Cr		-8.356542E+04	1.765476E-04	2.788676E+01	1.450000E+00
Total				1.864540E+03	1.000000E+02

Amount compnt moles	Phase	Mole fraction of component within phase		
		Fe	C	Si
1.6049E+01	CEMENTITE	0.6498307	0.2500000	0.0000001
1.8485E+03	FCC_A1	0.9314158	0.0446715	0.0048155
		Mn	Ni	Mo
1.6049E+01	CEMENTITE	0.0051313	0.0001672	0.0007556
1.8485E+03	FCC_A1	0.0034019	0.0011508	0.0002754
		Cr		
1.6049E+01	CEMENTITE	0.0941150		
1.8485E+03	FCC_A1	0.0142691		

Gibbs Energy = -1.0133434748E+08 J   System Enthalpy = 6.3903319797E+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
Fe		-5.533498E+04	3.435189E-03	1.732143E+03	9.673500E+01
C		-2.045390E+04	1.227988E-01	8.658730E+01	1.040000E+00
Si		-1.896028E+05	3.606185E-09	8.901390E+00	2.500000E-01
Mn		-1.213694E+05	3.939665E-06	6.370818E+00	3.500000E-01
Ni		-1.242022E+05	2.946568E-06	2.129835E+00	1.250000E-01
Mo		-1.131509E+05	9.150075E-06	5.211591E-01	5.000000E-02
Cr		-8.440859E+04	1.743058E-04	2.788676E+01	1.450000E+00
Total				1.864540E+03	1.000000E+02

Amount compnt moles	Phase	Mole fraction of component within phase		
		Fe	C	Si
4.8712E+00	CEMENTITE	0.6499597	0.2500000	0.0000001
1.8597E+03	FCC_A1	0.9297229	0.0459057	0.0047865
		Mn	Ni	Mo
4.8712E+00	CEMENTITE	0.0050959	0.0001701	0.0007452
1.8597E+03	FCC_A1	0.0034124	0.0011448	0.0002783
		Cr		
4.8712E+00	CEMENTITE	0.0940290		
1.8597E+03	FCC_A1	0.0147493		

Gibbs Energy = -1.0275827012E+08 J   System Enthalpy = 6.4635225536E+07 J
     1183.00
*** MULTIPHASE - Stage 1* Results ***

Temperature = 1183.0000 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
Fe                          -5.610822E+04 3.331489E-03 1.732143E+03 9.673500E+01
C                           -2.099235E+04 1.183366E-01 8.658730E+01 1.040000E+00
Si                          -1.903035E+05 3.958027E-09 8.901390E+00 2.500000E-01
Mn                          -1.226102E+05 3.857980E-06 6.370818E+00 3.500000E-01
Ni                          -1.254916E+05 2.878295E-06 2.129835E+00 1.250000E-01
Mo                          -1.146589E+05 8.658367E-06 5.211591E-01 5.000000E-02
Cr                          -8.535442E+04 1.703424E-04 2.788676E+01 1.450000E+00
Total                                                  1.864540E+03 1.000000E+02

Amount      Phase               Mole fraction of component within phase
compnt moles
                                Fe              C               Si
 1.8645E+03 FCC_A1             0.9289920       0.0464389       0.0047740

                                Mn              Ni              Mo
 1.8645E+03 FCC_A1             0.0034168       0.0011423       0.0002795

                                Cr
 1.8645E+03 FCC_A1             0.0149564

Gibbs Energy = -1.0418829230E+08 J   System Enthalpy =  6.5305845585E+07 J
     1193.00
*** MULTIPHASE - Stage 1* Results ***

Temperature =  1193.0000 K

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

Component      Ref.Phase     Chem.Pot.    Activity     Amount/mol   Mass/kg
Fe                          -5.688083E+04 3.232785E-03 1.732143E+03 9.673500E+01
C                           -2.166950E+04 1.125228E-01 8.658730E+01 1.040000E+00
Si                          -1.910552E+05 4.315148E-09 8.901390E+00 2.500000E-01
Mn                          -1.238498E+05 3.779755E-06 6.370818E+00 3.500000E-01
Ni                          -1.267887E+05 2.810536E-06 2.129835E+00 1.250000E-01
Mo                          -1.161624E+05 8.204346E-06 5.211590E-01 5.000000E-02
Cr                          -8.637738E+04 1.652435E-04 2.788676E+01 1.450000E+00
Total                                                  1.864540E+03 1.000000E+02

Amount      Phase               Mole fraction of component within phase
compnt moles
                                Fe              C               Si
 1.8645E+03 FCC_A1             0.9289920       0.0464389       0.0047740

                                Mn              Ni              Mo
 1.8645E+03 FCC_A1             0.0034168       0.0011423       0.0002795

                                Cr
 1.8645E+03 FCC_A1             0.0149564

Gibbs Energy = -1.0562366819E+08 J   System Enthalpy =  6.5929518335E+07 J
     1203.00
*** MULTIPHASE - Stage 1* Results ***

Temperature =  1203.0000 K

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

Component      Ref.Phase     Chem.Pot.    Activity     Amount/mol   Mass/kg
Fe                          -5.764683E+04 3.140651E-03 1.732143E+03 9.673500E+01
C                           -2.235340E+04 1.070120E-01 8.658730E+01 1.040000E+00
Si                          -1.918002E+05 4.700956E-09 8.901390E+00 2.500000E-01
Mn                          -1.250869E+05 3.705315E-06 6.370818E+00 3.500000E-01
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Ni                          -1.280795E+05 2.747191E-06 2.129835E+00 1.250000E-01
Mo                          -1.176263E+05 7.811955E-06 5.211591E-01 5.000000E-02
Cr                          -8.741068E+04 1.602125E-04 2.788676E+01 1.450000E+00
Total                                                  1.864540E+03 1.000000E+02

Amount      Phase               Mole fraction of component within phase
compnt moles
                                Fe              C               Si
 1.8645E+03 FCC_A1             0.9289920       0.0464389       0.0047740

                                Mn              Ni              Mo
 1.8645E+03 FCC_A1             0.0034168       0.0011423       0.0002795

                                Cr
 1.8645E+03 FCC_A1             0.0149564

Gibbs Energy = -1.0706427853E+08 J   System Enthalpy =  6.6554775989E+07 J
     1213.00
*** MULTIPHASE - Stage 1* Results ***

Temperature =  1213.0000 K

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

Component      Ref.Phase     Chem.Pot.    Activity     Amount/mol   Mass/kg
Fe                          -5.842191E+04 3.049850E-03 1.732143E+03 9.673500E+01
C                           -2.303624E+04 1.018662E-01 8.658730E+01 1.040000E+00
Si                          -1.925532E+05 5.109946E-09 8.901390E+00 2.500000E-01
Mn                          -1.263314E+05 3.630871E-06 6.370818E+00 3.500000E-01
Ni                          -1.293789E+05 2.683993E-06 2.129835E+00 1.250000E-01
Mo                          -1.191191E+05 7.423001E-06 5.211591E-01 5.000000E-02
Cr                          -8.844184E+04 1.554469E-04 2.788676E+01 1.450000E+00
Total                                                  1.864540E+03 1.000000E+02

Amount      Phase               Mole fraction of component within phase
compnt moles
                                Fe              C               Si
 1.8645E+03 FCC_A1             0.9289920       0.0464389       0.0047740

                                Mn              Ni              Mo
 1.8645E+03 FCC_A1             0.0034168       0.0011423       0.0002795

                                Cr
 1.8645E+03 FCC_A1             0.0149564

Gibbs Energy = -1.0851009298E+08 J   System Enthalpy =  6.7181618754E+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
Fe                          -5.919668E+04 2.963184E-03 1.732143E+03 9.673500E+01
C                           -2.372138E+04 9.702407E-02 8.658730E+01 1.040000E+00
Si                          -1.933072E+05 5.546352E-09 8.901390E+00 2.500000E-01
Mn                          -1.275779E+05 3.558381E-06 6.370818E+00 3.500000E-01
Ni                          -1.306799E+05 2.622825E-06 2.129835E+00 1.250000E-01
Mo                          -1.206130E+05 7.058594E-06 5.211591E-01 5.000000E-02
Cr                          -8.947507E+04 1.508668E-04 2.788676E+01 1.450000E+00
Total                                                  1.864540E+03 1.000000E+02

Amount      Phase               Mole fraction of component within phase
compnt moles
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                                  Fe              C               Si
 1.8645E+03 FCC_A1              0.9289920       0.0464389       0.0047740

                                  Mn              Ni              Mo
 1.8645E+03 FCC_A1              0.0034168       0.0011423       0.0002795

                                  Cr
 1.8645E+03 FCC_A1              0.0149564

Gibbs Energy = -1.0996108172E+08 J   System Enthalpy =  6.7810046879E+07 J
     1233.00
*** MULTIPHASE - Stage 1* Results ***

Temperature =  1233.0000 K

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

Component      Ref.Phase     Chem.Pot.    Activity     Amount/mol   Mass/kg
Fe                          -5.997609E+04 2.879024E-03 1.732143E+03 9.673500E+01
C                           -2.440893E+04 9.246332E-02 8.658730E+01 1.040000E+00
Si                          -1.940630E+05 6.011023E-09 8.901390E+00 2.500000E-01
Mn                          -1.288272E+05 3.487562E-06 6.370818E+00 3.500000E-01
Ni                          -1.319832E+05 2.563445E-06 2.129835E+00 1.250000E-01
Mo                          -1.221091E+05 6.716087E-06 5.211591E-01 5.000000E-02
Cr                          -9.050752E+04 1.465038E-04 2.788676E+01 1.450000E+00
Total                                                  1.864540E+03 1.000000E+02

Amount      Phase               Mole fraction of component within phase
compnt moles
                                  Fe              C               Si
 1.8645E+03 FCC_A1              0.9289920       0.0464389       0.0047740

                                  Mn              Ni              Mo
 1.8645E+03 FCC_A1              0.0034168       0.0011423       0.0002795

                                  Cr
 1.8645E+03 FCC_A1              0.0149564

Gibbs Energy = -1.1141721539E+08 J   System Enthalpy =  6.8440060632E+07 J
     1243.00
*** MULTIPHASE - Stage 1* Results ***

Temperature =  1243.0000 K

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

Component      Ref.Phase     Chem.Pot.    Activity     Amount/mol   Mass/kg
Fe                          -6.075787E+04 2.797912E-03 1.732143E+03 9.673500E+01
C                           -2.509790E+04 8.817319E-02 8.658730E+01 1.040000E+00
Si                          -1.948218E+05 6.504339E-09 8.901390E+00 2.500000E-01
Mn                          -1.300803E+05 3.417962E-06 6.370818E+00 3.500000E-01
Ni                          -1.332900E+05 2.505486E-06 2.129835E+00 1.250000E-01
Mo                          -1.236058E+05 6.395004E-06 5.211591E-01 5.000000E-02
Cr                          -9.154840E+04 1.422181E-04 2.788676E+01 1.450000E+00
Total                                                  1.864540E+03 1.000000E+02

Amount      Phase               Mole fraction of component within phase
compnt moles
                                  Fe              C               Si
 1.8645E+03 FCC_A1              0.9289920       0.0464389       0.0047740

                                  Mn              Ni              Mo
 1.8645E+03 FCC_A1              0.0034168       0.0011423       0.0002795

                                  Cr
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 1.8645E+03 FCC_A1             0.0149564

Gibbs Energy = -1.1287846513E+08 J   System Enthalpy =  6.9071660359E+07 J
     1253.00
*** MULTIPHASE - Stage 1* Results ***

Temperature =  1253.0000 K

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

Component      Ref.Phase     Chem.Pot.    Activity     Amount/mol   Mass/kg
Fe                          -6.154358E+04 2.719299E-03 1.732143E+03 9.673500E+01
C                           -2.578787E+04 8.413777E-02 8.658730E+01 1.040000E+00
Si                          -1.955838E+05 7.027093E-09 8.901390E+00 2.500000E-01
Mn                          -1.313377E+05 3.349472E-06 6.370818E+00 3.500000E-01
Ni                          -1.346005E+05 2.448839E-06 2.129835E+00 1.250000E-01
Mo                          -1.251083E+05 6.090560E-06 5.211591E-01 5.000000E-02
Cr                          -9.259185E+04 1.380891E-04 2.788676E+01 1.450000E+00
Total                                                  1.864540E+03 1.000000E+02

Amount      Phase               Mole fraction of component within phase
compnt moles
                                Fe              C               Si
 1.8645E+03 FCC_A1             0.9289920       0.0464389       0.0047740

                                Mn              Ni              Mo
 1.8645E+03 FCC_A1             0.0034168       0.0011423       0.0002795

                                Cr
 1.8645E+03 FCC_A1             0.0149564

Gibbs Energy = -1.1434480255E+08 J   System Enthalpy =  6.9704846437E+07 J
     1263.00
*** MULTIPHASE - Stage 1* Results ***

Temperature =  1263.0000 K

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

Component      Ref.Phase     Chem.Pot.    Activity     Amount/mol   Mass/kg
Fe                          -6.232886E+04 2.644193E-03 1.732143E+03 9.673500E+01
C                           -2.648254E+04 8.031070E-02 8.658730E+01 1.040000E+00
Si                          -1.963435E+05 7.584172E-09 8.901390E+00 2.500000E-01
Mn                          -1.325938E+05 3.283795E-06 6.370818E+00 3.500000E-01
Ni                          -1.359094E+05 2.394722E-06 2.129835E+00 1.250000E-01
Mo                          -1.266012E+05 5.810450E-06 5.211591E-01 5.000000E-02
Cr                          -9.363427E+04 1.341559E-04 2.788676E+01 1.450000E+00
Total                                                  1.864540E+03 1.000000E+02

Amount      Phase               Mole fraction of component within phase
compnt moles
                                Fe              C               Si
 1.8645E+03 FCC_A1             0.9289920       0.0464389       0.0047740

                                Mn              Ni              Mo
 1.8645E+03 FCC_A1             0.0034168       0.0011423       0.0002795

                                Cr
 1.8645E+03 FCC_A1             0.0149564

Gibbs Energy = -1.1581619969E+08 J   System Enthalpy =  7.0339619263E+07 J
     1273.00
*** MULTIPHASE - Stage 1* Results ***

Temperature =  1273.0000 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
Fe		-6.311953E+04	2.570987E-03	1.732143E+03	9.673500E+01
C		-2.717707E+04	7.671479E-02	8.658730E+01	1.040000E+00
Si		-1.971082E+05	8.171876E-09	8.901390E+00	2.500000E-01
Mn		-1.338558E+05	3.218643E-06	6.370818E+00	3.500000E-01
Ni		-1.372237E+05	2.341433E-06	2.129835E+00	1.250000E-01
Mo		-1.281039E+05	5.542195E-06	5.211591E-01	5.000000E-02
Cr		-9.468081E+04	1.303430E-04	2.788676E+01	1.450000E+00
Total				1.864540E+03	1.000000E+02

Amount compnt moles	Phase	Mole fraction of component within phase		
		Fe	C	Si
1.8645E+03	FCC_A1	0.9289920	0.0464389	0.0047740
		Mn	Ni	Mo
1.8645E+03	FCC_A1	0.0034168	0.0011423	0.0002795
		Cr		
1.8645E+03	FCC_A1	0.0149564		

Gibbs Energy = -1.1729262907E+08 J   System Enthalpy = 7.0975979291E+07 J
     1283.00
*** MULTIPHASE - Stage 1* Results ***

Temperature = 1283.0000 K

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

Component	Ref.Phase	Chem.Pot.	Activity	Amount/mol	Mass/kg
Fe		-6.391279E+04	2.500294E-03	1.732143E+03	9.673500E+01
C		-2.787193E+04	7.333002E-02	8.658730E+01	1.040000E+00
Si		-1.978786E+05	8.790113E-09	8.901390E+00	2.500000E-01
Mn		-1.351245E+05	3.153772E-06	6.370818E+00	3.500000E-01
Ni		-1.385443E+05	2.288775E-06	2.129835E+00	1.250000E-01
Mo		-1.296214E+05	5.282874E-06	5.211591E-01	5.000000E-02
Cr		-9.573452E+04	1.266103E-04	2.788676E+01	1.450000E+00
Total				1.864540E+03	1.000000E+02

Amount compnt moles	Phase	Mole fraction of component within phase		
		Fe	C	Si
1.8645E+03	FCC_A1	0.9289920	0.0464389	0.0047740
		Mn	Ni	Mo
1.8645E+03	FCC_A1	0.0034168	0.0011423	0.0002795
		Cr		
1.8645E+03	FCC_A1	0.0149564		

Gibbs Energy = -1.1877406362E+08 J   System Enthalpy = 7.1613927011E+07 J
     1293.00
*** MULTIPHASE - Stage 1* Results ***

Temperature = 1293.0000 K

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

Component	Ref.Phase	Chem.Pot.	Activity	Amount/mol	Mass/kg
Fe		-6.470684E+04	2.432415E-03	1.732143E+03	9.673500E+01
C		-2.857023E+04	7.012103E-02	8.658730E+01	1.040000E+00
Si		-1.986449E+05	9.448049E-09	8.901390E+00	2.500000E-01

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Mn                          -1.363901E+05 3.092079E-06 6.370818E+00 3.500000E-01
Ni                          -1.398614E+05 2.238825E-06 2.129835E+00 1.250000E-01
Mo                          -1.311291E+05 5.044032E-06 5.211591E-01 5.000000E-02
Cr                          -9.677566E+04 1.231838E-04 2.788676E+01 1.450000E+00
Total                                                  1.864540E+03 1.000000E+02

Amount      Phase               Mole fraction of component within phase
compnt moles
                                Fe              C               Si
 1.8645E+03 FCC_A1             0.9289920       0.0464389       0.0047740

                                Mn              Ni              Mo
 1.8645E+03 FCC_A1             0.0034168       0.0011423       0.0002795

                                Cr
 1.8645E+03 FCC_A1             0.0149564

Gibbs Energy = -1.2026047670E+08 J   System Enthalpy =  7.2253462938E+07 J
     1303.00
*** MULTIPHASE - Stage 1* Results ***

Temperature =  1303.0000 K

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

Component      Ref.Phase     Chem.Pot.    Activity     Amount/mol   Mass/kg
Fe                          -6.550692E+04 2.366061E-03 1.732143E+03 9.673500E+01
C                           -2.926933E+04 6.709365E-02 8.658730E+01 1.040000E+00
Si                          -1.994209E+05 1.013488E-08 8.901390E+00 2.500000E-01
Mn                          -1.376663E+05 3.029519E-06 6.370818E+00 3.500000E-01
Ni                          -1.411887E+05 2.188631E-06 2.129835E+00 1.250000E-01
Mo                          -1.326475E+05 4.814650E-06 5.211591E-01 5.000000E-02
Cr                          -9.784491E+04 1.195898E-04 2.788676E+01 1.450000E+00
Total                                                  1.864540E+03 1.000000E+02

Amount      Phase               Mole fraction of component within phase
compnt moles
                                Fe              C               Si
 1.8645E+03 FCC_A1             0.9289920       0.0464389       0.0047740

                                Mn              Ni              Mo
 1.8645E+03 FCC_A1             0.0034168       0.0011423       0.0002795

                                Cr
 1.8645E+03 FCC_A1             0.0149564

Gibbs Energy = -1.2175184210E+08 J   System Enthalpy =  7.2894587625E+07 J
     1313.00
*** MULTIPHASE - Stage 1* Results ***

Temperature =  1313.0000 K

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

Component      Ref.Phase     Chem.Pot.    Activity     Amount/mol   Mass/kg
Fe                          -6.630758E+04 2.302365E-03 1.732143E+03 9.673500E+01
C                           -2.997120E+04 6.422379E-02 8.658730E+01 1.040000E+00
Si                          -2.001941E+05 1.086295E-08 8.901390E+00 2.500000E-01
Mn                          -1.389406E+05 2.969687E-06 6.370818E+00 3.500000E-01
Ni                          -1.425136E+05 2.140772E-06 2.129835E+00 1.250000E-01
Mo                          -1.341592E+05 4.601746E-06 5.211591E-01 5.000000E-02
Cr                          -9.890373E+04 1.162640E-04 2.788676E+01 1.450000E+00
Total                                                  1.864540E+03 1.000000E+02

Amount      Phase               Mole fraction of component within phase
```

```
compnt moles
                                  Fe              C               Si
 1.8645E+03 FCC_A1              0.9289920       0.0464389       0.0047740

                                  Mn              Ni              Mo
 1.8645E+03 FCC_A1              0.0034168       0.0011423       0.0002795

                                  Cr
 1.8645E+03 FCC_A1              0.0149564

Gibbs Energy = -1.2324813401E+08 J   System Enthalpy =  7.3537301667E+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
Fe                          -6.711309E+04 2.240321E-03 1.732143E+03 9.673500E+01
C                           -3.067345E+04 6.151518E-02 8.658730E+01 1.040000E+00
Si                          -2.009727E+05 1.162527E-08 8.901390E+00 2.500000E-01
Mn                          -1.402214E+05 2.910196E-06 6.370818E+00 3.500000E-01
Ni                          -1.438447E+05 2.093502E-06 2.129835E+00 1.250000E-01
Mo                          -1.356839E+05 4.396125E-06 5.211591E-01 5.000000E-02
Cr                          -9.996836E+04 1.130192E-04 2.788676E+01 1.450000E+00
Total                                                  1.864540E+03 1.000000E+02

Amount      Phase               Mole fraction of component within phase
compnt moles
                                  Fe              C               Si
 1.8645E+03 FCC_A1              0.9289920       0.0464389       0.0047740

                                  Mn              Ni              Mo
 1.8645E+03 FCC_A1              0.0034168       0.0011423       0.0002795

                                  Cr
 1.8645E+03 FCC_A1              0.0149564

Gibbs Energy = -1.2474932701E+08 J   System Enthalpy =  7.4181605667E+07 J
     1333.00
*** MULTIPHASE - Stage 1* Results ***

Temperature =  1333.0000 K

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

Component      Ref.Phase     Chem.Pot.    Activity     Amount/mol   Mass/kg
Fe                          -6.791754E+04 2.181050E-03 1.732143E+03 9.673500E+01
C                           -3.137969E+04 5.893774E-02 8.658730E+01 1.040000E+00
Si                          -2.017480E+05 1.243218E-08 8.901390E+00 2.500000E-01
Mn                          -1.414998E+05 2.853375E-06 6.370818E+00 3.500000E-01
Ni                          -1.451729E+05 2.048479E-06 2.129835E+00 1.250000E-01
Mo                          -1.371951E+05 4.207661E-06 5.211591E-01 5.000000E-02
Cr                          -1.010303E+05 1.099384E-04 2.788676E+01 1.450000E+00
Total                                                  1.864540E+03 1.000000E+02

Amount      Phase               Mole fraction of component within phase
compnt moles
                                  Fe              C               Si
 1.8645E+03 FCC_A1              0.9289920       0.0464389       0.0047740

                                  Mn              Ni              Mo
 1.8645E+03 FCC_A1              0.0034168       0.0011423       0.0002795
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                                 Cr
 1.8645E+03 FCC_A1              0.0149564

Gibbs Energy = -1.2625539607E+08 J   System Enthalpy =  7.4827500299E+07 J
     1343.00
*** MULTIPHASE - Stage 1* Results ***

Temperature =  1343.0000 K

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

Component      Ref.Phase     Chem.Pot.    Activity     Amount/mol   Mass/kg
Fe                          -6.872642E+04 2.123352E-03 1.732143E+03 9.673500E+01
C                           -3.208677E+04 5.650005E-02 8.658730E+01 1.040000E+00
Si                          -2.025308E+05 1.327286E-08 8.901390E+00 2.500000E-01
Mn                          -1.427867E+05 2.796358E-06 6.370818E+00 3.500000E-01
Ni                          -1.465092E+05 2.003625E-06 2.129835E+00 1.250000E-01
Mo                          -1.387276E+05 4.022210E-06 5.211591E-01 5.000000E-02
Cr                          -1.021005E+05 1.069064E-04 2.788676E+01 1.450000E+00
Total                                                  1.864540E+03 1.000000E+02

Amount      Phase               Mole fraction of component within phase
compnt moles
                                 Fe              C               Si
 1.8645E+03 FCC_A1              0.9289920       0.0464389       0.0047740

                                 Mn              Ni              Mo
 1.8645E+03 FCC_A1              0.0034168       0.0011423       0.0002795

                                 Cr
 1.8645E+03 FCC_A1              0.0149564

Gibbs Energy = -1.2776631655E+08 J   System Enthalpy =  7.5474986226E+07 J
     1353.00
*** MULTIPHASE - Stage 1* Results ***

Temperature =  1353.0000 K

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

Component      Ref.Phase     Chem.Pot.    Activity     Amount/mol   Mass/kg
Fe                          -6.953776E+04 2.067548E-03 1.732143E+03 9.673500E+01
C                           -3.279531E+04 5.418996E-02 8.658730E+01 1.040000E+00
Si                          -2.033108E+05 1.416029E-08 8.901390E+00 2.500000E-01
Mn                          -1.440717E+05 2.741763E-06 6.370818E+00 3.500000E-01
Ni                          -1.478431E+05 1.960799E-06 2.129835E+00 1.250000E-01
Mo                          -1.402428E+05 3.853447E-06 5.211591E-01 5.000000E-02
Cr                          -1.031684E+05 1.040225E-04 2.788676E+01 1.450000E+00
Total                                                  1.864540E+03 1.000000E+02

Amount      Phase               Mole fraction of component within phase
compnt moles
                                 Fe              C               Si
 1.8645E+03 FCC_A1              0.9289920       0.0464389       0.0047740

                                 Mn              Ni              Mo
 1.8645E+03 FCC_A1              0.0034168       0.0011423       0.0002795

                                 Cr
 1.8645E+03 FCC_A1              0.0149564

Gibbs Energy = -1.2928206418E+08 J   System Enthalpy =  7.6124064163E+07 J
     1363.00
*** MULTIPHASE - Stage 1* Results ***
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Temperature = 1363.0000 K

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

Component	Ref.Phase	Chem.Pot.	Activity	Amount/mol	Mass/kg
Fe		-7.035351E+04	2.013216E-03	1.732143E+03	9.673500E+01
C		-3.350552E+04	5.199851E-02	8.658730E+01	1.040000E+00
Si		-2.040954E+05	1.508663E-08	8.901390E+00	2.500000E-01
Mn		-1.453623E+05	2.687700E-06	6.370818E+00	3.500000E-01
Ni		-1.491822E+05	1.918630E-06	2.129835E+00	1.250000E-01
Mo		-1.417665E+05	3.691298E-06	5.211591E-01	5.000000E-02
Cr		-1.042435E+05	1.011924E-04	2.788676E+01	1.450000E+00
Total				1.864540E+03	1.000000E+02

Amount compnt moles	Phase	Mole fraction of component within phase		
		Fe	C	Si
1.8645E+03	FCC_A1	0.9289920	0.0464389	0.0047740
		Mn	Ni	Mo
1.8645E+03	FCC_A1	0.0034168	0.0011423	0.0002795
		Cr		
1.8645E+03	FCC_A1	0.0149564		

Gibbs Energy = -1.3080261504E+08 J   System Enthalpy = 7.6774734850E+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
Fe		-7.116952E+04	1.961026E-03	1.732143E+03	9.673500E+01
C		-3.421821E+04	4.991481E-02	8.658730E+01	1.040000E+00
Si		-2.048796E+05	1.605911E-08	8.901390E+00	2.500000E-01
Mn		-1.466535E+05	2.635307E-06	6.370818E+00	3.500000E-01
Ni		-1.505216E+05	1.877916E-06	2.129835E+00	1.250000E-01
Mo		-1.432985E+05	3.535629E-06	5.211591E-01	5.000000E-02
Cr		-1.053069E+05	9.857962E-05	2.788676E+01	1.450000E+00
Total				1.864540E+03	1.000000E+02

Amount compnt moles	Phase	Mole fraction of component within phase		
		Fe	C	Si
1.8645E+03	FCC_A1	0.9289920	0.0464389	0.0047740
		Mn	Ni	Mo
1.8645E+03	FCC_A1	0.0034168	0.0011423	0.0002795
		Cr		
1.8645E+03	FCC_A1	0.0149564		

Gibbs Energy = -1.3232794560E+08 J   System Enthalpy = 7.7426999049E+07 J
     1383.00
*** MULTIPHASE - Stage 1* Results ***

Temperature = 1383.0000 K

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

Component	Ref.Phase	Chem.Pot.	Activity	Amount/mol	Mass/kg
Fe		-7.198838E+04	1.910440E-03	1.732143E+03	9.673500E+01
C		-3.493096E+04	4.794278E-02	8.658730E+01	1.040000E+00

Si	-2.056701E+05	1.706967E-08	8.901390E+00	2.500000E-01
Mn	-1.479518E+05	2.583068E-06	6.370818E+00	3.500000E-01
Ni	-1.518677E+05	1.837563E-06	2.129835E+00	1.250000E-01
Mo	-1.448268E+05	3.389705E-06	5.211591E-01	5.000000E-02
Cr	-1.063978E+05	9.584169E-05	2.788676E+01	1.450000E+00
Total			1.864540E+03	1.000000E+02

Amount compnt moles	Phase	Mole fraction of component within phase		
		Fe	C	Si
1.8645E+03	FCC_A1	0.9289920	0.0464389	0.0047740
		Mn	Ni	Mo
1.8645E+03	FCC_A1	0.0034168	0.0011423	0.0002795
		Cr		
1.8645E+03	FCC_A1	0.0149564		

Gibbs Energy = -1.3385803263E+08 J System Enthalpy = 7.8080857535E+07 J
     1393.00
*** MULTIPHASE - Stage 1* Results ***

Temperature = 1393.0000 K

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

Component	Ref.Phase	Chem.Pot.	Activity	Amount/mol	Mass/kg
Fe		-7.281379E+04	1.860806E-03	1.732143E+03	9.673500E+01
C		-3.564332E+04	4.607682E-02	8.658730E+01	1.040000E+00
Si		-2.064709E+05	1.811170E-08	8.901390E+00	2.500000E-01
Mn		-1.492615E+05	2.530118E-06	6.370818E+00	3.500000E-01
Ni		-1.532247E+05	1.796944E-06	2.129835E+00	1.250000E-01
Mo		-1.463845E+05	3.243542E-06	5.211591E-01	5.000000E-02
Cr		-1.075000E+05	9.312616E-05	2.788676E+01	1.450000E+00
Total				1.864540E+03	1.000000E+02

Amount compnt moles	Phase	Mole fraction of component within phase		
		Fe	C	Si
1.8645E+03	FCC_A1	0.9289920	0.0464389	0.0047740
		Mn	Ni	Mo
1.8645E+03	FCC_A1	0.0034168	0.0011423	0.0002795
		Cr		
1.8645E+03	FCC_A1	0.0149564		

Gibbs Energy = -1.3539285329E+08 J System Enthalpy = 7.8736311146E+07 J
     1403.00
*** MULTIPHASE - Stage 1* Results ***

Temperature = 1403.0000 K

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

Component	Ref.Phase	Chem.Pot.	Activity	Amount/mol	Mass/kg
Fe		-7.363440E+04	1.813889E-03	1.732143E+03	9.673500E+01
C		-3.636265E+04	4.428209E-02	8.658730E+01	1.040000E+00
Si		-2.072553E+05	1.922823E-08	8.901390E+00	2.500000E-01
Mn		-1.505557E+05	2.482282E-06	6.370818E+00	3.500000E-01
Ni		-1.545658E+05	1.760182E-06	2.129835E+00	1.250000E-01
Mo		-1.479026E+05	3.116193E-06	5.211591E-01	5.000000E-02
Cr		-1.085671E+05	9.079757E-05	2.788676E+01	1.450000E+00
Total				1.864540E+03	1.000000E+02

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Amount      Phase               Mole fraction of component within phase
compnt moles
                                 Fe              C               Si
 1.8645E+03 FCC_A1              0.9289920       0.0464389       0.0047740

                                 Mn              Ni              Mo
 1.8645E+03 FCC_A1              0.0034168       0.0011423       0.0002795

                                 Cr
 1.8645E+03 FCC_A1              0.0149564

Gibbs Energy = -1.3693238504E+08 J   System Enthalpy =  7.9393360689E+07 J
     1413.00
*** MULTIPHASE - Stage 1* Results ***

Temperature =  1413.0000 K

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

Component      Ref.Phase     Chem.Pot.    Activity     Amount/mol   Mass/kg
Fe                          -7.446167E+04 1.767791E-03 1.732143E+03 9.673500E+01
C                           -3.708262E+04 4.257889E-02 8.658730E+01 1.040000E+00
Si                          -2.080471E+05 2.038338E-08 8.901390E+00 2.500000E-01
Mn                          -1.518583E+05 2.434267E-06 6.370818E+00 3.500000E-01
Ni                          -1.559148E+05 1.723504E-06 2.129835E+00 1.250000E-01
Mo                          -1.494320E+05 2.992674E-06 5.211591E-01 5.000000E-02
Cr                          -1.096501E+05 8.843966E-05 2.788676E+01 1.450000E+00
Total                                                  1.864540E+03 1.000000E+02

Amount      Phase               Mole fraction of component within phase
compnt moles
                                 Fe              C               Si
 1.8645E+03 FCC_A1              0.9289920       0.0464389       0.0047740

                                 Mn              Ni              Mo
 1.8645E+03 FCC_A1              0.0034168       0.0011423       0.0002795

                                 Cr
 1.8645E+03 FCC_A1              0.0149564

Gibbs Energy = -1.3847660568E+08 J   System Enthalpy =  8.0052007047E+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
Fe                          -7.529159E+04 1.723101E-03 1.732143E+03 9.673500E+01
C                           -3.780161E+04 4.096717E-02 8.658730E+01 1.040000E+00
Si                          -2.088475E+05 2.157457E-08 8.901390E+00 2.500000E-01
Mn                          -1.531704E+05 2.385915E-06 6.370818E+00 3.500000E-01
Ni                          -1.572730E+05 1.686789E-06 2.129835E+00 1.250000E-01
Mo                          -1.509782E+05 2.871584E-06 5.211591E-01 5.000000E-02
Cr                          -1.107512E+05 8.604220E-05 2.788676E+01 1.450000E+00
Total                                                  1.864540E+03 1.000000E+02

Amount      Phase               Mole fraction of component within phase
compnt moles
                                 Fe              C               Si
 1.8645E+03 FCC_A1              0.9289920       0.0464389       0.0047740

                                 Mn              Ni              Mo
 1.8645E+03 FCC_A1              0.0034168       0.0011423       0.0002795
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                                  Cr
 1.8645E+03 FCC_A1             0.0149564

Gibbs Energy = -1.4002549334E+08 J   System Enthalpy =  8.0712251119E+07 J
     1433.00
*** MULTIPHASE - Stage 1* Results ***

Temperature =  1433.0000 K

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

Component      Ref.Phase     Chem.Pot.    Activity     Amount/mol   Mass/kg
Fe                          -7.612516E+04 1.679627E-03 1.732143E+03 9.673500E+01
C                           -3.852412E+04 3.942605E-02 8.658730E+01 1.040000E+00
Si                          -2.096447E+05 2.282351E-08 8.901390E+00 2.500000E-01
Mn                          -1.544802E+05 2.339629E-06 6.370818E+00 3.500000E-01
Ni                          -1.586285E+05 1.651727E-06 2.129835E+00 1.250000E-01
Mo                          -1.525145E+05 2.759292E-06 5.211591E-01 5.000000E-02
Cr                          -1.118419E+05 8.381550E-05 2.788676E+01 1.450000E+00
Total                                                  1.864540E+03 1.000000E+02

Amount      Phase               Mole fraction of component within phase
compnt moles
                                  Fe               C                Si
 1.8645E+03 FCC_A1             0.9289920        0.0464389        0.0047740

                                  Mn               Ni               Mo
 1.8645E+03 FCC_A1             0.0034168        0.0011423        0.0002795

                                  Cr
 1.8645E+03 FCC_A1             0.0149564

Gibbs Energy = -1.4157902644E+08 J   System Enthalpy =  8.1374093774E+07 J
     1443.00
*** MULTIPHASE - Stage 1* Results ***

Temperature =  1443.0000 K

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

Component      Ref.Phase     Chem.Pot.    Activity     Amount/mol   Mass/kg
Fe                          -7.695803E+04 1.637926E-03 1.732143E+03 9.673500E+01
C                           -3.924574E+04 3.796587E-02 8.658730E+01 1.040000E+00
Si                          -2.104459E+05 2.411771E-08 8.901390E+00 2.500000E-01
Mn                          -1.557950E+05 2.293902E-06 6.370818E+00 3.500000E-01
Ni                          -1.599886E+05 1.617242E-06 2.129835E+00 1.250000E-01
Mo                          -1.540604E+05 2.650713E-06 5.211591E-01 5.000000E-02
Cr                          -1.129391E+05 8.163201E-05 2.788676E+01 1.450000E+00
Total                                                  1.864540E+03 1.000000E+02

Amount      Phase               Mole fraction of component within phase
compnt moles
                                  Fe               C                Si
 1.8645E+03 FCC_A1             0.9289920        0.0464389        0.0047740

                                  Mn               Ni               Mo
 1.8645E+03 FCC_A1             0.0034168        0.0011423        0.0002795

                                  Cr
 1.8645E+03 FCC_A1             0.0149564

Gibbs Energy = -1.4313718372E+08 J   System Enthalpy =  8.2037535964E+07 J
     1453.00
*** MULTIPHASE - Stage 1* Results ***
```

Temperature = 1453.0000 K

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

Component	Ref.Phase	Chem.Pot.	Activity	Amount/mol	Mass/kg
Fe		-7.779722E+04	1.596977E-03	1.732143E+03	9.673500E+01
C		-3.997295E+04	3.656185E-02	8.658730E+01	1.040000E+00
Si		-2.112470E+05	2.546627E-08	8.901390E+00	2.500000E-01
Mn		-1.571106E+05	2.249531E-06	6.370818E+00	3.500000E-01
Ni		-1.613491E+05	1.583885E-06	2.129835E+00	1.250000E-01
Mo		-1.556121E+05	2.546612E-06	5.211591E-01	5.000000E-02
Cr		-1.140251E+05	7.960785E-05	2.788676E+01	1.450000E+00
Total				1.864540E+03	1.000000E+02

Amount	Phase	Mole fraction of component within phase		
compnt moles				
		Fe	C	Si
1.8645E+03	FCC_A1	0.9289920	0.0464389	0.0047740
		Mn	Ni	Mo
1.8645E+03	FCC_A1	0.0034168	0.0011423	0.0002795
		Cr		
1.8645E+03	FCC_A1	0.0149564		

Gibbs Energy = -1.4469994424E+08 J   System Enthalpy = 8.2702578621E+07 J
     1463.00
*** MULTIPHASE - Stage 1* Results ***

Temperature = 1463.0000 K

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

Component	Ref.Phase	Chem.Pot.	Activity	Amount/mol	Mass/kg
Fe		-7.863558E+04	1.557696E-03	1.732143E+03	9.673500E+01
C		-4.070236E+04	3.522153E-02	8.658730E+01	1.040000E+00
Si		-2.120475E+05	2.687156E-08	8.901390E+00	2.500000E-01
Mn		-1.584266E+05	2.206543E-06	6.370818E+00	3.500000E-01
Ni		-1.627096E+05	1.551664E-06	2.129835E+00	1.250000E-01
Mo		-1.571447E+05	2.451778E-06	5.211591E-01	5.000000E-02
Cr		-1.151263E+05	7.756394E-05	2.788676E+01	1.450000E+00
Total				1.864540E+03	1.000000E+02

Amount	Phase	Mole fraction of component within phase		
compnt moles				
		Fe	C	Si
1.8645E+03	FCC_A1	0.9289920	0.0464389	0.0047740
		Mn	Ni	Mo
1.8645E+03	FCC_A1	0.0034168	0.0011423	0.0002795
		Cr		
1.8645E+03	FCC_A1	0.0149564		

Gibbs Energy = -1.4626728732E+08 J   System Enthalpy = 8.3369222722E+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
Fe		-7.946880E+04	1.520535E-03	1.732143E+03	9.673500E+01

```
C                          -4.146374E+04 3.385907E-02 8.658730E+01 1.040000E+00
Si                         -2.128408E+05 2.835033E-08 8.901390E+00 2.500000E-01
Mn                         -1.597364E+05 2.166046E-06 6.370818E+00 3.500000E-01
Ni                         -1.640634E+05 1.521347E-06 2.129835E+00 1.250000E-01
Mo                         -1.586830E+05 2.360583E-06 5.211590E-01 5.000000E-02
Cr                         -1.162190E+05 7.565148E-05 2.788676E+01 1.450000E+00
Total                                                 1.864540E+03 1.000000E+02

Amount      Phase               Mole fraction of component within phase
compnt moles
                                Fe              C               Si
 1.8645E+03 FCC_A1             0.9289920       0.0464389       0.0047740

                                Mn              Ni              Mo
 1.8645E+03 FCC_A1             0.0034168       0.0011423       0.0002795

                                Cr
 1.8645E+03 FCC_A1             0.0149564

Gibbs Energy = -1.4783919259E+08 J   System Enthalpy =  8.4037469258E+07 J
     1483.00
*** MULTIPHASE - Stage 1* Results ***

Temperature =  1483.0000 K

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

Component      Ref.Phase     Chem.Pot.    Activity     Amount/mol   Mass/kg
Fe                         -8.032166E+04 1.482379E-03 1.732143E+03 9.673500E+01
C                          -4.216151E+04 3.273505E-02 8.658730E+01 1.040000E+00
Si                         -2.136634E+05 2.981793E-08 8.901390E+00 2.500000E-01
Mn                         -1.610764E+05 2.121612E-06 6.370818E+00 3.500000E-01
Ni                         -1.654471E+05 1.488412E-06 2.129835E+00 1.250000E-01
Mo                         -1.602541E+05 2.267920E-06 5.211591E-01 5.000000E-02
Cr                         -1.173383E+05 7.365151E-05 2.788676E+01 1.450000E+00
Total                                                 1.864540E+03 1.000000E+02

Amount      Phase               Mole fraction of component within phase
compnt moles
                                Fe              C               Si
 1.8645E+03 FCC_A1             0.9289920       0.0464389       0.0047740

                                Mn              Ni              Mo
 1.8645E+03 FCC_A1             0.0034168       0.0011423       0.0002795

                                Cr
 1.8645E+03 FCC_A1             0.0149564

Gibbs Energy = -1.4941563996E+08 J   System Enthalpy =  8.4707319226E+07 J
     1493.00
*** MULTIPHASE - Stage 1* Results ***

Temperature =  1493.0000 K

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

Component      Ref.Phase     Chem.Pot.    Activity     Amount/mol   Mass/kg
Fe                         -8.116860E+04 1.446364E-03 1.732143E+03 9.673500E+01
C                          -4.289375E+04 3.157486E-02 8.658730E+01 1.040000E+00
Si                         -2.144734E+05 3.137227E-08 8.901390E+00 2.500000E-01
Mn                         -1.624047E+05 2.080629E-06 6.370818E+00 3.500000E-01
Ni                         -1.668187E+05 1.458039E-06 2.129835E+00 1.250000E-01
Mo                         -1.618089E+05 2.182926E-06 5.211591E-01 5.000000E-02
Cr                         -1.184472E+05 7.179041E-05 2.788676E+01 1.450000E+00
Total                                                 1.864540E+03 1.000000E+02
```

```
Amount      Phase               Mole fraction of component within phase
compnt moles
                                Fe              C               Si
 1.8645E+03 FCC_A1             0.9289920       0.0464389       0.0047740

                                Mn              Ni              Mo
 1.8645E+03 FCC_A1             0.0034168       0.0011423       0.0002795

                                Cr
 1.8645E+03 FCC_A1             0.0149564

Gibbs Energy = -1.5099660962E+08 J   System Enthalpy =  8.5378773643E+07 J
     1503.00
*** MULTIPHASE - Stage 1* Results ***

Temperature =  1503.0000 K

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

Component      Ref.Phase     Chem.Pot.    Activity     Amount/mol   Mass/kg
Fe                          -8.201947E+04 1.411241E-03 1.732143E+03 9.673500E+01
C                           -4.363020E+04 3.046017E-02 8.658730E+01 1.040000E+00
Si                          -2.152858E+05 3.297889E-08 8.901390E+00 2.500000E-01
Mn                          -1.637363E+05 2.040414E-06 6.370818E+00 3.500000E-01
Ni                          -1.681932E+05 1.428336E-06 2.129835E+00 1.250000E-01
Mo                          -1.633682E+05 2.101411E-06 5.211591E-01 5.000000E-02
Cr                          -1.195602E+05 6.997763E-05 2.788676E+01 1.450000E+00
Total                                                  1.864540E+03 1.000000E+02

Amount      Phase               Mole fraction of component within phase
compnt moles
                                Fe              C               Si
 1.8645E+03 FCC_A1             0.9289920       0.0464389       0.0047740

                                Mn              Ni              Mo
 1.8645E+03 FCC_A1             0.0034168       0.0011423       0.0002795

                                Cr
 1.8645E+03 FCC_A1             0.0149564

Gibbs Energy = -1.5258208203E+08 J   System Enthalpy =  8.6051833575E+07 J
     1513.00
*** MULTIPHASE - Stage 1* Results ***

Temperature =  1513.0000 K

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

Component      Ref.Phase     Chem.Pot.    Activity     Amount/mol   Mass/kg
Fe                          -8.287036E+04 1.377416E-03 1.732143E+03 9.673500E+01
C                           -4.436393E+04 2.940514E-02 8.658730E+01 1.040000E+00
Si                          -2.160998E+05 3.464031E-08 8.901390E+00 2.500000E-01
Mn                          -1.650706E+05 2.001078E-06 6.370818E+00 3.500000E-01
Ni                          -1.695700E+05 1.399374E-06 2.129835E+00 1.250000E-01
Mo                          -1.649269E+05 2.024078E-06 5.211591E-01 5.000000E-02
Cr                          -1.206757E+05 6.821986E-05 2.788676E+01 1.450000E+00
Total                                                  1.864540E+03 1.000000E+02

Amount      Phase               Mole fraction of component within phase
compnt moles
                                Fe              C               Si
 1.8645E+03 FCC_A1             0.9289920       0.0464389       0.0047740

                                Mn              Ni              Mo
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 1.8645E+03 FCC_A1             0.0034168       0.0011423       0.0002795

                                Cr
 1.8645E+03 FCC_A1             0.0149564

Gibbs Energy = -1.5417203791E+08 J   System Enthalpy =  8.6726500046E+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
Fe                          -8.372411E+04 1.344528E-03 1.732143E+03 9.673500E+01
C                           -4.509641E+04 2.840262E-02 8.658730E+01 1.040000E+00
Si                          -2.169155E+05 3.635750E-08 8.901390E+00 2.500000E-01
Mn                          -1.664074E+05 1.962614E-06 6.370818E+00 3.500000E-01
Ni                          -1.709488E+05 1.371140E-06 2.129835E+00 1.250000E-01
Mo                          -1.664854E+05 1.950558E-06 5.211591E-01 5.000000E-02
Cr                          -1.217912E+05 6.652870E-05 2.788676E+01 1.450000E+00
Total                                                  1.864540E+03 1.000000E+02

Amount      Phase              Mole fraction of component within phase
compnt moles
                                Fe              C               Si
 1.8645E+03 FCC_A1             0.9289920       0.0464389       0.0047740

                                Mn              Ni              Mo
 1.8645E+03 FCC_A1             0.0034168       0.0011423       0.0002795

                                Cr
 1.8645E+03 FCC_A1             0.0149564

Gibbs Energy = -1.5576645833E+08 J   System Enthalpy =  8.7402775237E+07 J
     1533.00
*** MULTIPHASE - Stage 1* Results ***

Temperature =  1533.0000 K

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

Component      Ref.Phase     Chem.Pot.    Activity     Amount/mol   Mass/kg
Fe                          -8.457927E+04 1.312692E-03 1.732143E+03 9.673500E+01
C                           -4.584008E+04 2.742259E-02 8.658730E+01 1.040000E+00
Si                          -2.177303E+05 3.813818E-08 8.901390E+00 2.500000E-01
Mn                          -1.677443E+05 1.925359E-06 6.370818E+00 3.500000E-01
Ni                          -1.723274E+05 1.343863E-06 2.129835E+00 1.250000E-01
Mo                          -1.680464E+05 1.880271E-06 5.211591E-01 5.000000E-02
Cr                          -1.229063E+05 6.490255E-05 2.788676E+01 1.450000E+00
Total                                                  1.864540E+03 1.000000E+02

Amount      Phase              Mole fraction of component within phase
compnt moles
                                Fe              C               Si
 1.8645E+03 FCC_A1             0.9289920       0.0464389       0.0047740

                                Mn              Ni              Mo
 1.8645E+03 FCC_A1             0.0034168       0.0011423       0.0002795

                                Cr
 1.8645E+03 FCC_A1             0.0149564

Gibbs Energy = -1.5736532443E+08 J   System Enthalpy =  8.8080669883E+07 J
     1543.00
```

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

Temperature = 1543.0000 K

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

Component	Ref.Phase	Chem.Pot.	Activity	Amount/mol	Mass/kg
Fe		-8.543029E+04	1.282423E-03	1.732143E+03	9.673500E+01
C		-4.660772E+04	2.643899E-02	8.658730E+01	1.040000E+00
Si		-2.185354E+05	4.001148E-08	8.901390E+00	2.500000E-01
Mn		-1.690725E+05	1.890566E-06	6.370818E+00	3.500000E-01
Ni		-1.736968E+05	1.318410E-06	2.129835E+00	1.250000E-01
Mo		-1.696052E+05	1.813669E-06	5.211591E-01	5.000000E-02
Cr		-1.239994E+05	6.344494E-05	2.788676E+01	1.450000E+00
Total				1.864540E+03	1.000000E+02

Amount compnt	Phase	Mole fraction of component within phase		
		Fe	C	Si
1.8645E+03	FCC_A1	0.9289920	0.0464389	0.0047740
		Mn	Ni	Mo
1.8645E+03	FCC_A1	0.0034168	0.0011423	0.0002795
		Cr		
1.8645E+03	FCC_A1	0.0149564		

Gibbs Energy = -1.5896861785E+08 J   System Enthalpy = 8.8760186186E+07 J
     1553.00
*** MULTIPHASE - Stage 1* Results ***

Temperature = 1553.0000 K

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

Component	Ref.Phase	Chem.Pot.	Activity	Amount/mol	Mass/kg
Fe		-8.607501E+04	1.273411E-03	1.732143E+03	9.673500E+01
C		-4.811708E+04	2.407902E-02	8.658730E+01	1.040000E+00
Si		-2.189601E+05	4.320511E-08	8.901390E+00	2.500000E-01
Mn		-1.700213E+05	1.912209E-06	6.370818E+00	3.500000E-01
Ni		-1.746864E+05	1.332382E-06	2.129835E+00	1.250000E-01
Mo		-1.706190E+05	1.825708E-06	5.211590E-01	5.000000E-02
Cr		-1.246801E+05	6.405202E-05	2.788676E+01	1.450000E+00
Total				1.864540E+03	1.000000E+02

Amount compnt	Phase	Mole fraction of component within phase		
		Fe	C	Si
1.8645E+03	FCC_A1	0.9289920	0.0464389	0.0047740
		Mn	Ni	Mo
1.8645E+03	FCC_A1	0.0034168	0.0011423	0.0002795
		Cr		
1.8645E+03	FCC_A1	0.0149564		

Gibbs Energy = -1.6057632039E+08 J   System Enthalpy = 8.9441323877E+07 J
     1563.00
*** MULTIPHASE - Stage 1* Results ***

Temperature = 1563.0000 K

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

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

```
Fe                          -8.716605E+04 1.221884E-03 1.732143E+03 9.673500E+01
C                           -4.806197E+04 2.476479E-02 8.658730E+01 1.040000E+00
Si                          -2.201964E+05 4.378617E-08 8.901390E+00 2.500000E-01
Mn                          -1.717826E+05 1.816607E-06 6.370818E+00 3.500000E-01
Ni                          -1.764881E+05 1.264760E-06 2.129835E+00 1.250000E-01
Mo                          -1.727474E+05 1.686618E-06 5.211591E-01 5.000000E-02
Cr                          -1.262896E+05 6.019703E-05 2.788676E+01 1.450000E+00
Total                                                  1.864540E+03 1.000000E+02

Amount      Phase               Mole fraction of component within phase
compnt moles
                                Fe              C               Si
 1.8645E+03 FCC_A1             0.9289920       0.0464389       0.0047740

                                Mn              Ni              Mo
 1.8645E+03 FCC_A1             0.0034168       0.0011423       0.0002795

                                Cr
 1.8645E+03 FCC_A1             0.0149564

Gibbs Energy = -1.6218841414E+08 J   System Enthalpy =  9.0124082893E+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
Fe                          -8.803000E+04 1.193603E-03 1.732143E+03 9.673500E+01
C                           -4.880393E+04 2.395565E-02 8.658730E+01 1.040000E+00
Si                          -2.210242E+05 4.577507E-08 8.901390E+00 2.500000E-01
Mn                          -1.731364E+05 1.781563E-06 6.370818E+00 3.500000E-01
Ni                          -1.778819E+05 1.239428E-06 2.129835E+00 1.250000E-01
Mo                          -1.743211E+05 1.627283E-06 5.211591E-01 5.000000E-02
Cr                          -1.274321E+05 5.867701E-05 2.788676E+01 1.450000E+00
Total                                                  1.864540E+03 1.000000E+02

Amount      Phase               Mole fraction of component within phase
compnt moles
                                Fe              C               Si
 1.8645E+03 FCC_A1             0.9289920       0.0464389       0.0047740

                                Mn              Ni              Mo
 1.8645E+03 FCC_A1             0.0034168       0.0011423       0.0002795

                                Cr
 1.8645E+03 FCC_A1             0.0149564

Gibbs Energy = -1.6380488135E+08 J   System Enthalpy =  9.0808463182E+07 J

 MULTIPHASE OPTION ?
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