

Accessory publication

Bacterial bioreporter detects mercury in the presence of excess EDTA

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MINEQL Output for 1x10⁻⁴ M EDTA

MINEQL+ Ver 4.5

Page 1

Data Extracted from : 104ED200.MDO

SINGLE RUN SUMMARY

This report compiles the output data (concentration, Log C, Log K) for all species within a single run.

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MINEQL+ Ver 4.5

Page 2

Data Extracted from : 104ED200.MDO

Run: 1

ID	Species	Conc.	Log C	Log K
Type I - COMPONENTS				
2	H2O	1.000E+00	0.000	0.000
3	H(+)	1.280E-07	-6.894	0.000
19	Cl(-)	4.000E-07	-6.398	0.000
23	CO3(2-)	3.380E-08	-7.471	0.000
36	Hg(OH)2	4.360E-12	-11.360	0.000
41	Mg(2+)	2.560E-04	-3.592	0.000
45	Na(+)	9.990E-03	-2.000	0.000
47	NH4(+)	1.120E-02	-1.952	0.000
50	NO3(-)	1.130E-02	-1.949	0.000
68	SO4(2-)	3.240E-04	-3.489	0.000
93	EDTA-4	1.140E-10	-9.944	0.000
129	ISO(-)	1.430E-06	-5.845	0.000
130	LEU(-)	1.430E-06	-5.845	0.000
146	MOPS-	7.700E-03	-2.114	0.000
147	glycphos2-	9.000E-04	-3.046	0.000
Type II - COMPLEXES				
500003	Na2glycerphos	3.670E-08	-7.436	-0.390
500001	HMOPS-	1.030E-02	-1.987	7.020
3800	OH- (-1)	1.060E-07	-6.974	-13.870
8900	HgClOH (aq)	4.600E-15	-14.338	10.310
9000	HgCl4-2 (-2)	8.410E-30	-29.075	21.660
9100	HgCl+ (+1)	6.590E-19	-18.181	13.360
9200	HgCl2 (aq)	9.800E-19	-18.009	19.930
9300	HgCl3-1 (-1)	3.920E-24	-23.407	20.930
10401	HgHCO3+ (+1)	4.380E-18	-17.359	22.150
10402	Hg(CO3)2-2 (-2)	1.970E-19	-18.706	21.380
10403	HgCO3 (aq)	1.840E-15	-14.735	17.880
15800	Hg+2 (+2)	1.500E-19	-18.824	6.320
15900	HgOH+ (+1)	3.490E-16	-15.457	2.800
16000	Hg(OH)3-1 (-1)	5.830E-20	-19.234	-14.770
16500	Hg(NH3)4+2 (+2)	1.850E-17	-16.732	-11.350
16600	Hg(NH3)3+2 (+2)	4.680E-14	-13.330	-3.010
16700	HgNH3+2 (+2)	4.720E-15	-14.326	5.880
16800	HgNO3+ (+1)	3.430E-22	-21.465	5.630
16900	Hg(NO3)2 (aq)	1.190E-24	-23.925	5.120
17000	HgSO4 (aq)	3.860E-21	-20.414	8.220

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Page 3

Data Extracted from : 104ED200.MDO

Run: 1

ID	Species	Conc.	Log C	Log K
Type II - COMPLEXES				
17302	Hg[EDTA]	(-2) 2.000E-07	-6.700	28.390
17303	HgH[EDTA]	(-1) 5.590E-11	-10.253	31.730
17900	MgOH+	(+1) 5.960E-09	-8.225	-11.530
25000	Hg(NH3)2+2	(+2) 2.360E-10	-9.628	5.640
31700	H2CO3 (aq)	1.080E-05	-4.966	16.290
31800	HCO3-	(-1) 5.070E-05	-4.295	10.070
32000	MgHCO3+	(+1) 7.310E-08	-7.136	10.820
32200	NaHCO3 (aq)	2.110E-07	-6.675	9.690
37800	MgH[EDTA]	(-1) 1.750E-07	-6.757	13.670
38900	NH3 (aq)	4.990E-05	-4.302	-9.240
43900	HSO4-	(-1) 2.230E-09	-8.652	1.730
46800	H[EDTA]	(-3) 3.900E-07	-6.409	10.430
46900	H2[EDTA]	(-2) 3.820E-08	-7.418	16.310
47000	H4[EDTA]	4.830E-17	-16.316	21.200
47100	H5[EDTA]	(+1) 1.950E-22	-21.709	22.700
47200	H3[EDTA]	(-1) 3.530E-12	-11.452	19.170
53000	HISO	6.790E-04	-3.168	9.570
53100	H2ISO	(+1) 2.180E-08	-7.662	11.970
53200	HLEU	6.790E-04	-3.168	9.570
53300	H2LEU	(+1) 2.180E-08	-7.662	11.970
95300	MgCO3 (aq)	2.180E-09	-8.661	2.400
95400	NaCO3-	(-1) 3.460E-09	-8.460	1.010
133400	MgSO4 (aq)	4.580E-06	-5.339	1.740
134100	Mg[EDTA]	(-2) 9.920E-05	-4.004	9.530
141100	NaSO4-	(-1) 9.580E-06	-5.019	0.470
141300	Na[EDTA]	(-3) 1.720E-10	-9.763	2.180
141800	NH4SO4-	(-1) 2.140E-05	-4.670	0.770
Type III - FIXED ENTITIES				
175300	CO2 (g)			21.260
3801	H2O (Solution)			0.000
Type V - DISSOLVED SOLIDS				
228600	Hg(OH)2		-7.864	3.500
Type VI - SPECIES NOT CONSIDERED				
189500	HgCl2	1.150E-17	-16.941	21.000
190601	Hg3O2CO3	9.000E-27	-26.046	29.290
190800	ARTINITE	7.670E-12	-11.115	-10.250
190900	HYDROMAGNESITE	3.210E-28	-27.493	6.560
195900	HgSO4	2.470E-20	-19.607	9.030

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Run: 1

ID	Species	Conc.	Log C	Log K
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Type VI - SPECIES NOT CONSIDERED

196600	PERICLASE	3.030E-12	-11.518	-21.710
196700	BRUCITE	1.670E-07	-6.778	-16.970
196702	Mg(OH)2 (active)	1.870E-09	-8.728	-18.920
205800	NESQUEHONITE	1.230E-07	-6.911	4.150
205900	THERMONATRITE	3.180E-13	-12.498	-1.030
206000	NATRON	2.820E-11	-10.550	0.920
206900	MONTROYDITE	1.900E-08	-7.720	3.640
207100	EPSOMITE	3.370E-06	-5.472	1.610
207200	MIRABILITE	1.720E-07	-6.765	0.720
221800	HALITE	7.400E-11	-10.131	-1.730
224700	MAGNESITE	7.560E-05	-4.121	6.940
230200	THENARDITE	6.300E-09	-8.201	-0.710
175310	pH	(+1) 1.100E+00	0.042	7.000
Other Species				
900003	Activity of H+	1.100E-07	-6.958	0.060

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Type I - COMPONENTS				
2	H2O	1.000E+00	0.000	0.000
3	H(+)	1.180E-07	-6.928	0.000
19	Cl(-)	4.000E-07	-6.398	0.000
23	CO3(2-)	3.970E-08	-7.401	0.000
36	Hg(OH)2	6.840E-11	-10.165	0.000
41	Mg(2+)	3.440E-04	-3.463	0.000
45	Na(+)	9.990E-03	-2.000	0.000
47	NH4(+)	1.120E-02	-1.952	0.000
50	NO3(-)	1.130E-02	-1.949	0.000
68	SO4(2-)	3.230E-04	-3.491	0.000
93	EDTA-4	8.380E-12	-11.077	0.000
129	ISO(-)	1.550E-06	-5.811	0.000
130	LEU(-)	1.550E-06	-5.811	0.000
146	MOPS-	8.050E-03	-2.094	0.000
147	glycphos2-	9.000E-04	-3.046	0.000
Type II - COMPLEXES				
500003	Na2glycerphos	3.660E-08	-7.437	-0.390
500001	HMOPS-	9.950E-03	-2.002	7.020
3800	OH- (-1)	1.150E-07	-6.939	-13.870
8900	HgClOH (aq)	6.660E-14	-13.177	10.310
9000	HgCl4-2 (-2)	1.130E-28	-27.948	21.660
9100	HgCl+ (+1)	8.830E-18	-17.054	13.360
9200	HgCl2 (aq)	1.310E-17	-16.882	19.930
9300	HgCl3-1 (-1)	5.250E-23	-22.280	20.930
10401	HgHCO3+ (+1)	6.340E-17	-16.198	22.150
10402	Hg(CO3)2-2 (-2)	3.620E-18	-17.441	21.380
10403	HgCO3 (aq)	2.880E-14	-13.540	17.880
15800	Hg+2 (+2)	2.010E-18	-17.696	6.320
15900	HgOH+ (+1)	5.060E-15	-14.296	2.800
16000	Hg(OH)3-1 (-1)	9.900E-19	-18.004	-14.770
16500	Hg(NH3)4+2 (+2)	3.400E-16	-15.469	-11.350
16600	Hg(NH3)3+2 (+2)	7.940E-13	-12.100	-3.010
16700	HgNH3+2 (+2)	6.850E-14	-13.164	5.880
16800	HgNO3+ (+1)	4.590E-21	-20.338	5.630
16900	Hg(NO3)2 (aq)	1.590E-23	-22.798	5.120
17000	HgSO4 (aq)	5.140E-20	-19.289	8.220

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Run: 1

ID	Species	Conc.	Log C	Log K
Type II - COMPLEXES				
17302	Hg[EDTA]	(-2) 1.960E-07	-6.707	28.390
17303	HgH[EDTA]	(-1) 5.070E-11	-10.295	31.730
17900	MgOH+	(+1) 8.650E-09	-8.063	-11.530
25000	Hg(NH3)2+2	(+2) 3.700E-09	-8.432	5.640
31700	H2CO3 (aq)	1.080E-05	-4.966	16.290
31800	HCO3-	(-1) 5.490E-05	-4.260	10.070
32000	MgHCO3+	(+1) 1.060E-07	-6.974	10.820
32200	NaHCO3 (aq)	2.290E-07	-6.641	9.690
37800	MgH[EDTA]	(-1) 1.590E-08	-7.798	13.670
38900	NH3 (aq)	5.390E-05	-4.268	-9.240
43900	HSO4-	(-1) 2.050E-09	-8.688	1.730
46800	H[EDTA]	(-3) 2.650E-08	-7.577	10.430
46900	H2[EDTA]	(-2) 2.390E-09	-8.621	16.310
47000	H4[EDTA]	2.580E-18	-17.588	21.200
47100	H5[EDTA]	(+1) 9.650E-24	-23.016	22.700
47200	H3[EDTA]	(-1) 2.040E-13	-12.690	19.170
53000	HISO	6.780E-04	-3.168	9.570
53100	H2ISO	(+1) 2.010E-08	-7.696	11.970
53200	HLEU	6.780E-04	-3.168	9.570
53300	H2LEU	(+1) 2.010E-08	-7.696	11.970
95300	MgCO3 (aq)	3.430E-09	-8.465	2.400
95400	NaCO3-	(-1) 4.060E-09	-8.392	1.010
133400	MgSO4 (aq)	6.100E-06	-5.214	1.740
134100	Mg[EDTA]	(-2) 9.760E-06	-5.011	9.530
141100	NaSO4-	(-1) 9.520E-06	-5.021	0.470
141300	Na[EDTA]	(-3) 1.270E-11	-10.897	2.180
141800	NH4SO4-	(-1) 2.130E-05	-4.673	0.770

Type III - FIXED ENTITIES

175300	CO2 (g)			21.260
3801	H2O (Solution)			0.000

Type V - DISSOLVED SOLIDS

228600	Hg(OH)2		-6.669	3.500
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Type VI - SPECIES NOT CONSIDERED

189500	HgCl2	1.530E-16	-15.814	21.000
190601	Hg3O2CO3	3.470E-23	-22.460	29.290
190800	ARTINITE	1.890E-11	-10.723	-10.250
190900	HYDROMAGNESITE	3.070E-27	-26.513	6.550
195900	HgSO4	3.300E-19	-18.482	9.030

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MINEQL+ Ver 4.5

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Run: 1

ID	Species	Conc.	Log C	Log K
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Type VI - SPECIES NOT CONSIDERED

196600	PERICLASE	4.760E-12	-11.322	-21.710
196700	BRUCITE	2.620E-07	-6.582	-16.970
196702	Mg(OH)2 (active)	2.940E-09	-8.532	-18.920
205800	NESQUEHONITE	1.930E-07	-6.715	4.150
205900	THERMONATRITE	3.720E-13	-12.430	-1.030
206000	NATRON	3.300E-11	-10.482	0.920
206900	MONTROYDITE	2.990E-07	-6.525	3.640
207100	EPSOMITE	4.490E-06	-5.347	1.610
207200	MIRABILITE	1.710E-07	-6.768	0.720
221800	HALITE	7.390E-11	-10.131	-1.730
224700	MAGNESITE	1.190E-04	-3.925	6.940
230200	THENARDITE	6.260E-09	-8.204	-0.710
175310	pH (+1)	1.020E+00	0.007	7.000
Other Species				
900003	Activity of H+	1.020E-07	-6.993	0.070

MINEQL Output for 1x10⁻⁶ M EDTA

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Data Extracted from : 106ED200.MDO

Run: 1

ID	Species	Conc.	Log C	Log K
Type I - COMPONENTS				
2	H2O	1.000E+00	0.000	0.000
3	H(+)	1.170E-07	-6.931	0.000
19	Cl(-)	4.000E-07	-6.398	0.000
23	CO3(2-)	4.030E-08	-7.395	0.000
36	Hg(OH)2	6.890E-10	-9.162	0.000
41	Mg(2+)	3.530E-04	-3.452	0.000
45	Na(+)	9.990E-03	-2.000	0.000
47	NH4(+)	1.120E-02	-1.952	0.000
50	NO3(-)	1.130E-02	-1.949	0.000
68	SO4(2-)	3.230E-04	-3.491	0.000
93	EDTA-4	6.990E-13	-12.155	0.000
129	ISO(-)	1.560E-06	-5.807	0.000
130	LEU(-)	1.560E-06	-5.807	0.000
146	MOPS-	8.080E-03	-2.092	0.000
147	glycphos2-	9.000E-04	-3.046	0.000

Type II - COMPLEXES

500003	Na2glycerphos	3.660E-08	-7.437	-0.390
500001	HMOPS-	9.920E-03	-2.004	7.020
3800	OH- (-1)	1.160E-07	-6.936	-13.870
8900	HgClOH (aq)	6.650E-13	-12.177	10.310
9000	HgCl4-2 (-2)	1.120E-27	-26.952	21.660
9100	HgCl+ (+1)	8.750E-17	-16.058	13.360
9200	HgCl2 (aq)	1.300E-16	-15.886	19.930
9300	HgCl3-1 (-1)	5.200E-22	-21.284	20.930
10401	HgHCO3+ (+1)	6.340E-16	-15.198	22.150
10402	Hg(CO3)2-2 (-2)	3.700E-17	-16.432	21.380
10403	HgCO3 (aq)	2.900E-13	-12.537	17.880
15800	Hg+2 (+2)	2.000E-17	-16.700	6.320
15900	HgOH+ (+1)	5.060E-14	-13.296	2.800
16000	Hg(OH)3-1 (-1)	1.000E-17	-16.998	-14.770
16500	Hg(NH3)4+2 (+2)	3.480E-15	-14.459	-11.350
16600	Hg(NH3)3+2 (+2)	8.050E-12	-11.094	-3.010
16700	HgNH3+2 (+2)	6.840E-13	-12.165	5.880
16800	HgNO3+ (+1)	4.550E-20	-19.342	5.630
16900	Hg(NO3)2 (aq)	1.580E-22	-21.802	5.120
17000	HgSO4 (aq)	5.090E-19	-18.293	8.220

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Run: 1

ID	Species	Conc.	Log C	Log K
Type II - COMPLEXES				
17302	Hg[EDTA]	(-2) 1.620E-07	-6.790	28.390
17303	HgH[EDTA]	(-1) 4.150E-11	-10.382	31.730
17900	MgOH+	(+1) 8.940E-09	-8.049	-11.530
25000	Hg(NH3)2+2	(+2) 3.720E-08	-7.430	5.640
31700	H2CO3 (aq)	1.080E-05	-4.966	16.290
31800	HCO3-	(-1) 5.540E-05	-4.257	10.070
32000	MgHCO3+	(+1) 1.100E-07	-6.960	10.820
32200	NaHCO3 (aq)	2.300E-07	-6.637	9.690
37800	MgH[EDTA]	(-1) 1.350E-09	-8.870	13.670
38900	NH3 (aq)	5.440E-05	-4.265	-9.240
43900	HSO4-	(-1) 2.030E-09	-8.692	1.730
46800	H[EDTA]	(-3) 2.190E-09	-8.659	10.430
46900	H2[EDTA]	(-2) 1.960E-10	-9.707	16.310
47000	H4[EDTA]	2.090E-19	-18.681	21.200
47100	H5[EDTA]	(+1) 7.730E-25	-24.112	22.700
47200	H3[EDTA]	(-1) 1.660E-14	-13.780	19.170
53000	HISO	6.780E-04	-3.169	9.570
53100	H2ISO	(+1) 2.000E-08	-7.700	11.970
53200	HLEU	6.780E-04	-3.169	9.570
53300	H2LEU	(+1) 2.000E-08	-7.700	11.970
95300	MgCO3 (aq)	3.570E-09	-8.448	2.400
95400	NaCO3-	(-1) 4.120E-09	-8.385	1.010
133400	MgSO4 (aq)	6.260E-06	-5.204	1.740
134100	Mg[EDTA]	(-2) 8.340E-07	-6.079	9.530
141100	NaSO4-	(-1) 9.520E-06	-5.021	0.470
141300	Na[EDTA]	(-3) 1.060E-12	-11.976	2.180
141800	NH4SO4-	(-1) 2.120E-05	-4.673	0.770

Type III - FIXED ENTITIES

175300	CO2 (g)			21.260
3801	H2O (Solution)			0.000

Type V - DISSOLVED SOLIDS

228600	Hg(OH)2		-5.666	3.500
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Type VI - SPECIES NOT CONSIDERED

189500	HgCl2	1.520E-15	-14.818	21.000
190601	Hg3O2CO3	3.540E-20	-19.451	29.290
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196700	BRUCITE	2.730E-07	-6.565	-16.970
196702	Mg(OH)2 (active)	3.060E-09	-8.515	-18.920
205800	NESQUEHONITE	2.010E-07	-6.698	4.150
205900	THERMONATRITE	3.780E-13	-12.423	-1.030
206000	NATRON	3.350E-11	-10.475	0.920
206900	MONTROYDITE	3.010E-06	-5.522	3.640
207100	EPSOMITE	4.610E-06	-5.337	1.610
207200	MIRABILITE	1.710E-07	-6.768	0.720
221800	HALITE	7.390E-11	-10.131	-1.730
224700	MAGNESITE	1.240E-04	-3.908	6.940
230200	THENARDITE	6.250E-09	-8.204	-0.710
175310	pH (+1)	1.010E+00	0.004	7.000
Other Species				
900003	Activity of H+	1.010E-07	-6.996	0.070

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3	H(+)	1.170E-07	-6.931	0.000
19	Cl(-)	4.000E-07	-6.398	0.000
23	CO3(2-)	4.040E-08	-7.394	0.000
36	Hg(OH)2	2.830E-09	-8.548	0.000
41	Mg(2+)	3.540E-04	-3.452	0.000
45	Na(+)	9.990E-03	-2.000	0.000
47	NH4(+)	1.120E-02	-1.952	0.000
50	NO3(-)	1.130E-02	-1.949	0.000
68	SO4(2-)	3.230E-04	-3.491	0.000
93	EDTA-4	4.650E-14	-13.333	0.000
129	ISO(-)	1.560E-06	-5.807	0.000
130	LEU(-)	1.560E-06	-5.807	0.000
146	MOPS-	8.090E-03	-2.092	0.000
147	glycphos2-	9.000E-04	-3.046	0.000
Type II - COMPLEXES				
500003	Na2glycerphos	3.660E-08	-7.437	-0.390
500001	HMOPS-	9.910E-03	-2.004	7.020
3800	OH- (-1)	1.160E-07	-6.936	-13.870
8900	HgClOH (aq)	2.730E-12	-11.564	10.310
9000	HgCl4-2 (-2)	4.580E-27	-26.339	21.660
9100	HgCl+ (+1)	3.590E-16	-15.445	13.360
9200	HgCl2 (aq)	5.330E-16	-15.273	19.930
9300	HgCl3-1 (-1)	2.130E-21	-20.671	20.930
10401	HgHCO3+ (+1)	2.600E-15	-14.584	22.150
10402	Hg(CO3)2-2 (-2)	1.520E-16	-15.817	21.380
10403	HgCO3 (aq)	1.190E-12	-11.923	17.880
15800	Hg+2 (+2)	8.190E-17	-16.087	6.320
15900	HgOH+ (+1)	2.080E-13	-12.682	2.800
16000	Hg(OH)3-1 (-1)	4.130E-17	-16.384	-14.770
16500	Hg(NH3)4+2 (+2)	1.430E-14	-13.844	-11.350
16600	Hg(NH3)3+2 (+2)	3.310E-11	-10.480	-3.010
16700	HgNH3+2 (+2)	2.810E-12	-11.551	5.880
16800	HgNO3+ (+1)	1.870E-19	-18.729	5.630
16900	Hg(NO3)2 (aq)	6.480E-22	-21.189	5.120
17000	HgSO4 (aq)	2.090E-18	-17.680	8.220

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MINEQL+ Ver 4.5

Page 3

Data Extracted from : 100ED200.MDO

Run: 1

ID	Species	Conc.	Log C	Log K
Type II - COMPLEXES				
17302	Hg[EDTA]	(-2) 4.420E-08	-7.355	28.390
17303	HgH[EDTA]	(-1) 1.130E-11	-10.946	31.730
17900	MgOH+	(+1) 8.970E-09	-8.047	-11.530
25000	Hg(NH3)2+2	(+2) 1.530E-07	-6.816	5.640
31700	H2CO3 (aq)	1.080E-05	-4.966	16.290
31800	HCO3-	(-1) 5.540E-05	-4.257	10.070
32000	MgHCO3+	(+1) 1.100E-07	-6.958	10.820
32200	NaHCO3 (aq)	2.310E-07	-6.637	9.690
37800	MgH[EDTA]	(-1) 8.970E-11	-10.047	13.670
38900	NH3 (aq)	5.440E-05	-4.264	-9.240
43900	HSO4-	(-1) 2.030E-09	-8.692	1.730
46800	H[EDTA]	(-3) 1.460E-10	-9.837	10.430
46900	H2[EDTA]	(-2) 1.300E-11	-10.885	16.310
47000	H4[EDTA]	1.380E-20	-19.860	21.200
47100	H5[EDTA]	(+1) 5.120E-26	-25.291	22.700
47200	H3[EDTA]	(-1) 1.100E-15	-14.958	19.170
53000	HISO	6.780E-04	-3.169	9.570
53100	H2ISO	(+1) 2.000E-08	-7.700	11.970
53200	HLEU	6.780E-04	-3.169	9.570
53300	H2LEU	(+1) 2.000E-08	-7.700	11.970
95300	MgCO3 (aq)	3.580E-09	-8.446	2.400
95400	NaCO3-	(-1) 4.120E-09	-8.385	1.010
133400	MgSO4 (aq)	6.270E-06	-5.203	1.740
134100	Mg[EDTA]	(-2) 5.550E-08	-7.255	9.530
141100	NaSO4-	(-1) 9.520E-06	-5.021	0.470
141300	Na[EDTA]	(-3) 7.020E-14	-13.154	2.180
141800	NH4SO4-	(-1) 2.120E-05	-4.673	0.770

Type III - FIXED ENTITIES

175300	CO2 (g)			21.260
3801	H2O (Solution)			0.000

Type V - DISSOLVED SOLIDS

228600	Hg(OH)2		-5.052	3.500
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Type VI - SPECIES NOT CONSIDERED

189500	HgCl2	6.240E-15	-14.205	21.000
190601	Hg3O2CO3	2.460E-18	-17.609	29.290
190800	ARTINITE	2.070E-11	-10.685	-10.250
190900	HYDROMAGNESITE	3.830E-27	-26.417	6.550
195900	HgSO4	1.340E-17	-16.873	9.030

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MINEQL+ Ver 4.5

Page 4

Data Extracted from : 100ED200.MDO

Run: 1

ID	Species	Conc.	Log C	Log K
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Type VI - SPECIES NOT CONSIDERED

196600	PERICLASE	4.980E-12	-11.303	-21.710
196700	BRUCITE	2.740E-07	-6.563	-16.970
196702	Mg(OH)2 (active)	3.070E-09	-8.513	-18.920
205800	NESQUEHONITE	2.010E-07	-6.696	4.150
205900	THERMONATRITE	3.780E-13	-12.422	-1.030
206000	NATRON	3.360E-11	-10.474	0.920
206900	MONTROYDITE	1.240E-05	-4.908	3.640
207100	EPSOMITE	4.610E-06	-5.336	1.610
207200	MIRABILITE	1.710E-07	-6.768	0.720
221800	HALITE	7.390E-11	-10.131	-1.730
224700	MAGNESITE	1.240E-04	-3.906	6.940
230200	THENARDITE	6.250E-09	-8.204	-0.710
175310	pH (+1)	1.010E+00	0.004	7.000
Other Species				
900003	Activity of H+	1.010E-07	-6.996	0.070

MINEQL Output for 1x10⁻⁸ M EDTA

MINEQL+ Ver 4.5

Page 1

Data Extracted from : 10ED200H.MDO

SINGLE RUN SUMMARY

This report compiles the output data (concentration, Log C, Log K) for all species within a single run.

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MINEQL+ Ver 4.5

Page 2

Data Extracted from : 10ED200H.MDO

Run: 1

ID	Species	Conc.	Log C	Log K
Type I - COMPONENTS				
2	H2O	1.000E+00	0.000	0.000
3	H(+)	1.170E-07	-6.931	0.000
19	Cl(-)	4.000E-07	-6.398	0.000
23	CO3(2-)	4.040E-08	-7.394	0.000
36	Hg(OH)2	3.540E-09	-8.451	0.000
41	Mg(2+)	3.540E-04	-3.451	0.000
45	Na(+)	9.990E-03	-2.000	0.000
47	NH4(+)	1.120E-02	-1.952	0.000
50	NO3(-)	1.130E-02	-1.949	0.000
68	SO4(2-)	3.230E-04	-3.491	0.000
93	EDTA-4	4.180E-15	-14.379	0.000
129	ISO(-)	1.560E-06	-5.807	0.000
130	LEU(-)	1.560E-06	-5.807	0.000
146	MOPS-	8.090E-03	-2.092	0.000
147	glycphos2-	9.000E-04	-3.046	0.000
Type II - COMPLEXES				
500003	Na2glycerphos	3.660E-08	-7.437	-0.390
500001	HMOPS-	9.910E-03	-2.004	7.020
3800	OH- (-1)	1.160E-07	-6.935	-13.870
8900	HgClOH (aq)	3.420E-12	-11.466	10.310
9000	HgCl4-2 (-2)	5.740E-27	-26.241	21.660
9100	HgCl+ (+1)	4.490E-16	-15.347	13.360
9200	HgCl2 (aq)	6.680E-16	-15.175	19.930
9300	HgCl3-1 (-1)	2.670E-21	-20.573	20.930
10401	HgHCO3+ (+1)	3.260E-15	-14.487	22.150
10402	Hg(CO3)2-2 (-2)	1.910E-16	-15.719	21.380
10403	HgCO3 (aq)	1.490E-12	-11.826	17.880
15800	Hg+2 (+2)	1.030E-16	-15.989	6.320
15900	HgOH+ (+1)	2.600E-13	-12.585	2.800
16000	Hg(OH)3-1 (-1)	5.180E-17	-16.286	-14.770
16500	Hg(NH3)4+2 (+2)	1.790E-14	-13.747	-11.350
16600	Hg(NH3)3+2 (+2)	4.150E-11	-10.382	-3.010
16700	HgNH3+2 (+2)	3.520E-12	-11.454	5.880
16800	HgNO3+ (+1)	2.340E-19	-18.631	5.630
16900	Hg(NO3)2 (aq)	8.110E-22	-21.091	5.120
17000	HgSO4 (aq)	2.620E-18	-17.583	8.220

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MINEQL+ Ver 4.5

Page 3

Data Extracted from : 10ED200H.MDO

Run: 1

ID	Species	Conc.	Log C	Log K
Type II - COMPLEXES				
17302	Hg[EDTA]	(-2) 4.980E-09	-8.303	28.390
17303	HgH[EDTA]	(-1) 1.270E-12	-11.895	31.730
17900	MgOH+	(+1) 8.970E-09	-8.047	-11.530
25000	Hg(NH3)2+2	(+2) 1.910E-07	-6.718	5.640
31700	H2CO3 (aq)	1.080E-05	-4.966	16.290
31800	HCO3-	(-1) 5.540E-05	-4.256	10.070
32000	MgHCO3+	(+1) 1.100E-07	-6.958	10.820
32200	NaHCO3 (aq)	2.310E-07	-6.637	9.690
37800	MgH[EDTA]	(-1) 8.080E-12	-11.093	13.670
38900	NH3 (aq)	5.440E-05	-4.264	-9.240
43900	HSO4-	(-1) 2.030E-09	-8.692	1.730
46800	H[EDTA]	(-3) 1.310E-11	-10.883	10.430
46900	H2[EDTA]	(-2) 1.170E-12	-11.931	16.310
47000	H4[EDTA]	1.240E-21	-20.906	21.200
47100	H5[EDTA]	(+1) 4.600E-27	-26.337	22.700
47200	H3[EDTA]	(-1) 9.910E-17	-16.004	19.170
53000	HISO	6.780E-04	-3.169	9.570
53100	H2ISO	(+1) 2.000E-08	-7.700	11.970
53200	HLEU	6.780E-04	-3.169	9.570
53300	H2LEU	(+1) 2.000E-08	-7.700	11.970
95300	MgCO3 (aq)	3.580E-09	-8.446	2.400
95400	NaCO3-	(-1) 4.130E-09	-8.385	1.010
133400	MgSO4 (aq)	6.270E-06	-5.203	1.740
134100	Mg[EDTA]	(-2) 5.000E-09	-8.301	9.530
141100	NaSO4-	(-1) 9.520E-06	-5.021	0.470
141300	Na[EDTA]	(-3) 6.310E-15	-14.200	2.180
141800	NH4SO4-	(-1) 2.120E-05	-4.673	0.770

Type III - FIXED ENTITIES

175300	CO2 (g)			21.260
3801	H2O (Solution)			0.000

Type V - DISSOLVED SOLIDS

228600	Hg(OH)2		-4.955	3.500
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Type VI - SPECIES NOT CONSIDERED

189500	HgCl2	7.810E-15	-14.107	21.000
190601	Hg3O2CO3	4.820E-18	-17.317	29.290
190800	ARTINITE	2.070E-11	-10.685	-10.250
190900	HYDROMAGNESITE	3.840E-27	-26.416	6.550
195900	HgSO4	1.680E-17	-16.776	9.030

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MINEQL+ Ver 4.5

Page 4

Data Extracted from : 10ED200H.MDO

Run: 1

ID	Species	Conc.	Log C	Log K
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Type VI - SPECIES NOT CONSIDERED

196600	PERICLASE	4.980E-12	-11.303	-21.710
196700	BRUCITE	2.740E-07	-6.563	-16.970
196702	Mg(OH)2 (active)	3.070E-09	-8.513	-18.920
205800	NESQUEHONITE	2.010E-07	-6.696	4.150
205900	THERMONATRITE	3.780E-13	-12.422	-1.030
206000	NATRON	3.360E-11	-10.474	0.920
206900	MONTROYDITE	1.550E-05	-4.811	3.640
207100	EPSOMITE	4.620E-06	-5.336	1.610
207200	MIRABILITE	1.710E-07	-6.768	0.720
221800	HALITE	7.390E-11	-10.131	-1.730
224700	MAGNESITE	1.240E-04	-3.906	6.940
230200	THENARDITE	6.250E-09	-8.204	-0.710
175310	pH (+1)	1.010E+00	0.004	7.000
Other Species				
900003	Activity of H+	1.010E-07	-6.996	0.070

MINEQL Output for 1x10⁻⁹ M EDTA

MINEQL+ Ver 4.5

Page 1

Data Extracted from : 1ED200HG.MDO

SINGLE RUN SUMMARY

This report compiles the output data (concentration, Log C, Log K) for all species within a single run.

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MINEQL+ Ver 4.5

Page 2

Data Extracted from : 1ED200HG.MDO

Run: 1

ID	Species	Conc.	Log C	Log K
Type I - COMPONENTS				
2	H2O	1.000E+00	0.000	0.000
3	H(+)	1.170E-07	-6.931	0.000
19	Cl(-)	4.000E-07	-6.398	0.000
23	CO3(2-)	4.040E-08	-7.394	0.000
36	Hg(OH)2	3.630E-09	-8.441	0.000
41	Mg(2+)	3.540E-04	-3.451	0.000
45	Na(+)	9.990E-03	-2.000	0.000
47	NH4(+)	1.120E-02	-1.952	0.000
50	NO3(-)	1.130E-02	-1.949	0.000
68	SO4(2-)	3.230E-04	-3.491	0.000
93	EDTA-4	4.130E-16	-15.384	0.000
129	ISO(-)	1.560E-06	-5.807	0.000
130	LEU(-)	1.560E-06	-5.807	0.000
146	MOPS-	8.090E-03	-2.092	0.000
147	glycphos2-	9.000E-04	-3.046	0.000
Type II - COMPLEXES				
500003	Na2glycerphos	3.660E-08	-7.437	-0.390
500001	HMOPS-	9.910E-03	-2.004	7.020
3800	OH- (-1)	1.160E-07	-6.935	-13.870
8900	HgClOH (aq)	3.500E-12	-11.456	10.310
9000	HgCl4-2 (-2)	5.870E-27	-26.231	21.660
9100	HgCl+ (+1)	4.600E-16	-15.338	13.360
9200	HgCl2 (aq)	6.830E-16	-15.166	19.930
9300	HgCl3-1 (-1)	2.730E-21	-20.564	20.930
10401	HgHCO3+ (+1)	3.330E-15	-14.477	22.150
10402	Hg(CO3)2-2 (-2)	1.950E-16	-15.710	21.380
10403	HgCO3 (aq)	1.530E-12	-11.816	17.880
15800	Hg+2 (+2)	1.050E-16	-15.979	6.320
15900	HgOH+ (+1)	2.660E-13	-12.575	2.800
16000	Hg(OH)3-1 (-1)	5.290E-17	-16.276	-14.770
16500	Hg(NH3)4+2 (+2)	1.830E-14	-13.737	-11.350
16600	Hg(NH3)3+2 (+2)	4.240E-11	-10.373	-3.010
16700	HgNH3+2 (+2)	3.600E-12	-11.444	5.880
16800	HgNO3+ (+1)	2.390E-19	-18.621	5.630
16900	Hg(NO3)2 (aq)	8.290E-22	-21.081	5.120
17000	HgSO4 (aq)	2.680E-18	-17.573	8.220

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MINEQL+ Ver 4.5

Page 3

Data Extracted from : 1ED200HG.MDO

Run: 1

ID	Species	Conc.	Log C	Log K
Type II - COMPLEXES				
17302	Hg[EDTA]	(-2) 5.030E-10	-9.298	28.390
17303	HgH[EDTA]	(-1) 1.290E-13	-12.890	31.730
17900	MgOH+	(+1) 8.970E-09	-8.047	-11.530
25000	Hg(NH3)2+2	(+2) 1.960E-07	-6.708	5.640
31700	H2CO3 (aq)	1.080E-05	-4.966	16.290
31800	HCO3-	(-1) 5.540E-05	-4.256	10.070
32000	MgHCO3+	(+1) 1.100E-07	-6.958	10.820
32200	NaHCO3 (aq)	2.310E-07	-6.637	9.690
37800	MgH[EDTA]	(-1) 7.980E-13	-12.098	13.670
38900	NH3 (aq)	5.440E-05	-4.264	-9.240
43900	HSO4-	(-1) 2.030E-09	-8.692	1.730
46800	H[EDTA]	(-3) 1.300E-12	-11.888	10.430
46900	H2[EDTA]	(-2) 1.160E-13	-12.936	16.310
47000	H4[EDTA]	1.230E-22	-21.910	21.200
47100	H5[EDTA]	(+1) 4.550E-28	-27.342	22.700
47200	H3[EDTA]	(-1) 9.800E-18	-17.009	19.170
53000	HISO	6.780E-04	-3.169	9.570
53100	H2ISO	(+1) 2.000E-08	-7.700	11.970
53200	HLEU	6.780E-04	-3.169	9.570
53300	H2LEU	(+1) 2.000E-08	-7.700	11.970
95300	MgCO3 (aq)	3.580E-09	-8.446	2.400
95400	NaCO3-	(-1) 4.130E-09	-8.385	1.010
133400	MgSO4 (aq)	6.270E-06	-5.203	1.740
134100	Mg[EDTA]	(-2) 4.940E-10	-9.306	9.530
141100	NaSO4-	(-1) 9.520E-06	-5.021	0.470
141300	Na[EDTA]	(-3) 6.240E-16	-15.205	2.180
141800	NH4SO4-	(-1) 2.120E-05	-4.673	0.770

Type III - FIXED ENTITIES

175300	CO2 (g)			21.260
3801	H2O (Solution)			0.000

Type V - DISSOLVED SOLIDS

228600	Hg(OH)2		-4.945	3.500
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Type VI - SPECIES NOT CONSIDERED

189500	HgCl2	7.990E-15	-14.098	21.000
190601	Hg3O2CO3	5.160E-18	-17.287	29.290
190800	ARTINITE	2.070E-11	-10.685	-10.250
190900	HYDROMAGNESITE	3.840E-27	-26.416	6.550
195900	HgSO4	1.720E-17	-16.766	9.030

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MINEQL+ Ver 4.5

Page 4

Data Extracted from : 1ED200HG.MDO

Run: 1

ID	Species	Conc.	Log C	Log K
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Type VI - SPECIES NOT CONSIDERED

196600	PERICLASE	4.980E-12	-11.303	-21.710
196700	BRUCITE	2.740E-07	-6.563	-16.970
196702	Mg(OH)2 (active)	3.070E-09	-8.513	-18.920
205800	NESQUEHONITE	2.010E-07	-6.696	4.150
205900	THERMONATRITE	3.780E-13	-12.422	-1.030
206000	NATRON	3.360E-11	-10.474	0.920
206900	MONTROYDITE	1.580E-05	-4.801	3.640
207100	EPSOMITE	4.620E-06	-5.336	1.610
207200	MIRABILITE	1.710E-07	-6.768	0.720
221800	HALITE	7.390E-11	-10.131	-1.730
224700	MAGNESITE	1.240E-04	-3.906	6.940
230200	THENARDITE	6.250E-09	-8.204	-0.710
175310	pH (+1)	1.010E+00	0.004	7.000
Other Species				
900003	Activity of H+	1.010E-07	-6.996	0.070