

INPUT FILES

| Type | File name | Description | Requirement |
|------------------------------|--------------|---------------------------------------|-------------|
| problem specific input files | prefix.dat | General problem specific input | Required |
| | prefix.tem | Depth dependent temperature field | Optional |
| | prefix.ivs | Initial condition for flow simulation | Optional |
| database files | comp.dbs | Components | Required |
| | complex.dbs | Aqueous complexation | Required |
| | redox.dbs | Oxidation-reduction | Required |
| | gases.dbs | Gas dissolution-exsolution | Required |
| | sorption.dbs | Ion exchange | Required |
| | mineral.dbs | Mineral dissolution-precipitation | Required |

OUTPUT FILES

General Model output and flow solution

| File name | Description | TECPLOT Header |
|--------------|--|----------------|
| prefix_o.gen | General problem specific output, contains feed-back from input file and results of batch simulations including the equilibration of background and source water chemistry Output format: assorted Suffix meaning: gen = general | N |
| prefix.log | run-specific information on convergence and trouble shooting Output format: assorted Suffix meaning: log = logbook | N |
| prefix_x.gsp | hydraulic head, pressure head, water and gas saturations, moisture and gas contents at output time x (0 = initial condition) – contour data Output format: x,(y),(z), parameter values Suffix meaning: gsp = global/spatial/pressure | Y |
| prefix_x.vel | interfacial velocities at output time x (0 = initial condition) – contour data Output format: x,(y),(z), v_x , (v_y) , (v_z) Suffix meaning: vel = velocities | Y |

Reactive transport solution – contour data

| File name | Description | TECPLOT Header |
|--------------|--|----------------|
| prefix_x.gst | total aqueous component concentrations at output time x (0 = initial condition) – contour data Output format: x,(y),(z), parameter values Suffix meaning: gst = global/spatial/total aqueous component concentrations | Y |
| prefix_x.gsc | aqueous species concentrations at output time x (0 = initial condition) – contour data Output format: x,(y),(z), parameter values Suffix meaning: gsc = global/spatial/species concentrations | Y |
| prefix_x.gsi | reaction rates of intra-aqueous kinetic reactions at output time x – contour data Output format: x,(y),(z), parameter values Suffix meaning: gsi = global/spatial/intra-aqueous kinetic reactions | Y |
| prefix_x.gsm | master variables (pH, pe, Eh, ionic strength, alkalinity, temperature) at output time x (0 = initial condition) – contour data Output format: x,(y),(z), parameter values Suffix meaning: gsm = global/spatial/master variables | Y |

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| prefix_x.gsg | partial gas pressures at output time x (0 = initial condition) – contour data Output format: x,(y),(z), parameter values Suffix meaning: gsg = global/spatial/partial gas pressures | Y |
| prefix_x.gsgr | degassing rates at output time x (0 = initial condition) – contour data Output format: x,(y),(z), parameter values Suffix meaning: gsgr – global/spatial/degassing/rates | Y |
| prefix_x.gsv | mineral volume fractions at output time x (0 = initial condition) – contour data Output format: x,(y),(z), parameter values Suffix meaning: gsv – global/spatial/volume fractions | Y |
| prefix_x.gsb | surface species at output time x (0 = initial condition) – contour data Output format: x,(y),(z), parameter values Suffix meaning: gsb – global/spatial/sorbed species | Y |
| prefix_x.gss | mineral saturation indices at output time x (0 = initial condition) – contour data Output format: x,(y),(z), parameter values Suffix meaning: gss – global/spatial/saturation indices | Y |

Reactive Transport – transient data

| File name | Description | TECPLOT Header |
|------------------|---|-----------------------|
| prefix_x.gsd | mineral dissolution-precipitation rates at output time x – contour data Output format: x,(y),(z), parameter values Suffix meaning: gsd = global/spatial/dissolution-precipitation rates | Y |
| prefix_x.gsx | saturation indices of excluded minerals at output time x – contour data Output format: x,(y),(z), parameter values Suffix meaning: gsd = global/spatial/excluded minerals | Y |
| prefix_x.gbt | total aqueous component concentrations at output location x – transient data Output format: time, parameter values Suffix meaning: gbt = global/breakthrough/total aqueous component concentrations | Y |
| prefix_x.gbc | aqueous species concentrations at output location x – transient data Output format: time, parameter values Suffix meaning: gbc = global/breakthrough/species concentrations | Y |

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| prefix_x.gbi | reaction rates of intra-aqueous kinetic reactions at output location x – transient data Output format: time, parameter values Suffix meaning: gbi = global/breakthrough/intra-aqueous kinetic reactions | Y |
| prefix_x.gbm | master variables (pH, pe, Eh, ionic strength, alkalinity, temperature) at output location x – transient data Output format: time, parameter values Suffix meaning: gbm = global/breakthrough/master variables | Y |
| prefix_x.gbg | partial gas pressures at output location x – transient data Output format: time, parameter values Suffix meaning: gbg = global/breakthrough/partial gas pressures | Y |
| prefix_x.gbgr | degassing rates at output location x – transient data Output format: time, parameter values Suffix meaning: gbgr – global/breakthrough/degassing/rates | Y |
| prefix_x.gbv | mineral volume fractions at output location x – transient data Output format: time, parameter values Suffix meaning: gbv – global/breakthrough/volume fractions | Y |
| prefix_x.gbb | surface species at output location x – transient data Output format: time, parameter values Suffix meaning: gbb – global/breakthrough/sorbed species | Y |
| prefix_x.gbs | mineral saturation indices at output location x – transient data Output format: time, parameter values Suffix meaning: gbs – global/breakthrough/saturation indices | Y |
| prefix_x.gbd | mineral dissolution-precipitation rates at output location x – transient data Output format: time, parameter values Suffix meaning: gbd = global/breakthrough/dissolution-precipitation rates | Y |
| prefix_x.gbx | saturation indices of excluded minerals at output location x – transient data Output format: time, parameter values Suffix meaning: gbx = global/breakthrough/excluded minerals | Y |

Output, Local Geochemistry

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|---------------|--|---|
| prefix_x.lbt | total aqueous component, local geochemistry – transient data, or pC-pH-data Output format: time or pH, parameter values Suffix meaning: lbt = local/breakthrough/total aqueous component concentrations | Y |
| prefix_x.lbc | aqueous species concentrations, local geochemistry – transient data, or pC-pH-data Output format: time or pH, parameter values Suffix meaning: lbc = local/breakthrough/species concentrations | Y |
| prefix_x.lbi | reaction rates of intra-aqueous kinetic reactions, local geochemistry – transient data, or pC-pH-data Output format: time or pH, parameter values Suffix meaning: lbi = local/breakthrough/intra-aqueous kinetic reactions | Y |
| prefix_x.lbm | master variables (pH, pe, Eh, ionic strength, alkalinity, temperature) , local geochemistry – transient data, or pC-pH-data Output format: time or pH, parameter values Suffix meaning: lbm = local/breakthrough/master variables | Y |
| prefix_x.lbg | partial gas pressures, local geochemistry – transient data, or pC-pH-data Output format: time or pH, parameter values Suffix meaning: lbg = local/breakthrough/partial gas pressures | Y |
| prefix_x.lbgr | degassing rates, local geochemistry – transient data, or pC-pH-data Output format: time or pH, parameter values Suffix meaning: lbgr – local/breakthrough/degassing/rates | Y |
| prefix_x.lbv | mineral volume fractions, local geochemistry – transient data, or pC-pH-data Output format: time or pH, parameter values Suffix meaning: lbv – local/breakthrough/volume fractions | Y |
| prefix_x.lbb | surface species, local geochemistry – transient data, or pC-pH-data Output format: time or pH, parameter values Suffix meaning: lbb – local/breakthrough/sorbed species | Y |
| prefix_x.lbs | mineral saturation indices, local geochemistry – transient data, or pC-pH-data Output format: time or pH, parameter values Suffix meaning: lbs – local/breakthrough/saturation indices | Y |
| prefix_x.lbd | mineral dissolution-precipitation rates, local geochemistry – transient data, or pC-pH-data Output format: time or pH, parameter values Suffix meaning: lbd = local/breakthrough/dissolution-precipitation rates | Y |

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|--------------|---|---|
| prefix_x.lbx | saturation indices of excluded minerals, local geochemistry – transient data, or pC-pH-data Output format: time or pH, parameter values Suffix meaning: lbx = local/breakthrough/excluded minerals | Y |
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