Cohiba Model File Elements
in
Cohiba Version 6.1

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The latest version of the Cohiba manual is available at: www.nr.no/en/COHIBA.

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Required elements:

Most elements have default values and are optional. The following elements must be present in all Cohiba model files.

```
  1 <cohiba>
  2 <project-settings>
 17 .  <output-grid>
183 <surfaces>
189 .  <surface>
190 .  .  <name>
232 <interval-models>
233 .  <interval>
235 .  .  <top>
236 .  .  <base>
237 .  .  <interval-type>
258 .  .  <variogram>
```

All elements:

```
 1 <cohiba>  (required)
 2 <project-settings>  (required)
 3 .  <project-title>
 4 .  <project-description>
 5 .  <seed>
 6 .  <project-directory>
 7 .  <input-directory>
 8 .  <input-directory-surfaces>
 9 .  <input-directory-well-data>
10 .  <output-directory>
11 .  <number-of-threads>
12 .  <measurement-units>
13 .  .  <z-unit>
14 .  .  <xyz-unit>
15 .  .  <time-unit>
16 .  .  <two-way-time>
17 .  <output-grid>  (required)
18 .  .  <format>
19 .  .  <read-from-file>
20 .  .  <xstart>
21 .  .  <ystart>
22 .  .  <xinc>
23 .  .  <yinc>
24 .  .  <xlength>
25 .  .  <ylength>
26 .  .  <grid-azimuth>
27 .  <messages>
28 .  .  <logfile>
29 .  .  .  <name>
30 .  .  .  <detail-level>
31 .  .  .  .  <overall>
32 .  .  .  .  <model-settings>
33 .  .  .  .  <data-loading>
34 .  .  .  .  <pre-processing>
35 .  .  .  .  <surface-models>
36 .  .  .  .  <well-points>
37 .  .  .  .  <extra-points>
38 .  .  .  .  <well-branching>
39 .  .  .  .  <well-paths>
40 .  .  .  .  <trend-coefficients>
41 .  .  .  .  <residual-uncertainties>
42 .  .  .  .  <outliers>
43 .  .  .  .  <well-point-conditioning>
44 .  .  .  .  <help-points>
45 .  .  .  .  <well-path-conditioning>
46 .  .  .  .  <post-processing>
47 .  .  .  .  <target-point-qc>
48 .  .  .  .  <zonation-checking>
49 .  .  .  .  <well-trajectories>
50 .  .  .  .  <spill-points>
51 .  .  .  .  <volume-calculations>
```

```
 52 .  .  .  .  <interval-export>
 53 .  .  .  .  <surface-export>
 54 .  .  .  .  <timings>
 55 .  .  .  .  <tasks>
 56 .  .  <screen>
 57 .  .  .  <detail-level>
 58 .  <write-expert-files>
 59 .  <additional-output-control>
 60 .  .  <write-all-logfiles>
 61 .  .  <write-realization-maps>
 62 .  .  <write-xyz-point-files>
 63 .  .  <write-scaled-input-isochores>
 64 .  .  <write-scaled-input-SD-isochores>
 65 .  .  <write-filtered-velocity-trends>
 66 .  .  <write-filtered-SD-maps>
 67 .  .  <write-regridded-input-maps>
 68 .  .  <write-unfiltered-output-velocities>
 69 .  .  <write-wells>
 70 .  .  <prefix-for-log-files>
 71 .  .  <csv-file-style>
 72 .  .  <anonymize-output>
 73 <modelling-settings>
 74 .  <mode>
 75 .  <kriging-method>
 76 .  <number-of-realizations>
 77 .  <condition-to-well-paths>
 78 .  <allow-wells-to-move>
 79 .  <check-specified-residual-uncertainties>
 80 .  <cross-validate-wells>
 81 .  <minimize-broken-zonation>
 82 .  <distance-between-zonation-points>
 83 .  <add-uncertainty-to-severe-outliers>
 84 .  <include-all-well-points-in-kriging>
 85 .  <simulate-trend-uncertainty>
 86 .  <pre-process-surfaces>
 87 .  .  <make-time-surfaces-consistent>
 88 .  .  <scale-isochores-to-seismic-envelopes>
 89 .  .  <extrapolate-input-surfaces>
 90 .  .  .  <extrapolation-method>
 91 .  .  .  <extrapolation-kriging-thinning-correlation>
 92 .  .  .  <extrapolation-kriging-range>
 93 .  .  .  <extrapolation-inverse-distance-weighting-power>
 94 .  .  .  <extrapolation-SD-factor>
 95 .  .  <smoothing-factor-velocity-trends>
 96 .  .  <smoothing-factor-SD-maps>
 97 .  <post-process-surfaces>
 98 .  .  <erode-and-onlap>
 99 .  .  <treat-reflectors-as-eroding-and-onlapped>
100 .  .  <make-average-of-crossing-surfaces>
101 .  .  <make-surfaces-interpolate-well-points>
102 .  .  <allow-small-surface-adjustment-at-zonation-points>
103 .  .  <set-eroded-nodes-to-undefined>
104 .  .  <smoothing-factor-calculated-velocities>
105 .  <correlated-intervals>
```

```
106 .   .  <correlated-intervals-residual-range>
107 .   .  <correlated-intervals-residual-power>
108 .   .  <correlated-intervals-simulation>
109 .   .  <correlated-intervals-trend-range>
110 .   .  <correlated-intervals-trend-power>
111 .   .  <correlated-intervals-ratios-for-trends>
112 .   <advanced-settings>
113 .   .  <max-rejection-rate>
114 .   .  <model-weight-resolution>
115 .   .  <max-SD-for-well-points-interpolation>
116 .   .  <max-residual-for-well-points-interpolation>
117 .   .  <max-gradient-for-surface-adjustment>
118 .   .  <max-residual-for-adjustment-at-zonation-points>
119 .   .  <min-distance-from-surface-to-zonation-points>
120 .   .  <allow-zonation-points-near-faults>
121 .   .  <base-help-points-on-simulated-surfaces>
122 .   .  <solver-for-weights>
123 .   .  <max-iterations-to-avoid-broken-zonation>
124 .   .  <correlate-close-reflectors>
125 .   .  <max-obs-direct-estim-trend-coef>
126 .   .  <max-obs-GLS-approx-trend-coef>
127 .   .  <max-obs-GLS-approx-extreme-outliers>
128 .   .  <max-obs-update-trend-coef-using-well-paths>
129 .   .  <threshold-for-trace-clustering>
130 .   .  <threshold-for-cluster-merging>
131 .   .  <threshold-for-well-point-cluster-inclusion>
132 .   .  <threshold-for-removing-undefined-well-sections>
133 .   .  <threshold-for-help-point-deactivation>
134 .   .  <threshold-for-special-help-point-deactivation>
135 .   .  <threshold-for-high-correlation-wp-wp>
136 .   .  <threshold-for-high-correlation-wp-ip>
137 .   .  <threshold-for-high-correlation-wp-ep>
138 .   .  <min-isochore-thickness>
139 .   .  <threshold-for-mild-error>
140 .   .  <t-value-outlier>
141 .   .  <t-value-severe-outlier>
142 .   .  <t-value-error>
143 .   .  <t-value-extreme-error>
144 .   .  <t-value-first-help-point>
145 .   .  <t-value-second-help-point>
146 .   .  <max-generalized-eigenvalue-for-inequality-points>
147 .   .  <max-dxy-for-identical-well-points>
148 .   .  <max-dz-for-identical-well-points>
149 .   .  <max-slope-before-possible-conflict>
150 .   .  <min-SD-close-well-points>
151 .   .  <threshold-for-conditioning-in-neighbourhood>
152 .   .  <preprocess-range-factor-for-neighbourhood>
153 .   .  <min-range-factor-for-neighbourhood>
154 .   .  <max-range-factor-for-neighbourhood>
155 .   .  <target-number-of-data-in-neighbourhood>
156 .   .  <min-generalized-eigenvalue-for-residual-uncert>
157 .   .  <volume-calculation-method>
158 .   .  <keep-all-pinchout-points>
159 .   .  <normalize-interval-weights-table>
```

```
160 .  .  <check-zonation-in-branching-wells>
161 .  .  <add-uncertainty-to-close-observations>
162 <well-data>
163 .  <wellpath-TVD-SD-range>
164 .  <well-log>
165 .  .  <files>
166 .  .  <zone-log-specification>
167 .  .  <zone-log-specification-file>
168 .  .  <zone-log-name>
169 .  .  <fault-log-name>
170 .  .  <MD-log-name>
171 .  .  <wellpoint-TVD-pick-SD-log-name>
172 .  .  <wellpath-TVD-SD-log-name>
173 .  .  <wellpath-TVD-SD-increase-rate>
174 .  .  <tops-as-mean-values>
175 .  .  <first-log-entry-as-top>
176 .  .  <TVD-values-are-negative>
177 .  <well-points>
178 .  .  <files>
179 .  <well-points-to-ignore>
180 .  .  <files>
181 .  <values-outside-grid>
182 .  .  <value well-name="""  surface-name="""" x="""  y="""  SD="""">
183 <surfaces>  (required)
184 .  <reference>
185 .  .  <name>
186 .  .  <depth>
187 .  .  <common-top-for-correlated-intervals>
188 .  .  <travel-time>
189 .  <surface>  (required)
190 .  .  <name>  (required)
191 .  .  <top-of-zone>
192 .  .  <erosive>
193 .  .  <onlapped>
194 .  .  <free-surface>
195 .  .  <reflector>
196 .  .  <common-top-for-correlated-intervals>
197 .  .  <travel-time>
198 .  .  .  <value>
199 .  .  .  <values-outside-grid>
200 .  .  .  .  <value>
201 .  .  .  <variogram>
202 .  .  .  .  <type>
203 .  .  .  .  <range>
204 .  .  .  .  <subrange>
205 .  .  .  .  <azimuth>
206 .  .  .  .  <SD>
207 .  .  .  .  .  <relative>
208 .  .  .  .  .  <minimum>
209 .  .  .  .  <power>
210 .  .  .  .  <values-outside-grid>
211 .  .  .  .  .  <value>
212 .  .  <spill-point>
213 .  .  .  <missing-as-wall>
```

```
214 .  .  .  <xstart>
215 .  .  .  <ystart>
216 .  .  <acceptance-criteria>
217 .  .  .  <spill-point-above>
218 .  .  .  <spill-point-below>
219 .  .  .  <spill-point-at>
220 .  .  .  <spill-point-tolerance>
221 .  .  .  <trap-larger-than>
222 .  .  <condition-to-spill-point-at-surface>
223 .  .  <weight-isochore-package-above>
224 .  .  <output>
225 .  .  .  <depth>
226 .  .  .  <depth-uncertainty>
227 .  .  .  <depth-trend>
228 .  .  .  <depth-trend-uncertainty>
229 .  .  .  <depth-residual>
230 .  .  .  <depth-residual-uncertainty>
231 .  .  .  <trap>
232 <interval-models>  (required)
233 .  <interval>  (required)
234 .  .  <name>
235 .  .  <top>  (required)
236 .  .  <base>  (required)
237 .  .  <interval-type>  (required)
238 .  .  <trend>
239 .  .  .  <coefficient-mean>
240 .  .  .  <coefficient-SD>
241 .  .  .  <relative-SD>
242 .  .  .  <value>
243 .  .  .  <values-outside-grid>
244 .  .  .  .  <value>
245 .  .  <linvel-trend>
246 .  .  .  <linvel-expansion-type>
247 .  .  .  <linvel-reference>
248 .  .  .  <V0-mean>
249 .  .  .  <V0-SD>
250 .  .  .  <k-mean>
251 .  .  .  <k-SD>
252 .  .  <polynomial-trend>
253 .  .  .  <polynomial-degree>
254 .  .  .  <polynomial-scaling-factor>
255 .  .  .  <polynomial-type>
256 .  .  <correlations>
257 .  .  .  <cp-q>
258 .  .  <variogram>  (required)
259 .  .  .  <type>
260 .  .  .  <range>
261 .  .  .  <subrange>
262 .  .  .  <azimuth>
263 .  .  .  <SD>
264 .  .  .  .  <relative>
265 .  .  .  .  <minimum>
266 .  .  .  <power>
267 .  .  .  <values-outside-grid>
```

```
268 .  .  .  .  <value>
269 .  .  <output>
270 .  .  .  <thickness>
271 .  .  .  <thickness-trend>
272 .  .  .  <thickness-residual>
273 .  .  .  <velocity>
274 .  .  .  <velocity-trend>
275 <volumes>
276 .  <volume>
277 .  .  <reservoir-name>
278 .  .  <top-surface>
279 .  .  <base-surface>
280 .  .  <top-contact>
281 .  .  <base-contact>
282 .  .  <area-file>
283 .  .  <area-names>
284 .  .  <only-trapped-volume>
285 .  .  <remove-isolated-volumes-less-than>
286 .  .  <connected-volume>
287 .  .  .  <xstart>
288 .  .  .  <ystart>
289 .  .  <column-map>
```
