

Cohiba Model File Elements in Cohiba Version 7.0

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

For Cohiba support contact Pal.Dahle@nr.no, Ariel.Almendral.Vazquez@nr.no,
or Audun.Sektan@nr.no.

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>
201 <surfaces>
207 . <surface>
208 . . <name>
251 <intervals>
252 . <interval>
254 . . <top>
255 . . <base>
256 . . <interval-type>
275 . . <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 <distance-points>
- 39 <well-branching>
- 40 <well-paths>
- 41 <trend-coefficients>
- 42 <residual-uncertainties>
- 43 <outliers>
- 44 <dip-points>
- 45 <well-point-conditioning>
- 46 <help-points>
- 47 <well-path-conditioning>
- 48 <target-point-qc>
- 49 <post-processing>
- 50 <zonation-checking>
- 51 <updated-well-paths>

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

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

160 . . <max-range-factor-for-neighbourhood>
161 . . <target-number-of-data-in-neighbourhood>
162 . . <min-generalized-eigenvalue-for-residual-uncert>
163 . . <volume-calculation-method>
164 . . <keep-all-pinchout-points>
165 . . <normalize-interval-weights-table>
166 . . <check-zonation-in-branching-wells>
167 . . <add-uncertainty-to-close-observations>
168 . . <min-dip-for-azimuth-calculation>
169 . . <number-of-dip-points>
170 . . <dip-points-radius>
171 . . <align-dip-points-to-dip-direction>
172 . . <add-dip-uncertainty-for-trend-conflicts>
173 . . <lateral-threshold-for-well-grouping>
174 . . <threshold-for-branching-points>
175 <well-data>
176 . <wellpath-TVD-SD-range>
177 . <wells>
178 . . <files>
179 . . <zone-log-specification>
180 . . <zone-log-specification-file>
181 . . <zone-log-name>
182 . . <fault-log-name>
183 . . <MD-log-name>
184 . . <wellpoint-TVD-pick-SD-log-name>
185 . . <wellpath-TVD-SD-log-name>
186 . . <wellpath-TVD-SD-increase-rate>
187 . . <tops-as-mean-values>
188 . . <first-log-entry-as-top>
189 . . <TVD-values-are-negative>
190 . . <sampling-distance>
191 . <well-points>
192 . . <files>
193 . <well-points-to-ignore>
194 . . <files>
195 . <distance-points>
196 . . <files>
197 . . <sampling-type>
198 . . <sampling-distance>
199 . . <width-of-smoothing-kernel>
200 . . <min-uncertainty>
201 <surfaces> *(required)*
202 . <reference>
203 . . <name>
204 . . <depth>
205 . . <common-top-for-correlated-intervals>
206 . . <travel-time>
207 . <surface> *(required)*
208 . . <name> *(required)*
209 . . <top-of-zone>
210 . . <erosive>
211 . . <onlapped>
212 . . <free-surface>
213 . . <reflector>

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

268 . . . <k-SD>
269 . . . <polynomial-trend>
270 <polynomial-degree>
271 <polynomial-scaling-factor>
272 <polynomial-type>
273 . . . <correlations>
274 <cp-q>
275 . . . <variogram> (*required*)
276 <type>
277 <range>
278 <subrange>
279 <azimuth>
280 <SD>
281 <relative>
282 <minimum>
283 <power>
284 . . . <minimum-thickness>
285 . . . <output>
286 <thickness>
287 <thickness-trend>
288 <thickness-residual>
289 <velocity>
290 <velocity-trend>
291 <volumes>
292 . . <volume>
293 . . . <reservoir-name>
294 . . . <top-surface>
295 . . . <base-surface>
296 . . . <top-contact>
297 . . . <base-contact>
298 . . . <area-file>
299 . . . <area-names>
300 . . . <only-trapped-volume>
301 . . . <remove-isolated-volumes-less-than>
302 . . . <connected-volume>
303 <xstart>
304 <ystart>
305 . . . <column-map>
