

Table XX. Lithologic Shaker Log for multiple-well monitoring site Valle De Caballos (TMVC) (8S/1W-6R1-6S)

[Altitude of land surface, approximately 1,256 feet. Depth is in feet below land surface. Soil and rock color notation from Munsell Color (2009). Drilled by U.S. Geological Survey using hydraulic rotary, August 2013. Total depth drilled 1,033 feet. Screened intervals: 25-30, 110-130, 270-290, 540-560, 820-840, 940-960, and 980-1,020 feet]

Depth (ft)	Description
10	Slightly gravelly sand ((g)S); medium to very coarse sand with granules to small pebbles; poorly sorted; subangular; light olive brown (2.5Y 5/3); <i>calcareous</i> ; <i>micaceous</i>
20	Sand (S); medium to very coarse sand with trace granules to small pebbles; well sorted; subangular; light olive brown (2.5Y 5/3); <i>micaceous</i>
30	Gravelly sand (gS); fine to very coarse sand with granules to medium pebbles; very poorly sorted; angular to subangular; light olive brown (2.5Y 5/3); <i>micaceous</i>
40	Gravelly sand (gS); medium to very coarse sand with granules to small pebbles; very poorly sorted; angular to subangular; light olive brown (2.5Y 5/3); <i>micaceous</i> ; <i>trace hematite nodules (<0.5mm)</i>
50	Slightly gravelly sand ((g)S); fine to very coarse sand with granules to small pebbles; poorly sorted; subangular to subrounded; light olive brown (2.5Y 5/3); <i>micaceous</i>
60	Slightly gravelly sand ((g)S); fine to very coarse sand with granules to small pebbles; poorly sorted; subangular to rounded; light olive brown (2.5Y 5/3); <i>calcareous</i> ; <i>micaceous</i>
70	Slightly gravelly sand ((g)S); medium to very coarse sand with granules to small pebbles; poorly to moderately sorted; subrounded to rounded; light olive brown (2.5Y 5/3); <i>micaceous</i>
80	Gravelly sand (gS); medium to very coarse sand with granules to small pebbles; very poorly sorted; subangular to rounded; light olive brown (2.5Y 5/3); <i>micaceous</i>
90	Gravelly sand (gS); fine to very coarse sand with granules to medium pebbles; very poorly sorted; angular to subangular; light olive brown (2.5Y 5/3); <i>micaceous</i>
100	Slightly gravelly sand ((g)S); fine to very coarse sand with granules to medium pebbles; poorly sorted; subangular to subrounded; light olive brown (2.5Y 5/3); <i>micaceous</i>
110	Sand (S); fine to very coarse sand with trace granules to small pebbles; poorly to moderately sorted; angular to subangular; light olive brown (2.5Y 5/3); <i>micaceous</i>
120	Sandy gravel (sG); granules to medium pebbles with medium to very coarse sand; very poorly sorted; subangular to rounded; light olive brown (2.5Y 5/3); <i>micaceous</i> ; <i>mafics</i>
130	Sandy gravel (sG); granules to medium pebbles with fine to very coarse sand; very poorly sorted; subangular to subrounded; light olive brown (2.5Y 5/3); <i>micaceous</i> ; <i>mafics</i>
140	Sandy gravel (sG); granules to medium pebbles with fine to very coarse sand; very poorly sorted; angular to subrounded; light olive brown (2.5Y 5/3); <i>micaceous</i>

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Depth (ft)	Description
150	Sandy gravel (sG); granules to medium pebbles with fine to very coarse sand; very poorly sorted; angular to subrounded; very dark grayish brown (2.5Y 3/2); <i>micaceous; abundant mafics</i>
160	Silty sandy gravel (msG); granules to small pebbles with very fine to very coarse sand and silt; very poorly sorted; subangular to subrounded; light olive brown (2.5Y 5/3); <i>micaceous</i>
170	Gravelly clayey silty sand (gmS); fine to very coarse sand with silt, clay, granules to medium pebbles; very poorly sorted; angular to subrounded; light olive brown (2.5Y 5/3); <i>calcareous; minor mica</i>
180	Slightly gravelly sandy silty clay ((g)sM); clay with silt, very fine to very coarse sand, and granules to small pebbles; very poorly sorted; grayish brown (2.5Y 5/2); <i>calcareous; minor mica</i>
190	Sandy silty clay (sM); clay with silt, very fine to very coarse sand, and trace granules to small pebbles; very poorly sorted; light olive brown (2.5Y 5/3); <i>calcareous; micaceous</i>
200	Sandy silty clay (sM); clay with silt, very fine to very coarse sand, and trace granules; very poorly sorted; light olive brown (2.5Y 5/3); <i>calcareous; micaceous</i>
210	Silty clayey sand (mS); very fine to very coarse sand with clay and silt; very poorly sorted; very angular to subangular; light olive brown (2.5Y 5/3); <i>micaceous</i>
220	Silty clayey sand (mS); very fine to very coarse sand with clay, silt, and trace granules; very poorly sorted; angular to subangular; light olive brown (2.5Y 5/3); <i>calcareous; micaceous; trace 1-2mm charcoal fragments</i>
230	Sandy clay (sC); clay with very fine to coarse sand and trace granules; poorly sorted; light olive brown (2.5Y 5/3); <i>calcareous; micaceous</i>
240	Slightly gravelly clayey sand ((g)mS); very fine to very coarse sand with clay and granules to small pebbles; very poorly sorted; subangular to rounded; light olive brown (2.5Y 5/3); <i>calcareous; micaceous</i>
250	Silty clayey sand (mS); very fine to very coarse sand with clay, silt, and trace granules to small pebbles; very poorly sorted; subrounded to rounded; light olive brown (2.5Y 5/3); <i>calcareous; micaceous</i>
260	Sandy clay (sC); clay with fine to very coarse sand and trace granules; very poorly sorted; light olive brown (2.5Y 5/2); <i>very calcareous; micaceous</i>
270	Sandy silty clay (sM); clay with silt and very fine to medium sand; poorly to moderately sorted; light olive brown (2.5Y 5/3); <i>calcareous; minor mica</i>
280	Clayey sand (cS); fine to coarse sand with clay and minor very coarse sand; very poorly to poorly sorted; subangular to subrounded; light olive brown (2.5Y 5/3); <i>calcareous; minor mica</i>
290	Silty clayey sand (mS); very fine to very coarse sand with clay, silt, and trace granules; very poorly sorted; subangular to subrounded; olive brown (2.5Y 4/3); <i>calcareous; micaceous</i>

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Depth (ft)	Description
300	Clayey silty sand (mS); very fine to very coarse sand with silt, clay, and trace granules; very poorly sorted; subangular to subrounded; olive brown (2.5Y 4/3); <i>calcareous; micaceous</i>
310	Sandy silty clay (sM); clay with silt, very fine to coarse sand, and trace very coarse sand; very poorly to poorly sorted; light olive brown (2.5Y 5/3); <i>calcareous; micaceous</i>
320	Silty sand (zS); very fine to very coarse sand with silt, minor clay, and trace granules to small pebbles; very poorly to poorly sorted; angular to subrounded; light olive brown (2.5Y 5/3); <i>calcareous; micaceous</i>
330	Silty clayey sand (mS); very fine to very coarse sand with clay and silt; very poorly sorted; angular to subrounded; light olive brown (2.5Y 5/3); <i>calcareous; micaceous</i>
340	Sandy silty clay (sM); clay with silt, very fine to coarse sand, and trace very coarse sand; very poorly to poorly sorted; light olive brown (2.5Y 5/3); <i>calcareous; micaceous</i>
350	Sandy silty clay (sM); clay with silt and very fine to very coarse sand; very poorly sorted; light olive brown (2.5Y 5/3); <i>calcareous; minor mica</i>
360	Clayey silty sand (mS); very fine to very coarse sand with silt, clay, and trace granules; very poorly sorted; angular to subrounded; light olive brown (2.5Y 5/3); <i>calcareous; micaceous</i>
370	Sand (S); very fine to very coarse sand with minor silt; moderately to well sorted; subangular to subrounded; light olive brown (2.5Y 5/3); <i>calcareous; micaceous</i>
380	Sand (S); medium to very coarse sand with trace silt; well sorted; subangular to rounded; light olive brown (2.5Y 5/3); <i>slightly calcareous; micaceous</i>
390	Slightly gravelly sandy silty clay ((g)sM); clay with silt, very fine to very coarse sand, and granules to small pebbles; very poorly sorted; light olive brown (2.5Y 5/3); <i>calcareous; micaceous</i>
400	Sandy silty clay (sM); clay with silt and very fine to very coarse sand; very poorly sorted; light olive brown (2.5Y 5/3); <i>calcareous; micaceous</i>
410	Slightly gravelly sandy silty clay ((g)sM); clay with silt, very fine to very coarse sand, and granules to small pebbles; very poorly sorted; light olive brown (2.5Y 5/3); <i>calcareous; minor mica</i>
420	Slightly gravelly sandy silt ((g)sM); silt with fine to coarse sand and granules to small pebbles; very poorly to poorly sorted; light olive brown (2.5Y 5/3); <i>calcareous; micaceous</i>
430	Slightly gravelly clayey silty sand ((g)mS); very fine to coarse sand with silt, clay, and granules to small pebbles; very poorly sorted; subangular to subrounded; light olive brown (2.5Y 5/3); <i>calcareous; micaceous</i>
440	Slightly gravelly sandy clayey silt ((g)sM); silt with clay, very fine to coarse sand, and granules; very poorly sorted; light olive brown (2.5Y 5/3); <i>calcareous; micaceous</i>

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Depth (ft)	Description
450	Sandy clayey silt (sM); silt with clay, very fine to coarse sand, and trace granules; poorly sorted; light olive brown (2.5Y 5/3); <i>calcareous; micaceous</i>
460	Sandy clayey silt (sM); silt with clay and very fine to very coarse sand; very poorly sorted; light olive brown (2.5Y 5/3); <i>calcareous; micaceous</i>
470	Sandy silt (sZ); silt with very fine to very coarse sand; poorly to moderately sorted; grayish brown (2.5Y 5/2); <i>calcareous; micaceous</i>
480	Sandy silt (sZ); silt with very fine to very coarse sand, minor clay, and trace granules to small pebbles; poorly sorted; grayish brown (2.5Y 5/2); <i>calcareous; minor mica</i>
490	Silty sand (zS); very fine to very coarse sand with silt; poorly to moderately sorted; subangular to subrounded; light olive brown (2.5Y 5/3); <i>calcareous; minor mica</i>
500	Silty sand (zS); very fine to very coarse sand with silt and minor clay; poorly sorted; angular to subangular; light olive brown (2.5Y 5/3); <i>calcareous; minor mica</i>
510	Silty sand (zS); very fine to very coarse sand with silt; poorly to moderately sorted; subangular to subrounded; light olive brown (2.5Y 5/3); <i>calcareous; minor mica</i>
520	Silty sand (zS); very fine to very coarse sand with silt; poorly to moderately sorted; subangular to subrounded; light olive brown (2.5Y 5/3); <i>calcareous; trace mica</i>
530	Clayey silty sand (mS); very fine to very coarse sand with silt and clay; very poorly sorted; subangular to subrounded; light olive brown (2.5Y 5/3); <i>calcareous; minor mica</i>
540	Clayey sandy silt (sM); silt with very fine to very coarse sand and clay; very poorly sorted; light olive brown (2.5Y 5/3); <i>calcareous; minor mica</i>
550	Sandy clayey silt (sM); silt with clay and very fine to very coarse sand; very poorly sorted; light olive brown (2.5Y 5/3); <i>calcareous; micaceous</i>
560	Clayey silty sand (mS); very fine to very coarse sand with silt and clay; very poorly sorted; subangular to subrounded; light olive brown (2.5Y 5/3); <i>calcareous; micaceous</i>
570	Sandy clayey silt (sM); silt with clay, very fine to very coarse sand, and trace granules; very poorly sorted; light olive brown (2.5Y 5/3); <i>calcareous; micaceous</i>
580	Clayey sandy silt (sM); silt with very fine to very coarse sand, clay, and trace granules; very poorly sorted; light olive brown (2.5Y 5/3); <i>calcareous; micaceous</i>
590	Clayey sandy silt (sM); silt with very fine to very coarse sand, clay, and trace granules to small pebbles; very poorly sorted; grayish brown (2.5Y 5/2); <i>slightly calcareous; minor mica</i>
600	Clayey silty sand (mS); very fine to very coarse sand with silt and clay; very poorly sorted; subangular to rounded; grayish brown (2.5Y 5/2); <i>calcareous; micaceous</i>
610	Sandy silt (sZ); silt with very fine to very coarse sand and trace granules to medium pebbles; poorly sorted; light olive brown (2.5Y 5/3); <i>calcareous; micaceous</i>
620	Silty sand (zS); very fine to very coarse sand with silt and trace granules; poorly sorted; subrounded to rounded; light olive brown (2.5Y 5/3); <i>calcareous; minor mica</i>

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Depth (ft)	Description
630	Silty sand (zS); very fine to very coarse sand with silt; poorly sorted; subangular to subrounded; light olive brown (2.5Y 5/3); <i>calcareous; minor mica</i>
640	Clayey silty sand (mS); very fine to very coarse sand with silt, clay, and trace granules; very poorly sorted; subangular to subrounded; light olive brown (2.5Y 5/3); <i>calcareous; minor mica</i>
650	Clayey silty sand (mS); very fine to very coarse sand with silt, clay, and trace granules to small pebbles; very poorly sorted; subangular to subrounded; light olive brown (2.5Y 5/3); <i>calcareous; micaceous</i>
660	Silty sand (zS); very fine to very coarse sand with silt and trace granules; poorly sorted; subangular to subrounded; light olive brown (2.5Y 5/3); <i>slightly calcareous; minor mica</i>
670	Clayey silty sand (mS); very fine to very coarse sand with silt and clay; very poorly sorted; subangular to subrounded; grayish brown (2.5Y 5/2); <i>calcareous; micaceous</i>
680	Sandy clayey silt (sM); silt with clay, very fine to very coarse sand, and trace granules; very poorly sorted; grayish brown (2.5Y 5/2); <i>calcareous; micaceous</i>
690	Sandy clayey silt (sM); silt with clay, very fine to very coarse sand, and trace granules; very poorly sorted; grayish brown (2.5Y 5/2); <i>calcareous; micaceous</i>
700	Sandy clayey silt (sM); silt with clay, very fine to very coarse sand, and trace granules; very poorly sorted; grayish brown (2.5Y 5/2); <i>calcareous; micaceous</i>
710	Sandy clayey silt (sM); silt with clay, very fine to very coarse sand, and trace granules; very poorly sorted; grayish brown (2.5Y 5/2); <i>calcareous; micaceous</i>
720	Sandy clayey silt (sM); silt with clay, very fine to very coarse sand, and trace granules; very poorly sorted; grayish brown (2.5Y 5/2); <i>calcareous; micaceous</i>
730	Sandy silty clay (sM); clay with silt and very fine to very coarse sand; very poorly sorted; light olive brown (2.5Y 5/3); <i>calcareous; micaceous</i>
740	Silty clayey sand (mS); very fine to very coarse sand with clay and silt; very poorly sorted; subangular to subrounded; light olive brown (2.5Y 5/3); <i>calcareous; micaceous</i>
750	Sandy silty clay (sM); clay with silt, very fine to very coarse sand, and trace granules; very poorly sorted; light olive brown (2.5Y 5/3); <i>calcareous; micaceous</i>
760	Sandy silty clay (sM); clay with silt, very fine to very coarse sand, and trace granules; very poorly sorted; light olive brown (2.5Y 5/3); <i>calcareous; micaceous</i>
770	Sandy silty clay (sM); clay with silt, very fine to very coarse sand, and trace granules; very poorly sorted; light olive brown (2.5Y 5/3); <i>calcareous; micaceous</i>
780	Sandy silty clay (sM); clay with silt, very fine to very coarse sand, and trace granules; very poorly sorted; light olive brown (2.5Y 5/3); <i>calcareous; micaceous</i>
790	Silty clay (M); clay with silt and minor medium to very coarse sand; moderately to well sorted; light olive brown (2.5Y 5/3); <i>calcareous; micaceous</i>

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Depth (ft)	Description
800	Silty clay (M); clay with silt, minor very fine to coarse sand, and trace granules to small pebbles; moderately to well sorted; light olive brown (2.5Y 5/3); <i>calcareous; micaceous</i>
810	Silty clay (M); clay with silt, minor very fine to coarse sand, and trace granules to small pebbles; moderately to well sorted; light olive brown (2.5Y 5/3); <i>calcareous; micaceous</i>
820	Silty clay (M); clay with silt and minor very fine to fine sand; well to very well sorted; light olive brown (2.5Y 5/3); <i>calcareous; micaceous</i>
830	Silty clay (M); clay with silt, minor very fine to coarse sand, and trace granules; moderately to well sorted; light olive brown (2.5Y 5/3); <i>calcareous; micaceous</i>
840	Sandy silty clay (sM); clay with silt and very fine to coarse sand; poorly sorted; light olive brown (2.5Y 5/3); <i>slightly calcareous; micaceous</i>
850	Sandy silty clay (sM); clay with silt, very fine to very coarse sand, and trace granules; very poorly sorted; grayish brown (2.5Y 5/2); <i>calcareous; micaceous</i>
860	Sandy silty clay (sM); clay with silt, very fine to very coarse sand, and trace granules; very poorly sorted; grayish brown (2.5Y 5/2); <i>calcareous; micaceous</i>
870	Sandy silty clay (sM); clay with silt, very fine to very coarse sand, and trace granules; very poorly sorted; light olive brown (2.5Y 5/3); <i>calcareous; micaceous</i>
880	Sandy silty clay (sM); clay with silt, very fine to coarse sand, and trace granules; poorly sorted; light olive brown (2.5Y 5/3); <i>calcareous; micaceous</i>
890	Sandy clay (sC); clay with very fine to very coarse sand; very poorly sorted; light olive brown (2.5Y 5/4); <i>calcareous; trace mica</i>
900	Sandy clay (sC); clay with very fine to coarse sand; poorly sorted; yellowish brown (2.5Y 5/4); <i>calcareous; micaceous; paleosol?</i>
910	Slightly gravelly sandy clay ((g)sM); clay with very fine to very coarse sand and granules to small pebbles; very poorly sorted; dark reddish gray (5YR 4/2); <i>calcareous; micaceous; weathered scoria 905-940ft (interpreted from drill cuttings, rig lithology, and borehole geophysics)</i>
920	Slightly gravelly sandy clay ((g)sM); clay with very fine to very coarse sand and granules to small pebbles; very poorly sorted; reddish brown (2.5YR 4/3); <i>calcareous; minor mica; scoria 905-940ft (interpreted from drill cuttings, rig lithology, and borehole geophysics)</i>
930	Sandy clay (sC); clay with very fine to very coarse sand; very poorly sorted; weak red (10R 4/3); <i>calcareous; trace mica; scoria 905-940ft (interpreted from drill cuttings, rig lithology, and borehole geophysics)</i>
940	Sandy clay (sC); clay with fine to coarse sand and trace granules; poorly sorted; dark reddish gray (5YR 4/2); <i>calcareous; micaceous; fine-grained basalt 940-1033ft (interpreted from drill cuttings, rig lithology, and borehole geophysics)</i>
950	Sandy clay (sC); clay with fine to coarse sand and trace granules; dark grayish brown (10YR 4/2); <i>calcareous; micaceous; abundant mafics; fine-grained basalt 940-1033ft (interpreted from drill cuttings, rig lithology, and borehole geophysics)</i>

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Depth (ft)	Description
960	Sandy clay (sC); clay with fine to coarse sand and trace granules; poorly sorted; brown (7.5YR 4/2); <i>calcareous; minor mica; mafic; fine-grained basalt 940-1033ft (interpreted from drill cuttings, rig lithology, and borehole geophysics)</i>
970	Clayey sand (cS); fine to coarse sand with clay and trace granules; poorly sorted; angular to subrounded; dark grayish brown (10YR 4/2); <i>calcareous; minor mica; mafic; fine-grained basalt 940-1033ft (interpreted from drill cuttings, rig lithology, and borehole geophysics)</i>
980	Clayey sand (cS); fine to coarse sand with clay and trace granules; poorly sorted; angular to subrounded; dark grayish brown (10YR 4/2); <i>calcareous; minor mica; mafic; fine-grained basalt 940-1033ft (interpreted from drill cuttings, rig lithology, and borehole geophysics)</i>
990	Clayey sand (cS); fine to coarse sand with clay and trace granules; poorly sorted; angular to subrounded; dark grayish brown (10YR 4/2); <i>calcareous; minor mica; mafic; fine-grained basalt 940-1033ft (interpreted from drill cuttings, rig lithology, and borehole geophysics)</i>
1000	Slightly gravelly clayey sand ((g)mS); medium to very coarse sand with clay and granules to small pebbles; very poorly sorted; very angular to subangular; dark grayish brown (2.5Y 4/2); <i>calcareous; trace mica; mafic; fine-grained basalt 940-1033ft (interpreted from drill cuttings, rig lithology, and borehole geophysics)</i>
1010	Slightly gravelly clayey sand ((g)mS); medium to very coarse sand with clay and granules to small pebbles; very poorly sorted; very angular to subangular; dark grayish brown (2.5Y 4/2); <i>calcareous; trace mica; mafic; fine-grained basalt 940-1033ft (interpreted from drill cuttings, rig lithology, and borehole geophysics)</i>
1020	Slightly gravelly clayey sand ((g)mS); medium to very coarse sand with clay and granules to small pebbles; very poorly sorted; very angular to subangular; dark grayish brown (2.5Y 4/2); <i>calcareous; trace mica; mafic; fine-grained basalt 940-1033ft (interpreted from drill cuttings, rig lithology, and borehole geophysics)</i>
1030	Slightly gravelly clayey sand ((g)mS); medium to very coarse sand with clay and granules to small pebbles; very poorly sorted; very angular to subangular; dark grayish brown (2.5Y 4/2); <i>calcareous; trace mica; mafic; fine-grained basalt 940-1033ft (interpreted from drill cuttings, rig lithology, and borehole geophysics)</i>
1033 Core 1C	Black fine-grained amygdaloidal (0.5-1mm palagonite and calcite filled) fractured basalt; 1-2mm thick calcite filled veins