



ALISTO ENGINEERING GROUP
WALNUT CREEK, CALIFORNIA

LOG OF WELL MW-24B

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SEE SITE PLAN

ALISTO PROJECT NO: 10-320-08

DATE DRILLED: 05/13-16/98

CLIENT: Pacific Gas and Electric Co.

LOCATION: Topock Compressor Station

DRILLING METHOD: Rotasonic

DRILLING COMPANY: Bort Longyear

CASING ELEVATION:

LOGGED BY: Ted Moise

APPROVED BY: Dan Salices

WELL DIAGRAM	DEPTH feet	SAMPLES	GRAPHIC LOG	SOIL CLASS	GEOLOGIC DESCRIPTION
<p>4" Sch. 80 PVC Casing</p> <p>Cement/Bent Grout</p>	5		SP SM		Gravelly silty SAND: light gray; ~50% sand, fine- to coarse-grained; ~40% gravel, subrounded to subangular, to 40 mm; ~10% fines.
	5		GP		sandy GRAVEL: light gray; ~50% gravel, subrounded to subangular, to 70 mm; ~45% sand, fine- to coarse-grained; ~5% fines.
	10		GM		sandy silty GRAVEL: light gray; ~50% gravel; ~35% sand, fine- to coarse-grained; ~15% fines.
	10				At 11.5 and 12.5 feet, cobble, to 95 mm.
	15		GP		sandy GRAVEL: reddish-gray; ~50% gravel, subrounded to subangular, to 50 mm; ~45% sand, fine- to coarse-grained; ~5% fines.
20				Changes at 19 feet of, ~85% gravel; ~35% sand.	
25		SP		gravelly SAND: pale red; ~55% sand, fine- to medium-grained; ~40% gravel, subrounded to subangular, to 40 mm; ~5% fines.	
25				At 25 feet cobble, to 95 mm.	
30				Changes at 28 feet of, ~85% sand, fine- to coarse-grained; ~30% gravel, to 50 mm.	



WELL DIAGRAM	DEPTH feet	SAMPLES	GRAPHIC LOG	SOIL CLASS	GEOLOGIC DESCRIPTION
<p>4' Sch. 80 PVC Casing</p> <p>Cement/Bent Grout</p>				SP	gravelly SAND continued.
	40			GP	sandy GRAVEL: light gray to pale red; ~50% gravel, subrounded to subangular, to 80 mm; ~35% sand, fine- to coarse-grained; ~5% fines.
	45			SP	gravelly SAND: pale yellowish-brown; ~55% sand, fine- to coarse-grained; ~40% gravel, subrounded to subangular, to 50 mm; ~5% fines.
				GM GP	silty GRAVEL: light gray; ~80% gravel, to 70 mm; ~40% fines (rock flour).
	50			GP	sandy GRAVEL: light gray to light olive-gray; ~50% gravel, subrounded to subangular, to 50 mm; ~45% sand, fine- to coarse-grained; ~5% fines.
	55				Changes at 61 feet are, ~85% gravel; ~30% sand.
60					
65					
70					
75				SP	gravelly SAND: light gray; ~50% sand, fine- to medium-grained; ~45% gravel, subrounded to subangular, to 80 mm; ~5% fines. Changes at 78 feet of, color to light brownish-gray; ~80% sand; ~35% gravel.



WELL DIAGRAM	DEPTH feet	SAMPLES	GRAPHIC LOG	SOIL CLASS	GEOLOGIC DESCRIPTION
<p>4" Sch. 80 PVC Casing</p> <p>Cement/Bent Gravel</p>	<p>85</p> <p>90</p> <p>95</p> <p>100</p> <p>105</p> <p>110</p> <p>115</p> <p>120</p>			<p>SP</p> <p>GP</p> <p>GP</p> <p>GM</p>	<p>gravelly SAND continued.</p> <p>sandy GRAVEL: light gray to light brownish-gray; ~50% gravel, subrounded to subangular, to 60 mm; ~45% sand, fine- to coarse-grained. ~5% fines.</p> <p>Changes at 88 feet of, ~75% gravel; ~20% sand; cobble, to 90 mm.</p> <p>Changes at 89 feet of, ~60% gravel; ~35% sand.</p> <p>Changes at 103 feet of, color to pale brown; ~50% gravel, to 50 mm; ~45% sand.</p> <p>Wet at 104 feet.</p> <p>sandy silty GRAVEL: dark yellowish-brown; ~50% gravel, subrounded to subangular, to 65 mm; ~40% sand, fine- to coarse-grained; ~10% fines;</p>

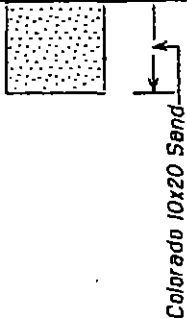



WELL DIAGRAM	DEPTH feet	SAMPLES	GRAPHIC LOG	SOIL CLASS	GEOLOGIC DESCRIPTION
<p>4" Sch. 80 PVC Casing</p> <p>Cement/Bent Grout</p>	<p>130</p> <p>135</p> <p>140</p> <p>145</p> <p>150</p> <p>155</p> <p>160</p> <p>165</p>			<p>GP</p> <p>SP</p> <p>GP</p> <p>SP</p> <p>GP GM</p>	<p>sandy GRAVEL: pale brown; ~50% gravel, subrounded to subangular, to 85 mm; ~45% sand, fine- to coarse-grained; ~5% fines.</p> <p>gravelly SAND: pale yellowish-brown; ~50% sand, fine- to coarse-grained; ~45% gravel, subrounded to subangular, to 85 mm; ~5% fines.</p> <p>sandy GRAVEL: pale yellowish-brown to light gray; ~75% gravel, subrounded to angular, to 70 mm; ~20% sand, fine- to coarse-grained; ~5% fines.</p> <p>gravelly SAND: pale brown to grayish-red; ~50% sand, fine- to coarse-grained; ~45% gravel, subrounded to subangular, to 55 mm; ~5% fines.</p> <p>sandy silty GRAVEL: grayish-red; ~55% gravel, subrounded to subangular, to 80 mm; ~40% sand, fine- to coarse-grained; ~10% fines; wet.</p>



WELL DIAGRAM	DEPTH feet	SAMPLES	GRAPHIC LOG	SOIL CLASS	GEOLOGIC DESCRIPTION
<p>4" Sch. 80 PVC Casing</p> <p>4" PVC Screen 0.020-inch slot</p> <p>Cement/Bent Grout</p> <p>Bentonite</p> <p>Colorado 10x20 Sand</p>	<p>175</p> <p>180</p> <p>185</p> <p>190</p> <p>195</p> <p>200</p> <p>205</p> <p>210</p>			<p>GR</p> <p>GP</p> <p>GP</p> <p>SP</p> <p>GP</p> <p>SP</p> <p>GP</p>	<p>sandy silty GRAVEL continued.</p> <p>sandy GRAVEL: grayish-red; ~50% gravel, subrounded to angular, to 85 mm; ~45% sand, fine- to coarse-grained; ~5% fines.</p> <p>gravelly SAND: pale brown to pale yellowish-brown; ~55% sand, fine- to coarse-grained; ~40% gravel, subrounded to angular, to 70 mm; ~5% fines.</p> <p>sandy GRAVEL: pale red to pale reddish-brown; ~55% gravel, subrounded to angular, to 70 mm; ~45% sand, fine- to coarse-grained.</p> <p>gravelly SAND: pale brown to pale yellowish-brown; ~55% sand, fine- to coarse-grained; ~40% gravel, subrounded to angular, to 70 mm; ~5% fines.</p> <p>sandy GRAVEL: grayish red to pale red; ~80% gravel, subrounded to angular, to 70 mm; ~35% sand, fine- to coarse-grained; ~5% fines.</p> <p>Changes at 209.5 feet of, color to grayish-red to dark reddish-brown; ~70% gravel; ~25% sand.</p> <p>At 214.5 feet cobble, angular, to 100 mm.</p>



WELL DIAGRAM	DEPTH feet	SAMPLES	GRAPHIC LOG	SOIL CLASS	GEOLOGIC DESCRIPTION
	220 225 230 235 240 245 250 255			GP	sandy GRAVEL continued. Total depth of borehole is 217.5 feet.