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Water Supply Wells at Dangling Rope Marina Glen Canyon National recreation Area

There are two water supply wells at the Dangling Rope Marina, at Glen Canyon. Both wells were drilled to about 300 feet and are entirely within the Navajo Sandstone. Historically, Well No. 1 has been the main supply well, with Well No. 2 as the backup. The approximate locations of the wells are shown on Figure 1.



Figure 1. Approximate locations of wells at Dangling Rope Marina.

Glen Canyon -- Dangling Rope Well No. 1

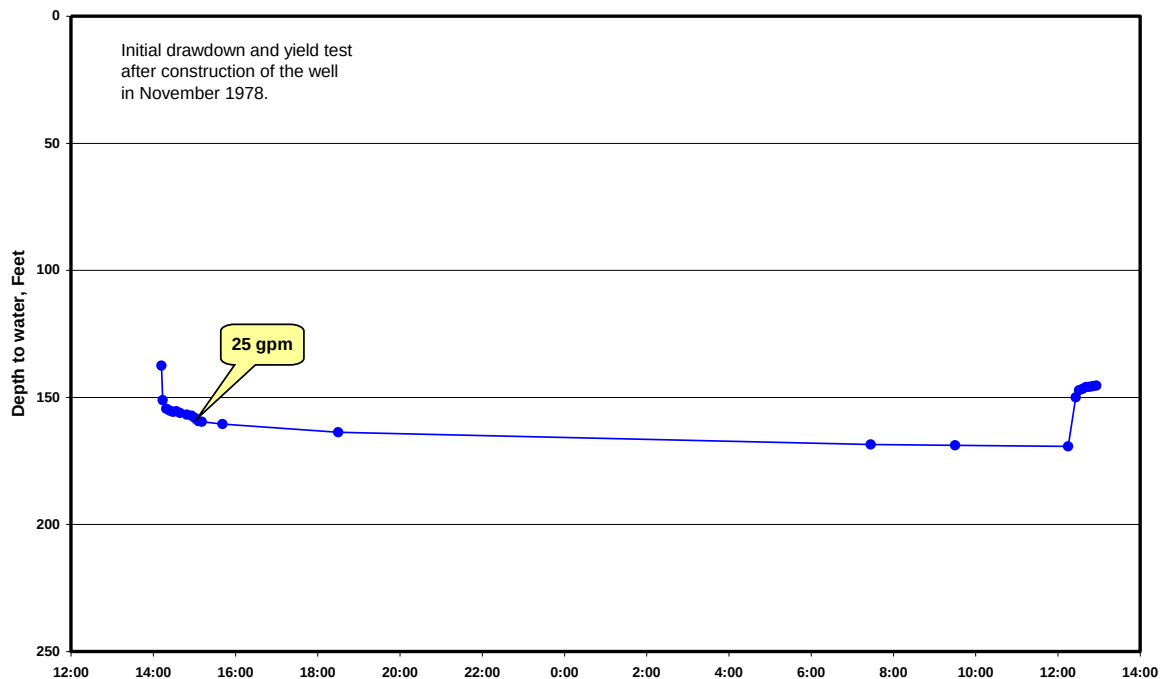
This well is referred to as the “South Well” on some of the documents. The approximate location is latitude 37° 07'30"N, longitude 111° 05'00"W. Well No. 1 is in the NE¼ of the SW¼ of Section 30, T42S, R8E.

The well was constructed between November 1-15, 1978 by The Well Supply Company from Boulder, Utah. The total depth was 298½ feet. The well was drilled entirely in Navajo Sandstone. The well was completed with 8-inch steel casing with 400 torch-cut perforations (¼"x2¼") from 150-295 feet. A cement surface seal extends to a depth of 20 feet. Static water level in the well was 137½ feet (Nov. 1978).

The bid schedule for the drilling contract contains a line item to “ream the hole to a diameter 6 inches larger than the casing diameter and placing a concrete seal around the casing from the surface to 20 feet.”

The well was test pumped at 25 gpm for 22 hours resulting in about 32 feet of drawdown. A plot of the drawdown and recovery data is attached.

GLCA Dangling Rope Well No. 1



Glen Canyon -- Dangling Rope Well No. 2

This well is referred to as the “North Well” on some of the documents. The approximate location is latitude 37° 07'40"N, longitude 111° 05'06"W. Well No. 2 is in the NE¼ of the SW¼ of Section 30, T42S, R8E.

The well was constructed between November 15-30, 1978 by The Well Supply Company from Boulder, Utah. The total depth was 302 feet. The well was drilled entirely in Navajo Sandstone. The well was completed with 8-inch steel casing with 400 torch-cut perforations (¼"x2¼") from 150-302 feet. A cement surface seal extends to a depth of 20 feet. Static water level in the well was 153 feet (Nov. 1978).

The bid schedule for the drilling contract contains a line item to “ream the hole to a diameter 6 inches larger than the casing diameter and placing concrete seal around the casing from the surface to 20 feet.”

The well was test pumped at 26 gpm for 22 hours resulting in about 46 feet of drawdown. A plot of the drawdown and recovery data is attached.

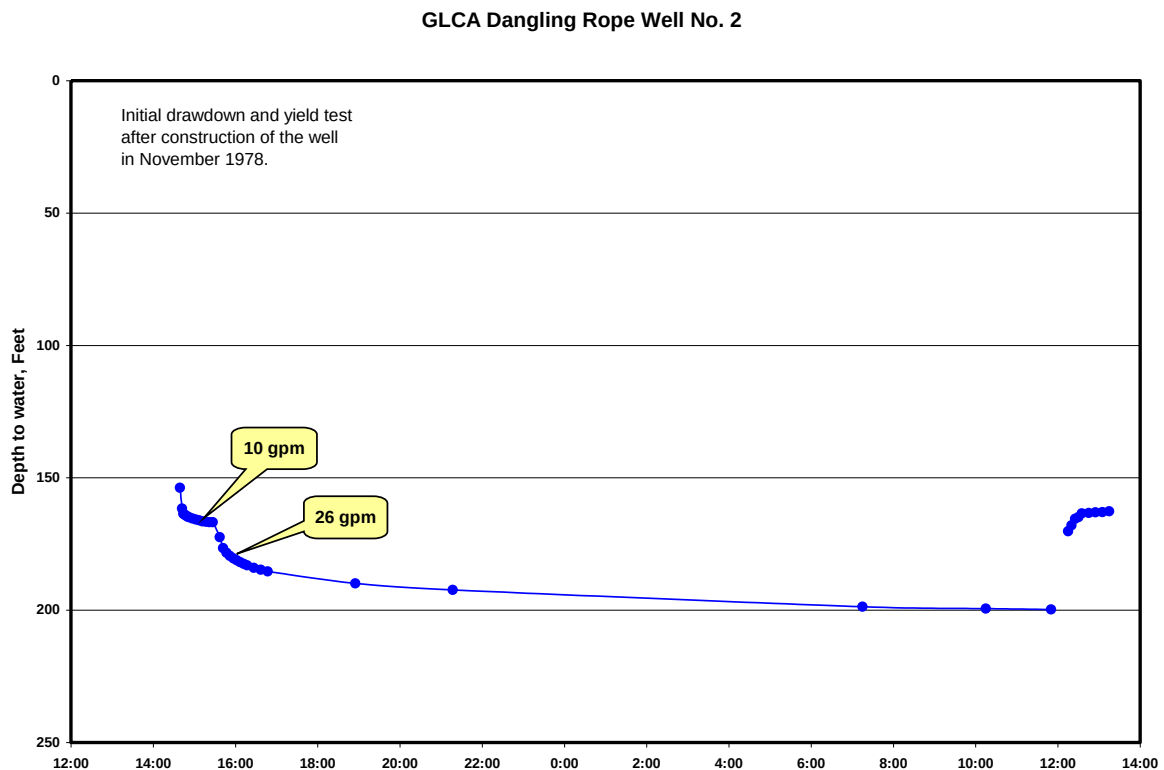


Table 1. Water quality data for two wells at Dangling Rope Marina, November 1978.
Both wells draw water from the Navajo Sandstone.

		Well No. 1	Well No. 2
pH, lab		8.0	8.4
Sp. Cond, lab		296	243
Alkalinity	mg/l	82	82
Arsenic	ug/l	55	66
Barium	ug/l	100	--
Cadmium	ug/l	28	--
Chromium	ug/l	--	0
Iron	ug/l	400	--
Lead	ug/l	380	29
Manganese	ug/l	20	--
Mercury	ug/l	0	0
Phosphorus	mg/l	0.01	0.04
Silica	mg/l	10	--
Silver	ug/l	0	0

Major cations and anions

		Well No. 1	Well No. 2
Magnesium	mg/l	20	--
Potassium	mg/l	5.4	6.4
Sodium	mg/l	6.3	--
Bicarbonate	mg/l	100	100
Chloride	mg/l	7.3	43
Fluoride	mg/l	0.3	0.3
Sulfate	mg/l	35	43
NO ₂ + NO ₃ as N	mg/l	2.9	1.5