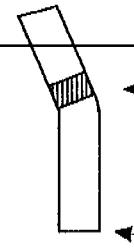


	Lahontan GeoScience, Inc. Well Abandonment Log		Project: Water Well Closures in Dixie Valley	Project No.: NASF: 03140 Sheet 1 of 1
			Contract No: lic 49162	Boring No.: 094B

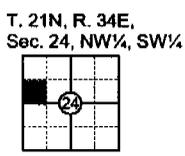
Location (TRS): T. 21N, R. 34E, Sec. 24, NW¼, SW¼	Location (Lat/Lon): 39° 40.403' N, 118° 6.825' W	Elevation: 3446 ft
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Permit No.: none	Well Log: none	Measured Depth: 18 ft	Perf. Date: -
Borehole Dia.: unknown	Casing Size: 6", steel	Measured Casing Size: 6", steel	Plug Date: 11-05-03
Borehole Depth: unknown	Casing Depth: unknown	Static Water Level: unknown	Supervised by: J. R. Humphrey
Perforations at time of construction: unknown		Additional Perforations: 5 - 6 ft	Driller: W. E. Knoblock

AB2213

Depth (feet)	Lithology	Detail	Well Construction	
	*Recorded at time of drilling		*Recorded at time of drilling	Abandonment
0	No well log available		Additional perforations: 5 - 6 ft 4 perms per foot Casing bent ~20° at 6 ft bgs Measured Depth = 18 ft Plug date: 11/05/03 vol. of cement = 1.0 cu. yds nominal density = 18.6 lbs./gal. Waiver Number R-453	
50				
100				

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place. Waiver number R-454 was received on November 12, 2003, approving this approach.

The well was abandoned on November 20, 2003, by placing 63 feet of 2-inch diameter steel pipe in the hole and pumping neat cement grout to the land surface. Approximately 0.5 cubic yards of grout weighing about 18 lbs/gal were placed in the well. The amount of grout used was 221 percent of the cylindrical well volume, indicating that the grout permeated the surrounding formation through existing perforations and/or casing breaks. Subsequent to grouting the well the casing was cut down to 1 foot below land surface.

Well 81F

Well 81F was located in SE $\frac{1}{4}$, SW $\frac{1}{4}$, section 18, T21N, R35E. A search of the records archived at the Carson City office of DWR failed to identify a log that could be confidently associated with this well. This well was probably used for crop irrigation. The 12-inch diameter steel casing was measured to a depth of 120 feet bgs. At the time of abandonment the static water level was at the surface although it was apparent that the well had been flowing at the surface recently.

A 6-inch diameter turbine pump was installed in the well at the time of abandonment. As the pump column was being removed it parted at a slip joint at 40 feet bgs. The driller was not able to securely grasp the remaining string to lift it from the casing. Compressed air and a jetting tool were used to clear the casing of sand and gravel around the column. Seven hours of jetting in the casing over 2 days did not free the remaining pipe. As soon as the jetting operation was halted the well would start to sand in. With the pump column remaining in the hole the perforation tool could only operate in the upper 40 feet. This section of the well was perforated on October 28, 2003 by making 6 cuts per vertical foot. A waiver from NAC 534.420-5(b) was requested from DWR to allow sealing after perforating the upper 40 feet. Waiver number R-453 was received on October 30, 2003, approving this approach.

The well was abandoned on November 5, 2003, by placing 107 feet of 2-inch diameter steel pipe in the hole and pumping neat cement grout to the land surface. Approximately 4 cubic yards of grout weighing about 18 lbs/gal were placed in the well. The amount of grout used was 115 percent of the cylindrical well volume. Subsequent to grouting the well the casing was cut down to 1 foot below land surface.

Well 94B

Well 94B was located in SW $\frac{1}{4}$, NW $\frac{1}{4}$, section 24, T21N, R3⁴5E. A search of the records archived at the Carson City office of DWR failed to identify a log that could be confidently associated with this well. The prior use of this well is not clear. The casing top had a compression fitting on it that is not a normal feature of a water supply well. The 6-inch diameter steel casing was measured to a

depth of 18 feet bgs. The well casing was bent at an angle of approximately 20 degrees from 6 feet to the surface. The well was dry at the time of abandonment.

An attempt to pull the casing failed. Compressed air and a jetting tool were used to clear the casing of any obstructions. Water was added to the casing to improve the suction of the jetting tool. Small amounts of sand and gravel were ejected from the well but the tool could not be advanced past 18 feet after 2 hours of jetting. The bend in the casing prevented use of the perforation tool past 6 feet bgs. A waiver from NAC 534.420 -5(b) was requested from DWR to allow sealing in place. Waiver number R-453 was received on October 30, 2003, approving this approach with the stipulation that the upper 6 feet be perforated. Because the mills knife is about 6 feet long and cannot operate outside the casing only one set of perforations (4 vertical cuts) from 5 to 6 feet could be made.

The well was abandoned on November 5, 2003, by placing 18 feet of 2-inch diameter poly pipe in the hole and pumping neat cement grout to the land surface. Approximately 1 cubic yard of grout weighing about 18 lbs/gal was placed in the well. The amount of grout used was 689 percent of the cylindrical well volume. This suggests a casing break at depth or perhaps a lateral run of pipe in addition to the perforations as an outlet for the grout. Subsequent to grouting the well the casing was cut down to 1 foot below land surface.

Well 94F

Well 94F was located in SW¼, SW¼, section 24, T21N, R35E. A search of the records archived at the Carson City office of DWR failed to identify a log that could be confidently associated with this well. This well was probably used for crop irrigation. The 12-inch diameter steel casing was measured to a depth of 169 feet bgs. The static water level was at 7.4 feet bgs at the time of abandonment.

An 8-inch diameter, 160-foot long turbine pump was removed from the well prior to abandonment. An attempt to pull the casing failed. Perforation of the casing was completed on October 28, 2003. Using the mills knife, 6 perforations per foot were cut into the casing from 10 to 152 feet. The presence of existing perforations from 80 to 169 feet was interpreted from the lack of resistance to the mills knife.

The well was abandoned on November 4, 2003, by placing 164 feet of 2-inch diameter steel pipe in the hole and pumping neat cement grout to the land surface. Approximately 6 cubic yards of grout weighing about 18 lbs/gal were placed in the well. The amount of grout used was 122 percent of the cylindrical well volume. Subsequent to grouting the well the casing was cut down to 1 foot below land surface.