EXHIBIT 2074

Hydrology Report for Cave Valley Nevada

Basin 180

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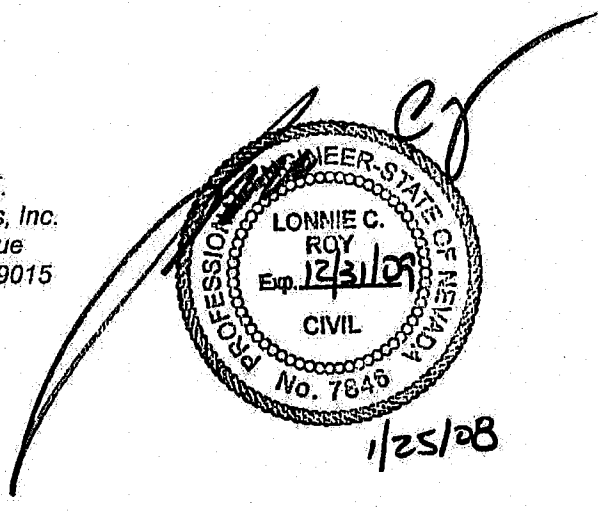

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Cave Valley is typical of the Basin and Range Province in the central eastern portion of Nevada. This valley is approximately 150 miles north of Las Vegas and the basin is generally located between State Highway 318 and US Route 93, approximately 35 miles northwest of Pioche, Nevada.

This letter report is directed at the review of existing documents and reports on the general water resources of the basin. The estimates made on the amount of water that may be available in the basin for development and how the water resources of this basin affect adjoining basins is of great importance in the adjudication of existing water rights applications and future development potential in rural Nevada.

Recharge

Ground water in Cave Valley is derived from precipitation falling in the mountain ranges that surround the valley. The Egan Range to the west and the Schell Creek Range to the east have peaks that range from 9,500 to approximately 11,000 feet in elevation while the valley floor has an approximate elevation of between 6,000 and 7,000 feet. Reviewing the existing data and reports, annual recharge to the basin has been estimated to be from 10,900 acre-feet to 15,600 acre-feet. Most of the recent studies have been consistently estimating the recharge at approximately 14,000 acre-feet per year.

The amount of water recharging the valley fill aquifer in Cave Valley is only a small percentage of the total recharge. In the *Ground-Water Appraisal of Cave Valley in Lincoln and White Pine Counties, Nevada* (1962) Eakin reports this volume of water as "a few thousand acre-feet per year". In *Nevada's Water Resources: Nevada Division of Water Resources, Water for Nevada Report 3* (1971) Scott et al. report the perennial yield of Cave Valley to be at least 2,000 acre-feet per year.

Interaction between Cave Valley and White River Valley

With respect to the development of ground-water resources in Cave Valley, the understanding of the interaction between Cave Valley and White River Valley is of prime importance. All of the reports examined believed that there is flow from Cave Valley to White River Valley through Shingle Pass along the Shingle Pass fault. The water levels in the carbonate aquifer are such that water in the northern portion of Cave Valley can flow through the pass and enter White River Valley. It is believed that this water is

discharged through the springs along the western slopes of the Egan Range in White River Valley (SNWA, November 2007).

The volume of water flowing between Cave and White River Valley was estimated in a number of reports. The highest value of flow (14,000 acre-feet per year) was reported by Harrill et al. (1988). The Las Vegas Valley Water District modeled 13,000 acre-feet of flow between the basins in the development of the earlier ground water models used in the Cooperative Water Project (LVVWD, 1993).

In the *Steady-State Water Budget Accounting Model Developed for the Carbonate Aquifer System in White Pine County, Nevada* (Lundmark, et al, June 2007) two estimates for flow into White River Valley are given as 9,300 and 14,000 acre-feet per year. This study used a steady-state groundwater mass balance accounting model to estimate the recharge to Cave Valley as well as intra-basin flows into and out of the Valley. This report estimates that there is no intra-basin flow into Cave Valley and predicts a range of 9,300 to 14,000 acre-feet per year of intra-basin flow from Cave Valley to White River Valley.

In the *Water-Resources Assessment and Hydrogeologic Report for Cave, Dry Lake, and Delamar Valleys* prepared by the SNWA in November of 2007, the flow into White River Valley is estimated at 4,000 acre-feet per year. This is the lowest estimate of intra-basin flow. The SNWA bases this number on the discharge from the springs on the western flank of the Egan Range in White River Valley and a simple flow equation through the Shingle Pass. The SNWA believes that all of the water that flows between the basins is discharged in these springs, as well as all of the local precipitation based recharge. SNWA measured the gradient between carbonate wells in Cave Valley and the elevation of spring flow in White River Valley. The SNWA then estimated a width of the flow and calculated a transmissivity of 81,451 ft^2/day. Since this was in the range of values previously reported for carbonate wells, this is used as the check on the assumption of 4,000 acre-feet flowing between the basins. The parameters could just as easily have been chosen to show 7,000 acre-feet per year of flow while still remaining within reason (increase width by 30% and increase transmissivity by 30%). Since neither of these parameters is actually known, a 30% uncertainty is believed reasonable.

Flow within Cave Valley

Most of the later detailed studies of Cave Valley report that the carbonate aquifer is effectively partitioned by the Shingle Pass Fault, approximately midway through the valley. In Part B of the *Hydrogeology of Cave, Dry Lake, and Delamar Valleys* the SNWA reports " ...Cave Valley is effectively partitioned into two sub-basins by

the...Shingle Pass Fault". The carbonate aquifer water levels in the northern portion of the valley are considerably lower than water levels in the carbonate aquifer in southern portion of the valley, precluding flow to the south.

In *Application of the Basin Characterization Model to Estimate In-Place Recharge and Runoff Potential in the Basin and Range Carbonate Aquifer System, White Pine County, Nevada and Adjacent Areas in Nevada and Utah* (USGS, 2007) the recharge to Cave Valley is estimated as two separate sub-basins. The recharge to the northern basin is estimated at 6,000 acre-feet per year while the recharge to the southern basin is estimated at 5,000 acre-feet per year.

Development in Cave Valley

Currently Cave Valley is almost completely undeveloped. There are no communities and commercial, industrial, mining and residential development is non-existent save for some very limited ranching activities. The majority of the basin is federal land with approximately 6,014 acres of private land.

With the tremendous population shift towards the southwest in the past decades, the demand for residential development in the foreseeable future will only increase. Please see the *Assessment of Development Opportunities Associated with Cave Valley, Nevada* prepared by the Sullivan Group (January 2008) for a discussion on the development potential of the area.

For the purpose of this water needs estimate, the following demands were used.

- 2.5 acre-feet per year per household/Ranchette
- 4.0 acre-feet per year per acre of agriculture
- 8.6 acre-feet per acre of open water

Under existing zoning regulations, in is reasonable to subdivide the private land into 2.5 acre lots. If all of the private land were to be subdivided to the minimum lots size, approximately 2,406 lots with a water requirement of 4,812 acre-feet would result.

Alternate development scenarios could have a greater water demand. A second-home scenario would most likely include amenities such as at least a single golf course, possible open space development consisting of a combination of agriculture, open water and park space. If the development scenario was 5,089 acres of residential development,

110 acres of golf course development, 15 acres of open water and 800 acres of agriculture/irrigated open space/parks, the water required would increase to 7,840 acre-feet per year.

Summary

The salient points of this review of the development of water resources in Cave Valley include:

1. Approximately 14,000 acre-feet of recharge occurs in Cave Valley.
2. Cave Valley acts almost like two separate basins separated by the Shingle Pass Fault precluding flow in the carbonate system from the northern half of the basin to the southern half.
3. A significant portion of the recharge (7,000 acre-feet or more) never reaches the southern portion of Cave Valley, but instead flows into White River Valley through Shingle Pass.
4. The water rights applications that the SNWA has in the southern portion of Cave Valley may not be able to capture any of the recharge from the northern portion of Cave Valley.
5. The amount of water that can be withdrawn for the southern portion of Cave Valley without exceeding the perennial yield of the sub-basin is in the range of 0 to 7,000 acre-feet depending on which of the reviewed studies is more accurate.
6. The minimum amount of water that will be required for the future development of Cave Valley is on the order of 7,800 acre-feet per year.