IN THE OFFICE OF THE STATE ENGINEER
DIVISION OF WATER RIGHTS
STATE OF UTAH

IN THE MATTER OF WATER RIGHT NOS. 14-118 (A76676) AND 69-101 (A76677) FILED BY CENTRAL IRON COUNTY WATER CONSERVANCY DISTRICT	)))))	LATE PROTEST OF NATIONAL PARK SERVICE
IN THE MATTER OF WATER RIGHT NO. 19-399 (A76675) FILED BY CENTRAL IRON COUNTY WATER CONSERVANCY DISTRICT	))))	PROTEST OF NATIONAL PARK SERVICE

The National Park Service, U.S. Department of the Interior, through its legal counsel, hereby files a Late Protest to Application Nos. A76676 (Water Right No. 14-118) and A76677 (Water Right No. 69-101) and a Protest to Application No. A76675 (Water Right No. 19-399) for the following reasons:

1. The mission of the National Park Service (NPS) may be paraphrased from 16 U.S.C. §1 as conserving the scenery, natural and historic objects, and wildlife, and providing for enjoyment of the same in such a manner and by such means as will leave them unimpaired for the enjoyment of future generations. Great Basin National Park (NP) was created by Congress in 1986, to preserve a segment of the Great Basin possessing outstanding resources and significant geologic and scenic values for the benefit and inspiration of the public.

2. In the legislation establishing Great Basin NP, Congress explicitly excluded the establishment of any new Federal reserved water rights, but stated that the United States was entitled to reserved rights associated with the initial establishment and withdrawal of the Humboldt National Forest and Lehman Caves National Monument. The priority dates for these reserved rights are the dates of initial establishment of the relevant National Forest lands and Lehman Caves National Monument. These reserved rights have not been judicially quantified.

3. The water and water-related resources of Great Basin NP have local, regional, and national importance. These resources include lakes, streams, springs, seeps, and ground water. Groundwater is thought to play an important role in maintaining the features and ecology of Lehman Caves. The caves contain living limestone formations, such as stalactites, stalagmites, plate-like shields, cave coral, rimstone dykes, curling helictites, flowstone, and draperies. However, uncertainty remains about the ecology of the caves and the role played by water. There may be additional caves and cave systems within Great Basin NP that have not yet been discovered.

4. Located near the town of Baker, Nevada in the E½ NW¼ Sec. 9, T13N, R70E, MDBM, is an administrative site, originally situated on public domain land. The site was withdrawn from entry (Exec. Order 1354, May 16, 1911) for use by the United States Forest Service (USFS) and later established as an administrative site for the NPS. The NPS currently uses the site as a ranger station, office and residence, with water supplied by a well developed when the USFS occupied the site. The United States has Federal reserved water rights for the purposes of the withdrawal, which include use as a ranger station with supporting facilities. The priority dates for the reserved rights for the administrative site are the dates upon which land was withdrawn. These reserved rights have not been judicially quantified.

5. The NPS holds a Nevada appropriative water right to Cave Springs (In the Matter of the Determination of the Relative Rights in and to the Waters of Baker and Lehman Creeks and Tributaries in the County of White Pine, Findings of Fact and Conclusions of Law, and Decree, 7th Judicial Distr., Oct. 16, 1934, Proof 01065), with a priority date of 1890. By Application Number 20794, Certificate Record No. 7573, the point of diversion, manner and place of use of the right were changed. The point of diversion is within the SW¼ NE¼ Sec. 9, T13N, R69E, MDBM. This right provides water for the current visitor center, picnic area, maintenance area, trailer dump station, and park housing, and for the watering of lawns and an historic orchard.

6. In addition, the NPS holds a Nevada appropriative right to Baker and Lehman Creeks with a priority date estimated to be 1904. (In the Matter of the Determination of the Relative Rights in and to the Waters of Baker and Lehman Creeks and Tributaries in the County of White Pine, Findings of Fact and Conclusions of Law, and Decree, 7th Judicial Distr., Oct. 16, 1934, Proof 01066). The point of diversion is within Section 9, T13N, R70E, MDBM.

7. On October 17, 2006, the Central Iron County Water Conservancy District (CICWCD) filed Applications to Appropriate Nos. A76675 (Water Right No. 19-399), A76676 (Water Right No. 14-118), and A76677 (Water Right No. 69-101), hereafter referred as the Applications for underground water in annual amounts of 10,000 acre-feet per year (afy), 15,000 afy, and 12,000 afy, respectively. The Applications indicate that the principal use of the applied-for water would be municipal with minor amounts used for the watering of stock within the CICWCD service area. The Applications identify the proposed points of diversion as underground wells with depths of 100 to 2,000 feet. The Applications provide no information showing that the CICWCD has a present or future need for the subject water. The Utah Division of Water Rights (Division) published proper notice of Application Nos. A76676 (Water Right No. 14-118) (involving Pine Valley), and A76677 (Water Right No. 69-101) (involving Wah Wah Valley), and the protest period for these two applications ended on December 20, 2006. Since the NPS did not file a protest to these two applications prior to the expiration of the protest period, it is hereby submitting a late protest to these applications. The Division has not yet published notice of Application A76675 (Water Right No. 19-399) (involving Hamlin Valley). However, it and the other two applications were filed at the same time by the CICWCD, it has already been protested by a number of private and public entities, and

Pine, Wah Wah, and Hamlin valleys are hydrologically related. Consequently, the NPS is herein protesting Application A76675 (Water Right No. 19-399) and, in the event notice of it is properly published, the NPS requests that this protest be included in the Division's records on the Application.

8. The appropriations proposed by the Applications are located in Hamlin, Pine, and Wah Wah valleys, also referred to below as hydrographic basins. These basins are located in the carbonate-rock province of Utah. The carbonate-rock province is typified by complex interbasin regional flow systems that include both basin-fill and carbonate-rock aquifers (Harrill and others, 1988, Sheet 1). Groundwater flows along complex pathways through basin-fill aquifers, carbonate-rock aquifers, or both, from one basin to another. Groundwater flow system boundaries, and thus interbasin groundwater flows, are poorly defined for most of the carbonate-rock province (Harrill and others, 1988, Sheet 1). (See Prudic and others, 1995, for an additional discussion of regional groundwater flow systems).

9. Great Basin NP is in east-central Nevada near the border with Utah and it generally encompasses much of the southern Snake Range. Bounded on the east by Snake Valley, the NP lies partially within the Snake Valley hydrographic basin. Lehman Caves and the NPS's administrative site near Baker, Nevada, are positioned along the eastern flank of the range in Snake Valley. Part of the range is composed of carbonate rocks that have been strongly deformed by folding and repetitive faulting. Connected solution cavities and fractures caused by the folding and faulting in the carbonate rocks provide conduits for the transmission of groundwater.

10. The basin-fill and carbonate-rock aquifers in Snake, Hamlin, Pine, and Wah Wah valleys are part of a regional groundwater flow system that discharges in the Great Salt Lake Desert (Hood and Rush, 1965; Gates and Kruer, 1981; and Harrill and others, 1988, Sheet 2). Note that the Prudic and others' report does not identify Hamlin Valley as a discrete hydrographic basin; instead, the report includes this area in the southern part of the Snake Valley hydrographic basin.

11. The hydraulic potential for regional groundwater movement is generally in a north and northeasterly direction from the southern end of the Great Salt Lake Desert Groundwater Flow System toward Fish Springs Flat, with northward interbasin groundwater movement occurring from the Hamlin, Pine and Wah Wah valleys toward the Snake and Tule valleys (Harrill and Prudic, 1998, Figure 14). Maps by Thomas and others (1986) showing water level contours for wells completed in basin-fill deposits (Sheet 1) and the potentiometric surface in consolidated rocks (Sheet 2) indicate that groundwater movement in Snake Valley likely is northward and eastward toward Tule Valley, Fish Springs Flat, and the Great Salt Lake Desert. The same conclusion was reached by Hood and Rush (1965), Gates and Kruer (1981), and Harrill and others (1988, Sheet 2).

12. Recharge to the Snake (including Hamlin), Pine, and Wah Wah valleys is about 100,000 afy, 21,000 afy, and 10,000 afy, respectively. Groundwater beneath Hamlin Valley moves to Snake Valley (Hood and Rush, 1965, Plate 1; Gates and Kruer, 1981; Harrill and others, 1988, Sheet 2; and Prudic and others, 1995). Groundwater beneath Pine Valley moves to Snake and Wah Wah valleys (Stephens, 1976; Gates and Kruer, 1981;

Harrill and others, 1988, Sheet 2). Groundwater beneath Wah Wah Valley may move to both Snake and Tule valleys (Gates and Kruer, 1981; Harrill and others, 1988, Sheet 2).

13. The Nevada State Engineer estimates that the perennial yield for the part of Hamlin Valley in Nevada is 5,000 afy (Nevada Department of Conservation, 1988). Committed and pending Nevada appropriations of groundwater resources total about 19,700 afy (Nevada Division of Water Resources, 2006). State of Utah water right records indicate that approved applications and certificated rights for the part of Hamlin Valley in Utah total approximately 600 afy (Utah Division of Water Rights website). Therefore, the existing Utah appropriations and the amount of water sought under Application No. A76675 for the part of Hamlin Valley in Utah total at least 10,600 afy. Combined, Nevada and Utah existing rights and pending applications in Hamlin Valley are at least 30,300 afy.

14. State of Utah water right records for Pine Valley indicate that approved applications and certificated rights total less than 100 afy (Utah Division of Water Rights website). Therefore, the existing Utah appropriations and the amount of water sought under Application No. A76676 total approximately 15,100 afy for Pine Valley. This amount exceeds 14,000 afy, which is the total amount estimated as discharge from Pine Valley via subsurface outflow to Wah Wah and Snake valleys (Stephens, 1976; Gates and Kruer, 1981; and Harrill and others, 1988, Sheet 2).

15. State of Utah water rights records for Wah Wah Valley indicate that approved applications and certificated rights total less than 100 afy (Utah Division of Water Rights website). Therefore, the existing Utah appropriations and the amount of water sought under Application No. A76677 total about 12,100 afy for Wah Wah Valley. This amount exceeds the estimated amount of basin recharge (3,000 afy from subsurface inflow from Pine Valley plus 7,000 afy from in-basin precipitation for a total of 10,000 afy) and 8,500 afy, which is the amount estimated to move northward out of the basin as subsurface outflow to either Snake or Tule valleys, or both. (Stephens, 1974; Gates and Kruer, 1981; and Harrill and others, 1988, Sheet 2).

16. The information in the reports cited in the preceding paragraphs support the conclusion that groundwater withdrawals in Hamlin, Pine, and Wah Wah valleys, if large enough and occurring over a long period of time, will likely lower water levels in the aquifers in Snake Valley and adversely affect the water rights and water resources of Great Basin NP. Elliott and others, 2006 (Plate 1) identified areas along the eastern flank of the Snake Range in and adjacent to Great Basin NP where NPS surface water resources are susceptible to impacts from groundwater withdrawals. These areas include Cave Springs, Rowland Spring, and Lehman, Baker and Snake Creeks.

17. In 1989, the Las Vegas Valley Water District (LVVWD) filed nine (9) applications with the Nevada State Engineer to appropriate 70 cubic feet per second (cfs), or about 50,700 afy, of groundwater in the Snake Valley, and has since transferred these applications to the Southern Nevada Water Authority (SNWA). The proposed appropriations are located along the eastern flank of the southern Snake Range within 5 miles of the Utah-Nevada

state line. The proposed wells would be completed in the Paleozoic carbonate and local unconsolidated basin-fill aquifers. These are the principal aquifers in the Snake Valley hydrographic basin. (Kirby and Hurlow, 2005). The effects of pumping 25,000 afy by the LVVWD in Snake Valley were modeled by Schaefer and Harrill. Their analysis shows that this pumping will lower water levels substantially in Snake Valley, and in Hamlin, Pine and Wah Wah valleys.

18. Committed Nevada groundwater resources and pending applications for groundwater appropriations in Snake Valley total about 67,700 afy (Nevada Division of Water Resources, 2006). This amount exceeds the Nevada State Engineer's established perennial yield for the Nevada portion of Snake Valley of 25,000 afy. Estimates of annual recharge from all sources in the Snake Valley vary from 105,000 afy (Hood and Rush, 1965) to 121,600 afy (Utah Division of Water Resources website). In Utah, approximately 185 wells are completed mostly in the basin-fill aquifer in Snake Valley. (Kirby and Hurlow, 2005, p3, Fig 2). Utah Division of Water Rights records indicate that there are approximately 156 approved applications and certificated rights totaling 149,100 afy for Water Right Area 18 (which includes Snake Valley and Tule Valley). Approximately 20 of these rights are located in Tule Valley, with the majority of the rights located in Snake Valley. Thus, the existing committed and pending Nevada and Utah groundwater appropriations in Snake Valley exceed the estimated recharge of Snake Valley.

19. The principal effect of the groundwater diversion proposed in the Applications would be a reduction in the quantity of subsurface outflow to Snake Valley, or alternatively, reversal of subsurface flow from Snake Valley toward Hamlin, Pine and Wah Wah valleys.

20. The appropriations proposed in the Applications, in combination with existing and other pending appropriations in Snake, Hamlin, Pine, and Wah Wah valleys will: (1) lower groundwater levels in the aquifers beneath Snake, Hamlin, Pine, and Wah Wah valleys; (2) modify the direction of groundwater movement in the adjoining hydrologically connected basins; and (3) reduce or eliminate spring and stream discharge. The available scientific literature is not adequate to reasonably assure that the groundwater appropriations proposed in the Applications, in combination with existing rights and pending proposed appropriations senior in priority to the Applications, will not adversely affect the water rights, water resources, and water-related resources of Great Basin NP and the NPS administrative site near Baker, Nevada.

21. Any diversion of groundwater in amounts greater than the perennial yields established by the Nevada State Engineer for Snake and Hamlin valleys, or greater than the maximum safe yields of Snake, Hamlin, Pine, and Wah Wah valleys as defined by the Utah State Engineer, would come from storage and constitute groundwater mining. Thus, in the event the Applications were approved, the diversion of the total amount of ground water covered by the Applications, 37,000 afy, would constitute groundwater mining.

22. The U.S. Geological Survey (USGS), in cooperation with the Desert Research Institute and the Utah State Engineer's Office, is conducting a study of the Great Salt Lake Desert Regional Flow System as part of the Basin and Range Carbonate Aquifer System Study (BARCASS). The study is mandated by Congress to promote a better understanding of groundwater quantity, quality, and flow characteristics. A final USGS report will provide additional information regarding aquifer characteristics, water budgets and a conceptual description of the flow system that will be useful in a possible allocation of water resources.

23. The NPS respectfully requests that the Utah State Engineer withhold consideration of the Applications until the above-referenced anticipated information from the USGS BARCASS project and other information, including numerical groundwater models, is available. This information will be very important in any State Engineer investigation regarding availability of groundwater, and the determination of whether pumping pursuant to the Applications will unreasonably affect the public recreation and natural stream environment.

24. If approved, the Applications will prove detrimental to the public welfare to the extent that the approval would authorize withdrawals of groundwater in excess of maximum safe yield and impair existing rights, including water rights held by the National Park Service for Great Basin NP, and would unreasonably impact public recreation and adversely affect the natural stream environment associated with Great Basin NP.

25. The Applications do not satisfy the statutory criteria in Section 73-3-8 of the Utah Code governing the approval or rejection of applications to appropriate and, consequently, should be denied.

26. The NPS requests a hearing before the Utah State Engineer on Application No. A76675 (Water Right No. 19-399) and reserves the right to submit additional information and evidence in support of this Protest in connection with such hearing.

27. The NPS respectfully requests that it be allowed to submit updated or additional information and evidence in support of this Late Protest to Application Nos. A76676 (Water Right No. 14-118) and A76677 (Water Right No. 69-101) or in the event the State Engineer holds a hearing concerning these applications.

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