FILED
JUN 18 1999
STATE ENGINEER'S OFFICE

IN THE OFFICE OF THE STATE ENGINEER
OF THE STATE OF NEVADA

IN THE MATTER OF APPLICATION NUMBER 64687
FILED BY LINCOLN COUNTY AND VIDLER WATER COMPANY, INC.
OF PIOCHE, STATE OF NEVADA **PROTEST**
ON DECEMBER 11, 1998 TO APPROPRIATE
THE WATERS OF UNDERGROUND

Comes now Charles W. Pettee, on behalf of the United States Department of the Interior, National Park Service, whose post office address is 1201 Oak Ridge Drive, Suite 250, Fort Collins, Colorado, 80525, whose occupation is Chief, Water Rights Branch, Water Resources Division, National Park Service, and protests the granting of Application Number 64687 filed on December 11, 1998, by Lincoln County and Vidler Water Company, Inc. of Pioche, State of Nevada, to appropriate the waters of underground, situated in Lincoln County, State of Nevada, for the following reasons and on the following grounds, to wit:

See Exhibit A attached.

THEREFORE the protestant requests that the application be denied.

Signed _____
Agent or protestant

Charles W. Pettee
Printed or typed name, if agent

Address 1201 Oak Ridge Drive, Suite 250
Street No. or P.O. Box No.

Fort Collins, CO 80525
City, State and Zip Code No.

Subscribed and sworn to before me this 17th day of June, 1999

_____
Notary Public

State of Colorado

County of Larimer

My Commission expires _____

Flora B. Romero, Notary Public
State of Colorado
My Commission Expires 7/30/2002

IN THE MATTER OF APPLICATION 64687
EXHIBIT A

Protest by Charles W. Pettee
on behalf of the United States, Department of the Interior
National Park Service

GENERAL

I. 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.

II. Since 1936, the National Park Service has managed the recreational activities within the Boulder Canyon Project area now known as Lake Mead National Recreation Area (NRA). Lake Mead NRA was established on October 8, 1964 (78 Stat. 1039) to be administered for "...general purposes of public recreation, benefit, and use, and in a manner that will preserve, develop, and enhance, so far as practicable, the recreation potential, and in a manner that will preserve the scenic, historic, scientific, and other important features of the area.... The Secretary shall permit hunting, fishing, and trapping on the lands and waters under his jurisdiction within the recreation area."

III. The NPS is entitled to Federal reserved water rights for reserved lands within Lake Mead NRA. The priority dates for these reserved rights are the dates when the lands were reserved and are senior to the appropriation sought by Lincoln County and Vidler Water Company, Inc. (Applicant). These rights have not been judicially quantified.

IV. The Muddy River, which originates from large discharge springs located northwest of Moapa, Nevada, flows into Lake Mead NRA at the north end of the lake's Overton Arm. The State of Nevada, Department of Wildlife, is leasing part of Lake Mead NRA adjoining the Muddy River for the purposes of the Overton Wildlife Management Area. This area supports a variety of waterfowl and vegetation. The United States has a State appropriative water right to water in the Muddy River, Certificate No. 5126.

V. Springs and water-related resource attributes are important features of Lake Mead NRA. The springs provide water for vegetation and wildlife habitat and create an environment that many visitors use and enjoy. Most springs are not fed by water from Lake Mead and could be affected by upgradient diversions.

In 1998, approximately 9,107,000 persons visited Lake Mead NRA, contributing to the local economy.

Springs include Blue Point, Rogers, Corral, and Kelsey's Springs, and other smaller, unnamed springs. Visitation to Blue Point and Rogers Springs has been estimated at 5,000 visitors per year. Desert bighorn sheep are also dependent upon the springs in Lake Mead NRA. A herd of approximately 150 use springs in the northern part of the National Recreation Area. The relict Las Vegas Valley leopard frog, *Rana onca*, has been found at Rogers, Corral, and Blue Point Springs. Current taxonomic studies indicate a high potential for listing of this relict population, previously believed extinct, as protected under the Endangered Species Act.

The United States has Nevada State Appropriative water rights for Lake Mead National Recreation Area as follows:

Name	Point of Diversion	Certificate Number
Kelsey's Spring	SW¼, NW¼, Sec. 20, T16S, R68E, MDB&M	296
Rogers Spring	SE¼, SE¼, Sec. 12, T18S, R67E, MDB&M	4476
Muddy Creek (River)	NW¼, SE¼, Sec. 19, T16S, R68E, MDB&M	5126

IN THE MATTER OF APPLICATION 64687
EXHIBIT A - CONTINUED

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VI. Lincoln County and Vidler Water Company, Inc. filed Application No. 64687 to withdraw 10.0 cubic feet per second (cfs) of ground water in Patterson Valley for irrigation. The applicant also filed Application Nos. 64668 through 64686 and 64688 through 64695 to withdraw a total of 280 cfs of ground water from 14 valleys (Dry Lake Valley, Cave Valley, Coal Valley, Tikapoo Valley North, Garden Valley, Delamar Valley, Lake Valley, Spring Valley, Hamlin Valley, Patterson Valley, Kane Springs Valley, Pahroc Valley, Tule Desert, and Virgin Valley). This application requests an annual duty of 7,240 acre-feet per year (afy). The total annual duty applied may be as much as 202,720 afy.

VII. The NPS reserves the right to amend this exhibit as more information becomes available.

FINDINGS

I. The appropriation proposed by Application 64687 is located in the carbonate-rock province of Nevada. 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). Ground water flows along complex pathways through basin-fill aquifers, carbonate-rock aquifers, or both, from one basin to another. Ground-water flow system boundaries, and thus interbasin ground-water flows, are poorly defined for most of the carbonate-rock province[1] (Harrill and others, 1988).

II. The proposed withdrawal is located in Patterson Valley. Patterson Valley is part of the White River subregion of the Carbonate-Rock Province of the Great Basin (Prudic and others, 1995). Ground water generally flows from Patterson Valley to Panaca Valley and then flows southward through Meadow Valley Wash towards Muddy River Springs. Although Harrill and others (1988) estimate only minor amounts of ground water discharge from Panaca Valley to the upper portion of Lower Meadow Valley Wash, Burbey (1997) theorizes that subsurface inflow from Panaca Valley could provide inflow to Lower Meadow Valley Wash. Ground-water withdrawals in the subregion can reduce the discharge of the Muddy Springs, if the ground-water withdrawals are large enough and occur over a sufficiently long period of time.

The White River subregion, according to Prudic and others (1995) contains basin fill and carbonate rock aquifers that appear to be hydraulically connected. This suggests that ground water may be induced to flow from the carbonate aquifers to wells drilled in basin fill. Development of carbonate aquifers in the Subregion could (1) reduce spring discharge in the surrounding area, (2) lower the water table in the basin fill, (3) tap the potentially large storage reservoir beneath the valley and, (4) divert throughflow to downgradient areas such as Moapa Valley (Muddy Springs Area) (Schaefer and Harrill, 1995).

III. Rush (1964) estimates ground water recharge from precipitation to be 6,000 afy for Patterson Valley. About 3,000 afy additionally flows into Patterson Valley as groundwater from Lake Valley. From Patterson Valley, ground water flows towards Panaca Valley. Panaca Warm Spring discharges aproximately 8,000 afy of surface water. Of this amount, it is estimated that about one-half (4,000 afy) filters back into the ground to recharge underlying aquifers. The remainder is lost to evapotranspiration (Rush, 1964). Patterson Valley has only minor amounts of evapotranspiration (Rush, 1964). Committed and pending appropriations, including Las Vegas Valley Water District (LVVWD) and Applications Nos. 64686 and 64687, for Patterson Valley, total 47,697 afy (Schaefer and Harrill, 1995; Nevada State Engineer records, obtained June 3, 1999).

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[1] See Prudic and others (1995) for detail regarding the description of the regional ground-water flow system.

IN THE MATTER OF APPLICATION 64687
EXHIBIT A - CONTINUED

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IV. Ground water flows from Panaca Valley south towards Lower Meadow Valley Wash (Prudic and others, 1995). The recharge rate of Meadow Valley Wash is 12,400 afy, mostly originating as underflow. An additional 7,000 afy of ground-water may be discharged in the Muddy River area from Lower Meadow Valley Wash (see Exhibit 13 submitted by the National Park Service in the matter of the hearing regarding Applications Nos. 55450 and 58269 filed by the Moapa Valley Water District; numbers based on Rush, 1964). Burbey (1997) states that underflow from Lower Meadow Valley Wash may support spring discharge in the Muddy River Springs area. The rate of ground-water underflow to the Muddy River area from Coyote Spring Valley and Lower Meadow Valley Wash combined may be as large as 58,000 afy.

V. Ruling No. 4542 noted that existing water rights in the Muddy River Springs Area are about 45,260 afy (which probably includes some ground- water rights in California Wash.) About 10,005 afy are for ground-water sources and about 35,250 afy for surface-water rights under the Muddy River decree. (See transcripts for hearing regarding Applications Nos. 55450 and 58269 filed by the Moapa Valley Water District.)

Committed ground-water resources are 16,100 afy in Coyote Spring Valley. Total committed water resources in Coyote Spring Valley and Muddy River Springs Area totals 61,360 afy. Committed ground-water resources in Lower Meadow Valley Wash are 29,680 afy (Nevada Department of Conservation and Natural Resources, 1992). This figure does not include surface water sources. Committed water resources in Pahranagat Valley, Coyote Springs Valley, Muddy River Springs area, and Lower Meadow Valley Wash are at least 136,640 afy.

Because committed water resources for Pahranagat Valley, Coyote Spring Valley, and Lower Meadow Valley Wash (134,640 afy) exceed the recharge rate of 88,200 afy for the valleys, there is no water available for appropriation.

VI. LVVWD filed numerous applications (senior to Lincoln County and Vidler Water Company, Inc.,) to withdraw large quantities of ground-water from several basins within the White River subregion: 5,000 afy in Coyote Spring Valley; 2,000 afy in Cave Valley; 6,000 afy in Coal Valley; 3,000 afy in Delamar Valley; 10,000 afy in Garden Valley; 5,000 afy in Pahroc Valley; 2,500 afy in Dry Lake Valley; 4,000 in Patterson Valley; 2,000 afy in Garnet Valley; 2,000 afy in Hidden Valley; 2,500 afy in California Wash, totaling 44,000 afy (Schaefer and Harrill, 1995). These basins are tributary to the Muddy River (see Harrill and others, 1988). LVVWD also proposes to withdraw 3,000 afy from Tikapoo Valley (see Harrill and others, 1988).

VII. Aerojet filed Applications Nos. 63272 through 63276 and 63867 through 63876; Blue Nugget Water Company filed Applications Nos. 63360 through 63372; Coyote Springs Investments, Inc. filed Applications Nos. 64186 through 64192; Dry Lake Water L.L.C. filed Applications Nos. 64037 through 64041 and 64045; to withdraw a total of 241,400 afy. The applications are in Coyote Spring Valley, Pahranagat Valley, California Wash, Hidden Valley, Garnet Valley, and Black Mountains Area. These basins are also tributary to the Muddy River.

VIII. The ground-water withdrawal proposed by this application and associated applications, if approved and developed, in combination with existing permits and pending applications (including those of LVVWD, Aerojet, Coyote Springs Investments, Inc., Dry Lake L.L.C., Blue Nugget Water Company, and others), will capture ground water that naturally discharges into the Muddy River and thus will reduce the discharge of the river, impairing existing water rights.

IN THE MATTER OF APPLICATION 64687
EXHIBIT A - CONTINUED

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IX. Lake Mead NRA springs, located within the Black Mountains Areas, are discharge points for regional ground-water flow systems and may be affected by the proposed appropriation. The water issuing from the springs probably originates in the easternmost part of Lower Meadow Valley Wash and the Virgin River Valley (Pohlmann and others, 1998). Given that pumping occurs over a long period of time, the National Park Service is concerned that the ground-water withdrawals proposed by Lincoln County and Vidler Water Company, LVVWD, Blue Nugget Water Company, Aerojet, Coyote Springs Investments, Inc., Dry Lake L.L.C., and others, as well as existing ground-water uses in the White River ground-water flow system, if developed, will reduce or eliminate the discharge of the springs within Lake Mead NRA by capturing water destined for the springs.

X. Ground-water withdrawal rates larger than the recharge rate of Patterson Valley would come from storage and constitute ground water mining. LVVWD has applied to withdraw 4,000 afy (Schaefer and Harrill, 1995) in Patterson Valley, which are senior to this application. LVVWD, and applications 64686 and 64687 by Lincoln County and Vidler Water Company, Inc. and senior committed and pending appropriations could withdraw up to 47,697 afy from Patterson Valley. The recharge rate for the valley is estimated at about 9,000 afy (Rush, 1964). This application along and in combination with other applications within Patterson Valley, if approved and developed, would mine ground water.

XI. Application 64687 proposes to withdraw water within NW¼ NW¼ Section 11, T4N, R66E, MDB&M and to use it within Section 11, W½ Section 12, W½ Section 14, W½ Section 23, T4N, R66E, MDB&M. This land is administered by the U.S. Bureau of Land Management and is not owned by the applicant (see surface-management map of the State of Nevada prepared by the Bureau of Land Management, 1990). Ruling Number 4548, signed by the Nevada State Engineer on July 25, 1997, states that "...it would not be in the public interest to approve applications for use upon lands where the applicant does not control both the proposed well locations and the proposed places of use." Specific information relating to the need for and use of water under this application is lacking.

CONCLUSIONS

I. There is no water available for appropriation because committed water resources exceed ground-water recharge.

II. The approval and development of the appropriation proposed by this application will impair the water rights of the United States, because:

A. The appropriations and withdrawals proposed by Lincoln County and Vidler Water Company Inc., (Applications 64668 through 646686 and 64688 through 64695) will further reduce the discharge of the Muddy River. The United States' senior water right and other existing rights to the Muddy River would be impaired, if the appropriation is approved and developed.

B. The proposed appropriation, in combination with existing appropriations and pending applications in the White River subregion, if approved and developed, could reduce the discharge of Lake Mead NRA springs, because of the large potential withdrawal rate. The drawdown caused by such large withdrawals would extend to capture ground water that naturally discharges through the springs.

C. The effects of the appropriation proposed by this application, when combined with other existing and proposed appropriations, could impair the senior water rights of Lake Mead NRA more quickly and/or to a degree greater than the withdrawal proposed under this application alone.

IN THE MATTER OF APPLICATION 64687
EXHIBIT A - CONTINUED

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III. The public interest would not be served, by granting a permit to this application, because:

A. The water and water-related resources in the nationally important Lake Mead NRA would be diminished or impaired, as a result of the appropriation proposed by this application.

B. The land which the applicant proposes to withdraw the water and proposes to use the water is not owned by the applicant.

REFERENCES CITED

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Harrill, J.R., Gates, J.S., and Thomas, J.M., 1988, Major ground-water flow systems in the Great Basin region of Nevada, Utah, and adjacent states: U.S. Geological Survey Hydrologic Investigations Atlas HA-694-C, 2 sheets.

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Pal Consultants, Inc., 1995a. Evaluation of scientific literature pertaining to the conceptualization of the Death Valley ground-water flow system, Nevada and California: unpublished report prepared for the National Park

Prudic, D.E., Harrill, J.R., and Burbey, T.J., 1995, Conceptual evaluation of regional ground-water flow in the carbonate-rock province of the Great Basin, Nevada, Utah, and adjacent States: U.S. Geological Survey Professional Paper 1409-D, p. D1-D102.

Pohlmann, K.F., Campagna, D.J., Chapman, J.B., Earman, S., 1998, Investigation of the Origin of Springs in the Lake Mead National Recreation Area: Desert Research Institute, Water Resources Center Publication No. 41161, 51 p.

Rush, F.E., 1964. Ground-Water Resources - Reconnaissance Series. Report 27. Ground-Water Appraisal of the Meadow Valley Area, Lincoln and Clark Counties, Nevada. State of Nevada, Department of Conservation and Natural Resources, Carson City, Nevada. 43 p.

Schaefer, D.E., and Harrill, J.R., 1995, Simulated effects of proposed ground-water pumping in 17 basins of east-central and southern Nevada: U.S. Geological Survey