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 64670
FILED BY LINCOLN COUNTY AND VIDLER WATER COMPANY, INC.
OF PIOCHE, STATE OF NEVADA
ON DECEMBER 11, 1998 TO APPROPRIATE
THE WATERS OF UNDERGROUND

PROTEST

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 64670 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

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

My Commission expires _____

IN THE MATTER OF APPLICATION 64670
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 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 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 National Recreation Area, 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.

I. 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 64670
EXHIBIT A - CONTINUED

Protest by Charles W. Pettee on behalf of
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VI. Lincoln County and Vidler Water Company, Inc. filed Application No. 64670 to withdraw 10.0 cubic feet per second (cfs) of ground water in Cave Valley for irrigation. The applicant also filed Application Nos. 64668 through 64669 and 64671 through 64695 to withdraw a total of 280 cfs of ground water from 14 valleys (Dry Lake Valley, Cave Valley, Coal Valley, Tickapoo 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 proposed withdrawal is located in Cave Valley. The aquifers underlying the basin are part of a regional ground-water flow system (informally called the White River ground-water flow system[1] as defined by Eakin, 1966) which discharges water through springs in the Muddy River area, supplying the base flow of the Muddy River.[2] In their conceptual evaluation of the regional ground-water flow systems of the carbonate-rock province, Prudic and others (1993) included the White River system within a larger ground-water flow system called the White River subregion and proposed that part of the water discharging from the springs is derived from areas outside of the White River system. Ground-water withdrawals in the subregion can reduce the discharge of the Muddy River Springs, if the ground-water withdrawals are large enough and occur over a sufficiently long period of time.

The White River sub-region, 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 sub-region 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) (Schefer amd Harrill, 1995).

II. The ground-water recharge rate in Cave Valley is about 14,000 afy. Eakin (1962) estimated that recharge is derived from precipitation. Discharge from the valley is primarily by underflow. Harrill and others (1988) estimated 14,000 afy exits Cave Valley as underflow to Pahroc and Pahranagat Valleys, via White River Valley. Committed groundwater resources and pending appropriations, including Applications Nos. 64670 and 64671, for Cave Valley, total 16,492 afy (Nevada State Engineer records, obtained June 3, 1999).

III. The water emitted from springs in Pahranagat Valley was adjudicated by Court Decree issued October 14, 1929. The decree covered a total of 4,971.62 acres, with a duty of 1 cfs per 100 acres (36,000 afy) (Eakin,

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[1] The system includes the following hydrographic areas or basins: Long Valley, Jakes Valley, White River Valley, Cave Valley, Garden Valley, Coal Valley, Pahroc Valley, Dry Lake Valley, Pahranagat Valley, Delamar Valley, Kane Springs Valley, Coyote Springs Valley, and Muddy River Springs Area (Upper Moapa Valley).

[2] See Prudic and other (1993), Harrill and others (1988), and Eakin (1966) for descriptions of the White River ground-water flow system and the regional ground-water flow systems of the Great Basin.

1963). Spring discharge appears to be fully appropriated. Committed ground-water resources total 9,700 afy (Nevada Department of Conservation and Natural Resources, 1992). Spring and ground-water appropriations in Pahranagat Valley are 45,700 afy.

About 35,000 acre-feet per year exits Pahranagat Valley as underflow to and moves as underflow beneath Coyote Spring Valley. Discharge from Coyote Spring Valley is primarily by subsurface outflow (about 37,000 afy) to the Muddy River Springs Area and the Muddy River (Burbey, 1997; Harrill and others, 1988; and Eakin, 1964). Committed water-resources in Pahranagat Valley (45,700 afy) do not exceed the recharge rate of Pahranagat Valley (59,800 afy). However, these do exceed the discharge rate of the springs and evapotranspiration in the valley (24,000 afy to 34,000 afy). Thus, the discharge of the springs and the underflow from Pahranagat Valley will decrease, given current levels of appropriation.

IV. Rights to water in the Muddy River were decreed by the Tenth Judicial Court of the State of Nevada in the case entitled Muddy Valley Irrigation Company vs. Moapa and Salt Lake Produce Company. According to the January 21, 1920, Order of Determination and the March 11, 1920, Further and Supplemental Order of Determination of the Nevada State Engineer, there is no water available for appropriation in the Muddy River, its headwaters, sources of supply, and tributaries (Muddy Valley Irrigation Company, 1938).

V. In Ruling 4542, the Nevada State Engineer found that there is ground water available for appropriation from the carbonate-rock aquifer in Coyote Spring Valley and that this aquifer is tributary to the Muddy River. The ruling noted that the estimated ground-water discharge in the Muddy River Springs Area ranges from about 51,000 to 63,900 afy.

As much as 14,000 afy of this estimated range may originate in the Sheep Range in Coyote Spring Valley (Burbey, 1997). The rate of ground-water underflow from Coyote Spring Valley to Muddy River Springs Area may be as large as 51,000 afy. This may include 35,000 afy underflow from Pahranagat Valley, 2,000 afy recharge from precipitation in Coyote Spring Valley (Eakin, 1964), and 14,000 afy from the Sheep Range.

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 supports 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.

The recharge rate for Lower Meadow Valley Wash, Pahranagat Valley, and Coyote Spring Valley is 88,200 afy (59,800 in Pahrangat Valley, 14,000 from Sheep Range in Coyote Spring Valley, 2,000 from other sources in Coyote Spring Valley, and 12,400 afy in Lower Meadow Valley Wash).

VI. 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 Springs Valley, and Lower Meadow Valley Wash (136,640 afy) exceed the recharge rate of 88,200 afy for the valleys, there is no water available for appropriation.

VII. The Las Vegas Valley Water District (LVVWD) filed numerous applications (senior to Lincoln County and Vidler Water Company, Inc.'s applications) 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; and 5,000 afy in Pahroc Valley; 2,500 in Dry Lake Valley; 4,000 in Patterson Valley; 2,000 in Garnet Valley; 2,000 in Hidden Valley; 2,500 in California Wash; totaling 44,000 afy (Schaefer and Harrill, 1996). These basins are tributary to the Muddy River. LVVWD also proposes to withdraw 3,000 afy in Tikapoo Valley (see Harrill and others, 1988)

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.

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 LLC, 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.

VIII. 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, Inc., 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.

IX. Ground-water withdrawal rates larger than the recharge rate of Cave Valley (14,000 afy) would come from storage and constitute ground-water mining. Committed water resources and pending applications senior to

Application 64670 are about 2,000 afy. This appropriation, and associated Application No. 64671 (which, combined, total 14,480 afy), if approved and developed, will mine ground water.

X. Application 64670 proposes to withdraw water from unsurveyed ground within the SE¼ NE¼ Section 8, T5N, R63E, MDB&M and to use it within the East half Section 8, Sections 9 and 10, T5N, R63E, MDB&M. The proposed point of diversion and place of use of the application are located on land 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). In Ruling No. 4548, the State Engineer concluded "...that it is not in the public interest to approve applications for use on 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.

XI. The water and water-related resources of Lake Mead NRA are locally and nationally important.

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 appropriation, in combination with other appropriations and withdrawals proposed by Lincoln County and Vidler Water Company, Inc. (Applications Nos. 64668 through 64669 and 64671 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 ground-water flow system, 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.

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

A. The public interest would not be served by granting this application, because 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.

IN THE MATTER OF APPLICATION 64670
EXHIBIT A - CONTINUED

Protest by Charles W. Pettee on behalf of
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IN THE MATTER OF APPLICATION 64670
EXHIBIT A - CONTINUED

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