FILED
AUG 26 1998
STATE ENGINEER'S OFFICE

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

IN THE MATTER OF APPLICATION NUMBER 64040
FILED BY DRY LAKE WATER L.L.C.
OF LAS VEGAS, STATE OF NEVADA
ON APRIL 17, 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 64040 filed on April 17, 1998, by Dry Lake Water L.L.C. of Las Vegas, State of Nevada, to appropriate the waters of underground, situated in Clark 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. The National Park Service will reconsider its protest if it can be shown that the proposed appropriation, in combination with existing and pending appropriations, if approved and developed, will not affect the water resources and water rights of Lake Mead National Recreation Area.

Signed Charles W. Pettee
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 25th day of August, 1998.

Diana L. Little
Notary Public

State of Colorado

County of Larimer

MY COMMISSION EXPIRES:
June 28, 2001

My Commission expires _____.

IN THE MATTER OF APPLICATION 64040
EXHIBIT A

Protest by Charles W. Pettee on behalf of
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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 Dry Lake Water L.L.C. 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. The point of diversion is located in the NW¼ SE ¼, Sec. 19, T. 16 S., R. 68 E., M.D.B.M.

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.

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 State appropriative water rights to two springs near the mouth of the Muddy River, which could be impaired by the appropriation and diversion proposed by this application: Kelsey's Springs, located in the SW¼ NW¼, Sec 20, T.16 S., R.68 E., M.D.B.M., Certificate No. 296; and Rogers Spring, located in SE¼ SE ¼, Sec. 12, T.18 S., R.67 E., M.D.B.M., Certificate No. 4476.

VI. Dry Lake Water L.L.C. filed Application No. 64040 along with Applications Nos. 64037, 64038, 64039, 64041 and 64045 to withdraw a total of 60 cubic feet per second (cfs) of ground water from five valleys (Coyote Spring Valley, Black Mountains Area, Garnet Valley, Hidden Valley and California Wash). This application requests an annual duty of 7,240 afy. The total annual duty applied for is 43,450 acre-feet per year (afy).

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

FINDINGS

I. The proposed appropriation is located in Garnet Valley. Rush (1968) estimated that 400 afy of water recharges the valley from local mountain ranges and that an additional 400 afy enters the valley as subsurface inflow from Hidden Valley. Committed ground-water resources in Garnet Valley are 930 afy (State of Nevada, 1992) which exceeds recharge. The proposed withdrawal rate of this application is 10 cfs or 7,240 afy, which greatly exceeds the recharge rate of Garnet Valley. Ground-water withdrawals larger than the recharge rate to Garnet Valley would come from storage and constitute ground-water mining.

Discharge from Garnet Valley (about 800 acre-feet per year) is by subsurface outflow to California Wash to the east and from California Wash to the Muddy River (Rush, 1968).[1]

[1] See Burbey (1997) for further detail regarding the geology and hydrology of Hidden and Garnet valleys and Prudic and others (1995) for a description of the regional ground-water flow system.

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II. 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).

III. A small amount of subsurface inflow from adjacent Coyote Spring Valley to the north may also enter the Hidden and Garnet valleys area (Burbey, 1997). The main body of ground water in Coyote Spring Valley discharges through the Muddy River springs and constitutes most of the base flow of the Muddy River (see Eakin, 1964; and Burbey, 1997).

IV. 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.

V. The rate of ground-water underflow from Coyote Spring Valley to Muddy River Springs Area may be as large as 51,000 afy (37,000 afy plus 14,000 afy). Burbey (1997) states that underflow from Lower Meadow Valley Wash may also support spring discharge in the Muddy River Springs Area. 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).

VI. Ground water from the aquifers in Hidden Valley, Garnet Valley, California Wash and the Muddy River Springs Area is also tributary to the Muddy River (Rush, 1968; Prudic and others, 1995).

VII. The application by itself, if approved and developed, could reduce the discharge of the Muddy River by 7,240 afy and thus impair existing water rights to the Muddy River, including that of the National Park Service, because it would capture water tributary to the Muddy River.

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EXHIBIT A - CONTINUED

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VIII. The following table summarizes water rights and hydrologic information for six valleys that are tributary to the Muddy River, and also for the Black Mountains Area. Dry Lake Water L.L.C. has filed applications in all but Lower Meadow Valley Wash and Muddy River Springs Area. Column 1 shows committed ground-water resources for these basins. Column 2 shows the proposed appropriations of applications filed prior to those of Dry Lake Water L.L.C. The amount of water requested in the six applications by Dry Lake Water L.L.C. is shown in the Column 3. Column 4 shows the amount of water appropriated and proposed for appropriation, including the Dry Lake Water L.L.C. applications. The Column 5 shows recharge. Column 6 shows recharge less total committed and proposed appropriations.

Hydrographic Area	*1* *Committed Ground-water Resources (afy)*[2]	*2* *Proposed Appropriations Senior to Dry Lake L.L.C. Applications (afy)*[2]	*3* *Proposed Appropriations by Dry Lake Water L.L.C. (afy)*[2]	*4* *Total Committed and Proposed Appropriations (afy)*	*5* *Recharge (afy)*[3]	*6* *Recharge Less Total Committed and Proposed Appropriations (afy)*
Coyote Spring Valley	16,100	114,045	7,240	137,385	51,000[4]	-86,385
Hidden Valley	0	10,066	7,240	17,306	400	-16,906
Garnet Valley	930	10,066	14,480	25,476	400	-25,076
California Wash	500	2,500	7,240	10,240	100	-10,140
Lower Meadow Valley Wash	29,680	13,032	0	42,712	12,400[5]	-30,312
Black Mountains Area	6,200	0	7,240	13,440	1,300[6]	-12,140
Muddy River Springs Area	8,328	0	0	8,328	100	-8,228
TOTAL	61,738	149,709	43,440	254,887	65,700	-189,187

[2] Sources: State of Nevada, 1992; Nevada State Engineer records

[3] Recharge from local precipitation and from underflow originating outside of the system comprised of the seven valleys tabulated. Sources: Harrill and others, 1988; Burbey, 1997; Rush, 1964

[4] Includes 35,000 afy underflow from upgradient basins

[5] Includes underflow from upgradient basins

[6] Includes 1,200 afy underflow from Las Vegas Valley

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IX. For all valleys, total committed and proposed ground-water appropriations (Column 4) greatly exceed recharge. The difference between these two columns (recharge less total committed and proposed appropriations) is shown in Column 6. For all valleys a large deficit occurs. Total committed and proposed appropriations for all tabulated valleys combined are 254,887 afy. This exceeds total combined recharge (65,700 afy) by 189,187 afy. There is no water available for appropriation. Ground-water withdrawals larger than the recharge rate to these valleys would come from storage and constitute ground-water mining.

X. The above table does not include Muddy River water rights, which according to the Muddy River Decree, appropriates all water in the Muddy River, its headwaters, sources of supply, and tributaries.

XI. The ground-water withdrawal proposed by this application and associated applications, if approved and developed, in combination with existing permits and pending applications will capture ground water that naturally discharges into the Muddy River and thus greatly reduce the discharge of the river, injuring existing water rights.

XII. Lake Mead NRA springs, located within the Black Mountains Area, 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). However, the National Park Service is concerned that the proposed ground-water withdrawals (shown in the above table) as well as existing ground-water uses in the Muddy River area, if developed, will reduce or eliminate the discharge of the springs within Lake Mead NRA by capturing water destined to the springs, given that pumping occurs over a long period of time.

XIII. 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." The proposed point of diversion and place of use of the application appear to be located on land controlled by the Bureau of Land Management (see surface-management map of the State of Nevada prepared by the Bureau of Land Management, 1990).

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XIV. 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 proposed appropriation, in combination with other appropriations and withdrawals proposed by Dry Lake Water L.L.C. (Applications Nos. 64037, 64038, 64039, 64041, and 64045), will reduce the discharge of the Muddy River. The United States' senior water right and other existing rights to the Muddy River would be injured, if the appropriation is approved and developed.

B. The proposed appropriation, in combination with existing appropriations and pending applications in the Muddy River area, 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 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 application is for using water on lands where the applicant does not control both the proposed well location and the proposed place of use.

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EXHIBIT A - CONTINUED

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LITERATURE CITED

Burbey, T.J., 1997, Hydrogeology and potential for ground-water development, carbonate-rock aquifers, southern Nevada and southeastern California: U.S. Geological Survey Water-Resources Investigations 95-4168, 65 p.

Eakin, T.E., 1964, Ground-water appraisal of Coyote Spring and Kane Springs valleys and Muddy River Springs area, Lincoln and Clark Counties, Nevada: Nevada Department of Conservation and Natural Resources Ground-Water Resources-Reconnaissance Series Report 25, 40 p.

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.

Muddy Valley Irrigation Company, 1938, Protest of the Muddy Valley Irrigation Company in the Matter of Application No. 10188 by the United States Department of Agriculture, Bureau of Biological Survey, for Permission to Appropriate Water From Muddy Creek, Filed March 9, 1938: Nevada State Engineer's Office, Carson City, Nevada, 2 p.

Pohlmann, K.F., Campagna, D.J., Chapman, J.B., and Earman, S., 1998, Investigation of the Origin of Springs in the Lake Mead National Recreation Area: University and Community College System of Nevada, Desert Research Institute, Water Resources Center, Pulication No. 41161, 51 p. and three appendices.

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, pp. D1-D102.

Rush, F.E., 1964, Ground-water appraisal of the Meadow Valley area, Lincoln and Clark Counties, Nevada: Nevada Department of Conservation and Natural Resources Ground-Water Resources-Reconnaissance Series Report 27, 43 p.

Rush, F.E., 1968, Water-resources appraisal of the Lower Moapa-Lake Mead Area, Clark County, Nevada: Nevada Department of Conservation and Natural Resources Ground-Water Resources-Reconnaissance Series Report 50, 66 p.