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

IN THE MATTER OF APPLICATION NUMBER 53959,

FILED BY Las Vegas Valley Water District

ON August 11, 19 90 TO APPROPRIATE THE

WATERS OF Coal Valley, Lincoln County

PROTEST

Comes now Reeve MacLaren Duhme
Printed or typed name of protestant

whose post office address is Route 2, Box 17, Round Mountain, Nv., 89045
Street No. or P.O. Box, City, State and Zip Code

whose occupation is retired geologist, and protests the granting

of Application Number 53959, filed on 10/17/89, amended 3/19, 1990

by Las Vegas Valley Water District to appropriate the
Printed or typed name of applicant

waters of Underground Basin in Coal Valley situated in Lincoln
Underground or name of stream, lake, spring or other source

County, State of Nevada, for the following reasons and on the following grounds, to wit:

See appended pages

THEREFORE the protestant requests that the application be denied
(Denied, issued subject to prior rights, etc., as the case may be)

and that an order be entered for such relief as the State Engineer deems just and proper.

Signed Reeve M. Duhme
Agent or protestant

Printed or typed name, if agent

Address Route 2, Box 17
Street No. or P.O. Box No.

Round Mountain, Nv., 89045
City, State and Zip Code No.

Subscribed and sworn to before me this 11th day of August 19 90

Miranda J. Rynearson
Notary Public

State of Nevada

County of Nye

OFFICIAL SEAL
MIRINDA J. RYNEARSON
NOTARY PUBLIC-STATE OF NEVADA
NYE COUNTY, NEVADA
My commission expires Sept. 13, 1992

OK
DB

$10 FILING FEE MUST ACCOMPANY PROTEST. PROTEST MUST BE FILED IN DUPLICATE. ALL COPIES MUST CONTAIN ORIGINAL SIGNATURE.

REASONS AND GROUNDS FOR PROTEST

Reeve Maclaren Duhme does hereby protest the above-referenced Application for the following reasons and on the following grounds, to wit:

1. Upon information and belief protestant asserts that there is not sufficient unappropriated ground water in host water to provide the water sought in the above-referenced Application and all other pending applications involving the utilization of surface and ground water from the basin.

2. The appropriation of this water when added to the already approved appropriations and existing uses and water rights in host water basin will exceed the annual recharge and safe yield of the basin. Appropriation and use of this magnitude will lower the water table; degrade the quality of water from existing wells; cause negative hydraulic gradient influences and threaten springs, seeps and phreatophytes which provide water and habit that are critical to the survival of wildlife and grazing livestock.

3. The granting or approval of the above-referenced Application would unreasonably lower the water table and sanction water mining, which is contrary to Nevada law and public policy.

4. This Application is one of 146 applications filed by the Las Vegas Valley Water District seeking a combined appropriation of some 864,195 acre-feet of ground and surface water primarily for municipal use in Clark County. Diversion and export of such a quantity of water will deprive the area of origin of the water needed to protect and enhance its environment and economic well-being; and the diversion will unnecessarily destroy environmental, ecological, scenic and recreational values that the State holds in trust for all its citizens.

5. The granting or approval of the above-referenced Application in the absence of comprehensive water-resource development planning, including, but not limited to, environmental-impact considerations, water-resource evaluation by an independent entity, and a water-resource plan for the Las Vegas Valley Water District (such as is required by the Public Service Commission of water purveyors) is detrimental to the public welfare and interest.

6. The granting or approval of the above-referenced Application would be detrimental to the public interest in that it, individually and together with other applications of the water importation project, would:

   a. Likely jeopardize the continued existence of endangered and threatened species recognized under the federal Endangered Species Act and related state statutes;

b. Prevent or interfere with the conservation of those threatened or endangered species;

c. Take or harm those endangered or threatened species; and

d. Interfere with the purpose for which the federal lands are managed under federal statutes including, but not limited to, the Federal Land Use Policy Act of 1976.

7. The granting or approval of the above-referenced Application will sanction and encourage the willful waste of water that has been allowed, if not encouraged, by the Las Vegas Valley Water District. Said waste of water is contrary to Nevada law and public policy.

8. The subject Application seeks to develop the water resources of, and transport water across, lands of the United States under the jurisdiction of the United States Department of Interior. This Application should be denied because the Las Vegas Valley Water District has not obtained or demonstrated that it can obtain the necessary legal interest (right-of-way) on said lands to extract, develop and transport water from the point of diversion to the point of use in the Las Vegas Valley Water District service area. Therefore, the Las Vegas Valley Water District cannot show that the water will ever be placed in beneficial use.

9. The Application should be denied because it individually and cumulatively with other applications of the water importation project will perpetuate and may increase the inefficient use of water in the Las Vegas Valley Water District service area and frustrate efforts at water-demand management in the Las Vegas Valley Water District service area.

10. The Las Vegas Valley Water District lacks the financial capability for developing and transporting water under the subject permit, which is a prerequisite to putting the water to beneficial use; and accordingly, the subject Application should be denied.

11. The above-referenced Application should be denied because it fails to adequately include the statutorily required information, to wit:

a. Description of proposed works;

b. The estimated cost of such works;

c. The estimated time required to construct the works and the estimated time required to complete the application of water to beneficial use;

d. The approximate number of persons to be served and the future requirement; and

e. The dimensions and location of proposed water-storage reservoirs, the capacity of the proposed reservoirs, and a description of the lands to be submerged by impounded waters.

12. The subject Application should be denied because it individually and cumulatively with other applications of the proposed project will exceed the safe yield of host water basin thereby adversely affecting phreatophytes and creating air contamination and air pollution in violation of State and Federal Statutes, including, but not limited to, the Clean Air Act and Chapter 445 of the Nevada Revised Statutes.

13. The Application cannot be granted because the applicant has failed to provide information to enable the State Engineer to properly safeguard the public interest. The adverse effects of this Application and related applications associated with the proposed water appropriation and transportation project (largest appropriation of ground water in the history of the State of Nevada) cannot properly be evaluated without an independent, formal and publicly reviewable assessment of the following:

    a. The water resources of the proposed area of diversion and the cumulative effects of the proposed diversions;

    b. Mitigation measures that will reduce the impacts of the proposed extraction; and

    c. Alternatives to the proposed extraction, including, but not limited to, the alternatives of no extraction and aggressive implementation of all proven and cost-effective water-demand management strategies.

14. The above-referenced Application should be denied because the applicant has failed to provide the protestant relevant information regarding this Application and other applications which comprise the proposed importation project (works) as required by N.R.S. 533.363. The failure to provide such relevant information denies protestant due process of law under Chapter 533, N.R.S., in that said relevant information may provide protestant with further meaningful grounds of protest, and that protestant may be forever barred from submitting such further grounds of protest because the protest period may end before Applicant provides such required information. The failure of applicant to provide such information denies protestant the meaningful opportunity to submit protests to this Application and other applications associated with the water importation project as allowed by Chapter 533, N.R.S.

15. The subject Application should be denied because the population projections upon which the water-demand projections are based are unrealistic and ignore numerous constraints to growth, including traffic congestion, increased costs of infrastructure and services, degraded air quality, protection of rare and endangered species, etc.

16. The subject Application should be denied because previous and current conservation programs instituted by the Las Vegas Valley Water District are inefficient public-relations-oriented efforts that are unlikely to achieve substantial water savings. Public-policy and public-interest considerations should preclude the negative environmental and socioeconomic consequences of the proposed transfers on areas of origin when the potential water importer has failed to make a good-faith effort to efficiently use currently available supplies.

17. The subject Application should be denied because the enormous costs of the project likely will result in water-rate increases of such a magnitude that demand will be substantially reduced, thereby rendering the water transfer unnecessary.

18. The granting or approval of the above-referenced Application would be detrimental to the public interest and not made in good faith since it would allow the Las Vegas Valley Water District to lock up vital water resources for possible use sometime in the distant future beyond current planning horizons.

19. The subject Application should be denied because current and developing trends in housing, landscaping, national plumbing-fixture standards and demographic patterns all suggest that the simplistic water-demand forecasts upon which the proposed transfers are based substantially overstate future water-demand needs.

20. The subject Application should be denied because the current per capita water-consumption rate for the Las Vegas Valley Water District is double that of similarly situated southwestern municipalities. This suggests enormous potential for most cost-effective supply alternatives, including demand management and effluent re-use. These alternatives have not been seriously considered by the Las Vegas Valley Water District.

21. The above-referenced Application should be denied because the State Engineer has previously denied other applications for water from the host water basin, said applications having been prior in time to the instant Application and those applications associated with the water importation project. The grounds for denial (e.g., *applicant does not own or control the land on which the water is to be diverted, approval would be detrimental to the public welfare, etc.*) of the prior applications should apply equally to the instant Applicant and provide grounds to deny the instant Application.

22. The granting or approval of the above-referenced Application and the other applications associated with the water-importation project will most likely have a negative impact on Nevada's environment (see the report entitled *Las Vegas Water Importation Project Technology Assessment* by Baughman and Finson). Therefore, the subject Application should be denied by the State Engineer since it is the public policy of the State of Nevada, per Governor Bob Miller's January 25, 1990, State of the State Address, to protect Nevada's environment, even at the expense of growth (see page 11 of the Address).

23. The State Engineer is a member of the State of Nevada Environmental Commission (N.R.S. 445.451). This entity has the duty to prevent, abate and control air pollution in the State of Nevada, including Las Vegas Valley. Air pollution in Las Vegas Valley is so bad that the Valley has been classified a non-attainment area for national and state ambient air-quality standards for CO and PMIO. The Las Vegas Valley Water District applications for water from central, eastern and southern Nevada are for the purpose of securing water to encourage and support future growth in Las Vegas Valley. The State Engineer should deny the above-referenced Application and the other applications associated with the water-importation project since more water means more growth—therefore, more air

pollution. The State Engineer should be taking steps to ameliorate the air-quality problem in Las Vegas Valley, not exacerbate it. The State Engineer, along with the other members of the Environmental Commission, has the legal and moral responsibility to prevent air pollution in Las Vegas Valley. Therefore, the Commission should protest the subject application and the other applications associated with the growth-inducing project.

24. The above-referenced Application should be denied because economic activity in the area of the proposed point of diversion is water-dependent (e.g., grazing, recreation, etc.); and a reduction in the quantity and/or quality of water in the area would adversely impact said activity and the way of life of the area's residents.

25. The above-referenced Application and the other applications associated with the water-importation project should not be approved if said approval is influenced by the State Engineer's desire or need to ensure that there is sufficient water for those lots and condominium units created in Las Vegas Valley by subdivision maps. These maps were approved by the State Engineer, and he certified that there is sufficient water for the lots and units created by the maps. If there is not sufficient water for these lots and units, then Clark County water resources (e.g., water created by conservation, water saved by re-use, etc.) should be developed and assigned to the water-short lots and units.

26. On information and belief the Las Vegas Valley Water District applications to appropriate water from central, eastern and southern Nevada should be denied since the District has not shown a need for the water and the feasibility (technical and financial) of the water-importation project. The District's need for the water and the feasibility of the water-importation project should be components of a water-resource plan approved by the Public Service Commission of Nevada (see N.R.S. 704.020(2)(b)).

27. Las Vegas Valley Water District public statements and written material indicate that approximately 61 percent of the water rights sought by the District (via the 146 applications) are to be temporary water rights. But, the applications (146) state the water is to be used on a permanent basis. Therefore, the subject applications, including the above-referenced Application, should be denied because the public has been denied relevant information and due process.

28. The above-referenced Application and the other applications associated with the water-importation project should be denied since removing water from central, eastern and southern Nevada to Las Vegas Valley will adversely impact economic activity (current and future) of the water-losing area. Some of the economic impacts are as follows:

    a. *Agriculture:* The combination of sunlight, water resources (ground water and geothermal sources), technology for intensified forms of agriculture, and growing markets (particularly in Las Vegas and Los Angeles) might create conditions for new agricultural development. A lack of water resources that can be developed would foreclose these additions to the economy of the region and the state:

- Fish farming using thermal springs
- Truck gardens or cotton crops
- Greenhouses for flowers or hydroponic vegetables, either alone or in conjunction with electric cogeneration plants.

In addition, the removal of ground water might damage the existing agricultural economy of the area by decreasing grazing available for cattle and sheep and decreasing crops like hay. Water rights are often gained by the purchase of agricultural land that has the water rights attached; then the purchaser takes the land out of agricultural production and removes the water to another, non-agricultural use. The three counties most affected by the granting of Las Vegas Valley Water District's applications—Nye, White Pine and Lincoln—had combined sales of cattle of over $7,000,000 in 1987 and combined sales of other agricultural products of $3,500,000 in the same year, according to the U.S. Department of Commerce. Removal of ground water could affect existing water sources for irrigating hay, and decrease forage available for cattle and sheep to the detriment of the agricultural segment of the economy of the three counties.

b. *Power Generation and Transmission:* The removal of ground water could inhibit or preclude opportunities for power production, which generally uses water for cooling and in steam generation. The transmission lines developed to connect the White Pine and Thousand Springs Power Plants to the regional grid (with connection point in Henderson from White Pine), linked to electric-power-hungry markets in Las Vegas and southern California, might offer economic development potentials:

- Production of electric power from geothermal sources could be connected to the transmission line for sales in the region or outside the state
- Electric generation from locally produced natural gas or oil, or from natural gas from the Kern River Pipeline, could also be connected to the grid
- Costs of solar power are declining and, under certain circumstances, are similar to other power production. Nevada's climate and open spaces, combined with access to a transmission line, could make solar-power production attractive.

Just as importantly, solar-, geothermal- and thermal-power production could provide inexpensive power for new dispersed activities in the three counties that are not now close enough to the electric grid for economic tie-in.

c. *Mineral Extraction:* Oil and natural gas offer major (though as yet highly uncertain) prospects. There is informed speculation that this area is the last major unexplored resource in the continental United States. Dwindling supplies elsewhere, in combination with reduction of imports, could produce important opportunities in Nevada. The development of other mineral resources is likely, and some could be of significant scale (e.g., Bond Gold), either as now, transported to linked industries, or as an attraction for co-location (see below).

Gold, however, is not the only mineral found in minable quantities and qualities in the region. Silver, molybdenum, and copper also are an important part of the economies of the three counties and so, to a lesser degree, is the extraction of mercury, fluorspar, calcium borate, zinc, lead and perlite. Each of these minerals is currently being produced in the region. As demand in the world changes for minerals, these and others may make important contributions to the region's and the state's economy. The effect on mining of removal of ground water from the region should be fully understood before the applications are approved.

d. *Manufacturing:* Space-requiring industries (e.g., Aero-Jet, Southern California Aerospace, etc.), which are increasingly constrained in the Los Angeles metroplex, could choose locations in the Nevada desert, particularly if other infrastructure (rail, highways, electric power, water, etc.) were available. Those interested could include:

- Manufacturers requiring Nevada's clean air or large expanses of uninhabited land
- Industry serving the U.S. Departments of Defense and Energy
- Producers of gaming devices or photovoltaic equipment
- Manufacturers dependent upon minerals extracted in Nevada, or serving those industries.

e. *Tourism:* Though slow to develop, tourism and travel could increase between Interstate Highways 80 and 15. Development could include facilities such as attractions for those enjoying Nevada's laws on gaming, and health spas centered around thermal hot springs and Nevada's clean air and quiet, empty landscapes.

Geothermal wells deserve particular mention regarding tourism. The region has many documented geothermal sources with varying temperatures suitable for a variety of uses. It is widely believed that the extraction of ground water will decrease the flow of these springs before their potential is fully developed. The Japanese, for instance, especially enjoy thermal waters and often make them a part of their vacations as well as daily life; Europeans have flocked to health spas for centuries. It is possible that geothermal springs could be developed into a lucrative tourist attraction, but not if the ground water is so depleted that it reduces or eliminates geothermal sources.

Wildlife could also be adversely affected. The National Park Service, in a publication about outside threats to Death Valley, says that "Environmental impacts are probable to . . . Sunnyside/Kirch Wildlife Management Area, Railroad Valley wetlands areas, Key Pittman Wildlife Management Area, Pahranagat National Wildlife Refuge, and the Ash Meadows National Wildlife Refuge if the [LVVWD] applications are approved." Damage to or loss of wildlife areas could cause a decline in tourist visits to the region and prevent expansion.

An unpublished assessment of Las Vegas Valley Water District's project by Mike L. Baughman reports that the three counties "contained 275 [water-

related recreational] sites . . . estimated to support in excess of 700,000 resident recreation visitor days." Nevadans, as well as tourists from other areas, may mourn damage to these recreational sites.

f. *Concentration of Population:* The state of Nevada should consider the important public-policy issues concerning dispersal of population, which are an inherent, if unspoken, part of the debate on appropriation of the region's water. Some of those issues are:

- Whether foreclosure (because of insufficient water) of economic prospects outlined above preclude a more effectively and efficiently organized state of Nevada, from both an economic and a political point of view
- Whether a large ($1.5 billion) investment in infrastructure in rural Nevada could be used to encourage a growth pattern different from and superior to the current concentration in Reno and Las Vegas
- Equity issues in the lack of representation of the state's rural population in state decision-making
- Beneficial use of sparsely populated land areas.

g. *Interrelationships:* Many of the economic potentials are interrelated to, and even dependent upon, each other:

- If sufficient water is unavailable for electric-power generation, not only is electric power not produced and sold, but dispersed manufacturing or development of tourist attractions will not occur.
- If the water table is lowered sufficiently to reduce or stop the flow of thermal springs, fish farming will not develop, and related industries such as manufacturing of packing materials or frozen-food packing plants will not be built
- Without sufficient water for growth in residential use, even industries that use little or no water may be unable to locate in central and eastern Nevada. Any impact assessment that projected increases in population would trigger a requirement for additional water resources, a requirement that could not be met.

When water that has remained underground for 10,000 years is removed at a rate that is (even temporarily) faster than it can be recharged, that action will change the future of Nevada unalterably. It is critical that the decision-making process that concerns exporting water from rural to urban counties fully addresses the complex nature of a region's economic potentials.

29. Inasmuch as a water extraction and transbasin conveyance project of this magnitude has never been considered by the State Engineer, it is therefore impossible to anticipate all potential adverse effects without further information and study. Accordingly, the protestant reserves the right to amend the subject protest to include such issues as they may develop as a result of further information and study.