

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

IN THE MATTER OF APPLICATION 46777)
FILED TO APPROPRIATE THE PUBLIC WATERS)
FROM AN UNDERGROUND SOURCE WITHIN THE)
COYOTE SPRINGS GROUNDWATER BASIN (210))
CLARK COUNTY, NEVADA.)

RULING

#4542

GENERAL

Application 46777 was filed on March 31, 1983 by Nevada Power Company (NPC) to appropriate 55.0 cubic feet per second (cfs), 40,000 acre feet annually (afa), from the underground waters of the Coyote Springs Groundwater Basin, Clark County, Nevada for industrial (cooling) purposes within Sections 12, 13, 24, 25, 35 and 36, T.17S., R.63E., and Sections 7, 18, 19, 30 and 31, T.17S., R.64E., and Sections 1 and 2, T.18S., R.63E. M.D.B.&M.¹ The proposed point of diversion is described as being located within the SE $\frac{1}{4}$ -SE $\frac{1}{4}$ of Section 23, T.13S., R.63 E.; M.D.B.&M. The proposed manner of use is for the planned 2,000 megawatt Harry Allen Power Plant located in the Dry Lake region approximately 25 miles northeast of Las Vegas, Nevada.

Application 46777 was timely protested by the Nevada Department of Wildlife (NDOW) on the grounds that the granting of the permit would not be in the best public interest as it would have a detrimental impact on the wildlife values of the Muddy River drainage including the Moapa Dace (Moapa Coriacea) which is classified as an endangered species; and, as past studies have indicated that Coyote Springs Valley supplies a major portion of the groundwater recharge for the Muddy River springs,¹ which lie in the Muddy River Springs Groundwater Basin (#219), located south and east and down gradient of Coyote Springs Valley.

¹ File No. 46777, official records in the office of the State Engineer.

III.

Application 46777 was timely protested by the United States Fish and Wildlife Service (FWS) on the grounds that the granting of this permit would not be in the best public interest as it would have a diminishing effect on the springs supplying the Muddy River; thereby, having an adverse impact on the fish and wildlife living in the drainage, including the Moapa Dace (Moapa Coriacea) classified as an endangered species. The FWS alleges that studies indicate water moves through the Coyote Springs Valley area discharging from the Muddy River springs; therefore, the appropriation would intercept the water discharging at the Muddy River springs which would not be in the best public interest.¹

IV.

The State Engineer initially described and designated the Coyote Springs Valley Groundwater Basin on August 21, 1985, under the provisions of Nevada Revised Statute § 534.030, as a basin in need of additional administration.²

V.

After a meeting with the applicant and the Division of Water Resources, NDOW withdrew its protest on the basis that a detailed monitoring plan be established, and on the understanding that groundwater pumping would be stopped should the project adversely affect the water table in the Muddy River Springs Area.¹

FINDINGS OF FACT

I.

When the State Engineer analyzes whether water is available for appropriation in a groundwater basin the first analysis addresses the perennial yield of the particular groundwater basin. The perennial yield of a hydrologic basin is the maximum amount of water of usable chemical quality that can be consumed economically each year for an indefinite period of time. Perennial yield cannot exceed the natural replenishment to an area indefinitely, and

² State Engineer's Order No. 905, dated August 21, 1985, official records in the office of the State Engineer.

ultimately is limited to the maximum amount of natural recharge that can be salvaged for beneficial use. If the perennial yield is continually exceeded groundwater levels will decline until the groundwater reservoir is depleted.³ Withdrawals of groundwater in excess of the perennial yield contribute to adverse conditions such as water quality degradation, storage depletion, diminishing yield of wells, increased economic pumping lifts, and subsidence and possible reversal of groundwater gradients which could result in significant changes in the recharge-discharge relationship.

Presently, scientists can estimate the perennial yield of a groundwater basin by two distinct methods, recharge to the groundwater basin from precipitation, and discharge from the groundwater basin by spring/surface discharge, interbasin flow, consumption by plants tapping the groundwater and consumption by man. The State Engineer finds that in the Coyote Springs Valley Groundwater Basin the perennial yield (recharge) as a direct result of precipitation above the 6,900 foot elevation in the basin's watershed is estimated at 1,900 cfs.

Another method for estimating the total quantity of water available for appropriation uses interbasin flow and discharge flow as the method by which to approximate the annual safe yield. Ground water is discharged from Coyote Springs Valley by the natural processes of transpiration of vegetation, evaporation from the soil and free-water surfaces, and to a greater extent by underflow from the Coyote Springs Valley to the Muddy River Springs Area Groundwater Basin. The majority of the underflow from Coyote Springs Valley can be best estimated by the amount of water

³ State Engineer's office, WATER FOR NEVADA, STATE OF NEVADA WATER PLANNING REPORT NO. 1, Nevada Water Resources, p. 13, Oct. 1971.

⁴ Eakin, Thomas E., GROUND-WATER RESOURCES - RECONNAISSANCE SERIES REPORT 25, GROUND-WATER APPRAISAL OF COYOTE SPRING AND KANE SPRING VALLEYS AND MUDDY RIVER SPRINGS AREA, LINCOLN AND CLARK COUNTIES, NEVADA, Nevada Department of Conservation and Natural Resources, pp. 22-26, Feb. 1964.

discharged by the Muddy River Springs. This amount is estimated to be in the range of 33,700 to 36,000 afa.⁴ In using a discharge analysis, any influence of the carbonate aquifer is taken into consideration because the analysis looks at the total quantity of water flowing through the system and not at precipitation. Based on the underflow, it has been estimated that the perennial yield of the Coyote Springs Groundwater Basin is 18,000 afa.⁵ The State Engineer finds that there are no permitted groundwater rights in the Coyote Springs Valley Groundwater Basin; therefore, there is unappropriated water in the Coyote Springs Valley Groundwater Basin.⁶

III.

The State Engineer finds that NPC has both ground water and surface water rights in the Muddy River Springs Area Groundwater Basin.⁷

The point of diversion under Application 46777 is within Coyote Springs Valley Groundwater Basin and just up gradient of the Muddy River Springs Area Groundwater Basin. However, Application 46777 does not seek water from the alluvial aquifer, but rather seeks to appropriate water from a deep regional groundwater flow system referred to as the carbonate aquifer. The carbonate aquifer is part of a regional interbasin groundwater flow system identified as the White River System.⁸

Several thousand feet of saturated carbonate-rock aquifers are believed to lie under portions of this region, and carbonate-rock

⁵ Nowlin, Jon, GROUND-WATER QUALITY IN NEVADA - A PROPOSED MONITORING PROGRAM, OPEN FILE REPORT 78-768, U.S.G.S., p. 203.

⁶ Official records in the office of the State Engineer.

⁷ Official records in the office of the State Engineer.

⁸ Eakin, Thomas E., A REGIONAL INTERBASIN GROUNDWATER SYSTEM IN THE WHITE RIVER AREA, SOUTHEASTERN NEVADA, Water Resource Bulletin No. 33, Nevada Department of Conservation and Natural Resources, 1966.

aquifers also transmit a regional flow of water, in this case, to the Muddy River Springs Area.⁹ The regional distribution of carbonate rocks has hydrologic significance because they transmit a flow of ground water in regional groundwater systems beneath topographic divides.¹⁰

The State Engineer finds that the carbonate aquifer is the source of water for the Muddy River springs in the Muddy River Springs Area Groundwater Basin, and is an additional source of recharge, from beyond the drainage area, to the underground source of water known as the alluvial aquifer in the Muddy Springs Area Groundwater Basin. The State Engineer finds that the regional groundwater flow system known as the carbonate system provides an additional ground water supply available for appropriation. The State Engineer further finds that the quantity of water available in the carbonate aquifer may be more important as a water source than the availability of unappropriated water within the alluvial aquifer.

V.

Since the quantity of water available for appropriation in the carbonate aquifer is unknown, the issue is one of whether the additional diversion requested under Application 46777 from the carbonate aquifer in the Coyote Springs Groundwater Basin would reduce the spring flow and the inflow to the alluvial aquifer in the Muddy River Springs Area Groundwater Basin in an amount that would interfere with existing water rights within the Muddy River Springs Area Groundwater Basin.

An aquifer test of the carbonate system was conducted by the Moapa Valley Water District (MVWD) in support of their water right Applications 55450 and 58269. Applications 55450 and 58269 were

⁹ Eakin, Thomas E., GROUND-WATER RESOURCES - RECONNAISSANCE SERIES REPORT 25, GROUND-WATER APPRAISAL OF COYOTE SPRING AND RAHE SPRING VALLEYS AND MUDDY RIVER SPRINGS AREA, LINCOLN AND CLARK COUNTIES, NEVADA, Nevada Department of Conservation and Natural Resources, p. 20, Feb. 1964.

¹⁰ Rush, supra note 9, at 7.

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filed to appropriate water from the carbonate aquifer in the Muddy River Springs Area Groundwater Basin.

A public administrative hearing was held in 1995 concerning Applications 55450 and 58269.¹¹ These two applications are supplemental to one another and have the same point of diversion from a well completed in the carbonate aquifer in the Muddy River Springs Area Groundwater Basin. This point of diversion is referred to as the Arrow Canyon Well. Application 46777 is similar to these applications in that it is also to be completed to the regional carbonate aquifer system in the White River System.

Protests to Applications 55450 and 58269 were submitted by NPC, FWS and the National Park Service. Representatives of the office of the State Engineer conducted seven (7) days of hearings and received eighty-nine (89) exhibits into evidence. The State Engineer heard testimony from expert witnesses and received extensive evidence regarding the effects of pumping a well completed in the carbonate aquifer on the springs and the alluvial aquifer in the Muddy River Springs Area Groundwater Basin. The State Engineer finds that testimony and evidence from that hearing is of great value in the consideration of Application 46777.

The State Engineer further finds that evidence from the 1995 Moapa Valley Water District hearings on Applications 55450 and 58269 indicates that the historical estimates of the quantity of water flowing from the carbonate aquifer in Coyote Springs Valley to the springs in the Muddy River Springs Area has been estimated at 51 cfs or 37,000 afa.¹² During the MVWD hearing, MVWD estimated the range of quantity of carbonate water underflow to the springs in the Muddy River Springs Area to be from 51,000 afa to 63,900

¹¹ Transcript and exhibits, public administrative hearing before the State Engineer, January/February, 1995, official records of the office of the State Engineer.

¹² Transcript, pp. 1282-1286, and Exhibit Nos. MWD 15 and NPC 20, public administrative hearing before the State Engineer, January/February, 1995, official records in the office of the State Engineer.

afa, an amount greater than the total of existing water rights from all sources from the alluvial aquifer (45,260 afa).¹³

VI.

The aquifer test conducted from December 1993 to April 1994 under Applications 55450 and 58269, pumped 1,550 acre feet of water at a rate of 2,900 gallons per minute (gpm) (6.46 cfs) for 121 days.¹⁴ This is equivalent to an average annual pumping rate of 2.14 cfs. Water levels in several carbonate and alluvial wells were monitored throughout the test and selected data are shown in Table A.¹²

Table A. Maximum Drawdown in Several Wells

Well Name	Aquifer	Distance from Arrow Canyon well, ft.	Maximum Drawdown, ft.
EH-4	Carbonate	14,000	0.50
EH-5B	Carbonate	1,800	0.50
MX-6	Carbonate	16,000	0.30
Dahlberg East	Alluvial	200	0
Lewis North	Alluvial	1,800	0
Lewis Farm	Alluvial	2,700	0

Discharge rates from certain springs within the Muddy River Springs Area Groundwater Basin were also measured during the test. The State Engineer finds that the discharge rates for the springs were unchanged.¹⁵ The State Engineer further finds that the data

¹³ Transcript, pp. 899-900, public administrative hearing before the State Engineer, January/February, 1995, official records in the office of the State Engineer.

¹⁴ Exhibit No. NPC-1, public administrative hearing before the State Engineer, January, February, 1995, Applications 55450 and 58269.

¹⁵ Exhibit Nos. NPC-1 and MWD-23, public administrative hearing before the State Engineer, January, February, 1995, Applications 55450 and 58269.

based on the observations from the monitoring wells from the 121-day pump test shows little or no impact to either the alluvial or carbonate aquifers. The State Engineer finds that the proposed well under Application 46777 is approximately 9 miles further away to the north and west of the Arrow Canyon well used in that pump test; therefore, it would be expected that even less impact would be seen to either the alluvial aquifer or the springs in the Muddy River Springs Area Groundwater Basin.

VII.

As a result of a search for a testing ground for the MX missile, the United States Air Force, Ballistic Missile Office contracted with the Earth Technology Corporation, ERTEC, to investigate potential sites for water resources.¹⁶ As a result of this search, aquifer tests were conducted on a well (CE-DT-5) completed in the carbonate aquifer and located in the same 40 acre piece of land (SE $\frac{1}{4}$ SE $\frac{1}{4}$ of Section 23, T.13S., R.63E., M.D.B.&M) as the proposed point of diversion under Application 46777.¹⁷ The well was pumped at a constant discharge of 3,400 gpm (7.58 cfs) for thirty (30) days.¹⁸ The maximum well yield is not known because the yields obtained were at the limit of the pump capability used for the test, not the yield of the carbonate aquifer.¹⁹ The

¹⁶ Ertec Western, Inc., MX Siting Investigation Water Resources Program; Results of Regional Carbonate Aquifer Testing, Coyote Springs Valley, Nevada, p. 1, official records in the office of the State Engineer.

¹⁷ Ertec Western, Inc., MX Siting Investigation Water Resources Program; Results of Regional Carbonate Aquifer Testing, Coyote Springs Valley, Nevada, pp. 1-2, official records in the office of the State Engineer.

¹⁸ Ertec Western, Inc., MX Siting Investigation Water Resources Program; Results of Regional Carbonate Aquifer Testing, Coyote Springs Valley, Nevada, p. A-23, official records in the office of the State Engineer.

¹⁹ Ertec Western, Inc., MX Siting Investigation Water Resources Program, Preliminary Water Management Report, Volume 1, p. 84, official records in the office of the State Engineer.

aquifer test yielded drawdowns in the test well itself of 11 to 12 feet.²⁰ The only other well seeing any response due to the test was a monitor well, CE-DT-4, drilled 330 feet away and in the same formation as CE-DT-5. CE-DT-4 showed no response during the first 500 minutes of the aquifer test and yielded a maximum drawdown of 0.38 feet after 12,000 minutes (8.3 days). During maintenance shutdowns or pump failures, the water levels in CE-DT-4 recovered fully to prepumping levels within three minutes.²¹ At the end of the thirty (30) day test, the drawdown measured in CE-DT-4 was measured at 0.22 feet.²² Monitoring of the springs in the Muddy River Springs Basin found no changes in discharge rates.²³

It was concluded from the aquifer test of the CE-DT-5 well that the carbonate aquifer is capable of a long-term, sustained yield in excess of 3,400 gpm and that the long-term, constant discharge testing of the well resulted in no detectable impacts upon either the discharge rate or water quality of the regional springs in the Muddy River Springs area.²⁴ Clearly there is high transmissivity and storativity associated with this aquifer. The

²⁰ Ertec Western, Inc., MX Siting Investigation Water Resources Program; Results of Regional Carbonate Aquifer Testing, Coyote Springs Valley, Nevada, pp. A-41-A-47.

²¹ Ertec Western, Inc., MX Siting Investigation Water Resources Program; Results of Regional Carbonate Aquifer Testing, Coyote Springs Valley, Nevada, p. 35.

²² Ertec Western, Inc., MX Siting Investigation Water Resources Program; Results of Regional Carbonate Aquifer Testing, Coyote Springs Valley, Nevada, p. A-67, official records in the office of the State Engineer.

²³ Ertec Western, Inc., MX Siting Investigation Water Resources Program; Results of Regional Carbonate Aquifer Testing, Coyote Springs Valley, Nevada, pp. 34-38, official records in the office of the State Engineer.

²⁴ Ertec Western, Inc., MX Siting Investigation Water Resources Program; Results of Regional Carbonate Aquifer Testing. Coyote Springs Valley, Nevada, p. 62, official records in the office of the State Engineer.

State Engineer finds that there is sufficient system yield and system storage for new water right appropriations.

VIII.

Data to address the question of interference with existing water rights in Muddy River Springs Area Groundwater Basin from appropriations in Coyote Springs Valley Groundwater Basin is currently being sought through a monitoring plan conducted by Moapa Valley Water District under Permits 55450 and 58269.²⁵ The State Engineer finds that if, at some future time, it is determined that pumping the proposed well under Application 46777 in Coyote Springs Valley Groundwater Basin has adverse effects on the springs and the alluvial aquifer in the Muddy River Springs Area Groundwater Basin, then those effects would be detected early on by the reduction of water inflow from the carbonate aquifer to the alluvial system. If on the other hand, no adverse effects are indicated then there must be unappropriated water available for appropriation from the carbonate aquifer.

IX.

The State Engineer finds there are adequate safeguards in place by way of the monitoring sites to give an early warning before any environmental damage is done or before pumping from the carbonate aquifer in Coyote Springs Valley Groundwater Basin would decrease the flow of springs in the Muddy River Springs Area Groundwater Basin.

X.

The State Engineer previously stated, in the ruling under Applications 55450 and 58269, that the only way to know whether or not long term pumping of the carbonate aquifer at high diversion rates will affect the alluvial aquifer, springs, Muddy River and water right holders is to allow pumping to occur and monitor the aquifers, springs and river through a comprehensive monitoring program. Such a program already exists in the Muddy Springs area

²⁵ File Nos. 55450 and 58269, monitoring plan, official records in the office of the State Engineer.

and some monitoring is being done in Coyote Springs Valley. The successful implementation of the monitoring plan requires the cooperation of at least four parties: Nevada Power Company, Moapa Valley Water District, U.S. Fish and Wildlife Service, and Nevada Division of Water Resources.

The State Engineer finds it to be prudent to merge the separate monitoring plans in existence today into one, all encompassing, monitoring plan that will accurately show the hydrologic health of the separate aquifer systems. It is imperative that the comprehensive plan have the following objectives:

1. provide an "early warning" so that any negative impact can be mitigated or reversed by decreasing or ceasing pumping;
2. protect the groundwater table in the alluvial aquifer;
3. protect the groundwater table in the carbonate aquifer;
4. protect the flow from the springs in the Muddy Springs area;
5. protect the flow in the springs which supply water to the Moapa Dace habitat; and
6. protect the flow in the Muddy River.

Correspondence dated April 25, 1996, from the State Engineer to Nevada Power Company, asked the following questions or clarifications from NPC:

1. Do you have access to the lands where the points of diversion are located? If the answer to that question is yes, and the land is in private holdings, please provide a copy of the access agreement.

2. There is a great deal of distance between points of diversion and the place of use and I assume there are Federal lands that have to be crossed in order to get the water from the points of diversion to the place of use. What type of arrangements have been made for easements or rights of way across Federal lands and please provide copies of the various permits or applications needed to cross the subject lands and whatever environmental work is required for those permits.
3. Application 46777 was protested. What work has been completed to date, in the way of negotiations, or resolutions in order to resolve the protests.
4. It is my understanding that the intended use of the water was for the Harry Allen Power Plant. Is the Harry Allen Power Plant still in the capital improvement/resources plans filed with the PSC and if so, what is the time intended to put this water to beneficial use?

Nevada Power Company responded to the April 25, 1996, letter with correspondence dated May 22, 1996, with answers as to their plans for the Harry Allen Power Plant:¹

1. NPC has obtained a right-of-way grant for 6,200 acres from the Bureau of Land Management for well sites and a pipeline to deliver the water to the plant;
2. NPC's air quality permit was modified to allow the construction of up to eight (8) combustion turbine units rather than coal fired units at the Harry Allen Power Plant;
3. NPC has spent over a million dollars on groundwater monitoring and inventory studies in order to better understand any hydrogeological connection between Coyote Springs Valley and the groundwater, springs and river flow in the Muddy River Springs Area Groundwater Basin;
4. NPC's best estimate for putting all of the water to beneficial use is between 5 and 8 years, depending on growth in southern Nevada. A copy of the 1994 Resource Plan was submitted to the State Engineer to show these plans;

5. NPC may amend its applications to show a total water need of approximately 5,000 acre-feet for the Harry Allen Station instead of the 40,000 acre-feet requested.

Correspondence dated December 19, 1996, from the State Engineer to Nevada Power Company, asked for clarification on land access to the proposed well sites given that Aerojet is now the owner of the well site proposed under Application 46777. Additionally, the State Engineer asked for clarification on the amount of water sought by NPC for the Harry Allen Power plant.¹ At the time Application 46777 was filed, the State Engineer understood the proposal to be industrial cooling in a 500 megawatt coal fired power plant. The Harry Allen Power plant now consists of a 70 megawatt natural gas fired power plant.

Nevada Power Company responded to the December 19, 1996, letter with correspondence dated January 28, 1997. This letter stated that NPC has contracted with an engineering firm to conduct exploratory drilling at other sites to establish realistic diversion points that can be included in its amended applications. NPC has also contracted with an engineering firm to model the groundwater system in Coyote Springs Valley, and has not determined the actual amount of water needed for the power plant. They would like to wait until late May 1997 to provide that amount.¹ NPC has stated that the Harry Allen Power Station will eventually consist of eight (8) combustion turbine units, in lieu of the coal fired units initially envisioned. Based on this new information, the State Engineer finds that the amount of water now required by the Harry Allen Plant is 5,000 afa. The State Engineer further finds that NPC has shown diligence towards getting the necessary easements and has modified their air quality permits to reflect the proposed addition to the Harry Allen Plant.

STATION'S
RESPONSIBLE
BOND

CONCLUSIONS

I.

The State Engineer has jurisdiction over the parties and of the subject matter of this action and determination.²⁶

II.

The State Engineer is prohibited by law from granting an application to appropriate water where:²⁷

1. there is no unappropriated water in the proposed source of supply;
2. the proposed use conflicts with existing rights; or
3. the proposed use threatens to prove detrimental to the public interest.

III.

The source of water for Application 46777 is the carbonate aquifer, not the alluvial system. The State Engineer concludes there is no evidence as to the exact quantity of water available for appropriation from the carbonate aquifer, but there is at least 18,000 afa available in total quantity.

IV.

As a result of the MX aquifer test and the MVWD aquifer test, the State Engineer concludes that the approval of Application 46777 would not interfere with any existing rights in the Coyote Springs Groundwater Basin or the Muddy River Springs Area Groundwater Basin.

V.

The 121 day carbonate aquifer test conducted in support of Applications 55450 and 58269 showed little or no effect on the water levels in the alluvial aquifer or the springs in the Muddy River Springs Area. A monitoring plan has been implemented in the Muddy River Springs Area and trigger levels have been established

²⁶ NRS Chapters 533 and 534.

²⁷ NRS § 533.370.

to identify possible adverse effects. The monitoring data collected from the monitoring plan are submitted to the State Engineer for review. If any signs of adverse effects are identified by the State Engineer, the State Engineer may order a reduction of pumping in the area. The point of diversion for Application 46777 is upgradient and further away from the Muddy Springs Area than the test well and is to be completed in the carbonate aquifer. The State Engineer concludes that the approval of Application 46777 for industrial use by the Harry Allen Power Plant does not threaten to prove detrimental to the public interest. The State Engineer further concludes that NPC must obtain additional water rights for the Harry Allen Power Station to meet growing demands for electricity in southern Nevada; thus, Application 46777 would not threaten to prove detrimental to public interest.

VI.

The FWS manages the Moapa Wildlife Refuge, the location of the habitat for the endangered Moapa Dace. The source of water for the springs on the refuge is the carbonate aquifer. The FWS is concerned that additional pumping of the carbonate aquifer will reduce the flow of water from the springs and damage the Dace habitat. A monitoring plan for the springs has already been put in place by Moapa Valley Water District and is an essential element in protecting the Dace habitat. The State Engineer concludes that additional monitoring by NPC will help provide an "early warning" program in order to avert any impacts to the springs in the Muddy River Springs Area.

VII.

The State Engineer concludes that the diversion rate of 55.0 cfs requested under Application 46777 is far in excess of the aquifer test diversion rate and considerably more than needed for a total diversion of 5,000 afd now required by the Harry Allen Power Plant, and it would be detrimental to the public interest to

grant a permit for a quantity of water that will not be beneficially used.

VIII.

NPC's Application 46777 seeks to obtain additional water rights for the Harry Allen Power Plant to expand their electricity producing capability because of the increasing population growth in southern Nevada. The protestants fear that additional pumping from the carbonate aquifer will reduce the flow of water to the alluvial system, which is the source of water within the Muddy River Springs Area Groundwater Basin, the springs within the basin, and the Muddy River. From the MVWD hearing, and from other records of the State Engineer, the State Engineer concludes the following:

1. the hydraulic connection between the carbonate aquifer and the alluvial system is poorly defined;
2. it is unlikely that groundwater pumping under any permit granted pursuant to Application 46777 from the carbonate aquifer will reduce the quantity of water entering the alluvial system, the groundwater table of the alluvial aquifer, the flow of the springs, and the flow in the Muddy River to a point that creates a conflict with existing rights;
3. it is unknown whether the quantity of water entering the alluvial system from the carbonate aquifer is 37,000 afa, or if higher quantities in the range between 51,000 afa to 64,000 afa, are available for appropriation and use in the basin; and
4. the way to determine the impacts is to allow additional pumping of the carbonate aquifer and monitor the effects.

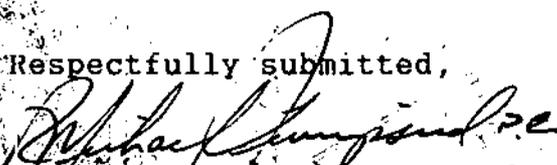
RULING

The protest to Application 46777 is hereby overruled and said application is hereby approved subject to the following conditions:

1. existing water rights;
2. payment of the statutory permit fees;

3. the pumping rate being reduced to 10 cubic feet per second, not to exceed 5,000 acre feet annually;
4. a comprehensive monitoring plan to be submitted by NPC to the State Engineer and the protestant within ninety (90) days of the date of this ruling. It is paramount that NPC work with MVWD and FWS to put together a monitoring plan that when reviewed along side MVWD's monitoring plan, will give an overall picture of the Coyote Springs Valley and Muddy River Springs Area. The plan shall be submitted and approved by the State Engineer prior to pumping the well;
5. NPC will be required to submit an annual report of the monitoring results. The FWS and MVWD will have the opportunity to review and comment on the annual report. The State Engineer will then retain the option of reducing the pumping rate for the next year, or any other action that may be necessary to protect the public interest or to prevent conflicts with existing rights; and,
6. NPC must obtain a right of way from Aerojet for the point of diversion and submit the agreement to the State Engineer.

Respectfully submitted,


R. MICHAEL TURNIPSEED, P.E.
State Engineer

RMT/JK/ab

Dated this 19th day of

June, 1997.