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

SE 'S EXHIBITS 93

DATE:

IN THE MATTER OF APPLICATIONS 53987 THROUGH 53992, INCLUSIVE AND 54003 THROUGH 54021, INCLUSIVE FILED TO APPROPRIATE THE UNDERGROUND WATERS OF SPRING VALLEY, CAVE VALLEY, DELAMAR VALLEY AND DRY LAKE VALLEY HYDROGRAPHIC BASINS (180, 181, 182 AND 184), LINCOLN COUNTY AND WHITE PINE COUNTY, NEVADA.	**OPENING STATEMENT OF CORPORATION OF THE PRESIDING BISHOP ON BEHALF OF THE CLEVELAND RANCH**

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STATE ENGINEER

I. PRELIMINARY STATEMENT

The Cleveland-Rogers Ranch (the "Ranch") operates in northern Spring Valley on 7,000 acres of fee land and approximately 60,000 acres of grazing allotments.[1] The Ranch runs about 1,750 head of cattle per year. To support this major effort, the Ranch relies upon 5,100 AFA of certificated and decreed water rights; 37,000 AFA claims of vested surface water rights; 2,082 AFA of permitted supplemental groundwater irrigation rights and numerous stockwater rights and springs. The water provided is used for irrigation and stock watering. Many of the applications filed by SNWA threaten the Ranch's water rights and its ability to survive as a viable ranching enterprise.

Careful analysis of SNWA's own model, and data principally derived from SNWA's submittals, demonstrates on a clear scientific basis that:

1. the 12 wells opposed by the Ranch would catastrophically, and perhaps irreversibly, impact the Ranch's water rights;

2. although promoted as a sustainable ET salvage project, the protested wells will

[1] The Ranch is owned and operated by Corporation of the Presiding Bishop ("CPB") of The Church of Jesus Christ of Latter-Day Saints. The Ranch is a major source of beef for the Church's extensive welfare program.

actually result in significant and perpetual ground water mining;

3. the inevitable ground water mining will result in ruinous draw-downs on and around the Ranch;

4. the depletion of the aquifer will necessarily result in subsidence and the permanent loss of carrying capacity of the aquifer;

5. the perennial yield available in Spring Valley is far less than SNWA's unreasonably optimistic projections;

6. SNWA's plan is environmentally unsound and will cause significant and irreversible impacts on unique animal and plant communities dependent upon the current hydrological regime; and

7. despite the sheer bulk of the submittals by SNWA, and notwithstanding the attractive presentations and the several experts employed, SNWA's science is sometimes significantly flawed and its conclusions erroneous.

II. PRIOR PROCEEDINGS DO NOT SUPPORT THE CURRENT APPLICATION

The Ranch protested 12 of the 19 Applications.[2]These 19 applications, along with 127 others, were originally filed by the Las Vegas Valley Water District in 1989. In April 2007, the State Engineer ruled on those original 19 applications. See Ruling #5726.Its key findings and conclusions include these:

- The perennial yield of the Spring Valley Hydrographic Basin is 80,000 AFA, which relies on the capture of ground-water ET as the limit of the perennial yield.
- Potential future domestic use is 1,265 AFA.
- Ten percent (8,000 AFA) of the perennial yield should be left for the future growth and development within the basin.
- Pumping under Applications 54016, 54017, 54018, and 54021 will adversely impact

[2] The Ranch objected to Applications 54009-54018, 54020, and 54021.

existing spring rights in the Cleve Creek alluvial fan and these four wells were denied.[3]

- SNWA did not submit enough evidence to quantify the impact of other proposed wells.

III. LEGAL STANDARDS AND SNWA'S BURDEN OF PROOF

NRS 533.370(5) requires the State Engineer to reject an application and refuse to issue a requested permit "[1] where there is no unappropriated water in the proposed source of supply, or [2] where the proposed use . . . conflicts with existing rights . . . or [3] threatens to prove detrimental to the public interest." (numbering added); see State Engineer v. Morris, 107 Nev. 699, 701, 819 P.2d 203 (1991). In addition, because this application involves an interbasin transfer of groundwater, the State Engineer must consider "[w]hether the proposed action is environmentally sound as it relates to the basin from which the water is exported." NRS 533.370(6). **The burden is on SNWA to show that it has met all of these statutory standards.** Bacher v. State Engineer, 122 Nev. 1110, 1116, 146 P.3d 793 (2006); ("NRS Chapter 533 prescribes the general requirements that every applicant must meet to appropriate water," (Emphasis added). Not only has SNWA failed to meet its burden, its own models demonstrate that its project will interfere with the Ranch's existing water rights and result in significant groundwater mining.

IV. SNWA'S APPLICATIONS WILL CONFLICT WITH THE RANCH'S RIGHTS AND RESULT IN SIGNIFICANT GROUNDWATER MINING

To analyze the impacts on existing rights, consultants Norman L. Jones and Alan L. Mayo (Aquaveo, CPB_011) relied exclusively on SNWA's own model. Along with SNWA's model files, SNWA submitted SNWA_337, *Conflicts Analysis Related to Southern Nevada Water Authority Groundwater Applications in Spring, Cave, Dry Lake, and Delamar Valleys, Nevada and Vicinity.* This document describes how SNWA used its MODFLOW model to

[3] "[T]he claims of vested rights are for all of the flow being discharged from the springs along the toe of the Cleve Creek alluvial fan" and "pumping under Applications 54016, 54017, 54018, and 54021 will impact existing spring rights at the Cleve Creek alluvial fan." Ruling # 5726 at 36.

analyze the impact of the proposed wells on existing water rights in Spring Valley. SNWA_337 is an exercise in oversimplification that fails to disclose the full extent of conflict with existing rights. It acknowledges some impact to a few wells and springs, but it does not report the actual drawdown at each water-rights location. Instead, the results were presented in terms of two simple criteria: (1) whether the drawdown is greater than 50 feet; and (2) whether the change in spring flow is greater than 15%.

Using SNWA's own model and assumptions, Jones and Mayo ran more complete and in-depth simulations that disclosed the actual impact at each water-rights location. This was done using three scenarios: (1) **Predictive-Full**: A predictive model with all 19 SNWA wells turned on; (2) **Predictive-Minus 4**: The Predictive-Full model with the four previously denied wells removed from the simulation; and (3) **Predictive-Minus 12**: The Predictive-Full model but removing all 12 wells protested by the Ranch. **No other changes were made to the model inputs for these model runs**. CPB_011 at 22. Using SNWA's own model and technical assumptions, this in-depth analysis demonstrates that SNWA's proposed wells would significantly conflict with the Ranch's existing water rights and result in significant groundwater mining.

1. SNWA'S PROPOSED WELLS WILL RESULT IN SIGNIFICANT AND PERPETUAL DRAWDOWN AT RANCH WATER-RIGHTS LOCATIONS AND WILL NEVER REACH STEADY-STATE CONDITIONS.

The analysis conducted by Jones and Mayo demonstrates that critical groundwater and surface water rights will be adversely impacted by SNWA's proposal.

a. Drawdown Maps Based on SNWA's Model Predict Significant Drawdown. As noted, in SNWA's model, the impact at Spring Valley water-rights locations was reported using a single criterion: whether the drawdown was greater than 50 feet at selected points in time

during the simulation period.[4] The actual amount of simulated drawdown was not reported by SNWA. To predict the actual drawdown, Jones and Mayo analyzed the output of SNWA's model using drawdown maps and time series plots for the years 2042, 2062, 2082, 2117 and 2242. CPB_011 at 23. The outcome

> shows a composite cone of depression created by the SNWA wells that grows deeper and larger over time. Many of the CPB water rights locations are impacted by the cone of depression by 2042 and virtually all are impacted by 2082. The three southernmost wells associated with the Bastian Creek allotment and the water rights locations in the vicinity of the Cleveland Ranch (adjacent to SNWA well 24018) are impacted most severely, with drawdown levels as great as 200 ft.

CPB_011 at 23.[5]

A second set of drawdown maps were prepared using the Predictive-Minus4 version of the model (Figures 14 through 18 of CPB_011). This set shows that the drawdown in the northern end of the valley is less severe without these four wells. "Nevertheless, there is still substantial drawdown at many of the Ranch water rights locations, particularly those adjacent to and south of the Cleveland Ranch." Id. at 29. In other words, the impact of the remaining eight wells is still highly detrimental to the Ranch's water rights. The Predictive-Minus 12 version still shows drawdown, but "the predicted impact at each of the CPB's water rights locations is negligible." Id. If those 12 Applications are denied, then the impact on the Ranch's rights from the remaining seven wells is greatly minimized.

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[4] Drawdown is defined as the change in water table elevation for the predictive model run with the proposed SNWA wells active in the model versus the baseline conditions. CPB _11 at 23.

[5] This is consistent with the State Engineer's conclusion in Ruling # 5726 that "[w]ater-level drawdown will occur in a cone of depression around the pumping wells, which will eventually coalesce, resulting in wide-spread water-level declines." Ruling # 5726 at 35. The State Engineer explained at that time, however, that "none of [SNWA's] witnesses presented any testimony or evidence pertaining to the magnitude or timing of water-level declines, decrease in spring flows, or impacts to existing rights." Id. Even without such evidence, it was clear that SNWA's proposed wells would adversely impact existing rights in the Cleve Creek alluvial fan, and that is presumably why Applications 54016, 54017, 54018 and 54021 were denied. Id. at 36. The evidence presented by the Ranch demonstrates that these four Applications and, indeed, all 12 applications protested by the Ranch, should be denied because they will all adversely impact the Ranch's existing water rights.

b. The Observation Process in MODFLOW Confirms Significant Drawdown. In addition to drawdown maps, Jones and Mayo used the Observation (OBS) Process in MODFLOW to do a detailed analysis of the simulated drawdown at certain points in time. Here, the OBS Process was used "to interpolate the simulated heads from the cell centers to the CPB water rights locations ... at all of the model output time steps." Id.[6]

The simulation results for the Ranch's water-rights locations show "a steady downward trend **and the drawdown never reaches a steady-state condition** representing stable conditions." Id. at 38; see also id. Appendix B. Additionally, the maximum drawdown at the Ranch water-rights locations exceeds the arbitrary 50-foot threshold used in SNWA's report at almost every location. In some locations, the drawdown exceeds 180 feet and, at more than half of the locations, it exceeds 100 feet. CPB_011 at 38-39.

c. SNWA's Model Underestimates the Drawdown. SNWA's own model predicts significant drawdown, but it still almost certainly underestimates the drawdown at water-rights locations near the fringe of the alluvium. CPB_011 at 40. The size of the grid cells used in the model, which are large relative to the distribution of the water-rights locations, creates uncertainty when analyzing water levels at specific points. Id. The Ranch's consultants created Figure 22, CPB_011, to show drawdown contours for the year 2242 for the Predictive-Full simulation. It shows a large degree of drawdown in the coarse-grained alluvial deposits to the south and west of the Ranch. Id. The center of Spring Valley is filled with fine-grained deposits and playas that have a lower hydraulic conductivity than the coarse-grained alluvial deposits. Many of the Ranch's water rights are located on the edge of the alluvial fan deposits at the Cleveland Ranch, adjacent to the rapid transition from high-permeability coarse-grained material

[6] "Running the OBS Process does not affect any of the other MODFLOW inputs and does not alter the model results. It simply generates a more detailed set of model outputs for analysis." CPB_011 at 38.

to low-permeability fine-grained deposits. Id. Those water rights are extremely sensitive to the location of that transition boundary in the model. The Ranch's consultants explain:

> The hydraulic conductivity (K) values used by the SNWA model are associated with the inputs to the Hydraulic Unit Flow (HUF) Package. . . .
>
> In valley systems such as this with substantial alluvial deposits, one normally expects to find the highest K values on extreme edges of the alluvial deposits near the base of the mountains and the K values gradually decrease towards the center of the valley. This is a result of the coarser and heavier materials depositing first, follow[ed] by increasingly finer materials as the mountain runoff moves to the valley center.... [T]he SNWA model includes a set of cells ... with a low K value directly between the higher K alluvial deposits ... and lower K deposits in the valley center .... These cells have a lower K value than the valley fill materials in the center and do not follow the typical grain size trend described above. This set of lower K values results in a barrier that causes a large head gradient near the ranch. **This gradient results in a significantly lower set of simulated drawdown levels in these locations at the fringe of the alluvium. The actual drawdown levels in these locations are likely to be greater than the simulated drawdown levels predicted by the model.**

Id. at 40-42 (emphasis added). In sum, the drawdown at critical Ranch water rights located near the fringe of the alluvium is likely even greater than the significant drawdown already predicted by SNWA's model.

d. Drawdown of This Magnitude Will Likely Result in Storage Depletion and Subsidence: The State Engineer has explained that "withdrawals of ground water in excess of the perennial yield may contribute to adverse conditions such as ... storage depletion... and land subsidence." Ruling # 5726 at 27. SNWA's model predicts significant drawdown in central Spring Valley in the vicinity of the Ranch's water rights. The Ranch's consultants explain that drawdown like this will probably cause irreversible storage depletion and subsidence.

> When an aquifer dewaters to this extent, the soil and rock particle in the aquifer lose the buoyancy effect of the water and are subjected to a greatly increased inter-particle stress. This stress causes the aquifer matrix to consolidate leading to ground subsidence. With drawdown levels as high as 185 ft, the subsidence levels are likely to be severe. In addition to subsidence, aquifer consolidation results in a permanent loss of storage capacity. Since soils are inelastic and exhibit hysteresis, the void space in the aquifer prior to dewatering would never

be fully recovered, even if the water levels were allowed to rebound to pre-pumping conditions.

CPB_011 at 40.

2. SNWA's Proposed Wells Will Cause The Ranch's Springs To Go Dry.

Thirty-two of the Ranch's 44 water rights are associated with springs. Most of these springs are at the edge of the alluvial fans, where SNWA's wells would cause substantial drawdown. According to SNWA's own model, if all of SNWA's wells are approved, all of the springs will rapidly go dry. CPB_011 at 48-50[7]

Even if the four denied wells are again denied, the predictive model still shows that all of the springs will rapidly go dry. Id. at 51-52. "Indeed, the SNWA application is based on the concept of ET salvage, which by definition involves elimination of surficial discharge of groundwater." Id. at 48. These springs are a critical source of water for the Ranch. SeeCPB_007 at 4-7.

3. The Drawdown and Dried-Up Springs Are Not Environmentally Sound and Will Significantly Impact the Viability of the Ranch's Operations.

The Ranch is dependent on water and forage. To meet its yearly forage demand, the Ranch holds permits for three BLM grazing allotments that grant it up to 6,526 AUMs for cattle on approximately 60,000 acres. These BLM allotments provide approximately 30% of the annual forage demands for the 1,750-plus cow herd. CPB_007 at 4. "[I]t is clear," the State Engineer previously explained, "that if there was a decline in the ground-water table there would be a change in the existing ground-water dependent plant community." Ruling # 5726 at 48. SNWA failed to present any evidence in the 2006 hearing regarding this. "[W]hile it is evident that rainfall and ground-water dependent plant communities can exist in an area with similar ET

[7] The Aquaveo Report, CPB_011, explains that there is some uncertainty due to the large grid cells used in the regional model, imprecise elevation measurements, and model calibration errors; thus, "when looking at an individual spring the point in time at which the spring is predicted to go dry may be off by several years (either too early or too late), but the overall trends provide an estimate of when the springs will go dry." CPB_011 at 47.

and precipitation, there was no evidence or testimony presented which supported the concept that a plant community can transition from a ground-water dependent to precipitation-dependent without significant impacts to the ecosystem." Id. at 48. SNWA still has not met its burden of demonstrating that the interbasin transfer is environmentally sound. See NRS § 533.370(6)(c).

The Ranch's submissions show that SNWA's proposed action "would result in the loss of current forage production levels and stockwater yields and distribution across the three public land allotments," which "could significantly reduce the amount of grazable rangeland and concentrate cattle use on smaller portions of the allotments that remain accessible to stockwater." [Id. at 5.] In the end, this will require a "reduction in the permitted number of livestock and/or the duration of grazing use . . . ." CPB_007 at 5-6.

SNWA'S exhibits describe vegetation changes as "manageable;" however, the loss of forage and surface water on deeded land and grazing allotments is not "manageable" for the Ranch's grazing operations. CPB_007 AT 16.

Furthermore, SNWA'S exhibits fail to emphasize the importance of biological resources associated with wetlands, wet meadows, springs and riparian areas. SNWA's exhibits describe the general transition of wet meadows to dry meadows, dry meadows to grass-shrubland, and greasewood shrublands to rabbitbrush and big sagebrush shrublands. CPB_007 at 2. However, the exhibits do not provide a compelling case for how this transition is "environmentally sound" and in the "best interest of the public," particularly considering the potential permanent loss of limited, yet biologically rich and diverse, wetlands, phreatophytic woodlands and riparian areas located in north Spring Valley. CPB_007 AT 17.

Jones and Mayo have shown that SNWA's project will dry up the springs on and surrounding the Ranch. When this happens, the Ranch will not be able to flood-irrigate portions of the Ranch as it currently does. CPB_007 at 11. Further, the Ranch relies on sub-irrigation.

The drawdown caused by SNWA's wells will destroy sub-irrigation. Id. "All of this would result in one of two options for the Ranch to remain viable, reduce the number of stock or pump groundwater to make up for the loss. Both options will result in major financial challenges to the Ranch, and the further groundwater pumping in the area could serve to exacerbate the water table drawdown." Id.

4. A FLOW BUDGET ANALYSIS SHOWS THAT SNWA'S PROJECT WILL RESULT IN SIGNIFICANT GROUNDWATER MINING AND WILL NEVER REACH A SUSTAINABLE CONDITION.

A flow budget analysis is a fundamental part of a typical model report. SNWA did not present one as part of SNWA_337.[8] A flow budget analysis was performed by the Ranch's consultants using the USGS utility ZONEBUDGET to determine the source of the water used by the proposed SNWA wells based on SNWA's model results and how those sources change over time. **The flow budget analysis demonstrates that SNWA's proposal will result in significant groundwater mining throughout the entire course of the project and that steady-state conditions will never be reached**. It's not surprising, then, that SNWA did not include this analysis in its submissions.

The flow budget analysis shows that only 55% of the water used for pumping in Spring Valley will come from ET salvage. CPB_011 at 54-55. Approximately one-third of SNWA's demands must come from groundwater mining. Id. In fact, the simulation "indicat[es] substantial long-term groundwater mining. The system never approaches a state of equilibrium or sustainability throughout the entire simulation period." Id. at 55. This remains true even in the Predictive-Minus4 simulation. Id. at 57-58.

[8] SNWA's failure to present basic information to the State Engineer is not new. In the 2006 hearing on these applications, SNWA presented expert testimony, but "none of those witnesses presented any testimony or evidence pertaining to the magnitude or timing of water-level declines, decrease in spring flows, or impacts to existing rights." Ruling # 5726 at 35. Likewise, SNWA failed to present any evidence "which supported the concept that a plant community can transition from a ground-water dependent to precipitation-dependent without significant impacts to that ecosystem." Id. at 48.

5. SNWA'S PLAN WILL CAPTURE ONLY A PERCENTAGE OF ET AND WILL RESULT IN SIGNIFICANT GROUNDWATER MINING.

Perennial yield is defined as ground-water "that can be salvaged" and in this case "is approximately equal to the estimated ground-water ET; **the assumption being that water lost to natural ET can be captured by wells and placed to beneficial use.**" Ruling # 5726 at 26-27 (emphasis added). SNWA has proposed what purports to be a plan to salvage ET. But its plan will not achieve the desired ET salvage and will instead result in significant groundwater mining.

SNWA's applications are based on the premise that wells can be constructed to capture all unappropriated groundwater prior to ET loss. CPB_011 at 16. This requires capturing the unappropriated groundwater prior to entering the ET area and/or lowering the groundwater table below the root extinction depth without causing groundwater mining. Id. The flow budget analysis just discussed demonstrates that the proposed SNWA wells will not result in full ET capture. Thus, under SNWA's proposal, much of the perennial yield will continue to be lost to ET and SNWA will make up the difference through groundwater mining.

The Ranch's consultants analyzed SNWA's model in terms of ET-salvage and concluded that its well-field layout is such that ET salvage will not occur at all in many locations in the valley. The small number of long-screened wells proposed by SNWA is more appropriate for groundwater mining than for a comprehensive ET-salvage plan. As explained in CPB_011:

> In Spring Valley, groundwater recharge originates in all of the mountain blocks and alluvial fans that surround the valley floor. Because this groundwater generally flows perpendicular from the mountain front toward the valley, the ET salvage well design needs to include wells that will capture perennial yield before it can be lost to ET. The SNWA well-field layout is such that ET salvage will not occur in many locations of the valley (Figure 8) and much of the perennial yield will continue to be lost to ET including most of the area located north of the ranch headquarters. . . .
>
> The well-field layout (i.e., points of diversion) in Spring Valley is a good design to optimize groundwater withdrawal from selected alluvial fans, but will not capture a significant portion of the groundwater ET; thus, to withdraw the entire requested 91,224 AFA will require appreciable groundwater mining....

CPB_011 at 20 (emphasis added).

The drawdown maps in Figures 9 through 19 of CPB_011 "show that the aggregate cone of depression occurs over a concentrated area, resulting in extreme levels of drawdown, destruction of springs, occurrence of subsidence, and aquifer consolidation, in addition to incomplete ET capture." Id. at 59. This is further illustrated using a spatial analysis of the model results, which shows that "while ET capture eventually reaches full capacity in the south end of the valley, almost no capture occurs in the northern end of the valley. As a result of this incomplete capture, groundwater mining is induced in the center of the valley near the proposed wells to satisfy water demand." Id. at 60. In short, SNWA's Applications are based on a comprehensive ET-salvage plan, but the design and location of its wells will not implement that plan but will result in significant groundwater mining.

6. SNWA FAILS TO ACCOUNT FOR REPLACEMENT WELLS.

The flow budget analysis discussed above shows that in the center and southern parts of Spring Valley the proposed SNWA wells will reduce the water table elevation to a level that will eliminate ET. The Ranch uses some of this ET for sub-irrigated lands. Further, lowering the water table will also destroy all the valley floor springs critical to the Ranch. As the sub-irrigation and springs are eliminated, the Ranch would be forced to drill new wells to recapture water or collect a portion of the water pumped by SNWA wells. SNWA acknowledges this.

> In spite of this acknowledgment, the SNWA predictive model does NOT simulate the addition of these replacement wells (or increased pumping at SNWA wells) at points in time when the spring discharges are eliminated. This affects a substantial fraction of the overall budget for Spring Valley. The omission of these replacement wells or sources causes the predictive models to underestimate the drawdown and groundwater mining caused by the proposed SNWA wells. A full accounting for the groundwater withdrawn by these water rights via replacement would result in substantially more drawdown than is predicted by the SNWA models.

CPB_011 at 66.

V. THERE IS A MAXIMUM OF 56,532 AFA AVAILABLE FOR APPROPRIATION.

Withdrawal of more water than the perennial yield – *i.e.*, groundwater mining – is prohibited. See State Engineer v. Morris, 819 P.2d 203, 206 (Nev. 1991) ("perennial yield" is "the maximum amount of withdrawal above which over-appropriation occurs"). "If the perennial yield is exceeded, ground-water levels will decline and steady-state conditions will not be achieved, a situation commonly referred to as ground-water mining." Ruling # 5726 at 26-27.

The State Engineer previously found "that a reasonable and conservative estimate of the perennial yield of the Spring Valley Hydrographic Basin is 80,000 acre feet." Ruling # 5726 at 32. This was reconfirmed in the recent Spring Valley Hydrographic Basin NRS § 533.364 Inventory. As the State Engineer explained, caution is warranted in allowing "large scale development of water resources to go forward" because "the confidence in predictions as to water availability long-term without damaging impacts is low and dire consequences could result." Ruling # 5726 at 42.

The amount of unappropriated groundwater is figured by deducting the existing committed groundwater rights from the perennial yield. SNWA says that only 10,429.51 AFA is already committed. In the recent Inventory, the State Engineer found that 14,203 AFA is effectively committed. SNWA's lower number is the result of two flaws. First, SNWA underestimates the amount of supplemental groundwater that will be used. CPB_007 at 9. Second, SNWA underestimates the amount of water used by domestic wells. Id. Using the State Engineer's calculation shows that there is **65,797** AFA available for appropriation (80,000 - 14,203). See Inventory at 3.

NRS 533.370(6) requires the State Engineer to consider whether the proposed action will unduly limit future growth and development in the transferor basin. The State Engineer previously concluded "that it is reasonable and necessary to leave 10% of the perennial yield of

the Spring Valley Hydrographic Basin as unappropriated water for future growth and development within said basin." Ruling # 5726 at 52.[9] The State Engineer also concluded that it was necessary to leave 1,265 AFA for potential future domestic use. Id. Accordingly, the amount of groundwater available for appropriation is determined as follows: 80,000 AFA perennial yield, minus committed consumptive use of 14,203 AFA, minus 8,000 AFA for future growth in the basin and minus 1,265 AFA for potential future domestic use. This means there is a theoretical maximum of **56,532** AFA available for appropriation – far less than the 91,224 SNWA has applied for![10]

VI. CONCLUSION

The superficially soothing mantra of "manage, monitor and mitigate" is no substitute for solid science and sound conclusions. In the end, it means little more than "trust me, my intentions are good." Neither good intentions nor the alliterative mantra meet the statutory standards applicable to so momentous and far-reaching an issue. Good intentions do not take the place of good science.

The expert submissions on behalf of the Ranch demonstrate fundamental flaws in the very foundations of SNWA's presentation. There is not nearly enough sustainable water to meet SNWA's demand. The program presented will not merely impact the Ranch adversely, it literally threatens the aquifer that lies beneath the Ranch. Monitoring, even if done rigorously over the next 200 years, will only be able to report and record the unfortunate collapse of the natural system. By the time damage is discovered, it will be too late for the system and much too late for the Ranch.

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[9] Future domestic use should also include provision for expansion of the Ranch's operation.

[10] That figure may be rather optimistic because it does not count for the threat of climate changes over the life of the project.

Applications 54009 to 54018, 54020 and 54021 should be denied.

DATED this 19th day of September, 2011.

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CERTIFICATE OF SERVICE

I certify that on this 11th day of September, 2011, a true and correct copy of the foregoing Opening Statement on Behalf of The Cleveland Ranch was served on the following persons by electronic delivery and by depositing the same for overnight delivery via Federal Express or via hand-delivery (wherein indicated), addressed to the following:

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