

**APPENDIX C MONITORING, MANAGEMENT, AND
MITIGATION PLAN FOR FUTURE PERMITTED
GROUNDWATER DEVELOPMENT IN TULE DESERT**

KENNY C. GUINN
Governor

STATE OF NEVADA

ALLEN BIAGGI
Director

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State Engineer



DEPARTMENT OF CONSERVATION AND NATURAL RESOURCES
DIVISION OF WATER RESOURCES

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June 22, 2006

Ms. Dorothy Timian-Palmer, P.E.
Chief Operating Officer
Vidler Water Company
3480 GS Richards Blvd., Suite 101
Carson City, NV 89703

RE: Tule Desert Monitoring Plan – Initial Phase, Permit No. 66932, Ruling No. 5181

Dear Ms. Timian-Palmer:

We are in receipt of your monitoring plan (Plan) dated June 3, 2005 for groundwater pumpage associated with Permit 66932 under Ruling 5181. Your letter states the plan is for the initial phase of the project.

It is understood that exploratory drilling and test pumping are ongoing in the Tule Desert with the purpose of collecting data for pending water applications and identifying optimum locations for eventual project water production. The conditions of Permit 66932 require a monitoring plan approved by this office. It is also recognized that there is a stipulation between the National Park Service (NPS) and Lincoln County/Vidler whereby the NPS withdrew their protest to the application subject to a comprehensive monitoring, management, and mitigation plan. The State Engineer is not a signatory to the stipulation, however the stipulation was included as the principal component of the submitted Plan. The Plan as submitted is deemed satisfactory for pumping only from well PW-1, the permitted point of diversion for Permit 66932. Of course, if

additional water rights are obtained or changes are made to the existing Permit, a modification of this Plan will be necessary.

If you have any questions or comments please do not hesitate to contact me.

Sincerely,

A handwritten signature in cursive script that reads "Richard A. Felling". The signature is written in black ink and is positioned above the typed name.

Richard A. Felling
Chief, Hydrology Section

CC: Michael Johnson, Chief Hydrologist, Virgin Valley Water District
Ronda Hornbeck, Chairman, Lincoln County Water District

June 3, 2005

Mr. Hugh Ricci, P.E.
State Engineer
Nevada Division of Water Resources
123 W. Nye Ln
Carson City, NV 89706-0810

RE: Proposed Tule Desert Valley Monitoring Plan – Initial Phase
Appl# 64692, 64693, Change #66932

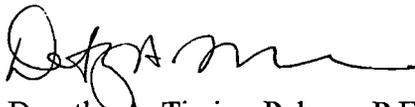
Dear Mr. Ricci:

This letter and attached information is intended to obtain your approval of the initial phase of the Lincoln County –Vidler Water Company monitoring and sampling operations in Tule Desert Valley. Specifically, as it relates to the needs of your office and the National Park Service. We understand that additional study, monitoring and drilling will be required as additional resources are pursued. This is not intended to be the final monitoring plan for the Tule Desert.

As you know, the National Park Service protested Lincoln-Vidler's applications in the Tule Desert Valley. The NPS dropped their protest after we agreed to their Stipulation for Dismissal of Protests on May 6, 2002. The Stipulation contains various items, many have been accomplished, however, the sampling and continuous monitoring portion needs to begin. Due to the increased activity and demand in southern Lincoln County, it is our intention to start gathering data as soon as possible. Please review the attached monitoring and sampling plan at your earliest convenience.

If you have any questions please call Dave Merrill at 775-885-5000 extension 102.

Sincerely,



Dorothy A. Timian-Palmer, P.E.
Chief Operating Officer



David A. Merrill, P.E.
Vice President, Project Engineering

enclosures

CC: Ronda Hornbeck, Chairman, Lincoln County Water District
Peter Fahmy, Water Rights Attorney, National Park Service

**MONITORING PLAN FOR GROUNDWATER DEVELOPMENT IN THE
TULE DESERT, LINCOLN COUNTY, NEVADA**

Prepared for: Nevada State Engineer
Nevada Division of Water Resources
123 West Nye Lane
Carson City, Nevada
89706-0810

Prepared by: Vidler Water Company
704 West Nye Lane
Carson City, Nevada, Suite 201
89703

June 2005

1.0 Introduction

To date, Lincoln-Vidler has installed the following wells in the Tule Desert Hydrographic Area (Basin 221):

- One test/production well: PW-1
- Seven (near-field) monitoring wells: MW-1S, MW-1D, MW-2S, MW-2D, MW-3, MW-4, and MW-5
- One far-field monitoring well: FF-1

In addition, a second far-field monitoring well (FF-2B) is currently under construction. The locations of all of these wells are shown on Figure 1 (attached), and relevant information regarding each of these wells is presented in Table 1 (following page).

2.0 Groundwater-Level Monitoring

2.1 Existing Groundwater Data

Lincoln-Vidler has been measuring the groundwater levels manually via an electronic sounder in all of the Tule Desert wells on a regular basis since their respective installation. The most recent round of measurements was conducted in March of this year (2005). Following each monitoring round, the water-level data have been forwarded via email to the Nevada State Engineer, the National Park Service (NPS) and other parties upon request.

2.2 Future Groundwater-Level Monitoring Procedures

Lincoln-Vidler will measure groundwater levels in the Tule Desert wells consistent with the Stipulation for Dismissal of Protests (Stipulation) between Lincoln-Vidler and the NPS, dated 6 May 2002 (see Appendix 1). The stipulation requires continuous water level monitoring, as feasible, in PW-1, the far-field and selected near-field monitoring wells for a period of at least 1 year prior to groundwater production.

Accordingly, Lincoln-Vidler will install pressure transducers and data loggers in all Tule Desert wells with the exception of the MW-1 well cluster (i.e., PW-1, MW-2S, MW-2D, MW-3, MW-4, MW-5, and FF-1). The intent is also to install a transducer/data logger in FF-2B, but that is conditional on its successful completion as currently planned. In addition, the intent is to install a transducer/data logger in the existing stock well, Tule Desert Well; however, this is subject to Lincoln-Vidler receiving permission to do so.

The MW-1 well cluster is redundant with the nearby MW-4 and MW-5 well pairing and the groundwater level data from this well may not be reliable as a result of a suspected breach in the seal between the two well screens. In addition, Lincoln-Vidler will also install one barometric pressure transducer in PW-1. Cut sheets detailing the proposed apparatus are included in Appendix 2.

| Table 1: Current Lincoln County-Vidler Water Company Test/Monitoring Wells in the Tule Desert | | | | | |
|--|-----------------------|---------------------------------|---|----------------------------|--|
| Well ID | Date Completed | Casing Diameter (inches) | Screen Interval (feet below surface) | Groundwater Medium | Depth to Groundwater (feet below surface)^(a) |
| PW-1 | August, 2001 | 16 | 1000-1160 1200-1240 1340-1380 1440-1480 1500-1520 1540-1560 1580-1780 | Fractured rock (carbonate) | 715.71 ^(b) |
| MW-1S | November, 2000 | 2 (nested) | 677-730 | Basin fill | 711.27 |
| MW-1D | November, 2000 | 2 (nested) | 945-1040 | Fractured rock (carbonate) | 708.55 |
| MW-2S | December, 2000 | 2 (nested) | 640-740 | Basin fill | 490.57 |
| MW-2D | December, 2000 | 2 (nested) | 1435-1540 | Fractured rock (carbonate) | 500.67 |
| MW-3 | October, 2001 | 5 | 920-960 1000-1060 1100-1140 1480-1520 1700-1760 1800-1840 1920-1980 | Fractured rock (volcanic) | 482.95 |
| MW-4 | February, 2002 | 5 | 1108-1148 | Fractured rock (carbonate) | 710.53 |
| MW-5 | January, 2002 | 5 | 749-810 | Basin fill | 710.03 |
| FF-1 | March, 2005 | 5 | 520-560 | Fractured rock (carbonate) | 423 ^(c) |
| FF-2B | To be determined | 5 | To be determined | To be determined | To be determined |
| Tule Desert Well ^(d) | April, 1953 | 16 | Unknown | Basin fill | 388.10 |
| <p>a As of 8 March 2005</p> <p>b As of 2 December 2004 (Could not be measured in March 05 because of use for FF-1 drilling)</p> <p>c Water level approximate, recorded during well installation</p> <p>d Not owned by Lincoln-Vidler</p> | | | | | |

The data loggers will be set to record every 60 minutes. The frequency of data recording may be revised upon mutual agreement between Lincoln-Vidler and the NPS. The data loggers will initially be downloaded at least monthly during confirmatory manual measurement to assess potential drift in the transducer data. An appropriate frequency of supplemental manual measurement and data logger downloading will be established after an initial 6-month period of data collection.

3.0 Groundwater Quality Sampling

3.1 Existing Water Quality Data

Lincoln-Vidler sampled all Tule Desert near-field monitoring wells and PW-1 at various times over the period between late 2001 and early 2002. This data has been made available to the State Engineer, the NPS, as well as all other interested parties, in the form of evidence submitted to the State Engineer during the hearing on the subject applications.

3.2 Future Groundwater Sampling Procedures

Lincoln-Vidler will sample groundwater in Tule Desert wells consistent with the Stipulation between Lincoln-Vidler and the NPS. The stipulation requires the collection of water quality samples for the analysis of major ions, trace elements, and isotopes at all production and monitoring wells used as part of this plan. The frequency of sampling and analysis is semi-annually for one and one-half years, and then every five years thereafter. The samples will be collected, analyzed and reported using standard methods.

Accordingly, Lincoln-Vidler will collect samples for the stated water quality parameters from the following wells: PW-1, MW-3, MW-4, MW-5, FF-1. The intent will be to collect samples from FF-2B, but that will be conditional on the successful completion of this well as planned. Samples will not be collected from either the MW-1 or the MW-2 well clusters primarily because the combination of small diameter casing (2-inch) and considerable depth to groundwater (approximately 700 and 500 feet for the MW-1 and MW-2 clusters, respectively) make the collection of reliable water quality data from these wells infeasible.

The groundwater samples will be analyzed for the parameters listed in Table 2. In addition, field parameters will also be measured and recorded at the time of sample collection. These field parameters include temperature, pH, conductivity, oxidation-reduction potential.

3.3 Groundwater Quality Data

The water quality data will be disseminated to the State Engineer, the NPS, and, upon request, to other interested parties as soon as possible upon receipt, but not greater than 90 days following receipt of laboratory results.

| Table 2: Water Quality Parameters |
|---|
| General mineral and selected metals: |
| Calcium (EPA 200.7) |
| Sodium (EPA 273.1) |
| Potassium (EPA 258.1) |
| Chloride (EPA 300.0) |
| Sulfate (EPA 300.0) |
| Carbonate alkalinity (SM2320B) |
| Alkalinity (SM2320B) |
| Silica (EPA 200.7) |
| Aluminum (EPA 200.7) |
| Iron (EPA 200.7) |
| Manganese (EPA 200.7) |
| Magnesium (EPA 200.7) |
| Arsenic |
| Isotopes: |
| Deuterium |
| Oxygen 16/18 |
| Carbon 13/14 * |
| Field parameters: |
| Temperature |
| pH |
| Electrical conductivity |
| Oxidation-Reduction potential |
| *One-time at far field wells only |

4.0 Annual Reporting

An annual report will be produced and submitted before March 31 of the following year. The report will summarize the monitoring and sampling activities and results.

