Well Completion Report
Elk Creek Village Production Well 1
Elmore County, Idaho




Prepared for

Nevid LLC
1349 Galleria Drive, Suite 200
Henderson, Nevada 89014

Prepared by

SPF Water Engineering, LLC
300 East Mallard Drive, Suite 350
Boise, Idaho 83706
(208) 383-4140

October 3, 2011

SPF WATER ENGINEERING

Executive Summary

A 1,120-foot deep public drinking water system production well was completed in April 2011 for Nevid LLC as part of the proposed Elk Creek Village Development in Elmore County, Idaho. A 4-hour step-rate pumping test was conducted on April 29, 2011. A 4-day constant-rate pumping test was conducted from May 3 through May 7, 2011. This report presents findings from the construction and testing of the new Elk Creek Village production well.

The new production well (PW-1) was constructed under Permit 61-12090, which authorizes diversion of 1.82 cfs (817 gpm) and 345 acre-feet per year for municipal uses and 2.2 cfs (987 gpm) for fire protection. Completion of this well and a prior test/monitoring well (MW-1) fulfills a permit condition that "project construction shall commence within one year from the date of permit issuance."

This report summarizes well construction and testing results. Specific conclusions from the construction and testing of this well include the following:

1. The primary purpose of the new well was to develop sufficient water supply to meet the potable demands for the proposed Elk Creek Village development.
2. The well was completed with 16-inch steel casing extending from ground surface to a depth of 822 feet below ground surface, with 10-inch steel casing extending from a depth of 800 to 890 feet bgs, 10-inch stainless steel screen extending from 890 to 1,190 bgs, and 10-inch steel tailpipe from 1090 to 1100 feet depth. A slip packer assembly was installed between the 10-inch and 16-inch pipe strings. A 20-inch steel surface casing extends from ground surface to 222 feet bgs.
3. The static water level in PW-1 is approximately 344 feet bgs. The static water level in MW-1 is approximately 354 feet bgs. These water levels reflects an upward hydraulic gradient in the vicinity of these wells.
4. A 4-day constant-rate test was conducted in PW-1 at a pumping rate of 2,010 gpm. The maximum pumping water level during this test was approximately 400 feet bgs (i.e., the maximum drawdown during the 4-day test was approximately 46 feet).
5. The capacity of PW-1 exceeds the pumping requirements for the initial phase of the Elk Creek Village development (817 gpm for potable uses and 987 gpm for fire protection).
6. The pumping capacity of PW-1 is greater than that demonstrated in the constant-rate test. Extrapolating based on specific capacity, short-term pumping rates (1 to 10 days) could approach 3,000 gpm with approximately 100 feet of drawdown.
7. Aquifer transmissivity calculated using the Cooper-Jacob straight line method (Cooper and Jacob, 1946) and the Theis recovery method (Theis, 1935) is approximately 27,000 gpd/ft (3,600 ft^2/day).
8. Water levels in PW-1 recovered fully following the constant-rate pumping test.

9. There is a low degree of hydraulic connection between intermediate-depth and deep aquifers in the vicinity of PW-1. No drawdown was detected in the monitoring well as a result of pumping in PW-1.
10. With the possible exception of one constituent, the water quality of the new well is excellent. The water has low dissolved solids, is moderately aggressive according to the Langlier Index, and is considered moderately soft according to the classification of water by hardness content. The new well produces water with little to no sand. The arsenic concentration, at 11 µg/L, exceeded the Environmental Protection Agency's Maximum Contaminant Level (MCL) of 10 µg/L by 1 µg/L. We recommend re-testing at the next sampling opportunity.
11. In the event that repeated arsenic sampling results indicate concentrations consistently greater than 10 µg/L, the water from PW-1 can still be utilized for potable purposes if treated to remove arsenic or if blended with a water source low in arsenic. For example, a blend of two parts water from PW-1 with one part water from MW-1 would yield the water with an arsenic concentration of 9 µg/L, which is less than the arsenic MCL.

Table of Contents

List of Figures

List of Tables

Appendices

1. INTRODUCTION

1.1. Background

Nevid LLC (Nevid) is proposing a 176-lot subdivision on 300 acres (Elk Creek Village) in northwestern Elmore County, Idaho in Sections 2 and 11 of Township 1S, Range 4E. The proposed subdivision is located north of the Simco Road interchange (Figure 1), northwest of the City of Mountain Home.

A 1,120-foot deep water-production well (PW-1) was drilled to (1) supply water for municipal and fire-protection purposes for the proposed Elk Creek Village subdivision and (2) provide the means for evaluating production capacity of underlying aquifers. The well is located within the NWSE quarter-quarter of Section 11, Township 1S, Range 4E (Figure 1). The well is one of several components needed for Elk Creek Village's public water system (PWS).

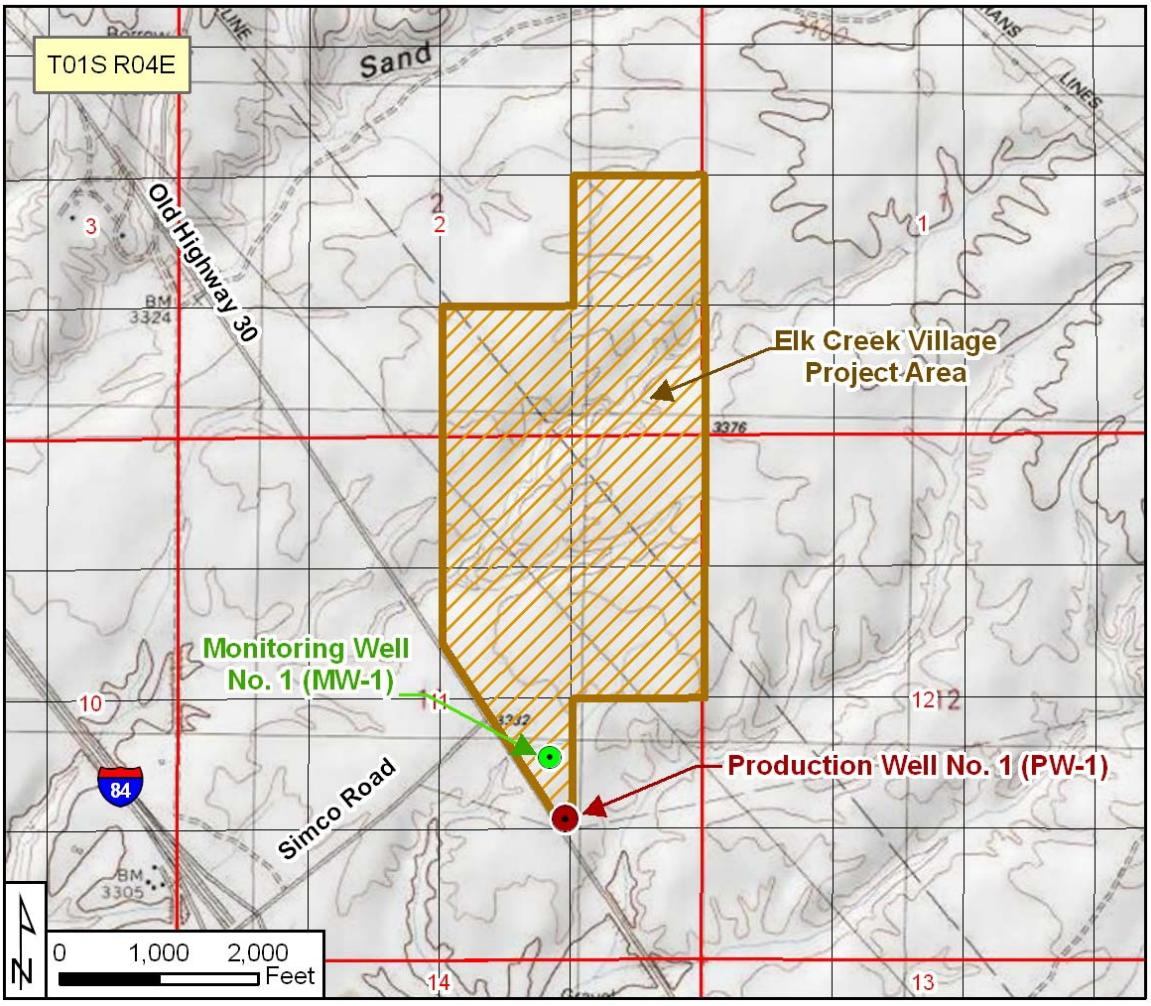


Figure 1 – Location of PW-1 within property boundary.

1.2. Purpose and Scope

This well completion report summarizes the construction and testing of PW-1. A well completion report is required by the Idaho Department of Environmental Quality (IDEQ) prior to the use of a well as a drinking water source (IDAPA 58.01.08.510.05). Per IDEQ requirements, this report includes a copy of the well log (driller's report); the results of test pumping; as-constructed plans (including a description of the annular seal); well screen description; recommended pump location; recommendations for water-level measurements; and sampling results. A full copy of Drinking Water rules 510.05 and 510.06 (required test pumping information) is included in Appendix A.

1.3. Report Organization

The well completion report is organized as follows: Section 2 summarizes water right and construction permitting. Section 3 describes the drilling and construction of PW-1. Aquifer testing methods and results are presented in Section 4. Water-quality results are summarized in Section 5. Conclusions are listed in Section 6 and in the Executive Summary of this report.

2. PERMITTING

Diversions from this production well are authorized under Permit 61-12090, which authorizes the diversion of 1.82 cfs for municipal purposes (up to a volume of 345 acre-feet per year) and 2.2 cfs for fire protection (for a combined maximum diversion rate of 4.02 cfs) under a priority date of September 28, 2006 (Appendix B). The Idaho Department of Water Resources (IDWR) approved Permit 61-12090 on November 24, 2009.

The project commenced on October 4, 2010 with drilling of a test well (MW-1) under drilling permit number 911425-860070. Construction of the test well fulfills a permit condition that "project construction shall commence within one year from the date of permit issuance."

The Idaho Department of Water Resources (IDWR) issued drilling permit number 911945-860592 on January 10, 2011 for PW-1 (Well Tag No. D0057901). The drilling permit is provided in Appendix C. The Idaho Department of Environmental Quality issued approval of the well site, well preliminary engineering report, and well plans and specifications on September 28, 2010 (Appendix D).

3. PRODUCTION WELL DESCRIPTION

This section (1) describes the test/monitoring well used as a basis for PW-1, (2) lists contractors used for the design and construction of PW-1, (3) summarizes drilling and construction details, (4) presents borehole geophysics results, and (5) describes well development procedures.

3.1. Test/Monitoring Well

The conceptual design for PW-1 was based on a test/monitoring well (MW-1)[1] constructed approximately 600 feet to the north of the PW-1 in the fall of 2010. MW-1 was drilled to a depth of 1,000 feet bgs, and is screened from 450 to 550 feet bgs. Drill cuttings and geophysical logs from MW-1 provided the basis for designing PW-1, and provided a source of water for drilling PW-1. MW-1 is now dedicated as a permanent water-level monitoring well.

3.2. Contractors

The following contractors performed the drilling, construction, and testing of PW-1:

1. SPF Water Engineering, LLC (SPF) – contracted with Nevid LLC to provide well design, construction supervision, and testing services.
2. Stevens and Sons, Inc. (Stevens) – contracted directly with Nevid LLC to perform all drilling, well construction, and well testing.
3. J-U-B Engineers, Inc. (JUB) – subcontracted to Stevens to perform a borehole geophysical survey for PW-1.
4. Layne of Idaho, Inc. (Layne) – subcontracted to Stevens to install the test pump and to perform pump development and test pumping.
5. Analytical Laboratories (Boise, Idaho) – subcontracted to SPF to perform water quality laboratory analyses.

3.3. Drilling and Construction

The conceptual design for PW-1 consisted of a 1,000+ foot deep well with an open interval below approximately 850 feet bgs. A productive aquifer unit was anticipated at this depth based on cuttings observed during the drilling of MW-1. The production well design called for a minimum 20-inch O.D. surface casing, a 16-inch O.D. well casing extending to approximately 750 feet bgs, and a 10-inch diameter casing/well screen below (Figure 2). SPF well specifications were prepared based on this conceptual design.

[1] Technical Memorandum to Nevid LLC regarding Elk Creek Village Shallow Observation Well Completion from Mike Martin and Christian Petrich dated January 5, 2011.

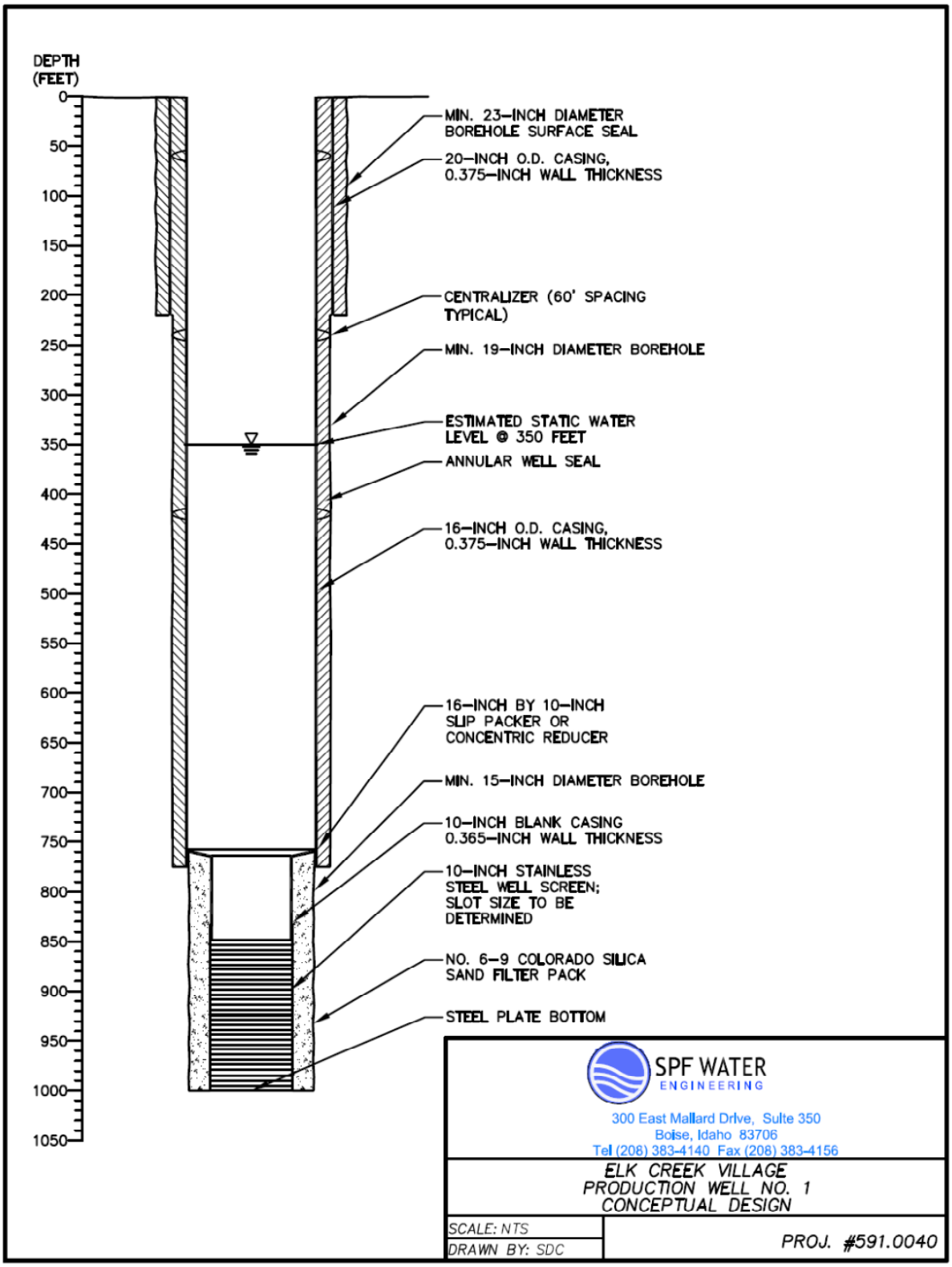


Figure 2. PW-1 conceptual design.

PW-1 was drilled using the reverse-circulation mud-rotary and cable-tool drilling methods. Stevens attempted to use his cable-tool rig to drill and drive mild steel casing (20-inch diameter, 0.375-inch wall thickness) equipped with a drive shoe to below 300 feet bgs. However, hard rock (basalt) was encountered, and Stevens switched to reverse-circulation mud rotary drilling. Stevens drilled a 24-inch diameter borehole to 222 feet bgs and installed 20-inch, 0.375-inch wall thickness, mild steel casing (Figure 3). The annular space between the 20-inch casing and 24-inch borehole was sealed to ground surface using one cubic yard of neat cement grout (at the bottom of the annular space) and 18,000 pounds of bentonite chips.

Inside the 20-inch diameter casing, Stevens drilled a 19-inch nominal diameter borehole to 822 feet bgs using the reverse-circulation mud-rotary drilling method. Stevens installed permanent, mild steel casing (16-inch diameter, 0.375-inch wall thickness) inside the 19-inch nominal diameter borehole to 822 feet bgs. The annular space between the 16-inch casing and 19-inch borehole was sealed using 1.5 cubic yards of neat cement grout at the bottom of the annular space, followed by 2,000 gallons of bentonite grout above the cement. Bentonite chips (10,500 pounds) were installed above the bentonite grout to ground surface.

Stevens drilled a 15-inch nominal diameter borehole inside the 16-inch casing to a total depth of 1,120 feet bgs. A 200-foot length of 10-inch diameter, 0.030-inch aperture, stainless steel, Johnson wire-wrap well screen was installed from 890 to 1090 feet bgs. Blank, 10-inch diameter, 0.365-inch wall thickness, mild steel casing was welded to the stainless steel screen (with 90 feet of headpipe above the screen and 10 feet of tailpipe below the screen). A 12-inch diameter Figure-K packer and 12-inch by 10-inch swedge coupler was installed between the screen and 16-inch casing. The swedge coupler was installed at 800 feet bgs. The K-packer was 6.08 feet long, leaving the top of the packer assembly at a depth of 794 feet bgs.

A sand filter pack was installed around the well screen to stabilize the borehole walls. The annular space between the 10-inch screen and 15-inch nominal diameter borehole was filled using 18,600 pounds of Colorado Silica Sand (6 by 9 gradation) from 800 to 1,105 feet bgs.

SPF collected drill cutting samples when on-site and Stevens collected samples at all other times. The generalized lithology encountered during drilling is summarized and illustrated in Figure 4. A copy of the driller's log Stevens submitted to IDWR is included in Appendix E.

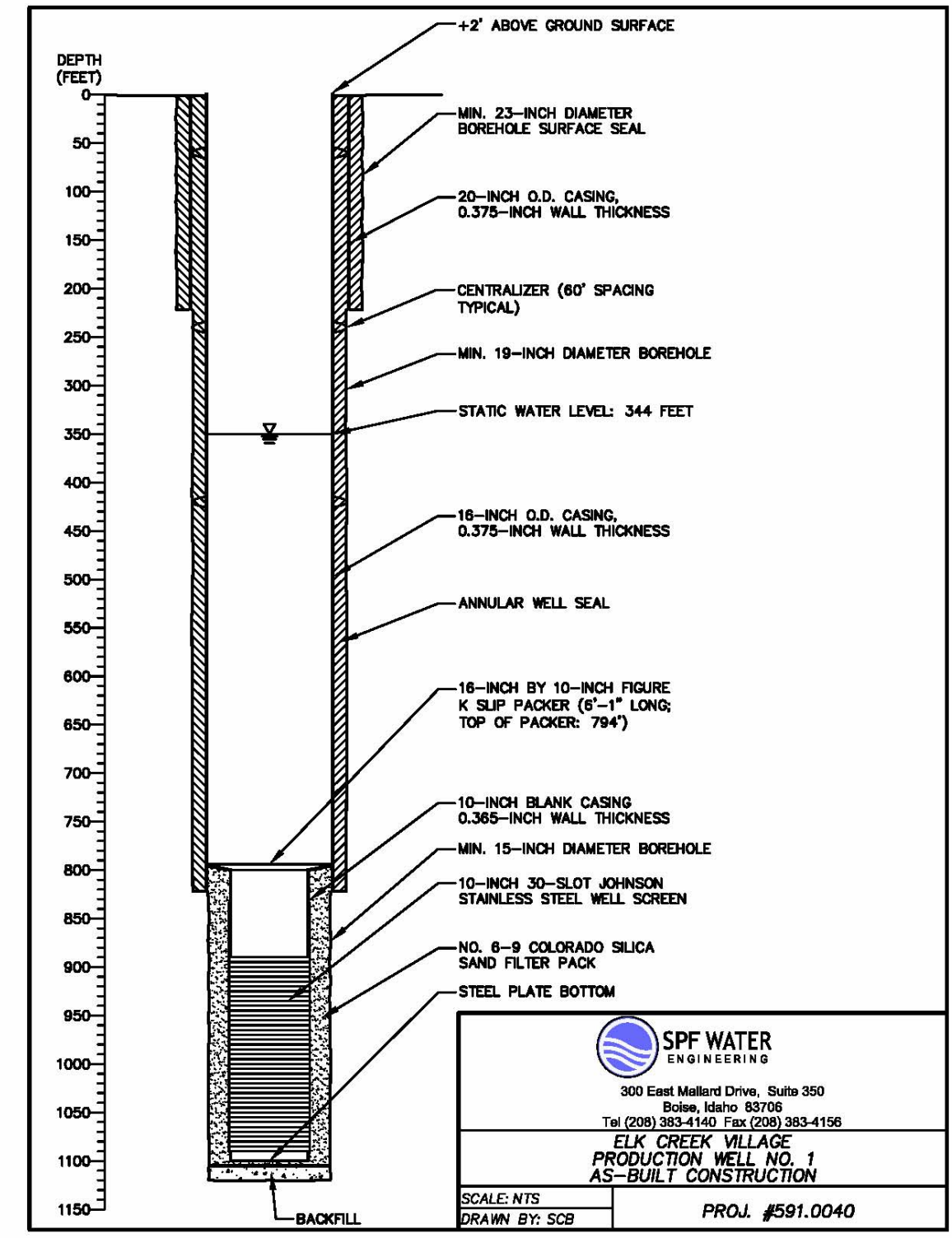


Figure 3. PW-1 as-built construction.

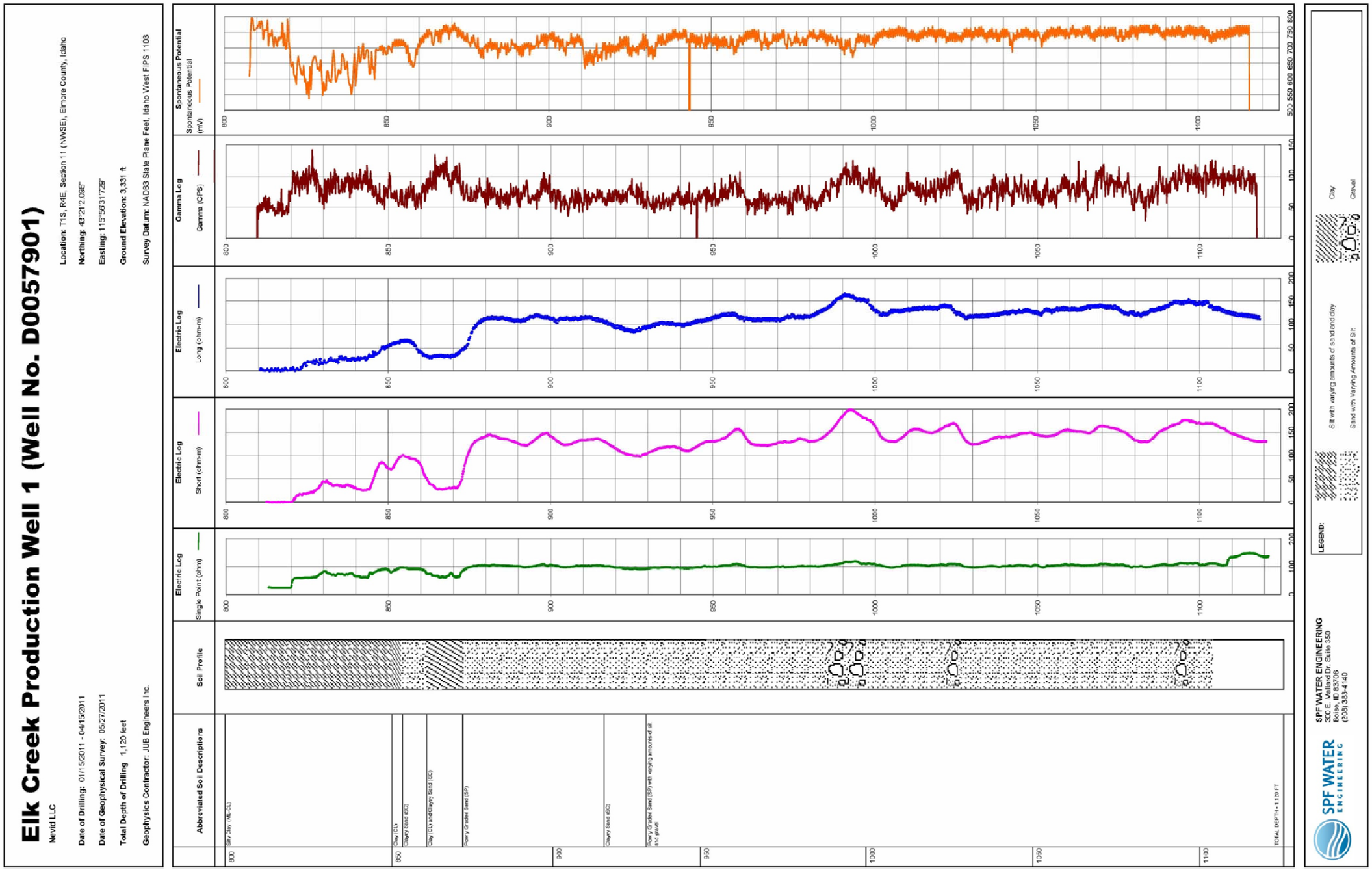


Figure 4: Elk Creek PW-1 geophysical logs and borehole lithologic summary.

3.4. Borehole Geophysics

A geophysical survey of the borehole was completed on April 4, 2011 by J-U-B Engineers. The survey was conducted below the installed 16-inch casing (i.e., beginning at 822 feet bgs)[2]. The survey included the following logs: electrical resistivity including single point and normal (8-inch, 16-inch, 32-inch, and 64-inch), and natural gamma ray (see Figure 4). The location of fine-grained material (e.g., silt and clay) and sand units are clearly indicated on the geophysical logs.

3.5. Well Development

Development of the well was completed in two stages. The first stage consisted of air-lifting water from the well to remove heavy drilling mud and sediment. Air lifting continued until no color or material was produced from the well. Following airlifting, Layne installed a vertical turbine test pump in the well (Model 14HXB manufactured by Peerless Pumps, with 14-inch diameter bowls (5-stages) suspended on 10-inch diameter pump column). The bottom of the bowl assembly (the pump intake) was set at approximately 545 ft bgs. Development was accomplished by alternately pumping and surging. Typically, the pump-and-surge cycles consisted of quickly surging the well several times by turning the pump on and off and then pumping the well continuously for 15 to 30 minutes. The discharge rate was measured using a 10-inch pipe by 8-inch orifice plate and manometer. Sand content was measured using a Rossum sand tester. Turbidity was monitored visually. Pump development continued until no color or material was produced from the well.

[2] Electrical resistivity logs are not meaningful when conducted inside cased borehole. Geophysical logs for MW-1 were used to identify the general PW-1 target zone below 800 feet.

4. WELL PERFORMANCE AND AQUIFER TESTING

Well performance and aquifer testing of PW-1 consisted of a 4-hour step-rate discharge test and a 98-hour (approximately 4-day) constant-rate discharge test. The step-rate test was performed to assess the discharge capacity of the well and well efficiency. The constant-rate test was performed to evaluate the transmissivity and storativity of the aquifer, to screen for any hydrogeologic boundary conditions which could impact future operation of the well.

Water levels were measured using Solinst downhole electronic pressure transducers and dataloggers (Model M100/F300)[3] installed in PW-1 and in MW-1 (located approximately 600 feet to the north of PW-1). Occasional manual measurements were taken with an electronic water-level indicator. Barometric data were collected with a Solinst 3001 LT Barologger Gold transducer/datalogger (Model M1.5,F5). The barometric data is used to compensate for absolute pressure changes measured by the transducers.

Water levels in PW-1 reflect pressures in the zone from approximately 890 to 1,090 feet bgs. Water levels in the monitoring well reflect pressures from approximately 450 to 550 feet bgs.

4.1. Step-Rate Discharge Test

A 4-hour step-rate discharge test was performed on April 29, 2011. The discharge rate was sequentially increased over four different rates, each lasting approximately 60 minutes: 1,016 gpm; 1,530 gpm; 2,030 gpm; and 2,100 gpm. Static water level prior to testing was 346.1 feet below ground surface. Maximum drawdown ("s") was approximately 31 feet (372 feet below ground surface). The pumping rate and water level drawdown are illustrated in Figure 5. Field data are provided in Appendix F.

[3] This model has an operating range of 328 feet (100 m), and accuracy of ± 0.164 feet, and a resolution of 0.0006% F.S.

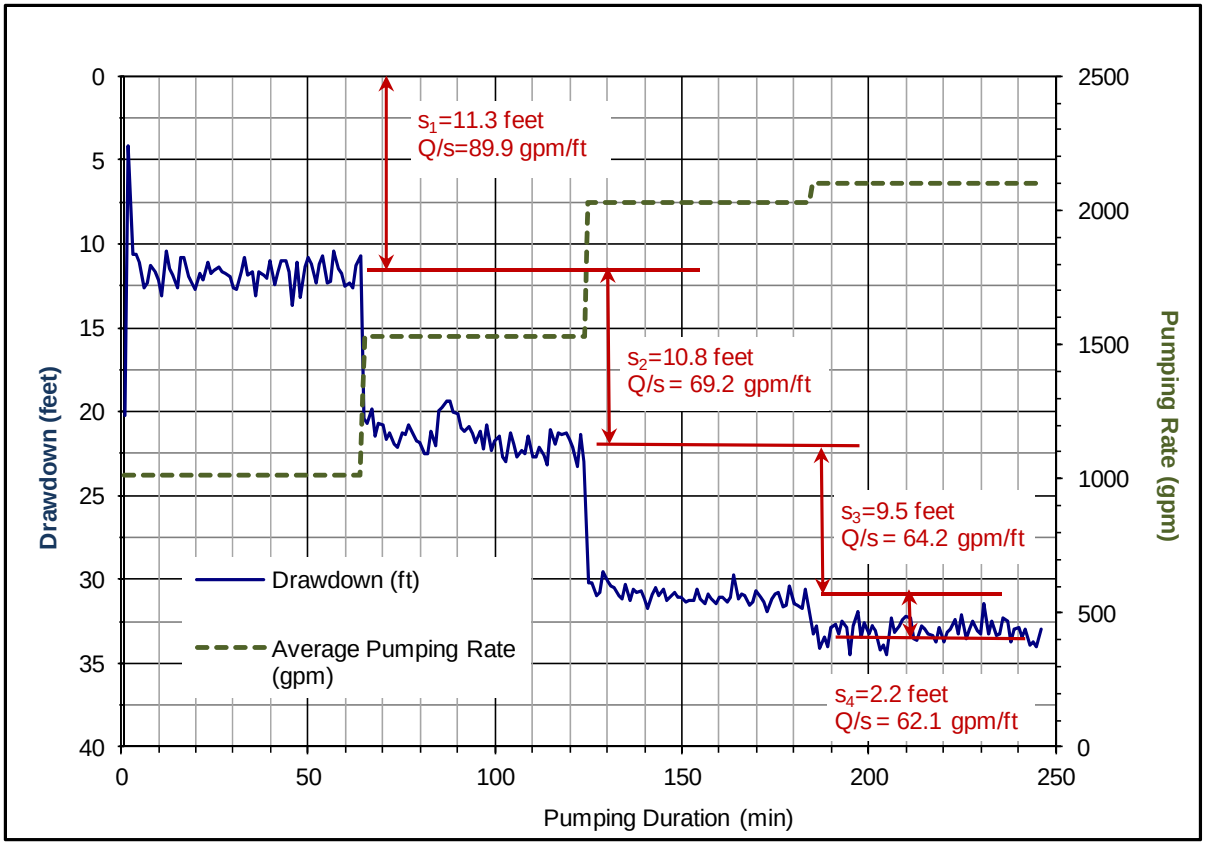


Figure 5. Elk Creek PW-1 step-rate test analysis.

The specific capacity (Q/s) values during the step-rate test ranged from approximately 62 to 90 gpm/ft (Figure 5). The specific capacity is typically less at higher pumping rates and over greater periods of time because of (1) continually greater drawdown around the well, and (2) decreasing well efficiency as entrance velocities increase.

4.2. Constant-Rate Discharge Test

The constant-rate discharge test was performed on May 3 through May 7, 2011 for a 98-hour period at an average discharge rate of 2,010 gpm. Static water level prior to testing was approximately 344.1 feet below ground surface. Maximum drawdown was 45.8 feet (389.9 feet below ground surface). The water level and pumping rate data for PW-1 are provided in Appendix G.

The discharge rate during the constant-rate test was measured using a 10-inch discharge pipe by 8-inch orifice plate and manometer. Sand content was measured using a Rossum sand tester. Turbidity was monitored visually.

Drawdown data during the constant-rate test are plotted on an arithmetic scale in Figure 6. The specific capacity (discharge divided by drawdown) of the well was approximately 60 gpm/ft at 4 hours, 56 gpm/ft at 12 hours, 53 gpm/ft at 24 hours, 50 gpm/ft at 48 hours, 45 gpm/ft at 72 hours, and 44 gpm/ft at 96 hours. Drawdown

during pumping was sensitive to slight variations in pumping rate, which were likely caused by motor frequency (and therefore minor pumping-rate) fluctuations.

The pump motor stopped operating approximately one day into the test. The on-site pump operator was able to restart the pump after approximately 2.1 hours.

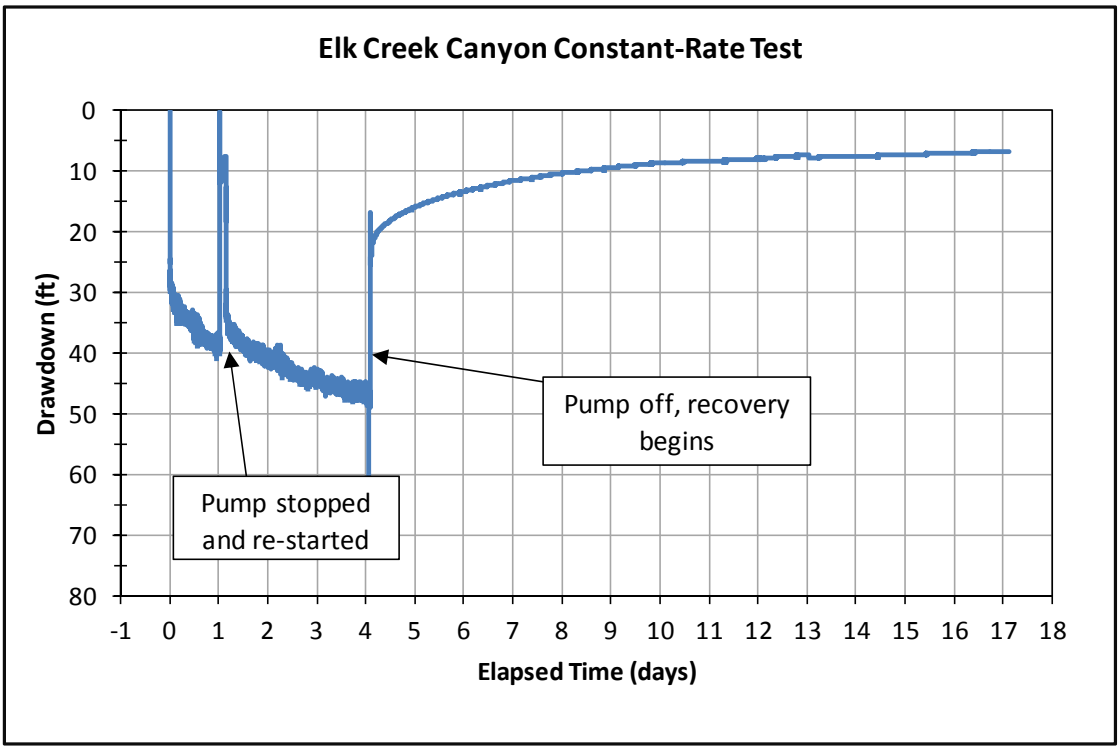


Figure 6. Elk Creek PW-1 constant-rate test data (arithmetic scale).

Aquifer transmissivity for the section of aquifer tapped by PW-1 can be calculated based on pumping and recovery data. Transmissivity is the product of hydraulic conductivity (an aquifer material property) and aquifer thickness (i.e., transmissivity = hydraulic conductivity x aquifer thickness).

Drawdown data are plotted on a semi-logarithmic scale in Figure 7. The red lines represent apparent drawdown trend lines. The apparent trend lines were used to estimate aquifer transmissivity values.

Water-level recovery data (residual drawdown vs. time) are presented in Figure 8. The recovery trend (red line) was used to provide a second estimate of aquifer transmissivity.

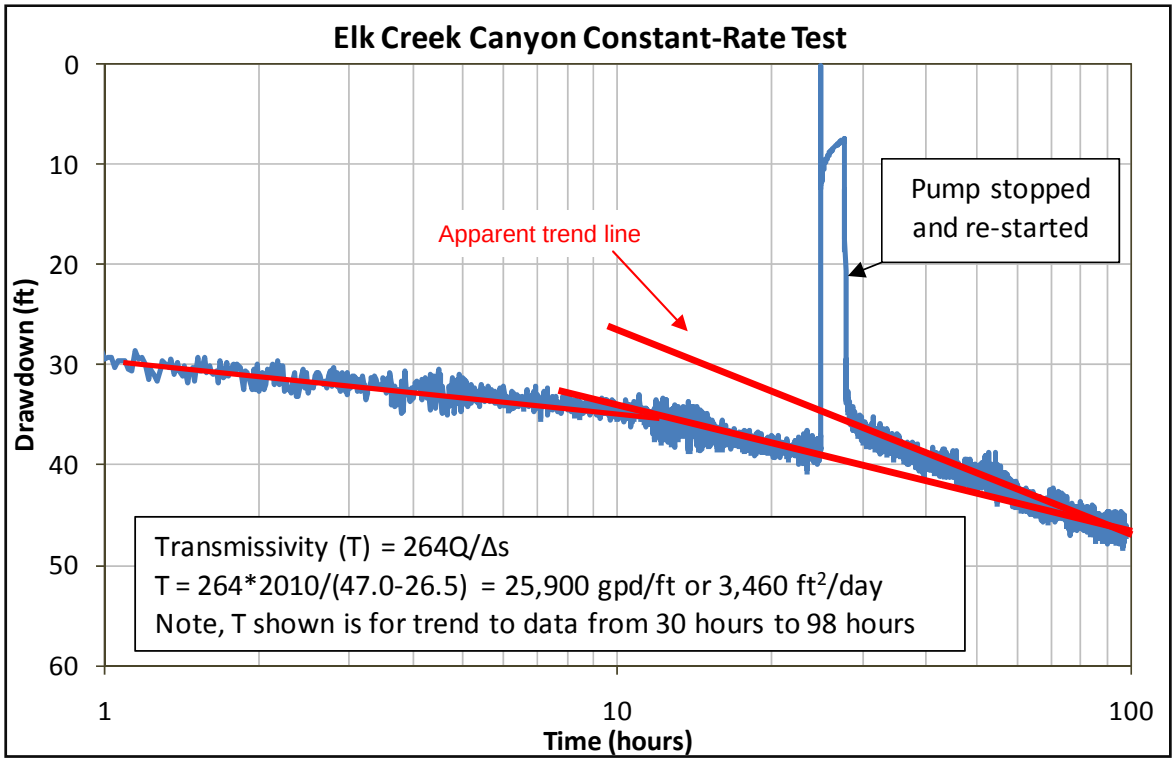


Figure 7. Elk Creek PW-1 constant-rate test data (semi-log scale).

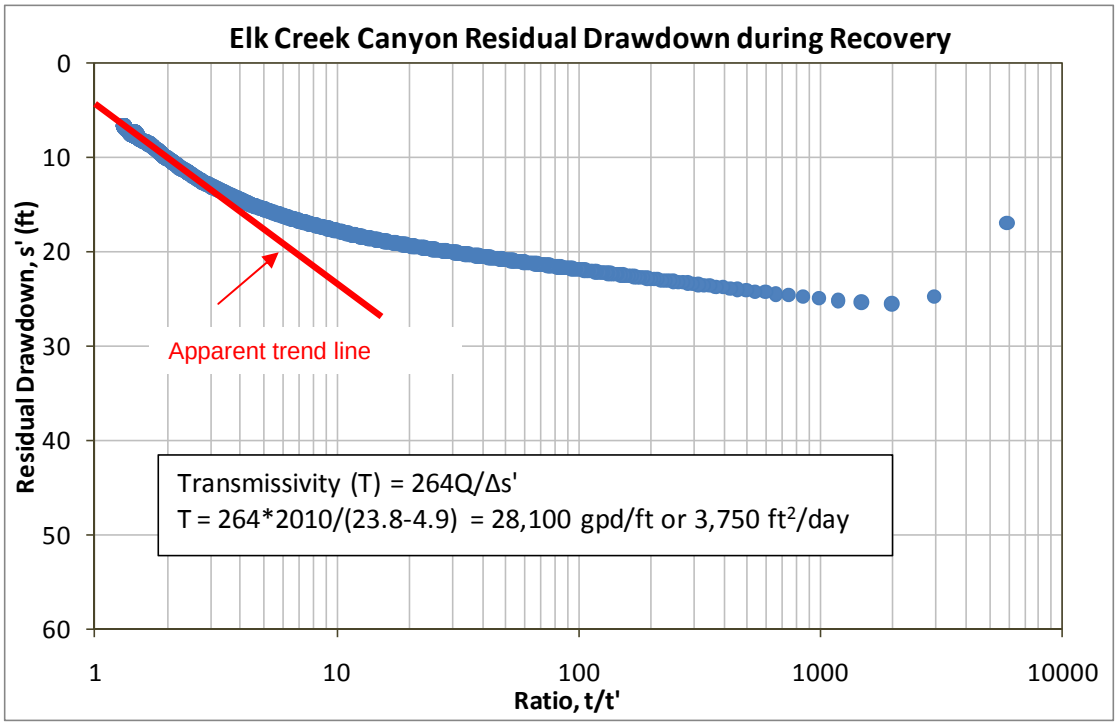


Figure 8. Elk Creek PW-1 constant-rate test water level recovery data (semi-log scale).

Aquifer transmissivity (T) values were calculated using the Cooper-Jacob method (Cooper and Jacob, 1946) for pumping drawdown data:

$$T = \frac{264\ Q}{\Delta s} \qquad [4]$$

Where: T = Transmissivity (gallons/day/ft [gpd/ft])

Q = Pumping Rate (gallons per minute [gpm])

Δs = Water level drawdown (feet) per log cycle of time, t (min) since pumping started (from Figure 7).

The best-fit straight line shown in Figure 7 for the drawdown data from PW-1 resulted in a transmissivity value of 25,900 gpd/ft (3,460 ft^2/day). This estimate was calculated using a pumping rate of 2,010 gpm and a drawdown of 20.5 feet/log cycle.

Drawdown trends over time before and after the 2.1-hour pump failure on Day 2 suggest the same drawdown value would have been reached had the pump remained on through the entire test (Figure 7). However, the slope of the trend was different before and after the test, as expected. The most conservative slope (that is, the slope resulting in the lowest transmissivity value) was used to report transmissivity from the pumping data.

Transmissivity can also be calculated using the Theis recovery method (Theis, 1935) for residual drawdown data during recovery:

$$T = \frac{264\ Q}{\Delta s'} \qquad [5]$$

Where: T = Transmissivity (gallons/day/ft [gpd/ft])

Q = Pumping rate (gallons per minute [gpm])

Δs' = Residual drawdown per log cycle of t/t' from Figure 8 (dimensionless)

Where: t = time since pumping started

t' = time since pumping stopped

The Theis recovery method has an advantage over the Cooper-Jacob drawdown method because the well is no longer subject to water level sensitivity from pumping variations. The best fit straight line shown in Figure 8 for the drawdown data resulted in a transmissivity of 28,100 gpd/ft (3,750 ft^2/day). This transmissivity estimate was calculated using an average pumping rate of 2,010 gpm and a residual drawdown of 18.9 ft/log cycle. The transmissivity calculated using the Cooper-Jacob drawdown

method (3,460 ft^2/day) is consistent with the transmissivity calculated using the Theis recovery method (3,750 gpd/ft).

4.2.1. Full Recovery

Water levels following the constant-rate test recovered fully to pre-test levels (Figure 9). The water level on May 1, 2011 was 344.1 feet below ground surface. The water level on August 5, 2011 was 341.38 feet below ground surface, which is 2.72 feet higher than prior to the constant-rate test. The increase likely reflects recharge to the deeper aquifer.

4.2.2. Monitoring Well

The static water level in PW-1 is approximately 344 feet bgs. The static water level in MW-1 is approximately 354 feet bgs. These water levels describe an upward hydraulic gradient in vicinity of these wells.

The monitoring well water levels (Figure 10) did not show a response to pumping in PW-1 during the step-rate or constant-rate tests. This indicates a low degree of hydraulic connection between the deep aquifer and overlying shallower aquifers in the vicinity of PW-1.

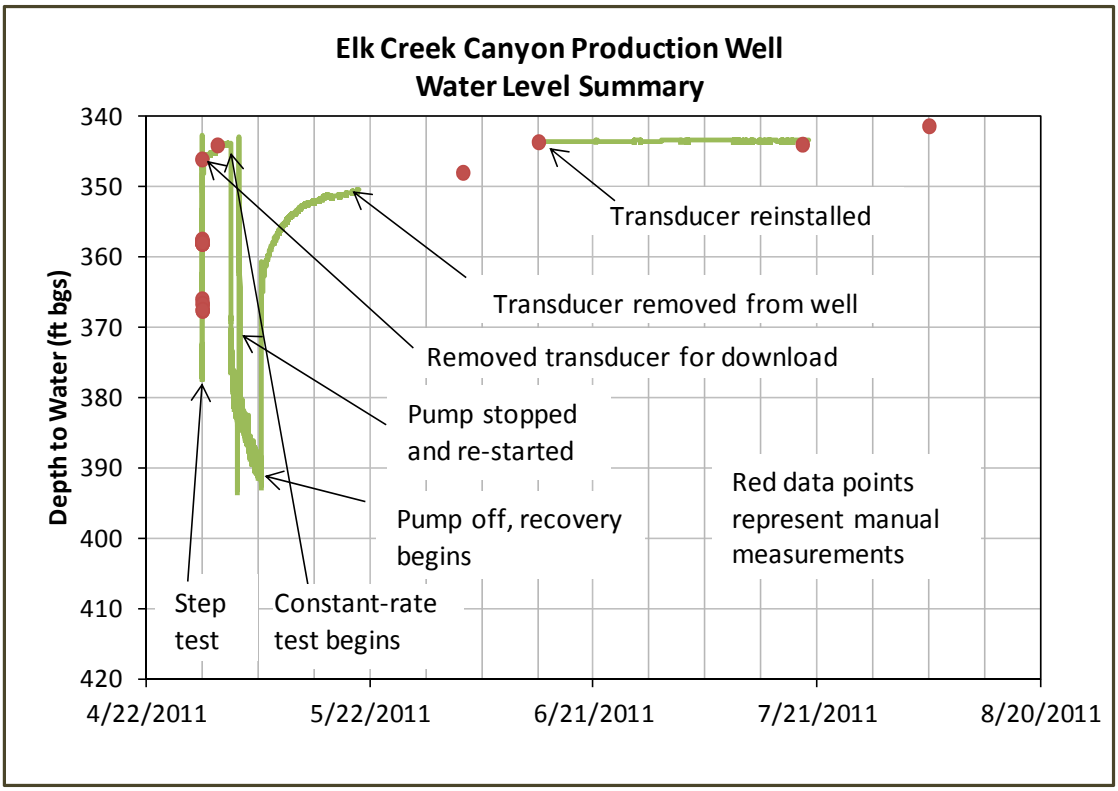
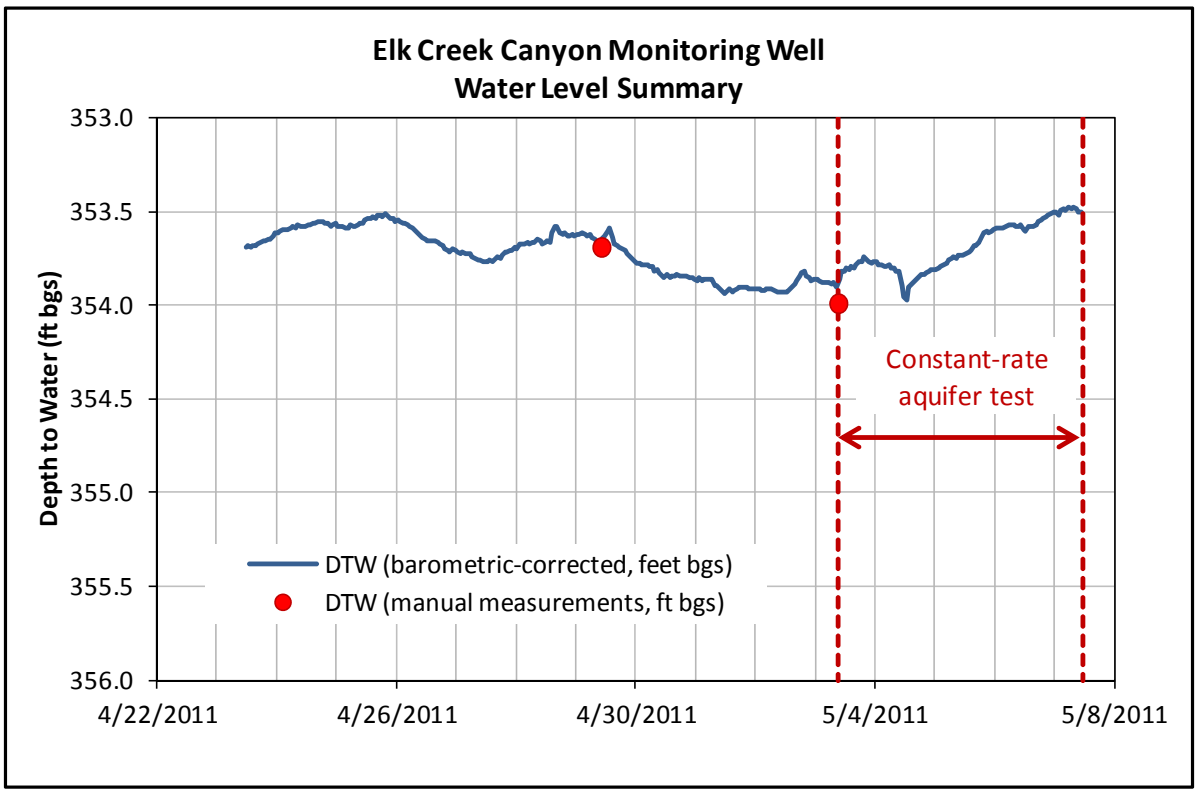


Figure 9. PW-1 water levels during pumping and recovery.



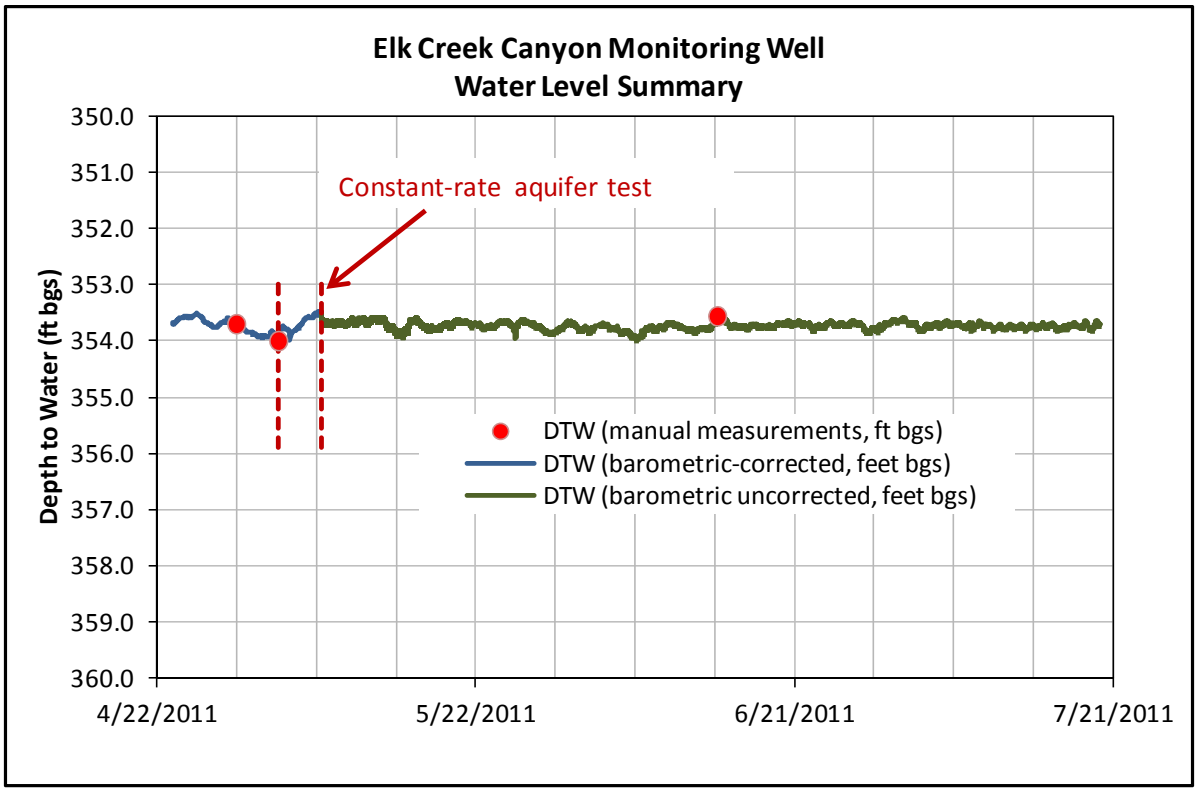


Figure 10. MW-1 water levels during pumping and recovery.

4.3. Pump Location and Water Level Measurements

Based on test-pumping results, we recommend that the intake for a 2,000 gpm pump be installed at a depth of approximately 470 feet, which would leave approximately 100 feet of suction head above the pump under static conditions. Estimated pumping water levels for various sustained pumping rates[4] are provided in Table 1. Note that water levels for pumping rates greater than 2,000 gpm are extrapolated based on testing at pumping rates of 2,000 gpm or less. Similarly, pumping water levels for long periods of time are based on the results of short-term testing.

Projected Depth to Water (feet)				
Pumping Rate (gpm)	Days			
	1	10	100	1000
1,000	362	372	383	393
1,500	372	388	404	420
2,000	385	406	427	448
2,500	401	427	453	479
3,000	420	452	483	515

Table 1.. Projected pumping water levels (feet below ground surface) for various pumping rates and sustained pumping durations

We recommend installing two dedicated water-level measurement tubes in the well when a pump is installed. The first two will allow the placement of a pressure transducer. The second tube will enable water level measurements with an electronic water-level indicator.

[4] These projections are based on the following assumptions: a 345-foot static water level, 50 gpm/ft specific capacity at 2,000 gpm after one day of pumping, and a 21-foot drawdown per log cycle at 2,000 gpm. Projections for pumping rates greater or less than 2000 gallons per minute were made based on assumed specific capacity adjustments of 1 gpm/ft per 100 gpm.

5. WATER QUALITY

SPF collected water quality samples near the end of the constant-rate discharge test to screen for all Idaho Department of Environmental Quality analytes for a public water system well (Appendix H). The samples were hand delivered to Analytical Laboratories (Boise, Idaho) within hours following sampling.

With the possible exception of one constituent, laboratory results suggest the water produced from PW-1 has excellent quality, with no concentrations of parameters above maximum contaminant levels (MCLs) other than arsenic. The concentration of arsenic was 11 μg/L, one μg/L above the MCL of 10 μg/L. We recommend that a repeat water sample be collected and tested for arsenic. The water has low concentrations of total dissolved solids (162 mg/L), iron (<0.05 mg/L), manganese (<0.05 mg/L), uranium (2 μg/L), nitrate-N (0.2 μg/L), ammonia (<0.04mg/L), and volatile organic compounds (all below laboratory detection limits). Only a trace amount of sand was detected in the Rossum Sand Tester during pump testing (much less than 5 parts per million allowable under public drinking water system rules).

In the event that arsenic concentrations in PW-1 water are consistently greater than 10 mg/L, the water can still be utilized for potable purposes by treating the water to remove arsenic or blending water from PW-1 with other water low in arsenic. For example, a blend of two parts PW-1 water with one part MW-1 water would result in an arsenic concentration of 9 mg/L.

6. CONCLUSIONS

The drilling, construction, and testing of Elk Creek Village Production Well 1 confirm the presence of a productive deep aquifer underlying the Elk Creek Village property. Specific conclusions include the following:

1. The primary purpose of the new well was to develop sufficient water supply to meet the potable demands for the proposed Elk Creek Village development.
2. The well was completed with 16-inch steel casing extending from ground surface to a depth of 822 feet below ground surface, with 10-inch steel casing extending from a depth of 800 to 890 feet bgs, 10-inch stainless steel screen extending from 890 to 1,190 bgs, and 10-inch steel tailpipe from 1090 to 1100 feet depth. A slip packer assembly was installed between the 10-inch and 16-inch pipe strings. A 20-inch steel surface casing extends from ground surface to 222 feet bgs.
3. The static water level in PW-1 is approximately 344 feet bgs. The static water level in MW-1 is approximately 354 feet bgs. These water levels reflects an upward hydraulic gradient in the vicinity of these wells.
4. A 4-day constant-rate test was conducted in PW-1 at a pumping rate of 2,010 gpm. The maximum pumping water level during this test was approximately 400 feet bgs (i.e., the maximum drawdown during the 4-day test was approximately 46 feet).
5. The capacity of PW-1 exceeds the pumping requirements for the initial phase of the Elk Creek Village development (817 gpm for potable uses and 987 gpm for fire protection).
6. The pumping capacity of PW-1 is greater than that demonstrated in the constant-rate test. Extrapolating based on specific capacity, short-term pumping rates (1 to 10 days) could approach 3,000 gpm with approximately 100 feet of drawdown.
7. Aquifer transmissivity calculated using the Cooper-Jacob straight line method (Cooper and Jacob, 1946) and the Theis recovery method (Theis, 1935) is approximately 27,000 gpd/ft (3,600 ft^2/day).
8. Water levels in PW-1 recovered fully following the constant-rate pumping test.
9. There is a low degree of hydraulic connection between intermediate-depth and deep aquifers in the vicinity of PW-1. No drawdown was detected in the monitoring well as a result of pumping in PW-1.
10. With the possible exception of one constituent, the water quality of the new well is excellent. The water has low dissolved solids, is moderately aggressive according to the Langlier Index, and is considered moderately soft according to the classification of water by hardness content. The new well produces water with little to no sand. The arsenic concentration, at 11 µg/L, exceeded the Environmental Protection Agency's Maximum Contaminant Level (MCL) of 10 µg/L by 1 µg/L. We recommend re-testing at the next sampling opportunity.

11. In the event that repeated arsenic sampling results indicate concentrations consistently greater than 10 µg/L, the water from PW-1 can still be utilized for potable purposes if treated to remove arsenic or if blended with a water source low in arsenic. For example, a blend of two parts water from PW-1 with one part water from MW-1 would yield the water with an arsenic concentration of 9 µg/L, which is less than the arsenic MCL.

7. REFERENCES

Cooper, H.H. and Jacob, C.E., 1946. A generalized graphical method for evaluating formation constants and summarizing well field history. Transactions, American Geophysical Union, 27(4).

SPF Water Engineering LLC, 2010. Technical Specifications, Public Water System Well, Elk Creek Village, Consulting report prepared for Nevid LLC, July 15, 2010.

Theis, C.V., 1935. The relation between the lowering of the piezometric surface and the rate and duration of a well using ground-water storage. Transactions, American Geophysical Union, 16: 519-524.

APPENDIX A

IDAPA 58.01.08

SECTION 510.05 (WELL COMPLETION REPORT REQUIRED) AND SECTION 510.06 (TEST PUMPING)

05. Well Completion Report Required. Upon completion of a well, and prior to its use as a drinking water source, the following information and data must be submitted by the water system to the Department. The well completion report must be submitted to the Department prior to or concurrent with the submittal of the preliminary engineering report for well house construction/modification. The well completion report shall bear the imprint of an Idaho licensed professional engineer's or an Idaho licensed professional geologist's seal that is both signed and dated by the engineer or geologist: (4-7-11)

a. A copy of all well logs; (12-10-92)

b. Results of test pumping, as specified in Subsection 510.06; (4-7-11)

c. As constructed plans showing at least the following: (12-10-92)

i. Annular seal, including depth and sealant material used and method of application; (5-3-03)

ii. Casing perforations, results of sieve analysis used in designing screens installed in sand or gravel aquifers, gravel packs; and (5-3-03)

iii. Recommended pump location; and (4-7-11)

iv. For community water systems, a permanent means for measuring water level. All equipment required for conducting water level measurements shall be purchased and made available to the water system operator at the time well construction is completed. Where pneumatic or electronic water level measuring equipment is used, it shall be made using corrosion resistant materials attached firmly to the drop pipe or pump column and in such a manner as to prevent entrance of foreign materials. (3-30-07)

d. Other information as may be specified by the Department. (12-10-92)

e. Sampling results for iron, manganese, corrosivity, and other secondary contaminants specified by the Department. Other monitoring requirements are specified in Subsections 510.05.e.i. through 510.05.e.iii. (5-8-09)

i. Community Systems. Results of analysis for total coliform, inorganic chemical contaminants, organic chemicals, and radionuclide contaminants set forth in Subsections 050.01, 050.02, 050.05, 100.01, 100.03, 100.04, 100.05, and 100.06, unless analysis is waived pursuant to Subsection 100.07. (5-8-09)

ii. Nontransient Noncommunity Systems. Results of analysis for total coliform and inorganic and organic chemical contaminants listed in Subsections 050.01, 050.02, 100.01, 100.03, 100.04, unless analysis is waived pursuant to Subsection 100.07. (5-8-09)

iii. Transient Noncommunity Systems. Results of a total coliform, nitrite, and nitrate analysis listed in Subsections 050.01, 100.01 and 100.03. (5-8-09)

06. Test Pumping. Upon completion of a ground water source, test pumping shall be conducted in accordance with the following procedures to meet the specified requirements: (12-10-92)

a. The well shall be test pumped at the desired yield (design capacity) of the well for at least twenty-four (24) consecutive hours after the drawdown trend has stabilized, as determined by the supervising engineer or geologist. Alternatively, the well may be pumped at a rate of one hundred fifty percent (150%) of the desired yield for at least six (6) continuous hours after the drawdown trend has stabilized, as determined by the supervising engineer or geologist. The field pumping equipment must be capable of maintaining a constant rate of discharge during the test. Discharge water must be piped an adequate distance to prevent recharge of the well during the test. If the well fails the test protocol, design of the water system shall be re-evaluated and submitted to the Department for approval. (3-30-07)

b. Upon completion of well development, the well shall be tested for sand production. Fifteen (15) minutes after the start of the test pumping (at or above the design production rate), the sand content of a new well shall not be more than five (5) parts per million. Sand production shall be measured by a centrifugal sand sampler or other means acceptable to the Department. If sand production exceeds five (5) ppm, the well shall be screened gravel packed, or re-developed. (3-30-07)

c. The following data shall be provided: (5-3-03)

i. Static water level in the well prior to test pumping; (5-3-03)

ii. Well yield in gpm and duration of the pump test, including a discussion of any discrepancy between the desired yield and the yield observed during the test; (5-3-03)

iii. Water level in the well recorded at regular intervals during pumping; (5-3-03)

iv. Profile of water level recovery from the pumping level projected to the original static water level. (5-3-03)

v. Depth at which the test pump was positioned in the well; (5-3-03)

vi. Test pump capacity and head characteristics; (5-3-03)

vii. Sand production data. (5-3-03)

viii. Results of analysis based on the drawdown and recovery test pertaining to aquifer properties, long term sustained yield, and boundary conditions affecting drawdown. (4-7-11)

d. The Department may allow the use of other pump test protocols that are generally accepted by engineering firms with specialized experience in well construction, by the well drilling industry, or as described in national standards (such as ANSI/AWWA A100-97), as long as the minimum data specified in Subsection 510.06.c. are provided. The Department welcomes more extensive data about the well, such as step-drawdown evaluations used in determining well capacity for test pumping purposes, zone of influence calculations, and any other information that may be of use in source protection activities or in routine water system operations. (3-30-07)

e. Where aquifer yield, sustainability, or water quality are questionable, the Department, at its discretion, may require additional site specific investigations that could include test well construction, long-term pumping tests, or other means to demonstrate that the aquifer is sufficient to meet the long-term water requirements of the project. (4-11-06)

APPENDIX B

PERMIT 61-12090

Close

IDAHO DEPARTMENT OF WATER RESOURCES
Water Permit Report

10/3/2011

WATER RIGHT NO. 61-12090

Owner Type	Name and Address
Current Owner	NEVID LLC 1349 GALLERIA DR, STE 200 HENDERSON, NV 89014 702-433-9696
Attorney	NORMAN M SEMANKO ATTORNEY AT LAW PO BOX 538 EAGLE, ID 83616 (208)863-7921
Representative	SPF WATER ENGINEERING LLC C/O ROXANNE BROWN 300 E MALLARD DR, STE 350 BOISE, ID 83706 (208)383-4140
Original Owner	BOISE HIGHLAND DEVELOPMENT CO 6100 PIERCE PARK LN BOISE, ID 83703 (208)853-1222

Priority Date: 09/28/2006
Status: Active

Source	Tributary
GROUND WATER	

Beneficial Use	From	To	Diversion Rate	Volume
MUNICIPAL	01/01	12/31	1.82 CFS	345 AFA
FIRE PROTECTION	01/01	12/31	2.2 CFS	
Total Diversion			4.02 CFS	

Location of Point(s) of Diversion:

GROUND WATER	SESE	Sec. 02	Township 01S	Range 04E	ELMORE County
GROUND WATER	NENE	Sec. 11	Township 01S	Range 04E	ELMORE County
GROUND WATER	SWNE	Sec. 11	Township 01S	Range 04E	ELMORE County
GROUND WATER	NWSE	Sec. 11	Township 01S	Range 04E	ELMORE County

Place(s) of use:

Place of Use Legal Description: MUNICIPAL ELMORE County

Township	Range	Section	Lot	Tract	Acres	Lot	Tract	Acres	Lot	Tract	Acres	Lot	Tract	Acres
01S	04E	2		NESE			SWSE			SESE				
		11		NENE			NWNE			SWNE			SENE	
				NWSE										

Place of Use Legal Description:FIRE PROTECTION same as MUNICIPAL

Conditions of Approval:

1.	26A	Project construction shall commence within one year from the date of permit issuance and shall proceed diligently to completion unless it can be shown to the satisfaction of the Director of the Department of Water Resources that delays were due to circumstances over which the permit holder had no control.
2.	128	Place of use is within the area served by the public water supply system of Elk Creek Village. The place of use is generally located within Township 1 South, Range 4 East, Section 2, NESE, SÂ½SE, and Section 11, NE, NWSE.
3.	180	A map depicting the place of use boundary for this water right at the time of this approval will be attached to the approval document for illustration purposes.
4.		Prior to the diversion of water in connection with this right, the right holder shall provide the Department with a plan for monitoring ground water levels in the vicinity of the place of use for this water right. The monitoring should occur in parallel with development and production and should include identification of non-producing wells and timelines for measuring and reporting. The right holder shall not divert water in connection with this right until the monitoring place is approved by the Department. Failure to comply with the monitoring plan once it is accepted shall be cause for the Department to cancel or revoke this right.
5.	046	Right holder shall comply with the drilling permit requirements of Section 42-235, Idaho Code and applicable Well Construction Rules of the Department.
6.	01M	After specific notification by the Department, the right holder shall install a suitable measuring device or shall enter into an agreement with the Department to determine the amount of water

		diverted from power records and shall annually report the information to the Department.
7.		Common areas, parks, school grounds, golf courses, and any other large parcels may only be irrigated under this water right with wastewater that has been previously beneficially used for potable or culinary purposes, has been treated in a wastewater treatment plant, and is delivered to the parcel irrigated.
8.	070	The direct irrigation occurring under this municipal use shall not exceed 1/3 acre within each platted subdivision lot upon which a home has been constructed. This right does not provide for the direct irrigation of lots upon which homes have not been constructed.
9.	134	Prior to or in connection with the proof of beneficial use statement to be submitted for municipal water use under this right, the right holder shall provide the department with documentation showing that the water supply system is being regulated by the Idaho Department of Environmental Quality as a public water supply and that it has been issued a public water supply number.
10.	121	The Director retains jurisdiction to require the right holder to provide purchased or leased natural flow or stored water to offset depletion of Lower Snake River flows if needed for salmon migration purposes. The amount of water required to be released into the Snake River or a tributary, if needed for this purpose, will be determined by the Director based upon the reduction in flow caused by the use of water pursuant to this permit.

Dates:
Proof Due Date: 07/01/2014
Proof Made Date:
Approved Date: 11/24/2009
Moratorium Expiration Date:
Enlargement Use Priority Date:
Enlargement Statute Priority Date:
Application Received Date: 09/28/2006
Protest Deadline Date: 05/05/2008
Number of Protests: 1
Field Exam Date::
Date Sent to State Off:
Date Received at State Off:

Other Information:
State or Federal:
Owner Name Connector:
Water District Number:
Generic Max Rate per Acre:
Generic Max Volume per Acre:
Swan Falls Trust or Nontrust:
Swan Falls Dismissed:
DLE Act Number:
Cary Act Number:
Mitigation Plan: False

Close

APPENDIX C

DRILLING PERMIT

Ld

Please try to get lot / block info from Mike for well Report ☺

Form 235-1
09/2010

Drilling Permit No. 911945-860592
Drilling Permit I.D. Tag No. D0057901
Water Right Permit No 61-12090
Injection Permit No. ———

State of Idaho
Department of Water Resources

APPLICATION FOR DRILLING PERMIT
(FOR THE CONSTRUCTION OF A WELL)

1. Property Owner (please print): Nevid, LLC Production Well #1

2. Current Mailing Address: c/o John Erickson, 1349 Galleria Drive, Suite 200

City: Henderson State: NV Zip Code: 89014 Telephone (702) 433-9696

3. Proposed Well Location: Twp. 1S, Rge. 4E, Sec. 11, SE (10) 1/4 NW (40) 1/4 SE (160) 1/4

Gov't Lot No. _____ County Elmore Lat. ~~43°20'51.40"~~ Long. ~~115°56'25.58"~~

Street Address of Well Location approx. 1 mile NE of the Simco Road interchange / Old Hwy 30 City Mountain Home
Give at least name of road + Distance to Nearest Road or Landmark

Lot, block and subdivision Elk Creek Village

4. Proposed Use of Well: (Note: Any well drilled for a Public Water Supply requires prior DEQ approval.)

☐ DOMESTIC (42-111a): The use of water for homes, organization camps, public campgrounds, livestock and for any other purpose in connection therewith, including irrigation of up to ½ acre of land, if the total use is not in excess of 13,000 gpd.

☐ DOMESTIC (42-111b): Any other use if the diversion rate does not exceed 0.04 cfs (18 gpm) and a diversion volume of 2500 gpd.

NON-DOMESTIC: ☐ Irrigation ☐ Commercial ☑ Municipal ☑ Other Fire Protection (Describe) ☐ Industrial ☐ Public Water Supply

☐ INJECTION

☐ MONITORING: A well bore schematic and map is required. No. of proposed wells: _____

5. Well Construction Information:

A. ☑ New well ☐ Modify ☐ Deepening ☐ Replace Previous Well # _____

B. Proposed Casing Diameter 16-inch Proposed Maximum Depth 1000 feet

C. Anticipated bottom hole temperature:
☑ 85°F or less (Cold Water Well) ☐ 85°F to 212°F (Low Temp. Geo. Well) ☐ 212°F or more (Geothermal Well)

6. Construction Start Date: January 3, 2011 3rd week 1/10/2011

7. Drilling Company Name: Stevens and Sons Well Drilling Driller's Lic. No. 153
NOTE: The actual well driller must be identified prior to drilling.

8. Applicant's Signature: [signature] Date: 12-20-10

Title: President

Address (if different than owner): 2794 Greenwood Circle

City: Boise State: ID Zip Code: 83706 Telephone: 208-859-0276

RECEIVED
DEC 21 2010
WATER RESOURCES
WESTERN REGION

D0057901

ACTION OF THE DEPARTMENT OF WATER RESOURCES

This Permit is APPROVED Date 1-10-11

If approved, this permit authorizes the construction or modification of a well subject to the following conditions. **READ CAREFULLY!**

GENERAL CONDITIONS:

1. This drilling permit is valid for two (2) months from the above approval date for the start of construction and is valid for one(1) year from the approval date for completion of the well unless an extension has been granted.

2. This permit does not constitute an approval of the District Health Department or the Idaho Department of Health and Welfare, which may be required before construction of the well. All wells must be drilled a minimum distance of 100 feet from a drain field. Domestic and Public Water Supply wells must be drilled a minimum of 50 feet and 100 feet respectively from a septic tank.

3. The well shall be constructed by a driller currently licensed in the State of Idaho who must maintain a copy of the drilling permit and the well ID tag at the drilling site.

4. Approval of this drilling permit does not authorize trespass on the land of another party.

5. This permit does not constitute other local, county, state, or federal approvals which may be required for construction of a well.

6. This drilling permit does not represent a right to divert and use the water of the State of Idaho. If the well being drilled is associated with approved water right(s) use of the well must comply with conditions of said water right(s).

7. If the depth of this well exceeds 500 feet or the well is in an area known to have LTG water, bottom hole temperature must be measured and recorded on the Driller's Log, and reported on the Well Driller's Report.

8. If a bottom hole temperature of 85°F or greater is encountered, well construction shall cease and the well driller shall contact the Department immediately.

9. Idaho Code, S 55-2201 - 55-2210 requires the applicant and/or his contractors to contact "Digline" (DigLine is a one-call center for utility notification) not less than 2 working days prior to the start of any excavation for this project. The "DigLine" Number for your area is 1-800-342-1585.

10. The stainless steel I. D. tag must be securely and permanently attached to the well casing by the Driller upon completion of the well, and prior to removing the drill rig from the drill site and must remain permanently attached above ground level for the life of the well. The well tag shall be attached by welding at least 3 sides or using four (4) stainless steel, closed-end pop rivets.

11. Any well being replaced by a new well shall be properly abandoned by the well driller prior to removing the drilling equipment, unless otherwise authorized by the department.

SPECIFIC CONDITIONS:

Signature of Authorized Department Representative

SENIOR WATER RESOURCE AGENT

Title

Receipt No. W038901 Receipted by SB Fee $200.00 Date 12/17/2010

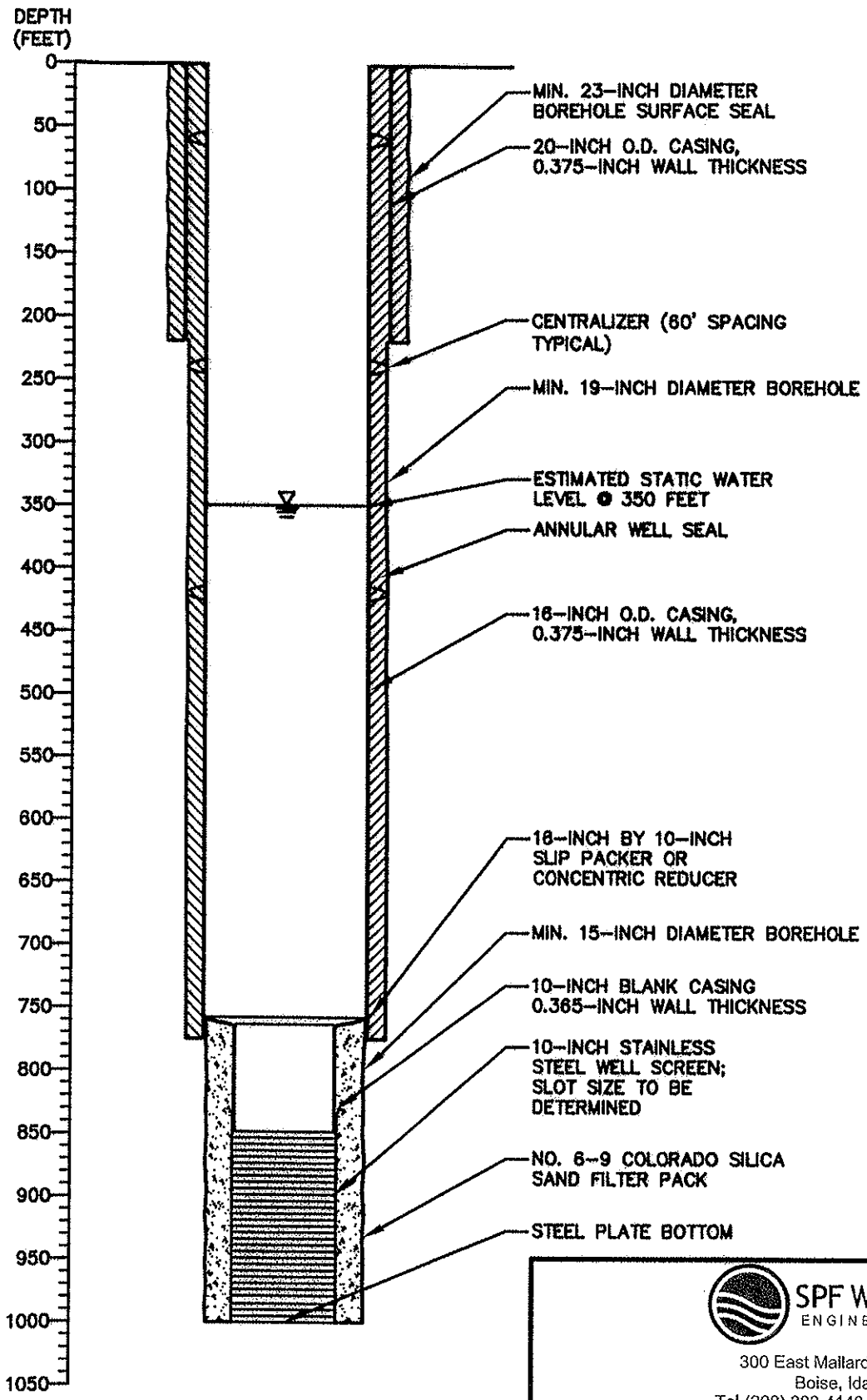
EXTENSION OF DRILLING PERMIT

Extension approved by _____ Approval Date _____

This extension expires: _____

Attachment I

D0057901



SPF WATER ENGINEERING
300 East Mallard Drive, Suite 350
Boise, Idaho 83706
Tel (208) 383-4140 Fax (208) 383-4156

ELK CREEK VILLAGE
PRODUCTION WELL NO. 1
CONCEPTUAL DESIGN

SCALE: NTS
DRAWN BY: SDC

ATTACHMENT D PROJ. #591.0040

Idaho Department of Water Resources Receipt

Receipt ID: W038901

Payment Amount	$200.00	Date Received	12/17/2010 10:56 AM	Region	WESTERN
Payment Type	Check	Check Number	5855		

Payer SPF WATER ENGINEERING LLC

Comments APPLICATION FOR DRILLING PERMIT, NEVID LLC
MUNICIPAL & FIRE PROTECTION, WR 61-12090 1S 4E S-11 NW SE
STEVENS LIC#153

Fee Details

Amount	Description	PCA	Fund	Fund Detail	Subsidiary	Object
$200.00	DRILLING PERMITS	62134	0229	21		1205

D0057901

Signature Line (Department Representative)

12/17/2010

IDAHO DEPARTMENT OF WATER RESOURCES

Water Permit Report 61-12090

WATER RIGHT NUMBER: 61-12090

Owner Type	Name and Address
Original Owner	BOISE HIGHLAND DEVELOPMENT CO 6100 PIERCE PARK LN BOISE, ID 83703 (208)853-1222
Representative	SPF WATER ENGINEERING LLC C/O ROXANNE BROWN 300 E MALLARD DR, STE 350 BOISE, ID 83706 (208)383-4140
Current Owner	NEVID LLC 1349 GALLERIA DR, STE 200 HENDERSON, NV 89014 702-433-9696
Attorney	BARKER ROSHOLT & SIMPSON LLP ATTN: NORMAN M SEMANKO PO BOX 2139 BOISE , ID 83701-2139 (208) 863-7921

Priority Date: 09/28/2006

Basis:

Status: Active

Source	Tributary
GROUND WATER	

Beneficial Use	From	To	Diversion Rate	Annual Volume
MUNICIPAL	01/01	12/31	1.820 CFS	345.00 AF
FIRE PROTECTION	01/01	12/31	2.200 CFS	
		Total Diversion:	4.020 CFS	345.00 AF

Location of Point(s) of Diversion

GROUND WATER ELMORE County	SW1/4NE1/4	Sec. 11,	Twp 01S, Rge 04E, B.M.
GROUND WATER ELMORE County	NW1/4SE1/4	Sec. 11,	Twp 01S, Rge 04E, B.M. #1
GROUND WATER ELMORE County	NE1/4NE1/4	Sec. 11,	Twp 01S, Rge 04E, B.M.
GROUND WATER ELMORE County	SE1/4SE1/4	Sec. 2,	Twp 01S, Rge 04E, B.M.

Place of Use

MUNICIPAL

Twp Rge Sec	NE	NW	SW	SE

IDAHO DEPARTMENT OF WATER RESOURCES

Water Permit Report 61-12090

		NE	NW	SW	SE	NE	NW	SW	SE	NE	NW	SW	SE	NE	NW	SW	SE	Totals
01S 04E	2													X		X	X	
01S 04E	11	X	X	X	X										X			

FIRE PROTECTION same as MUNICIPAL

Conditions of Approval:

1. 128 Place of use is within the area served by the public water supply system of Elk Creek Village. The place of use is generally located within Township 1 South, Range 4 East, Section 2, NESE, S½SE, and Section 11, NE, NWSE.
2. 180 A map depicting the place of use boundary for this water right at the time of this approval will be attached to the approval document for illustration purposes.
3. 070 The direct irrigation occurring under this municipal use shall not exceed 1/3 acre within each platted subdivision lot upon which a home has been constructed. This right does not provide for the direct irrigation of lots upon which homes have not been constructed.
4. Prior to the diversion of water in connection with this right, the right holder shall provide the Department with a plan for monitoring ground water levels in the vicinity of the place of use for this water right. The monitoring should occur in parallel with development and production and should include identification of non-producing wells and timelines for measuring and reporting. The right holder shall not divert water in connection with this right until the monitoring place is approved by the Department. Failure to comply with the monitoring plan once it is accepted shall be cause for the Department to cancel or revoke this right.
5. 046 Right holder shall comply with the drilling permit requirements of Section 42-235, Idaho Code and applicable Well Construction Rules of the Department.
6. 134 Prior to or in connection with the proof of beneficial use statement to be submitted for municipal water use under this right, the right holder shall provide the department with documentation showing that the water supply system is being regulated by the Idaho Department of Environmental Quality as a public water supply and that it has been issued a public water supply number.
7. 26A Project construction shall commence within one year from the date of permit issuance and shall proceed diligently to completion unless it can be shown to the satisfaction of the Director of the Department of Water Resources that delays were due to circumstances over which the permit holder had no control.
8. Common areas, parks, school grounds, golf courses, and any other large parcels may only be irrigated under this water right with wastewater that has been previously beneficially used for potable or culinary purposes, has been treated in a wastewater treatment plant, and is delivered to the parcel irrigated.
9. 121 The Director retains jurisdiction to require the right holder to provide purchased or leased natural flow or stored water to offset depletion of Lower Snake River flows if needed for salmon migration purposes. The amount of water required to be released into the Snake River or a tributary, if needed for this purpose, will be determined by the Director based upon the reduction in flow caused by the use of water pursuant to this permit.
10. 01M After specific notification by the Department, the right holder shall install a suitable measuring device or shall enter into an agreement with the Department to determine the amount of water diverted from power records and shall annually report the information to the Department.

Remarks:

APPENDIX D

IDEQ APPROVAL OF WELL PLANS AND SPECIFICATIONS

STATE OF IDAHO
DEPARTMENT OF
ENVIRONMENTAL QUALITY

1410 North Hilton • Boise, Idaho 83706 • (208) 373-0502

C.L. "Butch" Otter, Governor
Toni Hardesty, Director

TSP&S-167/2010

September 28, 2010

Karl Decker
Nevid LLC
1349 Galleria Drive, Suite 200
Henderson, Nevada 89014

RE: Elk Creek Village – Well Site Evaluation *(Elmore County)*
A. Well Site Conditional Approval
B. Groundwater Under Direct Influence of Surface Water (GWUDI) Determination

Dear Mr. Decker:

WELL SITE CONDITIONAL APPROVAL

Your consultant has submitted the required information on the well site and has certified that the site is generally acceptable for a new Public Water System well. We have reviewed that information and are approving the site per the *Idaho Rules for Public Drinking Water Systems* (IDAPA 58.01.08), subject to the following conditions:

I. STANDARD CONDITIONS:

A. The approval is for the well site only. Construction of the well, pump house, and distribution system components cannot begin until plans and specifications are approved by the Department of Environmental Quality (DEQ). The plans, specifications, and related documents will have to verify and augment the data provided in the initial Well Site Evaluation, ensuring full conformance to the IRPDWS.

B. Preliminary Engineering Reports for water system components such as a storage reservoir, booster station(s) and the well pump house must be approved by DEQ prior to the submittal of plans and specifications for the water system components.

C. New source monitoring will need to be collected by the owner, tested by an Idaho certified laboratory, and approved by DEQ, before the water may be distributed to the public. The detailed list of parameters that need to be tested will be forwarded when the well construction is approved.

D. You must receive written authorization from DEQ before you are allowed to serve water to the public. Approvals of other portions of this project or the lifting of sanitary restrictions shall not be interpreted as authorization to serve the public

E. This approval will be voided if: 1) well construction is not completed by September 28, 2011; 2) the well is improperly constructed, operated, or maintained; or 3) the site conditions change before well construction has commenced.

PROJECT SPECIFIC CONDITIONS

A. This project will be part of a new public water system, Technical Financial and Managerial documentation must be approved by DEQ prior to or concurrent with the submittal of plans and specifications for water system components such as a storage reservoir, booster station or the well pump house.

GROUNDWATER UNDER DIRECT INFLUENCE OF SURFACE WATER (GWUDI)

Idaho is required by federal drinking water regulations to determine whether groundwater sources serving public drinking water systems are directly influenced by surface water. "Groundwater Under the Direct Influence of Surface Water" (GWUDI) may contain disease causing organisms which are normally found only in surface water, and may require additional treatment including filtration and/or disinfection and contact time.

From our review of the materials submitted for this project, we have classified this source as:

"Groundwater" - No further action is necessary

Please call Brandon Lowder of the Boise Regional Office at 373-0550 with any questions on the classification.

RECENT FEDERAL REGULATIONS

You should be aware that recent federal regulations could affect the design and operation of water systems utilizing groundwater sources.

A. The "Groundwater Rule" (71 FR 65574, November 8, 2006) will provide for evaluating groundwater sources that are not under the direct influence of surface water, for vulnerability to microbial contamination. If a source is found to be vulnerable, it may be necessary to install disinfection and contact time prior to distribution to the first customer. To provide for that possibility, the planning and layout of the facility needs to include an evaluation of the how the system could be modified to supply a minimum effective "CT" (disinfectant concentration times contact time) of 12 mg-min/L (as chlorine).

B. The "Stage 2 Disinfectants and Disinfection By-Products Rule" (71 FR 388, January 4, 2006) regulates certain compounds that are formed when disinfectants combine with certain naturally occurring, organic constituents in water.

Please call me with any questions at (208) 373-0137 or contact me via e-mail at stephanie.carroll@deq.idaho.gov.

Sincerely,

Michael Steinbrecher for

Stephanie M. Carroll, P.E.
Staff Engineer

SMC:sjt

C: Mike Martin, P.E., SPF Water Engineering
Rob Whitney, IDWR-Boise Field Office

PDF: Todd Crutcher, P.E., DEQ Boise Regional Office
Tiffany Floyd, DEQ Boise Regional Office
Brandon Lowder, DEQ Boise Regional Office
Michael Stambulis, P.E., DEQ State Office, Technical Services
TRIM Record # 2010AGD4079

STATE OF IDAHO
DEPARTMENT OF
ENVIRONMENTAL QUALITY

1410 North Hilton • Boise, Idaho 83706 • (208) 373-0502

C.L. "Butch" Otter, Governor
Toni Hardesty, Director

TSP&S-168/2010

September 28, 2010

Karl Decker
Nevid LLC
1349 Galleria Drive, Suite 200
Henderson, Nevada 89014

RE: Elk Creek Village *(Elmore County)*
A. Well Preliminary Engineering Report Approval
B. Well Conditional Approval

Dear Mr. Decker:

The preliminary engineering report, plans and specifications for the subject project appear to meet State of Idaho standards and are conditionally approved as noted below

I. STANDARD CONDITIONS:

A. All conditions of this letter must be met. The standard conditions on the Department of Environmental Quality (DEQ) review stamp are part of this approval. Supporting reports or documents are considered to be part of the approved documents.

B. The approval applies to the drilling of the well only. Separate plans and specifications for the pump, pump house, and appurtenances must be approved by DEQ prior to construction.

C. A Preliminary Engineering Report must be approved by DEQ prior to the submittal of plans and specifications for water system components such as a storage reservoir, booster station or the well pump house.

D. No work may begin until a copy of this approval letter and the plans and specifications bearing the DEQ approval stamp are delivered to and kept on the job site. As the project owner, you must ensure that the contractor, the construction inspector, and the certifying engineer are aware of the approval conditions.

E. This approval will be voided if: 1) construction is not completed by September 28, 2011; 2) the project is improperly constructed, operated, or maintained; or 3) the project fails to function as intended.

F. No significant deviations can be made from the approved plans without DEQ's prior written approval.

G. Per the project documents, the Land Developer or Owner or his representative shall ensure that a professional engineer or professional geologist provides supervision of construction and written documentation as follows.

H. The *Application For Drilling Permit* approved by IDWR contains conditions that are an essential part of the subject plans and specifications. A copy of the *Application For Drilling Permit* approved by IDWR and the DEQ approved plans and specification must be maintained at the drill site.

I. The project engineer must stake where the well will be drilled in accordance with the DEQ approved well site plan.

J. Before this well can be put into service and the water distributed to the public, DEQ must issue a final approval of the well and water system, and DEQ must issue written authorization to serve water to the public. Approvals of other portions of this project or the lifting of sanitary restrictions shall not be interpreted as authorization to serve the public.

K. Before DEQ can issue final approval, a well completion report must be submitted to and approved by DEQ. This report must at a minimum include:

1. Results of new source monitoring samples collected by the owner and tested by a certified laboratory. A detailed list of parameters that need to be tested is attached (this includes sand, corrosivity, and secondary contaminants).

2. Results from pump tests conducted after construction. These results shall include the requirements listed in section 510.06.c of the Idaho Rules for Public Drinking Water Systems (IDAPA 58.01.08).

3. Documentation that the project was completed as approved, an as-built schematic of the well, and the well drillers log.

L. DEQ will advise you if a final inspection and/or initial sanitary survey will be required prior to final approval.

II. PROJECT SPECIFIC CONDITIONS:

A. The "well completion report" listed in Standard Condition K (above) must be submitted to DEQ prior to or concurrent with the Preliminary Engineering Report for the well house construction associated with this well. The well completion report contains information that is necessary for the preparation and review of the Well house Preliminary Engineering Report.

B. This project will be part of a new public water system, Technical Financial and Managerial documentation must be approved by DEQ prior to or concurrent with the submittal of plans and specifications for water system components such as a storage reservoir, booster station or the well pump house.

C. An annulus of at least three (3) inches is required for wells that have a dry annular space that will be sealed with dry granular bentonite to depths greater than 100 feet and an annulus of two (2) inches is required for wells sealed with dry granular bentonite to a depth less than 100 feet.

D. Please be aware that the Idaho Rules for Public Drinking Water Systems (IRPDWS) require that a well be test pumped for 24 hours after the drawndown trend is stabilized at the desired yield of the well. The desired yield will be the maximum day demand plus fire flow for this development. The well may be test pumped for a minimum of 6 hours (after the drawdown trend is stabalized) if the well is pumped at 150% of the desired yield. If the well is test pumped for less than 24 hours, the design flow rate for the well will be considered to be 67% of the flow rate at which the pump test was conducted (i.e., 1000 gpm if the well is test pumped at 1500 gpm).

1. As fire flow is not required for extended periods of time, a shorter test period may be allowed to demonstrate that the well is able to adequatley produce the amount of fire flow required (plus maximum day demand). However, the shorter test interval to demonstrate fire flow capacity must be approved by DEQ prior to the start of the test.

2. If a shorter test interval is used to demonstrate the well has sufficient capacity to meet the fire flow plus maximum day demand scenario, a longer test will be required to demonstrate that well can meet maximum day demand if equalization storage will be provided or peak hour demand if equalization storage will not be provided.

Please call me with any questions at (208) 373-0137, or contact me via e-mail at stephanie.carroll@deq.idaho.gov.

Sincerely,

Michael Stambulis for

Stephanie M. Carroll, P.E.
Staff Engineer

SMC:sjt
Enclosures: One Set(s) of Approved and Stamped Specifications
Drinking Water Monitoring Requirements for New Sources

C: Mike Martin, P.E., SPF Water Engineering
Rob Whitney, IDWR-Boise Field Office

PDF: Todd Crutcher, P.E., DEQ Boise Regional Office
Tiffany Floyd, DEQ Boise Regional Office
Michael Stambulis, P.E., DEQ State Office, Technical Services
TRIM Record #2010AGD4082

STATE OF IDAHO
DEPARTMENT OF
ENVIRONMENTAL QUALITY

1410 North Hilton • Boise, Idaho 83706 • (208) 373-0502

C.L. "Butch" Otter, Governor
Toni Hardesty, Director

TSP&S-204/2010

November 18, 2010

Karl Decker
Nevid LLC
1349 Galleria Drive, Suite 200
Henderson, Nevada 89014

RE: Elk Creek Village *(Elmore County)*
Revised Well Site Evaluation

Dear Mr. Decker:

This project was approved by this office on September 28, 2010 and a revised well location was approved on October 8, 2010. Your Engineer submitted a letter regarding a second change to the proposed location of one of the proposed wells on November 16, 2010, pursuant to standard condition D of the original approval letter. The letter states that the new well site still meets all of the design and separation requirements. As such, the revised well site location appears to meet state of Idaho standards, and is approved based on the conditions of the original approval letter.

Please call me with any questions at (208) 373-0137, or contact me via e-mail at stephanie.carroll@deq.idaho.gov.

Sincerely,

Stephanie M. Carroll, P.E.
Staff Engineer

SMC:sjt

C: Michael Martin, P.E., SPF Water Engineering

PDF: Todd Crutcher, P.E., DEQ Boise Regional Office
Michael Stambulis, P.E., DEQ State Office, Technical Services
TRIM Record #2010AGD4961

STATE OF IDAHO
DEPARTMENT OF
ENVIRONMENTAL QUALITY

1410 North Hilton • Boise, Idaho 83706 • (208) 373-0502

C.L. "Butch" Otter, Governor
Toni Hardesty, Director

TSP&S-166/2010

September 28, 2010

Karl Decker
Nevid LLC
1349 Galleria Drive, Suite 200
Henderson, Nevada 89014

RE: Elk Creek Village *(Elmore County)*
Public Drinking Water System - Facility Plan

Dear Mr. Decker:

The referenced project appears to meet state of Idaho standards, and is approved based on the conditions listed below.

I. PROJECT SPECIFIC CONDITIONS:

A. This approval is for the Public Drinking Water System Facility Plan (FP) only. Please submit a Preliminary Engineering Report (PER) to DEQ for review and approval prior to preparing and submitting detailed plans and specifications. Detailed plans and specifications cannot be reviewed until the PER is approved; furthermore, no construction can begin until the detailed plans and specifications have been reviewed and approved by DEQ.

B. The referenced FP is part of a project, or will eventually lead to projects, that require the release of sanitary restrictions. In the interest of protecting public health, the Boise Regional Office will not recommend lifting sanitary restrictions until specific conditions are met. For additional information, please find the attachment entitled "Release of Sanitary Restrictions and Project Approval, General Guideline, Idaho DEQ Boise Regional Office, April 2008. If you have any questions please contact he Boise Regional Office at 373-0550."

C. In accordance with the Idaho Rules for Public Drinking Water Systems (IRPDWS), no person shall proceed, or cause to proceed, with construction of a new community drinking water system until it has been demonstrated to the Department that the water system will have adequate technical, financial, and managerial capactiy, as defined in Section 003 of the rules. With the exception of water sources, demonstration of capactiy shall be submitted to the Department prior to or concurrent with the submittal of plans and specifications.

D. A conceptual design of the development will not be completed until the viability of the aquifer is determined from the pump testing and groundwater level monitoring of the two proposed public water system wells. Therefore, the drinking water demands for the system were estimated based on the quantity of water available to the site as appropriated by a *Final Order* issued by the Idaho Department of Water

Resources (IDWR) on September 30, 2009. If necessary, the approved Facility Plan must be updated or amended based on the results of the pump tests of the wells or the groundwater level monitoring required by IDWR.

E. As stated in the Facility Plan, the ground water sources must meet the redundancy requirements described in Sections 501.17 and 501.18 of the IRPDWS. If the pump tests for the wells or the required groundwater level monitoring indicate that the aforementioned requirements cannot be met with the two proposed wells, additional sources will be required.

Please call me with any questions at (208) 373-0137, or contact me via e-mail at stephanie.carroll@deq.idaho.gov.

Sincerely,

Michael Stambulis for

Stephanie M. Carroll, P.E.
Staff Engineer

SMC:sjt
Enclosures: One Approved and Stamped Facility Plan
Release of Sanitary Restrictions and Project Approval, General Guideline

C: Mike Martin, P.E., SPF Water Engineering *(w/approved and stamped FP)*

PDF: Todd Crutcher, P.E., DEQ Boise Regional Office
Michael Stambulis, P.E., DEQ Technical Services
TRIM Record # 2010AGD4078

STATE OF IDAHO
DEPARTMENT OF
ENVIRONMENTAL QUALITY

1410 North Hilton • Boise, Idaho 83706 • (208) 373-0502

C.L. "Butch" Otter, Governor
Toni Hardesty, Director

TSP&S-167/2010

September 28, 2010

Karl Decker
Nevid LLC
1349 Galleria Drive, Suite 200
Henderson, Nevada 89014

RE: Elk Creek Village – Well Site Evaluation *(Elmore County)*
A. Well Site Conditional Approval
B. Groundwater Under Direct Influence of Surface Water (GWUDI) Determination

Dear Mr. Decker:

WELL SITE CONDITIONAL APPROVAL

Your consultant has submitted the required information on the well site and has certified that the site is generally acceptable for a new Public Water System well. We have reviewed that information and are approving the site per the *Idaho Rules for Public Drinking Water Systems* (IDAPA 58.01.08), subject to the following conditions:

I. STANDARD CONDITIONS:

A. The approval is for the well site only. Construction of the well, pump house, and distribution system components cannot begin until plans and specifications are approved by the Department of Environmental Quality (DEQ). The plans, specifications, and related documents will have to verify and augment the data provided in the initial Well Site Evaluation, ensuring full conformance to the IRPDWS.

B. Preliminary Engineering Reports for water system components such as a storage reservoir, booster station(s) and the well pump house must be approved by DEQ prior to the submittal of plans and specifications for the water system components.

C. New source monitoring will need to be collected by the owner, tested by an Idaho certified laboratory, and approved by DEQ, before the water may be distributed to the public. The detailed list of parameters that need to be tested will be forwarded when the well construction is approved.

D. You must receive written authorization from DEQ before you are allowed to serve water to the public. Approvals of other portions of this project or the lifting of sanitary restrictions shall not be interpreted as authorization to serve the public

E. This approval will be voided if: 1) well construction is not completed by September 28, 2011; 2) the well is improperly constructed, operated, or maintained; or 3) the site conditions change before well construction has commenced.

PROJECT SPECIFIC CONDITIONS

A. This project will be part of a new public water system, Technical Financial and Managerial documentation must be approved by DEQ prior to or concurrent with the submittal of plans and specifications for water system components such as a storage reservoir, booster station or the well pump house.

GROUNDWATER UNDER DIRECT INFLUENCE OF SURFACE WATER (GWUDI)

Idaho is required by federal drinking water regulations to determine whether groundwater sources serving public drinking water systems are directly influenced by surface water. "Groundwater Under the Direct Influence of Surface Water" (GWUDI) may contain disease causing organisms which are normally found only in surface water, and may require additional treatment including filtration and/or disinfection and contact time.

From our review of the materials submitted for this project, we have classified this source as:

"Groundwater" - No further action is necessary

Please call Brandon Lowder of the Boise Regional Office at 373-0550 with any questions on the classification.

RECENT FEDERAL REGULATIONS

You should be aware that recent federal regulations could affect the design and operation of water systems utilizing groundwater sources.

A. The "Groundwater Rule" (71 FR 65574, November 8, 2006) will provide for evaluating groundwater sources that are not under the direct influence of surface water, for vulnerability to microbial contamination. If a source is found to be vulnerable, it may be necessary to install disinfection and contact time prior to distribution to the first customer. To provide for that possibility, the planning and layout of the facility needs to include an evaluation of the how the system could be modified to supply a minimum effective "CT" (disinfectant concentration times contact time) of 12 mg-min/L (as chlorine).

B. The "Stage 2 Disinfectants and Disinfection By-Products Rule" (71 FR 388, January 4, 2006) regulates certain compounds that are formed when disinfectants combine with certain naturally occurring, organic constituents in water.

Please call me with any questions at (208) 373-0137 or contact me via e-mail at stephanie.carroll@deq.idaho.gov.

Sincerely,

Mitchell Steinbrecher for

Stephanie M. Carroll, P.E.
Staff Engineer

SMC:sjt

APPENDIX E

DRILLER'S LOG FOR PW-1

Form 238-7
6/07

IDAHO DEPARTMENT OF WATER RESOURCES
WELL DRILLER'S REPORT

1. WELL TAG NO. D 0057901

Drilling Permit No. 911945-860592

Water right or injection well #

2. OWNER: Nevid LLC

Name c/o John Erickson

Address 1349 Galleria Drive #200

City Henderson State NV Zip 89014

3.WELL LOCATION:

Twp. 1 North ☐ or South ☒ Rge. 4 East ☒ or West ☐

Sec. 11 S/E 1/4 (10 acres) N/W 1/4 (40 acres) S/E 1/4 (160 acres)

Gov't Lot County Elmore

Lat. ° (Deg. and Decimal minutes)

Long. ° (Deg. and Decimal minutes)

Address of Well Site approx 1 mile N/E of Simco Rd interchange on old Hwy 30 City Mt Home
(Use at least name of road + distance to Road or Landmark)

Lot. Blk. Sub. Name

4. USE:

☐ Domestic ☒ Municipal ☐ Monitor ☒ Irrigation ☐ Thermal ☐ Injection ☐ Other

5. TYPE OF WORK:

☒ New well ☐ Replacement well ☐ Modify existing well ☐ Abandonment ☐ Other

6. DRILL METHOD:

☐ Air Rotary ☐ Mud Rotary ☐ Cable ☒ Other R/C rotary

7. SEALING PROCEDURES:

Seal material	From (ft)	To (ft)	Quantity (lbs or ft³)	Placement method/procedure
(20" pipe)	0	222	18000# chips + 1 yd cement	
(16" pipe)	220	822	1½ yd cement + 2000 gal bent. grout	

8. CASING/LINER: 220 0 10500# bent chips

Diameter (nominal)	From (ft)	To (ft)	Gauge/ Schedule	Material	Casing	Liner	Threaded	Welded
20"	0	222	375	steel	☒	☐	☐	☐
16"	+2	822	375	steel	☒	☐	☐	☐
10"	800	890	365	Steel	☐	☐	☐	☐
10"	1090	1100	365	Steel	☐	☐	☐	☐

Was drive shoe used? ☒ Y ☐ N Shoe Depth(s) 222'

9. PERFORATIONS/SCREENS:

Perforations ☐ Y ☐ N Method

Manufactured screen ☒ Y ☐ N Type Johnson stainless

Method of installation

From (ft)	To (ft)	Slot size	Number/ft	Diameter (nominal)	Material	Gauge or Schedule
890	1090	30	200'	10"	stainless	

Length of Headpipe 90' Length of Tailpipe 10'

Packer ☒ Y ☐ N Type figure K slip pkr, 6'1" long

10.FILTER PACK: top of Packer 794' 12" casing

Filter Material	From (ft)	To (ft)	Quantity (lbs or ft³)	Placement method
#6-9 sand	1100	800	18000#	poured

11. FLOWING ARTESIAN:

Flowing Artesian? ☐ Y ☒ N Artesian Pressure (PSIG)

Describe control device

12. STATIC WATER LEVEL and WELL TESTS:

Depth first water encountered (ft) Static water level (ft) 344

Water temp. (°F) 75.2 Bottom hole temp. (°F)

Describe access port

Well test:

Drawdown (feet)	Discharge or yield (gpm)	Test duration (minutes)
46'	2000	4 days

Test method: Pump ☒ Bailer ☐ Air ☐ Flowing artesian ☐

Water quality test or comments:

13. LITHOLOGIC LOG and/or repairs or abandonment:

Bore Dia. (in)	From (ft)	To (ft)	Remarks, lithology or description of repairs or abandonment, water temp.	Water Y	Water N
24	0	2	topsoil		X
	2	18	sand & small gravel		X
	18	62	cemented sand & gravel		X
	62	65	brown clay		X
	65	72	cemented sand & gravel		X
	72	78	brown clay		X
	78	90	cemented sand & gravel		X
	90	103	sandy brown clay		X
	103	110	cemented sand		X
	110	126	sandy brown clay		X
	126	132	cemented sand		X
	132	142	black & brown sand, some clay		X
	142	190	cemented sand & gravel		X
	190	193	tan & brown clay		X
	193	195	black & brown sand		X
	195	210	tan clay		X
20	210	245	cemented sand & sandstone		X
	245	265	cinders & clay		X
	265	275	sandstone w/ sand & clay cavern		X
	275	287	sandstone & shalestone		X
	287	289	tan clay		X
	289	340	cemented sand & gravel		X
	340	380	cemented sand w/ thin clay streaks	XX	
	380	407	sandt tan clay		X
	407	487	cemented sand & gravel	XX	
	487	525	tan clay		X
	525	530	medium to fine sand	XX	
	530	535	tan & orange clay w/some sand		X

Completed Depth (Measurable):

Date Started: Date Completed:

14. DRILLER'S CERTIFICATION:

I/We certify that all minimum well construction standards were complied with at the time the rig was removed.

Company Name Co. No.

*Principal Driller Date

*Driller Date

*Operator II Date

Operator I Date

*** Signature of Principal Driller and rig operator are required.**

Form 238-7
6/07

IDAHO DEPARTMENT OF WATER RESOURCES
WELL DRILLER'S REPORT

1. WELL TAG NO. D _____

Drilling Permit No. _____

Water right or injection well # _____

2. OWNER: Nevid LLC

Name _____

Address _____

City _____ State _____ Zip _____

3. WELL LOCATION:

Twp. _____ North ☐ or South ☐ Rge. _____ East ☐ or West ☐

Sec. _____ _____ 1/4 (10 acres) _____ 1/4 (40 acres) _____ 1/4 (160 acres)

Gov't Lot _____ County _____

Lat. _____ ° _____ (Deg. and Decimal minutes)

Long. _____ ° _____ (Deg. and Decimal minutes)

Address of Well Site _____

_____ City _____
(Give at least name of road + Distance to Road or Landmark)

Lot. _____ Blk. _____ Sub. Name _____

4. USE:

☐ Domestic ☐ Municipal ☐ Monitor ☐ Irrigation ☐ Thermal ☐ Injection
☐ Other _____

5. TYPE OF WORK:

☐ New well ☐ Replacement well ☐ Modify existing well
☐ Abandonment ☐ Other _____

6. DRILL METHOD:

☐ Air Rotary ☐ Mud Rotary ☐ Cable ☐ Other _____

7. SEALING PROCEDURES:

Seal material	From (ft)	To (ft)	Quantity (lbs or ft³)	Placement method/procedure

8. CASING/LINER:

Diameter (nominal)	From (ft)	To (ft)	Gauge/ Schedule	Material	Casing	Liner	Threaded	Welded
					☐	☐	☐	☐
					☐	☐	☐	☐
					☐	☐	☐	☐
					☐	☐	☐	☐

Was drive shoe used? ☐ Y ☐ N Shoe Depth(s) _____

9. PERFORATIONS/SCREENS:

Perforations ☐ Y ☐ N Method _____

Manufactured screen ☐ Y ☐ N Type _____

Method of installation _____

From (ft)	To (ft)	Slot size	Number/ft	Diameter (nominal)	Material	Gauge or Schedule

Length of Headpipe _____ Length of Tailpipe _____

Packer ☐ Y ☐ N Type _____

10. FILTER PACK:

Filter Material	From (ft)	To (ft)	Quantity (lbs or ft³)	Placement method

11. FLOWING ARTESIAN:

Flowing Artesian? ☐ Y ☐ N Artesian Pressure (PSIG) _____

Describe control device _____

12. STATIC WATER LEVEL and WELL TESTS:

Depth first water encountered (ft) _____ Static water level (ft) _____

Water temp. (°F) _____ Bottom hole temp. (°F) _____

Describe access port _____

Well test:

Drawdown (feet)	Discharge or yield (gpm)	Test duration (minutes)

Test method: Pump ☐ Bailer ☐ Air ☐ Flowing artesian ☐

Water quality test or comments: _____

13. LITHOLOGIC LOG and/or repairs or abandonment:

Bore Dia. (in)	From (ft)	To (ft)	Remarks, lithology or description of repairs or abandonment, water temp.	Water Y	Water N
20"	535	573	tan clay		X
	573	605	cemented sand w/ some clay	XX	
	605	613	tan clay		X
	613	618	cemented sand & gravel, some clay	XX	
	618	660	white & gray talcy clay		X
	660	684	dense silty tan clay		X
	684	687	tan & blue clay		X
	687	697	silty tan clay		X
	697	704	tan clay		X
	704	706	hard dry tan clay		X
	706	710	dense sandy tan clay	XX	
	710	713	orange sandy clay		X
	713	723	blue & purple clay w/ sand		X
	723	731	thin tan clay & medium sand streaks, very thin	XX	
	731	742	tan & brown sand w/ some clay	XX	
	742	763	dense silty tan & gray clay		X
	763	807	tan silty clay		X
	807	809	gray medium to fine sand w/ gray clay	XX	
	809	812	silty brown clay		X
	812	816	dense silty gral clay		X
16"	816	830	dark brown to black clay		X
	830	846	sticky black & gray clay		X
	846	862	dense gray clay		X
	862	872	fine sand w/ dense gray clay streaks		X
	872	875	dense gray clay		X

Completed Depth (Measurable): _____

Date Started: _____ Date Completed: _____

14. DRILLER'S CERTIFICATION:

I/We certify that all minimum well construction standards were complied with at the time the rig was removed.

Company Name _____ Co. No. _____

*Principal Driller _____ Date _____

*Driller _____ Date _____

*Operator II _____ Date _____

Operator I _____ Date _____

*** Signature of Principal Driller and rig operator are required.**

Form 238-7
6/07

IDAHO D. .'ARTMENT OF WATER RES. JRCES
WELL DRILLER'S REPORT

1. WELL TAG NO. D _____

Drilling Permit No. _____

Water right or injection well # _____

2. OWNER: Nevid LLC

Name _____

Address _____

City _____ State _____ Zip _____

3.WELL LOCATION:

Twp. _____ North ☐ or South ☐ Rge. _____ East ☐ or West ☐

Sec. _____ _____ 1/4 _____ 1/4 _____ 1/4
(10 acres, 40 acres, 160 acres)

Gov't Lot _____ County _____

Lat. _____ ° _____ (Deg. and Decimal minutes)

Long. _____ ° _____ (Deg. and Decimal minutes)

Address of Well Site _____

City _____
(Give at least name of road + Distance to Road or Landmark)

Lot. _____ Blk. _____ Sub. Name _____

4. USE:

☐ Domestic ☐ Municipal ☐ Monitor ☐ Irrigation ☐ Thermal ☐ Injection
☐ Other _____

5. TYPE OF WORK:

☐ New well ☐ Replacement well ☐ Modify existing well
☐ Abandonment ☐ Other _____

6. DRILL METHOD:

☐ Air Rotary ☐ Mud Rotary ☐ Cable ☐ Other _____

7. SEALING PROCEDURES:

Seal material	From (ft)	To (ft)	Quantity (lbs or ft³)	Placement method/procedure

8. CASING/LINER:

Diameter (nominal)	From (ft)	To (ft)	Gauge/ Schedule	Material	Casing	Liner	Threaded	Welded
					☐	☐	☐	☐
					☐	☐	☐	☐
					☐	☐	☐	☐
					☐	☐	☐	☐

Was drive shoe used? ☐ Y ☐ N Shoe Depth(s) _____

9. PERFORATIONS/SCREENS:

Perforations ☐ Y ☐ N Method _____

Manufactured screen ☐ Y ☐ N Type _____

Method of installation _____

From (ft)	To (ft)	Slot size	Number/ft	Diameter (nominal)	Material	Gauge or Schedule

Length of Headpipe _____ Length of Tailpipe _____

Packer ☐ Y ☐ N Type _____

10.FILTER PACK:

Filter Material	From (ft)	To (ft)	Quantity (lbs or ft³)	Placement method

11. FLOWING ARTESIAN:

Flowing Artesian? ☐ Y ☐ N Artesian Pressure (PSIG) _____

Describe control device _____

12. STATIC WATER LEVEL and WELL TESTS:

Depth first water encountered (ft) _____ Static water level (ft) _____

Water temp. (°F) _____ Bottom hole temp. (°F) _____

Describe access port _____

Well test:

Drawdown (feet)	Discharge or yield (gpm)	Test duration (minutes)

Test method: Pump ☐ Bailer ☐ Air ☐ Flowing artesian ☐

Water quality test or comments: _____

13. LITHOLOGIC LOG and/or repairs or abandonment:

Bore Dia. (In)	From (ft)	To (ft)	Remarks, lithology or description of repairs or abandonment, water temp.	Water Y	Water N
	875	898	medium to coarse sand	XX	
	898	935	fine sand w/ dense gray clay streaks	XX	
	935	945	fine sand w/ thicker gray clay streaks	XX	
	945	1085	medium to coarse sand & gravel		
	1085	1120	cemented gravel w/ white talcy clay	XX	

Completed Depth (Measurable): 1100'

Date Started: 1/15/11 Date Completed: 4/15/11

14. DRILLER'S CERTIFICATION:

I/We certify that all minimum well construction standards were complied with at the time the rig was removed.

Company Name Stevens & Sons Co. No. 153

*Principal Driller _____ Date 5/17/11

*Driller _____ Date _____

*Operator II _____ Date _____

Operator I Kevin Chadwick Date _____

* Signature of Principal Driller and rig operator are required.

APPENDIX F

FIELD DATA

591.0040

591.0040

8/5/2011
Scott King.

1:30 pm
Nevin

356
oil cut 12.35'

3560.0
−12.35
343.65 oil level
↳ ft below top of steel riffle.

350
to 5.90 Cut paste red

350.0
−5.9
344.1 WL ft below

Elev ~~3349~~ 3346 PW-1

1:47 MW1 = 3346

~~Pw2~~ 355.17' MW-1

PW-1 3340 2:00
PW-2 3340 2:01

"Rite in the Rain"

Elk Creek STEP TEST

Well Pump Test Report

Well: Elk Creek Page: 1 of 2

Pump Set Depth: _____ Date Collected By: K. Boggs Date: 4/29/11

Static Water Level: 09:45: 347.3' btc (black Poly Tube) Hours Pumped: _____ Other: _____

Casing = 1.2' above ground

Time Data			Water Level Data		Pumping Data			
Date	~~Clock~~ ET ~~Time~~	Time Since Pumping Started (min)	Depth to Water (feet)	Draw-down [s] (feet)	Cumu-lative Volume Pumped (gallons)	Pump Rate [Q] (gpm)	Specific Capacity [Q/s] (gpm/ft)	Comments
4/29/11		10:12 - Pump on						10x8 orifice
	3	10:15	367.20					
	4	10:16	359.20					
	5	10:17	358.70					
	6	10:18	358.50					
	7	10:19	359.00					
	8	10:20	359.08					
	9	10:21	359.05					
	11	10:23	359.08					
	13	10:25	359.16					9.5" manometer (1,016 gpm)
	18	10:30	359.29					wtr is milky - no sand (Imhoff)
	23	10:35	359.27					9.25" to 9.5"
	31	10:43	359.29					9.0 to 9.25"
	38	10:50	359.28					T = 22.8°C
	48	11:00	359.26					EC/SC = 214.8/223.9 µS/cm
	60	11:12	359.17					pH = 6.54
		11:15	- flow rate increased to approx. 1,500 gpm.					8.75" to 9"
								wtr was just slightly cloudy at the end of the 1st step

10:00 - static wl in MW = 355.45' btc; casing = 1.76' above ground surface (top of nipple on top of flange).

Notes:

STEP #1 ~ 1,000 gpm

Transducer installed in well inside a 1-inch diameter, black poly tube. The tube was set to approximately 540'. The transducer was installed using 500' ft of cable. It is set to approximately 490 to 495'. It was installed just before today's step test and it is set to log water levels at one-minute increments.

Elk Creek STEP TEST

Well Pump Test Report

Well: Elk Creek Page: 2 of 2

Pump Set Depth: _____ Date Collected By: K. Boggs Date: 4/29/11

Static Water Level: _____ Hours Pumped: _____ Other: _____

Time Data			Water Level Data		Pumping Data			
Date	Clock Time	Time Since Pumping Started (min)	Depth to Water (feet)	Draw-down [s] (feet)	Cumu-lative Volume Pumped (gallons)	Pump Rate [Q] (gpm)	Specific Capacity [Q/s] (gpm/ft)	Comments (manometer)
4/29/11	increased	flow rate to	approx 1,500gpm				at 11:15	
	11:18	3	367.95					
	11:19	4	367.85					
	11:20		368.85					
	11:21		368.80					
	11:22		368.70					
	~~11:23~~			BROKE SOUNDER - snapped cable				
	~~11:24~~				at ~	365'		
	~~11:25~~	approx.						~~23.75~~
		11:45	- manually adjusted flow rate					23.75 to 24.25"
			daiyne said they lost ~100				12:00	23.75 to 24"
			gpm & believed it may be					
			from the sounder in the bowls					
			- bumped up flow rate - does't					
			appear to be an issue.					
step 3	12:15	pump	- flow rate increased to approx 2,000					12:20: 42" to 42.5" (consistent through Step #3.
			gpm.					
Step 4	13:15	flow	rate increased					
								13:00 wtr level in mw = 355.35' btc
							13:20	46.5-47"

Notes:

STEP #2 ~ 1,500gpm

Layne: 989-9869 (cell)

Scott

Location Elk Creek (Nr. Mayfield) Date 5/1/11

Project / Client Elk creek canyon pump test

K. Boggs

11:20 pulled transducer from new production well - testing to be sure it is logging data.

11:28 successfully downloaded data. all appears to be functioning properly.

11:40 re-installed transducer - on 500' long cable - set to approx 490 to 495'.

11:47 static water level in same well (pumping well) = ~~34~~ 345.3 ft btc Casing (measurement point) is 1.2 ft above ground surface.

TEST Pump

- 5 HP, set to 400 feet, on 2" sch 120 pump column
- 300 ft of 1.25" steel pipe used for access for wtr level measurement.

12 14

Location Elk Creek Canyon Date 5/3/11

Project / Client

K. Boggs

09:00 water level in monitoring well = 355' 9" below top of casing (nipple on top of flange).

09:25 pump on - target = 2,000 gpm
10x8 of orifice : .44".
water upon start was brown, then green, then clear w/in 5 minutes of pumping.

Elk Creek (5/5/11)

10:00 collect full suite of samples for Public DW well - bottles from Analytical Labs in Boise

10:30 collect second bacteria sample.

10:45 field T = 23.1°C
pH = 7.05
EC/SC = 212.8 / 220.3 µs/cm

Elk Creek - 5/ -saturday

11:00 pulls transducer from pumping well - downloaded data

11:30 pulled transducer from monitoring well; re-set to take meas. every minute (was @ every hour.
↳ did the same w/ the barometer; reset all transducers

Location Elk Creek Date 6/3/11

Project / Client

K. Boggs

Elk Creek - prod. well - cap is still just tack weld welded onto casing - Stevens has not installed the plug w/ the hook for a transducer yet.

10:30 water level in prod. well is 350.0 feet below top of casing. casing is 2.0 feet above ground surface. The measurement was difficult to obtain. Sounder was going off 2 times @ 346 to 348 feet but not consistently. 350 ft btc. was the best measurement obtained. (consistently) w/ the "power" sounder.

Location Elk Creek Date 6/13/11

Project / Client

K. Boggs

14:10 Production well (#1); water level is hard to obtain w/ certainty - there's oil on top of the water (oil from test pump) water level on top of oil - appears to be approx 346 feet below top of casing - casing is 2.35 feet above ground

~~14:15~~ ~16:00 Installed pressure transducer in Prod. well to approx. 500 feet. Had to untangle cable - took forever.

16:10 (approx): removed ~~lid~~ cap from monitoring well. Installed barometer.

16:20 water level in monitoring well = 355.0 feet below top of casing. Measurement collected using "Paver Sounder." top of casing = 1.45 feet above ground.

Note - Barometer & press. trans. installed today are collecting meas. every 10 ~~min~~ m.n.

Location Elk Creek Date 7/19/11

Project / Client

K. Boggs

19:55 Pulled transducer from monitoring well, along with barometer to download data. Downloaded transducer data. - it is collecting data every 10 min. I did not reset the transducer. I just downloaded the data & let the device continue collecting data every 10 min.
↳ same goes for baro logger.

20:15 water level in monitoring well = 357.45 feet below top of PVC casing. casing is 1.53 feet above ground.

355.92'

20:20 (K.B) install transducer & barologger & lock well.

21:05 remove transducer from Elk Cr. production well & download data.

21:20 wtr level - difficult to get a "good" read. there's oil on top of the water 346.72 feet below top of casing; casing is 2.72 feet above ground.

344.0

APPENDIX G

TEST PUMPING DATA

[Available from SPF in electronic form]

APPENDIX H

LABORATORY WATER QUALITY REPORTS

591.0040

591.0040

Analytical Laboratories, Inc.

1804 N. 33rd Street
Boise, Idaho 83703
Phone (208) 342-5515

Attn: CHRISTIAN PETRICH
S P F WATER ENGINEERING, LLC
300 E MALLARD DR STE 350
BOISE, ID 83706

Collected By: K BOGGS
Submitted By: M PAPE

Source of Sample:
ELK CREEK PRODUCTION #1

Time of Collection: 10:00
Date of Collection: 5/5/2011
Date Received: 5/5/2011
Report Date: 5/23/2011

Field Temp:
Temp Rcvd in Lab: 21.1 °C
PWS:
PWS Name:

Laboratory Analysis Report

Sample Number: 1112054

EPA Method 531.1 was performed by Anatek Labs (ATL). EPA Method 548.1: Matrix spikes were low, but blank spikes were within range. Possible matrix interference on the matrix spikes. EPA Method 525.2: Spikes were high, but no sample hits.

Test Requested	MCL	Analysis Result	Units	MDL	Method	Date Completed	Analyst
Barium, Ba		<0.05	mg/L	0.05	EPA 200.7	5/11/2011	KC
Cadmium Low		<0.0005	mg/L	0.0005	EPA 200.8	5/9/2011	JH
Chromium Low		0.002	mg/L	0.002	EPA 200.8	5/9/2011	JH
Mercury, Hg		<0.0002	mg/L	0.0002	EPA 245.1	5/17/2011	JMS
Selenium Low		<0.005	mg/L	0.005	EPA 200.8	5/9/2011	JH
Nickel, Ni		<0.02	mg/L	0.02	EPA 200.7	5/11/2011	KC
Antimony Low		<0.005	mg/L	0.005	EPA 200.8	5/9/2011	JH
Beryllium Low		<0.0005	mg/L	0.0005	EPA 200.8	5/9/2011	JH
Thallium Low		<0.001	mg/L	0.001	EPA 200.8	5/9/2011	JH
Arsenic Low		0.011	mg/L	0.003	EPA 200.8	5/9/2011	JH
Value exceeds the MCL of 0.010 mg/L							
Sodium, Na		18.3	mg/L	0.50	EPA 200.7	5/10/2011	KC
Aluminum, Al		<0.10	mg/L	0.10	EPA 200.7	5/11/2011	KC
Calcium, Ca		23.1	mg/L	0.50	EPA 200.7	5/10/2011	KC
Copper, Cu		<0.01	mg/L	0.01	EPA 200.7	5/11/2011	KC
Iron, Fe		<0.05	mg/L	0.05	EPA 200.7	5/11/2011	KC
Magnesium, Mg		4.49	mg/L	0.50	EPA 200.7	5/10/2011	KC

MCL = Maximum Contamination Level
MDL = Method/Minimum Detection Limit
UR = Unregulated

Date Report Printed: 6/16/2011 11:32:50

Laboratory Analysis Report

Sample Number: 1112054

EPA Method 531.1 was performed by Anatek Labs (ATL). EPA Method 548.1: Matrix spikes were low, but blank spikes were within range. Possible matrix interference on the matrix spikes. EPA Method 525.2: Spikes were high, but no sample hits.

Test Requested	MCL	Analysis Result	Units	MDL	Method	Date Completed	Analyst
Manganese, Mn		<0.05	mg/L	0.05	EPA 200.7	5/11/2011	KC
Potassium, K		1.5	mg/L	0.5	EPA 200.7	5/10/2011	KC
Silver Low		<0.001	mg/L	0.001	EPA 200.8	5/9/2011	JH
Silica		37.9	mg/L	0.25	EPA 200.7	5/10/2011	KC
Zinc, Zn		<0.01	mg/L	0.01	EPA 200.7	5/11/2011	KC
Uranium, U		2	ug/L	1	EPA 200.8	5/9/2011	JH
Lead Low		<0.005	mg/L	0.005	EPA 200.8	5/9/2011	JH
Calcium Hardness		57.7	mg/L	1.25	EPA 200.7	5/10/2011	KC
Temperature		*	C	0	Thermometer	5/17/2011	NA
*None given							
Corrosivity		-0.60			Langelier	5/17/2011	JH
Moderately aggressive. Temperature of 23.1° used in the calculation.							
Ammonia Direct (as N)		<0.04	mg/L	0.04	EPA 350.1	5/11/2011	SS
Nitrate + Nitrite (as N)		0.20	mg/L	0.02	EPA 353.2	5/10/2011	SS
Nitrite (as N)		<0.01	mg/L	0.01	EPA 353.2	5/6/2011	SS
Nitrate (as N)		0.2	mg/L	0.2	EPA 353.2	5/10/2011	SS
Ethylene Dibromide		<0.02	ug/L	0.02	EPA 504.1	5/10/2011	CY
1,2-Dibromo-3-chloropropane		<0.02	ug/L	0.02	EPA 504.1	5/10/2011	CY
Alachlor		<0.24	ug/L	0.24	EPA 508.1	5/17/2011	CY
Aldrin		<0.02	ug/L	0.02	EPA 508.1	5/17/2011	CY
Atrazine		<0.17	ug/L	0.17	EPA 508.1	5/17/2011	CY
Butachlor		<0.40	ug/L	0.4	EPA 508.1	5/17/2011	CY
gamma-BHC (Lindane)		<0.01	ug/L	0.01	EPA 508.1	5/17/2011	CY
Dieldrin		<0.02	ug/L	0.02	EPA 508.1	5/17/2011	CY
Endrin		<0.01	ug/L	0.01	EPA 508.1	5/17/2011	CY
Heptachlor		<0.02	ug/L	0.02	EPA 508.1	5/17/2011	CY
Heptachlor epoxide		<0.01	ug/L	0.01	EPA 508.1	5/17/2011	CY
Hexachlorobenzene		<0.02	ug/L	0.02	EPA 508.1	5/17/2011	CY
Hexachlorocyclopentadiene		<0.02	ug/L	0.02	EPA 508.1	5/17/2011	CY
Metribuzin		<0.40	ug/L	0.4	EPA 508.1	5/17/2011	CY
Methoxychlor		<0.02	ug/L	0.02	EPA 508.1	5/17/2011	CY

MCL = Maximum Contamination Level
MDL = Method/Minimum Detection Limit
UR = Unregulated

Date Report Printed: 6/16/2011 11:32:50

Laboratory Analysis Report

Sample Number: 1112054

EPA Method 531.1 was performed by Anatek Labs (ATL). EPA Method 548.1: Matrix spikes were low, but blank spikes were within range. Possible matrix interference on the matrix spikes. EPA Method 525.2: Spikes were high, but no sample hits.

Test Requested	MCL	Analysis Result	Units	MDL	Method	Date Completed	Analyst
Metolachlor		<0.40	ug/L	0.4	EPA 508.1	5/17/2011	CY
Propachlor		<0.05	ug/L	0.05	EPA 508.1	5/17/2011	CY
Simazine		<0.11	ug/L	0.11	EPA 508.1	5/17/2011	CY
Chlordane(Total)		<0.06	ug/L	0.06	EPA 508.1	5/17/2011	CY
Toxaphene		<1.00	ug/L	1	EPA 508.1	5/17/2011	CY
Total PCB		<0.10	ug/L	0.1	EPA 508.1	5/17/2011	CY
Dalapon		<0.07	ug/L	0.07	EPA 515.3	5/12/2011	CY
Dicamba		<0.20	ug/L	0.2	EPA 515.3	5/12/2011	CY
2,4-Dichlorophenoxyacetic acid (2,4-D)		<0.13	ug/L	0.13	EPA 515.3	5/12/2011	CY
Dinoseb		<0.13	ug/L	0.13	EPA 515.3	5/12/2011	CY
Pentachlorophenol		<0.06	ug/L	0.06	EPA 515.3	5/12/2011	CY
Picloram		<0.13	ug/L	0.13	EPA 515.3	5/12/2011	CY
Silvex		<0.09	ug/L	0.09	EPA 515.3	5/12/2011	CY
Bis(2-ethylhexyl)adipate		<1.0	ug/L	1	EPA 525.2	5/19/2011	CY
Bis(2-ethylhexyl)phthalate		<1.0	ug/L	1	EPA 525.2	5/19/2011	CY
Aldicarb		<2.0	ug/L	2	EPA 531.1	5/20/2011	ATL
Aldicarb sulfone		<2.0	ug/L	2	EPA 531.1	5/20/2011	ATL
Aldicarb sulfoxide		<2.0	ug/L	2	EPA 531.1	5/20/2011	ATL
Carbaryl		<2.0	ug/L	2	EPA 531.1	5/20/2011	ATL
Carbofuran		<2.0	ug/L	2	EPA 531.1	5/20/2011	ATL
3-Hydroxycarbofuran		<2.0	ug/L	2	EPA 531.1	5/20/2011	ATL
Methomyl		<2.0	ug/L	2	EPA 531.1	5/20/2011	ATL
Oxamyl		<4.0	ug/L	4	EPA 531.1	5/20/2011	ATL
Glyphosate		<10.0	ug/L	10	EPA 547	5/10/2011	CY
Endothall		<25	ug/L	25	EPA 548.1	5/13/2011	CY
Diquat		<0.8	ug/L	0.8	EPA 549.2	5/18/2011	CY
Benzo(a)pyrene		<0.02	ug/L	0.02	EPA 525.2	5/18/2011	CY
Benzene		<0.5	ug/L	0.5	EPA 524.2	5/10/2011	DMB
Carbon tetrachloride		<0.5	ug/L	0.5	EPA 524.2	5/10/2011	DMB
Chlorobenzene		<0.5	ug/L	0.5	EPA 524.2	5/10/2011	DMB
1,2-Dichlorobenzene		<0.5	ug/L	0.5	EPA 524.2	5/10/2011	DMB

MCL = Maximum Contamination Level
MDL = Method/Minimum Detection Limit
UR = Unregulated

Date Report Printed: 6/16/2011 11:32:50

Laboratory Analysis Report

Sample Number: 1112054

EPA Method 531.1 was performed by Anatek Labs (ATL). EPA Method 548.1: Matrix spikes were low, but blank spikes were within range. Possible matrix interference on the matrix spikes. EPA Method 525.2: Spikes were high, but no sample hits.

Test Requested	MCL	Analysis Result	Units	MDL	Method	Date Completed	Analyst
1,4-Dichlorobenzene		<0.5	ug/L	0.5	EPA 524.2	5/10/2011	DMB
1,2-Dichloroethane		<0.5	ug/L	0.5	EPA 524.2	5/10/2011	DMB
1,1-Dichloroethene		<0.5	ug/L	0.5	EPA 524.2	5/10/2011	DMB
cis-1,2-Dichloroethene		<0.5	ug/L	0.5	EPA 524.2	5/10/2011	DMB
trans-1,2-Dichloroethene		<0.5	ug/L	0.5	EPA 524.2	5/10/2011	DMB
1,2-Dichloropropane		<0.5	ug/L	0.5	EPA 524.2	5/10/2011	DMB
Ethylbenzene		<0.5	ug/L	0.5	EPA 524.2	5/10/2011	DMB
Styrene		<0.5	ug/L	0.5	EPA 524.2	5/10/2011	DMB
Tetrachloroethene		<0.5	ug/L	0.5	EPA 524.2	5/10/2011	DMB
Toluene		<0.5	ug/L	0.5	EPA 524.2	5/10/2011	DMB
1,2,4-Trichlorobenzene		<0.5	ug/L	0.5	EPA 524.2	5/10/2011	DMB
1,1,1-Trichloroethane		<0.5	ug/L	0.5	EPA 524.2	5/10/2011	DMB
1,1,2-Trichloroethane		<0.5	ug/L	0.5	EPA 524.2	5/10/2011	DMB
Trichloroethene		<0.5	ug/L	0.5	EPA 524.2	5/10/2011	DMB
Vinyl chloride		<0.5	ug/L	0.5	EPA 524.2	5/10/2011	DMB
Bromodichloromethane		<0.5	ug/L	0.5	EPA 524.2	5/10/2011	DMB
Bromoform		<0.5	ug/L	0.5	EPA 524.2	5/10/2011	DMB
Chloroform		<0.5	ug/L	0.5	EPA 524.2	5/10/2011	DMB
Dibromochloromethane		<0.5	ug/L	0.5	EPA 524.2	5/10/2011	DMB
Total THM's		<2.0	ug/L	2	EPA 524.2	5/10/2011	DMB
Xylene, Total		<0.5	ug/L	0.5	EPA 524.2	5/10/2011	DMB
Dichloromethane		<0.5	ug/L	0.5	EPA 524.2	5/10/2011	DMB
Methyl-tert-butylether		<0.5	ug/L	0.5	EPA 524.2	5/10/2011	DMB
1,1-Dichloroethane		<0.5	ug/L	0.5	EPA 524.2	5/10/2011	DMB
1,1-Dichloropropene		<0.5	ug/L	0.5	EPA 524.2	5/10/2011	DMB
1,2,3-Trichloropropane		<0.5	ug/L	0.5	EPA 524.2	5/10/2011	DMB
1,1,1,2-Tetrachloroethane		<0.5	ug/L	0.5	EPA 524.2	5/10/2011	DMB
1,1,2,2-Tetrachloroethane		<0.5	ug/L	0.5	EPA 524.2	5/10/2011	DMB
1,3-Dichloropropene (cis&trans)		<0.5	ug/L	0.5	EPA 524.2	5/10/2011	DMB
1,3-Dichloropropane		<0.5	ug/L	0.5	EPA 524.2	5/10/2011	DMB
2,2-Dichloropropane		<0.5	ug/L	0.5	EPA 524.2	5/10/2011	DMB
Bromobenzene		<0.5	ug/L	0.5	EPA 524.2	5/10/2011	DMB

MCL = Maximum Contamination Level
MDL = Method/Minimum Detection Limit
UR = Unregulated

Date Report Printed: 6/16/2011 11:32:50

Laboratory Analysis Report

Sample Number: 1112054

EPA Method 531.1 was performed by Anatek Labs (ATL). EPA Method 548.1: Matrix spikes were low, but blank spikes were within range. Possible matrix interference on the matrix spikes. EPA Method 525.2: Spikes were high, but no sample hits.

Test Requested	MCL	Analysis Result	Units	MDL	Method	Date Completed	Analyst
Bromomethane		<0.5	ug/L	0.5	EPA 524.2	5/10/2011	DMB
Chloroethane		<0.5	ug/L	0.5	EPA 524.2	5/10/2011	DMB
Chloromethane		<0.5	ug/L	0.5	EPA 524.2	5/10/2011	DMB
Dibromomethane		<0.5	ug/L	0.5	EPA 524.2	5/10/2011	DMB
2-Chlorotoluene		<0.5	ug/L	0.5	EPA 524.2	5/10/2011	DMB
4-Chlorotoluene		<0.5	ug/L	0.5	EPA 524.2	5/10/2011	DMB
Alkalinity		95.0	mg/L		EPA 310.1	5/12/2011	SS
pH		7.5	S.U.		SM 4500-H B	5/5/2011	JH
Cyanide, Total		<0.005	mg/L	0.005	EPA 335.4	5/11/2011	JK
Fluoride, F		0.30	mg/L	0.10	EPA 300.0	5/11/2011	KC
Chloride, Cl		3	mg/L	1	EPA 300.0	5/11/2011	KC
Sulfate, SO4		11	mg/L	1	EPA 300.0	5/11/2011	KC
Conductivity		232	umhos	2	SM 2510B	5/5/2011	RME
Turbidity		<0.5	NTU	0.5	EPA 180.1	5/5/2011	JK
Hardness		74.4	mg/L	5.0	SM 2340	5/12/2011	SS
Total Dissolved Solids		162	mg/L	25	160.1	5/9/2011	DLR
Sand		<0.6	mg/L	0.600	SM 2540 D	5/10/2011	MG
Surfactants		<0.01	mg/L	.01	SM 5540	5/11/2011	MDM
Sulfide		<0.05	mg/L	0.05	SM 4500-S2 D	5/9/2011	MG
Color		<5	C.U.	5	SM 2120	5/11/2011	MDM
Threshold Odor		N.O.D.	T.O.N.		EPA 140.1	5/11/2011	MDM

AMENDED

MCL = Maximum Contamination Level
MDL = Method/Minimum Detection Limit
UR = Unregulated

Thank you for choosing Analytical Laboratories for your testing needs.

If you have any questions concerning this report,

please contact your client manager: **Michael Moore**

Date Report Printed: 6/16/2011 11:32:50

Analytical Laboratories, Inc.

1804 N. 33rd Street
Boise, Idaho 83703
Phone (208) 342-5515

Date Report Printed: 6/2/2011 1:22:28 P
http://www.analyticallaboratories.com

Laboratory Analysis Report

Sample Number: 1112055

Attn: CHRISTIAN PETRICH
S P F WATER ENGINEERING, LLC
300 E MALLARD DR STE 350
BOISE, ID 83706

Collected By: K BOGGS
Submitted By: M PAPE

Source of Sample:
ELK CREEK PRODUCTION #1

Time of Collection: 10:00
Date of Collection: 5/5/2011
Date Received: 5/5/2011
Report Date: 6/2/2011

PWS#:

Field Temp: Temp Rcvd in Lab: 21.1 °C **PWS Name:**

Radiological testing performed by Banchmark Analytics (BMA).

Test Requested	MCL	Analysis Result	Units	MDL	Method	Date Completed	Analyst
Gross Alpha		<2.71	pCi/L	2.71	EPA 900.0	5/18/2011	BMA
Gross Beta		3.42+/-1.01	pCi/L	2.94	EPA 900.0	5/18/2011	BMA
Radium 226		<0.77	pCi/L	0.77	EPA 903.0	5/30/2011	BMA
Radium 228		<0.96	pCi/L	0.96	EPA 904.0	5/20/2011	BMA

MCL = Maximum Contamination Level
MDL = Method/Minimum Detection Limit
UR = Unregulated

Thank you for choosing Analytical Laboratories for your testing needs.

If you have any questions about this report, or any future analytical needs, please contact your client manager:

Michael Moore

CLIENT CODE= SPFENG

CHAIN OF CUSTODY RECORD

CLIENT INFORMATION:		PROJECT INFORMATION:
Project Manager: C. Petrich		Project Name:
Company: SPFENG		PWS Number:
Address:		Purchase Order Number:
		Required Due Date:
Phone:	Fax:	E-mail Address:
Sampled by: (Please print) Kevin Boggs		Transported by: (Please print) Marci Pape

ANALYTICAL LABS, INC.
1804 N. 33rd Street • Boise, ID 83703
(208) 342-5515 • Fax: (208) 342-5591 • 1-800-574-5773
Website: www.analyticallaboratories.com
E-mail: ali@analyticallaboratories.com

Lab ID	Date Sampled	Time Sampled	Sample Description (Source)	Sample Matrix	TESTS REQUESTED: Full PWS Suite									Remarks:
12052 -	5/5	10:00	Elk Creek production #1		X	X								
12053														

Invoice to: *(If different than above address)* No Field Temp Given

Special Instructions: *missing chain of custody - filled out through Christen Petrich on page

ALLOCATIONS OF RISK: Analytical Laboratories, Inc. will perform preparation and testing services, obtain findings and prepare reports in accordance with Good Laboratory Practices (GLP). If, for any reason, Analytical Laboratories, Inc. errors in the conduct of a test or procedure their liability shall be limited to the cost of the test or procedure completed in error. Under no circumstance will Analytical Laboratories, Inc. be liable for any other cost associated with obtaining a sample or use of data. B.B.

Note: Samples are discarded 21 days after results are reported. Hazardous samples will be returned to client or disposed of at client expense.

	Print Name:	Company:	Date:	Time:
Relinquished By: *(Signature)*				
Received By: *(Signature)*				
Relinquished By: *(Signature)* Marci Pape				
Received at Laboratory By: *(Signature)* Ben Butler	Ben Butler	Analytical Laboratories	5/5/11	11:30

SAMPLE RECEIPT Total # of Containers: | Chains of Custody Seals Y / (N) / NA | Intact: Y / (N) / NA | Temperature Received: 21.1°C | Condition: Good

REV. 2/19/10 WHITE: STAYS WITH SAMPLE(S) YELLOW: LAB PINK: SAMPLER