

Well Capacity Test Report Associated with
the St. Therese Mission,
Inyo County California

Prepared for

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Magnificat Ventures Corporation
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Project No. 10-01-118

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April 8, 2010

Project No. 10-01-118-001

Mr. Randy P. Dizon
Magnificat Ventures Corporation
6785 South Eastern Ave.
Las Vegas, Nevada 89119

Re: Well Capacity Test Report Associated with the St. Therese Mission, Inyo County California.

Dear Mr. Dizon:

Pursuant to our proposal dated February 11, 2010, Broadbent & Associates, Inc. (BAI) is pleased to present this letter report of work performed under Task 3 of the proposal associated with a groundwater study at the St. Therese Mission in the Charleston View Area in Inyo County. Presented herein is the well capacity report for the proposed transient noncommunity public water system to be located at the St. Therese Mission in Inyo County California (Property).

INTRODUCTION

This well capacity report summarizes information collected during a well capacity test conducted at the Property. The well capacity test was conducted in accordance with the California Code of Regulations (CCRs) Section §64554 (e) well capacity determination associated with transient noncommunity public water systems. A BAI work plan describing the proposed well capacity test titled *Well Capacity Test Work Plan Associated with the St. Therese Mission in Inyo County California*, dated March 22, 2010, was submitted to Ms. Kathe Barton with Inyo County Environmental Services. Ms. Barton approved the well capacity work plan in a March 23, 2010 electronic mail response.

The St. Therese Mission will be located on 17.5 acres and will include a chapel, two enclosed columbarium buildings, outdoor gardens, a restaurant, a visitor's center and two staff residential facilities. The subsurface lithology at the Property is comprised of alluvial fill deposits. Static groundwater was measured at 154 feet below ground surface (bgs).

Since this will be a new source and water usage data does not exist, a peak water usage estimate was generated based on preliminary facility designs. Maximum daily water demand estimations were calculated by assuming maximum occupancy at the restaurant, chapel, and residence and with peak watering usage (i.e. summer conditions) for the garden, orchard, and other shrubs located on the Property. Maximum daily water demand estimates indicate approximately 16,180 gallons of water per day, which translates to approximately 11.24 gallons per minute (gpm). We assume that the majority of water consumption will occur over a ten hour period during a given day. This volume of water use over 10 hours translates to approximately 27 gpm. Table 1 indicates daily water usage demand calculations.

WELL INSTALLATION

The well boring was started on March 10, 2010 and was completed on March 17, 2010. The well boring was drilled to a total depth of 300 feet below ground surface (bgs). The well is constructed of six inch schedule 40 PVC casing from ground surface to approximately 240 feet bgs and 60 feet saw cut 0.032 slot screen to 300 feet bgs. The well gravel pack consists of 3/8 gravel that extends from a total depth (300 feet bgs) to 50 feet bgs. The well is sealed with from 50 bgs to ground surface. A copy of the well boring log is attached. The attached topographic map depicts the approximate well location at the facility.

PUMP INSTALLATION

A Franklin Model 60, five (5) horse power, single phase submersible pump was installed on March 24, 2010 (the pump curve is attached). The pump was set at approximately 273 feet bgs and extends to approximately 279 feet bgs.

EIGHT HOUR (8) WELL CAPACITY TEST

The well capacity test was initiated on March 25, 2010 and operated for a total of 8 hours (480 minutes). A Solinist water level indicator was utilized to collect depth to water measurements. Prior to the initiation of the well capacity test, a static groundwater measurement was collected from the top of well casing and measured 154.11 feet bgs. During the test depth to water measurements were collected at every minute for the first fifteen minutes, every five minutes for the next thirty minutes and once every fifteen minutes for the duration of the test. Additionally, a totalizing flow meter was utilized to measure flow discharge rates. Discharge flow rate measurements were collected after each depth to water measurement. Pump flow rates ranged from 57 gpm to 60 gpm.

The well capacity test was started at 7:10 AM with a pump rate of 60 gpm. Groundwater elevation stabilized at an approximately 199.41 feet bgs approximately 60 minutes after the test was initiated. The total draw down was approximately 45 feet which indicates a specific capacity of approximately 1.33 gpm/ft.

At approximately 6 hours (360 minutes) into the test, a slight adjustment was made to the test generator. This generator adjustment decreased the discharge flow from 60 gpm to 57 gpm and increased the groundwater elevation from 199.05 feet bgs to 198.05 feet bgs. At 6.5 hours into the test the generator was adjusted back to 60 gpm and groundwater elevation decreased back to approximately 198.7 feet bgs. Well capacity test data are presented in Table 2 and graphically depicted on the Graph 2.

WELL RECOVERY

The well capacity test was terminated at 3:10 PM on March 25, 2010 after 8 hours (480 minutes) of operation time. Well recovery data collection included depth to water measurements, which were collected every minute for the first fifteen minutes and every five minutes for the duration of well recovery data collection. Well recovery measurements indicated the well had recovered to within two feet of the initial static water level (154.11 feet bgs) eleven minutes after termination of the capacity test. Depth to water measurements were collected for a total of fifty minutes after the termination of the well capacity test and had recovered to a depth of 154.75 feet bgs (0.64 feet below pre-test static conditions). Well recovery data are presented in Table 3 and graphically depicted on Graph 2.

WATER SAMPLE ANALYSIS

Once the 8 hour capacity test was complete, a water quality sample was collected from the well, and submitted to Alpha Analytical in Sparks, Nevada. The water quality sample was analyzed for Total Dissolved Solids (TDS) by EPA Method 160.1/ SM 2540 C, Anions (Fluoride, Nitrate, Nitrite, and Sulfate) by IC EPA method 300.0/9056, Alkalinity (Bicarbonate, Carbonate, Hydroxide) by SM2320B, Specific Conductance by EPA Method 120.1/ SM 2510B/SW9050A, Cat ions (Sodium, Magnesium, Calcium, Manganese, Iron, and Arsenic) by EPA method 200.8, Total Hardness by SM2340B, and pH by EPA Method 150.2/SM4500HB/SW9040C.

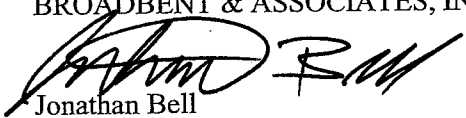
The water quality analytical results associated with the St. Therese Mission well indicated, with the exception of iron, that all constituents sampled were below primary and secondary drinking water standards. Water quality analytical results indicated a iron concentration of 0.33 mg/l, which is slightly above the secondary drinking water standard of 0.30 mg/l. A copy of the analytical results are attached.


CONCLUSION

Based on the result of the well capacity test, the St. Therese Mission well sustained a capacity of 60 gpm. Based on the peak water usage assumptions made in this report, the well capacity of 60 gpm should be adequate to meet the St. Therese Mission estimated water usage requirement of 27 gpm. With the exception of iron water quality analytical results indicate water at the facility meets primary and secondary drinking water standards for the constituents sampled.

If you have any questions or concerns regarding this submittal, please do not hesitate to contact me at (702) 563-0600 or jbell@broadbentinc.com.

Sincerely,
BROADBENT & ASSOCIATES, INC.


Jonathan Bell
Senior Geologist


Mark E. Kazelskis, PG, CHG
Associate Geologist

attachments

cc:



Table 1
Maximum Daily Water Demand Calculation

Units	Number of units	Gallons Per Day Per Unit	Total Gallons Per Day
Max Occupancy	130	10	1300
Max Restaurant Occupancy	100	60	6000
Single Family Residence	4	250	1000
Orchard	250	20	5000
Additional Trees	62	20	1240
Large Plants	44	10	440
Small Shrubs	300	4	1200
Total Gallons Per Day:			16180
Estimated Peak Daily Water Demand 24 Hour Day (gpm):			11.24
Estimated Peak Water Demand 10 Hours Peak Operation (gpm):			26.97