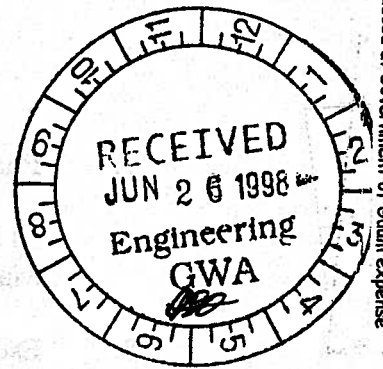


0798-036

GPH-1



APPLICATION FOR WELL OPERATING PERMIT

I. Background Information:

1. Date of Application: May 26, 1998
2. Type of Application:
 - ☒ New
 - ☐ Extension
 Previous Well Operating Numbers: _____
3. Name of Well Owner: City Hill Co. (Guam) Ltd.
 Mailing Address: Guam Plaza Hotel
1328 Pale San Vitores Road
Tumon, Guam 96931
 Telephone: _____
4. Name of Owner of property on which well is located:
City Hill Co. (Guam) Ltd. - Lot No. 5058-R3NEW-1

If the owner of the land on which the well is located and the owner of the well are not the same, written notarized permission from the owner of the land shall be filed with the application.

II. Well Information:

5. Type of Well (indicate one):
 - ☒ Public Water Supply Well
 - ☐ Individual Domestic Well
 - ☐ Industrial Well
 - ☐ Recharge or Injection Well
 - ☐ Agricultural Well
 - ☐ Monitoring Well
 - ☐ Irrigation Well (Golf Course)
 - ☐ Grounding Well
 - ☐ Others: _____
6. Purpose for which water is to be used:
Potable water for use at Guam Plaza Hotel and Water Park



7. Pumping Rates:

Design Pumping Rate: 100 gpm
 Maximum Pumping Rate: 150 gpm

8. Estimate Hours of Operation:

24 per day
720 per month
8760 per year

9. Estimated Volume of Water to be Pumped on an Annual Basis:

52,416,000 gallons per year

III. Well Location:

10. Provide a plot plan drawn to a scale of 1" = 50' showing known references such as streets, property lines, and survey monuments, including GGTN coordinates of the well to the nearest foot. *See As-Built Drawings.*

IV. Well Drilling Summary:

11. Period of well drilling:

Starting Date: 11/17/97

Completion Date: 11/20/97

12. Well Drilling Contractor: Marianas Drilling, Inc.

13. Well Drilling Permit No.: 0697-019 (Well GPH-1)

14. Total Depth of Well: 175 Feet

Elevation (MSL) of Ground Surface at Casing: 136.91 Feet

Elevation (MSL) of Top of Well Casing: ~139.95 Feet

15. Describe Method and Type of Drilling:

Rotary wash drilling method using 10" Ø tricone bit and quick foaming agent.

16. Casing:

Casing Hole Diameter: 10 Inches
(With enlarged holes in various depths due to weak pockets encountered during drilling.)

Depth (length from surface): ~140 Feet

Casing Type: ASTM A139 Grade B Size (ID): 10 Inches

Wall Thickness: 0.365 In. (nominal)

Weight: 40.48 lb/ft +

Material: ASTM A139 Grade B Steel

Describe the procedures of the installation of casing:

Using a crane, the casings were installed one length at a time inside hole. Each length was lowered until it reached top of hole. Steel collar clamp was placed around the casing to secure it in the hole while next length was raised with crane and lowered onto previous length. Alignment checked on each section using level at several locations around circumference of casing. Arc welder used to tack weld at four locations around the casing, then casing welded completely between tack welds for 360 degree coverage. Centralizers were placed every 20 feet to ensure casings were installed at the middle of the hole until desired length was obtained. As each length lowered into hole, torch used to remove lifting eyes from casing.

17. Well Screen:

Screen Type: Continuous slot wound wire Slot Size: 128 sq. in./foot

Screen Diameter(ID): 10 In. Material: Type 304 Stainless Steel

Location (from surface): 140 Ft. to 160 Ft.

Describe Method of Installation:

Same method as in Item 16.

18. Cement Grouting:

Material: Cement/Bentonite Grout Total Depth: 130 Ft.

Gravel Size: 1/2" In.

Annular Thickness: 5 In.

Cubic Yards of Cement/Bentonite Placed: 7.9 c.y

Describe Method of Grouting Used and Emplacement

Grout was placed using tremie pipes bottomed just a few feet above desired level of placement. As grout was placed, tremmie pipe was raised slowly as far as possible. When the tremmie pipe was too high to handle, the pipe was secured at ground surface and a section of pipe was removed, and the process repeated. A grouting machine was used for mixing cement/bentonite grout, the annular space was grouted up from the top of the bentonite seal above the filter pack to ground surface.

19. Describe Well Development Method(s):

Prior to completion of grouting, but after placement of the screens and casings, the hole was surged and cleaned of drilling foam and cuttings. Mechanical pumping was the method of well development. A temporary well pump was placed in the well and operated to remove entrained sediment and fines from the well.

V. Well Construction Summary:

20. Flow Measurement/Testing: See Production Well Installation Report

Pump Capacity: 100 gpm

Static Water Level: 133.55 feet

Pumping Water Level: 134.50 feet

Air Line Length: N/A feet

Top Elevation (MSL): 138.75 feet

Bottom Elevation (MSL): -38.09 feet

Specific Capacity at Test: N/A gpm

Describe Method Used for Flow Measurement and Testing: Used Rockwell water meter and digital stopwatch to determine number of gallons per minute of operation.

22. Provide a plan(s) of the well showing the following information. See Attachment A of Operating Permit Application for GPH-1

- (a) Control valves, sampling tap(s), misc. Fittings and appurtenances, and discharge piping;
- (b) Flow metering device, including size, and flow range and manufacturer;
- (c) Vertical cross-section of the well showing details of the casing, grouting, Pump setting, gravel pack, water level measurement devices;
- (d) Chlorination and fluoridation equipment; and
- (e) Elevation and location of permanent benchmark.

23. Describe provisions for protecting the wellhead from erosion and animals and other contamination by specifying provisions for sanitary well seal, casing height above ground, and flood level elevation, etc.

Well is protected by use of elevated well casing/pedestal, 30" above the top of the concrete slab. The slab itself is elevated approximately 6" above surrounding grade. The area surrounding the well is sloped so as to direct runoff away from the well site, following site topography. Additional protective measures include sealing discharge elbow flange with full bead of caulk.

24. Describe methods and procedures used for disinfecting the well:
Chlorine disinfection of well performed in accordance with AWWA B301 as per Specification 15451 - see Operating Permit Application for GPH-1.

25. If not previously submitted, attach a log of the well to the application. See attached log.

VI. Signature:

I, Richard Yang, Administrative Manager
Name Title

state that I have knowledge of the facts herein set and that the same are true and correct to the best of my knowledge and belief and are made on good faith.

Signature: *Richard Yang* Date: June 15, 1998

(For Agency Use Only)

Inspection of the well facilities was conducted on June 26, 1998 at 2:30 PM.

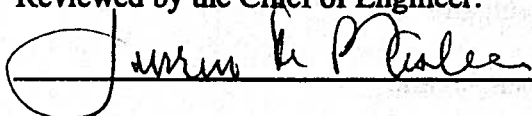
By: *William S. Quilley*

Findings:

There is no leak Detector, Beacon Light, Alarm, Gas Mask and Chlorine^{SNH} at Deepwell
GPH 1 and GPH 2 to preempt health hazard and/or accident. No qualified
Technician and Laboratory on site to continuously monitor and control the
quality of water, the purpose of which is to free GWA from any liability for
any injury to persons or damage to property which may result directly or indirectly
from the installation of testing or any device intended to protect GWA Public water
supply from contamination.
Water sample taken on _____ By: _____

Results of the water quality analyses are attached.

Reviewed by the Chief of Engineer:

 Date 7/15/98

Recommendations:

- ☐ Approved
☐ Disapproved

Reason for disapproval:

Signed:

Date _____

Well No. _____

Well Operating Permit No. _____

Date Issued _____

Expiration Date _____