



Tom Nance Water  
Resource Engineering



No. of pages: 21  
Email: jake@hgloffice.com  
trish@hgloffice.com  
william.yuen@dentons.com  
bbow@bowengineering.com  
greg@tnwre.com  
todd@tnwre.com

Electronic Submission Only

February 9, 2021  
21-015.r1 | 20-44

**MEMORANDUM**

**To:** Jake Bracken – HG Kauai Joint Venture, LLC  
**From:** Tom Nance  
**Subject:** Assessment of an Onsite Well to Provide the Water Supply for the Hokua Place Project in Kapaa, Kauai

**Introduction**

The proposed Hokua Place project would consist of single and multi-family residences on a 163-acre site identified as TMK 4-3-003:001 (Portion) in Kapaa, Kauai (its location is shown on Figure 1). The project would be developed in two phases. Phase 1 would consist of 16 single family residences. Phase 2 would consist of 86 single family residences, 683 multi-family units, a 3.1-acre park, 1.4-acres for commercial use, and 14.3-acres of open greenway areas.

Using the Kauai Department of Water (KDOW) Standards, Bow Engineering and Development, Inc. (2020) has calculated the supply requirements for both of the project’s phases as tallied below. The intent is to provide these supply requirements with the development of a well onsite. Two possibilities are being considered for this well, to connect it to KDOW’s system or to have it supply a privately owned and operated water system.

**Projected Water Supply Requirements  
for the Hokua Place Project**

Service Zone	Average Demand (GPD)	Maximum Demand (GPD)
313-Foot	121,476	182,214
214-Foot	285,446	428,169
<b>Project Total</b>	<b>406,922</b>	<b>610,383</b>

**Hydro-Geologic Conditions at the Project Site**

The surficial geologic formation covering the project site is the Koloa volcanic formation, the permeability of which is highly variable and generally one or more orders of magnitude less than that of the underlying shield building Waimea volcanics. In October 2006, an exploratory well was drilled in the southwest corner of the project site at a ground elevation of about 25 feet (its location is shown on Figure 1). It is identified as Well No. 0419-005. Results of this well provide the basis of the proposal to develop a new onsite well to supply the Hokua Place project. Results of the exploratory well can be summarized as follows:

- Ground elevation at the well site is about 25 feet.
- The first 80 feet of depth (to 55 feet below sea level) consists of alluvial material overlying slightly weathered Koloa volcanics.
- Groundwater in the alluvium stood about 19 feet above sea level or just six feet below ground. Short term pumping put the potential yield of this groundwater body at less than 30 gallons per minute (GPM).
- Drilling from 80- to 210-foot depth was through poorly permeable Koloa volcanics and intervening clay layers.
- At about 210-foot depth, the water level in the borehole dropped about six feet to a level of about 13 feet above sea level. This is the piezometric head of a second and confined aquifer at depth.
- The intervening essentially impermeable layers from 80- to 210-foot depth function as an aquiclude, providing hydrologic separation between the groundwater in the overlying alluvium and in the confined aquifer at depth.
- Drilling stopped at 260-foot depth and a pump test drawing water from the confined aquifer was run for 12 hours at up to 530 GPM (Figure 2).
- The pumped water salinity was stable and drinking water fresh (Figure 3 and Table 1).
- On January 13, 2021, pumped water samples were collected and sent overnight to the Eurofins Eaton Analytical Laboratory in Monrovia, California.
- The laboratory report for the well samples is attached as Exhibit A to this memo.
- The results of the tested well samples can be summarized as follows:
  - (i) No organic contaminants were detected.
  - (ii) The list of detected constituents is on page 9 of the laboratory report.
  - (iii) The only regulated contaminants that were detected are barium, fluoride, and nitrate as nitrogen. All three are naturally occurring and were detected at levels substantially below the maximum allowable levels for drinking water.
  - (iv) The turbidity was high. This is attributed to the well standing idle for 14 years and the small capacity pump used to obtain the samples.

### **Recommended Well Development**

Based on the results from Well No. 0419-005, it is my conclusion that a properly designed and developed onsite well could produce a drinking water supply from the lower, confined aquifer in sufficient quantities for the Hokua Place project. However, existing Well No. 0419-005 should definitely not be considered for this use. Its 8-inch casing diameter is too small, its plumbness does not meet required standards, and other aspects of its construction are not up to acceptable standards. This well should be sealed according to the standards of the State Commission on Water Resource Management (CWRM). A new well should be constructed in the near vicinity. Assuming a ground elevation of 25 feet, recommended finished dimensions of this new well are as follows:

- The total well depth should be 300 feet (to 275 feet below sea level).
- 12-inch (ID) solid casing for 220 feet (to 195 feet below sea level) should be installed.

- 80 feet of 12-inch (ID) louvered casing should be installed below the solid casing from 220- to 300-foot depth (from 195 to 275 feet below sea level).
- The annular space should be grouted from 215-foot depth to the ground surface, ensuring that water pumped by the well would come exclusively from the confined aquifer.
- The piezometric head of the confined aquifer is expected to be 13 feet above sea level.

For these dimensions and proper development of the well by surging with a line shaft pump, the hydraulic performance of the new well should be an improvement over the performance of existing Well No. 0419-005 (Figure 4).

Applying KDOW's standard for sizing the well pump capacity (to provide the maximum day demand in a 24-hour pumping day), the project's 610,383 GPD maximum day demand translates to a 424 GPM pump capacity. Installation of a 500 GPM pump is the recommended choice. For the well's location in the near vicinity of planned residential units, a submersible pump to minimize noise should be used. If redundant capacity is required for a private stand-alone system or if desired by KDOW, a configuration as shown on Figure 5, with each of the two pumps of 500 GPM capacity and supplied by a single well, could be installed.

#### **Other Relevant Factors in the Well's Development**

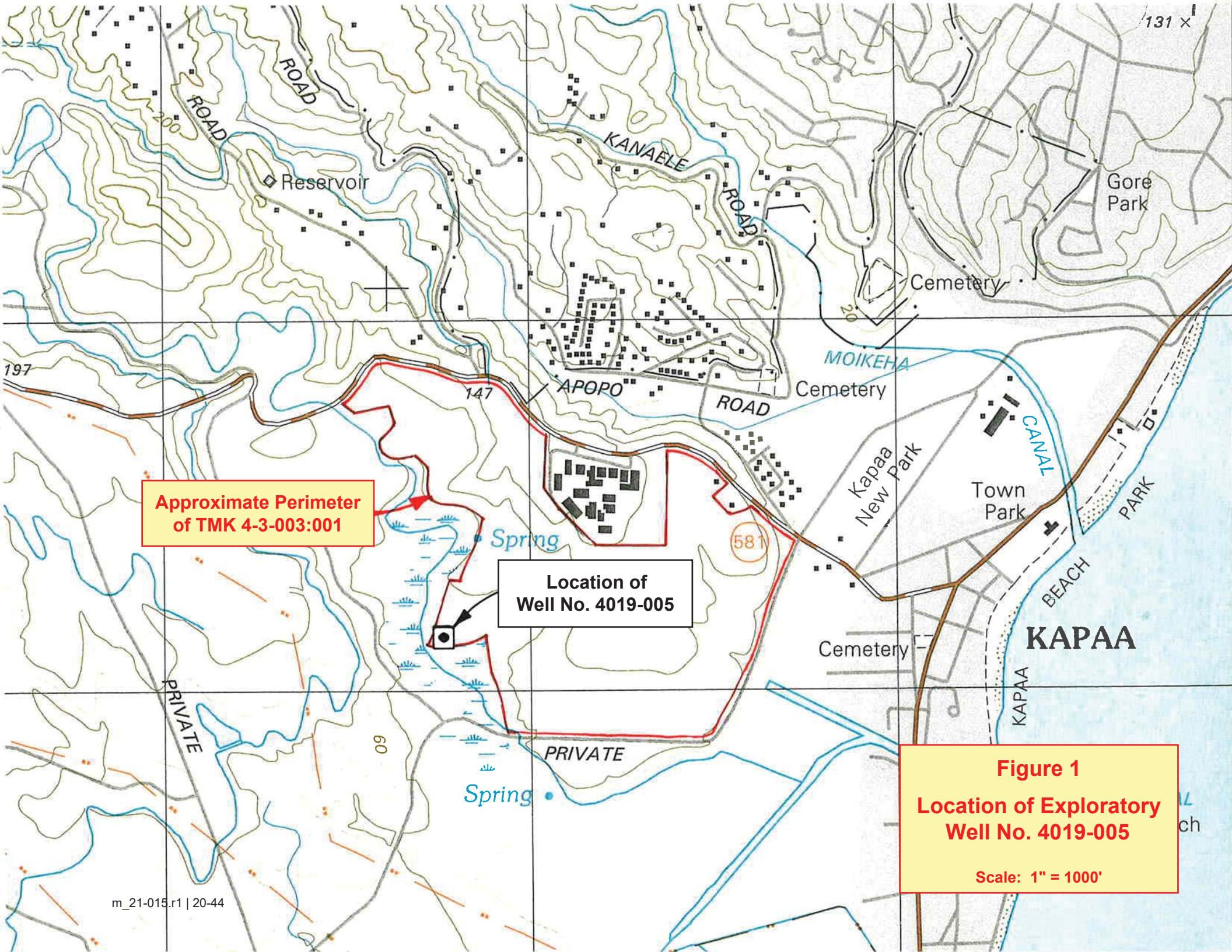
Variance from the CWRM for the Well's Depth. CWRM is likely to impose its depth limitation for wells drilled into basal groundwater of 1/4 of the theoretical basal aquifer thickness. For the 13-foot piezometric head, the CWRM's limit for the well's depth would be 120 feet below sea level. At that depth, the borehole would not have reached the confined aquifer at 210-foot depth. The proposed depth to 275 feet below sea level would require a variance from the CWRM. Given that the well would be drawing water from a confined aquifer with no salinity issues related to the proposed depth, approval of the variance is expectable.

Location of the Drinking Water Well Makai of the Underground Injection Control (UIC) Line. As shown on Figure 6, the proposed well would be on the makai side of the UIC line. The Safe Drinking Water Branch (SDWB) of the State Department of Health (DOH) has established public notification procedures that would need to be implemented in the process of obtaining certification of the well for drinking water use by DOH-SDWB. These procedures are attached as Exhibit B to this memo. They include notification of landowners within a 1/4-mile radius of the well (TMKs 4-3-004:09, 10, and 11). There is precedent for DOH approval of drinking water wells on the makai side of the UIC line in as this has been done for a number of wells in the Kahului Aquifer on Maui. If the DOH procedures for public notification are followed, approval of the well for drinking water use is expectable.

Attachments: Figures 1-6, Table 1, and Exhibits A & B

Email Copy: Trish Rioux – HG Management, LLC  
William Yuen – Dentons US LLP  
Bill Bow – Bow Engineering & Development, Inc.  
Greg Fukumitsu and Todd Yonamine – TNWRE Inc.





**Approximate Perimeter  
of TMK 4-3-003:001**

**Location of  
Well No. 4019-005**

**Figure 1**  
**Location of Exploratory  
Well No. 4019-005**  
**Scale: 1" = 1000'**

Figure 2  
Pumping Rate and Water Level Response During the 12-Hour Test of Well 0419-005 on October 19, 2006

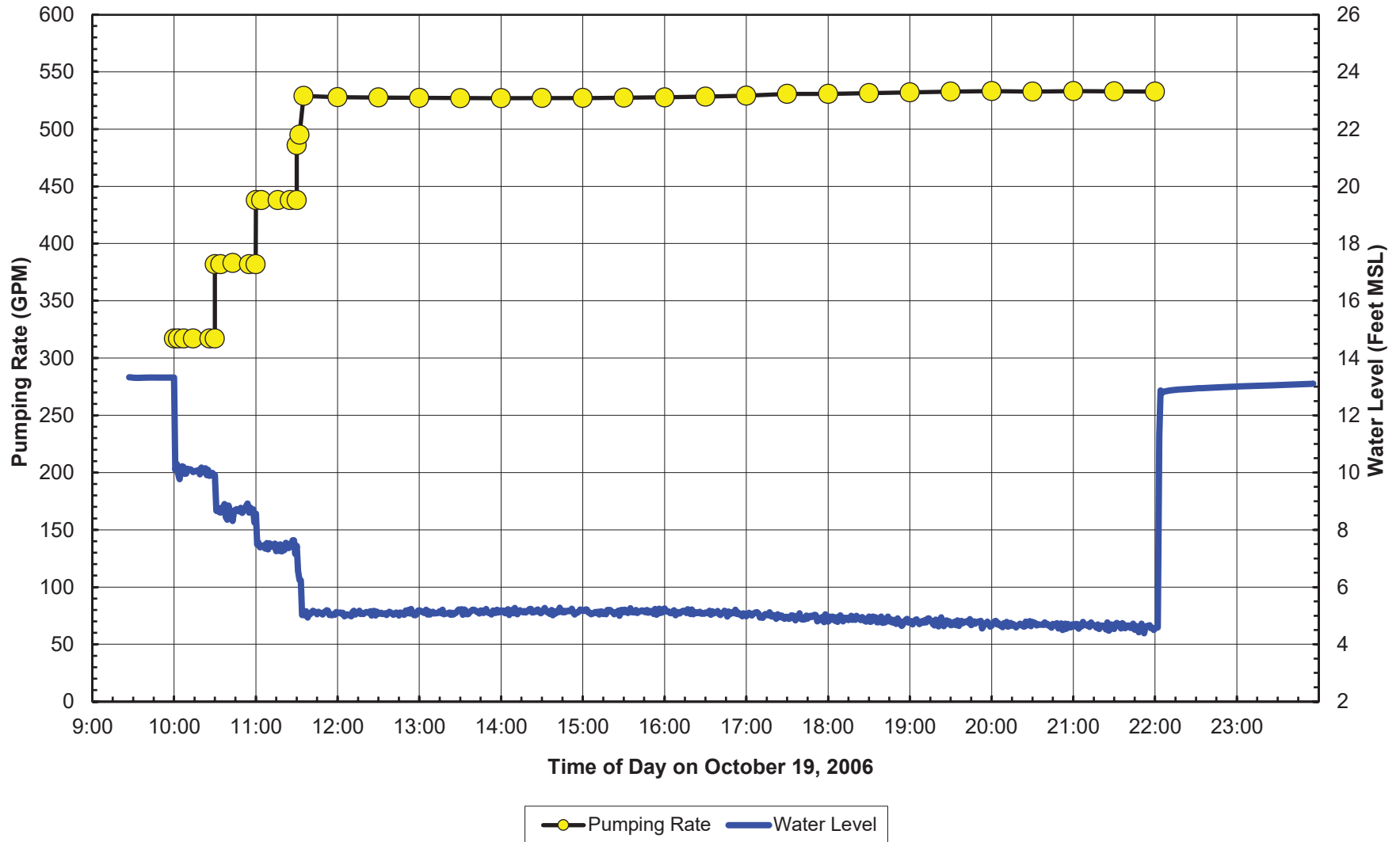
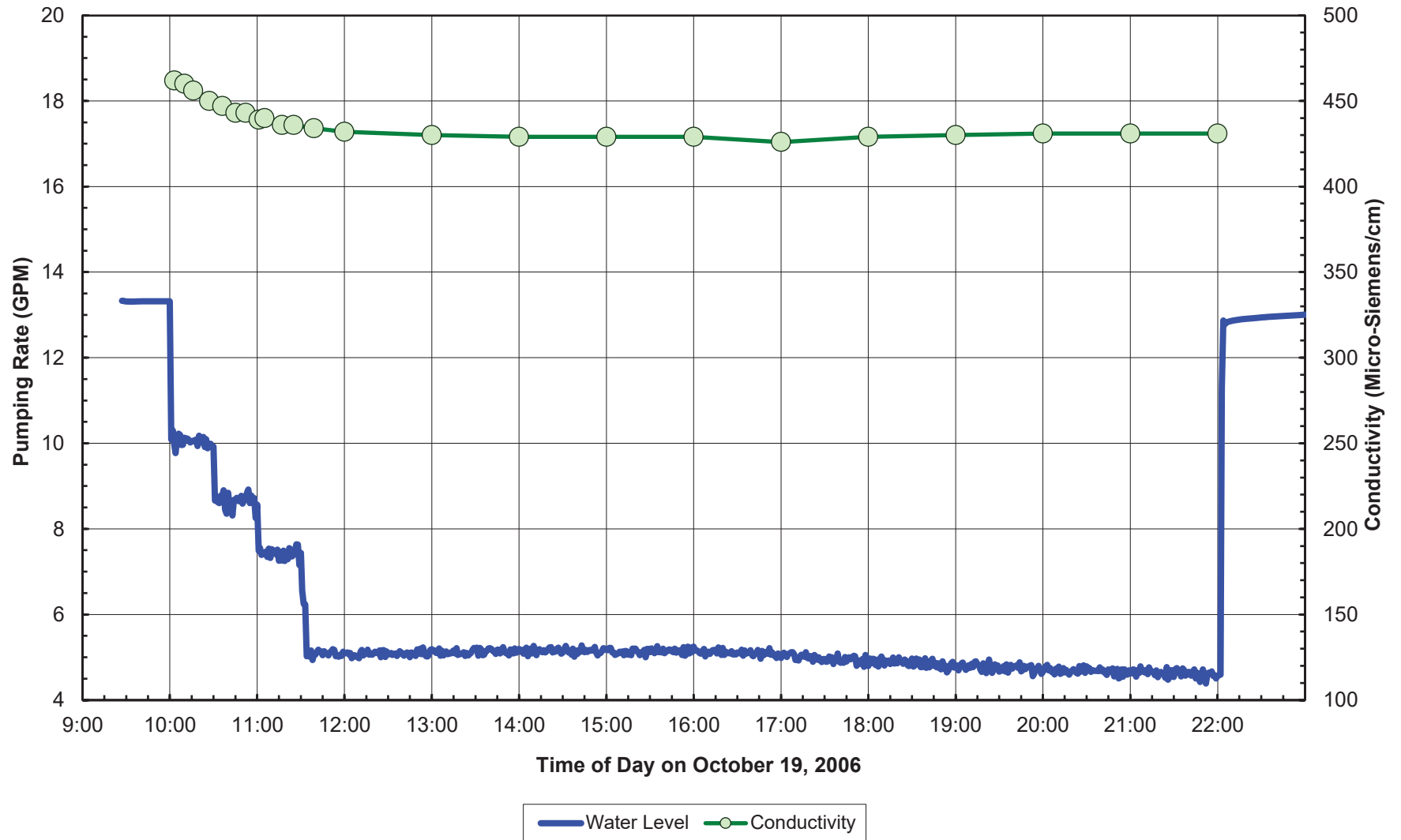
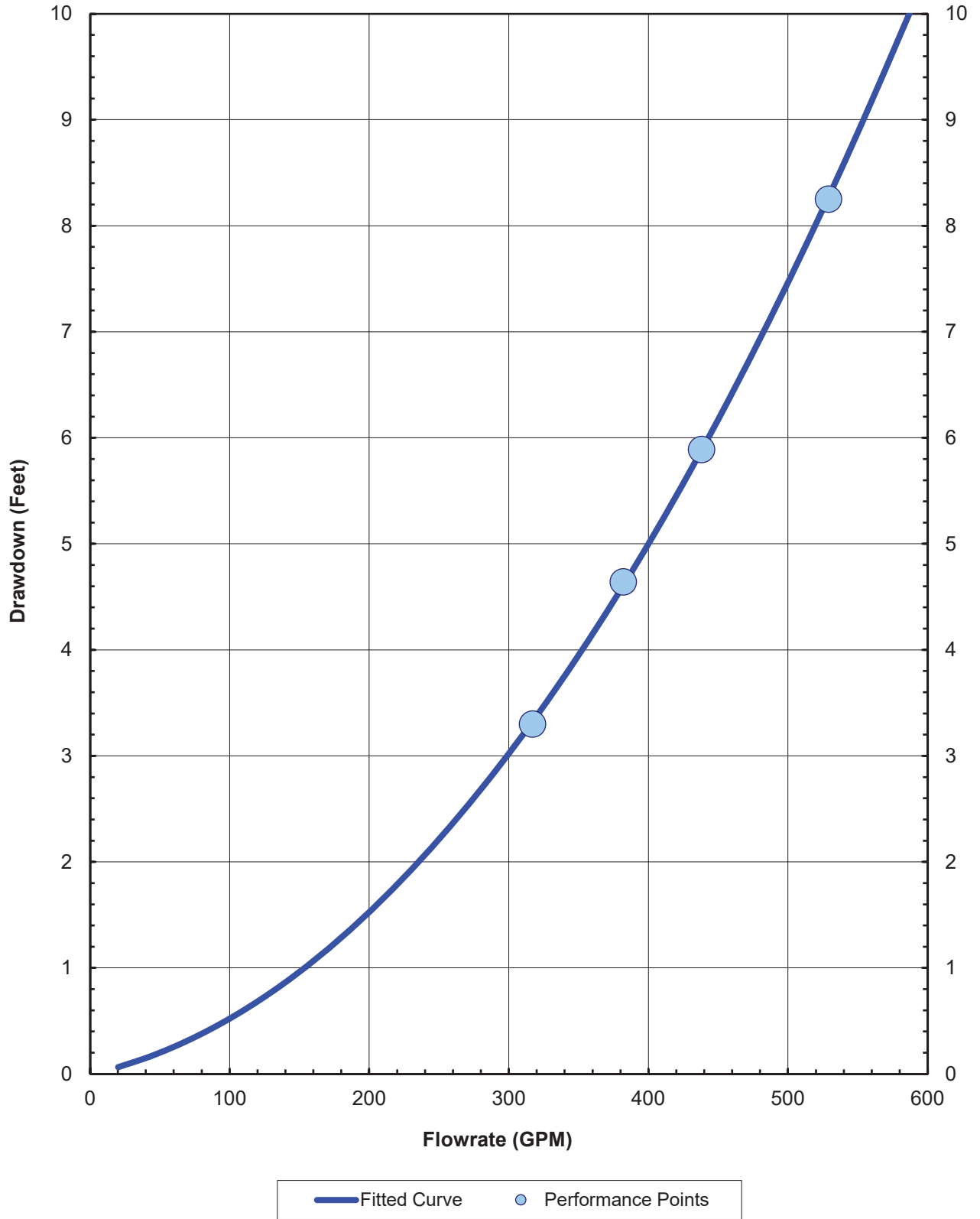


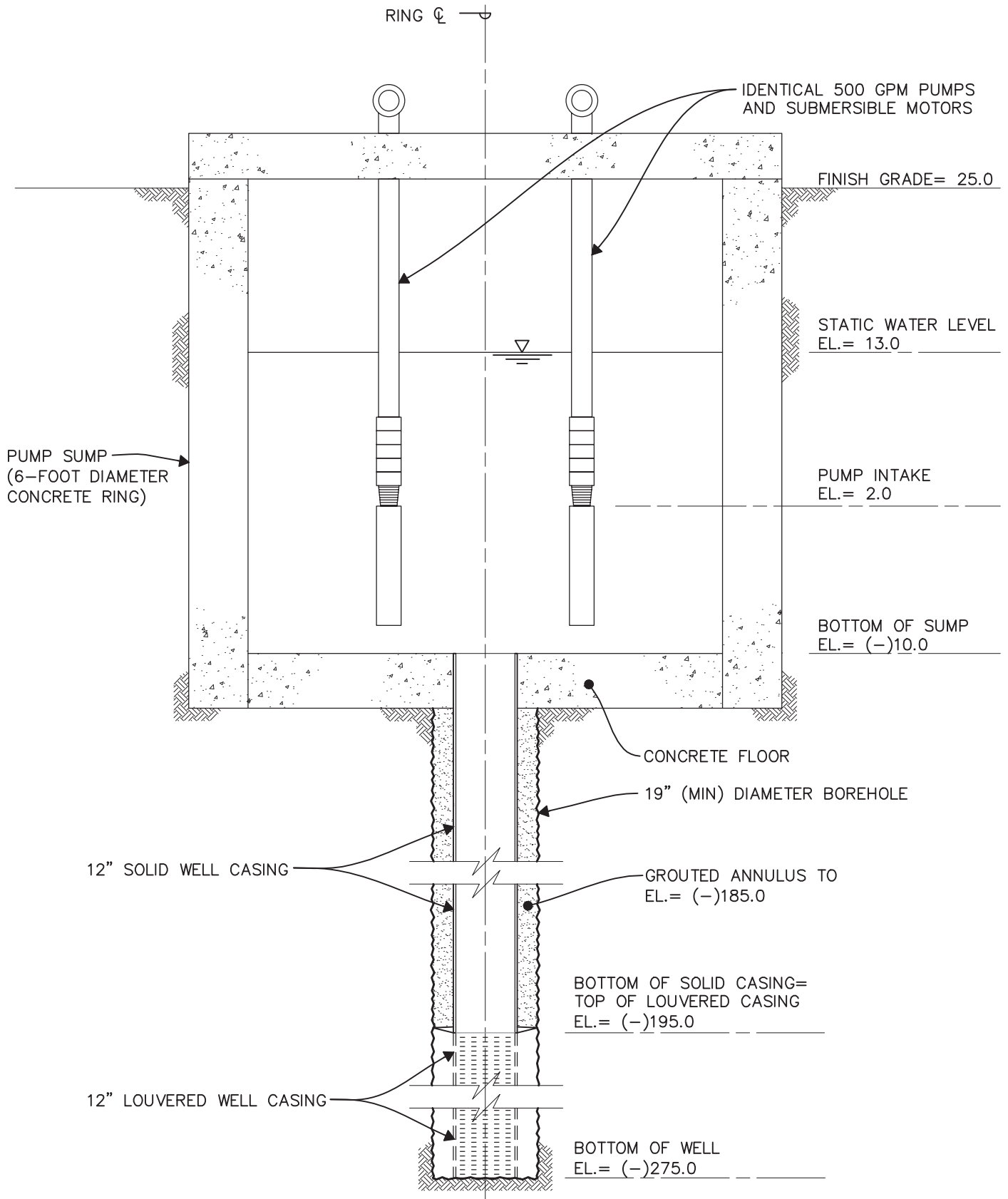
Figure 3  
Pumped Water Specific Conductance During the 12-Hour Test of Well 0419-005 on October 19, 2006



**Figure 4**  
**Hydraulic Performance of the Well 0419-005**  
**Based on the October 19, 2006 Pump Test**







**Figure 5**  
**Configuration to Provide Backup  
Pumping Capacity from a Single Well**  
Not to Scale







**Table 1**

Specific Conductance and Chlorides of Samples  
Collected During the 12-Hour Pump Test on October 19, 2006

Sample Time	Pumping Rate (GPM)	Specific Conductance ( $\mu\text{S}/\text{cm}$ @ 25°C)	Chlorides (MG/L)
10:05	317	468	55
10:30	317	449	54
11:00	438	440	54
11:30	529	436	53
12:00	528	432	53
13:00	527	430	53
14:00	527	429	53
15:00	527	429	53
16:00	528	429	53
17:00	529	428	53
18:00	531	429	53
19:00	532	430	53
20:00	533	431	53
21:00	533	431	53
22:00	533	431	53

- Notes: 1. Specific conductance measured in the TNWRE office using a HACH Sension5 meter calibrated with a 12.88 mS/cm standard.  
2. Chlorides determined by mercuric nitrate titration in the TNWRE office.

Laboratory Data

Tel: (626) 386-1100  
 Fax: (866) 988-3757  
 1 800 566 LABS (1 800 566 5227)

Report: 913154  
 Project: DRINKING  
 Group: Well 0419-005

**Tom Nance Water Resource Engineering**  
 Tom Nance  
 560 N. Nimitz Hwy. - Suite 213  
 Honolulu, HI 96817

Samples Received on:  
 01/14/2021 0904

Prepped	Analyzed	Prep Batch	Analytical Batch	Method	Analyte	Result	Units	MRL	Dilution	
<b>Well 0419-005 (202101140068)</b>						<b>Sampled on 01/13/2021 1045</b>				
<b>EPA 200.8 - ICPMS Metals</b>										
01/14/21	01/14/21	19:49	1299674	1299862	(EPA 200.8)	Antimony Total ICAP/MS	ND	ug/L	1.0	1
01/14/21	01/14/21	19:49	1299674	1299862	(EPA 200.8)	Arsenic Total ICAP/MS	ND	ug/L	1.0	1
01/14/21	01/14/21	19:49	1299674	1299862	(EPA 200.8)	Barium Total ICAP/MS	15	ug/L	2.0	1
01/14/21	01/14/21	19:49	1299674	1299862	(EPA 200.8)	Beryllium Total ICAP/MS	ND	ug/L	1.0	1
01/14/21	01/14/21	19:49	1299674	1299862	(EPA 200.8)	Cadmium Total ICAP/MS	ND	ug/L	0.50	1
01/14/21	01/14/21	19:49	1299674	1299862	(EPA 200.8)	Chromium Total ICAP/MS	ND	ug/L	1.0	1
01/14/21	01/14/21	19:49	1299674	1299862	(EPA 200.8)	Copper Total ICAP/MS	ND	ug/L	2.0	1
01/14/21	01/14/21	19:49	1299674	1299862	(EPA 200.8)	Lead Total ICAP/MS	ND	ug/L	0.50	1
01/14/21	01/14/21	19:49	1299674	1299862	(EPA 200.8)	Nickel Total ICAP/MS	ND	ug/L	5.0	1
01/14/21	01/14/21	19:49	1299674	1299862	(EPA 200.8)	Selenium Total ICAP/MS	ND	ug/L	5.0	1
01/14/21	01/14/21	19:49	1299674	1299862	(EPA 200.8)	Thallium Total ICAP/MS	ND	ug/L	1.0	1
01/14/21	01/14/21	19:49	1299674	1299862	(EPA 200.8)	Uranium ICAP/MS	ND	ug/L	1.0	1
<b>EPA 200.7 - ICP Metals</b>										
01/14/21	01/14/21	21:53	1299674	1299843	(EPA 200.7)	Calcium Total ICAP	16	mg/L	1.0	1
<b>EPA 200.8 - Mercury ICPMS</b>										
01/14/21	01/14/21	19:49	1299674	1299858	(EPA 200.8)	Mercury ICPMS	ND	ug/L	0.20	1
<b>CALCULATION - Radium 226, 228 Combined</b>										
:					(CALCULATION)	Radium 226, 228 Combined	(c)	pCi/L		1
<b>EPA 505 - Organochlorine Pesticides/PCBs</b>										
01/19/21	01/19/21	23:53	1300567	1300828	(EPA 505)	Alachlor (Alanex)	ND	ug/L	0.10	1
01/19/21	01/19/21	23:53	1300567	1300828	(EPA 505)	Aldrin	ND	ug/L	0.010	1
01/19/21	01/19/21	23:53	1300567	1300828	(EPA 505)	Chlordane	ND	ug/L	0.10	1
01/19/21	01/19/21	23:53	1300567	1300828	(EPA 505)	Dieldrin	ND	ug/L	0.0100	1
01/19/21	01/19/21	23:53	1300567	1300828	(EPA 505)	Endrin	ND	ug/L	0.010	1
01/19/21	01/19/21	23:53	1300567	1300828	(EPA 505)	Heptachlor Epoxide	ND	ug/L	0.010	1
01/19/21	01/19/21	23:53	1300567	1300828	(EPA 505)	Lindane (gamma-BHC)	ND	ug/L	0.010	1
01/19/21	01/19/21	23:53	1300567	1300828	(EPA 505)	Methoxychlor	ND	ug/L	0.050	1
01/19/21	01/19/21	23:53	1300567	1300828	(EPA 505)	PCB 1016 Aroclor	ND	ug/L	0.080	1
01/19/21	01/19/21	23:53	1300567	1300828	(EPA 505)	PCB 1221 Aroclor	ND	ug/L	0.10	1
01/19/21	01/19/21	23:53	1300567	1300828	(EPA 505)	PCB 1232 Aroclor	ND	ug/L	0.10	1
01/19/21	01/19/21	23:53	1300567	1300828	(EPA 505)	PCB 1242 Aroclor	ND	ug/L	0.10	1
01/19/21	01/19/21	23:53	1300567	1300828	(EPA 505)	PCB 1248 Aroclor	ND	ug/L	0.10	1
01/19/21	01/19/21	23:53	1300567	1300828	(EPA 505)	PCB 1254 Aroclor	ND	ug/L	0.10	1
01/19/21	01/19/21	23:53	1300567	1300828	(EPA 505)	PCB 1260 Aroclor	ND	ug/L	0.10	1
01/19/21	01/19/21	23:53	1300567	1300828	(EPA 505)	Total PCBs	ND	ug/L	0.10	1

Rounding on totals after summation.  
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Samples Received on:  
 01/14/2021 0904

Prepped	Analyzed	Prep Batch	Analytical Batch	Method	Analyte	Result	Units	MRL	Dilution
01/19/21	01/19/21 23:53	1300567	1300828	(EPA 505)	Toxaphene	ND	ug/L	0.50	1
<b>EPA 515.4 - Chlorophenoxy Herbicides</b>									
01/15/21	01/18/21 10:21	1299719	1300216	(EPA 515.4)	2,4,5-T	ND	ug/L	0.20	1
01/15/21	01/18/21 10:21	1299719	1300216	(EPA 515.4)	2,4,5-TP (Silvex)	ND	ug/L	0.20	1
01/15/21	01/18/21 10:21	1299719	1300216	(EPA 515.4)	2,4-D	ND	ug/L	0.10	1
01/15/21	01/18/21 10:21	1299719	1300216	(EPA 515.4)	2,4-DB	ND	ug/L	2.0	1
01/15/21	01/18/21 10:21	1299719	1300216	(EPA 515.4)	3,5-Dichlorobenzoic acid	ND	ug/L	0.50	1
01/15/21	01/18/21 10:21	1299719	1300216	(EPA 515.4)	Acifluorfen	ND	ug/L	0.20	1
01/15/21	01/18/21 10:21	1299719	1300216	(EPA 515.4)	Bentazon	ND	ug/L	0.50	1
01/15/21	01/18/21 10:21	1299719	1300216	(EPA 515.4)	Dalapon	ND	ug/L	1.0	1
01/15/21	01/18/21 10:21	1299719	1300216	(EPA 515.4)	Dicamba	ND	ug/L	0.10	1
01/15/21	01/18/21 10:21	1299719	1300216	(EPA 515.4)	Dichlorprop	ND	ug/L	0.50	1
01/15/21	01/18/21 10:21	1299719	1300216	(EPA 515.4)	Dinoseb	ND	ug/L	0.20	1
01/15/21	01/18/21 10:21	1299719	1300216	(EPA 515.4)	Pentachlorophenol	ND	ug/L	0.040	1
01/15/21	01/18/21 10:21	1299719	1300216	(EPA 515.4)	Picloram	ND	ug/L	0.10	1
01/15/21	01/18/21 10:21	1299719	1300216	(EPA 515.4)	Tot DCPA Mono&Diacid Degradate	ND	ug/L	0.10	1
01/15/21	01/18/21 10:21	1299719	1300216	(EPA 515.4)	2,4-Dichlorophenyl acetic acid	89	%		1
01/15/21	01/18/21 10:21	1299719	1300216	(EPA 515.4)	4,4-Dibromooctafluorobiphenyl	100	%		1
<b>EPA 504.1 - EPA Method 504.1</b>									
01/19/21	01/20/21 07:24	1300583	1301062	(EPA 504.1)	1,2,3-Trichloropropane (TCP)	ND	ug/L	0.040	1
01/19/21	01/20/21 07:24	1300583	1301062	(EPA 504.1)	Dibromochloropropane (DBCP)	ND	ug/L	0.010	1
01/19/21	01/20/21 07:24	1300583	1301062	(EPA 504.1)	Ethylene Dibromide (EDB)	ND	ug/L	0.010	1
01/19/21	01/20/21 07:24	1300583	1301062	(EPA 504.1)	1,2-Dibromopropane	97	%		1
<b>EPA 525.2 - Semivolatiles by GCMS</b>									
01/18/21	01/20/21 19:21	1300342	1301246	(EPA 525.2)	Atrazine	ND	ug/L	0.050	1
01/18/21	01/20/21 19:21	1300342	1301246	(EPA 525.2)	Benzo(a)pyrene	ND	ug/L	0.020	1
01/18/21	01/20/21 19:21	1300342	1301246	(EPA 525.2)	Di-(2-Ethylhexyl)adipate	ND	ug/L	0.60	1
01/18/21	01/20/21 19:21	1300342	1301246	(EPA 525.2)	Di(2-Ethylhexyl)phthalate	ND	ug/L	0.60	1
01/18/21	01/20/21 19:21	1300342	1301246	(EPA 525.2)	Heptachlor	ND	ug/L	0.040	1
01/18/21	01/20/21 19:21	1300342	1301246	(EPA 525.2)	Hexachlorobenzene	ND	ug/L	0.050	1
01/18/21	01/20/21 19:21	1300342	1301246	(EPA 525.2)	Hexachlorocyclopentadiene	ND	ug/L	0.050	1
01/18/21	01/20/21 19:21	1300342	1301246	(EPA 525.2)	Molinate	ND	ug/L	0.10	1
01/18/21	01/20/21 19:21	1300342	1301246	(EPA 525.2)	Simazine	ND	ug/L	0.050	1
01/18/21	01/20/21 19:21	1300342	1301246	(EPA 525.2)	Thiobencarb (ELAP)	ND	ug/L	0.20	1
01/18/21	01/20/21 19:21	1300342	1301246	(EPA 525.2)	1,3-Dimethyl-2-nitrobenzene	96	%		1
01/18/21	01/20/21 19:21	1300342	1301246	(EPA 525.2)	Acenaphthene-d10	78	%		1
01/18/21	01/20/21 19:21	1300342	1301246	(EPA 525.2)	Chrysene-d12	77	%		1

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 01/14/2021 0904

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01/18/21	01/20/21 19:21	1300342	1301246	(EPA 525.2)	Perylene-d12	72	%		1
01/18/21	01/20/21 19:21	1300342	1301246	(EPA 525.2)	Phenanthrene-d10	89	%		1
01/18/21	01/20/21 19:21	1300342	1301246	(EPA 525.2)	Triphenylphosphate	102	%		1
<b>EPA 548.1 - Endothall</b>									
01/15/21	01/19/21 11:32	1300031	1300401	(EPA 548.1)	Endothall	ND	ug/L	5.0	1
<b>EPA 547 - Glyphosate</b>									
	01/15/21 1:54		1299613	(EPA 547)	Glyphosate	ND	ug/L	6.0	1
<b>EPA 531.2 - Aldicarb</b>									
	01/15/21 18:39		1300083	(EPA 531.2)	3-Hydroxycarbofuran	ND	ug/L	0.50	1
	01/15/21 18:39		1300083	(EPA 531.2)	Aldicarb (Temik)	ND	ug/L	0.50	1
	01/15/21 18:39		1300083	(EPA 531.2)	Aldicarb sulfone	ND	ug/L	0.50	1
	01/15/21 18:39		1300083	(EPA 531.2)	Aldicarb sulfoxide	ND	ug/L	0.50	1
	01/15/21 18:39		1300083	(EPA 531.2)	Baygon	ND	ug/L	0.50	1
	01/15/21 18:39		1300083	(EPA 531.2)	Carbaryl	ND	ug/L	0.50	1
	01/15/21 18:39		1300083	(EPA 531.2)	Carbofuran (Furadan)	ND	ug/L	0.50	1
	01/15/21 18:39		1300083	(EPA 531.2)	Methiocarb	ND	ug/L	0.50	1
	01/15/21 18:39		1300083	(EPA 531.2)	Methomyl	ND	ug/L	0.50	1
	01/15/21 18:39		1300083	(EPA 531.2)	Oxamyl (Vydate)	ND	ug/L	0.50	1
	01/15/21 18:39		1300083	(EPA 531.2)	4-Bromo-3,5-dimethylphenyl-N-methylc arbamate	111	%		1
<b>EPA 549.2 - Diquat and Paraquat</b>									
01/14/21	01/22/21 03:05	1299846	1301652	(EPA 549.2)	Diquat	ND	ug/L	0.40	1
01/14/21	01/22/21 03:05	1299846	1301652	(EPA 549.2)	Paraquat	ND	ug/L	2.0	1
<b>EPA 300.0 - Nitrate, Nitrite by EPA 300.0</b>									
	01/14/21 11:41		1299818	(EPA 300.0)	Nitrate as Nitrogen by IC	0.33	mg/L	0.10	1
	01/14/21 11:41		1299818	(EPA 300.0)	Nitrate as NO3 (calc)	1.5	mg/L	0.44	1
	01/14/21 11:41		1299818	(EPA 300.0)	Nitrite Nitrogen by IC	ND	mg/L	0.050	1
<b>EPA 900.0 - Gross Alpha/Beta Radiation</b>									
01/14/21	01/19/21 18:28	1299796	1300928	(EPA 900.0)	Alpha, Gross	ND	pCi/L	3.0	1
01/14/21	01/19/21 18:28	1299796	1300928	(EPA 900.0)	Alpha, Min Detectable Activity	2	pCi/L		1
01/14/21	01/19/21 18:28	1299796	1300928	(EPA 900.0)	Alpha, Two Sigma Error	0.44	pCi/L		1
01/14/21	01/19/21 18:28	1299796	1300928	(EPA 900.0)	Beta, Gross	ND	pCi/L	3.0	1
01/14/21	01/19/21 18:28	1299796	1300928	(EPA 900.0)	Beta, Min Detectable Activity	0.9	pCi/L		1
01/14/21	01/19/21 18:28	1299796	1300928	(EPA 900.0)	Beta, Two Sigma Error	0.30	pCi/L		1
01/14/21	01/19/21 18:28	1299796	1300928	(EPA 900.0)	Gross Alpha + adjusted error	ND	pCi/L		1
<b>Ra-226 GA - Radium 226</b>									
01/21/21	:	1300079		(Ra-226 GA)	Radium 226		pCi/L		1
01/21/21	:	1300079		(Ra-226 GA)	Radium 226 Min Detect Activity		pCi/L		1

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 1 800 566 LABS (1 800 566 5227)

Report: 913154  
 Project: DRINKING  
 Group: Well 0419-005

**Tom Nance Water Resource Engineering**  
 Tom Nance  
 560 N. Nimitz Hwy. - Suite 213  
 Honolulu, HI 96817

Samples Received on:  
 01/14/2021 0904

Prepped	Analyzed	Prep Batch	Analytical Batch	Method	Analyte	Result	Units	MRL	Dilution
01/21/21	:	1300079		(Ra-226 GA)	Radium 226 Two Sigma Error		pCi/L		1
<b>RA-228 GA - Radium 228</b>									
01/21/21	:	1300080		(RA-228 GA)	Radium 228		pCi/L		1
01/21/21	:	1300080		(RA-228 GA)	Radium 228 Min Detect Activity		pCi/L		1
01/21/21	:	1300080		(RA-228 GA)	Radium 228 Two Sigma Error		pCi/L		1
<b>EPA 1613B - 2,3,7,8-TCDD</b>									
:		(1)		(EPA 1613B)	2,3,7,8-TCDD		pg/L		1
<b>EPA 100.2 - Asbestos (Subbed)</b>									
01/20/21	01/21/21 14:06			(EPA 100.2)	Asbestos (Subbed)	<0.19	MFL	0.19	4
<b>EPA 524.2 - Volatile Organics by GCMS</b>									
01/18/21	01/18/21 16:42	1300624	1300632	(EPA 524.2)	1,1,1,2-Tetrachloroethane	ND	ug/L	0.50	1
01/18/21	01/18/21 16:42	1300624	1300632	(EPA 524.2)	1,1,1-Trichloroethane	ND (LK,R2)	ug/L	0.50	1
01/18/21	01/18/21 16:42	1300624	1300632	(EPA 524.2)	1,1,2,2-Tetrachloroethane	ND	ug/L	0.50	1
01/18/21	01/18/21 16:42	1300624	1300632	(EPA 524.2)	1,1,2-Trichloroethane	ND	ug/L	0.50	1
01/18/21	01/18/21 16:42	1300624	1300632	(EPA 524.2)	1,1-Dichloroethane	ND	ug/L	0.50	1
01/18/21	01/18/21 16:42	1300624	1300632	(EPA 524.2)	1,1-Dichloroethylene	ND	ug/L	0.50	1
01/18/21	01/18/21 16:42	1300624	1300632	(EPA 524.2)	1,1-Dichloropropene	ND	ug/L	0.50	1
01/18/21	01/18/21 16:42	1300624	1300632	(EPA 524.2)	1,2,3-Trichlorobenzene	ND	ug/L	0.50	1
01/18/21	01/18/21 16:42	1300624	1300632	(EPA 524.2)	1,2,3-Trichloropropane	ND	ug/L	0.50	1
01/18/21	01/18/21 16:42	1300624	1300632	(EPA 524.2)	1,2,4-Trichlorobenzene	ND	ug/L	0.50	1
01/18/21	01/18/21 16:42	1300624	1300632	(EPA 524.2)	1,2,4-Trimethylbenzene	ND	ug/L	0.50	1
01/18/21	01/18/21 16:42	1300624	1300632	(EPA 524.2)	1,2-Dichloroethane	ND	ug/L	0.50	1
01/18/21	01/18/21 16:42	1300624	1300632	(EPA 524.2)	1,2-Dichloropropane	ND	ug/L	0.50	1
01/18/21	01/18/21 16:42	1300624	1300632	(EPA 524.2)	1,3,5-Trimethylbenzene	ND	ug/L	0.50	1
01/18/21	01/18/21 16:42	1300624	1300632	(EPA 524.2)	1,3-Dichloropropane	ND	ug/L	0.50	1
01/18/21	01/18/21 16:42	1300624	1300632	(EPA 524.2)	2,2-Dichloropropane	ND (VC,LK,LM)	ug/L	0.50	1
01/18/21	01/18/21 16:42	1300624	1300632	(EPA 524.2)	2-Butanone (MEK)	ND (VC,LK)	ug/L	5.0	1
01/18/21	01/18/21 16:42	1300624	1300632	(EPA 524.2)	4-Methyl-2-Pentanone (MIBK)	ND	ug/L	5.0	1
01/18/21	01/18/21 16:42	1300624	1300632	(EPA 524.2)	Benzene	ND	ug/L	0.50	1
01/18/21	01/18/21 16:42	1300624	1300632	(EPA 524.2)	Bromobenzene	ND	ug/L	0.50	1
01/18/21	01/18/21 16:42	1300624	1300632	(EPA 524.2)	Bromochloromethane	ND	ug/L	0.50	1
01/18/21	01/18/21 16:42	1300624	1300632	(EPA 524.2)	Bromodichloromethane	ND	ug/L	0.50	1
01/18/21	01/18/21 16:42	1300624	1300632	(EPA 524.2)	Bromoethane	ND	ug/L	0.50	1
01/18/21	01/18/21 16:42	1300624	1300632	(EPA 524.2)	Bromoform	ND	ug/L	0.50	1
01/18/21	01/18/21 16:42	1300624	1300632	(EPA 524.2)	Bromomethane (Methyl Bromide)	ND	ug/L	0.50	1
01/18/21	01/18/21 16:42	1300624	1300632	(EPA 524.2)	Carbon disulfide	ND	ug/L	0.50	1
01/18/21	01/18/21 16:42	1300624	1300632	(EPA 524.2)	Carbon Tetrachloride	ND	ug/L	0.50	1
01/18/21	01/18/21 16:42	1300624	1300632	(EPA 524.2)	Chlorobenzene	ND	ug/L	0.50	1

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 01/14/2021 0904

Prepped	Analyzed	Prep Batch	Analytical Batch	Method	Analyte	Result	Units	MRL	Dilution
01/18/21	01/18/21 16:42	1300624	1300632	(EPA 524.2)	Chlorodibromomethane	ND	ug/L	0.50	1
01/18/21	01/18/21 16:42	1300624	1300632	(EPA 524.2)	Chloroethane	ND	ug/L	0.50	1
01/18/21	01/18/21 16:42	1300624	1300632	(EPA 524.2)	Chloroform (Trichloromethane)	ND	ug/L	0.50	1
01/18/21	01/18/21 16:42	1300624	1300632	(EPA 524.2)	Chloromethane(Methyl Chloride)	ND	ug/L	0.50	1
01/18/21	01/18/21 16:42	1300624	1300632	(EPA 524.2)	cis-1,2-Dichloroethylene	ND	ug/L	0.50	1
01/18/21	01/18/21 16:42	1300624	1300632	(EPA 524.2)	cis-1,3-Dichloropropene	ND	ug/L	0.50	1
01/18/21	01/18/21 16:42	1300624	1300632	(EPA 524.2)	Dibromomethane	ND	ug/L	0.50	1
01/18/21	01/18/21 16:42	1300624	1300632	(EPA 524.2)	Dichlorodifluoromethane	ND	ug/L	0.50	1
01/18/21	01/18/21 16:42	1300624	1300632	(EPA 524.2)	Dichloromethane	ND	ug/L	0.50	1
01/18/21	01/18/21 16:42	1300624	1300632	(EPA 524.2)	Di-isopropyl ether	ND	ug/L	3.0	1
01/18/21	01/18/21 16:42	1300624	1300632	(EPA 524.2)	Ethyl benzene	ND	ug/L	0.50	1
01/18/21	01/18/21 16:42	1300624	1300632	(EPA 524.2)	Hexachlorobutadiene	ND	ug/L	0.50	1
01/18/21	01/18/21 16:42	1300624	1300632	(EPA 524.2)	Isopropylbenzene	ND	ug/L	0.50	1
01/18/21	01/18/21 16:42	1300624	1300632	(EPA 524.2)	m,p-Xylenes	ND	ug/L	0.50	1
01/18/21	01/18/21 16:42	1300624	1300632	(EPA 524.2)	m-Dichlorobenzene (1,3-DCB)	ND	ug/L	0.50	1
01/18/21	01/18/21 16:42	1300624	1300632	(EPA 524.2)	Methyl Tert-butyl ether (MTBE)	ND	ug/L	0.50	1
01/18/21	01/18/21 16:42	1300624	1300632	(EPA 524.2)	Naphthalene	ND	ug/L	0.50	1
01/18/21	01/18/21 16:42	1300624	1300632	(EPA 524.2)	n-Butylbenzene	ND	ug/L	0.50	1
01/18/21	01/18/21 16:42	1300624	1300632	(EPA 524.2)	n-Propylbenzene	ND	ug/L	0.50	1
01/18/21	01/18/21 16:42	1300624	1300632	(EPA 524.2)	o-Chlorotoluene	ND	ug/L	0.50	1
01/18/21	01/18/21 16:42	1300624	1300632	(EPA 524.2)	o-Dichlorobenzene (1,2-DCB)	ND	ug/L	0.50	1
01/18/21	01/18/21 16:42	1300624	1300632	(EPA 524.2)	o-Xylene	ND	ug/L	0.50	1
01/18/21	01/18/21 16:42	1300624	1300632	(EPA 524.2)	p-Chlorotoluene	ND	ug/L	0.50	1
01/18/21	01/18/21 16:42	1300624	1300632	(EPA 524.2)	p-Dichlorobenzene (1,4-DCB)	ND	ug/L	0.50	1
01/18/21	01/18/21 16:42	1300624	1300632	(EPA 524.2)	p-Isopropyltoluene	ND	ug/L	0.50	1
01/18/21	01/18/21 16:42	1300624	1300632	(EPA 524.2)	sec-Butylbenzene	ND	ug/L	0.50	1
01/18/21	01/18/21 16:42	1300624	1300632	(EPA 524.2)	Styrene	ND	ug/L	0.50	1
01/18/21	01/18/21 16:42	1300624	1300632	(EPA 524.2)	tert-amyl Methyl Ether	ND	ug/L	3.0	1
01/18/21	01/18/21 16:42	1300624	1300632	(EPA 524.2)	tert-Butyl Ethyl Ether	ND	ug/L	3.0	1
01/18/21	01/18/21 16:42	1300624	1300632	(EPA 524.2)	tert-Butylbenzene	ND	ug/L	0.50	1
01/18/21	01/18/21 16:42	1300624	1300632	(EPA 524.2)	Tetrachloroethylene (PCE)	ND	ug/L	0.50	1
01/18/21	01/18/21 16:42	1300624	1300632	(EPA 524.2)	Toluene	ND	ug/L	0.50	1
01/18/21	01/18/21 16:42	1300624	1300632	(EPA 524.2)	Total 1,3-Dichloropropene	ND	ug/L	0.50	1
01/18/21	01/18/21 16:42	1300624	1300632	(EPA 524.2)	Total THM	ND	ug/L	0.50	1
01/18/21	01/18/21 16:42	1300624	1300632	(EPA 524.2)	Total xylenes	ND	ug/L	0.50	1
01/18/21	01/18/21 16:42	1300624	1300632	(EPA 524.2)	trans-1,2-Dichloroethylene	ND	ug/L	0.50	1
01/18/21	01/18/21 16:42	1300624	1300632	(EPA 524.2)	trans-1,3-Dichloropropene	ND (VC)	ug/L	0.50	1

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Prepped	Analyzed	Prep Batch	Analytical Batch	Method	Analyte	Result	Units	MRL	Dilution
01/18/21	01/18/21 16:42	1300624	1300632	(EPA 524.2)	Trichloroethylene (TCE)	ND	ug/L	0.50	1
01/18/21	01/18/21 16:42	1300624	1300632	(EPA 524.2)	Trichlorofluoromethane	ND	ug/L	0.50	1
01/18/21	01/18/21 16:42	1300624	1300632	(EPA 524.2)	Trichlorotrifluoroethane(Freon 113)	ND	ug/L	0.50	1
01/18/21	01/18/21 16:42	1300624	1300632	(EPA 524.2)	Vinyl chloride (VC)	ND	ug/L	0.30	1
01/18/21	01/18/21 16:42	1300624	1300632	(EPA 524.2)	1,2-Dichloroethane-d4	105	%		1
01/18/21	01/18/21 16:42	1300624	1300632	(EPA 524.2)	4-Bromofluorobenzene	86	%		1
01/18/21	01/18/21 16:42	1300624	1300632	(EPA 524.2)	Toluene-d8	100	%		1
<b>SM4500CN-F - Cyanide</b>									
	01/19/21 12:54		1300141	(SM4500CN-F)	Cyanide	ND	mg/L	0.025	1
<b>SM 4500F-C - Fluoride</b>									
	01/19/21 14:06		1300579	(SM 4500F-C)	Fluoride	0.14	mg/L	0.050	1
<b>SM 2320B - Alkalinity in CaCO3 units</b>									
	01/15/21 22:45		1300123	(SM 2320B)	Alkalinity in CaCO3 units	87	mg/L	2.0	1
<b>SM4500-HB - PH (H3=past HT not compliant)</b>									
	01/15/21 22:45		1300432	(SM4500-HB)	PH (H3=past HT not compliant)	7.4	Units	0.10	1
<b>EPA 180.1 - Turbidity</b>									
	01/14/21 18:34		1299823	(EPA 180.1)	Turbidity	7.9	NTU	0.10	1
<b>SM2510B - Specific Conductance</b>									
	01/15/21 22:45		1300438	(SM2510B)	Specific Conductance, 25 C	470	umho/cm	10	1
<b><u>TRAVEL BLANK (202101140069)</u></b>					<b>Sampled on 01/13/2021 1045</b>				
<b>EPA 524.2 - Volatile Organics by GCMS</b>									
01/18/21	01/18/21 17:05	1300624	1300632	(EPA 524.2)	1,1,1,2-Tetrachloroethane	ND	ug/L	0.50	1
01/18/21	01/18/21 17:05	1300624	1300632	(EPA 524.2)	1,1,1-Trichloroethane	ND (LK,R2)	ug/L	0.50	1
01/18/21	01/18/21 17:05	1300624	1300632	(EPA 524.2)	1,1,2,2-Tetrachloroethane	ND	ug/L	0.50	1
01/18/21	01/18/21 17:05	1300624	1300632	(EPA 524.2)	1,1,2-Trichloroethane	ND	ug/L	0.50	1
01/18/21	01/18/21 17:05	1300624	1300632	(EPA 524.2)	1,1-Dichloroethane	ND	ug/L	0.50	1
01/18/21	01/18/21 17:05	1300624	1300632	(EPA 524.2)	1,1-Dichloroethylene	ND	ug/L	0.50	1
01/18/21	01/18/21 17:05	1300624	1300632	(EPA 524.2)	1,1-Dichloropropene	ND	ug/L	0.50	1
01/18/21	01/18/21 17:05	1300624	1300632	(EPA 524.2)	1,2,3-Trichlorobenzene	ND	ug/L	0.50	1
01/18/21	01/18/21 17:05	1300624	1300632	(EPA 524.2)	1,2,3-Trichloropropane	ND	ug/L	0.50	1
01/18/21	01/18/21 17:05	1300624	1300632	(EPA 524.2)	1,2,4-Trichlorobenzene	ND	ug/L	0.50	1
01/18/21	01/18/21 17:05	1300624	1300632	(EPA 524.2)	1,2,4-Trimethylbenzene	ND	ug/L	0.50	1
01/18/21	01/18/21 17:05	1300624	1300632	(EPA 524.2)	1,2-Dichloroethane	ND	ug/L	0.50	1
01/18/21	01/18/21 17:05	1300624	1300632	(EPA 524.2)	1,2-Dichloropropane	ND	ug/L	0.50	1
01/18/21	01/18/21 17:05	1300624	1300632	(EPA 524.2)	1,3,5-Trimethylbenzene	ND	ug/L	0.50	1
01/18/21	01/18/21 17:05	1300624	1300632	(EPA 524.2)	1,3-Dichloropropane	ND	ug/L	0.50	1
01/18/21	01/18/21 17:05	1300624	1300632	(EPA 524.2)	2,2-Dichloropropane	ND (VC,LK,LM)	ug/L	0.50	1

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01/18/21	01/18/21 17:05	1300624	1300632	(EPA 524.2)	2-Butanone (MEK)	ND (VC,LK)	ug/L	5.0	1
01/18/21	01/18/21 17:05	1300624	1300632	(EPA 524.2)	4-Methyl-2-Pentanone (MIBK)	ND	ug/L	5.0	1
01/18/21	01/18/21 17:05	1300624	1300632	(EPA 524.2)	Benzene	ND	ug/L	0.50	1
01/18/21	01/18/21 17:05	1300624	1300632	(EPA 524.2)	Bromobenzene	ND	ug/L	0.50	1
01/18/21	01/18/21 17:05	1300624	1300632	(EPA 524.2)	Bromochloromethane	ND	ug/L	0.50	1
01/18/21	01/18/21 17:05	1300624	1300632	(EPA 524.2)	Bromodichloromethane	ND	ug/L	0.50	1
01/18/21	01/18/21 17:05	1300624	1300632	(EPA 524.2)	Bromoethane	ND	ug/L	0.50	1
01/18/21	01/18/21 17:05	1300624	1300632	(EPA 524.2)	Bromoform	ND	ug/L	0.50	1
01/18/21	01/18/21 17:05	1300624	1300632	(EPA 524.2)	Bromomethane (Methyl Bromide)	ND	ug/L	0.50	1
01/18/21	01/18/21 17:05	1300624	1300632	(EPA 524.2)	Carbon disulfide	ND	ug/L	0.50	1
01/18/21	01/18/21 17:05	1300624	1300632	(EPA 524.2)	Carbon Tetrachloride	ND	ug/L	0.50	1
01/18/21	01/18/21 17:05	1300624	1300632	(EPA 524.2)	Chlorobenzene	ND	ug/L	0.50	1
01/18/21	01/18/21 17:05	1300624	1300632	(EPA 524.2)	Chlorodibromomethane	ND	ug/L	0.50	1
01/18/21	01/18/21 17:05	1300624	1300632	(EPA 524.2)	Chloroethane	ND	ug/L	0.50	1
01/18/21	01/18/21 17:05	1300624	1300632	(EPA 524.2)	Chloroform (Trichloromethane)	ND	ug/L	0.50	1
01/18/21	01/18/21 17:05	1300624	1300632	(EPA 524.2)	Chloromethane(Methyl Chloride)	ND	ug/L	0.50	1
01/18/21	01/18/21 17:05	1300624	1300632	(EPA 524.2)	cis-1,2-Dichloroethylene	ND	ug/L	0.50	1
01/18/21	01/18/21 17:05	1300624	1300632	(EPA 524.2)	cis-1,3-Dichloropropene	ND	ug/L	0.50	1
01/18/21	01/18/21 17:05	1300624	1300632	(EPA 524.2)	Dibromomethane	ND	ug/L	0.50	1
01/18/21	01/18/21 17:05	1300624	1300632	(EPA 524.2)	Dichlorodifluoromethane	ND	ug/L	0.50	1
01/18/21	01/18/21 17:05	1300624	1300632	(EPA 524.2)	Dichloromethane	ND	ug/L	0.50	1
01/18/21	01/18/21 17:05	1300624	1300632	(EPA 524.2)	Di-isopropyl ether	ND	ug/L	3.0	1
01/18/21	01/18/21 17:05	1300624	1300632	(EPA 524.2)	Ethyl benzene	ND	ug/L	0.50	1
01/18/21	01/18/21 17:05	1300624	1300632	(EPA 524.2)	Hexachlorobutadiene	ND	ug/L	0.50	1
01/18/21	01/18/21 17:05	1300624	1300632	(EPA 524.2)	Isopropylbenzene	ND	ug/L	0.50	1
01/18/21	01/18/21 17:05	1300624	1300632	(EPA 524.2)	m,p-Xylenes	ND	ug/L	0.50	1
01/18/21	01/18/21 17:05	1300624	1300632	(EPA 524.2)	m-Dichlorobenzene (1,3-DCB)	ND	ug/L	0.50	1
01/18/21	01/18/21 17:05	1300624	1300632	(EPA 524.2)	Methyl Tert-butyl ether (MTBE)	ND	ug/L	0.50	1
01/18/21	01/18/21 17:05	1300624	1300632	(EPA 524.2)	Naphthalene	ND	ug/L	0.50	1
01/18/21	01/18/21 17:05	1300624	1300632	(EPA 524.2)	n-Butylbenzene	ND	ug/L	0.50	1
01/18/21	01/18/21 17:05	1300624	1300632	(EPA 524.2)	n-Propylbenzene	ND	ug/L	0.50	1
01/18/21	01/18/21 17:05	1300624	1300632	(EPA 524.2)	o-Chlorotoluene	ND	ug/L	0.50	1
01/18/21	01/18/21 17:05	1300624	1300632	(EPA 524.2)	o-Dichlorobenzene (1,2-DCB)	ND	ug/L	0.50	1
01/18/21	01/18/21 17:05	1300624	1300632	(EPA 524.2)	o-Xylene	ND	ug/L	0.50	1
01/18/21	01/18/21 17:05	1300624	1300632	(EPA 524.2)	p-Chlorotoluene	ND	ug/L	0.50	1
01/18/21	01/18/21 17:05	1300624	1300632	(EPA 524.2)	p-Dichlorobenzene (1,4-DCB)	ND	ug/L	0.50	1
01/18/21	01/18/21 17:05	1300624	1300632	(EPA 524.2)	p-Isopropyltoluene	ND	ug/L	0.50	1

Rounding on totals after summation.  
 (c) - indicates calculated results. Analysis is a calculated result. Reported results are not rounded until the final step before reporting. Therefore methods that use a test result with further calculation may have slight differences in final result than the component analyses.

Laboratory Data

Tel: (626) 386-1100  
 Fax: (866) 988-3757  
 1 800 566 LABS (1 800 566 5227)

Report: 913154  
 Project: DRINKING  
 Group: Well 0419-005

**Tom Nance Water Resource Engineering**  
 Tom Nance  
 560 N. Nimitz Hwy. - Suite 213  
 Honolulu, HI 96817

Samples Received on:  
 01/14/2021 0904

Prepped	Analyzed	Prep Batch	Analytical Batch	Method	Analyte	Result	Units	MRL	Dilution
01/18/21	01/18/21 17:05	1300624	1300632	(EPA 524.2)	sec-Butylbenzene	ND	ug/L	0.50	1
01/18/21	01/18/21 17:05	1300624	1300632	(EPA 524.2)	Styrene	ND	ug/L	0.50	1
01/18/21	01/18/21 17:05	1300624	1300632	(EPA 524.2)	tert-amyl Methyl Ether	ND	ug/L	3.0	1
01/18/21	01/18/21 17:05	1300624	1300632	(EPA 524.2)	tert-Butyl Ethyl Ether	ND	ug/L	3.0	1
01/18/21	01/18/21 17:05	1300624	1300632	(EPA 524.2)	tert-Butylbenzene	ND	ug/L	0.50	1
01/18/21	01/18/21 17:05	1300624	1300632	(EPA 524.2)	Tetrachloroethylene (PCE)	ND	ug/L	0.50	1
01/18/21	01/18/21 17:05	1300624	1300632	(EPA 524.2)	Toluene	ND	ug/L	0.50	1
01/18/21	01/18/21 17:05	1300624	1300632	(EPA 524.2)	Total 1,3-Dichloropropene	ND	ug/L	0.50	1
01/18/21	01/18/21 17:05	1300624	1300632	(EPA 524.2)	Total THM	ND	ug/L	0.50	1
01/18/21	01/18/21 17:05	1300624	1300632	(EPA 524.2)	Total xylenes	ND	ug/L	0.50	1
01/18/21	01/18/21 17:05	1300624	1300632	(EPA 524.2)	trans-1,2-Dichloroethylene	ND	ug/L	0.50	1
01/18/21	01/18/21 17:05	1300624	1300632	(EPA 524.2)	trans-1,3-Dichloropropene	ND (VC)	ug/L	0.50	1
01/18/21	01/18/21 17:05	1300624	1300632	(EPA 524.2)	Trichloroethylene (TCE)	ND	ug/L	0.50	1
01/18/21	01/18/21 17:05	1300624	1300632	(EPA 524.2)	Trichlorofluoromethane	ND	ug/L	0.50	1
01/18/21	01/18/21 17:05	1300624	1300632	(EPA 524.2)	Trichlorotrifluoroethane(Freon 113)	ND	ug/L	0.50	1
01/18/21	01/18/21 17:05	1300624	1300632	(EPA 524.2)	Vinyl chloride (VC)	ND	ug/L	0.30	1
01/18/21	01/18/21 17:05	1300624	1300632	(EPA 524.2)	1,2-Dichloroethane-d4	109	%		1
01/18/21	01/18/21 17:05	1300624	1300632	(EPA 524.2)	4-Bromofluorobenzene	88	%		1
01/18/21	01/18/21 17:05	1300624	1300632	(EPA 524.2)	Toluene-d8	97	%		1

Rounding on totals after summation.  
 (c) - indicates calculated results. Analysis is a calculated result. Reported results are not rounded until the final step before reporting. Therefore methods that use a test result with further calculation may have slight differences in final result than the component analyses.



HAWAII STATE DEPARTMENT OF HEALTH  
SAFE DRINKING WATER BRANCH

PUBLIC NOTIFICATION PROCEDURES FOR NEW DRINKING WATER SOURCES  
FOR REGULATED PUBLIC WATER SYSTEMS BELOW THE  
UNDERGROUND INJECTION CONTROL LINE  
MAY 2009

Establishing a new drinking water well below the Underground Injection Control (UIC) line can negatively affect injection well viability in the water well's capture zone. Outreach measures may be required by the Applicant to seek, notify, and solicit comments from affected property owners. The notification and solicitation of comments shall inform the affected property owners about the proposed drinking water well and the implications that protective measures for the drinking water well will have on properties within or near to the well's capture zone. The cost for such measures is the responsibility of the water system owner. Materials and information contained in public notices and direct mailings, must be reviewed and approved by the Safe Drinking Water Branch (SDWB) and its UIC Section prior to distribution.

1. The public notice and information mailings must be distributed before the engineering report for a new drinking water source for regulated public water systems may proceed to the interagency review process. At the SDWB's discretion, the interagency review may run concurrently with the public notice period.
2. To begin the public notification process, the Applicant shall submit to the SDWB:
  - A map of appropriate scale and detail delineating the well's entire capture zone;
  - Identification of all properties and property owners within the entire capture zone; and
  - Proposed materials and information to implement contacting affected land owners, for example, contents for a public notice and for direct mailings.

The capture zone is defined as a 1/4-mile radius around the drinking water well. If the proposed drinking water well is artesian, the capture zone also includes a

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1/2-mile swath running hydrologically up-gradient from the drinking water well to the UIC line.

3. The submitted information and materials will be used to draft a public notice and to generate for-your-information mailers, the reproduction and distribution of which will be at the Applicant's expense. The Applicant will be informed if further information or clarification is needed to complete this task.
4. Once approved, the Applicant shall publish the public notice in the local County newspaper(s) (e.g. Garden Isle, Honolulu Star-Bulletin, Maui News, West Hawaii Today and Tribune Herald) and send the for-your-information mailers to all identified property owners within the capture zone by certified mail with return receipt.
5. The Applicant shall submit verification of the public notice and mailing of the for-your-information mailers to the SDWB.
6. If comments are generated from the public notice or mailers, the Applicant shall respond to all comments with consensus and input from the SDWB. The Applicant shall mail all comment responses by certified mail with return receipt. A copy of all responses shall be submitted to the SDWB.
7. The conclusion of this initiative to inform affected property owners about a proposed drinking water well will depend on the complexity of comments and issues to be resolved. The SDWB may impose additional conditions on the drinking water well, including but not limited to, additional regulatory monitoring of contaminants known to be injected into the aquifer.

Other Considerations

If the water system owns all of the property within the capture zone, the Applicant shall submit documentation of property ownership, and parts of the above procedures may be waived by the SDWB.

The SDWB strongly recommends siting drinking water wells, where the water system may exercise source water protection and eliminate potentially contaminating activities, such as injection wells (e.g. owning all the land within the capture

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zone). In addition, if the water system-owned property is later sold, the SDWB strongly recommends including a deed restriction prohibiting potentially contaminating activities.

The SDWB reserves the authority to amend these procedures or contents for applicability, efficiency, effectiveness, clarity or changing concerns. An amendment, if any, may be effective immediately.