

GENERAL MANAGER'S REPORT

REPORT ON WATER SYSTEM OPERATIONS FOR THE MONTH OF :

The Meter Period for this report is:		through	
The Billing Period for this Report is:		through	
The Activity Period for this Report is:		through	
1	Total Water Pumped (TWP) from all Wells in Metering Period		mg ¹
2	Total Water Used for Unidirectional Flushing in Metering Period		mg
3	Total Water Used for Reactionary Flushing in Metering Period		mg
4	Total Water Used for Backwashing Filters in Metering Period		mg
5	Total Water Lost and Used Repairing Leaks in Metering Period		mg
6	Total Other Known Water Used in Metering Period		mg
7	Total Water Sold in Metering Period		mg
8	Total Authorized Water Use in Metering Period (sum of 2 through 7)		mg
9	Total Distribution System Leakage (DSL) in Metering Period (difr. between 1 and 8)		mg
10	Percentage of TWP that is DSL		pct
11	Total Water Pumped (TWP) from all Wells in 2015 to date		mg
12	Total Authorized Water Use in 2015 to date		mg
13	Total Distribution System Leakage (DSL) in 2015 to date		mg
14	Percentage of TWP that is DSL in 2015 to date		pct
15	Residential Accounts in Billing Period	TS ² :	TBR ³ :
16	Commercial Accounts in Billing Period	TS:	TBR:
17	Fire Flow Accounts in Billing Period	TS:	TBR:
18	Surfside Management in Billing Period	Contract:	REIMB ⁵ :
19	Other / Total Income in Billing Period	Other:	TI ⁶ :
20	Past Due Accounts	30 days:	≥60 days:
			Locked/Off:
			Liened Prop.:
21	Activity Period	Water Main Locates:	Customer Valves Installed:
22	Water Quality Complaints:	Customer Service Calls:	Other:

¹ Million Gallons
² Total Services
³ Total Base Rate
⁴ Total Metered Rate
⁵ Reimbursement
⁶ Total Income

Operations Report:

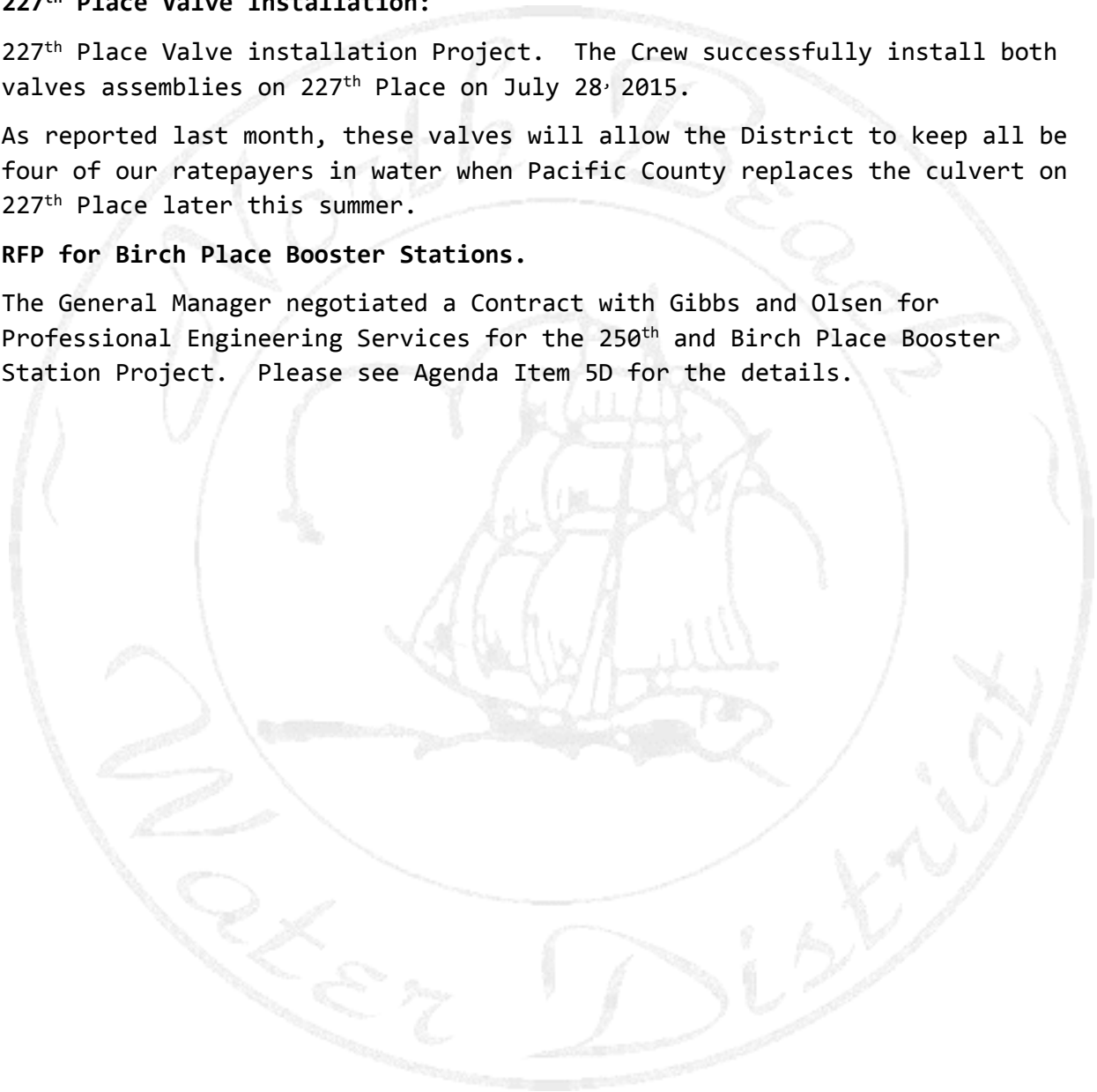
227th Place Valve Installation:

227th Place Valve installation Project. The Crew successfully install both valves assemblies on 227th Place on July 28, 2015.

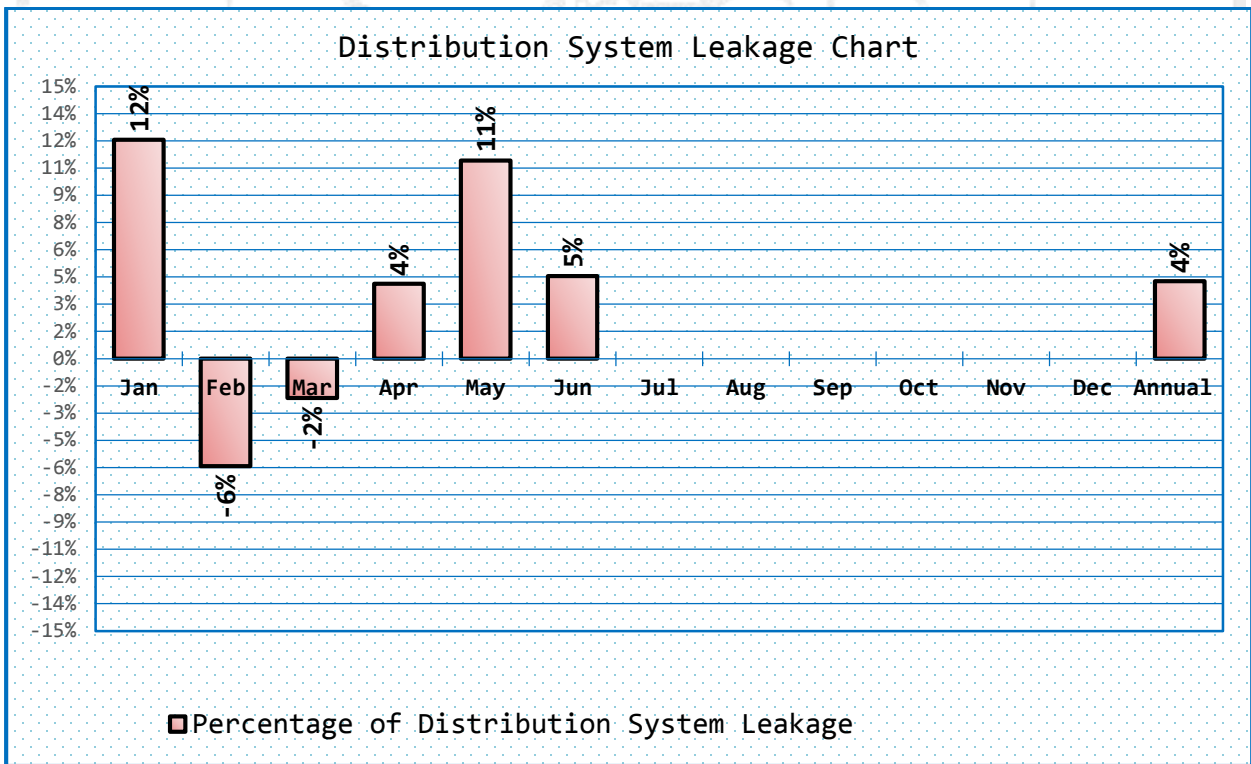
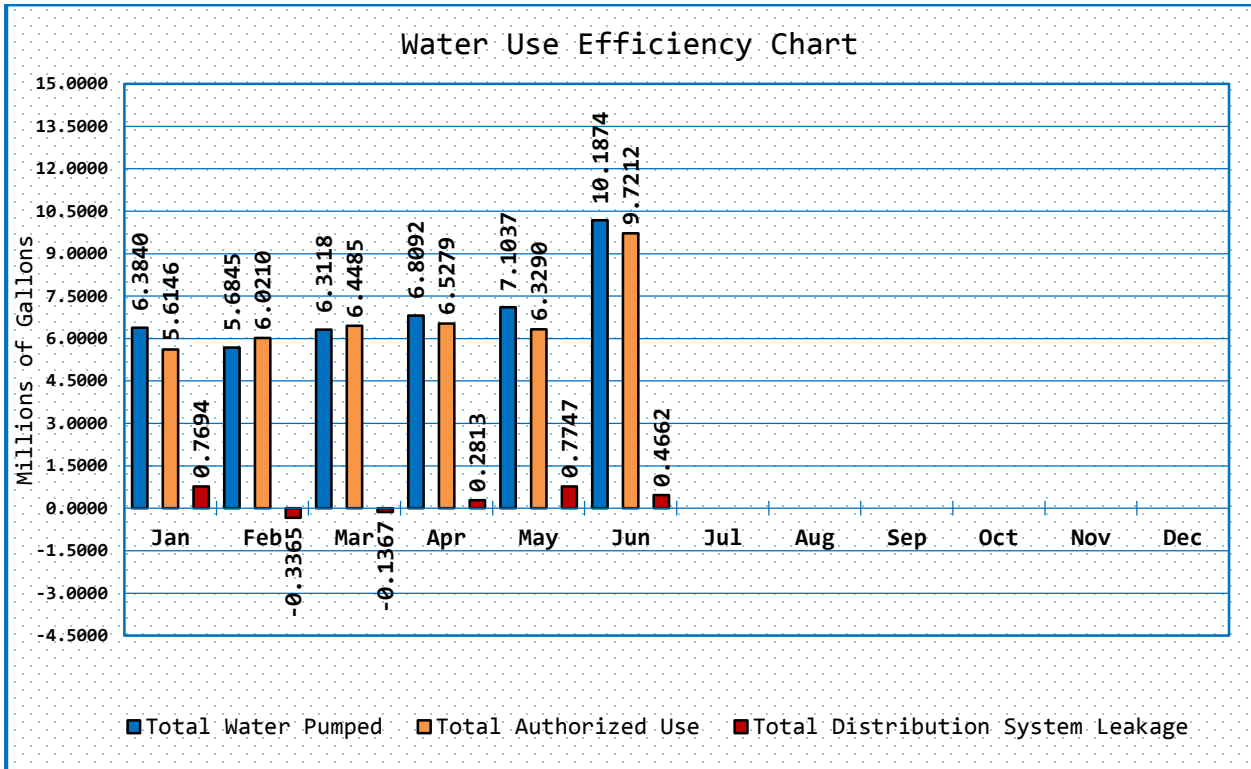
As reported last month, these valves will allow the District to keep all be four of our ratepayers in water when Pacific County replaces the culvert on 227th Place later this summer.

RFP for Birch Place Booster Stations.

The General Manager negotiated a Contract with Gibbs and Olsen for Professional Engineering Services for the 250th and Birch Place Booster Station Project. Please see Agenda Item 5D for the details.



Water Use Efficiency Charts:



Treatment Plant Report:

There were very few equipment failures in July, 2015. We did have an issue with overheating in Well House 4 at the North Wellfield. Thermal overloads on several magnetic starters were tripping due to heat. We called Ford Electric to diagnose the cause of the heat and he determined the motors were not drawing excessive amperes which eliminated pump failure as a cause. The starters are from 15 to 20 years old and the contactors are well past their useful life expectancy. Over time contactors will wear and during operation greater heat will be generated. The greater heat from the aging contactors coupled with the excessive ambient heat in the building due to hot summer days leads to nuisance trips of pumps.

All of these starters are due to be replaced with the DWSRF project. The cost of replacing the contactors is about \$300.00 per starter. There are five starters Well House #4. As an alternative, we installed a small air conditioner in Well House #4 for about \$350.00. The air conditioner keeps the ambient temperature between 65° F and 70° F. The air conditioner has been operating in the Well House #4 for two weeks with no thermal overload trips.

Drinking Water State Revolving Fund Project:

The Wiegardt Wellfield Treatment Pilot test has been revised and resubmitted to DOH. A copy of the revisions is attached to this report.

The water right change is on a pace to be completed before the end of the year. According to Mike Krautkramer, LHG, RG, CPG, Robinson Noble, Inc., Tammy Hall LHG, Water Resource Program, WA Dept. of Ecology, has given her verbal approval of the Report of Examination (ROE) prepared by Robinson Noble, Inc. for the District's Water Right Change.

The ROE should be published by the Department of Ecology (Department) in the next week or two. Once the Department publishes the ROE the clock will start to tick. There will be a thirty day comment period. If no comments are received, we do not anticipate any, the Department will issue the permit for the Change. There will be a 45 day appeal period after the Department issues the permit but after that the permit becomes a certificate and it is complete.

The District will not be appealing the Change unless the Department does not provide the following:

Priority Date after ----- December 15, 1969
Total Quantity Authorized for Withdrawal ----- Qi ≥500 gpm----- Qa ≥ 168 AFY
Purpose ----- Municipal
Period of Use ----- 01/01 - 12/31
Source Location ----- Pacific County Tax Parcel No. 1211331300
Source Location Quadrant ----- SW ¼ of the NE ¼ of SEC. 33N RAN. 11W TWN. 12N

Place of Use ----- Service Area as shown in most recent approved WSP
Development Schedule ----- Complete Project < January, 2019
Development Schedule 2 ----- Water to Full Use < January, 2025

Provisions:

I expect the Department to include standard provision on measurement, monitoring, metering, and reporting of water use. In additions they will probably add:

Chloride Monitoring ----- Salt and seawater intrusion issues

Department of Fish and Wildlife ----- I do not expect any conditions from DFW.

Grant the access to Department personnel to enter the project location, with proper credentials and at reasonable times, to inspect records of water use, wells measuring devices, and associated distribution systems for compliance with the law.

These are the things I expect to be in the ROE. I have no reason to believe the Department will attempt to reduce the Districts water rights in any way during the change application but I will be watching very close to make sure it does not happen.

AMR Meter Installation Project Report:

The crew installed 313 AMR meters in July, 2015. There are a total of 2,001 AMR meters installed as of July 30, 2015. There are 685 meters left to install. We will have to average 137 meters a month to complete the metering project on time.

Office and Equipment Building Report:

John Geyer has produced two quotes from reputable Ground Source Heat Pump Contractors. They are:

Robbins' Air, Inc. -----Aberdeen, WA.----- \$36,131

Thermal Technologies -----Snohomish, WA.----- \$34,600

I am also meeting with Ryan Helligso and P & L Johnson next week. Ryan wants to give P & L Johnson a chance at the project. Once I have a bid from P & L Johnson I will have David prepare a change order based on those bids your consideration.

I did not get on bid for the ground source heat pump borings. I did get a call and follow-up email from Steve Snorsky, Geo Loop Tec, Seattle WA, I have copied his email below:

Bill,

Thanks for taking the time to discuss your upcoming project. Fortunately and unfortunately our drill rigs are booked thru the end of 2015. Although we would love to drill on the beach, I would highly recommend tapping into you existing water main and diverting the required gpm thru the water source heat pump. The discharge can be "dumped" into an infiltration system and be returned to the aquifer. Since you already have a presurized water system, there should be no additional pumping penalty. This would be the most cost effective approach to installing a geothermal system. Good luck and let me know if I can help out. Thank you.



Steve Snorsky
Air Tec Company
Geo Loop Tec Company
206-767-1895 Office
206-276-0779 Cell
ssnorsky@airtecco.com

At this point I am reverting back to using water from the distribution system for the heat pump. The average gallons per day will be about 1,500. Instead of running the water to the backwash pond we will install an infiltration bed to put the water back into the aquifer.

Water Quality Reports:

I have attached copies of the water samples the District submitted for analysis in July, 2015.

The District submitted 9 coliform bacteria samples to ALS Environmental Laboratories in Kelso Washington on Wednesday July 7, 2015 for analysis. 7 samples tested negative for coliform bacteria and 2 samples tested positive for coliform bacteria. 8 repeat samples were collected and submitted to ALS Environmental Laboratories in Kelso Washington July 10, 2015. All 8 samples tested negative for coliform bacteria. 4 repeat samples were collected and submitted to ALS Environmental Laboratories in Kelso Washington On July 14, 2014 for e-coli bacteria from the North Wellfield. All 4 samples tested negative for e-coli bacteria.

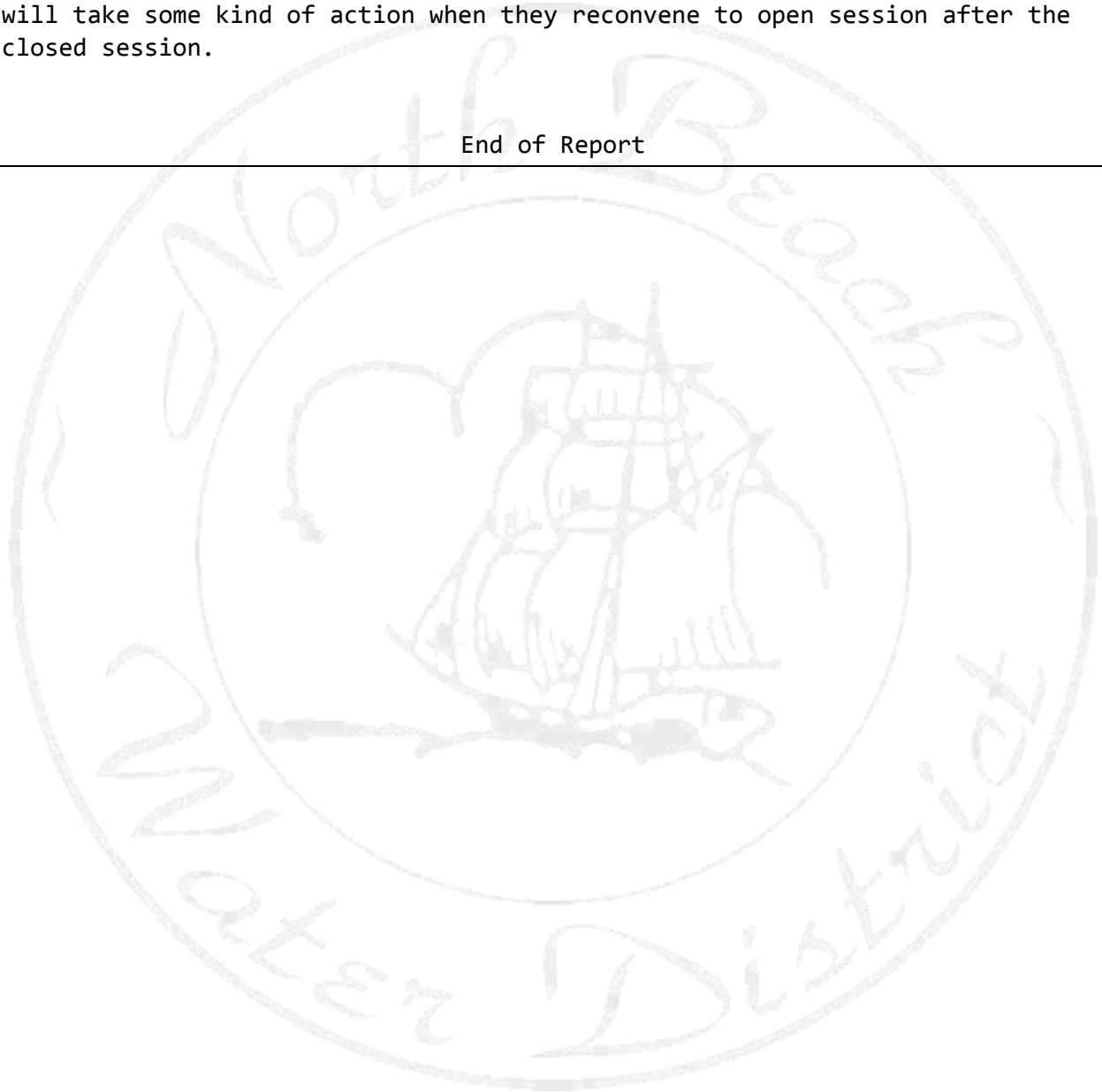
In addition to microbial samples the district also submitted samples for:

Arsenic ----- June 26, 2015 sample 0.006 mg/L
Arsenic ----- July 10, 2015 sample 0.007 mg/L

Surfside Amended Water System Management Agreement.

I presented the Amended Water System Management Agreement to the Surfside Water Planning Committee on August 12, 2015. The Committee included three Board Trustees including the Board Vice President and Treasurer. The next step will be for the Board to consider the Amended Agreement during a closed session at their August 15, 2015 regular meeting. I am certain the Board will take some kind of action when they reconvene to open session after the closed session.

End of Report





Gray & Osborne, Inc.
CONSULTING ENGINEERS

July 29, 2015

Ms. Teresa Walker, P.E.
Regional Engineer
Washington State Department of Health
Southwest Drinking Water Regional Operations
P.O. Box 47823
Olympia, Washington 98504-7823

SUBJECT: RESPONSES TO COMMENTS, PILOT STUDY FOR
WIEGARDT WELLS (ID 63000C)
NORTH BEACH WATER DISTRICT, PACIFIC COUNTY,
WASHINGTON
G&O #13224.02

Dear Ms. Walker:

On behalf of the North Beach Water District, we are providing these responses to the Department of Health (DOH) comments dated May 29, 2015, regarding the North Beach Water District Pilot Study for the Wiegardt Wells. DOH comments and questions appear in *italics* followed by the District's responses.

GENERAL COMMENTS

- The data from the pilot study appears incomplete and lacking in some basic parameters. Data from various filter loading rates and run times is missing. We would like to see arsenic concentration monitored throughout the filter runs in order to assess filter performance. In addition, filter runs with various hydraulic loading rates should be performed in order to determine arsenic breakthrough and optimize filter run times. Please consider running at some lower hydraulic loading rates than the 4.5 gallons per minute per square foot (gpm/sf) that was evaluated or performing a pilot test with the proposed 72 inches of filter media to demonstrate arsenic removal performance and filtration efficiency goals.*

The pilot test was operated under the assumption that arsenic would co-precipitate with ferric hydroxide and mechanically entrain in the



Ms. Teresa Walker, P.E.
July 29, 2015
Page 2

carbon filter bed. Iron measurements were taken throughout filter runs to assess filter performance and to proxy arsenic removal.

To verify this assumption, samples for post-filter arsenic were taken and results are now shown in Table 3-8.

As indicated in the report, the initial pilot study work reviewed hydraulic loading between 1 and 4.5 gpm/sf. This work indicated that adequate removal and filter run time were demonstrated at a hydraulic loading rate of 4.5 gpm/sf. Because decreasing the hydraulic loading rate significantly increases the treatment system cost, the higher loading rate was used to verify arsenic removal.

Although a full-scale treatment system would be equipped with 72 inches of filter media, piloting this media depth would require an approximately 12-foot tall pilot apparatus to accommodate bed expansion during backwash. Therefore, the pilot testing was conducted using a 28-inch deep filter bed within a 60-inch tall column.

SPECIFIC COMMENTS

- Page 1-3. Given that there are different issues associated with the two arsenic oxidation states and treatment regimens can vary because of this, we strongly recommend conducting arsenic speciation for the raw water from these wells. While the discussion indicates that the majority of arsenic is present in the arsenite species, data is not presented to support this finding. We also recommend speciating arsenic following oxidant (dissolved oxygen or permanganate) addition to evaluate effectiveness of pre-oxidation.*

A single arsenic speciation test was performed on raw water from Well No. 3. This sample that was tested indicated a total inorganic arsenic concentration of 11.9 mg/L with 8.4 mg/L occurring in the arsenite (As^{+3}) speciation, and 3.5 mg/L occurring in the arsenate (As^{+5}) speciation. Arsenic speciation was not performed after ambient air injection because dissolved oxygen is not effective as an arsenic oxidant and its role in the pilot is for catalysis of hydrogen sulfide.

- Please describe if the catalytic function of the proposed GAC media is expected to be regenerated in situ by the proposed process or if the catalytic benefit is expected to decline with use. If the catalytic benefit of*



Ms. Teresa Walker, P.E.
July 29, 2015
Page 3

the media is expected to decline, please describe impacts on the expected media life and bed replacement frequency. We recommend retaining sodium permanganate feed in the full-scale design to provide enhanced treatment performance in case loss of adsorptive capacity is observed over time.

The catalytic function of the media for oxidizing hydrogen sulfide is not expected to decline over time.

Pilot testing did indicate that increased arsenic removal was possible with the addition of potassium permanganate, but this is thought to be independent of the catalytic media. Although arsenic removal was demonstrated to less than 50 percent of the MCL without potassium permanganate addition, a potassium permanganate feed system is included in order to improve treatment efficacy.

4. *Page 2-2. Please discuss how the contact chambers were sized and how this relates to the selected empty bed contact time (EBCT). Please identify the minimum EBCT in the full-scale system design criteria.*

The contact chambers for the pilot study were sized to provide ferric chloride/air contact time commensurate with what would be practical in full-scale implementation at the upper end of the hydraulic loading rates that were evaluated. Two contact chambers were provided in series to determine the sensitivity of the treatment process to changes in contact time.

The Pilot Study Protocol identified a target EBCT of 3 minutes to 20 minutes based upon the manufacturer's recommendation for hydrogen sulfide catalysis. At 4.5 gpm/sf, the pilot column provided an EBCT of approximately 4 minutes. The full-scale system will have a media depth of 72 inches, 2.6 times greater than the pilot column. Therefore, the EBCT will be proportionally larger, at approximately 10 minutes.

Table 3-9 has been revised to include a recommended full-scale EBCT of 10 minutes.

5. *If ambient air is meant to be the primary oxidant, then dissolved oxygen measurements are necessary to evaluate the performance of the pilot testing. Please provide dissolved oxygen data to support the proposed 4 milligrams per liter (mg/L) dissolved oxygen concentration.*



Ms. Teresa Walker, P.E.
July 29, 2015
Page 4

A minimum dissolved oxygen concentration of 4 mg/L is recommended by Calgon to provide catalytic functionality for the oxidative removal of hydrogen sulfide. Initial sampling indicated a dissolved oxygen concentration of approximately 11 mg/L upstream of the filter, declining to 2 to 6 mg/L downstream of the filter. A discussion of dissolved oxygen data has been added to the pilot study report.

6. *In e-mail comments dated September 26, 2014, several parameters were to be monitored over the course of the study. Among the parameters requested, silica and TOC were not included in the pilot study report. Please provide results of these parameters. Silica has been known to interfere with arsenic treatment and performance and can be a customer acceptance issue if present in elevated concentrations.*

Data have been added on page 3-5 of the report showing pre- and post-filter silica of 31.3 and 29.5 mg/L, respectively. TOC data has been added to the report in Table 1-1.

Arsenic present in the raw water is co-precipitated with ferric hydroxide; the precipitate is removed across the carbon filter by mechanical entrainment, not adsorption. If the media were to become coated with silica, precipitated ferric hydroxide would likely continue to be removed across the filter.

7. *Page 2-3. Please comment on any operation issues associated with catalytic granulated activated carbon (i.e. media fouling, etc.). The absence of a disinfectant, such as chlorine, during or subsequent to GAC filtration may result in increased biological activity and increased risk of coliforms in the distribution system. Chlorine addition and maintenance of a distribution system chlorine residual is recommended to mitigate this risk.*

The operational characteristics of catalytic activated carbon are expected to be similar to standard granular activated carbon. Since the carbon filters will be backwashed regularly, fouling of the filter media is not expected. North Beach Water District does not currently chlorinate their water and would prefer to continue this practice. The report now includes data on HPC testing, which indicated a minimal chance of bacterial growth in the filters.



Ms. Teresa Walker, P.E.
July 29, 2015
Page 5

8. *The results appear to show that the greatest arsenic removal performance is realized at a ferric chloride dose of 5 mg/L when the filtrate iron concentrations exceed 0.1 mg/L. Please provide additional information showing the relationship between ferric chloride dose, filtrate iron concentration, and filtrate arsenic concentration and discuss why the lower ferric chloride dose (4 mg/L) was selected for the majority of the pilot tests.*

A ferric chloride dose of 4 mg/L was selected since it reliably provided adequate removal (to less than 50 percent of the MCL) during the pilot study and represents a minimum design target. The final design dosage will be optimized at the full-scale facility.

9. *Please provide results showing the raw and filtered water arsenic concentrations throughout the duration of the filter run time compared with the filtrate iron concentration.*

These data have been added to the report in Table 3-8. These data show arsenic removal varies little over the filter run.

10. *Please provide figures showing data from the full filter run tests that were discussed in the report. It is unclear what changed for the different filter runs. Please describe or show a table explaining changes or differences between runs one through five.*

Additional text has been added to describe each of the filter runs on the figures. In addition, a new table (Table 3-7) has been added that outlines the parameters for each filter run.

11. *The results filter run times (five to seven hours) appear to be quite low and it appears that such a short filter run duration would be associated with poor filter efficiency from low Unit Filter Run Volumes (UFRV) and excessive filter backwashing. This could impact the design for residuals handling. The full-scale design criteria proposed a bed of 72 inches of media, which may result in a more reasonable UFRV at the proposed hydraulic loading rate of 4.5 gpm/sf. Please identify the plan for residuals handling and goals for minimum UFRV and filter efficiency.*

Filter run time is expected to scale proportional to filter media volume. The pilot study used a media depth of 28 inches. The full-scale design would utilize a media depth of 72 inches and the same hydraulic loading



Ms. Teresa Walker, P.E.
July 29, 2015
Page 6

rate. Therefore, it is expected that the full-scale filter run time would be approximately 2.6 times longer than the run times observed in the pilot study. Based on the filter run data presented on Figure 3-3, it is expected that the full-scale run times may be as long as 23 hours. However, it should be noted that run time is correlated with backwash duration and ferric chloride dose. At the design dose of 4 mg/L, a filter run time of between 20 and 23 hours is expected.

Backwash water will be sent to an on-site backwash basin for infiltration.

12. *Please provide a discussion of how the filter depth is expected to achieve adequate run times or consider addition test results using a pilot filter loaded with 72 inches of media to demonstrate performance or conducting addition filter runs at lower hydraulic loading rates to demonstrate filtration goals. Please describe what parameter(s) such as arsenic concentration, will be used to trigger filter backwashing and how the backwash cycle will be operated to ensure filtered water arsenic concentrations remain below the maximum contaminant level (MCL).*

Filter run time is expected to scale proportional to filter media volume. Please see the response to Comment 11 for additional information relating to filter run time. However, we have planned for the terminal head loss to also increase proportional to media depth. Filter backwash would be initiated based on one of the following: (1) head loss across the filter, (2) filter throughput, or (3) elapsed time.

13. *Page 3-2. pH has been known to significantly affect arsenic removal. Please provide additional comments for why it did not seem to affect iron removal in Table 3-1.*

Our limited pH testing showed that changes in pH did not appreciably affect the filterability of iron floc; arsenic removal was not measured directly. Because the pilot study demonstrated adequate arsenic removal without pH adjustment, the effect of pH was not further investigated after the initial jar tests.

14. *Page 3-3. Please discuss the difference in carbon mesh sizes between 12X40 and 20X50. How do mesh sizes related to sieve size analysis?*

The 12 x 40 mesh carbon has no more than 4 percent (mass) passing a 40 US mesh screen and no more than 5 percent (mass) retained on a 12 US



Ms. Teresa Walker, P.E.
July 29, 2015
Page 7

mesh screen. The 20 x 50 mesh carbon has no more than 4 percent (mass) passing a 50 US mesh screen and no more than 5 percent (mass) retained on a 20 US mesh screen.

15. *Please show a table of arsenic removal by mesh size.*

In the revised report, Table 3-5 has been edited to include arsenic removal with 20 x 50 mesh carbon.

16. *Page 3-4, Table 3-4. It is curious that potassium permanganate did not significantly increase arsenic removal, given that arsenite is the primary form in raw water. Please comment on additional reasons why this might occur.*

The data do indicate that potassium permanganate may have increased arsenic efficiency when comparing the data in Tables 3-2 and 3-4. Because adequate arsenic removal was demonstrated without potassium permanganate, the effect of potassium permanganate was not studied sufficiently to speculate on its effect on arsenic speciation.


17. *Page 3-5. Please match the number in the report to the correct table. It references Table 9, which is incorrect.*

This error has been corrected in the revised report.

These responses should adequately address all of your comments. Please contact me at (360) 292-7481 if you have any questions.

Sincerely,

GRAY & OSBORNE, INC.


Joe Plahuta, P.E.

JMP/hhj

cc: Ms. Anna Vosa, P.E., Regional Engineer, Washington State Department of Health, Office of Drinking Water
Mr. Bill Neal, General Manager, North Beach Water District



ALS Environmental
 1317 South 13th Avenue
 Kelso, WA 98626
ARSENIC TEST PANEL
 for the State of Washington

REPORT OF ANALYSIS

Date Collected: (MM/DD/YY) 6/25/2015	System Group: (Select A, B, Other) A
Water System ID Number: 63000C	System Name: North Beach Water District
Lab Sample Number: 01769421	County: Pacific
Sample Location: Finished Mixed Sample	Source Number(s): S06
Sample Purpose:	Date Received: 06/26/15
Select One	Date Analyzed: 07/01/15
<input checked="" type="checkbox"/> RC- Routine/Compliance	Date Reported: 07/20/15
<input type="checkbox"/> C- Confirmation	Comments: K1506942-001
<input type="checkbox"/> Investigative	
<input type="checkbox"/> Other(specify)	
Sample Composition:	Sample Type: (Select One)
Select One	<input type="checkbox"/> Pre-Treatment/Raw
<input checked="" type="checkbox"/> S- Single Source	<input checked="" type="checkbox"/> Post-Treatment/Finished
<input type="checkbox"/> B- Blended (List multiple source numbers)	<input type="checkbox"/> Unknown
<input type="checkbox"/> C- Composite	Sample Collected by: Dennis Schweizer
<input type="checkbox"/> D- Distribution sample	Phone Number: 360-214-2810
Send Report to: Bill Neal WA DOH	Bill to:

DOH #	ANALYTE	RESULTS	UNITS	SRL	TRIGGER	MCL	MCL Exceeded check if yes	Method	Analyst
0004	ARSENIC	0.006	mg/L	0.001	0.010	0.010		200.8	GJ

NOTES:

June 2014 Arsenic Sample Good

SRL (State Reporting Level): indicates the minimum reporting level required by the Washington Department of Health (DOH).
Trigger Level: DOH Drinking Water Response Level. Systems with compounds detected at concentrations in excess of this level are required to take additional samples. Contact your regional DOH office for further information.
MCL (Maximum Contaminant Level): If the contaminant amount exceeds the MCL, immediately contact your regional DOH office.
NA (Not Analyzed): in the results column indicates this compound was not included in the current analysis.
ND (Not Detected): in the results column indicates this compound was analyzed and not detected at a level greater than or equal to the SRL.
<(0.00X): indicates the compound was not detected in the sample at or above the concentration indicated. (lab mdl) lower than the SRL.

Comments: _____



ALS Environmental
 1317 South 13th Avenue
 Kelso, WA 98626
ARSENIC TEST PANEL
 for the State of Washington

REPORT OF ANALYSIS

Date Collected: (MM/DD/YY) 7/9/2015	System Group: (Select A, B, Other) A
Water System ID Number: 63000C	System Name: North Beach Water
Lab Sample Number: 01775191	County: Pacific
Sample Location: NWF Sample	Source Number(s): S06
Sample Purpose: Select One	Date Received: 07/10/15
<input checked="" type="checkbox"/> RC- Routine/Compliance	Date Analyzed: 07/16/15
<input type="checkbox"/> C- Confirmation	Date Reported: 07/21/15
<input type="checkbox"/> Investigative	Comments: K1507519-005
<input type="checkbox"/> Other(specify)	
Sample Composition: Select One	Sample Type: (Select One)
<input checked="" type="checkbox"/> S- Single Source	<input type="checkbox"/> Pre-Treatment/Raw
<input type="checkbox"/> B- Blended (List multiple source numbers)	<input checked="" type="checkbox"/> Post-Treatment/Finished
<input type="checkbox"/> C- Composite	<input type="checkbox"/> Unknown
<input type="checkbox"/> D- Distribution sample	Sample Collected by: Dennis S.
Send Report to: Bill Neal WADOH	Phone Number: 360-655-4144
	Bill to:

DOH #	ANALYTE	RESULTS	UNITS	SRL	TRIGGER	MCL	MCL Exceeded check if yes	Method	Analyst
0004	ARSENIC	0.007	mg/L	0.001	0.010	0.010		200.8	GJ

NOTES:

July 2015 ARSENIC Sample Good

SRL (State Reporting Level): indicates the minimum reporting level required by the Washington Department of Health (DOH).
Trigger Level: DOH Drinking Water Response Level. Systems with compounds detected at concentrations in excess of this level are required to take additional samples. Contact your regional DOH office for further information.
MCL (Maximum Contaminant Level): If the contaminant amount exceeds the MCL, immediately contact your regional DOH office.
NA (Not Analyzed): in the results column indicates this compound was not included in the current analysis.
ND (Not Detected): in the results column indicates this compound was analyzed and not detected at a level greater than or equal to the SRL.
<(0.00X): indicates the compound was not detected in the sample at or above the concentration indicated.
 (lab mdl) lower than the SRL.

Comments:

SR# KI 507314-001

ALS Environmental
1317 S. 13th Avenue • Kelso, WA 98626

COLIFORM BACTERIA ANALYSIS

Date Sample Collected <u>7/17/15</u> Month Day Year	Time Sample Collected <u>10:00</u> <input checked="" type="checkbox"/> AM <input type="checkbox"/> PM	County <u>PACIFIC</u>
---	--	--------------------------

Type of Water System (check only one box)
 Group A Group B Private Household
 Other _____

Group A and Group B Systems - Provide from Water Facilities Inventory (WFI):

ID# 63000CSystem Name: North Beach WaterContact Person: Bill NealDay Phone: 360 665-4144 Cell Phone: ()Eve. Phone: 360 244-0068 FAX: ()Email: B.Neal@northbeachwater.com

Send results to: (Print full name, address and zip code)

North Beach Water
P.O. Box 618
Ocean Park, WA 98640

SAMPLE INFORMATIONSample collected by (name): DennisSpecific location where sample collected: S-19 23400 Pac Hwy

Special instructions or comments:

Type of Sample (MUST CHECK ONLY ONE BOX OF #1 THROUGH #4 LISTED BELOW)

#1. <input checked="" type="checkbox"/> Routine Distribution Sample Chlorinated: Yes ___ No <input checked="" type="checkbox"/> Chlorine Residual: Total ___ Free ___	#2. Repeat Sample (after unsat. routine) <input type="checkbox"/> Distribution System <input type="checkbox"/> Source Groundwater Rule (GWR) (Population of 1,000 or less) Unsatisfactory routine lab number: <u>0 1 7 -</u> Unsatisfactory routine collect date: ___/___/___ Chlorinated: Yes ___ No ___ Chlorine Residual: Total ___ Free ___
#3. Raw Water Source Sample <input type="checkbox"/> E.coli - GWR source sample <input type="checkbox"/> Fecal - Surface, GWI, some springs <input type="checkbox"/> Other <u>S</u>	

#4. Sample Collected for Information Only
 Investigative ___ Construction / Repairs ___ Other ___

LAB USE ONLY	DRINKING WATER RESULTS	LAB USE ONLY
<input type="checkbox"/> Unsatisfactory Total Coliform Present and		<input checked="" type="checkbox"/> Satisfactory
<input type="checkbox"/> E.coli present <input type="checkbox"/> E.coli absent		

Replacement Sample Required:
 Sample too old (>30 hours) TNTC _____
 Improper Container Turbid culture

Bacterial Density Results: Plate Count _____/ml. E.coli _____/100ml.
 Total Coliform _____/100ml. Fecal Coliform _____/100ml.

Method Code: MICR: <u>S M 9 2 2 3 b</u>	Date, Time and Temp Received: <u>7/8/15 0940 hr</u>
Date Analyzed: <u>7/8/15</u>	Date Reported: <u>7/9/15</u>
Sample Number (DOH number plus five digits) <u>0 1 7 - 7 3 1 4 1</u>	Lab Use Only: <u># 7/8/15</u>

INTERPRETATION OF RESULTS FOR DRINKING WATER

The analysis performed on this drinking water sample is an examination for the presence of coliform organisms in the water and indicates the bacteriological quality of the sample. The presence of coliform organisms is used by health organizations worldwide as an indicator for the possible presence of other disease causing organisms.

REPORTING OF RESULTS:

Group A Public Water Systems must report the results of Drinking Water Analysis to the State as specified in WAC 246-290-480.

SATISFACTORY RESULTS:

The absence of coliforms from any sample is satisfactory. Proper system maintenance and bacteriological monitoring should be continued routinely to insure the safety of the water supply.

UNSATISFACTORY RESULTS:

Any coliform presence is unsatisfactory.

The presence of coliforms indicates the system is not properly protected against contamination and may be unsafe for human consumption. Unsatisfactory samples should be investigated IMMEDIATELY and repeat samples submitted. Contact your local health department or DOH Regional Office for assistance in determining the source of contamination and corrective procedures.

When fecal coliforms or E. coli are reported present in a sample, the **IMMEDIATE ACTION REQUIRED** by a Public System is:

- Investigate to determine the cause and correct the situation. Your local health department or DOH Regional Office can assist you.
- Submit repeat samples as specified in WAC 246-290-480
- Publicly notify the users of public water systems as specified in WAC 246-290-480
- Contact your local health department or DOH Regional Office as specified in WAC 246-290-480.

TEST UNSUITABLE: Resample Immediately

"Confluent Growth" means bacteria have grown into a continuous mass which makes counting impossible, "TNC" means bacteria are too numerous to count. "Excess Debris" means that particulates in the water interfere with the interpretation of test results, "Turbid Culture" means overgrowth of other bacteria can interfere with coliform analysis. If any box indicating an unsuitable test is checked, the presence of coliform bacteria could not be determined and a new sample must be obtained for testing.

RESAMPLE:

Sample too old. (Sample to be tested must be received within 30 hours). Not in proper container. (Bottle to be used for testing must be purchased from a certified lab within 6 months.)
 Insufficient volume. (Sample must be at least 100 ml)
 If not tested, a new sample must be submitted for analysis.

FOR ADDITIONAL INFORMATION:

Contact your local health department OR the laboratory where this sample was tested OR the Department of Health, Drinking Water Program Regional Office.

SR# K1507314-001



ALS Environmental
1317 S. 13th Avenue • Kelso, WA 98626

COLIFORM BACTERIA ANALYSIS

Date Sample Collected 7/17/15 Month Day Year	Time Sample Collected 8:30 AM PM	County PACIFIC
--	--	-------------------

Type of Water System (check only one box)
 Group A Group B Private Household Other

Group A and Group B Systems - Provide from Water Facilities Inventory (WFI):

ID# 63000C

System Name: North Beach Water

Contact Person: Bill Neel

Day Phone: (360) 665-4144 Cell Phone: ()

Eve. Phone: 360 244-0065 FAX: ()

Email: Bneel@NorthBeachWater.com

Send results to: (Print full name, address and zip code)

North Beach Water

PO Box 618

Ocean Park, WA, 98640

SAMPLE INFORMATION

Sample collected by (name): Dennis

Specific location where sample collected: S-4 27900 0' st

Special instructions or comments:

Type of Sample (MUST CHECK ONLY ONE BOX OF #1 THROUGH #4 LISTED BELOW)

<p>#1. Routine Distribution Sample</p> <p>Chlorinated: Yes <input type="checkbox"/> No <input checked="" type="checkbox"/></p> <p>Chlorine Residual: Total <input type="checkbox"/> Free <input type="checkbox"/></p>	<p>#2. Repeat Sample (after unsat. routine)</p> <p><input type="checkbox"/> Distribution System</p> <p><input type="checkbox"/> Source Groundwater Rule (GWR) (Population of 1,000 or less)</p> <p>Unsatisfactory routine lab number: <u>017</u></p> <p>Unsatisfactory routine collect date: _____</p> <p>Chlorinated: Yes <input type="checkbox"/> No <input type="checkbox"/></p> <p>Chlorine Residual: Total <input type="checkbox"/> Free <input type="checkbox"/></p>
<p>#3. Raw Water Source Sample</p> <p><input type="checkbox"/> E. coli - GWR source sample</p> <p><input type="checkbox"/> Fecal - Surface, GWI, some springs</p> <p><input type="checkbox"/> Other</p> <p>Public systems must provide source number from WFI</p>	

#4. Sample Collected for Information Only

Investigative Construction / Repairs Other

LAB USE ONLY DRINKING WATER RESULTS LAB USE ONLY

Unsatisfactory Total Coliform Present and
 E. coli present E. coli absent

Satisfactory

Replacement Sample Required:

Sample too old (>30 hours) TNTC

Improper Container Turbid culture

Bacterial Density Results: Plate Count _____ /ml. E. coli _____ /100ml.

Total Coliform _____ /100ml. Fecal Coliform _____ /100ml.

Method Code: MICR- S M 9 2 2 3-b Date, Time and Temp Received: 7/8/15 0910 hr

Date Analyzed: 7.8.15 AB Date Reported: 7.9.15

Sample Number (DOH number plus five digits): 017-73142 Lab Use Only: K 2/8/15

INTERPRETATION OF RESULTS FOR DRINKING WATER

The analysis performed on this drinking water sample is an examination for the presence of coliform organisms in the water and indicates the bacteriological quality of the sample. The presence of coliform organisms is used by health organizations worldwide as an indicator for the possible presence of other disease causing organisms.

REPORTING OF RESULTS:

Group A Public Water Systems must report the results of Drinking Water Analysis to the State as specified in WAC 246-290-480.

SATISFACTORY RESULTS:

The absence of coliforms from any sample is satisfactory. Proper system maintenance and bacteriological monitoring should be continued routinely to insure the safety of the water supply.

UNSATISFACTORY RESULTS:

Any coliform presence is unsatisfactory.

The presence of coliforms indicates the system is not properly protected against contamination and may be unsafe for human consumption. Unsatisfactory samples should be investigated IMMEDIATELY and repeat samples submitted. Contact your local health department or DOH Regional Office for assistance in determining the source of contamination and corrective procedures.

When fecal coliforms or E. coli are reported present in a sample, the **IMMEDIATE ACTION REQUIRED** by a Public System is:

1. Investigate to determine the cause and correct the situation. Your local health department or DOH Regional Office can assist you.
2. Submit repeat samples as specified in WAC 246-290-480
3. Publicly notify the users of public water systems as specified in WAC 246-290-480
4. Contact your local health department or DOH Regional Office as specified in WAC 246-290-480.

TEST UNSUITABLE: Resample Immediately

"Confluent Growth" means bacteria have grown into a continuous mass which makes counting impossible, "TNC" means bacteria are too numerous to count. "Excess Debris" means that particulates in the water interfere with the interpretation of test results, "Turbid Culture" means overgrowth of other bacteria can interfere with coliform analysis. If any box indicating an unsuitable test is checked, the presence of coliform bacteria could not be determined and a new sample must be obtained for testing.

RESAMPLE:

Sample too old. (Sample to be tested must be received within 30 hours). Not in proper container. (Bottle to be used for testing must be purchased from a certified lab within 6 months.) Insufficient volume. (Sample must be at least 100 ml) If not tested, a new sample must be submitted for analysis.

FOR ADDITIONAL INFORMATION:

Contact your local health department OR the laboratory where this sample was tested OR the Department of Health, Drinking Water Program Regional Office.

SR# K1507314-003

ALS Environmental
1317 S. 13th Avenue • Kelso, WA 98626

COLIFORM BACTERIA ANALYSIS

Date Sample Collected <u>7/17/15</u> Month Day Year	Time Sample Collected <u>9:30</u> <input checked="" type="checkbox"/> AM <input type="checkbox"/> PM	County <u>Pacific</u>
---	---	--------------------------

Type of Water System (check only one box) Private Household
 Group A Group B Other _____

Group A and Group B Systems - Provide from Water Facilities Inventory (WFI):

ID# 63000CSystem Name: North Beach WaterContact Person: Bill NeplDay Phone: (360) 665-4144 Cell Phone: ()Eve. Phone: (360) 244-0068 FAX: ()Email: Bnepl@northbeachwater.com

Send results to: (Print full name, address and zip code)

North Beach WaterP.O. Box 618Ocean Park, WA 98640**SAMPLE INFORMATION**Sample collected by (name): DennisSpecific location where sample collected:
S-6 2410 Birch Pl

Special instructions or comments:

Type of Sample (MUST CHECK ONLY ONE BOX OF #1 THROUGH #4 LISTED BELOW)

#1. <input checked="" type="checkbox"/> Routine Distribution Sample Chlorinated: Yes <input type="checkbox"/> No <input checked="" type="checkbox"/> Chlorine Residual: Total <input type="checkbox"/> Free <input type="checkbox"/>	#2. Repeat Sample (after unsat. routine) <input type="checkbox"/> Distribution System <input type="checkbox"/> Source Groundwater Rule (GWR) (Population of 1,000 or less) Unsatisfactory routine lab number: <u>017</u> Unsatisfactory routine collect date: ____/____/____ Chlorinated: Yes <input type="checkbox"/> No <input type="checkbox"/> Chlorine Residual: Total <input type="checkbox"/> Free <input type="checkbox"/>
#3. Raw Water Source Sample <input type="checkbox"/> E.coli - GWR source sample <input type="checkbox"/> Fecal - Surface, GWI, some springs <input type="checkbox"/> Other <u>S</u> Public systems must provide source number from WFI	#4. <input type="checkbox"/> Sample Collected for Information Only Investigative _____ Construction / Repairs _____ Other _____

LAB USE ONLY	DRINKING WATER RESULTS	LAB USE ONLY
<input type="checkbox"/> Unsatisfactory Total Coliform Present and <input type="checkbox"/> E.coli present	<input checked="" type="checkbox"/> Satisfactory	

Replacement Sample Required:
 Sample too old (>30 hours) TNTC _____
 Improper Container Turbid culture

Bacterial Density Results: Plate Count _____ /ml. E.coli _____ /100ml.

Total Coliform _____ /100ml. Fecal Coliform _____ /100ml.

Method Code: MICR- <u>S M 9 2 2 3 6</u>	Date, Time and Temp Received: <u>7/18/15 0940 AM</u>
Date Analyzed <u>7/8/15 06</u>	Date Reported: <u>7/9/15</u>
Sample Number (DOH number plus five digits) <u>017-73242</u>	Lab Use Only: <u>W 7/9/15</u>

INTERPRETATION OF RESULTS FOR DRINKING WATER

The analysis performed on this drinking water sample is an examination for the presence of coliform organisms in the water and indicates the bacteriological quality of the sample. The presence of coliform organisms is used by health organizations worldwide as an indicator for the possible presence of other disease causing organisms.

REPORTING OF RESULTS:

Group A Public Water Systems must report the results of Drinking Water Analysis to the State as specified in WAC 246-290-480.

SATISFACTORY RESULTS:

The absence of coliforms from any sample is satisfactory. Proper system maintenance and bacteriological monitoring should be continued routinely to insure the safety of the water supply.

UNSATISFACTORY RESULTS:

Any coliform presence is unsatisfactory.

The presence of coliforms indicates the system is not properly protected against contamination and may be unsafe for human consumption. Unsatisfactory samples should be investigated IMMEDIATELY and repeat samples submitted. Contact your local health department or DOH Regional Office for assistance in determining the source of contamination and corrective procedures.

When fecal coliforms or E. coli are reported present in a sample, the **IMMEDIATE ACTION REQUIRED** by a Public System is:

1. Investigate to determine the cause and correct the situation. Your local health department or DOH Regional Office can assist you.
2. Submit repeat samples as specified in WAC 246-290-480
3. Publicly notify the users of public water systems as specified in WAC 246-290-480
4. Contact your local health department or DOH Regional Office as specified in WAC 246-290-480.

TEST UNSUITABLE: Resample Immediately

"Confluent Growth" means bacteria have grown into a continuous mass which makes counting impossible, "TNTC" means bacteria are too numerous to count. "Excess Debris" means that particulates in the water interfere with the interpretation of test results, "Turbid Culture" means overgrowth of other bacteria can interfere with coliform analysis. If any box indicating an unsuitable test is checked, the presence of coliform bacteria could not be determined and a new sample must be obtained for testing.

RESAMPLE:

Sample too old. (Sample to be tested must be received within 30 hours). Not in proper container. (Bottle to be used for testing must be purchased from a certified lab within 6 months.)
Insufficient volume. (Sample must be at least 100 ml)
If not tested, a new sample must be submitted for analysis.

FOR ADDITIONAL INFORMATION:

Contact your local health department OR the laboratory where this sample was tested OR the Department of Health, Drinking Water Program Regional Office.

SR# K1502314-004



ALS Environmental
1317 S. 13th Avenue • Kelso, WA 98626

COLIFORM BACTERIA ANALYSIS

Date Sample Collected <u>7/17/15</u> Month Day Year	Time Sample Collected <u>9:45</u> <input checked="" type="checkbox"/> AM <input type="checkbox"/> PM	County <u>Pacific</u>
---	---	--------------------------

Type of Water System (check only one box)
 Group A Group B Private Household Other _____

Group A and Group B Systems - Provide from Water Facilities Inventory (WFI):

ID# 63000C
 System Name: North Beach Water
 Contact Person: Brian North
 Day Phone: (360) 665-4144 Cell Phone: ()
 Eve. Phone: (360) 244-0068 FAX: ()
 Email: Bnorth@northbeachwater.com
 Send results to: (Print full name, address and zip code)
North Beach Water
PO Box 618
Ocean Park, WA 98640

SAMPLE INFORMATION

Sample collected by (name): Dennis
 Specific location where sample collected: S-8 2050 Birch Pl
 Special instructions or comments:

Type of Sample (MUST CHECK ONLY ONE BOX OF #1 THROUGH #4 LISTED BELOW)

#1. <input checked="" type="checkbox"/> Routine Distribution Sample Chlorinated: Yes _____ No <input checked="" type="checkbox"/> Chlorine Residual: Total _____ Free _____	#2. Repeat Sample (after unsat. routine) <input type="checkbox"/> Distribution System <input type="checkbox"/> Source Groundwater Rule (GWR) (Population of 1,000 or less) Unsatisfactory routine lab number: <u>017</u> Unsatisfactory routine collect date: _____ Chlorinated: Yes _____ No _____ Chlorine Residual: Total _____ Free _____
#3. Raw Water Source Sample <input type="checkbox"/> E. coli - GWR source sample <input type="checkbox"/> Fecal - Surface, GWI, some springs <input type="checkbox"/> Other Public systems must provide source number from WFI	#4. <input type="checkbox"/> Sample Collected for Information Only Investigative _____ Construction / Repairs _____ Other _____

LAB USE ONLY DRINKING WATER RESULTS LAB USE ONLY

Unsatisfactory Total Coliform Present and
 E. coli present E. coli absent Satisfactory

Replacement Sample Required:
 Sample too old (>30 hours) TNTC _____
 Improper Container Turbid culture

Bacterial Density Results: Plate Count _____ /ml. E. coli _____ /100ml.
 Total Coliform _____ /100ml. Fecal Coliform _____ /100ml.

Method Code: MICR- <u>S M 9 2 3 3 6</u>	Date, Time and Temp Received: <u>7/18/15 0940 AM</u>
Date Analyzed: <u>7/8/15</u>	Date Reported: <u>7/15</u>
Sample Number (DOH number plus five digits): <u>017-77144</u>	Lab Use Only: <u>H 7/9/15</u>

INTERPRETATION OF RESULTS FOR DRINKING WATER

The analysis performed on this drinking water sample is an examination for the presence of coliform organisms in the water and indicates the bacteriological quality of the sample. The presence of coliform organisms is used by health organizations worldwide as an indicator for the possible presence of other disease causing organisms.

REPORTING OF RESULTS:

Group A Public Water Systems must report the results of Drinking Water Analysis to the State as specified in WAC 246-290-480.

SATISFACTORY RESULTS:

The absence of coliforms from any sample is satisfactory. Proper system maintenance and bacteriological monitoring should be continued routinely to insure the safety of the water supply.

UNSATISFACTORY RESULTS:

Any coliform presence is unsatisfactory.

The presence of coliforms indicates the system is not properly protected against contamination and may be unsafe for human consumption. Unsatisfactory samples should be investigated IMMEDIATELY and repeat samples submitted. Contact your local health department or DOH Regional Office for assistance in determining the source of contamination and corrective procedures.

When fecal coliforms or E. coli are reported present in a sample, the **IMMEDIATE ACTION REQUIRED** by a Public System is:

1. Investigate to determine the cause and correct the situation. Your local health department or DOH Regional Office can assist you.
2. Submit repeat samples as specified in WAC 246-290-480
3. Publicly notify the users of public water systems as specified in WAC 246-290-480
4. Contact your local health department or DOH Regional Office as specified in WAC 246-290-480.

TEST UNSUITABLE: Resample Immediately

"Confluent Growth" means bacteria have grown into a continuous mass which makes counting impossible, "TNC" means bacteria are too numerous to count. "Excess Debris" means that particulates in the water interfere with the interpretation of test results, "Turbid Culture" means overgrowth of other bacteria can interfere with coliform analysis. If any box indicating an unsuitable test is checked, the presence of coliform bacteria could not be determined and a new sample must be obtained for testing.

RESAMPLE:

Sample too old. (Sample to be tested must be received within 30 hours). Not in proper container. (Bottle to be used for testing must be purchased from a certified lab within 6 months.)
 Insufficient volume. (Sample must be at least 100 ml)
 If not tested, a new sample must be submitted for analysis.

FOR ADDITIONAL INFORMATION:

Contact your local health department **OR** the laboratory where this sample was tested **OR** the Department of Health, Drinking Water Program Regional Office.