

NAVAL AIR WEAPONS STATION CHINA LAKE
WATER SYSTEM PERMIT NO. 1510703

CONSUMER CONFIDENCE REPORT
(Annual Water Quality Report)

Calendar Year 2013

Compiled by:

Michael Stoner

Naval Air Weapons Station China Lake
Environmental Management Division
Code PR-241
Bldg.00982, Rm 207
Ph: 760.939.3243
Email: michael.stoner@navy.mil

NAVAL AIR WEAPONS STATION CHINA LAKE

CONSUMER CONFIDENCE REPORT

Calendar Year 2013

The Environmental Management Division (EMD-Code PR241) is pleased to provide you with the annual Consumer Confidence Report for the Naval Air Weapons Station (NAWS) China Lake. Keeping the employees, contractors, residents, and visitors at NAWS China Lake informed of our water quality is part of our service. Our goal is to provide to you a safe and dependable supply of drinking water. If you need additional copies of this report, please visit the Environmental Management Division office, located in Building 00981, Room 207, or call Mr. Michael Stoner at 939-3243. If there are other water users at your location (remote facilities, etc.), we recommend you distribute this report to those water users also.

WATER SOURCES

In the Indian Wells Valley (North Range), drinking water provided by the Station's water distribution system is pumped from six ground water wells located in the Harvey Wellfield (near Inyokern) and Intermediate Wellfield (about 3 miles west of the Main Gate) areas and two small-diameter production wells located at Baker Tower and Lower Baker Range. Ground water levels range from about 220-260 feet below ground surface in the Harvey and Intermediate wellfields while groundwater levels in the Baker Range area wells range from about 40-60 feet below ground surface. Water for the primary system in the North Range is pumped into storage facilities also located in the Harvey Wellfield and Intermediate Wellfield plus additional storage facilities near the "B" Mountain, Armitage Airfield, China Lake Propulsion Laboratory, and Skytop facilities. The Baker Range wells each have one 5,000 gallon storage tank located near the wellheads. All water pumped from subsurface sources is chlorinated at the wellhead and blended throughout the water distribution system. The water quality provided at the tap from the Harvey Wellfield and Intermediate Wellfield wells is considered excellent with all constituents within State and Federal Maximum Contaminant Levels (MCLs) except for arsenic concentrations at Well #18 and Total Dissolved

Solids (Secondary Standard) at Well Baker LB and Well Baker Tower. At Well #18, arsenic sample results have exceeded the Maximum Contaminant Level (MCL) of 10 ppb. To reduce the arsenic concentrations of groundwater entering the water system, a blending Plan was approved by the State Department of Public Health that requires Well #18 to run simultaneously with at least one other well in the system to bring the arsenic concentration below 10 ppb. Well #18 was officially put in "Stand-By" status in June 2012 and will not be used unless needed to meet future demand. Both Well Baker LB and Well Baker Tower exceed Secondary Standards for Total Dissolved Solids (TDS) so bottled water is provided for employee, contractor, and visitor consumption in those remote facilities.

In the Pilot Knob Valley (South Range), drinking water is provided to the facilities by three water wells located near the Gunline Road (Well 24), Sea Site #3, and Sea Site #1 areas. Well 25, also located along the Gunline Road, serves as a backup well for Well 24. Water is produced from subsurface aquifers at a depth of approximately 250 feet below land surface and delivered to adjacent storage tanks. Water is provided to the Superior Valley facility by a ground water well located near the main testing facility. All water is chlorinated at the wellhead and the water quality is considered acceptable with most general mineral constituents within the State and Federal Maximum Contaminant Levels (MCL). Arsenic concentrations in three of the water source wells (Well 24, Well 25, and Well Sea Site #3) in the South Ranges are over the recently-established MCL. Arsenic treatment facilities have been constructed that treat water produced from Well Sea Site #3, Well 24, and Well 25 to concentrations below the MCL. All groundwater produced at those sites are treated using ion-exchange (ferric hydroxide). Weekly arsenic samples are collected from the two arsenic treatment facilities and water currently being served is below the MCL. Bottled water continues to be served in all of these areas.

WATER QUALITY TESTING

Data included in this report includes results for the following constituents: general minerals/general physical constituents, metals, inorganic compounds, volatile and semi-volatile compounds, asbestos, nitrates, microbacteriological (coliform bacteria), arsenic, and the constituents for the Disinfection/Disinfectant Byproducts Monitoring Rule. We are pleased to report that our

drinking water (after treatment in some areas) meets all Federal and State requirements. The results of this sampling and our water conservation efforts are presented within Tables 1-6 in this report. Table 1 shows the results for inorganic constituents. Table 2 shows the microbiological monitoring results for both the North Range and South Range water distribution systems. Table 3 shows the Arsenic Rule information and results from samples collected from 2004 through 2013, Table 4 depicts the results for miscellaneous water system sampling requirements and Table 5 shows the overall results for general groundwater chemistry from each of the production wells. Finally, Table 6 shows the total groundwater produced from groundwater production wells at NAWS China Lake from FY 2007 through FY 2013 (Table 6 shows two graphs; one from FY 2011-FY 2013; and the other for the FY 2007-FY 2010 timeframe.

CONTACT FOR QUESTIONS

We want our customers to be informed about their water. If you have any questions about this report or other questions related to the water system(s) at NAWS China Lake, please call Mr. Michael Stoner at 939-3243.

DEFINITIONS

The following definitions are provided so the reader can better understand the many terms and abbreviations included within this report.

Maximum Contaminant Level (MCL):

The MCL is the highest level of a contaminant that is allowed in drinking water. Primary MCLs are set as close to the PHGs (or MCLGs) as is economically and technologically feasible. Secondary MCLs are set to protect the odor, taste, and appearance of drinking water.

Maximum Contaminant Level Goal (MCLG):

The level of a contaminant in drinking water below which there is no known or expected risk to health. MCLGs are set by the U.S. Environmental Protection Agency.

Nephelometric Turbidity Unit (NTU):

Nephelometric turbidity unit is the measure of the clarity of water. Turbidity in excess of 5 NTU is barely noticeable to the average person.

Public Health Goal (PHG):

The level of a contaminant in drinking water below which there is no known or expected risk to health. PHGs are set by the California Environmental Protection Agency.

Primary Drinking Water Standard (PDWS):

MCLs for contaminants that affect health along with their monitoring, reporting, and water treatment requirements.

Parts per Million (ppm) or Milligrams per Liter (mg/l):

One part per million corresponds to one minute in two years or a single penny in \$10,000.

Parts per Billion (ppb) or Micrograms per Liter (ug/l):

One part per billion corresponds to one minute in 2,000 years, or a single penny in \$10,000,000.

Picocuries per Liter (pCi/L):

Picocuries per liter is a measure of the radioactivity in water.

NO FEDERAL OR STATE VIOLATIONS

As you can see in Table 1 through Table 5, with the exception of Well #18 (arsenic) and the Baker area wells (TDS) in the North Range and South Range arsenic results, the NAWS China Lake water system is well within the standards set by all Federal and State regulatory agencies. Natural groundwater in the areas of South Range Wells 24, 25, and Sea Site #3 have arsenic concentrations above the MCL, however, groundwater produced from those three wells with elevated arsenic concentrations are currently being treated to serve water below the Maximum Contaminant Level (MCL) of 10 ppb.

HEALTH RISK QUESTIONS

All drinking water, including bottled water, may reasonably be expected to contain at least small amounts of some contaminants. The presence of the contaminants does not

necessarily indicate that the water poses a health risk. More information about the contaminants and their potential health risk can be obtained by calling the Environmental Protection Agency's Safe Drinking Water Hotline at 1-800-426-4791.

Some people may be more vulnerable to contaminants in drinking water than the general population. Immuno-compromised persons such as persons with cancer undergoing chemotherapy, persons who have undergone organ transplant, people with HIV/AIDS or other immune system disorders, some elderly, and infants can be particularly at risk from infections. These people should seek advice about their drinking water from their health-care providers. The U.S. Environmental Protection Agency-Centers for Disease Control (CDC) guidelines on appropriate means to lessen the risk of infection by *Cryptosporidium* and other microbial contaminants are also available from the Safe Drinking Water Hotline (1-800-426-4791).

EDUCATIONAL INFORMATION

The sources of drinking water (both tap and bottled water) in the State of California include rivers, lakes, streams, ponds, reservoirs, springs, wastewater plants, and wells. As water travels over the surface of the land or through the ground, it dissolves naturally-occurring minerals and, in some cases, radioactive material, and can pick up substances resulting from the presence of animals or from human activity. Contaminants that may be present in source water before it is treated include the following:

Microbial Contaminants: Viruses and bacteria, which may come from sewage treatment.

Inorganic Contaminants: Salts and metals, which can be naturally-occurring or result from urban storm water.

Pesticides and Herbicides: May come from a variety of sources such as agriculture, urban storm water runoff, and residential uses.

Organic Chemicals: Including synthetic and volatile organic chemicals, which are products of industrial processes and petroleum production, and can, also come from gas

stations, urban storm water runoff, agricultural application, and septic systems.

Radioactive Contaminants: Can be naturally-occurring or be the result of oil and gas production and mining activities.

SOURCE WATER ASSESSMENT

We have completed our Source Water Assessment required by the State-Department of Public Health. The Source Water Assessment is required by the State and assesses our production well sites and their vulnerability to Possible Contaminating Activities (PCAs). Generally, the only PCAs within a one-mile radius of our water sources (production wells) are down-gradient sewer collection ponds in Inyokern, limited septic systems in Inyokern and China Lake Acres, the Indian Wells Valley Airport, low and high density housing in Inyokern and China Lake Acres, and historic/present day gas stations. Due to the nature of our aquifer system (mainly due to natural hydrogeologic characteristics and depth to ground water) in our production wellfields, there should be little concern for surface contaminants to reach our groundwater sources.

WATER CONSERVATION

Groundwater is the sole source of drinking water in the Indian Wells Valley and is considered a finite resource. Each employee, contractor, resident, and visitor should practice water conservation techniques in their workplace and at home. NAWS China Lake Instruction #11300.2C is the current Navy water conservation policy at China Lake. Also, the Navy and other signatories of the Indian Wells Valley Cooperative Groundwater Management Committee have compiled various water conservation techniques in their Water Conservation Policy. The Water Conservation Policy is posted at www.iwvgroundwater.org.

NAWS China Lake (Public Works-Utilities Branch) continues to work on various irrigation projects that focus on water conservation through system replacements (ie., improved irrigation piping/sprinkler design), irrigation controllers, and replacing grass with low water-use plants and/or artificial surfaces. The irrigation system replacements use modern system, best-design practices to replace old, outdated, and failing systems. The Navy's goal of 20% water savings from FY2007-FY2009 was aggressive

but was achieved with the help of everybody. The water-use graphs in Table 6 reflect some of the water savings from FY2007-FY2013 due to the achievements of the Public Works Department and water conservation practices of the employees, contractors, and residents of the Station.

CONCLUSIONS

The water supply served for drinking water at NAWS China Lake meets all Federal and State drinking water standards. We also test our water at recommended intervals and report to the California Department of Public Health on a monthly basis. In our efforts to supply good water quality, it is necessary to make continual improvements in the water distribution system. During the past few years, we have drilled one new production well (Well 24), set Well 18 to a "Stand-By" status, upgraded three water production well sites, installed seven pump control valves in the Intermediate/FH Pumping Stations, re-roofed the "B" Mountain reservoir, replaced several miles of water main pipelines from the Intermediate Wellfield to the FH Reservoir area, and performed other upgrades as necessary. We have addressed the Arsenic Rule with the installation of two granular ferric hydroxide treatment facilities for Wells 24, 25 and Sea Site 3 in the Pilot Knob Valley (all well sites are currently under the same Water Permit). This project assures that water served to the customers in those areas will have arsenic concentrations in their drinking water of less than 10 ppb (MCL).

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Attachment 1

CCR Posting

An "All-Hands" message (electronic mail) was delivered with the website link for the CCR and hardcopies were distributed to the following locations:

Housing Office
Training Center
Michelson Laboratory
Administration Building
Armitage Airfield (Air Terminal)
Visitor Center

The 2013 CCR can be located on the NAWS China Lake PIER website:

www.cnrc.navyregionsouthwest.com/go/doc/4275/1178099/

TABLE 1
NAWS-CHINA LAKE
2013 WATER SAMPLING RESULTS

INORGANIC CONSTITUENTS							
Constituent	Violation	Range	Unit	MCL or MCLG	PHG	Source	Health Effects Language
1. Arsenic (*)	No	ND-34.0	ppb	10	NA	Erosion of natural deposits runoff from orchards, glass and electronic production waste.	Some people who drink water containing arsenic in excess of the MCL for many years may experience skin damage or circulatory system problems, and may have an increased risk of cancer.
2. Iron	No	<100-2200	ppb	.300	NA	Leaching and natural erosion.	NA

(*) Granular ferric hydroxide arsenic removal treatment facilities are in operation at Well DSL (SS#3) and Wells 24/25 in the South Range area. See Table 3 for arsenic concentration results.

TABLE 2
NAWS-CHINA LAKE
2013 MICROBIOLOGICAL TEST RESULTS

Microbiological Constituent	MCL	PHG	North Range Sites	South Range Sites	Typical Source(s)
Total Coliform Bacteria	2 or 5%	0	3 Present	0 Present	Natural in Environment

Coliform bacteria monitoring in the NAWS-China Lake water distribution system is required on a monthly basis at 14 locations, although NAWS-China Lake staff sample up to approximately 30 locations per month to assure a safe drinking water system. During the entire 2013 sampling program, there were three positive coliform bacteria result within the water system and when those particular sampling sites was re-sampled, the results came back "absent" of coliform bacteria. This indicates either a sampling error or laboratory contamination was likely during the initial sampling event.

ARSENIC RULE INFORMATION

As required by the State-Department of Public Health, all arsenic concentrations over ½ the new MCL should be reported in table form. Table 3 shows weekly/monthly arsenic concentrations at each production well and treatment facility. As required by the State-Department of Public Health, all results of 5 ppb or greater (MCL=10 ppb) are shown in **BOLD** lettering. Results for “raw” water are samples of groundwater collected at the wellhead and results for “treated” samples were collected after ferric hydroxide treatment.

TABLE 3
NAWS-CHINA LAKE
2004-2013 ARSENIC RULE RESULTS

Sampling Source	Sample Date	Wellfield	Area Served	Results	MCL
Well 15A (Raw)	20 Sep. 2004	Harvey	North Range	ND	10 ppb
	27 Dec. 2006	Harvey	North Range	2.2 ppb	10 ppb
	19 May 2009	Harvey	North Range	ND	10 ppb
	21 Dec 2011	Harvey	North Range	ND	10 ppb
Well 27 (Raw)	20 Sep. 2004	Harvey	North Range	2.2 ppb	10 ppb
	27 Dec. 2006	Harvey	North Range	2.4 ppb	10 ppb
	19 May 2009	Harvey	North Range	ND	10 ppb
	22 Dec. 2011	Harvey	North Range	2.7 ppb	10 ppb
	09 May 2012	Harvey	North Range	2.7 ppb	10 ppb
Well 30 (Raw)	20 Sep. 2004	Harvey	North Range	3.2 ppb	10 ppb
	27 Dec. 2006	Harvey	North Range	3.5 ppb	10 ppb
	19 May 2009	Harvey	North Range	ND	10 ppb
	22 Dec. 2011	Harvey	North Range	3.1	10 ppb
	09 May 2012	Harvey	North Range	4.6 ppb	10 ppb
Well 31 (Raw)	20 Sep. 2004	Harvey	North Range	2.5 ppb	10 ppb
	27 Dec. 2006	Harvey	North Range	3.1 ppb	10 ppb
	19 May 2009	Harvey	North Range	2.5 ppb	10 ppb
	21 Dec. 2011	Harvey	North Range	2.8 ppb	10 ppb
	09 May 2012	Harvey	North Range	3.6 ppb	10 ppb
Well 18C (Raw)	20 Sep. 2004	Intermediate	North Range	11.0 ppb	10 ppb
	17 Apr. 2007	Intermediate	North Range	5.7 ppb	10 ppb
	19 May 2009	Intermediate	North Range	9.6 ppb	10 ppb
	21 Dec. 2011	Intermediate	North Range	14 ppb	10 ppb
	09 May 2012	Intermediate	North Range	15.0 ppb	10 ppb

TABLE 3 (Cont.)

**NAWS-CHINA LAKE
2004-2013 ARSENIC RULE RESULTS**

Sampling Source	Sample Date	Wellfield	Area Served	Results	MCL
Well 28 (Raw)	20 Sep. 2004	Intermediate	North Range	6.9 ppb	10 ppb
	17 Apr. 2007	Intermediate	North Range	8.3 ppb	10 ppb
	16 Dec. 2009	Intermediate	North Range	8.3 ppb	10 ppb
	20 Dec. 2011	Intermediate	North Range	6.3 ppb	10 ppb
	09 May 2012	Intermediate	North Range	7.2 ppb	10 ppb
Well Baker Tower (Raw)	23 Aug. 2012	Remote	North Range	<2.0 ppb	10 ppb
Well Baker LB	21 May 2013	Remote	North Range	9.3 ppb	10 ppb
	23 Oct. 2013	Remote	North Range	9.3 ppb	10 ppb
Sea Site #1 (Raw)	16 Dec. 2004	Pilot Knob Valley	South Range	ND	10 ppb
	26 Dec. 2006	Pilot Knob Valley	South Range	12.0 ppb	10 ppb
	16 Dec. 2009	Pilot Knob Valley	South Range	11.0 ppb	10 ppb
	21 Dec. 2011	Pilot Knob Valley	South Range	10 ppb	10 ppb
	09 May 2012	Pilot Knob Valley	South Range	10.0 ppb	10 ppb
	28 Jun. 2012	Pilot Knob Valley	South Range	7.5 ppb	10 ppb
	22 Aug. 2012	Pilot Knob Valley	South Range	9.0 ppb	10 ppb
	13 Mar. 2013	Pilot Knob Valley	South Range	10.0 ppb	10 ppb
	22 May 2013	Pilot Knob Valley	South Range	12.0 ppb	10 ppb
Well 25A (Raw)	16 Dec. 2005	Pilot Knob Valley	South Range	41.0 ppb	10 ppb
	26 Dec. 2006	Pilot Knob Valley	South Range	32.0 ppb	10 ppb
	20 May 2009	Pilot Knob Valley	South Range	22.0 ppb	10 ppb
	30 Jun. 2010	Pilot Knob Valley	South Range	28.0 ppb	10 ppb
	21 Dec. 2011	Pilot Knob Valley	South Range	29.0 ppb	10 ppb
	22 May 2013	Pilot Knob Valley	South Range	34.0 ppb	10 ppb
Well 24 (Raw)	30 Jun. 2010	Pilot Knob Valley	South Range	18.0 ppb	10 ppb
	06 Dec. 2010	Pilot Knob Valley	South Range	19.0 ppb	10 ppb
	14 Dec. 2010	Pilot Knob Valley	South Range	18.0 ppb	10 ppb
	20 Dec. 2010	Pilot Knob Valley	South Range	21.0 ppb	10 ppb
	29 Dec. 2010	Pilot Knob Valley	South Range	20.0 ppb	10 ppb
	20 Dec. 2011	Pilot Knob Valley	South Range	19.0 ppb	10 ppb
	04 Jan. 2012	Pilot Knob Valley	South Range	23.0 ppb	10 ppb
	09 Feb. 2012	Pilot Knob Valley	South Range	22.0 ppb	10 ppb

TABLE 3 (Cont.)

**NAWS-CHINA LAKE
2004-2013 ARSENIC RULE RESULTS**

Sampling Source	Sample Date	Wellfield	Area Served	Results	MCL
Well 24 (Raw)	06 Mar. 2012	Pilot Knob Valley	South Range	22.0 ppb	10 ppb
	05 Apr. 2012	Pilot Knob Valley	South Range	22.0 ppb	10 ppb
	03 May 2012	Pilot Knob Valley	South Range	24.0 ppb	10 ppb
	05 Jun. 2012	Pilot Knob Valley	South Range	25.0 ppb	10 ppb
	03 Jul. 2012	Pilot Knob Valley	South Range	24.0 ppb	10 ppb
	02 Aug. 2012	Pilot Knob Valley	South Range	23.0 ppb	10 ppb
	06 Sep. 2012	Pilot Knob Valley	South Range	24.0 ppb	10 ppb
	04 Oct. 2012	Pilot Knob Valley	South Range	22.5 ppb	10 ppb
	05 Dec. 2012	Pilot Knob Valley	South Range	23.0 ppb	10 ppb
	03 Jan. 2013	Pilot Knob Valley	South Range	21.0 ppb	10 ppb
	07 Feb. 2013	Pilot Knob Valley	South Range	24.0 ppb	10 ppb
	07 Mar. 2013	Pilot Knob Valley	South Range	22.0 ppb	10 ppb
	03 Apr. 2013	Pilot Knob Valley	South Range	22.0 ppb	10 ppb
	02 May 2013	Pilot Knob Valley	South Range	25.0 ppb	10 ppb
	04 Jun. 2013	Pilot Knob Valley	South Range	27.0 ppb	10 ppb
	02 Jul. 2013	Pilot Knob Valley	South Range	22.0 ppb	10 ppb
	07 Aug. 2013	Pilot Knob Valley	South Range	23.0 ppb	10 ppb
	05 Sep. 2013	Pilot Knob Valley	South Range	25.0 ppb	10 ppb
	09 Oct. 2013	Pilot Knob Valley	South Range	24.0 ppb	10 ppb
	07 Nov. 2013	Pilot Knob Valley	South Range	24.0 ppb	10 ppb
05 Dec. 2013	Pilot Knob Valley	South Range	21.0 ppb	10 ppb	
Sea Site #3 (Raw)	02 Feb. 2005	Pilot Knob Valley	South Range	16.0 ppb	10 ppb
	26 Dec. 2006	Pilot Knob valley	South Range	9.8 ppb	10 ppb
	20 May 2009	Pilot Knob Valley	South Range	12.0 ppb	10 ppb
	20 Jun. 2010	Pilot Knob Valley	South Range	11.0 ppb	10 ppb
	06 Dec. 2010	Pilot Knob Valley	South Range	16.0 ppb	10 ppb
	14 Dec. 2010	Pilot Knob Valley	South Range	14.0 ppb	10 ppb
	20 Dec. 2010	Pilot Knob Valley	South Range	17.0 ppb	10 ppb
	29 Dec. 2010	Pilot Knob Valley	South Range	17.0 ppb	10 ppb
	20 Dec. 2011	Pilot Knob Valley	South Range	14.0 ppb	10 ppb
	04 Jan. 2012	Pilot Knob Valley	South Range	20.0 ppb	10 ppb
	09 Feb. 2012	Pilot Knob Valley	South Range	16.0 ppb	10 ppb
	06 Mar. 2012	Pilot Knob Valley	South Range	16.0 ppb	10 ppb

TABLE 3 (Cont.)

**NAWS-CHINA LAKE
2004-2013 ARSENIC RULE RESULTS**

Sampling Source	Sample Date	Wellfield	Area Served	Results	MCL
Sea Site #3 (Raw)	05 Apr. 2012	Pilot Knob Valley	South Range	18.0 ppb	10 ppb
	03 May 2012	Pilot Knob Valley	South Range	16.0 ppb	10 ppb
	05 Jun. 2012	Pilot Knob Valley	South Range	19.0 ppb	10 ppb
	03 Jul. 2012	Pilot Knob Valley	South Range	16.0 ppb	10 ppb
	02 Aug. 2012	Pilot Knob Valley	South Range	20.0 ppb	10 ppb
	06 Sep. 2012	Pilot Knob Valley	South Range	22.0 ppb	10 ppb
	04 Oct. 2012	Pilot Knob Valley	South Range	16.5 ppb	10 ppb
	05 Dec. 2012	Pilot Knob Valley	South Range	18.0 ppb	10 ppb
	03 Jan. 2013	Pilot Knob Valley	South Range	20.0 ppb	10 ppb
	07 Feb. 2013	Pilot Knob Valley	South Range	17.0 ppb	10 ppb
	07 Mar. 2013	Pilot Knob Valley	South Range	19.0 ppb	10 ppb
	03 Apr. 2013	Pilot Knob Valley	South Range	19.0 ppb	10 ppb
	02 May 2013	Pilot Knob Valley	South Range	18.0 ppb	10 ppb
	04 Jun. 2013	Pilot Knob Valley	South Range	21.0 ppb	10 ppb
	02 Jul. 2013	Pilot Knob Valley	South Range	22.0 ppb	10 ppb
	07 Aug. 2013	Pilot Knob Valley	South Range	21.0 ppb	10 ppb
	05 Sep. 2013	Pilot Knob Valley	South Range	19.0 ppb	10 ppb
	09 Oct. 2013	Pilot Knob Valley	South Range	12.0 ppb	10 ppb
	07 Nov. 2013	Pilot Knob Valley	South Range	19.0 ppb	10 ppb
	05 Dec. 2013	Pilot Knob Valley	South Range	15.0 ppb	10 ppb
Superior Valley (Raw)	02 Feb. 2005	Superior Valley	South Range	8.0 ppb	10 ppb
	26 Dec. 2006	Superior Valley	South Range	9.7 ppb	10 ppb
	20 May 2009	Superior Valley	South Range	5.5 ppb	10 ppb
	20 Dec. 2011	Superior Valley	South Range	8.6 ppb	10 ppb
	13 Mar. 2013	Superior Valley	South Range	9.9 ppb	10 ppb
	22 May 2013	Superior Valley	South Range	11.0 ppb	10 ppb
South Range Arsenic Treatment Facilities					
Well 25 (Treated)	03 Mar. 2007	Pilot Knob Valley	South Range	2.0 ppb	10 ppb
	08 Oct. 2009	Pilot Knob Valley	South Range	1.7 ppb	10 ppb

TABLE 3 (Cont.)

**NAWS-CHINA LAKE
2004-2013 ARSENIC RULE RESULTS**

Sampling Source	Sample Date	Wellfield	Area Served	Results	MCL
Well 24 (Treated)	06 Dec. 2010	Pilot Knob Valley	South Range	4.0 ppb	10 ppb
	14 Dec. 2010	Pilot Knob Valley	South Range	4.6 ppb	10 ppb
	20 Dec. 2010	Pilot Knob Valley	South Range	4.6 ppb	10 ppb
	29 Dec. 2010	Pilot Knob Valley	South Range	4.9 ppb	10 ppb
	04 Jan. 2011	Pilot Knob Valley	South Range	5.4 ppb	10 ppb
	01 Feb. 2011	Pilot Knob Valley	South Range	5.3 ppb	10 ppb
	03 Mar. 2011	Pilot Knob Valley	South Range	6.6 ppb	10 ppb
	07 Apr. 2011	Pilot Knob Valley	South Range	2.5 ppb	10 ppb
	05 May 2011	Pilot Knob Valley	South Range	4.5 ppb	10 ppb
	01 Jun. 2011	Pilot Knob Valley	South Range	2.8 ppb	10 ppb
	06 Jul. 2011	Pilot Knob Valley	South Range	3.6 ppb	10 ppb
	03 Aug. 2011	Pilot Knob Valley	South Range	4.5 ppb	10 ppb
	01 Sep. 2011	Pilot Knob Valley	South Range	3.8 ppb	10 ppb
	05 Oct. 2011	Pilot Knob Valley	South Range	3.1 ppb	10 ppb
	03 Nov. 2011	Pilot Knob Valley	South Range	3.9 ppb	10 ppb
	08 Dec. 2011	Pilot Knob Valley	South Range	5.6 ppb	10 ppb
	04 Jan. 2012	Pilot Knob Valley	South Range	2.9 ppb	10 ppb
	09 Feb. 2012	Pilot Knob Valley	South Range	4.7 ppb	10 ppb
	06 Mar. 2012	Pilot Knob Valley	South Range	4.5 ppb	10 ppb
	05 Apr. 2012	Pilot Knob Valley	South Range	3.3 ppb	10 ppb
	03 May 2012	Pilot Knob Valley	South Range	4.7 ppb	10 ppb
	05 Jun. 2012	Pilot Knob Valley	South Range	5.3 ppb	10 ppb
	03 Jul. 2012	Pilot Knob Valley	South Range	3.9 ppb	10 ppb
	02 Aug. 2012	Pilot Knob Valley	South Range	4.5 ppb	10 ppb
	06 Sep. 2012	Pilot Knob Valley	South Range	12.0 ppb	10 ppb
	04 Oct. 2012	Pilot Knob Valley	South Range	2.7 ppb	10 ppb
	01 Nov. 2012	Pilot Knob Valley	South Range	3.3 ppb	10 ppb
	05 Dec. 2012	Pilot Knob Valley	South Range	4.2 ppb	10 ppb
	03 Jan. 2013	Pilot Knob Valley	South Range	3.1 ppb	10 ppb
	13 Feb. 2013	Pilot Knob Valley	South Range	3.6 ppb	10 ppb
	07 Mar. 2013	Pilot Knob Valley	South Range	4.3 ppb	10 ppb
	03 Apr. 2013	Pilot Knob Valley	South Range	5.1 ppb	10 ppb
	02 May 2013	Pilot Knob Valley	South Range	3.8 ppb	10 ppb
04 Jun. 2013	Pilot Knob Valley	South Range	4.6 ppb	10 ppb	
02 Jul. 2013	Pilot Knob Valley	South Range	4.0 ppb	10 ppb	
07 Aug. 2013	Pilot Knob Valley	South Range	3.5 ppb	10 ppb	
05 Sep. 2013	Pilot Knob Valley	South Range	4.6 ppb	10 ppb	
03 Oct. 2013	Pilot Knob Valley	South Range	3.8 ppb	10 ppb	

TABLE 3 (Cont.)

**NAWS-CHINA LAKE
2004-2013 ARSENIC RULE RESULTS**

Sampling Source	Sample Date	Wellfield	Area Served	Results	MCL	
Well SS#3 (Treated)	07 Nov. 2013	Pilot Knob Valley	South Range	5.7 ppb	10 ppb	
	05 Dec. 2013	Pilot Knob Valley	South Range	2.8 ppb	10 ppb	
	06 Mar. 2007	Pilot Knob Valley	South Range	1.5 ppb	10 ppb	
	08 Oct. 2009	Pilot Knob Valley	South Range	3.0 ppb	10 ppb	
	06 Dec. 2010	Pilot Knob Valley	South Range	4.3 ppb	10 ppb	
	14 Dec. 2010	Pilot Knob Valley	South Range	4.8 ppb	10 ppb	
	20 Dec. 2010	Pilot Knob Valley	South Range	5.1 ppb	10 ppb	
	29 Dec. 2010	Pilot Knob Valley	South Range	4.1 ppb	10 ppb	
	04 Jan. 2011	Pilot Knob Valley	South Range	4.7 ppb	10 ppb	
	01 Feb. 2011	Pilot Knob Valley	South Range	8.2 ppb	10 ppb	
	03 Mar. 2011	Pilot Knob Valley	South Range	5.0 ppb	10 ppb	
	07 Apr. 2011	Pilot Knob Valley	South Range	4.5 ppb	10 ppb	
	05 May 2011	Pilot Knob Valley	South Range	6.2 ppb	10 ppb	
	01 Jun. 2011	Pilot Knob Valley	South Range	6.2 ppb	10 ppb	
	06 Jul. 2011	Pilot Knob Valley	South Range	5.6 ppb	10 ppb	
	03 Aug. 2011	Pilot Knob Valley	South Range	6.1 ppb	10 ppb	
	01 Sep. 2011	Pilot Knob Valley	South Range	7.3 ppb	10 ppb	
	05 Oct. 2011	Pilot Knob Valley	South Range	5.3 ppb	10 ppb	
	03 Nov. 2011	Pilot Knob Valley	South Range	6.1 ppb	10 ppb	
	08 Dec. 2011	Pilot Knob Valley	South Range	9.0 ppb	10 ppb	
	08 Jan. 2012	Pilot Knob Valley	South Range	6.0 ppb	10 ppb	
	09 Feb. 2012	Pilot Knob Valley	South Range	7.3 ppb	10 ppb	
	06 Mar. 2012	Pilot Knob Valley	South Range	5.4 ppb	10 ppb	
	05 Apr. 2012	Pilot Knob Valley	South Range	8.4 ppb	10 ppb	
	03 May 2012	Pilot Knob Valley	South Range	9.5 ppb	10 ppb	
	05 June 2012	Pilot Knob Valley	South Range	10.0 ppb	10 ppb	
	03 July 2012	Pilot Knob Valley	South Range	11.0 ppb	10 ppb	
	02 Aug. 2012	Pilot Knob Valley	South Range	10.0 ppb	10 ppb	
	Treatment Media (Ferric Hydroxide) Replaced at Sea Site #3					
		06 Sep. 2012	Pilot Knob Valley	South Range	2.6 ppb	10 ppb
	04 Oct. 2012	Pilot Knob Valley	South Range	<2.0 ppb	10 ppb	
	01 Nov. 2012	Pilot Knob Valley	South Range	<2.0 ppb	10 ppb	
	05 Dec. 2012	Pilot Knob Valley	South Range	<2.0 ppb	10 ppb	
	03 Jan. 2013	Pilot Knob Valley	South Range	<2.0 ppb	10 ppb	
	13 Feb. 2013	Pilot Knob Valley	South Range	<2.0 ppb	10 ppb	

TABLE 3 (Cont.)

**NAWS-CHINA LAKE
2004-2013 ARSENIC RULE RESULTS**

Sampling Source	Sample Date	Wellfield	Area Served	Results	MCL
Well SS #3 (Treated)	07 Mar. 2013	Pilot Knob Valley	South Range	<2.0 ppb	10 ppb
	03 Apr. 2013	Pilot Knob Valley	South Range	<2.0 ppb	10 ppb
	02 May 2013	Pilot Knob Valley	South Range	<2.0 ppb	10 ppb
	04 Jun. 2013	Pilot Knob Valley	South Range	<2.0 ppb	10 ppb
	02 Jul. 2013	Pilot Knob Valley	South Range	<2.0 ppb	10 ppb
	07 Aug. 2013	Pilot Knob Valley	South Range	<2.0 ppb	10 ppb
	05 Sep. 2013	Pilot Knob Valley	South Range	<2.0 ppb	10 ppb
	03 Oct. 2013	Pilot Knob Valley	South Range	<2.0 ppb	10 ppb
	07 Nov. 2013	Pilot Knob Valley	South Range	<2.0 ppb	10 ppb
	05 Dec. 2013	Pilot Knob Valley	South Range	<2.0 ppb	10 ppb

TABLE 4

2013 MISCELLANEOUS WATER SYSTEM SAMPLING

Constituents	Violation	Range	Unit
TTHMs			
Bromodichloromethane	No	<0.50-4.2	ppb
Bromoform	No	<0.50-8.0	ppb
Chloroform (Trichloromethane)	No	<0.50-2.2	ppb
Dibromochloromethane	No	<0.50-6.8	ppb
Total Trihalomethane (THMs/TTHM)	No	<2.0-19.0	ppb

TABLE 4 (Cont.)

2013 MISCELLANEOUS WATER SYSTEM SAMPLING

Constituents	Violation	Range	Unit
Haloacetic Acids			
Monochloroacetic Acid	No	<1.0-<1.0	ppb
Dichloroacetic Acid	No	<1.0-2.5	ppb
Trichloroacetic Acid	No	<1.0-2.1	ppb
Monobromoacetic Acid	No	<1.0-<1.0	ppb
Dibromoacetic Acid	No	<1.0-3.2	ppb
Total HAA's Summation	No	1.3-7.6	ppb
Nitrates	No	<0.44-24.0	ppm
Asbestos	No	<2.0-<2.0	MFL

TABLE 5
2013 GENERAL WATER CHEMISTRY RESULTS

Source	Hard	Ca	Mg	Na	K	Alkal.	Hyd	CaCO3	HCO3	SO4	Cl	NO3	F	pH	SC	TDS
N. Range																
Well 15	110	36	5.5	61	2	79	<2	<2	96	120	41	5.6	0.6	7.8	550	370
Well 27	130	40	6.3	58	3	81	<2	<2	99	93	52	6.8	0.6	7.8	530	340
Well 30	78	27	2.4	42	2	70	<2	<2	86	48	29	6.3	0.8	7.8	350	220
Well 31	62	24	0.4	42	2	64	<2	<2	78	41	27	8.8	0.5	7.7	330	210
Well 18	5.5	1.8	0.2	62	<1	92	<2	4.7	110	13	20	<2	0.9	8.8	290	200
Well 28	37	10	3	46	3	92	<2	<2	110	18	16	1.7	0.7	8.4	290	180
Remote																
Well LB	270	48	37	160	15	330	<2	<2	400	140	110	0.87	0.8	7.6	1200	740
Well Baker Tower	190	37	25	92	11	270	<1.4	<2.5	320	63	63	<0.44	1.2	7.9	802	500
S. Range																
Well 25	72	23	3.4	120	7	220	<2	<2	270	47	40	13	0.6	7.9	680	450
Well SS#1	120	42	3.5	310	8	430	<2	<2	520	120	160	22	0.9	7.2	1600	990
Well SS#3	110	35	5.4	84	8	130	<2	<2	160	58	76	24	0.4	7.8	670	430
Well SV	110	31	7.7	36	6	74	<2	<2	90	48	36	20	0.3	7.3	410	290
Well 24	110	35	5	70	6	140	<2	<2	170	40	42	22	0.5	7.7	370	370

TABLE 6

TOTAL GROUNDWATER PRODUCTION AT NAWS-CHINA LAKE
FY2011-FY2013

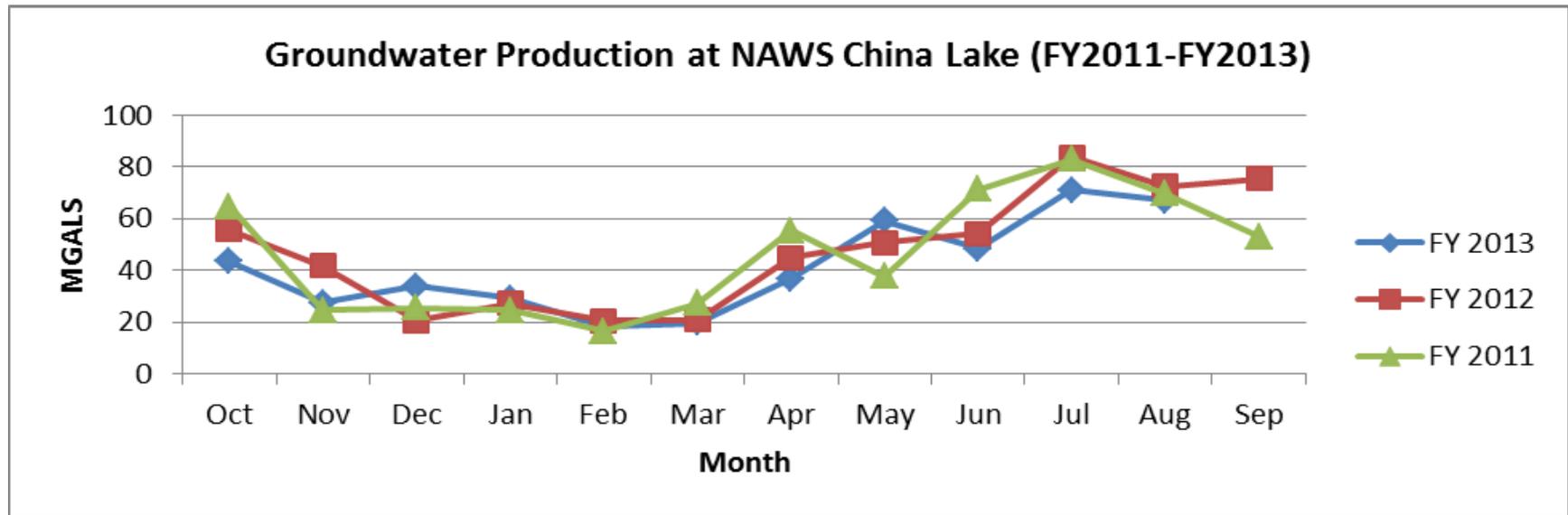


TABLE 6 (Cont.)

TOTAL GROUNDWATER PRODUCTION AT NAWS-CHINA LAKE
FY2007-FY2010

