2013 Consumer Confidence Report

Water System Name: **City of Live Oak 5110001** Report Date: July 1st 2014

We test the drinking water quality for many constituents as required by state and federal regulations. This report shows the results of our monitoring for the period of January 1 - December 31, 2013 and may include earlier monitoring data.

Este informe contiene información muy importante sobre su agua potable. Tradúzcalo ó hable con alguien que lo entienda bien.

ਇਹ ਸੂਚਨਾ ਮਹਤੱਵਪੂਰਣ ਹੈ।
ਕ੍ਰਿਪਾ ਕਰਕੇ ਕਿਸੀ ਤੋ ਇਸ ਦਾ ਅਨੁਵਾਦ ਕਰਾਉ।

Type of water source(s) in use: Wells

Name & location of source(s): Well 1a & Well 2A 10046 O Street. Well Three 2455 Walker Way. Well Four 2658 Apricot Street

Drinking Water Source Assessment information: A source assessment has been completed for the four well sites Serving the City of Live Oak. Wells 1a/2a and 3: Existing and historic gas station, underground storage tanks. Well 4: Agricultural drainage, chemical/petroleum pipelines, sewer collection system, existing/historic gas station, Chemical/petroleum processing/storage, underground storage tanks

Time and place of regularly scheduled board meetings for public participation: City Hall, 9955 Live Oak Blvd. first and third Wednesday of every month at 7 PM

For more information, contact: City Manager Jim Goodwin Phone: 530-695-2112

TERMS USED IN THIS REPORT

Maximum Contaminant Level (MCL): 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 (USEPA).

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.

Maximum Residual Disinfectant Level (MRDL): The highest level of a disinfectant allowed in drinking water. There is convincing evidence that addition of a disinfectant is necessary for control of microbial contaminants.

Maximum Residual Disinfectant Level Goal (MRDLG): The level of a drinking water disinfectant below which there is no known or expected risk to health. MRDLGs do not reflect the benefits of the use of disinfectants to control microbial contaminants.

Primary Drinking Water Standards (PDWS): MCLs and MRDLs for contaminants that affect health along with their monitoring and reporting requirements, and water treatment requirements.

Secondary Drinking Water Standards (SDWS): MCLs for contaminants that affect taste, odor, or appearance of the drinking water. Contaminants with SDWSs do not affect the health at the MCL levels.

Treatment Technique (TT): A required process intended to reduce the level of a contaminant in drinking water.

Regulatory Action Level (AL): The concentration of a contaminant which, if exceeded, triggers treatment or other requirements that a water system must follow.

Variances and Exemptions: Department permission to exceed an MCL or not comply with a treatment technique under certain conditions.

ND: not detectable at testing limit

ppm: parts per million or milligrams per liter (mg/L)

ppb: parts per billion or micrograms per liter (µg/L)

ppt: parts per trillion or nanograms per liter (ng/L)

ppq: parts per quadrillion or picogram per liter (pg/L)

pCi/L: picocuries per liter (a measure of radiation)

The sources of drinking water (both tap water and bottled water) include rivers, lakes, streams, ponds, reservoirs, springs, 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 include:

- *Microbial contaminants*, such as viruses and bacteria, that may come from sewage treatment plants, septic systems, agricultural livestock operations, and wildlife.
- *Inorganic contaminants*, such as salts and metals, that can be naturally-occurring or result from urban stormwater runoff, industrial or domestic wastewater discharges, oil and gas production, mining, or farming.
- *Pesticides and herbicides*, that may come from a variety of sources such as agriculture, urban stormwater runoff, and residential uses.
- *Organic chemical contaminants*, including synthetic and volatile organic chemicals, that are by-products of industrial processes and petroleum production, and can also come from gas stations, urban stormwater runoff, agricultural application, and septic systems.
- *Radioactive contaminants*, that can be naturally-occurring or be the result of oil and gas production and mining activities.

In order to ensure that tap water is safe to drink, the USEPA and the California Department of Public Health (Department) prescribe regulations that limit the amount of certain contaminants in water provided by public water systems. Department regulations also establish limits for contaminants in bottled water that provide the same protection for public health.

Tables 1, 2, 3, 4, 5, 7, and 8 list all of the drinking water contaminants that were detected during the most recent sampling for the constituent. The presence of these contaminants in the water does not necessarily indicate that the water poses a health risk. The Department allows us to monitor for certain contaminants less than once per year because the concentrations of these contaminants do not change frequently. Some of the data, though representative of the water quality, are more than one year old.

TABLE 1 – SAMPLING RESULTS SHOWING THE DETECTION OF COLIFORM BACTERIA

Microbiological Contaminants (complete if bacteria detected)	**Highest No. of Detections**	**No. of months in violation**	**MCL**	**MCLG**	**Typical Source of Bacteria**
Total Coliform Bacteria	(In a mo.)	0	More than 1 sample in a month with a detection	0	Naturally present in the environment
Fecal Coliform or *E. coli*	(In the year)	0	A routine sample and a repeat sample detect total coliform and either sample also detects fecal coliform or *E. coli*	0	Human and animal fecal waste

TABLE 2 – SAMPLING RESULTS SHOWING THE DETECTION OF LEAD AND COPPER

Lead and Copper (complete if lead or copper detected in the last sample set)	**No. of samples collected**	**90th percentile level detected**	**No. sites exceeding AL**	**AL**	**PHG**	**Typical Source of Contaminant**
Lead (ppb) August 2011	20	0.0013 ppb	0	15 ppb	0.2 ppb	Internal corrosion of household water plumbing systems; discharges from industrial manufacturers; erosion of natural deposits
Copper (ppm) August 2011	18	0.176 ppm	0	1.3 ppm	0.3 ppm	Internal corrosion of household plumbing systems; erosion of natural deposits; leaching from wood preservatives

TABLE 3 – SAMPLING RESULTS FOR SODIUM AND HARDNESS						
Chemical or Constituent (and reporting units)	**Sample Date**	**Level Detected**	**Range of Detections**	**MCL**	**PHG (MCLG)**	**Typical Source of Contaminant**
Sodium (ppm)	2012	18 ppm	18 ppm	none	none	Salt present in the water and is generally naturally occurring
Hardness (ppm)	2006	214 ppm	201-240 ppm	none	none	Sum of polyvalent cations present in the water, generally magnesium and calcium, and are usually naturally occurring

***Any violation of an MCL or AL is asterisked. Additional information regarding the violation is provided later in this report.*

While your drinking water meets the federal and state standard for arsenic, it does contain low levels of arsenic. The arsenic standard balances the current understanding of arsenic's possible health effects against the costs of removing arsenic from drinking water. The U.S. Environmental Protection Agency continues to research the health effects of low levels of arsenic, which is a mineral known to cause cancer in humans at high concentrations and is linked to other health effects such as skin damage and circulatory problems.

TABLE 4 – DETECTION OF CONTAMINANTS WITH A PRIMARY DRINKING WATER STANDARD						
Chemical or Constituent (and reporting units)	**Sample Date**	**Level Detected**	**Range of Detections**	**MCL [MRDL]**	**PHG (MCLG) [MRDLG]**	**Typical Source of Contaminant**
Arsenic (ug/L)	2013	4.7 ug/L	ND-9.8 ug/l	10 ug/L	0.004 ug/L	Some people who drink water containing arsenic in excess of the MCL over many years may experience skin damage or circulatory system problems, and may have an increased risk of getting cancer.
Barium (ug/L)	2012	140 ug/L	140 ug/L	1,000.0 ug/L	2000 ug/L	Some people who drink water containing barium in excess of the MCL over many years may experience an increase in blood pressure.
Chromium (ug/L)	2012	11.0 ug/L	11 ug/L	50.0 ug/L	100 ug/L	Some people who use water containing chromium in excess of the MCL over many years may experience allergic dermatitis.
Fluoride (natural source) (mg/L)	2012	0.1440 mg/L	0.1440 mg/L	2.0 mg/L	1.0 mg/L	*For the Consumer Confidence Report:* Some people who drink water containing fluoride in excess of the federal MCL of 4 mg/L over many years may get bone disease, including pain and tenderness of the bones. Children who drink water containing fluoride in excess of the state MCL of 2 mg/L may get mottled teeth. *For a Public Notice:* This is an alert about your drinking water and a cosmetic dental problem that might affect children under nine years of age. At low levels, fluoride can help prevent cavities, but children drinking water containing more than 2 milligrams per liter (mg/L) of fluoride may develop cosmetic discoloration of their permanent teeth (dental

						fluorosis). The drinking water provided by your community water system [*name*] has a fluoride concentration of [*insert value*] mg/L. Dental fluorosis may result in a brown staining and/or pitting of the permanent teeth. This problem occurs only in developing teeth, before they erupt from the gums. Children under nine should be provided with alternative sources of drinking water or water that has been treated to remove the fluoride to avoid the possibility of staining and pitting of their permanent teeth. You may also want to contact your dentist about proper use by young children of fluoride-containing products. Older children and adults may safely drink the water. Drinking water containing more than 4 mg/L of fluoride can increase your risk of developing bone disease. For more information, please call [*water system contact name*] of [*water system name*] at [*phone number*]. Some home water treatment units are also available to remove fluoride from drinking water. To learn more about available home water treatment units, you may call the California Department of Public Health's Water Treatment Device Unit at (916) 449-5600.
Nitrate as NO3 (mg/L)	2013	4.97 mg/L	1.29-6.94 mg/L	45 mg/L	45 mg/L	Infants below the age of six months who drink water containing nitrite in excess of the MCL may become seriously ill and, if untreated, may die. Symptoms include shortness of breath and blueness of the skin.
Carbofuran (ug/L)	2013	ND ug/L		18.00 ug/L	1.7 ug/L	Some people who use water containing Carbofuran in excess of the MCL over many years may experience problems with their blood, or nervous or reproductive system problems.
2,4,-D (ug/L)	2012	10 ug/L	10 ug/L	70 ug/L	20 ug/L	Some people who use water containing the weed killer 2,4-D in excess of the MCL over many years may experience kidney, liver, or adrenal gland problems.
Dibromochloropropane (DBCP) (ug/L)	2012	0.017 ug/L	0.01-0.024 ug/L	5.0 ug/L	4.0 ug/L	Some people who use water containing DBCP in excess of the MCL over many years may experience reproductive difficulties and may have an increased risk of getting cancer.

DI (2-Ethylhexyl)Adipate (ug/L)	2010	5.0 ug/L		400.0 ug/L	200 ug/L	Some people who drink water containing di(2-ethylhexyl) adipate in excess of the MCL over many years may experience weight loss, liver enlargement, or possible reproductive difficulties.
DI (2-Ethylhexyl) Phthalate (ug/L)	2010	3.0 ug/L		4.0 ug/L	12.0 ug/L	Some people who use water containing di(2-ethylhexyl) phthalate well in excess of the MCL over many years may experience liver problems or reproductive difficulties, and may have an increased risk of getting cancer.
Ethylene Dibromide (EDB), (ug/L)	2012	0.02 ug/L		0.05 ug/L	0.01 ug/L	Some people who use water containing ethylene Dibromide in excess of the MCL over many years may experience liver, stomach, reproductive system, or kidney problems, and may have an increased risk of getting cancer.
Glyphosate (ug/L)	2013	25 ug/L		700.0 ug/L	900 ug/L	Some people who drink water containing glyphosate in excess of the MCL over many years may experience kidney problems or reproductive difficulties.
Molinate (ug/L)	2013	2.ug/L		20.0 ug/L	1.0 ug/L	Some people who use water containing Molinate in excess of the MCL over many years may experience reproductive effects.
Simazine (ug/L)	2013	1.0 ug/L		4.0 ug/L	4.0 ug/L	Some people who use water containing Simazine in excess of the MCL over many years may experience blood problems.
Oxamyl (ug/L)	2012	20 ug/L		50.0 ug/L	26.0 ug/L	Some people who drink water containing Oxamyl in excess of the MCL over many years may experience slight nervous system effects.
Atrazine (ug/L)	2013	ND ug/L		1.0 ug/L	0.15 ug/L	Some people who use water containing atrazine in excess of the MCL over many years may experience cardiovascular system problems or reproductive difficulties.
Hexachlorocyclopentadiene (ug/L)	2010	1.0 ug/L		50.0 ug/L	50.0 ug/L	Some people who use water containing Hexachlorocyclopentadiene in excess of the MCL over many years may experience kidney or stomach problems.
Hexachlorobenzene (ug/L)	2010	1.0 ug/L		1.0 ug/L	0.5 ug/L	Some people who drink water containing Hexachlorobenzene in excess of the MCL over many years may experience liver or kidney problems, or adverse reproductive effects, and may have an increased risk of getting cancer.
Xylenes (mg/L)	2013	ND mg/L	ND	10 mg/L	10 mg/L	Some people who drink water containing xylenes well in excess of the maximum contaminant level (MCL) for

						many years could experience damage to their nervous system.
Benzo (A) Pyrene (ug/L)	2010	0.1 ug/L		0.2 ug/L	.07 ug/L	Leaching from linings of water storage tanks and distribution mains
TABLE 5 – DETECTION OF CONTAMINANTS WITH A SECONDARY DRINKING WATER STANDARD						
Chemical or Constituent (and reporting units)	**Sample Date**	**Level Detected**	**Range of Detections**	**MCL**	**PHG (MCLG)**	Typical Source of Contaminant
Copper (ug/L)	2012	ND ug/L		1,000 ug/L	N/A	Copper is an essential nutrient, but some people who drink water containing copper in excess of the action level over a relatively short amount of time may experience gastrointestinal distress. Some people who drink water containing copper in excess of the action level over many years may suffer liver or kidney damage. People with Wilson's Disease should consult their personal doctor.
Color (units)	2012	1.0 units		15.0 units	N/A	Naturally-occurring organic materials
Iron (ug/L)	2012	194.4 ug/L	193-196 ug/L	300 ug/L	N/A	Naturally-occurring organic materials
Manganese (ug/L)	2013	5-590 ug/L	5-590 ug/L	50.0 ug/L	N/A	Leaching from natural deposits
Specific Conductance (US)	2013	510 US	510 US	2,200 US	N/A	Leaching from natural deposits; industrial wastes
Turbidity (NTU)		0.5 NTU		5.0 NTU	N/A	Turbidity has no health effects. However, high levels of turbidity can interfere with disinfection and provide a medium for microbial growth. Turbidity may indicate the presence of disease-causing organisms. These organisms include bacteria, viruses, and parasites that can cause symptoms such as nausea, cramps, diarrhea, and associated headaches.
Odor Threshold (TON)	2012	0.0 TON		3.0 TON	N/A	Substances that form ions when in water; seawater influence
Thiobencarb (ug/L)	2013	1.0 ug/L	1.0 ug/L	70.0 ug/L	70.0 ug/L	Some people who use water containing Thiobencarb in excess of the MCL over many years may experience body weight and blood effects.

Additional General Information on Drinking Water

Drinking water, including bottled water, may reasonably be expected to contain at least small amounts of some contaminants. The presence of contaminants does not necessarily indicate that the water poses a health risk. More information about contaminants and potential health effects can be obtained by calling the USEPA's Safe Drinking Water Hotline (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 transplants, 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 drinking water from their health care providers. USEPA/Centers for Disease Control (CDC) guidelines on appropriate means to lessen the risk of infection by *Cryptosporidium* and other microbial contaminants are available from the Safe Drinking Water Hotline (1-800-426-4791).

Lead-Specific Language for Community Water Systems: If present, elevated levels of lead can cause serious health problems, especially for pregnant women and young children. Lead in drinking water is primarily from materials and components associated with service lines and home plumbing. [INSERT NAME OF UTILITY] is responsible for providing high quality drinking water, but cannot control the variety of materials used in plumbing components. When your water has been sitting for several hours, you can minimize the potential for lead exposure by flushing your tap for 30 seconds to 2 minutes before using water for drinking or cooking. If you are concerned about lead in your water, you may wish to have your water tested. Information on lead in drinking water, testing methods, and steps you can take to minimize exposure is available from the Safe Drinking Water Hotline or at http://www.epa.gov/safewater/lead.

Summary Information for Violation of a MCL, MRDL, AL, TT, or Monitoring and Reporting Requirement

VIOLATION OF A MCL, MRDL, AL, TT, OR MONITORING AND REPORTING REQUIREMENT				
Violation	**Explanation**	**Duration**	**Actions Taken to Correct the Violation**	**Health Effects Language**
No violations in 2013				

For Water Systems Providing Ground Water as a Source of Drinking Water

TABLE 7 – SAMPLING RESULTS SHOWING FECAL INDICATOR-POSITIVE GROUND WATER SOURCE SAMPLES					
Microbiological Contaminants (complete if fecal-indicator detected)	**Total No. of Detections**	**Sample Dates**	**MCL [MRDL]**	**PHG (MCLG) [MRDLG]**	**Typical Source of Contaminant**
E. coli	2013 ND		0	(0)	Human and animal fecal waste
Enterococci	2013 ND		TT	n/a	Human and animal fecal waste
Coliphage	2012 ND		TT	n/a	Human and animal fecal waste

Summary Information for Fecal Indicator-Positive Ground Water Source Samples, Uncorrected Significant Deficiencies, or Ground Water TT

SPECIAL NOTICE OF FECAL INDICATOR-POSITIVE GROUND WATER SOURCE SAMPLE

SPECIAL NOTICE FOR UNCORRECTED SIGNIFICANT DEFICIENCIES

VIOLATION OF GROUND WATER TT

TT Violation	Explanation	Duration	Actions Taken to Correct the Violation	Health Effects Language