



# Lincoln Avenue Water Company



## Annual Report of Operations 2013



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# Lincoln Avenue Water Company

March 28, 2014

John Clairday, President  
Board of Directors  
Lincoln Avenue Water Company  
564 W Harriet Street  
Altadena, CA 91001



Dear Mr. Clairday:

On behalf of the Staff and Management of Lincoln Avenue Water Company (Lincoln Avenue), I am pleased to present the 2013 Annual Report of Operations.

As we entered 2013 we continued our focus on capital improvement and strengthening the company's infrastructure. The number one capital improvement challenge at Lincoln Avenue is the replacement of aged pipeline.

We began 2013 with the Devirian Pipeline Replacement Project. This project involved replacing over 900 feet of aged pipe that had been in service for 70 years. Our customers on Devirian Place will now enjoy improved water service along with increased fire protection to their neighborhood.

In 2013 we also celebrated the completion of the Millard Canyon Pipeline Replacement Project. As you recall in 2009 the Station Fire destroyed over 90% of our Millard Canyon surface water transmission system. As a testament to the leadership of this company and the hard work of the staff, the completion of the project will return a valuable asset to our water supply.

The addition of Millard Canyon water also adds diversity to our supply and helps reduce our need to purchase expensive imported water. Our goal is to continue to use imported water only as a supplement in meeting our overall demand.

While we plan for future capital projects we never lose focus on the maintenance and operation needs of a water system that has served our shareholders for over 100 years.

The professional staff at Lincoln Avenue remains committed to providing the highest quality and most reliable water service to our customers at the most economically feasible cost.

Sincerely,  
Lincoln Avenue Water Company

A handwritten signature in black ink, appearing to read "R. J. Hayward". The signature is fluid and cursive, written over a horizontal line.

Robert J. Hayward  
General Manager



# Devirian Place Pipeline Project



A section of new pipeline is installed.



The 2013 operations year began with a pipeline replacement project on Devirian Place. This capital improvement project involved replacing 900 feet of aged 4 and 6-inch diameter pipe with new 8-inch steel pipe. We also replaced 32 service connections and installed 3 new fire hydrants.



A new lateral and hydrant are completed.



The new pipe is welded together.



The trench is dug for a new service line.



# Devirian Place Pipeline Project



The trench is backfilled and compacted using a remote operated compaction roller.



This new water main will increase fire protection and improve the overall water quality to the Devirian Place community. With over 58 miles of pipeline in our service area, the replacement of aged and undersized pipe is always at the top of our capital improvement agenda.



A Geotechnical Engineer performs a soil compaction test.



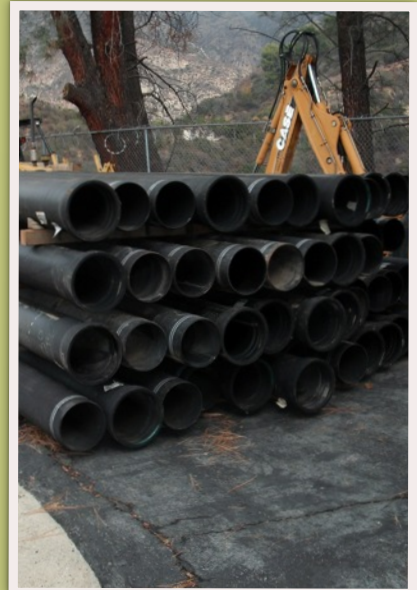
Road paving marks the completion of this pipeline project.



# Millard Canyon Pipeline Project

It has taken 4 years to re-build the Millard Canyon water system following the Station Fire. Working in step with regulatory agencies that provide oversight of forest activity, Lincoln Avenue successfully secured all permits required to return this system to operation.

This phase of the project involved the replacement of 1400 feet of pipe that was originally installed prior to World War I. Located along Mount Lowe Road overlooking Millard Canyon, this pipeline is a part of the conveyance system that allows us to transport water from Millard Creek to our South Coulter Surface Water Treatment Plant. The availability of local canyon water gives Lincoln Avenue the ability to provide its customers with a high quality drinking water at the most economically feasible cost.



The overgrown hillside is prepped for saw cutting.



Excavation is conducted under the watchful eye of the archeologist.





# Millard Canyon Pipeline Project

Working in this very sensitive environment was only allowed under strict guidelines. A Forest Service approved Biologist and Archeologist were on site throughout the entire project to protect wildlife, plants and any existing infrastructure that was deemed to be of historical significance.

This area also serves as a roadway for recreation such as hiking and mountain biking. Prior to construction, signs were placed throughout the work area notifying the public of this upcoming project.

During construction traffic control staff was present at all times. To minimize traffic interruption only 60 feet of trench was opened at any time. Once the 60 feet of pipe was installed this portion of trench was backfilled and compacted. This process was repeated with each section of pipe.



The digging begins on another 60-foot section.



Pipe is installed in a narrow portion of the road.

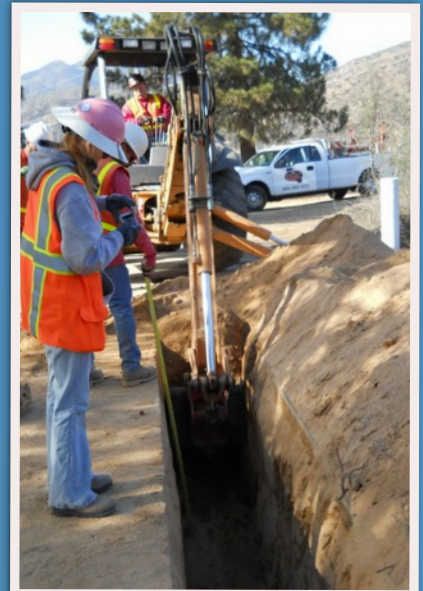
Another challenge, breaking through several feet of granite rock.



A 20-foot section of pipe is put in place.



The excavation is closely monitored by the Archeologist.



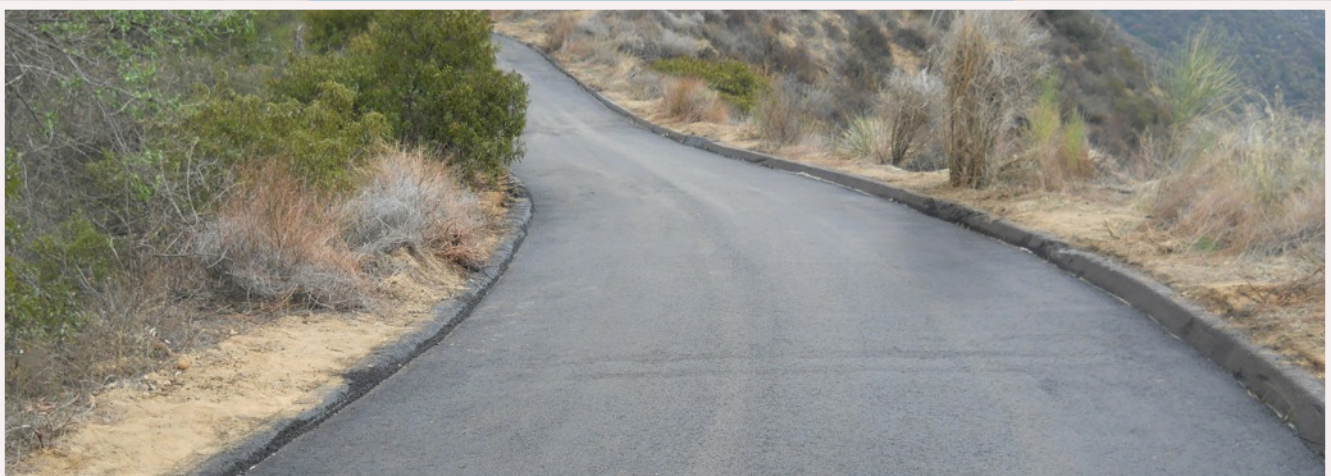


# Millard Canyon Pipeline Project



Once the pipeline installation was completed the entire section of road was paved.

The new pavement extends the life of the road and improves access through this area.





# System Isolation Valve Replacement

Planned and un-planned service interruptions occur regularly. When this happens it is necessary to isolate sections of pipeline and minimize service disruption to our customers. This is accomplished with the operation of system isolation valves. Lincoln Avenue has over 500 valves located throughout the distribution system. These valves are regularly exercised, tested and replaced as necessary. Isolation valve replacement is part of our infrastructure upgrade and maintenance program.



Example of an aged broken valve that has been located, excavated and removed.



A new isolation valve is installed which improves our distribution system reliability.





# Distribution System Maintenance

Ongoing maintenance of our distribution system is a top priority. This work is important to ensure that we provide a safe and reliable drinking water service to our customers. Changing meters, replacing aged pipe, repairing leaks and adding new infrastructure to our system is the daily responsibility of our Field Department.



A new hydrant is installed on Laurel Dr.



A section of water main is replaced due to a perforation caused by age.



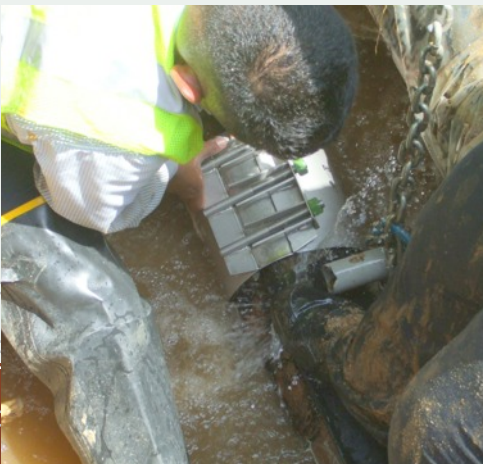
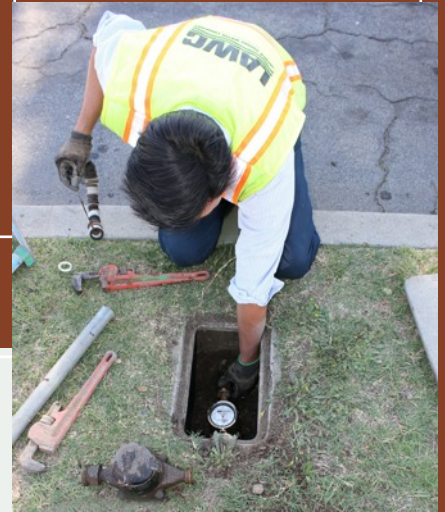
A meter is replaced on Glenrose Avenue.



A clamp is placed on a leaking water main.



The ground is excavated to locate and fix a leaking service line.



The pavement is excavated during the installation of a new service line on Lincoln Avenue.

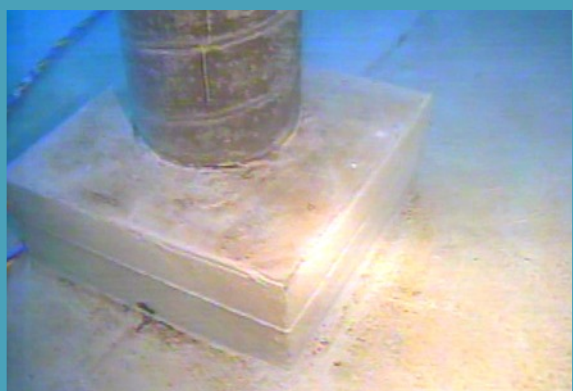




As part of our Reservoir Maintenance Program, every five years the 11 reservoirs that make up our 10.5 million gallon storage system go through a thorough inspection and cleaning process. A diver is fitted with a potable diving suit, which is disinfected with liquid chlorine prior to entering the water. Once inside the diver walks the entire reservoir while filming and narrating his findings. The inspection includes a detailed report on the integrity of all support columns, influent and effluent components, interior and exterior walls, roof, floor, etc....

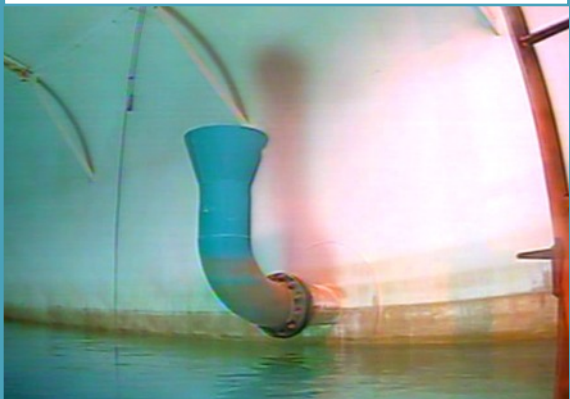


Sediment is removed from the reservoir floor.



A concrete support column in Glenrose Reservoir.

Inside of inspected reservoir.



A baffle wall inside South Coulter Reservoir.



# Emergency Preparedness

If an emergency situation teaches us anything, it's how to better prepare for the next big one. In November 2011 a major windstorm caused widespread damage and left most of the San Gabriel Valley, including Altadena without power for several days. This event caused many water agencies to focus on the importance of power generators.

As a means of enhancing the ability to move water throughout our distribution system, Lincoln Avenue retrofitted its wells and all pump stations to operate by auxiliary generator. In addition to the retrofit program we added 2 new generators to our inventory. These new generators will work in conjunction with existing generators to provide power to all facilities. This investment ensures that we will have the ability to provide water service to our customers in the event of another extended power outage.



Along with this new equipment came several hours of operation, maintenance and safety training for all Lincoln Avenue field employees. It is important that each employee is trained to operate these new generators when needed.





# Continuing Our Water Conservation Efforts

*Leading by example.*

*The prior landscaping at our office complex, which is our most visual facility, was home to several shrubs that required regular watering.*



Office facility landscaping prior to the upgrade.



This area is now home to a California Friendly Garden (CF) designed similar to the CF at Loma Alta Drive and Fair Oaks Avenue. Equipped with water efficient plants and drip irrigation systems, these two gardens generate a lot of interest from our customers.



The area is prepped for new design.



Water efficient landscaping is planted.



A moisture barrier is installed to protect the building foundation.





**New landscaping design**



## Continuing Our Water Conservation Efforts

Studies have shown that 50% of our daily water consumption is used outdoors to water lawns and landscaping. Adjusting sprinklers to avoid watering the pavement, street or exterior of your home is a start, however installing water-efficient plants and the proper irrigation system could greatly reduce that percentage. The upgrade of our office facility once again demonstrates to our community that you can save water and still have attractive landscaping at the same time.





**WATER SALES AND PRODUCTION FOR 2013**  
**IN ACRE FEET**

MONTH	IMPORTED WATER PURCHASE	WELL PRODUCTION	LOCAL SURFACE WATER	TOTAL PRODUCTION	LEASE WATER DELIVERY	SALES	RAIN FALL (INCHES)
January	3.08	134.61	0	137.69	0	100.84	3.15
February	0	127.83	0	127.83	9.66	116.28	0.68
March	0	185.41	0	185.41	14.26	112.27	1.20
April	7.92	193.70	0	201.62	23.56	151.52	0.70
May	30.65	231.59	0	262.24	38.54	176.95	1.72
June	44.65	215.51	0	260.16	10.37	197.55	0
July	46.60	211.60	0	258.20	0	224.40	0
August	51.88	218.57	0	270.45	0	251.00	0
September	56.95	204.66	0	261.61	0	245.25	0
October	21.84	198.78	0	220.62	0	207.00	0.64
November	0.78	188.42	0	189.20	0	193.28	1.15
December	0	150.58	0	150.58	0	139.59	0.89
<b>TOTAL</b>	<b>264.35</b>	<b>2261.26</b>	<b>0</b>	<b>2525.61</b>	<b>96.39</b>	<b>2115.43</b>	<b>10.13</b>

**PUMPED FROM WELLS**

WELL #3	989.88
WELL #5	<u>1271.38</u>
TOTAL	<u><u>2261.26</u></u>

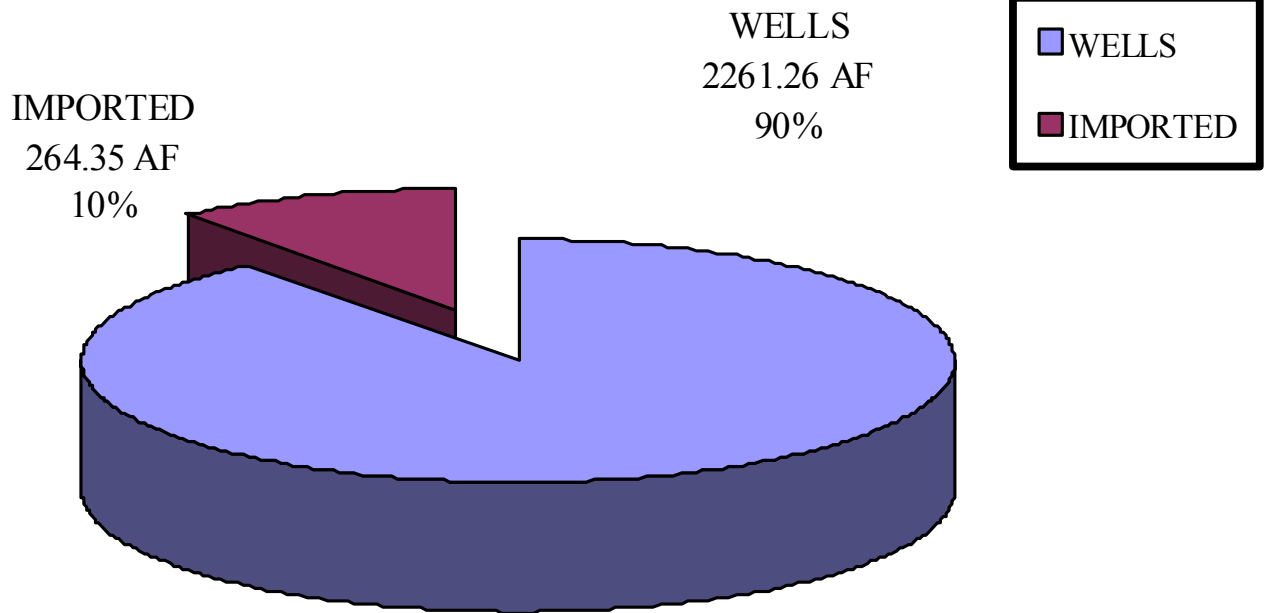
Total Production	2525.61
Lease Water Delivery	<u>-96.39</u>
Production for Lincoln	2429.22
Total Sales	<u>-2115.43</u>
Subtotal	313.79
Water Quality Control / Treatment Plant Operation	<u>-78.34</u>
Non-Sales Production	235.45 or 9%

**Non-Sales Production** is water used for routine water quality sampling, evaporation from reservoirs, irrigating at Company sites, flushing of dead ends, pipeline ditch compaction, fire fighting, fire training, leaks on mains, etc.

The Company's well production consists of 567 acre feet annual decreed right plus spread credit from mountain run-off, and available leased groundwater rights.



**2013 WATER PRODUCTION  
BY SOURCE**



Wells	2,261.26 AF
Imported	<u>264.35 AF</u>
Total Production	2,525.61 AF



# ENERGY COST BY PUMPING STATION AND WELLS

2009 - 2013

PUMPING STATIONS & WELLS	2013 ANNUAL ENERGY COST COST/AF	2012 ANNUAL ENERGY COST COST/AF	2011 ANNUAL ENERGY COST COST/AF	2010 ANNUAL ENERGY COST COST/AF	2009 ANNUAL ENERGY COST COST/AF
Well #3 (Pump to Main Plant)	\$54,368.65 \$54.92	\$34,069.28 \$49.28	\$30,563.48 \$51.01	\$36,402.62 \$48.05	\$55,645.63 \$43.82
Well #5 (Pump to Main Plant)	67,918.96 53.42	61,223.37 41.95	33,115.82 69.74	2667.87 0	42,252.54 55.85
Main Plant (Pump to Glenrose Resv.)	130,538.65 52.49	94,853.41 43.78	81,883.47 38.22	85013.01 37.62	134,373.36 41.07
Glenrose Reservoir (Pump to Wapello Resv.)	53,564.53 39.63	42,982.41 39.87	41,362.66 41.32	45390.84 44.89	50,105.76 34.70
Wapello Reservoir (Pump to Ware & La Vina & Swigart Resv.)	53,439.08 44.98	44,314.94 50.95	44,994.53 51.33	50063.00 56.94	53,778.48 42.57
Ware Reservoir (Pump to Coulter Resv.)	22,370.95 66.03	20,205.52 63.48	19,959.09 63.87	21545.74 69.40	18,146.52 67.90
TOTAL ANNUAL ENERGY COST	\$382,200.82	\$297,648.93	\$251,879.05	\$241,083.08	\$354,302.29



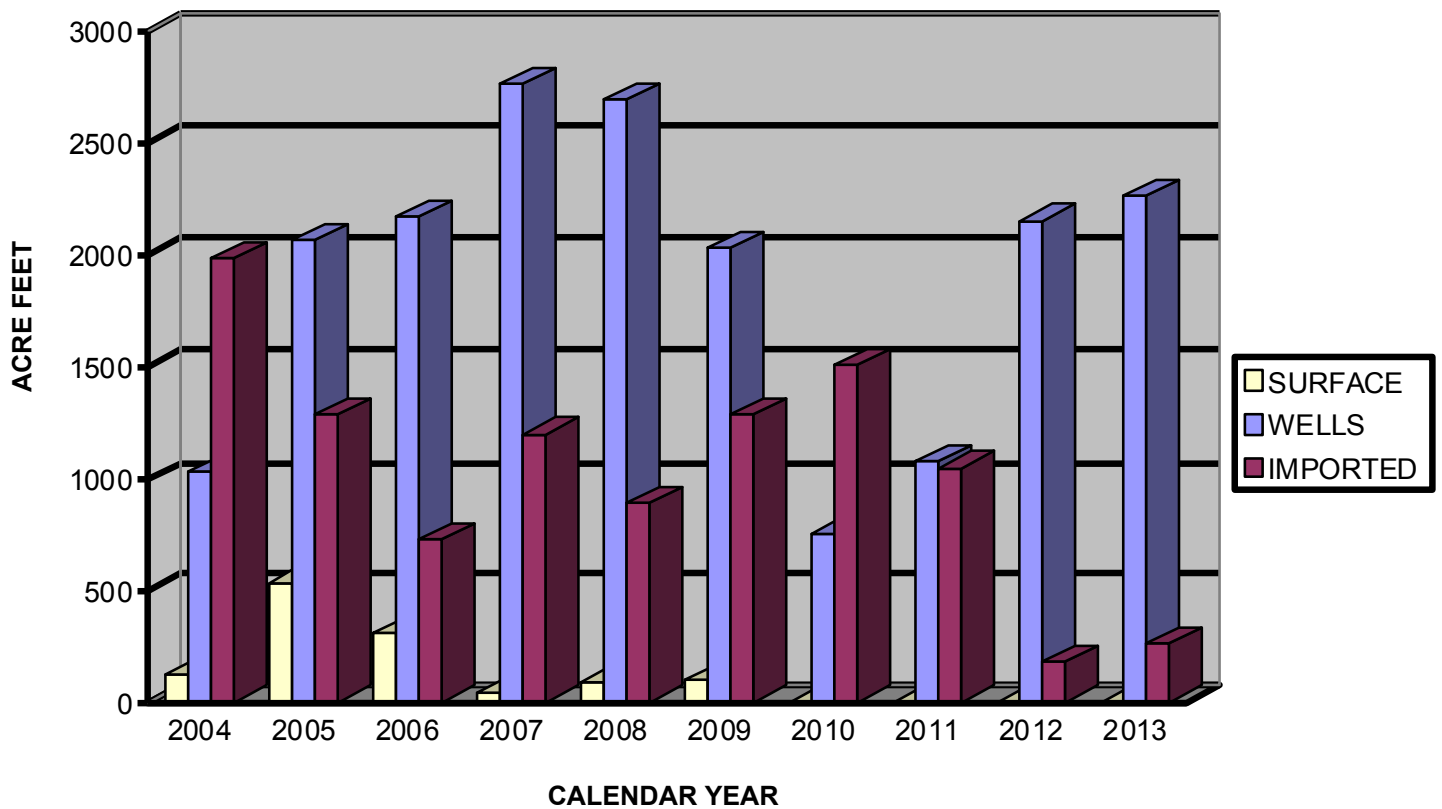
# ANNUAL PRODUCTION IN ACRE FEET

2004 - 2013

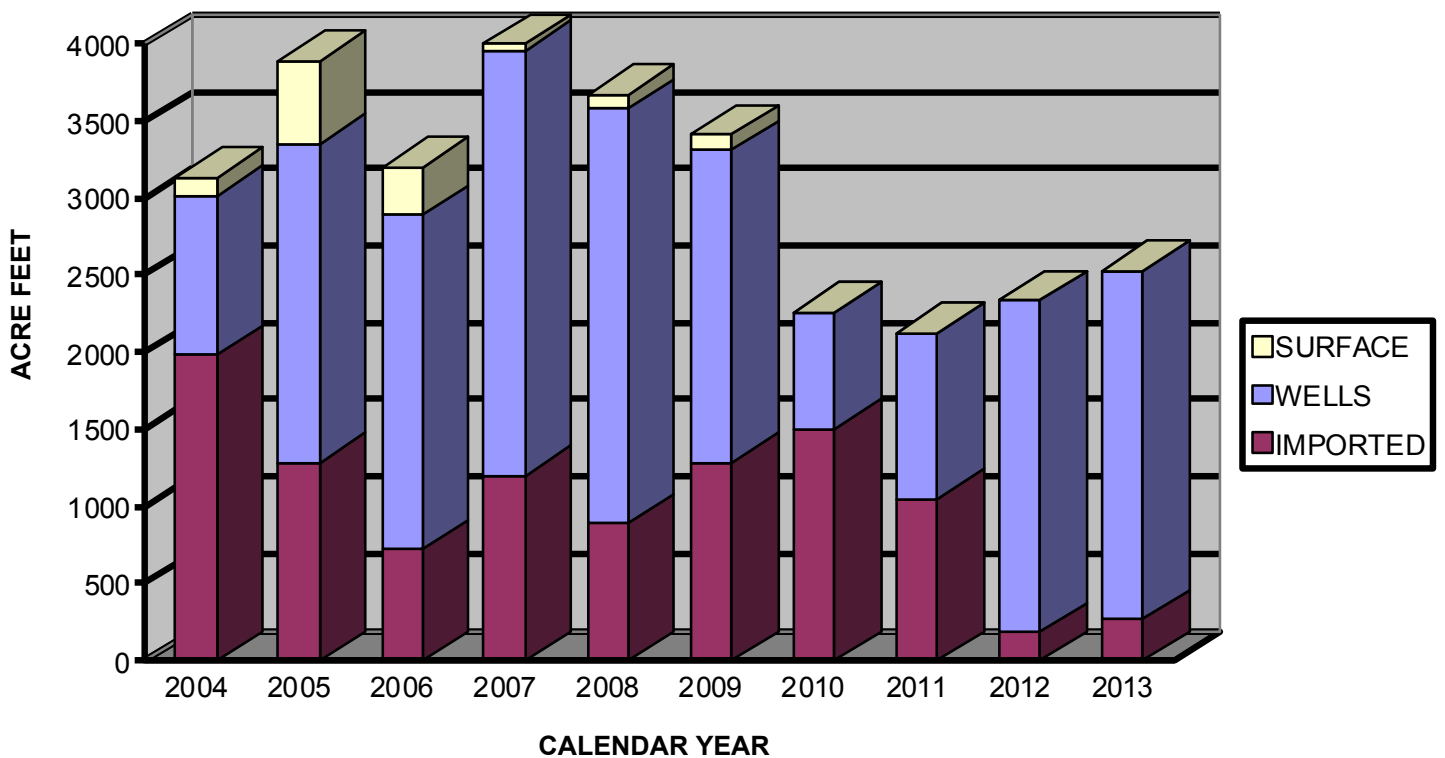
CALENDAR YEAR	WELL #3	WELL #5	SURFACE	IMPORTED	TOTAL PRODUCTION	LESS LEASE WATER DELIVERY	ACTUAL PRODUCTION (LINCOLN)	RAINFALL (INCHES)
2013	989.88	1271.38	0	264.35	2525.61	96.39	2429.22	10.13
2012	691.28	1459.58	0	185.33	2336.19	0	2336.19	18.20
2011	599.17	474.85	0	1048.62	2122.64	0	2122.64	17.65
2010	757.68	0.03	0	1504.14	2261.85	108.70	2153.15	37.00
2009	1269.96	756.55	100.55	1281.62	3408.68	915.40	2493.28	16.17
2008	1379.75	1311.92	94.56	888.76	3674.99	944.90	2730.09	30.30
2007	1398.73	1360.11	39.16	1198.16	3996.16	968.50	3027.66	9.54
2006	1183.90	984.60	305.70	725.70	3199.90	269.60	2930.30	21.73
2005	1372.60	691.40	536.60	1287.60	3888.20	1141.30	2746.90	46.33
2004	619.50	411.20	121.90	1984.10	3136.70	322.70	2814.00	31.69



**ANNUAL PRODUCTION BY SOURCE - SURFACE, WELLS & IMPORTED**

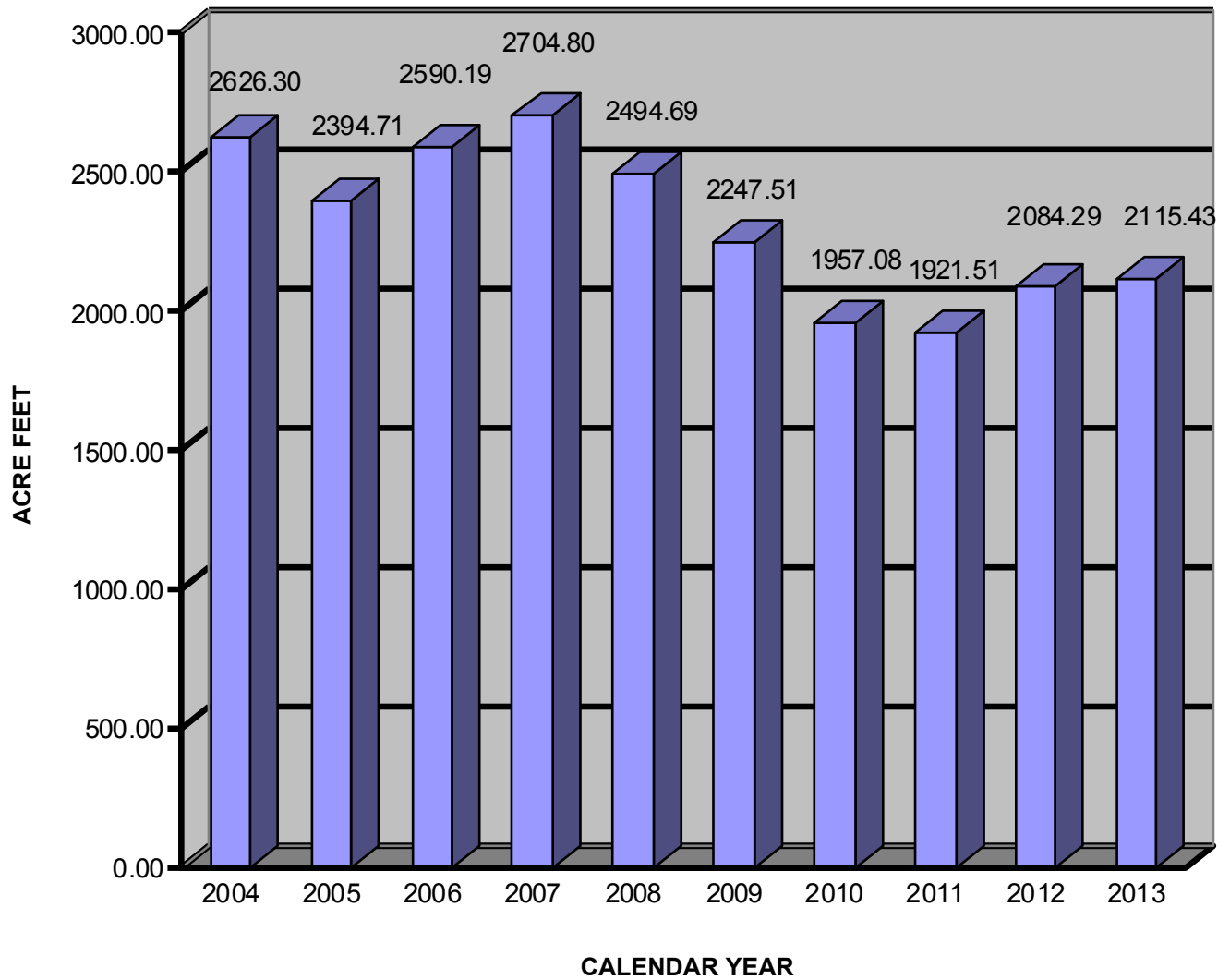


**TOTAL ANNUAL PRODUCTION - SURFACE, WELLS & IMPORTED**





**ANNUAL WATER SALES IN ACRE FEET  
2004 - 2013**





## METERS AND SERVICE CONNECTIONS

New service connections installed in 2013	4
Meters replaced in 2013	184
Distribution system service connections in 2013	4467
2013 average consumption per meter per day - Residential	374 gal.
2013 average consumption per meter per day - Commercial	1623 gal.
2013 average consumption per capita per day - Residential	107 gal.

## NUMBER OF METERS BY SIZE

5/8"	3191
3/4"	821
1"	350
1½"	28
2"	69
3"	5
4"	3
<b>TOTAL</b>	<b>4467</b>



## WELL PRODUCTION CAPACITY

Well #3 (drilled 1924)	900 GPM
Well #5 (drilled 1971)	1100 GPM

## DISTRIBUTION LINES IN LINEAR FEET

Distribution System	288,323
Pumping Lines	18,128

TOTAL      306,451  
or 58 miles



## ANNUAL CANYON WATER BASIN RECHARGE IN ACRE FEET

### CANYON WATER BASIN RECHARGE

Millard*	Station Fire Disruption
Swigart	0
El Prieto*	Station Fire Disruption
Millard/La Vina	140.97
TOTAL	140.97

All canyon water that flows to the spreading basin is metered with an allowable extraction the following year based on Raymond Basin Management Board percolation calculations.

\*As a result of the devastation caused by the 2009 Station Fire, Lincoln Avenue stream gauging facilities in Millard and El Prieto Canyons remain off-line.

## WATER QUALITY

California Department of Public Health (CDPH) requires Lincoln Avenue Water Company to take distribution system water quality samples which include bacteriological, total trihalomethanes, volatile organic compounds, general physical, general mineral and inorganics, along with other scheduled analyses. Lincoln's system was in compliance with CDPH water quality standards at all times during 2013.



## BOARD OF DIRECTORS FOR THE YEAR 2013



**JOHN C. CLAIRDAY**

**PRESIDENT**

John C. Clairday, a graduate of the University of Southern California and Loyola Law School, has served on the Board since 1993. A former public high school teacher, Mr. Clairday presently works as an attorney for the Metropolitan Water District of Southern California. As a member of the General Counsel's Office, Mr. Clairday works closely with Metropolitan's Board and staff and represents the District before various administrative and regulatory agencies.



**ROBERT J. GOMPERZ**

**VICE PRESIDENT**

Robert J. Gomperz has been a Board member since 1990. He is retired from the Metropolitan Water District of Southern California where he coordinated various communications programs to the public about Metropolitan's programs and policies. Mr. Gomperz has been a public relations professional for more than three decades. He has a degree in Management from the University of Redlands. Prior to joining Metropolitan, he was Pasadena City College's Public Information Director for 12 years. Mr. Gomperz also served a portion of Altadena for 10 years as a Foothill Municipal Water District director and as a Southern California region director on the Association of California Water Agencies Board.



**LAWRENCE W. DUNCAN**

**1ST VICE PRESIDENT**

Lawrence W. Duncan is a retired textile industry supervisor and a 46-year Altadena resident. Mr. Duncan is entering his 13th year as a member of the Lincoln Board and also serves as the Company's Community Liaison Officer.



**BRUCE T. MORRISON**

**TREASURER**

Bruce T. Morrison, a graduate of California State University at Los Angeles with a degree in Civil Engineering, is entering his 6th year on the Board. A licensed Civil Engineer currently employed by the Los Angeles Department of Water and Power, Mr. Morrison has over 30 years of experience in the planning, design, and construction of water treatment, storage, and distribution facilities.



**ANN R. DOUGHERTY**

**ASSISTANT SECRETARY**

Ann R. Dougherty is a retired Management Consultant. She worked as an Executive Director for various non-profit organizations for 26 years. She currently serves on the Board of Directors for the San Gabriel Valley Habitat for Humanity where she has been involved for 16 years. She is a 42-year resident of Altadena.

# *Office Staff*



Maria Roxanna Autran  
Office Supervisor oversees Bookkeeping/  
Accounting and all administrative compliance.



Jennifer Betancourt  
Water Quality Coordinator and Assistant  
Office Supervisor, oversees all areas of  
water quality compliance.



Wendy Childs  
Customer Service Representative, Water  
Stock Clerk and Water Conservation  
Coordinator.



Jesus Bugarin  
Customer Service Representative and  
Administrative Assistant.



# *Field Staff*



Left to right:

- Randall Chew, Field Representative
- Michael Crowe, Field Representative
- Jose Gonzalez Field Representative
- Jack Harms, Field Representative
- Michael Cotter, Field Representative
- George Salazar, Distribution Supervisor
- Asia Smith, Foreman