

## APPENDIX J

Survey of In-Use Healy Model 900 Assist Nozzle Ages

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– Appendix J –  
**Survey of In-Use Healy Model 900 Assist Nozzle Ages**

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(July 27, 2018)

The purpose of this document is to provide an estimate of the age distribution of Healy Model 900 assist nozzles in use at gas dispensing facilities (GDF) in California.

**A. DATA COMPILATION AND CALCULATION OF NOZZLE AGES**

A Healy nozzle's original manufacture date is incorporated in a datecode located on the inside of the nozzle handle. The original datecode includes a two-digit week, two-digit year, and four-digit sequence number. If a nozzle was rebuilt, an additional datecode is placed on the left side or right side of the nozzle body just slightly covered by the scuff guard. A rebuilt datecode includes a two-digit week and two-digit year. The boxes below provide examples of nozzle datecodes.

Original Datecode Example: **4114 0110**  
41 = Week, 14 = Year, 0110 = Sequence Number

Rebuilt Datecode Example: **3713R**  
37 = Week, 13 = Year

CARB staff recorded the datecodes for Healy assist nozzles as part of a December 2015 in-use investigation pertaining to interlock performance and as part of the 2016-2017 EOR Nozzle Study [CARB, 2018b]. CARB staff recorded legible datecodes for 473 nozzles at 64 GDFs located throughout the Mojave Desert, Sacramento Metro, San Diego, San Joaquin Valley, San Francisco Bay Area, and South Coast (Los Angeles) Air Districts. CARB staff evaluated a variety of GDF sizes, ranging from 4 to 36 fueling points, and monthly gasoline throughputs ranging from 43,000 to 450,000 gallons. Attachment J-1 provides the nozzle-specific datecodes, the date CARB staff recorded the nozzle datecodes, and the corresponding manufacture dates and nozzle

ages. Attachment J-1 also includes monthly GDF gasoline throughput reported by the GDF operators for the months that nozzle datecodes were collected.

To estimate the manufacture date for each nozzle (within  $\pm 7$  days), CARB staff multiplied the two-digit week code by seven, converted the two-digit year code to a four-digit year, and used Microsoft Excel's "Date" function to calculate the corresponding calendar date. To estimate the age of each nozzle, the manufacture date was subtracted from the data CARB staff recorded the nozzle datecode. The box below provides an example of these calculations. If both the original and rebuilt datecodes were present, CARB staff used the rebuilt datecode for nozzle age calculations. Half of the nozzles with legible datecodes were rebuilt.

<p>Rebuilt Datecode Example: <b>3713R</b> 37 = Week, 13 = Year</p> <p><b>Manufacture Date</b> = 2013 [year] + (37 x 7 days) = 9/16/2013</p> <p><b>Nozzle Age</b> = Date<sub>nozzle datecode recorded</sub> - Manufacture Date = 12/19/2015 - 9/16/2013 = 824 days = 824 days <math>\div</math> 365 = 2.3 years</p>
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## B. NOZZLE AGE DISTRIBUTION

Table J-1 on page J-4 provides summary statistics that describe the age distribution of nozzles surveyed by CARB staff throughout 2015-2017 and Figure J-1 on page J-5 illustrates the distribution. There is a statistically significant correlation ( $p < 0.001$ ) between average nozzle ages at GDFs and GDF monthly gasoline throughputs, which indicates GDFs with lower throughputs generally have older nozzles than GDFs with higher throughput. As a result, CARB staff provided separate summary statistics and plots in Table J-1 and Figure J-1 for nozzles at GDFs with high throughput ( $\geq 250,000$  gallons per month) and low throughput ( $< 250,000$  gallons per month). The average age of nozzles for the entire data set is 3.5 years, compared to the average ages of 2.0 and 3.5 years for nozzles at high and low throughput GDFs, respectively. The average nozzle ages for high and low throughput GDFs are significantly different ( $p < 0.001$ ).

The median and 90<sup>th</sup> percentile values in Table J-1 for the entire data set indicate more than half of assist nozzles are replaced within 3 years, and the rest are typically replaced within 8 years. The nozzle age percentile values for the high throughput GDFs indicate nozzles are replaced more frequently, with more than half being replaced within two years and the rest within 4 years.

The age distribution of the nozzles included in CARB's 2015 In-Use Interlock Study and 2016-2017 EOR Nozzle Study sites may be somewhat older than the actual age distribution of all Healy Model 900 nozzles in use in California during 2015-2017 because the CARB studies did not include an adequate sampling of the largest GDFs in California. Only one (2 percent) of the 51 GDFs that reported monthly throughput had throughput greater than 400,000 gallons. However, the California Energy Commission estimated that about 3 percent of California GDFs in 2014 dispensed more than 400,000 gallons/month, and that about 17 percent of gasoline dispensed in California is dispensed by GDFs with average monthly throughput greater than 400,000 gallons (CEC, 2016). Consequently, the CARB nozzle age data set may not adequately represent the larger GDFs. Including larger GDFs in the data set would likely shift the nozzle age distribution downward (i.e., include a greater percentage of younger nozzles).

In addition, the age distribution of the nozzles included in CARB's 2015 In-Use Interlock Study and 2016-2017 EOR Nozzle Study may be older than the age distribution of assist nozzles in use during the next five years. During the past year, Franklin Fueling Services (FFS), the manufacturer of the Healy Model 900 assist nozzle, has offered eligible station owners a "Double Core Credit" incentive program to encourage voluntary early replacement of existing assist nozzles with EOR nozzles. FFS will continue to offer the incentive program until December 31, 2018. Consequently, the age distribution has likely shifted to include a greater percentage of younger nozzles.

As a result, CARB staff concludes the nozzle age distribution described by Table J-1 is likely biased high by an unknown amount. Even so, this age distribution is appropriate for rulemaking cost estimates because it provides a conservative estimate of nozzle ages and likely replacement rates (i.e., cost estimates associated with any potential requirements for early replacement of nozzles will have a high bias).

### **C. REFERENCES**

CARB. 2018b. Evaluation of Healy Model 900 Assist Vapor Recovery Nozzle with Enhanced On-Board Refueling Vapor Recovery (ORVR) Vehicle Recognition Feature during the Winter of 2016/2017, Report Number VR-OP-A7. Overpressure Study Technical Support Document prepared by staff of the Vapor Recovery and Fuel Transfer Branch, Monitoring and Laboratory Division, California Air Resources Board (CARB). June 10, 2018. (EOR Nozzle Study.) Available at: <https://ww2.arb.ca.gov/resources/documents/overpressure-studies-and-technical-support-documents>

CEC. 2016. ARB Data Request for 2014 CEC-A15 Gasoline Throughput. Microsoft Excel spreadsheet provided by California Energy Commission (CEC), Energy Assessment Division, on August 24, 2016.

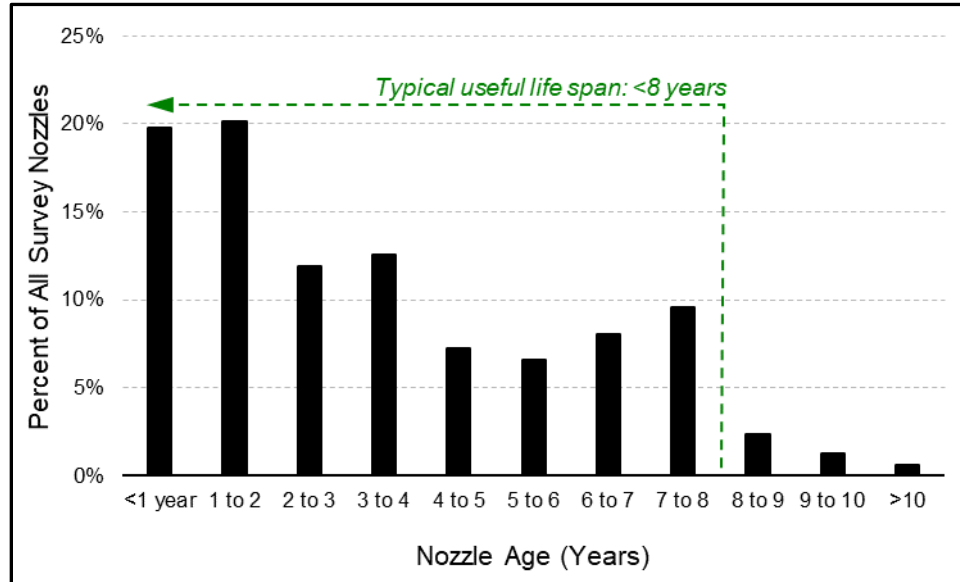
**TABLE J-1: NOZZLE AGE SUMMARY STATISTICS**

Nozzle Age (Years)	All Nozzles with Legible Datecodes	Nozzles at GDFs that Reported Monthly Throughput	
		GDFs with Throughput <250,000 gallons/month	GDFs with Throughput ≥250,000 gallons/month
# of Nozzles	471	335	37
Minimum Age	0.1	0.1	0.1
<b>Median</b>	<b>2.9</b>	<b>2.8</b>	<b>1.3</b>
<b>Average</b>	<b>3.5</b>	<b>3.5</b>	<b>2.0</b>
75 <sup>th</sup> percentile	5.7	5.6	2.3
<b>90<sup>th</sup> percentile</b>	<b>7.4</b>	<b>7.4</b>	<b>4.9</b>
95 <sup>th</sup> percentile	7.9	8.2	7.0
Maximum Age	10.2	10.2	7.4
Percent of nozzles ≤4 years old	64%	65%	89%

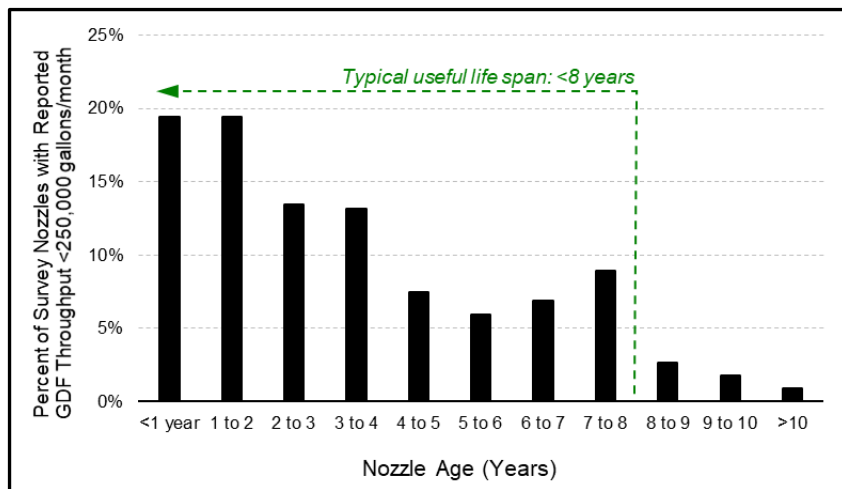
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## FIGURE J-1: NOZZLE AGE DISTRIBUTION PLOTS

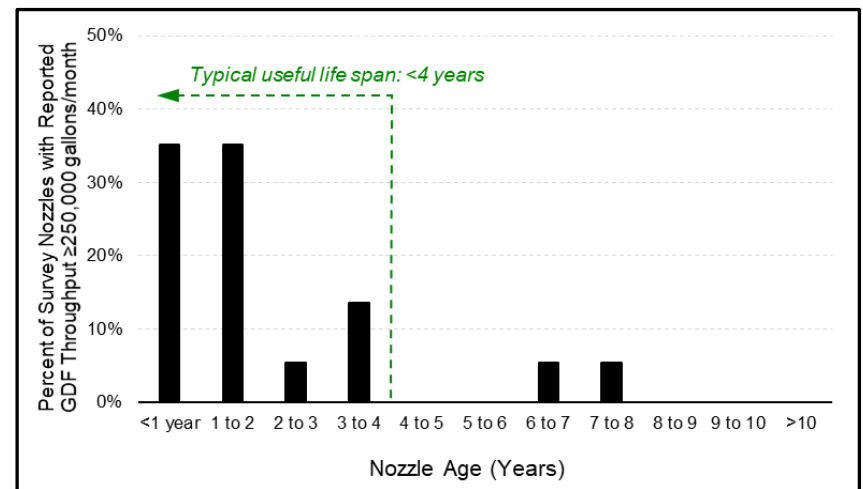
### A. All Nozzles with Legible Datecodes



### B. Nozzles at GDFs that Reported Throughput Less Than 250,000 gallons/month



### C. Nozzles at GDFs that Reported Throughput Greater Than 250,000 gallons/month



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**Survey of In-Use Healy Model 900 Assist Nozzle Ages**

**ATTACHMENT J-1: NOZZLE DATECODES AND AGES**

GDF ID #	Air District	Monthly Throughput Reported by GDFs (gallons)	Total # of GDF Fueling Positions	Study Date	Fueling Position	Nozzle Datecode Week-Year	Rebuilt Nozzle [R]	Nozzle Manufacture Date^	Nozzle Age (Years)	Notes
<b>December 2015 In-Use Interlock Study</b>										
1	BAAQMD	108,000	6	12/08/15	1	3013		07/29/13	2.4	
1	BAAQMD	108,000	6	12/08/15	2	2615		07/01/15	0.4	
1	BAAQMD	108,000	6	12/08/15	3	3409		08/26/09	6.3	
1	BAAQMD	108,000	6	12/08/15	4	2106		05/27/06	9.5	
1	BAAQMD	108,000	6	12/08/15	5	1308		03/31/08	7.7	
2	BAAQMD	200,000	6	12/08/15	1	1808		05/05/08	7.6	
2	BAAQMD	200,000	6	12/08/15	2	0708		02/18/08	7.8	
2	BAAQMD	200,000	6	12/08/15	3	3214		08/12/14	1.3	
2	BAAQMD	200,000	6	12/08/15	4	4208		10/20/08	7.1	
2	BAAQMD	200,000	6	12/08/15	5	4614		11/18/14	1.1	
2	BAAQMD	200,000	6	12/08/15	6	3308		08/18/08	7.3	
3	BAAQMD	120,000	8	12/08/15	1	1108		03/17/08	7.7	
3	BAAQMD	120,000	8	12/08/15	5	0508		02/04/08	7.8	
3	BAAQMD	120,000	8	12/08/15	6	1515		04/15/15	0.6	
3	BAAQMD	120,000	8	12/08/15	7	5111		12/23/11	3.96	[a]
3	BAAQMD	120,000	8	12/08/15	8	4506		11/11/06	9.1	
4	BAAQMD	220,000	6	12/08/15	3	5114		12/23/14	0.96	
4	BAAQMD	220,000	6	12/08/15	4	5114		12/23/14	0.96	
4	BAAQMD	220,000	6	12/08/15	5	1715		04/29/15	0.6	
4	BAAQMD	220,000	6	12/08/15	6	5014		12/16/14	0.98	
5	BAAQMD	250,000	6	12/09/15	1	2908		07/21/08	7.4	
5	BAAQMD	250,000	6	12/09/15	2	2615		07/01/15	0.4	
5	BAAQMD	250,000	6	12/09/15	3	3408		08/25/08	7.3	
5	BAAQMD	250,000	6	12/09/15	5	2215		06/03/15	0.5	
6	BAAQMD	115,000	6	12/09/15	1	613		02/11/13	2.8	
6	BAAQMD	115,000	6	12/09/15	2	4909		12/09/09	6.003	
6	BAAQMD	115,000	6	12/09/15	4	0510		02/04/10	5.8	
6	BAAQMD	115,000	6	12/09/15	5	3408		08/25/08	7.3	
6	BAAQMD	115,000	6	12/09/15	6	2615		07/01/15	0.4	
7	BAAQMD	200,000	8	12/09/15	1	4214		10/21/14	1.1	
7	BAAQMD	200,000	8	12/09/15	2	4414		11/04/14	1.1	
7	BAAQMD	200,000	8	12/09/15	3	4414		11/04/14	1.1	
7	BAAQMD	200,000	8	12/09/15	4	4008		10/06/08	7.2	
7	BAAQMD	200,000	8	12/09/15	5	0213		01/14/13	2.9	



GDF ID #	Air District	Monthly Throughput Reported by GDFs (gallons)	Total # of GDF Fueling Positions	Study Date	Fueling Position	Nozzle Datecode Week-Year	Rebuilt Nozzle [R]	Nozzle Manufacture Date^	Nozzle Age (Years)	Notes
7	BAAQMD	200,000	8	12/09/15	6	1615		04/22/15	0.6	
7	BAAQMD	200,000	8	12/09/15	7	2513		06/24/13	2.5	
7	BAAQMD	200,000	8	12/09/15	8	4008		10/06/08	7.2	
8	BAAQMD	60,000	8	12/09/15	4	4805	R	12/02/05	10.02	
8	BAAQMD	60,000	8	12/09/15	5	1008		03/10/08	7.8	
8	BAAQMD	60,000	8	12/09/15	6	2908		07/21/08	7.4	
8	BAAQMD	60,000	8	12/09/15	8	0612		02/11/12	3.8	
9	BAAQMD	248,000	4	12/10/15	1	2312		06/09/12	3.5	
9	BAAQMD	248,000	4	12/10/15	2	109	R	01/07/09	6.9	[b]
9	BAAQMD	248,000	4	12/10/15	3	4813		12/02/13	2.02	
9	BAAQMD	248,000	4	12/10/15	4	4814		12/02/14	1.0	
10	BAAQMD	43,000	4	12/10/15	1	3805		09/23/05	10.2	
10	BAAQMD	43,000	4	12/10/15	2	3608		09/08/08	7.3	
10	BAAQMD	43,000	4	12/10/15	3	3806		09/23/06	9.2	
10	BAAQMD	43,000	4	12/10/15	4	3211		08/12/11	4.3	
11	BAAQMD	181,000	8	12/10/15	1	3514	R	09/02/14	1.3	
11	BAAQMD	181,000	8	12/10/15	2	1314	R	04/01/13	2.69	
11	BAAQMD	181,000	8	12/10/15	3	2013		05/20/13	2.6	
11	BAAQMD	181,000	8	12/10/15	4					[d]
11	BAAQMD	181,000	8	12/10/15	5	2914	R	07/22/14	1.4	
11	BAAQMD	181,000	8	12/10/15	6	3611	R	09/09/11	4.3	
11	BAAQMD	181,000	8	12/10/15	7	2509	R	06/24/09	6.5	
12	BAAQMD	185,000	4	12/10/15	1	4814		12/02/14	1.02	
12	BAAQMD	185,000	4	12/10/15	2	5013		12/16/13	1.98	
12	BAAQMD	185,000	4	12/10/15	3	3809		09/23/09	6.2	
12	BAAQMD	185,000	4	12/10/15	4	4012		10/06/12	3.2	
13	BAAQMD	55,000	4	12/10/15	1	4005		10/07/05	10.2	
13	BAAQMD	55,000	4	12/10/15	2	2809		07/15/09	6.4	
13	BAAQMD	55,000	4	12/10/15	3	1715		04/29/15	0.6	
13	BAAQMD	55,000	4	12/10/15	4	1215		03/25/15	0.7	
14	BAAQMD	162,000	4	12/10/15	1	1310		04/01/10	5.7	
14	BAAQMD	162,000	4	12/10/15	2	1515		04/15/15	0.7	
14	BAAQMD	162,000	4	12/10/15	3	2215		06/03/15	0.5	
14	BAAQMD	162,000	4	12/10/15	4	3309		08/19/09	6.3	
15	BAAQMD	82,000	4	12/10/15	1	1510		04/15/10	5.7	
15	BAAQMD	82,000	4	12/10/15	2	1411		04/08/11	4.7	
15	BAAQMD	82,000	4	12/10/15	3	3409		08/26/09	6.3	
15	BAAQMD	82,000	4	12/10/15	4	914		03/04/14	1.8	
16	BAAQMD	250,000	8	12/11/15	1	1514		04/15/14	1.7	
16	BAAQMD	250,000	8	12/11/15	2	4215		10/21/15	0.1	
16	BAAQMD	250,000	8	12/11/15	7	4015		10/07/15	0.2	
16	BAAQMD	250,000	8	12/11/15	8	1615		04/22/15	0.6	

GDF ID #	Air District	Monthly Throughput Reported by GDFs (gallons)	Total # of GDF Fueling Positions	Study Date	Fueling Position	Nozzle Datecode Week-Year	Rebuilt Nozzle [R]	Nozzle Manufacture Date^	Nozzle Age (Years)	Notes
17	BAAQMD	300,000	10	12/11/15	2	3414		08/26/14	1.3	
17	BAAQMD	300,000	10	12/11/15	4	1009		03/11/09	6.8	
17	BAAQMD	300,000	10	12/11/15	6	5014		12/16/14	0.99	
17	BAAQMD	300,000	10	12/11/15	8	3212		08/11/12	3.3	
17	BAAQMD	300,000	10	12/11/15	9	5114		12/23/14	0.97	
18	BAAQMD	135,000	8	12/11/15	1	3608		09/08/08	7.3	
18	BAAQMD	135,000	8	12/11/15	2	5114		12/23/14	0.97	
18	BAAQMD	135,000	8	12/11/15	3	4513		11/11/13	2.1	
18	BAAQMD	135,000	8	12/11/15	4	2814		07/15/14	1.4	
18	BAAQMD	135,000	8	12/11/15	5	4912		12/08/12	3.008	
18	BAAQMD	135,000	8	12/11/15	6	415		01/28/15	0.9	
18	BAAQMD	135,000	8	12/11/15	7	3314		08/19/14	1.3	
18	BAAQMD	135,000	8	12/11/15	8	1409		04/08/09	6.7	
19	SCAQMD	#N/A	16	12/11/15	1	110	R	01/07/10	5.9	
19	SCAQMD	#N/A	16	12/11/15	2	3008		07/28/08	7.4	
19	SCAQMD	#N/A	16	12/11/15	3	4209	R	10/21/09	6.1	
19	SCAQMD	#N/A	16	12/11/15	4	2708	R	07/07/08	7.4	
19	SCAQMD	#N/A	16	12/11/15	5	4408		11/03/08	7.1	
19	SCAQMD	#N/A	16	12/11/15	6	1113	R	03/18/13	2.7	
19	SCAQMD	#N/A	16	12/11/15	7	0209		01/14/09	6.9	
19	SCAQMD	#N/A	16	12/11/15	8	2709	R	07/08/09	6.4	
19	SCAQMD	#N/A	16	12/11/15	9	3410	R	08/26/10	5.3	
19	SCAQMD	#N/A	16	12/11/15	10	1309	R	04/01/09	6.7	
19	SCAQMD	#N/A	16	12/11/15	11	4010	R	10/07/10	5.2	
19	SCAQMD	#N/A	16	12/11/15	12	0715	R	02/18/15	0.8	
19	SCAQMD	#N/A	16	12/11/15	13	2011		05/20/11	4.6	
19	SCAQMD	#N/A	16	12/11/15	14	4308		10/27/08	7.1	
19	SCAQMD	#N/A	16	12/11/15	15					[d]
19	SCAQMD	#N/A	16	12/11/15	16	4508		11/10/08	7.1	
20	SCAQMD	#N/A	12	12/11/15	1	0314	R	01/21/14	1.9	
20	SCAQMD	#N/A	12	12/11/15	2	414		01/28/14	1.9	[c]
20	SCAQMD	#N/A	12	12/11/15	3	2114	R	05/27/14	1.5	
20	SCAQMD	#N/A	12	12/11/15	4	3114	R	08/05/14	1.4	
20	SCAQMD	#N/A	12	12/11/15	5	0615	R	02/11/15	0.8	
20	SCAQMD	#N/A	12	12/11/15	6	3712	R	09/15/12	3.2	
20	SCAQMD	#N/A	12	12/11/15	7	1810	R	05/06/10	5.6	
20	SCAQMD	#N/A	12	12/11/15	8	2915		07/22/15	0.4	
20	SCAQMD	#N/A	12	12/11/15	9	1310	R	04/01/10	5.7	
20	SCAQMD	#N/A	12	12/11/15	10	1909	R	05/13/09	6.6	
20	SCAQMD	#N/A	12	12/11/15	11	3915	R	09/30/15	0.2	
20	SCAQMD	#N/A	12	12/11/15	12	2915	R	07/22/15	0.4	
21	SCAQMD	#N/A	16	12/11/15	1	3215		08/12/15	0.3	

GDF ID #	Air District	Monthly Throughput Reported by GDFs (gallons)	Total # of GDF Fueling Positions	Study Date	Fueling Position	Nozzle Datecode Week-Year	Rebuilt Nozzle [R]	Nozzle Manufacture Date^	Nozzle Age (Years)	Notes
21	SCAQMD	#N/A	16	12/11/15	2	1015		03/11/15	0.8	
21	SCAQMD	#N/A	16	12/11/15	3	2809		07/15/09	6.4	
21	SCAQMD	#N/A	16	12/11/15	4	1414	R	04/08/14	1.7	
21	SCAQMD	#N/A	16	12/11/15	5	2914	R	07/22/14	1.4	
21	SCAQMD	#N/A	16	12/11/15	6	4710	R	11/25/10	5.0	
21	SCAQMD	#N/A	16	12/11/15	7	5109		12/23/09	6.0	
21	SCAQMD	#N/A	16	12/11/15	8	3008	R	07/28/08	7.4	
21	SCAQMD	#N/A	16	12/11/15	9	0213		01/14/13	2.9	
21	SCAQMD	#N/A	16	12/11/15	10	5012		12/15/12	2.99	
21	SCAQMD	#N/A	16	12/11/15	11	5113	R	12/23/13	2.0	
21	SCAQMD	#N/A	16	12/11/15	12	2709	R	07/08/09	6.4	
21	SCAQMD	#N/A	16	12/11/15	13	2412	R	06/16/12	3.5	
21	SCAQMD	#N/A	16	12/11/15	14					[d]
21	SCAQMD	#N/A	16	12/11/15	15	2711	R	07/08/11	4.4	
21	SCAQMD	#N/A	16	12/11/15	16	3514	R	09/02/14	1.3	
22	SCAQMD	#N/A	12	12/11/15	1	2310	R	06/10/10	5.5	
22	SCAQMD	#N/A	12	12/11/15	2	2915	R	07/22/15	0.4	
22	SCAQMD	#N/A	12	12/11/15	3	3514	R	09/02/14	1.3	
22	SCAQMD	#N/A	12	12/11/15	4	1812	R	05/05/12	3.6	
22	SCAQMD	#N/A	12	12/11/15	5	2911	R	07/22/11	4.4	
22	SCAQMD	#N/A	12	12/11/15	6	1015	R	03/11/15	0.8	
22	SCAQMD	#N/A	12	12/11/15	7	2311	R	06/10/11	4.5	
22	SCAQMD	#N/A	12	12/11/15	8	1015	R	03/11/15	0.8	
22	SCAQMD	#N/A	12	12/11/15	9	2709	R	07/08/09	6.4	
22	SCAQMD	#N/A	12	12/11/15	10	4310	R	10/28/10	5.1	
22	SCAQMD	#N/A	12	12/11/15	11					[d]
22	SCAQMD	#N/A	12	12/11/15	12	0212		01/14/12	3.9	
23	SJVAPCD	100,000	12	12/09/15	1	2408	R	06/16/08	7.5	
23	SJVAPCD	100,000	12	12/09/15	2	4312	R	10/27/12	3.1	
23	SJVAPCD	100,000	12	12/09/15	3	5009	R	12/16/09	6.0	
23	SJVAPCD	100,000	12	12/09/15	4	1507	R	04/15/07	8.7	
23	SJVAPCD	100,000	12	12/09/15	5	1411	R	04/08/11	4.7	
23	SJVAPCD	100,000	12	12/09/15	6	5105	R	12/23/05	10.0	
23	SJVAPCD	100,000	12	12/09/15	7	3214	R	08/12/14	1.3	
23	SJVAPCD	100,000	12	12/09/15	8	4014	R	10/07/14	1.2	
23	SJVAPCD	100,000	12	12/09/15	9					[d]
23	SJVAPCD	100,000	12	12/09/15	10	1507	R	04/15/07	8.7	
23	SJVAPCD	100,000	12	12/09/15	11	1310	R	04/01/10	5.7	
23	SJVAPCD	100,000	12	12/09/15	12	0315	R	01/21/15	0.9	
24	SJVAPCD	200,000	12	12/09/15	1	0815	R	02/25/15	0.8	
24	SJVAPCD	200,000	12	12/09/15	2	1815	R	05/06/15	0.6	
24	SJVAPCD	200,000	12	12/09/15	3	2313	R	06/10/13	2.5	

GDF ID #	Air District	Monthly Throughput Reported by GDFs (gallons)	Total # of GDF Fueling Positions	Study Date	Fueling Position	Nozzle Datecode Week-Year	Rebuilt Nozzle [R]	Nozzle Manufacture Date^	Nozzle Age (Years)	Notes
24	SJVAPCD	200,000	12	12/09/15	4	4814	R	12/02/14	1.0	
24	SJVAPCD	200,000	12	12/09/15	5	4011	R	10/07/11	4.2	
24	SJVAPCD	200,000	12	12/09/15	6					[d]
24	SJVAPCD	200,000	12	12/09/15	7	2115	R	05/27/15	0.5	
24	SJVAPCD	200,000	12	12/09/15	8	0615	R	02/11/15	0.8	
24	SJVAPCD	200,000	12	12/09/15	9	1812	R	05/05/12	3.6	
24	SJVAPCD	200,000	12	12/09/15	10					[d]
24	SJVAPCD	200,000	12	12/09/15	11	0812	R	02/25/12	3.8	
24	SJVAPCD	200,000	12	12/09/15	12	0815	R	02/25/15	0.8	
25	MDAQMD	220,000	8	12/07/15	1	3915	R	09/30/15	0.2	
25	MDAQMD	220,000	8	12/07/15	2	0314	R	01/21/14	1.9	
25	MDAQMD	220,000	8	12/07/15	3	2915	R	07/22/15	0.4	
25	MDAQMD	220,000	8	12/07/15	4	3714	R	09/16/14	1.2	
25	MDAQMD	220,000	8	12/07/15	7	2111	R	05/27/11	4.5	
25	MDAQMD	220,000	8	12/07/15	8	0913	R	03/04/13	2.8	
26	MDAQMD	150,000	10	12/07/15	3	0514	R	02/04/14	1.8	
26	MDAQMD	150,000	10	12/07/15	5					[d]
26	MDAQMD	150,000	10	12/07/15	6	3309	R	08/19/09	6.3	
26	MDAQMD	150,000	10	12/07/15	7	0212	R	01/14/12	3.9	
26	MDAQMD	150,000	10	12/07/15	8	2811	R	07/15/11	4.4	
26	MDAQMD	150,000	10	12/07/15	10	1115	R	03/18/15	0.7	
27	MDAQMD	200,000	12	12/07/15	9	0513	R	02/04/13	2.8	
27	MDAQMD	200,000	12	12/07/15	10	3314	R	08/19/14	1.3	
27	MDAQMD	200,000	12	12/07/15	11	3011	R	07/29/11	4.4	
27	MDAQMD	200,000	12	12/07/15	12	0712	R	02/18/12	3.8	
28	MDAQMD	#N/A	4	12/06/15	3	1912	R	05/12/12	3.6	
28	MDAQMD	#N/A	4	12/06/15	4					[d]
29	SJVAPCD	280,000	6	12/06/15	1	3815	R	09/23/15	0.2	
29	SJVAPCD	280,000	6	12/06/15	5					[d]
29	SJVAPCD	280,000	6	12/06/15	6	1312	R	03/31/12	3.7	
30	SMAQMD	#N/A	10	12/06/15	7	1909	R	05/13/09	6.6	
30	SMAQMD	#N/A	10	12/06/15	8	0908	R	03/03/08	7.8	
30	SMAQMD	#N/A	10	12/06/15	9	0313	R	01/21/13	2.9	
30	SMAQMD	#N/A	10	12/06/15	10	1715	R	04/29/15	0.6	
31	SJVAPCD	100,000	12	12/09/15	1	0714	R	02/18/14	1.8	
31	SJVAPCD	100,000	12	12/09/15	2	2412	R	06/16/12	3.5	
31	SJVAPCD	100,000	12	12/09/15	3	2114	R	05/27/14	1.5	
31	SJVAPCD	100,000	12	12/09/15	4	2907	R	07/22/07	8.4	
31	SJVAPCD	100,000	12	12/09/15	5	2009	R	05/20/09	6.6	
31	SJVAPCD	100,000	12	12/09/15	6	0714	R	02/18/14	1.8	
31	SJVAPCD	100,000	12	12/09/15	7	1114	R	03/18/14	1.7	
31	SJVAPCD	100,000	12	12/09/15	8	2907	R	07/22/07	8.4	

GDF ID #	Air District	Monthly Throughput Reported by GDFs (gallons)	Total # of GDF Fueling Positions	Study Date	Fueling Position	Nozzle Datecode Week-Year	Rebuilt Nozzle [R]	Nozzle Manufacture Date^	Nozzle Age (Years)	Notes
31	SJVAPCD	100,000	12	12/09/15	9	2412	R	06/16/12	3.5	
31	SJVAPCD	100,000	12	12/09/15	10	2609	R	07/01/09	6.4	
31	SJVAPCD	100,000	12	12/09/15	11	3014	R	07/29/14	1.4	
31	SJVAPCD	100,000	12	12/09/15	12	5011	R	12/16/11	3.98	
32	SJVAPCD	100,000	8	12/08/15	1	3911	R	09/30/11	4.2	
32	SJVAPCD	100,000	8	12/08/15	2	3212	R	08/11/12	3.3	
32	SJVAPCD	100,000	8	12/08/15	3	3215	R	08/12/15	0.3	
32	SJVAPCD	100,000	8	12/08/15	4	1415	R	04/08/15	0.7	
32	SJVAPCD	100,000	8	12/08/15	5	4814	R	12/02/14	1.0	
32	SJVAPCD	100,000	8	12/08/15	6					[d]
32	SJVAPCD	100,000	8	12/08/15	7					[d]
32	SJVAPCD	100,000	8	12/08/15	8	3215	R	08/12/15	0.3	
33	SJVAPCD	48,000	8	12/10/15	1	3014	R	07/29/14	1.4	
33	SJVAPCD	48,000	8	12/10/15	2	3708	R	09/15/08	7.2	
33	SJVAPCD	48,000	8	12/10/15	3	1513	R	04/15/13	2.7	
33	SJVAPCD	48,000	8	12/10/15	4	1111	R	03/18/11	4.7	
33	SJVAPCD	48,000	8	12/10/15	5	1513	R	04/15/13	2.7	
33	SJVAPCD	48,000	8	12/10/15	6	3014	R	07/29/14	1.4	
33	SJVAPCD	48,000	8	12/10/15	7	1513	R	04/15/13	2.7	
33	SJVAPCD	48,000	8	12/10/15	8	1012	R	03/10/12	3.8	
34	SJVAPCD	50,000	12	12/10/15	9	1711	R	04/29/11	4.6	
34	SJVAPCD	50,000	12	12/10/15	10	0911	R	03/04/11	4.8	
34	SJVAPCD	50,000	12	12/10/15	11	4013	R	10/07/13	2.2	
34	SJVAPCD	50,000	12	12/10/15	12	2411	R	06/17/11	4.5	
35	SDAPCD	63,000	8	12/16/15	1	4312	R	10/27/12	3.1	
35	SDAPCD	63,000	8	12/16/15	2					[d]
35	SDAPCD	63,000	8	12/16/15	3	5212		12/29/12	2.96	
35	SDAPCD	63,000	8	12/16/15	4	4211	R	10/21/11	4.2	
35	SDAPCD	63,000	8	12/16/15	5					[d]
35	SDAPCD	63,000	8	12/16/15	6	2109	R	05/27/09	6.6	
35	SDAPCD	63,000	8	12/16/15	7	2212	R	06/02/12	3.5	
36	SDAPCD	160,000	10	12/19/15	1	3108		08/04/08	7.4	
36	SDAPCD	160,000	10	12/19/15	2	3512	R	09/01/12	3.3	
36	SDAPCD	160,000	10	12/19/15	3	0614	R	02/11/14	1.9	
36	SDAPCD	160,000	10	12/19/15	4					[d]
36	SDAPCD	160,000	10	12/19/15	5	1214	R	03/25/14	1.7	
36	SDAPCD	160,000	10	12/19/15	6	1915	R	05/13/15	0.6	
36	SDAPCD	160,000	10	12/19/15	7	4308		10/27/08	7.1	
36	SDAPCD	160,000	10	12/19/15	8	3512	R	09/01/12	3.3	
36	SDAPCD	160,000	10	12/19/15	9	3713	R	09/16/13	2.3	
36	SDAPCD	160,000	10	12/19/15	10					[d]
37	SDAPCD	230,000	12	12/18/15	2	4713	R	11/25/13	2.1	

GDF ID #	Air District	Monthly Throughput Reported by GDFs (gallons)	Total # of GDF Fueling Positions	Study Date	Fueling Position	Nozzle Datecode Week-Year	Rebuilt Nozzle [R]	Nozzle Manufacture Date^	Nozzle Age (Years)	Notes
37	SDAPCD	230,000	12	12/18/15	3	4810	R	12/02/10	5.0	
37	SDAPCD	230,000	12	12/18/15	4	0210	R	01/14/10	5.9	
37	SDAPCD	230,000	12	12/18/15	5	3115	R	08/05/15	0.4	
37	SDAPCD	230,000	12	12/18/15	6	0814	R	02/25/14	1.8	
37	SDAPCD	230,000	12	12/18/15	7	3312	R	08/18/12	3.3	
37	SDAPCD	230,000	12	12/18/15	8	5209		12/30/09	6.0	
37	SDAPCD	230,000	12	12/18/15	9	3012		07/28/12	3.4	
37	SDAPCD	230,000	12	12/18/15	10	1115		03/18/15	0.8	
37	SDAPCD	230,000	12	12/18/15	11	3214	R	08/12/14	1.4	
37	SDAPCD	230,000	12	12/18/15	12	2315		06/10/15	0.5	
38	SDAPCD	80,000	6	12/18/15	3					[d]
38	SDAPCD	80,000	6	12/18/15	4	1510	R	04/15/10	5.7	
38	SDAPCD	80,000	6	12/18/15	5	3509	R	09/02/09	6.3	
39	SDAPCD	250,000	8	12/18/15	1	0514	R	02/04/14	1.9	
39	SDAPCD	250,000	8	12/18/15	2	3514	R	09/02/14	1.3	
39	SDAPCD	250,000	8	12/18/15	5	4914	R	12/09/14	1.0	
39	SDAPCD	250,000	8	12/18/15	7	3515	R	09/02/15	0.3	
39	SDAPCD	250,000	8	12/18/15	8	1815		05/06/15	0.6	
40	SDAPCD	120,000	14	12/18/15	1	0208		01/14/08	7.9	
40	SDAPCD	120,000	14	12/18/15	2	2515		06/24/15	0.5	
40	SDAPCD	120,000	14	12/18/15	3	1212	R	03/24/12	3.7	
40	SDAPCD	120,000	14	12/18/15	4	4014	R	10/07/14	1.2	
40	SDAPCD	120,000	14	12/18/15	5	4515		11/11/15	0.1	
40	SDAPCD	120,000	14	12/18/15	6	4914	R	12/09/14	1.0	
40	SDAPCD	120,000	14	12/18/15	7	0412	R	01/28/12	3.9	
40	SDAPCD	120,000	14	12/18/15	8	5012	R	12/15/12	3.0	
40	SDAPCD	120,000	14	12/18/15	9	1210	R	03/25/10	5.7	
40	SDAPCD	120,000	14	12/18/15	10	4314	R	10/28/14	1.1	
40	SDAPCD	120,000	14	12/18/15	11					[d]
40	SDAPCD	120,000	14	12/18/15	12	0208		01/14/08	7.9	
40	SDAPCD	120,000	14	12/18/15	13	4114	R	10/14/14	1.2	
40	SDAPCD	120,000	14	12/18/15	14	0412	R	01/28/12	3.9	
41	SDAPCD	450,000	12	12/18/15	6	4315		10/28/15	0.1	
41	SDAPCD	450,000	12	12/18/15	7					[d]
41	SDAPCD	450,000	12	12/18/15	8	1915		05/13/15	0.6	
41	SDAPCD	450,000	12	12/18/15	9	1312	R	03/31/12	3.7	
41	SDAPCD	450,000	12	12/18/15	10	0614	R	02/11/14	1.8	
41	SDAPCD	450,000	12	12/18/15	12	4714		11/25/14	1.1	
42	SDAPCD	120,000	10	12/18/15	1	1312	R	03/31/12	3.7	
42	SDAPCD	120,000	10	12/18/15	2	2912	R	07/21/12	3.4	
42	SDAPCD	120,000	10	12/18/15	3	2513		06/24/13	2.5	
42	SDAPCD	120,000	10	12/18/15	4	4414		11/04/14	1.1	

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42	SDAPCD	120,000	10	12/18/15	5	1515	R	04/15/15	0.7	
42	SDAPCD	120,000	10	12/18/15	6	3311	R	08/19/11	4.3	
42	SDAPCD	120,000	10	12/18/15	7	1613	R	04/22/13	2.7	
42	SDAPCD	120,000	10	12/18/15	8	1615		04/22/15	0.7	
42	SDAPCD	120,000	10	12/18/15	9	2011		05/20/11	4.6	
42	SDAPCD	120,000	10	12/18/15	10	1713	R	04/29/13	2.6	
43	SDAPCD	140,000	12	12/18/15	1	0714	R	02/18/14	1.8	
43	SDAPCD	140,000	12	12/18/15	2	4712	R	11/24/12	3.1	
43	SDAPCD	140,000	12	12/19/15	3	0109	R	01/07/09	6.95	
43	SDAPCD	140,000	12	12/19/15	4	0406		01/28/06	9.9	
43	SDAPCD	140,000	12	12/19/15	5	4912	R	12/08/12	3.0	
43	SDAPCD	140,000	12	12/19/15	6	1615		04/22/15	0.7	
43	SDAPCD	140,000	12	12/19/15	7	3614		09/09/14	1.3	
43	SDAPCD	140,000	12	12/19/15	8	1613	R	04/22/13	2.7	[e]
43	SDAPCD	140,000	12	12/19/15	9	4214	R	10/21/14	1.2	
43	SDAPCD	140,000	12	12/19/15	10	0715	R	02/18/15	0.8	
43	SDAPCD	140,000	12	12/19/15	11	0515	R	02/04/15	0.9	
43	SDAPCD	140,000	12	12/19/15	12	2812	R	07/14/12	3.4	
44	SDAPCD	190,000	12	12/18/15	1	4513	R	11/11/13	2.1	
44	SDAPCD	190,000	12	12/18/15	2	2215		06/03/15	0.5	
44	SDAPCD	190,000	12	12/18/15	3	0814	R	02/25/14	1.8	
44	SDAPCD	190,000	12	12/18/15	4	1212	R	03/24/12	3.7	
44	SDAPCD	190,000	12	12/18/15	5	4513	R	11/11/13	2.1	
44	SDAPCD	190,000	12	12/18/15	7	0814	R	02/25/14	1.8	
44	SDAPCD	190,000	12	12/18/15	8	3514	R	09/02/14	1.3	
44	SDAPCD	190,000	12	12/18/15	9	5114	R	12/23/14	0.99	
44	SDAPCD	190,000	12	12/18/15	10	1611	R	04/22/11	4.7	
44	SDAPCD	190,000	12	12/18/15	11	1614	R	04/22/14	1.7	
44	SDAPCD	190,000	12	12/18/15	12	2813		07/15/13	2.4	
45	SDAPCD	200,000	12	12/18/15	1	4712	R	11/24/12	3.1	
45	SDAPCD	200,000	12	12/18/15	2	4114		10/14/14	1.2	
45	SDAPCD	200,000	12	12/18/15	5	1610	R	04/22/10	5.7	
45	SDAPCD	200,000	12	12/18/15	6	1614	R	04/22/14	1.7	
45	SDAPCD	200,000	12	12/18/15	8	0614	R	02/11/14	1.8	
45	SDAPCD	200,000	12	12/18/15	11	1214	R	03/25/14	1.7	
45	SDAPCD	200,000	12	12/18/15	12	4114	R	10/14/14	1.2	
46	SDAPCD	125,000	8	12/18/15	1	1715		04/29/15	0.6	
46	SDAPCD	125,000	8	12/18/15	2	3212	R	08/11/12	3.4	
46	SDAPCD	125,000	8	12/18/15	3	4914	R	12/09/14	1.0	
46	SDAPCD	125,000	8	12/18/15	4	1114	R	03/18/14	1.8	
46	SDAPCD	125,000	8	12/18/15	5	3209	R	08/12/09	6.4	
46	SDAPCD	125,000	8	12/18/15	6	5208	R	12/29/08	6.97	[f]

GDF ID #	Air District	Monthly Throughput Reported by GDFs (gallons)	Total # of GDF Fueling Positions	Study Date	Fueling Position	Nozzle Datecode Week-Year	Rebuilt Nozzle [R]	Nozzle Manufacture Date^	Nozzle Age (Years)	Notes
46	SDAPCD	125,000	8	12/18/15	7	4013	R	10/07/13	2.2	
46	SDAPCD	125,000	8	12/18/15	8	4214	R	10/21/14	1.2	
47	SDAPCD	#N/A	12	12/18/15	1	3011		07/29/11	4.4	
47	SDAPCD	#N/A	12	12/18/15	2	1015		03/11/15	0.8	
47	SDAPCD	#N/A	12	12/18/15	3	3012		07/28/12	3.4	
47	SDAPCD	#N/A	12	12/18/15	4	3714	R	09/16/14	1.3	
47	SDAPCD	#N/A	12	12/18/15	5	2315		06/10/15	0.5	
47	SDAPCD	#N/A	12	12/18/15	6	2213	R	06/03/13	2.5	
47	SDAPCD	#N/A	12	12/18/15	7	3511	R	09/02/11	4.3	
47	SDAPCD	#N/A	12	12/18/15	8	1210	R	03/25/10	5.7	
47	SDAPCD	#N/A	12	12/18/15	9					[d]
47	SDAPCD	#N/A	12	12/18/15	10	4712	R	11/24/12	3.1	
47	SDAPCD	#N/A	12	12/18/15	11	0313	R	01/21/13	2.9	
47	SDAPCD	#N/A	12	12/18/15	12	0208		01/14/08	7.9	
48	SDAPCD	#N/A	8	12/18/15	1	4209	R	10/21/09	6.2	
48	SDAPCD	#N/A	8	12/18/15	2	3314	R	08/19/14	1.3	
48	SDAPCD	#N/A	8	12/18/15	3	3912	R	09/29/12	3.2	
48	SDAPCD	#N/A	8	12/18/15	4	1714	R	04/29/14	1.6	
48	SDAPCD	#N/A	8	12/18/15	5	4512	R	11/10/12	3.1	
48	SDAPCD	#N/A	8	12/18/15	6	4109	R	10/14/09	6.2	
48	SDAPCD	#N/A	8	12/18/15	7	5011	R	12/16/11	4.01	
48	SDAPCD	#N/A	8	12/18/15	8	0814	R	02/25/14	1.8	
49	SDAPCD	98,000	12	12/17/15	1	0710	R	02/18/10	5.8	
49	SDAPCD	98,000	12	12/17/15	2					[d]
49	SDAPCD	98,000	12	12/17/15	3	3508	R	09/01/08	7.3	
49	SDAPCD	98,000	12	12/17/15	4	4208	R	10/20/08	7.2	
49	SDAPCD	98,000	12	12/17/15	5	0415	R	01/28/15	0.9	
49	SDAPCD	98,000	12	12/17/15	6	2509	R	06/24/09	6.5	
49	SDAPCD	98,000	12	12/17/15	7	5212		12/29/12	2.97	
49	SDAPCD	98,000	12	12/17/15	8	2113	R	05/27/13	2.6	
49	SDAPCD	98,000	12	12/17/15	9	4210	R	10/21/10	5.2	
49	SDAPCD	98,000	12	12/17/15	10	2708	R	07/07/08	7.4	
49	SDAPCD	98,000	12	12/17/15	11	1515	R	04/15/15	0.7	
49	SDAPCD	98,000	12	12/17/15	12	4210	R	10/21/10	5.2	
50	SDAPCD	141,000	8	12/17/15	1	2913	R	07/22/13	2.4	
50	SDAPCD	141,000	8	12/17/15	2	4509		11/11/09	6.1	
50	SDAPCD	141,000	8	12/17/15	3	5008		12/15/08	7.01	
50	SDAPCD	141,000	8	12/17/15	4	1015		03/11/15	0.8	
50	SDAPCD	141,000	8	12/17/15	5	1115		03/18/15	0.8	
50	SDAPCD	141,000	8	12/17/15	6	2608		06/30/08	7.5	
50	SDAPCD	141,000	8	12/17/15	7	1311		04/01/11	4.7	
50	SDAPCD	141,000	8	12/17/15	8	0408		01/28/08	7.9	



GDF ID #	Air District	Monthly Throughput Reported by GDFs (gallons)	Total # of GDF Fueling Positions	Study Date	Fueling Position	Nozzle Datecode Week-Year	Rebuilt Nozzle [R]	Nozzle Manufacture Date^	Nozzle Age (Years)	Notes
51	SDAPCD	140,000	10	12/17/15	1	0212		01/14/12	3.9	
51	SDAPCD	140,000	10	12/17/15	2	4513	R	11/11/13	2.1	
51	SDAPCD	140,000	10	12/17/15	3	4210	R	10/21/10	5.2	
51	SDAPCD	140,000	10	12/17/15	4	0514	R	02/04/14	1.9	
51	SDAPCD	140,000	10	12/17/15	5	5113	R	12/23/13	2.0	
51	SDAPCD	140,000	10	12/17/15	6	5213	R	12/30/13	2.0	
51	SDAPCD	140,000	10	12/17/15	7	5212		12/29/12	2.97	
51	SDAPCD	140,000	10	12/17/15	8	2715	R	07/08/15	0.4	
51	SDAPCD	140,000	10	12/17/15	9	5213	R	12/30/13	2.0	
51	SDAPCD	140,000	10	12/17/15	10	5012	R	12/15/12	3.0	
52	SDAPCD	#N/A	8	12/17/15	1	0913	R	03/04/13	2.8	
52	SDAPCD	#N/A	8	12/17/15	2	2207	R	06/03/07	8.5	
52	SDAPCD	#N/A	8	12/17/15	3	0713	R	02/18/13	2.8	
52	SDAPCD	#N/A	8	12/17/15	4	0109		01/07/09	6.9	
52	SDAPCD	#N/A	8	12/17/15	5	3609	R	09/09/09	6.3	
52	SDAPCD	#N/A	8	12/17/15	6	2007	R	05/20/07	8.6	
52	SDAPCD	#N/A	8	12/17/15	7	3011	R	07/29/11	4.4	
52	SDAPCD	#N/A	8	12/17/15	8	0814	R	02/25/14	1.8	
53	SDAPCD	#N/A	8	12/17/15	1	1115	R	03/18/15	0.8	
53	SDAPCD	#N/A	8	12/17/15	2	1815		05/06/15	0.6	
53	SDAPCD	#N/A	8	12/17/15	3	2912	R	07/21/12	3.4	
53	SDAPCD	#N/A	8	12/17/15	4	4114	R	10/14/14	1.2	
53	SDAPCD	#N/A	8	12/17/15	5	4911	R	12/09/11	4.02	
53	SDAPCD	#N/A	8	12/17/15	6	1010	R	03/11/10	5.8	
53	SDAPCD	#N/A	8	12/17/15	7	2614	R	07/01/14	1.5	
53	SDAPCD	#N/A	8	12/17/15	8	4414	R	11/04/14	1.1	
54	BAAQMD	#N/A	6	12/16/15	2	3008		07/28/08	7.4	
54	BAAQMD	#N/A	6	12/16/15	6	3008		07/28/08	7.4	
55	BAAQMD	#N/A	4	12/16/15	3	1108		03/17/08	7.8	
55	BAAQMD	#N/A	4	12/16/15	4	0013		01/01/13	2.96	
56	BAAQMD	220,000	6	12/18/15	2	4806	R	12/02/06	9.05	
56	BAAQMD	220,000	6	12/18/15	3	2108		05/26/08	7.6	
56	BAAQMD	220,000	6	12/18/15	4	2908		07/21/08	7.4	
56	BAAQMD	220,000	6	12/18/15	6	5111		12/23/11	3.99	
57	BAAQMD	200,000	12	12/18/15	1	1715		04/29/15	0.6	
57	BAAQMD	200,000	12	12/18/15	2	1715		04/29/15	0.6	
57	BAAQMD	200,000	12	12/18/15	3	1715		04/29/15	0.6	
57	BAAQMD	200,000	12	12/18/15	4	1715		04/29/15	0.6	
57	BAAQMD	200,000	12	12/18/15	5	1715		04/29/15	0.6	
57	BAAQMD	200,000	12	12/18/15	6	4514		11/11/14	1.1	
57	BAAQMD	200,000	12	12/18/15	8	1715		04/29/15	0.6	
57	BAAQMD	200,000	12	12/18/15	9	1715		04/29/15	0.6	

GDF ID #	Air District	Monthly Throughput Reported by GDFs (gallons)	Total # of GDF Fueling Positions	Study Date	Fueling Position	Nozzle Datecode Week-Year	Rebuilt Nozzle [R]	Nozzle Manufacture Date^	Nozzle Age (Years)	Notes
57	BAAQMD	200,000	12	12/18/15	10	1715		04/29/15	0.6	
57	BAAQMD	200,000	12	12/18/15	11	4514		11/11/14	1.1	
57	BAAQMD	200,000	12	12/18/15	12	1715		04/29/15	0.6	
58	BAAQMD	#N/A	8	12/18/15	4	0908		03/03/08	7.8	
58	BAAQMD	#N/A	8	12/18/15	8	3508		09/01/08	7.3	
<b>2016-2017 EOR Nozzle Study</b>										
59	MDAQMD	75,000	6	10/13/16		5015		12/16/15	0.8	
59	MDAQMD	75,000	6	10/13/16		4915		12/09/15	0.8	
59	MDAQMD	75,000	6	10/13/16		3115		08/05/15	1.2	
59	MDAQMD	75,000	6	10/13/16		4414		11/04/14	1.9	
59	MDAQMD	75,000	6	10/13/16		2313		06/10/13	3.3	
59	MDAQMD	75,000	6	10/13/16		811		02/25/11	5.6	
60	SCAQMD	200,000	12	10/12/16		3915		09/30/15	1.04	
60	SCAQMD	200,000	12	10/12/16		3515		09/02/15	1.1	
60	SCAQMD	200,000	12	10/12/16		4512		11/10/12	3.9	
60	SCAQMD	200,000	12	10/12/16		4412		11/03/12	3.9	
60	SCAQMD	200,000	12	10/12/16		3912		09/29/12	4.04	
60	SCAQMD	200,000	12	10/12/16		2812		07/14/12	4.2	
60	SCAQMD	200,000	12	10/12/16		112		01/07/12	4.8	
60	SCAQMD	200,000	12	10/12/16		4610		11/18/10	5.9	
60	SCAQMD	200,000	12	10/12/16		3608		09/08/08	8.1	
60	SCAQMD	200,000	12	10/12/16		308		01/21/08	8.7	
61	MDAQMD	150,000	10	10/13/16		1816		05/05/16	0.4	
61	MDAQMD	150,000	10	10/13/16		1816		05/05/16	0.4	
61	MDAQMD	150,000	10	10/13/16		1716		04/28/16	0.5	
61	MDAQMD	150,000	10	10/13/16		1115		03/18/15	1.6	
61	MDAQMD	150,000	10	10/13/16		1115		03/18/15	1.6	
61	MDAQMD	150,000	10	10/13/16		514		02/04/14	2.7	
61	MDAQMD	150,000	10	10/13/16		513		02/04/13	3.7	
61	MDAQMD	150,000	10	10/13/16		4412		11/03/12	3.9	
61	MDAQMD	150,000	10	10/13/16		2811		07/15/11	5.3	
61	MDAQMD	150,000	10	10/13/16						[d]
62	SCAQMD	160,000	36	10/12/16		3316		08/18/16	0.2	
62	SCAQMD	160,000	36	10/12/16		1316		03/31/16	0.5	
62	SCAQMD	160,000	36	10/12/16		1316		03/31/16	0.5	
62	SCAQMD	160,000	36	10/12/16		4315		10/28/15	0.96	
62	SCAQMD	160,000	36	10/12/16		3315		08/19/15	1.2	
62	SCAQMD	160,000	36	10/12/16		5214		12/30/14	1.8	
62	SCAQMD	160,000	36	10/12/16		4714		11/25/14	1.9	
62	SCAQMD	160,000	36	10/12/16		3914		09/30/14	2.04	
62	SCAQMD	160,000	36	10/12/16		2714		07/08/14	2.3	
62	SCAQMD	160,000	36	10/12/16		2014		05/20/14	2.4	

GDF ID #	Air District	Monthly Throughput Reported by GDFs (gallons)	Total # of GDF Fueling Positions	Study Date	Fueling Position	Nozzle Datecode Week-Year	Rebuilt Nozzle [R]	Nozzle Manufacture Date^	Nozzle Age (Years)	Notes
62	SCAQMD	160,000	36	10/12/16		1614		04/22/14	2.5	
62	SCAQMD	160,000	36	10/12/16		1314		04/01/14	2.5	
62	SCAQMD	160,000	36	10/12/16		1314		04/01/14	2.5	
62	SCAQMD	160,000	36	10/12/16		1214		03/25/14	2.6	
62	SCAQMD	160,000	36	10/12/16		714		02/18/14	2.6	
62	SCAQMD	160,000	36	10/12/16		614		02/11/14	2.7	
62	SCAQMD	160,000	36	10/12/16		614		02/11/14	2.7	
62	SCAQMD	160,000	36	10/12/16		4913		12/09/13	2.8	
62	SCAQMD	160,000	36	10/12/16		1713		04/29/13	3.5	
62	SCAQMD	160,000	36	10/12/16		913		03/04/13	3.6	
62	SCAQMD	160,000	36	10/12/16		213		01/14/13	3.7	
62	SCAQMD	160,000	36	10/12/16		3212		08/11/12	4.2	
62	SCAQMD	160,000	36	10/12/16		1312		03/31/12	4.5	
62	SCAQMD	160,000	36	10/12/16		3711		09/16/11	5.1	
62	SCAQMD	160,000	36	10/12/16		3410		08/26/10	6.1	
62	SCAQMD	160,000	36	10/12/16		3310		08/19/10	6.2	
62	SCAQMD	160,000	36	10/12/16		3110		08/05/10	6.2	
62	SCAQMD	160,000	36	10/12/16		2610		07/01/10	6.3	
62	SCAQMD	160,000	36	10/12/16		4909		12/09/09	6.8	
62	SCAQMD	160,000	36	10/12/16		209		01/14/09	7.7	
62	SCAQMD	160,000	36	10/12/16		5208		12/29/08	7.8	
62	SCAQMD	160,000	36	10/12/16		808		02/25/08	8.6	
62	SCAQMD	160,000	36	10/12/16		808		02/25/08	8.6	
62	SCAQMD	160,000	36	10/12/16						[d]
62	SCAQMD	160,000	36	10/12/16						[d]
62	SCAQMD	160,000	36	10/12/16						[d]
63	SCAQMD	250,000	8	10/12/16		1216		03/24/16	0.6	
63	SCAQMD	250,000	8	10/12/16		3215		08/12/15	1.2	
63	SCAQMD	250,000	8	10/12/16		2715		07/08/15	1.3	
63	SCAQMD	250,000	8	10/12/16		2115		05/27/15	1.4	
63	SCAQMD	250,000	8	10/12/16		1215		03/25/15	1.6	
63	SCAQMD	250,000	8	10/12/16		1215		03/25/15	1.6	
63	SCAQMD	250,000	8	10/12/16		2514		06/24/14	2.3	
63	SCAQMD	250,000	8	10/12/16		913		03/04/13	3.6	
64	SCAQMD	50,000	8	10/12/16		4915		12/09/15	0.8	
64	SCAQMD	50,000	8	10/12/16		2914		07/22/14	2.2	
64	SCAQMD	50,000	8	10/12/16		1314		04/01/14	2.5	
64	SCAQMD	50,000	8	10/12/16		1314		04/01/14	2.5	
64	SCAQMD	50,000	8	10/12/16		1513		04/15/13	3.5	
64	SCAQMD	50,000	8	10/12/16		3112		08/04/12	4.2	
64	SCAQMD	50,000	8	10/12/16		3112		08/04/12	4.2	
64	SCAQMD	50,000	8	10/12/16		4210		10/21/10	5.98	

GDF ID #	Air District	Monthly Throughput Reported by GDFs (gallons)	Total # of GDF Fueling Positions	Study Date	Fueling Position	Nozzle Datecode Week-Year	Rebuilt Nozzle [R]	Nozzle Manufacture Date^	Nozzle Age (Years)	Notes
64	SCAQMD	50,000	8	10/12/16		208		01/14/08	8.8	

^ Manufacture date may be biased newer by up to 6 days.

**Notes:**

- [a] Field sheet has 5911 for week-year #, so assumed 5111 for calculations.
- [b] Field sheet has 9209 for rebuilt #, so assumed 0109 for calculations.
- [c] Field sheet has M441-0026; assumed 414 for calculations because several nozzles at this GDF are dated 2014 and 2015.
- [d] Datecode on nozzle was illegible.
- [e] Field sheet has 6113, so assumed transcription error and used 1613 for estimates
- [f] Field sheet has 5308, so assumed 5208 for estimates.