

Cayucos Sanitary District
Lift Station 5 Flow Calculations

Reporting Month/Year: January 2018
Number of Days in Month: 31

Metered Volumes

Date	Pump 1	Pump 2
1/31/2018=	31941660	30863310
1/1/2018=	<u>28934320</u>	<u>27674870</u>
Totals in Gallons	3007340	3188440

Lift Station 5 Volume 3007340 + 3188440 = 6195780 Gallons

Monthly Average Daily Flow $\frac{6195780}{31} = \underline{199863.87}$ Gallons/Day

Calculated Volumes

	Pump 1	Pump 2
1/31/2018=	5410.5	4975.1
1/1/2018=	<u>5339.0</u>	<u>4906.4</u>
Totals in Hours	71.5	68.7

Sampling Formula

active 516 min @ 10gpm 5,160 gallons
static 5,244 min @ 5gpm 26,220 gallons
31,380 gallons

	Pump 1	Pump 2
Hours x	71.5	68.7
GPM average x	692.03	757.19
Minutes/Hr	<u>60</u>	<u>60</u>
Total Gallonage	2968809	3121137

Percent Difference

Pump 1 $\frac{2968809 - 3007340}{3007340} = -1.3\%$ calculated volume is less than metered volume

Pump 2 $\frac{3121137 - 3188440}{3188440} = -2.1\%$ calculated volume is less than metered volume



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Cayucos Sanitary District Monthly Flow Report for January 2018

Total Volume Recorded at Lift Station 5: 6,195,780 -31,380
6,164,400 gallons

Monthly Average Daily Flow: 199,864 Gallons

Reporting Dates: January 1 through 31
Number of Days: 31

Rainfall Estimate: 2.7"

Comments: Sample collection started 1/28- 2/2 = 96 hours in January of backflow of Line 2 force main into the well . This results in a double metering of the same effluent. Static flow (pump off) into the well is 5gpm, and Active flow (the pump running) results in a 10gpm flow into the well. Total flow double pumped was 31,380 gallons.

Reporting Period Volumes for Meters 1 and 2 at Lift Station 5:

Meter 1 = 3,007,340 Gallons
Meter 2 = 3,188,440 Gallons

Cayucos Sanitary District
Lift Station 5 Flow Calculations

Reporting Month/Year: February 2018
Number of Days in Month: 28

Metered Volumes

Date	Pump 1	Pump 2
2/28/2018=	34567560	33420800
2/1/2018=	31941660	30863310
Totals in Gallons	<u>2625900</u>	<u>2557490</u>

Lift Station 5 Volume 2625900 + 2557490 = 5183390 Gallons

Monthly Average Daily Flow $\frac{5183390}{28} = \underline{185121.07}$ Gallons/Day

Calculated Volumes

	Pump 1	Pump 2
2/28/2018=	5473.4	5030.8
2/1/2018=	5410.5	4975.1
Totals in Hours	<u>62.9</u>	<u>55.7</u>

Sampling Formula

active 588 min @ 10gpm 5,880 gallons
static 5,172 min @ 5gpm 25,860 gallons
31,740 gallons

	Pump 1	Pump 2
Hours x	62.9	55.7
GPM average x	690.92	750.04
Minutes/Hr	<u>60</u>	<u>60</u>
Total Gallonage	<u>2607532</u>	<u>2506634</u>

Percent Difference

Pump 1 $\frac{2607532 - 2625900}{2625900} = -0.7\%$ calculated volume is less than metered volume

Pump 2 $\frac{2506634 - 2557490}{2557490} = -2.0\%$ calculated volume is less than metered volume



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Cayucos Sanitary District Monthly Flow Report for February 2018

**Total Volume Recorded at Lift Station 5: 5,183,390 ~~-31,740~~
5,151,650 total**

Monthly Average Daily Flow: 185,121 Gallons

Reporting Dates: February 1 through 28

Number of Days: 28

Rainfall Estimate: .20"

Comments: Sample collection 2/1-2/2 and 2/25 into March

Total flow double pumped was 31,740 gallons.

Reporting Period Volumes for Meters 1 and 2 at Lift Station 5:

Meter 1 = 2,625,900 Gallons

Meter 2 = 2,557,490 Gallons

Cayucos Sanitary District
Lift Station 5 Flow Calculations

Reporting Month/Year: March 2018
Number of Days in Month: 31

Metered Volumes

Date	Pump 1	Pump 2
3/30/2018=	39544440	38462160
3/1/2018=	<u>34567560</u>	<u>33420800</u>
Totals in Gallons	4976880	5041360

Lift Station 5 Volume 4976880 + 5041360 = 10018240 Gallons

Monthly Average Daily Flow $\frac{10018240}{31} = \underline{323169.03}$ Gallons/Day

Calculated Volumes

Sampling Formula

	Pump 1	Pump 2	
3/30/2018=	5598.1	5144.2	active 1,218 min @ 10gpm 12,180 gallons
3/1/2018=	<u>5473.4</u>	<u>5030.8</u>	static 7,422 min @ 5gpm <u>37,110 gallons</u>
Totals in Hours	124.7	113.4	49,290 gallons

	Pump 1	Pump 2
Hours x	124.7	113.4
GPM average x	665.77	732.12
Minutes/Hr	<u>60</u>	<u>60</u>
Total Gallonage	4981291	4981344

Percent Difference

Pump 1	$\frac{4981291 - 4976880}{4976880} =$	0.1 % calculated volume is greater than metered volume
Pump 2	$\frac{4981344 - 5041360}{5041360} =$	-1.2 % calculated volume is less than metered volume



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Cayucos Sanitary District Monthly Flow Report for **March 2018**

Total Volume Recorded at Lift Station 5: 10,018,240 + 113,000 = 49,290
10,081,950 total

Monthly Average Daily Flow: 323,169 Gallons

Reporting Dates: March 1 through 31
Number of Days: 31
Rainfall Estimate: 8.25"

Comments: Sample collection 3/1 and 3/25-3/30 in March Total flow double pumped was 49,290 gallons.
During the rain event on 3/22 the CSD delivered an additional 113,000 gallons of water directly to the WWTP via pump truck.

Reporting Period Volumes for Meters 1 and 2 at Lift Station 5:

Meter 1 = 4,976,880 Gallons
Meter 2 = 5,041,360 Gallons

Cayucos Sanitary District
Lift Station 5 Flow Calculations

Reporting Month/Year: April 2018
Number of Days in Month: 30

Metered Volumes

Date	Pump 1	Pump 2
4/30/2018=	42975610	41811400
4/1/2018=	<u>39544440</u>	<u>38462160</u>
Totals in Gallons	3431170	3349240

Lift Station 5 Volume 3431170 + 3349240 = 6780410 Gallons

Monthly Average Daily Flow $\frac{6780410}{30} = \underline{226013.67}$ Gallons/Day

Calculated Volumes

	Pump 1	Pump 2
4/30/2018=	5681.8	5218.7
4/1/2018=	<u>5598.1</u>	<u>5144.2</u>
Totals in Hours	83.7	74.5

Sampling Formula

active 264 min @ 10gpm 2,640 gallons
static 2,616 min @ 5gpm 13,080 gallons

15,720 gallons

	Pump 1	Pump 2
Hours x	83.7	74.5
GPM average x	734.22	761.12
Minutes/Hr	<u>60</u>	<u>60</u>
Total Gallonage	3687253	3402206

Percent Difference

Pump 1 $\frac{3687253 - 3431170}{3431170} =$

7.5 % calculated volume is greater than metered volume

Pump 2 $\frac{3402206 - 3349240}{3349240} =$

1.6 % calculated volume is greater than metered volume



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Cayucos Sanitary District Monthly Flow Report for April 2018

Total Volume Recorded at Lift Station 5: 6,780,410 -15,720
6,764,690

Monthly Average Daily Flow: 226,014 Gallons

Reporting Dates: April 1 through 30

Number of Days: 30

Rainfall Estimate: .55"

Comments: Sample collection 4/29 into may, April Total flow double pumped was 15,720 gallons.

Reporting Period Volumes for Meters 1 and 2 at Lift Station 5:

Meter 1 = 3,431,170 Gallons

Meter 2 = 3,349,240 Gallons

Cayucos Sanitary District
Lift Station 5 Flow Calculations

Reporting Month/Year: May 2018
Number of Days in Month: 31

Metered Volumes

Date	Pump 1	Pump 2
5/31/2018=	46202430	44926280
5/1/2018=	<u>42975610</u>	<u>41811400</u>
Totals in Gallons	3226820	3114880

Lift Station 5 Volume 3226820 + 3114880 = 6341700 Gallons

Monthly Average Daily Flow $\frac{6341700}{31} = \underline{204570.97}$ Gallons/Day

Calculated Volumes

	Pump 1	Pump 2
5/31/2018=	5760.5	5287.5
5/1/2018=	<u>5681.8</u>	<u>5218.7</u>
Totals in Hours	78.7	68.8

Sampling Formula	
active 846 min @ 10gpm	8,460 gallons
static 4914 min @ 5gpm	24,575 gallons
	33,035 gallons

	Pump 1	Pump 2
Hours x	78.7	68.8
GPM average x	672.42	733.03
Minutes/Hr	<u>60</u>	<u>60</u>
Total Gallonage	3175167	3025948

Percent Difference

Pump 1 $\frac{3175167 - 3226820}{3226820} = -1.6\%$ calculated volume is less than metered volume

Pump 2 $\frac{3025948 - 3114880}{3114880} = -2.9\%$ calculated volume is less than metered volume



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Cayucos Sanitary District Monthly Flow Report for May 2018

Total Volume Recorded at Lift Station 5: 6,341,700 -33,035
6,308,645

Monthly Average Daily Flow: 204,571 Gallons

Reporting Dates: May 1 through 31

Number of Days: 31

Rainfall Estimate: 0

Comments: Sample collection occurred 5/1-5/4 into may, May total flow double pumped was 33,035 gallons.

Reporting Period Volumes for Meters 1 and 2 at Lift Station 5:

Meter 1 = 3,226,820 Gallons

Meter 2 = 3,114,880 Gallons

Cayucos Sanitary District
Lift Station 5 Flow Calculations

Reporting Month/Year: June 2018
Number of Days in Month: 30

Metered Volumes

Date	Pump 1	Pump 2
6/30/2018=	3329190	3074930
6/1/2018=	<u>0</u>	<u>0</u>
Totals in Gallons	3329190	3074930

Lift Station 5 Volume 3329190 + 3074930 = 6404120 Gallons

Monthly Average Daily Flow $\frac{6404120}{30} = \underline{213470.67}$ Gallons/Day

Calculated Volumes

	Pump 1	Pump 2
6/30/2018=	5844.9	5359.4
6/1/2018=	<u>5760.5</u>	<u>5287.5</u>
Totals in Hours	84.4	71.9

	Pump 1	Pump 2
Hours x	84.4	71.9
GPM average x	654.06	706.4
Minutes/Hr	<u>60</u>	<u>60</u>
Total Gallonage	3312160	3047410

Percent Difference

Pump 1 $\frac{3312160 - 3329190}{3329190} = -0.5\%$ calculated volume is less than metered volume

Pump 2 $\frac{3047410 - 3074930}{3074930} = -0.9\%$ calculated volume is less than metered volume



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Cayucos Sanitary District Monthly Flow Report for June 2018

Total Volume Recorded at Lift Station 5: 6,404,120

Monthly Average Daily Flow: 213,471 Gallons

Reporting Dates: June 1 through 30

Number of Days: 30

Rainfall Estimate: 0

Comments: Flow meters were calibrated and reset June 1, 2018 by Jensen
Instruments

Reporting Period Volumes for Meters 1 and 2 at Lift Station 5:

Meter 1 = 3,329,190 Gallons

Meter 2 = 3,074,930 Gallons

Cayucos Sanitary District
Lift Station 5 Flow Calculations

Reporting Month/Year: July 2018
Number of Days in Month: 31

Metered Volumes

Date	Pump 1	Pump 2
7/31/2018=	7599690	6823430
7/1/2018=	3329190	3074930
Totals in Gallons	4270500	3748500

Lift Station 5 Volume 4270500 + 3748500 = 8019000 Gallons

Monthly Average Daily Flow $\frac{8019000}{31} = \underline{258677.42}$ Gallons/Day

Calculated Volumes

	Pump 1	Pump 2
7/31/2018=	5953.8	5448.6
7/1/2018=	5844.9	5359.4
Totals in Hours	108.9	89.2

Sampling Formula	
active 1,218 min @ 10gpm	12,180 gallons
static 7,422 min @ 5gpm	37,110 gallons
	49,290 gallons

	Pump 1	Pump 2
Hours x	108.9	89.2
GPM average x	645.67	705.58
Minutes/Hr	<u>60</u>	<u>60</u>
Total Gallonage	4218808	3776264

Percent Difference

Pump 1 $\frac{4218808 - 4270500}{4270500} =$

-1.2 % calculated volume is less than metered volume

Pump 2 $\frac{3776264 - 3748500}{3748500} =$

0.7 % calculated volume is greater than metered volume

Cayucos Sanitary District
Lift Station 5 Flow Calculations

Reporting Month/Year: July 2018
Number of Days in Month: 31

Metered Volumes

Date	Pump 1	Pump 2
7/31/2018=	7599690	6823430
7/1/2018=	3329190	3074930
Totals in Gallons	4270500	3748500

Lift Station 5 Volume 4270500 + 3748500 = 8019000 Gallons

Monthly Average Daily Flow $\frac{8019000}{31} = \underline{258677.42}$ Gallons/Day

Calculated Volumes

	Pump 1	Pump 2	
7/31/2018=	5953.8	5448.6	Sampling Formula active 1,218 min @ 10gpm 12,180 gallons static 7,422 min @ 5gpm 37,110 gallons 49,290 gallons
7/1/2018=	5844.9	5359.4	
Totals in Hours	108.9	89.2	

	Pump 1	Pump 2
Hours x	108.9	89.2
GPM average x	645.67	705.58
Minutes/Hr	<u>60</u>	<u>60</u>
Total Gallonage	4218808	3776264

Percent Difference

Pump 1 $\frac{4218808 - 4270500}{4270500} = -1.2\%$ calculated volume is less than metered volume

Pump 2 $\frac{3776264 - 3748500}{3748500} = 0.7\%$ calculated volume is greater than metered volume



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Cayucos Sanitary District Monthly Flow Report for July 2018

Total Volume Recorded at Lift Station 5: 8,019,000 -49,290
7,969,710

Monthly Average Daily Flow: 258,677 Gallons

Reporting Dates: July 1 through 31

Number of Days: 31

Rainfall Estimate: 0

Comments: Sample collection occurred 7/1-7/6. Total volume double pumped was 49,290 Gallons

Reporting Period Volumes for Meters 1 and 2 at Lift Station 5:

Meter 1 = 4,270,500 Gallons

Meter 2 = 3,748,500 Gallons

Cayucos Sanitary District
Lift Station 5 Flow Calculations

Reporting Month/Year: August 2018
Number of Days in Month: 31

Metered Volumes

Date	Pump 1	Pump 2
8/31/2018=	11123040	9926380
8/1/2018=	7599690	6823430
Totals in Gallons	3523350	3102950

Lift Station 5 Volume 3523350 + 3102950 = 6626300 Gallons

Monthly Average Daily Flow $\frac{6626300}{31} = \underline{213751.61}$ Gallons/Day

Calculated Volumes

	Pump 1	Pump 2
8/31/2018=	6043.3	5520.1
8/1/2018=	5953.8	5448.6
Totals in Hours	89.5	71.5

	Pump 1	Pump 2
Hours x	89.5	71.5
GPM average x	644.43	721.56
Minutes/Hr	<u>60</u>	<u>60</u>
Total Gallonage	3460589	3095492

Percent Difference

Pump 1 $\frac{3460589 - 3523350}{3523350} = -1.8\%$ calculated volume is less than metered volume

Pump 2 $\frac{3095492 - 3102950}{3102950} = -0.2\%$ calculated volume is less than metered volume



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Cayucos Sanitary District Monthly Flow Report for August 2018

Total Volume Recorded at Lift Station 5: 6,626,300

Monthly Average Daily Flow: 213,752 Gallons

Reporting Dates: August 1 through 31
Number of Days: 31

Rainfall Estimate: 0

Comments: _____

Reporting Period Volumes for Meters 1 and 2 at Lift Station 5:
Meter 1 = 3,523,350 Gallons
Meter 2 = 3,102,950 Gallons

Cayucos Sanitary District
Lift Station 5 Flow Calculations

Reporting Month/Year: September 2018
Number of Days in Month: 30

Metered Volumes

Date	Pump 1	Pump 2
9/30/2018=	14045010	12581310
9/1/2018=	11123040	9926380
Totals in Gallons	2921970	2654930

Lift Station 5 Volume 2921970 + 2654930 = 5576900 Gallons

Monthly Average Daily Flow $\frac{5576900}{30} = \underline{185896.67}$ Gallons/Day

Calculated Volumes

	Pump 1	Pump 2
9/30/2018=	6117.2	5579.9
9/1/2018=	6043.3	5520.1
Totals in Hours	73.9	59.8

	Pump 1	Pump 2
Hours x	73.9	59.8
GPM average x	646.15	727.3
Minutes/Hr	<u>60</u>	<u>60</u>
Total Gallonage	<u>2865029</u>	<u>2609552</u>

Percent Difference

Pump 1 $\frac{2865029 - 2921970}{2921970} = -1.9\%$ calculated volume is less than metered volume

Pump 2 $\frac{2609552 - 2654930}{2654930} = -1.7\%$ calculated volume is less than metered volume



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Cayucos Sanitary District Monthly Flow Report for September 2018

Total Volume Recorded at Lift Station 5: 5,576,900

Monthly Average Daily Flow: 185,897 Gallons

Reporting Dates: September 1 through 30
Number of Days: 30

Rainfall Estimate: 0

Comments: _____

Reporting Period Volumes for Meters 1 and 2 at Lift Station 5:
Meter 1 = 2,921,970 Gallons
Meter 2 = 2,654,930 Gallons

Cayucos Sanitary District
Lift Station 5 Flow Calculations

Reporting Month/Year: December 2018
Number of Days in Month: 31

Metered Volumes

Date	Pump 1	Pump 2
12/31/2018=	25390520	18479120
12/1/2018=	22139720	15621090
Totals in Gallons	3250800	2858030

Lift Station 5 Volume 3250800 + 2858030 = 6108830 Gallons

Monthly Average Daily Flow $\frac{6108830}{31} = \underline{197059.03}$ Gallons/Day

Calculated Volumes

	Pump 1	Pump 2
12/31/2018=	6345.1	5764.8
12/1/2018=	6263.9	5701.3
Totals in Hours	81.2	63.5

	Pump 1	Pump 2
Hours x	81.2	63.5
GPM average x	662.19	738.96
Minutes/Hr	<u>60</u>	<u>60</u>
Total Gallonage	<u>3226190</u>	<u>2815438</u>

Percent Difference

Pump 1 $\frac{3226190 - 3250800}{3250800} = -0.8\%$ calculated volume is less than metered volume

Pump 2 $\frac{2815438 - 2858030}{2858030} = -1.5\%$ calculated volume is less than metered volume



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Cayucos Sanitary District Monthly Flow Report for December 2018

Total Volume Recorded at Lift Station 5: 6,108,830

Monthly Average Daily Flow: 197,059 Gallons

Reporting Dates: December 1 through 30

Number of Days: 31

Rainfall Estimate: 1.95"

Comments:

Reporting Period Volumes for Meters 1 and 2 at Lift Station 5:

Meter 1 = 3,250,800 Gallons

Meter 2 = 2,858,030 Gallons