Keeping Up with DDW Monitoring Requirements May 22, 2019

Dawn White Water Quality Manager



Presentation Outline

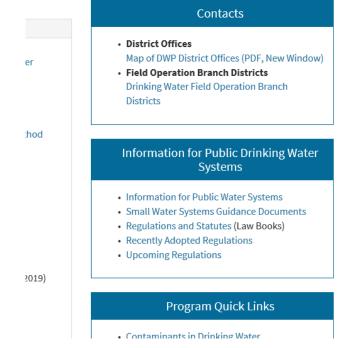
- Update on Water Testing Regulations
- How to Keep Track of Water Testing Schedules
- Where to Find Results Online
- Sample Templates for Tracking Testing Schedules and Monitoring Results
 - Spreadsheet examples
 - SAMS Water by NJB Soft
- Questions & general discussion

Update on Water Testing Regulations

https://www.waterboards.ca.gov/drinking_water/programs/index.html

Sample according to:

- Regulations
- Permit Provisions
- Process Control



Drinking Water-Related Statutes and Regulations

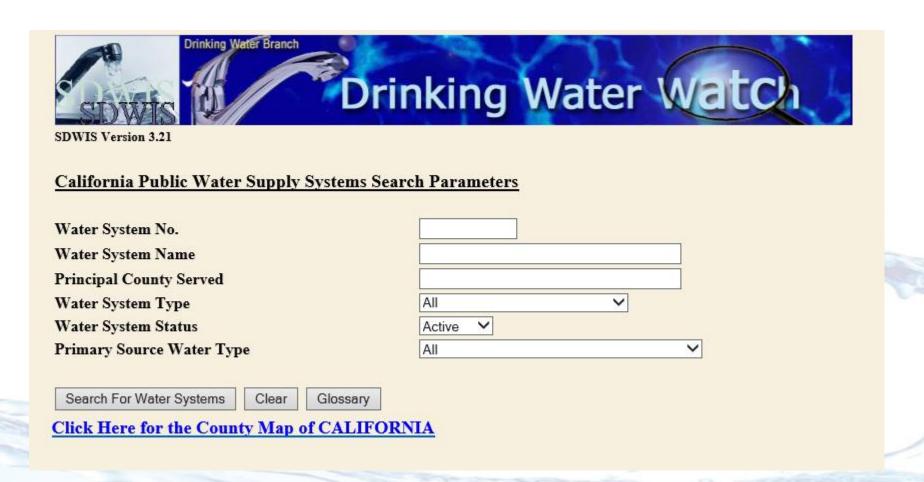
These compilations of drinking water-related laws were once referred to by staff and the regulated community as "The Blue Book."

Drinking water-related statutes are from the Corporations Code, Education Code, Food and Agricultural Code, Government Code, Health and Safety Code, Public Resources Code, and Water Code. There may be statutes related to drinking water that are not included in the latest update. Regulations are from Title 17 and Title 22 of the CCR.

- Drinking Water-Related Statutes (PDF, 2.1MB)...(Word, 2MB) 391 pages, last updated December 28, 2018.
- Drinking Water-Related Regulations (PDF, 2.2MB)...(Word, 0.5MB) 346 pages, last updated April 16, 2019.

Drinking Water Watch

https://sdwis.waterboards.ca.gov/PDWW/



inks

Water System Details

Water System Facilities

Monitoring Schedules

Monitoring Results

Monitoring Results By Analyte

Lead And Copper Sampling

- Summaries
- · Next Sampling Due Dates
- · All Lead Sampling Results
- · All Copper Sampling Results

Violations/Enforcement Actions

Site Visits

Consumer Confidence Reports

- 2017
- 2016
- 2015
- 2014

Return Links

Water System Search

County Map

CA Drinking Water Watch

Water System Details

Water System No. : CA4210022 Federal Type: С Water System Name : GOLDEN STATE WATER COMPANY - LAKE MARIE State Type: С Principal County Served : Primary Source : SANTA BARBARA GW **Activity Date:** 03-22-1979 Distribution System Classification: Max Treatment Plant Classification: D1 TD

	Water Syste	em Contacts						
Туре	Address	Ph	one	Email - Web Address				
Administrative Contact	3005 GOLD CANAL DRIVE RANCHO CORDOVA,CA 95670							
Physical Location Contact	CA4210022-GOLDEN STATE WC - LAKE MARIE	Business	800-999-4033	www.gswater.com				

Division of Drinking Water District / County Health Dept. Info

Name	Phone	Email	Address
DISTRICT 06 - SANTA BARBARA	805-566-1326		1180 EUGENIA PLACE SUITE 200 CARPENTERIA CA 93013

524

Annual Operating Periods & Population Served

Population Served Start Month Start Day End Month End Day **Population Type** 31

Service Connections

Туре	Count	Meter Type	Meter Size Measure
CB	204	ME	0

Sources of Water

12

Name	Type Code	Status
LAKE MARIE WELL 4	WL	A

Code	Name
R	RESIDENTIAL AREA

Service Areas

Monitoring Schedules

may or a notation in the Constituent tremuncation column to reterence storet code /1000 for the last mutate result, in these instances, the Constituent tremuncation column with say, INTERALE (as IN) – [see /1000]. Any questions should be referred to your District Engineer.

Monitoring Schedules for All Sampling Points

Monitoring Schedule for Individual Sampling Points Click on a sampling point number to view the monitoring schedule for the sampling point. Click here to bring back the list of sampling points.

Sampling Point	Location	Туре
<u>003</u>	VINEYARD WELL 05	RW
<u>005</u>	WELLS 04,05,06 - TRT CL	WS
<u>006</u>	VINEYARD WELL 06	RW
<u>008</u>	LAKE MARIE WELL 4	RW
<u>007</u>	DISTRIBUTION SYSTEM	DS
LCR		DS

)ATE: 5/20/	2019		LAS	ST SAM	STATE O PLE DATE A	F CALIFO ND MONIT		HEDULE			PAGE	1
SYSTEM N	0: 42	10022	NAME: GOLDEN STATE W	ATER (COMPANY -	LAKE MAR	RIE	co	UNTY: SANTA	BARBA	ARA	
OURCE N	0: 00	16	NAME: VINEYARD WELL 0	6				CL	ASS: LARG		STAT	US: Active
SCODE		GROUP/C	CONSTITUENT CATION		LAST RESULT	UNITS	MCL	DLR	LAST SAMPLE	FREQ MON THS	NEXT SAMPLE DUE	NOTES
210022 006		4210022	GOLDEN STATE WATER COMPANY - LAKE MARIE		006	VINEYAF	RD WELL 06	i				
	GP	SECONDA	ARY/GP									
		00440	BICARBONATE ALKALINITY		260	MG/L			2017/02/21	36	2020/02	
		00916	CALCIUM		100	MG/L			2017/02/21	36	2020/02	
		00445	CARBONATE ALKALINITY	<	2.0	MG/L			2017/02/21	36	2020/02	
		00940	CHLORIDE		62	MG/L	500		2017/02/21	36	2020/02	
		00081	COLOR	<	3.0	UNITS	15		2017/03/21	36	2020/03	
		01042	COPPER	<	50	UG/L	1000	50	2017/02/21	36	2020/02	
		38260	FOAMING AGENTS (MBAS)	<	0.10	MG/L	.5		2017/02/21	36	2020/02	
		00900	HARDNESS (TOTAL) AS CACO3		350	MG/L			2017/02/21	36	2020/02	
		71830	HYDROXIDE ALKALINITY	<	2.0	MG/L			2017/02/21	36	2020/02	
		01045	IRON	<	100	UG/L	300	100	2017/02/21	36	2020/02	
		00927	MAGNESIUM		24	MG/L			2017/02/21	36	2020/02	
		01055	MANGANESE	<	20	UG/L	50	20	2017/02/21	36	2020/02	

Monitoring Results

VINEYARD WELL 06 (4210022-006)

Click to hide / show columns: Storet Number | Group/Constituent Identification | Sampling Date | XMOD | Result | MCL | DLR | Trigger | Unit |

isplay 10 v records

Search: Copy Print PDF Excel

Storet Number 🔻	Group/Constituent Identification \$	Sampling Date	XMOD \$	Result \$	MCL ♦	DLR \$	Trigger 🛊	Unit \$
A-09 5	3,5-DICHLOROBENZOIC ACID	2012-06-06	<	1.0000	0.000	0.000	0.000	UG/L
A-082	TOTAL RADIUM FOR NTNC PER §64442(b)(3) MDA95	2011-06-01		.3660	1.001	0.000	0.000	PCI/L
A-082	TOTAL RADIUM FOR NTNC PER §64442(b)(3) MDA95	2011-09-14		.4390	1.001	0.000	0.000	PCI/L
A-082	TOTAL RADIUM FOR NTNC PER §64442(b)(3) MDA95	2011-12-07		.4730	1.001	0.000	0.000	PCI/L
A-082	TOTAL RADIUM FOR NTNC PER §64442(b)(3) MDA95	2012-04-11		.5850	1.001	0.000	0.000	PCI/L
A-082	TOTAL RADIUM FOR NTNC PER §64442(b)(3) MDA95	2012-06-06		.4390	1.001	0.000	0.000	PCI/L
A-082	TOTAL RADIUM FOR NTNC PER §64442(b)(3) MDA95	2013-01-02		.4210	1.001	0.000	0.000	PCI/L
A-081	TOTAL RADIUM FOR NTNC PER §64442(b)(3) C.E.	2011-06-01		.1730	0.000	0.000	0.000	PCI/L
A-081	TOTAL RADIUM FOR NTNC PER §64442(b)(3)	2011-09-14		.2940	0.000	0.000	0.000	PCI/L

Monitoring Plans & Sample Tracking - Spreadsheets



Sample Templates for Monitoring Plans

					ABO	C Water C	ompan	У							
					Distribu	ution Syster	n Monito	oring							
						,		J							
CHEMICAL	MCL /	PHG /	DLR	TRIGGER	INITIAL	ROUTINE				MONITO	RING SCHEDUL	E (Month)			
0.12111107.12	·	- ,	52						TURD COME			,	d voor 1002)		
	(AL)	(MCLG)			MONITORING	MONITORING					(Initial monito	0 0			
					FREQUENCY	FREQUENCY	First	Compliance Po	eriod	Secon	nd Compliance	Period	Third	d Compliance F	'eriod
	(ppm)	(ppm)	(ppm)		(1st Year)		2011	2012	2013	2014	2015	2016	2017	2018	2019
Total Coliform Bacteria & E.	coli (22 CCR S	ection 6442	1-64426.5)												
Total Coliform	>5% pos.			1 positive		weekly	weekly	weekly	weekly	weekly	weekly	weekly	weekly	weekly	weekly
E. coli	2 pos.			TC pos.		As required									
General Physical (22 CCR Se	ection 64449.5	5)													
Color	none					monthly	monthly	monthly	monthly	monthly	monthly	monthly	monthly	monthly	monthly
Odor	none					monthly	monthly	monthly	monthly	monthly	monthly	monthly	monthly	monthly	monthly
Turbidity	none					monthly	monthly	monthly	monthly	monthly	monthly	monthly	monthly	monthly	monthly
Disinfection Byproducts (22	CCR Section 6	4533, Table	64553-A)												
Total Trihalomethanes (TTHM)	0.080			MCL											
Bromodichloromethane			0.0005			quarterly	1,4,7,10	1,4,7,10	1,4,7,10	1,4,7,10	1,4,7,10	1,4,7,10	1,4,7,10	1,4,7,10	1,4,7,10
Bromoform			0.0005			quarterly	1,4,7,10	1,4,7,10	1,4,7,10	1,4,7,10	1,4,7,10	1,4,7,10	1,4,7,10	1,4,7,10	1,4,7,10
Chloroform			0.0005			quarterly	1,4,7,10	1,4,7,10	1,4,7,10	1,4,7,10	1,4,7,10	1,4,7,10	1,4,7,10	1,4,7,10	1,4,7,10
Dibromochloromethane			0.0005			quarterly	1,4,7,10	1,4,7,10	1,4,7,10	1,4,7,10	1,4,7,10	1,4,7,10	1,4,7,10	1,4,7,10	1,4,7,10
Haloacetic acids (five) (HAA5)	0.060			MCL											
Monochloroacetic Acid			0.002			quarterly	1,4,7,10	1,4,7,10	1,4,7,10	1,4,7,10	1,4,7,10	1,4,7,10	1,4,7,10	1,4,7,10	1,4,7,10
Dichloroacetic Acid			0.001			quarterly	1,4,7,10	1,4,7,10	1,4,7,10	1,4,7,10	1,4,7,10	1,4,7,10	1,4,7,10	1,4,7,10	1,4,7,10
Trichloroacetic Acid			0.001			quarterly	1,4,7,10	1,4,7,10	1,4,7,10	1,4,7,10	1,4,7,10	1,4,7,10	1,4,7,10	1,4,7,10	1,4,7,10
Monobromoacetic Acid			0.001			quarterly	1,4,7,10	1,4,7,10	1,4,7,10	1,4,7,10	1,4,7,10	1,4,7,10	1,4,7,10	1,4,7,10	1,4,7,10
Dibromoacetic Acid			0.001			quarterly	1,4,7,10	1,4,7,10	1,4,7,10	1,4,7,10	1,4,7,10	1,4,7,10	1,4,7,10	1,4,7,10	1,4,7,10
Asbestos (22 CCR Section 6	4431, 64432.2	, Table 6443	1-A)												
Asbestos	7 MFL	7 MFL	0.2 MFL	MCL		9 years	7								

Chemical Monitoring Plan

ABC Water Company

Main Street Well

CHEMICAL	MCL /	PHG /	DLR	TRIGGER	INITIAL	ROUTINE				MONIT	ORING SCHEDULE (Month)			
	(NL)	(MCLG)			MONITORING	MONITORING			THIRE	COMPLIANCE CYC	LE (Initial monitori	ng designated year,	1993)		
					FREQUENCY	FREQUENCY	Fi	rst Compliance Perio	od	Sec	ond Compliance Pe	riod	Th	nird Compliance Per	iod
	(ppm)	(ppm)	(ppm)		(1st Year)		2011	2012	2013	2014	2015	2016	2017	2018	2019
Inorganic Chemicals (22 CCR Section	64431, Table 644	31-A)													
Aluminum	1	0.6	0.05	MCL		3 yrs	1			1			1		
Antimony	0.006	0.02	0.006	MCL		3 yrs	1			1			1		
Arsenic	0.05	0.000004	0.002	MCL		3 yrs	1			1			1		
Barium	1	2	0.1	MCL		3 yrs	1			1			1		
Beryllium	0.004	0.001	0.001	MCL		3 yrs	1			1			1		
Cadmium	0.005	0.00004	0.001	MCL		3 yrs	1			1			1		
Chromium	0.05	none	0.01	MCL		3 yrs	1			1			1		
Fluoride	2	1	0.1	MCL		3 yrs	1			1			1		
Mercury	0.002	0.0012	0.001	MCL		3 yrs	1			1			1		
Nickel	0.1	0.012	0.01	MCL		3 yrs	1			1			1		
Selenium	0.05	none	0.005	MCL		3 yrs	1			1			1		
Thallium	0.002	0.0001	0.001	MCL		3 yrs	1			1			1		
Cyanide (22 CCR Section 64431,	64432(n), Table 6	64431-A)													
Cyanide	0.15	0.15	0.1	DETECT		3 yrs	1			1			1		
Nitrate, Nitrite (22 CCR Section 6	64431, 64432.1, T	able 64431-A)													
Nitrate (as N)	10	10	0.4	50% MCL		quarterly	1,4,7,10	1,4,7,10	1,4,7,10	1,4,7,10	1,4,7,10	1,4,7,10	1,4,7,10	1,4,7,10	1,4,7,10
Nitrite (as N)	1	1	0.4	50% MCL		3 yrs	1			1			1		
Asbestos (22 CCR Section 64431	, 64432.2, Table 6	64431-A)													
Asbestos	7 MFL	7 MFL	0.2 MFL	MCL		9 yrs	1								
Perchlorate (22 CCR Section 644	31, 64432.3, Tabl	e 64431-A)													
Perchlorate	0.006	0.006	0.004	MCL		Yearly	1	1	1	1	1	1	1	1	1
Secondary Standards (22 CCR Section	64449, Table 64	449-A)													
Aluminum	0.2	0.6	0.05	MCL		3 yrs	(See IO	Monitoring Requir	rements)	(See IO	Monitoring Requir	rements)	(See IO	C Monitoring Requir	rements)

Sample Tracking

Plant	Sample Type	Sample Location	Sample No.	PS Code	Frequency		Ja	nuar	у			Fe	brua	ry			N	/larcl	h				April					May		
Week						#1	#2	#3	#4	#5	#1	#2	#3	#4	#5	#1	#2	#3	#4	#5	#1	#2	#3	#4	#5	#1	#2	#3	#4	#5
	PA/HPC	Plant Effluent			Monthly	3						3					5				2						7		ı	
		Plant Effluent			Monthly	3						3					5				2						7			
t		Plant Effluent			Monthly	3						3					5				2						7			
Plant	PA/HPC	Filter Effluent			Monthly	3						3					5				2						7			
-	Iron & Manganese	Doty Filter Effluent			Weekly	3	9	17	23	30		3	13	20	27		5	12	19	26	2	9	16	23	30		7	14	21	28
	PA/HPC	Doty Filter Effluent			Weekly	3	9	17	23	30		3	13	20	27		5	12	19	26	2	9	16	23	30		7	14	21	28
	Iron & Manganese	Plant Effluent			Weekly	3	9	17	23	30		3	13	20	27		5	12	19	26	2	9	16	23	30		7	14	21	28
1t 2	PA/HPC	Filter Effluent			Monthly	3						3					5		0		2						7			-
Plant 2	Iron & Manganese	Well			Monthly	3						3				N	5	NE S	S	1	2						7			
	PA/HPC	Well			Monthly	3						3		9	is in	3	5		0	-	2		-	ŵ		13	7			
. 0	PA/HPC	Well 1	1W	064	Monthly	3						3	0				5				2				1	, W	7	13		
Source Samples	PA/HPC	Well 2	2W	043	Monthly	3						3	20				5				2						7			
Sot	PA/HPC	Well 3	3W	069	Monthly	3						3		2.			5				2						7			17
, w	PA/HPC	Well 4	4W	005	Monthly	3						3					5				2						7	N	T.S.	18
																												13	170	ĘŞ,
	Sample Collected Lab Analysis Printed																										4			

Monitoring Schedules and Data Tracking Evolution

Evolution of Methods:

1. Hardcopy – lots of paper!



2. Excel Files and Tracking Sheets



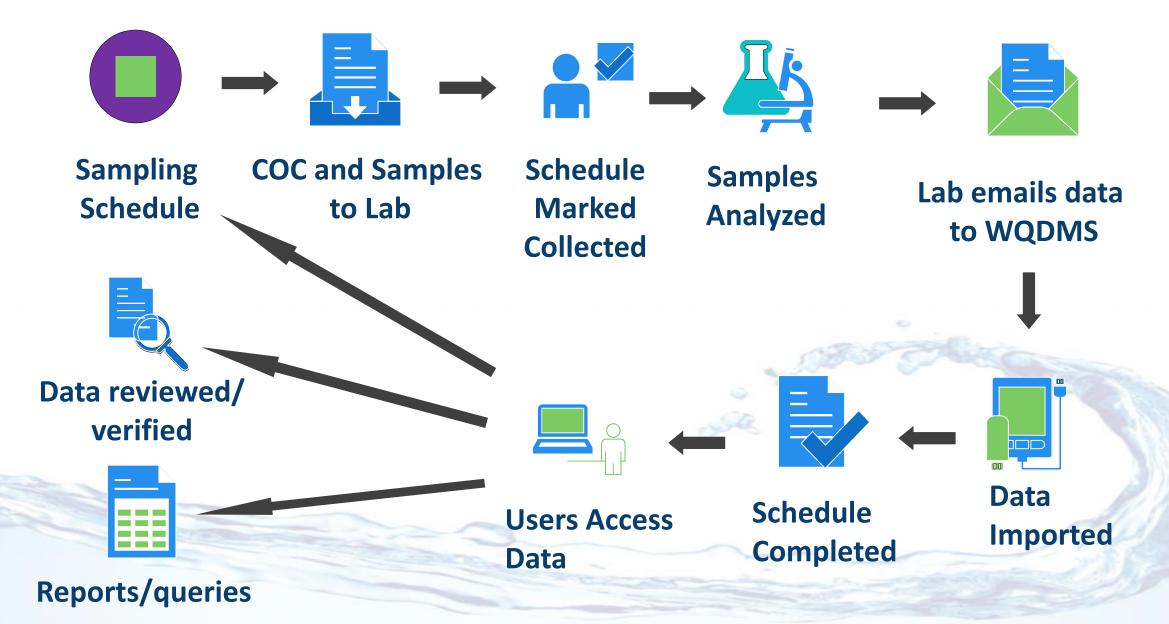
3. Searchable Database and Tracking Sheets



4. Searchable Database with Advanced Schedule Tracking and Other Capabilities

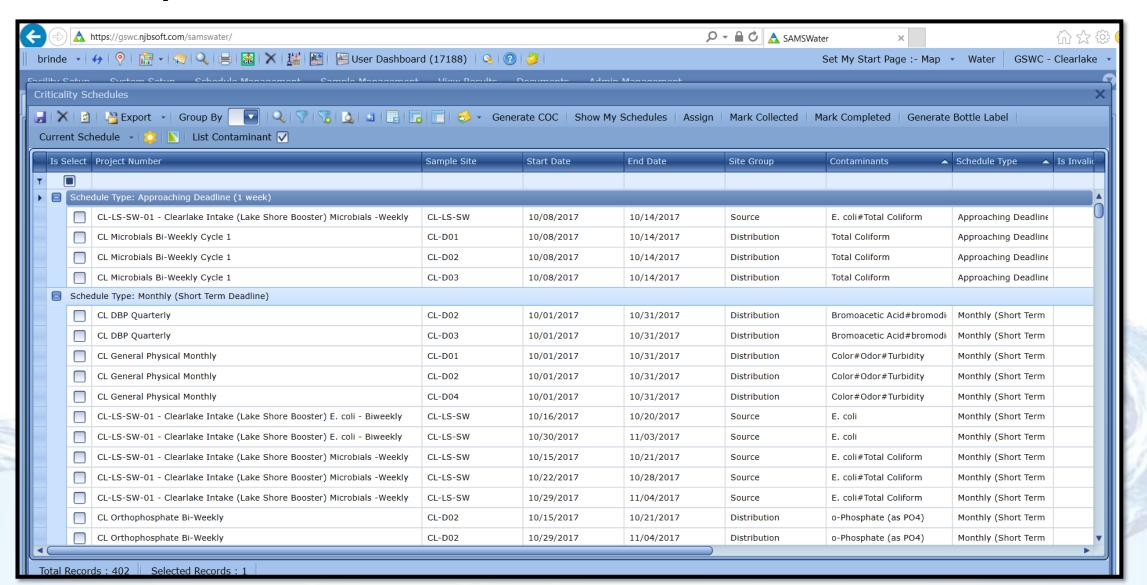


WQDMS Data Flow



WQDMS Applications - Schedules

Criticality schedule:



WQDMS Applications – Schedules

Schedule Alerts:

SAMSWater Predefined Query - Criticality View - Northern - Approaching Deadline (7 Days)

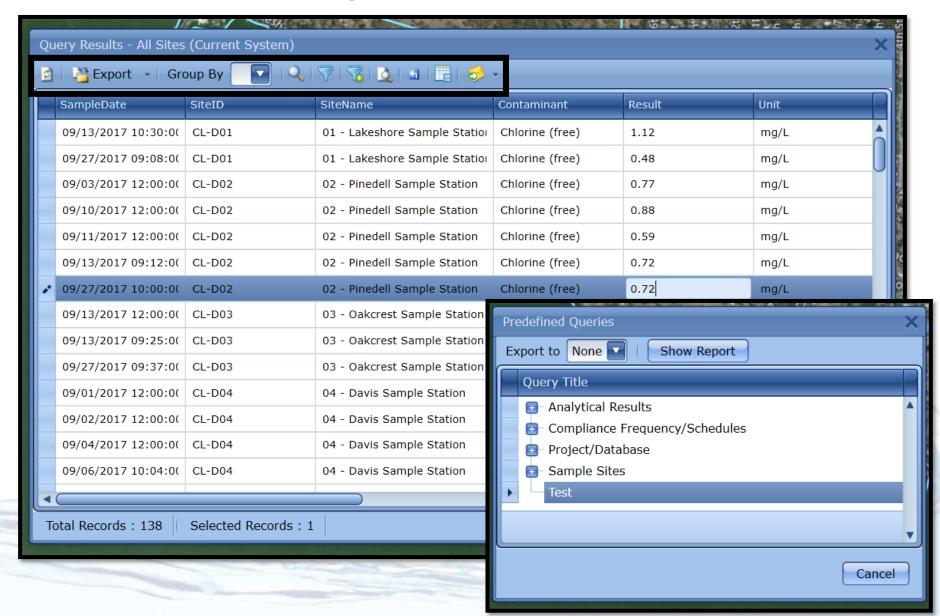


SampleExe	SampleSit	ScheduleLabel	SampleD	Sampl	StartDate	EndDate
ntJD	e		ate	er		
360744	CL-D02	CL Orthophosphate Bi-Weekly Biweekly- o-Phosphate (as PO4): - o-Phosphate (as PO4): Schedule 360744			10/15/2017	10/21/2017
					12:00:00 AM	11:59:59 PM
361528	CL-D04	CL Orthophosphate Bi-Weekly Biweekly- o-Phosphate (as PO4): - o-Phosphate (as PO4): Schedule 361528			10/15/2017	10/21/2017
					12:00:00 AM	11:59:59 PM
358392	CL-D04	CL Microbials Bi-Weekly Cycle 2 Biweekly- Total Coliform (PA): - Total Coliform (PA): Schedule 358392			10/15/2017	10/21/2017
					12:00:00 AM	11:59:59 PM
359176	CL-D05	CL Microbials Bi-Weekly Cycle 2 Biweekly- Total Coliform (PA): - Total Coliform (PA): Schedule 359176			10/15/2017	10/21/2017
					12:00:00 AM	11:59:59 PM
359960	CL-D06	CL Microbials Bi-Weekly Cycle 2 Biweekly- Total Coliform (PA): - Total Coliform (PA): Schedule 359960			10/15/2017	10/21/2017
					12:00:00 AM	11:59:59 PM
13092	CL-LS-	CL-LS-SW-01 - Clearlake Intake (Lake Shore Booster) Microbials -Weekly Weekly- E. coli (counts) , Total Coliform (counts): - E. coli (counts)			10/15/2017	10/21/2017
	SW	, Total Coliform (counts): Schedule 13092			12:00:00 AM	11:59:59 PM
3106935	CL-LS-	CL-LS-SW-01 - Clearlake Intake (Lake Shore Booster) E. coli - Biweekly Biweekly- E. coli: - E. coli: Schedule 2162686			10/16/2017	10/20/2017
	SW				12:00:00 AM	11:59:59 PM

WQDMS Applications – Data Query

Extract data from database for:

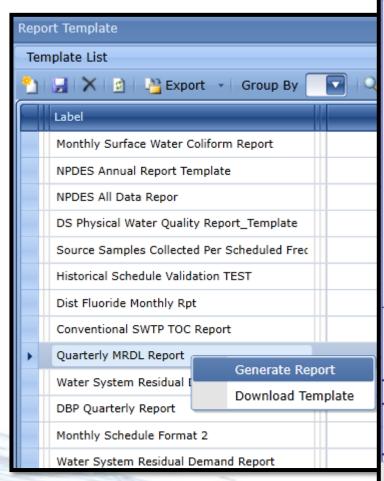
- Reporting
- Analysis
- Data requests



WQDMS Applications - Reports

Automated Reports (excel based)

- SWRCB-DDW reports
- SWRCB NPDES reports
- Internal reports



1st Quarter								
Month		Number of	Monthly Ave.					
		Samples Taken	Chlorine Level					
		Campico ramon		(mg/L)				
Previous Year	April		0.68					
	May		0.60					
	June		0.55					
	July							
	August							
	September			0.63				
	October		0.69					
	November		0.57					
	December		0.76					
rear	January	12		0.77				
Current Year	February	12	0.63					
Cum	March	12		0.71				
Rui	Running Annual Average (RAA): 0.64							
Ме	ets standard?	X	Yes					
(i.e	No							
Data QuarterlyReport +								

WQDMS Applications – Report example

А	В	F	G	Н
Water System ⁵	Typical Disinfectant	Entry Point	Detected Distribution	Demand ⁴
water System	Residual Type ¹	Residual Average ² 🖃	Residual Average ³ 🖃	(Entry point - Distribution)
GSWC - Apple Valley North	Chlorine	0.95	0.95	0.00
GSWC - Apple Valley South	Chlorine	0.84	0.7	0.14
GSWC - Arden	Chlorine	0.95	0.91	0.04
GSWC - Artesia	Chlorine	1.19	1.11	0.08
GSWC - Barstow	Chlorine	1.59	1.41	0.18
GSWC - Bell-Bell Gardens	Chlorine	1.14	1.12	0.02
GSWC - Calipatria	Chlorine	0.73	0.74	0.00
GSWC - Cordova	Chlorine	1.05	0.9	0.15
GSWC - Cypress Ridge	Chlorine	1.13	1.04	0.09
GSWC - Desert View	Chlorine	0.86	0.7	0.16
GSWC - Los Osos	Chlorine	1.07	0.98	0.09
GSWC - Lucerne	Chlorine	0.86	0.8	0.06
GSWC - Morongo del Sur	Chlorine	0.89	0.84	0.05
GSWC - Simi Valley	Chlorine and Chloramine	1.88	1.85	0.03
GSWC - Sisquoc	Chlorine	1.04	0.92	0.12
GSWC - South San Gabriel	Chlorine	1.20	1.25	0.00
GSWC - West Orange	Chlorine and Chloramine	1.10	1.07	0.03
GSWC - Willowbrook	Chlorine and Chloramine	1.18	0.94	0.24
GSWC - Wrightwood	Chlorine	0.91	0.72	0.19
GSWC - Yorba Linda	Chlorine and Chloramine	1.62	1.56	0.06

Future Applications

 SAMSWater Mobile Application
 Users can directly import field data using phone or tablet



Summary

Electronic WQDMS tools can help manage water quality compliance and optimize operations:

WQDMS Tool	Benefits		
Sample Schedule Tracking	Manage compliance for multiple sample sites and analytes		
Schedule Alerts	Track upcoming deadlines and missed sample events		
Data Queries	Time savings; can export results; can schedule results to be emailed		
Automated Reports	Time savings; standardized report format		
Custom Report – Chlorine Demand	Identify systems with high chlorine demand that need further analyses and possibly operational changes		

Questions?

Gswater.com | 800.999.4033 @GoldenStateH2O

Dawn White Water Quality Manager

Dawn.white@gswater.com

