

**United States
Environmental Protection Agency**

Preventive Maintenance for Small Public Water Systems Using Ground Water

An Interactive PDF with Suggested Preventive Maintenance Tasks and Logs

September O&M Task Lists & Logs



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Commonly Used Conversion Factors

When using this form as an interactive PDF:
 type a number into a light blue box in the
 Calculator Input column and hit your keyboard
 "enter" or "return" key to generate a value in the
 Calculator Output column.

Formulas	Calculator Input	Calculator Output
1 foot (ft) = 12 inches (in)	ft	in
1 pint (pt) = 16 fluid ounces (fl oz)	pt	fl oz
1 pound (lb) = 16 ounces (oz)	lb	oz
1 quart (qt) = 2 pints = 32 oz	qt	fl oz
1 gallon (gal) = 3.785 liters (L)	gal	L
1 L = .264 gal	L	gal
1 square foot (sq. ft.) = 144 square inches (sq. in.)	sq. ft.	sq. in.
1 cubic foot (cu. ft.) = 7.48 gallons (gal)	cu. ft.	gal
1 acre foot (ac. ft.) = 43,560 cu. ft. = 325,829 gal	ac. ft.	gal
1 gallon per min (gpm) = 1440 gallons per day (gpd)	gpm	gpd
1 cubic foot per second (cfs) = 646,272 gpd = 448.8 gpm	cfs	gpm
1 million gallons per day (MGD) = 1.55 cfs = 694.4 gpm	MGD	gpm
1 part per million (ppm) = 1 milligram per liter (mg/L) = 8.34 lbs per million gallons (lb/MG)	ppm	lb/MG
1.0 pounds per square inch (psi) = 2.31 feet of head	psi	ft. hd.
1.0 feet of head = 0.443 psi	ft. hd.	psi
1 horsepower (hp) = 550 foot-pounds per second	hp	ft.lb./s

Commonly Used Formulas

Formulas
Area = Length x Width
Chemical Dosage: pounds per day (lbs./day) = MGD x ppm x 8.34 lbs/gal
Circular Area = $\text{Pi} \times r^2$ (where Pi = 3.14, and r = radius) OR Circular Area = $0.785 \times D^2$ (where D = diameter)
Volume (rectangular) = Length x Width x Height
Circular Volume = Circular Area x Height
Circumference = $2 \times \text{Pi} \times r$ (where Pi = 3.14 and r = radius) OR $\text{Pi} \times D$ (where D = diameter)
CT = Chlorine Concentration (mg/L) x time (in minutes)
Detention Time = tank volume (gal) / Flow (gpm or gpd)
Perimeter of Rectangle = $(2 \times \text{Length}) + (2 \times \text{Width})$
Perimeter of other shapes = add lengths of all sides
Flow rate (Q, ft ³ /sec) = Velocity (ft/sec) x Area(ft ²)
Force = Pressure (psi) x Area (in ²)
Pounds per gallon (fluid not water) = Specific gravity x 8.34
Specific capacity = flow (gpm) / draw-down (ft)
Water horsepower = Q (flow in gpm) x H (feet of head) / 3960

Recommended Daily Operational Duties

	Check master meter and record water production.
	Check chemical solution tanks and record amounts used.
	Check and record water levels in storage tanks
	Inspect chemical feed pumps for proper operation.
	Check and record chlorine residual at the point of application using an EPA-approved field test kit.
	Check and record chlorine residual in different parts of the distribution system, using an EPA-approved field test kit, so that the entire system is represented weekly.
	Inspect booster and/or well pump stations
	Check and record fluoride concentration in the distribution system
	Record well pump running times and pump cycle starts
	Check instrumentation for proper signal input/output <ul style="list-style-type: none"> • Chlorine residual • Fluoride
	Investigate customer complaints. Use special "Telephone Threat" log to record threats or suspicious activity.
	Complete daily security check - evaluate grounds security and any threats to water quality and log completion of task. <ul style="list-style-type: none"> • Check all windows, doors, latches, seals, and vents for evidence of vandalism or tampering. • Check all well caps, seals, and vents to ensure that they are intact and sealed. • Check all security lighting to ensure proper operation.
	Check well house interior and grounds for general cleanliness and condition.
	Inspect well pumps, motors and controls.

DAILY

DAILY

DAILY

RECOMMENDED DUTIES

Recommended Daily Operational Duties (continued)

	Record water flows.
	Record water pressures.
	Check water level indicators.
	Check bladder tanks for waterlogged condition - use manufacturers procedures.
	Check for leaks and fix or note for maintenance.
	Perform electrical inspection of wires, fuses.
	Perform mechanical inspection of piping motors and sumps.
	Perform physical inspection of pump, tubing, injection assembly.
	Inspect heater operation during winter months, inspect building temperatures to prevent freezing/overheating.
	Other:
	Other:
	Other:
	Other:
	Other:

Daily Water Production Log Well 1

Prior Month End Master Meter Reading:			
Date	Meter Reading	Amount of Water Used	Notes or Comments
1 st			
2 nd			
3 rd			
4 th			
5 th			
6 th			
7 th			
8 th			
9 th			
10 th			
11 th			
12 th			
13 th			
14 th			
15 th			
16 th			
17 th			
18 th			
19 th			
20 th			
21 st			
22 nd			
23 rd			
24 th			
25 th			
26 th			
27 th			
28 th			
29 th			
30 th			
31 st			
	Total:		

Daily Water Production Log Well 2

Prior Month End Master Meter Reading:			
Date	Meter Reading	Amount of Water Used	Notes or Comments
1 st			
2 nd			
3 rd			
4 th			
5 th			
6 th			
7 th			
8 th			
9 th			
10 th			
11 th			
12 th			
13 th			
14 th			
15 th			
16 th			
17 th			
18 th			
19 th			
20 th			
21 st			
22 nd			
23 rd			
24 th			
25 th			
26 th			
27 th			
28 th			
29 th			
30 th			
31 st			
	Total:		

Daily Water Production Log Well 3

Prior Month End Master Meter Reading:			
Date	Meter Reading	Amount of Water Used	Notes or Comments
1 st			
2 nd			
3 rd			
4 th			
5 th			
6 th			
7 th			
8 th			
9 th			
10 th			
11 th			
12 th			
13 th			
14 th			
15 th			
16 th			
17 th			
18 th			
19 th			
20 th			
21 st			
22 nd			
23 rd			
24 th			
25 th			
26 th			
27 th			
28 th			
29 th			
30 th			
31 st			
	Total:		

Daily Water Production Log Well 4

Prior Month End Master Meter Reading:			
Date	Meter Reading	Amount of Water Used	Notes or Comments
1 st			
2 nd			
3 rd			
4 th			
5 th			
6 th			
7 th			
8 th			
9 th			
10 th			
11 th			
12 th			
13 th			
14 th			
15 th			
16 th			
17 th			
18 th			
19 th			
20 th			
21 st			
22 nd			
23 rd			
24 th			
25 th			
26 th			
27 th			
28 th			
29 th			
30 th			
31 st			
	Total:		

Daily Water Production Log Well 5

Prior Month End Master Meter Reading:			
Date	Meter Reading	Amount of Water Used	Notes or Comments
1 st			
2 nd			
3 rd			
4 th			
5 th			
6 th			
7 th			
8 th			
9 th			
10 th			
11 th			
12 th			
13 th			
14 th			
15 th			
16 th			
17 th			
18 th			
19 th			
20 th			
21 st			
22 nd			
23 rd			
24 th			
25 th			
26 th			
27 th			
28 th			
29 th			
30 th			
31 st			
	Total:		

Daily Water Production Log Well 6

Prior Month End Master Meter Reading:			
Date	Meter Reading	Amount of Water Used	Notes or Comments
1 st			
2 nd			
3 rd			
4 th			
5 th			
6 th			
7 th			
8 th			
9 th			
10 th			
11 th			
12 th			
13 th			
14 th			
15 th			
16 th			
17 th			
18 th			
19 th			
20 th			
21 st			
22 nd			
23 rd			
24 th			
25 th			
26 th			
27 th			
28 th			
29 th			
30 th			
31 st			
	Total:		

Daily Chemical Solution Usage Log: Chlorine

(For center column to calculate, enter data in columns with *)

Chemical Pump Settings: Speed: _____ Stroke: _____					
Date	Water Produced *	Chlorine Solution Used *	CL ₂ per _____ gal water produced *	Any dosage failure & duration	Notes
1 st					
2 nd					
3 rd					
4 th					
5 th					
6 th					
7 th					
8 th					
9 th					
10 th					
11 th					
12 th					
13 th					
14 th					
15 th					
16 th					
17 th					
18 th					
19 th					
20 th					
21 st					
22 ^{dn}					
23 rd					
24 th					
25 th					
26 th					
27 th					
28 th					
29 th					
30 th					
31 st					
TOTAL:					

Daily Chemical Solution Usage Log: Fluoride

(For center column to calculate, enter data in columns with *)

Chemical Pump Settings: Speed: _____ Stroke: _____					
Date	Water Produced *	Fluoride Solution Used *	F used per _____ gal water produced *	Any dosage failure & duration	Notes
1 st					
2 nd					
3 rd					
4 th					
5 th					
6 th					
7 th					
8 th					
9 th					
10 th					
11 th					
12 th					
13 th					
14 th					
15 th					
16 th					
17 th					
18 th					
19 th					
20 th					
21 st					
22 ^{dn}					
23 rd					
24 th					
25 th					
26 th					
27 th					
28 th					
29 th					
30 th					
31 st					
TOTAL:					

Daily Chemical Solution Usage Log: Other

(For center column to calculate, enter data in columns with *)

Chemical Pump Settings: Speed: _____ Stroke: _____ Chemical name: _____					
Date	Water Produced *	Other Solution Used *	Amt per _____ gal water produced *	Any dosage failure & duration	Notes
1 st					
2 nd					
3 rd					
4 th					
5 th					
6 th					
7 th					
8 th					
9 th					
10 th					
11 th					
12 th					
13 th					
14 th					
15 th					
16 th					
17 th					
18 th					
19 th					
20 th					
21 st					
22 ^{dn}					
23 rd					
24 th					
25 th					
26 th					
27 th					
28 th					
29 th					
30 th					
31 st					
TOTAL:					

Daily Storage Tank Water Level Log - Tank 1

Normal Operational Range of Tank Levels: High: _____ Low: _____					
Date	Water Level (ft)	System Pressure at Tank	Time of Reading	Action Taken	Notes
1 st					
2 nd					
3 rd					
4 th					
5 th					
6 th					
7 th					
8 th					
9 th					
10 th					
11 th					
12 th					
13 th					
14 th					
15 th					
16 th					
17 th					
18 th					
19 th					
20 th					
21 st					
22 nd					
23 rd					
24 th					
25 th					
26 th					
27 th					
28 th					
29 th					
30 th					
31 st					

Daily Storage Tank Water Level Log - Tank 2

Normal Operational Range of Tank Levels: High: _____ Low: _____					
Date	Water Level (ft)	System Pressure at Tank	Time of Reading	Action Taken	Notes
1 st					
2 nd					
3 rd					
4 th					
5 th					
6 th					
7 th					
8 th					
9 th					
10 th					
11 th					
12 th					
13 th					
14 th					
15 th					
16 th					
17 th					
18 th					
19 th					
20 th					
21 st					
22 nd					
23 rd					
24 th					
25 th					
26 th					
27 th					
28 th					
29 th					
30 th					
31 st					

Daily Storage Tank Water Level Log - Tank 3

Normal Operational Range of Tank Levels: High: _____ Low: _____					
Date	Water Level (ft)	System Pressure at Tank	Time of Reading	Action Taken	Notes
1 st					
2 nd					
3 rd					
4 th					
5 th					
6 th					
7 th					
8 th					
9 th					
10 th					
11 th					
12 th					
13 th					
14 th					
15 th					
16 th					
17 th					
18 th					
19 th					
20 th					
21 st					
22 nd					
23 rd					
24 th					
25 th					
26 th					
27 th					
28 th					
29 th					
30 th					
31 st					

Daily Storage Tank Water Level Log - Tank 4

Normal Operational Range of Tank Levels: High: _____ Low: _____					
Date	Water Level (ft)	System Pressure at Tank	Time of Reading	Action Taken	Notes
1 st					
2 nd					
3 rd					
4 th					
5 th					
6 th					
7 th					
8 th					
9 th					
10 th					
11 th					
12 th					
13 th					
14 th					
15 th					
16 th					
17 th					
18 th					
19 th					
20 th					
21 st					
22 nd					
23 rd					
24 th					
25 th					
26 th					
27 th					
28 th					
29 th					
30 th					
31 st					

Daily Pressure Tank Water Level Log - Tank 1

Normal Operational Range of Tank Levels: High: _____ Low: _____					
Date	Water Level (ft)	System Pressure at Tank	Time of Reading	Action Taken	Notes
1 st					
2 nd					
3 rd					
4 th					
5 th					
6 th					
7 th					
8 th					
9 th					
10 th					
11 th					
12 th					
13 th					
14 th					
15 th					
16 th					
17 th					
18 th					
19 th					
20 th					
21 st					
22 nd					
23 rd					
24 th					
25 th					
26 th					
27 th					
28 th					
29 th					
30 th					
31 st					

Daily Pressure Tank Water Level Log - Tank 2

Normal Operational Range of Tank Levels: High: _____ Low: _____					
Date	Water Level (ft)	System Pressure at Tank	Time of Reading	Action Taken	Notes
1 st					
2 nd					
3 rd					
4 th					
5 th					
6 th					
7 th					
8 th					
9 th					
10 th					
11 th					
12 th					
13 th					
14 th					
15 th					
16 th					
17 th					
18 th					
19 th					
20 th					
21 st					
22 nd					
23 rd					
24 th					
25 th					
26 th					
27 th					
28 th					
29 th					
30 th					
31 st					

Daily Pressure Tank Water Level Log - Tank 3

Normal Operational Range of Tank Levels: High: _____ Low: _____					
Date	Water Level (ft)	System Pressure at Tank	Time of Reading	Action Taken	Notes
1 st					
2 nd					
3 rd					
4 th					
5 th					
6 th					
7 th					
8 th					
9 th					
10 th					
11 th					
12 th					
13 th					
14 th					
15 th					
16 th					
17 th					
18 th					
19 th					
20 th					
21 st					
22 nd					
23 rd					
24 th					
25 th					
26 th					
27 th					
28 th					
29 th					
30 th					
31 st					

Daily Pressure Tank Water Level Log - Tank 4

Normal Operational Range of Tank Levels: High: _____ Low: _____					
Date	Water Level (ft)	System Pressure at Tank	Time of Reading	Action Taken	Notes
1 st					
2 nd					
3 rd					
4 th					
5 th					
6 th					
7 th					
8 th					
9 th					
10 th					
11 th					
12 th					
13 th					
14 th					
15 th					
16 th					
17 th					
18 th					
19 th					
20 th					
21 st					
22 ^{dn}					
23 rd					
24 th					
25 th					
26 th					
27 th					
28 th					
29 th					
30 th					
31 st					

Daily Chemical Feed Pump Log - 1

Dosage Calculation = $(a \times b) / c = d$ (make sure to include units of measurement) Column (d) will calculate dosage value if (a), (b) and (c) have data.

Date	(a) Solution Concentration	(b) Volume of Solution Pumped	(c) Volume of Water Treated	(d) Calculated Dosage	Expected Dosage
1 st					
2 nd					
3 rd					
4 th					
5 th					
6 th					
7 th					
8 th					
9 th					
10 th					
11 th					
12 th					
13 th					
14 th					
15 th					
16 th					
17 th					
18 th					
19 th					
20 th					
21 st					
22 nd					
23 rd					
24 th					
25 th					
26 th					
27 th					
28 th					
29 th					
30 th					
31 st					

Daily Chemical Feed Pump Log - 2

Dosage Calculation = $(a \times b) / c = d$ (make sure to include units of measurement) Column (d) will calculate dosage value if (a), (b) and (c) have data.

Date	(a) Solution Concentration	(b) Volume of Solution Pumped	(c) Volume of Water Treated	(d) Calculated Dosage	Expected Dosage
1 st					
2 nd					
3 rd					
4 th					
5 th					
6 th					
7 th					
8 th					
9 th					
10 th					
11 th					
12 th					
13 th					
14 th					
15 th					
16 th					
17 th					
18 th					
19 th					
20 th					
21 st					
22 nd					
23 rd					
24 th					
25 th					
26 th					
27 th					
28 th					
29 th					
30 th					
31 st					

Daily Chemical Feed Pump Log - 3

Dosage Calculation = $(a \times b) / c = d$ (make sure to include units of measurement) Column (d) will calculate dosage value if (a), (b) and (c) have data.

Date	(a) Solution Concentration	(b) Volume of Solution Pumped	(c) Volume of Water Treated	(d) Calculated Dosage	Expected Dosage
1 st					
2 nd					
3 rd					
4 th					
5 th					
6 th					
7 th					
8 th					
9 th					
10 th					
11 th					
12 th					
13 th					
14 th					
15 th					
16 th					
17 th					
18 th					
19 th					
20 th					
21 st					
22 nd					
23 rd					
24 th					
25 th					
26 th					
27 th					
28 th					
29 th					
30 th					
31 st					

Daily Chemical Feed Pump Log - 4

Dosage Calculation = (a x b)/c = d (make sure to include units of measurement) Column (d) will calculate dosage value if (a), (b) and (c) have data.					
Date	(a) Solution Concentration	(b) Volume of Solution Pumped	(c) Volume of Water Treated	(d) Calculated Dosage	Expected Dosage
1 st					
2 nd					
3 rd					
4 th					
5 th					
6 th					
7 th					
8 th					
9 th					
10 th					
11 th					
12 th					
13 th					
14 th					
15 th					
16 th					
17 th					
18 th					
19 th					
20 th					
21 st					
22 nd					
23 rd					
24 th					
25 th					
26 th					
27 th					
28 th					
29 th					
30 th					
31 st					

DAILY DAILY DAILY
 Daily Chlorine Residual Log - Location 1

CHLORINE RESIDUAL LEVELS

Cl ₂ Residual (in mg/L) at Point of Application Target Level: ____ mg/L to ____ mg/L.			
Date	Cl ₂ Residual (in mg/L) at Point of Application	Cl ₂ Residual (in mg/L) in Distribution System	Other Notes/Comments
1 st			
2 nd			
3 rd			
4 th			
5 th			
6 th			
7 th			
8 th			
9 th			
10 th			
11 th			
12 th			
13 th			
14 th			
15 th			
16 th			
17 th			
18 th			
19 th			
20 th			
21 st			
22 nd			
23 rd			
24 th			
25 th			
26 th			
27 th			
28 th			
29 th			
30 th			
31 st			

DAILY DAILY DAILY
 Daily Chlorine Residual Log - Location 2

CHLORINE RESIDUAL LEVELS

Cl ₂ Residual (in mg/L) at Point of Application Target Level: ____ mg/L to ____ mg/L.			
Date	Cl ₂ Residual (in mg/L) at Point of Application	Cl ₂ Residual (in mg/L) in Distribution System	Other Notes/Comments
1 st			
2 nd			
3 rd			
4 th			
5 th			
6 th			
7 th			
8 th			
9 th			
10 th			
11 th			
12 th			
13 th			
14 th			
15 th			
16 th			
17 th			
18 th			
19 th			
20 th			
21 st			
22 nd			
23 rd			
24 th			
25 th			
26 th			
27 th			
28 th			
29 th			
30 th			
31 st			

DAILY DAILY DAILY
 Daily Chlorine Residual Log - Location 3

CHLORINE RESIDUAL LEVELS

Cl ₂ Residual (in mg/L) at Point of Application Target Level: ____ mg/L to ____ mg/L.			
Date	Cl ₂ Residual (in mg/L) at Point of Application	Cl ₂ Residual (in mg/L) in Distribution System	Other Notes/Comments
1 st			
2 nd			
3 rd			
4 th			
5 th			
6 th			
7 th			
8 th			
9 th			
10 th			
11 th			
12 th			
13 th			
14 th			
15 th			
16 th			
17 th			
18 th			
19 th			
20 th			
21 st			
22 nd			
23 rd			
24 th			
25 th			
26 th			
27 th			
28 th			
29 th			
30 th			
31 st			

DAILY DAILY DAILY
 Daily Chlorine Residual Log - Location 4

CHLORINE RESIDUAL LEVELS

Cl ₂ Residual (in mg/L) at Point of Application Target Level: ____ mg/L to ____ mg/L.			
Date	Cl ₂ Residual (in mg/L) at Point of Application	Cl ₂ Residual (in mg/L) in Distribution System	Other Notes/Comments
1 st			
2 nd			
3 rd			
4 th			
5 th			
6 th			
7 th			
8 th			
9 th			
10 th			
11 th			
12 th			
13 th			
14 th			
15 th			
16 th			
17 th			
18 th			
19 th			
20 th			
21 st			
22 nd			
23 rd			
24 th			
25 th			
26 th			
27 th			
28 th			
29 th			
30 th			
31 st			

DAILY DAILY DAILY
 Daily Fluoride Concentration Log - Location 1

FLUORIDE CONCENTRATIONS

Predetermined Concentration: _____ mg/L			
Date	Fluoride Concentration in Distribution System	Adjustment Needed +/-	Other Notes/Comments
1 st			
2 nd			
3 rd			
4 th			
5 th			
6 th			
7 th			
8 th			
9 th			
10 th			
11 th			
12 th			
13 th			
14 th			
15 th			
16 th			
17 th			
18 th			
19 th			
20 th			
21 st			
22 nd			
23 rd			
24 th			
25 th			
26 th			
27 th			
28 th			
29 th			
30 th			
31 st			

DAILY DAILY DAILY
 Daily Fluoride Concentration Log - Location 2

FLUORIDE CONCENTRATIONS

Predetermined Concentration: _____ mg/L			
Date	Fluoride Concentration in Distribution System	Adjustment Needed +/-	Other Notes/Comments
1 st			
2 nd			
3 rd			
4 th			
5 th			
6 th			
7 th			
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16 th			
17 th			
18 th			
19 th			
20 th			
21 st			
22 nd			
23 rd			
24 th			
25 th			
26 th			
27 th			
28 th			
29 th			
30 th			
31 st			

DAILY DAILY DAILY
 Daily Fluoride Concentration Log - Location 3

FLUORIDE CONCENTRATIONS

Predetermined Concentration: _____ mg/L			
Date	Fluoride Concentration in Distribution System	Adjustment Needed +/-	Other Notes/Comments
1 st			
2 nd			
3 rd			
4 th			
5 th			
6 th			
7 th			
8 th			
9 th			
10 th			
11 th			
12 th			
13 th			
14 th			
15 th			
16 th			
17 th			
18 th			
19 th			
20 th			
21 st			
22 nd			
23 rd			
24 th			
25 th			
26 th			
27 th			
28 th			
29 th			
30 th			
31 st			

DAILY DAILY DAILY
 Daily Fluoride Concentration Log - Location 4

FLUORIDE CONCENTRATIONS

Predetermined Concentration: _____ mg/L			
Date	Fluoride Concentration in Distribution System	Adjustment Needed +/-	Other Notes/Comments
1 st			
2 nd			
3 rd			
4 th			
5 th			
6 th			
7 th			
8 th			
9 th			
10 th			
11 th			
12 th			
13 th			
14 th			
15 th			
16 th			
17 th			
18 th			
19 th			
20 th			
21 st			
22 nd			
23 rd			
24 th			
25 th			
26 th			
27 th			
28 th			
29 th			
30 th			
31 st			

Daily Well Pump Log - Pump No. 1

Date	Running Time (in hrs)	Number of Cycle Starts	Other Notes/Comments
1 st			
2 nd			
3 rd			
4 th			
5 th			
6 th			
7 th			
8 th			
9 th			
10 th			
11 th			
12 th			
13 th			
14 th			
15 th			
16 th			
17 th			
18 th			
19 th			
20 th			
21 st			
22 ^{dn}			
23 rd			
24 th			
25 th			
26 th			
27 th			
28 th			
29 th			
30 th			
31 st			

Daily Well Pump Log - Pump No. 2

Date	Running Time (in hrs)	Number of Cycle Starts	Other Notes/Comments
1 st			
2 nd			
3 rd			
4 th			
5 th			
6 th			
7 th			
8 th			
9 th			
10 th			
11 th			
12 th			
13 th			
14 th			
15 th			
16 th			
17 th			
18 th			
19 th			
20 th			
21 st			
22 nd			
23 rd			
24 th			
25 th			
26 th			
27 th			
28 th			
29 th			
30 th			
31 st			

Daily Well Pump Log - Pump No. 3

Date	Running Time (in hrs)	Number of Cycle Starts	Other Notes/Comments
1 st			
2 nd			
3 rd			
4 th			
5 th			
6 th			
7 th			
8 th			
9 th			
10 th			
11 th			
12 th			
13 th			
14 th			
15 th			
16 th			
17 th			
18 th			
19 th			
20 th			
21 st			
22 nd			
23 rd			
24 th			
25 th			
26 th			
27 th			
28 th			
29 th			
30 th			
31 st			

Daily Well Pump Log - Pump No. 4

Date	Running Time (in hrs)	Number of Cycle Starts	Other Notes/Comments
1 st			
2 nd			
3 rd			
4 th			
5 th			
6 th			
7 th			
8 th			
9 th			
10 th			
11 th			
12 th			
13 th			
14 th			
15 th			
16 th			
17 th			
18 th			
19 th			
20 th			
21 st			
22 nd			
23 rd			
24 th			
25 th			
26 th			
27 th			
28 th			
29 th			
30 th			
31 st			

Daily Well Pump Log - Pump No. 5

Date	Running Time (in hrs)	Number of Cycle Starts	Other Notes/Comments
1 st			
2 nd			
3 rd			
4 th			
5 th			
6 th			
7 th			
8 th			
9 th			
10 th			
11 th			
12 th			
13 th			
14 th			
15 th			
16 th			
17 th			
18 th			
19 th			
20 th			
21 st			
22 nd			
23 rd			
24 th			
25 th			
26 th			
27 th			
28 th			
29 th			
30 th			
31 st			

Daily Well Pump Log - Pump No. 6

Date	Running Time (in hrs)	Number of Cycle Starts	Other Notes/Comments
1 st			
2 nd			
3 rd			
4 th			
5 th			
6 th			
7 th			
8 th			
9 th			
10 th			
11 th			
12 th			
13 th			
14 th			
15 th			
16 th			
17 th			
18 th			
19 th			
20 th			
21 st			
22 ^{dn}			
23 rd			
24 th			
25 th			
26 th			
27 th			
28 th			
29 th			
30 th			
31 st			

Daily Booster Pump Log - Pump No. 1

Date	Are Pump Operating Times Equalized?	Meter Readings		Pressure Gauge Readings		
		Run Time	Starts	Suction Side	Discharge Side	Is Pump On or Off?
1 st	Check Box if Operating Times are Equalized:					Check if Pump is ON:
2 nd	Check Box if Operating Times are Equalized:					Check if Pump is ON:
3 rd	Check Box if Operating Times are Equalized:					Check if Pump is ON:
4 th	Check Box if Operating Times are Equalized:					Check if Pump is ON:
5 th	Check Box if Operating Times are Equalized:					Check if Pump is ON:
6 th	Check Box if Operating Times are Equalized:					Check if Pump is ON:
7 th	Check Box if Operating Times are Equalized:					Check if Pump is ON:
8 th	Check Box if Operating Times are Equalized:					Check if Pump is ON:
9 th	Check Box if Operating Times are Equalized:					Check if Pump is ON:
10 th	Check Box if Operating Times are Equalized:					Check if Pump is ON:
11 th	Check Box if Operating Times are Equalized:					Check if Pump is ON:
12 th	Check Box if Operating Times are Equalized:					Check if Pump is ON:
13 th	Check Box if Operating Times are Equalized:					Check if Pump is ON:
14 th	Check Box if Operating Times are Equalized:					Check if Pump is ON:
15 th	Check Box if Operating Times are Equalized:					Check if Pump is ON:
16 th	Check Box if Operating Times are Equalized:					Check if Pump is ON:
17 th	Check Box if Operating Times are Equalized:					Check if Pump is ON:
18 th	Check Box if Operating Times are Equalized:					Check if Pump is ON:
19 th	Check Box if Operating Times are Equalized:					Check if Pump is ON:
20 th	Check Box if Operating Times are Equalized:					Check if Pump is ON:
21 st	Check Box if Operating Times are Equalized:					Check if Pump is ON:
22 nd	Check Box if Operating Times are Equalized:					Check if Pump is ON:
23 rd	Check Box if Operating Times are Equalized:					Check if Pump is ON:
24 th	Check Box if Operating Times are Equalized:					Check if Pump is ON:
25 th	Check Box if Operating Times are Equalized:					Check if Pump is ON:
26 th	Check Box if Operating Times are Equalized:					Check if Pump is ON:
27 th	Check Box if Operating Times are Equalized:					Check if Pump is ON:
28 th	Check Box if Operating Times are Equalized:					Check if Pump is ON:
29 th	Check Box if Operating Times are Equalized:					Check if Pump is ON:
30 th	Check Box if Operating Times are Equalized:					Check if Pump is ON:
31 st	Check Box if Operating Times are Equalized:					Check if Pump is ON:

Daily Booster Pump Log - Pump No. 2

Date	Are Pump Operating Times Equalized?	Meter Readings		Pressure Gauge Readings		
		Run Time	Starts	Suction Side	Discharge Side	Is Pump On or Off?
1 st	Check Box if Operating Times are Equalized:					Check if Pump is ON:
2 nd	Check Box if Operating Times are Equalized:					Check if Pump is ON:
3 rd	Check Box if Operating Times are Equalized:					Check if Pump is ON:
4 th	Check Box if Operating Times are Equalized:					Check if Pump is ON:
5 th	Check Box if Operating Times are Equalized:					Check if Pump is ON:
6 th	Check Box if Operating Times are Equalized:					Check if Pump is ON:
7 th	Check Box if Operating Times are Equalized:					Check if Pump is ON:
8 th	Check Box if Operating Times are Equalized:					Check if Pump is ON:
9 th	Check Box if Operating Times are Equalized:					Check if Pump is ON:
10 th	Check Box if Operating Times are Equalized:					Check if Pump is ON:
11 th	Check Box if Operating Times are Equalized:					Check if Pump is ON:
12 th	Check Box if Operating Times are Equalized:					Check if Pump is ON:
13 th	Check Box if Operating Times are Equalized:					Check if Pump is ON:
14 th	Check Box if Operating Times are Equalized:					Check if Pump is ON:
15 th	Check Box if Operating Times are Equalized:					Check if Pump is ON:
16 th	Check Box if Operating Times are Equalized:					Check if Pump is ON:
17 th	Check Box if Operating Times are Equalized:					Check if Pump is ON:
18 th	Check Box if Operating Times are Equalized:					Check if Pump is ON:
19 th	Check Box if Operating Times are Equalized:					Check if Pump is ON:
20 th	Check Box if Operating Times are Equalized:					Check if Pump is ON:
21 st	Check Box if Operating Times are Equalized:					Check if Pump is ON:
22 nd	Check Box if Operating Times are Equalized:					Check if Pump is ON:
23 rd	Check Box if Operating Times are Equalized:					Check if Pump is ON:
24 th	Check Box if Operating Times are Equalized:					Check if Pump is ON:
25 th	Check Box if Operating Times are Equalized:					Check if Pump is ON:
26 th	Check Box if Operating Times are Equalized:					Check if Pump is ON:
27 th	Check Box if Operating Times are Equalized:					Check if Pump is ON:
28 th	Check Box if Operating Times are Equalized:					Check if Pump is ON:
29 th	Check Box if Operating Times are Equalized:					Check if Pump is ON:
30 th	Check Box if Operating Times are Equalized:					Check if Pump is ON:
31 st	Check Box if Operating Times are Equalized:					Check if Pump is ON:

Daily Booster Pump Log - Pump No. 3

Date	Are Pump Operating Times Equalized?	Meter Readings		Pressure Gauge Readings		
		Run Time	Starts	Suction Side	Discharge Side	Is Pump On or Off?
1 st	Check Box if Operating Times are Equalized:					Check if Pump is ON:
2 nd	Check Box if Operating Times are Equalized:					Check if Pump is ON:
3 rd	Check Box if Operating Times are Equalized:					Check if Pump is ON:
4 th	Check Box if Operating Times are Equalized:					Check if Pump is ON:
5 th	Check Box if Operating Times are Equalized:					Check if Pump is ON:
6 th	Check Box if Operating Times are Equalized:					Check if Pump is ON:
7 th	Check Box if Operating Times are Equalized:					Check if Pump is ON:
8 th	Check Box if Operating Times are Equalized:					Check if Pump is ON:
9 th	Check Box if Operating Times are Equalized:					Check if Pump is ON:
10 th	Check Box if Operating Times are Equalized:					Check if Pump is ON:
11 th	Check Box if Operating Times are Equalized:					Check if Pump is ON:
12 th	Check Box if Operating Times are Equalized:					Check if Pump is ON:
13 th	Check Box if Operating Times are Equalized:					Check if Pump is ON:
14 th	Check Box if Operating Times are Equalized:					Check if Pump is ON:
15 th	Check Box if Operating Times are Equalized:					Check if Pump is ON:
16 th	Check Box if Operating Times are Equalized:					Check if Pump is ON:
17 th	Check Box if Operating Times are Equalized:					Check if Pump is ON:
18 th	Check Box if Operating Times are Equalized:					Check if Pump is ON:
19 th	Check Box if Operating Times are Equalized:					Check if Pump is ON:
20 th	Check Box if Operating Times are Equalized:					Check if Pump is ON:
21 st	Check Box if Operating Times are Equalized:					Check if Pump is ON:
22 nd	Check Box if Operating Times are Equalized:					Check if Pump is ON:
23 rd	Check Box if Operating Times are Equalized:					Check if Pump is ON:
24 th	Check Box if Operating Times are Equalized:					Check if Pump is ON:
25 th	Check Box if Operating Times are Equalized:					Check if Pump is ON:
26 th	Check Box if Operating Times are Equalized:					Check if Pump is ON:
27 th	Check Box if Operating Times are Equalized:					Check if Pump is ON:
28 th	Check Box if Operating Times are Equalized:					Check if Pump is ON:
29 th	Check Box if Operating Times are Equalized:					Check if Pump is ON:
30 th	Check Box if Operating Times are Equalized:					Check if Pump is ON:
31 st	Check Box if Operating Times are Equalized:					Check if Pump is ON:

Daily Booster Pump Log - Pump No. 4

Date	Are Pump Operating Times Equalized?	Meter Readings		Pressure Gauge Readings		
		Run Time	Starts	Suction Side	Discharge Side	Is Pump On or Off?
1 st	Check Box if Operating Times are Equalized:					Check if Pump is ON:
2 nd	Check Box if Operating Times are Equalized:					Check if Pump is ON:
3 rd	Check Box if Operating Times are Equalized:					Check if Pump is ON:
4 th	Check Box if Operating Times are Equalized:					Check if Pump is ON:
5 th	Check Box if Operating Times are Equalized:					Check if Pump is ON:
6 th	Check Box if Operating Times are Equalized:					Check if Pump is ON:
7 th	Check Box if Operating Times are Equalized:					Check if Pump is ON:
8 th	Check Box if Operating Times are Equalized:					Check if Pump is ON:
9 th	Check Box if Operating Times are Equalized:					Check if Pump is ON:
10 th	Check Box if Operating Times are Equalized:					Check if Pump is ON:
11 th	Check Box if Operating Times are Equalized:					Check if Pump is ON:
12 th	Check Box if Operating Times are Equalized:					Check if Pump is ON:
13 th	Check Box if Operating Times are Equalized:					Check if Pump is ON:
14 th	Check Box if Operating Times are Equalized:					Check if Pump is ON:
15 th	Check Box if Operating Times are Equalized:					Check if Pump is ON:
16 th	Check Box if Operating Times are Equalized:					Check if Pump is ON:
17 th	Check Box if Operating Times are Equalized:					Check if Pump is ON:
18 th	Check Box if Operating Times are Equalized:					Check if Pump is ON:
19 th	Check Box if Operating Times are Equalized:					Check if Pump is ON:
20 th	Check Box if Operating Times are Equalized:					Check if Pump is ON:
21 st	Check Box if Operating Times are Equalized:					Check if Pump is ON:
22 nd	Check Box if Operating Times are Equalized:					Check if Pump is ON:
23 rd	Check Box if Operating Times are Equalized:					Check if Pump is ON:
24 th	Check Box if Operating Times are Equalized:					Check if Pump is ON:
25 th	Check Box if Operating Times are Equalized:					Check if Pump is ON:
26 th	Check Box if Operating Times are Equalized:					Check if Pump is ON:
27 th	Check Box if Operating Times are Equalized:					Check if Pump is ON:
28 th	Check Box if Operating Times are Equalized:					Check if Pump is ON:
29 th	Check Box if Operating Times are Equalized:					Check if Pump is ON:
30 th	Check Box if Operating Times are Equalized:					Check if Pump is ON:
31 st	Check Box if Operating Times are Equalized:					Check if Pump is ON:

Daily Instrumentation Equipment Check Log - 1

Date	Equipment Type	Verify All Signals	Calibrate input/ output	Clean as recommended	Replace standby batteries (as needed)	Operation Manual Settings Notes
1 st						
2 nd						
3 rd						
4 th						
5 th						
6 th						
7 th						
8 th						
9 th						
10 th						
11 th						
12 th						
13 th						
14 th						
15 th						
16 th						
17 th						
18 th						
19 th						
20 th						
21 st						
22 nd						
23 rd						
24 th						
25 th						
26 th						
27 th						
28 th						
29 th						
30 th						
31 st						

Daily Instrumentation Equipment Check Log - 2

Date	Equipment Type	Verify All Signals	Calibrate input/ output	Clean as recommended	Replace standby batteries (as needed)	Operation Manual Settings Notes
1 st						
2 nd						
3 rd						
4 th						
5 th						
6 th						
7 th						
8 th						
9 th						
10 th						
11 th						
12 th						
13 th						
14 th						
15 th						
16 th						
17 th						
18 th						
19 th						
20 th						
21 st						
22 nd						
23 rd						
24 th						
25 th						
26 th						
27 th						
28 th						
29 th						
30 th						
31 st						

Daily Instrumentation Equipment Check Log - 3

Date	Equipment Type	Verify All Signals	Calibrate input/ output	Clean as recommended	Replace standby batteries (as needed)	Operation Manual Settings Notes
1 st						
2 nd						
3 rd						
4 th						
5 th						
6 th						
7 th						
8 th						
9 th						
10 th						
11 th						
12 th						
13 th						
14 th						
15 th						
16 th						
17 th						
18 th						
19 th						
20 th						
21 st						
22 nd						
23 rd						
24 th						
25 th						
26 th						
27 th						
28 th						
29 th						
30 th						
31 st						

Daily Instrumentation Equipment Check Log - 4

Date	Equipment Type	Verify All Signals	Calibrate input/ output	Clean as recommended	Replace standby batteries (as needed)	Operation Manual Settings Notes
1 st						
2 nd						
3 rd						
4 th						
5 th						
6 th						
7 th						
8 th						
9 th						
10 th						
11 th						
12 th						
13 th						
14 th						
15 th						
16 th						
17 th						
18 th						
19 th						
20 th						
21 st						
22 nd						
23 rd						
24 th						
25 th						
26 th						
27 th						
28 th						
29 th						
30 th						
31 st						

Daily Instrumentation Equipment Check Log - 5

Date	Equipment Type	Verify All Signals	Calibrate input/ output	Clean as recommended	Replace standby batteries (as needed)	Operation Manual Settings Notes
1 st						
2 nd						
3 rd						
4 th						
5 th						
6 th						
7 th						
8 th						
9 th						
10 th						
11 th						
12 th						
13 th						
14 th						
15 th						
16 th						
17 th						
18 th						
19 th						
20 th						
21 st						
22 nd						
23 rd						
24 th						
25 th						
26 th						
27 th						
28 th						
29 th						
30 th						
31 st						

Daily Instrumentation Equipment Check Log - 6

Date	Equipment Type	Verify All Signals	Calibrate input/ output	Clean as recommended	Replace standby batteries (as needed)	Operation Manual Settings Notes
1 st						
2 nd						
3 rd						
4 th						
5 th						
6 th						
7 th						
8 th						
9 th						
10 th						
11 th						
12 th						
13 th						
14 th						
15 th						
16 th						
17 th						
18 th						
19 th						
20 th						
21 st						
22 nd						
23 rd						
24 th						
25 th						
26 th						
27 th						
28 th						
29 th						
30 th						
31 st						

Daily Security Checklist / Log

Date	Ensure Closed and Locked:				Fences - intact	Well Caps, Seals, Vents intact & sealed	Signs - visible & in good repair	Lights On & Working	Alarms On & Working	Work needed:
	Hatches	Doors	Windows	Gates						
1 st										
2 nd										
3 rd										
4 th										
5 th										
6 th										
7 th										
8 th										
9 th										
10 th										
11 th										
12 th										
13 th										
14 th										
15 th										
16 th										
17 th										
18 th										
19 th										
20 th										
21 st										
22 nd										
23 rd										
24 th										
25 th										
26 th										
27 th										
28 th										
29 th										
30 th										
31 st										

DAILY DAILY DAILY
Other Notes and Comments Log

OTHER NOTES

Date	Note/Comment

Recommended Weekly Operational Duties

Task	Check box and initial if task completed					Note/Comment/Repairs/Changes
	Week 1	Week 2	Week 3	Week 4	Week 5	
Inspect chlorine and fluoride testing equipment.						
Ensure all fire hydrants are accessible.						
Record pumping rate for each well our source water pump.						
Check water pressure in each well house and pump house.						
Conduct weekly security check. Are Security Measures in Good Condition?						
Inspect pump house plumbing for leaks.						
Check each backup power source to ensure it will operate when needed.						
Check and record water levels in hydro-pneumatic pressure tanks.						
Other: _____						
Other: _____						
Other: _____						
Other: _____						
Other: _____						
Other: _____						
Other: _____						

Weekly Chemical Equipment Testing Log

Equipment Name: _____

Week (Date)	Is Equipment Calibrated Properly? (Check box for "Yes")	Are Reagents Clearly Marked and Safely Stored? (Check box for "Yes")	Are Reagents Expired? (Check box for "Yes")	Amount of Reagent on Hand	Initials of Recorder	Notes or Comments
1 st						
2 nd						
3 rd						
4 th						
5 th						

Weekly Cleanliness Log

Week (Date)	Are Pump Houses and Grounds Clean? (Check box for "Yes")	Are Fire Hydrants Accessible? (Check box for "Yes")	Notes or Comments
1 st			
2 nd			
3 rd			
4 th			
5 th			

Weekly Pumping Rate Log

Week (Date)	Well 1 Pumping Rate/Flow	Well 2 Pumping Rate/Flow	Well 3 Pumping Rate/Flow	Well 4 Pumping Rate/Flow	Well 5 Pumping Rate/Flow	Well 6 Pumping Rate/Flow	Notes/Comments
1 st							
2 nd							
3 rd							
4 th							
5 th							

Weekly General Security Check Log

Are Security Measures in Good Condition? (Check box for yes)							
Week (Date)	Location 1 _____	Location 2 _____	Location 3 _____	Location 4 _____	Location 5 _____	Location 6 _____	Notes/Comments
1 st							
2 nd							
3 rd							
4 th							
5 th							

Recommended Regular Monthly Operational Duties

Task	Completed (Check/Date)	Note/Comment
Read electric meter at pump house(s). <u>Record results in ELECTRICITY USE section of Ongoing Logs File.</u>		
Take appropriate monthly water quality samples. <u>Record results in WATER QUALITY section of Ongoing Logs File.</u>		
Check and record static and pumping levels of each well. <u>Record results in PUMPING LEVELS Ongoing Logs File.</u>		
Read all customer meters and compare against monthly total water production.		
Inspect well heads.		
Inspect and lubricate locks.		
Check on-site readings against lab results.		
Confirm submittal of monthly reports.		
Check sump pumps, and well and pump house flood prevention or detection systems.		
Verify 30 to 60 day supply of chlorine is available.		
Submit chlorination reports.		
Check well water levels if source capacity is marginal or there are drought conditions.		
Check area for excessive vegetation or dangerous conditions (uncut grass, brush, dead trees, fire hazards, etc.)		
Inspect fencing and gates.		
Check station alarms.		
Calibrate/standardize testing equipment.		
Other:		
Other:		

MONTH SPECIFIC TASKS

September Specific Task Log

Task	Date Completed	Initials	Number of failures	Note dates scheduled for repair	Number and direction of turns.
Exercise half of all mainline valves that were not exercised in March					
Note location of any valves that failed or are in need repair or replacement below:	Date Completed	Initials	Repaired/ Replaced (note details)		

Prepare System for Winter Operation			
Task	Date Completed	Initials	Notes or Comments
Check that all exposed facilities are properly insulated.			
Check that all heaters are operational			
Check that all vents are closed.			
Clean storage tanks if necessary.			
Other:			
Other:			
Other:			

MONTH SPECIFIC TASKS
 Recommended Annual Maintenance Tasks
 To Be Completed In September

Task	Begun/ Completed (Check/Date)	Notes
Contact an electrician to check running amps on pumps.		
Inspect fencing and gates. Make any necessary repairs.		
Other:		
Other:		
Other:		
Other:		