Appendix C: Data Sheets

WELL DATA SHEET (Page 1 of 3)

Complete as much information as possible. Leave blank if information is not available, use N.A. if not applicable.		
** Indicates items required for Source Water Assessment*		
*** Indicates additional items required for assessments and Ground Water Rule*		
	(separate multiple entries in field with semi-colon)	*Actual, Estimated or Default?*
DATA SHEET GENERAL INFORMATION		
System Name	Santa Monica City, Water Divison	*from SWRCB database*
System Number	1910146	*from SWRCB database*
Source of Information (well log, SWRCB/County files, system, etc)	Well log	*actual*
Organization Collecting Information (SWRCB, County, System, other)	Other	*actual*
Date Information Collected/Updated	30-Jul-18	*actual*
WELL IDENTIFICATION		
* Well Number or Name	Well 08	*actual*
* SWRCB Source Identification Number (FRDS ID No.)	1910146-72	*pending*
DWR Well Log on File? ("YES" or "NO")	Yes	*actual*
State Well Number (from DWR)		*actual*
Well Status (Active, Standby, Inactive)	Active	*actual*
WELL LOCATION		
Latitude	*34°1'44.9" N*	*actual*
Longitude	*118°27'59.7" W*	*actual*
Ground Surface Elevation (ft above Mean Sea Level)	153 ft	*estimated*
Street Address	Not Applicable	*actual*
Nearest Cross Street	Stewart Street	*actual*
City	Santa Monica	*actual*
County	Los Angeles	*actual*
* Neighborhood/Surrounding Area *(see Note 1)*	Commercial	*actual*
Site plan on file? ("YES" or "NO")	No	*actual*
DWR Ground Water Basin	Coastal Plain of Los Angeles	*actual from DWR*
DWR Ground Water Sub-basin	Santa Monica Groundwater Basin	*actual from DWR*
SANITARY CONDITIONS		
** Distance to closest Sewer Line, Sewage Disposal, Septic Tank (ft)	Over 1,000 ft	*actual*
Distance to Active Wells (ft)	1,100 ft	*actual*
Distance to Abandoned Wells (ft)	None	*actual*
Distance to Surface Water (ft)	2 miles	*actual*
** Size of controlled area around well (square feet)	500+	*actual*
* Type of access control to well site *(fencing, building, etc)*	Fencing	*actual*
* Surface Seal? (Concrete slab)("YES", "NO" or "UNKNOWN")	Concrete Slab	*actual*
* Dimensions of concrete slab: Length(ft)/ Width(ft)/ Thick(in)	30'x16'x6"	*actual*
* Within 100 year flood plain? ("YES", "NO" or "UNKNOWN")	No	*actual*
* Drainage away from well? ("YES" or "NO")	Yes	*actual*
ENCLOSURE/HOUSING		
Enclosure Type *(building, vault, none, etc.)*	None	*actual*
Floor material	Concrete Slab	*actual*
Located in Pit? ("YES" or "NO")	No	*actual*
Pit depth (feet) (if applicable)	N/A	*N/A*
WELL CONSTRUCTION		
Date drilled	TBD	
Drilling Method	reverse circulation	*actual*
Depth of Bore Hole (feet below ground surface)	490	*actual*
Casing Beginning Depth/Ending Depth(ft below surface); 2nd Casing Beginning Depth/Ending Depth; 3rd Casing, etc.	0 to 480	*Estimated*
Casing Diameter (inches); 2nd Casing Diameter; 3rd Casing, etc.	14 ID	*actual*
Casing Material; 2nd Casing Material; 3rd Casing, etc.	SS Type 304L	*actual*

WELL DATA SHEET (Page 2 of 3)

Complete as much information as possible. Leave blank if information is not available, use N.A. if not applicable.		
** Indicates items required for Source Water Assessment*		
*** Indicates additional items required for assessments and Ground Water Rule*		
	(separate multiple entries in field with semi-colon)	*Actual, Estimated or Default?*
WELL CONSTRUCTION (continued)		
Conductor casing used? ("YES", "NO" or "UNKNOWN") *(See Note 2)*	yes	*actual*
Conductor casing removed? ("YES", "NO" or "UNKNOWN")	no	*actual*
* Depth to highest perforations/screens (ft below surface) (or "UNKNOWN")	209	*actual*
Screened Interval Beginning Depth/Ending Depth (ft below surface); 2nd Screened Interval Beg. Depth/Ending Depth; 3rd Screened Interval, etc.	209-264; 294-324; 334-345; 361-460	*actual*
* Total length of screened interval (ft) *(default = 10% pump capacity in gpm)* (or "UNKNOWN")	195	*actual*
* Annular Seal?("YES", "NO" or "UNKNOWN") *(See Note 3)*	yes	*actual*
* Depth of Annular Seal (ft)	150	*actual*
Material of Annular Seal *(cement grout, bentonite, etc.)*	cement grout	*actual*
Gravel pack, Depth to top (ft below ground surface)	150	*actual*
Total length of gravel pack (ft)	330	*actual*
AQUIFER		
* Aquifer Materials *(list all that apply: sand, silt, clay, gravel, rock, fractured rock)*	clay, silt and sand	*actual*
* Effective porosity (decimal percent) *(default = 0.2)* (or "UNKNOWN")	0.2	*Default*
* Confining layer (Impervious Strata) above aquifer? ("YES", "NO" or "UNKNOWN")	yes	*actual*
Thickness of confining layer, if known (ft)	50 & 40	*actual*
Depth to confining layer, if known (ft below ground)	60 & 140	*actual*
* Static water level (ft below ground surface)	153.7	*actual*
Static water level measurement: Date/Method	2/28/2018	*actual*
Pumping water level (ft below ground surface)	195.9 (600 gpm)	*actual*
Pumping water level measurement: Date/Method	Electronic Sounder	*actual*
WELL PRODUCTION		
Well Yield (gpm)	600	*actual*
Well Yield Based On (i.e., pump test, etc.)	Pumping Test	*actual*
Date measured	2/28/2018	*actual*
Is the well metered? ("YES" or "NO")	Yes	*actual*
Production (gallons per year)	**235,000,000**	***estimated***
Frequency of Use (hours/year)	**7,900**	***estimated***
Typical pumping duration (hours/day)	**22**	***estimated***
PUMP		
Make	Hydroflo 11ML-8STG	*actual*
Type	Vertical Turbine, Var Speed	*actual*
Size (hp)	125	*actual*
* Capacity (gpm)	700	*actual*
Depth to suction intake (ft below ground surface)	**275**	***estimated***
Lubrication Type	Water	*actual*
Type of Power: *(i.e., electric, diesel, etc.)*	Electric	*actual*
Auxiliary power available? ("YES" or "NO")	No	*actual*
Operation controlled by: *(i.e., level in tank, pressure, etc.)*	Pressure	*actual*
Pump to Waste capability? ("YES" or "NO")	Yes	*actual*
Discharges to: *(i.e., distribution system, storage, etc.)*	Treatment Plant	*actual*
REMARKS AND DEFECTS (use additional sheets as necessary)		

WELL DATA SHEET (Page 3 of 3)

Complete as much information as possible. Leave blank if information is not available, use N.A. if not applicable.

** Indicates items required for Source Water Assessment*

*** Indicates additional items required for assessments and Ground Water Rule*

NOTES

1. Neighborhood/Surrounding Area (list all that apply): A= Agricultural, Ru = Rural, Re = Residential, Co = Commercial, I = Industrial, Mu = Municipal, P = Pristine, O = Other

2. Conductor Casing - Oversized casing used to stabilize bore hole during well construction. Should be removed during installation of annular seal.

3. Annular Seal - Seal of grout in the space between the well casing and the wall of the drilled hole. Sometimes called "sanitary seal".

Please Note:

The information on this Well Data Sheet is considered confidential. To allow the information to be included in the permit report, or made available subject to a public information act request, the waiver clause below has to to be signed and dated by the owner (public water system). In lieu of this signature, the WDS has to be retained in a confidential file, or the information shown in the shaded rows has to be "blacked out."

I/We, *(Name)*_____, ***certify that I/We am/are the present owners of the well described on this well data sheet. I/We have reviewed the information presented on this well data sheet and I/We take no exception to having the information included in the Department of Health Services' Engineering Report. I/We understand that by including the well data sheet in the Engineering Report, it will be part of a public document that can be reviewed and copied subject to the public information act request.***

_____ _____

(Signature) (Date)

WELL DATA SHEET (Page 1 of 3)

Complete as much information as possible. Leave blank if information is not available, use N.A. if not applicable.		
** Indicates items required for Source Water Assessment*		
*** Indicates additional items required for assessments and Ground Water Rule*		
	(separate multiple entries in field with semi-colon)	*Actual, Estimated or Default?*
DATA SHEET GENERAL INFORMATION		
System Name	Santa Monica City, Water Divison	*from SWRCB database*
System Number	1910146	*from SWRCB database*
Source of Information (well log, SWRCB/County files, system, etc)	Well log	*actual*
Organization Collecting Information (SWRCB, County, System, other)	Other	*actual*
Date Information Collected/Updated	22-Oct-20	*actual*
WELL IDENTIFICATION		
* Well Number or Name	Well 09	*actual*
* SWRCB Source Identification Number (FRDS ID No.)	1910146073	*pending*
DWR Well Log on File? ("YES" or "NO")	Yes	*actual*
State Well Number (from DWR)		*actual*
Well Status (Active, Standby, Inactive)	Active	*actual*
WELL LOCATION		
Latitude	34.0311°	*actual*
Longitude	-118.4603°	*actual*
Ground Surface Elevation (ft above Mean Sea Level)	156 ft	*estimated*
Street Address	Not Applicable	*actual*
Nearest Cross Street	Centinela Ave	*actual*
City	Santa Monica	*actual*
County	Los Angeles	*actual*
* Neighborhood/Surrounding Area *(see Note 1)*	Commercial	*actual*
Site plan on file? ("YES" or "NO")	No	*actual*
DWR Ground Water Basin	Coastal Plain of Los Angeles	*actual from DWR*
DWR Ground Water Sub-basin	Santa Monica Groundwater Basin	*actual from DWR*
SANITARY CONDITIONS		
** Distance to closest Sewer Line, Sewage Disposal, Septic Tank (ft)	Over 1,000 ft	*actual*
Distance to Active Wells (ft)	900 ft	*actual*
Distance to Abandoned Wells (ft)	70 ft	*actual*
Distance to Surface Water (ft)	2 miles	*actual*
** Size of controlled area around well (square feet)	400+	*actual*
* Type of access control to well site *(fencing, building, etc)*	Fencing	*actual*
* Surface Seal? (Concrete slab)("YES", "NO" or "UNKNOWN")	Concrete slab	*actual*
* Dimensions of concrete slab: Length(ft)/ Width(ft)/ Thick(in)	32'x14'x6"	*actual*
* Within 100 year flood plain? ("YES", "NO" or "UNKNOWN")	No	*actual*
* Drainage away from well? ("YES" or "NO")	Yes	*actual*
ENCLOSURE/HOUSING		
Enclosure Type *(building, vault, none, etc.)*	None	*actual*
Floor material	Concrete slab	*actual*
Located in Pit? ("YES" or "NO")	No	*actual*
Pit depth (feet) (if applicable)	N/A	*N/A*
WELL CONSTRUCTION		
Dates drilled (constructed)	2/24-5/27	
Drilling Method	reverse circulation	*actual*
Depth of Bore Hole (feet below ground surface)	911	*actual*
Casing Beginning Depth/Ending Depth(ft below surface); 2nd Casing Beginning Depth/Ending Depth; 3rd Casing, etc.	0 to 820	*Estimated*
Casing Diameter (inches); 2nd Casing Diameter; 3rd Casing, etc.	14 ID	*actual*
Casing Material; 2nd Casing Material; 3rd Casing, etc.	SS Type 304L	*actual*
	(separate multiple entries in field with semi-colon)	*Actual, Estimated or Default?*
WELL CONSTRUCTION (continued)		
Conductor casing used? ("YES", "NO" or "UNKNOWN") *(See Note 2)*	yes	*actual*
Conductor casing removed? ("YES", "NO" or "UNKNOWN")	no	*actual*
* Depth to highest perforations/screens (ft below surface) (or "UNKNOWN")	240	*actual*
Screened Interval Beginning Depth/Ending Depth (ft below surface); 2nd Screened Interval Beg. Depth/Ending Depth; 3rd Screened Interval, etc.	240-265; 300-380; 390-430; 490-535; 655-750; 760-790	*actual*

WELL DATA SHEET (Page 2 of 3)

Complete as much information as possible. Leave blank if information is not available, use N.A. if not applicable.		
** Indicates items required for Source Water Assessment*		
*** Indicates additional items required for assessments and Ground Water Rule*		
* Total length of screened interval (ft) *(default = 10% pump capacity in gpm)* (or "UNKNOWN")	315	*actual*
* Annular Seal?("YES", "NO" or "UNKNOWN") *(See Note 3)*	yes	*actual*
* Depth of Annular Seal (ft)	190	*actual*
Material of Annular Seal *(cement grout, bentonite, etc.)*	cement grout	*actual*
Gravel pack, Depth to top (ft below ground surface)	190	*actual*
Total length of gravel pack (ft)	355	*actual*
AQUIFER		
* Aquifer Materials *(list all that apply: sand, silt, clay, gravel, rock, fractured rock)*	clay, silt and sand	*actual*
* Effective porosity (decimal percent) *(default = 0.2)* (or "UNKNOWN")	0.2	*Default*
* Confining layer (Impervious Strata) above aquifer? ("YES", "NO" or "UNKNOWN")	yes	*actual*
Thickness of confining layer, if known (ft)	110	*actual*
Depth to confining layer, if known (ft below ground)	100	*actual*
* Static water level (ft below ground surface)	134	*actual*
Static water level measurement: Date/Method	5/26/2020	*actual*
Pumping water level (ft below ground surface)	181	*actual*
Pumping water level measurement: Date/Method	Electronic Sounder	*actual*
WELL PRODUCTION		
Well Yield (gpm)	800	*actual*
Well Yield Based On (i.e., pump test, etc.)	Pumping Test	*actual*
Date measured	5/26/2020	*actual*
Is the well metered? ("YES" or "NO")	Yes	*actual*
Production (gallons per year)	**235,000,000**	***estimated***
Frequency of Use (hours/year)	**7,900**	***estimated***
Typical pumping duration (hours/day)	**22**	***estimated***
PUMP		
Make	Hydroflo 11MH-7STG	*actual*
Type	Vertical Turbine, Var Speed	*actual*
Size (hp)	125	*actual*
* Capacity (gpm)	900	*actual*
Depth to suction intake (ft below ground surface)		*actual*
Lubrication Type	Water	*actual*
Type of Power: *(i.e., electric, diesel, etc.)*	Electric	*actual*
Auxiliary power available? ("YES" or "NO")	No	*actual*
Operation controlled by: *(i.e., level in tank, pressure, etc.)*	Pressure	*actual*
Pump to Waste capability? ("YES" or "NO")	Yes	*actual*
Discharges to: *(i.e., distribution system, storage, etc.)*	Treatment Plant	*actual*

WELL DATA SHEET (Page 3 of 3)

Well Data Sheet Supplement	
REMARKS AND DEFECTS	
(Use or note these items as appropriate)	
(** indicates items pertinent to Ground Water Rule)	
Distance (ft) to other sanitary concerns:	
** Type of Sanitary Concern:	NA
** Type of Sanitary Concern:	NA
** Type of Sanitary Concern:	NA
** Type of Sanitary Concern:	NA
** Type of Sanitary Concern:	NA
Raw Water Quality concerns? (Yes or No)	YES
** Microbiological (coliform)	TBD
Chemicals	TBD
Other (list)	TBD
** Continuous Chlorination provided? (Yes or No)	TBD
Condition of enclosure or housing	TBD
Pit Drained? (if applicable)	N/A
Pitless Adaptor? Make and Model	N/A
Height of pump base (inches)	TBD
Casing Vent? (yes or no)	TBD
Air/Vacuum Release? (yes or no)	TBD
Sampling Taps? (yes or no)	TBD
Location of sampling taps	TBD
Wellhead Riser? (yes or no); height above well	TBD
Other	TBD

STATE WATER RESOURCE CONTROL BOARD **DIVISION OF DRINKING WATER**

GAC FILTRATION DATA

System Name: Olympic Advanced Water Treatment Facility **System No.:** 1910146

Source of Information Operations, Maintenance, and Monitoring Plan

Collected By: Alex Waite, Senior Civil Engineer **Date:** 10/29/2024

Location:	
Purpose: (DBCP, etc.)	Hydrogen peroxide quenching and COPC removal
Year Operation Began:	2024
Operation Plan/Schematic On File?	Yes
FLOW	
Average:	667 gpm per train (3 trains) / 2,000 gpm total
Maximum:	1,000 gpm per train (2 trains) / 2,000 gpm total
Hours of Operation:	336
Flow Meter(s)/Location(s)	GAC Train 1-4 effluents (4 total)
FILTERS	
Number of Vessels:	8 (4 trains of lead/lag vessels, 3 duty trains/1 standby train)
Mode Of Operation:	Lead/Lag
Type of GAC:	Calgon Carbon Filtrasorb 400
Vessel Capacity (cu. ft.):	1,187.5
Cross Section Bed Area (ft^2):	113.1
Bed Depth (ft):	10.5
Empty Bed Contact Time (min.):	13.3
Design Pressure (@ Temp.):	40 psi @ 20° C
Flow Rate/Equalization Control:	Lag vessel effluent control valve
FILTER MONITORING	
Frequency:	Weekly (Combined Effluent) / Monthly (Lead Vessel Ports 30%)
Number Sampling Taps:	5 (15%, 30%, 70%, 90% bed volume and combined effluent)
Type of Monitoring:	Grab samples
BACKWASH	
Rate:	8.9 gpm/ft2 (max), 5.0 gpm/ft2 (bump)
Source:	Backwash Holding Tank
Drain to:	Washwater Equalization Tank
GAC REPLACEMENT	
Determined By:	Breakthrough of COPCs (i.e., 1,2,3-TCP)
Time Required to Replace:	Estimated 1-year
DISINFECTANT	
Type:	Monochloramines
Source:	Sodium Hypochlorite and Ammonium Sulfate dosing
Dose:	1.0 mg/L as Cl2
Reliability Features:	Duty/Standby chemical pumps
WATER	
Received From:	Olympic AWTF UV-AOP Effluent
Delivered to:	Arcadia WTP RO Feed Tank
Defects/Remarks:	None

STATE WATER RESOURCE CONTROL BOARD
DIVISION OF DRINKING WATER

MEMBRANE PLANT DATA

System Name: Arcadia Water Treatment Plant **System No:** 1910146

Source of Information: Operations, Maintenance, and Monitoring Plan

Collected By: Alex Waite, Senior Civil Engineer **Date:** 10/29/2024

Plant Name	Arcadia Water Treatment Plant	Year Operation Began	2023
Plant Flow & Variation	7,230 gpm	Design Flow	9,097 gpm

RAW WATER SOURCE CAPACITY AND QUALITY:

Source Name & Type (GW, SW, GWUDI)	***GW***				
Source Capacity, gpm	***7,230***				
Temperature	Max 21.9° F	Min 19.6° F	TDS	Max 1,340 mg/L	Min 787 mg/L
PH	Max 6.7	Min 7.8	Hardness	Max 832 mg/L as CaCO3	Min 443 mg/L as CaCO3
Turbidity	Max 0.3 NTU	Min 0.03 NTU			

PRETREATMENT

Type	Chemical & Manufacture	Dosage, mg/l	Type	Chemical & Manufacture	Dosage, mg/l
PH Adjustment	Sulfuric Acid / Brenntag	90	Sequestrant/Fouling	N/A	N/A
Dechlorination	N/A	N/A	Antiscalant	A-119 / AWC	2.9

PREFILTRATION

Type	Cartridge Filters, 5 µm rating	No. of Vessel/filters	5 vessels/176 filters per vessel
Nominal Dia	2.5 inches / filter	Power	N/A
Inlet Pressure	<45 PSI	Outlet Pressure	30 PSI
Describe Backwash Cycle	None / Filters replaced when vessel differential pressure exceeds 14 PSI		

FEED PUMPING SYSTEM

Type	Vertical Turbine Pumps	Make	Flowserve
Capacity	1,900 gpm	Power	250 HP
Inlet Pressure	30 psi	Outlet Pressure	160 psi

MEMBRANE FILTRATION UNITS

Type	Reverse Osmosis	Make	Toray TMG-20D-440
No. of Trains	4	No. of Pr. Vessels/train	73
Nominal Por size (microns)	n/a	Max. Operating Pr.	190 psi
Inlet Pr.	90-160 psi	Energy Recovery System	None
Flow Rate per Train, gpm	1,900 gpm feed flow / 1,710 gpm permeate flow	Max Flow Rate per train, gpm @ design flow	1,900 gpm feed flow / 1,710 gpm permeate flow
Average Flux Rate, gpd/sf	12.8	Age of membranes	1 year
Percent Brine Generated	10%	Percent Brine Recycled	None
Describe Brine/ Reject Disposal Practices	Brine from each train disposes to brine holding tank. Brine is discharged from tank via gravity or pumped to sewer.		

MEMBRANE CLEANING

Membrane Cleaning Method	Clean-in-place	Time or Interval of Cleaning	4-6 hours per chemical
Cleaning Chemicals Used, dosages	AWC Cleanflux L12, C-234, and C-219 (2% concentrations per chemical)		
Describe Cleaning Cycle	Heat cleaning solution to ~100 °F. Add chemicals to reach 2% concentration (weight/weight). Circulate cleaning solution at 1,000 gpm through up to 31 vessels at a time for 30-60 min followed by 30-60 soaking for up to 6 hours. Neutralize cleaning solution, drain and prepare new batch for each set of vessels unless cleaning solution is acceptable for reuse per vendor SOP. Flush cleaned vessels with RO permeate prior to returning to service.		

POST-TREATMENT

Type	Chemical & Manufacturer	Dosage, mg/l	Type	Chemical & Manufacturer	Dosage, mg/l
PH Adjustment	Sodium Hydroxide (Pacific Star Chemical)	12.5 mg/L	Corrosion Control	RO Bypass Blending (up to 30% bypass around RO)	n/a
Disinfection	Chloramines, Sodium Hypochlorite (Univar) and Ammonium Sulfate (Brenntag)	1.8 mg/L as Cl2			