

## **ATTACHMENT 4: FIELD LOGS**

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This attachment contains the groundwater sample collection field logs for the relatively shallow standpipe monitoring wells (MW-5 through MW-8, MW-10, MW-13, MW-15, and MW-16), as well as the field data sheets for the Westbay™ multiport wells (MW-3, MW-4, MW-11, MW-12, MW-14, and MW-17 through MW-26). Groundwater sample collection for the 2<sup>nd</sup> Quarter 2020 sampling event was conducted by Blaine Tech Services, Inc.

Note: During the second quarter 2020, the uppermost sampling port (i.e., Screen 1) in multi-port monitoring wells MW-14, MW-20, and MW-21 were dry and no samples were collected.

## WELL MONITORING DATA SHEET

Project #: <u>200608114-1</u>	Site: <u>JPL</u>
Sampler: <u>MS</u>	Date: <u>6/25/20</u>
Well I.D.: <u>MU-1</u>	Well Diameter: 2 3 <u>4</u> 6 8
Total Well Depth (TD): <u>90.00</u>	Depth to Water (DTW): <u>24.90</u>
Depth to Free Product: _____	Thickness of Free Product (feet): _____
Referenced to: <u>PVC</u> Grade	Flow Cell Type: <u>YSI 556</u>
DTW with 80% Recharge [(Height of Water Column x 0.20) + DTW]: _____	

Purge Method:                      Bailer                      Waterra                      Sampling Method:                      Bailer  
                                                  Disposable Bailer                      2" Rediflo pump                      Disposable Bailer  
                                                  Positive Air Displacement                      Extraction Pump                      Extraction Port  
                                                  Electric Submersible                      Other: Sec RP2                      Other: Dedicated Tubing

42.3 (Gals.) X 3 = 126.9 Gals.  
 1 Case Volume                      Specified Volumes                      Calculated Volume

Well Diameter	Multiplier	Well Diameter	Multiplier
1"	0.04	4"	0.65
2"	0.16	6"	1.47
3"	0.37	Other	radius** 0.163

Time	Temp (°F)	pH	Cond. (mS/cm or μS/cm)	Turbidity (NTUs)	D.O. (mg/L)	ORP(mV)	Gals. Removed	DTW Observations
1217	30.7	7.36	694	4	1.90	104	22	24.86
1224	30.0	7.15	696	3	1.26	63	44	24.85
1231	28.1	7.13	601	3	1.09	59	66	24.86
1238	28.3	7.15	598	2	0.98	60	88	24.86
1245	28.5	7.11	597	2	0.90	53	110	24.86
1252	28.7	7.10	602	2	0.92	50	132	24.86

Did well dewater?                      Yes                      No                      Gallons actually evacuated: 132

Sampling Date: 6/25/20                      Sampling Time: 1253                      Depth to Water: 24.86

Sample I.D.: MU-1                      Laboratory: BC

Analyzed for: see 10C                      Other: Dp-8-762020 @1303

EB I.D. (if applicable): \_\_\_\_\_ @ \_\_\_\_\_ Time                      Duplicate I.D. (if applicable): \_\_\_\_\_

FB I.D. (if applicable): \_\_\_\_\_ @ \_\_\_\_\_ Time                      Analyzed for: \_\_\_\_\_

D.O. (if req'd):                      Pre-purge: \_\_\_\_\_ mg/L                      Post-purge: \_\_\_\_\_ mg/L

O.R.P. (if req'd):                      Pre-purge: \_\_\_\_\_ mV                      Post-purge: \_\_\_\_\_ mV

WESTBAY™ GROUNDWATER MONITORING WELL  
FIELD DATA LOG SHEET

WELL ID: MU-3  
 SAMPLING DATE(S): 6/12/20  
 LOCATION: 3PL  
 WATER LEVEL INSIDE CASING: 183.60  
 ATM. PRESSURE (PSI): (Start) 14.13 (Finish) 14.07  
 Temp: 19.76 20.94°C

PROBE TYPE: Westbay  
 SERIAL NO.: EMS 12508  
 PROJECT: 3PL Pasadena  
 OPERATOR(S): L. Henderson / T. Hoang  
 WEATHER: Clear, Sunny

Port Number	Run Number	Probe to Top Collar	Surface Function Tests / Position Sampler (probe in top of collar) / (lower probe to port)					Sample Collection Checks (probe at sampling port in MP casing)						Field Parameters					Sample		
		Arm out / Land Probe	Shoe Out / Close Valve / Check Vacuum	Open Valve / Apply Vacuum (5 psi)	Close Valve / Shoe In / Arm In	Locate Port / Arm Out / Land Probe	Pressure in MP Casing (psi)	Shoe Out	Port Pressure (psi)	Open Valve	Port Pressure (psi)	Close Valve / Shoe In	Pressure in MP Casing (psi)	Sample Temp (°C)	SC (µS/cm)	pH	Turbidity (NTU)	Dissolved Oxygen (ppm)	ORP (mv)	Sample Time	Sample ID
2	1	✓	✓	✓	✓	✓	48.50	✓	58.83	✓	58.83	✓	48.50	10.4	551	6.84	4	6.82	108	0730	MU-3-2
2	2	✓	✓	✓	✓	✓	48.46	✓	58.84	✓	58.84	✓	48.46								
2	3	✓	✓	✓	✓	✓	48.45	✓	58.87	✓	58.87	✓	48.45								
1	4	✓	✓	✓	✓	✓	48.46	✓	58.85	✓	58.85	✓	48.46								
2	5	✓	✓	✓	✓	✓	48.46	✓	58.83	✓	58.83	✓	48.46								
2	6	✓	✓	✓	✓	✓	48.44	✓	58.84	✓	58.84	✓	48.44								
2	7	✓	✓	✓	✓	✓	48.44	✓	58.88	✓	58.88	✓	48.44								
3	1	✓	✓	✓	✓	✓	223.21	✓	228.24	✓	228.24	✓	223.21	223.2	543	6.78	133	6.63	143	1045	MU-3-5
4	1	✓	✓	✓	✓	✓	181.87	✓	188.46	✓	188.46	✓	181.87	17.2	598	6.72	79	6.36	150	1130	MU-3-4
3	1	✓	✓	✓	✓	✓	89.50	✓	96.41	✓	96.41	✓	89.50	25.3	130	7.09	28	5.29	132	1200	MU-3-3
1	1	✓	✓	✓	✓	✓	14.19	✓	31.80	✓	31.80	✓	14.19	20.8	461	7.21	17	4.82	128	1245	MU-3-1
1	2	✓	✓	✓	✓	✓	14.17	✓	31.82	✓	31.82	✓	14.17								

Comments: TB-4-061220  
EB-4-061220

WESTBAY™ GROUNDWATER MONITORING WELL  
FIELD DATA LOG SHEET

WELL ID: MW-4  
 SAMPLING DATE(S): 6/9/20  
 LOCATION: JPL  
 WATER LEVEL INSIDE CASING: 154.10  
 ATM. PRESSURE (PSI): (Start) 14.12 (Finish)

PROBE TYPE: Westbay Sampler  
 SERIAL NO.: EMS 2502  
 PROJECT: JPL Pasadena  
 OPERATOR(S): L. Henderson / T. Hoang  
 WEATHER: clear, sunny

Temp: 23.75

Port Number	Run Number	Probe to Top Collar	Surface Function Tests / Position Sampler (probe in top of collar) / (lower probe to port)					Sample Collection Checks (probe at sampling port in MP casing)						Field Parameters					Sample			
		Arm out / Land Probe	Shoe Out / Close Valve / Check Vacuum	Open Valve / Apply Vacuum (5 psi)	Close Valve / Shoe In / Arm In	Locate Port / Arm Out / Land Probe	Pressure in MP Casing (psi)	Shoe Out	Port Pressure (psi)	Open Valve	Port Pressure (psi)	Close Valve / Shoe In	Pressure in MP Casing (psi)	Sample Temp (°C)	SC (µS/cm)	pH	Turbidity (NTU)	Dissolved Oxygen (ppm)	ORP (mv)	Sample Time	Sample ID	
5	1	✓	✓	✓	✓	✓	174.18	✓	180.27	✓	180.27	✓	174.38	20.5	645	5.90	38	8.60	193	0900	MW-4-5	
5	2	✓	✓	✓	✓	✓	173.39	✓	180.36	✓	180.41	✓	173.39									
4	1	✓	✓	✓	✓	✓	121.60	✓	127.95	✓	127.97	✓	121.62	21.2	640	6.74	12	8.44	103	1015	MW-4-4	
4	2	✓	✓	✓	✓	✓	120.59	✓	127.94	✓	127.94	✓	120.59									
4	3	✓	✓	✓	✓	✓	119.91	✓	127.89	✓	127.92	✓	119.93									
<del>4</del>	<del>3</del>																					
3	1	✓	✓	✓	✓	✓	91.42	✓	97.58	✓	97.58	✓	91.45	21.3	775	6.97	13	6.33	71	1120	<del>MW-4-3</del> MW-4-3	
3	2	✓	✓	✓	✓	✓	90.41	✓	97.55	✓	97.54	✓	90.45									
2	1	✓	✓	✓	✓	✓	55.61	✓	63.33	✓	63.29	✓	55.65	21.2	920	7.11 6.95	3	6.95	62	1220	MW-4-2	
2	2	✓	✓	✓	✓	✓	55.60	✓	63.32	✓	63.27	✓	55.63									
2	3	✓	✓	✓	✓	✓	55.63	✓	63.33	✓	63.31	✓	55.65									
2	4	✓	✓	✓	✓	✓	55.61	✓	63.33	✓	63.28	✓	55.63									
2	5	✓	✓	✓	✓	✓	55.62	✓	63.32	✓	63.29	✓	55.65									
2	6	✓	✓	✓	✓	✓	55.62	✓	63.30	✓	63.26	✓	55.65									
2	7	✓	✓	✓	✓	✓	55.61	✓	63.29	✓	63.26	✓	55.66									

Comments: IB-1-060920 (Trip Blank)  
 EB-1-060920

WESTBAY™ GROUNDWATER MONITORING WELL  
FIELD DATA LOG SHEET

WELL ID: MW-4  
 SAMPLING DATE(S): 6/9/20  
 LOCATION: SPL  
 WATER LEVEL INSIDE CASING: 159.10  
 ATM. PRESSURE (PSI): (Start) 14.12 (Finish)

PROBE TYPE: Westbay Sampler  
 SERIAL NO.: EMS 2502  
 PROJECT: SPL Pasadena  
 OPERATOR(S): L. Henderson / T. Hoang  
 WEATHER: clear, sunny

Temp: 23.75

Port Number	Run Number	Probe to Top Collar	Surface Function Tests / Position Sampler (probe in top of collar) / (lower probe to port)				Sample Collection Checks (probe at sampling port in MP casing)						Field Parameters					Sample			
		Arm out / Land Probe	Shoe Out / Close Valve / Check Vacuum	Open Valve / Apply Vacuum (5 psi)	Close Valve / Shoe In / Arm In	Locate Port / Arm Out / Land Probe	Pressure in MP Casing (psi)	Shoe Out	Port Pressure (psi)	Open Valve	Port Pressure (psi)	Close Valve / Shoe In	Pressure in MP Casing (psi)	Sample Temp (°C)	SC (µS/cm)	pH	Turbidity (NTU)	Dissolved Oxygen (ppm)	ORP (mv)	Sample Time	Sample ID
2	8	✓	✓	✓	✓	✓	55.63	✓	63.27	✓	63.21	✓	55.66								
2	9	✓	✓	✓	✓	✓	55.63	✓	63.25	✓	63.24	✓	55.66								
1	1	✓	✓	✓	✓	✓	16.28	✓	34.22	✓	34.21	✓	16.43	22.2	410	7.67	3	7.66	155	1600	MW-4-1
1	2	✓	✓	✓	✓	✓	17.30	✓	34.21	✓	34.20	✓	17.46								
1	3	✓	✓	✓	✓	✓	17.35	✓	34.21	✓	34.21	✓	17.35								
1	4	✓	✓	✓	✓	✓	14.83	✓	34.21	✓	34.21	✓	14.94								

## WELL MONITORING DATA SHEET

Project #: <u>200608114-1</u>	Site: <u>JPL</u>
Sampler: <u>HS</u>	Date: <u>6/24/20</u>
Well I.D.: <u>MW-5</u>	Well Diameter: 2 3 <u>4</u> 6 8
Total Well Depth (TD): <u>125.00</u>	Depth to Water (DTW): <u>103.02</u>
Depth to Free Product: <u>    </u>	Thickness of Free Product (feet): <u>    </u>
Referenced to: <u>PVC</u> Grade	Flow Cell Type: <u>YSI 556</u>
DTW with 80% Recharge [(Height of Water Column x 0.20) + DTW]:	

Purge Method:	Bailer Disposable Bailer Positive Air Displacement Electric Submersible	Waterra 2" Rediflo pump Extraction Pump Other: <u>Ded RF2</u>	Sampling Method: Bailer Disposable Bailer Extraction Port <u>Dedicated Tubing</u> Other:
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$14.3 \text{ (Gals.)} \times 3 = 42.9 \text{ Gals.}$   
 I Case Volume      Specified Volumes      Calculated Volume

Well Diameter	Multiplier	Well Diameter	Multiplier
1"	0.04	4"	0.65
2"	0.16	6"	1.47
3"	0.37	Other	radius <sup>2</sup> * 0.163

Time	Temp (°F or °C)	pH	Cond. (mS/cm or μS/cm)	Turbidity (NTUs)	D.O. (mg/L)	ORP(mV)	Gals. Removed	Observations
0854	60.4	7.01	359	3	4.15	200	14.3	103.22
0901	59.7	6.90	292	3	4.01	194	28.6	103.24
0908	59.6	6.81	317	2	3.90	188	42.9	103.24

Did well dewater? Yes <input type="checkbox"/> No <input checked="" type="checkbox"/>	Gallons actually evacuated: <u>43</u>
Sampling Date: <u>6/24/20</u>	Sampling Time: <u>0910</u> Depth to Water: <u>103.24</u>
Sample I.D.: <u>MW-5</u>	Laboratory: <u>BC/Eurofins</u>
Analyzed for: <u>see COC</u>	Other: <u>    </u>
EB I.D. (if applicable): <u>    </u> @ <u>    </u> Time	Duplicate I.D. (if applicable): <u>    </u>
FB I.D. (if applicable): <u>    </u> @ <u>    </u> Time	Analyzed for: <u>    </u>
D.O. (if req'd): Pre-purge: <u>    </u> mg/L	Post-purge: <u>    </u> mg/L
O.R.P. (if req'd): Pre-purge: <u>    </u> mV	Post-purge: <u>    </u> mV

## WELL MONITORING DATA SHEET

Project #: _____	Site: <u>JPL</u>
Sampler: <u>KT</u>	Date: <u>6.25.20</u>
Well I.D.: <u>MW-6</u>	Well Diameter: 2 3 <u>(4)</u> 6 8 _____
Total Well Depth (TD): <u>235.00</u>	Depth to Water (DTW): <u>224.95</u>
Depth to Free Product: _____	Thickness of Free Product (feet): _____
Referenced to: <u>(PVC)</u> Grade	Flow Cell Type <span style="float: right;">YSI 556</span>
DTW with 80% Recharge [(Height of Water Column x 0.20) + DTW]: _____	

Purge Method:      Bailer      Waterra      Sampling Method:      Bailer  
                          Disposable Bailer      2" Rediflo pump      Disposable Bailer  
                          Positive Air Displacement      Extraction Pump      10.05      Extraction Port  
                          Electric Submersible      Other \_\_\_\_\_      Dedicated Tubing

Other:

Well Diameter	Multiplier	Well Diameter	Multiplier
1"	0.04	4"	0.65
2"	0.16	6"	1.47
3"	0.37	Other	radius* 0.163

_____ (Gals.) X _____	= _____ Gals.
1 Case Volume	Specified Volumes      Calculated Volume

Time	Temp (°F)	pH	Cond. (mS/cm or <u>μS/cm</u> )	Turbidity (NTUs)	D.O. (mg/L)	ORP(mV)	Gals. Removed	Observations
_____	_____	_____	_____	_____	_____	_____	_____	_____
_____	<u>GRAB</u>	_____	<u>SAMPLE</u>	<u>collected</u>	_____	_____	_____	_____
_____	_____	_____	_____	_____	_____	_____	_____	_____
_____	_____	_____	_____	_____	_____	_____	_____	_____
<u>0900</u>	<u>72.4</u>	<u>7.30</u>	<u>1131</u>	<u>30</u>	<u>3.93</u>	<u>143</u>	_____	_____

Did well dewater?      Yes      No      Gallons actually evacuated: \_\_\_\_\_

Sampling Date: 6.25.20      Sampling Time: 0900      Depth to Water: \_\_\_\_\_

Sample I.D.: MW-6      Laboratory: BC

Analyzed for: \_\_\_\_\_      Other: \_\_\_\_\_

EB I.D. (if applicable): \_\_\_\_\_ @ \_\_\_\_\_ Time      Duplicate I.D. (if applicable): \_\_\_\_\_

FB I.D. (if applicable): \_\_\_\_\_ @ \_\_\_\_\_ Time      Analyzed for: \_\_\_\_\_

D.O. (if req'd):	Pre-purge:	mg/L	Post-purge:	mg/L
O.R.P. (if req'd):	Pre-purge:	mV	Post-purge:	mV

## WELL MONITORING DATA SHEET

Project #: <u>JPL</u>	Site: <u>JPL</u>
Sampler: <u>KT</u>	Date: <u>6-25-20</u>
Well I.D.: <u>MW-7</u>	Well Diameter: 2 3 <u>4</u> 6 8
Total Well Depth (TD): <u>DED PUMP 265.00</u>	Depth to Water (DTW): <u>243.12</u>
Depth to Free Product: <u>—</u>	Thickness of Free Product (feet): <u>—</u>
Referenced to: <u>PVC</u> Grade	Flow Cell Type: <u>YSI 556</u>
DTW with 80% Recharge [(Height of Water Column x 0.20) + DTW]: <u>247.49</u>	

Purge Method: Bailer  
 Disposable Bailer  
 Positive Air Displacement  
 Electric Submersible

Wattera  
2" Rediflo pump  
 Extraction Pump  
 Other: DED PUMP

Sampling Method: Bailer  
Disposable Bailer  
 Extraction Port  
 Dedicated Tubing

Other: 21.80

2 GPM

<u>14.2</u> (Gals.) X	<u>3</u>	=	<u>42.6</u> Gals.
1 Case Volume	Specified Volumes		Calculated Volume

Well Diameter	Multiplier	Well Diameter	Multiplier
1"	0.04	4"	0.65
2"	0.16	6"	1.47
3"	0.37	Other	radius * 0.163

Time	Temp (°F)	pH	Cond. (mS/cm or <u>μS/cm</u> )	Turbidity (NTUs)	D.O. (mg/L)	ORP(mV)	Gals. Removed	DTW. Observations
1021	76.9	7.25	706	16	5.49	97	7.5	243.20
1025	77.3	7.26	705	15	5.44	100	<del>15.0</del> 14.0	243.21
1029	77.7	7.29	702	11	5.36	104	22.5	243.21
1033	78.4	7.31	700	8	5.34	107	30.0	243.21
1037	78.5	7.32	698	6	5.33	110	37.5	243.21
1040	78.4	7.32	701	5	5.32	112	43.0	243.21

Did well dewater? Yes  No  Gallons actually evacuated: 43.0

Sampling Date: 6-25-20 Sampling Time: 1043 Depth to Water: 243.21

Sample I.D.: MW-7 Laboratory: See Coe

Analyzed for: See Coe Other:

EB I.D. (if applicable): @ Time Duplicate I.D. (if applicable):

FB I.D. (if applicable): @ Time Analyzed for:

D.O. (if req'd):	Pre-purge:	mg/L	Post-purge:	mg/L
O.R.P. (if req'd):	Pre-purge:	mV	Post-purge:	mV



## WELL MONITORING DATA SHEET

Project #: <u>200608HH-1</u>	Site: <u>JPL</u>
Sampler: <u>HS</u>	Date: <u>6/25/20</u>
Well I.D.: <u>MU-8</u>	Well Diameter: 2 3 <u>4</u> 6 8
Total Well Depth (TD): <u>195.00</u>	Depth to Water (DTW): <u>161.34</u> <sup>90.66</sup>
Depth to Free Product:	Thickness of Free Product (feet):
Referenced to: <u>PVC</u> Grade	Flow Cell Type: <u>YSI 556</u>
DTW with 80% Recharge [(Height of Water Column x 0.20) + DTW]:	

Purge Method:      Bailer      Waterra      Sampling Method:      Bailer  
 Disposable Bailer      2" Rediflo pump      Disposable Bailer  
 Positive Air Displacement      Extraction Pump      Extraction Port  
 Electric Submersible      Other: Dcd REF      ~~Dedicated Tubing~~

Well Diameter	Multiplier	Well Diameter	Multiplier
1"	0.04	4"	0.65
2"	0.16	6"	1.47
3"	0.37	Other	radius <sup>2</sup> * 0.163

21.9 (Gals.) X 3 = 65.7 Gals.  
 1 Case Volume      Specified Volumes      Calculated Volume

Time	Temp (°F)	pH	Cond. (mS/cm or <u>µS/cm</u> )	Turbidity (NTUs)	D.O. (mg/L)	ORP(mV)	Gals. Removed	DTW Observations
0930	19.9	7.02	487	4	6.09	172	10	90.66
0935	19.7	7.31	480	4	5.66	162	20	90.68
0940	19.7	7.32	472	3	5.47	141	30	90.70
0945	19.6	7.32	468	3	5.46	140	40	90.72
0950	19.5	7.29	469	3	5.41	140	50	90.74
0955	19.5	7.32	469	3	5.39	139	60	90.76
0958	19.6	7.33	468	4	5.37	139	66	90.78

Did well dewater?      Yes      No      Gallons actually evacuated: 66

Sampling Date: 6/25/20      Sampling Time: 0959      Depth to Water: 90.80

Sample I.D.: MU-8      Laboratory: BC

Analyzed for: see col      Other:

EB I.D. (if applicable): @ Time      Duplicate I.D. (if applicable):

FB I.D. (if applicable): @ Time      Analyzed for:

D.O. (if req'd):	Pre-purge:	mg/L	Post-purge:	mg/L
O.R.P. (if req'd):	Pre-purge:	mV	Post-purge:	mV

50.00  
 90.66  
 TB-130625200  
 0900

## WELL MONITORING DATA SHEET

Project #:	Site:
Sampler: <i>VT</i>	Date: <i>6.25.20</i>
Well I.D.: <i>mw-9</i>	Well Diameter: 2 3 <b>(4)</b> 6 8
Total Well Depth (TD): <i>60.00</i>	Depth to Water (DTW): <i>19.13</i>
Depth to Free Product: <i>—</i>	Thickness of Free Product (feet): <i>—</i>
Referenced to: <b>(PVC)</b> Grade	Flow Cell Type: YSI 556
DTW with 80% Recharge [(Height of Water Column x 0.20) + DTW]: <i>27.30</i>	

Purge Method:      Bailer      Waterra      Sampling Method:      Bailer  
                          Disposable Bailer      2" Rediflo pump      Disposable Bailer  
                          Positive Air Displacement      Extraction Pump      Extraction Port  
                          Electric Submersible      Other \_\_\_\_\_      Dedicated Tubing

Other: \_\_\_\_\_

40.87

Well Diameter	Multiplier	Well Diameter	Multiplier
1"	0.04	4"	0.65
2"	0.16	6"	1.47
3"	0.37	Other	radius <sup>2</sup> * 0.163

<i>26.5</i>	(Gals.) X	<i>3</i>	=	<i>79.6</i>	Gals.
1 Case Volume		Specified Volumes		Calculated Volume	

Time	Temp (°F)	pH	Cond. (mS/cm or <b>μS/cm</b> )	Turbidity (NTUs)	D.O. (mg/L)	ORP(mV)	Gals. Removed	DTW Observations
<i>1200</i>	<i>66.1</i>	<i>7.11</i>	<i>494</i>	<i>6</i>	<i>4.96</i>	<i>79.6</i>	<i>13.5</i>	<i>19.20</i>
<i>1212</i>	<i>66.4</i>	<i>7.12</i>	<i>499</i>	<i>5</i>	<i>4.95</i>	<i>78.4</i>	<i>27.0</i>	<i>19.21</i>
<i>1216</i>	<i>66.5</i>	<i>7.13</i>	<i>498</i>	<i>4</i>	<i>4.92</i>	<i>77.3</i>	<i>40.5</i>	<i>19.23</i>
<i>1220</i>	<i>66.7</i>	<i>7.13</i>	<i>497</i>	<i>4</i>	<i>4.90</i>	<i>75.4</i>	<i>54.0</i>	<i>19.26</i>
<i>1224</i>	<i>66.8</i>	<i>7.13</i>	<i>498</i>	<i>2</i>	<i>4.86</i>	<i>75.9</i>	<i>67.5</i>	<i>19.27</i>
<i>1228</i>	<i>66.9</i>	<i>7.12</i>	<i>497</i>	<i>2</i>	<i>4.85</i>	<i>74.2</i>	<i>81.0</i>	<i>19.27</i>

Did well dewater?      Yes      **No**      Gallons actually evacuated: *81.0*

Sampling Date: *6.25.20*      Sampling Time: *1230*      Depth to Water: *19.27*

Sample I.D.: *mw-9*      Laboratory: *EC*

Analyzed for: *See cve*      Other: \_\_\_\_\_

EB I.D. (if applicable): \_\_\_\_\_ @ \_\_\_\_\_ Time      Duplicate I.D. (if applicable): \_\_\_\_\_

FB I.D. (if applicable): \_\_\_\_\_ @ \_\_\_\_\_ Time      Analyzed for: \_\_\_\_\_

D.O. (if req'd):	Pre-purge:	mg/L	Post-purge:	mg/L
O.R.P. (if req'd):	Pre-purge:	mV	Post-purge:	mV

## WELL MONITORING DATA SHEET

Project #: 20060081H-1	Site: JPL
Sampler: VS	Date: 6/24/20
Well I.D.: MW-10	Well Diameter: 2 3 (4) 6 8
Total Well Depth (TD): 140.00	Depth to Water (DTW): 123.97
Depth to Free Product:	Thickness of Free Product (feet):
Referenced to: PVC Grade	Flow Cell Type: YSI 556
DTW with 80% Recharge [(Height of Water Column x 0.20) + DTW]:	

Purge Method:	Bailer Disposable Bailer Positive Air Displacement Electric Submersible	Wattera 2" Rediflo pump Extraction Pump Other: Ded RPZ	Sampling Method: Bailer Disposable Bailer Extraction Port Dedicated Tubing
			Other:

$$10.4 \text{ (Gals.)} \times 3 = 31.2 \text{ Gals.}$$
 1 Case Volume      Specified Volumes      Calculated Volume

Well Diameter	Multiplier	Well Diameter	Multiplier
1"	0.04	4"	0.65
2"	0.16	6"	1.47
3"	0.37	Other	radius <sup>2</sup> * 0.163

Time	Temp (°F or °C)	pH	Cond. (mS/cm or μS/cm)	Turbidity (NTUs)	D.O. (mg/L)	ORP(mV)	Gals. Removed	DTW Observations
1056	20.7	7.15	354	3	6.94	192	6	124.08
1059	20.8	7.05	348	3	6.80	163	12	124.10
1102	20.5	7.00	347	3	6.78	155	18	124.14
1105	20.2	7.04	349	2	6.71	154	24	124.14
1108	20.1	6.98	348	3	6.69	148	32	124.14

Did well dewater? Yes <input type="checkbox"/> No <input checked="" type="checkbox"/>	Gallons actually evacuated: 32
Sampling Date: 6/24/20	Sampling Time: 1109      Depth to Water: 124.14
Sample I.D.: MW-10	Laboratory: BC/Eurofins
Analyzed for: See COC	Other:
EB I.D. (if applicable): @ Time	Duplicate I.D. (if applicable):
FB I.D. (if applicable): @ Time	Analyzed for:
D.O. (if req'd):	Pre-purge: mg/L      Post-purge: mg/L
O.R.P. (if req'd):	Pre-purge: mV      Post-purge: mV

WESTBAY™ GROUNDWATER MONITORING WELL  
FIELD DATA LOG SHEET

WELL ID: MU-11  
 SAMPLING DATE(S): 6/22/20  
 LOCATION: SPL  
 WATER LEVEL INSIDE CASING: 180.93  
 ATM. PRESSURE (PSI): (Start) 14.08 (Finish) 14.04  
 Temp: 20.26      22.02

PROBE TYPE: Westbay  
 SERIAL NO.: EMS 2508  
 PROJECT: SPL Pasadena  
 OPERATOR(S): L. Henderson  
 WEATHER: cloudy

Port Number	Run Number	Probe to Top Collar	Surface Function Tests / Position Sampler (probe in top of collar) / (lower probe to port)					Sample Collection Checks (probe at sampling port in MP casing)						Field Parameters					Sample		
		Arm out / Land Probe	Shoe Out / Close Valve / Check Vacuum	Open Valve / Apply Vacuum (6 psi)	Close Valve / Shoe In / Arm In	Locate Port / Arm Out / Land Probe	Pressure in MP Casing (psi)	Shoe Out	Port Pressure (psi)	Open Valve	Port Pressure (psi)	Close Valve / Shoe In	Pressure in MP Casing (psi)	Sample Temp (°C)	SC (µS/cm)	pH	Turbidity (NTU)	Dissolved Oxygen (ppm)	ORP (mv)	Sample Time	Sample ID
4	1	✓	✓	✓	✓	✓	166.73	✓	160.26	✓	160.26	✓	166.73	20.8	294	8.65	4	5.73	-53	0945	MU-11-4
5	1	✓	✓	✓	✓	✓	215.52	✓	187.28	✓	187.28	✓	215.52	21.1	333	8.47	4	6.52	20	0930	MU-11-5
5	2	✓	✓	✓	✓	✓	213.97	✓	187.18	✓	187.18	✓	213.97								
3	1	✓	✓	✓	✓	✓	125.76	✓	119.31	✓	119.31	✓	125.76	22.0	290	8.75	3	5.48	-26	1030	MU-11-3
3	2	✓	✓	✓	✓	✓	125.69	✓	119.27	✓	119.27	✓	125.69	-	-	-	-	-	-	1045	Dip-5-2020
2	1	✓	✓	✓	✓	✓	51.91	✓	52.40	✓	52.40	✓	51.91	22.8	498	8.15	6	5.06	24	1130	MU-11-2
1	1	✓	✓	✓	✓	✓	14.14	✓	26.68	✓	26.68	✓	14.14	23.2	632	7.81	4	5.62	106	1215	MU-11-1
1	2	✓	✓	✓	✓	✓	14.15	✓	26.65	✓	26.65	✓	14.15								

Comments: TB-10-062220

WESTBAY™ GROUNDWATER MONITORING WELL  
FIELD DATA LOG SHEET

WELL ID: ~~MW-11~~ MW-12  
 SAMPLING DATE(S) 6/18/20 / 6/19/20  
 LOCATION: 39L  
 WATER LEVEL INSIDE CASING: 133.82  
 ATM. PRESSURE (PSI): (Start) 14.05 (Finish) 14.03

PROBE TYPE Westbay  
 SERIAL NO. EMS 2508  
 PROJECT: 39L Pasadena  
 OPERATOR(S) L. Henderson  
 WEATHER cloudy

Temp 21.43 ~~13.2~~ 17.11°C

Port Number	Run Number	Surface Function Tests / Position Sampler (probe in top of collar) / (lower probe to port)					Sample Collection Checks (probe at sampling port in MP casing)						Field Parameters					Sample			
		Probe to Top Collar	Arm out/ Land Probe	Shoe Out/ Close Valve/ Check Vacuum	Open Valve/ Apply Vacuum (psi)	Close Valve/ Shoe In/ Arm In	Locate Port/ Arm Out/ Land Probe	Pressure in MP Casing (psi)	Shoe Out	Port Pressure (psi)	Open Valve	Port Pressure (psi)	Close Valve/ Shoe In	Pressure in MP Casing (psi)	Sample Temp (°C)	SC (µS/cm)	pH	Turbidity (NTU)	Dissolved Oxygen (ppm)	ORP (mv)	Sample Time
5	1	✓	✓	✓	✓	✓	199.51	✓	164.03	✓	164.03	✓	199.51	19.0	468	8.13	4	8.87	106	1515	MW-12-5
4	1	✓	✓	✓	✓	✓	150.71	✓	133.74	✓	133.74	✓	150.71	18.8	492	8.16	3	9.47	165	1545	MW-12-4
3	1	✓	✓	✓	✓	✓	101.48	✓	89.37	✓	89.37	✓	101.48	19.5	491	8.02	2	7.73	113	1345	MW-12-3
3	2	✓	✓	✓	✓	✓	101.50	✓	89.37	✓	89.37	✓	101.50	-	-	-	-	-	-	1415	Dip-3-2020
2	1	✓	✓	✓	✓	✓	66.56	✓	56.68	✓	56.68	✓	66.56	20.0	592	7.77	6	8.43	100	1445	MW-12-2
1	1	✓	✓	✓	✓	✓	21.63	✓	23.80	✓	23.80	✓	21.63	18.9	448	7.70	3	7.85	136	1515	MW-12-1
1	2	✓	✓	✓	✓	✓	18.63	✓	23.75	✓	23.75	✓	18.63								

6/18  
6/11

Comments: EB-8-061820 / EB-9-061920  
 SB-2-061920

## WELL MONITORING DATA SHEET

Project #: <u>200608HH-1</u>	Site: <u>JPL</u>
Sampler: <u>HS</u>	Date: <u>6/24/20</u>
Well I.D.: <u>MW-13</u>	Well Diameter: 2 3 <u>4</u> 6 8
Total Well Depth (TD): <u>234.34</u>	Depth to Water (DTW): <u>216.29</u>
Depth to Free Product:	Thickness of Free Product (feet):
Referenced to: <u>PVC</u> Grade	Flow Cell Type: <u>YSI 556</u>
DTW with 80% Recharge [(Height of Water Column x 0.20) + DTW]:	

Purge Method:                      Bailer                                              Waterra                                              Sampling Method:                      Bailer

                                                 Disposable Bailer                                              2" Rediflo pump                                              Disposable Bailer

                                                 Positive Air Displacement                                              Extraction Pump                                              Extraction Port

                                                 Electric Submersible                                              Other: ded RFE                                              Dedicated Tubing

Other:

<u>11.7</u> (Gals.) X	<u>3</u>	<u>=</u>	<u>35.1</u> Gals.
I Case Volume	Specified Volumes		Calculated Volume

Well Diameter	Multiplier	Well Diameter	Multiplier
1"	0.04	4"	0.65
2"	0.16	6"	1.47
3"	0.37	Other	radius <sup>2</sup> * 0.163

Time	Temp (°F or °C)	pH	Cond. (mS/cm or μS/cm)	Turbidity (NTUs)	D.O. (mg/L)	ORP(mV)	Gals. Removed	DTW Observations
1350	26.9	7.37	600	2	5.91	160	5	216.30
1355	25.9	7.31	577	3	5.91	131	10	216.32
<sup>1400</sup> <del>1356</del>	26.0	<del>7.35</del>	579	3	5.90	123	15	216.34
1405	26.4	7.32	576	3	5.98	127	20	216.35
1410	26.3	7.28	577	2	6.00	123	25	216.38
1415	26.1	7.24	580	3	6.08	119	30	216.38
1420	26.3	7.28	582	2	6.02	135	<del>28</del> 36	216.39

Did well dewater?                      Yes                      No                      Gallons actually evacuated: 35.236

Sampling Date: 6/24/20                      Sampling Time: 1422                      Depth to Water: 216.39

Sample I.D.: MW-13                      Laboratory: BC

Analyzed for: see col                      Other:

EB I.D. (if applicable):                      @                      Time                      Duplicate I.D. (if applicable):

FB I.D. (if applicable):                      @                      Time                      Analyzed for:

D.O. (if req'd):	Pre-purge:	mg/L	Post-purge:	mg/L
O.R.P. (if req'd):	Pre-purge:	mV	Post-purge:	mV

WESTBAY™ GROUNDWATER MONITORING WELL  
FIELD DATA LOG SHEET

WELL ID: MU-14  
 SAMPLING DATE(S): 6/22/20 / 6/23/20  
 LOCATION: SPL  
 WATER LEVEL INSIDE CASING: 193.50  
 ATM. PRESSURE (PSI): (Start) 14.01 (Finish) 14.03  
 Temp: 40.08 23.70

PROBE TYPE: Westbay  
 SERIAL NO.: EMS 21508  
 PROJECT: SPL Pasadena  
 OPERATOR(S): L. Henderson  
 WEATHER: cloudy / clear sunny

Port Number	Run Number	Probe to Top Collar	Surface Function Tests / Position Sampler (probe in top of collar) / (lower probe to port)					Sample Collection Checks (probe at sampling port in MP casing)					Field Parameters					Sample			
		Arm out / Land Probe	Shoe Out / Close Valve / Check Vacuum	Open Valve / Apply Vacuum (5 psi)	Close Valve / Shoe In / Arm In	Locate Port / Arm Out / Land Probe	Pressure in MP Casing (psi)	Shoe Out	Port Pressure (psi)	Open Valve	Port Pressure (psi)	Close Valve / Shoe In	Pressure in MP Casing (psi)	Sample Temp (°C)	SC (µS/cm)	pH	Turbidity (NTU)	Dissolved Oxygen (ppm)	ORP (mv)	Sample Time	Sample ID
5	1	✓	✓	✓	✓	✓	169.70	✓	156.78	✓	156.78	✓	169.70	27.2	332	8.63	3	4.80	98	1330	MU-14-5
4	1	✓	✓	✓	✓	✓	133.00	✓	120.70	✓	120.70	✓	133.00	27.6	701	8.13	3	5.23	113	1400	MU-14-4
2	1	✓	✓	✓	✓	✓	55.02	✓	43.40	✓	43.40	✓	55.02	28.0	1222	7.78	3	5.46	101	1445	MU-14-2
<del>~~~~~</del>																					
3	1	✓	✓	✓	✓	✓	101.97	✓	88.71	✓	88.71	✓	101.97	19.7	1125	6.91	7	7.57	165	0900	MU-14-3
3	2	✓	✓	✓	✓	✓	100.92	✓	88.73	✓	88.73	✓	100.92								
1	1	✓	✓	✓	✓	✓	24.51	✓	14.19	✓	14.19	✓	24.51	-NO Sample - Well Dry - -Double checked by sending down tubes -							MU-14-1

Comments: TB-11-062320

## WELL MONITORING DATA SHEET

Project #: _____	Site: <u>JKL</u>
Sampler: <u>KT</u>	Date: <u>6-25-20</u>
Well I.D.: <u>MW-15</u>	Well Diameter: 2 3 <u>(4)</u> 6 8 _____
Total Well Depth (TD): <u>60.00</u>	Depth to Water (DTW): <u>30.81</u>
Depth to Free Product: <u>-</u>	Thickness of Free Product (feet): <u>-</u>
Referenced to: <u>PVC</u> Grade	Flow Cell Type: <u>YSI 556</u>
DTW with 80% Recharge [(Height of Water Column x 0.20) + DTW]: <u>36.64</u>	

Purge Method:      Bailer      Watera  
                          Disposable Bailer      2" Rediflo pump  
                          Positive Air Displacement      Extraction Pump  
                          Electric Submersible      Other: RED pump

Sampling Method:      Bailer  
                          Disposable Bailer  
                          Extraction Port  
                          Dedicated Tubing

$\frac{18.9 \text{ (Gals.)} \times 3}{1 \text{ Case Volume}} = \frac{56.7}{\text{Specified Volumes}} = \frac{50.9}{\text{Calculated Volume}} \text{ Gals.}$	<table border="1" style="width: 100%; border-collapse: collapse;"> <thead> <tr> <th>Well Diameter</th> <th>Multiplier</th> <th>Well Diameter</th> <th>Multiplier</th> </tr> </thead> <tbody> <tr> <td>1"</td> <td>0.04</td> <td>4"</td> <td>0.65</td> </tr> <tr> <td>2"</td> <td>0.16</td> <td>6"</td> <td>1.47</td> </tr> <tr> <td>3"</td> <td>0.37</td> <td>Other</td> <td>radius * 0.163</td> </tr> </tbody> </table>	Well Diameter	Multiplier	Well Diameter	Multiplier	1"	0.04	4"	0.65	2"	0.16	6"	1.47	3"	0.37	Other	radius * 0.163
Well Diameter	Multiplier	Well Diameter	Multiplier														
1"	0.04	4"	0.65														
2"	0.16	6"	1.47														
3"	0.37	Other	radius * 0.163														

Time	Temp (°F)	pH	Cond. (mS/cm or $\mu\text{S/cm}$ )	Turbidity (NTUs)	D.O. (mg/L)	ORP (mV)	Gals. Removed	DTW Observations
1123	61.7	7.21	404	4	3.13	89.6	10	30.96
1128	61.5	7.24	503	4	3.08	84.7	20	31.04
1133	61.7	7.28	513	4	2.98	81.2	30	31.06
1138	61.9	7.29	524	3	2.95	79.8	40	31.06
1143	61.9	7.31	528	3	2.90	78.5	50	31.06
1147	61.9	7.31	529	2	2.88	76.1	58	31.06

Did well dewater?      Yes      No      Gallons actually evacuated: 58

Sampling Date: 6-25-20      Sampling Time: 1149      Depth to Water: 31.06

Sample I.D.: MW-15      Laboratory: P20

Analyzed for: SEE COC      Other: \_\_\_\_\_

EB I.D. (if applicable): \_\_\_\_\_ @ \_\_\_\_\_ Time      Duplicate I.D. (if applicable): DUP @ 1154

FB I.D. (if applicable): \_\_\_\_\_ @ \_\_\_\_\_ Time      Analyzed for: \_\_\_\_\_

D.O. (if req'd):      Pre-purge: \_\_\_\_\_ mg/L      Post-purge: \_\_\_\_\_ mg/L

O.R.P. (if req'd):      Pre-purge: \_\_\_\_\_ mV      Post-purge: \_\_\_\_\_ mV



## WELL MONITORING DATA SHEET

Project #: 20060844-1	Site: JPL
Sampler: MS	Date: 6/25/20
Well I.D.: MW-16	Well Diameter: 2 3 4 6 8
Total Well Depth (TD): 284.75	Depth to Water (DTW): 268.12
Depth to Free Product:	Thickness of Free Product (feet):
Referenced to: (PVC) Grade	Flow Cell Type: YSI 556
DTW with 80% Recharge [(Height of Water Column x 0.20) + DTW]:	

Purge Method:      Bailer      Waterra      Sampling Method:      Bailer  
                          Disposable Bailer      2" Rediflo pump      Disposable Bailer  
                          Positive Air Displacement      Extraction Pump      Extraction Port  
                          Electric Submersible      Other \_\_\_\_\_      Dedicated Tubing

Other: \_\_\_\_\_

Well Diameter	Multiplier	Well Diameter	Multiplier
1"	0.04	4"	0.65
2"	0.16	6"	1.47
3"	0.37	Other	radius * 0.163

	(Gals.) X	=	Gals.
1 Case Volume	Specified Volumes		Calculated Volume

Time	Temp (°F)	pH	Cond. (mS/cm or <u>µS/cm</u> )	Turbidity (NTUs)	D.O. (mg/L)	ORP (mV)	Gals. Removed	Observations
								Collect Grab Sample
1115	28.9	7.67	669	60	4.53	184		

Did well dewater?      Yes      No      Gallons actually evacuated:

Sampling Date: 6/25/20      Sampling Time: 1115      Depth to Water:

Sample I.D.: MW-16      Laboratory:

Analyzed for: see COC      Other:

EB I.D. (if applicable): @ Time      Duplicate I.D. (if applicable):

FB I.D. (if applicable): @ Time      Analyzed for:

D.O. (if req'd):	Pre-purge:	mg/L	Post-purge:	mg/L
O.R.P. (if req'd):	Pre-purge:	mV	Post-purge:	mV

WESTBAY™ GROUNDWATER MONITORING WELL  
FIELD DATA LOG SHEET

WELL ID: MW-17  
 SAMPLING DATE(S): 6/15/20  
 LOCATION: JPL  
 WATER LEVEL INSIDE CASING: 209.82  
 ATM. PRESSURE (PSI): (Start) 13.99 (Finish) 14.06  
26.03 17.97

PROBE TYPE: Westbay  
 SERIAL NO.: EMS 1508  
 PROJECT: JPL Pasadena  
 OPERATOR(S): L. Henderson  
 WEATHER: clear sunny

Port Number	Run Number	Probe to Top Collar	Surface Function Tests / Position Sampler (probe in top of collar) / (lower probe to port)					Sample Collection Checks (probe at sampling port in MP casing)						Field Parameters						Sample	
		Arm out / Land Probe	Shoe Out / Close Valve / Check Vacuum	Open Valve / Apply Vacuum (5 psi)	Close Valve / Shoe in / Arm in	Locate Port / Arm Out / Land Probe	Pressure in MP Casing (psi)	Shoe Out	Port Pressure (psi)	Open Valve	Port Pressure (psi)	Close Valve / Shoe in	Pressure in MP Casing (psi)	Sample Temp (°C)	SC (µS/cm)	pH	Turbidity (NTU)	Dissolved Oxygen (ppm)	ORP (mv)	Sample Time	Sample ID
5	1	✓	✓	✓	✓	✓	240.77	✓	188.85	✓	188.85	✓	240.77	72.0	744	7.87	32	7.78	129	0915	MW-17-5
3	1	✓	✓	✓	✓	✓	128.84	✓	104.55	✓	104.55	✓	128.84	22.4	985	8.01	19	6.58	98	1000	MW-17-3
3	2	✓	✓	✓	✓	✓	128.82	✓	104.55	✓	104.55	✓	128.82								
3	3	✓	✓	✓	✓	✓	128.86	✓	104.53	✓	104.53	✓	128.86								
3	4	✓	✓	✓	✓	✓	128.80	✓	104.51	✓	104.51	✓	128.80								
3	5	✓	✓	✓	✓	✓	128.81	✓	104.49	✓	104.49	✓	128.81								
3	6	✓	✓	✓	✓	✓	128.87	✓	104.52	✓	104.52	✓	128.87								
3	7	✓	✓	✓	✓	✓	128.05	✓	104.51	✓	104.51	✓	128.05								
4	1	✓	✓	✓	✓	✓	178.30	✓	136.54	✓	136.54	✓	178.30	74.4	746	7.90	11	7.72	101	1400	MW-17-4
4	2	✓	✓	✓	✓	✓	178.30	✓	136.51	✓	136.51	✓	178.30								
4	3	✓	✓	✓	✓	✓	177.51	✓	136.50	✓	136.50	✓	178.30								
2	1	✓	✓	✓	✓	✓	86.25	✓	68.00	✓	68.00	✓	86.25	24.5	312	8.13	13	6.19	86	1530	<del>MW-17-2</del>
2	2	✓	✓	✓	✓	✓	86.27	✓	67.98	✓	67.98	✓	86.27	-	-	-	-	-	-	1540	Dp-2-202020

Comments: TB-5-061520 / EB-5-061520  
Dp-2-202020



WESTBAY™ GROUNDWATER MONITORING WELL  
FIELD DATA LOG SHEET

WELL ID: MW-18  
 SAMPLING DATE(S): 6/10/20 / 6/11/20  
 LOCATION: JPL  
 WATER LEVEL INSIDE CASING: 293.92  
 ATM. PRESSURE (PSI): (Start) 14.04 (Finish) 14.00  
~~Temp~~ Temp: 27.65°C 18.75

PROBE TYPE: Vestbay  
 SERIAL NO.: EMS 2508  
 PROJECT: JPL Pasadena  
 OPERATOR(S): L. Henderson / T. Hoang  
 WEATHER: clear, sunny

Port Number	Run Number	Probe to Top Collar	Surface Function Tests / Position Sampler (probe in top of collar) / (lower probe to port)				Sample Collection Checks (probe at sampling port in MP casing)						Field Parameters					Sample			
		Arm out / Land Probe	Shoe Out / Close Valve / Check Vacuum	Open Valve / Apply Vacuum (5 psi)	Close Valve / Shoe In / Arm In	Locate Port / Arm Out / Land Probe	Pressure in MP Casing (psi)	Shoe Out	Port Pressure (psi)	Open Valve	Port Pressure (psi)	Close Valve / Shoe In	Pressure in MP Casing (psi)	Sample Temp (°C)	SC (µS/cm)	pH	Turbidity (NTU)	Dissolved Oxygen (ppm)	ORP (mv)	Sample Time	Sample ID
5	1	✓	✓	✓	✓	✓	188.36	✓	169.88	✓	169.88	✓	188.36	24.3	281	8.36	4	7.46	-44	1045	MW-18-5
3	1	✓	✓	✓	✓	✓	75.15	✓	76.30	✓	76.31	✓	75.15	26.1	532	7.50	1	6.71	108	1130	MW-18-3
4	1	✓	✓	✓	✓	✓	136.10	✓	123.86	✓	123.86	✓	136.10	26.3	422	8.01	2	6.57	107	1250	MW-18-4
4	2	✓	✓	✓	✓	✓	136.06	✓	123.83	✓	123.83	✓	136.09								
4	3	✓	✓	✓	✓	✓	136.02	✓	123.80	✓	123.83	✓	136.03								
4	4	✓	✓	✓	✓	✓	136.02	✓	123.79	✓	123.79	✓	136.07								
4	5	✓	✓	✓	✓	✓	136.01	✓	123.77	✓	123.77	✓	136.07								
4	6	✓	✓	✓	✓	✓	136.04	✓	123.74	✓	123.74	✓	136.04								
4	7	✓	✓	✓	✓	✓	136.07	✓	123.75	✓	123.75	✓	136.05								
2	1	✓	✓	✓	✓	✓	35.11	✓	<del>41.59</del> 39.10	✓	39.10	✓	35.11	18.2	415	6.27	1	7.79	167	0730	MW-18-2
1	1	✓	✓	✓	✓	✓	14.16	✓	14.23	✓	14.23	✓	14.16	20.3	393	6.85	1	5.87	150	0810	MW-18-1
1	2	✓	✓	✓	✓	✓	14.15	✓	14.24	✓	14.24	✓	14.15								

Comments: 6/11/20 - TB-3-06 1120

WESTBAY™ GROUNDWATER MONITORING WELL  
FIELD DATA LOG SHEET

WELL ID: MW-19  
 SAMPLING DATE(S) 6/11/20  
 LOCATION: SPL  
 WATER LEVEL INSIDE CASING: 140.66 140.74  
 ATM. PRESSURE (PSI): (Start) 14.04 (Finish) 14.06  
 Temp: 25.34 °C 21.14 °C

PROBE TYPE Westbay  
 SERIAL NO. EMS 2508  
 PROJECT: SPL Pasadena  
 OPERATOR(S) L. Henderson / T. Huang  
 WEATHER clear, sunny

Port Number	Run Number	Probe to Top Collar					Surface Function Tests / Position Sampler (probe in top of collar) / (lower probe to port)							Sample Collection Checks (probe at sampling port in MP casing)						Field Parameters						Sample	
		Arm out / Land Probe	Shoe Out / Close Valve / Check Vacuum	Open Valve / Apply Vacuum (5 psi)	Close Valve / Shoe In / Arm In	Locate Port / Arm Out / Land Probe	Pressure in MP Casing (psi)	Shoe Out	Port Pressure (psi)	Open Valve	Port Pressure (psi)	Close Valve / Shoe In	Pressure in MP Casing (psi)	Sample Temp (°C)	SC (µS/cm)	pH	Turbidity (NTU)	Dissolved Oxygen (ppm)	ORP (mv)	Sample Time	Sample ID						
2	1	✓	✓	✓	✓	✓	90.95	✓	63.27	✓	63.27	✓	90.95	23.4	1143	6.72	3	6.55	137	0930	MW-19-2						
2	2	✓	✓	✓	✓	✓	90.95	✓	63.28	✓	63.27	✓	90.95														
2	3	✓	✓	✓	✓	✓	90.93	✓	63.28	✓	63.28	✓	90.93														
2	4	✓	✓	✓	✓	✓	90.95	✓	63.26	✓	63.29	✓	90.95														
2	5	✓	✓	✓	✓	✓	90.91	✓	63.26	✓	63.29	✓	90.93														
2	6	✓	✓	✓	✓	✓	90.90	✓	63.24	✓	63.24	✓	90.90														
2	7	✓	✓	✓	✓	✓	90.24	✓	63.24	✓	63.24	✓	90.24														
3	1	✓	✓	✓	✓	✓	124.90	✓	96.33	✓	96.33	✓	124.90	28.9	852	6.86	4	5.76	112	1330	MW-19-3						
3	2	✓	✓	✓	✓	✓	124.72	✓	96.27	✓	96.27	✓	124.71	-	-	-	-	-	-	1340	Dip-1-202020						
5	1	✓	✓	✓	✓	✓	170.74	✓	126.84	✓	126.84	✓	170.74	30.2	690	7.04	3	5.82	128	1405	MW-19-5						
4	1	✓	✓	✓	✓	✓	147.31	✓	103.67	✓	103.67	✓	147.31	33.1	740	7.10	1	4.62	124	1450	MW-19-4						
1	1	✓	✓	✓	✓	✓	59.62	✓	35.31	✓	35.31	✓	59.62	26.5	300	7.11	7	4.09	136	1520	MW-19-1						

Comments: Dip-1-202020 @ 1340 - (MW-19-3)  
EB-3-061120

WESTBAY™ GROUNDWATER MONITORING WELL  
FIELD DATA LOG SHEET

WELL ID: MU-20  
 SAMPLING DATE(S): 6/11/20  
 LOCATION: 5RL  
 WATER LEVEL INSIDE CASING: 240.16  
 ATM. PRESSURE (PSI): (Start) 14.04 (Finish) 14.07  
20.16 18.91

PROBE TYPE: Westbay  
 SERIAL NO.: EMS 2508  
 PROJECT: JPL Pasadena  
 OPERATOR(S): C. Henderson  
 WEATHER: Cloudy

Port Number	Run Number	Probe to Top Collar	Surface Function Tests / Position Sampler (probe in top of collar) / (lower probe to port)					Sample Collection Checks (probe at sampling port in MP casing)						Field Parameters						Sample	
		Arm out / Land Probe	Shoe Out / Close Valve / Check Vacuum	Open Valve / Apply Vacuum (5 psi)	Close Valve / Shoe In / Arm In	Locate Port / Arm Out / Land Probe	Pressure in MP Casing (psi)	Shoe Out	Port Pressure (psi)	Open Valve	Port Pressure (psi)	Close Valve / Shoe In	Pressure in MP Casing (psi)	Sample Temp (°C)	SC (µS/cm)	pH	Turbidity (NTU)	Dissolved Oxygen (ppm)	ORP (mv)	Sample Time	Sample ID
5	1	✓	✓	✓	✓	✓	304.89	✓	303.56	✓	303.56	✓	304.89	13.3	293	8.63	4	8.17	-111	0845	MU-20-5
5	2	✓	✓	✓	✓	✓	303.45	✓	303.56	✓	303.56	✓	303.45								
4	1	✓	✓	✓	✓	✓	218.86	✓	201.95	✓	201.95	✓	218.86	20.7	321	9.01	5	7.25	-73	1000	MU-20-4
3	1	✓	✓	✓	✓	✓	158.78	✓	145.24	✓	145.24	✓	158.78	20.8	303	8.54	5	5.47	-131	0550	MU-20-3
2	1	✓	✓	✓	✓	✓	84.61	✓	79.31	✓	79.31	✓	84.61	20.5	757	7.90	3	7.66	33	1145	MU-20-2
2	2	✓	✓	✓	✓	✓	84.60	✓	79.31	✓	79.31	✓	84.60								
2	3	✓	✓	✓	✓	✓	82.21	✓	79.30	✓	79.30	✓	82.21								
1	1	✓	✓	✓	✓	✓	14.16 <sup>13</sup> <del>14.16</del> <sub>14</sub>	✓	14.16	✓	14.16	✓	14.18	-No Sample / DRI							MU-20-1

Comments: TB-6-061120 / ~~XXXXXXXXXXXX~~

MU-20-2 - level 10 + MSMSD

MW-21

WESTBAY™ GROUNDWATER MONITORING WELL  
FIELD DATA LOG SHEET

WELL ID: ~~MW-21~~ EB-11-062320  
 SAMPLING DATE(S) 6/13/20  
 LOCATION: SPL  
 WATER LEVEL INSIDE CASING:  
 ATM. PRESSURE (PSI): (Start) 14.10 (Finish) 14.07  
28.42 28.65

PROBE TYPE Westbay  
 SERIAL NO. EMS 2508  
 PROJECT: SPL Pasadena  
 OPERATOR(S) Colter/Kern  
 WEATHER Sunny

Port Number	Run Number	Probe to Top Collar	Surface Function Tests / Position Sampler (probe in top of collar) / (lower probe to port)					Sample Collection Checks (probe at sampling port in MP casing)					Field Parameters					Sample			
		Arm out / Land Probe	Shoe Out / Close Valve / Check Vacuum	Open Valve / Apply Vacuum (5 psi)	Close Valve / Shoe In / Arm In	Locate Port / Arm Out / Land Probe	Pressure in MP Casing (psi)	Shoe Out	Port Pressure (psi)	Open Valve	Port Pressure (psi)	Close Valve / Shoe In	Pressure in MP Casing (psi)	Sample Temp (°C)	SC (µS/cm)	pH	Turbidity (NTU)	Dissolved Oxygen (ppm)	ORP (mv)	Sample Time	Sample ID
4	1	✓	✓	✓	✓	✓	103.11	✓	105.75	✓	105.75	✓	103.11	30.4	1025	7.86	2	5.59	156	1145	MW-21-4
S	1	✓	✓	✓	✓	✓	129.08	✓	132.54	✓	132.54	✓	129.08	31.1	8.55	8.15	2	4.42	122	1230	MW-21-5
S	2	✓	✓	✓	✓	✓	129.08	✓	132.56	✓	132.56	✓	129.08								
3	1	✓	✓	✓	✓	✓	72.98	✓	75.97	✓	75.97	✓	72.98	32.1	1312	7.46	3	5.49	126	1330	MW-21-3
Z	1	✓	✓	✓	✓	✓	38.55	✓	42.00	✓	42.00	✓	38.55	30.3	1441	7.75	2	5.86	105	1350	MW-21-2
Z	2	✓	✓	✓	✓	✓	38.45	✓	41.97	✓	41.97	✓	38.45							1415	D.p-6-2020
1	1	✓	✓	✓	✓	✓	14.14	✓	14.12	✓	14.12	✓	14.14	-ND	Sample - Well is Dry					-	✓

Comments: EB-11-062320

WESTBAY™ GROUNDWATER MONITORING WELL  
FIELD DATA LOG SHEET

WELL ID: MW-22  
 SAMPLING DATE(S) 6/17/20  
 LOCATION: 38L  
 WATER LEVEL INSIDE CASING: 215.33  
 ATM. PRESSURE (PSI): (Start) 14.04 (Finish) 14.11  
 Temp: 22.11°C 25.03°C

PROBE TYPE Westbay  
 SERIAL NO. EMS 2504  
 PROJECT: 38L Pasadena  
 OPERATOR(S) L. Henderson  
 WEATHER cloudy, cool

Port Number	Run Number	Probe to Top Collar	Surface Function Tests / Position Sampler (probe in top of collar) / (lower probe to port)				Sample Collection Checks (probe at sampling port in MP casing)						Field Parameters						Sample	
		Arm out / Land Probe	Shoe Out / Close Valve / Check Vacuum	Open Valve / Apply Vacuum (psi)	Close Valve / Shoe In / Arm In	Locate Port / Arm Out / Land Probe	Pressure in MP Casing (psi)	Shoe Out / Port Pressure (psi)	Open Valve / Port Pressure (psi)	Close Valve / Shoe In	Pressure in MP Casing (psi)	Sample Temp (°C)	SC (µS/cm)	pH	Turbidity (NTU)	Dissolved Oxygen (ppm)	ORP (mv)	Sample Time	Sample ID	
5	1	✓	✓	✓	✓	✓	125.75	117.42	117.41	✓	178.17	19.4	349	8.27	3	7.66	57	0900	MW-22-5	
4	1	✓	✓	✓	✓	✓	125.75	117.42	117.42	✓	125.75	18.7	403	7.37	5	9.73	121	1000	MW-22-4	
3	1	✓	✓	✓	✓	✓	91.92	89.41	89.41	✓	91.92	18.9	543	8.12	3	8.75	134	1030	MW-22-3	
2	1	✓	✓	✓	✓	✓	65.87	63.49	63.49	✓	65.87	19.5	660	8.34	4	7.06	129	1115	MW-22-2	
2	2	✓	✓	✓	✓	✓	65.89	63.48	63.48	✓	65.89									
1	1	✓	✓	✓	✓	✓	28.97	28.89	28.89	✓	28.87	23.6	870	8.09	5	4.37	114	1215	MW-22-1	
1	2	✓	✓	✓	✓	✓	27.50	28.86	28.86	✓	27.50									

Comments: TB-7-06/720  
MW-22-2 → level IV + MS/MSD



WESTBAY™ GROUNDWATER MONITORING WELL  
FIELD DATA LOG SHEET

WELL ID: MW-23  
 SAMPLING DATE(S) 6/19/20  
 LOCATION: JPL  
 WATER LEVEL INSIDE CASING: 141.06  
 ATM. PRESSURE (PSI): (Start) 14.03 (Finish) 14.05  
 Temp: 19.86°C 20.82

PROBE TYPE Westbay  
 SERIAL NO. EMS 2508  
 PROJECT: JPL Pasadena  
 OPERATOR(S) L. Henderson  
 WEATHER cloudy

Port Number	Run Number	Surface Function Tests / Position Sampler (probe in top of collar) / (lower probe to port)						Sample Collection Checks (probe at sampling port in MP casing)						Field Parameters						Sample	
		Arm out / Land Probe	Shoe Out/ Close Valve/ Check Vacuum	Open Valve/ Apply Vacuum (5 psi)	Close Valve/ Shoe In/ Arm In	Locate Port/ Arm Out/ Land Probe	Pressure in MP Casing (psi)	Shoe Out	Port Pressure (psi)	Open Valve	Port Pressure (psi)	Close Valve/ Shoe In	Pressure in MP Casing (psi)	Sample Temp (°C)	SC (µS/cm)	pH	Turbidity (NTU)	Dissolved Oxygen (ppm)	ORP (mv)	Sample Time	Sample ID
5	1	✓	✓	✓	✓	✓	190.00	✓	176.58	✓	176.58	✓	190.00	18.5	368	8.55	4	7.96	-26	0900	MW-23-5
4	1	✓	✓	✓	✓	✓	147.93	✓	134.68	✓	134.68	✓	147.93	18.4	414	8.05	6	8.88	122	0930	MW-23-4
3	1	✓	✓	✓	✓	✓	93.31	✓	87.07	✓	87.07	✓	93.31	19.7	562	8.06	4	7.67	128	1000	MW-23-3
3	2	✓	✓	✓	✓	✓	93.33	✓	87.08	✓	87.08	✓	93.33	-	-	-	-	-	-	1020	Dip-3-2020
2	1	✓	✓	✓	✓	✓	65.18	✓	59.27	✓	59.27	✓	65.18	21.3	1138	7.63	3	7.88	151	1100	MW-23-2
2	2	✓	✓	✓	✓	✓	65.15	✓	59.24	✓	59.24	✓	65.15								
1	1	✓	✓	✓	✓	✓	30.34	✓	27.32	✓	27.32	✓	30.34	23.1	621	7.52	4	8.32	102	1200	MW-23-1
1	2	✓	✓	✓	✓	✓	29.07	✓	27.33	✓	27.33	✓	29.07								

Comments: TB-9-061920 / level IV F MS/MSD -> MW-23-2  
Dip-3-2020 (MW-23-3)

WESTBAY™ GROUNDWATER MONITORING WELL  
FIELD DATA LOG SHEET

WELL ID: MU-24  
 SAMPLING DATE(S) 6/16/20 / 6/17/20  
 LOCATION: JPL  
 WATER LEVEL INSIDE CASING: 218.35  
 ATM. PRESSURE (PSI): (Start) 14.01 (Finish)

PROBE TYPE Westbay  
 SERIAL NO. EMS 2508  
 PROJECT: JPL Pasadena  
 OPERATOR(S) L. Henderson  
 WEATHER Sunny, Clear

Temp 38.46

Port Number	Run Number	Probe to Top Collar					Surface Function Tests / Position Sampler (probe in top of collar) / (lower probe to port)						Sample Collection Checks (probe at sampling port in MP casing)						Field Parameters						Sample	
		Arm out / Land Probe	Shoe Out / Close Valve / Check Vacuum	Open Valve / Apply Vacuum (5 psi)	Close Valve / Shoe In / Arm In	Locate Port / Arm Out / Land Probe	Pressure in MP Casing (psi)	Shoe Out	Port Pressure (psi)	Open Valve	Port Pressure (psi)	Close Valve / Shoe In	Pressure in MP Casing (psi)	Sample Temp (°C)	SC (µS/cm)	pH	Turbidity (NTU)	Dissolved Oxygen (ppm)	ORP (mv)	Sample Time	Sample ID					
4	1	✓	✓	✓	✓	✓	116.43	✓	140.14	✓	140.14	✓	109.73	25.2	205	8.43	3	5.32	-79	1530	MU-24-84					
	3	✓	✓	✓	✓	✓	109.71	✓	16.49	✓	16.49	✓	109.71	25.3	1041	8.33	5	7.13	87	1606	MU-24-3					
	1	✓	✓	✓	✓	✓	41.94	✓	36.04	✓	36.04	✓	41.94	24.3	711	7.72	3	7.30	103	1400	MU-24-1					
	2	✓	✓	✓	✓	✓	41.89	✓	36.02	✓	36.02	✓	41.89													
	3	✓	✓	✓	✓	✓	41.68	✓	36.04	✓	36.04	✓	41.68													
	2	✓	✓	✓	✓	✓	82.59	✓	71.42	✓	71.42	✓	82.59	23.4	593	8.01	4	6.82	127	1530	MU-24-2					
	2	✓	✓	✓	✓	✓	82.56	✓	71.41	✓	71.41	✓	82.56													
	5	✓	✓	✓	✓	✓	214.34	✓	186.80	✓	186.80	✓	214.34	23.8	423	8.23	3	7.84	117	1630	MU-24-5					
	5	✓	✓	✓	✓	✓	213.55	✓	186.80	✓	186.80	✓	214.34													

Comments: EB-6-061620 / EB-7-061720

WESTBAY™ GROUNDWATER MONITORING WELL  
FIELD DATA LOG SHEET

WELL ID: MW-25  
 SAMPLING DATE(S): 6/18/20  
 LOCATION: SPL  
 WATER LEVEL INSIDE CASING: 247.63  
 ATM. PRESSURE (PSI): (Start) 14.13 (Finish) 14.16  
 Temp 20.03°C 21.15

PROBE TYPE: Westbay  
 SERIAL NO.: EMS 2309  
 PROJECT: SPL Pasadena  
 OPERATOR(S): L. Henderson  
 WEATHER: cloudy

Port Number	Run Number	Probe to Top Collar	Surface Function Tests / Position Sampler (probe in top of collar) / (lower probe to port)				Sample Collection Checks (probe at sampling port in MP casing)						Field Parameters					Sample			
		Arm out/ Land Probe	Shoe Out/ Close Valve/ Check Vacuum	Open Valve/ Apply Vacuum (5 psi)	Close Valve/ Shoe In/ Arm In	Locate Port/ Arm Out/ Land Probe	Pressure in MP Casing (psi)	Shoe Out	Port Pressure (psi)	Open Valve	Port Pressure (psi)	Close Valve/ Shoe In	Pressure in MP Casing (psi)	Sample Temp (°C)	SC (µS/cm)	pH	Turbidity (NTU)	Dissolved Oxygen (ppm)	ORP (mv)	Sample Time	Sample ID
4	1	✓	✓	✓	✓	✓	186.26	✓	174.18	✓	176.18	✓	196.16	20.0	825	7.90	4	8.44	135	0950	MW-25-4
5	1	✓	✓	✓	✓	✓	219.63	✓	209.59	✓	209.59	✓	219.63	20.1	387	8.32	6	8.92	-65	1015	MW-25-5
5	2	✓	✓	✓	✓	✓	217.77	✓	209.58	✓	209.58	✓	217.77								
3	1	✓	✓	✓	✓	✓	129.82	✓	121.42	✓	121.42	✓	129.82	20.9	736	7.99	8	8.58	79	1100	MW-25-3
2	1	✓	✓	✓	✓	✓	95.01	✓	87.89	✓	87.89	✓	95.01	20.7	724	8.38	4	6.91	109	1130	MW-25-2
2	2	✓	✓	✓	✓	✓	94.93	✓	87.87	✓	87.87	✓	94.93								
1	1	✓	✓	✓	✓	✓	66.77	✓	60.25	✓	60.25	✓	66.77	21.7	905	7.61	10	8.52	16	1230	MW-25-1

Comments: TB-8-061820  
MW-25-2 → level 10 + MS/MSD

**WESTBAY™ GROUNDWATER MONITORING WELL  
FIELD DATA LOG SHEET**

WELL ID: mw-26  
 SAMPLING DATE(S): 06/16/20  
 LOCATION: JPL  
 WATER LEVEL INSIDE CASING: 58.75  
 ATM. PRESSURE (PSI): (Start) 14.35 (Finish)

PROBE TYPE: Westbay  
 SERIAL NO.: EM58200 2508  
 PROJECT: JPL  
 OPERATOR(S): J. Hoay  
 WEATHER: Clear

Port Number	Run Number	Probe to Top Collar	Surface Function Tests / Position Sampler (probe in top of collar) / (lower probe to port)					Sample Collection Checks (probe at sampling port in MP casing)						Field Parameters					Sample		
		Arm out/ Land Probe	Shoe Out/ Close Valve/ Check Vacuum	Open Valve/ Apply Vacuum (5 psi)	Close Valve/ Shoe In/ Arm In	Locate Port/ Arm Out/ Land Probe	Pressure in MP Casing (psi)	Shoe Out	Port Pressure (psi)	Open Valve	Port Pressure (psi)	Close Valve/ Shoe In	Pressure in MP Casing (psi)	Sample Temp (°C)	SC (µS/cm)	pH	Turbidity (NTU)	Dissolved Oxygen (ppm)	ORP (mv)	Sample Time	Sample ID
2	1	✓	✓	✓	✓	✓	84.60	✓	55.64	✓	55.64	✓	84.62	23.8	746	6.99	2	7.50	135	0915	mw-26-2
2	2	✓	✓	✓	✓	✓	83.13	✓	55.62	✓	55.62	✓	83.13								
1	1	✓	✓	✓	✓	✓	50.95	✓	30.92	✓	30.91	✓	50.95	24.8	1060	6.95	3	6.83	173	0800	mw-26-1
		✓	✓	✓	✓	✓	47.94	✓	30.89	✓	30.89	✓	47.94								

Comments: TB -2- 061020  
EB -2 -061020