

ATTACHMENT 4: FIELD LOGS

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 third quarter 2021 sampling event was conducted by Blaine Tech Services, Inc.

Note: During the third quarter 2021 the relatively shallow standpipe wells MW-5, MW-6, MW-7, MW-8, MW-10, MW-13, and MW-16 and the uppermost sampling ports (i.e., Screen 1) in the multi-port monitoring wells MW-4, MW-12, MW-14, MW-17, MW-18, MW-20, MW-21, MW-22, MW-23, and MW-26 were dry and no samples were collected.

WESTBAY™ GROUNDWATER MONITORING WELL
FIELD DATA LOG SHEET

WELL ID: MW-3
 SAMPLING DATE(S) 7/27/21
 LOCATION: JPL Pasadena
 WATER LEVEL INSIDE CASING: 197.42
 ATM. PRESSURE (PSI): (Start) 14.08 (Finish) 14.03
 25.25 20.86

PROBE TYPE Westbay
 SERIAL NO. EMS 2502
 PROJECT: JPL
 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 (± 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	✓	✓	✓	✓	✓	174.92	✓	174.70	✓	174.70	✓	174.90	20.9	525	7.88	27	7.12	126	1315	MW-3-4
3	1	✓	✓	✓	✓	✓	82.95	✓	83.00	✓	83.06	✓	82.97	30.6	536	7.97	8	7.31	201	1340	MW-3.3
3	2	✓	✓	✓	✓	✓	81.95	✓	83.07	✓	83.06	✓	81.46	-	-	-	-	-	-	-	-
2	1	✓	✓	✓	✓	✓	41.40	✓	42.68	✓	42.71	✓	41.45	26.5	322	8.10	10	7.59	229	1420	MW-3-2

Comments: EB-9-072721 @ 1430

WELL MONITORING DATA SHEET

Project #: <u>210716HS-1</u>	Site: <u>Tidewater ESPC</u>
Sampler: <u>HS</u>	Date: <u>7/28/21</u>
Well I.D.: <u>MW-1²¹ MW-5</u>	Well Diameter: 2 3 <u>4</u> 6 8
Total Well Depth (TD): <u>Ded. Pump (135)</u>	Depth to Water (DTW): <u>DRY</u>
Depth to Free Product:	Thickness of Free Product (feet):
Referenced to: <u>PVC</u> Grade	Flow Cell Type YSI 556
DTW with 80% Recharge [(Height of Water Column x 0.20) + DTW]:	

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

	(Gals.) X		=	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 ² * 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
								- Well IS DRY -
								- NO SAMPLE TAKEN -

Did well dewater?	Yes	No	Gallons actually evacuated:
Sampling Date:	Sampling Time:	Depth to Water:	
Sample I.D.:	Laboratory:		
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 #: 210716HS-1	Site: Tidewater ESPL
Sampler: HS	Date: 7/28/21
Well I.D.: ML-6	Well Diameter: 2 3 <u>4</u> 6 8
Total Well Depth (TD): 237.75	Depth to Water (DTW): DRY
Depth to Free Product: —	Thickness of Free Product (feet): —
Referenced to: <u>PVC</u> Grade	Flow Cell Type: YSI 556
DTW with 80% Recharge [(Height of Water Column x 0.20) + DTW]:	

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

_____ (Gals.) X _____ = _____ Gals. 1 Case Volume Specified Volumes Calculated Volume	<table border="1" style="font-size: small;"> <tr> <th>Well Diameter</th> <th>Multiplier</th> <th>Well Diameter</th> <th>Multiplier</th> </tr> <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>radius² * 0.163</td> </tr> </table>	Well Diameter	Multiplier	Well Diameter	Multiplier	1"	0.04	4"	0.65	2"	0.16	6"	1.47	3"	0.37	Other	radius ² * 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 ² * 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
			— Well IS DRY —					
			— NO SAMPLE TAKEN —					

Did well dewater? Yes <input type="checkbox"/> No <input checked="" type="checkbox"/>	Gallons actually evacuated: _____
Sampling Date: _____	Sampling Time: _____
Sample I.D.: _____	Depth to Water: _____
Analyzed for: _____	Laboratory: _____
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 #: 210716 HS-1	Site: Tidewater E.J.P.I.
Sampler: YJ	Date: 7/28/21
Well I.D.: MW-7	Well Diameter: 2 3 4 6 8 <u> </u>
Total Well Depth (TD): Ded. Pump (268)	Depth to Water (DTW): DRY
Depth to Free Product: <u> </u>	Thickness of Free Product (feet): <u> </u>
Referenced to: <u>PVC</u> 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: _____

	(Gals.) x	=	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 ² * 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
								- WELL IS DRY -
								- NO SAMPLE TAKEN -

Did well dewater?	Yes	No	Gallons actually evacuated:
Sampling Date:	Sampling Time:	Depth to Water:	
Sample I.D.:	Laboratory:		
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 #: 210716HS-1	Site: Tidewater EJPL
Sampler: HS	Date: 7/29/21
Well I.D.: 4" - 8"	Well Diameter: 2 3 <u>4</u> 6 8
Total Well Depth (TD): 202.10	Depth to Water (DTW): DRY
Depth to Free Product:	Thickness of Free Product (feet):
Referenced to: <u>PVC</u> 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:

	(Gals.) X		=	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 ² * 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
								- Well is DRY -
								- NO SAMPLE TAKEN -

Did well dewater?	Yes	No	Gallons actually evacuated:
Sampling Date:	Sampling Time:	Depth to Water:	
Sample I.D.:	Laboratory:		
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

WESTBAY™ GROUNDWATER MONITORING WELL
FIELD DATA LOG SHEET

WELL ID: MU-11
 SAMPLING DATE(S): 7/27/21
 LOCATION: JPL Pasadena
 WATER LEVEL INSIDE CASING: 204.64
 ATM. PRESSURE (PSI): (Start) 14.05 (Finish) 14.66

PROBE TYPE: Westbay
 SERIAL NO.: EMS 2502
 PROJECT: JPL
 OPERATOR(S): L. Henderson
 WEATHER: clear sunny

Port #	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 (p 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	✓	✓	✓	✓	✓	154.36	✓	148.53	✓	148.50	✓	164.24	21.5	290	7.59	2	5.25	-122	0905	MU-11-4
3	1	✓	✓	✓	✓	✓	114.33	✓	106.41	✓	106.25	✓	114.30	22.1	292	8.70	1	5.60	-99	0935	MU-11-3
2	1	✓	✓	✓	✓	✓	41.45	✓	38.30	✓	38.29	✓	41.26	24.3	480	8.16	1	4.99	7	1015	MU-11-2
2	2	✓	✓	✓	✓	✓	39.19	✓	38.30	✓	38.26	✓	39.20	-	-	-	-	-	-	-	-
1	1	✓	✓	✓	✓	✓	14.13	✓	21.84	✓	21.80	✓	14.15	22.5	650	7.94	1	4.70	102	1115	MU-11-1

Comments: TB-7-072721 @ 0800

WELL MONITORING DATA SHEET

Project #: 21071645-1	Site: Tidewater @ SPL
Sampler: HS	Date: 7/28/21
Well I.D.: MD-13	Well Diameter: 2 3 (4) 6 8
Total Well Depth (TD): 239.76	Depth to Water (DTW): DRY
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:

	(Gals.) X		=		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 ² * 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
								- Well is DRY -
								- NO SAMPLE TAKEN -

Did well dewater?	Yes	No	Gallons actually evacuated:
Sampling Date:	Sampling Time:	Depth to Water:	
Sample I.D.:	Laboratory:		
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

WESTBAY™ GROUNDWATER MONITORING WELL
FIELD DATA LOG SHEET

WELL ID: MW-14
 SAMPLING DATE(S): 7/20/21
 LOCATION: JPL Pasadena
 WATER LEVEL INSIDE CASING: 196.66
 ATM. PRESSURE (PSI): (Start) 14.09 (Finish) 13.98
36.38°C 23.06

PROBE TYPE: Westbay
 SERIAL NO.: EMS 2502
 PROJECT: SPL
 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	✓	✓	✓	✓	✓	167.39	✓	144.73	✓	144.71	✓	167.46	29.5	345	8.71	3	6.28	136	1350	MW-14-5	
4	1	✓	✓	✓	✓	✓	131.80	✓	108.55	✓	108.54	✓	131.77	29.8	603	8.34	3	6.52	136	1430	MW-14-4	
4	2	✓	✓	✓	✓	✓	129.96 21	✓	108.55	✓	108.56	✓	129.20	-	-	-	-	-	-	-	-	
3	1	✓	✓	✓	✓	✓	99.36	✓	76.47	✓	76.48	✓	99.43	28.6	158	8.15	3	5.81	159	1510	MW-14-3	
2	1	✓	✓	✓	✓	✓	53.33	✓	30.96	✓	30.92	✓	53.61	21.4	123	8.24	6	5.01	172	1540	MW-14-2	
1	1	✓	✓	✓	✓	✓	19.40	✓	14.15	✓	14.14	✓	19.35	- PORT IS DRY - NO SAMPLE TAKEN -								

Comments: EB-2-072021 @ 1515

WELL MONITORING DATA SHEET

Project #: 2107/645-1	Site: Tidewater @ SPL
Sampler: PS	Date: 7/28/21
Well I.D.: MW-15	Well Diameter: 2 3 <u>4</u> 6 8
Total Well Depth (TD): 60 ⁶⁰ Ded. Pump ⁶⁰	Depth to Water (DTW): 37.50
Depth to Free Product: —	Thickness of Free Product (feet): —
Referenced to: <u>PVC</u> Grade	Flow Cell Type <u>RSI 7 RPD PWS</u> RSI 556
DTW with 80% Recharge [(Height of Water Column x 0.20) + DTW]: 42.00	

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. RFD Dedicated Tubing

Start @ 1314

14.7 (Gals.) X 3 = 44.1 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 ² * 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
1322	17.4	7.43	522	4	6.06	53.7	8	40.43
1330	17.5	7.43	511	3	6.16	53.1	16	40.43
1338	17.4	7.42	511	3	5.32	54.6	24	40.44
1346	17.4	7.45	516	3	5.21	55.8	32	40.44
1354	17.4	7.47	518	3	5.16	55.6	40	40.44
1402	17.6	7.48	519	3	5.09	55.9	48	40.44

Did well dewater? Yes No Gallons actually evacuated: 48

Sampling Date: 7/28/21 Sampling Time: 1403 Depth to Water: 40.44

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

Analyzed for: See COL Other:

EB I.D. (if applicable): @ Time Duplicate I.D. (if applicable): DWP-7-3621 @ 1405

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 #: 21071645-1	Site: Tidewater EJP
Sampler: RS	Date: 7/28/21
Well I.D.: MU-16	Well Diameter: 2 3 <u>4</u> 6 8
Total Well Depth (TD): 284.86	Depth to Water (DTW): DRY
Depth to Free Product: _____	Thickness of Free Product (feet): _____
Referenced to: <u>PVC</u> 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~~ ~~Waterra~~ ~~2" Rediflo pump~~ ~~Extraction Pump~~ ~~Other _____~~ Sampling Method: ~~Bailer~~ ~~Disposable Bailer~~ ~~Extraction Port~~ ~~Dedicated Tubing~~ ~~Other: _____~~

(Gals.) X _____ = _____ 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 ² * 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
- Well is DRY -								
- NO SAMPLE TAKEN -								

Did well dewater? Yes No Gallons actually evacuated: _____

Sampling Date: _____ Sampling Time: _____ Depth to Water: _____

Sample I.D.: _____ Laboratory: _____

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

WESTBAY™ GROUNDWATER MONITORING WELL
FIELD DATA LOG SHEET

WELL ID: MU-17
 SAMPLING DATE(S): 7/21/21
 LOCATION: JPL Pasadena
 WATER LEVEL INSIDE CASING: 209.71
 ATM. PRESSURE (PSI): (Start) 13.98 (Finish) 13.95
28.31 27.72

PROBE TYPE: Westbay
 SERIAL NO.: EMS 2502
 PROJECT: JPL
 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	
4	1	✓	✓	✓	✓	✓	178.03	✓	125.38	✓	125.37	✓	177.82	27.8	741	7.38	5	5.67	159	0850	MU-17-4	
4	2	✓	✓	✓	✓	✓	177.97	✓	125.39	✓	125.39	✓	177.97	-	-	-	-	-	-	0905	DUP-2-3021	
3	1	✓	✓	✓	✓	✓	128.51	✓	92.76	✓	92.77	✓	128.64	26.5	750	8.14	12	4.81	145	1000	MU-17-3	
2	1	✓	✓	✓	✓	✓	85.94	✓	53.63	✓	53.63	✓	85.93	25.4	498	8.28	3	4.48	134	1030	MU-17-2	

Comments: TB-3 - 072121 @ 0800

WESTBAY™ GROUNDWATER MONITORING WELL
FIELD DATA LOG SHEET

WELL ID: MW-18
 SAMPLING DATE(S): 7/21/21
 LOCATION: JPL Pasadena
 WATER LEVEL INSIDE CASING: 295.12
 ATM. PRESSURE (PSI): (Start) 13.98 (Finish)

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

Temp: 35.53

Port Numbr.	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	✓	✓	✓	✓	✓	186.89	✓	160.34	✓	160.29	✓	186.87	32.1	275	8.42	1	7.18	-53	1215	MW-18-5
4	1	✓	✓	✓	✓	✓	135.51	✓	111.93	✓	111.94	✓	135.59	32.6	433	8.53	3	7.25	38	1245	MW-18-4
3	1	✓	✓	✓	✓	✓	74.60	✓	61.81	✓	61.81	✓	74.58	32.0	569	8.33	1	7.48	88	1330	MW-18-3
2	1	✓	✓	✓	✓	✓	33.55	✓	22.86	✓	22.84	✓	33.57	28.7	446	8.40	4	7.00	121	1400	MW-18-2
2	2	✓	✓	✓	✓	✓	30.58	✓	22.85	✓	22.85	✓	30.62	-	-	-	-	-	-	-	-

Comments: EB-3-072121 e 1410

WESTBAY™ GROUNDWATER MONITORING WELL
FIELD DATA LOG SHEET

WELL ID: MW-19
 SAMPLING DATE(S) 7/19/21
 LOCATION: JPL Pasadena
 WATER LEVEL INSIDE CASING: 14.213
 ATM. PRESSURE (PSI): (Start) 14.07 (Finish) 14.01
419221544²⁰ 21.54°C

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

Port No.	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	✓	✓	✓	✓	✓	169.87	✓	114.99	✓	114.98	✓	169.91	30.3	863	8.36	3	4.61	61	1320	MW-19-5
4	1	✓	✓	✓	✓	✓	146.82	✓	91.77	✓	91.79	✓	146.87	31.3	897	8.31	2	4.70	84	1345	MW-19-4
4	2	✓	✓	✓	✓	✓	145.98	✓	91.74	✓	91.76	✓	145.97	-	-	-	-	-	-	1400	DUP-1-3Q21
3	1	✓	✓	✓	✓	✓	123.89	✓	83.47	✓	83.45	✓	123.83	29.2	963	8.10	4	4.18	33	1445	MW-19-3
2	1	✓	✓	✓	✓	✓	89.99	✓	50.06	✓	50.09	✓	89.97	26.8	1216	7.57	12	4.33	59	1519	MW-19-2
1	1	✓	✓	✓	✓	✓	58.57	✓	20.67	✓	20.67	✓	58.64	28.9	604	8.01	7	4.83	23	1530	MW-19-1

Comments: EB-1-071921 @ 1515

SB-1-071921 @ 1526

WESTBAY™ GROUNDWATER MONITORING WELL
FIELD DATA LOG SHEET

WELL ID: MLJ-20
 SAMPLING DATE(S): 7/19/21
 LOCATION: JPL Pasadena
 WATER LEVEL INSIDE CASING: 243.64
 ATM. PRESSURE (PSI): (Start) _____ (Finish) 14.06
21.87

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

Port No	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	✓	✓	✓	✓	✓	303.70	✓	293.32	✓	293.31	✓	303.75	23.2	349	7.40	6	5.02	-108	1005	MLJ-20-5					
4	1	✓	✓	✓	✓	✓	217.30	✓	198.09	✓	198.11	✓	217.30	23.7	353	7.63	7	5.31	-99	0930	MLJ-20-4					
3	1	✓	✓	✓	✓	✓	157.24	✓	138.64	✓	138.67	✓	157.23	24.7	352	8.54	6	5.20	-174	1100	MLJ-20-3					
3	2	✓	✓	✓	✓	✓	157.20	✓	138.41	✓	138.44	✓	157.24	-	-	-	-	-	-	-	-					
2	1	✓	✓	✓	✓	✓	83.40	✓	70.43	✓	70.40	✓	83.47	24.8	686	8.41	6	4.99	-23	1145	MLJ-20-2					
1	1	✓	✓	✓	✓	✓	14.19	✓	14.17	✓	14.14	✓	14.19	-	-	-	-	-	-	-	-	IS DRY - NO SAMPLE TAKEN				

Comments: _____

WESTBAY™ GROUNDWATER MONITORING WELL
FIELD DATA LOG SHEET

WELL ID: MU-21
 SAMPLING DATE(S): 7/28/21
 LOCATION: JPL Pasadena (PARIC)
 WATER LEVEL INSIDE CASING: 117.97
 ATM. PRESSURE (PSI): (Start) 14.14 (Finish) 14.07
32.31 21.45

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

Port Num.	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	✓	✓	✓	✓	✓	128.68	✓	119.57	✓	119.58	✓	128.71	34.3	982	7.61	5	6.01	164.7	0910	MU-21-5	
4	1	✓	✓	✓	✓	✓	101.66	✓	92.70	✓	92.72	✓	101.62	27.1	993	7.50	3	7.43	107.8	0930	MU-21-4	
3	1	✓	✓	✓	✓	✓	71.53	✓	62.88	✓	62.87	✓	71.56	23.6	1129	7.38	5	7.35	96.7	1000	MU-21-3	
3	2	✓	✓	✓	✓	✓	71.58	✓	62.86	✓	62.86	✓	71.53	-	-	-	-	-	-	1015	DUP-6-3QZ1	
2	1	✓	✓	✓	✓	✓	37.54	✓	28.75	✓	28.76	✓	37.54	27.8	1258	7.14	5	5.99	81.6	1045	MU-21-2	
1	1	✓	✓	✓	✓	✓	14.17	✓	14.15	✓	14.15	✓	14.14	-	-	-	-	-	-	-	-	-NO SAMPLE TAKEN-

Comments: TB-8-072021 @ 0800
EB-8-072021 @ 1100

WESTBAY™ GROUNDWATER MONITORING WELL
FIELD DATA LOG SHEET

WELL ID: MW-22
 SAMPLING DATE(S): 7/22/21
 LOCATION: JPL Pasadena
 WATER LEVEL INSIDE CASING: 737.37
 ATM. PRESSURE (PSI): (Start) 14.09 (Finish) 14.05

PROBE TYPE: Westbay
 SERIAL NO.: EMS 7502
 PROJECT: JPL
 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 (0 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	
3	1	✓	✓	✓	✓	✓	85.47	✓	75.52	✓	75.52	✓	85.11	27.9	556	8.63	3	5.61	63	1300	MW-22-3	
2	1	✓	✓	✓	✓	✓	58.88	✓	49.44	✓	49.43	✓	58.89	27.1	599	8.46	3	5.10	101	1340	MW-22-2	
2	2	✓	✓	✓	✓	✓	58.84	✓	49.40	✓	49.40	✓	58.84	-	-	-	-	-	-	-	-	
1	1	✓	✓	✓	✓	✓	21.69	✓	14.11	✓	14.10	✓	21.70	-	-	-	-	-	-	1440	MW-22-1	
2	1	✓	✓	✓	✓	✓	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	
PORT IS DRY - NO SAMPLE TAKEN ✓																						

Comments: EB-4-072221@1445

WESTBAY™ GROUNDWATER MONITORING WELL
FIELD DATA LOG SHEET

WELL ID: MU-23
 SAMPLING DATE(S) 7/23/21
 LOCATION: JPL Pasadena
 WATER LEVEL INSIDE CASING: 142.14
 ATM. PRESSURE (PSI): (Start) 14.00 (Finish) 14.14
26.19 20.75

PROBE TYPE Westbay
 SERIAL NO. EMS 1250Z
 PROJECT: JPL
 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					
4	1	✓	✓	✓	✓	✓	147.11	✓	121.46	✓	121.46	✓	147.18	24.4	444	6.40	4	4.70	179	0050	MU-23-4					
3	1	✓	✓	✓	✓	✓	92.95	✓	72.97	✓	72.97	✓	92.97	22.2	610	6.46	3	5.18	168	0920	MU-23-3					
3	2	✓	✓	✓	✓	✓	92.01	✓	72.99	✓	72.97	✓	91.91	-	-	-	-	-	-	0930	DUP-4-3Q 21					
2	1	✓	✓	✓	✓	✓	64.89	✓	44.96	✓	44.03	✓	64.70	23.1	1124	7.16	8	3.77	161	1015	MU-23-2					
1	1	✓	✓	✓	✓	✓	28.44	✓	14.14	✓	14.15	✓	28.45	- PORT IS DRY - NO SAMPLE TAKEN -												

Comments: TB-5- 072321 @ 0800

WESTBAY™ GROUNDWATER MONITORING WELL
FIELD DATA LOG SHEET

WELL ID: MW-24
 SAMPLING DATE(S) 7/22/21
 LOCATION: JPL Pasadena
 WATER LEVEL INSIDE CASING: 249.66
 ATM. PRESSURE (PSI): (Start) 13.94 (Finish) 14.01
 Temp: 29.02 24.24

PROBE TYPE Westbay
 SERIAL NO. GMS 2502
 PROJECT: JPL
 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					
4	1	✓	✓	✓	✓	✓	147.50	✓	126.97	✓	126.99	✓	147.57	23.8	219	9.07	4	5.05	-132	0905	MW-24-4					
3	1	✓	✓	✓	✓	✓	96.37	✓	82.10	✓	82.09	✓	96.35	24.4	577	8.34	4	5.23	-105	0910	DUP-3-3Q21					
2	1	✓	✓	✓	✓	✓	69.06	✓	55.77	✓	55.74	✓	69.16	28.4	624	8.16	4	5.41	135	0940	MW-24-3					
1	1	✓	✓	✓	✓	✓	28.40	✓	17.38	✓	17.25	✓	28.38	26.5	108	8.12	8	3.97	65	1036	MW-24-2					
1	2	✓	✓	✓	✓	✓	27.18	✓	17.39	✓	17.40	✓	27.31	-	-	-	-	-	-	1045	MW-24-1					

Comments: TB-4-072221 0000

WESTBAY™ GROUNDWATER MONITORING WELL
FIELD DATA LOG SHEET

WELL ID: MU-25
 SAMPLING DATE(S): 7/20/21
 LOCATION: JPL Pasadena
 WATER LEVEL INSIDE CASING: 298.82
 ATM. PRESSURE (PSI): (Start) 14.17 (Finish) 14.13

PROBE TYPE: Westbay
 SERIAL NO.: CMS 2501
 PROJECT: JPL
 OPERATOR(S): L. Henderson
 WEATHER: clear, sunny

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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	✓	✓	✓	✓	✓	219.88	✓	215.98	✓	215.96	✓	210.87	23.1	371	8.29	2	3.55	-190	0930	MU-25-5
4	1	✓	✓	✓	✓	✓	185.71	✓	181.98	✓	181.97	✓	185.77	23.4	890	7.55	3	4.31	161	1000	MU-25-4
3	1	✓	✓	✓	✓	✓	129.42	✓	126.27	✓	126.28	✓	129.50	23.6	795	7.90	2	4.58	144	1045	MU-25-3
3	2	✓	✓	✓	✓	✓	129.44	✓	126.28	✓	126.27	✓	129.51	-	-	-	-	-	-	-	-
2	1	✓	✓	✓	✓	✓	94.72	✓	91.67	✓	91.60	✓	94.79	28.1	794	8.21	2	4.70	134	1140	MU-25-2
1	1	✓	✓	✓	✓	✓	66.45	✓	63.34	✓	63.34	✓	66.45	28.3	929	7.79	3	5.05	121	1210	MU-25-1

Comments: TB-2-072021 @ 0900

