

ATTACHMENT 4: FIELD LOGS

This attachment contains the groundwater sample collection field logs for the relatively shallow standpipe monitoring wells (MW-1, MW-5 through, 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 4th Quarter 2018 sampling event was conducted by Blaine Tech Services, Inc.

Note: During the fourth quarter 2018, the shallow standpipe well MW-13 was inaccessible due to ongoing construction activities. In addition, the relatively shallow standpipe wells MW-6, MW-7, and MW-16 and the uppermost sampling port (i.e., Screen 1) in multi-port monitoring wells MW-12, MW-14, MW-17, MW-18, MW-20, and MW-21 were dry and could not be sampled.

WELL MONITORING DATA SHEET

Project #: _____	Site: <u>JPL</u>
Sampler: <u>KT</u>	Date: <u>10-24-18</u>
Well I.D.: <u>MW-1</u>	Well Diameter: 2 3 <u>4</u> 6 8 _____
Total Well Depth (TD): <u>90.00</u>	Depth to Water (DTW): <u>42.37</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>51.89</u>	

Purge Method: Bailer Waterra Sampling Method: Bailer
 Disposable Bailer 2" Rediflo pump DED Disposable Bailer
 Positive Air Displacement Extraction Pump 47.63 Extraction Port
 Electric Submersible Other _____ Dedicated Tubing

3 GPM start @ 1148

<u>30.9</u> (Gals.) X	<u>3</u>	<u>=</u>	<u>92.8</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 ² * 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
<u>1153</u>	<u>63.7</u>	<u>7.24</u>	<u>584</u>	<u>5</u>	<u>0.44</u>	<u>63</u>	<u>15.5</u>	<u>42.39</u>
<u>1158</u>	<u>63.9</u>	<u>7.21</u>	<u>584</u>	<u>5</u>	<u>0.42</u>	<u>62</u>	<u>31.0</u>	<u>42.39</u>
<u>1203</u>	<u>63.9</u>	<u>7.21</u>	<u>585</u>	<u>4</u>	<u>0.36</u>	<u>62</u>	<u>46.5</u>	<u>42.39</u>
<u>1208</u>	<u>63.9</u>	<u>7.20</u>	<u>586</u>	<u>3</u>	<u>0.33</u>	<u>60</u>	<u>62.0</u>	<u>42.39</u>
<u>1213</u>	<u>63.9</u>	<u>7.20</u>	<u>584</u>	<u>2</u>	<u>0.31</u>	<u>59</u>	<u>77.5</u>	<u>42.39</u>
<u>1218</u>	<u>64.8</u>	<u>7.20</u>	<u>585</u>	<u>2</u>	<u>0.29</u>	<u>59</u>	<u>93.0</u>	<u>42.39</u>

Did well dewater? Yes No Gallons actually evacuated: 93.0

Sampling Date: 10-24-18 Sampling Time: 1220 Depth to Water: 42.39

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

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-3
 SAMPLING DATE(S) 10/17/18
 LOCATION: Rovine
 WATER LEVEL INSIDE CASING: 175.60
 ATM. PRESSURE (PSI): (Start) 14.04 (Finish) 14.06

PROBE TYPE Westbay
 SERIAL NO. EIMS2502
 PROJECT: JPL
 OPERATOR(S) T. Housley
 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
5	1	✓	✓	✓	✓	✓	223.12	✓	221.49	✓	221.49	✓	223.12	15.9	632	6.74	3	7.10	196	0735	MW-3-5
4	1	✓	✓	✓	✓	✓	179.99	✓	180.88	✓	180.88	✓	179.99	16.0	584	6.88	30	6.73	229	0800	MW-3-4
	2	✓	✓	✓	✓	✓	179.94	✓	180.83	✓	180.83	✓	179.94								
3	1	✓	✓	✓	✓	✓	87.66	✓	89.17	✓	89.17	✓	87.66	17.0	574	6.99	9	6.39	213	0850	MW-3-3
2	1	✓	✓	✓	✓	✓	46.66	✓	48.78	✓	48.78	✓	46.66	17.1	582	7.30	4	6.05	-18	0915	MW-3-2
1	1	✓	✓	✓	✓	✓	14.21	✓	17.41	✓	17.41	✓	14.21	17.9	549	7.46	3	6.73	200	0940	MW-3-1
	2	✓	✓	✓	✓	✓	14.12	✓	17.40	✓	17.40	✓	14.12								

Comments: TB-3-10/17/18 @ 0700

DUP-2-4018 @ MW-3-4 @ 0818

WESTBAY™ GROUNDWATER MONITORING WELL
FIELD DATA LOG SHEET

WELL ID: MW-4
 SAMPLING DATE(S): 10/23/18
 LOCATION: JPL
 WATER LEVEL INSIDE CASING: 149.95
 ATM. PRESSURE (PSI): (Start) 14.06 (Finish) 14.10

PROBE TYPE: Westbay
 SERIAL NO.: 2502
 PROJECT: JPL
 OPERATOR(S): T. Hoag
 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/ and 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) <i>mg/L</i>	ORP (mv)	Sample Time	Sample ID
5	1	✓	✓	✓	✓	✓	176.12	✓	171.57	✓	171.57	✓	176.12	19.5	836	7.94	35	5.90	35	1120	MW-4-5
4	1	✓	✓	✓	✓	✓	122.09	✓	118.84	✓	118.84	✓	122.09	19.6	872	8.04	12	6.03	6	1145	MW-4-4
3	1	✓	✓	✓	✓	✓	90.95	✓	88.40	✓	88.40	✓	90.95	19.5	890	7.97	17	5.90	-45	1220	MW-4-3
2	1	✓	✓	✓	✓	✓	54.92	✓	52.86	✓	52.86	✓	54.92	19.7	1158	7.76	2	6.05	142	1245	MW-4-2
1	1	✓	✓	✓	✓	✓	15.49	✓	16.37	✓	16.37	✓	15.49	19.4	511	8.13	3	6.25	158	315	MW-4-1
	2	✓	✓	✓	✓	✓	14.02	✓	16.36	✓	16.36	✓	14.02								

Comments: _____

WELL MONITORING DATA SHEET

Project #: 18102	Site: JPL
Sampler: FT	Date: 10-24-18 / 10-25-18
Well I.D.: MW-5	Well Diameter: 2 3 ④ 6 8
Total Well Depth (TD):	Depth to Water (DTW): 133.15 / 133.50
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~~ ~~Waterra~~ ~~2" Redflo pump~~ ~~Extraction Pump~~ Other _____

Sampling Method: ~~Bailer~~ ~~Disposable Bailer~~ ~~Extraction Port~~ ~~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)	pH	Cond. (mS/cm or μS/cm)	Turbidity (NTUs)	D.O. (mg/L)	ORP(mV)	Gals. Removed	Observations
—	Grab	sample	taken	—	—	—	—	—
0745	65.9	7.20	453	275	1.73	75	—	

Did well dewater? Yes No Gallons actually evacuated: _____

Sampling Date: 10-25-18 Sampling Time: 0730-0745 Depth to Water: 133.50

Sample I.D.: MW-5 Laboratory: BC

Analyzed for: see cve Other: _____

EB I.D. (if applicable): _____ @ _____ Time Duplicate I.D. (if applicable): DUP-8-4Q18-0755

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 #: _____	Site: <u>JPL</u>
Sampler: <u>KT</u>	Date: <u>10-25-16</u>
Well I.D.: <u>MW-4</u>	Well Diameter: 2 3 <u>4</u> 6 8 _____
Total Well Depth (TD): <u>239.00</u>	Depth to Water (DTW): <u>DRY</u>
Depth to Free Product: <u>—</u>	Thickness of Free Product (feet): <u>—</u>
Referenced to: <u>PVD</u> Grade	Flow Cell Type YSI 556
DTW with 80% Recharge [(Height of Water Column x 0.20) + DTW]: <u>—</u>	

Purge Method: Bailer ~~Water~~ 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)	pH	Cond. (mS/cm or µS/cm)	Turbidity (NTUs)	D.O. (mg/L)	ORP(mV)	Gals. Removed	Observations
<u>—</u>	<u>well</u>	<u>is</u>	<u>dry</u>	<u>—</u>				
<u>—</u>	<u>NO SAMPLE TAKEN</u>							

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 #: _____	Site: <u>JPL</u>
Sampler: <u>KT</u>	Date: <u>10-25-18</u>
Well I.D.: <u>mw-7</u>	Well Diameter: 2 3 4 6 8 _____
Total Well Depth (TD): <u>267.35</u>	Depth to Water (DTW): <u>024</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>—</u>	

Purge Method: Bailer ~~Disposable Bailer~~ ~~Positive Air Displacement~~ Electric ~~Submersible~~ Wattera 2" Rediflo pump Extraction Pump Other _____

Sampling Method: Bailer ~~Disposable Bailer~~ Extraction Port 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)	pH	Cond. (mS/cm or μS/cm)	Turbidity (NTUs)	D.O. (mg/L)	ORP(mV)	Gals. Removed	Observations
—	<u>well is dry</u>							
—	<u>NO SAMPLE TAKEN</u>							

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 #: _____	Site: JPL
Sampler: KR	Date: 10-24-18 / 10-25-18
Well I.D.: MW-8	Well Diameter: 2 3 4 6 8 _____
Total Well Depth (TD): 205.00	Depth to Water (DTW): 198.20 / 198.22
Depth to Free Product: —	Thickness of Free Product (feet): —
Referenced to: POE Grade	Flow Cell Type YSI 556
DTW with 80% Recharge [(Height of Water Column x 0.20) + DTW]: —	

Purge Method: Bailer ~~Water~~ 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 ² * 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
GRAB SAMPLE TAKEN								
1005	65.0	7.08	625	298	4.31	105	—	

Did well dewater? Yes No Gallons actually evacuated: —

Sampling Date: 10-25-18 Sampling Time: 1005 Depth to Water: 198.22

Sample I.D.: MW-8 Laboratory: BC

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

WELL MONITORING DATA SHEET

Project #: _____	Site: <u>JPL</u>
Sampler: <u>KT</u>	Date: <u>10.24.10</u>
Well I.D.: <u>MW-9</u>	Well Diameter: 2 3 <u>4</u> 6 8 _____
Total Well Depth (TD): <u>60.00</u>	Depth to Water (DTW): <u>37.45</u>
Depth to Free Product: <u>—</u>	Thickness of Free Product (feet): <u>—</u>
Referenced to: <u>EVE</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 22.55 Disposable Bailer
 Positive Air Displacement Extraction Pump Extraction Port
 Electric Submersible Other _____ Dedicated Tubing

Other: _____

2 GPM start @ 1300

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

<u>14.6</u> (Gals.) X	<u>3</u> Specified Volumes	<u>=</u>	<u>43.9</u> Gals. Calculated Volume
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Time	Temp (°F)	pH	Cond. (mS/cm or <u>µS/cm</u>)	Turbidity (NTUs)	D.O. (mg/L)	ORP(mV)	Gals. Removed	Observations
<u>1304</u>	<u>60.5</u>	<u>6.93</u>	<u>634</u>	<u>6</u>	<u>0.30</u>	<u>107.</u>	<u>7.5</u>	<u>40.53</u>
<u>1308</u>	<u>60.4</u>	<u>6.94</u>	<u>633</u>	<u>5</u>	<u>0.27</u>	<u>108</u>	<u>15.0</u>	<u>40.53</u>
<u>1312</u>	<u>60.4</u>	<u>6.94</u>	<u>630</u>	<u>3</u>	<u>0.25</u>	<u>111</u>	<u>22.5</u>	<u>40.53</u>
<u>1316</u>	<u>60.4</u>	<u>6.95</u>	<u>629</u>	<u>3</u>	<u>0.22</u>	<u>112</u>	<u>30.0</u>	<u>40.53</u>
<u>1320</u>	<u>60.5</u>	<u>6.95</u>	<u>631</u>	<u>2</u>	<u>0.21</u>	<u>112</u>	<u>37.5</u>	<u>40.53</u>
<u>1324</u>	<u>60.5</u>	<u>6.95</u>	<u>629</u>	<u>2</u>	<u>0.20</u>	<u>110</u>	<u>45.0</u>	<u>40.53</u>

Did well dewater? Yes No Gallons actually evacuated: 45.0

Sampling Date: 10.24.10 Sampling Time: 1330 Depth to Water: 40.53

Sample I.D.: MW-9 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 #: _____	Site: <u>JPL</u>
Sampler: <u>KT</u>	Date: <u>10-24-18 / 10-25-18</u>
Well I.D.: <u>MW-10</u>	Well Diameter: 2 3 <u>4</u> 6 8 _____
Total Well Depth (TD): <u>155.00</u>	Depth to Water (DTW): <u>146.15 / 147.46</u>
Depth to Free Product: <u>—</u>	Thickness of Free Product (feet): <u>—</u>
Referenced to: <u>PVO</u> Grade	Flow Cell Type: <u>YSI 556</u>
DTW with 80% Recharge [(Height of Water Column x 0.20) + DTW]: <u>—</u>	

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
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Other:

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

_____ (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 SAMPLE TAKEN</u>
<u>0845</u>	<u>66.1</u>	<u>6.80</u>	<u>1089</u>	<u>130</u>	<u>3.82</u>	<u>112</u>	<u>—</u>	

Did well dewater? Yes No Gallons actually evacuated: —

Sampling Date: 10-25-18 Sampling Time: 0845 Depth to Water: 147.46

Sample I.D.: MW-10 Laboratory: BC

Analyzed for: See COC Other: _____

EB I.D. (if applicable): _____ @ _____ Time Duplicate I.D. (if applicable): DUP-7-4Q18 @ 0855

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-11
 SAMPLING DATE(S): 10/24/18
 LOCATION: JPL
 WATER LEVEL INSIDE CASING: 198.35
 ATM. PRESSURE (PSI): (Start) 14.07 (Finish) 14.09

PROBE TYPE: Westbay
 SERIAL NO.: EVS 2502
 PROJECT: JPL
 OPERATOR(S): J. Hoang
 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) mg/L	ORP (mv)	Sample Time	Sample ID
5	1	✓	✓	✓	✓	✓	207.67	✓	190.88	✓	190.88	✓	207.67	16.0	431	7.05	4	6.19	233	0800	MW-11-5
	2	✓	✓	✓	✓	✓	207.60	✓	190.84	✓	190.84	✓	207.60								
4	1	✓	✓	✓	✓	✓	158.92	✓	156.76	✓	156.76	✓	158.92	19.7	267	7.06	3	6.35	-15	0845	MW-11-4
3	1	✓	✓	✓	✓	✓	117.96	✓	113.04	✓	113.04	✓	117.96	19.9	407	7.26	3	6.14	159	0920	MW-11-3
2	1	✓	✓	✓	✓	✓	44.07	✓	42.72	✓	42.72	✓	44.07	20.5	470	7.34	2	5.85	74	0950	MW-11-2
1	1	✓	✓	✓	✓	✓	14.05	✓	19.70	✓	19.70	✓	14.05	21.7	643	7.40	2	6.57	174	1030	MW-11-1
	2	✓	✓	✓	✓	✓	14.05	✓	19.68	✓	19.68	✓	14.05								

Comments: TB-7-102418 @ 0700

WESTBAY™ GROUNDWATER MONITORING WELL
FIELD DATA LOG SHEET

WELL ID: MU-12
 SAMPLING DATE(S) 10/25/18
 LOCATION: JPL
 WATER LEVEL INSIDE CASING: 159.56
 ATM. PRESSURE (PSI): (Start) 14.10 (Finish) 14.11

PROBE TYPE Westbay
 SERIAL NO. 12MS2502
 PROJECT: JPL
 OPERATOR(S) T. Hoenig
 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) mg/L	ORP (mv)	Sample Time	Sample ID
5	1	✓	✓	✓	✓	✓	188.21	✓	168.30	✓	168.30	✓	188.21	17.3	585	6.16	3	6.05	189	0745	MW-12-5
	2	✓	✓	✓	✓	✓	188.20	✓	168.29	✓	168.29	✓	188.20								
4	1	✓	✓	✓	✓	✓	139.42	✓	128.11	✓	128.11	✓	139.42	17.1	505	6.50	2	6.33	265	0835	MW-12-4
3	1	✓	✓	✓	✓	✓	90.23	✓	80.03	✓	80.03	✓	90.23	17.4	431	7.45	5	6.49	170	0930	MW-12-3
2	1	✓	✓	✓	✓	✓	55.23	✓	46.10	✓	46.10	✓	55.23	17.7	553	7.33	2	6.26	189	0950	MW-12-2
1	1	✓	✓	✓	✓	✓	14.16	✓	14.10	✓	14.10	✓	14.16	-Port is Dry - No Sample Taken-							

Comments: FB-S-102518 @ 1015

WELL MONITORING DATA SHEET

Project #: 18/012-HH1	Site: JPL
Sampler: HH	Date: 10/25/18
Well I.D.: MW-13	Well Diameter: 2 3 4 6 8
Total Well Depth (TD): —	Depth to Water (DTW): —
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 ² * 0.163

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

Time	Temp (°F)	pH	Cond. (mS/cm or μS/cm)	Turbidity (NTUs)	D.O. (mg/L)	ORP(mV)	Gals. Removed	Observations
—Unable to access due to construction—								
—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): 10/16/18
 LOCATION: Panola, GA
 WATER LEVEL INSIDE CASING: 142.53
 ATM. PRESSURE (PSI): (Start) 14.08 (Finish) 14.10

PROBE TYPE: Westbay
 SERIAL NO.: EMS2502
 PROJECT: JPL
 OPERATOR(S): T. Hickey
 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 (mg/L)	ORP (mv)	Sample Time	Sample ID
5	1	✓	✓	✓	✓	✓	170.32	✓	152.04	✓	152.04	✓	170.32	15.8	417	6.60	2	9.05	262	0735	MW-14-5
4	1	✓	✓	✓	✓	✓	133.67	✓	115.65	✓	115.65	✓	133.67	17.7	724	6.94	1	8.06	268	0815	MW-14-4
	2	✓	✓	✓	✓	✓	133.63	✓	115.63	✓	115.63	✓	133.63								
3	1	✓	✓	✓	✓	✓	101.17	✓	83.54	✓	83.54	✓	101.17	18.9	1152	6.97	1	7.51	249	0900	MW-14-3
2	1	✓	✓	✓	✓	✓	55.73	✓	37.73	✓	37.73	✓	55.73	20.5	1233	7.26	5	7.10	241	0920	MW-14-2
1	1	✓	✓	✓	✓	✓	21.53	✓	14.11	✓	14.11	✓	21.53	-Port is Dry - No Sample Taken							

Comments: FB-2-101618 @ 0700

ms/ms11 @ MW-14-4

WELL MONITORING DATA SHEET

Project #: _____	Site: <u>JPL</u>
Sampler: <u>VT</u>	Date: <u>10-24-10</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> ^{RED. PUMP.}	Depth to Water (DTW): <u>48.30</u>
Depth to Free Product: <u>—</u>	Thickness of Free Product (feet): <u>—</u>
Referenced to: <u>RVC</u> Grade	Flow Cell Type <u>\</u> 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 ^{RED.} 2" Rediflo pump Extraction Pump Other _____	Sampling Method: Bailer Disposable Bailer Extraction Port Dedicated Tubing Other: _____
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20pm

<u>7.6</u> (Gals.) X	<u>3</u>	<u>=</u>	<u>22.8</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 ² * 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
1047	<u>63.9</u>	<u>6.89</u>	<u>643</u>	<u>11</u>	<u>1.24</u>	<u>130</u>	<u>4</u>	<u>48.84</u>
1049	<u>63.5</u>	<u>6.89</u>	<u>640</u>	<u>9</u>	<u>1.22</u>	<u>131</u>	<u>8</u>	<u>48.84</u>
1051	<u>62.9</u>	<u>6.91</u>	<u>656</u>	<u>7</u>	<u>1.21</u>	<u>128</u>	<u>12</u>	<u>48.84</u>
1053	<u>62.0</u>	<u>6.92</u>	<u>654</u>	<u>6</u>	<u>1.19</u>	<u>125</u>	<u>16</u>	<u>48.84</u>
1055	<u>62.7</u>	<u>6.93</u>	<u>653</u>	<u>5</u>	<u>1.20</u>	<u>124</u>	<u>20</u>	<u>48.84</u>
1057	<u>62.6</u>	<u>6.93</u>	<u>654</u>	<u>5</u>	<u>1.21</u>	<u>122</u>	<u>24</u>	<u>48.84</u>

Did well dewater? Yes No Gallons actually evacuated: 24

Sampling Date: 10-24-10 Sampling Time: 1059 Depth to Water: 48.84

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

Analyzed for: SFE 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

WELL MONITORING DATA SHEET

Project #: 181012-HH1	Site: JPL
Sampler: AH	Date: 10/23/18
Well I.D.: MW-16	Well Diameter: 2 3 ④ 6 8
Total Well Depth (TD): 284.51	Depth to Water (DTW): 284.60
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 ² * 0.163

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

Time	Temp (°F)	pH	Cond. (mS/cm or μS/cm)	Turbidity (NTUs)	D.O. (mg/L)	ORP(mV)	Gals. Removed	Observations
— Insufficient water to Purge or Sample —								
— 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 #: _____	Site: <u>JPL</u>
Sampler: <u>KIT</u>	Date: <u>10-24-18</u>
Well I.D.: <u>MW-16</u>	Well Diameter: 2 3 <u>4</u> 6 8 _____
Total Well Depth (TD): <u>284.61</u>	Depth to Water (DTW): <u>284.60</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>—</u>	

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: _____
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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

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

Time	Temp (°F)	pH	Cond. (mS/cm or μS/cm)	Turbidity (NTUs)	D.O. (mg/L)	ORP(mV)	Gals. Removed	Observations
—	Insuff	—	WATER IN	—	well	—		
—	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-17
 SAMPLING DATE(S): 10/17/18
 LOCATION: El Nido
 WATER LEVEL INSIDE CASING: 208.25
 ATM. PRESSURE (PSI): (Start) 14.06 (Finish) 14.10

PROBE TYPE: Westbay
 SERIAL NO.: EM52502
 PROJECT: JPL
 OPERATOR(S): T. Hoang
 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) mg/L	ORP (mv)	Sample Time	Sample ID
5	1	✓	✓	✓	✓	✓	241.10	✓	205.50	✓	205.50	✓	241.10	19.5	669	7.62	4	6.33	187	135	MW-17-5
4	1	✓	✓	✓	✓	✓	178.54	✓	143.25	✓	143.25	✓	178.54	20.2	745	7.79	4	6.75	200	1210	MW-17-4
3	1	✓	✓	✓	✓	✓	129.33	✓	99.39	✓	99.39	✓	129.33	20.4	886	7.81	2	7.39	209	1235	MW-17-3
2	1	✓	✓	✓	✓	✓	86.72	✓	59.52	✓	59.52	✓	86.72	21.4	642	7.82	1	7.66	112	1315	MW-17-2
	2	✓	✓	✓	✓	✓	86.66	✓	59.47	✓	59.47	✓	86.66								
1	1	✓	✓	✓	✓	✓	34.46	✓	14.26	✓	14.26	✓	34.46	-Port is dry - No Sample Taken					1350	MW-17-1	

Comments: pup-3-4618 @ MW-17-2 @ 1325

FB-3-101718 @ 1330

WESTBAY™ GROUNDWATER MONITORING WELL
FIELD DATA LOG SHEET

WELL ID: MW-18
 SAMPLING DATE(S) 10/22/18
 LOCATION: Altadena & Elencita
 WATER LEVEL INSIDE CASING: 293.92
 ATM. PRESSURE (PSI): (Start) 14.02 (Finish) 14.04

PROBE TYPE Clear Hyp
 SERIAL NO. EMS 2502
 PROJECT: JPL
 OPERATOR(S) T. Hooley
 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) mg/L	ORP (mv)	Sample Time	Sample ID	
5	1	✓	✓	✓	✓	✓	188.45	✓	169.77	✓	169.77	✓	188.45	16.8	284	7.29	2	7.10	15	0750	MW-18-5	
4	1	✓	✓	✓	✓	✓	136.36	✓	121.15	✓	121.15	✓	136.36	16.9	418	7.21	9	6.83	218	0815	MW-18-4	
3	1	✓	✓	✓	✓	✓	75.16	✓	60.57	✓	60.57	✓	75.16	16.2	518	6.83	3	6.64	228	0845	MW-18-3	
2	1	✓	✓	✓	✓	✓	34.30	✓	28.08	✓	28.08	✓	34.30	17.1	503	7.15	3	6.85	210	0920	MW-18-2	
1	1	✓	✓	✓	✓	✓	14.15	✓	14.14	✓	14.14	✓	14.15	-Port is dry - No Sample Taken								

Comments: TB-5-102218 @ 0700

WESTBAY™ GROUNDWATER MONITORING WELL
FIELD DATA LOG SHEET

WELL ID: MW-19
 SAMPLING DATE(S): 10/15/18
 LOCATION: Water Plant
 WATER LEVEL INSIDE CASING: 140.21
 ATM. PRESSURE (PSI): (Start) 14.07 (Finish) 14.09

PROBE TYPE: Urs Hum
 SERIAL NO.: EMS 2502
 PROJECT: JPL
 OPERATOR(S): T. Hoang
 WEATHER: Clear / Windy

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) <i>mg/L</i>	ORP (mv)	Sample Time	Sample ID
5	1	✓	✓	✓	✓	✓	171.17	✓	131.46	✓	131.46	✓	171.17	20.4	626	7.78	4	6.41	88	1145	MW-19-5	
	2	✓	✓	✓	✓	✓	171.13	✓	131.44	✓	131.44	✓	171.13									
4	1	✓	✓	✓	✓	✓	147.71	✓	108.21	✓	108.21	✓	147.71	23.0	662	8.02	3	6.75	75	1250	MW-19-4	
	2	✓	✓	✓	✓	✓	147.70	✓	108.19	✓	108.19	✓	147.70									
3	1	✓	✓	✓	✓	✓	124.63	✓	91.53	✓	91.53	✓	124.63	21.3	196	7.89	3	7.04	56	1345	MW-19-3	
2	1	✓	✓	✓	✓	✓	91.39	✓	57.93	✓	57.93	✓	91.39	20.5	1145	7.75	12	7.11	75	1410	MW-19-2	
1	1	✓	✓	✓	✓	✓	60.06	✓	27.63	✓	27.63	✓	60.06	20.9	660	8.07	3	6.85	101	1445	MW-19-1	

Comments: dup-1-4&18@mw-19-5 @ 1155
EB-1-10/5/18 @ 1310 SB-1-10/5/18 @ 1315

WESTBAY™ GROUNDWATER MONITORING WELL
FIELD DATA LOG SHEET

WELL ID: MW-20
 SAMPLING DATE(S): 10/11/18
 LOCATION: Church Parking Lot
 WATER LEVEL INSIDE CASING: 240.10
 ATM. PRESSURE (PSI): (Start) 14.09 (Finish) 14.07

PROBE TYPE: Westbay
 SERIAL NO.: EM57502
 PROJECT: JPL
 OPERATOR(S): T. Hoang
 WEATHER: Clear/Windy

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	✓	✓	✓	✓	✓	305.89	✓	299.53	✓	299.53	✓	305.89	16.4	307	7.54	7	6.05	-10	0800	MW-20-5
4	1	✓	✓	✓	✓	✓	219.05	✓	201.19	✓	201.19	✓	219.05	18.7	315	8.22	3	6.54	-92	0840	MW-20-4
3	1	✓	✓	✓	✓	✓	158.68	✓	146.10	✓	146.10	✓	158.68	20.2	340	8.59	3	6.01	-120	0915	MW-20-3
	2	✓	✓	✓	✓	✓	158.66	✓	146.07	✓	146.07	✓	158.66							1015	MW-20-2
2	1	✓	✓	✓	✓	✓	84.71	✓	76.27	✓	76.27	✓	84.71	20.1	615	8.23	2	7.05	111	1015	MW-20-2
1	1	✓	✓	✓	✓	✓	14.13	✓	14.12	✓	14.12	✓	14.13	-Port is Dry - No Sample Taken -						MW-20-1	

Comments: MS/MSD @ MW-20-3
TB-1-10/5/18 @ 0700

WESTBAY™ GROUNDWATER MONITORING WELL
FIELD DATA LOG SHEET

WELL ID: MW-21
 SAMPLING DATE(S): 10/22/18
 LOCATION: Hakamona Park
 WATER LEVEL INSIDE CASING: 115.67
 ATM. PRESSURE (PSI): (Start) 17.04 (Finish) 17.06

PROBE TYPE: Wetter
 SERIAL NO.: EMS2502
 PROJECT: JPL
 OPERATOR(S): T. Hoag
 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) mg/L	ORP (mv)
5	1	✓	✓	✓	✓	✓	130.16	✓125.83	✓125.83	✓	130.16	18.2	784	7.50	3	6.75	224	1040	MW-21-5
4	1	✓	✓	✓	✓	✓	103.34	✓98.97	✓98.97	✓	103.34	18.9	992	7.49	2	7.06	230	1100	MW-21-4
3	1	✓	✓	✓	✓	✓	73.56	✓69.13	✓69.13	✓	73.56	21.0	1247	7.52	2	7.35	231	1120	MW-21-3
2	1	✓	✓	✓	✓	✓	39.09	✓34.99	✓34.99	✓	39.09	21.5	1410	7.56	3	6.85	223	1200	MW-21-2
	2	✓	✓	✓	✓	✓	39.10	✓35.01	✓35.01	✓	39.10								
1	1	✓	✓	✓	✓	✓	14.12	✓14.12	✓14.12	✓	14.12	Port is Dry - No Sample Taken							

Comments: PUP-4-4Q18 @ MW-21-2 @ 1210

EB-5-102218 @ 1220

SB-2-102218 @ 1230

WESTBAY™ GROUNDWATER MONITORING WELL
FIELD DATA LOG SHEET

WELL ID: MW-22
 SAMPLING DATE(S): 12/18/18
 LOCATION: JPL
 WATER LEVEL INSIDE CASING: 230.76
 ATM. PRESSURE (PSI): (Start) 14.01 (Finish) 14.03

PROBE TYPE: Westbay
 SERIAL NO.: EMS2502
 PROJECT: JPL
 OPERATOR(S): T. Hoxey
 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) mg/L	ORP (mv)	Sample Time	Sample ID
5	1	✓	✓	✓	✓	✓	173.54	✓	163.47	✓	163.47	✓	173.54	17.7	441	7.02	4	7.10	-36	0745	MW-22-5
4	1	✓	✓	✓	✓	✓	121.14	✓	112.95	✓	112.95	✓	121.14	18.3	393	6.89	2	6.54	179	0815	MW-22-4
3	1	✓	✓	✓	✓	✓	87.16	✓	81.85	✓	81.85	✓	87.16	18.4	453	6.88	2	7.39	214	0840	MW-22-3
2	1	✓	✓	✓	✓	✓	61.26	✓	55.74	✓	55.74	✓	61.26	18.5	617	7.04	3	6.77	222	0910	MW-22-2
1	1	✓	✓	✓	✓	✓	24.24	✓	19.57	✓	19.57	✓	24.24	19.0	122	37.11	3	6.65	243	0940	MW-22-1
	2	✓	✓	✓	✓	✓	24.20	✓	19.58	✓	19.58	✓	24.20								

Comments: _____

WESTBAY™ GROUNDWATER MONITORING WELL
FIELD DATA LOG SHEET

WELL ID: MW-23
 SAMPLING DATE(S): 10/23/18
 LOCATION: JPL
 WATER LEVEL INSIDE CASING: 140.15
 ATM. PRESSURE (PSI): (Start) 14.06 (Finish) 14.08

PROBE TYPE: Westby
 SERIAL NO.: FMS2502
 PROJECT: JPL
 OPERATOR(S): T. Hoag
 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
5	1	✓	✓	✓	✓	✓	190.50	✓	172.25	✓	172.25	✓	190.50	18.3	90	7.64	2	MSL 6.11	-26	0730	MW-23-5
4	1	✓	✓	✓	✓	✓	148.41	✓	130.30	✓	130.30	✓	148.41	17.4	400	6.90	2	7.10	194	0750	mw-23-4
3	1	✓	✓	✓	✓	✓	93.75	✓	79.04	✓	79.04	✓	93.75	16.1	521	6.78	1	7.35	217	0815	MW-23-3
	2	✓	✓	✓	✓	✓	93.73	✓	79.02	✓	79.02	✓	93.73								
2	1	✓	✓	✓	✓	✓	65.59	✓	50.90	✓	50.90	✓	65.59	18.5	1148	6.89	2	7.04	227	0930	MW-23-2
1	1	✓	✓	✓	✓	✓	30.80	✓	17.36	✓	17.36	✓	30.80	22.1	1223	7.06	3	6.70	182	1000	MW-23-1
		✓	✓	✓	✓	✓	30.75	✓	17.31	✓	17.31	✓	30.75								

Comments: TB-6-102718 @ 0700
DUP-5-4&18 @ MW-23-3 @ 0825

WESTBAY™ GROUNDWATER MONITORING WELL
FIELD DATA LOG SHEET

WELL ID: ~~MMW-22~~ ^{MMW} MW-24
 SAMPLING DATE(S) 10/18/18
 LOCATION: JPL
 WATER LEVEL INSIDE CASING: 22.44
 ATM. PRESSURE (PSI): (Start) 14.11 (Finish) 14.13

PROBE TYPE Westbay
 SERIAL NO. EMS 8502
 PROJECT: JPL
 OPERATOR(S) T. Hoxey
 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) mg/L	ORP (mv)	Sample Time	Sample ID				
4	1	✓	✓	✓	✓	✓	111.07	✓	163.96	✓	137.17	✓	137.17	✓	163.96	24.3	235	7.72	4	583	-90	1200	MW-24-5		
4	1	✓	✓	✓	✓	✓	163.96	✓	137.17	✓	137.17	✓	163.96	24.3	235	7.72	4	583	-90	1200	MW-24-4				
5	1	✓	✓	✓	✓	✓	217.26	✓	187.62	✓	187.62	✓	217.26	23.5	404	7.94	3	6.36	140	1230	MW-24-5				
	2	✓	✓	✓	✓	✓	217.23	✓	187.60	✓	187.60	✓	217.23												
3	1	✓	✓	✓	✓	✓	112.16	✓	88.54	✓	88.54	✓	112.16	24.0	383	8.22	2	6.73	-110	1315	MW-24-3				
2	1	✓	✓	✓	✓	✓	85.16	✓	61.90	✓	61.90	✓	85.16	24.1	604	8.04	2	6.15	117	1335	MW-24-2				
1	1	✓	✓	✓	✓	✓	44.91	✓	22.99	✓	22.99	✓	44.91	23.9	757	7.97	2	6.40	120	1415	MW-24-1				
	2	✓	✓	✓	✓	✓	44.63	✓	22.95	✓	22.95	✓	44.63												

Comments: EB-4-101818 @ 1100

WESTBAY™ GROUNDWATER MONITORING WELL
FIELD DATA LOG SHEET

WELL ID: MW-25
 SAMPLING DATE(S) 10/16/18
 LOCATION: City Yard
 WATER LEVEL INSIDE CASING: 245.41
 ATM. PRESSURE (PSI): (Start) 14.22 (Finish) 14.23

PROBE TYPE Worthy
 SERIAL NO. EMS 2502
 PROJECT: JPL
 OPERATOR(S) T. Hocus
 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 (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) mg/L	ORP (mv)	Sample Time	Sample ID
5	1	✓	✓	✓	✓	✓	221.84	✓	211.47	✓	211.47	✓	221.84	21.6	416	8.05	2	6.73	-89	1100	MW-25-5
4	1	✓	✓	✓	✓	✓	187.21	✓	178.34	✓	178.34	✓	187.21	20.6	784	8.06	1	6.81	114	1135	MW-25-4
3	1	✓	✓	✓	✓	✓	130.97	✓	122.93	✓	122.93	✓	130.97	21.5	741	7.95	2	7.03	139	1215	MW-25-3
	2	✓	✓	✓	✓	✓	130.95	✓	122.91	✓	122.91	✓	130.95								
2	1	✓	✓	✓	✓	✓	96.21	✓	88.45	✓	88.45	✓	96.21	21.3	729	7.91	3	6.65	156	1300	MW-25-2
1	1	✓	✓	✓	✓	✓	67.84	✓	60.13	✓	60.13	✓	67.84	21.6	907	7.90	2	6.85	155	1330	MW-25-1

Comments: FB-2-101618@1225

WESTBAY™ GROUNDWATER MONITORING WELL
FIELD DATA LOG SHEET

WELL ID: MW-26
 SAMPLING DATE(S) 10/24/18
 LOCATION: JPL
 WATER LEVEL INSIDE CASING: 66.20
 ATM. PRESSURE (PSI): (Start) 14.13 (Finish) 14.15

PROBE TYPE Westbay
 SERIAL NO. IMS 2502
 PROJECT: JPL
 OPERATOR(S) T. Hoan
 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) mg/L	ORP (mv)	Sample Time	Sample ID
2	1	✓	✓	✓	✓	✓	82.02	✓	51.21	✓	51.21	✓	82.02	25.1	809	7.50	5	7.09	182	1200	MW-26-2
	2	✓	✓	✓	✓	✓	81.99	✓	51.18	✓	51.18	✓	81.99								
1	1	✓	✓	✓	✓	✓	47.58	✓	17.16	✓	17.16	✓	47.58	23.3	886	7.14	3	6.45	141	1250	MW-26-1
	2	✓	✓	✓	✓	✓	47.52	✓	17.13	✓	17.13	✓	47.52								

Comments: DUP-6-102418 @ MW-26-2 @ 1210

FB-2-102418 @ 1220