

ATTACHMENT 5: WATER LEVEL MEASUREMENTS

This attachment contains water level measurements for the JPL relatively shallow standpipe monitoring wells (i.e., MW-1, MW-5 through MW-10, MW-13, MW-15, and MW-16) and the Westbay™ multiport wells (i.e., MW-3, MW-4, MW-11, MW-12, MW-14, and MW-17 through MW-26) obtained during the second quarter 2022. Water level measurements were recorded before and after the sampling event on April 22, 2022, and May 9, 2022, respectively. Monitoring wells MW-17, MW-18, MW-20, MW-22, MW-25, and MW-26 were not accessible during the collection of pre-sampling groundwater elevations. Therefore, the groundwater elevations collected prior to sampling on May 4 for MW-17, May 3 for MW-18 and MW-20, April 29 for MW-22, May 2 for MW-25, and April 29 for MW-26, were used for groundwater elevation contouring. Water levels for the shallow wells were measured using a Solinst™ water level meter. In the deep multiport wells, the hydraulic head at each sampling port was measured with a Westbay™ MOSDAX sampling probe. Water level measurements were conducted by Blaine Tech Services, Inc.

Note: During the second quarter 2022 water level measurements could not be obtained from MW-12 due to an issue with the multi-port (MP) casing which was later determined to be a disconnected MP-38 casing joint.

WELL GAUGING DATA

Project # 220422-HH Date 04/22/22 Client Tidewater

Site JPL, Pasadena, CA

Well ID	Time	Well Size (in.)	Sheen / Odor	Depth to Immiscible Liquid (ft.)	Thickness of Immiscible Liquid (ft.)	Volume of Immiscibles Removed (ml)	Depth to water (ft.)	Depth to well bottom (ft.)	Survey Point: TOB or <u>TOC</u>	Notes
MW-1	14:35	4					29.30	Ded Pump	↓	
MW-5	1042	4				130.13	Ded pump			
MW-6	1220	4				DRY	237.59			
MW-7	1340	4				DRY	284.20			
MW-8	0947	4				195.11	202.12			
MW-9	14:40	4				19.10	Ded Pump			
MW-10	1115	4				150.73	153.40			
MW-13	1202	4				DRY	234.34			
MW-15	0954	4				30.80	Ded pump			
MW-16	1515	4				283.90	284.71	✓		

**WESTBAY™ GROUNDWATER MONITORING WELL
WATER LEVEL MEASUREMENT LOG SHEET**

WELL ID: MW-3
 DATE: 09/22/22
 LOCATION: JPL
 ELEV. TOP OF WESTBAY CASING _____
 WEATHER: Clear
DTW - 183.30'

PROBE TYPE Westbay
 SERIAL NO. EMS 2502
 PROJECT JPL
 OPERATOR(S) T. Haug
 ATM. PRESSURE (Patm): (start) 14.05 (finish) 14.04
22.05 C 18.83 C

Port No.	Depth to Meas. Port Valve (ft)		Pressure Readings (psi)				Pressure Head Outside Port (ft) P(ft)=(P2-Patm)*2.307 ft/psi	Depth to Water Outside Port (ft) DTW = Dp-P(ft)	True Port Depth (Dp) (ft)	Time
	From Log (Dp)	From Cable	psi Inside Casing	kg/cm ² Outside Casing P2	mH ² O Inside Casing	Trans. Temp. (oC)				
5	653	649	218.97	220.97	218.97	21.32			1424	
4	558	555	177.68	180.37	177.68	21.10			1926	
3	346	343	85.43	88.64	85.43	20.50			1428	
2	252	249	44.58	48.03	44.58	19.92			1430	
1	172	168	14.15	21.68	14.15	19.28			1432	

Comments: Collar detect is 2' above sample port

**WESTBAY™ GROUNDWATER MONITORING WELL
WATER LEVEL MEASUREMENT LOG SHEET**

WELL ID: mw-4
 DATE: 09/22/22
 LOCATION: JPL
 ELEV. TOP OF WESTBAY CASING _____
 WEATHER: Clear
PTW - 172.05

PROBE TYPE Westbay
 SERIAL NO. EMS 4700
 PROJECT JPL
 OPERATOR(S) T. Hoan
 ATM. PRESSURE (Patm): (start) 14.04 (finish) 14.09
19.78 °C 19.63 °C

Port No.	Depth to Meas. Port Valve (ft)		Pressure Readings (psi)				Pressure Head Outside Port (ft) P(ft)=(P2-Patm)*2.307 ft/psi)	Depth to Water Outside Port (ft) DTW = Dp-P(ft)	True Port Depth (Dp) (ft)	Time
	From Log (Dp)	From Cable	psi Inside Casing	kg/cm ² Outside Casing P2	mH ² O Inside Casing	Trans. Temp. (oC)				
5	513	511	162.95	169.32	162.95	20.00				
4	390.2	388	110.28	117.09	110.28	20.53				1026
3	320	318	79.76	86.95	79.76	20.65				1028
2	238	236	44.01	52.08	44.01	20.61				1030
1	148	146	14.18	20.66	14.18	20.16				1032
										1034

Comments: Collar detect is 2' above sample port

**WESTBAY™ GROUNDWATER MONITORING WELL
WATER LEVEL MEASUREMENT LOG SHEET**

WELL ID: MW-11
 DATE: 04/22/22
 LOCATION: JPL
 ELEV. TOP OF WESTBAY CASING _____
 WEATHER: Clear
 DTW - 203.85

PROBE TYPE Weatherly
 SERIAL NO. EMS 2502
 PROJECT JPL
 OPERATOR(S) T. Hoenig
 ATM. PRESSURE (Patm): (start) 14.05 (finish) 14.09
22.63°C 20.62°C

Port No.	Depth to Meas. Port Valve (ft)		Pressure Readings (psi)				Pressure Head Outside Port (ft) P(ft)=(P2-Patm)*2.307 ft/psi)	Depth to Water Outside Port (ft) DTW = Dp-P(ft)	True Port Depth (Dp) (ft)	Time
	From Log (Dp)	From Cable	psi Inside Casing	kg/cm ² Outside Casing P2	mH ₂ O Inside Casing	Trans. Temp. (°C)				
5	639	636	202.26	179.81	202.26	22.56				1142
4	524	522	152.78	152.97	152.78	22.58				1144
3	429	426	111.89	111.07	111.89	21.97				1146
2	259	256	38.27	43.27	38.27	21.33				1149
1	149	147	14.13	23.01	14.13	20.68				1151

Comments: Collar defect is 6" above sample port

**WESTBAY™ GROUNDWATER MONITORING WELL
WATER LEVEL MEASUREMENT LOG SHEET**

WELL ID: MW-12
 DATE: 04/22/22
 LOCATION: JPL
 ELEV. TOP OF WESTBAY CASING _____
 WEATHER: Clear
 DTW - ~~123.36~~ 53.35'

PROBE TYPE Westbay
 SERIAL NO. EMS 470 2502
 PROJECT JPL
 OPERATOR(S) T. Hoan
 ATM. PRESSURE (Patm): (start) _____ (finish) _____

Port No.	Depth to Meas. Port Valve (ft)		Pressure Readings (psi)				Pressure Head Outside Port (ft) P(ft)=(P2-Patm)*2.307 ft/psi	Depth to Water Outside Port (ft) DTW = Dp-P(ft)	True Port Depth (Dp) (ft)	Time
	From Log (Dp)	From Cable	psi Inside Casing	kg/cm ² Outside Casing P2	mH ₂ O Inside Casing	Trans. Temp. (oC)				
5	548		-Obstruction @ 123'							
4	436									
3	323		-Unable to Profile/Sample -							
2	243									
1	140									

Comments: Collar detect is 6" above port

Obstruction @ 123' - unable to profile

**WESTBAY™ GROUNDWATER MONITORING WELL
WATER LEVEL MEASUREMENT LOG SHEET**

WELL ID: MW-14
 DATE: 04/22/22
 LOCATION: JPL
 ELEV. TOP OF WESTBAY CASING _____
 WEATHER: Cloudy
 DTW-198.87

PROBE TYPE Westbay
 SERIAL NO. EMS2502
 PROJECT JPL
 OPERATOR(S) T. Hoan
 ATM. PRESSURE (Patm): (start) 74.02 (finish) 74.04
24.90°C 20.59°C

Port No.	Depth to Meas. Port Valve (ft)		Pressure Readings (psi)				Pressure Head Outside Port (ft) P(ft)=(P2-Patm)*2.307 ft/psi	Depth to Water Outside Port (ft) DTW = Dp-P(ft)	True Port Depth (Dp) (ft)	Time
	From Log (Dp)	From Cable	psi Inside Casing	kg/cm ² Outside Casing P2	mH ₂ O Inside Casing	Trans. Temp. (oC)				
5	540	538	163.23	149.08	163.23	23.60			1234	
4	456	455	126.55	112.86	126.55	22.86			1236	
3	382	380	126.55 94.51	80.77	126.55 94.51	22.29			1238	
2	277	275	48.79	35.14	48.79	21.52			1240	
1	207	205	18.26	14.19	18.26	21.01			1242	

Comments: collar detect is 6' above sample port

**WESTBAY™ GROUNDWATER MONITORING WELL
WATER LEVEL MEASUREMENT LOG SHEET**

WELL ID: MW-17
 DATE: 5/9/22
 LOCATION: JPL
 ELEV. TOP OF WESTBAY CASING _____
 WEATHER: Sunny / Clear
DTW - 211.22

PROBE TYPE Westbay
 SERIAL NO. EMS 2502
 PROJECT JPL
 OPERATOR(S) T. Hoang
 ATM. PRESSURE (Patm): (start) 14.04 (finish) 14.03

Port No.	Depth to Meas. Port Valve (ft)		Pressure Readings (psi)				Pressure Head Outside Port (ft) P(ft)=(P2-Patm)*2.307 ft/psi	Depth to Water Outside Port (ft) DTW = Dp-P(ft)	True Port Depth (Dp) (ft)	Time
	From Log (Dp)	From Cable	psi Inside Casing	kg/cm ² Outside Casing P2	mH ₂ O Inside Casing	Trans. Temp. (oC)				
5	226	725	228.05	189.44	238.05	19.96				
4	382	381	175.69	129.46	175.69	20.07			0731	
3	468	468	126.21	96.58	126.21	19.43			0734	
2	370	369	83.65	58.18	83.65	18.70			0736	
1	250	250	31.43	18.53	31.43	17.96			0738	
									0740	

Comments: Collar detect is 6" above sample port

**WESTBAY™ GROUNDWATER MONITORING WELL
WATER LEVEL MEASUREMENT LOG SHEET**

WELL ID: Mw-18
 DATE: 5/3/22
 LOCATION: JPL
 ELEV. TOP OF WESTBAY CASING _____
 WEATHER: Cloudy
DTW = 296.53

PROBE TYPE Westbay
 SERIAL NO. EMS 2502
 PROJECT JPL
 OPERATOR(S) _____
 ATM. PRESSURE (Patm): (start) 14.01 (finish) 14.08

Port No.	Depth to Meas. Port Valve (ft)		Pressure Readings (psi)				Pressure Head Outside Port (ft) P(ft)=(P2-Patm)*2.307 ft/psi	Depth to Water Outside Port (ft) DTW = Dp-P(ft)	True Port Depth (Dp) (ft)	Time
	From Log (Dp)	From Cable	psi Inside Casing	kg/cm ² Outside Casing P2	mH ₂ O Inside Casing	Trans. Temp. (oC)				
5	684	682	183.39	163.53	183.39	20.16				
4	564	562	131.17	115.68	131.17	20.60			0940	
3	424	423	70.19	66.34	70.19	19.63			0945	
2	330	329	29.18	28.17	29.18	18.91			0947	
1	270	270	14.14	14.13	14.14	18.15			0950	
									0953	

Comments: 6" above Sample port

**WESTBAY™ GROUNDWATER MONITORING WELL
WATER LEVEL MEASUREMENT LOG SHEET**

WELL ID: MW-19
 DATE: 04/22/22
 LOCATION: JPL
 ELEV. TOP OF WESTBAY CASING _____
 WEATHER: Cloudy
DTW-143.12

PROBE TYPE Wes Tech
 SERIAL NO. EMS 2502
 PROJECT JPL
 OPERATOR(S) T. Hoan
 ATM. PRESSURE (Patm): (start) 14.03 (finish) 14.05
19.67°C 19.60°C

Port No.	Depth to Meas. Port Valve (ft)		Pressure Readings (psi)				Pressure Head Outside Port (ft) P(ft)=(P2-Patm)*2.307 ft/psi	Depth to Water Outside Port (ft) DTW = Dp-P(ft)	True Port Depth (Dp) (ft)	Time
	From Log (Dp)	From Cable	psi Inside Casing	kg/cm ² Outside Casing P2	mH ₂ O Inside Casing	Trans. Temp. (oC)				
5	498	494	168.05	118.24	168.05	19.56			1343	
4	444	440	144.68	95.04	144.68	19.62			1345	
3	392	389	122.97	87.57	122.97	19.75			1347	
2	314	312	88.18	54.21	88.18	19.67			1349	
1	242	240	57.01	24.71	57.01	19.53			1351	

Comments: Collar Defect is 6" above sample port

**WESTBAY™ GROUNDWATER MONITORING WELL
WATER LEVEL MEASUREMENT LOG SHEET**

WELL ID: MAW-20
 DATE: 05/03/22
 LOCATION: JPL
 ELEV. TOP OF WESTBAY CASING _____
 WEATHER: Clear
DTW - 248.74

PROBE TYPE Westbay
 SERIAL NO. EMS2502
 PROJECT JPL
 OPERATOR(S) T. Hoan
 ATM. PRESSURE (Patm): (start) 14.04 (finish) 14.03

Port No.	Depth to Meas. Port Valve (ft)		Pressure Readings (psi)				Pressure Head Outside Port (ft) P(ft)=(P2-Patm)*2.307 ft/psi	Depth to Water Outside Port (ft) DTW = Dp-P(ft)	True Port Depth (Dp) (ft)	Time
	From Log (Dp)	From Cable	psi Inside Casing	kg/cm ² Outside Casing P2	mH ₂ O Inside Casing	Trans. Temp. (oC)				
5	900	897	298.22	295.54	298.22	21.58				1409
4	700	697	211.21	199.49	211.21	22.18				1411
3	562	561	156.12	138.23	156.12	21.70				1413
2	392	390	72.10	72.03	77.10	20.40				1415
1	230	229	14.15	14.14	14.15	19.00				1417

Comments: collar detect 6" above sample port

**WESTBAY™ GROUNDWATER MONITORING WELL
WATER LEVEL MEASUREMENT LOG SHEET**

WELL ID: MIN-21
 DATE: 04/22/22
 LOCATION: JPL
 ELEV. TOP OF WESTBAY CASING _____
 WEATHER: cloudy
DTW - 119.00

PROBE TYPE Wes Hoy
 SERIAL NO. EMS2502
 PROJECT JPL
 OPERATOR(S) T. Hoang
 ATM. PRESSURE (Patm): (start) 14.10 (finish) 14.09
20.75°C 19.78°C

Port No.	Depth to Meas. Port Valve (ft)		Pressure Readings (psi)				Pressure Head Outside Port (ft) P(ft)=(P2-Patm)*2.307 ft/psi	Depth to Water Outside Port (ft) DTW = Dp-P(ft)	True Port Depth (Dp) (ft)	Time
	From Log (Dp)	From Cable	psi Inside Casing	kg/cm ² Outside Casing P2	mH ₂ O Inside Casing	Trans. Temp. (oC)				
5	372	371	125.06	124.29	125.06	20.54			1303	
4	310	309	98.07	97.43	98.07	20.49			1305	
3	240	239	68.05	67.56	68.05	20.30			1307	
2	161	160	33.63	33.40	33.63	19.93			1309	
1	90	89	14.13	14.15	14.13	19.75			1311	

Comments: Collar defect is 2' above sample Port

**WESTBAY™ GROUNDWATER MONITORING WELL
WATER LEVEL MEASUREMENT LOG SHEET**

WELL ID: MW-22
 DATE: 04/29/22
 LOCATION: SPL
 ELEV. TOP OF WESTBAY CASING _____
 WEATHER: Clear
DTW - 238.73

PROBE TYPE Westbay
 SERIAL NO. EM52802
 PROJECT SPL
 OPERATOR(S) T. Houg
 ATM. PRESSURE (Patm): (start) 14.03 (finish) 14.02

Port No.	Depth to Meas. Port Valve (ft)		Pressure Readings (psi)				Pressure Head Outside Port (ft) P(ft)=(P2-Patm)*2.307 ft/psi	Depth to Water Outside Port (ft) DTW = Dp-P(ft)	True Port Depth (Dp) (ft)	Time
	From Log (Dp)	From Cable	psi Inside Casing	kg/cm ² Outside Casing P2	mH ² O Inside Casing	Trans. Temp. (oC)				
5	558	558	167.32	157.96	167.32	21.12				
4	467	466	114.66	108.68	114.66	21.60			0758	
3	389	389	80.68	80.04	80.68	21.47			0802	
2	329	330	54.52	53.94	54.52	21.05			0807	
1	245	246	17.41	17.56	17.41	20.57			0810	
									0813	

Comments: Collar detect 1' above sample port

**WESTBAY™ GROUNDWATER MONITORING WELL
WATER LEVEL MEASUREMENT LOG SHEET**

WELL ID: MW-23
 DATE: 04/22/22
 LOCATION: JPL
 ELEV. TOP OF WESTBAY CASING _____
 WEATHER: Clear
DTW - 142.82'

PROBE TYPE Westbay
 SERIAL NO. EMS 2502
 PROJECT JPL
 OPERATOR(S) T. Hoang
 ATM. PRESSURE (Patm): (start) 14.07 (finish) 14.08
16.46°C 19.75°C

Port No.	Depth to Meas. Port Valve (ft)		Pressure Readings (psi)				Pressure Head Outside Port (ft) $P(ft) = (P2 - Patm) * 2.307 \text{ ft/psi}$	Depth to Water Outside Port (ft) $DTW = Dp - P(ft)$	True Port Depth (Dp) (ft)	Time
	From Log (Dp)	From Cable	psi Inside Casing	kg/cm ² Outside Casing P2	mH ² O Inside Casing	Trans. Temp. (oC)				
5	542	540	187.49	167.88	187.49	18.31				1056
4	445	444	145.44	125.97	145.44	19.33				1058
3	319	317	90.92	77.55	90.92	19.77				1100
2	254	252	62.69	49.47	62.69	19.91				1102
1	174	173	27.95	15.60	27.95	19.89				1104

Comments: Collar detect is 1' above sample port

**WESTBAY™ GROUNDWATER MONITORING WELL
WATER LEVEL MEASUREMENT LOG SHEET**

WELL ID: MW-24
 DATE: 04/22/22
 LOCATION: JPL
 ELEV. TOP OF WESTBAY CASING _____
 WEATHER: Clear
 DTW - 251.79

PROBE TYPE Westbay
 SERIAL NO. 2502
 PROJECT JPL Pasadena
 OPERATOR(S) T. Hoang
 ATM. PRESSURE (Patm): (start) 13.94 (finish) 14.04
17.87°C 21.89°C

Port No.	Depth to Meas. Port Valve (ft)		Pressure Readings (psi)				Pressure Head Outside Port (ft) P(ft)=(P2-Patm)*2.307 ft/psi	Depth to Water Outside Port (ft) DTW = Dp-P(ft)	True Port Depth (Dp) (ft)	Time
	From Log (Dp)	From Cable	psi Inside Casing	kg/cm ² Outside Casing P2	mH ₂ O Inside Casing	Trans. Temp. (oC)				
5	678	676	198.91	178.60	198.91	19.86			0919	
4	554	552	145.34	131.49	145.34	20.65			0921	
3	435	433	93.79	86.75	93.79	20.90			0923	
2	373	371	66.87	60.62	66.87	21.06			0925	
1	279	277	26.10	23.17	26.10	21.41			0927	

Comments: Collar detect is 1' above sample port

**WESTBAY™ GROUNDWATER MONITORING WELL
WATER LEVEL MEASUREMENT LOG SHEET**

WELL ID: Mw-25
 DATE: 5/2/22
 LOCATION: JPL
 ELEV. TOP OF WESTBAY CASING: 60248.75
 WEATHER: Sunny, Clear
DTW - 248.75

PROBE TYPE: Westbay
 SERIAL NO.: EMS 2502
 PROJECT: JPL Pasadena
 OPERATOR(S): T
 ATM. PRESSURE (Patm): (start) 14.16 (finish)

Port No.	Depth to Meas. Port Valve (ft)		Pressure Readings (psi)				Pressure Head Outside Port (ft) $P(ft)=(P2-Patm)*2.307 ft/psi$	Depth to Water Outside Port (ft) $DTW = Dp-P(ft)$	True Port Depth (Dp) (ft)	Time
	From Log (Dp)	From Cable	psi Inside Casing	kg/cm ² Outside Casing P2	mH ₂ O Inside Casing	Trans. Temp. (oC)				
5	713	711	216.46	212.20	216.46	22.73				1236
4	633	631	181.92	178.78	181.92	22.47				1239
3	503	501	125.60	124.19	125.60	21.74				1242
2	423	421	90.80	90.88	90.80	21.03				1246
1	358	354	62.47	63.45	62.47	20.65				1250

Comments: Collar defect 2' below sample port

**WESTBAY™ GROUNDWATER MONITORING WELL
WATER LEVEL MEASUREMENT LOG SHEET**

WELL ID: MW-26
 DATE: 09/29/22
 LOCATION: JPL
 ELEV. TOP OF WESTBAY CASING _____
 WEATHER: Clear
DTW - 59.81'

PROBE TYPE: Westbay
 SERIAL NO.: EMS 2507
 PROJECT: JPL
 OPERATOR(S): J. How
 ATM. PRESSURE (Patm): (start) 14.11 (finish) 14.10

Port No.	Depth to Meas. Port Valve (ft)		Pressure Readings (psi)				Pressure Head Outside Port (ft) $P(ft) = (P2 - Patm) * 2.307 \text{ ft/psi}$	Depth to Water Outside Port (ft) $DTW = Dp - P(ft)$	True Port Depth (Dp) (ft)	Time
	From Log (Dp)	From Cable	psi Inside Casing	kg/cm ² Outside Casing P2	mH ² O Inside Casing	Trans. Temp. (oC)				
2	215	212	81.30	46.60	81.30	21.64				1247
1	135	132	46.41	14.21	46.41	20.87				1253

Comments: Collar detect 2' below sample port

WELL GAUGING DATA

Project # 220422-1111 Date 04/28⁽¹⁰⁾ 05/09/22 Client Tide water

Site JPL, Pasadena, CA

Well ID	Well Size (in.)	Time Gauged	Sheen / Odor	Depth to Immiscible Liquid (ft.)	Thickness of Immiscible Liquid (ft.)	Volume of Immiscibles Removed (ml)	Depth to water (ft.)	Depth to well bottom (ft.)	Survey Point: TOB or TOB
MW-1	4	1443					25.12	Det Pump	
MW-5	4	1459					128.60	Det Pump	
MW-6	4	0633					Dry	237.52	
MW-7	4	0641					Dry	284.23	
MW-8	4	0655					193.21	202.12	
MW-9	4	1446					18.64	Det Pump	
MW-10	4	1548 1448					151.40	153.42	
MW-13	4	0649					Dry	234.32	
MW-15	4	1454					30.71	Det Pump	
MW-16	4	1548 1552					284.00	284.71	

**WESTBAY™ GROUNDWATER MONITORING WELL
WATER LEVEL MEASUREMENT LOG SHEET**

WELL ID: MW-3
 DATE: 5/9/22
 LOCATION: JPL
 ELEV. TOP OF WASTBAY CASING 1100.34
 WEATHER: Sunny/clear
 DTW = 175.91

PROBE TYPE Westbay Sampler 0-500psi
 SERIAL NO. EMS 2502
 PROJECT JPL Pasadena
 OPERATOR(S) G. Castanon
 ATM. PRESSURE (Patm): (start) 14.05 (finish) 14.07
 Temp:

Port No.	Depth to Meas. Port Valve (ft)		Pressure Readings (psi)				Pressure Head Outside Port (ft) P(ft)=(P2-Patm)*2.307 ft/psi)	Depth to Water Outside Port (ft) DTW = Dp-P(ft)	True Port Depth (Dp) (ft)	Time
	From Log (Dp)	From Cable	psi Inside Casing	kg/cm ² Outside Casing P2	mH ₂ O Inside Casing	Trans. Temp. (oC)				
5	653	647	221.30	221.03	221.30	21.34	477.50	175.50	653	1409
4	558	554	179.87	180.12	179.87	18.76	383.12	174.88	558	1417
3	346	340	87.77	88.38	87.77	20.50	171.48	174.52	346	1425
2	252	247	46.62	47.73	46.62	18.64	77.70	174.30	252	1429
1	172	170	14.14	20.95	14.14	18.19	15.92	156.08	172	1433

Comments: Collar Detect is 2' above sample port

**WESTBAY™ GROUNDWATER MONITORING WELL
WATER LEVEL MEASUREMENT LOG SHEET**

WELL ID: MW-4
 DATE: 5/9/22
 LOCATION: JPL
 ELEV. TOP OF WASTBAY CASING: 1082.84
 WEATHER: Sunny Clear

PROBE TYPE: Westbay Sampler 0-500psi
 SERIAL NO.: EMS 2502
 PROJECT: JPL Pasadena
 OPERATOR(S): G. Castanon
 ATM. PRESSURE (Patm): (start) 14.09 (finish) 14.07
 Temp: 17.55

DTW - 172.72

Port No.	Depth to Meas. Port Valve (ft)		Pressure Readings (psi)				Pressure Head Outside Port (ft) P(ft)=(P2-Patm)*2.307 ft/psi	Depth to Water Outside Port (ft) DTW = Dp-P(ft)	True Port Depth (Dp) (ft)	Time
	From Log (Dp)	From Cable	psi Inside Casing	kg/cm ² Outside Casing P2	mH ₂ O Inside Casing	Trans. Temp. (oC)				
5	513	509	162.03	169.24	162.03	19.13	477.50	175.50	653	0819
4	392	385	110.15	116.82	110.15	20.05	383.12	174.88	558	0821
3	322	315	79.69	86.60	79.69	20.03	171.48	174.52	346	0823
2	240	233	43.92	51.70	43.92	20.04	77.70	174.30	252	0825
1	150	143	14.15	19.67	14.15	19.50	15.92	156.08	172	0827

Comments: Collar Detect is 2' above sample port

**WESTBAY™ GROUNDWATER MONITORING WELL
WATER LEVEL MEASUREMENT LOG SHEET**

WELL ID: MW-11
 DATE: 5/9/22
 LOCATION: JPL
 ELEV. TOP OF WASTBAY CASING 1139.3
 WEATHER: Sunny / clear
 DTW - 204.60

PROBE TYPE Westbay Sampler 0-500psi
 SERIAL NO. EMS 2502
 PROJECT JPL Pasadena
 OPERATOR(S) G. Castanon
 ATM. PRESSURE (Patm): (start) 14.04 (finish) 14.05
 Temp: 19.40 °C

Port No.	Depth to Meas. Port Valve (ft)		Pressure Readings (psi)				Pressure Head Outside Port (ft) P(ft)=(P2-Patm)*2.307 ft/psi)	Depth to Water Outside Port (ft) DTW = Dp-P(ft)	True Port Depth (Dp) (ft)	Time
	From Log (Dp)	From Cable	psi Inside Casing	kg/cm ² Outside Casing P2	mH ₂ O Inside Casing	Trans. Temp. (oC)				
5	639	635	201.90	179.42	201.90	21.07	381.53	257.47	639	1525
4	524	521	152.39	152.63	152.39	21.29	319.73	204.27	524	1527
3	429	425	111.52	110.71	111.52	20.85	223.02	205.98	429	1530
2	259	255	37.90	42.95	37.90	20.25	66.70	192.30	259	1531
1	149	254 146	14.14	23.31	14.14	19.75	21.39	127.61	149	1532

Comments: Collar Detect is 6" above sample port

**WESTBAY™ GROUNDWATER MONITORING WELL
WATER LEVEL MEASUREMENT LOG SHEET**

WELL ID: MW-12
 DATE: 5/9/22
 LOCATION: JPL
 ELEV. TOP OF WESTBAY CASING 1102.14
 WEATHER:

PROBE TYPE Westbay Sampler 0-500psi
 SERIAL NO. EMS 7502
 PROJECT JPL Pasadena
 OPERATOR(S) G. Castanon
 ATM. PRESSURE (Patm): (start) (finish)
 Temp:

Port No.	Depth to Meas. Port Valve (ft)		Pressure Readings (psi)				Pressure Head Outside Port (ft) P(ft)=(P2-Patm)*2.307 ft/psi	Depth to Water Outside Port (ft) DTW = Dp-P(ft)	True Port Depth (Dp) (ft)	Time		
	From Log (D _{Log})	From Cable	psi Inside Casing	kg/cm ² Outside Casing P2	mH ₂ O Inside Casing	Trans. Temp. (oC)						
5	548		* Well has obstruction, unable to profile *									
4	436											
3	323											
2	243											
1	140											

Comments: Collar Detect is 6" above sample port

**WESTBAY™ GROUNDWATER MONITORING WELL
WATER LEVEL MEASUREMENT LOG SHEET**

WELL ID: MW-14
 DATE: 5/19/22
 LOCATION: JPL
 ELEV. TOP OF WASTBAY CASING 1173.47
 WEATHER: Sunny/Clear

PROBE TYPE Westbay Sampler 0-500psi
 SERIAL NO. EMS 2502
 PROJECT JPL Pasadena
 OPERATOR(S) G. Castanon
 ATM. PRESSURE (Patm): (start) 14.06 (finish) 14.05
 Temp: 20.53°C

DTW - 198.98

Port No.	Depth to Meas. Port Valve (ft)		Pressure Readings (psi)				Pressure Head Outside Port (ft) P(ft)=(P2-Patm)*2.307 ft/psi)	Depth to Water Outside Port (ft) DTW = Dp-P(ft)	True Port Depth (Dp) (ft)	Time
	From Log (Dp)	From Cable	psi Inside Casing	kg/cm ² Outside Casing P2	mH ₂ O Inside Casing	Trans. Temp. (oC)				
5	540	537	162.95	148.06	162.95	22.36	539.84	0.16	540	0959
4	456	455	126.46	111.91	126.46	21.16	225.74	230.26	456	1002
3	382	379	94.23	79.84	94.23	20.98	151.75	230.25	382	1009
2	277	274	48.51	34.34	48.51	20.69	46.79	230.21	277	1010
1	207	204	17.96	14.13	17.96	20.45	0.16	206.84	207	1012

Comments: Collar Detect is 6" above sample port

**WESTBAY™ GROUNDWATER MONITORING WELL
WATER LEVEL MEASUREMENT LOG SHEET**

WELL ID: MW-17
 DATE: 5/19/22
 LOCATION: JPL
 ELEV. TOP OF WASTBAY CASING: 1191.21
 WEATHER: Clear Sunny
DTW - 211.79

PROBE TYPE: Westbay Sampler 0-500psi
 SERIAL NO.: ENB 2502
 PROJECT: JPL Pasadena
 OPERATOR(S): G. Castanon
 ATM. PRESSURE (Patm): (start) 14.04 (finish) 14.05
 Temp: 16.88°C

Port No.	Depth to Meas. Port Valve (ft)		Pressure Readings (psi)				Pressure Head Outside Port (ft) P(ft)=(P2-Patm)*2.307 ft/psi)	Depth to Water Outside Port (ft) DTW = Dp-P(ft)	True Port Depth (Dp) (ft)	Time
	From Log (Dp)	From Cable	psi Inside Casing	kg/cm ² Outside Casing P2	mH ² O Inside Casing	Trans. Temp. (oC)				
5	726	724	237.63	189.63	237.63	19.89	405.09	320.91	726	1105
4	582	580	175.31	129.80	175.31	19.94	267.06	314.94	582	1107
3	468	467	125.89	96.60	125.89	19.53	190.47	277.53	468	1109
2	370	368	83.33	58.11	83.33	18.55	101.67	268.33	370	1111
1	250	250	32.05	32.07	32.05	17.44				1114
1	250	248	31.16	18.31	31.16	16.92	9.85	240.15	250	1120

Comments: Collar Detect is 6" above sample port

**WESTBAY™ GROUNDWATER MONITORING WELL
WATER LEVEL MEASUREMENT LOG SHEET**

WELL ID: MW-18
 DATE: 5/9/22
 LOCATION: JPL
 ELEV. TOP OF WASTBAY CASING 1225.41
 WEATHER: Sunny/Clear

PROBE TYPE Westbay Sampler 0-500psi
 SERIAL NO. EMS 2502
 PROJECT JPL Pasadena
 OPERATOR(S) G. Castanon
 ATM. PRESSURE (Patm): (start) 14.03 (finish) 14.05
 Temp: 19.27

DTW - 297.21

Port No.	Depth to Meas. Port Valve (ft)		Pressure Readings (psi)				Pressure Head Outside Port (ft) P(ft)=(P2-Patm)*2.307 ft/psi)	Depth to Water Outside Port (ft) DTW = Dp-P(ft)	True Port Depth (Dp) (ft)	Time
	From Log (Dp)	From Cable	psi Inside Casing	kg/cm ² Outside Casing P2	mH ₂ O Inside Casing	Trans. Temp. (oC)				
5	684	680	182.69	163.69	182.69	20.52	345.20	338.80	684	1139
4	564	562	130.66	115.76	130.66	20.76	234.69	329.31	564	1142
3	424	422	69.78	66.18	69.78	20.35	120.31	303.69	424	1144
2	330	328	28.86	28.10	28.86	19.69	32.46	297.54	330	1145
1	270	268	14.16	14.13	14.16	19.31	0.23	269.77	270	1146

Comments: Collar Detect is 6" above sample port

WESTBAY™ GROUNDWATER MONITORING WELL
WATER LEVEL MEASUREMENT LOG SHEET

WELL ID: MW-19
 DATE: 5/9/22
 LOCATION: JPL
 ELEV. TOP OF WESTBAY CASING: 1142.94
 WEATHER: Sunny / Clear

PROBE TYPE: Westbay
 SERIAL NO.: EMS 2502
 PROJECT: JPL Pasadena
 OPERATOR(S): A. Castanon
 ATM. PRESSURE (Patm): (start) 14.05 (finish) 14.07
 Temp, 22.29°C

Port No.	Depth to Meas. Port Valve (ft)		Pressure Readings (psi)				Pressure Head Outside Port (ft) P(ft)=(P2-Patm)*2.307 ft/psi	Depth to Water Outside Port (ft) DTW = Dp-P(ft)	True Port Depth (Dp) (ft)	Time
	From Log (Dp)	From Cable	psi Inside Casing	kg/cm ² Outside Casing P2	mH ₂ O Inside Casing	Trans. Temp. (oC)				
5	498	494	167.60	118.08	167.60	20.57	240.00	258.00	498	1332
4	444	440	144.23	94.87	144.23	20.29	186.45	257.55	444	1334
3	392	389	121.60	87.43	121.60	20.10	169.29	222.71	392	1337
2	314	312	87.78	54.09	87.78	19.98	92.37	221.63	314	1339
1	242	240	56.53	24.64	56.53	19.72	24.43	217.57	242	1340

Comments: _____

**WESTBAY™ GROUNDWATER MONITORING WELL
WATER LEVEL MEASUREMENT LOG SHEET**

WELL ID: MW-20
 DATE: 5/9/22
 LOCATION: JPL
 ELEV. TOP OF WASTBAY CASING 1165.05
 WEATHER: Sunny/clear
 249.61

PROBE TYPE Westbay Sampler 0-500psi
 SERIAL NO. EMS2502
 PROJECT JPL Pasadena
 OPERATOR(S) G. Castanon
 ATM. PRESSURE (Patm): (start) 14.05 (finish) 14.06
 Temp: 20.26°C

Port No.	Depth to Meas. Port Valve (ft)		Pressure Readings (psi)				Pressure Head Outside Port (ft) P(ft)=(P2-Patm)*2.307 ft/psi)	Depth to Water Outside Port (ft) DTW = Dp-P(ft)	True Port Depth (Dp) (ft)	Time
	From Log (Dp)	From Cable	psi Inside Casing	kg/cm ² Outside Casing P2	mH ² O Inside Casing	Trans. Temp. (oC)				
5	900	895	297.31	295.75	297.31	22.94	649.88	250.12	900	1211
4	700	695	210.42	199.85	210.42	22.97	428.64	271.36	700	1215
3	562	559	150.56	139.43	150.56	22.33	289.25	272.75	562	1217
2	392	388	78.23	71.94	78.23	18.23	133.55	258.45	392	1224
1	230	228	14.14	14.13	14.15	17.63	0.18	229.82	230	1226

Comments: Collar Detect is 6" above sample port

**WESTBAY™ GROUNDWATER MONITORING WELL
WATER LEVEL MEASUREMENT LOG SHEET**

WELL ID: MW-21
 DATE: 5/19/22
 LOCATION: JPL
 ELEV. TOP OF WESTBAY CASING 1059.10
 WEATHER: Sunny / Clear
 DTW - 119.20'

PROBE TYPE Westbay Sampler 0-500psi
 SERIAL NO. EMS 2502
 PROJECT JPL Pasadena
 OPERATOR(S) G. Castanon
 ATM. PRESSURE (Patm): (start) 14.09 (finish) 14.11
 Temp: 19.55°C

Port No.	Depth to Meas. Port Valve (ft)		Pressure Readings (psi)				Pressure Head Outside Port (ft) P(ft)=(P2-Patm)*2.307 ft/psi)	Depth to Water Outside Port (ft) DTW = Dp-P(ft)	True Port Depth (Dp) (ft)	Time
	From Log (Dp)	From Cable	psi Inside Casing	kg/cm ² Outside Casing P2	mH ₂ O Inside Casing	Trans. Temp. (oC)				
5	372	369	124.95	123.78	124.95	19.87	253.05	118.95	372	1033
4	310	307	97.97	96.91	97.97	20.03	191.07	118.93	310	1035
3	240	238	67.95	67.09	67.95	19.82	122.27	117.73	240	1037
2	161	159	33.52	32.98	33.52	19.69	43.58	117.42	161	1039
1	90	88	14.14	14.13	14.14	19.54	0.09	89.91	90	1041

Comments: Collar Detect is 2' above sample port

**WESTBAY™ GROUNDWATER MONITORING WELL
WATER LEVEL MEASUREMENT LOG SHEET**

WELL ID: MW-22
 DATE: 5/9/20
 LOCATION: JPL
 ELEV. TOP OF WASTBAY CASING 1176.98
 WEATHER: Sunny / Clear
 DTW - 239.20

PROBE TYPE Westbay Sampler 0-500psi
 SERIAL NO. EMS 2502
 PROJECT JPL Pasadena
 OPERATOR(S) D. Castanon
 ATM. PRESSURE (Patm): (start) 14.04 (finish) 14.05
 Temp: 19.18

Port No.	Depth to Meas. Port Valve (ft)		Pressure Readings (psi)				Pressure Head Outside Port (ft) P(ft)=(P2-Patm)*2.307 ft/psi	Depth to Water Outside Port (ft) DTW = Dp-P(ft)	True Port Depth (Dp) (ft)	Time
	From Log (Dp)	From Cable	psi Inside Casing	kg/cm ² Outside Casing P2	mH ₂ O Inside Casing	Trans. Temp. (oC)				
5	588	587	166.74	157.47	166.74	20.84	330.89	257.11	588	0725
4	467	464	114.21	108.12	114.21	21.28	217.04	249.96	467	0727
3	389	386	80.29	79.39	80.29	21.32	150.76	238.24	389	0728
2	329	326	54.20	53.32	54.20	21.22	90.62	238.38	329	0730
1	245	242	17.14	17.30	17.14	21.06	7.52	237.48	245	0731

Comments: Collar Detect is 1' above sample port

**WESTBAY™ GROUNDWATER MONITORING WELL
WATER LEVEL MEASUREMENT LOG SHEET**

WELL ID: MW-23
 DATE: 5/9/22
 LOCATION: JPL
 ELEV. TOP OF WASTBAY CASING 1108.84
 WEATHER: Sunny / Clear

PROBE TYPE Westbay Sampler 0-500psi
 SERIAL NO. 4MB 2502
 PROJECT JPL Pasadena
 OPERATOR(S) G. Castaner
 ATM. PRESSURE (Patm): (start) 14.07 (finish) 14.08

DTW - 143.10 + (circled)

Temp: 17.09 °C

Port No.	Depth to Meas. Port Valve (ft)		Pressure Readings (psi)				Pressure Head Outside Port (ft) P(ft)=(P2-Patm)*2.307 ft/psi)	Depth to Water Outside Port (ft) DTW = Dp-P(ft)	True Port Depth (Dp) (ft)	Time
	From Log (Dp)	From Cable	psi Inside Casing	kg/cm ² Outside Casing P2	mH ₂ O Inside Casing	Trans. Temp. (°C)				
5	542	548	187.35	167.54	187.35	18.60	354.06	187.94	542	0845
4	445	443	145.36	125.54	145.36	19.73	257.16	187.84	445	0848
3	319	316	90.77	77.05	90.77	20.09	145.29	173.71	319	0849
2	254	251	62.55	48.99	62.55	20.12	80.56	173.44	254	0851
1	174	172	27.79	15.34	27.79	19.98	2.93	171.07	174	0853

Comments: Collar Detect is 1' above sample port

**WESTBAY™ GROUNDWATER MONITORING WELL
WATER LEVEL MEASUREMENT LOG SHEET**

WELL ID: MW-24
 DATE: 5/9/22
 LOCATION: JPL
 ELEV. TOP OF WASTBAY CASING 1200.94
 WEATHER: Sunny/clear
 DTW - 257.92

PROBE TYPE Westbay Sampler 0-500psi
 SERIAL NO. EMS 2502
 PROJECT JPL Pasadena
 OPERATOR(S) G. Castanon
 ATM. PRESSURE (Patm): (start) 14.03 (finish) 14.04
 Temp: 21.69°C

Port No.	Depth to Meas. Port Valve (ft)		Pressure Readings (psi)				Pressure Head Outside Port (ft) P(ft)=(P2-Patm)*2.307 ft/psi)	Depth to Water Outside Port (ft) DTW = Dp-P(ft)	True Port Depth (Dp) (ft)	Time
	From Log (Dp)	From Cable	psi Inside Casing	kg/cm ² Outside Casing P2	mH ² O Inside Casing	Trans. Temp. (oC)				
5	678	675	198.76	178.29	198.76	22.23	378.95	299.05	678	0916
4	554	551	551 145.10	131.07	145.10	22.37	270.01	283.99	554	0919
3	435	432	93.51	86.27	93.51	22.14	166.66	268.34	435	0923
2	373	370	66.63	60.17	66.63	22.15	106.44	266.56	373	0924
1	279	276	26.64	26.63	26.64	22.31				0926
1	279	277	25.86	22.90	25.86	22.82	20.46	258.54	279	

Comments: Collar Detect is 1' above sample port

**WESTBAY™ GROUNDWATER MONITORING WELL
WATER LEVEL MEASUREMENT LOG SHEET**

WELL ID: MW-25
 DATE: 5/19/22
 LOCATION: JPL
 FLEV. TOP OF WASTBAY CASING 934.53
 WEATHER: Sunny / clear

PROBE TYPE Westbay Sampler 0-500psi
 SERIAL NO. EMS 2502
 PROJECT JPL Pasadena
 OPERATOR(S) G. Castanon
 ATM. PRESSURE (Patm): (start) 14.16 (finish) 14.15
 Temp: 20.50°C

DTW-249.55

Port No.	Depth to Meas. Port Valve (ft)		Pressure Readings (psi)				Pressure Head Outside Port (ft) P(ft)=(P2-Patm)*2.307 ft/psi)	Depth to Water Outside Port (ft) DTW = Dp-P(ft)	True Port Depth (Dp) (ft)	Time
	From Log (Dp)	From Cable	psi Inside Casing	kg/cm ² Outside Casing P2	mH ₂ O Inside Casing	Trans. Temp. (oC)				
5	713	716	215.67	212.09	215.67	21.33	456.62	256.38	713	1252
4	633	629	181.17	178.68	181.17	21.55	379.55	253.45	633	1255
3	503	499	125.01	124.08	125.01	21.44	253.59	249.41	503	1256
2	423	421	90.27	90.78	90.27	21.22	176.76	246.24	423	1258
1	358	356	62.02	63.65	62.02	21.00	114.17	243.83	358	1300

Comments: Collar Detect is 2' below sample port

**WESTBAY™ GROUNDWATER MONITORING WELL
WATER LEVEL MEASUREMENT LOG SHEET**

WELL ID: MW-26
 DATE: 5/9/22
 LOCATION: JPL
 ELEV. TOP OF WASTBAY CASING 1059.08
 WEATHER: Sunny Clear

PROBE TYPE Westbay Sampler 0-500psi
 SERIAL NO. EMS 2502
 PROJECT JPL Pasadena
 OPERATOR(S) G. Castanon
 ATM. PRESSURE (Patm): (start) (finish)
 Temp:

Port No.	Depth to Meas. Port Valve (ft)		Pressure Readings (psi)				Pressure Head Outside Port (ft) P(ft)=(P2-Patm)*2.307 ft/psi	Depth to Water Outside Port (ft) DTW = Dp-P(ft)	True Port Depth (Dp) (ft)	Time
	From Log (Dp)	From Cable	psi Inside Casing	kg/cm ² Outside Casing P2	mH ² O Inside Casing	Trans. Temp. (oC)				
2	215									
1	135									

Inaccessible - No Gauge

Comments: Collar Detect is 2' below sample port