

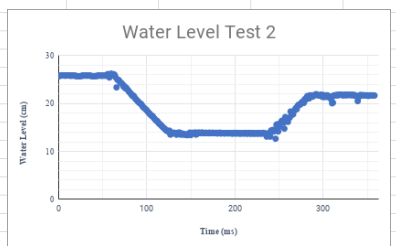
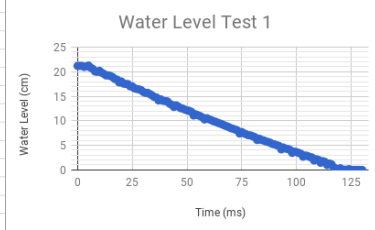
Subsystem/ Function/ Feature Nar Water Level Sensor	
Date Completed:	2/17/18
Performed By:	Nate, Jerry
Tested By:	Nate, Jerry
Green - Passed    Red - Failed    Yellow - Not Completed	
Concluded Condition of meeting Engineering Specification	

I. TESTING SPECIFICATION								
Specification Num	Importance	Source	Function	Specification	Unit of Measure	Ideal Value	Acceptable Range	Comments
S12	3	PRP	System	Height	Centimeters	TBD	TBD	TBD

II. EQUIPMENT REQUIRED	
Specification Num	Equipment or Instrumentation required
S12	Water Reservoir, Nutrient Solution, Arduino Mega, Computer, Sensor

III. DATA COLLECTION STRATEGY	
Specification Num	Data acquisition strategy
S12	Measure the water level in the tank using water level sensor. Compare sensor data with height measured with ruler while letting the water drain completely (test 1). Drain the water part way and then fill again (test 2)

**V. Results**



**VI. Conclusions**

During this test, the functionality and accuracy of the sensor was tested. The readings obtained were accurate within 1.5 cm of the real values measured and all trends matched with the filling or draining of the water.

IV. Raw Data						
Time_1	Sensor Data_1	Water Level_1	Time_2	Sensor data_2	Level_2	
0	33.05	21.21	0	28.53	25.73	
1	33.05	21.21	1	28.57	25.69	
2	33.05	21.21	2	28.47	25.79	
3	33.26	21	3	28.43	25.83	
4	33.17	21.09	4	28.43	25.83	
5	32.98	21.28	5	28.43	25.83	
6	33.41	20.85	6	28.41	25.85	
7	33.67	20.59	7	28.43	25.83	
8	34.19	20.07	8	28.47	25.79	
9	34.26	20	9	28.43	25.83	
10	34.05	20.21	10	28.43	25.83	
11	34.43	19.83	11	28.43	25.83	
12	34.67	19.59	12	28.41	25.85	
13	35	19.26	13	28.45	25.81	
14	34.97	19.29	14	28.47	25.79	
15	35.12	19.14	15	28.47	25.79	
16	35.33	18.93	16	28.43	25.83	
17	35.71	18.55	17	28.43	25.83	
18	35.84	18.42	18	28.47	25.79	
19	36.43	17.83	19	28.47	25.79	
20	36.22	18.04	20	28.47	25.79	
21	36.66	17.6	21	28.57	25.69	
22	36.74	17.52	22	28.57	25.69	
23	36.76	17.5	23	28.57	25.69	
24	37.22	17.04	24	28.57	25.69	
25	37.22	17.04	25	28.55	25.71	
26	37.64	16.62	26	28.55	25.71	
27	37.74	16.52	27	28.45	25.81	
28	37.83	16.43	28	28.43	25.83	
29	37.98	16.28	29	28.47	25.79	
30	38.36	15.9	30	28.43	25.83	
31	38.55	15.71	31	28.43	25.83	
32	38.55	15.71	32	28.45	25.81	
33	38.79	15.47	33	28.47	25.79	
34	39.07	15.19	34	28.43	25.83	
35	39.38	14.88	35	28.43	25.83	
36	39.47	14.79	36	28.47	25.79	
37	40.09	14.17	37	28.45	25.81	
38	39.86	14.4	38	28.57	25.69	
39	40.16	14.1	39	28.55	25.71	
40	40.22	14.04	40	28.57	25.69	
41	40.28	13.98	41	28.57	25.69	
42	40.74	13.52	42	28.53	25.73	
43	40.97	13.29	43	28.53	25.73	
44	41.43	12.83	44	28.53	25.73	
45	41.09	13.17	45	28.43	25.83	
46	41.33	12.93	46	28.45	25.81	
47	41.66	12.6	47	28.43	25.83	
48	41.74	12.52	48	28.45	25.81	
49	41.95	12.31	49	28.47	25.79	
50	42.12	12.14	50	28.47	25.79	
51	42.22	12.04	51	28.43	25.83	
52	42.41	11.85	52	28.47	25.79	
53	43.17	11.09	53	28.43	25.83	
54	42.93	11.33	54	28.45	25.81	
55	43.12	11.14	55	28.47	25.79	
56	43.29	10.97	56	28.12	26.14	
57	43.55	10.71	57	28.4	25.86	
58	43.97	10.29	58	28.84	25.42	
59	43.71	10.55	59	28.31	25.95	
60	43.91	10.35	60	28.02	26.24	
61	44.09	10.17	61	28.43	25.83	
62	44.31	9.95	62	28.38	25.88	
63	44.43	9.83	63	28.16	26.1	



													137	40.29	13.97				
													138	40.71	13.55				
													139	40.71	13.55				
													140	40.48	13.78				
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