

Consolidated Survey Data

Elements of:

Avondale Survey
Westlake Survey
Lamont Survey

All Measurements in Meters relative to MRP unless otherwise stated

X = fore & aft with + foreward

Y = port & starboard with + to statboard

Z= vertical with + upwards

Item Survey	Description		X	Y	Z
			Northing	Easting	Elevation
1 Avondale	MRP	See discussion Westlake Final Report	34.30	0.00	9.15
2 Westlake	MRP	by Definition	0.00	0.00	0.00
3 Westlake	Seabeam 2112				
	- Transverse Array	Centerline	-7.679	0.030	9.242
	- Longitudinal Array	Centerline	-4.386	0.711	9.238
4 Westlake	Transducers				
	Starboard - Forward to Aft				
	Transducer - Bathy 2000 3.5 kHz		-10.252	1.362	9.243
	Transducer - Bathy 1500 34 kHz *		-11.866	1.569	9.245
	Transducer - Doppler Speed Log		-12.168	0.414	9.245
	Transducer - Spare Transducer Well		-13.081	1.449	9.237
5 Westlake	Port - Forward to Aft				
	Transducer - VM 150		-9.726	-1.395	9.230
	Transducer - Ocean Surveyor 75 kHz		-10.819	-1.290	9.230
	Transducer - Bathy 2000 12 kHz		-11.859	-1.492	9.234
	Transducer - Spare Transducer Well		-13.078	-1.394	9.235
6 Westlake	Gyros				
	Starboard Gyro	Centerline	4.741	0.207	-19.604
	Port Gyro	Centerline	4.746	-0.207	-19.609
7 Westlake	Antennas				
	REF DWG TBD				
	Antenna 9-4 * - GPS Antenna (4.1.5)		4.587	-6.622	-24.000
	Antenna 4-6 * - Northstar GPS (4.1.1)		9.374	-4.970	-23.406
	Antenna 4-2 * - Northstar (4.1.2)		9.362	-3.617	-23.451
	P CODE GPS Antenna *		9.368	-2.645	-23.609
	Antenna 4-3 * - Northstar (4.1.4)		9.355	3.638	-23.363
	GLONAS GPS Antenna *		9.379	5.066	-23.515
	Antenna base (4A)		-53.872	-0.011	-22.025
	Antenna base (4B)		-49.758	0.038	-22.010
	Antenna base (4C)		-49.785	1.629	-22.020
	Antenna base (4D)		-49.771	-1.546	-22.008
	Trimble Centurion**		-52.726	-1.717	-21.113
	Time Server **		-52.671	1.838	-21.115
8 Westlake	Vertical Ref				
	MRV-M-MV -				
	Measured at Top of mounting bracket				
	Center (mid-point) - calculated		-2.100	0.291	-0.775
	TSS 333B - Marine Motion Sensor -				
	scribe atop mounting plate				
	Center of TSS 333B		1.210	0.329	-0.013
9 LDEO	POS/MV				
	From	TO	X	Y	Z
	IMU	Port Antenna (Master)	-2.9719	-3.9140	-5.5310
	MRP	IMU	-49.5710	1.7110	-16.7990
	MRP	Transmit array	-4.3860	0.7110	9.2380
	MRP	Port Antenna (Master)	-52.5429	-2.2030	-22.3300
10 Westlake Raw	Fan Tail				
	Aft/Port		-86.737	-4.906	-3.617
	Forward/Port		-77.600	-4.881	-3.589
	Forward/Starboard		-72.590	6.676	-3.653