

Date & Time	UTM (X)	UTM (Y)	Depth (m)	Alt. (m)	Heading		Event		
01/06/17 19:28:35.00	-99999.99	-99999.99	-99999.99	-99.99	-999.99	VID_GRAB			
01/06/17 20:04:31.00	-99999.99	-99999.99	-4.742	30	260.626	start of lowering 305			
01/06/17 20:07:21.00	-99999.99	-99999.99	-4.119	30	196.473	in the waqter lowerin g305			
01/06/17 20:08:11.00	-99999.99	-99999.99	-3.957	1.6	198.283	on the botton			
01/06/17 20:12:19.00	-99999.99	-99999.99	50.61	30	192.884	VID_GRAB	for fun		
01/06/17 20:12:34.00	-99999.99	-99999.99	55.151	30	171.877	VID_GRAB	bottom this time		
01/06/17 20:12:52.00	-99999.99	-99999.99	60.755	30	173.804	how about now			
01/06/17 20:22:23.00	-99999.99	-99999.99	165.646	10.9	17.036	VID_GRAB		Error	
01/06/17 20:22:28.00	-99999.99	-99999.99	165.612	11	14.538		Error		
01/06/17 20:22:57.00	-99999.99	-99999.99	165.729	10.9	3.931	Substrate	Colorful Sediment (hydrothermal)	this is a test	
01/06/17 20:25:00.00	-99999.99	-99999.99	165.406	11.3	259.379	VID_GRAB	in water		
01/06/17 20:50:55.00	-99999.99	-99999.99	175.05	3.2	262.589	Vent Features			
01/06/17 20:50:56.00	-99999.99	-99999.99	175.05	3.2	262.545				
01/06/17 20:50:56.00	-99999.99	-99999.99	175.05	3.2	262.5				
01/06/17 20:50:56.00	-99999.99	-99999.99	175.05	3.2	262.477				
01/06/17 20:50:56.00	-99999.99	-99999.99	175.05	3.2	262.476				
01/06/17 21:11:26.00	-99999.99	-99999.99	42.432	30	150.752	test	VID_GRAB		
01/06/17 21:15:25.00	-99999.99	-99999.99	-5.133	2.4	182.069	Medda on deck			
01/06/17 21:20:47.00	-99999.99	-99999.99	-4.64	30	178.568	Jason out of water			

Date & Time	UTM (X)	UTM (Y)	Depth (m)	Alt. (m)	Heading	Event				
01/06/19 04:04:57.00	-100000	-100000	-4.242	30	13.672		Error			
01/06/19 04:08:04.00	-100000	-100000	-4.242	30	13.672	VID_GRAB	deck shot			
01/06/19 04:09:04.00	-100000	-100000	-4.242	30	13.672	VID_GRAB	fish			
01/06/19 04:09:26.00	-100000	-100000	-4.242	30	13.672	Substrate	100% Sediment cover			
01/06/19 04:39:55.00	-100000	-100000	-4.242	30	13.672	north elevator entering water				
01/06/19 06:38:16.00	-100000	-100000	-3.821	0	318.529	VID_GRAB	test			
01/06/19 06:39:09.00	-100000	-100000	12.465	30	284.427	VID_GRAB	again			
01/06/19 08:37:42.00	-100000	-100000	0	0	0	little to no nav				
01/06/19 08:48:49.00	-100000	-100000	-3.822	30	175.465	Jason in the water				
01/06/19 08:50:18.00	-100000	-100000	-3.455	30	175.46	Medda in the water				
01/06/19 08:50:43.00	-100000	-100000	2.371	30	174.989	CTD started				
01/06/19 09:38:11.00	493485.7	5314221	947.866	30	336.53	Mag spins are about to start				
01/06/19 09:40:48.00	493485.7	5314221	999.543	30	341.702	stopping at about 1000 meters				
01/06/19 09:45:24.00	494991.7	5316830	1016.791	30	22.461	starting tighty swist				
01/06/19 09:46:38.00	494991.7	5316830	1016.91	30	264.374	2 turns				
01/06/19 09:47:28.00	494991.7	5316830	1016.946	30	230.869	three turns				
01/06/19 09:48:04.00	494991.7	5316830	1016.876	30	93.234	starting the unwinding				
01/06/19 09:49:35.00	493111.9	5312814	1017.045	30	91.068	three done in the unwinding				
01/06/19 09:58:36.00	492521.1	5313307	1016.82	30	206.128	VID_GRAB	cool plankton			
01/06/19 10:00:09.00	493120.3	5312806	1016.77	30	46.193	calibration is over				
01/06/19 10:04:58.00	493112.2	5312854	1020.782	30	355.617	Descent restarted				
01/06/19 10:52:17.00	493163.4	5312326	1988.419	30	342.895	Watch change. Matt is on the datalogger watch				
01/06/19 10:55:51.00	493152.9	5312335	2048.023	30	340.973	Switched cameras to butt cam				
01/06/19 11:03:35.00	493151.3	5312354	2122.479	30	341.326	descent	changing camera orientations			
01/06/19 11:04:08.00	493151.6	5312355	2120.999	30	342.456	descent	looks like just pan and tilt			
01/06/19 11:07:14.00	493169.1	5312299	2147.135	27.4	192.524	descent	first returns on doppler			
01/06/19 11:12:14.00	493177	5312280	2171.418	4.5	78.873	ctd	306002 start of file for CTD			
01/06/19 11:12:50.00	493177	5312280	2171.43	4.8	10.915	ctd	Visual on Bottom			
01/06/19 11:13:04.00	493177	5312280	2171.372	5.8	316.93	306	visual on bottom			
01/06/19 11:13:08.00	493177	5312280	2171.325	5.8	307.667	306	start of tapes			
01/06/19 11:25:11.00	493181.2	5312306	2170.407	4.4	8.307	306	elevator in sight			
01/06/19 11:29:30.00	493181.4	5312299	2169.696	5.3	359.173	306	Northern elevator has been christened N1			
01/06/19 11:30:50.00	493178	5312296	2170.155	5.1	358.622	JAS306	start of SM2000 calibration			
01/06/19 11:33:03.00	493173.6	5312307	2169.557	5.6	359.843	JAS306	Date error on two SM2000 files			
01/06/19 11:33:33.00	493172.2	5312309	2169.768	6.1	0.674	JAS306	Now is the restart of the SM2000 calibration			
							30degrees and will complete one full circle, each stop is 30sec long			

Date & Time	UTM (X)	UTM (Y)	Depth (m)	Alt. (m)	Heading	Event				
01/06/19 11:38:59.00	493172.1	5312291	2169.559	7.1	151.468	JAS306	for the ADCP calibration we are stopping			
							every			
01/06/19 11:46:06.00	493186.4	5312307	2169.873	4.9	274.849	JAS306	moved during calibration to get under Medea			
01/06/19 11:46:49.00	493180.8	5312308	2169.64	5.1	268.897	JAS306	Repeating 270degrees but will continue			
							from there			
01/06/19 11:47:32.00	493178.9	5312302	2169.676	4.7	268.746	JAS306	altitude is now about 5m instead of 6m			
01/06/19 11:50:07.00	493180.2	5312301	2169.661	4.9	6.515	JAS306	Ends SM2000 and ADCP calibration			
01/06/19 11:51:04.00	493178.5	5312301	2169.996	4.6	14.056	JAS306	SM2000 calibration file was ended			
01/06/19 11:52:03.00	493179.5	5312312	2169.916	4.5	18.864	JAS306	moving to elevator			
01/06/19 11:59:44.00	493180.9	5312321	2170.336	4.5	25.842	JAS306	Retreiving MAV10055 from N1-D			
01/06/19 12:08:19.00	493181.9	5312321	2170.338	4.5	25.668	JAS306	Claw mis-behaved, but a smart backhand and			
							everything is ok			
01/06/19 12:10:58.00	493179.8	5312318	2169.593	4.9	28.546	JAS306	Claw is misbehaving again. Decided to pick			
							up spider if possible.			
01/06/19 12:32:18.00	493180.4	5312318	2169.272	5	338.31	JAS306	Bungee is caught on spider. We are trying to			
							detach.			
01/06/19 12:41:35.00	493184.1	5312319	2170.455	3.9	336.032	JAS306	They are working the leg by the rear of the			
							spider datalogger extensively.			
01/06/19 12:41:49.00	493184.1	5312319	2170.321	4	336.912	JAS306	Bungee release. Nice work.			
01/06/19 12:45:20.00	493181.5	5312320	2167.907	6.5	349.568	JAS306	Have spider on Mark48			
01/06/19 12:50:44.00	493183.6	5312319	2168.519	6.9	261.992	JAS306	spider is free			
01/06/19 12:52:11.00	493185.8	5312318	2169.332	6.1	301.16	JAS306	Taking spider to LT63 Mav location. The			
							spider was hooked through the titanium plate on SFM frame.			
							Proved to be a little sticky. Nice work by the pilot to get it off.			
01/06/19 13:03:43.00	493174.8	5312274	2172.971	3.8	186.567	JAS306	ship is having bow thruster problems.			
							Stopping here.			
01/06/19 13:12:42.00	493170.6	5312228	2175.994	4.9	189.058	JAS306	ata string problems. Told that John says just			
							hit return and ignore. So consider it ignored.			
01/06/19 13:22:18.00	493195.9	5312210	2180.12	5	187.244	Spider deployment	tube worms			
01/06/19 13:23:21.00	493195.9	5312210	2179.693	6	226.405	Spider deployment		Temp Anom	SMALL	
01/06/19 13:25:39.00	488688.8	5313450	2177.065	6	188.32	Spider deployment	Mav in sight			
01/06/19 13:26:46.00	493175	5312193	2178.523	5.4	190.391	Spider deployment		Temp Anom	BIG	
01/06/19 13:26:57.00	493175	5312193	2178.636	5.4	190.907	Spider deployment		Temp Anom	1degreee	
01/06/19 13:29:18.00	493156.6	5312180	2178.629	5.4	181.823	Spider deployment	VID_GRAB	mavs 63 top view		
01/06/19 13:30:41.00	493156.6	5312180	2178.78	6.8	216.993	Spider deployment	frame grab was on the wrong camera			
01/06/19 13:31:10.00	493135.8	5312272	2178.671	7.3	224.176	Spider deployment	VID_GRAB	mavs top view		

Date & Time	UTM (X)	UTM (Y)	Depth (m)	Alt. (m)	Heading	Event				
01/06/19 13:31:34.00	493135.8	5312272	2180.734	6	231.157	Spider deployment	VID_GRAB	mavs 63		
01/06/19 13:31:47.00	493135.8	5312272	2181.179	5.8	233.228	Spider deployment	VID_GRAB	mavs 63		
01/06/19 13:31:58.00	493135.8	5312272	2181.22	5.7	233.196	Spider deployment	VID_GRAB	mavs 63		
01/06/19 13:32:11.00	493135.8	5312272	2181.224	5.7	233.179	Spider deployment	VID_GRAB	mavs 63		
01/06/19 13:33:04.00	493135.8	5312272	2181.155	5.7	234.291	Spider deployment	VID_GRAB	mavs 63		
01/06/19 13:34:55.00	488662.7	5313449	2180.873	4.7	346.917	Spider deployment	looking for relatively flat deployment site. Nav is still poor			
01/06/19 13:37:28.00	488457.6	5313610	2182.938	1.5	316.877	Spider deployment	VID_GRAB	possible spider deployment site		
01/06/19 13:38:58.00	488633.5	5313346	2183.366	1.6	318.958	Spider deployment	VID_GRAB	spider released		
01/06/19 13:39:23.00	488633.5	5313346	2183.326	1.7	318.903	Spider deployment	VID_GRAB	spider released		
01/06/19 13:40:21.00	488633.5	5313346	2183.277	1.7	318.881	Spider deployment	VID_GRAB	working on spider deployment		
01/06/19 13:40:50.00	488633.5	5313346	2183.295	30	318.838	Spider deployment	VID_GRAB	plan to get 3 legs down, orientation and good video, and best nav possible		
01/06/19 13:45:58.00	493140.2	5312205	2182.25	2	185.739	Spider deployment	VID_GRAB	Still working on getting 3 legs down. Rough terrain.		
01/06/19 13:46:43.00	493140.2	5312205	2183.461	1	199.512	Spider deployment	VID_GRAB	close up on tripod legs		
01/06/19 13:47:01.00	493140.2	5312205	2183.914	1.7	204.27	Spider deployment	VID_GRAB	close up		
01/06/19 13:48:57.00	488572.2	5312826	2183.681	0.8	203.215	Spider deployment	VID_GRAB	Looks like front left leg not down		
01/06/19 13:49:28.00	495273.9	5333187	2183.308	0.7	171.372	Spider deployment	VID_GRAB	Ass end up in air		
01/06/19 13:59:28.00	488731.3	5313454	2183.745	0.8	298.185	Spider deployment	VID_GRAB			
01/06/19 14:01:13.00	488731.3	5313454	2183.661	0.8	298.417	Spider deployment	vhs tape change			
01/06/19 14:05:00.00	488731.3	5313454	2183.727	30	297.159	Spider deployment	VID_GRAB	trying to get reading from t-probe		
01/06/19 14:09:52.00	488731.3	5313454	2183.896	0.8	297.988	Spider deployment	logging temp /spiderclamped1.log			
01/06/19 14:16:31.00	488723.5	5313450	2181.343	3.3	344.841	Spider deployment	VID_GRAB			
01/06/19 14:23:55.00	493177.1	5312186	2180.623	5.2	258.287	Spider deployment	Beginning to head back to elevator			
01/06/19 14:45:30.00	493183.5	5312297	2175.137	3.3	6.412	stopping CTD aquisition. Watch change CTD file close and open.				
01/06/19 14:47:16.00	493189.1	5312302	2173.777	4.7	342.86	restart 306003.dat CTD new file				
01/06/19 14:53:47.00	493182.9	5312320	2170.448	5.5	233.178	Jason attempting to remove MAV 55 from elevator				
01/06/19 14:54:34.00	493183.3	5312321	2169.836	6.1	236.068	VID_GRAB	Jason removing MAV			
01/06/19 14:55:33.00	493192.1	5312314	2170.724	5.5	232.921	Discussion on where to put the MAV				
01/06/19 14:57:00.00	493186	5312318	2170.673	5.5	234.374	H18 tapes changed				
01/06/19 14:58:43.00	493190	5312311	2170.692	5.8	200.837	heading 193 to previous site - same location as last watch				
01/06/19 15:04:41.00	493180.5	5312302	2170.699	4.8	218.386	VID_GRAB	test			
01/06/19 15:09:07.00	493186.1	5312271	2172.606	6.9	179.922	ship moving to move Medea, to then move Jason				
01/06/19 15:13:10.00	493178.5	5312249	2177.679	3.9	204.036	looking to position MAV w/in 20 m of Spider				
01/06/19 15:17:57.00	493157.7	5312215	2176.738	4.5	198.092	Medea and MAV located in MEDEA cam				

Date & Time	UTM (X)	UTM (Y)	Depth (m)	Alt. (m)	Heading	Event				
01/06/19 15:19:16.00	493118.3	5312267	2177.464	3.8	248.216	rat tail in view				
01/06/19 15:23:20.00	493147.7	5312202	2172.582	5.8	284.104	good NAV fix on Jason				
01/06/19 15:26:40.00	493156.2	5312175	2179.411	4	17.674	VID_GRAB	MAV located			
01/06/19 15:27:44.00	493156.2	5312175	2182.3	4	343.358	VID_GRAB	unidentified object			
01/06/19 15:28:31.00	493274.1	5312206	2182.247	2.9	315.904	VID_GRAB	spider located			
01/06/19 15:30:48.00	493210.4	5312233	2181.33	2.3	217.711	VID_GRAB	tube worm heaven			
01/06/19 15:32:28.00	493210.4	5312233	2182.314	1.2	169.265	looking for location to drop MAV 55				
01/06/19 15:36:01.00	493210.4	5312233	2183.964	30	180.969	MAV 55 deployment				
01/06/19 15:36:43.00	493210.4	5312233	2184.067	2.3	180.907	MAV 55 deployment	Jason is about to let go of MAV 55			
01/06/19 15:41:01.00	493210.4	5312233	2182.299	1.8	141.346	MAV 55 deployment	jaw on Jason stuck			
01/06/19 15:41:11.00	493210.4	5312233	2182.059	1.9	138.944	MAV 55 deployment	MAV is now deployed!			
01/06/19 15:43:42.00	493210.4	5312233	2182.134	1.9	202.669	MAV 55 deployment	VID_GRAB MAV 55			
01/06/19 15:44:42.00	493210.4	5312233	2183.962	30	271.545	MAV 55 deployment	VID_GRAB			
01/06/19 15:45:26.00	493210.4	5312233	2184.048	30	267.545	MAV 55 deployment	JASON in shimmering water			
01/06/19 15:47:22.00	493690	5312646	2184.15	30	267.766	Jason getting temp probe				
01/06/19 15:49:04.00	493690	5312646	2184.113	30	267.984	temperature probe not reading				
01/06/19 15:52:00.00	493690	5312646	2184.097	30	266.64	Jason setting down temp probe to try to get better grab				
01/06/19 15:53:31.00	493690	5312646	2184.103	30	266.319	VID_GRAB	Jason getting good temp probe grab			
01/06/19 15:56:06.00	493545.6	5312289	2184.185	30	266.444	VID_GRAB	MAV 55 fell over			
01/06/19 15:59:43.00	493545.6	5312289	2184.236	30	266.38	temperature probe is reading!				
01/06/19 16:03:17.00	493545.6	5312289	2184.336	30	267.315	VID_GRAB	temp probe 3.7			
01/06/19 16:04:58.00	493545.6	5312289	2184.349	30	267.207	probe 1/2 inch-1 inch in sediment				
01/06/19 16:06:05.00	493545.6	5312289	2184.319	30	267.09	probe readings 4.5-4.7				
01/06/19 16:11:55.00	493861.2	5312677	2183.245	1.3	273.371	JASON trying to upright MAV 55				
01/06/19 16:16:27.00	493861.2	5312677	2183.162	1.3	171.584	VID_GRAB				
01/06/19 16:16:56.00	493861.2	5312677	2182.637	1.4	133.638	VID_GRAB	MAV 55 upright			
01/06/19 16:17:42.00	493861.2	5312677	2182.878	1.5	158.284	SM2000 quit and are restarting				
01/06/19 16:18:36.00	493861.2	5312677	2183.602	1	216.477	VID_GRAB	MAV 55			
01/06/19 16:18:58.00	493861.2	5312677	2183.788	0.7	221.224	changing SM2000 tape				
01/06/19 16:19:38.00	493861.2	5312677	2183.999	30	246.122	VID_GRAB	MAV 55			
01/06/19 16:19:53.00	493861.2	5312677	2183.916	30	259.086	VID_GRAB				
01/06/19 16:20:44.00	493861.2	5312677	2183.796	0.8	245.551	MAV 55 - 90 degrees sensors to the right heading 253				
01/06/19 16:22:08.00	493861.2	5312677	2183.226	1.1	225.126	MAV 55 orientation 343				
01/06/19 16:25:24.00	493596.8	5312300	2183.1	1.4	228.245	SM 2000 back running again - naming tape 01F19008				
01/06/19 16:27:32.00	493596.8	5312300	2162.98	20.6	222.584	Jason rising up in water column to (hopefully) help with navigation				
01/06/19 16:36:57.00	493596.8	5312300	2170.616	15.3	219.821	Marginal navigation attained, went up approx. 22 m				

Date & Time	UTM (X)	UTM (Y)	Depth (m)	Alt. (m)	Heading	Event				
01/06/19 16:37:59.00	493596.8	5312300	2180.869	3.2	267.378	SM200 - Telemetry Errors warning?				
01/06/19 16:38:42.00	493161.8	5312183	2181.948	2.8	305.26	Telemetry setup - rate 1.7 Mbit/sec - moving to 1.25 Mbit/sec				
01/06/19 16:39:07.00	493161.8	5312183	2182.083	2.7	303.451	VID_GRAB				
01/06/19 16:39:46.00	493161.8	5312183	2182.092	2.4	301.441	MAV 55 at Nav target 4				
01/06/19 16:41:30.00	493038.2	5312188	2182.576	2.7	288.757	Hop the spider - moving spider to a flatter spot.				
01/06/19 16:43:54.00	493038.2	5312188	2185.478	1	143.127	VID_GRAB	Spider moved			
01/06/19 16:45:09.00	493038.2	5312188	2185.454	2	166.475	SM2000- filename changed to 01F19009				
01/06/19 16:47:14.00	493038.2	5312188	2185.512	0.8	72.076	Changing Hi8 tapes				
01/06/19 16:49:18.00	493038.2	5312188	2187.185	1.8	192.857	VID_GRAB	spider at the spider			
01/06/19 16:49:41.00	493038.2	5312188	2187.432	1.5	234.186	Hi8 tapes changes				
01/06/19 16:50:17.00	493038.2	5312188	2188.412	0.8	247.369	Spider deployed in new location				
01/06/19 16:50:31.00	493038.2	5312188	2188.472	0.8	247.109	VID_GRAB				
01/06/19 16:50:39.00	493038.2	5312188	2188.452	0.8	247.127	VID_GRAB				
01/06/19 16:53:45.00	493038.2	5312188	2188.488	0.8	246.565	temperature probe reading				
01/06/19 16:54:02.00	493038.2	5312188	2188.488	0.8	246.579	VID_GRAB	probe near spider			
01/06/19 16:56:43.00	494196.7	5312546	2188.479	0.8	246.269	VID_GRAB	probe on ground			
01/06/19 16:57:39.00	494196.7	5312546	2188.452	0.8	246.185	temperature probe stopped				
01/06/19 16:58:19.00	488695.5	5313467	2188.588	0.7	246.175	Heading back to load long term MAV 63 on elevator				
01/06/19 17:00:45.00	488705	5313462	2188.577	0.8	246.193	VID_GRAB				
01/06/19 17:01:00.00	488705	5313462	2188.584	0.8	246.346	Jason jaw stuck				
01/06/19 17:09:49.00	488460.5	5313476	2188.682	0.8	246.131	Continues trouble with Jason claw trying to place probe down				
01/06/19 17:10:48.00	488460.5	5313476	2188.682	0.8	245.908	VID_GRAB				
01/06/19 17:15:03.00	488374.6	5313654	2188.664	0.8	245.95	VID_GRAB	visitor			
01/06/19 17:19:07.00	488700.2	5313449	2188.755	0.8	245.803	Probe succesfully in the ICL				
01/06/19 17:20:50.00	488702.3	5313446	2188.795	0.7	246.085	Succes occured when the driver ate Bill's chocolate!				
01/06/19 17:24:39.00	493067.8	5312188	2188.334	0.7	220.674	VID_GRAB				
01/06/19 17:26:07.00	493067.8	5312188	2188.054	1.1	214.526	Spider orientation - 215				
01/06/19 17:31:19.00	493067.8	5312188	2187.955	1.4	215.209	VID_GRAB	not our marker			
01/06/19 17:38:06.00	493168.5	5312211	2185.939	3.1	209.274	Moving the ship to move MEDEA to move JASON				
01/06/19 17:44:34.00	493628.3	5312446	2182.643	5.8	230.403	VID_GRAB	MAV 63			
01/06/19 17:44:58.00	493628.3	5312446	2182.842	6.1	234.593	Recovering MAV 63				
01/06/19 17:45:18.00	493628.3	5312446	2183.957	4.5	266.852	MAV 63 recovery				
01/06/19 17:45:28.00	493628.3	5312446	2183.763	4.7	274.359	MAV 63 recovery	VID_GRAB			
01/06/19 17:46:14.00	493628.3	5312446	2183.549	4.8	278.022	MAV 63 recovery	MAV 63 orientation 180			
01/06/19 17:47:22.00	493628.3	5312446	2183.389	4.9	279.663	MAV 63 recovery	Discussing issues of Jason jaw sticking			
01/06/19 17:47:53.00	493628.3	5312446	2184.077	4.3	279.59	MAV 63 recovery	VID_GRAB			

Date & Time	UTM (X)	UTM (Y)	Depth (m)	Alt. (m)	Heading	Event				
01/06/19 17:48:08.00	493628.3	5312446	2183.761	4.8	270.822	MAV 63 recovery	VID_GRAB			
01/06/19 17:48:33.00	493628.3	5312446	2183.85	4.7	277.03	MAV 63 recovery	VID_GRAB	MAV 63 thermistor orientation		
01/06/19 17:50:18.00	493594.4	5312255	2183.924	4.3	266.077	MAV 63 recovery	MAV 63 to be taken to elevator - 100+ m away			
01/06/19 17:51:08.00	493594.4	5312255	2185.221	1.7	242.262	MAV 63 recovery	VID_GRAB			
01/06/19 17:52:13.00	493594.4	5312255	2182.481	3.9	128.071	MAV 63 recovery	Jason hooked onto MAV 63			
01/06/19 17:53:35.00	493594.4	5312255	2179.673	7.6	27.034	MAV 63 recovery	Elevator at 015 from MAV 63			
01/06/19 17:54:09.00	493594.4	5312255	2180.079	5.2	358.038	MAV 63 recovery	MEDEA fix - 10 m north			
01/06/19 18:00:36.00	493179.4	5312227	2179.915	7.2	47.425	MAV 63 recovery	Continued discussion on Jason manipulator -			
						too much time wasted with arm, probably will bring Jason to				
						surface and work on arm - then try to work on fixing nav.				
01/06/19 18:13:07.00	493182.1	5312326	2170.196	7.7	162.112	MAV 63 recovery	VID_GRAB	at elevator		
01/06/19 18:14:26.00	493178.7	5312323	2170.902	7	134.607	MAV 63 recovery	positioning MAV 63 over elevator barrel			
01/06/19 18:15:50.00	493179.4	5312324	2171.137	6.6	128.506	MAV 63 recovery	VID_GRAB	Mav 63 in barrel		
01/06/19 18:17:16.00	493171.3	5312322	2172.375	5.2	167.732	MAV 63 recovery	Getting good nav at elevator			
01/06/19 18:19:29.00	493179.4	5312319	2172.967	4.5	122.307	MAV 63 recovery	VID_GRAB			
01/06/19 18:22:44.00	493183	5312318	2171.831	5.5	294.884	MAV 63 recovery	Jason caught on MAV 56 - pulled bungee			
01/06/19 18:22:53.00	493182.3	5312318	2171.831	5.6	294.812	MAV 63 recovery	MAV 63 secured			
01/06/19 18:23:48.00	493181.9	5312317	2171.834	5.6	294.909	Firing the 2 Niskins on Jason				
01/06/19 18:25:34.00	493183.9	5312318	2171.8	5.6	294.719	VID_GRAB				
01/06/19 18:26:07.00	493184.6	5312316	2171.793	5.6	294.049	Niskin bottles on JASON fired				
01/06/19 18:28:01.00	493186.1	5312318	2164.836	12.6	302.45	Leaving the elevator for JASON recovery.				
01/06/19 18:32:26.00	493185.7	5312340	2111.118	30	25.254					
01/06/19 18:32:35.00	493188.3	5312343	2108.531	30	26.326	Jason on route to surface				
01/06/19 18:44:14.00	493188.9	5312279	1931.869	30	44.137	SM 2000 - stopped recording				
01/06/19 18:48:50.00	493171	5312247	1930.215	30	32.34	Control of Jasons claw NOT failing on way up - Will sees no				
						reason to recover				
01/06/19 18:49:45.00	493166.2	5312237	1930.34	30	28.393	pausing at 1930 m to check out manip				
01/06/19 18:52:05.00	493161.6	5312235	1933.418	30	13.073	decided to go back down				
01/06/19 18:52:15.00	493161.6	5312235	1933.372	30	11.966	descending to continue work				
01/06/19 18:59:53.00	493110	5312217	2012.199	30	267.615	Note that the video taping for Tunnecliffe was stopped at 18:58				
						shortly after the descent was resumed.				
01/06/19 19:06:23.00	493115.6	5312143	2080.678	30	179.991					
01/06/19 19:07:05.00	493128.7	5312148	2087.18	30	185.553	AST is recording again File F19010				
01/06/19 19:17:40.00	493176.6	5312200	2175.853	6.4	280.178	Started new CTD file 306004				
01/06/19 19:19:37.00	493135.2	5312187	2173.609	5.3	172.797	Can see Bottle				
01/06/19 19:23:06.00	493137.1	5312187	2171.725	7	169.154	Video tapes were started				

Date & Time	UTM (X)	UTM (Y)	Depth (m)	Alt. (m)	Heading	Event				
01/06/19 19:23:30.00	493137.1	5312187	2172.441	6.5	172.356	going toward target 4, the spider				
01/06/19 19:31:05.00	493163.3	5312184	2178.393	5.3	343.858	Animal observations	Tube worms			
01/06/19 19:32:45.00	493163.3	5312184	2183.192	2.5	22.581	Found the spider				
01/06/19 19:33:13.00	493171	5312185	2183.824	2.3	18.87	Spider in a bed of tube worms				
01/06/19 19:37:29.00	493171	5312185	2189.152	0.7	285.611	VID_GRAB	Getting the spider			
01/06/19 19:37:54.00	493171	5312185	2189.095	0.7	285.514	VID_GRAB	The spider			
01/06/19 19:39:11.00	493171	5312185	2188.608	1.5	280.623	VID_GRAB	Got the spider but having trouble picking it up			
01/06/19 19:39:20.00	493171	5312185	2188.415	1.6	287.187	VID_GRAB	got it			
01/06/19 19:40:53.00	493171	5312185	2186.904	2.9	157.291	Animal observations	Spider Crab			
01/06/19 19:42:50.00	493171	5312185	2187.849	0.7	144.828	VID_GRAB	Setting it down			
01/06/19 19:43:09.00	493171	5312185	2187.842	0.7	144.794	Set down in a bed of tube worms				
01/06/19 19:43:51.00	493171	5312185	2187.757	0.8	146.072	VID_GRAB				
01/06/19 19:43:58.00	493171	5312185	2187.67	0.9	145.039	Fell over				
01/06/19 19:44:25.00	493171	5312185	2188.156	0.8	167.327	VID_GRAB	Trying to put it right side up			
01/06/19 19:46:14.00	493213.6	5312192	2188.142	0.9	172.797	Griper on Jason failed				
01/06/19 19:46:54.00	493095.4	5312186	2187.53	1.4	171.137	Reset didn't work				
01/06/19 19:47:48.00	493095.4	5312186	2185.553	2.5	197.717	Can't stand it up				
01/06/19 19:48:25.00	493178.3	5312189	2185.446	2	255.567	Decided to try to stand it up right				
01/06/19 19:49:41.00	493178.3	5312189	2185.413	1.6	327.978	VID_GRAB	How the spider is now			
01/06/19 19:51:26.00	493178.3	5312189	2187.363	1.7	352.469	VID_GRAB	Again the way the spider is sitting			
01/06/19 19:52:10.00	493178.3	5312189	2188.387	0.7	353.721	Spider Crab				
01/06/19 19:53:17.00	493178.3	5312189	2188.475	0.7	352.571	VID_GRAB	Got a hold of it			
01/06/19 19:53:58.00	493178.3	5312189	2188.441	0.8	351.833	VID_GRAB	It is upright			
01/06/19 19:54:10.00	493178.3	5312189	2188.742	0.9	2.762	VID_GRAB				
01/06/19 19:54:21.00	493178.3	5312189	2188.675	0.8	2.836	VID_GRAB				
01/06/19 19:54:59.00	493178.3	5312189	2188.582	0.7	2.766	Dropping weights				
01/06/19 19:55:22.00	493178.3	5312189	2187.842	1.6	356.148	VID_GRAB				
01/06/19 19:55:36.00	493178.3	5312189	2187.709	1.6	25.747	VID_GRAB				
01/06/19 19:55:55.00	493178.3	5312189	2187.084	1.5	32.61	VID_GRAB	heading 031			
01/06/19 20:00:43.00	493209.1	5312195	2144.281	30	71.576	Instrument heading 341				
01/06/19 20:01:34.00	493214.1	5312194	2133.505	30	70.102	Tapes were taken out at 19:56				
01/06/19 20:02:02.00	493213.3	5312192	2128.187	30	78.149	Stopping the AST				
01/06/19 20:02:19.00	493213.3	5312192	2123.566	30	82.271	Coming Full				
01/06/19 20:14:45.00	493178.7	5312123	1918.478	30	58.26	On our way up				
01/06/19 20:34:35.00	493191.7	5312589	1624.145	30	19.372	CTD, Mag, and Doppler are not working, the screens are yellow				
01/06/19 20:37:29.00	493191.7	5312589	1568.94	30	9.417	CTD, Mag, and dropper are off line				



Date & Time	UTM (X)	UTM (Y)	Depth (m)	Alt. (m)	Heading	Event				
01/06/19 20:43:18.00	493191.7	5312589	1461.738	30	25.786	The Albl Nav was off line for a minute then came back on				
01/06/19 21:26:03.00	493191.7	5312589	683.214	30	28.211	VID_GRAB	Cool Plankton!!!			
01/06/19 21:40:47.00	493191.7	5312589	408.447	30	60.407	VID_GRAB				
01/06/19 21:41:13.00	493191.7	5312589	400.626	30	57.21	ascending 400 m				
01/06/19 21:59:51.00	493191.7	5312589	198.429	30	350.562	Hold steady at about 200m to route ship to pick up Jason				
01/06/19 22:07:39.00	493191.7	5312589	107.268	30	0.109	Note to John-4-Archrive TV is filckering in and out of working				
01/06/19 22:08:08.00	493191.7	5312589	99.056	30	3.45	We are ascending again				
01/06/19 22:15:09.00	493191.7	5312589	-3.337	30	331.391	Jasons on the surface				
01/06/19 22:15:32.00	493191.7	5312589	-3.276	30	339.541	Meddas out of the water				
01/06/19 22:15:41.00	493191.7	5312589	-3.109	30	331.207	Meddas on board				
01/06/19 22:16:03.00	493191.7	5312589	-3.002	30	332.328	Jason's not on the surface				
01/06/19 22:20:10.00	493191.7	5312589	-1.759	30	8.428	Jason's on the surface				
01/06/19 22:20:23.00	493191.7	5312589	-2.439	30	343.075	Jasons out of the water				
01/06/19 22:20:46.00	493191.7	5312589	-2.468	30	353.639	Jasons on board				
01/06/19 22:23:45.00	493191.7	5312589	-2.468	30	353.639	Jason on deck -- end dive 306				

Date & Time	UTM (X)	UTM (Y)	Depth (m)	Alt. (m)	Heading	Event		
01/06/21 01:53:39.00	493191.7	5312589.4	-4.835	30	247.177	Jason off deck		
01/06/21 01:55:40.00	493191.7	5312589.4	-4.212	30	83.835	Jason Wet		
01/06/21 02:01:46.00	494257.5	5312598	56.988	30	21.949	started ADCP		
01/06/21 02:05:40.00	494260.2	5312558.2	122.012	30	0.242	01F2100		
01/06/21 02:11:13.00	494286.4	5312495	217.384	30	248.883	CTD 307002 started		
01/06/21 02:11:20.00	494286.4	5312495	219.592	30	250.575	ADCP started		
01/06/21 02:14:04.00	494353.3	5312477.6	267.992	30	209.581	1.25 Mbit/sec on SM2000		
01/06/21 02:17:00.00	494390.5	5312487.6	318.918	30	195.093	833kbit/sec		
01/06/21 02:35:20.00	494289.9	5312478.3	667.819	30	71.551	It's a Grayism		
01/06/21 02:51:48.00	494082.3	5312422.9	956.797	30	75.907	Watch change		
01/06/21 02:54:48.00	494039.7	5312409.3	1000.252	30	97.028	Preparing for Tivey Twist		
01/06/21 03:05:15.00	493963.9	5312399.5	1009.973	30	263.85	Beginning Tivey Twist		
01/06/21 03:07:14.00	493967.7	5312398.2	1010.081	30	271.589	Twist complete		
01/06/21 04:02:06.00	493469.6	5312335	1860.869	30	48.465	passing through neutrally buoyant plume		
01/06/21 04:42:39.00	493220.9	5312279.2	1964.611	30	155.88	trying to get underneath medea		
01/06/21 04:52:15.00	493224	5312291.2	1962.243	30	340.487	having trouble getting to medea		
01/06/21 04:53:30.00	493227.5	5312292.4	1961.613	30	319.001	possible thruster problem		
01/06/21 05:06:52.00	493197.4	5312272.8	1961.173	30	353.422	shutting whole vehicle off		
01/06/21 05:08:07.00	493198.4	5312267.2	1960.243	30	54.675	jasonback on		
01/06/21 05:16:45.00	493216.8	5312280.5	1959.043	30	119.527	recovering jason		
01/06/21 05:38:25.00	493084.8	5312306.6	1616.79	30	124.405	pan and tilt camera working again		
01/06/21 05:39:56.00	493068.4	5312310.6	1587.53	30	105.552	unloading wieghts from jason		
01/06/21 05:41:22.00	493044.6	5312318.2	1554.652	30	106.116	starting CTD file 307003		
01/06/21 06:54:50.00	491896.1	5312515.2	4.495	30	93.319	Turning off Medea lights		
01/06/21 06:56:46.00	491884.7	5312510.1	-2.254	30	99.812	Medea out of the water		
01/06/21 06:57:21.00	491884.7	5312510.1	-2.087	30	91.076	Medea on deck		
01/06/21 06:57:29.00	491884.7	5312510.1	-1.929	30	87.866	Jason at surface		
01/06/21 06:58:19.00	491884.7	5312510.1	-1.49	30	74.428	Killed Jason power		
01/06/21 06:59:52.00	491884.7	5312510.1	-1.49	30	74.428	Jason out the water		
01/06/21 07:04:07.00	491884.7	5312510.1	-1.49	30	74.428	Jason on deck		

Date & Time	UTM (X)	UTM (Y)	Depth (m)	Alt. (m)	Heading		Event	
01/06/21 01:53:39.00	493191.69	5312589.44	-4.835	30	247.177	Jason off deck		
01/06/21 01:55:40.00	493191.69	5312589.44	-4.212	30	83.835	Jason Wet		
01/06/21 02:01:46.00	494257.5	5312598.02	56.988	30	21.949	started ADCP		
01/06/21 02:05:40.00	494260.21	5312558.23	122.012	30	0.242	01F2100		
01/06/21 02:11:13.00	494286.37	5312494.99	217.384	30	248.883	CTD 307002 started		
01/06/21 02:11:20.00	494286.37	5312494.99	219.592	30	250.575	ADCP started		
01/06/21 02:14:04.00	494353.26	5312477.63	267.992	30	209.581	1.25 Mbit/sec on SM2000		
01/06/21 02:17:00.00	494390.54	5312487.59	318.918	30	195.093	833kbit/sec		
01/06/21 02:35:20.00	494289.9	5312478.33	667.819	30	71.551	It's a Grayism		
01/06/21 02:51:48.00	494082.32	5312422.91	956.797	30	75.907	Watch change		
01/06/21 02:54:48.00	494039.66	5312409.27	1000.252	30	97.028	Preparing for Tivey Twist		
01/06/21 03:05:15.00	493963.92	5312399.48	1009.973	30	263.85	Beginning Tivey Twist		
01/06/21 03:07:14.00	493967.65	5312398.22	1010.081	30	271.589	Twist complete		
01/06/21 04:02:06.00	493469.63	5312335	1860.869	30	48.465	passing through neutrally buoyant plume		
01/06/21 04:42:39.00	493220.94	5312279.24	1964.611	30	155.88	trying to get underneath medea		
01/06/21 04:52:15.00	493224.02	5312291.18	1962.243	30	340.487	having trouble getting to medea		
01/06/21 04:53:30.00	493227.47	5312292.4	1961.613	30	319.001	possible thruster problem		
01/06/21 05:06:52.00	493197.44	5312272.84	1961.173	30	353.422	shutting whole vehicle off		
01/06/21 05:08:07.00	493198.44	5312267.18	1960.243	30	54.675	jasonback on		
01/06/21 05:16:45.00	493216.82	5312280.45	1959.043	30	119.527	recovering jason		
01/06/21 05:38:25.00	493084.83	5312306.58	1616.79	30	124.405	pan and tilt camera working again		
01/06/21 05:39:56.00	493068.42	5312310.59	1587.53	30	105.552	unloading wieghts from jason		
01/06/21 05:41:22.00	493044.63	5312318.24	1554.652	30	106.116	starting CTD file 307003		
01/06/21 06:54:50.00	491896.07	5312515.19	4.495	30	93.319	Turning off Medea lights		
01/06/21 06:56:46.00	491884.7	5312510.05	-2.254	30	99.812	Medea out of the water		
01/06/21 06:57:21.00	491884.7	5312510.05	-2.087	30	91.076	Medea on deck		
01/06/21 06:57:29.00	491884.7	5312510.05	-1.929	30	87.866	Jason at surface		
01/06/21 06:58:19.00	491884.7	5312510.05	-1.49	30	74.428	Killed Jason power		
01/06/21 06:59:52.00	491884.7	5312510.05	-1.49	30	74.428	Jason out the water		
01/06/21 07:04:07.00	491884.7	5312510.05	-1.49	30	74.428	Jason on deck		
01/06/21 16:45:05.00	491884.7	5312510.05	-4.761	30	135.912	VID_GRAB	Jason off deck	
01/06/21 16:46:02.00	491884.7	5312510.05	-3.927	30	81.334	VID_GRAB	Jason wet start of JAS308	
01/06/21 16:47:03.00	491884.7	5312510.05	-3.87	1.7	81.084	started ADCP- DV308000		
01/06/21 16:47:27.00	484750.21	5310527.06	-4.144	1.6	80.286	starting CTD 308001		
01/06/21 16:48:18.00	494521.17	5316652.05	-4.113	1.5	79.561	medea is diving to 50m		
01/06/21 16:54:06.00	494007.05	5312081.96	88.175	30	96.523	trying to initialize SM2000-error message "cannot		

Date & Time	UTM (X)	UTM (Y)	Depth (m)	Alt. (m)	Heading		Event	
						communicate w/sonar head"		
01/06/21 16:54:17.00	494006.82	5312085.1	91.321	30	95.744	restart SM2000		
01/06/21 17:00:58.00	493924.85	5312054.6	225.627	30	47.112	SM2000 error msg. - slow telemetry		
01/06/21 17:03:30.00	493915	5312052.39	280.171	30	38.17	same SM2000 error msg. - turn off until near bottom		
01/06/21 17:42:08.00	493776.62	5312083.8	1030.475	30	298.367	starting Tivey twist		
01/06/21 17:43:44.00	493721.13	5312067.59	1031.303	30	162.726	tivey twist done. uncoiling		
01/06/21 17:45:42.00	493741.37	5312062.85	1030.756	30	106.777	Unwind complete- continue down		
01/06/21 17:56:47.00	493729.63	5312085.77	1251.436	30	85.339	Pelagic octopus or jellyfish		
01/06/21 18:23:17.00	493504.9	5312181.67	1799.827	30	42.69	going through plume		
01/06/21 18:25:56.00	493475.04	5312190.83	1850.961	30	66.444	starting up SM2000 again		
01/06/21 18:28:32.00	493450.31	5312189.38	1904.773	30	67.556	SM2000 telemetry error again		
01/06/21 18:31:01.00	493443.1	5312194.04	1922.697	30	75.456	passing through more smoke		
01/06/21 18:48:49.00	493288.65	5312263.28	2076.066	30	90.598	Starting the dopper twist		
01/06/21 18:51:00.00	493274.63	5312268.09	2109.725	30	89.453	Doing Twist closer to bottom		
01/06/21 18:55:06.00	493240.64	5312276.56	2159.526	20.3	253.306	Can see elevator in Meddas butt cam.		
01/06/21 18:57:11.00	493240.96	5312275.56	2160.202	20.4	253.718	Doing Dopper twist		
01/06/21 18:57:38.00	493238.37	5312276.49	2157.153	23.2	253.397	251 heading for twist		
01/06/21 18:59:39.00	493239.16	5312278.05	2156.926	23.1	344.546	Starting third turn		
01/06/21 19:00:41.00	493238.97	5312277.11	2157.012	22.9	12.043	Downing the fouth turn		
01/06/21 19:00:51.00	493240.06	5312276.77	2157.002	22.6	43.83	Fifth turn		
01/06/21 19:01:19.00	493237.46	5312278.51	2156.978	22.6	71.561	Sixth turn		
01/06/21 19:02:03.00	493240.57	5312278.48	2156.984	22.7	102.146	Seventh Turn at 30 degrees		
01/06/21 19:02:41.00	493240.18	5312278.62	2156.956	23	132.749	Eighth turn started		
01/06/21 19:03:13.00	493241.45	5312276.78	2157.047	23	164.118	Ninth turn started		
01/06/21 19:04:54.00	493239.31	5312276.94	2156.97	23.3	245.508	Eleventh Turn		
01/06/21 19:05:22.00	493239.8	5312276.83	2156.981	23.3	23.544	Finished turns		
01/06/21 19:05:28.00	493239.8	5312276.83	2156.968	23.5	329.646	Heading for the bottom		
01/06/21 19:07:07.00	493245.52	5312279.26	2167.789	12.9	244.049	Can see bottom		
01/06/21 19:07:26.00	493241.24	5312274.63	2169.435	11.1	242.168	Can see elevator in camaras		
01/06/21 19:09:20.00	493236.1	5312271.63	2172.992	7.3	225.321	Going to pick up a Mav		
01/06/21 19:09:56.00	493230.67	5312272.16	2173.443	6.7	252.084	Going to pick up a Mavs		
01/06/21 19:10:14.00	493230.67	5312272.16	2173.456	6.7	264.422	Shrimp floating across screen		
01/06/21 19:14:48.00	493230.76	5312267.79	2174.922	5.1	283.414	Ready to lift Mavs 58 out of the elevator		
01/06/21 19:17:59.00	493224.78	5312264.94	2174.429	5.7	280.749	Stong North Current		
01/06/21 19:18:51.00	493224.78	5312264.94	2173.961	6	280.372	Got MAVs 58		
01/06/21 19:19:07.00	493224.78	5312264.94	2173.622	6.6	273.972	Picked up Mavs 58		

Date & Time	UTM (X)	UTM (Y)	Depth (m)	Alt. (m)	Heading		Event	
01/06/21 19:20:10.00	493227.84	5312266.93	2174.451	5.8	272.836	Set Mavs 58 down to dump so weights		
01/06/21 19:20:21.00	493227.84	5312266.93	2174.472	5.8	272.319	Dumping the weights		
01/06/21 19:21:23.00	493227.84	5312266.93	2174.289	6	339.413	Grabbed Mavs 58 and attached it to Jason		
01/06/21 19:21:59.00	493227.84	5312266.93	2171.504	9	3.057	Going to a spot 48 meters East		
01/06/21 19:29:42.00	493239.31	5312299.33	2169.809	10.9	354.119	Paul bought 144 earing aids at Costco		
01/06/21 19:33:33.00	493236.59	5312330.41	2168.825	7.6	354.321	old, extinct chimney		
01/06/21 19:34:28.00	493232.51	5312335.26	2171.788	6.7	309.001	Tempature anomaly-.2		
01/06/21 19:35:17.00	493234.5	5312333.18	2171.889	6.2	304.589	Taking Mavs 58 off hook		
01/06/21 19:36:48.00	493234.96	5312333.12	2171.898	6.5	305.323	Having trouble getting Mavs 58 off the hook		
01/06/21 19:36:57.00	493232.09	5312331.61	2171.891	6	304.991	VID_GRAB		
01/06/21 19:38:35.00	493231.72	5312336.83	2175.045	3.6	194.347	Setting Mavs 58 on the bottom get it off the hook		
01/06/21 19:39:13.00	493235.03	5312336.86	2174.646	4.2	170.084	VID_GRAB	Tubeworms	
01/06/21 19:39:17.00	493235.03	5312336.86	2174.628	4.2	207.336	Fish		
01/06/21 19:40:20.00	493223.31	5312346.67	2178.326	5	254.578	Mavs sighted directly ahead		
01/06/21 19:42:32.00	493210.97	5312358.86	2181.129	4.5	249.719	Substrate	Sheet flow	
01/06/21 19:43:46.00	493218.14	5312351.56	2180.49	4	244.508	Target over old Mavs		
01/06/21 19:44:14.00	493212.9	5312345.45	2179.337	4.3	253.52	VID_GRAB		
01/06/21 19:44:25.00	493212.9	5312345.45	2177.715	6.5	265.702	VID_GRAB		
01/06/21 19:45:56.00	493205.45	5312347.38	2178.024	2.7	277.665	We reached target spot to realse the Mavs58		
01/06/21 19:46:34.00	493203.94	5312347.86	2177.758	2.6	12.977	Decided to look around for a spot that makes sense to put it here		
01/06/21 19:48:20.00	493208.53	5312346.64	2180.4	4.1	146.997	Decided to put it somewhere else then the target spot		
01/06/21 19:48:34.00	493210.33	5312345.94	2181.649	2.2	149.901	Bacteria Flock		
01/06/21 19:49:03.00	493212.44	5312344.16	2181.804	2.7	170.927	VID_GRAB	Low level venting area	
01/06/21 19:49:13.00	493211.26	5312344.31	2181.771	2.4	193.816	VID_GRAB		
01/06/21 19:50:04.00	493210.66	5312343.44	2183.006	1.2	198.275	Putting Mavs 58 down to get it off the hook		
01/06/21 19:50:08.00	493210.66	5312343.44	2183.133	1.1	198.329	VID_GRAB		
01/06/21 19:50:42.00	493208.9	5312343.45	2183.632	0.7	205.609	Sturred up dust cloud		
01/06/21 19:51:03.00	493208.28	5312343.06	2183.671	30	204.227	VID_GRAB		
01/06/21 19:51:15.00	493210.45	5312343.66	2183.94	30	206.037	VID_GRAB		
01/06/21 19:51:28.00	493210.45	5312343.66	2183.998	30	206.084	VID_GRAB		
01/06/21 19:51:51.00	493210.71	5312343.58	2184.005	30	206.146	Resupendtion of the sediment		
01/06/21 19:52:19.00	493212.43	5312343	2183.353	1.6	205.625	Got it unhooked		
01/06/21 19:52:24.00	493212.43	5312343	2183.312	1.5	193.457	VID_GRAB		
01/06/21 19:53:43.00	493212.94	5312344.76	2183.223	1.7	195.81	VID_GRAB		
01/06/21 19:55:15.00	493213.75	5312344.4	2182.951	1.9	156.507	Turning the Mavs to chang its direction		

Date & Time	UTM (X)	UTM (Y)	Depth (m)	Alt. (m)	Heading		Event	
01/06/21 19:55:56.00	493213.03	5312344.94	2183.683	30	118.659	VID_GRAB		
01/06/21 19:56:16.00	493211.66	5312346.22	2183.816	0.9	132.309	VID_GRAB		
01/06/21 19:56:21.00	493211.66	5312346.22	2183.856	1	133.787	VID_GRAB		
01/06/21 20:01:31.00	493210.89	5312344.03	2183.647	1.1	130.959	Changed its direction of the Mavs 58		
01/06/21 20:01:45.00	493210.89	5312344.03	2183.261	1.9	181.541	VID_GRAB		
01/06/21 20:03:09.00	493213.54	5312343.42	2183.287	0.9	249.338	VID_GRAB		
01/06/21 20:03:39.00	493215.91	5312343.3	2183.494	30	244.258	VID_GRAB		
01/06/21 20:04:22.00	493215.44	5312343.56	2183.973	1.7	240.306	VID_GRAB	Rod in tubeworms	
01/06/21 20:05:36.00	493215.08	5312343.46	2183.498	1.5	181.611	Repositioning the Mavs because of the rod in the tubeworms		
01/06/21 20:07:20.00	493213.5	5312342.13	2183.858	1.1	136.958	VID_GRAB		
01/06/21 20:09:43.00	493210.97	5312346.11	2183.876	0.9	136.568	VID_GRAB		
01/06/21 20:10:27.00	493212.58	5312345.12	2183.862	0.9	136.587	Have mass amounts of trouble with the rod		
01/06/21 20:12:04.00	493209.58	5312344.8	2183.842	0.9	135.021	VID_GRAB		
01/06/21 20:12:06.00	493209.58	5312344.8	2183.836	0.9	134.971			
01/06/21 20:13:48.00	493211.68	5312344.67	2184.508	30	146.879	VID_GRAB		
01/06/21 20:14:02.00	493211.91	5312344.43	2184.492	30	146.726	VID_GRAB		
01/06/21 20:16:11.00	493212.17	5312345.34	2184.155	30	146.403	VID_GRAB		
01/06/21 20:16:37.00	493213.76	5312345.2	2184.306	30	127.381	VID_GRAB		
01/06/21 20:17:03.00	493211.04	5312345.59	2184.306	30	127.26	VID_GRAB		
01/06/21 20:18:36.00	493211.49	5312345.11	2184.323	30	126.65	VID_GRAB		
01/06/21 20:18:46.00	493211.49	5312345.11	2184.326	30	126.575	VID_GRAB		
01/06/21 20:33:05.00	493211.14	5312344.09	2184.764	30	98.441	Doing Temp probe		
01/06/21 20:35:01.00	493210.7	5312345.04	2184.543	30	78.732	VID_GRAB		
01/06/21 20:37:56.00	493210.78	5312345.71	2183.152	1.5	134.542	VID_GRAB		
01/06/21 20:38:04.00	493210.78	5312345.71	2183.245	2.4	160.38	VID_GRAB		
01/06/21 20:38:41.00	493212.21	5312346.3	2182.985	2.5	169.148	Heading 170 at 90 degrees to the Mavs		
01/06/21 20:38:47.00	493212.21	5312346.3	2182.857	2.6	171.197	Heading 260		
01/06/21 20:40:19.00	493218.79	5312352.16	2180.74	5.2	252.127	Leaving Mavs 58 and picking up old Mavs		
01/06/21 20:42:38.00	493211.68	5312354.46	2182.985	2.4	0.581	Going to pick up two Mavs to take to elevator		
01/06/21 20:42:52.00	493210.82	5312354.5	2183.056	2.2	349.618	Picking up Mavs 52		
01/06/21 20:43:25.00	493214.1	5312353.6	2184.05	1.8	336.181	VID_GRAB		
01/06/21 20:44:16.00	493217.37	5312355.7	2183.676	1.7	244.248	Heading of Mavs 156		
01/06/21 20:44:21.00	493217.37	5312355.7	2184.137	2.1	244.452	VID_GRAB		
01/06/21 20:44:28.00	493217.37	5312355.7	2183.898	1.8	247.529	VID_GRAB		
01/06/21 20:45:43.00	493213.29	5312356.88	2183.93	2.4	217.816	Got Mavs 52		
01/06/21 20:46:16.00	493214.18	5312356.48	2184.317	2	240.435	Sea Star		

Date & Time	UTM (X)	UTM (Y)	Depth (m)	Alt. (m)	Heading		Event	
01/06/21 20:47:52.00	493225.36	5312358.08	2178.207	4.8	110.659	Can see Mavs that is the target		
01/06/21 20:48:15.00	493230.06	5312356.72	2178.666	3.1	98.526	VID_GRAB		
01/06/21 20:48:30.00	493231.28	5312353.79	2178.722	3.1	84.133	Started CTD file 308		
01/06/21 20:48:40.00	493231.28	5312353.79	2178.768	3.4	72.371	VID_GRAB		
01/06/21 20:48:51.00	493234.1	5312350.98	2179.061	2.8	72.116	VID_GRAB	Mavs 62	
01/06/21 20:49:01.00	493234.1	5312350.98	2179.216	2.9	72.657	VID_GRAB		
01/06/21 20:49:05.00	493234.1	5312350.98	2179.207	2.9	51.376	VID_GRAB		
01/06/21 20:49:23.00	493231.37	5312351.69	2179.121	2.8	0.917	CRD file 308002		
01/06/21 20:49:37.00	493231.37	5312351.69	2179.015	1.9	329.103	VID_GRAB		
01/06/21 20:49:49.00	493229.84	5312349.42	2179.443	2.4	312.52	Shimmering water		
01/06/21 20:50:00.00	493229.84	5312349.42	2179.763	2.1	313.3	VID_GRAB		
01/06/21 20:50:53.00	493238.88	5312352.82	2177.555	3.6	299.254	Got Mavs 62		
01/06/21 20:51:32.00	493238.92	5312355.29	2172.319	7	207.662	Mavs 62 did not completely undeply		
01/06/21 20:56:44.00	493213.58	5312338.97	2173.76	7.7	246.84	VID_GRAB		
01/06/21 20:57:10.00	493215.02	5312331.71	2173.908	8.2	244.543	Vent Sulfide Chimney		
01/06/21 20:59:02.00	493224.23	5312320.2	2172.404	5.6	179.384	VID_GRAB		
01/06/21 20:59:19.00	493227.38	5312316.84	2169.712	8.1	175.005		Smoke	
01/06/21 20:59:34.00	493225.92	5312317.04	2170.982	4.5	174.058			
01/06/21 20:59:55.00	493228.28	5312310.37	2171.765	1.8	176.829	Black Smoker		
01/06/21 21:02:29.00	493221.07	5312282.75	2172.62	5.6	171.662	Can See elevator		
01/06/21 21:03:27.00	493221.07	5312282.75	2172.789	8.3	237.314	VID_GRAB		
01/06/21 21:03:55.00	493230.19	5312267.17	2174.64	6.1	254.347	Putting Mavs 62 on the elevator		
01/06/21 21:04:18.00	493220.53	5312267.63	2175.477	5.1	248.938	Mavs 62 is on the elevator		
01/06/21 21:04:51.00	493220.53	5312267.63	2175.418	5.5	278.719	Mavs 62 is in slot A		
01/06/21 21:05:45.00	493224.68	5312267.94	2179.224	2.7	255.815	Dropping Mavs 52 on the floor next to the elevator		
01/06/21 21:06:31.00	493224.68	5312267.94	2175.553	6.5	215.203	VHS tape #8 started recording		
01/06/21 21:09:19.00	493226.79	5312265.04	2175.942	4.7	271.187	Mavs is bunged in		
01/06/21 21:10:06.00	493222.91	5312267.67	2175.648	5.1	255.399	Unbunding Mavs 50		
01/06/21 21:12:25.00	493223.97	5312267.71	2174.716	5.8	173.878	Mavs 50 is out of the elevator		
01/06/21 21:12:46.00	493223.97	5312267.71	2173.883	6.6	169.991	Mavs 50 is from slot B		
01/06/21 21:13:20.00	493224.72	5312272.36	2174.391	4.3	169.822	Setting down Mavs 50		
01/06/21 21:14:51.00	493226.65	5312275.55	2174.525	6	169.963	Mavs 50 is on the hook on Jason		
01/06/21 21:22:02.00	493226.84	5312295.09	2171.236	9.8	2.438	Pilot stood up and sat down twice		
01/06/21 21:26:18.00	493224.48	5312311.93	2171.265	6.7	22.952	Can see old Mavs57		
01/06/21 21:26:31.00	493224.85	5312314.19	2171.272	6.3	22.474	VID_GRAB		
01/06/21 21:26:42.00	493224.85	5312314.19	2171.278	5.9	22.814	Tubeworms		

Date & Time	UTM (X)	UTM (Y)	Depth (m)	Alt. (m)	Heading		Event	
01/06/21 21:34:03.00	493214.77	5312314.13	2171.156	9.9	313.08	Animal observations	Shrimp	
01/06/21 21:38:46.00	493209.47	5312321.25	2173.911	8.7	311.41	Animal observations	Tube worms	
01/06/21 21:40:02.00	493206.81	5312325.88	2175.013	8.1	314.782	VID_GRAB		
01/06/21 21:40:09.00	493209.28	5312327.39	2173.837	8.8	314.322	VID_GRAB		
01/06/21 21:40:15.00	493209.28	5312327.39	2173.456	8.9	304.525	VID_GRAB		
01/06/21 21:40:58.00	493201.26	5312328.33	2174.103	6.5	310.373	Wow		
01/06/21 21:42:45.00	493189.11	5312335.07	2174.141	4.8	98.782	VID_GRAB		
01/06/21 21:44:04.00	493198.83	5312331.35	2178.327	1.9	109.705		Smoke	
01/06/21 21:44:29.00	493198.55	5312331.41	2179.511	0.9	115.189	Shimmering water		
01/06/21 21:44:50.00	493200.22	5312331.09	2177.628	2.7	114.839	VID_GRAB		
01/06/21 21:45:26.00	493196.96	5312331.95	2175.904	4	105.723		Temp Anom	1degree
01/06/21 21:45:55.00	493204.75	5312328.97	2175.356	7	319.033	VID_GRAB		
01/06/21 21:47:19.00	493202.2	5312325.66	2179.628	2.5	314.56	VID_GRAB		
01/06/21 21:47:50.00	493192.82	5312326.81	2180.839	1.3	317.958	Looks like a chemney that has been nocked down		
01/06/21 21:48:00.00	493192.82	5312326.81	2180.86	1.2	312.105	VID_GRAB		
01/06/21 21:48:41.00	493187.29	5312327.27	2178.517	3	317.189	VID_GRAB		
01/06/21 21:49:23.00	493187.29	5312327.27	2178.331	2.4	312.8		Temp Anom	Over 1.2 deg.
01/06/21 21:50:24.00	493175.9	5312325.61	2178.202	3.2	324.391	We stirred up a dust storm		
01/06/21 21:50:32.00	493193.15	5312327.68	2178.242	3.4	320.238	VID_GRAB		
01/06/21 21:50:39.00	493193.15	5312327.68	2179.088	2.8	321.865	VID_GRAB		
01/06/21 21:50:47.00	493193.15	5312327.68	2179.32	2.7	318.411	VID_GRAB		
01/06/21 21:51:24.00	493188.87	5312328.56	2180.604	1.4	287.188	VID_GRAB		
01/06/21 21:51:32.00	493188.87	5312328.56	2180.332	1.6	284.989	VID_GRAB		
01/06/21 21:53:20.00	493198.58	5312329.01	2179.654	2.5	278.134	VID_GRAB		
01/06/21 21:53:50.00	493198.58	5312329.01	2180.475	1.6	274.991	We are putting the tube worms into shock		
01/06/21 21:54:36.00	493205.34	5312322.81	2181.192	1.2	277.948	We are killing tube worms and making the others very unhappy		
01/06/21 21:54:45.00	493205.34	5312322.81	2181.172	1.2	275.043	VID_GRAB		
01/06/21 21:55:27.00	493205.34	5312322.81	2180.144	1.7	269.907	Animal observations	fish	
01/06/21 21:55:32.00	493205.34	5312322.81	2179.317	2.9	274.176			
01/06/21 21:55:43.00	493205.34	5312322.81	2177.799	4.5	302.443	Rat tail fish		
01/06/21 21:58:19.00	493185.52	5312332.78	2177.856	0.7	346.444	VID_GRAB		
01/06/21 21:59:20.00	493183.29	5312337.06	2178.613	30	356.081	VID_GRAB		
01/06/21 22:03:08.00	493196.24	5312331.83	2180.281	30	92.028	VID_GRAB		
01/06/21 22:03:14.00	493196.24	5312331.83	2180.279	30	91.657	VID_GRAB		



Date & Time	UTM (X)	UTM (Y)	Depth (m)	Alt. (m)	Heading		Event	
01/06/21 22:03:45.00	493197.88	5312331.63	2180.299	30	91.102	Finally Mavs 50 is in place		
01/06/21 22:03:55.00	493201.22	5312332.3	2180.288	30	91.138	Doing temp probe		
01/06/21 22:04:15.00	493196.16	5312331.14	2180.286	30	91.187	VID_GRAB		
01/06/21 22:04:41.00	493194.94	5312331.94	2180.288	30	91.197	VID_GRAB		
01/06/21 22:07:08.00	493197.28	5312333.15	2180.29	30	91.082	VID_GRAB		
01/06/21 22:07:31.00	493196.68	5312331.6	2180.303	22.8	90.727	Temp probe high 5.5, low 2.6		
01/06/21 22:07:52.00	493197.14	5312330.98	2180.29	30	90.729	VID_GRAB		
01/06/21 22:08:07.00	493197.14	5312330.98	2179.599	1.2	92.395	VID_GRAB		
01/06/21 22:08:33.00	493198.13	5312331.76	2179.158	1.7	124.265	VID_GRAB		
01/06/21 22:09:21.00	493194.78	5312332.04	2177.349	3.5	140.445	VID_GRAB		
01/06/21 22:10:21.00	493196.66	5312331.87	2177.38	3.5	139.649	Waiting for Medda to move		
01/06/21 22:10:36.00	493195.86	5312332.33	2177.407	3.2	139.693	Opening the cooler(Bio box)		
01/06/21 22:12:21.00	493195.22	5312331.23	2175.64	4.5	106.26	8 to 10 meters in hieght- the stucures		
01/06/21 22:12:46.00	493197.02	5312331.29	2175.716	4.9	46.575	VID_GRAB		
01/06/21 22:13:02.00	493200.11	5312330.9	2174.975	6.8	60.903	Extent sulfide, large		
01/06/21 22:13:11.00	493200.11	5312330.9	2174.066	7.9	55.801	VID_GRAB		
01/06/21 22:29:03.00	493213.32	5312350.75	2181.367	4.8	8.424	Looking for Janets wood		
01/06/21 22:29:16.00	493217.52	5312353.2	2181.905	4.5	319.231	Found Janet'		
01/06/21 22:29:29.00	493215.87	5312353.69	2183.576	2.9	337.498	Found Janet's wood		
01/06/21 22:30:15.00	493217.99	5312355.4	2184.488	1.4	295.674	VID_GRAB		
01/06/21 22:30:20.00	493217.99	5312355.4	2184.677	1.9	297.661	VID_GRAB		
01/06/21 22:30:54.00	493217.05	5312358.82	2184.863	1.3	253.941	VID_GRAB		
01/06/21 22:31:34.00	493216.21	5312360.71	2186.56	30	214.138	Substrate	Pillow lava	
01/06/21 22:31:48.00	493216.21	5312360.71	2186.536	1.8	214.292	VID_GRAB		
01/06/21 22:31:54.00	493216.21	5312360.71	2186.57	1.4	214.803	VID_GRAB		
01/06/21 22:32:03.00	493216.21	5312360.71	2186.603	30	214.93	VID_GRAB		
01/06/21 22:32:18.00	493216.21	5312360.71	2186.589	1.8	214.883	VID_GRAB		
01/06/21 22:33:44.00	493211.67	5312354.75	2186.399	1.8	213.853	Wood is in the box		
01/06/21 22:34:31.00	493211.67	5312354.75	2186.352	2.3	214.328	Cooler closed		
01/06/21 22:35:20.00	493214.54	5312356.03	2181.822	4.1	168.344	VID_GRAB		
01/06/21 22:35:24.00	493214.54	5312356.03	2181.593	4	173.319	VID_GRAB		
01/06/21 22:37:47.00	493208.52	5312314.66	2179.293	3.7	325.992	VID_GRAB		
01/06/21 22:38:02.00	493206.9	5312315.75	2180.167	2.5	321.598	Can see the Hobo		
01/06/21 22:38:07.00	493206.9	5312315.75	2180.432	2.5	323.228	VID_GRAB		
01/06/21 22:40:46.00	493208.24	5312310.64	2181.866	1.5	323.582	VID_GRAB		
01/06/21 22:41:09.00	493226.84	5312296.25	2180.426	3.1	19.169	Decided this is not our marker		

Date & Time	UTM (X)	UTM (Y)	Depth (m)	Alt. (m)	Heading		Event	
01/06/21 22:41:38.00	493208.8	5312320.85	2180.236	2.9	4.713	Still looking for the Hobo and the marker		
01/06/21 22:42:05.00	493212.22	5312325.59	2179.503	3.6	331.56	VID_GRAB		
01/06/21 22:43:06.00	493208.06	5312328.71	2180.056	1.9	348.756	Can see a Mavs		
01/06/21 22:43:34.00	493210.07	5312334.3	2179.657	2.2	284.358	VID_GRAB		
01/06/21 22:45:20.00	493212.05	5312327.37	2180.858	1.4	187.446	Still looking for a Hobo		
01/06/21 22:45:33.00	493212.05	5312327.37	2180.43	2	229.813	Low temp Hobo probe		
01/06/21 22:53:17.00	493229.31	5312311.16	2172.975	1.3	350.254	mav in site		
01/06/21 22:55:33.00	493217.5	5312319.29	2177.306	2.1	24.823	VID_GRAB	Low Temp HOBO	
01/06/21 22:55:50.00	493214.22	5312320.63	2178.818	30	31.122	VID_GRAB	LOW Temp Hobo #34	
01/06/21 22:57:16.00	493209.59	5312320.02	2179.528	30	30.925	Low Temp Hobo	found at base of high temp	
						smother, tube worms shimmering water, Looks like it might		
						be a double hobo		
01/06/21 23:00:09.00	493209.59	5312320.02	2179.646	30	30.271	Low Temp Hobo	picking up Low temp Hobo	
01/06/21 23:01:41.00	493209.59	5312320.02	2179.667	30	30.145	Low Temp Hobo	Now it looks like a single	
01/06/21 23:02:58.00	493209.59	5312320.02	2179.672	30	29.868	Low Temp Hobo	Now it looks like a double	
01/06/21 23:08:13.00	493215.77	5312319.61	2178.128	1.5	49.351	Low Temp Hobo	VID_GRAB	it's double
01/06/21 23:08:18.00	493215.77	5312319.61	2177.546	1.8	49.993	Low Temp Hobo	leaving low temp Hobo	
01/06/21 23:08:31.00	493211.83	5312318.74	2177.32	1.9	53.252	HiTemp Hobo		
01/06/21 23:08:46.00	493211.83	5312318.74	2176.821	2	95.438	HistTemp Hobo	starting to look for hi temp hobo	
01/06/21 23:10:23.00	493226.46	5312317.28	2174.541	2	126.126	HistTemp Hobo	VID_GRAB	Hi temp
								hobo
01/06/21 23:10:40.00	493228.14	5312317.12	2174.261	2.3	125.635	HistTemp Hobo	VID_GRAB	black
							smoke all around	
01/06/21 23:11:40.00	493226.06	5312317.02	2173.441	3.2	119.278	HistTemp Hobo	VID_GRAB	
01/06/21 23:14:09.00	493231.06	5312316.18	2174.181	1.4	114.148	HistTemp Hobo	Black smoker has several	
							small flanges	
01/06/21 23:15:13.00	493229.28	5312316.56	2174.161	1.4	113.976	HistTemp Hobo	VID_GRAB	Looks like
							it might be sealed in	
01/06/21 23:16:35.00	493229.96	5312316.77	2174.121	1.4	113.113	HistTemp Hobo	VID_GRAB	flying away
01/06/21 23:20:10.00	493229.84	5312317.34	2174.089	1.4	112.682	HistTemp Hobo	Titanium pressure housing	
01/06/21 23:37:32.00	493229.89	5312316.99	2174.235	1	152.11	HiTemp Hobo	VID_GRAB	
01/06/21 23:38:11.00	493232.45	5312315.13	2174.091	0.8	158.145	HiTemp Hobo	VID_GRAB	
01/06/21 23:38:40.00	493229.74	5312316.95	2174.111	0.9	158.452	HiTemp Hobo	VID_GRAB	Christmas
						tree sulfide. Is the Hobo under the tree?		
01/06/21 23:43:09.00	493229.29	5312316.38	2174.136	30	157.814	HiTemp Hobo	VID_GRAB	Let's get rid
						of that hole. Anyone got a patch kit?		

Date & Time	UTM (X)	UTM (Y)	Depth (m)	Alt. (m)	Heading		Event	
01/06/21 23:43:48.00	493230.55	5312316.36	2174.122	30	155.236	HiTemp Hobo	VID_GRAB	Jim get
						pilot of the day award for getting lead weight out from hole		
						in basket.		
01/06/21 23:44:13.00	493231.6	5312316.15	2174.095	0.7	155.203	HiTemp Hobo	VID_GRAB	
01/06/21 23:44:35.00	493229.49	5312316.85	2174.122	30	155.468	HiTemp Hobo	VID_GRAB	
01/06/21 23:52:46.00	493223.69	5312318.57	2174.401	3	29.001	Mav Recovery	VID_GRAB	
01/06/21 23:54:31.00	493223.99	5312319.86	2175.094	2.5	20.623	Mav Recovery	Mav orientation 12	
01/06/21 23:56:59.00	493222.08	5312323.96	2178.387	30	84.314	Mav Recovery	VID_GRAB	
01/06/22 00:00:28.00	493222.08	5312323.96	2178.367	30	82.779	Mav Recovery	VID_GRAB	
01/06/22 00:09:20.00	493222.08	5312323.96	2178.313	30	76.401	10057 Mav Recovery	VID_GRAB	
01/06/22 00:15:46.00	493222.08	5312323.96	2178.244	30	69.521	10057 Mav Recovery	VID_GRAB	
01/06/22 00:15:50.00	493222.08	5312323.96	2178.252	30	69.486	10057 Mav Recovery	VID_GRAB	
01/06/22 00:15:54.00	493222.08	5312323.96	2178.244	30	69.386	10057 Mav Recovery	VID_GRAB	
01/06/22 00:16:07.00	493222.08	5312323.96	2178.244	30	69.26	10057 Mav Recovery	VID_GRAB	
01/06/22 00:17:03.00	493222.08	5312323.96	2178.238	30	68.475	10057 Mav Recovery	VID_GRAB	
01/06/22 00:25:22.00	493228.36	5312323.84	2176.858	1.6	16.582	VID_GRAB		
01/06/22 00:27:43.00	493229.54	5312324.08	2175.222	2	1.191	Mavs 57 on the hook		
01/06/22 00:36:02.00	493215.67	5312286.9	2175.267	4.1	163.757	Current Southernly		
01/06/22 00:38:05.00	493208.41	5312275.33	2175.896	3.9	148.51	VID_GRAB		
01/06/22 00:38:33.00	493214.53	5312273.3	2175.865	3.6	138.978	VID_GRAB		
01/06/22 00:39:20.00	493214.53	5312273.3	2176.171	4	122.244	Can see the elevator		
01/06/22 00:43:52.00	493221.97	5312263.35	2175.399	4.7	353.234	Mav 10057 in elevator		
01/06/22 00:45:59.00	493221.97	5312263.35	2175.481	4.6	352.278	Decided to put Low Temp Hobo string 34 with		
01/06/22 00:46:04.00	493221.97	5312263.35	2175.475	4.6	352.285	Mav 10057		
01/06/22 00:53:44.00	493223.87	5312272.29	2175.779	4.1	267.705	Mav 10063	Planning on removing 63 and placing near elevator.	
01/06/22 00:54:16.00	493223.87	5312272.29	2175.766	4	266.531	Mav 10063	VID_GRAB	Restraining
							bungee removed	
01/06/22 00:58:28.00	493223.87	5312272.29	2175.738	4.1	264.891	Mav 10063	VID_GRAB	A Mav in
						the claw is worth three in the bush		
01/06/22 01:05:00.00	493223.87	5312272.29	2177.627	2.9	356.451	Mav 10063	VID_GRAB	10063
								deployed
01/06/22 01:08:09.00	493223.87	5312272.29	2180.897	30	292.203	Mav 10052	Picking up Mav 10052 which was placed by elevator earlier, awaiting a tube in the elevator to open up.	
01/06/22 01:09:56.00	493223.87	5312272.29	2180.892	30	287.812	Mav 10052	VID_GRAB	attempting

Date & Time	UTM (X)	UTM (Y)	Depth (m)	Alt. (m)	Heading		Event	
						to recover 10052 from base of elevator		
01/06/22 01:10:21.00	493223.87	5312272.29	2180.873	30	287.694	Mav 10052	10052 had fallen over when	
							Will placed by the elevator	
01/06/22 01:12:00.00	493223.87	5312272.29	2176.48	5.7	266.891	Mav 10052	VID_GRAB	One in the
							hand, one in the bush	
01/06/22 01:21:11.00	493231.36	5312267.75	2175.676	4.9	315.915	Mav 10052	VID_GRAB	10052
							secured in elevator	
01/06/22 01:24:16.00	493231.36	5312267.75	2175.691	4.4	315.487	VID_GRAB	Found a use for the slot in the	
							basket	
01/06/22 01:26:09.00	493231.36	5312267.75	2175.614	4.8	315.96	Mav 10049	Picking 10049 out of elevator	
01/06/22 01:26:22.00	493231.36	5312267.75	2174.88	5	327.346	Mav 10049	VID_GRAB	Away it
							goes	
01/06/22 01:31:59.00	493231.36	5312267.75	2177.093	2.5	279.765	Mav 10049	Shit. Trapped in elevator by	
							retaining strap!	
01/06/22 01:36:33.00	493231.36	5312267.75	2177.426	2.2	346.612	Mav 10049	VID_GRAB	Strap
							pulled off by great work of Jim and Yogie!	
01/06/22 01:37:35.00	493231.36	5312267.75	2177.286	2.4	351.787	Mav 10049	VID_GRAB	Under
								elevator
01/06/22 01:43:07.00	493231.36	5312267.75	2174.84	5.5	83.396	Mav 10049	VID_GRAB	We'll fige
							it another try	
01/06/22 01:49:25.00	493221.14	5312266.63	2175.06	4.2	264.513	Mav 10049	Have mav on hook heading to	
							target in southern Clambled for deployment	
01/06/22 01:50:08.00	493221.14	5312266.63	2175.06	6.3	233.248	Mav 10049	AST target for deployment is	
							the northern red target on the southern end of the field	
01/06/22 01:57:38.00	493199.55	5312232.06	2176.53	9.5	226.854	Janet's wood	bio-box came open at elevator.	
							We have just noticed and closed the lid.	
01/06/22 02:10:25.00	493163.89	5312196.61	2182.495	0.9	240.441	Mav 10049	VID_GRAB	
01/06/22 02:10:31.00	493164.4	5312197.77	2182.679	1.7	236.533	Mav 10049	VID_GRAB	
01/06/22 02:11:25.00	493164.4	5312197.77	2183.307	30	240.082	Mav 10049	VID_GRAB	deploying
							mavs 49	
01/06/22 02:12:29.00	493162.41	5312196.77	2183.36	30	240.196	Mav 10049	thermistor chain is not straight	
01/06/22 02:12:45.00	493162.41	5312196.77	2183.354	30	240.104	Mav 10049	the ctd shows ~0.1 C anomaly	
01/06/22 02:19:55.00	493159.99	5312199.45	2183.471	30	240.274	Mav 10049	VID_GRAB	attempted
							temp measurement, not much of a signal. Shimering	
							appears to be on the far side of the MAVs	

[illegible]

Date & Time	UTM (X)	UTM (Y)	Depth (m)	Alt. (m)	Heading		Event	
01/06/22 03:25:41.00	493151.51	5312194.52	2179.574	3.9	9.933	Mav 10049	VID_GRAB	MAV 49
								deployed!
01/06/22 03:26:05.00	493160.39	5312195.65	2178.354	4.8	7.752	Mav 10049	Preparing to drop nav. target	
01/06/22 03:26:14.00	493160.39	5312195.65	2178.421	4.7	7.92	Mav 10049	target 15 - MAV 49	
01/06/22 03:28:28.00	493167.56	5312193.93	2180.266	3.7	128.892	Mav 10049	VID_GRAB	high
							temperature area	
01/06/22 03:29:31.00	493166.03	5312194.32	2181.784	2.8	131.865	Mav 10049	different tube worms show	
							higher temperature area	
01/06/22 03:30:21.00	493164.35	5312192.92	2183.192	1.4	155.644	Mav 10049	moving MAV 49 to new found,	
							high temp location	
01/06/22 03:32:56.00	493158.48	5312190.73	2180.732	4.6	228.3	Mav 10055	error MAV 55 moving	
01/06/22 03:33:08.00	493158.48	5312190.73	2180.439	4	233.798	Mav 10055		
01/06/22 03:33:16.00	493158.48	5312190.73	2180.439	4.1	232.676	Mav 10055	MAV 55 on the move	
01/06/22 03:37:54.00	493167.5	5312189.38	2181.775	3.8	147.614	Mav 10055	VID_GRAB	new MAV
							55 location ahead	
01/06/22 03:38:40.00	493173.76	5312187.02	2182.912	2.6	157.318	Mav 10055	tube worms are red-headed - rare	
01/06/22 03:38:49.00	493173.76	5312187.02	2182.873	2.6	157.774	Mav 10055	VID_GRAB	
01/06/22 03:39:52.00	493188.49	5312163.95	2183.349	2.2	167.559	Mav 10055	VID_GRAB	
01/06/22 03:40:03.00	493188.49	5312163.95	2183.787	1.7	166.604	Mav 10055	VID_GRAB	look at that!
01/06/22 03:40:12.00	493161.78	5312186.3	2184.12	1.4	167.435	Mav 10055	VID_GRAB	
01/06/22 03:40:16.00	493161.78	5312186.3	2184.08	1.4	167.992	Mav 10055	VID_GRAB	
01/06/22 03:41:13.00	493161.78	5312186.3	2183.305	2.1	219.874	Mav 10055	VID_GRAB	MAV 55
01/06/22 03:41:40.00	493172.99	5312187.31	2183.531	2.6	253.43	Mav 10055	VID_GRAB	
01/06/22 03:42:08.00	493174.45	5312184.99	2183.036	4.7	270.046	Mav 10055	dropping nav target 16	
01/06/22 03:42:41.00	493162.56	5312183.19	2182.865	4.8	289.854	Mav 10055	VID_GRAB	
01/06/22 03:43:17.00	493170.07	5312181.81	2182.945	5	285.9	Mav 10055	orientation 284 of MAV 55	
01/06/22 03:46:14.00	493163.51	5312181.06	2185.248	30	309.578	Mav 10055	temp probe 2.2-2.4 water	
01/06/22 03:55:55.00	493163.51	5312181.06	2185.35	30	309.73	Mav 10055	temp in ground rising upwards	
							of 150 C!	
01/06/22 03:57:24.00	493163.51	5312181.06	2185.332	30	309.485	Mav 10055	preparing to do temp profile up	
							the MAV every 6 inches	
01/06/22 03:58:47.00	493163.51	5312181.06	2185.348	30	309.472	Mav 10055	VID_GRAB	shimmering
01/06/22 04:01:31.00	493163.51	5312181.06	2185.39	0.7	309.373	Mav 10055	VID_GRAB	up 6 inches
01/06/22 04:03:35.00	493163.51	5312181.06	2185.418	0.7	309.328	Mav 10055	back down the MAV to half-way	
							between the bag	

Date & Time	UTM (X)	UTM (Y)	Depth (m)	Alt. (m)	Heading		Event	
01/06/22 04:04:26.00	493163.51	5312181.06	2185.419	30	309.481	Mav 10055	VID_GRAB	half-way up
							bag photo	
01/06/22 04:05:03.00	493163.51	5312181.06	2185.418	30	309.59	Mav 10055		half-way between the base and
								the pressure housing for pt.4
01/06/22 04:05:11.00	493163.51	5312181.06	2185.439	30	309.454	Mav 10055	VID_GRAB	point 4
01/06/22 04:07:52.00	493163.51	5312181.06	2185.497	30	309.538	Mav 10055	VID_GRAB	Pt. 5 level
								with pressure housing
01/06/22 04:09:26.00	493163.51	5312181.06	2185.513	0.7	309.188	Mav 10055	VID_GRAB	Point 6-
								over #55
01/06/22 04:11:40.00	493163.51	5312181.06	2185.534	30	309.509	Mav 10055	VID_GRAB	Pooint 7 -
								bottom of syn. foam
01/06/22 04:12:53.00	493163.51	5312181.06	2185.528	0.7	309.286	Mav 10055	VID_GRAB	Point 8 top
								of MAV
01/06/22 04:16:21.00	493163.51	5312181.06	2185.582	30	309.359	Mav 10055	VID_GRAB	
01/06/22 04:20:30.00	493172.43	5312182.5	2183.89	3.9	33.312	Heading back to spider		
01/06/22 04:23:33.00	493172.43	5312182.5	2185.789	3.1	319.896	moving spider to MAV 49 location		
01/06/22 04:26:53.00	493157.74	5312195.29	2181.984	2	113.628	spider movement	deploying spider in new location	
01/06/22 04:27:55.00	493159.95	5312194.74	2180.9	3.5	59.914	spider movement	not level - moving to level area	
01/06/22 04:30:34.00	493167.03	5312201.83	2183.105	1	172.9	spider movement	VID_GRAB	new spider
								location
01/06/22 04:32:26.00	493160.08	5312200.71	2181.949	0.9	159.62	spider movement	VID_GRAB	spider and
								MAV 49
01/06/22 04:32:51.00	493160.08	5312200.71	2181.33	2.7	144.117	spider movement	spider orientation 075	
01/06/22 04:32:57.00	493160.08	5312200.71	2181.335	2.7	152.976	spider movement	VID_GRAB	
01/06/22 04:33:42.00	493164.12	5312197.15	2175.867	7.8	151.213	back to elevator to retrieve 2 MAVS to bring to high rise		
01/06/22 04:34:59.00	493169.91	5312198.18	2180.119	4.2	63.026	stopping CTD		
01/06/22 04:36:10.00	493169.91	5312198.18	2182.65	3.2	62.394	restared CTD 308004		
01/06/22 04:40:50.00	493177.3	5312216.89	2183.059	3.2	48.055	latest weather report just arrived - there is a low heading		
						our way		
01/06/22 04:50:06.00	493177.3	5312216.89	2176.868	3.4	27.717	VID_GRAB	at the elevator, retrieving MAVs	
01/06/22 04:52:06.00	493216.2	5312265.5	2173.161	6.9	25.002	VID_GRAB	MAV 51 removed from the	
							elevator	
01/06/22 04:52:44.00	493222.87	5312264.73	2174.153	5.9	26.361	VID_GRAB	MAV caught on Jason	
01/06/22 04:56:58.00	493217.08	5312261.94	2172.762	7.8	305.742	MAV 56 and MAV 51 on board Jason for transit to high rise		
01/06/22 04:58:42.00	493224.53	5312262.8	2172.907	7.6	14.883	transit to high rise estimated to take 45 minutes		

Date & Time	UTM (X)	UTM (Y)	Depth (m)	Alt. (m)	Heading		Event	
01/06/22 05:31:32.00	493368.35	5312538.63	2156.338	5.6	26.037	VID_GRAB		
01/06/22 05:32:15.00	493385.09	5312550.39	2153.945	4.2	346.049	lost nav		
01/06/22 05:38:22.00	493394.55	5312602.14	2156.585	6.7	49.142	temp anomaly 0.2- nearing High Rise		
01/06/22 05:41:09.00	493407.95	5312609.34	2149.186	11.7	308.002	at Ventnor		
01/06/22 05:46:43.00	493401.75	5312640.36	2155.339	15.7	153.71	looking for diffuse flow at base		
01/06/22 05:48:42.00	493398.77	5312640.16	2162.63	7.3	136.431	hit the structure with medea		
01/06/22 05:52:50.00	493394.69	5312637.11	2164.25	3.7	62.777	Ventnor	backing away a bit, still looking	
							for place for MAV	
01/06/22 05:53:56.00	493394.69	5312637.11	2164.15	6.6	79.407	Ventnor	new hi8 tapes	
01/06/22 05:55:28.00	493408.6	5312642.08	2164.769	4.3	94.312	Ventnor	ready to deploy mav 10051	
01/06/22 05:56:25.00	493405.35	5312642.37	2163.831	5.4	87.437	mav 51 deploy	mav did not deploy properly -	
							deploy target #17	
01/06/22 05:57:29.00	493403.9	5312644.57	2163.835	7.2	107.107	go deploy second mav and come back to fix 51		
01/06/22 05:58:04.00	493402.42	5312644.31	2166.196	5.2	138.006	set down second mav here and fix 51 now		
01/06/22 06:08:56.00	493406.06	5312643.37	2162.939	7.7	140.293	mav 51 deploy	second mav set down and	
							fell over	
01/06/22 06:12:34.00	493399.19	5312638.55	2166.94	1.3	54.05	mav 51 deploy	trying to fully deploy mav 51	
01/06/22 06:13:42.00	493395.87	5312638.78	2167.141	1.1	59.205	mav 51 deploy	mav is down	
01/06/22 06:16:25.00	493395.21	5312638.33	2166.794	30	179.606	mav 51 deploy	VID_GRAB	
01/06/22 06:19:29.00	493365.59	5312632.56	2166.194	1.7	193.705	mav 51 deploy	VID_GRAB	heading 205
01/06/22 06:22:38.00	493365.59	5312632.56	2168.116	1.3	130.227	mav 51 deploy	picking up mav 56	
01/06/22 06:24:37.00	493396.22	5312641.6	2166.397	4.3	78.998	mav 51 deploy	dropped mav 56	
01/06/22 06:25:37.00	493396.22	5312641.6	2166.204	1.7	167.785	mav 51 deploy	get ready to take temp data	
						while sitting to get some ADCP data		
01/06/22 06:31:58.00	493396.22	5312641.6	2165.976	2	176.232	mav 51 deploy	mav pulled loose while getting	
							temps	
01/06/22 06:32:32.00	493402.3	5312640.95	2166.475	3.4	127.418	mav 51 deploy	mav stuck on front of jason	
01/06/22 06:33:56.00	493403.74	5312639.83	2165.329	2	129.075	mav 51 deploy	place mav 51 to another site	
01/06/22 06:36:13.00	493402.86	5312620.09	2165.495	1.9	128.9	mav 51 deploy	mav 51 freed from front of jason	
01/06/22 06:39:01.00	493398.28	5312642.61	2160.911	6.9	111.54	mav 51 deploy	leaving mav56 - few meters	
							West of 17- go deploy mav51	
01/06/22 06:42:40.00	493412.9	5312634.93	2160.738	1.4	69.746			
01/06/22 06:42:47.00	493412.9	5312634.93	2161.137	30	86.996		Error	
01/06/22 06:45:32.00	493412.9	5312634.93	2161.363	27	102.028	redploy mav 51	shift change	
01/06/22 06:52:49.00	493412.9	5312634.93	2163.254	30	230.323	redploy mav 51	Animal observations	fish
01/06/22 06:53:21.00	493412.9	5312634.93	2163.256	30	229.677	redploy mav 51	VID_GRAB	



Date & Time	UTM (X)	UTM (Y)	Depth (m)	Alt. (m)	Heading		Event	
01/06/22 06:54:17.00	493412.9	5312634.93	2162.542	0.9	237.77	Shimmering Water		
01/06/22 06:54:38.00	493412.9	5312634.93	2162.489	1	218.259	We stirred up a dust storm		
01/06/22 06:55:08.00	493412.9	5312634.93	2163.007	0.7	207.512	Animal observations	fish	
01/06/22 06:56:18.00	493412.9	5312634.93	2163.068	0.7	206.862	VID_GRAB		
01/06/22 06:56:53.00	493412.9	5312634.93	2162.994	0.7	206.689	VID_GRAB		
01/06/22 06:59:59.00	493412.9	5312634.93	2163.018	0.7	206.236	VID_GRAB	fish	
01/06/22 07:05:34.00	493412.9	5312634.93	2163.033	0.7	205.068	VID_GRAB	fish	
01/06/22 07:05:54.00	493412.9	5312634.93	2163.02	0.7	205.051	2 fish		
01/06/22 07:07:12.00	493412.9	5312634.93	2163.036	0.7	204.729	VID_GRAB		
01/06/22 07:08:02.00	493412.9	5312634.93	2163.033	0.7	204.467	Taking ADCP reading		
01/06/22 07:09:42.00	493412.9	5312634.93	2163.047	0.7	203.944	Finished with ADCP measurement		
01/06/22 07:11:00.00	493412.9	5312634.93	2162.916	0.8	201.227	There are a lot of fishes down by Mav 51		
01/06/22 07:12:26.00	493412.9	5312634.93	2162.897	0.8	201.185	VID_GRAB		
01/06/22 07:12:50.00	493412.9	5312634.93	2162.398	0.8	192.937	VID_GRAB		
01/06/22 07:13:17.00	493412.9	5312634.93	2162.264	0.8	194.198	200 oreintain of Mav 51		
01/06/22 07:14:07.00	493412.9	5312634.93	2160.815	1.9	188.686	Jason stuck on a rock		
01/06/22 07:14:32.00	493412.9	5312634.93	2160.578	2.1	215.483	Jason got off the rock		
01/06/22 07:15:45.00	493405.65	5312611.03	2161.547	0.9	191.792	Stirred up huge dust strom while getting Jason out of trouble		
01/06/22 07:16:16.00	493405.65	5312611.03	2158.295	6	201.016	VID_GRAB		
01/06/22 07:17:58.00	493402.5	5312638.01	2148.557	16.7	257.243	Jason out of DANGER		
01/06/22 07:19:07.00	493408.04	5312640.54	2143.385	22	256.97	Pilot says we just got out of our worst nightmare		
01/06/22 07:21:44.00	493409.49	5312649.39	2164.153	3.1	190.115	VID_GRAB	Can see Mav	
01/06/22 07:25:52.00	493404.27	5312651.03	2169.265	0.9	157.68	Retreved Mav 56		
01/06/22 07:28:37.00	493397.39	5312644.89	2166.472	4	156.058	Mav 56 on hook		
01/06/22 07:33:10.00	493403.38	5312665.96	2157.834	17.5	325.498	.		
01/06/22 07:35:30.00	493394.32	5312681.7	2157.637	22.6	311.319	Changed Hi-8		
01/06/22 07:37:52.00	493381.62	5312694.25	2157.748	21.6	309.091	When we did Temp probe a while ago High 10.3 and Low 2.0		
01/06/22 07:39:16.00	493378.17	5312701	2157.748	19.8	246.52	Lisa is a lite angel on top of a christmas tree		
01/06/22 07:47:19.00	493339.67	5312723.07	2161.241	5.1	220.687	VID_GRAB		
01/06/22 07:47:22.00	493339.67	5312723.07	2160.995	5.1	219.515		Smoke	
01/06/22 07:48:20.00	493333.93	5312718.04	2161.714	5.2	188.158	VID_GRAB		
01/06/22 07:48:29.00	493338.61	5312717.35	2161.707	5.3	188.199	VID_GRAB		
01/06/22 07:48:57.00	493333.83	5312717.17	2161.853	4.8	234.541	Black smoker		
01/06/22 07:49:12.00	493332.67	5312718.08	2161.633	4.8	214.325	Pilot says Adult about 20		
01/06/22 07:49:18.00	493332.67	5312718.08	2161.562	4.6	181.634	VID_GRAB		

Date & Time	UTM (X)	UTM (Y)	Depth (m)	Alt. (m)	Heading		Event	
01/06/22 07:49:26.00	493332.67	5312718.08	2161.071	4.4	178.818	VID_GRAB		
01/06/22 07:49:40.00	493329.24	5312722.91	2161.456	4.2	143.973	VID_GRAB		
01/06/22 07:50:54.00	493328.75	5312716.38	2162.008	5.3	118.149	Can see something else that is man made		
01/06/22 07:51:16.00	493323.68	5312716.84	2160.439	6.8	103.186	VID_GRAB	\	
01/06/22 07:51:29.00	493323.43	5312722.04	2161.024	4.9	107.452	VID_GRAB		
01/06/22 07:51:53.00	493323.43	5312722.04	2160.971	6	125.508	VID_GRAB		
01/06/22 07:52:03.00	493323.43	5312722.04	2161.011	6.2	125.566	Two black smoker in this area		
01/06/22 07:52:37.00	493325.09	5312712.62	2160.944	7.4	93.977	VID_GRAB		
01/06/22 07:52:40.00	493325.09	5312712.62	2161.024	7.3	94.735	VID_GRAB		
01/06/22 07:53:05.00	493327.14	5312712.95	2160.2	7.6	55.22	VID_GRAB		
01/06/22 07:53:15.00	493328.41	5312708.29	2160.393	6.9	36.951	VID_GRAB		
01/06/22 07:53:49.00	493326.82	5312706.49	2160.958	6.3	43.681	VID_GRAB		
01/06/22 07:54:04.00	493326.82	5312706.49	2161.066	5.7	44.274	There are three black smokers in this area		
01/06/22 07:54:28.00	493323.72	5312708.33	2160.878	7.8	60.219	VID_GRAB		
01/06/22 07:54:36.00	493323.72	5312708.33	2160.947	7.6	59.668	VID_GRAB		
01/06/22 07:54:41.00	493323.72	5312708.33	2160.985	7.3	59.631	VID_GRAB		
01/06/22 07:55:26.00	493322.77	5312706	2161.292	9.5	60.902	Animal observations	Tube worms	huge for this area
01/06/22 07:56:02.00	493324.82	5312708.31	2161.399	5.4	59.541	VID_GRAB		
01/06/22 07:56:07.00	493324.82	5312708.31	2161.525	5.3	59.392	VID_GRAB		
01/06/22 07:56:13.00	493329.57	5312707.88	2161.605	4.7	59.573	VID_GRAB		
01/06/22 07:56:29.00	493329.57	5312707.88	2161.691	5.5	63.258	VID_GRAB		
01/06/22 07:57:50.00	493323.9	5312708.41	2162.864	6	80.526	VID_GRAB		
01/06/22 07:59:38.00	493321.25	5312711.3	2160.829	8.3	79.959	VID_GRAB		
01/06/22 08:03:54.00	493329.31	5312707.9	2160.845	5.8	345.822	VID_GRAB		
01/06/22 08:04:24.00	493331.87	5312707.16	2160.787	7.5	321.43	VID_GRAB		
01/06/22 08:06:36.00	493329.18	5312710.08	2159.513	6.3	47.051	VID_GRAB		
01/06/22 08:06:42.00	493329.18	5312710.08	2159.426	7.4	58.788	VID_GRAB		
01/06/22 08:16:50.00	493320.25	5312701.59	2167.733	3.7	195.223	Waiting for the very slow Medda to check up		
01/06/22 08:22:12.00	493318.5	5312686.6	2176.864	2.5	108.884	Found good locaction for Mav 56		
01/06/22 08:23:41.00	493317.76	5312683.78	2176.785	3.3	85.413	Stirred up huge mud cloud		
01/06/22 08:24:27.00	493312.9	5312684.58	2176.757	3.2	85.538	Waiting for cloud to clear and for Medda to catch up		
01/06/22 08:31:15.00	493313.13	5312684.75	2179.062	30	128.775	Mav 57 is up right but wont deply		
01/06/22 08:31:55.00	493313.13	5312684.75	2179.083	30	128.917	It deplyed		
01/06/22 08:32:31.00	493313.13	5312684.75	2179.029	30	128.897	Doing Temp probe		

Date & Time	UTM (X)	UTM (Y)	Depth (m)	Alt. (m)	Heading		Event	
01/06/22 08:36:40.00	493313.13	5312684.75	2179.009	30	129.703	High 8.4 and Low 1.9		
01/06/22 08:36:56.00	493313.13	5312684.75	2179.016	30	129.788	VID_GRAB	Mav 57	
01/06/22 08:37:48.00	493313.13	5312684.75	2177.952	30	140.77			
01/06/22 08:40:08.00	493311.39	5312688.5	2173.899	4	336.343	Stopping CTD		
01/06/22 08:41:08.00	493312.54	5312708.31	2163.164	8.8	342.753	Started CTD 308005		
01/06/22 08:43:46.00	493312.29	5312723.71	2128.161	30	11.453	Jason is on its way to Main Endeavour		
01/06/22 09:05:15.00	493325.45	5312504.2	1886.729	30	350.767	being dragged by ship -- start the snooze		
01/06/22 10:29:34.00	493314.87	5310910.06	2031.93	30	347.152	approaching target : maggy 4		
01/06/22 10:36:35.00	493314.87	5310910.06	2112.416	6.3	3.763	Reached bottom after transit from High Rise vent field		
01/06/22 10:37:02.00	493314.87	5310910.06	2115.947	2.9	207.457	Bad navigation now so we have to find the Magnetometer		
						by hunting for it.		
01/06/22 10:37:43.00	493314.87	5310910.06	2114.951	3.1	127.459	VID_GRAB	Cracks with shells and flow.	
01/06/22 10:39:38.00	493314.87	5310910.06	2114.221	4.4	15.668	Medea fix just came in.		
01/06/22 10:39:49.00	493314.87	5310910.06	2114.23	5	6.427	One meter fissure bearing 020.		
01/06/22 10:39:59.00	493314.87	5310910.06	2114.213	3.7	9.012	big fissure here		
01/06/22 10:41:46.00	493314.87	5310910.06	2113.523	3.6	126.79	illuminating the area ahead of JASON looking for the		
						reflective tape on the magnetometer frame.		
01/06/22 10:42:45.00	493314.87	5310910.06	2113.552	4.5	286.991	VID_GRAB	Can see approx. 10-12 meters	
							in this view according to will.	
01/06/22 10:43:14.00	493314.87	5310910.06	2114.217	4	1.722	VID_GRAB	large sponge .	
01/06/22 10:45:00.00	493314.87	5310910.06	2113.337	4.9	2.652	VID_GRAB	heading 017. big crack.	
01/06/22 10:46:35.00	493314.87	5310910.06	2113.265	4.8	7.639	change of JASON pilot watches. Tom is getting good nav		
						so that we can find this instrument.		
01/06/22 11:35:42.00	493313.84	5310895.13	2084.063	30	52.668	wrong waypoint entered, starting to move to correct maggie		
						location, approximately 1000m away		
01/06/22 12:02:21.00	493126.92	5310850.3	1983.321	30	84.038	Maggie 5	target 22 is elevator South #1	
01/06/22 13:06:52.00	492335.13	5310823.35	2095.48	2.6	297.793	Maggie 5	we see the bottom. We see	
							the bottom!! We see the bottom!!! Rocks! Rocks! Rocks!	
01/06/22 13:08:17.00	492335.13	5310823.35	2090.521	2.5	316.653	Maggie 5	VID_GRAB	
01/06/22 13:08:19.00	492335.13	5310823.35	2090.229	2.8	314.625	Maggie 5	VID_GRAB	
01/06/22 13:08:35.00	492317.94	5310833.61	2090.381	2.9	316.201	Maggie 5	VID_GRAB	
01/06/22 13:08:42.00	492317.94	5310833.61	2090.408	2.9	316.18	Maggie 5	VID_GRAB	
01/06/22 13:08:58.00	492319.33	5310831.16	2090.441	3.4	310.375	Maggie 5	VID_GRAB	big pillow
01/06/22 13:10:41.00	492324.72	5310847.96	2089.277	4.9	320.962	Maggie 5	VID_GRAB	
01/06/22 13:11:10.00	492325.41	5310856.12	2089.235	4.8	339.814	Maggie 5	VID_GRAB	
01/06/22 13:12:21.00	492326.45	5310863.01	2088.581	3.1	341.204	Maggie 5	VID_GRAB	

Date & Time	UTM (X)	UTM (Y)	Depth (m)	Alt. (m)	Heading		Event	
01/06/22 13:12:35.00	492327.17	5310863.43	2088.031	3.2	293.505	Maggie 5	VID_GRAB	
01/06/22 13:12:40.00	492327.17	5310863.43	2087.997	3.1	290.696	Maggie 5	VID_GRAB	
01/06/22 13:12:58.00	492327.68	5310863.49	2087.268	4.1	290.708	Maggie 5	VID_GRAB	sheared
								off pillows
01/06/22 13:13:08.00	492327.68	5310863.49	2086.672	4.9	290.987	Maggie 5	VID_GRAB	
01/06/22 13:13:53.00	492329.33	5310861.19	2085.015	7	298.605	Maggie 5	VID_GRAB	continuing
								at this depth to north
01/06/22 13:16:10.00	492330.05	5310870.74	2086.52	3.6	358.678	Maggie 5	VID_GRAB	sheets
01/06/22 13:16:48.00	492330.65	5310870.42	2086.539	4.1	279.616	Maggie 5	VID_GRAB	wall goes
								off to the northwest from here
01/06/22 13:16:55.00	492330.06	5310867.9	2086.539	4.1	302.732	Maggie 5	VID_GRAB	rocks
								lovely rocks
01/06/22 13:57:13.00	492328.85	5310887.63	2078.693	3	132.486	Maggie 5	VID_GRAB	
01/06/22 13:57:27.00	492328.85	5310887.63	2079.162	3.1	130.949	Maggie 5	VID_GRAB	ray
01/06/22 14:02:44.00	492321.64	5310860.58	2081.455	2.2	227.131	Maggie 5	VID_GRAB	Maggie
								found
01/06/22 14:03:16.00	492324.13	5310859.15	2081.025	2.9	239.946	Maggie 5	Oreintation along leg of maggie	
							248	
01/06/22 14:07:53.00	492320.54	5310857.63	2081.071	2.5	225.023	Maggie 5	Maggie on the hook and coming	
							home!	
01/06/22 14:17:44.00	492333.38	5310845.42	2027.141	30	265.314	Maggie 5	Moved up and are heading to	
							elevator	
01/06/22 14:21:57.00	492375.55	5310826.89	2000.543	30	265.953	Maggie 5	using the same transponders	
							error is approximately 5m N 8m E from Tom Crook	
01/06/22 14:22:28.00	492379.75	5310825.27	2000.543	30	265.815	Maggie 5	8m 022 offset is Tom's guess	
01/06/22 14:23:23.00	492390.61	5310821.42	2000.543	30	266.395	Maggie 5	L and K are the baseline	
01/06/22 14:23:37.00	492394.28	5310819.5	2000.603	30	266.044	Maggie 5	L was re-surveyed and depth	
							was approximately 20m off	
01/06/22 14:48:52.00	492712.2	5310712.61	2000.378	30	281.71	Maggie 5	watch change	
01/06/22 15:03:55.00	493236.46	5310585.32	2000.482	30	277.241	Maggie 5	smoke	
01/06/22 15:28:47.00	493175.22	5310548.76	2100.959	6.6	7.055	Maggie 5	Getting close to target 22 -	
							south elevator	
01/06/22 15:30:59.00	493186.35	5310571.69	2102.857	6.7	158.246	Maggie 5	VID_GRAB	elevator in
								sight!
01/06/22 15:31:21.00	493186.35	5310571.69	2104.614	5.7	112.804	Maggie 5	Maggie 5 is on her way down	
01/06/22 15:32:29.00	493164.16	5310556.45	2106.159	6.3	52.943	Maggie 5	elevator is 5 m southeast of	

Date & Time	UTM (X)	UTM (Y)	Depth (m)	Alt. (m)	Heading		Event	
							target 22	
01/06/22 15:35:14.00	493165.1	5310552.36	2106.219	5.8	15.354	Maggie 5	VID_GRAB	removing
							Maggie from Jason	
01/06/22 15:39:14.00	493158.96	5310563.32	2108.404	1.6	137.652	Maggie 5	setting maggie on seafloor	
01/06/22 15:45:57.00	493159.71	5310558.14	2109.522	5	20.637	Maggie 5	Target 23 will be dropped at	
								Salut
01/06/22 15:52:35.00	493166.43	5310554.24	2108.994	2.5	110.663	Maggie 5	VID_GRAB	success!
01/06/22 15:52:43.00	493166.43	5310554.24	2108.94	2.8	109.43	Maggie 5	Maggie is on the elevator!	
01/06/22 15:52:54.00	493166.43	5310554.24	2109.047	2.4	110.518	Maggie 5	VID_GRAB	
01/06/22 15:53:18.00	493166.43	5310554.24	2108.709	2.8	107.94	Maggie 5	VID_GRAB	secured!
01/06/22 15:55:37.00	493157.49	5310558.16	2107.601	2.9	85.021	Maggie 5	VID_GRAB	deciding on
							which mav to take	
01/06/22 15:57:43.00	493160.23	5310557.73	2108.45	4	52.689	MAV 61	VID_GRAB	MAV 61
01/06/22 15:58:54.00	493159.69	5310557.48	2105.886	6	17.496	MAV 61	Mav 61 removed from the	
							elevator	
01/06/22 15:59:09.00	493161.95	5310552.39	2103.245	8.5	17.143	MAV 61	VID_GRAB	
01/06/22 15:59:24.00	493161.95	5310552.39	2103.033	8.7	17.119	MAV 61	beginning transit to Salut - est.	
							time 45 minutes	
01/06/22 16:23:04.00	493015.34	5310499.55	2074.591	30	67.449	MAV 61	problems with Medea cam -	
							something is hanging off	
01/06/22 16:33:17.00	492887.54	5310457.31	2074.591	30	60.386	MAV 61		Error
							Target 24 is dropped at Salut - 23 is the location where	
							Maggie 5 was located	
01/06/22 16:34:13.00	492871.48	5310456.73	2074.616	30	57.582	MAV 61	We are headed toward target 24	
01/06/22 16:56:13.00	492596.39	5310385.5	2075.073	30	68.35	MAV 61	stopping CTD aquisition	
01/06/22 16:56:48.00	492591.33	5310384.18	2075.126	30	70.617	MAV 61	started CTD 308007	
01/06/22 17:05:33.00	492566.71	5310374.18	2182.408	10.5	262.448	MAV 61	nearing Salut looking for diffuse	
							flow near base	
01/06/22 17:08:00.00	492566.74	5310387.75	2183.147	8	250.775	MAV 61	wait to reposition medea to the	
							NE of Salut	
01/06/22 17:13:24.00	492565.02	5310393.01	2182.263	8.7	237.094	MAV 61	jason coming down to work area	
01/06/22 17:25:15.00	492570.44	5310380.8	2190.074	2.6	200.007	MAV 61	placing mav NE of target 24	
01/06/22 17:25:38.00	492569.49	5310380.43	2190.159	2.5	202.948	MAV 61	VID_GRAB	
01/06/22 17:26:33.00	492569.71	5310381.79	2189.527	2.4	197.794	MAV 61	area may be too steep- try	
							moving down slope	
01/06/22 17:34:06.00	492575.89	5310378.5	2192.808	1.7	165.639	MAV 61	mav is down -try to deploy	

Date & Time	UTM (X)	UTM (Y)	Depth (m)	Alt. (m)	Heading		Event	
01/06/22 17:38:06.00	492576.28	5310378.41	2194.899	0.9	135.25	MAV 61	mav is deployed	
01/06/22 17:39:44.00	492574.68	5310377.93	2194.912	0.9	134.843	MAV 61	taking temp measurements	
01/06/22 17:41:10.00	492575.72	5310378.46	2194.93	0.9	134.143	MAV 61	base temp 2.4	
01/06/22 17:41:31.00	492576.06	5310378.16	2194.925	0.9	133.948	MAV 61	VID_GRAB	base temp location
01/06/22 17:43:23.00	492576.6	5310377.61	2194.988	30	134.311	MAV 61	drop nav target 25 at mav 61	
01/06/22 17:45:05.00	492576.95	5310380.95	2193.862	1	166.292	MAV 61	VID_GRAB	orientation
							heading 165	
01/06/22 17:46:18.00	492576.4	5310387.14	2180.752	11.9	172.356	MAV 61	heading to pick up thermal blanket at Grotto	
01/06/22 18:26:10.00	492747.49	5310681.23	2134.033	30	170.473	temp anomaly 0.1		
01/06/22 18:40:00.00	492772.69	5310797.48	2198.346	4.6	282.35	nearing Grotto		
01/06/22 18:45:50.00	492780.55	5310797.73	2203.87	5.7	152.222	thermal blanket	found the thermal blanket	
01/06/22 18:48:48.00	492781.76	5310811.03	2205.205	3.4	207.581	thermal blanket	Animal observations	Anenome
01/06/22 18:52:41.00	492779.93	5310780.41	2208.677	0.7	205.735	thermal blanket	VID_GRAB	
01/06/22 18:53:04.00	492778.88	5310778.64	2209.423	1	206.128	thermal blanket	VID_GRAB	
01/06/22 18:53:27.00	492778.31	5310778.33	2209.443	1	205.882	thermal blanket	VID_GRAB	
01/06/22 18:53:59.00	492777.78	5310778.08	2209.443	1	205.5	thermal blanket	There is hole in the nilon	
01/06/22 18:55:12.00	492774.07	5310778.24	2205.354	3.4	226.46	thermal blanket	VID_GRAB	
01/06/22 18:55:37.00	492770.25	5310778.14	2200.152	4.9	214.76			
01/06/22 19:01:00.00	492768.46	5310780.31	2200.328	4.6	193.502	VID_GRAB		
01/06/22 19:01:22.00	492768.91	5310778.03	2199.321	5.2	188.799	Animal observations	Crab	spider
01/06/22 19:01:57.00	492766.57	5310773.12	2199.355	5.7	204.118	VID_GRAB		
01/06/22 19:05:20.00	492771.69	5310779.89	2201.091	5.6	208.185	Main Endeavour	Sponge	
01/06/22 19:05:33.00	492768.11	5310777.75	2199.539	5.4	207.749	Main Endeavour	VID_GRAB	
01/06/22 19:06:18.00	492763.96	5310778.39	2196.815	4.4	168.084	Main Endeavour	VID_GRAB	
01/06/22 19:09:09.00	492767.52	5310777.63	2200.059	4.6	268.969	Main Endeavour	VID_GRAB	
01/06/22 19:11:10.00	492759.71	5310768.42	2197.115	3.4	272.824	Main Endeavour	VID_GRAB	
01/06/22 19:11:25.00	492759.71	5310768.42	2197.175	30	276.074	Main Endeavour	VID_GRAB	
01/06/22 19:11:43.00	492755.35	5310767.15	2197.201	2.3	263.957	Main Endeavour	VID_GRAB	
01/06/22 19:12:12.00	492755.35	5310767.15	2197.175	2.1	217.153	Main Endeavour	VID_GRAB	
01/06/22 19:12:34.00	492750.53	5310771.89	2197.142	1.9	207.75	Main Endeavour	VID_GRAB	
01/06/22 19:14:29.00	492750.53	5310771.89	2191.865	7.5	149.503	Main Endeavour	Orientain of Mav 66 Due south 180	
01/06/22 19:47:46.00	492645.02	5310520.45	2168.866	22.1	210.739		Smoke	At 30m up
01/06/22 20:03:41.00	492595.06	5310440.32	2193.127	30	69.226	Southern Main Endavor field	redelying the thermal blanket	

Date & Time	UTM (X)	UTM (Y)	Depth (m)	Alt. (m)	Heading		Event	
01/06/22 20:04:41.00	492601.32	5310457.04	2193.101	30	68.691	Southern Main Endavor field	VID_GRAB	
01/06/22 20:04:46.00	492601.32	5310457.04	2193.101	30	68.676	Southern Main Endavor field	VID_GRAB	
01/06/22 20:05:04.00	492601.32	5310457.04	2193.127	30	68.798	Southern Main Endavor field	VID_GRAB	
01/06/22 20:05:20.00	492601.32	5310457.04	2193.209	30	68.552	Southern Main Endavor field	VID_GRAB	
01/06/22 20:05:45.00	492601.32	5310457.04	2193.156	30	68.696	Southern Main Endavor field	VID_GRAB	
01/06/22 20:05:59.00	492601.32	5310457.04	2193.156	30	68.17	Southern Main Endavor field	VID_GRAB	
01/06/22 20:06:08.00	492601.32	5310457.04	2193.15	30	68.031	Southern Main Endavor field	VID_GRAB	
01/06/22 20:06:21.00	492601.32	5310457.04	2193.116	30	68.123	Southern Main Endavor field	VID_GRAB	
01/06/22 20:09:13.00	492601.73	5310458.65	2191.682	1.7	130.008	VID_GRAB	White areas around cracks is iron hydroxide	
01/06/22 20:11:07.00	492599.65	5310450.58	2193.37	30	147.151	VID_GRAB		
01/06/22 20:23:51.00	492589.82	5310495.91	2177.02	12.6	15.29	VID_GRAB		
01/06/22 20:36:00.00	492576.85	5310537.72	2192.178	1.9	179.724	VID_GRAB		
01/06/22 20:36:07.00	492574.66	5310531.85	2192.205	2.3	169.967	VID_GRAB		
01/06/22 20:36:58.00	492574.15	5310531.14	2192.575	1.9	157.97	VID_GRAB		
01/06/22 20:37:27.00	492571.01	5310535.34	2193.421	1.3	143.731	VID_GRAB		
01/06/22 20:37:38.00	492571.01	5310535.34	2193.507	1.4	143.744	VID_GRAB		
01/06/22 20:40:10.00	492572.81	5310525.9	2190.955	3.4	134.78	Pisking up Mav 48 from Easter Island		
01/06/22 20:40:45.00	492574.85	5310525.47	2192.364	2.4	135.465	Got Mav 48 on Jason		
01/06/22 20:42:39.00	492573.59	5310528.49	2185.498	8.7	6.25	On the way to Southern Elevator		
01/06/22 21:44:30.00	493155.24	5310555.49	2110.309	4.4	321.828	We found the elevator		
01/06/22 21:47:39.00	493155.24	5310555.49	2111.452	3.9	25.877	Mav 48 in the elevator		
01/06/22 21:49:15.00	493155.24	5310555.49	2110.848	4.3	4.756	Dropped Mav 66		
01/06/22 21:50:01.00	493155.24	5310555.49	2110.264	4.2	9.188	The Mav fell a huge distance and in a huge creavis		
01/06/22 21:50:25.00	493155.24	5310555.49	2110.021	2.8	5.994	The Mav 66 seems to be lost forever		
01/06/22 21:51:00.00	493155.24	5310555.49	2109.862	6.2	49.877	The hole it fell into seems to be a cavern		
01/06/22 21:51:36.00	493155.24	5310555.49	2111.865	3.7	350.925	The Mav 66 fell out of the claw it was not dropped, the claw was not opened		
01/06/22 21:51:46.00	493155.24	5310555.49	2113.372	2.5	352.08	VID_GRAB		
01/06/22 21:54:15.00	493155.24	5310555.49	2110.579	4.6	23.798	It was agreed that Mav 66 was lost forever		
01/06/22 21:55:59.00	493155.24	5310555.49	2110.979	3.9	46.862	Went back to elevator		
01/06/22 21:56:56.00	493155.24	5310555.49	2111.111	3.6	349.145	Rest in Peace Mav 66, we had a moment of silence for the Mav lost		
01/06/22 21:58:19.00	493158.93	5310554.08	2112.664	1.9	4.076	We are MAV 54 was unbungeed		
01/06/22 21:58:48.00	493158.93	5310554.08	2112.79	1.8	4.363	Mav 55 was unbungeed		
01/06/22 21:59:03.00	493158.93	5310554.08	2112.12	2.8	4.844	CTD was stopped		

Date & Time	UTM (X)	UTM (Y)	Depth (m)	Alt. (m)	Heading		Event	
01/06/22 21:59:29.00	493158.93	5310554.08	2110.974	4.5	8.786	CTD was start under file 308008		
01/06/22 22:02:09.00	493158.93	5310554.08	2111.041	1.7	147.609	Mav 48 is bungreed in		
01/06/22 22:07:06.00	493150.64	5310562.87	2108.94	3.2	142.953	Mav 53 is out of elevator		
01/06/22 22:11:37.00	493150.64	5310562.87	2109.822	3	196.691	Mav 53 in on Jason's hook		
01/06/22 22:12:34.00	493150.64	5310562.87	2108.688	3.4	173.951	Mav 54 is out of elevator		
01/06/22 22:44:56.00	492863.64	5310528.35	2128.89	30	252.632	Matt is on watch		
01/06/22 23:03:07.00	492646.11	5310519.49	2130.085	30	253.612	retaining fell off Medea camera		
01/06/22 23:14:45.00	492641.76	5310535.28	2207.179	2.5	34.23	Looking around S & M for old deployment site		
01/06/22 23:30:30.00	492633.78	5310548.65	2190.457	2.4	233.189	VID_GRAB	probably new Mav site	
01/06/22 23:33:44.00	492633.31	5310541.05	2190.719	1.7	279.843	VID_GRAB	possible mav site	
01/06/22 23:36:22.00	492630.52	5310544.66	2190.813	1.6	287.935	10053 deployment	North of S & M	
01/06/22 23:39:31.00	492630.94	5310545.07	2190.365	2.2	277.169	10054 deployment		
01/06/22 23:40:10.00	492630.94	5310545.07	2190.009	2.3	301.681	10054 deployment		Error
						We're changing who gets deployed here to 10054		
01/06/22 23:43:37.00	492629.98	5310543.28	2190.826	1.3	315.973	10054 deployment	VID_GRAB	off mark48
01/06/22 23:45:58.00	492629.68	5310549.69	2192.495	30	237.895	10054 deployment	VID_GRAB	
01/06/22 23:46:11.00	492629.68	5310549.69	2192.475	30	237.858	10054 deployment	VID_GRAB	Thermistor
							out the back end	
01/06/22 23:46:30.00	492629.68	5310549.69	2192.441	30	239.666	10054 deployment	VID_GRAB	Right next
							to alvin dive weights	
01/06/22 23:55:30.00	492629.68	5310549.69	2192.495	30	219.136	10054 deployment	VID_GRAB	Let's give
							this bast*** a shake	
01/06/22 23:57:14.00	492629.68	5310549.69	2192.482	1.5	218.581	10054 deployment	VID_GRAB	Thermister
							is actually around the side	
01/06/22 23:57:46.00	492629.68	5310549.69	2192.502	30	217.428	10054 deployment	VID_GRAB	Deploy!
							Deploy! Deploy!	
01/06/23 00:03:12.00	492629.68	5310549.69	2192.504	30	215.234	10054 deployment	VID_GRAB	working on
							rotating the Mav	
01/06/23 00:08:21.00	492629.68	5310549.69	2192.47	30	214.409	10054 deployment	VID_GRAB	Deployed
01/06/23 00:12:30.00	492629.68	5310549.69	2192.482	30	215.896	10054 deployment	VID_GRAB	Good
							thermister deployment	
01/06/23 00:16:00.00	492633.41	5310549.59	2191.251	1.5	207.262	10054 deployment	VID_GRAB	cooler was
							open was, but now is closed	
01/06/23 00:16:10.00	492633.41	5310549.59	2190.946	1.8	208.132	10054 deployment	good fix on Jason	
01/06/23 00:17:47.00	492633.41	5310549.59	2192.699	26	206.872	10053 deployment	Moving to pick up 10053 and	
							head on our way	



[illegible]

Date & Time	UTM (X)	UTM (Y)	Depth (m)	Alt. (m)	Heading		Event	
01/06/23 02:12:45.00	492756.76	5310744.26	2195.468	3.5	308.852	10053 deployment	VID_GRAB	we see
							some nice cracks	
01/06/23 02:15:03.00	492750.4	5310745.83	2195.757	1.8	298.106	10053 deployment	VID_GRAB	there it is,
							what a nice deployment site. Let's record one for 10066,	
							the noble MAV who gave it's all to record the diffuse flux in a	
							crack and has in the end, been taken by a crack in the crust	
							itself....	
01/06/23 02:18:36.00	492751.83	5310746.53	2197.35	0.7	276.831	10053 deployment	VID_GRAB	Mav 10053
								in crack
01/06/23 02:18:53.00	492751.36	5310746.42	2197.348	0.7	276.799	10053 deployment	Temp measurement	
01/06/23 02:20:18.00	492751.7	5310745.75	2197.387	0.7	277.182	10053 deployment	VID_GRAB	3.3 degrees
01/06/23 02:20:26.00	492751.7	5310745.75	2197.426	0.7	277.092	10053 deployment	VID_GRAB	2.9 degrees
01/06/23 02:20:40.00	492750.87	5310746.43	2197.44	0.7	276.982	10053 deployment	VID_GRAB	2.6 degrees
01/06/23 02:22:15.00	492752.13	5310746.17	2197.5	0.7	277.442	10053 deployment	VID_GRAB	2.9degrees
01/06/23 02:25:11.00	492752.58	5310745.79	2197.498	0.7	277.59	10053 deployment	VID_GRAB	2.4
01/06/23 02:25:27.00	492752.58	5310745.79	2197.538	0.7	277.695	10053 deployment	VID_GRAB	2.9
01/06/23 02:26:11.00	492751.97	5310745.19	2197.761	0.7	277.936	10053 deployment	stom temperature record high	
							3.8 low 2.3	
01/06/23 02:30:00.00	492753.82	5310744.71	2197.847	30	286.846	10053 deployment	VID_GRAB	\
01/06/23 02:59:07.00	492752.46	5310743.42	2197.674	30	329.526	10053 deployment	mav is deployed	
01/06/23 03:00:00.00	492751.12	5310743.64	2197.692	30	330.178	10053 deployment	VID_GRAB	
01/06/23 03:01:44.00	492753.76	5310743.61	2197.932	1.3	312.085	10053 deployment	take temperature measurements	
01/06/23 03:03:16.00	492753.85	5310743.76	2197.953	30	312.291	10053 deployment	VID_GRAB	temp.
							measurements	
01/06/23 03:06:37.00	492752.39	5310743.58	2197.778	1.7	321.208	10053 deployment	VID_GRAB	heading321
							orientation 141	
01/06/23 03:06:55.00	492752.29	5310744.09	2197.812	30	321.505	10053 deployment	dropping target 35	
01/06/23 03:08:32.00	492753.37	5310743	2197.756	1.4	321.694	10053 deployment	VID_GRAB	heading 321
							orientation 141	
01/06/23 03:08:40.00	492753.37	5310743	2197.783	30	321.692	10053 deployment	VID_GRAB	
01/06/23 03:10:03.00	492753.99	5310742.18	2190.64	7.1	34.458	10053 deployment	heading East then up to go to	
							milliQ for HT hobo recovery	
01/06/23 03:29:52.00	492662.09	5310662.71	2121.061	30	333.972	change in plans- go to nav target 31 to get and move the		
							thermal blanket	
01/06/23 03:56:28.00	492607.08	5310461.29	2188.905	2.2	171.356	thermal blanket in view		
01/06/23 03:56:57.00	492611.75	5310458.28	2190.832	1.1	176.474	thermal blanket	VID_GRAB	

Date & Time	UTM (X)	UTM (Y)	Depth (m)	Alt. (m)	Heading		Event	
01/06/23 03:58:31.00	492604.09	5310460.95	2191.933	30	102.822	thermal blanket	VID_GRAB	
01/06/23 03:59:53.00	492606.65	5310455.73	2191.824	30	111.608	thermal blanket	blanket on jason's basket	
01/06/23 04:01:32.00	492609.13	5310456.25	2182.985	9.2	77.314	thermal blanket	taking blanket to new location	
							to the east	
01/06/23 04:23:22.00	492753.18	5310504.1	2208.323	2.7	176.929	thermal blanket	drop down to look at potential	
							spot for blanket	
01/06/23 04:24:41.00	492750.52	5310505.19	2210.775	30	180.205	thermal blanket	VID_GRAB	spot for
							thermal blanket deployment	
01/06/23 04:25:13.00	492748.62	5310506.28	2210.808	30	180.79	thermal blanket	VID_GRAB	
01/06/23 04:25:31.00	492750.05	5310505.43	2210.902	30	181.11	thermal blanket	VID_GRAB	
01/06/23 04:25:55.00	492747.61	5310506.82	2210.824	30	179.456	thermal blanket	drop nav target 36 at thermal	
							blanket	
01/06/23 04:26:27.00	492747.06	5310508.23	2210.027	1.1	181.84	thermal blanket	move blanket slightly to the right	
							away from rock	
01/06/23 04:28:05.00	492749.82	5310505.4	2209.468	1.6	193.388	thermal blanket	VID_GRAB	
01/06/23 04:28:23.00	492743.83	5310506.33	2208.961	2.1	209.505	thermal blanket	VID_GRAB	
01/06/23 04:30:20.00	492750.27	5310500.2	2206.86	4	264.784	heading to MilliQ		
01/06/23 04:35:09.00	492722.91	5310487.15	2183.68	21.9	239.303	stopping CTD acquisition		
01/06/23 04:35:20.00	492722.91	5310487.15	2183.666	22.2	238.785	new file for CTD 308010		
01/06/23 04:47:43.00	492633.56	5310450.05	2186.353	5	264.2	bad nav fixes		
01/06/23 04:52:45.00	492619.1	5310445.39	2186.919	5.5	263.987	VID_GRAB		
01/06/23 04:52:50.00	492615.48	5310445.7	2186.933	5.5	264.082	VID_GRAB		
01/06/23 04:55:08.00	492626.07	5310439.1	2186.487	3.6	151.144	at target- MilliQ		
01/06/23 05:02:32.00	492618.35	5310421.92	2186.779	4.2	74.697	nearing active venting at MilliQ		
01/06/23 05:03:22.00	492621.85	5310437.72	2183.156	7.1	80.917	VID_GRAB	HT hobo	
01/06/23 05:03:34.00	492617.5	5310439.25	2182.938	7.7	78.07	HT hobo	VID_GRAB	
01/06/23 05:03:52.00	492618.76	5310440.73	2182.916	7.6	78.455	HT hobo	VID_GRAB	tip of hobo
01/06/23 05:04:48.00	492613.89	5310439.41	2182.923	7.6	78.483	HT hobo	VID_GRAB	smoker
								above hobo
01/06/23 05:06:08.00	492617.67	5310441.53	2181.252	9.5	96.654	HT hobo	VID_GRAB	
01/06/23 05:08:33.00	492617.67	5310441.53	2181.409	9.3	89.734	HT hobo 1	VID_GRAB	beautiful!
01/06/23 05:20:14.00	492619.43	5310428.59	2183.115	6.6	97.213	HT hobo 1	preparing to retrieve HT Hobo 1	
01/06/23 05:20:30.00	492626.64	5310428.89	2182.583	7.6	78.685	HT hobo 1	VID_GRAB	
01/06/23 05:21:41.00	492629.98	5310425.39	2184.127	4.7	61.155	HT hobo 1	VID_GRAB	moving in
								on it
01/06/23 05:23:52.00	492627.4	5310425.82	2184.174	5.2	41.863	HT hobo 1	Nav target 37 dropped at Hobo 1	

Date & Time	UTM (X)	UTM (Y)	Depth (m)	Alt. (m)	Heading		Event	
							location - MilliQ	
01/06/23 05:24:19.00	492627.84	5310425.48	2184.121	5.3	41.123	HT hobo 1	VID_GRAB	
01/06/23 05:24:41.00	492631.71	5310424.81	2184.093	5.6	40.616	HT hobo 1	VID_GRAB	
01/06/23 05:24:50.00	492630.54	5310424.87	2184.087	5.7	40.414	HT hobo 1	VID_GRAB	
01/06/23 05:25:52.00	492630.59	5310424.86	2184.105	5.6	39.589	HT hobo 1	VID_GRAB	
01/06/23 05:28:51.00	492618.98	5310423.24	2184.137	5.3	37.641	HT hobo 1	Nav 37 dropped for reference to previous cruise coordinates	
01/06/23 05:29:54.00	492621.87	5310431.26	2180.116	8.7	4.908	HT hobo 1	heading to S&M to recover MAV 64	
01/06/23 05:30:07.00	492627.01	5310428.82	2179.716	10.4	319.475	HT hobo 1	S&M 80 m away	
01/06/23 05:37:23.00	492627.77	5310468.72	2171.885	18.5	282.296	unexpected structure ahead		
01/06/23 05:45:58.00	492632.22	5310506.43	2189.231	3	135.979	VID_GRAB	MAV 64	
01/06/23 05:46:25.00	492634.91	5310501.56	2189.276	2.7	149.565	MAV 64	VID_GRAB	
01/06/23 05:46:32.00	492638.36	5310499.57	2189.91	2.2	152.334	MAV 64	VID_GRAB	
01/06/23 05:47:13.00	492637.72	5310498.24	2188.789	3.4	157.661	MAV 64	MAV 64 orientation 160	
01/06/23 05:47:50.00	492639.02	5310498.2	2188.738	3.3	205.164	MAV 64	VID_GRAB	
01/06/23 05:48:16.00	492639.02	5310498.2	2188.731	3.4	233.914	MAV 64	VID_GRAB	
01/06/23 05:48:52.00	492644.3	5310493.75	2189.874	2.2	246.02	MAV 64	VID_GRAB	
01/06/23 05:49:12.00	492642.42	5310495.14	2190.668	1.2	238.754	MAV 64	in S&M	
01/06/23 05:49:30.00	492639.55	5310493.19	2191.945	30	239.556	MAV 64	VID_GRAB	
01/06/23 05:49:38.00	492639.55	5310493.19	2192.071	30	231.425	MAV 64	VID_GRAB	
01/06/23 05:54:09.00	492638.09	5310494.18	2191.598	0.7	223.087	MAV 64	temperature probe at MAV 64 location high - 7.1	
01/06/23 05:54:23.00	492638.09	5310494.18	2191.945	1.7	217.049	MAV 64	VID_GRAB	
01/06/23 05:56:18.00	492635.76	5310493.63	2192.016	1.1	214.107	MAV 64	VID_GRAB	
01/06/23 05:56:37.00	492637.4	5310494.39	2192.042	1.8	214.072	MAV 64	high at front of MAV 5.5 C	
01/06/23 06:01:36.00	492636.38	5310498.66	2179.645	12.2	215.89	MAV 64	MAV 64 hooked onto JASON - on our way to the elevator	
01/06/23 06:54:22.00	493132.41	5310595.6	2133.217	13.1	93.349	VID_GRAB		
01/06/23 06:55:42.00	493132.41	5310595.6	2113.441	18.1	82.756	VID_GRAB		
01/06/23 07:03:35.00	493388.28	5310426.1	2109.62	16.8	119.25	Found elevator		
01/06/23 07:04:29.00	493390.45	5310424.75	2109.722	8.1	86.633	Pilot has control of Jason but his screen is not reading thruster %s		
01/06/23 07:06:30.00	493390.54	5310417.11	2109.857	5.9	12.548	Pilot has decided to put Mav 64 in the elevator and get the new Mav out then get to a safe place and do a reset.		
01/06/23 07:07:08.00	493392.21	5310417.25	2109.784	5.9	358.371	The current is Northwestern		

Date & Time	UTM (X)	UTM (Y)	Depth (m)	Alt. (m)	Heading		Event	
01/06/23 07:13:26.00	493387.59	5310422.7	2111.218	2.7	93.268	Mav 64 is in the elevator in slot E		
01/06/23 07:16:09.00	493387.6	5310427.97	2112.093	24.3	63.598	A Neiken Bottle may have been fired while trying to get the		
						high temp Hobo off Jason		
01/06/23 07:16:51.00	493387.6	5310427.97	2114.27	22.7	57.713	The current is really strong and is moving Jason all around		
01/06/23 07:29:20.00	493399.96	5310422.72	2111.717	1.7	133.228	High Temp Hobo is on the elevator in the basket		
01/06/23 07:31:39.00	493393.19	5310424.17	2111.426	2.6	96.574	Mav 59 is unbungeed		
01/06/23 07:32:36.00	493395.34	5310421.17	2110.795	5.7	47.801	The Neisken bottle that might have been fired is on the		
						starbird side		
01/06/23 07:34:38.00	493396.88	5310418.97	2111.01	5.1	33.85	VID_GRAB		
01/06/23 07:35:53.00	493395.54	5310420.08	2110.532	2.9	145.926	Mav 64 is bungeed in		
01/06/23 07:38:25.00	493399.14	5310422.72	2110.48	2.3	132.612	Jason has Mav 59		
01/06/23 07:38:47.00	493389.67	5310426.68	2108.557	4.7	102.201	Mav 59 is out of the elevator and on Jason hooks		
01/06/23 07:39:19.00	493389.67	5310426.68	2108.544	9.3	42.362	Moving to a drag position		
01/06/23 07:40:12.00	493389.67	5310426.68	2108.504	20.1	52.77	Getting ready to reset		
01/06/23 07:41:37.00	493383.38	5310458.29	2099.716	11.9	52.204	The arm is powered down		
01/06/23 07:43:36.00	493389.9	5310490.2	2100.76	10.4	41.188	Reseting topside will occur when Medda gets under way		
01/06/23 07:47:52.00	493164.91	5310606.73	2099.407	30	13.123	Reseting Jason topside		
01/06/23 07:50:26.00	493154.75	5310594.89	2101.231	30	13.393	The Jason topside resetting went well and seemed to fix		
						the problem		
01/06/23 08:26:24.00	492778.31	5310351.2	2087.621	30	22.278	Changed the Hi-8 and VHS tapes		
01/06/23 08:54:22.00	492599.62	5310183.73	2190.114	5.2	149.216	VID_GRAB		
01/06/23 08:55:38.00	492611.74	5310160.35	2191.139	4.3	204.057	CTD stopped		
01/06/23 08:56:59.00	492605.6	5310154.78	2189.482	4.4	201.559	CTD started file308011		
01/06/23 08:59:10.00	492605.6	5310154.78	2195.814	4.1	132.559	VID_GRAB		
01/06/23 08:59:24.00	492605.6	5310154.78	2196.407	3.1	136.232	VID_GRAB		
01/06/23 09:00:32.00	492594.64	5310163.35	2195.188	2.4	176.462	Were looking for a location to set Mav 59 down		
01/06/23 09:00:38.00	492594.64	5310163.35	2195.215	2.5	164.207	VID_GRAB		
01/06/23 09:01:08.00	492593.54	5310158.28	2195.388	4.1	93.214	VID_GRAB	Staining	
01/06/23 09:01:40.00	492593.54	5310158.28	2192.132	5.3	106.041	VID_GRAB		
01/06/23 09:01:47.00	492593.54	5310158.28	2191.3	5.9	118.304	VID_GRAB		
01/06/23 09:02:05.00	492593.54	5310158.28	2191.506	5.9	124.228	VID_GRAB		
01/06/23 09:02:52.00	492603.16	5310161.17	2191.953	5.2	167.728	VID_GRAB		
01/06/23 09:02:57.00	492603.16	5310161.17	2191.893	5.6	167.714	VID_GRAB		
01/06/23 09:03:07.00	492599.74	5310161.91	2192.055	5.5	168.146	VID_GRAB		
01/06/23 09:03:19.00	492599.74	5310161.91	2192.072	5.5	168.309	VID_GRAB		
01/06/23 09:03:32.00	492599.47	5310162.18	2192.085	5.3	168.052	Some slight shimmering		

Date & Time	UTM (X)	UTM (Y)	Depth (m)	Alt. (m)	Heading		Event	
01/06/23 09:03:45.00	492599.47	5310162.18	2192.081	5.7	168.015	VID_GRAB		
01/06/23 09:05:40.00	492607.67	5310167.09	2190.756	2.6	231.971	Substrate	Pillow lava	
01/06/23 09:05:54.00	492607.67	5310167.09	2190.501	2.8	235.16	VID_GRAB	North side	
01/06/23 09:06:25.00	492607.67	5310167.09	2190.92	3.5	274.071	VID_GRAB		
01/06/23 09:08:37.00	492595.64	5310159.78	2196.161	2.7	140.292	VID_GRAB		
01/06/23 09:08:47.00	492595.64	5310159.78	2196.154	2.8	141.031	VID_GRAB		
01/06/23 09:08:54.00	492595.64	5310159.78	2196.167	3.1	153.579	VID_GRAB		
01/06/23 09:10:04.00	492591.22	5310157.07	2196.6	3.2	100.927	VID_GRAB		
01/06/23 09:10:13.00	492591.22	5310157.07	2196.56	3.1	101.604	VID_GRAB		
01/06/23 09:10:21.00	492591.22	5310157.07	2196.527	2.9	101.252	VID_GRAB		
01/06/23 09:14:04.00	492604.28	5310183.23	2196.098	3.7	192.254	VID_GRAB		
01/06/23 09:14:15.00	492601.43	5310181.26	2196.143	3.6	192.224	VID_GRAB		
01/06/23 09:14:22.00	492601.43	5310181.26	2196.356	3.4	192.269	VID_GRAB		
01/06/23 09:14:35.00	492603.43	5310173.65	2196.536	3.2	197.085	VID_GRAB		
01/06/23 09:14:50.00	492603.43	5310173.65	2196.669	3.1	196.274	Low levels of shimmering		
01/06/23 09:14:59.00	492603.43	5310173.65	2196.829	3	197.037	VID_GRAB		
01/06/23 09:15:33.00	492600.26	5310180.56	2196.918	2.9	194.478	VID_GRAB		
01/06/23 09:15:58.00	492610.85	5310176.06	2197.305	2.6	209.415	VID_GRAB		
01/06/23 09:18:45.00	492604.76	5310180.7	2198.438	30	235.91	Mav 59 is in place but needs help delying		
01/06/23 09:20:03.00	492604.76	5310180.7	2198.622	30	235.398	Mav 59 is delyed		
01/06/23 09:20:29.00	492604.76	5310180.7	2198.609	30	235.213	VID_GRAB		
01/06/23 09:24:58.00	492604.76	5310180.7	2198.67	30	233.353	VID_GRAB		
01/06/23 09:25:11.00	492604.76	5310180.7	2198.656	30	233.272	VID_GRAB		
01/06/23 09:25:39.00	492604.76	5310180.7	2198.643	30	233.212	Starting Temp probe		
01/06/23 09:28:41.00	492604.76	5310180.7	2198.627	30	232.53	High 3.0 and Low 2.0		
01/06/23 09:29:29.00	492604.76	5310180.7	2198.654	30	231.752	VID_GRAB		
01/06/23 09:29:52.00	492604.76	5310180.7	2197.546	1.4	269.807	VID_GRAB		
01/06/23 09:29:58.00	492604.76	5310180.7	2197.089	1.8	281.283	VID_GRAB		
01/06/23 09:30:15.00	492604.76	5310180.7	2197.139	1.4	289.254	VID_GRAB		
01/06/23 09:30:52.00	492604.76	5310180.7	2196.068	1.9	290.2	Orientation of Mav 59 is 210		
01/06/23 09:35:54.00	492605.54	5310178.34	2187.911	8.5	75.902	Going back to the location were there was very little shimmering to do a temp probe		
01/06/23 09:37:55.00	492620.59	5310169.91	2190.873	4	237.884	Fan Coral		
01/06/23 09:38:10.00	492620.59	5310169.91	2190.447	2.7	213.605	VID_GRAB		
01/06/23 09:40:06.00	492606.61	5310162.73	2192.825	3.5	280.37	VID_GRAB		
01/06/23 09:40:19.00	492606.61	5310162.73	2192.552	3.9	316.169	VID_GRAB		

Date & Time	UTM (X)	UTM (Y)	Depth (m)	Alt. (m)	Heading		Event	
01/06/23 09:40:30.00	492606.61	5310162.73	2192.431	3	350.944	VID_GRAB		
01/06/23 09:41:21.00	492602.18	5310154.09	2192.844	3.9	108.523	VID_GRAB		
01/06/23 09:41:43.00	492602.18	5310154.09	2193.244	4.6	129.224	VID_GRAB		
01/06/23 09:41:48.00	492601.07	5310160.11	2193.098	4.5	126.859	VID_GRAB		
01/06/23 09:42:00.00	492601.07	5310160.11	2193.777	2.5	136.052	VID_GRAB	Southwest side	
01/06/23 09:42:13.00	492604.82	5310159.39	2194.649	1.3	153.262	VID_GRAB		
01/06/23 09:42:33.00	492604.82	5310159.39	2194.702	1.3	152.304	Soing temp probe		
01/06/23 09:44:22.00	492604.82	5310159.39	2194.683	1.3	151.416	VID_GRAB		
01/06/23 09:45:02.00	492604.82	5310159.39	2194.722	1.3	151.651	High 14.2 and Low 2.0		
01/06/23 09:46:30.00	492596.42	5310160.06	2189.922	6.2	218.787	We are off to pick up a Mav		
01/06/23 09:58:38.00	492574.53	5310137.23	2195.578	6.8	249.716	VID_GRAB		
01/06/23 09:58:49.00	492574.53	5310137.23	2196.447	7.8	248.739	VID_GRAB		
01/06/23 09:59:07.00	492574.53	5310137.23	2196.884	6.4	254.158	VID_GRAB		
01/06/23 09:59:39.00	492574.53	5310137.23	2197.27	6.9	241.695	VID_GRAB		
01/06/23 10:00:02.00	492574.53	5310137.23	2198.103	3.1	239.475	Mav 47 is in sight and is not up right		
01/06/23 10:00:10.00	492574.53	5310137.23	2198.909	2	240.11	VID_GRAB		
01/06/23 10:01:17.00	492574.53	5310137.23	2199.741	1.7	197.287	VID_GRAB		
01/06/23 10:02:06.00	492574.53	5310137.23	2200.307	1.1	160.955	Orientation of Mav 47 is 155		
01/06/23 10:04:50.00	492574.53	5310137.23	2201.179	30	127.3	Jason has Mav 47		
01/06/23 10:07:21.00	492574.53	5310137.23	2178.145	22.5	82.257	Going back to the elevator		
01/06/23 10:12:39.00	492531.78	5310131.36	2109.89	30	267.572	The Hi-8 and the VHS were changed		
01/06/23 10:39:00.00	492808.25	5310317.59	2100.39	30	232.255	matt is on watch		
01/06/23 11:07:48.00	493114.15	5310523.26	2102.598	30	213.259	10047	stop ADCP	
01/06/23 11:07:58.00	493114.15	5310523.26	2102.722	30	220.216	10047	stop CTD	
01/06/23 11:10:43.00	493115.45	5310543.43	2103.325	28.8	235.306	10047	start ADCP 308001	
01/06/23 11:11:01.00	493115.45	5310543.43	2103.582	27.5	223.2	10047	start 308012	
01/06/23 11:11:51.00	493115.45	5310543.43	2103.615	29.9	215.291	10047	no look on the ADCP, trying to	
							cycle power to it.	
01/06/23 11:12:25.00	493122.67	5310545.77	2103.929	29.5	223.407	10047	ACDP is in communicato, but	
							for some reason is not sending data up.	
01/06/23 11:15:44.00	493149.64	5310565.66	2109.137	16.6	123.225	10047	elevator with in site.	
01/06/23 11:16:04.00	493149.64	5310565.66	2109.181	15.4	102.794	10047	To get to elevator from west,	
							must rise up small wall	
01/06/23 11:19:09.00	493158.21	5310556.26	2108.867	6.2	58.904	10047	VID_GRAB	Big yellow
								glass balls
01/06/23 11:19:56.00	493158.21	5310556.26	2110.108	4.9	72.277	10047	Jim shoots and he scores. Mav	

Date & Time	UTM (X)	UTM (Y)	Depth (m)	Alt. (m)	Heading		Event	
							in culvert tube.	
01/06/23 11:23:19.00	493342.44	5310453.11	2111.163	3.6	78.889	10047	Mav 10047 is secure in the tube	
01/06/23 11:25:51.00	493165.38	5310553.58	2109.789	2.8	133.384	lost data from ADCP after powering down. The ADCP can be		
						talked to, but no data is sent back.		
01/06/23 11:32:08.00	493155.97	5310560.34	2110.057	4.5	6.912	released holding pin for mavs 60		
01/06/23 11:45:15.00	493154.81	5310559.97	2110.769	3.9	326.692	start of ADCP DV308a003		
01/06/23 11:49:54.00	493157.33	5310558.19	2110.121	4.2	347.579	VID_GRAB	10065 out of elevator on way to	
							New Field deployment	
01/06/23 12:00:31.00	493155.76	5310559.47	2109.329	2.5	221.132	VID_GRAB	10060 on Mark 48 heading to	
							New Field (spain?) deployment	
01/06/23 13:20:16.00	492794.92	5311201.11	2177.494	4.8	313.593	rock in site, near new field vent area		
01/06/23 13:29:20.00	492781.37	5311220.83	2181.769	2.7	308.737	10065 & 10060	VID_GRAB	
01/06/23 13:29:33.00	492781.37	5311220.83	2181.266	3.2	308.849	10065 & 10060	VID_GRAB	LT hobo 35
01/06/23 13:43:26.00	492773.88	5311233	2183.555	0.8	330.324	10065 & 10060	VID_GRAB	lunch
01/06/23 13:44:10.00	492773.88	5311233	2183.788	1.8	332.431	10065 & 10060	VID_GRAB	
01/06/23 13:52:05.00	492773.88	5311233	2183.382	1.2	331.917	10065 & 10060	VID_GRAB	35 is a
								double hobo
01/06/23 13:56:50.00	492773.88	5311233	2184.021	1.5	320.376	10065 & 10060	VID_GRAB	Not a
						whole lot of growth compared to the others we've recovered		
01/06/23 13:58:33.00	492773.88	5311233	2183.947	30	320.7	10065 & 10060	VID_GRAB	this design
								sucks
01/06/23 13:59:06.00	492773.88	5311233	2183.936	30	320.756	10065 & 10060	VID_GRAB	can't we
							make a simpler design	
01/06/23 13:59:37.00	492773.88	5311233	2183.984	30	320.682	10065 & 10060	VID_GRAB	You know
						the SeaFloor Magnetometers deploy in about 3 seconds		
						not 3 hours		
01/06/23 14:00:03.00	492773.88	5311233	2183.913	30	320.626	10065 & 10060	VID_GRAB	Tripod,
						maybe in the future of these current meters		
01/06/23 14:00:13.00	492773.88	5311233	2183.898	30	320.617	10065 & 10060	VID_GRAB	change is
								good
01/06/23 14:00:24.00	492773.88	5311233	2183.951	30	320.606	10065 & 10060	VID_GRAB	
							improvements are good	
01/06/23 14:00:46.00	492773.88	5311233	2184.02	30	320.453	10065 & 10060	VID_GRAB	Should we
						release version 2.0 for the 2002 field season		
01/06/23 14:02:27.00	492773.88	5311233	2184.097	30	320.038	10065 & 10060	VID_GRAB	come on
							grad the probe	



Date & Time	UTM (X)	UTM (Y)	Depth (m)	Alt. (m)	Heading		Event	
01/06/23 14:04:37.00	492773.88	5311233	2184.118	30	320.171	10065 & 10060	VID_GRAB	this is alot
								of work
01/06/23 14:05:57.00	492773.88	5311233	2184.039	30	320.169	10065 & 10060	VID_GRAB	poking the
								t-string
01/06/23 14:07:37.00	492773.88	5311233	2183.971	30	320	10065 & 10060	VID_GRAB	this is
								painful.
01/06/23 14:10:18.00	492773.88	5311233	2183.906	30	319.864	10065 & 10060	VID_GRAB	the t-string
								is out, but alas the poor boy still doesn't want to deploy.
								Perhaps we should apply some collision engineering.
01/06/23 14:11:29.00	492773.88	5311233	2183.919	30	320.001	10065 & 10060	VID_GRAB	
01/06/23 14:20:58.00	494308.41	5314106.05	2183.575	10	319.903	10065 & 10060	VID_GRABLT35 recovered	
01/06/23 14:26:38.00	492784.7	5311213.19	2180.057	2.2	186.841	10065 & 10060	VID_GRAB	
01/06/23 14:27:10.00	492777.5	5311224.11	2175.268	7.7	180.659	10065 & 10060	10060 in hand rising vertical to	
							get improved fix on location of 10065	
01/06/23 14:32:48.00	492775.38	5311231.94	2176.886	3	269.745	10065 & 10060	VID_GRAB	
01/06/23 14:40:35.00	492772.51	5311244.41	2178.577	1.1	300.435	10065 & 10060	VID_GRAB	Afraid to
								come out and play
01/06/23 15:13:17.00	492776.63	5311240.02	2177.54	2.3	339.847	10065 & 10060	VID_GRAB	
01/06/23 15:13:20.00	492776.63	5311240.02	2177.884	1.9	341.423	10065 & 10060	VID_GRAB	
01/06/23 15:13:22.00	492776.63	5311240.02	2177.959	2	343.57	10065 & 10060	VID_GRAB	
01/06/23 15:13:24.00	492776.63	5311240.02	2177.95	1.9	0.044	10065 & 10060	VID_GRAB	
01/06/23 15:13:26.00	492776.63	5311240.02	2177.946	2	12.692	10065 & 10060	VID_GRAB	
01/06/23 15:13:39.00	492779.33	5311231.11	2178.997	0.9	5.007	10065 & 10060	several pictures of the orientation	
01/06/23 15:15:22.00	492779.06	5311233.64	2179.374	1.3	349.228	10065 & 10060	watch change	
01/06/23 15:30:41.00	492779.16	5311231.37	2178.521	1.5	351.083	10065 & 10060	problem with the CTD	
01/06/23 15:32:12.00	492779.16	5311231.37	2178.682	1.4	350.939	10065 & 10060	rebooting computer containing	
							CTD data	
01/06/23 15:35:15.00	492779.16	5311231.37	2178.675	30	350.471	308012 was ended because computer crashed, last data		
						logged at 15:07		
01/06/23 15:38:45.00	492779.16	5311231.37	2178.717	30	350.517	time spent placing hobos back onto Jason		
01/06/23 15:42:15.00	492787.35	5311228.55	2141.835	30	291.061	restarting CTD 308013		
01/06/23 15:46:24.00	492797.11	5311190.32	2111.815	30	186.705	transiting to start point of AST survey - hobos will remain on		
						board Jason for the survey duration		
01/06/23 15:47:25.00	492802.77	5311196.51	2111.817	30	186.962	for CTD new file, used configuration Jason.con		
01/06/23 16:39:25.00	492938.48	5311636.18	2129.946	30	41.685	approaching the start point of the AST Line		
01/06/23 16:40:54.00	492949.97	5311651.12	2135.246	30	224.886	AST Transit	Inserting Tape 4 into SM 2000	

Date & Time	UTM (X)	UTM (Y)	Depth (m)	Alt. (m)	Heading		Event
01/06/23 16:55:20.00	492942.4	5311650.39	2179.154	6.2	197.811	AST Transit	problems with SM 2000,
							inserting tape 5 to see if the tape was the problem
01/06/23 17:04:54.00	492938.4	5311648.26	2179.198	5.8	21.436	AST Transit	starting AST file 01F23001
01/06/23 17:06:16.00	492938.45	5311649.06	2178.316	5.5	202.57	AST Transit	started line 4
01/06/23 17:07:02.00	492938.09	5311649.19	2178.442	5.3	196.19	AST Transit	started CTD file 308014
01/06/23 17:07:36.00	492936.99	5311645.67	2177.016	7	199.56	AST Transit	proceeding 20 m at heading 200
							started at the NW corner of line 4
01/06/23 17:10:00.00	492932.98	5311629.22	2176.864	7	202.155	AST Transit	20 m stop-1
01/06/23 17:10:20.00	492932.47	5311629.5	2176.864	6.9	202.316	AST Transit	holding for 1 minute
01/06/23 17:10:23.00	492932.47	5311629.5	2176.871	6.9	202.173	AST Transit	moving
01/06/23 17:10:43.00	492933.01	5311630.82	2176.971	6.9	198.772	AST Transit	maintaining altitude 7.0 m
01/06/23 17:13:07.00	492928.05	5311609.79	2174.456	5.5	201.941	AST Transit	20 m stop-2
01/06/23 17:16:54.00	492926.36	5311609.33	2174.645	5.8	196.419	AST Transit	moving
01/06/23 17:19:17.00	492921.98	5311590.21	2170.287	6.9	201.592	AST Transit	20 m stop -3
01/06/23 17:20:22.00	492922.49	5311589.33	2170.31	7	202.032	AST Transit	moving
01/06/23 17:22:19.00	492919.57	5311574.04	2166.139	7	201.107	AST Transit	talus slope
01/06/23 17:22:25.00	492919.57	5311574.04	2166.213	7	201.331	AST Transit	20 m stop-4
01/06/23 17:23:31.00	492918.2	5311570.03	2166.173	7	206.893	AST Transit	moving ahead
01/06/23 17:25:22.00	492914.09	5311550.51	2164.697	7.5	207.744	AST Transit	20 m stop-5
01/06/23 17:26:20.00	492915.43	5311550.08	2164.596	7.5	211.041	AST Transit	moving
01/06/23 17:28:06.00	492915.48	5311545.65	2164.565	7.1	203.402	AST Transit	tug on the SM 2000
01/06/23 17:30:46.00	492891.46	5311497.26	2159.119	5.7	206.391	AST Transit	50 m stop due to Medea - 6
01/06/23 17:31:15.00	492892.26	5311501.77	2159.201	5.6	207.224	AST Transit	moving
01/06/23 17:32:10.00	492892.33	5311501.4	2159.148	5.7	204.225	AST Transit	pillow coverage
01/06/23 17:34:47.00	492884.2	5311473.38	2155.06	5.1	207.156	AST Transit	VID_GRAB
01/06/23 17:35:01.00	492884.2	5311473.38	2155.126	5.1	206.74	AST Transit	20 m stop - 7
01/06/23 17:36:54.00	492881.66	5311475.36	2156.124	11.8	202.903	AST Transit	cutting over laterally to keep on
							line
01/06/23 17:36:56.00	492881.66	5311475.36	2156.13	11.9	203.974	AST Transit	moving
01/06/23 17:38:39.00	492873.53	5311462.35	2155.913	16.9	207.88	AST Transit	cutting station duration down to
							45 seconds, instead of 60 sec. to keep up the speed
01/06/23 17:38:48.00	492872.95	5311459.35	2155.95	16.9	208.228	AST Transit	20 m stop-8
01/06/23 17:39:52.00	492872.27	5311460.16	2165.135	8.3	208.78	AST Transit	Jason getting tugged
01/06/23 17:40:07.00	492872.27	5311460.16	2166.638	6.9	210.143	AST Transit	moving
01/06/23 17:40:55.00	492872.27	5311460.16	2165.654	6.7	207.953	AST Transit	continued pillow coverage
01/06/23 17:42:04.00	492866.67	5311443.28	2163.453	5.8	208.183	AST Transit	20 m stop-9

Date & Time	UTM (X)	UTM (Y)	Depth (m)	Alt. (m)	Heading		Event	
01/06/23 17:43:27.00	492862.75	5311433.13	2162.708	5.2	203.824	AST Transit	moving (longer than 20m)	
01/06/23 17:43:45.00	492862.75	5311433.13	2162.123	3.6	202.848	AST Transit	stops changed to 40 second	
							duration (instead of 45 sec)	
01/06/23 17:47:04.00	492850.24	5311397.38	2155.168	6.8	210.197	AST Transit	moving	
01/06/23 17:48:23.00	492851.5	5311403.56	2156.698	6.7	206.992	AST Transit	20 m stop-10	
01/06/23 17:49:22.00	492852.2	5311404.76	2156.544	6.2	205.802	AST Transit		Error
01/06/23 17:49:37.00	492851.47	5311401.1	2156.617	4.4	206.24	AST Transit	this is stop #11	
01/06/23 17:51:25.00	492849.92	5311383.53	2157.429	9.8	212.872	AST Transit	20 m stop-12	
01/06/23 17:51:31.00	492850.18	5311383.97	2157.416	9.9	212.194	AST Transit	moving	
01/06/23 17:53:29.00	492846.9	5311363.69	2162.987	6.5	217.638	AST Transit	20 m stop	
01/06/23 17:54:05.00	492847.6	5311364.08	2165.188	7.1	210.629	AST Transit	discontinued stop numbering -	
							too confusing	
01/06/23 17:54:07.00	492847.6	5311364.08	2165.628	6.7	211.282	AST Transit	moving	
01/06/23 17:54:32.00	492847.57	5311365.48	2164.863	6.8	212	AST Transit	changed station duration to 30	
							sec. (instead of 40)	
01/06/23 17:54:51.00	492847.64	5311365.75	2164.65	7.6	209.37	AST Transit	error - moving now!	
01/06/23 17:56:17.00	492845.9	5311346.63	2171.701	8.3	210.627	AST Transit	20 m stop	
01/06/23 17:56:51.00	492846.12	5311344.46	2172.052	7.3	224.564	AST Transit	moving	
01/06/23 17:57:19.00	492846.06	5311344.61	2174.934	5.6	222.743	AST Transit	diffuse vents- shimmering	
01/06/23 17:58:40.00	492833.75	5311334.9	2163.846	7.7	221.576	AST Transit	bacterial mats on sulfide	
							structure	
01/06/23 17:59:10.00	492827.6	5311331.22	2158.792	11	225.177	AST Transit	20 m stop	
01/06/23 17:59:42.00	492827.88	5311332.34	2159.277	10.6	226.134	AST Transit	moving	
01/06/23 18:00:07.00	492827.57	5311331.75	2158.911	7.4	222.938	AST Transit		Temp Anom
								1.0 C
01/06/23 18:02:29.00	492811.15	5311305.79	2157.855	11.2	224.992	AST Transit	20 m stop	
01/06/23 18:02:58.00	492811.2	5311306.49	2157.905	9.1	213.215	AST Transit	moving	
01/06/23 18:05:11.00	492807.69	5311289.4	2168.141	4.8	218.325	AST Transit	20 m stop	
01/06/23 18:05:41.00	492806.63	5311288.55	2166.824	6	217.246	AST Transit	moving	
01/06/23 18:07:09.00	492806.63	5311288.55	2166.518	5.6	214.3	AST Transit	poor nav	
01/06/23 18:07:37.00	492806.63	5311288.55	2166.645	6	216.699	AST Transit	20 m stop	
01/06/23 18:08:07.00	492806.63	5311288.55	2166.551	6.1	216.87	AST Transit	moving	
01/06/23 18:09:10.00	492798.62	5311259.69	2171.179	7	214.571	AST Transit	sulfide structure	
01/06/23 18:09:48.00	492796.11	5311252.07	2173.621	5.6	214.148	AST Transit	tube worms	
01/06/23 18:10:03.00	492796.11	5311252.07	2173.727	5.7	217.225	AST Transit	20 m stop	
01/06/23 18:10:07.00	492794.75	5311249.3	2173.533	5.7	217.014	AST Transit	good nav	

Date & Time	UTM (X)	UTM (Y)	Depth (m)	Alt. (m)	Heading		Event	
01/06/23 18:10:37.00	492794.48	5311250.05	2173.106	6.2	217.407	AST Transit	holding station to let Medea	
							catch up	
01/06/23 18:11:19.00	492795.1	5311249.88	2172.33	6	212.708	AST Transit	moving	
01/06/23 18:12:32.00	492794.5	5311248.36	2174.423	4.6	216.334	AST Transit	talus slope	
01/06/23 18:13:02.00	492789.37	5311233.79	2171.709	5.8	215.891	AST Transit	MAV in sight	
01/06/23 18:13:06.00	492788.68	5311231.24	2171.695	5.8	215.55	AST Transit	20 m stop	
01/06/23 18:13:20.00	492788.68	5311231.24	2171.795	5.7	216.232	AST Transit	MAV 63 is the one we are seeing	
01/06/23 18:13:29.00	492788.85	5311230.88	2171.815	5.7	216.644	AST Transit	VID_GRAB	
01/06/23 18:13:31.00	492788.85	5311230.88	2171.808	5.7	215.824	AST Transit	moving	
01/06/23 18:14:03.00	492788.87	5311230	2173.964	6.3	208.322	AST Transit	VID_GRAB	
01/06/23 18:14:46.00	492784.54	5311217.79	2170.318	9.3	213.402	AST Transit	Vent Features	Tube worm
							bacterial mat	
01/06/23 18:15:27.00	492783.59	5311211.09	2170.119	9.3	215.848	AST Transit	20 m stop	
01/06/23 18:15:31.00	492783.59	5311211.09	2170.098	9.2	216.055	AST Transit	holding for Medea	
01/06/23 18:16:13.00	492783.4	5311211.62	2170.445	9.1	213.664	AST Transit	holding - good nav	
01/06/23 18:16:36.00	492783.45	5311211.16	2171.906	7.2	213.837	AST Transit	moving - 1 minute hold	
01/06/23 18:17:20.00	492781.95	5311205.26	2166.963	7.8	211.792	AST Transit	pillow structure	
01/06/23 18:17:25.00	492781.95	5311205.26	2165.813	8.3	210.218	AST Transit	VID_GRAB	
01/06/23 18:18:21.00	492780.49	5311193.01	2167.5	6.9	217.649	AST Transit	20 m stop	
01/06/23 18:18:53.00	492779.38	5311190.72	2167.214	7.2	217.112	AST Transit	moving	
01/06/23 18:22:37.00	492767.01	5311164.47	2162.935	6.2	218.941	AST Transit	20 m stop	
01/06/23 18:23:08.00	492765.18	5311158.73	2160.814	8.3	217.991	AST Transit	moving	
01/06/23 18:26:41.00	492751.99	5311131.42	2163.262	5.1	219.454	AST Transit	20 m stop	
01/06/23 18:27:17.00	492751.64	5311131.89	2162.153	5.5	216.818	AST Transit	advancing sucker down the line	
01/06/23 18:30:01.00	492733.47	5311087.25	2158.062	5.2	203.622	AST Transit	20 m stop	
01/06/23 18:30:31.00	492731.8	5311081.2	2157.489	5.7	200.146	AST Transit	moving	
01/06/23 18:32:22.00	492730.06	5311063.34	2156.674	6.3	201.702	AST Transit	20 m stop	
01/06/23 18:32:47.00	492729.08	5311060.87	2156.522	6.2	203.077	AST Transit	pillows	
01/06/23 18:32:51.00	492729.08	5311060.87	2156.497	6.2	203.238	AST Transit	moving	
01/06/23 18:34:51.00	492725.25	5311040.51	2156.657	7.1	216.235	AST Transit	20 m stop	
01/06/23 18:35:09.00	492725.34	5311040.48	2156.621	7	217.103	AST Transit	broken pillow coverage	
01/06/23 18:35:25.00	492724.7	5311040.31	2156.644	6.8	209.21	AST Transit	moving	
01/06/23 18:37:05.00	492719.14	5311026.19	2162.193	5.4	212.975	AST Transit	20 m stop	
01/06/23 18:37:30.00	492717.13	5311022.08	2162.162	5.5	211.625	AST Transit	pillows	
01/06/23 18:37:37.00	492717.13	5311022.08	2162.095	5.6	212.549	AST Transit	moving	
01/06/23 18:40:28.00	492706.86	5310992.69	2165.82	5.6	210.228	AST Transit	20 m stop	

Date & Time	UTM (X)	UTM (Y)	Depth (m)	Alt. (m)	Heading		Event	
01/06/23 18:40:46.00	492706.86	5310992.69	2165.687	5.8	211.23	AST Transit	diffult to see bottom	
01/06/23 18:41:00.00	492706.65	5310993.67	2165.674	6.2	208.636	AST Transit	moving	
01/06/23 18:43:00.00	492701.03	5310975.18	2165.361	6.4	210.912	AST Transit	20 m stop	
01/06/23 18:43:35.00	492700.68	5310974.23	2165.257	6.3	208.213	AST Transit	moving	
01/06/23 18:44:12.00	492692.88	5310966.06	2163.432	9.7	213.814	AST Transit	basalt structure	
01/06/23 18:45:09.00	492689.96	5310951.46	2171.56	4.7	211.223	AST Transit	20 m stop	
01/06/23 18:45:39.00	492689.7	5310951.99	2170.944	5.2	212.43	AST Transit	moving	
01/06/23 18:47:34.00	492684.8	5310933.01	2170.804	6.6	210.037	AST Transit	Pillow Basalt	
01/06/23 18:48:01.00	492684.38	5310933.32	2170.771	6.6	211.561	AST Transit	20 m stop	
01/06/23 18:48:20.00	492683.55	5310932.58	2170.75	6.7	211.525	AST Transit	moving	
01/06/23 18:50:28.00	492676.85	5310913.93	2170.791	7.7	210.478	AST Transit	20 m Stop	
01/06/23 18:50:55.00	492676.85	5310913.93	2173.957	4.7	213.451	AST Transit	VID_GRAB	
01/06/23 18:50:57.00	492676.85	5310913.93	2173.717	4.8	213.576	AST Transit	moving	
01/06/23 18:52:44.00	492673.9	5310898.13	2170.791	8.3	210.77	AST Transit	20 m Stop	
01/06/23 18:53:14.00	492672.24	5310894.18	2170.83	7.9	211.492	AST Transit	Moving	
01/06/23 18:54:33.00	492665.44	5310887.58	2171.37	3.2	198.284	AST Transit	VID_GRAB	Bittle Star
							and Pillows	
01/06/23 18:54:39.00	492665.44	5310887.58	2170.897	3.6	197.387	AST Transit	20 m Stop	
01/06/23 18:54:57.00	492665.44	5310887.58	2170.784	3.7	196.037	AST Transit	Bad Fix	
01/06/23 18:55:00.00	492665.44	5310887.58	2170.771	3.8	195.961	AST Transit	Moving	
01/06/23 18:56:42.00	492662	5310876.05	2174.869	4.7	210.396	AST Transit	20 m stop	
01/06/23 18:57:13.00	492659.77	5310862.31	2171.07	8.8	209.774	AST Transit	Moving	
01/06/23 18:59:54.00	492650.76	5310825.48	2183.419	2.9	211.506	AST Transit	VID_GRAB	Pillow basalt
01/06/23 19:00:59.00	492640.73	5310821.24	2178.408	4.3	214.321	AST Transit	VID_GRAB	Basalt wall
01/06/23 19:01:04.00	492640.73	5310821.24	2178.508	4.5	215.69	AST Transit	20 m stop	
01/06/23 19:01:25.00	492640.73	5310821.24	2175.254	7.4	215.912	AST Transit	VID_GRAB	Someones
								tether
01/06/23 19:01:30.00	492640.73	5310821.24	2174.27	8.1	215.875	AST Transit	moving	
01/06/23 19:02:50.00	492640.81	5310805.96	2182.954	6.5	211.017	AST Transit	20 m stop	
01/06/23 19:03:15.00	492641.6	5310803.56	2181.15	8.1	206.878	AST Transit	moving	
01/06/23 19:04:08.00	492635.87	5310798.2	2182.987	2.9	214.188	AST Transit	VID_GRAB	Pillows
01/06/23 19:04:27.00	492635.87	5310798.2	2180.558	4.1	215.866	AST Transit	20 m stop	
01/06/23 19:04:52.00	492635.87	5310798.2	2176.512	7.8	214.889	AST Transit	moving	
01/06/23 19:05:56.00	492628.15	5310789.72	2177.803	4.9	212.654	AST Transit	20 m stop	
01/06/23 19:06:26.00	492628.15	5310789.72	2177.604	6	213.331	AST Transit	moving	
01/06/23 19:07:10.00	492622.62	5310772.77	2181.576	5.3	203.616	AST Transit	20 mstop	

Date & Time	UTM (X)	UTM (Y)	Depth (m)	Alt. (m)	Heading		Event	
01/06/23 19:07:41.00	492623.35	5310766.5	2181.809	5.3	204.052	AST Transit	moving	
01/06/23 19:10:43.00	492613.38	5310734.6	2179.314	6.2	202.068	AST Transit	VID_GRAB	Basalt wall
01/06/23 19:11:00.00	492611.45	5310735.72	2178.016	6.5	205.377	AST Transit	Basalt structure	
01/06/23 19:11:04.00	492611.45	5310735.72	2178.049	6.5	202.796	AST Transit	20m stop	
01/06/23 19:11:15.00	492610.67	5310734.27	2177.817	6.5	205.64	AST Transit	VID_GRAB	
01/06/23 19:11:24.00	492610.67	5310734.27	2177.876	6.7	204.45	AST Transit	moving	
01/06/23 19:12:29.00	492606.53	5310725.01	2176.426	5.4	204.691	AST Transit	20m stop	
01/06/23 19:12:57.00	492605.34	5310720.36	2176.651	5.3	205.375	AST Transit	moving	
01/06/23 19:15:11.00	492599.56	5310703.05	2171.958	5.8	205.366	AST Transit	20m stop	
01/06/23 19:15:41.00	492599.56	5310703.05	2172.01	5.8	205.495	AST Transit	moving	
01/06/23 19:17:16.00	492594.48	5310689.38	2170.724	5.5	206.965	AST Transit		
01/06/23 19:17:48.00	492590.79	5310686.46	2170.553	5.7	202.275	AST Transit	moving	
01/06/23 19:18:32.00	492588.69	5310680.16	2171.126	5.9	208.603	AST Transit	20m stop	
01/06/23 19:19:00.00	492587.61	5310678.02	2170.693	6.2	205.44	AST Transit	moving	
01/06/23 19:20:54.00	492583.57	5310660.41	2173.195	6.4	205.601	AST Transit	20m stop	
01/06/23 19:21:20.00	492582.56	5310658.33	2173.188	6.4	205.217	AST Transit	moving	
01/06/23 19:22:59.00	492575.19	5310645.77	2174.086	6.9	206.059	AST Transit	20m stop	
01/06/23 19:23:26.00	492575.47	5310641.31	2174.033	6.5	206.986	AST Transit	moving	
01/06/23 19:23:53.00	492574.98	5310638.09	2172.968	5.5	204.336	AST Transit	VID_GRAB	pillows
01/06/23 19:24:31.00	492574.41	5310633.49	2172.587	5.7	205.319	AST Transit	20 m stop	
01/06/23 19:24:55.00	492573.51	5310628.82	2172.642	5.7	204.675	AST Transit	moving	
01/06/23 19:25:56.00	492571.06	5310620.55	2172.037	4.3	206.359	AST Transit	20m stop	
01/06/23 19:26:26.00	492567.11	5310619.02	2171.172	4.2	204.223	AST Transit	moving	
01/06/23 19:26:35.00	492567.11	5310619.02	2170.89	3.7	203.868	AST Transit	VID_GRAB	pillows
01/06/23 19:27:32.00	492560.77	5310610.9	2168.518	3.5	210.285	AST Transit	20m stop	
01/06/23 19:28:04.00	492558.38	5310612.52	2166.349	5.7	205.334	AST Transit	moving	
01/06/23 19:29:18.00	492556.21	5310600.02	2167.194	6.8	206.823	AST Transit	20m stop	
01/06/23 19:29:49.00	492556.16	5310596.74	2166.886	7.1	204.973	AST Transit	moving	
01/06/23 19:32:14.00	492548	5310575.17	2171.398	5	212.42	AST Transit	20m stop	
01/06/23 19:32:44.00	492551.71	5310571.34	2171.675	4.8	209.999	AST Transit	moving	
01/06/23 19:34:31.00	492541.71	5310559.16	2167.438	5.1	211.872	AST Transit	20m stop	
01/06/23 19:34:45.00	492541.71	5310559.16	2167.532	5.1	211.281	AST Transit	bad fix	
01/06/23 19:34:54.00	492538.98	5310554.67	2167.598	5	211.429	AST Transit	good fix	
01/06/23 19:34:59.00	492538.98	5310554.67	2167.631	5	205.679	AST Transit	moving	
01/06/23 19:35:48.00	492536.83	5310546.48	2167.405	4.3	201.313	AST Transit	VID_GRAB	
01/06/23 19:37:01.00	492531.11	5310535.17	2164.758	4.8	205.704	AST Transit	20m stop	

Date & Time	UTM (X)	UTM (Y)	Depth (m)	Alt. (m)	Heading		Event	
01/06/23 19:37:27.00	492531.83	5310532.85	2164.685	5	204.529	AST Transit	moving	
01/06/23 19:39:09.00	492529.79	5310515.33	2161.939	6.2	206.923	AST Transit	20m stop	
01/06/23 19:39:34.00	492530.11	5310515.15	2161.526	6.6	204.232	AST Transit	moving	
01/06/23 19:39:53.00	492530.49	5310514.61	2162.437	5.7	205.229	AST Transit	Waiting for Medda	
01/06/23 19:40:17.00	492529.41	5310514.61	2161.712	6.5	203.507	AST Transit	Moving	
01/06/23 19:42:10.00	492526.48	5310493.97	2165.497	6.5	204.55	AST Transit	20m stop	
01/06/23 19:42:40.00	492527.78	5310489.03	2164.977	7.5	202.702	AST Transit	moving	
01/06/23 19:44:57.00	492526.82	5310492.7	2164.033	0.6	154.513	AST Transit	Thrust problems	
01/06/23 19:45:01.00	492526.82	5310492.7	2163.527	9.1	136.199	AST Transit	Reseting	
01/06/23 19:47:04.00	492522.54	5310489.31	2162.577	8.3	59.593	AST Transit	Reset was an emergency	
01/06/23 19:47:18.00	492525.62	5310491.38	2162.377	6.8	53.247	AST Transit	Pilot said it was a subsea lockup	
01/06/23 19:50:12.00	492511.1	5310461.99	2159.279	7.3	194.347	AST Transit	Still dealing with Jason problems	
01/06/23 19:52:16.00	492495.49	5310420.66	2152.259	9.2	212.595	AST Transit	VID_GRAB	Very large
							Basalt structure	
01/06/23 19:52:37.00	492495.01	5310422.62	2148.351	10.4	215.458	AST Transit	Still recoving from the thruster	
							problem	
01/06/23 19:54:45.00	492487.52	5310405.28	2143.6	9.4	217.152	AST Transit	Went past a massive magnetic	
							annomal	
01/06/23 19:54:49.00	492488.53	5310403.76	2143.593	9.6	217.249	AST Transit	20m stop	
01/06/23 19:55:00.00	492488.53	5310403.76	2143.579	9.7	218.074	AST Transit	moving	
01/06/23 19:55:56.00	492484.35	5310397.18	2137.603	9.3	213.297	AST Transit	VID_GRAB	Basalt wall
01/06/23 19:57:07.00	492480.18	5310385.74	2131.636	5.8	215.704	AST Transit	20m stop	
01/06/23 19:57:38.00	492478.14	5310382.02	2131.584	6.4	216.669	AST Transit	moving	
01/06/23 19:58:38.00	492476.77	5310366.33	2131.825	4.8	216.737	AST Transit	20m stop	
01/06/23 19:59:33.00	492474.75	5310359.64	2131.603	7.8	215.698	AST Transit	waiting for medda to catch up	
01/06/23 19:59:48.00	492475.51	5310358.88	2131.577	7.8	215.391	AST Transit	VID_GRAB	
01/06/23 20:01:18.00	492476.1	5310360.38	2131.626	5.2	214.493	AST Transit	moving	
01/06/23 20:02:39.00	492461.87	5310337.81	2130.271	5.3	210.786	AST Transit	20m stop	
01/06/23 20:03:11.00	492458.71	5310329.96	2130.119	6.1	214.91	AST Transit	waiting for medda again	
01/06/23 20:03:54.00	492457.72	5310327.63	2130.092	5.7	214.962	AST Transit	VID_GRAB	sheeted
								basalt
01/06/23 20:05:51.00	492461.84	5310328.58	2130.158	6.5	213.433	AST Transit	moving	
01/06/23 20:07:22.00	492458.46	5310314.66	2131.772	6.3	214.114	AST Transit	20m stop	
01/06/23 20:07:54.00	492456.38	5310309.71	2131.152	6.7	215.23	AST Transit	moving	
01/06/23 20:10:56.00	492450.27	5310276.88	2135.949	4.5	214.416	AST Transit	20m stop	
01/06/23 20:11:05.00	492450.27	5310276.88	2135.425	5	215.553	AST Transit	VID_GRAB	

Date & Time	UTM (X)	UTM (Y)	Depth (m)	Alt. (m)	Heading		Event	
01/06/23 20:11:25.00	492451.01	5310274.29	2134.827	5.5	213.189	AST Transit	moving	
01/06/23 20:14:09.00	492436.71	5310252.09	2135.354	8.5	211.15	AST Transit	20m stop	
01/06/23 20:14:41.00	492435.86	5310250.79	2135.252	8.3	211.212	AST Transit	moving	
01/06/23 20:16:34.00	492424.26	5310233.51	2135.6	7.1	212.751	AST Transit	20m stop	
01/06/23 20:17:05.00	492424.36	5310227.25	2135.387	7.5	210.751	AST Transit	moving	
01/06/23 20:19:07.00	492417.18	5310208.13	2135.305	4.3	213.604	AST Transit	20m stop	
01/06/23 20:19:38.00	492413.1	5310200.31	2134.889	4.8	212.544	AST Transit	moving	
01/06/23 20:21:08.00	492407.85	5310187.06	2135.992	5.6	212	AST Transit	20m stop	
01/06/23 20:21:18.00	492407.85	5310187.06	2135.716	6	211.288	AST Transit	Waiting for Medda	
01/06/23 20:21:32.00	492408.05	5310185.29	2135.54	6.1	211.29	AST Transit	VID_GRAB	
01/06/23 20:23:30.00	492407.79	5310185.36	2135.446	6.3	211.584	AST Transit	moving	
01/06/23 20:25:56.00	492399.87	5310163.45	2139.664	5.3	213.952	AST Transit	20m stop	
01/06/23 20:26:27.00	492399.8	5310161.46	2138.761	6.1	211.423	AST Transit	moving	
01/06/23 20:26:56.00	492399.44	5310159.15	2139.605	6.1	209.821	AST Transit	VID_GRAB	sheeted
								basalt
01/06/23 20:28:13.00	492395.29	5310145.57	2144.734	5.4	211.203	AST Transit	20m stop	
01/06/23 20:28:43.00	492394.09	5310142.45	2143.936	6.1	210.169	AST Transit	moving	
01/06/23 20:30:40.00	492390.47	5310128.69	2143.378	5.2	212.38	AST Transit	20m stop	
01/06/23 20:31:12.00	492389.46	5310121.17	2143.412	5.2	211.164	AST Transit	moving	
01/06/23 20:32:55.00	492380.1	5310105.2	2144.083	5.9	211.765	AST Transit	20m stop	
01/06/23 20:33:27.00	492378.79	5310101.8	2143.564	6	210.047	AST Transit	moving	
01/06/23 20:33:45.00	492378.79	5310101.8	2143.671	5.8	209.818	AST Transit	VID_GRAB	
01/06/23 20:34:38.00	492376.88	5310092.71	2141.452	4.1	207.227	AST Transit	Pillow Basalt structure	
01/06/23 20:35:32.00	492375.54	5310081.14	2139.419	4.9	211.396	AST Transit	20m stop	
01/06/23 20:36:04.00	492375.01	5310078.45	2139.345	5	209.613	AST Transit	moving	
01/06/23 20:36:17.00	492375.71	5310078.22	2139.339	5.4	210.057	AST Transit	VID_GRAB	
01/06/23 20:37:35.00	492370.71	5310063.51	2139.266	6.8	211.061	AST Transit	20m stop	
01/06/23 20:37:52.00	492369.35	5310060.97	2139.279	7	210.946	AST Transit	VID_GRAB	basalt
								structure
01/06/23 20:38:00.00	492369.35	5310060.97	2139.247	6.4	231.664	AST Transit	moving	
01/06/23 20:38:42.00	492363.4	5310055.46	2139.266	6.6	229.631	AST Transit	were turning	
01/06/23 20:53:32.00	492414.71	5310051.19	2157.182	6.2	33.355	AST Transit	20m stop in line 3	
01/06/23 20:53:57.00	492415.99	5310051.86	2156.696	6.5	30.095	AST Transit	moving	
01/06/23 20:55:15.00	492420.15	5310072.11	2156.411	9.3	23.65	AST Transit	20m stop	
01/06/23 20:55:44.00	492421	5310075.36	2155.873	9.2	23.017	AST Transit	moving	
01/06/23 20:57:57.00	492430.32	5310102.75	2163.2	5.4	21.904	AST Transit	20m stop	



Date & Time	UTM (X)	UTM (Y)	Depth (m)	Alt. (m)	Heading		Event	
01/06/23 20:58:12.00	492427.89	5310104.35	2162.974	6.1	23.619	AST Transit	Wait for Medda	
01/06/23 20:58:21.00	492427.89	5310104.35	2162.608	6.4	23.286	AST Transit	VID_GRAB	
01/06/23 21:00:09.00	492433.14	5310103.95	2162.382	7.9	21.874	AST Transit	moving	
01/06/23 21:01:44.00	492434.63	5310117.76	2166.306	6.2	18.278	AST Transit	20m stop	
01/06/23 21:02:15.00	492439.03	5310125.75	2167.284	5	21.902	AST Transit	moving	
01/06/23 21:04:45.00	492445.63	5310142.27	2170.829	4.8	22.628	AST Transit	20m stop	
01/06/23 21:05:17.00	492447.43	5310146.34	2169.758	5.8	22.779	AST Transit	moving	
01/06/23 21:07:02.00	492453.06	5310161.05	2169.687	4.7	25	AST Transit	20m stop	
01/06/23 21:07:27.00	492454.64	5310163.51	2169.208	5.6	18.183	AST Transit	moving	
01/06/23 21:08:16.00	492459.35	5310180	2168.783	4.2	18.677	AST Transit	20m stop	
01/06/23 21:08:43.00	492462.24	5310187.17	2168.756	3.7	21.74	AST Transit	moving	
01/06/23 21:10:33.00	492467.53	5310203.55	2166.236	3.4	22.431	AST Transit	20m stopstop	
01/06/23 21:11:02.00	492467.66	5310205.27	2165.736	3.9	23.336	AST Transit	resume movement	
01/06/23 21:13:05.00	492473.57	5310224.62	2162.55	6	23.79	AST Transit	20m stop movement and hold	
							for 30 seconds	
01/06/23 21:13:34.00	492475.31	5310225.93	2162.677	5.8	21.97	AST Transit	moving	
01/06/23 21:15:33.00	492481.5	5310245.71	2161.689	5.6	21.624	AST Transit	20m moving	
01/06/23 21:15:47.00	492481.62	5310248.26	2161.646	5.6	21.934	AST Transit	Basalt structure	
01/06/23 21:16:06.00	492482.3	5310248.25	2161.635	5.5	20.824	AST Transit	moving	
01/06/23 21:17:48.00	492486.66	5310265.59	2167.139	5.3	18.399	AST Transit	20m stop	
01/06/23 21:18:23.00	492489.12	5310265.87	2166.536	6.2	21.173	AST Transit		
01/06/23 21:18:30.00	492488.8	5310265.88	2167.878	4.7	21.57	AST Transit	moving	
01/06/23 21:20:16.00	492495.47	5310281.6	2169.148	4.6	23.637	AST Transit	20m stop	
01/06/23 21:20:48.00	492495.75	5310285.18	2169.095	4.6	29.192	AST Transit	moving	
01/06/23 21:22:25.00	492503.35	5310298.54	2174.63	5.7	33.281	AST Transit	20m stop	
01/06/23 21:22:57.00	492504.09	5310302.97	2174.929	5.7	28.73	AST Transit	moving	
01/06/23 21:23:44.00	492506.55	5310306.28	2175.575	5.7	32.284	AST Transit	20m stop	
01/06/23 21:24:03.00	492508.82	5310309.99	2174.949	7	31.987	AST Transit	Not what was said last	
01/06/23 21:24:56.00	492513.64	5310319.74	2178.343	5.2	34.226	AST Transit	20m stop	
01/06/23 21:25:28.00	492513.67	5310323.34	2177.824	5.6	31.652	AST Transit	moving	
01/06/23 21:26:41.00	492516.25	5310331.94	2177.797	4	33.768	AST Transit	20m stop	
01/06/23 21:27:07.00	492518.21	5310334.91	2177.771	4.5	32.637	AST Transit	moving	
01/06/23 21:28:49.00	492524.31	5310352.17	2177.831	5.6	31.727	AST Transit	20m stop	
01/06/23 21:29:24.00	492524.65	5310354.9	2177.797	4.7	30.153	AST Transit	VID_GRAB	Basalt structure
01/06/23 21:29:29.00	492524.65	5310354.9	2177.811	4.8	31.83	AST Transit	moving	

Date & Time	UTM (X)	UTM (Y)	Depth (m)	Alt. (m)	Heading		Event	
01/06/23 21:30:47.00	492531.73	5310369.11	2177.442	4	31.91	AST Transit	VID_GRAB	intacted
								pillows
01/06/23 21:31:19.00	492532.94	5310372.37	2177.781	5.4	34.387	AST Transit	20m stop	
01/06/23 21:31:47.00	492533.73	5310374.58	2176.999	6.2	32.44	AST Transit	moving	
01/06/23 21:32:03.00	492533.85	5310374.82	2176.97	5.3	22.328	AST Transit	ditto	
01/06/23 21:32:27.00	492534.02	5310386.42	2176.085	3.5	22.172	AST Transit	Talises	
01/06/23 21:32:52.00	492540.87	5310395.71	2173.869	3.7	31.59	AST Transit	VID_GRAB	
01/06/23 21:32:57.00	492540.87	5310395.71	2173.871	3.4	25.381	AST Transit	20m stop	
01/06/23 21:33:26.00	492536.13	5310398.87	2173.989	3.5	29.625	AST Transit	moving	
01/06/23 21:35:07.00	492545.19	5310415.44	2176.005	5.8	34.911	AST Transit	20m stop	
01/06/23 21:35:28.00	492547.67	5310417.43	2175.313	6.5	32.784	AST Transit	Hydrothermal stucture up ahead	
01/06/23 21:35:42.00	492547.67	5310417.43	2175.253	6.6	30.482	AST Transit	moving	
01/06/23 21:36:23.00	492550.46	5310417.44	2175.08	5.4	30.406	AST Transit	VID_GRAB	
01/06/23 21:36:35.00	492550.51	5310422.75	2175.12	5.3	31.6	AST Transit	VID_GRAB	
01/06/23 21:36:40.00	492550.51	5310422.75	2175.146	4.9	31.542	AST Transit	Tubeworms	
01/06/23 21:36:58.00	492550.51	5310422.75	2175.04	5.9	32.37	AST Transit	VID_GRAB	Black smoker
01/06/23 21:37:42.00	492553.24	5310431.66	2176.338	9.1	34.943	AST Transit	20m stop	
01/06/23 21:37:50.00	492553.24	5310431.66	2176.018	9.3	33.339	AST Transit	in the middle of smoke	
01/06/23 21:38:16.00	492553.24	5310431.66	2175.978	9.6	28.845	AST Transit	moving	
01/06/23 21:39:44.00	492558.32	5310450.69	2188.977	4.3	31.029	AST Transit	20m stop	
01/06/23 21:40:17.00	492557.38	5310455.29	2188.458	4.7	27.242	AST Transit	moving	
01/06/23 21:42:07.00	492565.89	5310466.27	2192.592	5.2	33.998	AST Transit	tubeworms	
01/06/23 21:42:18.00	492565.89	5310466.27	2192.498	5.2	33.154	AST Transit	VID_GRAB	
01/06/23 21:42:36.00	492565.64	5310468.75	2192.292	5.3	33.277	AST Transit	20m stop	
01/06/23 21:42:57.00	492564.57	5310468.49	2192.219	5.4	33.018	AST Transit	VID_GRAB	
01/06/23 21:43:07.00	492571.12	5310469.89	2191.973	5.3	32.108	AST Transit	moving	
01/06/23 21:43:24.00	492571.12	5310469.89	2190.934	5.2	32.258	AST Transit	VID_GRAB	
01/06/23 21:43:31.00	492573.88	5310472.72	2190.687	3.8	32.017	AST Transit	VID_GRAB	
01/06/23 21:43:48.00	492576	5310476.17	2190.581	5.5	32.145	AST Transit	VID_GRAB	
01/06/23 21:44:02.00	492576	5310476.17	2189.853	4.6	32.476	AST Transit	VID_GRAB	
01/06/23 21:44:16.00	492574.19	5310480.76	2189.12	5.5	38.215	AST Transit	Black smokers	
01/06/23 21:44:20.00	492574.19	5310480.76	2189.143	6.6	34.158	AST Transit	tubworms	
01/06/23 21:44:27.00	492571.9	5310482.73	2188.977	6.6	33.194	AST Transit	a mark from someone	
01/06/23 21:45:17.00	492576.76	5310492.51	2188.49	7.8	29.181	AST Transit	Plumly up ahead	
01/06/23 21:45:21.00	492576.76	5310492.51	2188.51	7.8	28.841	AST Transit	20m stop	
01/06/23 21:45:39.00	492576.38	5310496.57	2188.404	8	34.414	AST Transit	Area full of smoke	

Date & Time	UTM (X)	UTM (Y)	Depth (m)	Alt. (m)	Heading		Event	
01/06/23 21:45:48.00	492575.5	5310496.44	2188.151	8.1	31.62	AST Transit	moving	
01/06/23 21:46:18.00	492577.44	5310498.5	2188.907	4.7	28.983	AST Transit	Huge smoker	
01/06/23 21:46:44.00	492577.75	5310502.7	2186.085	6.6	29.128	AST Transit	VID_GRAB	
01/06/23 21:46:55.00	492579.63	5310503.56	2184.062	8.5	26.392	AST Transit	smoke makeing it hard to see	
01/06/23 21:47:00.00	492579.63	5310503.56	2183.862	6	23.434	AST Transit	VID_GRAB	
01/06/23 21:47:34.00	492579.67	5310512.93	2182.863	9.2	28.652	AST Transit	20m stop	
01/06/23 21:48:18.00	492581.68	5310515.18	2183.023	8.9	26.745	AST Transit	10m off the bottom to clear the	
							stucture	
01/06/23 21:48:22.00	492581.68	5310515.18	2183.795	7.7	27.391	AST Transit	moving	
01/06/23 21:49:25.00	492583.47	5310523.36	2189.817	2.9	32.591	AST Transit	20m stop	
01/06/23 21:49:52.00	492586.05	5310527.84	2189.444	3.2	29.238	AST Transit	moving	
01/06/23 21:50:38.00	492589.29	5310537.6	2189.582	5.6	23.347	AST Transit	20m stop	
01/06/23 21:51:05.00	492593.09	5310545.44	2189.382	5.6	29.598	AST Transit	moving	
01/06/23 21:52:17.00	492596.27	5310554.65	2188.821	5.1	29.256	AST Transit	20m stop	
01/06/23 21:52:49.00	492598.69	5310558.11	2188.592	5.3	29.625	AST Transit	moving	
01/06/23 21:54:19.00	492602.53	5310571.24	2188.836	4.1	31.186	AST Transit	20m stop	
01/06/23 21:54:49.00	492604.11	5310574.69	2188.77	3.9	29.165	AST Transit	moving	
01/06/23 21:56:12.00	492609.34	5310587.65	2188.175	4.7	31.254	AST Transit	20m stop	
01/06/23 21:56:42.00	492610.26	5310588.12	2188.206	4.7	28.664	AST Transit	moving	
01/06/23 21:58:30.00	492617.87	5310602.09	2187.857	5.9	31.908	AST Transit	20m stop	
01/06/23 21:59:03.00	492617.45	5310604.94	2187.81	5.6	28.978	AST Transit	moving	
01/06/23 22:00:54.00	492621.39	5310625	2187.829	5.2	31.446	AST Transit	20m stop	
01/06/23 22:01:20.00	492622.83	5310626.39	2187.842	5.2	30.27	AST Transit	moving	
01/06/23 22:02:38.00	492628.45	5310635.62	2188.294	5.3	26.42	AST Transit	Can't see bottom	
01/06/23 22:02:50.00	492627.21	5310640.31	2188.507	5.1	29.217	AST Transit	20m stop	
01/06/23 22:03:22.00	492628.86	5310642.8	2187.801	5.6	28.708	AST Transit	moving	
01/06/23 22:04:41.00	492632.03	5310651.59	2184.293	8.9	25.38	AST Transit	Basalt structures	
01/06/23 22:04:53.00	492633.2	5310651.03	2183.654	9.1	27.939	AST Transit	Black smoke	
01/06/23 22:05:12.00	492634.5	5310655.43	2182.31	7.8	25.794	AST Transit	VID_GRAB	
01/06/23 22:05:52.00	492635.91	5310659.06	2181.285	6.8	28.602	AST Transit	Lots of smoke	
01/06/23 22:06:08.00	492637.85	5310663.6	2181.279	7.4	30.181	AST Transit	20m stop	
01/06/23 22:06:33.00	492637.85	5310663.6	2181.285	7.3	30.197	AST Transit	moving	
01/06/23 22:08:16.00	492646.2	5310675.71	2182.268	10.2	32.072	AST Transit	20m stop	
01/06/23 22:08:34.00	492647.36	5310678.88	2181.536	10.9	30.656	AST Transit	Smoke	
01/06/23 22:08:51.00	492647.41	5310678.63	2181.409	9.6	27.619	AST Transit	moving	
01/06/23 22:09:35.00	492649.75	5310684.41	2181.489	7	28.787	AST Transit	To much smoke to see	

Date & Time	UTM (X)	UTM (Y)	Depth (m)	Alt. (m)	Heading		Event	
01/06/23 22:11:23.00	492658.2	5310705.38	2186.885	7.6	30.869	AST Transit	20m stop	
01/06/23 22:11:48.00	492654.84	5310706.91	2186.03	8.3	28.597	AST Transit	moving	
01/06/23 22:13:34.00	492660.56	5310722.75	2189.523	3.9	28.004	AST Transit	Intact basalts	
01/06/23 22:13:51.00	492661.3	5310725.98	2189.214	4.2	30.835	AST Transit	20m stop	
01/06/23 22:14:23.00	492662.81	5310728.41	2188.981	4.4	29.422	AST Transit	moving	
01/06/23 22:15:57.00	492669.96	5310741.38	2188.482	4.3	31.63	AST Transit	20m stop	
01/06/23 22:16:31.00	492669.87	5310744.99	2188.429	4.4	28.39	AST Transit	moving	
01/06/23 22:18:32.00	492677.01	5310761.39	2186.916	5.8	31.49	AST Transit	20m stop	
01/06/23 22:18:59.00	492677.01	5310761.39	2186.765	4.5	30.07	AST Transit	moving	
01/06/23 22:20:11.00	492679.66	5310780.21	2186.998	6.2	23.05	AST Transit	20m stop	
01/06/23 22:20:43.00	492682.28	5310784.06	2186.299	6.9	27.615	AST Transit	moving	
01/06/23 22:21:43.00	492686.63	5310792.4	2185.713	4.8	28.165	AST Transit	VID_GRAB	
01/06/23 22:22:17.00	492690.86	5310798.82	2185.6	7.5	30.527	AST Transit	VID_GRAB	
01/06/23 22:22:24.00	492690.86	5310798.82	2185.58	7.6	29.56	AST Transit	20m stop	
01/06/23 22:22:57.00	492692.97	5310801.54	2185.646	6.6	26.367	AST Transit	moving	
01/06/23 22:24:36.00	492692.74	5310818.81	2185.689	9.3	30.232	AST Transit	20m stop	
01/06/23 22:25:04.00	492691.45	5310822.71	2185.702	10	29.821	AST Transit	moving	
01/06/23 22:25:16.00	492688.99	5310825.09	2185.768	9.8	29.26	AST Transit	can't see bottom	
01/06/23 22:25:48.00	492694.44	5310828.62	2185.709	9.3	28.792	AST Transit	CTD started a new file 308015	
01/06/23 22:27:14.00	492699.97	5310842.56	2185.784	7.8	29.266	AST Transit	20m stop	
01/06/23 22:27:41.00	492700.79	5310842.79	2185.818	7.3	29.123	AST Transit	moving	
01/06/23 22:29:02.00	492706.2	5310853.14	2185.232	4.3	30.161	AST Transit	20m stop	
01/06/23 22:29:29.00	492708.72	5310857.25	2185.245	4.3	28.502	AST Transit	moving	
01/06/23 22:31:36.00	492715.31	5310877.98	2182.547	6.1	31.581	AST Transit	20m stop	
01/06/23 22:31:41.00	492715.31	5310877.98	2182.485	6.1	31.259	AST Transit	VID_GRAB	
01/06/23 22:32:07.00	492716.17	5310881.32	2182.427	6.1	27.999	AST Transit	moving	
01/06/23 22:34:39.00	492729.9	5310903.32	2183.775	5.2	29.139	AST Transit	20m stop	
01/06/23 22:35:00.00	492729.42	5310907.2	2183.641	4.6	28.001	AST Transit	waiting for medda	
01/06/23 22:35:05.00	492729.42	5310907.2	2183.581	4.6	28.689	AST Transit	moving	
01/06/23 22:35:16.00	492728.56	5310907.89	2183.541	4	29.009	AST Transit	Not really	
01/06/23 22:35:43.00	492728.56	5310907.89	2182.835	2.9	25.215	AST Transit	moving	
01/06/23 22:36:49.00	492728.02	5310923.88	2182.284	4	28.915	AST Transit	20m stop	
01/06/23 22:36:58.00	492728.02	5310923.88	2182.25	4	27.437	AST Transit	VID_GRAB	
01/06/23 22:37:24.00	492727.27	5310924.45	2182.217	4.2	27.319	AST Transit	talises	
01/06/23 22:37:28.00	492727.27	5310924.45	2182.024	4	26.669	AST Transit	moving	
01/06/23 22:38:54.00	492734.17	5310939.35	2177.911	4.9	28.858	AST Transit	20m stop	

Date & Time	UTM (X)	UTM (Y)	Depth (m)	Alt. (m)	Heading		Event	
01/06/23 22:39:30.00	492734.2	5310943.77	2177.838	5	26.732	AST Transit	moving	
01/06/23 22:40:18.00	492737.68	5310948.39	2176.82	4.6	25.889	AST Transit	VID_GRAB	
01/06/23 22:41:01.00	492741.24	5310955.59	2176.264	4	30.335	AST Transit	20m stop	
01/06/23 22:41:31.00	492743.76	5310957.75	2176.29	4	26.38	AST Transit	moving	
01/06/23 22:43:03.00	492749.88	5310970.6	2177.031	7.3	31.012	AST Transit	20m stop	
01/06/23 22:43:31.00	492752.76	5310974.45	2176.077	7.9	26.952	AST Survey	moving	
01/06/23 22:44:31.00	492756	5310983.88	2178.568	6	25	AST Survey	VID_GRAB	
01/06/23 22:44:41.00	492756	5310983.88	2178.588	5.5	29.43	AST Survey	20m stop	
01/06/23 22:45:11.00	492757.93	5310986.35	2178.502	5.5	25.719	AST Survey	moving	
01/06/23 22:46:17.00	492761.47	5310996.43	2175.906	8.7	30.932	AST Survey	20m stop	
01/06/23 22:46:41.00	492761.21	5310998.46	2175.986	7.1	27.873	AST Survey	moving	
01/06/23 22:49:26.00	492769.26	5311024.2	2175.287	7.7	11.593	AST Survey	20m stop	
01/06/23 22:49:53.00	492768.9	5311024.32	2175.294	7.7	18.175	AST Survey	moving	
01/06/23 22:51:48.00	492771.91	5311045.26	2173.995	3.1	19.97	AST Survey	20m stop	
01/06/23 22:52:17.00	492773.66	5311048.47	2171.414	5.8	18.435	AST Survey	moving	
01/06/23 22:53:39.00	492780.36	5311071.18	2169.638	5.2	18.924	AST Survey	250m stop	
01/06/23 22:53:53.00	492781.92	5311076.35	2169.686	4.5	18.727	AST Survey	Last on was a 20m stop	
01/06/23 22:54:22.00	492781.92	5311076.35	2169.591	2.6	18.557	AST Survey	Stopping ADCP	
01/06/23 22:54:33.00	492779.62	5311076.76	2169.531	2.3	19.131	AST Survey	Holding in location	
01/06/23 22:55:59.00	492776.99	5311073.39	2164.552	9	26.107	AST Survey	restart ADCP308a004	
01/06/23 22:56:32.00	492779.64	5311073.13	2164.712	10.2	21.552	AST Survey Line 4	matt is on watch	
01/06/23 22:56:35.00	492779.64	5311073.13	2164.831	9.8	17.609	AST Survey Line 4	moving	
01/06/23 22:57:41.00	492782.55	5311090	2166.461	12.4	27.986	AST Survey Line 4	20m stop	
01/06/23 22:58:07.00	492785.84	5311095.05	2170.311	8.8	28.348	AST Survey Line 4		Error
							On line 3 away though	
01/06/23 22:58:15.00	492785.84	5311095.05	2170.445	9.4	31.293	AST Survey Line 3	moving	
01/06/23 22:59:15.00	492794.61	5311111.88	2172.873	11.8	28.262	AST Survey Line 3	20m stop	
01/06/23 22:59:46.00	492797.43	5311117.35	2175.84	8.1	27.895	AST Survey Line 3	moving	
01/06/23 23:01:00.00	492804.53	5311125.04	2184.338	7.7	28.316	AST Survey Line 3	20m stop	
01/06/23 23:01:35.00	492806.53	5311127.55	2184.185	10.3	27.843	AST Survey Line 3	moving	
01/06/23 23:02:58.00	492819.22	5311129.32	2185.786	8.4	30.656	AST Survey Line 3	20m stop	
01/06/23 23:03:31.00	492823.94	5311134.02	2185.426	8.7	32.404	AST Survey Line 3	moving	
01/06/23 23:04:46.00	492829.48	5311162.88	2185.941	7.5	22.342	AST Survey Line 3	20m stop	
01/06/23 23:05:18.00	492829.48	5311162.88	2185.492	7.9	26.424	AST Survey Line 3	moving	
01/06/23 23:06:48.00	492831.64	5311186.18	2188.098	6.4	27.174	AST Survey Line 3	20m stop	
01/06/23 23:07:20.00	492831.81	5311190.61	2187.691	6.8	26.013	AST Survey Line 3	moving	

Date & Time	UTM (X)	UTM (Y)	Depth (m)	Alt. (m)	Heading		Event	
01/06/23 23:08:52.00	492837.67	5311206.71	2188.757	7.6	27.877	AST Survey Line 3	20m stop	
01/06/23 23:09:27.00	492837.84	5311211.02	2189.582	7.1	23.689	AST Survey Line 3	moving	
01/06/23 23:10:26.00	492841.86	5311225.5	2192.352	6.5	27.648	AST Survey Line 3		
01/06/23 23:10:37.00	492841.86	5311225.5	2191.832	7	26.561	AST Survey Line 3	20m stop	
01/06/23 23:10:59.00	492842.03	5311228.36	2191.64	7.2	24.778	AST Survey Line 3	moving	
01/06/23 23:12:42.00	492853.15	5311239.82	2191.628	6.8	29.333	AST Survey Line 3	20m stop	
01/06/23 23:13:14.00	492854.98	5311242.81	2191.637	6.8	25.243	AST Survey Line 3	moving	
01/06/23 23:14:07.00	492855.43	5311250.11	2188.639	7	17.243	AST Survey Line 3	da rocks, da rocks, da rocks!	
01/06/23 23:15:05.00	492860.57	5311259.12	2186.171	6	20.064	AST Survey Line 3	20m stop	
01/06/23 23:15:37.00	492858.8	5311266.25	2185.941	6.2	16.212	AST Survey Line 3	moving	
01/06/23 23:17:15.00	492858.31	5311284.86	2187.665	5.9	19.179	AST Survey Line 3	20m stop	
01/06/23 23:18:00.00	492859.17	5311288.53	2187.146	6.3	16.897	AST Survey Line 3	moving	
01/06/23 23:19:48.00	492872.03	5311304.78	2183.997	6.7	19.043	AST Survey Line 3	20m stop	
01/06/23 23:20:23.00	492871.96	5311305.86	2184.03	6.7	15.536	AST Survey Line 3	proceed	
01/06/23 23:22:41.00	492878.13	5311327.77	2180.805	8.3	20.366	AST Survey Line 3	20m stop	
01/06/23 23:23:23.00	492880.14	5311329.68	2180.907	8.4	15.365	AST Survey Line 3	transiting	
01/06/23 23:25:16.00	492886.63	5311347.84	2182.232	7.1	20.682	AST Survey Line 3	20m stop	
01/06/23 23:25:57.00	492887.4	5311351.12	2181.912	7.3	17.069	AST Survey Line 3	marching forth	
01/06/23 23:27:51.00	492894.42	5311369.75	2184.794	5	20.541	AST Survey Line 3	20m stop	
01/06/23 23:28:33.00	492895.88	5311372.91	2184.481	5.3	17.171	AST Survey Line 3	heading out	
01/06/23 23:30:25.00	492899.83	5311390.71	2185.36	5.4	20.623	AST Survey Line 3	20m stop	
01/06/23 23:31:04.00	492899.16	5311396.06	2184.807	5.6	16.509	AST Survey Line 3	hike on	
01/06/23 23:32:28.00	492902.8	5311411.03	2184.33	5.3	18.376	AST Survey Line 3	the yellow triangle has the lead,	
						but the green plus is coming on strong		
01/06/23 23:32:56.00	492904.95	5311414.13	2183.23	3.7	20.426	AST Survey Line 3	20m stop	
01/06/23 23:33:48.00	492907.42	5311417.1	2182.354	3.9	17.936	AST Survey Line 3	meadering forward	
01/06/23 23:34:27.00	492910.91	5311424.05	2181.872	5.8	19.032	AST Survey Line 3	And they are dead even, the	
						yellow triangle works to keep the lead		
01/06/23 23:35:00.00	492912.1	5311428.51	2183.372	7.3	21.265	AST Survey Line 3	20m stop	
01/06/23 23:35:42.00	492914.15	5311429.18	2183.545	7.2	17.701	AST Survey Line 3	jumping ahead	
01/06/23 23:36:35.00	492913.84	5311439.7	2181.409	3.3	18.713	AST Survey Line 3	Tom is doing some good thinking	
						here.		
01/06/23 23:37:13.00	492918.51	5311447.66	2180.537	3.1	17.855	AST Survey Line 3	He has realized that since his	
						birthday is on August 4th and he will be leaving for the		
01/06/23 23:37:14.00	492918.51	5311447.66	2180.523	3.6	18.927	AST Survey Line 3	20m stop	
01/06/23 23:37:51.00	492920.06	5311449.43	2180.018	4.1	18.533	AST Survey Line 3	New Guini section on August 3rd	

Date & Time	UTM (X)	UTM (Y)	Depth (m)	Alt. (m)	Heading		Event	
							and arriving on August 5th (since he crosses the Internation	
01/06/23 23:37:58.00	492920.06	5311449.43	2180.065	4.3	17.809	AST Survey Line 3	heading forth	
01/06/23 23:38:28.00	492923.86	5311454.1	2180.137	8.5	17.723	AST Survey Line 3	Date Line, he will not be a year	
							older this year. Yogie has however decided not to send him a	
							card.	
01/06/23 23:39:49.00	492929.08	5311469.34	2181.79	5	19.62	AST Survey Line 3	stop	
01/06/23 23:40:28.00	492928.33	5311470.53	2181.577	5.2	16.695	AST Survey Line 3	going	
01/06/23 23:42:07.00	492936.32	5311487.58	2181.051	5.3	20.031	AST Survey Line 3	20m stop	
01/06/23 23:42:46.00	492936.82	5311489.45	2180.293	5.9	18.929	AST Survey Line 3	sallying forth again	
01/06/23 23:43:46.00	492940.53	5311499.76	2180.544	5.4	18.338	AST Survey Line 3	VID_GRAB	deep fissure
01/06/23 23:45:11.00	492946.94	5311513.11	2182.11	5.9	21.297	AST Survey Line 3	20m stop	
01/06/23 23:45:49.00	492947.76	5311516.42	2181.923	5.9	14.748	AST Survey Line 3	moving on	
01/06/23 23:47:39.00	492955.36	5311532.97	2183.081	4.2	19.44	AST Survey Line 3	20m stop	
01/06/23 23:48:19.00	492955.21	5311536.94	2182.688	5	15.091	AST Survey Line 3	viajando (ask Irene)	
01/06/23 23:50:10.00	492963.52	5311555.47	2183.914	5.3	21.318	AST Survey Line 3	20m stop	
01/06/23 23:50:46.00	492963.88	5311557.46	2182.702	6.7	18.025	AST Survey Line 3	off we go into the wild blue yonder	
01/06/23 23:52:25.00	492965.86	5311567.42	2187.641	4.9	20.222	AST Survey Line 3	VID_GRAB	
01/06/23 23:52:30.00	492964.12	5311576.86	2187.474	5	19.919	AST Survey Line 3	20m stop	
01/06/23 23:52:50.00	492964.3	5311577.23	2186.962	5.5	17.775	AST Survey Line 3	that last vid grab was another	
							deep fissure	
01/06/23 23:53:00.00	492964.3	5311577.23	2186.901	5.4	16.163	AST Survey Line 3	going	
01/06/23 23:54:04.00	492971.35	5311591.31	2188.28	7.1	20.636	AST Survey Line 3	20m stop	
01/06/23 23:54:45.00	492977.71	5311599.42	2187.888	7.3	17.948	AST Survey Line 3	going	
01/06/23 23:56:56.00	492985.71	5311621.84	2193.22	5	19.256	AST Survey Line 3	20m stop	
01/06/23 23:57:39.00	492985.58	5311626.56	2192.368	5.6	15.638	AST Survey Line 3	going	
01/06/23 23:58:23.00	492984.25	5311625.98	2194.166	5.1	18.302	AST Survey Line 3	bad fixes	
01/06/23 23:58:54.00	492991.27	5311636.54	2194.492	4.7	18.541	AST Survey Line 3	good fixes	
01/06/23 23:58:57.00	492991.27	5311636.54	2194.332	4.4	20.64	AST Survey Line 3	stopping	
01/06/23 23:59:08.00	492993.27	5311639.77	2193.956	4.7	19.664	AST Survey Line 3	squeezing in a station before the	
							turn	
01/06/23 23:59:18.00	492993.27	5311639.77	2193.726	4.9	18.558	AST Survey Line 3	where are we	
01/06/23 23:59:39.00	492993.65	5311639.19	2193.653	5	17.639	AST Survey Line 3	going	
01/06/24 00:00:04.00	492993.29	5311640.2	2193.622	5	17.744	AST Survey Line 3	stop acquisition	
01/06/24 00:00:06.00	492993.72	5311639.96	2193.613	5	17.19	AST Survey Line 3	making the turn	
01/06/24 00:10:24.00	493027.58	5311664.9	2189.747	6.3	135.354	AST Survey Line 2	start of 01f24000	
01/06/24 00:18:28.00	493027.4	5311609.83	2182.757	8.6	151.819	AST Survey Line 2	VID_GRAB	

Date & Time	UTM (X)	UTM (Y)	Depth (m)	Alt. (m)	Heading		Event	
01/06/24 00:18:37.00	493027.4	5311609.83	2182.132	8.7	197.297	AST Survey Line 2	Basalt wall	
01/06/24 00:19:08.00	493028.23	5311607.3	2181.952	2.1	199.497	AST Survey Line 2	Starting line 2 heading south	
01/06/24 00:19:45.00	493026.28	5311599.94	2181.999	2.8	204.131	AST Survey Line 2	20m stop	
01/06/24 00:20:18.00	493026.83	5311598.94	2182.132	2.5	204.538	AST Survey Line 2	moving	
01/06/24 00:20:28.00	493026.43	5311599.5	2182.286	4	197.3	AST Survey Line 2	VID_GRAB	Big hole
01/06/24 00:22:01.00	493011.65	5311579.66	2186.538	5	210.203	AST Survey Line 2	20m stop	
01/06/24 00:22:35.00	493009.84	5311577.85	2186.125	5	206.165	AST Survey Line 2	moving	
01/06/24 00:24:19.00	493006.22	5311562.35	2187.008	5.9	213.98	AST Survey Line 2	20m stop	
01/06/24 00:24:53.00	493005.92	5311558.74	2186.15	6	213.46	AST Survey Line 2	movomg	
01/06/24 00:26:43.00	493003.24	5311552.45	2185.899	5	212.84	AST Survey Line 2	20m stop	
01/06/24 00:27:18.00	493002.24	5311549.67	2185.76	5.1	209.617	AST Survey Line 2	moving	
01/06/24 00:29:26.00	492995.31	5311524.57	2183.567	7.8	194.747	AST Survey Line 2	20m stop	
01/06/24 00:31:33.00	492994.45	5311509.06	2184.12	5.8	199.317	AST Survey Line 2	20m stop	
01/06/24 00:32:15.00	492993.99	5311506.58	2184.075	5.6	197.829	AST Survey Line 2	ready, set....go!	
01/06/24 00:33:16.00	492993.2	5311496.64	2187.583	3.7	199.049	AST Survey Line 2	20m stop	
01/06/24 00:34:00.00	492992.63	5311492.24	2187.005	4.6	196.588	AST Survey Line 2	Go!	
01/06/24 00:35:59.00	492986.04	5311473.28	2186.938	5.7	200.752	AST Survey Line 2	20m stop	
01/06/24 00:36:42.00	492981.81	5311469.93	2186.485	6.4	195.467	AST Survey Line 2	go!	
01/06/24 00:38:41.00	492977.99	5311449.98	2189.807	5.9	203.785	AST Survey Line 2	20m stop	
01/06/24 00:39:17.00	492974.78	5311446.43	2189.001	6.5	199.59	AST Survey Line 2	go	
01/06/24 00:40:58.00	492967.12	5311432.51	2192.544	4.9	202.911	AST Survey Line 2	20m stop	
01/06/24 00:41:35.00	492964.93	5311429.55	2192.27	5	196.553	AST Survey Line 2	go	
01/06/24 00:43:29.00	492959.99	5311408.61	2193.043	4.8	203.042	AST Survey Line 2	20m stop	
01/06/24 00:44:09.00	492959.53	5311407.91	2192.06	5.9	199.121	AST Survey Line 2	go	
01/06/24 00:45:41.00	492956.67	5311392.42	2192.579	5.5	204.969	AST Survey Line 2	20m stop	
01/06/24 00:46:20.00	492955.99	5311388.36	2192.206	5.8	196.021	AST Survey Line 2	g	
01/06/24 00:48:13.00	492945.08	5311370.74	2193.445	4.8	202.731	AST Survey Line 2	20m stop	
01/06/24 00:48:45.00	492943.07	5311373.08	2193.229	5	196.612	AST Survey Line 2	go	
01/06/24 00:50:31.00	492939.82	5311351.36	2195.422	4.4	198.731	AST Survey Line 2	an itsy, bitsy, teeny weeny	
							temperature spike	
01/06/24 00:50:45.00	492939.82	5311351.36	2194.783	5	202.052	AST Survey Line 2	20m stop	
01/06/24 00:51:22.00	492938.21	5311345.21	2194.264	5.5	198.312	AST Survey Line 2	go	
01/06/24 00:53:02.00	492933.65	5311331.03	2194.103	5.3	202.075	AST Survey Line 2	20m stop	
01/06/24 00:53:38.00	492932.7	5311327.61	2193.9	5.7	196.317	AST Survey Line 2	go	
01/06/24 00:55:52.00	492925.18	5311308.35	2192.366	6.2	203.45	AST Survey Line 2	20m stop	
01/06/24 00:56:27.00	492924.89	5311306.98	2191.054	7.2	198.947	AST Survey Line 2	go	



Date & Time	UTM (X)	UTM (Y)	Depth (m)	Alt. (m)	Heading		Event	
01/06/24 00:57:38.00	492918.55	5311287.27	2193.593	4.6	201.985	AST Survey Line 2	20m stop	
01/06/24 00:58:14.00	492915.1	5311283.89	2193.039	5.3	197.196	AST Survey Line 2	go	
01/06/24 00:59:51.00	492912.03	5311268.91	2193.919	6.1	203.231	AST Survey Line 2	20m stop	
01/06/24 01:00:28.00	492910.36	5311267.61	2193.371	6.5	195.577	AST Survey Line 2	go	
01/06/24 01:02:25.00	492898.71	5311245.62	2192.961	5	201.969	AST Survey Line 2	20m stop	
01/06/24 01:03:05.00	492897.44	5311244.94	2192.861	5.1	196.489	AST Survey Line 2	go	
01/06/24 01:04:58.00	492892.19	5311226.4	2192.102	4.8	201.726	AST Survey Line 2	20m stop	
01/06/24 01:05:35.00	492890.81	5311223.86	2191.041	5.7	195.209	AST Survey Line 2	go	
01/06/24 01:07:33.00	492887.8	5311203.72	2195.225	6	199.926	AST Survey Line 2	20m stop	
01/06/24 01:08:09.00	492886.73	5311202.01	2195.378	5.9	195.313	AST Survey Line 2	go	
01/06/24 01:09:24.00	492875.7	5311183.22	2192.088	4.4	207.543	AST Survey Line 2	20m stop	
01/06/24 01:09:59.00	492870.24	5311176.67	2191.869	4.6	199.353	AST Survey Line 2	go	
01/06/24 01:10:18.00	492870.24	5311176.67	2191.456	4.9	200.02	AST Survey Line 2	fissure don't drop ant=ything	
01/06/24 01:10:39.00	492869.32	5311172.12	2191.916	4.8	199.913	AST Survey Line 2	slight, slight warming trend	
01/06/24 01:11:52.00	492870.73	5311157.16	2191.316	7.8	201.737	AST Survey Line 2	20m stop	
01/06/24 01:12:31.00	492871.62	5311154.33	2190.837	8.2	195.495	AST Survey Line 2	go	
01/06/24 01:12:36.00	492871.62	5311154.33	2191.683	7.4	196.6	AST Survey Line 2	slight warming trend over	
01/06/24 01:13:06.00	492869.93	5311147.91	2193.466	5.2	198.399	AST Survey Line 2	fissure	
01/06/24 01:14:17.00	492860.9	5311135.41	2193.334	4.4	202.14	AST Survey Line 2	20m stop	
01/06/24 01:14:55.00	492859.64	5311131.67	2192.208	5.2	199.387	AST Survey Line 2	go	
01/06/24 01:16:44.00	492852.48	5311116.26	2193.353	5.2	201.806	AST Survey Line 2	20m stop	
01/06/24 01:17:22.00	492850.49	5311111.29	2192.368	6.1	197.92	AST Survey Line 2	go	
01/06/24 01:19:09.00	492844.43	5311091.9	2194.806	6	203.618	AST Survey Line 2	20m stop	
01/06/24 01:19:47.00	492843.55	5311090.25	2194.385	6.8	195.704	AST Survey Line 2	go	
01/06/24 01:20:07.00	492842.5	5311087.85	2194.879	5	199.024	AST Survey Line 2	fissure	
01/06/24 01:21:37.00	492839.35	5311072.91	2194.213	8.2	199.765	AST Survey Line 2	20m stop	
01/06/24 01:22:11.00	492839.02	5311070.44	2194.213	8.2	198.973	AST Survey Line 2	go	
01/06/24 01:24:03.00	492828.05	5311053.76	2194.452	5.1	201.623	AST Survey Line 2	20m stop	
01/06/24 01:24:43.00	492827.05	5311048.36	2194.413	5.1	197.66	AST Survey Line 2	go	
01/06/24 01:26:57.00	492820.98	5311024.78	2194.266	5.2	202.218	AST Survey Line 2	20m stop	
01/06/24 01:27:35.00	492818.91	5311020.94	2194.366	5.1	198.192	AST Survey Line 2	go	
01/06/24 01:29:25.00	492809.41	5311002.1	2194.193	5.3	199.222	AST Survey Line 2	20m stop	
01/06/24 01:30:01.00	492809.37	5311002.33	2194.332	4.9	197.655	AST Survey Line 2	go	
01/06/24 01:31:43.00	492808.38	5310986.01	2194.233	5.4	201.236	AST Survey Line 2	20m stop	
01/06/24 01:32:21.00	492803.84	5310981.78	2193.686	5.9	196.293	AST Survey Line 2	go	
01/06/24 01:33:05.00	492801	5310974.68	2194.286	5.1	200.245	AST Survey Line 2	Geological Features	Fissure

Date & Time	UTM (X)	UTM (Y)	Depth (m)	Alt. (m)	Heading		Event	
01/06/24 01:34:02.00	492797.52	5310967.2	2193.894	5.2	201.698	AST Survey Line 2		
01/06/24 01:34:10.00	492796.79	5310963.28	2193.647	5.4	200.181	AST Survey Line 2	20m stop	
01/06/24 01:34:27.00	492795.63	5310963.73	2193.287	5.7	200.086	AST Survey Line 2	Geological Features	Fissure
01/06/24 01:34:48.00	492796.99	5310961.99	2193.274	5.7	199.494	AST Survey Line 2		
01/06/24 01:36:37.00	492791.48	5310945.16	2193.22	4.6	203.119	AST Survey Line 2		
01/06/24 01:36:40.00	492791.48	5310945.16	2193.088	4.7	202.825	AST Survey Line 2	20m stop	
01/06/24 01:36:48.00	492789.62	5310941.2	2192.855	5	200.119	AST Survey Line 2	Geological Features	Fissure
01/06/24 01:37:16.00	492788.95	5310943	2192.648	5.1	194.807	AST Survey Line 2	go	
01/06/24 01:39:02.00	492780.35	5310926.09	2191.869	5	199.738	AST Survey Line 2	Geological Features	Fissure
01/06/24 01:39:15.00	492778.48	5310921.81	2191.643	5	198.641	AST Survey Line 2	20m stop	
01/06/24 01:39:50.00	492776.59	5310919.79	2191.789	4.8	196.821	AST Survey Line 2	go	
01/06/24 01:40:00.00	492776.59	5310919.79	2191.769	4.9	200.417	AST Survey Line 2	Geological Features	Fissure
01/06/24 01:41:23.00	492772.21	5310906.87	2191.057	5.6	202.43	AST Survey Line 2	20m stop	
01/06/24 01:42:50.00	492770.94	5310902.49	2191.136	5.3	199.246	AST Survey Line 2	go	
01/06/24 01:43:33.00	492766.5	5310902.35	2191.036	5.2	198.476	AST Survey Line 2	That was a one minute 27sec cigarette for Jim.	
01/06/24 01:44:43.00	492765.56	5310884.67	2191.17	5.5	199.297	AST Survey Line 2	Geological Features	Fissure
01/06/24 01:45:01.00	492765.56	5310884.67	2191.139	5.8	200.035	AST Survey Line 2	20m stop	
01/06/24 01:45:39.00	492763.86	5310878.81	2191.13	6	197.185	AST Survey Line 2	go	
01/06/24 01:47:23.00	492761.74	5310862.04	2191.729	5.7	202.869	AST Survey Line 2	20m stop	
01/06/24 01:48:01.00	492761.64	5310857.38	2191.117	6.1	197.738	AST Survey Line 2	go	
01/06/24 01:50:06.00	492746.75	5310835.1	2190.437	5.3	202.963	AST Survey Line 2	20m stop	
01/06/24 01:52:28.00	492741.95	5310814.64	2188.58	5.8	202.71	AST Survey Line 2	20m stop	
01/06/24 01:53:05.00	492742.81	5310813.39	2188.447	5.9	197.237	AST Survey Line 2	go	
01/06/24 01:53:50.00	492741.03	5310807.6	2191.017	5	200.132	AST Survey Line 2		Temp Anom
							slight warming trend	
01/06/24 01:54:54.00	492740.01	5310794.8	2190.497	5.3	203.148	AST Survey Line 2	20m stop	
01/06/24 01:55:31.00	492739.06	5310793	2189.938	5.7	198.087	AST Survey Line 2	go	
01/06/24 01:56:17.00	492735.87	5310787.76	2190.497	4.9	199.639	AST Survey Line 2	Geological Features	Fissure
01/06/24 01:56:53.00	492730.29	5310780.08	2190.538	5.2	198.234	AST Survey Line 2		Temp Anom
						YooWhoo! serious temperature anomaly		
01/06/24 01:57:16.00	492729.06	5310776.65	2190.471	5.1	198.119	AST Survey Line 2	Geological Features	Fissure
01/06/24 01:57:37.00	492729.06	5310776.65	2191.177	5.3	201.177	AST Survey Line 2	20m stop	
01/06/24 01:58:06.00	492728.59	5310770.15	2190.497	5.7	198.907	AST Survey Line 2	go	
01/06/24 02:00:02.00	492721.48	5310750.25	2190.262	4.6	202.688	AST Survey Line 2	20m stop	
01/06/24 02:00:37.00	492720.38	5310746.7	2190.315	4.5	196.913	AST Survey Line 2	go	

Date & Time	UTM (X)	UTM (Y)	Depth (m)	Alt. (m)	Heading		Event	
01/06/24 02:02:46.00	492716.58	5310726.36	2183.873	10.4	196.28	AST Survey Line 2	Vent Features	Inactive Chimney
01/06/24 02:03:14.00	492714.32	5310724.37	2180.432	13.6	208.324	AST Survey Line 2	Vent Features	Diffuse vent on
								sulfide
01/06/24 02:03:27.00	492716.2	5310723.34	2178.096	15.8	208.132	AST Survey Line 2	Looks like a giant needle	
01/06/24 02:03:46.00	492714.53	5310723.06	2174.331	19.1	208.712	AST Survey Line 2	VID_GRAB	it keeps going
							and going and going!	
01/06/24 02:03:54.00	492714.53	5310723.06	2172.668	21	208.072	AST Survey Line 2	Vent Features	Diffuse vent on
								sulfide
01/06/24 02:04:39.00	492714.95	5310723.99	2166.641	15.8	204.333	AST Survey Line 2	26m high structure	
01/06/24 02:04:56.00	492714.01	5310719.53	2166.408	6.9	208.916	AST Survey Line 2	Main Endeavour Field here we come!	
01/06/24 02:05:52.00	492711.07	5310709.07	2165.331	11.7	212.219	AST Survey Line 2	Vent Features	Active Chimney
								black smoke
01/06/24 02:06:08.00	492706.89	5310699.43	2165.92	19.7	211.775	AST Survey Line 2		Temp Anom
							Smoke temp anomaly off CTD scale	
01/06/24 02:07:28.00	492702.27	5310679.4	2174.506	17.1	279.801	AST Survey Line 2	Vent Features	Active Chimney
01/06/24 02:07:56.00	492702.27	5310679.4	2174.393	16.9	288.618	AST Survey Line 2	Vent Features	Active Chimney
01/06/24 02:08:11.00	492697.84	5310679.52	2174.233	17	307.839	AST Survey Line 2	Vent Features	Active Chimney
01/06/24 02:11:24.00	492684.12	5310628.32	2164.856	30	204.448	AST Survey Line 2	We are missing alot of AST stuff	
							since of the extensive structures in the area, near hulk	
01/06/24 02:14:53.00	492679.43	5310628.91	2191.759	7.4	205.683	AST Survey Line 2	20m stop ++++	
01/06/24 02:15:27.00	492676.76	5310630.7	2191.444	10.8	187.212	AST Survey Line 2	go	
01/06/24 02:16:49.00	492669.58	5310605.24	2195.437	6.7	195.687	AST Survey Line 2	20m stop	
01/06/24 02:17:28.00	492664.87	5310600.13	2195.091	7.6	200.407	AST Survey Line 2	go	
01/06/24 02:19:05.00	492659.59	5310585.72	2192.154	7.5	214.022	AST Survey Line 2	20m stop	
01/06/24 02:19:55.00	492659.29	5310583.03	2191.482	10.1	198.681	AST Survey Line 2	go	
01/06/24 02:21:11.00	492655.7	5310566.84	2195.73	3.5	202.318	AST Survey Line 2	20m stop	
01/06/24 02:21:48.00	492655.12	5310563.43	2195.198	3.1	197.349	AST Survey Line 2	go	
01/06/24 02:25:03.00	492646.42	5310545.7	2192.866	13.2	200.824	AST Survey Line 2	20m stop	
01/06/24 02:25:23.00	492650	5310542.97	2192.308	13.7	197.533	AST Survey Line 2	Geological Features	Wall
01/06/24 02:25:41.00	492650	5310542.97	2192.141	13.7	193.482	AST Survey Line 2		
01/06/24 02:26:29.00	492645.98	5310527.95	2191.489	12.2	204.496	AST Survey Line 2	Vent Features	Active Chimney
01/06/24 02:27:01.00	492646.35	5310520.84	2184.84	17.6	216.618	AST Survey Line 2	Geological Features	Active Chimney
01/06/24 02:31:43.00	492622.33	5310491.45	2186.173	4.7	196.057	AST Survey Line 2	20m stop	
01/06/24 02:32:16.00	492620.67	5310476.67	2185.555	5.2	208.019	AST Survey Line 2	go	
01/06/24 02:33:31.00	492607.04	5310452.73	2185.162	6.3	211.813	AST Survey Line 2	20m stop	

Date & Time	UTM (X)	UTM (Y)	Depth (m)	Alt. (m)	Heading		Event	
01/06/24 02:34:10.00	492607.9	5310449.76	2184.663	6.8	208.176	AST Survey Line 2	go	
01/06/24 02:35:19.00	492605.68	5310444.46	2185.647	5.2	198.869	AST Survey Line 2	Animal observations	Skate/ray
01/06/24 02:35:38.00	492606.2	5310436.39	2185.595	5.3	204.302	AST Survey Line 2	stop	
01/06/24 02:36:13.00	492613.13	5310433.94	2185.488	5.4	198.966	AST Survey Line 2	go	
01/06/24 02:36:40.00	492612.53	5310433.6	2185.8	5.5	198.182	AST Survey Line 2	Animal observations	Skate/ray
01/06/24 02:38:10.00	492595.07	5310413.51	2187.691	5.5	204.787	AST Survey Line 2	20m stop	
01/06/24 02:38:48.00	492595.55	5310412	2187.139	6	196.379	AST Survey Line 2	go	
01/06/24 02:38:57.00	492595.55	5310412	2187.964	5.6	201.054	AST Survey Line 2	Geological Features	Fissure
01/06/24 02:40:16.00	492589.92	5310398.13	2189.269	5.4	199.343	AST Survey Line 2	Geological Features	Fissure
01/06/24 02:40:49.00	492587.98	5310389.82	2189.636	5.5	203.857	AST Survey Line 2	20m stop	
01/06/24 02:41:28.00	492587.02	5310388.44	2189.129	6.1	196.582	AST Survey Line 2	go	
01/06/24 02:44:12.00	492580.77	5310364.57	2189.562	6.1	198.213	AST Survey Line 2	20m stop	
01/06/24 02:44:25.00	492580.84	5310364.08	2190.379	5.5	199.337	AST Survey Line 2	go	
01/06/24 02:46:37.00	492570.72	5310341.42	2193.344	6	205.706	AST Survey Line 2	20m stop	
01/06/24 02:47:11.00	492567.14	5310339.97	2193.055	6.3	200.796	AST Survey Line 2	go	
01/06/24 02:47:55.00	492567.91	5310338.53	2191.307	8.6	205.013	AST Survey Line 2	watch change, massive chaos.	
						I think nothing is going to happen for a while. Sounds like a		
						dinner at lunch time.		
01/06/24 02:48:58.00	492566.99	5310337.26	2193.051	7	202.275	AST Survey Line 2	Substrate	
01/06/24 02:49:01.00	492566.99	5310337.26	2192.811	6.9	201.936	AST Survey Line 2	20m stop	
01/06/24 02:49:40.00	492567.5	5310336.73	2192.179	7.8	194.522	AST Survey Line 2	20m stop	
01/06/24 02:51:00.00	492562.06	5310313.84	2196.74	5.7	199.553	AST Survey Line 2		Error
							that was supposed to be moving	
01/06/24 02:51:07.00	492561.59	5310307.53	2197.167	5.6	202.456	AST Survey Line 2	20m stop	
01/06/24 02:51:41.00	492562.41	5310307.5	2196.547	6	196.836	AST Survey Line 2	Substrate	Pillow lava
01/06/24 02:51:58.00	492561.41	5310307.39	2196.753	5.3	191.686	AST Survey Line 2	moving	
01/06/24 02:52:56.00	492551.19	5310290.42	2198.924	6	203.947	AST Survey Line 2	20m stop	
01/06/24 02:53:11.00	492551.19	5310290.42	2198.199	6.7	200.386	AST Survey Line 2	Substrate	Pillow lava
01/06/24 02:53:34.00	492562.96	5310277.37	2197.925	6.9	200.297	AST Survey Line 2	moving	
01/06/24 02:55:17.00	492554.58	5310273.78	2199.133	5.6	205.719	AST Survey Line 2	20m stop	
01/06/24 02:55:54.00	492549.54	5310269.7	2198.96	6.2	199.83	AST Survey Line 2	Substrate	Pillow lava
01/06/24 02:56:02.00	492549.54	5310269.7	2198.407	6	200.42	AST Survey Line 2	go	
01/06/24 02:57:02.00	492542.56	5310250.82	2197.704	6.3	204.367	AST Survey Line 2	20m stop	
01/06/24 02:57:26.00	492540.71	5310241.7	2197.808	6.2	202.407	AST Survey Line 2	talus	
01/06/24 02:57:36.00	492540.71	5310241.7	2197.777	6.2	202.66	AST Survey Line 2	go	
01/06/24 02:58:54.00	492533.01	5310220.76	2194.607	5.8	201.612	AST Survey Line 2	20m stop	

Date & Time	UTM (X)	UTM (Y)	Depth (m)	Alt. (m)	Heading		Event	
01/06/24 02:59:30.00	492533.68	5310221.02	2195.54	4.9	199.943	AST Survey Line 2	go	
01/06/24 02:59:48.00	492532.83	5310220.58	2194.012	6.4	206.129	AST Survey Line 2	Substrate	Pillow lava
01/06/24 03:00:54.00	492530.94	5310217.14	2190.435	6.9	204.15	AST Survey Line 2	Substrate	Pillow lava
01/06/24 03:01:16.00	492529.21	5310212.21	2186.12	10.8	203.049	AST Survey Line 2	VID_GRAB	
01/06/24 03:02:26.00	492522.04	5310199.85	2181.089	5.4	201.124	AST Survey Line 2	20m stop	
01/06/24 03:02:54.00	492521.45	5310200.09	2181.082	5.4	200.162	AST Survey Line 2	go	
01/06/24 03:03:50.00	492512.89	5310186.7	2178.078	3.3	193.379	AST Survey Line 2	Substrate	Pillow lava
01/06/24 03:04:12.00	492512.65	5310176.68	2177.36	3.1	202.67	AST Survey Line 2	20m stop	
01/06/24 03:05:26.00	492510.62	5310175.74	2174.481	6.2	202.669	AST Survey Line 2	holding for longer than 35 sec to check altitude	
01/06/24 03:05:27.00	492510.62	5310175.74	2174.481	6.2	202.115	AST Survey Line 2	moving	
01/06/24 03:07:35.00	492512.58	5310165.42	2181.542	8	202.519	AST Survey Line 2	20m stop	
01/06/24 03:07:42.00	492512.58	5310165.42	2181.508	8.1	201.442	AST Survey Line 2	Substrate	Pillow lava
01/06/24 03:08:11.00	492512.75	5310165.33	2181.508	8.2	201.663	AST Survey Line 2	go	
01/06/24 03:09:53.00	492495.62	5310140.5	2172.971	8.3	205.683	AST Survey Line 2	20m stop	
01/06/24 03:10:08.00	492494	5310135.99	2174.222	7.9	197.925	AST Survey Line 2	Substrate	Pillow lava
01/06/24 03:10:23.00	492494	5310135.99	2174.461	5.3	203.57	AST Survey Line 2	basalt, basalt - we love Basalt!!!	
01/06/24 03:10:29.00	492495.2	5310135.67	2174.175	8	203.268	AST Survey Line 2	go	
01/06/24 03:11:48.00	492484.6	5310111.08	2173.403	4.5	203.226	AST Survey Line 2	20m stop	
01/06/24 03:12:24.00	492484.72	5310112.09	2172.333	5.5	201.427	AST Survey Line 2	go	
01/06/24 03:13:51.00	492480.65	5310091.43	2176.397	6.6	202.458	AST Survey Line 2	20m stop	
01/06/24 03:14:27.00	492480.25	5310091.34	2175.2	7.5	200.812	AST Survey Line 2	go	
01/06/24 03:14:33.00	492480.25	5310091.34	2175.2	7.5	198.464	AST Survey Line 2	Substrate	Pillow lava
01/06/24 03:16:01.00	492480.68	5310082.27	2179.884	4.8	202.878	AST Survey Line 2	20m stop	
01/06/24 03:16:33.00	492481.2	5310076.01	2178.786	5.9	200.825	AST Survey Line 2	go	
01/06/24 03:17:42.00	492478.72	5310070.12	2179.232	6.6	199.934	AST Survey Line 2	Substrate	Pillow lava
								continued
01/06/24 03:19:31.00	492468.83	5310061.82	2176.238	6.9	203.493	AST Survey Line 2	20m stop	
01/06/24 03:20:06.00	492467.62	5310062.37	2176.271	6.8	200.794	AST Survey Line 2	go	
01/06/24 03:21:34.00	492457.34	5310036.72	2172.858	6.5	208.66	AST Survey Line 2	20m stop	
01/06/24 03:22:09.00	492456.15	5310031.76	2172.606	6.6	205.016	AST Survey Line 2	go	
01/06/24 03:22:50.00	492453.22	5310020.53	2170.889	6.8	200.408	AST Survey Line 2	20m stop	
01/06/24 03:23:08.00	492453.22	5310020.53	2170.384	7.3	198.575	AST Survey Line 2	end of Line 2	
01/06/24 03:23:27.00	492450.73	5310015.17	2170.436	7.2	195.485	AST Survey Line 2	go	
01/06/24 03:23:53.00	492452.25	5310016.2	2170.509	7.2	106.263	AST Survey Line 2	turning!	
01/06/24 03:29:23.00	492496.98	5310011.55	2181.788	5.9	134.269	AST Survey Line 2	changing tape on SM 2000 - what	

Date & Time	UTM (X)	UTM (Y)	Depth (m)	Alt. (m)	Heading		Event	
							a process!	
01/06/24 03:29:23.00	492496.98	5310011.55	2181.788	6	134.291	AST Survey Line 2		
01/06/24 03:29:41.00	492496.51	5310013.97	2181.255	6.5	178.972	AST Survey Line 2	cold, salty anomaly	
01/06/24 03:33:01.00	492496.49	5310009.6	2181.249	6.5	18.517	AST Survey Line 2	problems changing SM 2000 tape	
01/06/24 03:36:51.00	492494.6	5309999.82	2182.034	5.7	14.393	AST Survey Line 2	starting	
01/06/24 03:36:58.00	492494.6	5309999.82	2182.047	5.7	18.984	AST Survey Line 2	30 sec stop	
01/06/24 03:37:00.00	492494.6	5309999.82	2182.027	5.7	19.287	AST Survey Line 2	go	
01/06/24 03:38:09.00	492501.3	5310026.96	2182.782	6.3	33.867	AST Survey Line 1		
01/06/24 03:39:57.00	492503.55	5310020.82	2183.509	5.5	34.262	AST Survey Line 120m stop	20m stop	
01/06/24 03:40:11.00	492505.84	5310020.81	2183.071	5.9	32.047	AST Survey Line 1		
01/06/24 03:40:31.00	492501.9	5310023.02	2182.917	6.1	32.799	AST Survey Line 1go		
01/06/24 03:40:38.00	492501.9	5310023.02	2182.89	6.1	34.182	AST Survey Line 1	go	
01/06/24 03:41:53.00	492503.51	5310021.96	2182.904	6	32.725	AST Survey Line 1	new file on SM 2000 - 01F24001	
01/06/24 03:42:22.00	492504.76	5310020.85	2182.944	6.2	22.883	AST Survey Line 1	Substrate	Pillow lava
01/06/24 03:44:25.00	492511.66	5310046.16	2186.631	6	64.85	AST Survey Line 1	cemented structure	
01/06/24 03:44:27.00	492511.66	5310046.16	2186.651	5.9	64.714	AST Survey Line 1	20m stop	
01/06/24 03:44:49.00	492512.28	5310045.61	2186.857	5.7	65.284	AST Survey Line 1	go	
01/06/24 03:46:36.00	492510.75	5310045.71	2186.837	5.8	65.574	AST Survey Line 1	excuse me that would be - SEA-ment	
							box!	
01/06/24 03:47:20.00	492510.02	5310046.05	2187.423	6.5	62.299	AST Survey Line 1	waiting for Medea	
01/06/24 03:48:52.00	492520.34	5310062.81	2190.666	6.3	35.763	AST Survey Line 1	Substrate	Collapse pits
01/06/24 03:49:29.00	492519.83	5310066.57	2191.991	4.9	21.108	AST Survey Line 1	20m stop	
01/06/24 03:50:05.00	492518.41	5310068.15	2191.085	5.6	17.921	AST Survey Line 1	go	
01/06/24 03:53:02.00	492530.47	5310091.35	2196.185	4.8	17.275	AST Survey Line 1	20m stop	
01/06/24 03:53:37.00	492530.41	5310092.83	2195.48	5.6	14.841	AST Survey Line 1	go	
01/06/24 03:54:58.00	492538.73	5310110.76	2197.378	7	26.417	AST Survey Line 1	20m stop	
01/06/24 03:55:28.00	492537.29	5310111.37	2197.305	7.1	26.721	AST Survey Line 1	go	
01/06/24 03:57:03.00	492538.21	5310111.56	2197.098	5.5	29.599	AST Survey Line 1	Geological Features	Fissure
01/06/24 03:57:33.00	492548.07	5310128.55	2195.467	6.7	26.98	AST Survey Line 1	20m stop	
01/06/24 03:58:05.00	492549.26	5310128.14	2195.486	6.7	26.929	AST Survey Line 1	go	
01/06/24 03:58:38.00	492549.02	5310127.83	2195.486	6.5	19.972	AST Survey Line 1	VID_GRAB	
01/06/24 04:01:37.00	492552.3	5310154.16	2195.07	6.4	28.133	AST Survey Line 1	20m stop	
01/06/24 04:02:10.00	492551.93	5310154.38	2195.102	6.3	26.517	AST Survey Line 1	go	
01/06/24 04:03:39.00	492563.07	5310182.3	2195.105	6.3	28.774	AST Survey Line 1	20m stop	
01/06/24 04:04:14.00	492561.75	5310182.28	2195.509	5.8	26.491	AST Survey Line 1	go	
01/06/24 04:06:14.00	492575.46	5310203.56	2194.366	6.6	26.612	AST Survey Line 1	20m stop	

Date & Time	UTM (X)	UTM (Y)	Depth (m)	Alt. (m)	Heading		Event	
01/06/24 04:06:31.00	492575.69	5310205.02	2194.306	6.9	26.363	AST Survey Line 1	Substrate	Pillow lava
01/06/24 04:06:58.00	492574.88	5310203.56	2194.299	6.9	26.369	AST Survey Line 1	go	
01/06/24 04:08:55.00	492582.58	5310221	2196.463	5.2	20.743	AST Survey Line 1	20m stop	
01/06/24 04:09:37.00	492583.12	5310225.71	2195.132	6.4	16.155	AST Survey Line 1	go	
01/06/24 04:10:49.00	492582.73	5310225.98	2195.18	6.4	17.564	AST Survey Line 1	changing course - making a u-turn,	
							heading south, another u-turn and then back up the same line we	
							just did	
01/06/24 04:11:16.00	492582.73	5310225.98	2195.194	6.4	17.48	AST Survey Line 1	making a line over the Beach -	
							AST target	
01/06/24 04:13:50.00	492591.42	5310250.13	2197.192	6.4	19.411	AST Survey Line 1	20m stop - on the north line	
01/06/24 04:14:06.00	492590.92	5310249.75	2197.124	6.4	19.143	AST Survey Line 1	go	
01/06/24 04:14:47.00	492592.28	5310249.03	2197.205	5.3	88.274	AST Survey Line 1	following Medea and heading east -	
							leaving line 1 survey initial route	
01/06/24 04:18:29.00	492612.15	5310237.47	2193.595	7.4	223.701	AST Survey Line 1	problems DP - some communication	
							failure	
01/06/24 04:18:34.00	492612.15	5310237.47	2193.605	7.7	222.895	AST Survey Line 1	we are standing by	
01/06/24 04:25:41.00	492656.84	5310248.64	2189.437	12.7	92.887	AST Survey Line 1	southward parallel to line 1 at 200	
							degrees for 200 m	
01/06/24 04:26:24.00	492655.95	5310250.29	2188.642	16.1	180.452	AST Survey Line 10 S		
01/06/24 04:26:46.00	492656.73	5310252.27	2188.629	15.8	179.988	AST Survey Line 10 S	10 S is the line parallel to line 1	
01/06/24 04:27:13.00	492656.95	5310251.71	2189.303	14.1	170.721	AST Survey Line 10 S	continuing 20 m stations	
01/06/24 04:32:01.00	492651.51	5310226.67	2189.163	13	259.126	AST Survey Line 10 S	basalt structure	
01/06/24 04:35:53.00	492640.48	5310234.16	2197.045	4.2	201.371	AST Survey Line 10 S	start of line 10S stop	
01/06/24 04:36:47.00	492641.4	5310233.29	2191.348	9.8	206.15	AST Survey Line 10 S	go	
01/06/24 04:37:13.00	492639.01	5310229.9	2184.937	10.4	202.007	AST Survey Line 10 S	actually we'd been moving already	
							for ~10 seconds	
01/06/24 04:38:07.00	492635.61	5310212.49	2184.075	6.4	197.822	AST Survey Line 10 S	keeping a heading of 200	
01/06/24 04:38:34.00	492634.93	5310210.62	2184.661	5.9	201.366	AST Survey Line 10 S	stop	
01/06/24 04:39:08.00	492634.47	5310211.92	2184.89	3.4	202.78	AST Survey Line 10 S	go	
01/06/24 04:39:58.00	492635.3	5310208.5	2188.595	4.5	189.16	AST Survey Line 10 S	backed into structure	
01/06/24 04:40:01.00	492635.3	5310208.5	2188.728	5.7	192.929	AST Survey Line 10 S		
01/06/24 04:42:12.00	492637.9	5310196.49	2184.195	16.6	204.114	AST Survey Line 10 S	we're going to jump ~50 m to chase	
							medea and avoid structures	
01/06/24 04:43:31.00	492613.52	5310189.12	2183.689	16.3	203.699	AST Survey Line 10 S	dropping back down to 5m	
01/06/24 04:43:58.00	492614.6	5310189.87	2190.739	9.5	196.233	AST Survey Line 10 S	we see a MAV	
01/06/24 04:44:05.00	492614.6	5310189.87	2192.386	6.4	197.026	AST Survey Line 10 S	VID_GRAB	mav

Date & Time	UTM (X)	UTM (Y)	Depth (m)	Alt. (m)	Heading		Event	
01/06/24 04:44:32.00	492616.23	5310193.85	2193.092	6.9	197.448	AST Survey Line 10 S	20m stop	
01/06/24 04:44:44.00	492616.23	5310193.85	2192.866	6.8	196.952	AST Survey Line 10 S	VID_GRAB	mav take 2
01/06/24 04:45:07.00	492617.17	5310193.93	2192.67	7	197.564	AST Survey Line 10 S	going	
01/06/24 04:45:22.00	492617.17	5310193.93	2192.426	7.8	197.758	AST Survey Line 10 S	VID_GRAB	mav take 3
01/06/24 04:47:58.00	492618.4	5310164.13	2188.178	5.7	202.56	AST Survey Line 10 S	20m stop	
01/06/24 04:48:33.00	492622.21	5310166.98	2188.231	5.7	202.609	AST Survey Line 10 S	go	
01/06/24 04:49:51.00	492613.2	5310153.68	2192.299	5	200.724	AST Survey Line 10 S	VID_GRAB	
01/06/24 04:50:11.00	492605.02	5310141.54	2189.529	7.3	200.007	AST Survey Line 10 S	sulfide structure	
01/06/24 04:50:16.00	492605.02	5310141.54	2188.73	8.2	198.429	AST Survey Line 10 S	20m stop	
01/06/24 04:50:41.00	492604.14	5310140.71	2189.29	7.6	195.102	AST Survey Line 10 S		Error
								not stopping
01/06/24 04:51:19.00	492604.08	5310140.81	2190.914	6.9	224.3	AST Survey Line 10 S	20m stop	
01/06/24 04:51:54.00	492599.12	5310139.92	2191.088	6.6	223.535	AST Survey Line 10 S	go	
01/06/24 04:53:31.00	492587.29	5310119.22	2198.466	5.4	224.998	AST Survey Line 10 S	20m stop	
01/06/24 04:54:07.00	492588.33	5310115.28	2197.889	5.9	221.99	AST Survey Line 10 S	go	
01/06/24 04:55:34.00	492588.24	5310114.45	2197.767	6.1	221.702	AST Survey Line 10 S	waiting for Medea	
01/06/24 04:57:37.00	492579.37	5310096.11	2202.445	5.5	223.219	AST Survey Line 10 S	20m stop	
01/06/24 04:58:11.00	492579.84	5310091.4	2201.752	6.1	221.645	AST Survey Line 10 S	go	
01/06/24 04:59:46.00	492570.66	5310069.48	2208.641	5.5	220.17	AST Survey Line 10 S	Substrate	Pillow lava
01/06/24 04:59:54.00	492570.66	5310069.48	2208.321	6.7	223.29	AST Survey Line 10 S	20m stop	
01/06/24 05:00:27.00	492569.1	5310066.59	2207.988	7	222.66	AST Survey Line 10 S	go	
01/06/24 05:00:44.00	492569.1	5310066.59	2207.974	6.9	222.524	AST Survey Line 10 S	last stop on line 10 S	
01/06/24 05:00:58.00	492568.99	5310066.19	2207.954	6.9	222.347	AST Survey Line 10 S	u-turning to go back to Line 1	
01/06/24 05:01:38.00	492570.34	5310066.14	2207.967	6.9	222.382	AST Survey Line 1		
01/06/24 05:06:04.00	492545.96	5310073.01	2201.7	3.8	326.145	AST Survey Line 1	VID_GRAB	
01/06/24 05:06:18.00	492545.96	5310073.01	2201.659	3.7	319.774	AST Survey Line 1	Substrate	Collapse pits
01/06/24 05:08:57.00	492538.44	5310100.01	2197.855	5.8	14.62	AST Survey Line 1	20m stop - back on line 1	
01/06/24 05:09:29.00	492537.2	5310100.65	2197.723	5.7	14.524	AST Survey Line 1	go	
01/06/24 05:10:55.00	492547	5310120.98	2197.682	5.5	24.569	AST Survey Line 1	20m stop	
01/06/24 05:11:03.00	492547	5310120.98	2197.709	5.4	24.303	AST Survey Line 1	Geological Features	Fissure
01/06/24 05:11:30.00	492549.33	5310120.92	2197.729	5.4	21.475	AST Survey Line 1	go	
01/06/24 05:12:53.00	492561.69	5310147.88	2194.961	5.8	22.454	AST Survey Line 1	20m stop	
01/06/24 05:13:28.00	492561.84	5310151.53	2194.753	6	19.138	AST Survey Line 1	go	
01/06/24 05:14:03.00	492562.59	5310150.71	2194.807	6	18.506	AST Survey Line 1	waiting for Medea to catch up - she's	
							always a bit behind	
01/06/24 05:16:06.00	492571.87	5310176.42	2195.7	6.1	15.825	AST Survey Line 1	20m stop	



Date & Time	UTM (X)	UTM (Y)	Depth (m)	Alt. (m)	Heading		Event	
01/06/24 05:16:30.00	492571.33	5310176.01	2195.807	6	16.325	AST Survey Line 1	go	
01/06/24 05:18:55.00	492578.96	5310201.6	2195.558	5.7	17.598	AST Survey Line 1	20m stop	
01/06/24 05:19:13.00	492579.76	5310202.64	2195.439	5.7	15.808	AST Survey Line 1	Substrate	Pillow lava
01/06/24 05:19:39.00	492579.66	5310202.57	2195.565	5.6	16.939	AST Survey Line 1	go	
01/06/24 05:20:12.00	492578.97	5310202.49	2195.598	5.6	16.597	AST Survey Line 1	Medea is catching up	
01/06/24 05:20:35.00	492580.02	5310202.56	2195.525	5.6	16.153	AST Survey Line 1	stopping CTD aquisition	
01/06/24 05:21:07.00	492580.25	5310202.46	2195.531	5.6	17.245	AST Survey Line 1	starting CTD file 308017	
01/06/24 05:21:17.00	492580.25	5310202.46	2195.558	5.7	12.93	AST Survey Line 1	moving	
01/06/24 05:22:32.00	492588.29	5310226.68	2195.818	6.2	18.174	AST Survey Line 1	20m stop	
01/06/24 05:23:07.00	492589.11	5310227.68	2196.004	6	16.2	AST Survey Line 1	go	
01/06/24 05:25:34.00	492591.94	5310255.33	2198.368	6.5	17.316	AST Survey Line 1	20m stop	
01/06/24 05:26:08.00	492591.8	5310256.07	2199.101	5.9	16.289	AST Survey Line 1	go	
01/06/24 05:27:40.00	492601.31	5310273.72	2198.981	5.7	16.232	AST Survey Line 1	20m stop	
01/06/24 05:28:13.00	492602.78	5310279.82	2198.526	6.4	16.087	AST Survey Line 1	go	
01/06/24 05:30:15.00	492614.84	5310312.65	2197.789	6	16.069	AST Survey Line 1	20m stop	
01/06/24 05:30:51.00	492613.71	5310312.92	2197.256	6.5	16.136	AST Survey Line 1	go	
01/06/24 05:32:31.00	492619.71	5310336.38	2198.579	5.3	18.624	AST Survey Line 1	20m stop	
01/06/24 05:33:07.00	492619.29	5310336.47	2197.361	6.5	16.385	AST Survey Line 1	go	
01/06/24 05:34:21.00	492630.9	5310357.42	2197.669	4.9	20.268	AST Survey Line 1	20m stop	
01/06/24 05:34:57.00	492632.07	5310359.74	2196.587	5.9	15.898	AST Survey Line 1	go	
01/06/24 05:38:32.00	492644.48	5310386.61	2195.407	5.8	19.013	AST Survey Line 1	20m stop	
01/06/24 05:39:08.00	492645.16	5310386.13	2195.453	5.8	18.468	AST Survey Line 1	go	
01/06/24 05:41:49.00	492655.46	5310413.89	2187.372	3.8	24.218	AST Survey Line 1	Geological Features	ancient sulfide structure
01/06/24 05:42:32.00	492655.73	5310422.85	2192.27	5.6	25.233	AST Survey Line 1	20m stop	
01/06/24 05:43:07.00	492656.03	5310423.35	2191.704	6.1	23.433	AST Survey Line 1	go	
01/06/24 05:44:47.00	492669	5310450.28	2191.678	7.2	27.79	AST Survey Line 1	VID_GRAB	
01/06/24 05:45:11.00	492673.3	5310453.23	2194.002	5.1	34.551	AST Survey Line 1	moving around sulfide structure	
01/06/24 05:45:15.00	492673.3	5310453.23	2193.908	5.3	32.735	AST Survey Line 1	20m stop	
01/06/24 05:45:47.00	492676.06	5310454.53	2193.37	5.4	28.619	AST Survey Line 1	go	
01/06/24 05:48:14.00	492675.23	5310458.65	2179.078	20	342.032	AST Survey Line 1	positioning to get back on line	
01/06/24 05:48:19.00	492675.23	5310458.65	2177.019	19.2	342.322	AST Survey Line 1	thruster problem	
01/06/24 05:49:31.00	492672.59	5310469.79	2176.959	28.7	184.188	AST Survey Line 1	looking good, going back down	
01/06/24 05:52:54.00	492686.2	5310524.52	2200.946	5.3	53.033	AST Survey Line 1	20m stop	
01/06/24 05:53:31.00	492685.08	5310524.51	2200.133	6.1	51.429	AST Survey Line 1	go	
01/06/24 05:55:05.00	492700.86	5310549.88	2202.384	5.1	23.438	AST Survey Line 1	20m stop	

Date & Time	UTM (X)	UTM (Y)	Depth (m)	Alt. (m)	Heading		Event	
01/06/24 05:55:41.00	492702.05	5310549.53	2201.292	6.2	18.843	AST Survey Line 1	go	
01/06/24 05:57:40.00	492718.98	5310576.74	2201.092	6.4	28.549	AST Survey Line 1	20m stop	
01/06/24 05:58:16.00	492719.02	5310576.54	2200.75	6.3	28.11	AST Survey Line 1	go	
01/06/24 06:02:38.00	492727.2	5310604.45	2195.536	3.9	28.832	AST Survey Line 1	large pillows in the path	
01/06/24 06:04:00.00	492727.06	5310608.34	2193.158	2.5	18.608	AST Survey Line 1	20m stop	
01/06/24 06:04:36.00	492726.41	5310608.05	2191.647	4	15.447	AST Survey Line 1	go	
01/06/24 06:05:56.00	492730.36	5310616.11	2188.291	9.5	13.38	AST Survey Line 1		Smoke
01/06/24 06:07:04.00	492733.69	5310636.21	2191.991	6.6	14.843	AST Survey Line 1	20m stop	
01/06/24 06:07:36.00	492733.2	5310639.21	2192.139	6.5	15.669	AST Survey Line 1	go	
01/06/24 06:09:46.00	492740.75	5310664.59	2192.583	6.2	24.703	AST Survey Line 1	20m stop	
01/06/24 06:10:21.00	492741.08	5310665.15	2192.75	5.9	22.421	AST Survey Line 1	go	
01/06/24 06:11:38.00	492748.52	5310685.73	2192.989	5.4	16.453	AST Survey Line 1	20m stop	
01/06/24 06:12:15.00	492751.21	5310691.18	2192.736	5.6	11.948	AST Survey Line 1	go	
01/06/24 06:14:02.00	492763	5310718.01	2194.228	6	17.336	AST Survey Line 1	20m stop	
01/06/24 06:14:30.00	492764.47	5310719.53	2193.695	6.5	16.109	AST Survey Line 1	Geological Features	sulfide structure
01/06/24 06:14:40.00	492764.47	5310719.53	2193.648	6.2	15.595	AST Survey Line 1	go	
01/06/24 06:15:18.00	492765.4	5310723.46	2188.659	8.6	20.643	AST Survey Line 1		Temp Anom
01/06/24 06:15:24.00	492765.4	5310723.46	2187.856	9.7	17.065	AST Survey Line 1	VID_GRAB	
01/06/24 06:15:33.00	492768.68	5310730.05	2186.788	10.8	16.621	AST Survey Line 1	Animal observations	Tube worms
01/06/24 06:17:22.00	492776.18	5310742.05	2192.235	5.5	17.567	AST Survey Line 1	at Hulk - the Incredible?	
01/06/24 06:18:46.00	492777.43	5310740.05	2187.619	4.8	18.894	AST Survey Line 1	20m stop	
01/06/24 06:19:22.00	492776.6	5310741.28	2186.44	7	19.466	AST Survey Line 1	go	
01/06/24 06:21:04.00	492782.72	5310768.98	2200.277	4.7	18.037	AST Survey Line 1	20m stop	
01/06/24 06:21:39.00	492783.34	5310775.48	2200.317	4.4	17.073	AST Survey Line 1	go	
01/06/24 06:22:52.00	492792.71	5310797.55	2201.568	6.1	21.862	AST Survey Line 1	20m stop	
01/06/24 06:23:28.00	492793.48	5310798.72	2201.88	5.6	18.127	AST Survey Line 1	go	
01/06/24 06:24:51.00	492801.56	5310824.49	2203.956	5.6	14.559	AST Survey Line 1	20m stop	
01/06/24 06:25:26.00	492801.49	5310824.26	2203.917	5.7	15.134	AST Survey Line 1	go	
01/06/24 06:26:59.00	492811.06	5310845.09	2203.596	6.6	22.829	AST Survey Line 1	20m stop	
01/06/24 06:27:36.00	492810.43	5310846.28	2203.856	5.9	22.477	AST Survey Line 1	go	
01/06/24 06:29:59.00	492823.02	5310874.41	2205.169	5	22.657	AST Survey Line 1	20m stop	
01/06/24 06:30:34.00	492818.34	5310876.24	2203.763	6.2	22.333	AST Survey Line 1	go	
01/06/24 06:31:25.00	492828.82	5310890.79	2203.489	6.4	16.883	AST Survey Line 1	Geological Features	Fissure
01/06/24 06:32:55.00	492833.76	5310909.36	2203.243	5.7	17.862	AST Survey Line 1	20m stop	
01/06/24 06:33:29.00	492832.97	5310909.54	2203.099	5.8	17.628	AST Survey Line 1	go	
01/06/24 06:35:19.00	492846.08	5310942.45	2203.612	4.8	17.357	AST Survey Line 1	20m stop	

Date & Time	UTM (X)	UTM (Y)	Depth (m)	Alt. (m)	Heading		Event	
01/06/24 06:35:52.00	492844.58	5310942.17	2202.433	5.9	15.237	AST Survey Line 1	go	
01/06/24 06:36:41.00	492844.82	5310945.03	2209.351	0.8	13.13	AST Survey Line 1	VID_GRAB	
01/06/24 06:36:44.00	492844.82	5310945.03	2209.728	1.9	13.408	AST Survey Line 1	VID_GRAB	
01/06/24 06:37:54.00	492850.79	5310959.63	2202.027	6.4	22.272	AST Survey Line 1	20m stop	
01/06/24 06:38:31.00	492851.21	5310961.46	2202.115	6.1	22.138	AST Survey Line 1	go	
01/06/24 06:40:25.00	492864.09	5310981.41	2201.309	8.8	8.059	AST Survey Line 1	Nav target 45 - navigation hazard -	
							polypro line	
01/06/24 06:41:13.00	492862.37	5310988.69	2202.488	6.4	18.483	AST Survey Line 1	20m stop	
01/06/24 06:41:48.00	492860.16	5310989.88	2202.475	6.2	17.609	AST Survey Line 1	go	
01/06/24 06:42:44.00	492861.03	5311000.85	2205.1	4.8	26.734	AST Survey Line 1	Substrate	Pillow lava
01/06/24 06:43:22.00	492865.45	5311005.67	2202.562	6.7	29.144	AST Survey Line 1		
01/06/24 06:43:28.00	492871.48	5311016.39	2202.609	6.7	26.665	AST Survey Line 1	20m stop	
01/06/24 06:44:07.00	492870.48	5311016.58	2202.588	6.7	28.482	AST Survey Line 1	go	
01/06/24 06:45:48.00	492878.72	5311028.04	2202.976	7.6	31.451	AST Survey Line 1	20m stop	
01/06/24 06:46:21.00	492879.68	5311028.08	2202.731	7.8	25.66	AST Survey Line 1	moving	
01/06/24 06:47:18.00	492885.31	5311045.9	2202.711	6.9	22.763	AST Survey Line 1	20m stop	
01/06/24 06:47:54.00	492888.83	5311053.53	2202.671	6.9	25.86	AST Survey Line 1	go	
01/06/24 06:48:56.00	492894.84	5311069.82	2202.265	4.9	19.937	AST Survey Line 1	20m stop	
01/06/24 06:49:30.00	492895.64	5311075.75	2202.224	4.9	27.678	AST Survey Line 1	go	
01/06/24 06:51:09.00	492902.06	5311092.73	2202.18	4.7	29.402	AST Survey Line 1	20m stop	
01/06/24 06:51:41.00	492902.53	5311094.58	2202.271	4.6	27.964	AST Survey Line 1	go	
01/06/24 06:53:36.00	492908.52	5311108.57	2201.694	5.4	24.695	AST Survey Line 1	20m stop	
01/06/24 06:53:41.00	492908.52	5311108.57	2201.747	5.4	25.249	AST Survey Line 1	Bad fix	
01/06/24 06:54:02.00	492907.98	5311115.74	2201.681	5.6	27.12	AST Survey Line 1	go	
01/06/24 06:55:13.00	492915.49	5311125.52	2201.607	5.3	27.542	AST Survey Line 1	VID_GRAB	
01/06/24 06:55:53.00	492919.84	5311132.46	2201.74	4.4	30.081	AST Survey Line 1	VID_GRAB	
01/06/24 06:55:57.00	492919.84	5311132.46	2201.7	4.4	28.661	AST Survey Line 1	20m stop	
01/06/24 06:56:29.00	492922.19	5311134.67	2201.72	4.6	27.795	AST Survey Line 1	go	
01/06/24 06:58:56.00	492928.65	5311163.89	2197.411	9.5	30.56	AST Survey Line 1	20m stop	
01/06/24 06:59:28.00	492929.73	5311170.08	2201.221	5.7	28.969	AST Survey Line 1	go	
01/06/24 07:00:51.00	492937.33	5311179.76	2199.815	5.8	29.684	AST Survey Line 1	20m stop	
01/06/24 07:01:25.00	492939.07	5311181.06	2199.862	5.8	28.086	AST Survey Line 1	go	
01/06/24 07:02:13.00	492938.24	5311191.08	2199.977	5.2	29.346	AST Survey Line 1	20m stop	
01/06/24 07:02:50.00	492941.21	5311196.45	2199.898	5.2	26.797	AST Survey Line 1	go	
01/06/24 07:03:06.00	492942.37	5311198.1	2199.849	5.6	30.814	AST Survey Line 1	Hydrothermal something	
01/06/24 07:04:19.00	492941.98	5311207.92	2203.468	2.3	36.459	AST Survey Line 1	Saw so simmering	

Date & Time	UTM (X)	UTM (Y)	Depth (m)	Alt. (m)	Heading		Event	
01/06/24 07:04:35.00	492947.14	5311212.69	2201.454	4.6	30.72	AST Survey Line 1	mounds of something	
01/06/24 07:04:40.00	492947.14	5311212.69	2200.071	5.6	30.725	AST Survey Line 1	some sulfides	
01/06/24 07:04:43.00	492947.14	5311212.69	2199.924	5.8	30.257	AST Survey Line 1	20m stop	
01/06/24 07:05:14.00	492952.52	5311217.78	2200.217	5.5	27.678	AST Survey Line 1	go	
01/06/24 07:05:35.00	492950.43	5311225.86	2200.198	5.3	27.352	AST Survey Line 1	ditto	
01/06/24 07:05:52.00	492953.78	5311223.29	2200.244	5.1	27.563	AST Survey Line 1	possible Mav site	
01/06/24 07:06:14.00	492950.55	5311228.29	2200.198	4.8	25.257	AST Survey Line 1	continuing evidence of hydrothermal activity	
01/06/24 07:06:28.00	492949.25	5311233.45	2200.164	4.6	24.115	AST Survey Line 1	VID_GRAB	
01/06/24 07:06:42.00	492949.25	5311233.45	2200.144	4.6	28.994	AST Survey Line 1	20m stop	
01/06/24 07:06:48.00	492952.74	5311239.89	2200.124	4.5	25.726	AST Survey Line 1	waiting for medda	
01/06/24 07:08:39.00	492952.75	5311241.46	2200.179	4.7	25.543	AST Survey Line 1	go	
01/06/24 07:09:51.00	492961.04	5311253.1	2198.086	5.7	13.744	AST Survey Line 1	20m stop	
01/06/24 07:10:25.00	492960.88	5311257.88	2197.996	5.8	15.223	AST Survey Line 1	go	
01/06/24 07:11:14.00	492962.25	5311268.3	2198.068	5.6	24.349	AST Survey Line 1	20m stop	
01/06/24 07:11:20.00	492962.25	5311268.3	2198.102	5.5	19.32	AST Survey Line 1	VID_GRAB	
01/06/24 07:11:50.00	492964.54	5311273.17	2198.013	5.4	23.471	AST Survey Line 1	go	
01/06/24 07:12:25.00	492966.15	5311277.75	2197.996	3.6	24.046	AST Survey Line 1	VID_GRAB	
01/06/24 07:13:14.00	492970.55	5311284.74	2196.33	2.8	21.964	AST Survey Line 1	Chris says this is a waste land	
01/06/24 07:13:27.00	492971.55	5311287.63	2195.818	3.6	25.88	AST Survey Line 1	VID_GRAB	
01/06/24 07:13:29.00	492971.55	5311287.63	2195.682	3.7	23.566	AST Survey Line 1	20m stop	
01/06/24 07:14:07.00	492968.49	5311292.54	2195.598	4	23.342	AST Survey Line 1	Stay here an extra 30 seconds to settle out Jason	
01/06/24 07:14:26.00	492968.63	5311291.25	2195.585	4.2	18.954	AST Survey Line 1	go	
01/06/24 07:14:36.00	492968.63	5311291.25	2195.55	3.9	29.237	AST Survey Line 1	VID_GRAB	
01/06/24 07:14:52.00	492970.18	5311291.53	2195.591	4.5	30.881	AST Survey Line 1	Current Northwestern	
01/06/24 07:15:14.00	492971.69	5311295.71	2193.893	5.9	29.452	AST Survey Line 1	VID_GRAB	
01/06/24 07:15:25.00	492973.38	5311299.28	2193.879	4.9	16.96	AST Survey Line 1	Pillows	
01/06/24 07:15:37.00	492973.38	5311299.28	2192.528	4.4	17.452	AST Survey Line 1	VID_GRAB	
01/06/24 07:15:47.00	492976.18	5311301.25	2191.986	3.9	19.288	AST Survey Line 1	VID_GRAB	
01/06/24 07:15:54.00	492976.18	5311301.25	2192.002	3.9	17.202	AST Survey Line 1	20m stop	
01/06/24 07:16:24.00	492975.93	5311304.14	2191.909	4	17.045	AST Survey Line 1	go	
01/06/24 07:16:46.00	492977.52	5311305.37	2189.012	4.4	15.771	AST Survey Line 1	Going over a steep wall	
01/06/24 07:17:13.00	492977.52	5311305.37	2187.062	3.9	17.953	AST Survey Line 1	VID_GRAB	
01/06/24 07:18:13.00	492981.84	5311321.7	2185.158	6.9	20.21	AST Survey Line 1	20m stop	
01/06/24 07:18:48.00	492982.58	5311323.43	2185.105	6.9	17.707	AST Survey Line 1	go	

Date & Time	UTM (X)	UTM (Y)	Depth (m)	Alt. (m)	Heading		Event	
01/06/24 07:19:57.00	492984.92	5311342.09	2189.452	9.7	14.818	AST Survey Line 1	20m stop	
01/06/24 07:20:30.00	492985.59	5311346.17	2188.926	10.1	14.96	AST Survey Line 1	go	
01/06/24 07:22:05.00	492991.01	5311362.9	2188.766	7.7	18.167	AST Survey Line 1	20m stop	
01/06/24 07:22:39.00	492991.59	5311362.54	2188.86	8.4	30.498	AST Survey Line 1	go	
01/06/24 07:24:44.00	493003.31	5311374.89	2190.883	7.3	27.022	AST Survey Line 1	20m stop	
01/06/24 07:25:22.00	493005.29	5311380.39	2190.563	7.7	20.117	AST Survey Line 1	go	
01/06/24 07:26:12.00	493006.77	5311387.5	2193.607	4	17.044	AST Survey Line 1	VID_GRAB	
01/06/24 07:27:44.00	493012.04	5311401.59	2191.676	5	21.489	AST Survey Line 1	20m stop	
01/06/24 07:28:19.00	493012.43	5311405.89	2191.702	5	19.582	AST Survey Line 1	go	
01/06/24 07:30:02.00	493018.56	5311420.49	2191.722	4.8	22.674	AST Survey Line 1	20m stop	
01/06/24 07:30:38.00	493019.06	5311422.3	2191.676	4.9	18.04	AST Survey Line 1	go	
01/06/24 07:32:38.00	493025.54	5311439.69	2190.478	5.2	22.137	AST Survey Line 1	20m stop	
01/06/24 07:33:14.00	493026.85	5311441.03	2190.604	5.1	17.678	AST Survey Line 1	go	
01/06/24 07:34:10.00	493028.98	5311459.89	2188.546	5.1	19	AST Survey Line 1	20m stop	
01/06/24 07:34:47.00	493030.12	5311463.68	2188.387	5.2	17.264	AST Survey Line 1	go	
01/06/24 07:36:46.00	493042.12	5311475.56	2188.4	4.6	22.572	AST Survey Line 1	VID_GRAB	
01/06/24 07:36:48.00	493042.12	5311475.56	2188.387	4.6	21.094	AST Survey Line 1	20m stop	
01/06/24 07:37:22.00	493041.95	5311479.7	2188.406	4.6	19.299	AST Survey Line 1	go	
01/06/24 07:39:06.00	493043.6	5311498.3	2185.97	5.3	24.32	AST Survey Line 1	20m stop	
01/06/24 07:39:41.00	493043.04	5311498.88	2185.917	5.4	24.323	AST Survey Line 1	go	
01/06/24 07:41:21.00	493047.38	5311519.65	2185.311	4.8	29.075	AST Survey Line 1	20m stop	
01/06/24 07:42:02.00	493050.21	5311522.02	2185.204	4.8	28.225	AST Survey Line 1	go	
01/06/24 07:42:36.00	493053.54	5311527.57	2184.632	5.2	29.99	AST Survey Line 1	VID_GRAB	
01/06/24 07:42:59.00	493058.16	5311534.82	2182.962	4.2	25.087	AST Survey Line 1	VID_GRAB	
01/06/24 07:43:06.00	493063.16	5311542.36	2182.782	4.2	29.901	AST Survey Line 1	Mav creator	
01/06/24 07:43:09.00	493063.16	5311542.36	2182.449	4.5	33.737	AST Survey Line 1	20m stop	
01/06/24 07:43:45.00	493064.68	5311544.45	2182.423	4.5	25.891	AST Survey Line 1	go	
01/06/24 07:43:55.00	493064.68	5311544.45	2181.877	4.9	29.618	AST Survey Line 1	VID_GRAB	
01/06/24 07:44:22.00	493064.68	5311544.45	2179.581	5.2	28.353	AST Survey Line 1	VID_GRAB	
01/06/24 07:45:18.00	493069.45	5311558.78	2177.525	4.7	29.786	AST Survey Line 1	20m stop	
01/06/24 07:45:50.00	493070.44	5311564.33	2177.492	4.6	27.492	AST Survey Line 1	VID_GRAB	
01/06/24 07:46:33.00	493072.39	5311571.1	2175.489	5.1	29.12	AST Survey Line 1	VID_GRAB	
01/06/24 07:46:45.00	493074.69	5311576.79	2175.289	4.5	29.785	AST Survey Line 1	VID_GRAB	
01/06/24 07:47:16.00	493075.82	5311580.86	2173.159	5	29.935	AST Survey Line 1	20m stop	
01/06/24 07:47:48.00	493077.21	5311584.75	2173.32	5.1	29.353	AST Survey Line 1	go	
01/06/24 07:49:24.00	493080.99	5311595.56	2170.712	7.1	29.395	AST Survey Line 1	VID_GRAB	

Date & Time	UTM (X)	UTM (Y)	Depth (m)	Alt. (m)	Heading		Event	
01/06/24 07:49:25.00	493080.99	5311595.56	2170.705	6.8	29.369	AST Survey Line 1		
01/06/24 07:49:35.00	493082.25	5311598.76	2170.399	6.1	32.15	AST Survey Line 1	VID_GRAB	
01/06/24 07:49:39.00	493082.25	5311598.76	2170.226	6.3	30.16	AST Survey Line 1	20m stop	
01/06/24 07:49:52.00	493082.25	5311598.76	2170.126	6.3	29.177	AST Survey Line 1	VID_GRAB	
01/06/24 07:50:14.00	493083.92	5311601.87	2170.133	6.3	29.374	AST Survey Line 1	go	
01/06/24 07:52:06.00	493091.98	5311620.88	2167.918	8.2	29.121	AST Survey Line 1	20m stop	
01/06/24 07:52:42.00	493092.62	5311622.25	2167.34	8.7	29.167	AST Survey Line 1	go	
01/06/24 07:54:15.00	493097.1	5311636.35	2167.259	5.5	32.205	AST Survey Line 1	20m stop	
01/06/24 07:54:49.00	493098.3	5311639.06	2167.299	5.4	29.354	AST Survey Line 1	go	
01/06/24 07:56:40.00	493103.9	5311652.43	2167.246	4.6	30.36	AST Survey Line 1	20m stop	
01/06/24 07:56:54.00	493105.53	5311654.19	2167.253	4.1	29.964	AST Survey Line 1	VID_GRAB	
01/06/24 07:57:18.00	493105.06	5311652.58	2167.31	4.4	28.706	AST Survey Line 1	go	
01/06/24 07:57:41.00	493106.03	5311653.81	2167.479	5.8	25.078	AST Survey Line 1	VID_GRAB	
01/06/24 07:58:16.00	493108.82	5311669.53	2172.149	10.9	8.732	AST Survey Line 1	Can't see bottom	
01/06/24 07:58:40.00	493109.99	5311679.31	2176.931	6.7	14.549	AST Survey Line 1	20m stop	
01/06/24 07:59:17.00	493109.99	5311679.31	2176.95	6.8	18.765	AST Survey Line 1	go	
01/06/24 08:00:11.00	493109.99	5311679.31	2177.649	6.8	14.801	AST Survey Line 1	bad nav	
01/06/24 08:00:14.00	493109.99	5311679.31	2177.562	6.9	13.431	AST Survey Line 1	20m stop	
01/06/24 08:00:50.00	493109.99	5311679.31	2177.395	7	14.813	AST Survey Line 1	go	
01/06/24 08:01:42.00	493109.99	5311679.31	2180.27	4.6	16.328	AST Survey Line 1	VID_GRAB	
01/06/24 08:02:33.00	493109.99	5311679.31	2179.599	5.3	84.223	AST Survey Line 1	Making radical heading change to get back on the line	
01/06/24 08:02:42.00	493109.99	5311679.31	2179.618	5.2	120.713	AST Survey Line 1	VID_GRAB	
01/06/24 08:05:10.00	493134.33	5311723.86	2177.696	7.1	17.06	AST Survey Line 1	20m stop	
01/06/24 08:05:19.00	493134.33	5311723.86	2177.595	7.1	17.056	AST Survey Line 1	bad fix	
01/06/24 08:05:40.00	493134.33	5311723.86	2177.583	7.1	18.288	AST Survey Line 1	Stopping ship, medda my drop	
01/06/24 08:06:19.00	493133.32	5311733.85	2177.542	7.4	21.29	AST Survey Line 1	stopping the AST survey to change tape.	
01/06/24 08:06:42.00	493137.45	5311733.27	2177.649	11.6	11.287	AST Survey Line 1	End of line 1S	
01/06/24 08:17:59.00	493143.72	5311767.4	2177.486	7.9	245.051	AST Survey Line 1	New SM 2000 file 01F24007	
01/06/24 08:18:43.00	493140.96	5311765.07	2177.533	8.8	252.322	AST Survey Line 1	Moving back into location to start survey again	
01/06/24 08:23:54.00	493139.52	5311775.17	2177.566	7.8	58.746	AST Survey Line 1	VID_GRAB	
01/06/24 08:28:14.00	493155.68	5311805.35	2179.716	6.7	56.705	AST Survey Line 1	Starting Survey again	
01/06/24 08:29:20.00	493163.65	5311806.39	2179.344	7.4	24.6	AST Survey Line 1	Starting line 1N	
01/06/24 08:29:22.00	493163.65	5311806.39	2179.323	7.4	29.668	AST Survey Line 1	20m stop	

Date & Time	UTM (X)	UTM (Y)	Depth (m)	Alt. (m)	Heading		Event	
01/06/24 08:30:01.00	493161.46	5311812.59	2178.744	8	26.894	AST Survey Line 1	go	
01/06/24 08:30:54.00	493164.09	5311827.03	2180.208	6.4	27.128	AST Survey Line 1	20m stop	
01/06/24 08:31:12.00	493165.3	5311834.31	2180.016	6.4	29.116	AST Survey Line 1	Dead rat fish flying by	
01/06/24 08:31:30.00	493165.46	5311833.18	2180.049	6.4	25.941	AST Survey Line 1	go	
01/06/24 08:32:41.00	493170.64	5311842.9	2179.177	7.4	28.716	AST Survey Line 1	20m stop	
01/06/24 08:33:20.00	493170.8	5311845.12	2179.281	7.3	28.773	AST Survey Line 1	go	
01/06/24 08:34:45.00	493176.05	5311857.87	2180.055	7.1	28.517	AST Survey Line 1	20m stop	
01/06/24 08:35:12.00	493176.64	5311857.2	2180.734	6.4	25.25	AST Survey Line 1	go	
01/06/24 08:36:31.00	493181.56	5311867.42	2180.82	6.3	30.504	AST Survey Line 1	20m stop	
01/06/24 08:37:06.00	493180.89	5311869.36	2180.661	6.5	28.067	AST Survey Line 1	go	
01/06/24 08:38:07.00	493191.35	5311899.82	2181.246	6.8	29.927	AST Survey Line 1	20m stop	
01/06/24 08:38:44.00	493187.45	5311896.62	2180.339	7.6	26.806	AST Survey Line 1	go	
01/06/24 08:40:16.00	493193.02	5311908.99	2182.396	5.5	32.13	AST Survey Line 1	20m stop	
01/06/24 08:40:48.00	493193.47	5311908.23	2181.271	6.5	29.308	AST Survey Line 1	go	
01/06/24 08:41:44.00	493197.33	5311916.42	2181.097	7	29.378	AST Survey Line 1	VID_GRAB	
01/06/24 08:42:08.00	493198.25	5311920.44	2182.596	5.6	29.879	AST Survey Line 1	VID_GRAB	
01/06/24 08:42:17.00	493198.25	5311920.44	2182.189	6	31.654	AST Survey Line 1	Another Dead fish	
01/06/24 08:42:21.00	493198.25	5311920.44	2182.01	6.2	30.299	AST Survey Line 1	20m stop	
01/06/24 08:42:52.00	493200.53	5311923.4	2181.683	6.4	29.855	AST Survey Line 1	go	
01/06/24 08:44:26.00	493206.88	5311935.07	2182.681	8.3	29.327	AST Survey Line 1	20m stop	
01/06/24 08:44:41.00	493206.88	5311935.07	2182.593	6.7	29.042	AST Survey Line 1	bad fix	
01/06/24 08:45:03.00	493210.41	5311946.13	2182.502	8.6	29.854	AST Survey Line 1	good fix now	
01/06/24 08:45:04.00	493211.03	5311946.32	2182.476	8.5	28.685	AST Survey Line 1	go	
01/06/24 08:46:00.00	493210.97	5311957.5	2182.596	5.8	31.022	AST Survey Line 1	20m stop	
01/06/24 08:46:14.00	493216.71	5311969.37	2182.575	6	27.704	AST Survey Line 1	waiting for medda	
01/06/24 08:48:06.00	493217.7	5311973.35	2182.755	6.1	27.236	AST Survey Line 1	go	
01/06/24 08:48:53.00	493220.44	5311979.65	2182.786	6.4	31.927	AST Survey Line 1	20m stop	
01/06/24 08:49:27.00	493219.62	5311981.34	2182.726	6.5	28.901	AST Survey Line 1	go	
01/06/24 08:50:00.00	493221.08	5311982.37	2185.495	3.7	27.657	AST Survey Line 1	VID_GRAB	
01/06/24 08:50:08.00	493221.86	5311986.87	2185.415	4.2	30.249	AST Survey Line 1	VID_GRAB	
01/06/24 08:51:23.00	493225.82	5311996.36	2184.157	5.4	28.859	AST Survey Line 1	20m stop	
01/06/24 08:51:30.00	493224.91	5311997.58	2184.163	5.3	27.694	AST Survey Line 1	VID_GRAB	
01/06/24 08:51:58.00	493225.94	5311998.01	2184.157	5.4	27.786	AST Survey Line 1	go	
01/06/24 08:53:46.00	493233.53	5312015.9	2184.064	5.9	29.918	AST Survey Line 1	20m stop	
01/06/24 08:54:20.00	493232.29	5312016.56	2184.131	6	29.225	AST Survey Line 1	go	
01/06/24 08:58:40.00	493245.17	5312044.14	2185.089	6	19.978	AST Survey Line 1	VID_GRAB	I tried to get frame

Date & Time	UTM (X)	UTM (Y)	Depth (m)	Alt. (m)	Heading		Event	
						rab of octopus and could not	change the camera fast enough to	
						catch it.		
01/06/24 08:58:57.00	493249.27	5312053.41	2185.116	6.3	24.67	AST Survey Line 1	20 m stop 8:57	
01/06/24 08:59:10.00	493254.17	5312062.5	2185.042	6.5	25.16	AST Survey Line 1	20 m stop[	
01/06/24 08:59:46.00	493251.4	5312062.48	2184.983	6.6	27.776	AST Survey Line 1	go	
01/06/24 09:00:52.00	493252.72	5312071.51	2184.969	6.5	28.586	AST Survey Line 1	20 m stop	
01/06/24 09:01:28.00	493251.66	5312074.23	2184.983	6.5	28.96	AST Survey Line 1	go	
01/06/24 09:02:17.00	493256.97	5312084.72	2185.116	6.2	27.868	AST Survey Line 1	20 m stop	
01/06/24 09:02:55.00	493260.36	5312093.6	2184.983	6.2	28.652	AST Survey Line 1	go	
01/06/24 09:04:18.00	493269.29	5312111.54	2185.967	6	25.831	AST Survey Line 1	20m stop	
01/06/24 09:04:56.00	493268.95	5312117.54	2185.268	6.5	28.747	AST Survey Line 1	go	
01/06/24 09:07:09.00	493280.74	5312140.42	2185.288	6.4	30.587	AST Survey Line 1	20m stop	
01/06/24 09:08:38.00	493282.29	5312148.06	2185.702	6.4	28.23	AST Survey Line 1	go	
01/06/24 09:09:32.00	493287.19	5312158.98	2187.319	5.3	31.738	AST Survey Line 1	20 m stop	
01/06/24 09:10:07.00	493285.83	5312161.71	2186.021	6.4	28.861	AST Survey Line 1	go	
01/06/24 09:12:03.00	493292.76	5312178	2187.492	5.5	31.192	AST Survey Line 1	20 m stop	
01/06/24 09:12:37.00	493294.07	5312182.84	2187.192	5.7	28.737	AST Survey Line 1	go	
01/06/24 09:14:36.00	493303.89	5312200.13	2187.931	5.7	32.222	AST Survey Line 1	20m stop	
01/06/24 09:15:16.00	493303.19	5312202.91	2187.585	6	27.531	AST Survey Line 1	go	
01/06/24 09:17:06.00	493306.96	5312218.57	2188.51	5.4	15.466	AST Survey Line 1	20m stop	
01/06/24 09:18:00.00	493309.14	5312220.01	2189.276	5.6	8.951	AST Survey Line 1	can't see bottom	
01/06/24 09:18:03.00	493309.14	5312220.01	2189.702	5.5	10.767	AST Survey Line 1	go	
01/06/24 09:20:41.00	493312.01	5312239.8	2188.983	7.3	17.758	AST Survey Line 1	20m stop	
01/06/24 09:20:49.00	493316.58	5312246.47	2189.256	6.9	14.525	AST Survey Line 1	Bad fix	
01/06/24 09:23:19.00	493322.95	5312269.7	2187.276	3.4	15.435	AST Survey Line 1	VID_GRAB	
01/06/24 09:23:27.00	493322.95	5312269.7	2187.299	3.7	16.268	AST Survey Line 1	go	
01/06/24 09:23:31.00	493322.95	5312269.7	2187.323	3.8	13.75	AST Survey Line 1	20m stop	
01/06/24 09:23:32.00	493322.95	5312269.7	2187.345	3.9	13.636	AST Survey Line 1	go	
01/06/24 09:25:11.00	493334.41	5312278.43	2190.188	6.8	18.765	AST Survey Line 1	Last three entrys were delyed because of video grab problems	
01/06/24 09:25:14.00	493334.41	5312278.43	2190.079	7	19.02	AST Survey Line 1	20m stop	
01/06/24 09:25:48.00	493336.12	5312283.59	2189.736	7.1	16.279	AST Survey Line 1	go	
01/06/24 09:27:26.00	493340.75	5312300.57	2189.429	8.9	19.214	AST Survey Line 1	VID_GRAB	
01/06/24 09:27:29.00	493340.75	5312300.57	2189.413	8.9	17.973	AST Survey Line 1	20m stop	
01/06/24 09:28:06.00	493340.75	5312300.57	2188.836	9.4	13.488	AST Survey Line 1	go	
01/06/24 09:28:53.00	493338.68	5312308.3	2188.742	5.4	15.236	AST Survey Line 1	VID_GRAB	



Date & Time	UTM (X)	UTM (Y)	Depth (m)	Alt. (m)	Heading		Event	
01/06/24 09:29:31.00	493340.26	5312317.05	2187.769	3.3	15.737	AST Survey Line 1	go	
01/06/24 09:29:45.00	493340.19	5312320.33	2187.159	3.3	19.165	AST Survey Line 1	20m stop	
01/06/24 09:30:21.00	493340.19	5312320.33	2187.083	3.2	13.367	AST Survey Line 1	VID_GRAB	go
01/06/24 09:31:28.00	493350.07	5312343.45	2182.606	3	16.877	AST Survey Line 1	20m stop	
01/06/24 09:32:03.00	493348.5	5312345.43	2182.547	3.3	26.472	AST Survey Line 1	go	
01/06/24 09:32:34.00	493348.5	5312345.43	2180.847	4.6	27.697	AST Survey Line 1	CTD file 308018-new file	
01/06/24 09:34:04.00	493348.5	5312345.43	2178.91	5.6	30.236	AST Survey Line 1	20m stop	
01/06/24 09:34:47.00	493348.5	5312345.43	2178.098	6.3	27.844	AST Survey Line 1	go	
01/06/24 09:37:21.00	497858.25	5311332.74	2177.946	4.5	29.398	AST Survey Line 1	20m stop	
01/06/24 09:37:58.00	497849.94	5311340.95	2178.105	4.6	27.638	AST Survey Line 1	go	
01/06/24 09:39:15.00	497880.32	5311337.84	2172.099	3.4	28.329	AST Survey Line 1	20m stop	
01/06/24 09:39:32.00	497880.32	5311337.84	2172.192	3.2	26.015	AST Survey Line 1	Hydrothermal staining, possible flow	
01/06/24 09:39:42.00	497880.32	5311337.84	2172.186	3.3	27.128	AST Survey Line 1	Bad nav.	
01/06/24 09:39:49.00	493414.52	5312412.58	2172.157	3.3	25.193	AST Survey Line 1	VID_GRAB	
01/06/24 09:39:53.00	493414.52	5312412.58	2172.058	3.2	26.918	AST Survey Line 1	go	
01/06/24 09:41:03.00	493390.31	5312425.28	2167.042	1.7	28.486	AST Survey Line 1		
01/06/24 09:41:07.00	493390.31	5312425.28	2166.715	1.9	28.428	AST Survey Line 1	VID_GRAB	
01/06/24 09:41:15.00	493390.31	5312425.28	2166.525	2.2	27.725	AST Survey Line 1	brittlestars	
01/06/24 09:41:24.00	493390.31	5312425.28	2166.47	2.2	26.29	AST Survey Line 1	20m stop	
01/06/24 09:41:28.00	493390.31	5312425.28	2166.43	2.2	26.432	AST Survey Line 1	ok nav	
01/06/24 09:41:47.00	493391.79	5312431.14	2166.403	2.3	25.561	AST Survey Line 1	go	
01/06/24 09:42:05.00	493391.79	5312431.14	2166.23	2.6	28.123	AST Survey Line 1	tubeworms	
01/06/24 09:42:21.00	493340.01	5312421	2165.818	3.1	27.897	AST Survey Line 1	VID_GRAB	
01/06/24 09:42:45.00	493340.01	5312421	2164.182	3.7	26.991	AST Survey Line 1	VID_GRAB	
01/06/24 09:43:03.00	493397.68	5312438.64	2162.901	4.1	26.497	AST Survey Line 1	VID_GRAB	
01/06/24 09:43:54.00	493398.35	5312446.39	2162.174	4.6	26.517	AST Survey Line 1	20m stop	
01/06/24 09:43:57.00	493398.35	5312446.39	2161.768	5.2	26.663	AST Survey Line 1	go	
01/06/24 09:44:44.00	493398.84	5312447.44	2159.906	5.4	26.343	AST Survey Line 1	More Tubeworms	
01/06/24 09:44:55.00	493400.74	5312455.98	2159.84	5.6	28.575	AST Survey Line 1	VID_GRAB	
01/06/24 09:45:08.00	493401.73	5312458.73	2157.998	7	27.853	AST Survey Line 1	Hydrothermal stucture	
01/06/24 09:45:17.00	493401.73	5312458.73	2157.679	6.7	28.399	AST Survey Line 1	20m stop	
01/06/24 09:45:50.00	493403.23	5312462.31	2157.659	6.7	26.979	AST Survey Line 1	go	
01/06/24 09:46:55.00	493407.25	5312471.92	2144.832	14.2	37.044	AST Survey Line 1	VID_GRAB	
01/06/24 09:47:03.00	493407.25	5312471.92	2144.546	11.7	37.371	AST Survey Line 1	VID_GRAB	
01/06/24 09:47:13.00	493410.41	5312479.38	2144.008	9.5	38	AST Survey Line 1	smoke	
01/06/24 09:47:20.00	493410.41	5312479.38	2143.264	16.3	35.761	AST Survey Line 1	blacksmoker	

Date & Time	UTM (X)	UTM (Y)	Depth (m)	Alt. (m)	Heading		Event	
01/06/24 09:47:47.00	493414.43	5312484.87	2143.204	17.3	38.888	AST Survey Line 1	Pilot says it is pittful amount of smoke	
							for that structure	
01/06/24 09:47:50.00	493414.43	5312484.87	2143.117	17.2	38.943	AST Survey Line 1	20m stop	
01/06/24 09:48:26.00	493414.43	5312484.87	2142.386	17.6	35.495	AST Survey Line 1	go	
01/06/24 09:49:54.00	493422.03	5312499.08	2157.856	7.8	41.094	AST Survey Line 1	20m stop	
01/06/24 09:50:28.00	493423.6	5312500.69	2156.562	9	38.772	AST Survey Line 1	go	
01/06/24 09:52:05.00	493427.48	5312520.45	2160.348	7.7	37.38	AST Survey Line 1	VID_GRAB	
01/06/24 09:52:07.00	493428.19	5312524.78	2160.301	7.9	36.451	AST Survey Line 1	20m stop	
01/06/24 09:52:36.00	493428.6	5312524.95	2159.497	8.6	35.637	AST Survey Line 1	go	
01/06/24 09:53:18.00	493426.27	5312525.8	2159.31	6.2	30.833	AST Survey Line 1	VID_GRAB	
01/06/24 09:54:13.00	493429.66	5312546.56	2158.439	4	27.171	AST Survey Line 1	VID_GRAB	
01/06/24 09:54:18.00	493429.66	5312546.56	2157.854	4	27.926	AST Survey Line 1	VID_GRAB	
01/06/24 09:54:20.00	493429.66	5312546.56	2157.714	4.2	33.368	AST Survey Line 1	20m stop	
01/06/24 09:54:57.00	493433.07	5312554.69	2157.854	4	36.749	AST Survey Line 1	go	
01/06/24 09:56:53.00	493438.97	5312570.29	2156.044	4.8	37.366	AST Survey Line 1	20m stop	
01/06/24 09:57:28.00	493440.22	5312571.68	2156.11	4.7	36.886	AST Survey Line 1	go	
01/06/24 09:58:39.00	493441.35	5312579.9	2155.43	5.2	40.803	AST Survey Line 1	20m stop	
01/06/24 09:59:13.00	493443.69	5312583.58	2155.385	5.5	36.503	AST Survey Line 1	go	
01/06/24 09:59:45.00	493443.69	5312583.58	2155.359	5.2	37.328	AST Survey Line 1	VID_GRAB	
01/06/24 10:01:27.00	493448.17	5312610.17	2155.465	4.8	38.932	AST Survey Line 1	20m stop	
01/06/24 10:02:02.00	493448.78	5312611.4	2155.383	4.9	37.178	AST Survey Line 1	go	
01/06/24 10:03:20.00	493452.71	5312621.01	2155.377	4.1	37.448	AST Survey Line 1	VID_GRAB	
01/06/24 10:04:09.00	493454.66	5312628.26	2155.411	4.7	38.068	AST Survey Line 1	20m stop	
01/06/24 10:04:45.00	493458.35	5312633.86	2155.483	4.7	37.871	AST Survey Line 1	go	
01/06/24 10:06:55.00	493469.04	5312651.59	2154.06	4.2	37.149	AST Survey Line 1	20m stop	
01/06/24 10:07:33.00	493468.73	5312654.35	2154.119	4.2	35.913	AST Survey Line 1	go	
01/06/24 10:08:56.00	493472.72	5312674.38	2151.94	6.3	29.749	AST Survey Line 1	20m stop	
01/06/24 10:09:35.00	493474.25	5312680.34	2151.68	6.5	34.598	AST Survey Line 1	go	
01/06/24 10:11:36.00	493478.73	5312688.76	2152.325	4.4	37.046	AST Survey Line 1	20m stop	
01/06/24 10:11:45.00	493478.73	5312688.76	2151.862	5.2	35.964	AST Survey Line 1	bad fix	
01/06/24 10:12:09.00	493484.62	5312699.12	2152.378	4.5	36.175	AST Survey Line 1	last tacking on Jason	
01/06/24 10:12:11.00	493484.62	5312699.12	2152.261	4.4	36.697	AST Survey Line 1	go	
01/06/24 10:12:17.00	493484.62	5312699.12	2151.867	5.2	35.579	AST Survey Line 1	good fix	
01/06/24 10:13:28.00	493483.34	5312701.95	2151.228	3.7	29.673	AST Survey Line 1	VID_GRAB	
01/06/24 10:13:59.00	493483.5	5312710.82	2151.202	6.8	36.7	AST Survey Line 1	20m stop	
01/06/24 10:14:36.00	493485.38	5312719.95	2150.69	7	34.655	AST Survey Line 1	go	

Date & Time	UTM (X)	UTM (Y)	Depth (m)	Alt. (m)	Heading		Event	
01/06/24 10:16:12.00	493495.6	5312736.41	2153.022	5.8	37.111	AST Survey Line 1	20m stop	
01/06/24 10:16:47.00	493496.51	5312738.85	2152.726	6.1	34.763	AST Survey Line 1	go	
01/06/24 10:19:06.00	493499.24	5312758.79	2155.843	5.4	20.498	AST Survey Line 1	20m stop	
01/06/24 10:19:41.00	493499.22	5312759.24	2155.23	6	16.328	AST Survey Line 1	go	
01/06/24 10:21:52.00	493511.91	5312778.82	2154.933	9.3	18.439	AST Survey Line 1	20m stop	
01/06/24 10:22:27.00	493515.6	5312778.52	2154.501	10.1	16.331	AST Survey Line 1	go	
01/06/24 10:23:14.00	493515.6	5312778.52	2158.118	6.3	16.167	AST Survey Line 1	VID_GRAB	
01/06/24 10:24:15.00	493520.34	5312793.75	2158.696	5	17.039	AST Survey Line 1	VID_GRAB	
01/06/24 10:24:20.00	493520.34	5312793.75	2158.483	5.4	16.956	AST Survey Line 1	VID_GRAB	
01/06/24 10:24:27.00	493522.25	5312798.03	2158.297	5.4	17.003	AST Survey Line 1	VID_GRAB	
01/06/24 10:24:59.00	493524.97	5312800.42	2158.184	5.7	17.892	AST Survey Line 1	20m stop	
01/06/24 10:25:36.00	493524.39	5312803.12	2158.164	6.2	16.134	AST Survey Line 1	go	
01/06/24 10:28:00.00	493529.59	5312820.34	2163.822	4.3	16.752	AST Survey Line 1	20m stop	
01/06/24 10:28:10.00	493531.28	5312824.39	2163.696	4.6	18.634	AST Survey Line 1	VID_GRAB	
01/06/24 10:28:39.00	493531.35	5312825.29	2162.811	5.3	13.338	AST Survey Line 1	go	
01/06/24 10:29:39.00	493531.66	5312828.92	2164.671	2.2	17.025	AST Survey Line 1	VID_GRAB	
01/06/24 10:29:52.00	493532.13	5312836.51	2163.874	3.6	15.644	AST Survey Line 1	Somekind of structure	
01/06/24 10:30:27.00	493532.18	5312843.62	2163.503	4.1	17.648	AST Survey Line 1	VID_GRAB	
01/06/24 10:30:30.00	493532.18	5312843.62	2163.368	4.3	18.65	AST Survey Line 1	20m stop	
01/06/24 10:31:06.00	493532.19	5312845.18	2162.871	4.7	11.244	AST Survey Line 1	go	
01/06/24 10:31:29.00	493533.84	5312851.47	2163.044	4.1	13.702	AST Survey Line 1	VID_GRAB	
01/06/24 10:32:11.00	493539.06	5312861.94	2162.924	4.1	37.725	AST Survey Line 1	20m stop	
01/06/24 10:32:52.00	493541.13	5312868.03	2162.805	4.2	34.064	AST Survey Line 1	go	
01/06/24 10:34:52.00	493548.01	5312882.69	2164.461	7.1	39.675	AST Survey Line 1	20m stop	
01/06/24 10:35:28.00	493551.19	5312887.37	2164.175	6.4	26.582	AST Survey Line 1	go	
01/06/24 10:37:25.00	493555.84	5312905.96	2171.545	6.5	26.734	AST Survey Line 1	20m stop	
01/06/24 10:38:02.00	493562.06	5312902.2	2170.274	8.1	27.347	AST Survey Line 1	go	
01/06/24 10:39:42.00	493560.72	5312903.6	2175.359	3.2	27.944	AST Survey Line 1	VID_GRAB	
01/06/24 10:39:44.00	493560.72	5312903.6	2175.227	3.8	28.398	AST Survey Line 1	20m stop	
01/06/24 10:39:52.00	493560.72	5312903.6	2174.78	2.9	29.322	AST Survey Line 1	bad fix	
01/06/24 10:40:25.00	493560.72	5312903.6	2174.241	2.8	27.947	AST Survey Line 1	VID_GRAB	
01/06/24 10:40:28.00	493560.72	5312903.6	2174.222	2.8	27.98	AST Survey Line 1	go	
01/06/24 10:41:01.00	493560.72	5312903.6	2169.292	6.2	27.794	AST Survey Line 1	VID_GRAB	
01/06/24 10:41:08.00	493560.72	5312903.6	2167.968	5.5	24.081	AST Survey Line 1	VID_GRAB	
01/06/24 10:41:35.00	493564.77	5312940.76	2162.581	4.5	20.043	AST Survey Line 1	VID_GRAB	
01/06/24 10:41:59.00	493564.95	5312946.1	2161.218	4.2	29.024	AST Survey Line 1	20m stop	

Date & Time	UTM (X)	UTM (Y)	Depth (m)	Alt. (m)	Heading		Event	
01/06/24 10:42:37.00	493567.44	5312951.32	2160.587	4.9	27.503	AST Survey Line 1	gog	
01/06/24 10:44:01.00	493572.55	5312961.67	2158.951	2.2	29.686	AST Survey Line 1	20m stop	
01/06/24 10:44:39.00	493572.55	5312961.67	2158.884	2	26.453	AST Survey Line 1	g	
01/06/24 10:46:24.00	493577.89	5312981.95	2158.18	2.8	28.265	AST Survey Line 1	g	
01/06/24 10:49:51.00	493591.97	5313000.21	2164.326	5.1	30.298	AST Survey Line 1	20m stop	
01/06/24 10:50:29.00	493591.78	5313000.28	2163.049	9.1	20.806	AST Survey Line 1	g	
01/06/24 10:52:29.00	493594.98	5313022.5	2161.56	4.5	21.322	AST Survey Line 1	20m stop	
01/06/24 10:53:07.00	493598.56	5313024.17	2161.292	5.4	19.559	AST Survey Line 1	g	
01/06/24 10:53:56.00	493599.35	5313025.81	2162.916	5	16.531	AST Survey Line 1	Chris needs an AUV	
01/06/24 10:55:13.00	493606.61	5313041.33	2166.151	6.5	21.397	AST Survey Line 1	20m stop	
01/06/24 10:55:51.00	493609.81	5313044.98	2165.536	6.6	18.931	AST Survey Line 1	g	
01/06/24 10:57:45.00	493612.03	5313060.97	2165.038	5.2	20.454	AST Survey Line 1	20m stop	
01/06/24 10:58:23.00	493615.66	5313065.45	2165.16	4.1	19.612	AST Survey Line 1	g	
01/06/24 10:59:33.00	493618.63	5313087.77	2167.022	7	20.324	AST Survey Line 1	20m stop	
01/06/24 11:00:12.00	493620.4	5313090.9	2166.55	7.2	15.351	AST Survey Line 1	g	
01/06/24 11:02:11.00	493635.06	5313109.2	2170.268	5.3	20.395	AST Survey Line 1	20m stop	
01/06/24 11:02:49.00	493643.37	5313109.8	2170.115	6.3	16.918	AST Survey Line 1	g	
01/06/24 11:04:48.00	493635.86	5313131.62	2169.239	4.2	21.107	AST Survey Line 1	20m stop	
01/06/24 11:05:23.00	493635.96	5313133.27	2169.153	4.3	18.758	AST Survey Line 1	g	
01/06/24 11:07:31.00	493648.91	5313153.73	2167.842	5	19.822	AST Survey Line 1	20m stop	
01/06/24 11:08:07.00	493651.07	5313156.45	2167.796	5	18.101	AST Survey Line 1	g	
01/06/24 11:10:05.00	493654.14	5313173.72	2165.381	4.6	21.853	AST Survey Line 1	20m stop	
01/06/24 11:10:42.00	493655.74	5313177.48	2165.366	4.7	16.15	AST Survey Line 1	g	
01/06/24 11:12:32.00	493664.05	5313196.96	2165.216	4	22.169	AST Survey Line 1	20m stop	
01/06/24 11:13:19.00	493664.34	5313198.64	2165.328	3.9	19.235	AST Survey Line 1	g	
01/06/24 11:14:04.00	493664.17	5313200.75	2165.388	3.5	301.756	AST Survey Line 1	we are making turn	
01/06/24 11:14:16.00	493663.04	5313200.88	2165.328	3.7	352.981	AST Survey Line 1	rebooting SM2000, think good thoughts	
01/06/24 11:41:18.00	493602.55	5313182.83	2160.44	10.7	23.776	AST Survey Line 1	Wake up Chris.	
01/06/24 11:47:47.00	493615.58	5313197.57	2159.948	8.1	193.304	AST Survey Line 1	8 reboots and we're good to go	
01/06/24 11:47:54.00	493615.58	5313197.57	2160.042	8	195.525	AST Survey Line 1	20m stop	
01/06/24 11:48:06.00	493616	5313197.13	2159.982	8	200.012	AST Survey Line 2	start of line 2	
01/06/24 11:48:27.00	493614.85	5313197.61	2159.955	8.1	196.853	AST Survey Line 2g		
01/06/24 11:50:31.00	493601.92	5313176.74	2164.158	5.4	202.739	AST Survey Line 2	20m stop	
01/06/24 11:50:57.00	493600.07	5313176.26	2164.085	8.1	198.947	AST Survey Line 2	g	
01/06/24 11:51:19.00	493600.66	5313177.35	2164.084	8.1	200.329	AST Survey Line 2		Error
							the alarm went off but nobody went	

Date & Time	UTM (X)	UTM (Y)	Depth (m)	Alt. (m)	Heading		Event	
01/06/24 11:51:22.00	493600.66	5313177.35	2164.078	8.1	200.322	AST Survey Line 2	g	
01/06/24 11:51:42.00	493600.03	5313176.58	2164.065	8.1	199.909	AST Survey Line 2		Error
							he said go, but nobody went	
01/06/24 11:53:05.00	493600.45	5313177.09	2164.065	8.2	196.603	AST Survey Line 2	g	
01/06/24 11:55:03.00	493598.64	5313157.51	2162.217	4.2	196.254	AST Survey Line 2	20m stop	
01/06/24 11:55:39.00	493595.14	5313153.38	2162.123	4.3	197.903	AST Survey Line 2	g	
01/06/24 11:57:25.00	493589.36	5313138.16	2162.063	5.4	199.914	AST Survey Line 2	20m stop	
01/06/24 11:58:00.00	493587.35	5313132.6	2162.129	5.6	197.786	AST Survey Line 2	g	
01/06/24 11:59:55.00	493577.63	5313115.32	2165.464	5.3	202.777	AST Survey Line 2	20m stop	
01/06/24 12:00:32.00	493578.68	5313114.12	2164.344	6.3	198.666	AST Survey Line 2	g	
01/06/24 12:02:43.00	493579.78	5313093.49	2166.953	6	200.312	AST Survey Line 2	20m stop	
01/06/24 12:03:20.00	493573.61	5313088.33	2166.671	6.3	199.038	AST Survey Line 2	g	
01/06/24 12:04:23.00	493569.62	5313084.28	2167.536	5.4	200.188	AST Survey Line 2	Vent Features	Inactive Chimney
01/06/24 12:05:54.00	493562.43	5313070.63	2166.359	5.6	202.173	AST Survey Line 2	20m stop	
01/06/24 12:06:32.00	493561.52	5313066.96	2166.239	4.5	199.017	AST Survey Line 2	g	
01/06/24 12:08:07.00	493561.06	5313052.13	2166.679	6.6	200.708	AST Survey Line 2	Ctd file was started at end of line 1 -	
							308019	
01/06/24 12:08:31.00	493561.77	5313049.09	2163.692	9.1	197.735	AST Survey Line 2	Vent Features	Inactive Chimney
01/06/24 12:08:44.00	493561.77	5313049.09	2163.639	10.1	202.024	AST Survey Line 2	20m stop	
01/06/24 12:09:31.00	493561.53	5313046.09	2163.2	4.9	197.817	AST Survey Line 2	g	
01/06/24 12:11:31.00	493547.89	5313026.76	2166.791	4.6	197.235	AST Survey Line 2	20m stop	
01/06/24 12:12:08.00	493547.11	5313024.19	2165.993	5.5	196.883	AST Survey Line 2	g	
01/06/24 12:14:42.00	493540.21	5313006.13	2167.656	3.5	202.77	AST Survey Line 2	20m stop	
01/06/24 12:15:21.00	493538.88	5313003.2	2167.51	3.6	196.085	AST Survey Line 2	g	
01/06/24 12:17:36.00	493534.64	5312984.88	2161.471	6	207.585	AST Survey Line 2	20m stop	
01/06/24 12:17:53.00	493533.11	5312982.03	2161.019	5.9	203.512	AST Survey Line 2	1 watch stander, asleep....	
01/06/24 12:18:21.00	493532.81	5312981.98	2161.498	5.3	202.927	AST Survey Line 2	g	
01/06/24 12:20:32.00	493515.46	5312955.37	2165.009	4.7	206.925	AST Survey Line 2	20m stop	
01/06/24 12:21:11.00	493521.13	5312957.3	2164.817	5.1	202.408	AST Survey Line 2	g	
01/06/24 12:22:31.00	493512.44	5312936.84	2163.812	5.6	205.243	AST Survey Line 2	20m stop	
01/06/24 12:23:11.00	493510.44	5312932.57	2163.399	6.1	197.674	AST Survey Line 2	g	
01/06/24 12:24:54.00	493511.88	5312916.05	2161.052	6.6	202.679	AST Survey Line 2	20m stop	
01/06/24 12:25:29.00	493509.71	5312913.96	2160.806	6.7	196	AST Survey Line 2	g	
01/06/24 12:27:24.00	493497.12	5312899.28	2162.495	8.3	203.038	AST Survey Line 2	20m stop	
01/06/24 12:27:59.00	493494.86	5312895.15	2162.495	7.2	198.184	AST Survey Line 2	Vent Features	Diffuse vent on
							basalt. I'm a little uncertain, but white stuff on rocks below	

Date & Time	UTM (X)	UTM (Y)	Depth (m)	Alt. (m)	Heading		Event	
01/06/24 12:28:22.00	493494.18	5312894.55	2164.376	4.1	199.939	AST Survey Line 2	g	
01/06/24 12:29:03.00	493490.76	5312884.08	2162.928	4	199.047	AST Survey Line 2		Temp Anom
						Temperature spike in ctd. Therefore I officially conclude it was indeed a diffuse vent.		
01/06/24 12:30:23.00	493488.56	5312878.35	2160.035	7.7	203.001	AST Survey Line 2	looks like ledge to left	
01/06/24 12:30:25.00	493488.56	5312878.35	2160.035	7.7	201.831	AST Survey Line 2	20m stop	
01/06/24 12:31:02.00	493486.65	5312877.36	2160.155	7.3	198.335	AST Survey Line 2		Temp Anom
								hot water here
01/06/24 12:31:05.00	493486.65	5312877.36	2160.148	7	199.842	AST Survey Line 2	g	
01/06/24 12:31:27.00	493488.14	5312872.15	2157.376	8.4	198.963	AST Survey Line 2		Temp Anom
								roughly 0.1C
01/06/24 12:33:05.00	493489.31	5312855.35	2153.952	4.4	199.521	AST Survey Line 2	switching to 1min/station	
01/06/24 12:33:33.00	493494.22	5312851.67	2153.627	4.1	198.824	AST Survey Line 2	20m stop	
01/06/24 12:34:34.00	493493.71	5312849.57	2152.421	4.7	197.167	AST Survey Line 2	g	
01/06/24 12:36:00.00	493481.88	5312829.4	2147.908	13.3	205.475	AST Survey Line 2		Smoke
01/06/24 12:36:33.00	493476	5312819.29	2148.944	9.8	202.078	AST Survey Line 2	Vent Features	Active Chimney
01/06/24 12:36:38.00	493476	5312819.29	2148.958	9.8	206.415	AST Survey Line 2	20m stop	
01/06/24 12:37:06.00	493476	5312819.29	2148.918	6.9	199.717	AST Survey Line 2	if this doesn't light up your AST image, nothing will.	
01/06/24 12:37:16.00	493476	5312819.29	2148.898	7.1	200.324	AST Survey Line 2	Smoker in view	
01/06/24 12:37:37.00	493461.97	5312807.42	2148.885	7.2	200.634	AST Survey Line 2	g	
01/06/24 12:38:15.00	493464.61	5312806.89	2148.101	7.3	200.717	AST Survey Line 2	VID_GRAB	smoker
01/06/24 12:38:23.00	493464.61	5312806.89	2147.948	6.8	199.506	AST Survey Line 2	VID_GRAB	smoker
01/06/24 12:38:48.00	493462.22	5312797.2	2147.157	6.5	200.573	AST Survey Line 2	VID_GRAB	we will nickname this one steel plant
01/06/24 12:39:43.00	493463.28	5312791.05	2150.464	9.3	201.747	AST Survey Line 2	20m stop	
01/06/24 12:39:51.00	493463.28	5312791.05	2150.247	8.3	202.01	AST Survey Line 2	Vent Features	Active Chimney
01/06/24 12:40:11.00	493463.28	5312791.05	2149.736	8.8	202.345	AST Survey Line 2	hot hot hot	
01/06/24 12:40:51.00	493463.28	5312791.05	2148.761	11.1	198.135	AST Survey Line 2	g	
01/06/24 12:41:16.00	493455.79	5312784.3	2146.876	12.1	199.906	AST Survey Line 2		Smoke
01/06/24 12:42:58.00	493458.34	5312766.02	2150.907	9.4	201.354	AST Survey Line 2	20m stop	
01/06/24 12:43:23.00	493457.52	5312763.44	2150.039	10.5	197.866	AST Survey Line 2	speed of ship down to 0.25knots	
01/06/24 12:43:43.00	493456.19	5312764.16	2150.032	10.7	198.574	AST Survey Line 2		Temp Anom
							maximum temperature 2.2C	
01/06/24 12:43:59.00	493456.22	5312764.48	2150.078	11	197.14	AST Survey Line 2	g	
01/06/24 12:44:49.00	493454.34	5312756.49	2158.195	5.4	201.537	AST Survey Line 2	Vent Features	Diffuse vent on

Date & Time	UTM (X)	UTM (Y)	Depth (m)	Alt. (m)	Heading		Event	
								sulfide
01/06/24 12:45:58.00	493446.47	5312746.25	2156.978	4	200.387	AST Survey Line 2	20m stop	
01/06/24 12:46:58.00	493445.6	5312743.31	2156.865	4	196.713	AST Survey Line 2	g	
01/06/24 12:47:37.00	493445.32	5312743.66	2157.087	3.5	200.023	AST Survey Line 2	Animal observations	Tube worms
01/06/24 12:47:48.00	493445.22	5312734.69	2157.259	3.1	200.558	AST Survey Line 2	Vent Features	Diffuse vent on
								basalt
01/06/24 12:47:57.00	493445.22	5312734.69	2157.286	3.1	200.731	AST Survey Line 2		Temp Anom
								little
01/06/24 12:48:11.00	493444.67	5312730.61	2157.233	3.4	200.6	AST Survey Line 2	VID_GRAB	look for yourself
01/06/24 12:48:28.00	493442.62	5312727.13	2156.542	4.5	200.591	AST Survey Line 2	VID_GRAB	
01/06/24 12:48:45.00	493442.62	5312727.13	2156.422	4.5	202.672	AST Survey Line 2	VID_GRAB	
01/06/24 12:48:48.00	493443.19	5312723.27	2156.395	4.6	201.191	AST Survey Line 2	20m stop	
01/06/24 12:49:08.00	493443.19	5312723.27	2156.415	4.9	200.329	AST Survey Line 2	looks like edge of tube worm filed is	
							in site	
01/06/24 12:49:50.00	493442.33	5312721.93	2156.486	4.5	198.004	AST Survey Line 2	g	
01/06/24 12:51:00.00	493441.04	5312712.35	2156.308	5.6	200.471	AST Survey Line 2	Animal observations	Tube worms
01/06/24 12:51:16.00	493439.6	5312707.93	2156.364	5.2	200.534	AST Survey Line 2	Vent Features	Diffuse vent on
								basalt
01/06/24 12:51:38.00	493439.25	5312704.2	2156.402	5	203.147	AST Survey Line 2	Vent Features	
01/06/24 12:51:43.00	493439.25	5312704.2	2156.394	5	201.046	AST Survey Line 2	20m stop	
01/06/24 12:52:05.00	493437.78	5312701.25	2156.535	4.8	201.411	AST Survey Line 2	Vent Features	Bacterial mats on
								bottom
01/06/24 12:52:45.00	493437.28	5312700.84	2156.541	5	199.532	AST Survey Line 2	g	
01/06/24 12:53:04.00	493438.46	5312700.95	2156.528	5	199.87	AST Survey Line 2	Animal observations	Tube worms
01/06/24 12:53:14.00	493438.46	5312700.95	2156.634	4.4	200.08	AST Survey Line 2	Vent Features	Bacterial mats on
								bottom
01/06/24 12:53:28.00	493433.06	5312693.62	2156.136	4.1	201.446	AST Survey Line 2	shimmering water	
01/06/24 12:53:40.00	493433.06	5312693.62	2155.677	4.6	200.466	AST Survey Line 2	Vent Features	Bacterial floc in
								water column
01/06/24 12:53:57.00	493433.06	5312693.62	2155.331	5.2	200.963	AST Survey Line 2	Animal observations	Tube worms
01/06/24 12:54:08.00	493431.77	5312686.18	2155.318	4.9	200.424	AST Survey Line 2		Temp Anom
								big
01/06/24 12:54:26.00	493430.59	5312681.79	2155.318	4.9	199.38	AST Survey Line 2	Animal observations	Tube worms
01/06/24 12:54:44.00	493430.59	5312681.79	2154.819	5	200.932	AST Survey Line 2	20m stop	
01/06/24 12:55:01.00	493430.59	5312681.79	2154.706	5.2	198.834	AST Survey Line 2	VID_GRAB	over diffuse venting
01/06/24 12:55:51.00	493430.73	5312677.55	2154.84	5	199.958	AST Survey Line 2	g	

Date & Time	UTM (X)	UTM (Y)	Depth (m)	Alt. (m)	Heading		Event	
01/06/24 12:56:06.00	493429.04	5312674.72	2154.068	4.7	198.99	AST Survey Line 2	VID_GRAB	
01/06/24 12:56:55.00	493424.56	5312667.48	2152.444	5.2	200.6	AST Survey Line 2	Animal observations	Tube worms
								bundle
01/06/24 12:57:32.00	493421.37	5312661.06	2151.739	5.2	200.465	AST Survey Line 2	Vent Features	Active Chimney
01/06/24 12:57:49.00	493418.55	5312655.85	2151.72	7	199.843	AST Survey Line 2	20m stop	
01/06/24 12:58:15.00	493418.97	5312655.7	2151.266	8.4	202.027	AST Survey Line 2	don't see any smoke, so may just be	
							diffuse flow coming out of chimney	
01/06/24 12:58:28.00	493417.93	5312654.9	2151.188	7.6	200.56	AST Survey Line 2	VID_GRAB	
01/06/24 12:59:05.00	493419.7	5312654.58	2151.032	7.2	198.822	AST Survey Line 2	g	
01/06/24 12:59:41.00	493417.7	5312653.3	2150.8	8.6	200.559	AST Survey Line 2	Bill wants fresh pot\	
01/06/24 13:00:50.00	493406.99	5312640.21	2145.377	15.1	204.876	AST Survey Line 2	Vent Features	Active Chimney
								big
01/06/24 13:02:22.00	493397.58	5312619.73	2142.212	18.9	200.774	AST Survey Line 2	big dropoff	
01/06/24 13:03:30.00	493408.16	5312615.88	2153.596	4.8	204.083	AST Survey Line 2	20m stop	
01/06/24 13:04:31.00	493411.74	5312619.09	2152.809	6.2	196.223	AST Survey Line 2	g	
01/06/24 13:06:02.00	493392.96	5312600.37	2148.083	5.1	195.574	AST Survey Line 2		Smoke
01/06/24 13:06:38.00	493388.84	5312587.52	2149.311	6.4	200.957	AST Survey Line 2	20m stop	
01/06/24 13:07:18.00	493392.07	5312586.28	2149.145	7	201.713	AST Survey Line 2	tape change, Hi8-085/6 now recording,	
							Tape 42VHS	
01/06/24 13:07:40.00	493391.36	5312585.85	2149.138	7	199.385	AST Survey Line 2	g	
01/06/24 13:09:25.00	493385.94	5312571.64	2154.09	5	206.801	AST Survey Line 2	20m stop	
01/06/24 13:10:26.00	493384.15	5312567.1	2153.006	5.9	200.66	AST Survey Line 2	g	
01/06/24 13:12:40.00	493375.44	5312548.55	2155.519	6.4	206.606	AST Survey Line 2	20m stop	
01/06/24 13:13:43.00	493374	5312545.71	2154.302	7.3	201.428	AST Survey Line 2	g	
01/06/24 13:15:59.00	493367.05	5312523.03	2157.456	5.4	201.28	AST Survey Line 2	20m stop	
01/06/24 13:16:54.00	493367.62	5312523.13	2157.429	5.8	200.418	AST Survey Line 2	g	
01/06/24 13:18:31.00	493362.16	5312505.92	2157.655	5.2	204.454	AST Survey Line 2	20m stop	
01/06/24 13:19:28.00	493362.83	5312504.64	2157.29	5.6	200.083	AST Survey Line 2	g	
01/06/24 13:21:27.00	493350.11	5312484.85	2159.167	6	206.558	AST Survey Line 2	20m stop	
01/06/24 13:21:45.00	493350.11	5312484.85	2158.199	6.5	202.68	AST Survey Line 2	smoke break	
01/06/24 13:22:31.00	493348.6	5312483.64	2157.979	6.6	203.486	AST Survey Line 2	g	
01/06/24 13:23:22.00	493344.44	5312471.98	2158.278	8.7	202.21	AST Survey Line 2	45sec smoke by Jim, wow!	
01/06/24 13:23:59.00	493344.83	5312467.66	2162.195	5	206.866	AST Survey Line 2	20m stop	
01/06/24 13:25:02.00	493342.93	5312464.35	2161.589	5.6	197.916	AST Survey Line 2	g	
01/06/24 13:26:54.00	493340.36	5312444	2159.092	5.2	202.191	AST Survey Line 2	20m stop	
01/06/24 13:27:57.00	493338.25	5312441.54	2158.986	5.3	198.2	AST Survey Line 2	g	



Date & Time	UTM (X)	UTM (Y)	Depth (m)	Alt. (m)	Heading		Event	
01/06/24 13:29:01.00	493329.02	5312420.93	2157.775	4.3	200.313	AST Survey Line 2	20m stop	
01/06/24 13:30:09.00	493325.35	5312412.53	2157.749	4.2	199.184	AST Survey Line 2	g	
01/06/24 13:32:22.00	493319.81	5312394.4	2161.368	5.4	203.528	AST Survey Line 2	20m stop	
01/06/24 13:33:27.00	493319.15	5312387.61	2160.43	6	199.925	AST Survey Line 2	g	
01/06/24 13:35:05.00	493309.99	5312372.27	2159.798	4.7	204.065	AST Survey Line 2	20m stop	
01/06/24 13:36:05.00	493307.71	5312368.28	2159.087	5.3	198.704	AST Survey Line 2	g	
01/06/24 13:37:49.00	493304.35	5312350.14	2161.295	5.1	203.555	AST Survey Line 2	20m stop	
01/06/24 13:38:47.00	493306.95	5312349.17	2161.135	5.2	198.983	AST Survey Line 2	g	
01/06/24 13:40:41.00	493299.45	5312330.25	2160.965	5.3	199.694	AST Survey Line 2	20m stop	
01/06/24 13:41:44.00	493299.43	5312326.21	2160.213	5.6	197.15	AST Survey Line 2	g	
01/06/24 13:42:28.00	493295.98	5312320.54	2160.758	5.1	199.236	AST Survey Line 2	there's something	
01/06/24 13:43:45.00	493295.62	5312309.45	2157.436	6	199.926	AST Survey Line 2	Geological Features	Inactive Chimney
01/06/24 13:43:57.00	493296.64	5312306.63	2157.151	5.7	203.273	AST Survey Line 2	Animal observations	Crab
01/06/24 13:44:03.00	493296.64	5312306.63	2157.098	5.8	200.577	AST Survey Line 2	20m stop	
01/06/24 13:45:02.00	493298.34	5312303.61	2157.09	7.1	198.97	AST Survey Line 2	g	
01/06/24 13:45:40.00	493294.57	5312301.23	2157.333	4.3	196.085	AST Survey Line 2		Temp Anom
								0.02C
01/06/24 13:46:54.00	493288.74	5312281.38	2163.29	6.9	201.048	AST Survey Line 2	20m stop	
01/06/24 13:47:55.00	493282.61	5312279.21	2162.645	5.4	195.94	AST Survey Line 2	g	
01/06/24 13:49:50.00	493273.79	5312258.06	2170.859	3.6	205.503	AST Survey Line 2	20m stop	
01/06/24 13:50:41.00	493273.04	5312256.89	2170.619	4.2	200.578	AST Survey Line 2	g	
01/06/24 13:52:48.00	493268.46	5312244.74	2171.872	8.2	202.325	AST Survey Line 2	20m stop	
01/06/24 13:54:07.00	493267.18	5312243.81	2172.673	7.5	200.263	AST Survey Line 2	g	
01/06/24 13:54:16.00	493267.18	5312243.81	2173.178	7.6	198.676	AST Survey Line 2		
01/06/24 13:56:17.00	493264.41	5312224.45	2180.704	5.1	206.462	AST Survey Line 2	20m stop	
01/06/24 13:57:22.00	493263.38	5312221.72	2179.446	6.2	197.443	AST Survey Line 2	g	
01/06/24 13:59:07.00	493247.45	5312203.31	2179.626	4.1	204.465	AST Survey Line 2	Geological Features	Fissure
01/06/24 13:59:08.00	493247.45	5312203.31	2179.58	4.1	203.891	AST Survey Line 2		
01/06/24 13:59:12.00	493247.45	5312203.31	2179.553	4.2	202.033	AST Survey Line 2	20m stop	
01/06/24 14:00:10.00	493249.61	5312202.19	2179.672	4.1	199.346	AST Survey Line 2	g	
01/06/24 14:02:03.00	493243.74	5312185.12	2179.662	3.5	203.75	AST Survey Line 2	Geological Features	Fissure
01/06/24 14:02:17.00	493242.91	5312180.24	2179.613	3.6	202.084	AST Survey Line 2	We are near the magnetic low	
01/06/24 14:02:30.00	493241.68	5312179.66	2179.648	3.8	200.482	AST Survey Line 2	20m stop	
01/06/24 14:03:16.00	493240.31	5312179.5	2179.402	4.3	201.091	AST Survey Line 2	Matt will boldly predict that we will see	
						at least one smoker on this line and a minimum of a .04 degree		
						anomaly		

Date & Time	UTM (X)	UTM (Y)	Depth (m)	Alt. (m)	Heading		Event	
01/06/24 14:03:19.00	493240.31	5312179.5	2179.049	4.6	199.412	AST Survey Line 2	g	
01/06/24 14:03:54.00	493240.46	5312173.17	2178.881	4.8	200.098	AST Survey Line 2		Temp Anom
								0.01C
01/06/24 14:04:36.00	493239.35	5312164.87	2179.196	4	199.354	AST Survey Line 2	Geological Features	Fissure
01/06/24 14:04:40.00	493239.35	5312164.87	2179.225	4	201.737	AST Survey Line 2	20m stop	
01/06/24 14:05:03.00	493235.35	5312161.69	2179.056	4	203.118	AST Survey Line 2	Paul is up for two smokers	
01/06/24 14:05:21.00	493233.27	5312160.88	2178.959	4.2	200.888	AST Survey Line 2	Jim predicts at least one smoker, which he will partake in	
01/06/24 14:05:43.00	493234.79	5312161.68	2178.999	4.1	198.735	AST Survey Line 2	g	
01/06/24 14:05:51.00	493233.98	5312161.52	2179.019	4	200.534	AST Survey Line 2	Bill predicts tube worms	
01/06/24 14:06:22.00	493233.76	5312157.84	2178.337	4.7	200.111	AST Survey Line 2	Koichi thinks nothing at all will happen	
01/06/24 14:07:24.00	493229.65	5312146.55	2177.221	5.9	200.45	AST Survey Line 2	Leif predicts a 0.05C temperature anomaly before the end of line	
01/06/24 14:07:46.00	493228.65	5312139.36	2177.474	5.5	204.603	AST Survey Line 2	20m stop	
01/06/24 14:08:48.00	493228.77	5312137.85	2176.756	6.1	200.151	AST Survey Line 2	g	
01/06/24 14:09:57.00	493221.95	5312128.2	2177.228	5.2	199.438	AST Survey Line 2	and on your left if you look about 35m you will notice the boogus nav target 46	
01/06/24 14:10:36.00	493216.1	5312119.38	2177.062	4.7	202.197	AST Survey Line 2	20m stop	
01/06/24 14:11:43.00	493219	5312116.43	2176.952	5	199.708	AST Survey Line 2	g	
01/06/24 14:13:36.00	493216.67	5312101.25	2176.606	4.7	203.407	AST Survey Line 2		Temp Anom
								0.02C
01/06/24 14:13:53.00	493213.46	5312098.65	2174.569	5.9	201.927	AST Survey Line 2	20m stop	
01/06/24 14:14:57.00	493213.58	5312096.94	2174.729	5.9	196.374	AST Survey Line 2	g	
01/06/24 14:16:59.00	493200.97	5312076.83	2173.452	7.7	201.188	AST Survey Line 2	20m stop	
01/06/24 14:18:01.00	493200.5	5312074.19	2173.312	8	201.045	AST Survey Line 2	g	
01/06/24 14:19:51.00	493196.66	5312056.49	2175.407	5.6	202.997	AST Survey Line 2	20m stop	
01/06/24 14:20:58.00	493197.44	5312054.16	2175.13	5.9	198.163	AST Survey Line 2	g	
01/06/24 14:22:36.00	493190.15	5312037.71	2176.013	4.9	200.744	AST Survey Line 2	Geological Features	Drainout
01/06/24 14:22:48.00	493189.12	5312033.46	2175.896	5	200.886	AST Survey Line 2	20m stop	
01/06/24 14:23:12.00	493189.22	5312032.9	2175.922	5	199.98	AST Survey Line 2		Temp Anom
								5 millidegrees
01/06/24 14:23:48.00	493188.73	5312032.91	2175.943	5	198.201	AST Survey Line 2	g	
01/06/24 14:25:38.00	493182.44	5312014.85	2175.676	4.5	198.282	AST Survey Line 2		Temp Anom
								2 millidegrees
01/06/24 14:25:52.00	493179	5312012.16	2176.135	4.4	202.746	AST Survey Line 2	20m stop	
01/06/24 14:26:53.00	493179.44	5312011.97	2175.798	7.5	199.397	AST Survey Line 2	g	

Date & Time	UTM (X)	UTM (Y)	Depth (m)	Alt. (m)	Heading		Event	
01/06/24 14:28:34.00	493177.23	5311994.79	2176.86	7.2	199.706	AST Survey Line 2	Substrate	Pillow lava
01/06/24 14:29:01.00	493177.34	5311990.86	2176.694	7	204.129	AST Survey Line 2	20m stop	
01/06/24 14:30:05.00	493174.95	5311986.86	2176.29	7.3	197.059	AST Survey Line 2	g	
01/06/24 14:31:50.00	493172.08	5311970.77	2178.094	7.3	200.411	AST Survey Line 2	Substrate	Collapse pits
01/06/24 14:32:47.00	493169.11	5311962.08	2178.227	6.1	200.084	AST Survey Line 2	20m stop	
01/06/24 14:33:42.00	493170.62	5311962.87	2177.988	6.6	198.752	AST Survey Line 2	g	
01/06/24 14:34:32.00	493161.91	5311955.56	2178.067	6.8	200.03	AST Survey Line 2		Temp Anom
								0.,04C
01/06/24 14:35:37.00	493154.62	5311944.64	2175.772	8.3	201.327	AST Survey Line 2	20m stop	
01/06/24 14:36:36.00	493155.94	5311941.42	2178.4	5.8	199.807	AST Survey Line 2	g	
01/06/24 14:39:46.00	493147.23	5311911.78	2175.778	5.5	201.496	AST Survey Line 2	20m stop	
01/06/24 14:40:47.00	493143.62	5311909.45	2175.612	5.7	199.048	AST Survey Line 2	g	
01/06/24 14:42:41.00	493143.26	5311890.7	2175.931	5.3	201.274	AST Survey Line 2	20m stop	
01/06/24 14:43:43.00	493140.93	5311887.44	2175.731	5.5	199.657	AST Survey Line 2	g	
01/06/24 14:46:42.00	493126.9	5311864.72	2175.319	5.5	200.875	AST Survey Line 2	20m stop	
01/06/24 14:47:44.00	493128.83	5311863.85	2175.259	5.5	200.268	AST Survey Line 2	go	
01/06/24 14:48:44.00	493126.67	5311859.37	2175.149	5.5	200.748	AST Survey Line 2	-	
01/06/24 14:49:57.00	493119.99	5311844.23	2177.169	5.7	202.547	AST Survey Line 2	20m stop	
01/06/24 14:50:57.00	493118.78	5311843.14	2176.885	5.8	200.123	AST Survey Line 2	go	
01/06/24 14:54:05.00	493115	5311824.25	2183.247	6.5	203.907	AST Survey Line 2	20m stop	
01/06/24 14:55:03.00	493115	5311824.25	2182.532	6.6	198.5	AST Survey Line 2	go	
01/06/24 14:55:34.00	493115	5311824.25	2180.838	7.3	201.461	AST Survey Line 2	poor nav	
01/06/24 14:56:38.00	493106.15	5311798.4	2178.096	3.9	201.092	AST Survey Line 2	20m stop	
01/06/24 14:57:38.00	493108.87	5311797.52	2177.437	3.5	182.184	AST Survey Line 2	go	
01/06/24 14:59:17.00	493096.91	5311772.31	2183.287	5.7	191.861	AST Survey Line 2	20m stop	
01/06/24 14:59:37.00	493095.22	5311774.46	2182.868	6.1	191.163	AST Survey Line 2	Substrate	Pillow lava
01/06/24 15:00:23.00	493095.12	5311774.32	2182.481	6.4	193.594	AST Survey Line 2	go	
01/06/24 15:02:02.00	493079.46	5311746.66	2183.919	4.3	192.601	AST Survey Line 2	20m stop	
01/06/24 15:03:02.00	493080.65	5311746.59	2183.034	5.1	190.836	AST Survey Line 2	go	
01/06/24 15:04:21.00	493077.13	5311728.07	2175.76	3	181.195	AST Survey Line 2	Geological Features	basalt pillow structure
01/06/24 15:05:05.00	493074.33	5311721.43	2172.594	6.4	195.278	AST Survey Line 2	20m stop	
01/06/24 15:06:06.00	493079.71	5311719.83	2172.701	6.3	194.347	AST Survey Line 2	go	
01/06/24 15:08:39.00	493069.09	5311689.21	2173.053	5.1	198.673	AST Survey Line 2	20m stop	
01/06/24 15:09:40.00	493066.85	5311686.92	2172.962	5.2	195.193	AST Survey Line 2	go	
01/06/24 15:11:37.00	493057.23	5311666.33	2174.239	8.7	202.879	AST Survey Line 2	Geological Features	basalt wall

Date & Time	UTM (X)	UTM (Y)	Depth (m)	Alt. (m)	Heading		Event	
01/06/24 15:12:16.00	493057.26	5311664.32	2174.37	8	203.838	AST Survey Line 2	20m stop	
01/06/24 15:13:19.00	493058.04	5311662.48	2174.259	8.1	185.81	AST Survey Line 2	go	
01/06/24 15:15:30.00	493050.18	5311654.88	2183.229	4.9	202.772	AST Survey Line 2	20m stop	
01/06/24 15:16:05.00	493050.02	5311654.31	2182.564	5.2	201.149	AST Survey Line 2	VID_GRAB	
01/06/24 15:16:31.00	493050.02	5311654.31	2182.531	3.3	202.083	AST Survey Line 2	go	
01/06/24 15:16:47.00	493041.9	5311653.03	2182.701	6.9	207.879	AST Survey Line 2	Geological Features	Fissure
01/06/24 15:19:15.00	493041.55	5311631.22	2182.757	4.8	202.399	AST Survey Line 2	20m stop	
01/06/24 15:20:18.00	493041.33	5311631.38	2181.382	5.7	200.758	AST Survey Line 2	go	
01/06/24 15:20:42.00	493044.32	5311631.33	2181.159	5.8	201.299	AST Survey Line 2	repeating previous stop due to vertical bouncing	
01/06/24 15:22:23.00	493027.55	5311612.13	2189.962	4.8	200.269	AST Survey Line 2	20m stop	
01/06/24 15:22:35.00	493027.55	5311612.13	2189.586	5.1	200.891	AST Survey Line 2	poor nav	
01/06/24 15:23:23.00	493027.55	5311612.13	2189.054	5.5	199.825	AST Survey Line 2	go	
01/06/24 15:23:35.00	493027.55	5311612.13	2186.606	8.2	202.423	AST Survey Line 2	rising up to get a good fix	
01/06/24 15:24:14.00	493027.96	5311609.04	2176.169	16.7	245.835	AST Survey Line 2	end of Line 2 North	
01/06/24 15:24:34.00	493026.14	5311609.48	2174.801	18.1	278.031	AST Survey Line 2	changing tape on SM 2000 - dum,	
							dum, dum, dum!	
01/06/24 15:24:45.00	493026.14	5311609.48	2173.401	20.4	248.245	AST Survey Line 2	CTD file 308020	
01/06/24 15:32:17.00	492978.48	5311594.7	2171.793	11.2	231.804	AST Survey Line 2	SM2000 tape - file name 01F24013	
01/06/24 15:36:48.00	492978.06	5311609.6	2172.159	18.2	10.425	AST Survey Line 3	beginning the southern end of line 3	
							north	
01/06/24 15:41:43.00	492989.3	5311635.26	2190.119	6	22.012	AST Survey Line 3	20m stoppy	
01/06/24 15:42:43.00	492985.22	5311635.01	2189.493	6.4	21.062	AST Survey Line 3	go	
01/06/24 15:44:49.00	492997.8	5311661.69	2193.45	5	22.043	AST Survey Line 3	It appears that at the end of Line 2 - in the 4-8 watch pool, Ko-ichi has the lead with SOMETHING happening	
01/06/24 15:44:52.00	492997.8	5311661.69	2193.462	5.1	21.637	AST Survey Line 3	20m stop	
01/06/24 15:45:32.00	492997.89	5311661.93	2193.435	5.1	21.078	AST Survey Line 3	That was meant to say NOTHING happening along line2	
01/06/24 15:45:47.00	492997.69	5311661.72	2193.442	5.1	20.79	AST Survey Line 3	go	
01/06/24 15:47:43.00	492998.77	5311661.38	2193.402	5.2	21.096	AST Survey Line 3	waiting for medea	
01/06/24 15:49:57.00	493007.36	5311689.02	2190.468	7	20.802	AST Survey Line 3	20m stop	
01/06/24 15:50:57.00	493006.21	5311688.7	2192.583	5.2	19.654	AST Survey Line 3	Substrate	Pillow lava
01/06/24 15:51:08.00	493004.14	5311689.45	2192.799	5	18.763	AST Survey Line 3	go	
01/06/24 15:51:57.00	493015.52	5311688.93	2192.772	5	18.614	AST Survey Line 3	staying longer at this station, due to altitude too high	
01/06/24 15:52:20.00	493004.05	5311689.23	2192.776	5	18.897	AST Survey Line 3	now we are really going	

Date & Time	UTM (X)	UTM (Y)	Depth (m)	Alt. (m)	Heading		Event	
01/06/24 15:54:33.00	493016.52	5311714.07	2191.54	6.1	27.153	AST Survey Line 3	20m stop	
01/06/24 15:55:34.00	493017.86	5311714.76	2191.34	6.2	26.9	AST Survey Line 3	go	
01/06/24 15:58:25.00	493029.81	5311741.73	2192.186	6	23.285	AST Survey Line 3	20m stop	
01/06/24 15:59:24.00	493025.91	5311743.57	2192.006	6.2	27.303	AST Survey Line 3	go	
01/06/24 16:03:36.00	493033.99	5311774.88	2189.509	5.5	20.037	AST Survey Line 3	20m stop - poor nav	
01/06/24 16:04:32.00	493033.99	5311774.88	2189.503	5.6	21.824	AST Survey Line 3	go	
01/06/24 16:04:42.00	493033.99	5311774.88	2187.153	7.6	25.243	AST Survey Line 3	rising up to try to get good nav fix	
01/06/24 16:05:30.00	493039.8	5311780.02	2177.515	16.3	20.242	AST Survey Line 3	good fix	
01/06/24 16:07:50.00	492982.1	5311798.51	2186.427	4.8	23.729	AST Survey Line 3	20m stop	
01/06/24 16:08:37.00	492982.1	5311798.51	2185.255	6	21.17	AST Survey Line 3	possible nav anomaly	
01/06/24 16:08:53.00	493046.92	5311797.28	2185.215	5.9	16.442	AST Survey Line 3	go	
01/06/24 16:10:15.00	493055.11	5311826.86	2187.399	6.8	18.191	AST Survey Line 3	20m stop	
01/06/24 16:11:20.00	493057.69	5311827.47	2188.404	5.9	11.955	AST Survey Line 3	go	
01/06/24 16:12:37.00	493060.73	5311857.13	2189.256	5.8	14.819	AST Survey Line 3	20m stop	
01/06/24 16:13:31.00	493066.22	5311857.2	2188.65	6.3	12.062	AST Survey Line 3	go	
01/06/24 16:15:24.00	493078.97	5311884.27	2193.424	5.1	41.369	AST Survey Line 3	20m stop	
01/06/24 16:15:33.00	493078.97	5311884.27	2193.251	5.3	40.817	AST Survey Line 3	poor nav	
01/06/24 16:16:23.00	493078.97	5311884.27	2192.672	5.8	40.181	AST Survey Line 3	go	
01/06/24 16:17:48.00	493085.04	5311903.74	2189.056	5.3	35.662	AST Survey Line 3	20m stop	
01/06/24 16:18:49.00	493090.13	5311908.73	2188.271	6	32.468	AST Survey Line 3	go	
01/06/24 16:21:35.00	493092.23	5311932.93	2191.799	5.1	34.757	AST Survey Line 3	20m stop	
01/06/24 16:22:32.00	493092.23	5311932.93	2191.027	5.9	32.516	AST Survey Line 3	Vent Features	Bacterial mats on bottom
01/06/24 16:22:44.00	493092.23	5311932.93	2189.509	6.5	38.567	AST Survey Line 3	Vent Features	Diffuse vent on sulfide
01/06/24 16:23:15.00	493092.23	5311932.93	2187.838	5.1	23.248	AST Survey Line 3	Animal observations	Tube worms
01/06/24 16:26:15.00	493114.79	5311976.15	2188.085	5.6	28.877	AST Survey Line 3	20m stop	
01/06/24 16:27:14.00	493115.03	5311977.47	2187.619	5.9	29.468	AST Survey Line 3	go	
01/06/24 16:29:08.00	493128.56	5312007.74	2187.598	5	10.709	AST Survey Line 3	20m stop	
01/06/24 16:30:10.00	493128.56	5312007.74	2186.54	5.8	8.258	AST Survey Line 3	go	
01/06/24 16:31:34.00	493133.47	5312030.76	2184.443	5.1	15.65	AST Survey Line 3	20m stop	
01/06/24 16:33:17.00	493134.51	5312030.13	2183.549	5.7	11.363	AST Survey Line 3	go	
01/06/24 16:34:38.00	493140.19	5312057.37	2182.549	5.1	16.805	AST Survey Line 3	20m stop	
01/06/24 16:35:40.00	493141.36	5312058.32	2181.716	6	14.181	AST Survey Line 3	go	
01/06/24 16:37:19.00	493151.09	5312086.39	2181.208	5.7	15.243	AST Survey Line 3	20m stop	
01/06/24 16:38:21.00	493151.58	5312085.96	2181.508	5.5	14.068	AST Survey Line 3	go	

Date & Time	UTM (X)	UTM (Y)	Depth (m)	Alt. (m)	Heading		Event	
01/06/24 16:39:39.00	493161.64	5312109.92	2177.794	5.4	20.754	AST Survey Line 3	20m stop	
01/06/24 16:40:39.00	493161.12	5312111.37	2177.994	5.2	18.814	AST Survey Line 3	go	
01/06/24 16:41:55.00	493169.14	5312135.53	2178.773	5.6	21.218	AST Survey Line 3	20m stop	
01/06/24 16:42:55.00	493170.07	5312136.13	2179.058	5.2	19.038	AST Survey Line 3	go	
01/06/24 16:44:37.00	493179.9	5312166.79	2179.071	5.3	19.632	AST Survey Line 3	20m stop	
01/06/24 16:45:34.00	493179.68	5312167.22	2179.218	5.1	18.8	AST Survey Line 3	go	
01/06/24 16:47:34.00	493181.05	5312189.7	2180.476	5.8	19.159	AST Survey Line 3	20m stop	
01/06/24 16:48:34.00	493186.95	5312190.42	2180.063	6.1	19.155	AST Survey Line 3	go	
01/06/24 16:51:03.00	493197.4	5312215.48	2179.372	5.7	20.177	AST Survey Line 3	20m stop	
01/06/24 16:52:03.00	493192.42	5312215.56	2179.697	5.4	20.412	AST Survey Line 3	go	
01/06/24 16:54:04.00	493209.81	5312244.87	2174.468	5.7	23.935	AST Survey Line 3	20m stop\	
01/06/24 16:55:05.00	493211.34	5312247.98	2174.747	5.3	20.058	AST Survey Line 3	go	
01/06/24 16:55:33.00	493210.31	5312250.85	2172.911	7.7	20.94	AST Survey Line 3	VID_GRAB	
01/06/24 16:55:42.00	493210.31	5312250.85	2171.054	9.9	22.08	AST Survey Line 3	elevator ahead	
01/06/24 16:57:26.00	493222.29	5312276.9	2173.955	5.6	19.127	AST Survey Line 3	20m stop	
01/06/24 16:58:11.00	493222.29	5312276.9	2174.141	5.4	20.882	AST Survey Line 3	Substrate	Pillow lava
01/06/24 16:58:27.00	493222.29	5312276.9	2174.109	5.3	20.766	AST Survey Line 3		
01/06/24 16:58:32.00	493222.29	5312276.9	2173.856	5.2	21.389	AST Survey Line 3	go	
01/06/24 16:59:29.00	493222.29	5312276.9	2170.41	8.7	10.601	AST Survey Line 3	poor nav	
01/06/24 17:00:34.00	493235.17	5312308.35	2168.488	5.5	21.502	AST Survey Line 3	20m stop	
01/06/24 17:01:36.00	493235.91	5312309.59	2167.03	6.9	19.447	AST Survey Line 3	go	
01/06/24 17:03:28.00	493242.15	5312334.89	2172.997	6.2	23.873	AST Survey Line 3	20m stop	
01/06/24 17:04:33.00	493241.96	5312336.4	2172.97	5.9	24.511	AST Survey Line 3	go	
01/06/24 17:06:47.00	493253.65	5312362.25	2175.144	5.5	25.226	AST Survey Line 3	20m stop	
01/06/24 17:07:52.00	493243.56	5312361.72	2173.826	5.2	29.666	AST Survey Line 3	go	
01/06/24 17:10:27.00	493277.93	5312412.41	2175.228	5	25.088	AST Survey Line 3	20m stop	
01/06/24 17:11:26.00	493276.67	5312412.96	2174.622	5.6	22.974	AST Survey Line 3	go	
01/06/24 17:12:49.00	493283.24	5312436.35	2173.563	6.2	17.318	AST Survey Line 3	20m stop	
01/06/24 17:13:51.00	493282.28	5312436.09	2174.208	5.5	16.713	AST Survey Line 3	go	
01/06/24 17:14:57.00	493286.91	5312454.65	2174.041	5.2	23.823	AST Survey Line 3	20m stop	
01/06/24 17:15:57.00	493288.28	5312460.59	2173.494	5.7	18.28	AST Survey Line 3	go	
01/06/24 17:17:26.00	493296.76	5312486.64	2172.349	5.7	20.558	AST Survey Line 3	20m stop	
01/06/24 17:18:25.00	493297.11	5312486.95	2172.724	5.5	19.105	AST Survey Line 3	go	
01/06/24 17:20:03.00	493306.53	5312511.84	2171.154	6.7	21.401	AST Survey Line 3	20m stop	
01/06/24 17:21:04.00	493300.16	5312511.21	2172.351	5.6	19.525	AST Survey Line 3	go	
01/06/24 17:23:13.00	493315.43	5312533.17	2172.52	5	20.671	AST Survey Line 3	20m stop	

Date & Time	UTM (X)	UTM (Y)	Depth (m)	Alt. (m)	Heading		Event	
01/06/24 17:24:12.00	493316.26	5312532.64	2171.407	6	19.659	AST Survey Line 3	go	
01/06/24 17:25:31.00	493320.14	5312543.11	2172.367	5.2	22.386	AST Survey Line 3	bacterial mats	
01/06/24 17:25:32.00	493320.14	5312543.11	2172.32	5.3	22.406	AST Survey Line 3	20m stop	
01/06/24 17:26:34.00	493323.32	5312560.23	2171.536	5.9	19.911	AST Survey Line 3	go	
01/06/24 17:27:20.00	493323.32	5312560.23	2170.113	7	17.772	AST Survey Line 3	fairly lasrge area of bacteiral and tube	
							worms	
01/06/24 17:27:48.00	493332.55	5312584.83	2171.902	4.5	20.346	AST Survey Line 3	20m stop	
01/06/24 17:28:21.00	493333.79	5312585.91	2170.551	5.9	21.189	AST Survey Line 3	nav on this station actually OK, SUsan	
							thinks it's the southern margin of High Rise	
01/06/24 17:28:43.00	493332.97	5312585.63	2168.509	7.9	21.255	AST Survey Line 3	go	
01/06/24 17:30:00.00	493339.89	5312602.4	2170.645	5.5	17.924	AST Survey Line 3	20m stop	
01/06/24 17:31:04.00	493343.04	5312608.69	2170.412	5.7	18.366	AST Survey Line 3	go	
01/06/24 17:32:24.00	493352.42	5312629.35	2169.939	6.2	21.179	AST Survey Line 3	20m stop	
01/06/24 17:33:33.00	493349.33	5312637.01	2170.518	5.4	28.178	AST Survey Line 3	go	
01/06/24 17:34:20.00	493349.33	5312637.01	2169.494	5.8	35.529	AST Survey Line 3	bacterial mat in camera view, fairly	
							large vent field	
01/06/24 17:35:25.00	493372.77	5312661.39	2166.354	6.9	34.915	AST Survey Line 3	High Rise proper, smoker CTD	
							anomaly past temp 0.2 deg	
01/06/24 17:36:06.00	493369.06	5312664.87	2170.325	5.4	34.088	AST Survey Line 3	max temp. 0.4 + on CTD, off scale of	
							Laptop.	
01/06/24 17:36:12.00	493366.3	5312664.6	2170.113	5.5	33.014	AST Survey Line 3	20m stop	
01/06/24 17:37:19.00	493364.51	5312665.22	2169.833	5.6	26.328	AST Survey Line 3	go over tube worms at far side	
01/06/24 17:38:24.00	493367.28	5312683.35	2169.773	5.3	26.001	AST Survey Line 3	20m stop	
01/06/24 17:38:33.00	493367.94	5312689.18	2169.374	5.7	12.901	AST Survey Line 3	Animal observations	Tube worms
01/06/24 17:39:12.00	493368.72	5312688.88	2168.986	6	12.016	AST Survey Line 3		Temp Anom
								0.1
01/06/24 17:39:31.00	493368.61	5312688.68	2168.955	5.9	9.673	AST Survey Line 3	go	
01/06/24 17:40:52.00	493369.93	5312692.05	2166.547	5.7	19.094	AST Survey Line 3	20m stop	
01/06/24 17:41:33.00	493302.59	5312702.17	2166.771	5.2	16.489	AST Survey Line 3	poor nav	
01/06/24 17:41:54.00	493301.23	5312700.76	2166.724	5.3	16.622	AST Survey Line 3		
01/06/24 17:41:58.00	493301.23	5312700.76	2166.691	5.4	15.225	AST Survey Line 3	go	
01/06/24 17:44:06.00	493379.5	5312742.04	2169.61	6	18.837	AST Survey Line 3	20m stop	
01/06/24 17:44:15.00	493379.5	5312742.04	2169.443	6	18.085	AST Survey Line 3		
01/06/24 17:45:07.00	493378.92	5312740.31	2170.123	5.5	17.049	AST Survey Line 3		
01/06/24 17:45:16.00	493378.92	5312740.31	2169.995	5.8	19.462	AST Survey Line 3	go	
01/06/24 17:46:44.00	493401.61	5312766.95	2166.409	3	20.799	AST Survey Line 3	20m stop	

Date & Time	UTM (X)	UTM (Y)	Depth (m)	Alt. (m)	Heading		Event	
01/06/24 17:47:04.00	493402.04	5312766.51	2166.988	2.9	19.509	AST Survey Line 3	good nav	
01/06/24 17:47:49.00	493403.11	5312766.94	2167.081	3.2	19.087	AST Survey Line 3	go	
01/06/24 17:48:23.00	493403.99	5312769.23	2163.011	8.5	28.566	AST Survey Line 3	bacterial mats	
01/06/24 17:49:02.00	493406.35	5312784.85	2168.371	5.2	25.722	AST Survey Line 3	20m stop	
01/06/24 17:50:03.00	493403.87	5312789.25	2167.303	6	23.098	AST Survey Line 3	go	
01/06/24 17:51:25.00	493412.53	5312811.77	2168.121	4.9	28.386	AST Survey Line 3	20m stop	
01/06/24 17:52:26.00	493414.93	5312812.95	2167.382	5.6	26.488	AST Survey Line 3	go	
01/06/24 17:54:02.00	493422.48	5312840.16	2165.456	5.9	25.036	AST Survey Line 3	20m stop	
01/06/24 17:55:04.00	493422.93	5312839.6	2165.423	6	24.428	AST Survey Line 3	go	
01/06/24 17:56:51.00	493433.33	5312865.42	2165.529	6.5	36.936	AST Survey Line 3	20m stop	
01/06/24 17:57:48.00	493433.87	5312865.73	2165.126	6.6	33.38	AST Survey Line 3	go	
01/06/24 17:59:01.00	493440.42	5312883.71	2163.79	5.5	34.476	AST Survey Line 3	Geological Features	Fissure
01/06/24 17:59:09.00	493441.75	5312888.2	2163.776	5.4	33.312	AST Survey Line 3	20m stop	
01/06/24 18:00:07.00	493442.05	5312888.41	2164.444	4.7	33.686	AST Survey Line 3	go	
01/06/24 18:01:15.00	493449.91	5312908.73	2163.031	5.9	35.545	AST Survey Line 3	20m stop	
01/06/24 18:02:15.00	493450.42	5312908.58	2162.907	6.2	33.736	AST Survey Line 3	go	
01/06/24 18:03:38.00	493462.48	5312931.35	2162.202	5.1	34.564	AST Survey Line 3	20m stop	
01/06/24 18:04:45.00	493462.87	5312935.43	2162.036	5.6	26.602	AST Survey Line 3	go	
01/06/24 18:05:41.00	493469.5	5312953.14	2159.563	6.3	37.289	AST Survey Line 3	20m stop	
01/06/24 18:06:41.00	493471.69	5312960.99	2154.111	11.2	34.601	AST Survey Line 3	go	
01/06/24 18:08:00.00	493481.76	5312984.3	2159.124	5.7	35.329	AST Survey Line 3	20m stop	
01/06/24 18:09:00.00	493478.9	5312984.84	2158.641	6.2	33.545	AST Survey Line 3	go	
01/06/24 18:09:55.00	493484.31	5313001.2	2159.612	5.2	25.249	AST Survey Line 3	20m stop	
01/06/24 18:10:56.00	493485.91	5313005.6	2159.712	5.3	21.416	AST Survey Line 3	go	
01/06/24 18:12:11.00	493494.7	5313027.61	2160.523	5.7	23.121	AST Survey Line 3	20m stop	
01/06/24 18:13:11.00	493493.91	5313027.16	2160.689	5.6	22.721	AST Survey Line 3	go	
01/06/24 18:14:36.00	493505.9	5313050.45	2159.399	5.7	29.582	AST Survey Line 3	20m stop	
01/06/24 18:15:30.00	493505.68	5313051.14	2159.831	5.3	28.651	AST Survey Line 3	go	
01/06/24 18:16:52.00	493513.32	5313073.36	2157.989	6	29.72	AST Survey Line 3	20m stop	
01/06/24 18:17:57.00	493513.68	5313073.81	2157.393	6.5	24.029	AST Survey Line 3	going	
01/06/24 18:19:06.00	493521.74	5313096.37	2155.18	6.2	25.163	AST Survey Line 3	20m stop	
01/06/24 18:20:02.00	493521.96	5313096.24	2155.126	6.3	24.158	AST Survey Line 3	go	
01/06/24 18:21:23.00	493530.26	5313118.61	2156.239	5.6	27.319	AST Survey Line 3	20m stop	
01/06/24 18:22:25.00	493531.55	5313121.57	2156.895	5	26.626	AST Survey Line 3	go	
01/06/24 18:23:47.00	493541.19	5313148.79	2155.474	5.7	27.038	AST Survey Line 3	20m stop	
01/06/24 18:24:48.00	493540.93	5313148.07	2156.106	5.1	25.006	AST Survey Line 3	go	



Date & Time	UTM (X)	UTM (Y)	Depth (m)	Alt. (m)	Heading		Event	
01/06/24 18:26:18.00	493549.37	5313170.64	2156.724	5	27.37	AST Survey Line 3	20m stop	
01/06/24 18:27:18.00	493551.39	5313172.86	2156.864	4.8	24.551	AST Survey Line 3	go	
01/06/24 18:28:38.00	493558.63	5313195.84	2156.751	5.4	24.463	AST Survey Line 3	20m stop	
01/06/24 18:29:39.00	493559.23	5313197.6	2157.331	4.9	24.828	AST Survey Line 3	go	
01/06/24 18:30:56.00	493568.24	5313219.45	2157.256	5.1	27.649	AST Survey Line 3	20m stop	
01/06/24 18:32:00.00	493570.66	5313223.02	2156.899	5.4	21.215	AST Survey Line 3	go	
01/06/24 18:32:46.00	493575.09	5313238.55	2157.331	5.2	26.812	AST Survey Line 3	Geological Features	Fissure
01/06/24 18:32:47.00	493575.09	5313238.55	2157.318	5.1	23.928	AST Survey Line 3	20m stop	
01/06/24 18:32:59.00	493575.09	5313238.55	2157.431	5	24.112	AST Survey Line 3	last station on line 3!!!	
01/06/24 18:33:48.00	493575.1	5313240.01	2157.347	5.1	25.153	AST Survey Line 3	go	
01/06/24 18:33:57.00	493575.1	5313240.01	2156.097	6.4	316.351	AST Survey Line 3	end of Line 3!	
01/06/24 18:34:09.00	493575.86	5313239.99	2153.469	9.1	274.807	AST Survey Line 3	CTD file started 308021	
01/06/24 18:34:20.00	493575.86	5313239.99	2151.269	11.5	301.845	AST Survey Line 3	changing SM 2000 tape	
01/06/24 18:49:04.00	493525.85	5313257.62	2156.809	5.6	218.386	AST Survey Line 3	20m stop	
01/06/24 18:49:53.00	493525.13	5313256.67	2156.589	5.8	217.01	AST Survey Line 3	Starting line 4	
01/06/24 18:50:07.00	493525.13	5313256.67	2156.589	5.8	216.922	AST Survey Line 4	go	
01/06/24 18:50:44.00	493524	5313255.7	2156.516	6.6	217.228	AST Survey Line 4	SM 2000 new file name is 01F24014	
01/06/24 18:51:47.00	493518.06	5313241.49	2156.463	5.2	218.926	AST Survey Line 4	20m stop	
01/06/24 18:52:49.00	493517.95	5313240.02	2156.582	5.1	217.024	AST Survey Line 4	go	
01/06/24 18:55:09.00	493517.96	5313239.96	2156.589	5.1	216.844	AST Survey Line 4	Waiting for Medda	
01/06/24 18:55:24.00	493517.96	5313239.96	2156.582	5.1	216.511	AST Survey Line 4	VID_GRAB	
01/06/24 18:55:54.00	493517.17	5313239.81	2156.649	5	214.201	AST Survey Line 4	VID_GRAB	
01/06/24 18:55:55.00	493517.17	5313239.81	2156.669	4.9	214.966	AST Survey Line 4	go	
01/06/24 18:57:33.00	493512	5313228.28	2156.449	5.4	217.373	AST Survey Line 4	We are doing 60 sec stations	
01/06/24 18:58:33.00	493506.5	5313217.9	2156.31	5.3	219.522	AST Survey Line 4	20m stop	
01/06/24 18:58:37.00	493506.5	5313217.9	2156.285	5.3	217.246	AST Survey Line 4	VID_GRAB	
01/06/24 18:59:39.00	493505.4	5313215.33	2156.429	5.3	215.433	AST Survey Line 4	go	
01/06/24 19:00:12.00	493503.87	5313211.7	2156.359	4.3	217.223	AST Survey Line 4	VID_GRAB	
01/06/24 19:01:01.00	493499.58	5313204.5	2156.292	6.4	216.611	AST Survey Line 4	VID_GRAB	
01/06/24 19:01:06.00	493498.47	5313197.37	2156.346	6.6	214.442	AST Survey Line 4	20m stop	
01/06/24 19:02:01.00	493499.1	5313197.69	2156.239	6.6	217.091	AST Survey Line 4	go	
01/06/24 19:03:52.00	493497.46	5313179.34	2156.259	7.3	218.555	AST Survey Line 4	VID_GRAB	
01/06/24 19:03:54.00	493497.46	5313179.34	2156.259	7.3	217.23	AST Survey Line 4	20m stop	
01/06/24 19:04:49.00	493496.28	5313178.14	2156.313	7.2	216.536	AST Survey Line 4	go	
01/06/24 19:07:20.00	493492.14	5313161.39	2156.146	7.1	217.069	AST Survey Line 4	20m stop	
01/06/24 19:08:21.00	493489.79	5313155.17	2156.206	7.2	214.203	AST Survey Line 4	go	

Date & Time	UTM (X)	UTM (Y)	Depth (m)	Alt. (m)	Heading		Event	
01/06/24 19:09:41.00	493484.35	5313134.43	2156.215	7	216.004	AST Survey Line 4	20m stop	
01/06/24 19:10:42.00	493482.9	5313130.21	2156.186	6.9	214.041	AST Survey Line 4	go	
01/06/24 19:11:57.00	493478.35	5313110.01	2156.418	6.2	218.011	AST Survey Line 4	20m stop	
01/06/24 19:12:57.00	493476.36	5313104.51	2156.239	6.5	214.818	AST Survey Line 4	go	
01/06/24 19:15:06.00	493462.22	5313083.4	2156.298	5.8	214.295	AST Survey Line 4	20m stop	
01/06/24 19:15:38.00	493462.56	5313082.55	2156.259	5.8	214.177	AST Survey Line 4	go	
01/06/24 19:16:36.00	493457.59	5313069.51	2156.341	6.1	212.377	AST Survey Line 4	20m stop	
01/06/24 19:17:34.00	493457.14	5313066.07	2156.175	6.3	214.375	AST Survey Line 4	go	
01/06/24 19:18:52.00	493452.65	5313056.25	2156.246	6.3	213.172	AST Survey Line 4	20m stop	
01/06/24 19:19:53.00	493449.53	5313046.85	2156.146	6.4	213.515	AST Survey Line 4	go	
01/06/24 19:20:43.00	493446.61	5313037.06	2156.259	6.2	214.967	AST Survey Line 4	20m stop	
01/06/24 19:21:45.00	493444.4	5313028.46	2156.173	6.2	211.089	AST Survey Line 4	go	
01/06/24 19:22:45.00	493437.42	5313012.3	2156.313	6.7	217.037	AST Survey Line 4	20m stop	
01/06/24 19:23:13.00	493437.02	5313010.53	2156.279	6.8	214.075	AST Survey Line 4	go	
01/06/24 19:23:14.00	493437.02	5313010.53	2156.285	6.8	214.204	AST Survey Line 4		
01/06/24 19:25:05.00	493431.95	5312996.47	2156.272	7.7	214.967	AST Survey Line 4	20m stop	
01/06/24 19:26:13.00	493429.94	5312988.11	2156.186	7.9	212.629	AST Survey Line 4	go	
01/06/24 19:27:47.00	493425.3	5312969.48	2157.394	6.6	213.269	AST Survey Line 4	VID_GRAB	
01/06/24 19:28:23.00	493425.38	5312967.61	2158.321	4.8	212.873	AST Survey Line 4	20m stop	
01/06/24 19:29:24.00	493422.07	5312962.23	2157.733	4.5	211.941	AST Survey Line 4	go	
01/06/24 19:31:18.00	493411.73	5312944.51	2163.897	5.4	212.827	AST Survey Line 4	20m stop	
01/06/24 19:32:14.00	493409.9	5312933	2163.504	5.8	212.832	AST Survey Line 4	go	
01/06/24 19:33:47.00	493402.46	5312904.48	2166.543	6.2	213.716	AST Survey Line 4	20m stop	
01/06/24 19:34:51.00	493403.4	5312904.29	2165.799	6.9	207.457	AST Survey Line 4	go	
01/06/24 19:35:51.00	493390.44	5312889.76	2166.045	7.4	217.1	AST Survey Line 4	20m stop	
01/06/24 19:36:50.00	493388.4	5312888.02	2165.785	7.4	214.196	AST Survey Line 4	go	
01/06/24 19:38:16.00	493382.17	5312864.97	2169.803	6.9	214.593	AST Survey Line 4	20m stop	
01/06/24 19:40:32.00	493376.65	5312844.33	2169.456	8.1	206.513	AST Survey Line 4	go	
01/06/24 19:40:39.00	493376.65	5312844.33	2169.403	8.5	215.481	AST Survey Line 4	20m stop	
01/06/24 19:41:43.00	493373.61	5312836.3	2169.281	8.4	214.012	AST Survey Line 4	go	
01/06/24 19:42:48.00	493368.5	5312816.63	2169.248	5.7	214.321	AST Survey Line 4	20m stop	
01/06/24 19:43:48.00	493369.07	5312814.67	2169.062	6.1	213.545	AST Survey Line 4	go	
01/06/24 19:44:49.00	493362.48	5312798.28	2169.274	3.7	217.602	AST Survey Line 4	20m stop	
01/06/24 19:45:00.00	493362.48	5312798.28	2169.374	4.7	213.174	AST Survey Line 4	VID_GRAB	
01/06/24 19:45:49.00	493363.09	5312796.91	2169.168	4.8	213.422	AST Survey Line 4	go	
01/06/24 19:46:48.00	493357.32	5312779.3	2169.572	9	212.516	AST Survey Line 4	20m stop	

Date & Time	UTM (X)	UTM (Y)	Depth (m)	Alt. (m)	Heading		Event	
01/06/24 19:47:52.00	493355.75	5312775.51	2169.279	9.2	213.005	AST Survey Line 4	gogo	
01/06/24 19:48:55.00	493346.76	5312760.97	2169.299	7.1	219.339	AST Survey Line 4	20m stop	
01/06/24 19:49:05.00	493346.76	5312760.97	2169.266	7.7	211.773	AST Survey Line 4	VID_GRAB	
01/06/24 19:49:59.00	493344.29	5312756.05	2169.126	7.5	208.271	AST Survey Line 4	go	
01/06/24 19:50:54.00	493338.79	5312740.31	2169.445	3.5	205.534	AST Survey Line 4	VID_GRAB	
01/06/24 19:51:01.00	493338.79	5312740.31	2168.387	3.5	213.642	AST Survey Line 4	VID_GRAB	
01/06/24 19:51:07.00	493338.79	5312740.31	2167.383	4.3	213.095	AST Survey Line 4	20m stop	
01/06/24 19:51:30.00	493334.54	5312730.27	2168.036	3.8	213.071	AST Survey Line 4	VID_GRAB	
01/06/24 19:51:34.00	493334.54	5312730.27	2168.042	3.8	213.41	AST Survey Line 4	VID_GRAB	
01/06/24 19:51:38.00	493334.54	5312730.27	2168.042	3.8	213.244	AST Survey Line 4	VID_GRAB	
01/06/24 19:51:41.00	493334.54	5312730.27	2168.029	3.8	213.192	AST Survey Line 4	VID_GRAB	
01/06/24 19:51:45.00	493334.54	5312730.27	2168.022	3.8	213.244	AST Survey Line 4	VID_GRAB	
01/06/24 19:52:08.00	493334.59	5312731.08	2168.009	3.8	213.152	AST Survey Line 4	go	
01/06/24 19:52:47.00	493332.65	5312727.65	2164.164	4.3	212.924	AST Survey Line 4	VID_GRAB	
01/06/24 19:53:13.00	493330.03	5312722.06	2161.212	3.4	203.376	AST Survey Line 4	Hydrothermal alteration, staining	
01/06/24 19:53:16.00	493330.03	5312722.06	2160.819	3.7	203.719	AST Survey Line 4	VID_GRAB	
01/06/24 19:53:19.00	493330.03	5312722.06	2160.421	3.8	196.086	AST Survey Line 4	VID_GRAB	
01/06/24 19:53:50.00	493329.95	5312715.83	2156.358	5.6	191.092	AST Survey Line 4	VID_GRAB	
01/06/24 19:53:54.00	493329.95	5312715.83	2156.053	5.8	192.332	AST Survey Line 4	VID_GRAB	
01/06/24 19:54:07.00	493331.04	5312707.86	2156.398	8.8	208.642	AST Survey Line 4	Black Smoker	
01/06/24 19:54:16.00	493331.04	5312707.86	2156.385	10.4	201.055	AST Survey Line 4	tubeworms	
01/06/24 19:54:45.00	493331.04	5312707.86	2156.702	12.3	205.492	AST Survey Line 4	20m stop	
01/06/24 19:55:14.00	493327.35	5312696.93	2156.569	13	199.757	AST Survey Line 4	go	
01/06/24 19:59:01.00	493312.26	5312649.74	2163.393	13.1	307.903	AST Survey Line 4	VID_GRAB	
01/06/24 19:59:30.00	493303.63	5312653	2165.439	14	214.585	AST Survey Line 4	20m stop	
01/06/24 19:59:57.00	493303.63	5312653	2165.027	14.1	210.855	AST Survey Line 4	go	
01/06/24 20:00:39.00	493300.8	5312643.16	2164.532	19.8	202.708	AST Survey Line 4	20m stop	
01/06/24 20:01:30.00	493300.62	5312635.66	2164.378	19.6	207.608	AST Survey Line 4	go	
01/06/24 20:03:57.00	493295.86	5312599.18	2171.261	9.7	210.327	AST Survey Line 4	20m stop	
01/06/24 20:04:55.00	493288.32	5312595.37	2170.996	10.1	208.678	AST Survey Line 4	go	
01/06/24 20:06:22.00	493278.67	5312573.82	2171.125	8.8	208.875	AST Survey Line 4	20m stop	
01/06/24 20:07:26.00	493277.98	5312567.63	2171.101	8.9	200.947	AST Survey Line 4	go	
01/06/24 20:08:07.00	493273.78	5312551.36	2171.131	9.2	212.052	AST Survey Line 4	20m stop	
01/06/24 20:09:28.00	493272.46	5312545.85	2171.78	9.5	199.613	AST Survey Line 4	go	
01/06/24 20:10:34.00	493266.17	5312526.03	2172.618	9.5	216.089	AST Survey Line 4	20m stop	
01/06/24 20:11:34.00	493263.72	5312522.93	2172.323	9.9	205.097	AST Survey Line 4	go	

Date & Time	UTM (X)	UTM (Y)	Depth (m)	Alt. (m)	Heading		Event	
01/06/24 20:12:55.00	493261.78	5312521.11	2172.83	10.2	215.004	AST Survey Line 4	20m stop	
01/06/24 20:13:31.00	493255.29	5312500.45	2172.545	10.4	212.325	AST Survey Line 4	good fix, the last was bad fix	
01/06/24 20:13:59.00	493255.29	5312500.45	2172.396	10.6	211.185	AST Survey Line 4	go	
01/06/24 20:14:57.00	493251.31	5312493.01	2172.445	10.5	211.824	AST Survey Line 4	20m stop	
01/06/24 20:15:55.00	493249.24	5312489.89	2172.428	10.7	211.844	AST Survey Line 4	go	
01/06/24 20:16:51.00	493245.01	5312473.21	2172.569	9.2	211.785	AST Survey Line 4	20m stop	
01/06/24 20:17:49.00	493245.74	5312469.63	2172.363	9.2	210.973	AST Survey Line 4	go	
01/06/24 20:19:10.00	493235.07	5312448.45	2173.849	7.2	212.616	AST Survey Line 4	20m stop	
01/06/24 20:20:11.00	493235.46	5312448.96	2173.469	7.6	212.146	AST Survey Line 4	go	
01/06/24 20:21:07.00	493228.77	5312433.91	2173.955	5.8	216.964	AST Survey Line 4	20m stop	
01/06/24 20:22:08.00	493227.8	5312431.73	2173.622	7.8	211.859	AST Survey Line 4	go	
01/06/24 20:23:18.00	493225.37	5312423.08	2173.749	8.4	217.624	AST Survey Line 4	20m stop	
01/06/24 20:24:19.00	493223.52	5312415.36	2173.452	8.6	211.461	AST Survey Line 4	go	
01/06/24 20:25:06.00	493217.68	5312406.49	2175.432	5.3	210.99	AST Survey Line 4	VID_GRAB	
01/06/24 20:25:14.00	493217.68	5312406.49	2175.378	4	211.427	AST Survey Line 4	VID_GRAB	
01/06/24 20:25:17.00	493217.68	5312406.49	2175.353	3.9	212.297	AST Survey Line 4	VID_GRAB	
01/06/24 20:25:26.00	493216.14	5312401.69	2175.265	2.7	212.534	AST Survey Line 4	20m stop	
01/06/24 20:26:26.00	493214.82	5312399.66	2175.049	4	211.868	AST Survey Line 4	go	
01/06/24 20:27:08.00	493214.47	5312396.38	2175.169	3.6	211.389	AST Survey Line 4	VID_GRAB	
01/06/24 20:27:47.00	493209.62	5312381.37	2174.59	4.4	202.439	AST Survey Line 4	VID_GRAB	
01/06/24 20:28:58.00	493208.65	5312373.6	2174.669	4.2	209.409	AST Survey Line 4	20m stopgo	
01/06/24 20:29:20.00	493208.65	5312373.6	2173.542	4	217.473	AST Survey Line 4	That was a minute stop between stop and go	
01/06/24 20:29:48.00	493200.96	5312362.36	2173.478	3.7	211.301	AST Survey Line 4	VID_GRAB	
01/06/24 20:30:09.00	493200.96	5312362.36	2173.525	3.7	213.017	AST Survey Line 4	20m stop	
01/06/24 20:31:07.00	493196.41	5312354.69	2173.418	5.2	211.435	AST Survey Line 4	go	
01/06/24 20:31:46.00	493192.05	5312339.81	2173.691	4.7	203.561	AST Survey Line 4	hydrothermal staining	
01/06/24 20:31:50.00	493192.05	5312339.81	2173.685	4.8	209.987	AST Survey Line 4	VID_GRAB	
01/06/24 20:31:53.00	493192.05	5312339.81	2173.685	4.8	207.429	AST Survey Line 4	20m stop	
01/06/24 20:32:36.00	493192.13	5312335.62	2173.551	5	210.705	AST Survey Line 4	VID_GRAB	
01/06/24 20:32:49.00	493191.37	5312336.34	2173.512	5	210.839	AST Survey Line 4	go	
01/06/24 20:33:05.00	493191.37	5312336.34	2173.717	4.7	201.258	AST Survey Line 4	VID_GRAB	
01/06/24 20:33:32.00	493187.21	5312325.98	2173.717	4.5	214.909	AST Survey Line 4	20m stop	
01/06/24 20:33:57.00	493186.67	5312321.2	2173.611	4.7	209.14	AST Survey Line 4	go	
01/06/24 20:34:50.00	493180.27	5312306.08	2172.088	5.5	212.212	AST Survey Line 4	20m stop	
01/06/24 20:35:48.00	493181.21	5312303.9	2172.727	4.9	207.905	AST Survey Line 4	go	

Date & Time	UTM (X)	UTM (Y)	Depth (m)	Alt. (m)	Heading		Event	
01/06/24 20:36:32.00	493177.14	5312292.75	2172.839	4.8	215.087	AST Survey Line 4	20m stop	
01/06/24 20:37:31.00	493174.42	5312289.27	2172.767	4.6	210.603	AST Survey Line 4	go	
01/06/24 20:39:37.00	493168.37	5312268.94	2172.826	5.2	212.53	AST Survey Line 4	20m stop	
01/06/24 20:40:36.00	493167.79	5312266.72	2172.787	6.3	210.68	AST Survey Line 4	go	
01/06/24 20:41:16.00	493164.44	5312259.51	2172.879	8.1	210.821	AST Survey Line 4	20m stop	
01/06/24 20:42:17.00	493162.75	5312252.04	2172.72	8.5	210.44	AST Survey Line 4	go	
01/06/24 20:43:40.00	493151.96	5312229.47	2172.773	6.2	208.474	AST Survey Line 4	20m stop	
01/06/24 20:44:37.00	493148.57	5312222.89	2172.806	6.3	209.62	AST Survey Line 4	go	
01/06/24 20:45:47.00	493137.65	5312205.79	2172.387	3.6	212.992	AST Survey Line 4	VID_GRAB	
01/06/24 20:45:52.00	493137.65	5312205.79	2172.467	3.6	210.604	AST Survey Line 4	20m stop	
01/06/24 20:45:55.00	493137.65	5312205.79	2172.582	3.5	209.208	AST Survey Line 4	VID_GRAB	
01/06/24 20:46:47.00	493137.98	5312203.62	2172.733	3.3	210.742	AST Survey Line 4	go	
01/06/24 20:48:13.00	493133.64	5312182.15	2172.716	5.4	208.859	AST Survey Line 4	20m stop	
01/06/24 20:49:15.00	493132.22	5312179.73	2172.767	5.2	206.694	AST Survey Line 4	go	
01/06/24 20:50:22.00	493122.77	5312163.31	2172.819	5.7	209.215	AST Survey Line 4	20m stop	
01/06/24 20:51:21.00	493121.67	5312156.85	2172.693	5.8	206.531	AST Survey Line 4	go	
01/06/24 20:52:18.00	493116.73	5312151.56	2172.853	6	212.446	AST Survey Line 4	20m stop	
01/06/24 20:52:22.00	493116.73	5312151.56	2172.806	6	213.113	AST Survey Line 4	bad fix	
01/06/24 20:53:20.00	493111.88	5312136.77	2172.839	6.1	210.454	AST Survey Line 4	go	
01/06/24 20:54:27.00	493104.02	5312121.62	2172.78	5	212.45	AST Survey Line 4	20m stop	
01/06/24 20:54:41.00	493104.02	5312121.62	2172.78	4.8	209.2	AST Survey Line 4	VID_GRAB	
01/06/24 20:55:28.00	493103.71	5312118.79	2172.693	4.8	209.321	AST Survey Line 4	go	
01/06/24 20:55:39.00	493103.71	5312118.79	2172.747	4.5	202.981	AST Survey Line 4	VID_GRAB	
01/06/24 20:56:59.00	493092.16	5312098.05	2172.78	5.8	214.299	AST Survey Line 4	20m stop	
01/06/24 20:58:01.00	493090.03	5312095.03	2172.673	5.8	210.529	AST Survey Line 4	go	
01/06/24 20:58:48.00	493083.7	5312082.44	2172.767	5.2	214.561	AST Survey Line 4	20m stop	
01/06/24 20:59:49.00	493082.17	5312079.74	2172.686	5.6	214.223	AST Survey Line 4	go	
01/06/24 21:00:56.00	493079.93	5312068.53	2172.68	5.8	211.36	AST Survey Line 4	VID_GRAB	
01/06/24 21:01:55.00	493076.77	5312053.69	2172.735	5.7	215.533	AST Survey Line 4	20m stop	
01/06/24 21:02:53.00	493075.23	5312051.01	2172.713	5.7	215.424	AST Survey Line 4	go	
01/06/24 21:04:22.00	493072.83	5312037.29	2172.629	4.4	201.376	AST Survey Line 4	20m stop	
01/06/24 21:04:28.00	493071.26	5312023.97	2172.576	4.4	197.668	AST Survey Line 4	bad fix	
01/06/24 21:04:36.00	493071.26	5312023.97	2172.629	4.3	197.532	AST Survey Line 4	good fix	
01/06/24 21:05:24.00	493070.45	5312023.52	2172.696	4.3	199.937	AST Survey Line 4	go	
01/06/24 21:06:50.00	493069.97	5312004.95	2172.862	5.2	202.138	AST Survey Line 4	20m stop	
01/06/24 21:07:49.00	493069.83	5312002.92	2172.569	5.4	199.695	AST Survey Line 4	go	

Date & Time	UTM (X)	UTM (Y)	Depth (m)	Alt. (m)	Heading		Event	
01/06/24 21:09:10.00	493063	5311979.94	2172.809	6.7	196.024	AST Survey Line 4	20m stop	
01/06/24 21:10:09.00	493064.03	5311976.34	2172.782	6.7	199.314	AST Survey Line 4	go	
01/06/24 21:11:20.00	493057.59	5311962.19	2172.602	8	199.915	AST Survey Line 4	20m stop	
01/06/24 21:12:17.00	493055.1	5311955.45	2172.809	7.9	199.281	AST Survey Line 4	go	
01/06/24 21:13:22.00	493051.59	5311944.5	2172.702	8.3	200.05	AST Survey Line 4	20m stop	
01/06/24 21:14:24.00	493049.71	5311936.02	2172.758	8.4	199.225	AST Survey Line 4	go	
01/06/24 21:15:31.00	493045.21	5311920.73	2175.972	5.5	204.516	AST Survey Line 4	20m stop	
01/06/24 21:16:32.00	493046.82	5311919.19	2175.819	5.9	197.651	AST Survey Line 4	go	
01/06/24 21:18:12.00	493034.57	5311889.28	2175.832	6.4	200.206	AST Survey Line 4	20m stop	
01/06/24 21:19:14.00	493034.63	5311888.04	2175.985	6.2	213.998	AST Survey Line 4	go	
01/06/24 21:20:38.00	493027.87	5311870.44	2176.105	5.6	212.688	AST Survey Line 4	20m stop	
01/06/24 21:21:41.00	493038.33	5311867.48	2175.907	5.6	211.971	AST Survey Line 4	go	
01/06/24 21:22:53.00	493012.48	5311855.67	2173.975	3.3	214.081	AST Survey Line 4	20m stop	
01/06/24 21:23:16.00	493011.89	5311851.82	2174.237	2.9	211.946	AST Survey Line 4	VID_GRAB	
01/06/24 21:23:55.00	493013.78	5311850.88	2174.264	2.9	211.5	AST Survey Line 4	go	
01/06/24 21:24:10.00	493012.68	5311848.69	2174.43	3.4	202.179	AST Survey Line 4	VID_GRAB	
01/06/24 21:24:41.00	493010.27	5311843.02	2174.144	4.2	202.569	AST Survey Line 4	VID_GRAB	
01/06/24 21:24:55.00	493009.73	5311836.72	2174.323	4.2	214.306	AST Survey Line 4	20m stop	
01/06/24 21:25:56.00	493010.47	5311830.84	2174.186	4.9	211.879	AST Survey Line 4	go	
01/06/24 21:26:19.00	493010.1	5311830.66	2174.532	4.2	214.623	AST Survey Line 4	VID_GRAB	
01/06/24 21:26:55.00	493001.24	5311819.63	2173.614	5.5	214.405	AST Survey Line 4	20m stop	
01/06/24 21:27:07.00	493000.24	5311814.17	2173.98	5.1	211.314	AST Survey Line 4	VID_GRAB	
01/06/24 21:27:55.00	492999.88	5311815.23	2173.873	5.4	211.43	AST Survey Line 4	VID_GRAB	go
01/06/24 21:28:59.00	492998.87	5311801	2174.688	10.8	198.12	AST Survey Line 4	20m stop	
01/06/24 21:29:15.00	492998.87	5311801	2174.421	10.9	195.853	AST Survey Line 4	bad fix	
01/06/24 21:29:24.00	492998.87	5311801	2174.253	11	195.474	AST Survey Line 4	Medda bad fix	
01/06/24 21:29:33.00	493002.29	5311794.48	2174.168	11.1	195.688	AST Survey Line 4	good fix	
01/06/24 21:30:02.00	493000.11	5311794.75	2173.111	12.4	195.885	AST Survey Line 4	go	
01/06/24 21:32:06.00	492986.81	5311780.9	2170.887	7.7	217.792	AST Survey Line 4	VID_GRAB	
01/06/24 21:32:09.00	492986.81	5311780.9	2170.909	6.5	213.256	AST Survey Line 4	VID_GRAB	
01/06/24 21:32:16.00	492986.81	5311780.9	2170.913	4.3	218.091	AST Survey Line 4	20m stop	
01/06/24 21:33:17.00	492984.15	5311781.19	2170.656	4.6	221.377	AST Survey Line 4	go	
01/06/24 21:34:23.00	492977.38	5311770.51	2170.742	5.5	224.385	AST Survey Line 4	20m stop	
01/06/24 21:35:24.00	492974.46	5311762.88	2170.769	5.2	220.841	AST Survey Line 4	go	
01/06/24 21:36:37.00	492967.22	5311747.59	2172.951	8.3	222.793	AST Survey Line 4	20m stop	
01/06/24 21:37:39.00	492964.78	5311742.52	2172.758	8.4	217.046	AST Survey Line 4	go	

Date & Time	UTM (X)	UTM (Y)	Depth (m)	Alt. (m)	Heading		Event	
01/06/24 21:38:26.00	492963.48	5311733.73	2177.375	4	211.698	AST Survey Line 4	VID_GRAB	
01/06/24 21:39:30.00	492959.73	5311718.18	2177.881	7.5	221.898	AST Survey Line 4	20m stop	
01/06/24 21:40:31.00	492959.5	5311715.1	2177.568	7.7	220.48	AST Survey Line 4	go	
01/06/24 21:41:43.00	492961.01	5311699.92	2182.307	7.2	223.713	AST Survey Line 4	20m stop	
01/06/24 21:42:45.00	492953.79	5311698.9	2182.275	7.2	220.691	AST Survey Line 4	go	
01/06/24 21:43:21.00	492955.48	5311698.89	2182.46	5.1	211.97	AST Survey Line 4	VID_GRAB	
01/06/24 21:43:29.00	492956.93	5311692.95	2182.416	3.6	214.866	AST Survey Line 4	VID_GRAB	
01/06/24 21:43:40.00	492956.93	5311692.95	2181.504	4.2	208.659	AST Survey Line 4	VID_GRAB	
01/06/24 21:44:09.00	492958.56	5311686.16	2181.743	5.2	204.859	AST Survey Line 4	VID_GRAB	
01/06/24 21:44:53.00	492954.07	5311673.39	2183.085	5.2	215.117	AST Survey Line 4	20m stop	
01/06/24 21:45:47.00	492956.13	5311671.7	2182.436	5.7	213.239	AST Survey Line 4	go	
01/06/24 21:47:10.00	492946.66	5311650.21	2182.842	7.8	214.417	AST Survey Line 4	20m stop	
01/06/24 21:48:09.00	492945.51	5311649.41	2182.635	7.4	213.689	AST Survey Line 4	go	
01/06/24 21:48:16.00	492945.51	5311649.41	2182.611	7.5	211.208	AST Survey Line 4	End of survey	
01/06/24 21:52:42.00	492915.57	5311594.37	2117.758	30	222.575	YA,YA,YA.		
01/06/24 21:53:59.00	492903.77	5311581.93	2098.461	30	211.422	transeting to clambded to get Mav 55 and to deply the hobos		
01/06/24 22:05:40.00	492974.32	5311671.45	2094.465	30	186.011	VID_GRAB		
01/06/24 22:39:43.00	493168.88	5312189.86	2178.999	6.6	296.875	VID_GRAB		
01/06/24 22:39:48.00	493166.09	5312191.73	2179.398	6	316.788	Can see Mav 55		
01/06/24 22:40:14.00	493161.76	5312194.28	2181.594	3.5	315.963	This is not Mav 55		
01/06/24 22:41:02.00	493163.3	5312195.35	2180.662	5.8	155.153	That was Mav 49		
01/06/24 22:41:26.00	493165.17	5312195.45	2183.178	4.8	165.342	VID_GRAB		
01/06/24 22:41:38.00	493165.17	5312195.45	2184.483	5.2	137.994	VID_GRAB		
01/06/24 22:41:55.00	493175.88	5312186.46	2183.93	4.6	128.275	Looking for red tubeworms		
01/06/24 22:46:34.00	493190.96	5312191.53	2183.124	6	279.777	Matt is on watch		
01/06/24 22:53:12.00	493164.55	5312191.1	2184.469	1.7	183.188		VID_GRAB	Look at that
01/06/24 22:54:37.00	493164.55	5312191.1	2186.912	30	195.389		We are at Mav55 site and are deploying	
							the LowTemp Hobos	
01/06/24 22:58:36.00	493164.55	5312191.1	2187.1	30	193.676		VID_GRAB	working on
							deploying hobos on "back" side of rock	
01/06/24 22:59:46.00	493164.55	5312191.1	2187.175	1.6	193.794		VID_GRAB	Lookie there hobo
								deployed
01/06/24 23:03:45.00	493164.55	5312191.1	2187.161	30	193.315		Hobo 33 deployed	
01/06/24 23:08:45.00	493165.97	5312189.42	2182.829	4.1	224.464		a date of the hot redhed	
01/06/24 23:10:43.00	493170.83	5312184.78	2186.628	30	347.373		VID_GRAB	
01/06/24 23:11:10.00	493170.83	5312184.78	2186.678	0.7	348.303			Error

Date & Time	UTM (X)	UTM (Y)	Depth (m)	Alt. (m)	Heading		Event	
							a date with a hot red head	
01/06/24 23:12:12.00	493170.83	5312184.78	2186.634	0.8	349.608		VID_GRAB	deploying hobo 35
01/06/24 23:12:55.00	493170.83	5312184.78	2186.658	0.7	348.797		VID_GRAB	deploying hobo
01/06/24 23:13:49.00	493170.83	5312184.78	2185.999	1.3	347.689		South side of rock	
01/06/24 23:13:56.00	493170.83	5312184.78	2184.834	2.6	349.251		VID_GRAB	
01/06/24 23:13:58.00	493170.83	5312184.78	2184.568	2.9	348.277		VID_GRAB	
01/06/24 23:14:06.00	493165.69	5312182.14	2183.643	4.4	332.48		VID_GRAB	
01/06/24 23:14:13.00	493165.69	5312182.14	2183.609	4.6	337.756		VID_GRAB	
01/06/24 23:16:50.00	493164.41	5312206.78	2181.191	2.6	190.832		VID_GRAB	
01/06/24 23:17:01.00	493164.41	5312206.78	2181.164	2.3	192.886		VID_GRAB	
01/06/24 23:17:13.00	493161.65	5312206.39	2181.158	3.2	179.866		VID_GRAB	
01/06/24 23:18:34.00	493154.05	5312201.94	2183.304	1.3	133.389		VID_GRAB	spider and mav
								10049
01/06/24 23:20:33.00	493154.02	5312201.73	2184.281	30	138.281		VID_GRAB	
01/06/24 23:20:34.00	493154.02	5312201.73	2184.349	30	137.287		VID_GRAB	
01/06/24 23:20:43.00	493154.02	5312201.73	2184.302	30	139.831		VID_GRAB	
01/06/24 23:21:01.00	493154.02	5312201.73	2184.328	2	141.426		VID_GRAB	
01/06/24 23:21:16.00	493154.02	5312201.73	2184.315	30	142.214		VID_GRAB	
01/06/24 23:21:28.00	493154.02	5312201.73	2184.337	30	142.375		VID_GRAB	
01/06/24 23:21:37.00	493154.02	5312201.73	2184.342	30	142.503		VID_GRAB	
01/06/24 23:22:00.00	493154.02	5312201.73	2184.357	30	142.059		VID_GRAB	
01/06/24 23:22:20.00	493154.02	5312201.73	2183.838	0.8	144.351		VID_GRAB	
01/06/24 23:24:13.00	493156.27	5312200	2182.718	1.9	147.92		spidey recovered	
01/06/24 23:30:58.00	493164.23	5312188.79	2181.099	4.4	154.473		spidey deployed	
01/06/24 23:32:29.00	493163.04	5312187.31	2184.553	2.2	223.543		219 orientation	
01/06/24 23:33:13.00	493154.71	5312189.14	2184.722	1.6	200.952		VID_GRAB	
01/06/24 23:33:39.00	493154.71	5312189.14	2183.894	2.2	200.785			Error
							correct orientation 208	
01/06/24 23:34:08.00	493154.71	5312189.14	2183.011	3.4	189.888		VID_GRAB	we are now looking
								for 33
01/06/24 23:34:12.00	493154.71	5312189.14	2182.898	3.6	190.492		VID_GRAB	
01/06/24 23:34:28.00	493166.71	5312194.89	2181.527	5.5	196.727		VID_GRAB	
01/06/24 23:34:56.00	493165.55	5312196.06	2179.943	7.3	206.924		VID_GRAB	
01/06/24 23:35:10.00	493171.72	5312195.38	2179.877	8.8	225.537		VID_GRAB	
01/06/24 23:35:19.00	493171.72	5312195.38	2179.997	9.2	233.554		VID_GRAB	
01/06/24 23:35:38.00	493175.52	5312194.64	2179.81	6.7	238.087		Chris wants lots of framegrabs, so	



Date & Time	UTM (X)	UTM (Y)	Depth (m)	Alt. (m)	Heading		Event	
							here we go	
01/06/24 23:35:40.00	493175.52	5312194.64	2179.784	6.8	238.542		VID_GRAB	
01/06/24 23:35:46.00	493170.46	5312190.09	2180.07	6.6	247.644		VID_GRAB	
01/06/24 23:35:53.00	493170.46	5312190.09	2179.97	7	258.476		VID_GRAB	
01/06/24 23:36:03.00	493170.46	5312190.09	2179.81	7.7	260.248		VID_GRAB	
01/06/24 23:36:10.00	493172.34	5312187.87	2179.618	8.2	271.061		VID_GRAB	
01/06/24 23:36:17.00	493172.34	5312187.87	2179.342	9.4	292.395		VID_GRAB	
01/06/24 23:36:48.00	493169.59	5312183.66	2179.641	8.6	328.074		VID_GRAB	
01/06/24 23:37:07.00	493169.59	5312183.66	2180.202	7.2	349.746		VID_GRAB	
01/06/24 23:37:24.00	493169.59	5312183.66	2180.274	7.1	20.041		VID_GRAB	
01/06/24 23:37:44.00	493165.2	5312182.96	2180.202	6.2	22.793		VID_GRAB	
01/06/24 23:37:57.00	493164.35	5312183.3	2180.4	5.6	36.641		VID_GRAB	
01/06/24 23:38:07.00	493161.57	5312182.38	2180.514	5.4	52.782		VID_GRAB	
01/06/24 23:38:18.00	493161.57	5312182.38	2181.033	3.9	60.437		VID_GRAB	
01/06/24 23:38:33.00	493160.5	5312184.52	2180.726	3.2	97.019		VID_GRAB	
01/06/24 23:39:02.00	493160.2	5312188.11	2180.547	4.7	137.23		VID_GRAB	
01/06/24 23:39:15.00	493163.19	5312191.64	2180.454	5.3	165.316		VID_GRAB	
01/06/24 23:39:26.00	493165.65	5312194.06	2180.507	5.9	180.138		VID_GRAB	
01/06/24 23:39:35.00	493165.65	5312194.06	2180.813	5.6	194.48		VID_GRAB	
01/06/24 23:39:46.00	493165.65	5312194.06	2181.365	4.8	220.638			
01/06/24 23:39:49.00	493165.65	5312194.06	2181.093	5.1	220.452		VID_GRAB	
01/06/24 23:40:02.00	493165.65	5312194.06	2181.471	5.5	243.266		VID_GRAB	
01/06/24 23:40:13.00	493172.78	5312190.56	2181.452	5.8	264.083		VID_GRAB	
01/06/24 23:40:24.00	493172.78	5312190.56	2182.224	6.1	270.049		VID_GRAB	
01/06/24 23:40:39.00	493171.79	5312189.23	2181.678	7.6	279.826		VID_GRAB	
01/06/24 23:40:47.00	493174.17	5312184.91	2181.478	8.8	308.871		VID_GRAB	
01/06/24 23:40:57.00	493174.17	5312184.91	2182.057	8.1	310.468		VID_GRAB	
01/06/24 23:41:35.00	493171.92	5312180.87	2182.476	6.7	332.983		VID_GRAB	how tilted is the
								mav?
01/06/24 23:41:39.00	493171.92	5312180.87	2182.356	6.4	342.793		VID_GRAB	
01/06/24 23:41:52.00	493171.92	5312180.87	2182.09	5.7	345.325		VID_GRAB	
01/06/24 23:42:00.00	493171.92	5312180.87	2181.924	5.6	350.926		VID_GRAB	
01/06/24 23:42:06.00	493163.21	5312179.21	2181.805	5.6	355.127		VID_GRAB	
01/06/24 23:42:22.00	493163.21	5312179.21	2182.171	5.5	8.701		VID_GRAB	
01/06/24 23:42:35.00	493163.21	5312179.21	2181.711	6.5	14.2		VID_GRAB	
01/06/24 23:43:14.00	493166.21	5312174.66	2180.719	6.3	23.553		proceeding to the north end of the survey	

Date & Time	UTM (X)	UTM (Y)	Depth (m)	Alt. (m)	Heading		Event	
01/06/24 23:43:16.00	493166.21	5312174.66	2180.687	6.5	23.416		VID_GRAB	
01/06/24 23:43:27.00	493165.69	5312176.54	2180.772	6.7	15.011		VID_GRAB	
01/06/24 23:43:39.00	493165.69	5312176.54	2180.78	5.7	15.698		VID_GRAB	
01/06/24 23:44:09.00	493166.74	5312194.64	2179.994	6.4	20.487		VID_GRAB	
01/06/24 23:44:16.00	493166.74	5312194.64	2180.034	7.3	17.081		VID_GRAB	
01/06/24 23:44:29.00	493160.39	5312202.58	2179.601	7.5	24.645		VID_GRAB	
01/06/24 23:44:52.00	493174.13	5312208.88	2179.269	8	22.18		VID_GRAB	
01/06/24 23:45:33.00	493174.1	5312209.78	2179.269	8.6	87.489		VID_GRAB	
01/06/24 23:45:43.00	493174.1	5312209.78	2179.329	8.9	87.9		VID_GRAB	
01/06/24 23:45:53.00	493168.87	5312210.28	2179.245	10.1	92.967		VID_GRAB	
01/06/24 23:45:59.00	493168.87	5312210.28	2179.184	10.8	95.386		VID_GRAB	
01/06/24 23:46:11.00	493184.36	5312212.25	2179.152	11	95.855		VID_GRAB	
01/06/24 23:46:31.00	493185.94	5312211.64	2179.252	11.1	93.929		VID_GRAB	
01/06/24 23:46:39.00	493185.94	5312211.64	2179.258	11.1	94.476		VID_GRAB	
01/06/24 23:46:49.00	493186.01	5312212.09	2179.252	11.2	94.973		VID_GRAB	
01/06/24 23:47:30.00	493187.12	5312212.04	2179.247	11.5	99.573		VID_GRAB	
01/06/24 23:47:39.00	493187.12	5312212.04	2179.214	10.5	101.346		VID_GRAB	
01/06/24 23:47:48.00	493182.75	5312214.13	2179.28	8.9	96.112		VID_GRAB	
01/06/24 23:47:57.00	493182.75	5312214.13	2179.225	8.4	95.601		VID_GRAB	
01/06/24 23:49:40.00	493182.91	5312215.03	2179.261	8.4	85.337		VID_GRAB	
01/06/24 23:49:55.00	493181.2	5312215.57	2179.316	8.9	31.766		VID_GRAB	
01/06/24 23:50:27.00	493179.73	5312215.04	2179.243	9.1	15.467		VID_GRAB	
01/06/24 23:50:40.00	493179.73	5312215.04	2179.232	9.1	19.539		VID_GRAB	
01/06/24 23:50:55.00	493180.84	5312215.72	2179.212	9	19.014		VID_GRAB	
01/06/24 23:51:16.00	493179.9	5312215.9	2179.238	9.1	19.236		VID_GRAB	
01/06/24 23:51:41.00	493179.11	5312216.07	2179.212	9.7	19.337		VID_GRAB	
01/06/24 23:51:58.00	493179.78	5312214.62	2179.065	10.9	19.592		VID_GRAB	
01/06/24 23:52:16.00	493182.79	5312214.7	2179.072	11.3	20.791		VID_GRAB	
01/06/24 23:53:11.00	493181	5312216.34	2179.381	8.8	25.086		VID_GRAB	
01/06/24 23:53:28.00	493181	5312216.34	2179.533	7.5	24.2		VID_GRAB	
01/06/24 23:53:37.00	493181	5312216.34	2179.387	7	20.854		VID_GRAB	
01/06/24 23:53:45.00	493181	5312216.34	2179.247	7.1	20.984		VID_GRAB	
01/06/24 23:53:54.00	493181	5312216.34	2179.222	7.3	20.846		VID_GRAB	
01/06/24 23:54:04.00	493181	5312216.34	2179.203	7.6	20.507		VID_GRAB	
01/06/24 23:54:30.00	493183.51	5312226.91	2179.169	8.2	16.959			
01/06/24 23:54:32.00	493183.51	5312226.91	2179.197	8.3	20.642		VID_GRAB	

Date & Time	UTM (X)	UTM (Y)	Depth (m)	Alt. (m)	Heading		Event	
01/06/24 23:54:51.00	493189.39	5312229.98	2179.296	8.2	22.387		VID_GRAB	
01/06/24 23:55:06.00	493195.98	5312234.1	2179.276	7.7	17.728		VID_GRAB	
01/06/24 23:55:22.00	493195.98	5312234.1	2179.238	7.3	15.876		VID_GRAB	
01/06/24 23:55:44.00	493195.98	5312234.1	2179.212	6.7	20.71		VID_GRAB	
01/06/24 23:56:05.00	493195.98	5312234.1	2179.325	7.1	20.209		VID_GRAB	
01/06/24 23:56:15.00	493195.98	5312234.1	2179.367	7.5	20.024		VID_GRAB	
01/06/25 00:03:38.00	493218.25	5312294.03	2176.376	5.2	337.417		VID_GRAB	
01/06/25 00:04:00.00	493218.25	5312294.03	2176.369	5	240.978		VID_GRAB	
01/06/25 00:06:29.00	493215.67	5312304.04	2176.886	4.2	195.881		VID_GRAB	
01/06/25 00:07:09.00	493215.61	5312306.77	2176.533	4.9	207.186		VID_GRAB	
01/06/25 00:07:32.00	493215.61	5312306.77	2175.824	5.2	207.005		VID_GRAB	
01/06/25 00:11:32.00	493211.56	5312299.62	2175.409	6.3	204.367		VID_GRAB	
01/06/25 00:11:42.00	493211.56	5312299.62	2176.374	5.3	201.523		10m stop	
01/06/25 00:13:03.00	493212.54	5312299.67	2176.374	5.4	203.015		go	
01/06/25 00:13:06.00	493213.12	5312299.2	2176.381	5.5	201.468		VID_GRAB	
01/06/25 00:13:32.00	493212.79	5312296.31	2176.274	6.2	204.399		first stop will be 20m NOT 10m	
01/06/25 00:13:34.00	493212.79	5312296.31	2176.261	6.3	204.085		VID_GRAB	
01/06/25 00:13:43.00	493212.79	5312296.31	2176.188	6.8	204.321		VID_GRAB	
01/06/25 00:14:48.00	493211.6	5312289.02	2176.141	5.3	202.589		VID_GRAB	
01/06/25 00:14:57.00	493211.6	5312289.02	2176.075	4.8	205.856		20m stop	
01/06/25 00:15:07.00	493210.21	5312279.45	2175.624	5.2	204.133		VID_GRAB	
01/06/25 00:15:56.00	493210.64	5312279.71	2175.4	5.2	201.611		go	
01/06/25 00:16:14.00	493208.99	5312279.77	2175.68	6.8	209.184	AST ClamBed survey		
01/06/25 00:16:19.00	493208.99	5312279.77	2175.686	6.7	204.379	AST ClamBed survey	VID_GRAB	
01/06/25 00:16:37.00	493206.97	5312271.43	2175.626	7.4	209.071	AST ClamBed survey	10m stop	
01/06/25 00:16:55.00	493204.42	5312267.62	2177.157	5.9	205.806	AST ClamBed survey	VID_GRAB	
01/06/25 00:17:02.00	493204.42	5312267.62	2177.357	5.7	205.458	AST ClamBed survey	changing altitude	
01/06/25 00:17:05.00	493204.42	5312267.62	2177.177	5.9	206.084	AST ClamBed survey	holding	
01/06/25 00:17:08.00	493202.13	5312266.41	2177.063	5.9	205.459	AST ClamBed survey	VID_GRAB	
01/06/25 00:17:40.00	493203.89	5312267.57	2176.591	6.4	203.914	AST ClamBed survey	VID_GRAB	
01/06/25 00:18:03.00	493202.69	5312267.27	2176.527	6.5	203.405	AST ClamBed survey	go	
01/06/25 00:18:19.00	493195	5312266.11	2177.911	5.1	197.884	AST ClamBed survey	VID_GRAB	
01/06/25 00:18:36.00	493195	5312266.11	2177.902	5.9	204.072	AST ClamBed survey	VID_GRAB	
01/06/25 00:18:48.00	493195	5312266.11	2178.011	5.7	204.893	AST ClamBed survey	10m stop	
01/06/25 00:19:06.00	493195	5312266.11	2177.405	6.1	203.301	AST ClamBed survey	VID_GRAB	
01/06/25 00:19:15.00	493195	5312266.11	2177.319	6.2	203.473	AST ClamBed survey	VID_GRAB	

Date & Time	UTM (X)	UTM (Y)	Depth (m)	Alt. (m)	Heading		Event	
01/06/25 00:19:24.00	493195	5312266.11	2177.285	6.2	203.775	AST ClamBed survey	Substrate	Pillow lava
01/06/25 00:19:59.00	493195	5312266.11	2177.159	6.4	199.89	AST ClamBed survey	go	
01/06/25 00:20:34.00	493197.61	5312246.01	2179.342	5.2	202.399	AST ClamBed survey	VID_GRAB	
01/06/25 00:20:36.00	493197.61	5312246.01	2179.981	4.8	203.292	AST ClamBed survey	VID_GRAB	
01/06/25 00:20:38.00	493197.61	5312246.01	2179.987	4.8	204.672	AST ClamBed survey	10m stop	
01/06/25 00:20:42.00	493197.61	5312246.01	2179.668	5.1	206.066	AST ClamBed survey	good nav?	
01/06/25 00:20:55.00	493197.61	5312246.01	2178.83	5.9	204.335	AST ClamBed survey	Substrate	Pillow lava
01/06/25 00:21:39.00	493197.61	5312246.01	2179.056	5.6	204.004	AST ClamBed survey	go	
01/06/25 00:22:05.00	493197.61	5312246.01	2179.109	7.6	200.561	AST ClamBed survey	VID_GRAB	
01/06/25 00:22:16.00	493197.61	5312246.01	2179.171	7.3	203.253	AST ClamBed survey	VID_GRAB	
01/06/25 00:22:26.00	493197.61	5312246.01	2180.334	6	194.169	AST ClamBed survey	VID_GRAB	
01/06/25 00:22:34.00	493197.61	5312246.01	2181.354	5.2	202.189	AST ClamBed survey	VID_GRAB	
01/06/25 00:22:35.00	493197.61	5312246.01	2181.288	5.2	203.481	AST ClamBed survey	stop	
01/06/25 00:22:43.00	493197.61	5312246.01	2181.039	5.5	204.205	AST ClamBed survey	nav poor?	
01/06/25 00:22:57.00	493197.61	5312246.01	2180.553	6	204.58	AST ClamBed survey	Substrate	Pillow lava
01/06/25 00:23:26.00	493197.61	5312246.01	2180.462	6	202.645	AST ClamBed survey	VID_GRAB	
01/06/25 00:23:35.00	493197.61	5312246.01	2180.449	6	202.795	AST ClamBed survey	VID_GRAB	
01/06/25 00:23:37.00	493197.61	5312246.01	2180.442	6	202.351	AST ClamBed survey	go	
01/06/25 00:23:56.00	493197.61	5312246.01	2181.773	4.5	201.831	AST ClamBed survey	VID_GRAB	
01/06/25 00:24:01.00	493197.61	5312246.01	2182.626	4.1	204.32	AST ClamBed survey	VID_GRAB	
01/06/25 00:24:10.00	493197.61	5312246.01	2182.233	4.7	204.446	AST ClamBed survey	VID_GRAB	
01/06/25 00:24:49.00	493197.61	5312246.01	2182.086	5.6	203.383	AST ClamBed survey	10m stop	
01/06/25 00:24:54.00	493197.61	5312246.01	2182.485	5	200.315	AST ClamBed survey	bad nav	
01/06/25 00:25:39.00	493197.61	5312246.01	2182.226	5.4	197.366	AST ClamBed survey	Substrate	Pillow lava
01/06/25 00:25:44.00	493197.61	5312246.01	2182.22	5.4	197.592	AST ClamBed survey	VID_GRAB	
01/06/25 00:25:48.00	493197.61	5312246.01	2182.206	5.5	199.887	AST ClamBed survey	go	
01/06/25 00:26:07.00	493197.61	5312246.01	2182.186	4.7	199.631	AST ClamBed survey	VID_GRAB	
01/06/25 00:26:10.00	493197.61	5312246.01	2182.186	4.7	199.6	AST ClamBed survey	VID_GRAB	
01/06/25 00:26:16.00	493197.61	5312246.01	2181.787	5.4	200.176	AST ClamBed survey	VID_GRAB	
01/06/25 00:26:39.00	493177.99	5312208.07	2178.814	7.8	198.04	AST ClamBed survey	Moving up 5m to see if we could get a good fix	
01/06/25 00:26:52.00	493189.79	5312204.94	2179.371	7.3	194.003	AST ClamBed survey	we have good fix now	
01/06/25 00:26:59.00	493189.79	5312204.94	2180.338	6.2	194.091	AST ClamBed survey	VID_GRAB	
01/06/25 00:27:05.00	493189.79	5312204.94	2181.434	5.3	195.699	AST ClamBed survey	going back down	
01/06/25 00:27:10.00	493189.79	5312204.94	2182.273	4.6	201.001	AST ClamBed survey	VID_GRAB	
01/06/25 00:27:21.00	493189.79	5312204.94	2181.734	5.1	200.42	AST ClamBed survey	10m stop	

Date & Time	UTM (X)	UTM (Y)	Depth (m)	Alt. (m)	Heading		Event	
01/06/25 00:27:31.00	493189.79	5312204.94	2181.496	5.3	198.916	AST ClamBed survey	Nav questionable	
01/06/25 00:27:46.00	493189.79	5312204.94	2181.343	5.5	199.102	AST ClamBed survey	Substrate	Pillow lava
01/06/25 00:27:50.00	493189.79	5312204.94	2181.309	5.5	199.178	AST ClamBed survey	VID_GRAB	
01/06/25 00:28:19.00	493189.79	5312204.94	2181.321	5.4	198.96	AST ClamBed survey	go	
01/06/25 00:28:42.00	493189.79	5312204.94	2177.863	8.2	201.68	AST ClamBed survey	Going straight up from here to get Nav	
01/06/25 00:28:55.00	493192.22	5312203	2177.048	9	197.862	AST ClamBed survey	Good Nav	
01/06/25 00:29:06.00	493191.32	5312203.53	2177.423	8.6	199.718	AST ClamBed survey	Now moving forward	
01/06/25 00:29:39.00	493190.99	5312198.87	2177.51	9	197.795	AST ClamBed survey	Moving back toward the line, we are way off the line	
01/06/25 00:29:57.00	493188.8	5312195.12	2177.504	10.7	198.18	AST ClamBed survey	Can't see bottom at this movement	
01/06/25 00:30:09.00	493188.03	5312191.73	2177.504	11.3	198.34	AST ClamBed survey	VID_GRAB	10m stop
01/06/25 00:30:35.00	493188.05	5312189.79	2181.623	6.7	193.186	AST ClamBed survey	These stops are really 10m apart	
01/06/25 00:30:49.00	493188.05	5312189.79	2182.994	6.2	191.957	AST ClamBed survey	Start of a defused patch	
01/06/25 00:30:54.00	493188.05	5312189.79	2183.566	5.5	191.57	AST ClamBed survey	VID_GRAB	
01/06/25 00:31:04.00	493188.05	5312189.79	2184.731	4.6	200.415	AST ClamBed survey	VID_GRAB	
01/06/25 00:31:16.00	493188.05	5312189.79	2184.305	5	200.16	AST ClamBed survey	VID_GRAB	
01/06/25 00:31:33.00	493181.54	5312189.55	2184.072	5.2	199.141	AST ClamBed survey	tubeworms	
01/06/25 00:31:39.00	493181.54	5312189.55	2183.998	5.1	198.729	AST ClamBed survey	VID_GRAB	
01/06/25 00:32:08.00	493181.84	5312189.89	2183.879	4.7	199.012	AST ClamBed survey	go	
01/06/25 00:32:25.00	493181.84	5312189.89	2183.859	4.8	197.755	AST ClamBed survey	we are adjusting 20m back to the line	
01/06/25 00:32:27.00	493181.84	5312189.89	2183.846	4.6	197.857	AST ClamBed survey	VID_GRAB	
01/06/25 00:32:29.00	493181.84	5312189.89	2183.846	4.6	198.004	AST ClamBed survey	VID_GRAB	
01/06/25 00:32:46.00	493181.02	5312186.38	2183.893	4.2	200.238	AST ClamBed survey	VID_GRAB	
01/06/25 00:33:06.00	493175.47	5312181.89	2183.938	4.5	202.815	AST ClamBed survey	tons of tubeworms	
01/06/25 00:33:13.00	493175.47	5312181.89	2184.006	4.6	202.408	AST ClamBed survey	stop	
01/06/25 00:33:17.00	493175.47	5312181.89	2184.065	4.4	203.033	AST ClamBed survey	Good nav	
01/06/25 00:33:27.00	493175.54	5312181.81	2184.125	4.8	204.014	AST ClamBed survey	we are back on the line	
01/06/25 00:34:01.00	493177.01	5312183.09	2184.006	4.8	203.625	AST ClamBed survey	hydrothermal area with lots of tubeworms, devused lava	
01/06/25 00:34:07.00	493174.96	5312182.11	2183.992	4.6	203.939	AST ClamBed survey	VID_GRAB	
01/06/25 00:34:12.00	493174.96	5312182.11	2183.978	4.7	203.747	AST ClamBed survey	go	
01/06/25 00:34:37.00	493176.36	5312181.43	2183.808	5.3	204.289	AST ClamBed survey	VID_GRAB	
01/06/25 00:34:52.00	493174.58	5312178.9	2181.895	7.7	203.606	AST ClamBed survey	Nav is good, all green	
01/06/25 00:34:56.00	493174.58	5312178.9	2181.29	8.5	203.726	AST ClamBed survey	VID_GRAB	
01/06/25 00:35:04.00	493174.58	5312178.9	2180.879	8	200.778	AST ClamBed survey	VID_GRAB	
01/06/25 00:35:13.00	493170.63	5312175.77	2181.25	7.4	203.519	AST ClamBed survey	VID_GRAB	

Date & Time	UTM (X)	UTM (Y)	Depth (m)	Alt. (m)	Heading		Event	
01/06/25 00:35:16.00	493170.63	5312175.77	2181.296	7.1	203.665	AST ClamBed survey	stop	
01/06/25 00:35:41.00	493168.91	5312173.88	2182.82	5	204.248	AST ClamBed survey	a hill side that is covered with tubeworms	
01/06/25 00:36:11.00	493164.74	5312174.61	2182.504	5.5	204.214	AST ClamBed survey	Can see some pillow basalts in an area	
							not covered with tubeworms	
01/06/25 00:36:14.00	493164.74	5312174.61	2182.517	5.4	204.073	AST ClamBed survey	VID_GRAB	
01/06/25 00:36:28.00	493164.26	5312173.87	2182.437	5.7	204.187	AST ClamBed survey	go	
01/06/25 00:36:43.00	493164.26	5312173.87	2182.654	8.1	194.254	AST ClamBed survey	VID_GRAB	
01/06/25 00:37:05.00	493164.26	5312173.87	2182.331	5.7	193.506	AST ClamBed survey	VID_GRAB	
01/06/25 00:37:16.00	493166.96	5312161.13	2182.271	5	203.007	AST ClamBed survey	VID_GRAB	
01/06/25 00:37:19.00	493166.96	5312161.13	2182.257	4.8	201.922	AST ClamBed survey	Stop	
01/06/25 00:37:57.00	493166.56	5312152.81	2182.391	4.8	203.675	AST ClamBed survey	VID_GRAB	
01/06/25 00:38:22.00	493167.2	5312152.19	2182.284	4.9	200.764	AST ClamBed survey	go	
01/06/25 00:39:06.00	493160.12	5312137.42	2182.257	3.7	205.905	AST ClamBed survey	stop	
01/06/25 00:40:04.00	493158.61	5312137.16	2182.308	4.1	202.719	AST ClamBed survey	go	
01/06/25 00:40:05.00	493159.06	5312136.25	2182.324	4	200.627	AST ClamBed survey	VID_GRAB	
01/06/25 00:40:14.00	493159.06	5312136.25	2181.738	4.2	205.151	AST ClamBed survey	Substrate	Pillow lava
01/06/25 00:40:36.00	493155.26	5312131.72	2181.718	4	209.324	AST ClamBed survey	VID_GRAB	
01/06/25 00:40:42.00	493155.26	5312131.72	2181.672	4.9	202.407	AST ClamBed survey	stop	
01/06/25 00:40:54.00	493151.09	5312122.59	2181.665	4.6	202.963	AST ClamBed survey	Substrate	Pillow lava
01/06/25 00:41:23.00	493150.77	5312122.11	2181.772	4.5	204.083	AST ClamBed survey	VID_GRAB	
01/06/25 00:41:46.00	493148.51	5312122.36	2181.816	4.5	201.267	AST ClamBed survey	go	
01/06/25 00:41:52.00	493148.51	5312122.36	2181.842	5	203.206	AST ClamBed survey	VID_GRAB	
01/06/25 00:42:08.00	493148.45	5312120.42	2181.918	5.4	202.411	AST ClamBed survey	VID_GRAB	
01/06/25 00:42:15.00	493148.45	5312120.42	2181.938	5.7	202.212	AST ClamBed survey	Substrate	Pillow lava
01/06/25 00:42:30.00	493146.54	5312116.78	2181.775	7	202.806	AST ClamBed survey	VID_GRAB	
01/06/25 00:42:42.00	493146.54	5312116.78	2183.14	5.9	204.965	AST ClamBed survey	stop	
01/06/25 00:42:50.00	493143.6	5312112.75	2184.145	4.8	204.943	AST ClamBed survey	Substrate	Pillow lava
01/06/25 00:43:25.00	493143.71	5312112.14	2183.934	5	202.2	AST ClamBed survey	VID_GRAB	
01/06/25 00:43:45.00	493145.35	5312112	2183.972	5	202.732	AST ClamBed survey	VID_GRAB	
01/06/25 00:44:05.00	493145.1	5312112.1	2183.832	5.5	202.517	AST ClamBed survey	VID_GRAB	
01/06/25 00:44:22.00	493142.62	5312109.23	2183.686	5.9	203.455	AST ClamBed survey	VID_GRAB	
01/06/25 00:44:32.00	493141.49	5312105.93	2184.259	5.4	203.05	AST ClamBed survey	Substrate	Pillow lava
01/06/25 00:44:45.00	493141.76	5312102.78	2185.017	4.8	204.394	AST ClamBed survey	stop	
01/06/25 00:45:09.00	493140.68	5312103.01	2184.644	5.2	203.071	AST ClamBed survey	Substrate	Pillow lava
01/06/25 00:45:45.00	493142.03	5312101.85	2184.691	5.2	201.071	AST ClamBed survey	go	
01/06/25 00:46:30.00	493139.53	5312095.82	2185.157	4.5	201.551	AST ClamBed survey	VID_GRAB	

Date & Time	UTM (X)	UTM (Y)	Depth (m)	Alt. (m)	Heading		Event	
01/06/25 00:46:34.00	493139.53	5312095.82	2185.563	4.4	205.759	AST ClamBed survey	stop	
01/06/25 00:46:43.00	493139.53	5312095.82	2185.296	4.5	204.785	AST ClamBed survey	Substrate	Pillow lava
01/06/25 00:47:11.00	493139.76	5312092.74	2184.997	4.8	203.645	AST ClamBed survey	VID_GRAB	
01/06/25 00:47:37.00	493139.48	5312092.84	2184.984	4.8	203.698	AST ClamBed survey	end of station	
01/06/25 00:47:45.00	493138.78	5312093.41	2184.95	4.8	187.35	AST ClamBed survey	turn that sucker around	
01/06/25 00:48:10.00	493138.78	5312093.41	2184.977	5.4	24.479	AST ClamBed survey	VID_GRAB	
01/06/25 00:48:22.00	493138.78	5312093.41	2184.971	5.2	18.476	AST ClamBed survey	Substrate	Pillow lava
01/06/25 00:49:00.00	493138.03	5312094.3	2184.95	5.3	21.534	AST ClamBed survey	VID_GRAB	
01/06/25 00:49:16.00	493141.02	5312093.71	2184.904	5.4	21.618	AST ClamBed survey	Heading is now 020ish	
01/06/25 00:50:36.00	493138.9	5312093.62	2184.959	5.3	20.562	AST ClamBed survey	VID_GRAB	
01/06/25 00:51:27.00	493140.86	5312095.42	2184.977	5	20.233	AST ClamBed survey	10m stop	
01/06/25 00:51:46.00	493138.41	5312095.72	2184.99	5	17.738	AST ClamBed survey	go	
01/06/25 00:51:59.00	493138.41	5312095.72	2185.059	5.3	19.345	AST ClamBed survey	Substrate	Pillow lava
01/06/25 00:52:05.00	493138.41	5312095.72	2185.006	5.4	18.888	AST ClamBed survey	VID_GRAB	
01/06/25 00:52:30.00	493145.9	5312100.65	2184.926	5.3	17.999	AST ClamBed survey	VID_GRAB	
01/06/25 00:52:40.00	493145.9	5312100.65	2184.926	4.3	21.66	AST ClamBed survey	stop	
01/06/25 00:52:51.00	493145.74	5312102.91	2184.833	4.3	20.001	AST ClamBed survey	Substrate	Pillow lava
01/06/25 00:53:30.00	493145.46	5312102.43	2184.853	4.4	19.09	AST ClamBed survey	VID_GRAB	
01/06/25 00:53:46.00	493146.03	5312102.59	2184.899	4.1	15.702	AST ClamBed survey	Substrate	Pillow lava
01/06/25 00:53:51.00	493146.03	5312102.59	2184.941	4	16.678	AST ClamBed survey	go	
01/06/25 00:53:53.00	493146.03	5312102.59	2184.933	4	16.999	AST ClamBed survey	VID_GRAB	
01/06/25 00:54:16.00	493146.32	5312106.08	2184.866	4.1	17.48	AST ClamBed survey	VID_GRAB	
01/06/25 00:54:26.00	493146.11	5312110.98	2184.8	4.3	20.942	AST ClamBed survey	Substrate	Pillow lava
01/06/25 00:54:33.00	493146.11	5312110.98	2184.782	4.2	20.001	AST ClamBed survey	stop	
01/06/25 00:54:37.00	493146.11	5312110.98	2184.815	4.1	19.197	AST ClamBed survey	VID_GRAB	
01/06/25 00:54:43.00	493146.11	5312110.98	2184.813	4.2	19.026	AST ClamBed survey	Substrate	Pillow lava
01/06/25 00:55:34.00	493145.15	5312112.85	2184.722	4.2	17.573	AST ClamBed survey	VID_GRAB	
01/06/25 00:55:45.00	493145.52	5312113.85	2183.471	4.6	18.33	AST ClamBed survey	go	
01/06/25 00:55:51.00	493145.52	5312113.85	2182.45	4.7	17.389	AST ClamBed survey	Substrate	Pillow lava
01/06/25 00:55:55.00	493145.52	5312113.85	2182.224	4.7	15.665	AST ClamBed survey	VID_GRAB	
01/06/25 00:56:07.00	493149	5312117.2	2182.059	4.7	17.936	AST ClamBed survey	VID_GRAB	
01/06/25 00:56:16.00	493149	5312117.2	2182.166	4.3	22.39	AST ClamBed survey	VID_GRAB	
01/06/25 00:56:23.00	493149	5312117.2	2182.213	4.2	19.423	AST ClamBed survey	stop	
01/06/25 00:56:31.00	493150.11	5312120.98	2182.284	4.1	19.619	AST ClamBed survey	Substrate	Pillow lava
01/06/25 00:56:41.00	493150.11	5312120.98	2182.339	4.1	19.81	AST ClamBed survey	VID_GRAB	
01/06/25 00:57:06.00	493149.92	5312120.82	2182.36	4	20.108	AST ClamBed survey	Substrate	Pillow lava

Date & Time	UTM (X)	UTM (Y)	Depth (m)	Alt. (m)	Heading		Event	
01/06/25 00:57:21.00	493149.92	5312120.82	2182.279	4.2	21.558	AST ClamBed survey	go	
01/06/25 00:57:34.00	493149.49	5312120.18	2182.007	3.1	23.188	AST ClamBed survey	VID_GRAB	
01/06/25 00:57:44.00	493149.49	5312120.18	2181.66	3.4	18.212	AST ClamBed survey	Substrate	Pillow lava
01/06/25 00:57:52.00	493154.22	5312127.49	2181.654	3.5	21.44	AST ClamBed survey	stop	
01/06/25 00:57:55.00	493154.22	5312127.49	2181.654	3.5	20.291	AST ClamBed survey		
01/06/25 00:58:00.00	493154.22	5312127.49	2181.707	3.4	19.594	AST ClamBed survey	VID_GRAB	
01/06/25 00:58:08.00	493155.49	5312129.87	2181.82	3.3	19.721	AST ClamBed survey	Substrate	Pillow lava
01/06/25 00:58:34.00	493154.78	5312130.26	2180.529	4.7	21.38	AST ClamBed survey	VID_GRAB	
01/06/25 00:58:42.00	493154.78	5312130.26	2180.349	4.6	19.751	AST ClamBed survey	Substrate	Pillow lava
01/06/25 00:58:55.00	493155.68	5312130.36	2180.702	4.4	15.69	AST ClamBed survey	VID_GRAB	
01/06/25 00:59:14.00	493154.79	5312131.84	2180.882	4.6	10.337	AST ClamBed survey	go	
01/06/25 00:59:28.00	493157.78	5312139.35	2180.944	5.5	15.436	AST ClamBed survey	VID_GRAB	
01/06/25 00:59:33.00	493157.78	5312139.35	2180.862	5.5	22.299	AST ClamBed survey	stop	
01/06/25 00:59:44.00	493157.78	5312139.35	2180.828	5.5	18.706	AST ClamBed survey	Substrate	Pillow lava
01/06/25 01:00:34.00	493159.58	5312143.63	2180.722	5.7	14.908	AST ClamBed survey	go	
01/06/25 01:00:42.00	493159.58	5312143.63	2180.749	5.1	9.764	AST ClamBed survey	VID_GRAB	
01/06/25 01:00:55.00	493159.34	5312145.96	2180.718	6.5	13.812	AST ClamBed survey	Substrate	Pillow lava
01/06/25 01:01:03.00	493159.34	5312145.96	2180.831	6.6	12.468	AST ClamBed survey	VID_GRAB	
01/06/25 01:01:21.00	493162.4	5312153.48	2181.601	6	19.269	AST ClamBed survey	stop	
01/06/25 01:01:25.00	493162.4	5312153.48	2182.102	5.5	16.907	AST ClamBed survey	VID_GRAB	
01/06/25 01:01:42.00	493163.32	5312159.95	2182.825	4.8	19.976	AST ClamBed survey	VID_GRAB	
01/06/25 01:01:54.00	493163.85	5312159.85	2182.442	5.3	19.435	AST ClamBed survey	Substrate	Pillow lava
01/06/25 01:01:57.00	493163.85	5312159.85	2182.399	5.3	19.292	AST ClamBed survey		
01/06/25 01:02:21.00	493162.84	5312159.62	2182.233	5.6	14.168	AST ClamBed survey	go	
01/06/25 01:02:25.00	493162.84	5312159.62	2182.209	6	13.035	AST ClamBed survey	VID_GRAB	
01/06/25 01:02:34.00	493163.06	5312159.37	2182.253	8.3	10.195	AST ClamBed survey	Substrate	Pillow lava
01/06/25 01:02:56.00	493165.89	5312166.05	2181.867	7.3	10.941	AST ClamBed survey	Animal observations	Tube worms
01/06/25 01:03:01.00	493165.89	5312166.05	2181.627	6.4	15.122	AST ClamBed survey	VID_GRAB	
01/06/25 01:03:11.00	493166.37	5312174.11	2181.481	6	23.266	AST ClamBed survey	stop	
01/06/25 01:03:49.00	493168.53	5312176.91	2181.308	6	17.394	AST ClamBed survey	VID_GRAB	
01/06/25 01:04:00.00	493168.53	5312176.91	2181.277	6	17.582	AST ClamBed survey	Vent Features	Diffuse vent on basalt
01/06/25 01:04:11.00	493167.41	5312177.32	2181.343	6.1	16.339	AST ClamBed survey	go	
01/06/25 01:04:31.00	493167.58	5312178.38	2181.27	6.9	18.145	AST ClamBed survey	VID_GRAB	
01/06/25 01:04:40.00	493167.58	5312178.38	2181.501	7.5	17.634	AST ClamBed survey	Animal observations	Tube worms
01/06/25 01:04:46.00	493169.58	5312181.78	2182.12	7	18.123	AST ClamBed survey	VID_GRAB	



Date & Time	UTM (X)	UTM (Y)	Depth (m)	Alt. (m)	Heading		Event	
01/06/25 01:04:53.00	493169.58	5312181.78	2183.065	6.1	18.914	AST ClamBed survey	VID_GRAB	
01/06/25 01:05:17.00	493169.58	5312181.78	2183.171	6.4	19.918	AST ClamBed survey	stop	
01/06/25 01:05:30.00	493169.58	5312181.78	2184.795	4.4	18.517	AST ClamBed survey	VID_GRAB	
01/06/25 01:05:39.00	493169.58	5312181.78	2184.842	4.9	21.281	AST ClamBed survey	Vent Features	Diffuse vent on basalt
01/06/25 01:05:49.00	493169.58	5312181.78	2184.489	5.4	19.734	AST ClamBed survey	VID_GRAB	
01/06/25 01:06:18.00	493169.58	5312181.78	2184.21	5.2	19.712	AST ClamBed survey		Temp Anom and redox anomaly
01/06/25 01:06:20.00	493169.58	5312181.78	2184.203	5.2	19.771	AST ClamBed survey	go	
01/06/25 01:06:25.00	493169.58	5312181.78	2184.203	5.2	16.967	AST ClamBed survey	VID_GRAB	
01/06/25 01:06:41.00	493169.58	5312181.78	2184.11	4.4	18.763	AST ClamBed survey	Animal observations	
01/06/25 01:06:45.00	493169.58	5312181.78	2183.864	4.7	17.652	AST ClamBed survey	VID_GRAB	
01/06/25 01:07:06.00	493167.5	5312191.74	2183.701	5.4	19.829	AST ClamBed survey	Vent Features	stop
01/06/25 01:07:22.00	493167.5	5312191.74	2183.748	5.3	18.023	AST ClamBed survey	Animal observations	snails
01/06/25 01:07:28.00	493170.13	5312192.36	2183.761	5.4	18.115	AST ClamBed survey	VID_GRAB	
01/06/25 01:07:51.00	493170.13	5312192.36	2183.755	5.3	17.804	AST ClamBed survey	VID_GRAB	
01/06/25 01:08:12.00	493163	5312192.65	2183.788	5.2	17.874	AST ClamBed survey	go	
01/06/25 01:08:42.00	493163	5312192.65	2183.739	6.7	18.725	AST ClamBed survey	Vent Features	Diffuse vent on basalt
01/06/25 01:09:01.00	493166.15	5312196.9	2184.791	5.9	20.912	AST ClamBed survey	Substrate	Pillow lava
							lets call it end of tube worms	
01/06/25 01:09:49.00	493172.24	5312200.56	2185.031	5.5	20.589	AST ClamBed survey	stop	
01/06/25 01:09:52.00	493172.24	5312200.56	2184.89	5.5	20.141	AST ClamBed survey	VID_GRAB	
01/06/25 01:10:00.00	493172.24	5312200.56	2184.684	5.5	19.238	AST ClamBed survey	Substrate	Pillow lava
01/06/25 01:10:22.00	493171.46	5312202.6	2184.511	5.9	18.491	AST ClamBed survey	VID_GRAB	
01/06/25 01:10:34.00	493171.46	5312202.6	2184.464	5.9	18.28	AST ClamBed survey	VID_GRAB	
01/06/25 01:10:50.00	493171.46	5312202.6	2184.451	6	16.473	AST ClamBed survey	go	
01/06/25 01:11:32.00	493171.46	5312202.6	2183.886	4.8	18.916	AST ClamBed survey	VID_GRAB	
01/06/25 01:11:39.00	493171.46	5312202.6	2183.799	5.5	18.454	AST ClamBed survey	Substrate	Pillow lava
01/06/25 01:12:04.00	493171.46	5312202.6	2184.789	5.4	18.642	AST ClamBed survey	Substrate	stop
01/06/25 01:12:14.00	493171.46	5312202.6	2185.07	5.2	20.854	AST ClamBed survey	VID_GRAB	
01/06/25 01:12:22.00	493171.46	5312202.6	2184.851	5.3	19.775	AST ClamBed survey	Substrate	Pillow lava
01/06/25 01:12:58.00	493171.46	5312202.6	2184.671	5.5	19.623	AST ClamBed survey	VID_GRAB	+
01/06/25 01:13:04.00	493171.46	5312202.6	2184.678	5.6	18.857	AST ClamBed survey	go	
01/06/25 01:13:08.00	493173.76	5312212.78	2184.708	6	14.298	AST ClamBed survey	VID_GRAB	
01/06/25 01:13:18.00	493173.76	5312212.78	2184.678	5.9	9.101	AST ClamBed survey	Substrate	Pillow lava

Date & Time	UTM (X)	UTM (Y)	Depth (m)	Alt. (m)	Heading		Event	
01/06/25 01:13:39.00	493173.76	5312212.78	2184.511	4.5	9.15	AST ClamBed survey	VID_GRAB	
01/06/25 01:13:54.00	493173.76	5312212.78	2184.378	4.4	18.575	AST ClamBed survey	stop	
01/06/25 01:14:18.00	493173.76	5312212.78	2184.405	4.3	17.489	AST ClamBed survey	VID_GRAB	
01/06/25 01:14:26.00	493173.76	5312212.78	2184.385	4.4	17.619	AST ClamBed survey	Substrate	Pillow lava
01/06/25 01:14:57.00	493173.76	5312212.78	2184.378	4.3	14.166	AST ClamBed survey	go	
01/06/25 01:15:00.00	493173.76	5312212.78	2184.464	4.4	13.935	AST ClamBed survey	VID_GRAB	
01/06/25 01:15:12.00	493173.76	5312212.78	2184.458	6.1	11.219	AST ClamBed survey	Substrate	Pillow lava
01/06/25 01:15:27.00	493173.76	5312212.78	2184.345	5.2	22.554	AST ClamBed survey	stop	
01/06/25 01:16:01.00	493173.76	5312212.78	2180.351	8.9	18.166	AST ClamBed survey	VID_GRAB	
01/06/25 01:16:08.00	493187.67	5312240.28	2180.684	8.6	19.552	AST ClamBed survey	up in altitude	
01/06/25 01:16:15.00	493187.67	5312240.28	2180.904	8.4	19.664	AST ClamBed survey	VID_GRAB	
01/06/25 01:16:45.00	493185.17	5312240.56	2181.144	8.1	19.09	AST ClamBed survey	go	
01/06/25 01:17:00.00	493185.17	5312240.56	2181.157	7.3	9.86	AST ClamBed survey	Substrate	Pillow lava
01/06/25 01:17:03.00	493185.17	5312240.56	2181.137	6.9	10.465	AST ClamBed survey	VID_GRAB	
01/06/25 01:17:20.00	493185.17	5312240.56	2180.311	6.6	22.454	AST ClamBed survey	VID_GRAB	
01/06/25 01:17:29.00	493185.17	5312240.56	2179.274	7.5	18.231	AST ClamBed survey	Substrate	Pillow lava
01/06/25 01:17:33.00	493185.17	5312240.56	2179.326	7.5	17.669	AST ClamBed survey	stop	
01/06/25 01:18:22.00	493185.17	5312240.56	2179.699	7.3	17.346	AST ClamBed survey	Animal observations	Crab
01/06/25 01:18:30.00	493185.17	5312240.56	2179.679	7.4	17.103	AST ClamBed survey	VID_GRAB	
01/06/25 01:18:35.00	493185.17	5312240.56	2179.666	7.3	15.329	AST ClamBed survey	go	
01/06/25 01:18:53.00	493191.64	5312252.3	2179.293	6.6	19.098	AST ClamBed survey	Substrate	Pillow lava
01/06/25 01:18:59.00	493191.64	5312252.3	2178.735	7	18.243	AST ClamBed survey	VID_GRAB	
01/06/25 01:19:27.00	493187.76	5312258.64	2177.33	7	18.927	AST ClamBed survey	stop	
01/06/25 01:20:32.00	493194.71	5312259.9	2177.506	8.3	16.139	AST ClamBed survey	go	
01/06/25 01:20:45.00	493194.71	5312259.9	2177.576	6.9	9.727	AST ClamBed survey	VID_GRAB	
01/06/25 01:20:53.00	493184.98	5312258.21	2177.612	6.8	17.086	AST ClamBed survey	Substrate	Pillow lava
01/06/25 01:21:44.00	493202.58	5312272.17	2176.587	6.7	19.063	AST ClamBed survey	VID_GRAB	
01/06/25 01:22:08.00	493204.72	5312272.11	2176.494	6.7	18.396	AST ClamBed survey	No reason to even look at nav, Jim guarentees he's on line	
01/06/25 01:22:12.00	493204.72	5312272.11	2176.467	6.7	18.384	AST ClamBed survey	VID_GRAB	
01/06/25 01:22:32.00	493202.85	5312271.96	2176.354	6.8	17.336	AST ClamBed survey	Substrate	Pillow lava
01/06/25 01:22:38.00	493202.85	5312271.96	2176.394	6.8	16.702	AST ClamBed survey	go	
01/06/25 01:22:45.00	493203	5312272.1	2176.441	6.5	11.054	AST ClamBed survey	VID_GRAB	
01/06/25 01:22:55.00	493203	5312272.1	2176.446	6.7	11.004	AST ClamBed survey	Substrate	Pillow lava
01/06/25 01:23:08.00	493203	5312272.1	2175.875	7.1	14.7	AST ClamBed survey	VID_GRAB	
01/06/25 01:23:24.00	493203	5312272.1	2175.498	7.1	23.155	AST ClamBed survey	stop	

Date & Time	UTM (X)	UTM (Y)	Depth (m)	Alt. (m)	Heading		Event	
01/06/25 01:24:03.00	493208.41	5312286.05	2175.669	6.9	17.96	AST ClamBed survey	VID_GRAB	
01/06/25 01:24:25.00	493204.99	5312285.47	2175.671	6.9	18.376	AST ClamBed survey	go	
01/06/25 01:24:47.00	493207.2	5312286.18	2175.689	6.8	18.633	AST ClamBed survey	end of line	
01/06/25 01:24:52.00	493207.2	5312286.18	2175.704	6.8	19.672	AST ClamBed survey	VID_GRAB	
01/06/25 01:25:00.00	493207.2	5312286.18	2175.676	6.7	342.69	AST ClamBed survey	Substrate	Pillow lava
01/06/25 01:26:00.00	493206.29	5312284.28	2175.735	5.9	160.673	AST ClamBed survey	paused SM2000 during transit to next line	
01/06/25 01:52:03.00	493269.31	5312154.35	2181.63	6.9	292.962	AST ClamBed survey	start of east/west survey line	
01/06/25 01:52:53.00	493271.83	5312151.12	2181.292	7.3	291.601	AST ClamBed survey	go	
01/06/25 01:53:43.00	493271.83	5312151.12	2181.493	4.4	289.651	AST ClamBed survey	stop	
01/06/25 01:54:50.00	493254.34	5312155.89	2181.193	4.6	289.645	AST ClamBed survey	go	
01/06/25 01:55:46.00	493246.57	5312160.89	2180.363	4.6	289.937	AST ClamBed survey	Substrate	Pillow lava
01/06/25 01:55:54.00	493246.57	5312160.89	2180.523	4.4	291.363	AST ClamBed survey	stop	
01/06/25 01:56:01.00	493246.57	5312160.89	2180.55	4.4	290.88	AST ClamBed survey	VID_GRAB	
01/06/25 01:56:28.00	493242.63	5312164.23	2180.583	4.2	290.623	AST ClamBed survey	Substrate	Pillow lava
01/06/25 01:57:15.00	493263.8	5312145.04	2180.616	3.9	290.018	AST ClamBed survey	go	
01/06/25 01:58:10.00	493263.8	5312145.04	2180.509	6	286.931	AST ClamBed survey	stop	
01/06/25 01:58:14.00	493263.8	5312145.04	2180.543	6.1	287.424	AST ClamBed survey	VID_GRAB	
01/06/25 01:58:26.00	493237.39	5312165.39	2180.583	6	292.375	AST ClamBed survey	Substrate	Pillow lava
01/06/25 01:59:28.00	493234.26	5312168.25	2180.377	6.3	291.748	AST ClamBed survey		
01/06/25 02:00:35.00	493224.35	5312172.67	2179.425	3.1	292.622	AST ClamBed survey	stop	
01/06/25 02:00:41.00	493224.35	5312172.67	2179.385	3.2	291.899	AST ClamBed survey	VID_GRAB	
01/06/25 02:01:09.00	493223.5	5312175.05	2179.178	3.4	290.672	AST ClamBed survey	Geological Features	collapse pit
01/06/25 02:01:31.00	493224.33	5312174.14	2179.285	3.2	287.969	AST ClamBed survey	go	
01/06/25 02:02:25.00	493224.33	5312174.14	2178.241	3.3	291.982	AST ClamBed survey	stop	
01/06/25 02:02:27.00	493215.45	5312177.48	2178.26	3.3	291.579	AST ClamBed survey	VID_GRAB	
01/06/25 02:02:36.00	493215.45	5312177.48	2178.3	3.4	291.926	AST ClamBed survey	Substrate	Pillow lava
01/06/25 02:03:00.00	493213.8	5312179.12	2178.001	3.6	290.556	AST ClamBed survey	Geological Features	collapse pit
01/06/25 02:03:34.00	493213.59	5312177.85	2177.901	3.5	288.784	AST ClamBed survey	go	
01/06/25 02:04:47.00	493200.02	5312178.42	2177.955	9.4	291.705	AST ClamBed survey	stop	
01/06/25 02:05:12.00	493199.43	5312180.08	2178.021	9.5	291.782	AST ClamBed survey	Substrate	Pillow lava
01/06/25 02:05:51.00	493200.89	5312182.19	2177.854	9.2	287.403	AST ClamBed survey	go	
01/06/25 02:06:49.00	493198.67	5312179.01	2177.995	8.7	282.636	AST ClamBed survey	VID_GRAB	
01/06/25 02:06:59.00	493198.67	5312179.01	2179.592	7.1	291.876	AST ClamBed survey	Mav is site	
01/06/25 02:07:04.00	493198.67	5312179.01	2179.851	6.8	288.807	AST ClamBed survey	VID_GRAB	
01/06/25 02:07:35.00	493184.53	5312181.43	2182.014	4.7	292.646	AST ClamBed survey	stop	
01/06/25 02:07:41.00	493184.53	5312181.43	2181.841	4.8	291.486	AST ClamBed survey	tube worms in site	

Date & Time	UTM (X)	UTM (Y)	Depth (m)	Alt. (m)	Heading		Event	
01/06/25 02:08:35.00	493186	5312181.26	2181.448	5.5	290.069	AST ClamBed survey	go	
01/06/25 02:09:03.00	493184.85	5312182.03	2180.317	9.4	296.95	AST ClamBed survey	VID_GRAB	
01/06/25 02:09:09.00	493179.53	5312184.7	2180.05	8.3	294.339	AST ClamBed survey	VID_GRAB	
01/06/25 02:09:15.00	493179.53	5312184.7	2180.15	8	298.124	AST ClamBed survey	VID_GRAB	
01/06/25 02:09:19.00	493179.53	5312184.7	2179.924	6.5	296.859	AST ClamBed survey	VID_GRAB	
01/06/25 02:09:43.00	493170.33	5312187.58	2179.884	4.9	288.986	AST ClamBed survey	atop\	
01/06/25 02:09:48.00	493168.05	5312188.72	2179.977	5	289.409	AST ClamBed survey	VID_GRAB	
01/06/25 02:09:57.00	493168.05	5312188.72	2180.004	4.7	289.865	AST ClamBed survey	Vent Features	Diffuse vent on
								basalt
01/06/25 02:10:05.00	493168.05	5312188.72	2179.997	5	290.502	AST ClamBed survey	Animal observations	Tube worms
01/06/25 02:10:43.00	493167.48	5312189.56	2179.951	4.9	288.321	AST ClamBed survey		
01/06/25 02:10:49.00	493168.2	5312189.17	2179.665	6.5	289.599	AST ClamBed survey	go	
01/06/25 02:11:48.00	493160.59	5312195.76	2178.567	4.2	289.838	AST ClamBed survey	edge of tube worms	
01/06/25 02:11:54.00	493160.59	5312195.76	2178.54	4.3	292.544	AST ClamBed survey	stop	
01/06/25 02:12:08.00	493159.02	5312194.83	2178.653	4.1	289.842	AST ClamBed survey	VID_GRAB	
01/06/25 02:12:15.00	493159.02	5312194.83	2178.626	4.1	289.557	AST ClamBed survey	Substrate	Pillow lava
01/06/25 02:13:00.00	493158.01	5312194.77	2178.78	3.8	287.05	AST ClamBed survey	go	
01/06/25 02:13:03.00	493158.01	5312194.77	2178.84	3.5	288.71	AST ClamBed survey	VID_GRAB	
01/06/25 02:13:08.00	493158.4	5312195.49	2178.347	4	288.87	AST ClamBed survey	Substrate	Pillow lava
01/06/25 02:13:33.00	493155.29	5312197.33	2175.426	6.2	289.344	AST ClamBed survey	VID_GRAB	
01/06/25 02:13:54.00	493150.28	5312199.84	2174.621	4.7	289.06	AST ClamBed survey	Geological Features	Fissure
01/06/25 02:14:06.00	493146.83	5312200.1	2174.847	4.4	292.385	AST ClamBed survey	stop	
01/06/25 02:14:10.00	493146.83	5312200.1	2174.887	4.4	291.144	AST ClamBed survey	VID_GRAB	
01/06/25 02:14:17.00	493146.83	5312200.1	2174.927	4.4	292.288	AST ClamBed survey	Geological Features	Fissure
01/06/25 02:15:05.00	493146.95	5312199.67	2174.854	4.3	290.341	AST ClamBed survey	thin lobate to sheet flow covering pillow	
							flows	
01/06/25 02:15:07.00	493145.82	5312199.67	2174.827	4.3	294.374	AST ClamBed survey	go	
01/06/25 02:15:17.00	493145.82	5312199.67	2174.694	4.7	289.929	AST ClamBed survey	VID_GRAB	
01/06/25 02:15:25.00	493145.4	5312200.33	2173.497	5.8	290.013	AST ClamBed survey	VID_GRAB	
01/06/25 02:16:35.00	493134.55	5312202.7	2172.878	4.1	290.569	AST ClamBed survey	VID_GRAB	
01/06/25 02:16:39.00	493134.55	5312202.7	2172.885	4	291.02	AST ClamBed survey	stop	
01/06/25 02:16:56.00	493133.27	5312202.93	2172.905	4	290.814	AST ClamBed survey	Substrate	Pillow lava
01/06/25 02:17:27.00	493133.35	5312204.17	2172.978	3.9	289.864	AST ClamBed survey	proceed	
01/06/25 02:17:58.00	493132.84	5312204.43	2170.663	6.3	290.1	AST ClamBed survey	VID_GRAB	
01/06/25 02:18:06.00	493133.81	5312200.09	2170.949	5.7	291.175	AST ClamBed survey	VID_GRAB	
01/06/25 02:18:16.00	493133.81	5312200.09	2171.208	5.6	291.1	AST ClamBed survey	Geological Features	Drainout

Date & Time	UTM (X)	UTM (Y)	Depth (m)	Alt. (m)	Heading		Event	
01/06/25 02:18:20.00	493133.81	5312200.09	2170.969	6	291.196	AST ClamBed survey	VID_GRAB	
01/06/25 02:18:37.00	493123.98	5312206.81	2170.117	6.3	286.993	AST ClamBed survey	stop	
01/06/25 02:18:39.00	493123.98	5312206.81	2170.157	6.2	285.23	AST ClamBed survey	VID_GRAB	
01/06/25 02:18:44.00	493123.98	5312206.81	2170.257	6.4	284.202	AST ClamBed survey	Substrate	Pillow lava
01/06/25 02:19:37.00	493125.44	5312203.87	2170.356	6	290.613	AST ClamBed survey		
01/06/25 02:20:36.00	493113.39	5312211.37	2170.503	5.8	286.369	AST ClamBed survey	stop	
01/06/25 02:20:40.00	493113.39	5312211.37	2170.463	5.7	286.753	AST ClamBed survey	VID_GRAB	
01/06/25 02:20:49.00	493117.99	5312206.1	2170.377	5.8	291.912	AST ClamBed survey	Substrate	Pillow lava
01/06/25 02:21:41.00	493114.69	5312207.3	2170.151	5.8	288.105	AST ClamBed survey	go	
01/06/25 02:22:53.00	493101.49	5312211.07	2170.296	4.8	291.12	AST ClamBed survey	VID_GRAB	
01/06/25 02:22:56.00	493101.49	5312211.07	2170.09	5	290.121	AST ClamBed survey	stop	
01/06/25 02:23:07.00	493107.05	5312204.02	2170.203	4.7	286.506	AST ClamBed survey	Substrate	Lobate lava
01/06/25 02:24:03.00	493107.05	5312204.02	2170.203	4.8	288.315	AST ClamBed survey	go	
01/06/25 02:24:58.00	493098.65	5312213.04	2162.894	8.3	289.619	AST ClamBed survey	Geological Features	Scarp
								talus wall
01/06/25 02:25:51.00	493081.14	5312222.35	2155.198	5.6	293.238	AST ClamBed survey	stop	
01/06/25 02:26:02.00	493081.14	5312222.35	2154.225	5	290.172	AST ClamBed survey	rising to get better spread	
01/06/25 02:26:19.00	493077.04	5312222.73	2151.566	5.8	289.374	AST ClamBed survey	big giant talus slop	
01/06/25 02:26:27.00	493080.22	5312219.44	2150.835	5.7	286.801	AST ClamBed survey	all stop	
01/06/25 02:27:32.00	493074.95	5312228.15	2151.626	5.1	186.102	AST ClamBed survey	turn around	
01/06/25 02:28:02.00	493074.97	5312228.93	2151.455	4.6	121.808	AST ClamBed survey	Geological Features	Scarp
								talus wall
01/06/25 02:28:04.00	493074.97	5312228.93	2151.468	4.6	121.235	AST ClamBed survey	VID_GRAB	
01/06/25 02:28:38.00	493074.37	5312228.81	2151.488	4.5	105.196	AST ClamBed survey	VID_GRAB	
01/06/25 02:29:26.00	493074.8	5312229.1	2151.355	4.5	109.187	AST ClamBed survey	looks like a pretty good current,	
							according to Leif	
01/06/25 02:30:20.00	493074.34	5312228.93	2151.542	4.3	109.572	AST ClamBed survey	may be too strong for AST survey...	
							bending the acoustic paths...perhaps we should discontinue the survey	
01/06/25 02:30:35.00	493074.64	5312228.78	2151.453	4.5	109.437	AST ClamBed survey		Error
							My opinion doesn't count	
01/06/25 02:33:49.00	493079.94	5312228.09	2152.3	7.6	111.51	AST ClamBed survey	110 ay	
01/06/25 02:33:59.00	493079.94	5312228.09	2152.312	7.2	108.734	AST ClamBed survey	start of survey ay	
01/06/25 02:34:51.00	493080.38	5312229.4	2152.372	7	105.5	AST ClamBed survey	proceed aye	
01/06/25 02:34:58.00	493080.38	5312229.4	2153.176	7.1	105.455	AST ClamBed survey	VID_GRAB	
01/06/25 02:35:10.00	493083.35	5312228.55	2154.865	7.5	107.178	AST ClamBed survey	Substrate	can't see
01/06/25 02:36:46.00	493096.83	5312224.55	2167.924	5.4	106.69	AST ClamBed survey	stop? aye?	

Date & Time	UTM (X)	UTM (Y)	Depth (m)	Alt. (m)	Heading		Event	
01/06/25 02:36:55.00	493096.83	5312224.55	2167.958	5.4	109.518	AST ClamBed survey	stop aye	
01/06/25 02:37:38.00	493096.23	5312224.63	2167.346	6	109.059	AST ClamBed survey	VID_GRAB	
01/06/25 02:37:53.00	493095.41	5312224.4	2167.206	6	96.172	AST ClamBed survey	Substrate	Pillow lava
01/06/25 02:38:00.00	493095.41	5312224.4	2167.399	6.2	103.731	AST ClamBed survey	proceed aye	
01/06/25 02:38:19.00	493096.24	5312224.51	2168.49	5.7	107.715	AST ClamBed survey	VID_GRAB	
01/06/25 02:39:07.00	493107.87	5312218.63	2169.388	5.4	109.834	AST ClamBed survey	stop aye	
01/06/25 02:40:08.00	493106.33	5312219.22	2168.824	6	101.431	AST ClamBed survey	proceed aye	
01/06/25 02:41:09.00	493119.01	5312203.89	2171.32	5.1	112.431	AST ClamBed survey	stop aye	
01/06/25 02:41:11.00	493119.01	5312203.89	2171.21	5.2	111.149	AST ClamBed survey	VID_GRAB	
01/06/25 02:41:19.00	493119.01	5312203.89	2170.987	5.5	110.27	AST ClamBed survey	Substrate	Pillow lava
01/06/25 02:42:09.00	493117.95	5312204.41	2170.718	5.8	104.802	AST ClamBed survey	proceed aye	
01/06/25 02:42:24.00	493117.95	5312204.41	2171.006	5.4	106.535	AST ClamBed survey	Geological Features	Drainout
01/06/25 02:42:30.00	493121.35	5312204.01	2170.897	5.9	108.803	AST ClamBed survey	VID_GRAB	
01/06/25 02:42:39.00	493121.35	5312204.01	2170.891	6.1	102.095	AST ClamBed survey	Substrate	Pillow lava
01/06/25 02:43:10.00	493130.8	5312200.18	2171.532	5.6	110.24	AST ClamBed survey	all stop aye	
01/06/25 02:43:14.00	493130.8	5312200.18	2171.459	5.6	110.428	AST ClamBed survey	VID_GRAB	
01/06/25 02:43:24.00	493130.8	5312200.18	2171.27	5.9	110.243	AST ClamBed survey	Substrate	Pillow lava
01/06/25 02:44:15.00	493131.67	5312199.22	2171.466	5.6	101.056	AST ClamBed survey		
01/06/25 02:44:16.00	493131.67	5312199.22	2171.466	5.6	104.108	AST ClamBed survey		
01/06/25 02:44:19.00	493131.67	5312199.22	2171.425	6	107.504	AST ClamBed survey	VID_GRAB	
01/06/25 02:44:25.00	493134.02	5312197.78	2171.353	6.1	107.376	AST ClamBed survey	Geological Features	Fissure
01/06/25 02:47:58.00	493156.45	5312189.13	2173.967	7	110.222	AST ClamBed survey	watch change	
01/06/25 02:48:22.00	493156.28	5312188.8	2174.732	6.6	113.004	AST ClamBed survey	stop	
01/06/25 02:48:43.00	493156.13	5312187.75	2177.36	4.4	109.996	AST ClamBed survey	Animal observations	Tube worms
01/06/25 02:49:35.00	493154.88	5312185.48	2177.579	5.5	100.963	AST ClamBed survey	extended stay at this station	
01/06/25 02:50:37.00	493169.09	5312182.86	2181.114	5.4	110.422	AST ClamBed survey	stop	
01/06/25 02:51:37.00	493169.05	5312183.32	2180.854	5.8	107.362	AST ClamBed survey	go	
01/06/25 02:53:38.00	493183.82	5312182.72	2180.645	6	104.579	AST ClamBed survey	proceed	
01/06/25 02:54:05.00	493191.25	5312181.19	2181.976	7.1	101.903	AST ClamBed survey	oops - I missed a stop - 1 minute prior	
							to the last proceed	
01/06/25 02:54:26.00	493197.4	5312181.44	2184.159	4.6	111.024	AST ClamBed survey	stop	
01/06/25 02:55:32.00	493197.36	5312179.85	2183.272	5.5	110.56	AST ClamBed survey	proceed	
01/06/25 02:55:34.00	493197.36	5312179.85	2183.231	5.5	111.479	AST ClamBed survey	stop	
01/06/25 02:56:09.00	493200.17	5312180.7	2179.372	4.8	105.329	AST ClamBed survey	Substrate	Pillow lava
01/06/25 02:56:25.00	493205.37	5312178.84	2175.845	6.8	110.466	AST ClamBed survey	Substrate	Collapse pits
01/06/25 02:56:53.00	493207.48	5312176.34	2178.041	2.9	113.413	AST ClamBed survey	stop	

Date & Time	UTM (X)	UTM (Y)	Depth (m)	Alt. (m)	Heading		Event	
01/06/25 02:57:50.00	493206.64	5312175.51	2175.417	5.3	111.044	AST ClamBed survey	proceed	
01/06/25 02:58:49.00	493218.86	5312171.7	2177.404	4.5	110.602	AST ClamBed survey	stop	
01/06/25 02:59:50.00	493219.13	5312171.88	2176.799	5.1	112.109	AST ClamBed survey	proceed	
01/06/25 03:00:28.00	493227.77	5312168.53	2178.569	7.3	109.336	AST ClamBed survey	Geological Features	Fissure
01/06/25 03:00:49.00	493232.52	5312167.31	2181.157	5	111.931	AST ClamBed survey	stop	
01/06/25 03:01:49.00	493230.47	5312168.21	2180.345	5.8	111.597	AST ClamBed survey	proceed	
01/06/25 03:02:32.00	493241.25	5312164.47	2179.853	4.4	109.839	AST ClamBed survey	stop	
01/06/25 03:03:32.00	493241.66	5312164.34	2179.859	4.4	110.955	AST ClamBed survey	Go, go, go	
01/06/25 03:04:31.00	493249.76	5312161.39	2179.374	6	111.675	AST ClamBed survey	proceed	
01/06/25 03:05:32.00	493253.44	5312160.05	2179.154	6.2	108.238	AST ClamBed survey	proceed	
01/06/25 03:06:33.00	493260.87	5312156.98	2181.367	5.1	111.132	AST ClamBed survey	station	
01/06/25 03:07:32.00	493260.46	5312156.76	2181.497	5	110.864	AST ClamBed survey	proceed	
01/06/25 03:08:24.00	493268.29	5312153.85	2182.837	4.7	110.51	AST ClamBed survey	next station is the last station	
01/06/25 03:08:26.00	493267.28	5312153.76	2182.877	4.6	111.339	AST ClamBed survey	stop	
01/06/25 03:08:42.00	493267.28	5312153.76	2182.335	5.1	111.247	AST ClamBed survey	last one on high resolution survey	
01/06/25 03:09:26.00	493265.89	5312154.76	2181.945	5.5	110.453	AST ClamBed survey	proceed	
01/06/25 03:09:41.00	493265.89	5312154.76	2179.46	8.2	101.948	AST ClamBed survey	END high resolution survey west to east line	
01/06/25 03:10:42.00	493274.62	5312151.72	2177.26	10.6	96.872	AST ClamBed survey	high temp clam bed area - nav target 48	
01/06/25 03:24:47.00	493168.35	5312176.45	2178.127	7.8	312.546	AST ClamBed survey	Animal observations	Tube worms
01/06/25 03:25:18.00	493162.47	5312179.72	2179.778	4.8	306.323	AST ClamBed survey	VID_GRAB	
01/06/25 03:26:02.00	493154.14	5312180.57	2178.114	4.2	335.875	AST ClamBed survey	VID_GRAB	
01/06/25 03:28:06.00	493164.16	5312192.99	2178.474	5.8	129.022	AST ClamBed survey	we are at the spide on clam bed	
01/06/25 03:33:12.00	493168.41	5312184.86	2185.654	0.7	18.41	Hobo and spider recovery		
01/06/25 03:33:46.00	493168.41	5312184.86	2185.668	0.7	17.823	Hobo and spider recovery	VID_GRAB	
01/06/25 03:34:01.00	493168.41	5312184.86	2185.681	0.7	17.118	Hobo and spider recovery	Hobo grab	
01/06/25 03:34:38.00	493168.41	5312184.86	2185.705	0.8	18.544	Hobo and spider recovery	VID_GRAB	
01/06/25 03:35:09.00	493166.96	5312186.97	2181.692	4.9	18.866	Hobo and spider recovery	off-scale temp anomaly	
01/06/25 03:36:38.00	493152.32	5312191.74	2183.791	1.9	150.346	Hobo and spider recovery	VID_GRAB	
01/06/25 03:37:19.00	493152.32	5312191.74	2185.676	30	158.11	Hobo and spider recovery	VID_GRAB	
01/06/25 03:51:06.00	493162.35	5312191.73	2185.708	30	180.151	Hobo and spider recovery	VID_GRAB	
01/06/25 03:54:55.00	493162.35	5312191.73	2185.64	30	177.83	Hobo and spider recovery	VID_GRAB	
01/06/25 04:06:39.00	493162.35	5312191.73	2185.563	30	170.824	Hobo and spider recovery	hobo's are back on Jason	
01/06/25 04:12:07.00	493162.35	5312191.73	2183.928	1.6	344.162	Hobo and spider recovery	VID_GRAB	
01/06/25 04:12:11.00	493162.35	5312191.73	2183.402	2.1	349.752	Hobo and spider recovery	VID_GRAB	
01/06/25 04:12:30.00	493157.45	5312186.54	2180.542	5.2	55.019	Hobo and spider recovery	VID_GRAB	

Date & Time	UTM (X)	UTM (Y)	Depth (m)	Alt. (m)	Heading		Event	
01/06/25 04:12:38.00	493157.45	5312186.54	2179.911	5.9	116.257	Hobo and spider recovery	VID_GRAB	
01/06/25 04:12:43.00	493157.45	5312186.54	2179.329	6.6	104.835	Hobo and spider recovery	spider is in hand	
01/06/25 04:16:56.00	493182.31	5312181.64	2174.88	11.6	46.155	Hobo and spider recovery	VID_GRAB	
01/06/25 04:30:56.00	493218.07	5312260.09	2174.743	7.5	31.747	Hobo and spider recovery	VID_GRAB	
01/06/25 04:32:48.00	493218.07	5312260.09	2182.166	0.7	0.403	Hobo and spider recovery	VID_GRAB	
01/06/25 04:35:58.00	493223.1	5312259.83	2177.523	3.2	338.273	Hobo and spider recovery	VID_GRAB	looking for spider spot
01/06/25 04:36:46.00	493223.1	5312259.83	2178.73	1	54.045	Hobo and spider recovery	VID_GRAB	
01/06/25 04:37:09.00	493223.1	5312259.83	2179.206	0.9	56.962	Hobo and spider recovery	VID_GRAB	
01/06/25 04:37:20.00	493223.1	5312259.83	2178.723	1.6	42.096	Hobo and spider recovery	VID_GRAB	
01/06/25 04:37:25.00	493223.1	5312259.83	2177.725	2.3	19.276	Hobo and spider recovery	VID_GRAB	
01/06/25 04:37:47.00	493223.1	5312259.83	2175.303	5.4	292.503	Hobo and spider recovery	spider has been set down for temporary cool down	
01/06/25 04:38:30.00	493223.1	5312259.83	2174.111	5.4	17.365	Hobo and spider recovery	hobos are going in the elevator	
01/06/25 04:48:03.00	493224.61	5312272.2	2176.82	3.3	282.424	Hobo and spider recovery	VID_GRAB	
01/06/25 04:54:46.00	493224.61	5312272.2	2176.052	4.1	286.278	Hobo and spider recovery	hobos are secure in elevator	
01/06/25 04:56:03.00	493228.97	5312265.27	2172.121	8.3	217.908	Hobo and spider recovery	going to get spider	
01/06/25 04:58:54.00	493232.52	5312267.24	2179.149	1.2	300.116	Hobo and spider recovery	picking up spider	
01/06/25 05:00:25.00	493232.52	5312267.24	2178.996	1.3	201.449	Hobo and spider recovery	VID_GRAB	spider down in mud as trying to pick up
01/06/25 05:07:04.00	493224.28	5312265.75	2176.206	3.9	243.504	Hobo and spider recovery	spider at elevator	
01/06/25 05:21:58.00	493222.76	5312266.34	2175.791	4.4	287.974	Hobo and spider recovery	having trouble attaching spider to elevator	
01/06/25 05:26:11.00	493222.76	5312266.34	2175.579	4.7	82.424	Hobo and spider recovery	looking for another place to secure the spider on the elevator	
01/06/25 05:28:18.00	493216.98	5312263.78	2178.626	1.4	27.417	Hobo and spider recovery	dropped the spider	
01/06/25 05:28:34.00	493216.98	5312263.78	2177.209	3	11.196	Hobo and spider recovery	VID_GRAB	
01/06/25 05:30:12.00	493216.98	5312263.78	2180.409	30	316.539	Hobo and spider recovery	VID_GRAB	
01/06/25 05:35:44.00	493231.03	5312263.28	2173.296	7	228.434	Hobo and spider recovery	spider back at elevator	
01/06/25 05:48:01.00	493228.19	5312265.07	2179.797	1.2	120.603	Hobo and spider recovery	setting spider down to try to get a better grip on it	
01/06/25 05:57:47.00	493227.66	5312261.57	2173.622	7.1	291.733	Hobo and spider recovery	spider fell again	
01/06/25 06:04:10.00	493226.8	5312262.72	2175.35	4.5	343.571	Hobo and spider recovery	back at elevator with spider	
01/06/25 06:21:20.00	493223.19	5312265.06	2175.086	4.9	46.286	Hobo and spider recovery	try lowering a bottom corner into the hook rather than the top	
01/06/25 06:26:37.00	493217.84	5312267.58	2171.361	9.4	63.717	Hobo and spider recovery	unwrapping the tether to medea	
01/06/25 06:34:43.00	493218.81	5312265.29	2176.803	3.1	107.553	Hobo and spider recovery	VID_GRAB	spider attached to



Date & Time	UTM (X)	UTM (Y)	Depth (m)	Alt. (m)	Heading		Event	
								elevator
01/06/25 06:37:14.00	493222.64	5312268.16	2173.19	7	133.309	Hobo and spider recovery	start new CTD file 308024	
01/06/25 06:40:30.00	493197.53	5312262.32	2163.36	16.4	140.162	Hobo and spider recovery	transit 495m to north line of ADCP survey	
01/06/25 07:22:47.00	493007.4	5312723.76	2098.628	5.2	313.856	VID_GRAB		
01/06/25 07:23:09.00	493007.4	5312723.76	2098.089	4	21.487	VID_GRAB		
01/06/25 07:26:21.00	493007.4	5312723.76	2096.67	13.7	159.443	Starting ADCP survey		
01/06/25 07:39:01.00	493101.74	5312737.68	2131.528	20.2	126.753	Beginning of highrise ADCP run		
01/06/25 08:05:39.00	493410.32	5312618.36	2140.348	17.8	120.535	Smoke		
01/06/25 08:36:19.00	493805.34	5312424.14	2086.139	17.2	96.248	Finished with high rise ADCP line		
01/06/25 09:23:30.00	493895.42	5311855.04	2091.683	10.2	125.496	VID_GRAB		
01/06/25 09:23:47.00	493896.53	5311854.62	2086.672	15.4	126.146	VID_GRAB		
01/06/25 09:37:42.00	493808.13	5311894.66	2095.042	20.1	293.315	Start of calm bed line		
01/06/25 09:38:26.00	493806.44	5311896.02	2095.46	19.1	282.966	Start of clam bed ADCP line		
01/06/25 10:45:38.00	492926.54	5312290.65	2113.153	24.9	289.948	End of Clam Bed ADCP survey line		
01/06/25 11:54:34.00	492978.72	5311597.03	1998.73	30	0.692	ADCP survey line 3; it actually started around 11:35		
01/06/25 12:33:29.00	492693.28	5310822.32	1999.535	30	13.743		Smoke	
01/06/25 12:33:43.00	492693.28	5310822.32	1999.543	30	12.91	cold smoke		
01/06/25 12:35:16.00	492682.98	5310801.41	1999.186	30	11.398		Smoke	
01/06/25 12:35:26.00	492687.22	5310776.48	1999.1	30	10.754	warm smoke		
01/06/25 12:44:23.00	492617.2	5310627.23	1999.02	30	356.954	end of adcp survey line 3		
01/06/25 12:44:40.00	492618.32	5310620.58	1999.081	30	2.728	power down Jason		
01/06/25 12:45:00.00	492618.32	5310620.58	1999.073	30	1.866	power up		
01/06/25 12:47:30.00	492618.32	5310620.58	1993.422	30	330.404		Smoke	
01/06/25 12:48:01.00	492618.32	5310620.58	2000.044	30	335.078	heading over to thermal blanket		
01/06/25 13:03:57.00	492747.86	5310496.52	2056.388	30	14.729	Jason below medea		
01/06/25 13:04:43.00	492753.02	5310495.06	2067.761	30	13.314		Smoke	
01/06/25 13:06:03.00	492761.79	5310494.02	2086.847	30	5.712		Smoke	
01/06/25 13:06:38.00	492768.13	5310493.07	2095.431	30	5.08		Smoke	
01/06/25 13:06:53.00	492768.13	5310493.07	2099.154	30	5.296	no temp anomaly		
01/06/25 13:09:57.00	492754.5	5310503.45	2104.386	30	342.879		Smoke	
01/06/25 13:16:16.00	492746.65	5310502.58	2198.46	11.5	342.699	no EH anomaly		
01/06/25 13:17:34.00	492746.38	5310500.37	2204.944	5.9	344.68	VID_GRAB		
01/06/25 13:17:41.00	492745.66	5310497.88	2204.557	6.3	344.177	bottom in sight		
01/06/25 13:21:40.00	492746.8	5310509.04	2207.713	3.1	199.334	VID_GRAB		
01/06/25 13:29:36.00	492735.2	5310514.05	2208.018	3.1	316.324	VID_GRAB	tb	
01/06/25 13:29:58.00	492731.99	5310513.43	2211.416	30	341.614	VID_GRAB		

Date & Time	UTM (X)	UTM (Y)	Depth (m)	Alt. (m)	Heading		Event	
01/06/25 13:30:07.00	492731.99	5310513.43	2211.43	30	342.356	at thermal blanket location		
01/06/25 13:30:10.00	492731.99	5310513.43	2211.423	30	342.655	VID_GRAB		
01/06/25 13:30:55.00	492732.72	5310515.75	2211.349	30	3.877	VID_GRAB		
01/06/25 13:31:33.00	492733.61	5310514.94	2211.352	30	4.398	VID_GRAB		
01/06/25 13:32:16.00	492732.77	5310516.08	2211.319	30	5.498	VID_GRAB		
01/06/25 13:33:40.00	492733.04	5310516.35	2211.305	30	5.947	VID_GRAB		
01/06/25 13:34:33.00	492733.03	5310515.94	2211.292	30	5.94	VID_GRAB		
01/06/25 13:34:43.00	492733.62	5310516.17	2211.3	27.9	6.02	recovered		
01/06/25 13:34:45.00	492733.62	5310516.17	2211.294	30	6.013	VID_GRAB		
01/06/25 13:36:04.00	492732.75	5310515.9	2211.297	30	5.818	VID_GRAB		
01/06/25 13:36:17.00	492733.21	5310516.19	2211.294	30	5.801	tape change complete		
01/06/25 13:37:16.00	492732.53	5310516.51	2211.274	30	5.755	VID_GRAB	Paul sees filaments of bacteria on top of float	
01/06/25 13:37:45.00	492733.21	5310515.36	2211.27	30	5.71	VID_GRAB		
01/06/25 13:38:59.00	492733.66	5310515.77	2210.57	0.8	5.729	heading 225 to next thermal blanket deployment		
01/06/25 13:40:03.00	492728.39	5310517.51	2206.519	4.2	217.221	the next deployment should be along the gradient from high magnetization to low magnetization as seen in the Tivey magnetization plots		
01/06/25 13:40:15.00	492727.85	5310515.9	2206.672	4	228.652			
01/06/25 13:46:05.00	492718.56	5310508.28	2197.242	8.8	202.677	Geological Features	Inactive Chimney	
01/06/25 13:50:33.00	492697.49	5310484.42	2203.433	6.1	95.188	approaching target for next thermal blanket deployment		
01/06/25 13:51:39.00	492702.65	5310483.92	2208.262	1.6	100.922	VID_GRAB		
01/06/25 13:52:12.00	492702.07	5310484.01	2208.196	2.1	97.394	Substrate	Patchy or thin	
						Sediment cover	some pillow poking through	
01/06/25 13:52:15.00	492702.07	5310484.01	2208.169	1.9	96.617	VID_GRAB		
01/06/25 13:52:28.00	492701.45	5310485.34	2208.156	1.7	97.102	looks like a good site for deployment		
01/06/25 13:52:33.00	492701.45	5310485.34	2208.136	1.8	97.088	VID_GRAB		
01/06/25 13:53:39.00	492701.56	5310483.82	2208.116	2.2	96.736	Thermal blanket	VID_GRAB	corrosion on the bulkhead connectors
01/06/25 13:53:46.00	492701.56	5310483.82	2208.11	1.9	97.262	Thermal blanket	VID_GRAB	
01/06/25 13:55:22.00	492704.12	5310485.06	2208.662	1.4	108.112	Thermal blanket	thermal blanket at deployment location	
01/06/25 13:55:26.00	492704.12	5310485.06	2208.536	1.6	104.013	Thermal blanket	VID_GRAB	
01/06/25 13:55:59.00	492703.62	5310484.83	2208.323	1.9	100.62	Thermal blanket	VID_GRAB	
01/06/25 13:56:09.00	492703.62	5310484.83	2208.336	1.9	100.612	Thermal blanket	VID_GRAB	
01/06/25 13:56:14.00	492703.62	5310484.83	2208.336	1.8	100.902	Thermal blanket	VID_GRAB	
01/06/25 13:56:21.00	492703.62	5310484.83	2208.336	1.8	100.332	Thermal blanket	VID_GRAB	

Date & Time	UTM (X)	UTM (Y)	Depth (m)	Alt. (m)	Heading		Event	
01/06/25 13:56:33.00	492703.62	5310484.83	2208.329	1.8	100.536	Thermal blanket	VID_GRAB	
01/06/25 13:57:30.00	492703.62	5310484.83	2208.343	1.8	100.519	Thermal blanket	VID_GRAB	
01/06/25 13:57:58.00	492703.62	5310484.83	2208.332	1.8	100.588	Thermal blanket	VID_GRAB	
01/06/25 13:58:18.00	492703.62	5310484.83	2208.318	1.8	100.79	Thermal blanket	VID_GRAB	
01/06/25 13:58:29.00	492703.62	5310484.83	2208.329	1.8	101.152	Thermal blanket	VID_GRAB	
01/06/25 13:58:44.00	492703.62	5310484.83	2208.296	1.7	125.54	Thermal blanket	VID_GRAB	
01/06/25 13:58:58.00	492703.44	5310485.63	2208.243	1.8	150.042	Thermal blanket	VID_GRAB	
01/06/25 13:59:09.00	492703.44	5310485.63	2208.356	1.7	161.15	Thermal blanket	VID_GRAB	
01/06/25 13:59:25.00	492704.88	5310487.14	2208.399	1.8	197.003	Thermal blanket	VID_GRAB	
01/06/25 14:00:24.00	492709.86	5310484.47	2208.444	1.6	220.489	Thermal blanket	VID_GRAB	
01/06/25 14:00:34.00	492709.86	5310484.47	2208.336	1.8	216.921	Thermal blanket	VID_GRAB	
01/06/25 14:00:46.00	492709.53	5310485.6	2208.283	1.8	218.095	Thermal blanket	VID_GRAB	
01/06/25 14:01:11.00	492708.25	5310485	2207.519	2.6	217.643	Thermal blanket	decided to pick it up and attempt to reseal	
01/06/25 14:03:35.00	492706.72	5310482.57	2208.251	1.9	219.889	Thermal blanket	VID_GRAB	
01/06/25 14:03:45.00	492706.72	5310482.57	2207.996	2.1	219.135	Thermal blanket	VID_GRAB	
01/06/25 14:03:50.00	492706.72	5310482.57	2207.932	2.1	218.02	Thermal blanket	VID_GRAB	
01/06/25 14:04:09.00	492707.02	5310483	2207.89	2.2	217.699	Thermal blanket	VID_GRAB	
01/06/25 14:04:56.00	492706.99	5310482.83	2207.885	2.2	218.084	Thermal blanket	VID_GRAB	
01/06/25 14:05:24.00	492706.32	5310483.46	2207.865	2.1	237.423	Thermal blanket	checking out the new deployment	
01/06/25 14:08:45.00	492713.57	5310484.78	2207.228	2.7	223.522	Thermal blanket	VID_GRAB	
01/06/25 14:08:53.00	492713.57	5310484.78	2207.206	2.7	223.212	Thermal blanket	VID_GRAB	
01/06/25 14:12:48.00	492702.19	5310486.77	2207.595	2.3	112.615	Thermal blanket	VID_GRAB	
01/06/25 14:14:14.00	492700.76	5310479.03	2205.789	3.4	37.758	Thermal blanket	let's call it deployed	
01/06/25 14:20:04.00	492699.4	5310482.82	2178.23	30	23.256	SFM4 at Beach	towing to magnetometer deployed at beach	
01/06/25 14:25:03.00	492687.3	5310454.58	2129.533	30	2.121	SFM4 at Beach	start of 308038 ctd	
01/06/25 14:34:43.00	492653.87	5310336.78	2129.253	30	356.695	SFM4 at Beach		Smoke
01/06/25 14:49:49.00	492594.06	5310143.78	2133.468	30	46.181	SFM4 at Beach		
01/06/25 14:49:50.00	492594.06	5310143.78	2133.568	30	45.959	SFM4 at Beach		
01/06/25 14:57:29.00	492567.34	5310147.47	2196.29	5.2	268.34	SFM4 at Beach	VID_GRAB	
01/06/25 14:58:30.00	492563.11	5310145.84	2197.475	1.8	258.026	SFM4 at Beach	VID_GRAB	
01/06/25 14:59:26.00	492559.96	5310148	2192.454	6.2	241.179	SFM4 at Beach	maggie retrieved- going to explore	
01/06/25 15:01:11.00	492555.79	5310147.05	2194.665	4.2	259.905	exploration	heading 073	
01/06/25 15:04:38.00	492585.11	5310145.17	2195.555	5.4	73.675	exploration	Sediment covered basalt	
01/06/25 15:12:08.00	492625.37	5310145.82	2201.176	6.4	74.29	exploration	VID_GRAB	right is sulfide, left is basalt

Date & Time	UTM (X)	UTM (Y)	Depth (m)	Alt. (m)	Heading		Event	
01/06/25 15:12:15.00	492627.12	5310146.85	2201.416	6.1	79.981	exploration	VID_GRAB	
01/06/25 15:14:21.00	492633.65	5310143.09	2202.375	3.5	13.331	exploration	VID_GRAB	flanges on extinct smoker?
01/06/25 15:16:33.00	492650.36	5310175.99	2200.15	4.4	55.735	exploration	VID_GRAB	dead sulfide
01/06/25 15:17:18.00	492654.75	5310179.73	2200.865	5.2	68.912	exploration	VID_GRAB	massive extinct sulfide structure, sedimented, flanges
01/06/25 15:17:49.00	492654.81	5310179.16	2198.301	8	78.684	exploration	VID_GRAB	
01/06/25 15:18:08.00	492656.46	5310179.03	2196.849	9.3	82.035	exploration	VID_GRAB	same structure as above
01/06/25 15:18:42.00	492655.34	5310177.8	2196.583	11.4	19.505	exploration		structure is 10-11meters high
01/06/25 15:23:25.00	492665.09	5310201.98	2208.425	2.9	192.057	exploration		sediment covered sulfide blocks
01/06/25 15:24:10.00	492662.76	5310199.72	2208.036	2.7	191.898	exploration	VID_GRAB	iron staining
								indicating low temp. venting
01/06/25 15:24:27.00	492661.1	5310201.55	2208.305	2.4	184.222	exploration	VID_GRAB	
01/06/25 15:25:00.00	492657.32	5310205.25	2205.013	4.3	287.44	exploration	VID_GRAB	
01/06/25 15:25:13.00	492657.32	5310205.25	2205.193	3.6	314.074	exploration		iron staining
01/06/25 15:25:18.00	492658.77	5310204.3	2205.238	3.3	329.022	exploration	VID_GRAB	
01/06/25 15:26:11.00	492653.71	5310208.07	2199.159	6.7	319.173	exploration		heavily sediment covered sulfide blocks
01/06/25 15:26:58.00	492653.55	5310210.27	2192.445	9.5	258.298	exploration	VID_GRAB	
01/06/25 15:27:10.00	492653.55	5310210.27	2192.851	9	264.985	exploration	VID_GRAB	
01/06/25 15:27:24.00	492651.79	5310211.42	2192.891	5.1	262.153	exploration	VID_GRAB	old sulfide spire
01/06/25 15:27:40.00	492652.14	5310211.76	2192.838	5.4	262.412	exploration		mostly barite?
01/06/25 15:30:12.00	492646.78	5310220.71	2188.917	5.5	239.561	exploration	VID_GRAB	sulfide structure,
								6meters tall, iron staining
01/06/25 15:30:21.00	492645.88	5310221.79	2188.943	4.2	239.337	exploration	VID_GRAB	
01/06/25 15:31:22.00	492646.59	5310221.39	2189.003	5.4	244.205	exploration	VID_GRAB	
01/06/25 15:32:44.00	492649.3	5310222.32	2190.115	4.7	55.541	exploration	VID_GRAB	another sulfide spire
01/06/25 15:32:49.00	492649.3	5310222.32	2190.341	4.7	56.889	exploration	VID_GRAB	
01/06/25 15:33:09.00	492648.68	5310224.94	2190.893	5	57.796	exploration	VID_GRAB	
01/06/25 15:33:18.00	492651.95	5310222.31	2190.929	5	50.627	exploration		5 meters tall
01/06/25 15:34:02.00	492653.69	5310218.6	2194.565	3.1	46.165	exploration	VID_GRAB	
01/06/25 15:34:12.00	492653.69	5310218.6	2194.263	5.2	29.569	exploration	VID_GRAB	
01/06/25 15:35:22.00	492660.66	5310217.42	2193.44	10.5	295.006	exploration	VID_GRAB	
01/06/25 15:35:37.00	492662.7	5310216.01	2195.278	10.8	288.458	exploration		10 meters plus high
01/06/25 15:36:55.00	492662.31	5310215.97	2199.147	7	281.716	exploration	VID_GRAB	more iron staining on large structure

Date & Time	UTM (X)	UTM (Y)	Depth (m)	Alt. (m)	Heading		Event	
01/06/25 15:37:33.00	492665.61	5310217.71	2198.428	7.9	242.643	exploration	VID_GRAB	moving around
								massive structure'
01/06/25 15:38:07.00	492666.02	5310221.58	2192.994	12.2	239.333	exploration	VID_GRAB	
01/06/25 15:38:37.00	492663.42	5310220.79	2192.574	11.3	242.669	exploration	try to get a piece of a spire	
01/06/25 15:39:55.00	492660.9	5310219.41	2194.146	6.4	206.594	exploration	VID_GRAB	trying to loosen a
								piece
01/06/25 15:40:35.00	492659.3	5310220.06	2193.913	6	187.115	exploration	VID_GRAB	
01/06/25 15:40:54.00	492659.3	5310220.06	2193.829	6	187.345	exploration	VID_GRAB	
01/06/25 15:41:47.00	492659.73	5310219.76	2193.908	7	188.481	exploration	VID_GRAB	
01/06/25 15:42:16.00	492658.31	5310220.27	2193.888	7.2	187.778	exploration	VID_GRAB	
01/06/25 15:42:25.00	492658.31	5310220.27	2193.881	7	187.64	exploration	piece fell to floor	
01/06/25 15:43:22.00	492659.1	5310221.67	2194.372	5.9	182.634	exploration	VID_GRAB	where piece was
								broken from
01/06/25 15:43:28.00	492659.1	5310221.67	2194.408	5.9	183.582	exploration	VID_GRAB	
01/06/25 15:43:46.00	492658.85	5310219.93	2194.387	5.9	183.969	exploration	VID_GRAB	
01/06/25 15:43:50.00	492658.85	5310219.93	2194.387	5.9	184	exploration	VID_GRAB	
01/06/25 15:45:39.00	492655.8	5310220.68	2194.387	3.3	201.645	exploration	VID_GRAB	try removing a
								different piece
01/06/25 15:46:24.00	492659.9	5310223.21	2192.883	12.1	213.592	exploration	go put maggie down and retrieve the	
								piece that fell
01/06/25 15:52:17.00	492656.41	5310222.52	2196.739	4.3	218.832	exploration	VID_GRAB	piece that fell
01/06/25 15:53:26.00	492656.62	5310221.25	2196.854	3.9	217.543	exploration	VID_GRAB	recovered piece of
								sulfide
01/06/25 15:53:34.00	492656.62	5310221.25	2196.852	3.9	217.478	exploration	VID_GRAB	
01/06/25 15:53:49.00	492656.2	5310220.99	2196.838	3.9	217.496	exploration	VID_GRAB	
01/06/25 16:02:09.00	492662.97	5310249.55	2208.698	5.3	248.636	exploration	go get maggie	
01/06/25 16:15:08.00	492665.81	5310237.83	2207.288	7.1	178.053	exploration	VID_GRAB	
01/06/25 16:15:32.00	492662.34	5310232.96	2207.094	5.9	152.49	exploration	VID_GRAB	ray/skate?
01/06/25 16:19:22.00	492663.8	5310226.34	2205.056	7.4	237.225	exploration	try to grab another spire	
01/06/25 16:20:52.00	492662.22	5310225.76	2204.889	2.7	211.508	exploration	VID_GRAB	trying for small spire
								removal
01/06/25 16:21:49.00	492662.34	5310225.09	2205.443	1.9	225.729	exploration	to hard a structure so we'll leave it	
01/06/25 16:27:16.00	492664.52	5310220.6	2198.455	10.8	87.497	exploration	sulfide piece fell off the basket	
01/06/25 16:31:12.00	492664.85	5310224.57	2203.058	6.6	119.809	exploration	go get another sample rather than trying	
							to find the one that fell	
01/06/25 16:37:11.00	492653.43	5310213.1	2197.722	5.4	316.014	exploration	VID_GRAB	

Date & Time	UTM (X)	UTM (Y)	Depth (m)	Alt. (m)	Heading		Event	
01/06/25 16:39:55.00	492659.22	5310215.55	2198.588	4.5	300.093	exploration	VID_GRAB	broke off another
								piece but it fell, silica inside
01/06/25 16:40:16.00	492657.53	5310215.58	2198.568	4.5	300.073	exploration	VID_GRAB	close up of break
								off area
01/06/25 16:41:17.00	492659.5	5310215.25	2199.148	4.2	277.17	exploration		try to find piece that fell
01/06/25 16:42:23.00	492659.67	5310218.86	2199.873	4.5	212.7	exploration		can't get down to it- try another piece
01/06/25 16:42:51.00	492656.66	5310218.41	2200.193	4	208.637	exploration	VID_GRAB	new victim
01/06/25 16:43:35.00	492658.52	5310218.72	2200.233	3.9	204.352	exploration	VID_GRAB	
01/06/25 16:44:25.00	492658.44	5310217.7	2200.353	3.8	205.715	exploration	VID_GRAB	
01/06/25 16:45:10.00	492657.91	5310217.94	2200.313	3.9	206.151	exploration	VID_GRAB	greyish area in lower
								right is where piece was taken from
01/06/25 16:47:21.00	492656.51	5310215.55	2197.669	5.9	294.547	exploration	VID_GRAB	trying for another
								small piece
01/06/25 16:49:21.00	492655.42	5310215.32	2197.629	5.9	278.648	exploration		try to break off some with the arm
01/06/25 16:50:25.00	492654.44	5310214.99	2197.808	5.9	284.828	exploration		ok we're done rock sampling-can't get
								any more
01/06/25 16:51:20.00	492659.03	5310215.05	2197.776	6.5	277.738	exploration		heding to south elevator to drop off maggie
01/06/25 16:52:33.00	492659.15	5310223.42	2190.173	15.5	279.562	At least we know I was right! -H.P. Johnson		
01/06/25 16:57:28.00	492673.53	5310253.78	2183.902	30	19.724	Field is now called Tombstone Field		
01/06/25 17:49:45.00	493158.88	5310558.62	2107.078	4.9	316.548	VID_GRAB		
01/06/25 17:50:44.00	493146.87	5310559.85	2106.573	5.4	335.706	at the elevator - SFM 4 is to be loaded back on		
01/06/25 17:51:21.00	493159.37	5310557.69	2108.119	3.9	311.204	Maggie is on		
01/06/25 17:51:26.00	493159.37	5310557.69	2107.866	4.2	313.254	VID_GRAB		
01/06/25 17:58:58.00	493164.14	5310558.4	2107.655	2.4	165.243	Rock sample dropped off in southern elevator mav bucket - A		
01/06/25 18:00:29.00	493174.62	5310550.99	2108.278	3.2	259.581	preparing to fire Niskin bottles		
01/06/25 18:00:47.00	493174.62	5310550.99	2109.167	2.1	258.451	VID_GRAB		
01/06/25 18:01:06.00	493162.65	5310556.55	2109.148	2.5	275.004	VID_GRAB		
01/06/25 18:04:49.00	493162.65	5310556.55	2112.358	2	276.286	problems fire bottle - bottom didn't close right away		
01/06/25 18:05:12.00	493162.65	5310556.55	2112.352	2	276.235	VID_GRAB		
01/06/25 18:05:22.00	493162.65	5310556.55	2112.358	1.9	276.097	VID_GRAB		
01/06/25 18:07:40.00	493347.18	5310449.75	2108.723	3.4	308.266	Left Niskin failed to fire - problem with the bottom spring		
01/06/25 18:08:48.00	493347.18	5310449.75	2110.682	2.5	311.838	attempting to fire right bottle		
01/06/25 18:11:38.00	493347.18	5310449.75	2110.788	2.6	311.851	VID_GRAB		
01/06/25 18:11:59.00	493347.18	5310449.75	2110.865	2.5	312.601	right failed also - springs failed		
01/06/25 18:13:08.00	493347.18	5310449.75	2110.908	2.5	312.698	No water sampled at elevator - bottles cocked too long		
01/06/25 18:14:22.00	493347.18	5310449.75	2110.888	2.4	312.762	green double major water sampler going on Jason		

Date & Time	UTM (X)	UTM (Y)	Depth (m)	Alt. (m)	Heading		Event	
01/06/25 18:17:06.00	493347.18	5310449.75	2110.158	3.1	348.014	VID_GRAB		
01/06/25 18:17:26.00	493347.18	5310449.75	2110.198	2.9	347.953	Jason trying to grab yellow gas tight		
01/06/25 18:20:20.00	493158.6	5310550.89	2110.523	2.6	348.327	CTD file 308029		
01/06/25 18:25:29.00	493158.6	5310550.89	2110.671	2.5	348.82	double major green and gas tight yellow on board Jason		
01/06/25 18:26:14.00	493158.6	5310550.89	2110.675	2.5	348.464	on route to New Field for water samples		
01/06/25 18:27:12.00	493158.6	5310550.89	2108.409	4.6	349.673	800 m to New Field		
01/06/25 19:44:40.00	492827.95	5311329.13	2163.678	6.5	239.311	VHS was restarted after being stopped to transit		
01/06/25 19:45:01.00	492826.18	5311331.43	2162.527	5.8	317.956	VID_GRAB		
01/06/25 19:45:31.00	492825.22	5311334.03	2162.942	7.2	269.29	Tubeworms		
01/06/25 19:45:45.00	492825.74	5311331.62	2163.246	6.1	169.578	VID_GRAB		
01/06/25 19:46:15.00	492829.54	5311329.61	2164.543	6.8	215.128	VID_GRAB		
01/06/25 19:46:26.00	492829.54	5311329.61	2164.715	6.6	210.087	VID_GRAB		
01/06/25 19:46:31.00	492829.54	5311329.61	2165.061	5.8	210.997	VID_GRAB		
01/06/25 19:46:50.00	492830.72	5311327.45	2165.966	3.4	233.924	VID_GRAB		
01/06/25 19:46:58.00	492828.34	5311327.41	2165.961	3.5	232.559	VID_GRAB		
01/06/25 19:47:06.00	492828.34	5311327.41	2165.868	3	266.044	VID_GRAB		
01/06/25 19:47:15.00	492828.1	5311325.22	2165.826	2.8	264.964	VID_GRAB		
01/06/25 19:47:25.00	492828.1	5311325.22	2165.842	2.9	267.661	VID_GRAB		
01/06/25 19:49:42.00	492827.82	5311325.05	2166.311	2.9	240.762	VID_GRAB		
01/06/25 19:50:32.00	492827.84	5311323.58	2166.369	2.8	240.794	VID_GRAB		
01/06/25 19:50:36.00	492827.68	5311325.39	2166.382	2.9	241.021	VID_GRAB		
01/06/25 19:50:48.00	492827.68	5311325.39	2166.403	2.9	241.052	VID_GRAB		
01/06/25 19:53:25.00	492827.63	5311325.2	2166.393	2.8	240.752	VID_GRAB		
01/06/25 19:55:02.00	492828.22	5311325.27	2166.501	2.9	240.558	High was 151.6 and Low was 1.9		
01/06/25 19:58:05.00	492831.88	5311327.47	2166.914	9.1	223.502	VID_GRAB		
01/06/25 19:58:30.00	492834.36	5311324.72	2166.791	4.6	263.771	VID_GRAB		
01/06/25 19:58:34.00	492834.36	5311324.72	2166.825	5.2	263.935	VID_GRAB		
01/06/25 19:59:18.00	492831.8	5311326.79	2166.989	5.1	224.211	VID_GRAB		
01/06/25 19:59:37.00	492830.54	5311327.83	2166.966	4.5	195.175	VID_GRAB		
01/06/25 19:59:50.00	492830.54	5311327.83	2166.884	4.2	197.687	VID_GRAB		
01/06/25 20:00:06.00	492828.67	5311328.29	2167.25	4.4	161.824	Tubeworms		
01/06/25 20:00:13.00	492828.67	5311328.29	2167.263	4.9	198.235	Spider crab		
01/06/25 20:00:20.00	492830.39	5311328.54	2167.263	6	231.481	Staining		
01/06/25 20:00:25.00	492830.39	5311328.54	2167.31	5.4	231.575	Shimmering water		
01/06/25 20:00:39.00	492828.87	5311331.47	2166.845	2.6	235.49	Hydrothermal activity area		
01/06/25 20:00:46.00	492828.87	5311331.47	2166.698	2.1	245.183	VID_GRAB		

Date & Time	UTM (X)	UTM (Y)	Depth (m)	Alt. (m)	Heading		Event	
01/06/25 20:02:04.00	492828.01	5311331.74	2166.809	3.6	254.425	VID_GRAB		
01/06/25 20:02:51.00	492827.65	5311331.92	2164.748	5.6	280.017	VID_GRAB		
01/06/25 20:03:31.00	492827.5	5311333.42	2165.911	3.3	279.133	VID_GRAB		
01/06/25 20:04:48.00	492827.2	5311333.71	2163.476	4.5	280.402	VID_GRAB		
01/06/25 20:06:16.00	492826.91	5311332.77	2164.301	4.2	242.068	VID_GRAB		
01/06/25 20:06:44.00	492826.75	5311332.89	2162.087	5.1	217.817	VID_GRAB		
01/06/25 20:06:53.00	492826.75	5311332.89	2161.389	5.8	209.507	VID_GRAB		
01/06/25 20:13:49.00	492806.88	5311286.63	2169.165	4.8	68.289	Went to the area of the magnetic anomaly		
01/06/25 20:14:04.00	492810.74	5311286.24	2171.787	4.2	72.088	So far no real evidence of venting		
01/06/25 20:14:38.00	492819.01	5311292.52	2172.146	4.9	269.152	Pillow Basalts		
01/06/25 20:14:45.00	492819.01	5311292.52	2172.199	4.7	298.882	VID_GRAB		
01/06/25 20:14:48.00	492819.01	5311292.52	2172.213	4.5	299.092	VID_GRAB		
01/06/25 20:14:59.00	492818.8	5311293.76	2172.186	4.2	305.587	VID_GRAB		
01/06/25 20:15:34.00	492818.2	5311295.36	2171.966	3.7	333.742	VID_GRAB		
01/06/25 20:16:47.00	492809.41	5311297.25	2167.914	4.1	242.717	Pillow Basalt ridge		
01/06/25 20:17:51.00	492793.86	5311289.97	2165.007	1.5	55.126	Seems to be really barren		
01/06/25 20:17:56.00	492791.3	5311291.96	2165.075	1.6	56.188	VID_GRAB		
01/06/25 20:20:10.00	492818.69	5311308.92	2163.213	3.2	55.885	VID_GRAB		
01/06/25 20:20:14.00	492818.69	5311308.92	2163.222	3.3	57.061	VID_GRAB		
01/06/25 20:20:50.00	492818.31	5311308.32	2163.183	3	56.363	VID_GRAB		
01/06/25 20:23:29.00	492827.08	5311316.55	2165.825	3.2	347.919	VID_GRAB		
01/06/25 20:23:56.00	492828.99	5311320	2166.636	5.7	298.401	VID_GRAB		
01/06/25 20:24:15.00	492830.82	5311319.42	2169.869	5.2	300.806			
01/06/25 20:24:20.00	492830.82	5311319.42	2170.801	4.5	302.109	VID_GRAB		
01/06/25 20:24:27.00	492830.82	5311319.42	2170.814	4.7	302.09	VID_GRAB		
01/06/25 20:24:37.00	492832.32	5311320.07	2170.288	5.5	301.972	VID_GRAB		
01/06/25 20:24:43.00	492832.32	5311320.07	2170.661	4.6	303.581	VID_GRAB		
01/06/25 20:24:52.00	492832.32	5311320.07	2170.79	4.5	357.322	VID_GRAB		
01/06/25 20:24:56.00	492831.58	5311320.7	2170.807	4.4	14.076	VID_GRAB		
01/06/25 20:25:07.00	492831.58	5311320.7	2169.856	4.3	10.834	VID_GRAB		
01/06/25 20:25:23.00	492832.19	5311319.27	2169.765	4.3	324.931	VID_GRAB		
01/06/25 20:25:32.00	492832.19	5311319.27	2169.991	2.8	326.687	VID_GRAB		
01/06/25 20:25:51.00	492830.71	5311320.45	2168.949	3.6	4.334	VID_GRAB		
01/06/25 20:26:07.00	492829.71	5311321.07	2168.601	4	329.463	VID_GRAB		
01/06/25 20:26:54.00	492833.76	5311324.13	2170.02	5.5	259.08	VID_GRAB		
01/06/25 20:26:58.00	492834.34	5311325.59	2170.013	5.3	254.893	VID_GRAB		



Date & Time	UTM (X)	UTM (Y)	Depth (m)	Alt. (m)	Heading		Event	
01/06/25 20:27:13.00	492834.34	5311325.59	2170.036	4.4	225.78	Doing temp probe		
01/06/25 20:27:18.00	492833.14	5311326.41	2169.942	4	225.325	VID_GRAB		
01/06/25 20:28:55.00	492832.52	5311326.12	2170.189	2.4	192.501	VID_GRAB		
01/06/25 20:31:17.00	492831.26	5311326.14	2170.177	1.9	188.749	High 24.8 and Low 2.4		
01/06/25 20:32:15.00	492831.45	5311326.55	2170.194	2	189.239	VID_GRAB		
01/06/25 20:32:53.00	492831.65	5311327.16	2170.153	2	189.633	VID_GRAB		
01/06/25 20:33:35.00	492830.96	5311326.42	2170.187	2	190.193	VID_GRAB		
01/06/25 20:35:27.00	492831.57	5311325.87	2170.258	1.9	190.241	Getting the double major to take a water sample		
01/06/25 20:41:02.00	492831.71	5311326.77	2170.326	2	191.199	VID_GRAB		
01/06/25 20:41:41.00	492831.26	5311327.47	2170.284	2.4	191.352	water sampling	VID_GRAB	
01/06/25 20:41:48.00	492831.26	5311327.47	2170.304	2.5	191.397	water sampling	VID_GRAB	
01/06/25 20:41:51.00	492831.26	5311327.47	2170.307	2.4	191.409	water sampling	VID_GRAB	
01/06/25 20:41:55.00	492831.21	5311326.42	2170.313	2	191.463	water sampling	VID_GRAB	
01/06/25 20:42:02.00	492831.21	5311326.42	2170.32	2.4	191.422	water sampling	VID_GRAB	
01/06/25 20:42:18.00	492831.66	5311325.75	2170.313	2.4	191.418	water sampling	VID_GRAB	
01/06/25 20:43:18.00	492830.79	5311327.17	2170.3	2	191.64	water sampling	VID_GRAB	
01/06/25 20:43:43.00	492831.21	5311326.56	2170.32	2.3	191.722	water sampling	VID_GRAB	
01/06/25 20:44:09.00	492832.47	5311327.21	2170.313	2.4	191.8	water sampling	VID_GRAB	
01/06/25 20:53:38.00	492843.86	5311340.17	2173.732	8.7	250.7	VID_GRAB		
01/06/25 20:55:08.00	492835.57	5311330.08	2174.162	4	226.839	VID_GRAB		
01/06/25 20:56:15.00	492834.83	5311333.03	2172.969	4.2	259.912	VID_GRAB		
01/06/25 20:56:56.00	492836.64	5311331.59	2173.417	4.6	303.893	VID_GRAB		
01/06/25 20:57:47.00	492837.28	5311337.81	2170.874	5.3	322.441	VID_GRAB		
01/06/25 20:57:52.00	492837.28	5311337.81	2170.364	5.3	322.626	VID_GRAB		
01/06/25 20:57:58.00	492834.22	5311338.86	2169.373	4.6	325.927	VID_GRAB		
01/06/25 20:58:31.00	492834.88	5311338.98	2167.617	5.7	325.347	tubeworms1		
01/06/25 20:58:57.00	492834.33	5311340.59	2167.942	5.7	18.378	Animal observations	Tube worms	
01/06/25 20:59:02.00	492834.33	5311340.59	2168.036	4.7	31.174	VID_GRAB		
01/06/25 20:59:13.00	492834.33	5311340.59	2168.069	4.8	354.623	Spider crabs		
01/06/25 20:59:21.00	492838.48	5311339.53	2168.222	6.2	322.346	VID_GRAB		
01/06/25 20:59:26.00	492838.48	5311339.53	2168.149	8.2	322.725	VID_GRAB		
01/06/25 20:59:32.00	492838.48	5311339.53	2168.184	6.8	323.433	VID_GRAB		
01/06/25 20:59:48.00	492839.96	5311341.78	2168.302	9.9	323.102	VID_GRAB		
01/06/25 20:59:51.00	492839.96	5311341.78	2168.304	9.8	308.063	VID_GRAB		
01/06/25 20:59:56.00	492841.58	5311344.73	2167.818	10.1	284.866	VID_GRAB		
01/06/25 21:02:17.00	492845.35	5311342.58	2169.364	12.8	182.46	tons of fused venting but no site of a smoker		

Date & Time	UTM (X)	UTM (Y)	Depth (m)	Alt. (m)	Heading		Event	
01/06/25 21:04:44.00	492838.57	5311322.11	2175.032	8.7	199.393	VID_GRAB		
01/06/25 21:05:46.00	492836.97	5311312.56	2174.782	6.6	284.069	VID_GRAB		
01/06/25 21:06:39.00	492834.46	5311313.53	2175.409	3.7	283.256	VID_GRAB		
01/06/25 21:08:49.00	492832.31	5311324.72	2167.526	2.9	245.349	VID_GRAB		
01/06/25 21:09:08.00	492830.7	5311328.13	2166.848	4	224.64	VID_GRAB		
01/06/25 21:09:44.00	492828.42	5311327.73	2166.968	2.9	236.18	VID_GRAB		
01/06/25 21:09:53.00	492828.42	5311327.73	2166.957	3	236.221	VID_GRAB		
01/06/25 21:11:49.00	492828.23	5311325.56	2167.038	2.9	236.388	VID_GRAB		
01/06/25 21:15:44.00	492827.16	5311325.29	2167.114	2.9	236.298	VID_GRAB		
01/06/25 21:15:49.00	492827.16	5311325.29	2167.121	2.9	236.458	VID_GRAB		
01/06/25 21:16:50.00	492827.35	5311325.7	2167.165	3	236.238	VID_GRAB		
01/06/25 21:16:53.00	492827.35	5311325.7	2167.18	2.9	236.273	VID_GRAB		
01/06/25 21:19:53.00	492827.2	5311327.36	2167.248	3.1	236.737	VID_GRAB		
01/06/25 21:20:26.00	492826.89	5311328.06	2167.313	3	235.872	High so far is 217.5 and Low is 1.9		
01/06/25 21:22:43.00	492827.09	5311325.38	2167.319	2.9	236.399	Taking sample then going to go back and reposition to get a better temp reading		
01/06/25 21:22:53.00	492827.09	5311325.38	2167.265	3.4	239.402	VID_GRAB		
01/06/25 21:23:55.00	492827.18	5311324.96	2167.429	2.3	264.357	VID_GRAB		
01/06/25 21:24:17.00	492828	5311325.35	2167.408	2.4	264.557	VID_GRAB		
01/06/25 21:24:22.00	492828	5311325.35	2167.401	2.3	264.431	VID_GRAB		
01/06/25 21:24:28.00	492828	5311325.35	2167.387	2.4	264.546	VID_GRAB		
01/06/25 21:24:32.00	492828	5311325.35	2167.38	2.4	264.557	VID_GRAB		
01/06/25 21:24:37.00	492826.75	5311325.56	2167.361	2.3	264.938	VID_GRAB		
01/06/25 21:25:17.00	492828.12	5311325.69	2167.425	2.3	264.471	VID_GRAB		
01/06/25 21:25:30.00	492828.12	5311325.69	2167.429	2.3	264.411	VID_GRAB		
01/06/25 21:25:42.00	492827.5	5311325.38	2167.429	2.3	264.243	VID_GRAB		
01/06/25 21:30:57.00	492827.26	5311327.05	2167.325	2.4	264.382	Doing another temp probe		
01/06/25 21:37:41.00	492827.32	5311325.85	2167.301	2.3	264.504	High was 229.9 and Low was 2.1		
01/06/25 22:05:10.00	492844.78	5311317.98	2149.248	30	284.39	starting 1.5 hour transect to clam bed approx. 100 meters off the bottom.		
01/06/25 22:05:31.00	492844.78	5311317.98	2144.031	30	284.395	Stopping Paul's VHS tapes for the transect.		
01/06/25 23:11:41.00	493227.24	5312244.6	2086.574	30	235.632	tapes were changed just following watch change. VHS is still not recording.		
01/06/25 23:12:10.00	493230.39	5312247.43	2086.567	30	240.333	Leaving ADCP line.....about 5min ago.		
01/06/25 23:12:25.00	493232.34	5312250.9	2086.576	30	239.762	Heading over to magnetic low near clambd		
01/06/25 23:17:49.00	493274	5312280.14	2091.445	30	271.248	beginning to go down toward the magnetic low		

Date & Time	UTM (X)	UTM (Y)	Depth (m)	Alt. (m)	Heading		Event	
01/06/25 23:23:50.00	493328.65	5312281.96	2185.128	5.7	304.895	on bottom		
01/06/25 23:23:56.00	493328.65	5312281.96	2185.467	5.6	306.655	starting VHS		
01/06/25 23:24:09.00	493328.65	5312281.96	2185.361	5.4	330.961	looking at talus		
01/06/25 23:25:19.00	493328.65	5312281.96	2187.438	2.9	194.585	Substrate	Colorful Sediment (hydrothermal)	
01/06/25 23:25:34.00	493328.65	5312281.96	2185.961	2.9	185.861	iron staining		
01/06/25 23:26:26.00	493328.65	5312281.96	2183.558	4.6	145.887	VID_GRAB		
01/06/25 23:26:55.00	493328.65	5312281.96	2184.663	2	145.25	VID_GRAB	old rotten basalt	
01/06/25 23:27:37.00	493328.65	5312281.96	2182.907	6	138.688	Substrate	Pillow lava	
01/06/25 23:27:43.00	493328.65	5312281.96	2184.013	5.1	153.259	VID_GRAB		
01/06/25 23:30:29.00	493328.65	5312281.96	2188.166	9.3	58.162	white staing straight ahead		
01/06/25 23:30:43.00	493328.65	5312281.96	2188.186	8.9	63.505	VID_GRAB		
01/06/25 23:31:50.00	493328.65	5312281.96	2193.819	3.5	21.775	looks like a questionable sulfide, but it's hard to say		
01/06/25 23:39:56.00	492741.63	5311720.37	2193.45	3.8	208.499	VID_GRAB		
01/06/25 23:40:12.00	492743.52	5311719.16	2193.53	2.7	217.04	structure sticking ot of sediement		
01/06/25 23:43:22.00	493314.14	5312288.11	2184.272	7.7	198.34	Geological Features		
01/06/25 23:43:50.00	493314.14	5312288.11	2184.417	7.4	156.572	Tom is not using the 2 new transponders we set		
01/06/25 23:55:25.00	493332.55	5312270.18	2191.067	4.4	287.931	collapsed lava pits		
01/06/25 23:56:43.00	493293.56	5312263.89	2186.534	3.5	298.945	talus slope		
01/06/26 00:07:08.00	493303.88	5312282.72	2181.168	3.7	310.215	VID_GRAB	sulfide, sulfide, sulfide	
01/06/26 00:07:20.00	493294.44	5312282.5	2180.264	4.1	313.782	VID_GRAB		
01/06/26 00:07:27.00	493294.44	5312282.5	2179.013	5.2	311.321	VID_GRAB		
01/06/26 00:07:46.00	493294.44	5312282.5	2174.86	8.6	311.353	still hydrothermal		
01/06/26 00:08:41.00	493302.01	5312292.02	2174.102	4.1	311.076	VID_GRAB		
01/06/26 00:08:45.00	493302.01	5312292.02	2174.102	4	310.602	VID_GRAB		
01/06/26 00:08:53.00	493291.23	5312286.93	2174.095	3.9	310.906	VID_GRAB		
01/06/26 00:09:04.00	493291.23	5312286.93	2174.121	3.7	311.095	VID_GRAB		
01/06/26 00:09:16.00	493290	5312288.38	2174.069	3.7	313.058	VID_GRAB		
01/06/26 00:09:39.00	493302.96	5312294.65	2174.095	4.1	333.038	slope is too steep to use the doppler		
01/06/26 00:09:59.00	493285.9	5312285.58	2174.121	3.8	319.18	VID_GRAB		
01/06/26 00:10:08.00	493285.9	5312285.58	2174.055	3.4	265.56	VID_GRAB		
01/06/26 00:10:30.00	493287.34	5312284.88	2174.089	4	283.162	VID_GRAB		
01/06/26 00:10:44.00	493286.52	5312284.07	2174.049	3.5	293.225	VID_GRAB		
01/06/26 00:10:53.00	493286.96	5312283.58	2174.023	3.4	293.155	VID_GRAB		
01/06/26 00:11:14.00	493288.23	5312284.65	2173.723	2.4	291.773	VID_GRAB		
01/06/26 00:11:45.00	493288.49	5312286.02	2171.07	4.2	290.58	VID_GRAB		
01/06/26 00:12:01.00	493288.49	5312286.02	2171.913	3.4	280.952	Target 63		

Date & Time	UTM (X)	UTM (Y)	Depth (m)	Alt. (m)	Heading		Event	
01/06/26 00:12:07.00	493288.49	5312286.02	2171.789	3.1	283.35	VID_GRAB		
01/06/26 00:14:16.00	493286.54	5312287.8	2168.069	2.7	311.303	VID_GRAB		
01/06/26 00:14:21.00	493286.54	5312287.8	2167.417	3.2	311.95	VID_GRAB		
01/06/26 00:14:32.00	493283.27	5312288.22	2165.175	5.3	312.421	VID_GRAB		
01/06/26 00:14:55.00	493283.27	5312288.22	2161.857	5.4	326.478	VID_GRAB		
01/06/26 00:15:19.00	493282.67	5312293.64	2161.225	3.9	0.397	VID_GRAB		
01/06/26 00:15:46.00	493285.24	5312296.54	2161.008	3.4	249.443	VID_GRAB		
01/06/26 00:17:00.00	493281.39	5312294.61	2161.786	3.7	305.512	the magnetic lows represent alteration, not just warm water		
01/06/26 00:32:17.00	493281.03	5312292.22	2162.495	1.9	227.11	VID_GRAB		
01/06/26 00:32:24.00	493281.03	5312292.22	2162.343	1.9	226.294	VID_GRAB		
01/06/26 00:34:15.00	493281.19	5312291.79	2162.668	3.3	286.736	VID_GRAB		
01/06/26 00:34:23.00	493281.19	5312291.79	2162.668	3.3	286.799	VID_GRAB		
01/06/26 00:35:24.00	493280.42	5312290.54	2162.747	2.8	340.953	VID_GRAB		
01/06/26 00:36:19.00	493282.47	5312291.44	2162.775	3.7	323.318	VID_GRAB		
01/06/26 00:38:05.00	493281.95	5312294.47	2163.092	2.3	271.143	Substrate	Colorful Sediment (hydrothermal)	
01/06/26 00:38:53.00	493282.95	5312294.5	2163.094	2.3	270.845	VID_GRAB		
01/06/26 00:39:17.00	493285.15	5312296.74	2162.965	2.2	290.699	VID_GRAB		
01/06/26 00:40:10.00	493298.27	5312302.99	2163.061	3	277.927	paul was right		
01/06/26 00:40:27.00	493298.27	5312302.99	2163.533	2.1	236.083	sulfide will move on with no evidence		
01/06/26 00:44:45.00	493281.6	5312290.12	2165.811	2.7	279.754	VID_GRAB	grey shiney stuff; stockwork	
01/06/26 00:47:19.00	493284.52	5312292.85	2165.508	2.7	4.914	zinc sulfide crystals		
01/06/26 00:47:39.00	493285.28	5312292.87	2167.231	1.7	354.263	pyrite crystals shining at last vid_grab		
01/06/26 00:47:45.00	493285.28	5312292.87	2167.228	1.8	343.873	VID_GRAB		
01/06/26 00:47:51.00	493286.45	5312292.44	2167.171	2	349.745	at edge of stockworks		
01/06/26 00:48:14.00	493287.45	5312293.98	2167.676	4	316.738	going to the right, bearing 020, looking for further evidence of hydrothermal alterations		
01/06/26 00:48:25.00	493287.45	5312293.98	2167.667	3.6	267.003	iron oxide in veins		
01/06/26 00:48:39.00	493290.62	5312296.53	2167.683	2.3	256.325	VID_GRAB	pillows here, with occassional iron oxide staining	
01/06/26 00:48:53.00	493289.04	5312298.55	2167.927	1.8	253.997	VID_GRAB		
01/06/26 00:49:20.00	493289.04	5312298.55	2167.603	2	274.702	VID_GRAB	dark red staining, low T alteration	
01/06/26 00:50:08.00	493287.17	5312299.68	2164.829	3	336.015	VID_GRAB	inactive cracks, with iron oxide coating, possible evidence of previous activity	
01/06/26 00:50:29.00	493285.74	5312298.88	2164.058	2.8	341.423	VID_GRAB	iron oxide staining	
01/06/26 00:50:48.00	493288.03	5312300.26	2163.983	3.3	329.436	VID_GRAB	probably sulfide, based on shape	
01/06/26 00:51:00.00	493289.59	5312299.92	2164.363	3.2	346.032	VID_GRAB		

Date & Time	UTM (X)	UTM (Y)	Depth (m)	Alt. (m)	Heading	Event	
01/06/26 00:53:13.00	493289.08	5312303.84	2163.885	2.6	241.764	VID_GRAB	
01/06/26 00:53:31.00	493289.95	5312302.78	2163.181	2.6	237.162	VID_GRAB	
01/06/26 00:54:00.00	493290.92	5312303.04	2163.399	2.3	240.193	VID_GRAB	overhanging ledge, iron oxide staining
01/06/26 00:54:28.00	493290.49	5312303.76	2163.466	3.2	245.471	VID_GRAB	iron oxide
01/06/26 00:54:59.00	493292.38	5312302.33	2163.466	4.2	267.501	VID_GRAB	paul: i don't think that's basalt
01/06/26 00:55:06.00	493292.38	5312302.33	2163.279	4.3	268.603	its too chromy	
01/06/26 00:55:32.00	493292.88	5312302.86	2163.533	3.6	230.028	VID_GRAB	grey sulfide
01/06/26 00:55:33.00	493292.88	5312302.86	2163.5	3.4	229.628	VID_GRAB	
01/06/26 00:55:35.00	493292.88	5312302.86	2163.5	3.5	228.941	VID_GRAB	
01/06/26 00:55:50.00	493292.88	5312302.86	2163.399	3.2	232.214	VID_GRAB	grey sulfide, the whole thing
01/06/26 00:55:58.00	493285.69	5312299.93	2163.134	3.4	231.156	VID_GRAB	going higher up to big promontory
01/06/26 00:56:31.00	493289.82	5312302.07	2163.213	3.5	238.417	VID_GRAB	every time you poke it its grey - that's sulfide
01/06/26 00:56:41.00	493289.82	5312302.07	2163.593	3	236.408	VID_GRAB	
01/06/26 00:56:55.00	493289.56	5312302.18	2163.752	2.8	227.973	fossil tubeworms (?)	
01/06/26 00:57:23.00	493290.76	5312302.96	2163.639	3.1	239.863		
01/06/26 00:57:28.00	493290.76	5312302.96	2163.766	2.9	240.859	VID_GRAB	
01/06/26 00:57:43.00	493288.93	5312302.09	2164.005	2.7	253.406	VID_GRAB	
01/06/26 00:59:36.00	493290.93	5312301.86	2163.759	3.7	254.294	VID_GRAB	
01/06/26 01:00:28.00	493287.37	5312301.11	2163.301	3	224.516	long, lath-like white 'crystals' in rock, several centimeters long -- could be fossil tubeworms	
01/06/26 01:00:45.00	493292.56	5312302.69	2163.134	3.4	223.434	VID_GRAB	
01/06/26 01:01:01.00	493292.56	5312302.69	2163.074	4	237.227	VID_GRAB	very friable, how could that be basalt?
01/06/26 01:01:03.00	493292.56	5312302.69	2162.86	3.7	247.394	VID_GRAB	
01/06/26 01:01:04.00	493292.56	5312302.69	2162.86	3.7	246.975	VID_GRAB	
01/06/26 01:01:18.00	493292.56	5312302.69	2163.167	3.5	241.766	now we've got a good face -- just took off a side	
01/06/26 01:01:22.00	493292.56	5312302.69	2163.213	3.2	237.89	VID_GRAB	
01/06/26 01:01:25.00	493292.56	5312302.69	2163.08	2.7	224.982	VID_GRAB	
01/06/26 01:01:29.00	493292.56	5312302.69	2162.948	2.5	223.585	VID_GRAB	
01/06/26 01:02:02.00	493289.55	5312303.42	2163.38	2	202.106	VID_GRAB	
01/06/26 01:02:03.00	493289.55	5312303.42	2163.38	2	202.105	VID_GRAB	
01/06/26 01:02:04.00	493289.55	5312303.42	2163.386	2	202.321	VID_GRAB	
01/06/26 01:02:06.00	493289.55	5312303.42	2163.386	2	202.488	VID_GRAB	
01/06/26 01:02:08.00	493289.55	5312303.42	2163.393	2	202.439	VID_GRAB	
01/06/26 01:02:09.00	493289.55	5312303.42	2163.393	2	202.414	VID_GRAB	
01/06/26 01:02:15.00	493288.88	5312302.46	2163.393	2	202.506	fossil tubeworms	

Date & Time	UTM (X)	UTM (Y)	Depth (m)	Alt. (m)	Heading		Event	
01/06/26 01:02:17.00	493288.88	5312302.46	2163.386	2	202.501	VID_GRAB		
01/06/26 01:02:17.00	493288.88	5312302.46	2163.38	2	202.499	VID_GRAB		
01/06/26 01:02:56.00	493290.95	5312302.95	2163.38	2	202.381	VID_GRAB	fantastic -- fossil tubeworms - big ones,	
							maybe 1 cm wide opening	
01/06/26 01:03:20.00	493296.23	5312306.08	2162.582	2.8	213.715	vid_grab of solid tubeworms,	one next to another	
01/06/26 01:03:21.00	493296.23	5312306.08	2162.302	2.9	220.5	VID_GRAB		
01/06/26 01:03:49.00	493290.32	5312304.27	2162.256	4.4	221.272	where rock was broken off (continuation of last comment)		
01/06/26 01:04:32.00	493298.94	5312299.45	2164.291	7	222.165	heading to the elevator		
01/06/26 01:14:34.00	493230.77	5312263.73	2176.644	6	296.761	elevator inview		
01/06/26 01:18:03.00	493225.84	5312264.6	2176.366	5.5	113.821	dropping off Sheryl's water samples at the northern elevator		
01/06/26 01:24:09.00	493225.84	5312264.6	2177.463	3.9	177.686	water samples dropped off		
01/06/26 01:30:23.00	493229.97	5312287.77	2171.885	9	331.661	going to retrieve 10058		
01/06/26 01:38:33.00	493198.45	5312307.1	2175.388	7.8	341.502	video tape deck 4 was NOT recording, started it now, uncertain how much time missing		
01/06/26 01:46:19.00	493209.49	5312344.71	2180.194	4	43.7	VID_GRAB		
01/06/26 01:46:44.00	493209.58	5312343.54	2182.317	2.1	43.999	VID_GRAB		
01/06/26 01:47:49.00	493206.79	5312345.62	2181.572	2.9	86.101	Arrived at MAV58		
01/06/26 01:48:45.00	493214.66	5312346.03	2183.043	1.6	259.996	VID_GRAB	MAV 58	
01/06/26 01:49:45.00	493214.29	5312342.86	2184.208	30	291.128	VID_GRAB		
01/06/26 01:54:04.00	493212.46	5312343.37	2179.423	3.5	272.06	MAV 58 retrieved and in manipulator		
01/06/26 01:54:53.00	493213.17	5312340.69	2179.596	3.3	218.914	Transiting to MAV 50		
01/06/26 01:57:09.00	493212.65	5312341.31	2179.569	3.2	221.447	Placed MAV 58 on the mark 48		
01/06/26 02:02:52.00	493193.47	5312329.43	2177.685	2.8	54.603	VID_GRAB		
01/06/26 02:02:56.00	493193.47	5312329.43	2178.178	2.5	49.648	VID_GRAB		
01/06/26 02:03:37.00	493197.57	5312330.78	2178.764	2.7	55.587	Arrival at MAV 50		
01/06/26 02:04:03.00	493197.33	5312331.02	2178.371	2.6	50.763	VID_GRAB		
01/06/26 02:04:14.00	493197.33	5312331.02	2179.296	2.1	53.498	VID_GRAB		
01/06/26 02:04:22.00	493195.75	5312329.66	2179.236	2.2	54.838	VID_GRAB		
01/06/26 02:04:29.00	493195.75	5312329.66	2179.283	2.2	54.639	VID_GRAB		
01/06/26 02:05:43.00	493197.75	5312329.08	2178.482	3.1	59.888	VID_GRAB		
01/06/26 02:06:00.00	493196.8	5312328.13	2177.337	3.9	59.727	MAV 50 in manipulator		
01/06/26 02:07:09.00	493196.89	5312329.95	2174.669	6.3	286.582	Manipulator on JASON basket and powered down for transit to elevator		
01/06/26 02:16:30.00	493208.07	5312267.34	2176.707	3.8	72.531	Arrial at elevator		
01/06/26 02:17:15.00	493208.07	5312267.34	2175.824	5.4	37.239	Manipulator powered up		
01/06/26 02:18:37.00	493221.05	5312264.68	2175.23	6	4.999	MAV 50 placed in elevator tube		
01/06/26 02:28:21.00	493228.91	5312266.73	2177.221	3.9	29.907	MAV 58 placed in elevator tube		

Date & Time	UTM (X)	UTM (Y)	Depth (m)	Alt. (m)	Heading		Event	
01/06/26 02:28:37.00	493228.91	5312266.73	2177.51	3.8	16.916	Securing MAVs with bungees		
01/06/26 02:47:45.00	488770.66	5313492.6	2178.1	2.8	161.537	watch change		
01/06/26 02:53:47.00	488785.58	5313495.6	2176.892	4	174.396	trying to fire Niskin bottles to no avail		
01/06/26 02:56:23.00	488795.65	5313496.6	2177.756	3.4	357.041	VID_GRAB		
01/06/26 02:57:02.00	488799.96	5313496.82	2177.73	3.4	356.003	VID_GRAB		
01/06/26 02:59:10.00	490158.04	5313458.05	2178.016	3	353.614	started new CTD file 308031		
01/06/26 03:18:51.00	493255.55	5312362.98	2136.053	30	45.015	new AST file starting - 01F26000		
01/06/26 03:37:24.00	493270.65	5312478.93	2172.986	5.2	268.381	starting new AST		
01/06/26 03:37:29.00	493270.65	5312478.93	2173.033	5.3	198.867	AST survey Line 3.5		
01/06/26 03:39:10.00	493265.73	5312457.46	2173.065	6	209.283	AST survey Line 3.5	stop	
01/06/26 03:40:00.00	493266.57	5312456.28	2172.962	6.1	212.977	AST survey Line 3.5	go	
01/06/26 03:43:51.00	493264.21	5312428.36	2175.757	5.3	199.665	AST survey Line 3.5	lateral thrusters are being problematic	
01/06/26 03:51:41.00	493251.19	5312408.77	2176.63	3.7	205.43	AST survey Line 3.5	went off to the side to work on thruster problems	
01/06/26 03:51:47.00	493251.19	5312408.77	2175.878	4.7	203.808	AST survey Line 3.5	heading back to line	
01/06/26 03:52:01.00	493249.37	5312408.04	2174.74	5.7	206.161	AST survey Line 3.5	20 m stop	
01/06/26 03:53:03.00	493250.35	5312407.13	2174.86	5.5	204.897	AST survey Line 3.5	go	
01/06/26 03:54:31.00	493240.43	5312384.62	2174.727	4.9	200.3	AST survey Line 3.5	20 m stop	
01/06/26 03:55:30.00	493240.9	5312383.3	2175.029	4.6	203.485	AST survey Line 3.5	go	
01/06/26 03:59:08.00	493229.67	5312361.77	2177.08	5.7	197.111	AST survey Line 3.5	20 m stop	
01/06/26 04:00:08.00	493230.72	5312361.44	2176.826	6.1	198.38	AST survey Line 3.5	go	
01/06/26 04:01:19.00	493222.1	5312341.23	2177.167	4.3	195.376	AST survey Line 3.5	20 m stop	
01/06/26 04:02:19.00	493223.23	5312341.14	2177.085	4.4	198.489	AST survey Line 3.5	go	
01/06/26 04:03:53.00	493214.41	5312318.94	2176.389	4.4	193.845	AST survey Line 3.5	20 m stop	
01/06/26 04:05:00.00	493212.75	5312319.97	2176.502	4.6	196.805	AST survey Line 3.5	go	
01/06/26 04:10:06.00	493203.54	5312286.63	2177.555	4.6	215.194	AST survey Line 3.5	20 m stop	
01/06/26 04:11:09.00	493206.01	5312285.69	2177.282	4.7	213.597	AST survey Line 3.5	go	
01/06/26 04:12:33.00	493191.71	5312260.66	2179.765	6.4	216.33	AST survey Line 3.5	20 m stop	
01/06/26 04:13:36.00	493191.88	5312257.44	2179.416	6.6	216.009	AST survey Line 3.5	go	
01/06/26 04:15:20.00	493183.09	5312235.78	2182.4	5.8	216.55	AST survey Line 3.5	20 m stop	
01/06/26 04:16:27.00	493184.2	5312234.63	2181.388	6.9	213.536	AST survey Line 3.5	go	
01/06/26 04:18:33.00	493183.76	5312206.23	2181.1	7.2	281.864	AST survey Line 3.5	Animal observations	Tube worms
01/06/26 04:19:05.00	493171.76	5312200.77	2179.079	6	222.372	AST survey Line 3.5		
01/06/26 04:19:09.00	493171.76	5312200.77	2178.859	6.2	219.703	AST survey Line 3.5	20 m stop	
01/06/26 04:20:07.00	493172.29	5312199.54	2179.731	5.5	218.408	AST survey Line 3.5	go	
01/06/26 04:20:42.00	493171.7	5312199.47	2179.305	5.9	215.643	AST survey Line 3.5	MAV 49 in view - it appears to be a bit	

Date & Time	UTM (X)	UTM (Y)	Depth (m)	Alt. (m)	Heading		Event	
							leaning	
01/06/26 04:22:19.00	493162.38	5312169.72	2181.514	5	206.605	AST survey Line 3.5	20 m stop	
01/06/26 04:23:18.00	493163.8	5312169.8	2180.37	6.1	204.249	AST survey Line 3.5	go	
01/06/26 04:25:52.00	493154.72	5312150.5	2181.486	6.2	206.906	AST survey Line 3.5	20 m stop	
01/06/26 04:26:51.00	493155.18	5312150.45	2181.106	6.6	204.002	AST survey Line 3.5	go	
01/06/26 04:28:45.00	493143.42	5312130.42	2178.702	6	211.608	AST survey Line 3.5	20 m stop	
01/06/26 04:29:46.00	493142.73	5312128.97	2179.381	5.2	209.842	AST survey Line 3.5	go	
01/06/26 04:32:00.00	493138.68	5312108.86	2183.274	5	209.745	AST Survey Line 3.5	20 m stop	
01/06/26 04:32:59.00	493140.42	5312107.87	2182.639	6	209.236	AST Survey Line 3.5	go	
01/06/26 04:35:13.00	493135.85	5312088.21	2183.36	6.2	210.766	AST Survey Line 3.5	station	
01/06/26 04:36:14.00	493133.61	5312089.09	2182.706	6.7	208.911	AST Survey Line 3.5	go	
01/06/26 04:37:29.00	493121.17	5312067.94	2179.94	6.1	204.75	AST Survey Line 3.5	20 m stop	
01/06/26 04:38:32.00	493121.17	5312067.94	2179.899	6.1	202.715	AST Survey Line 3.5	go	
01/06/26 04:39:36.00	493114.56	5312050.2	2182.143	5.4	208.805	AST Survey Line 3.5	20 m stop	
01/06/26 04:40:37.00	493112.97	5312043.09	2181.899	5.5	203.347	AST Survey Line 3.5	go	
01/06/26 04:43:31.00	493110.84	5312021.99	2187.124	4.9	206.71	AST Survey Line 3.5	20 m stop	
01/06/26 04:44:31.00	493111.54	5312022.26	2187.124	5.1	204.375	AST Survey Line 3.5	go	
01/06/26 04:46:04.00	493100.01	5312002.84	2187.287	6.1	208.597	AST Survey Line 3.5	20 m stop	
01/06/26 04:47:04.00	493101.84	5311998.22	2187.004	6.1	203.845	AST Survey Line 3.5	go	
01/06/26 04:49:27.00	493087.2	5311975.95	2188.488	4.9	206.137	AST Survey Line 3.5	20 m stop	
01/06/26 04:50:34.00	493089.31	5311975.12	2187.842	5.2	200.309	AST Survey Line 3.5	go	
01/06/26 04:51:34.00	493084.16	5311956.85	2186.833	5.4	207.599	AST Survey Line 3.5	20 m stop	
01/06/26 04:51:49.00	493084.16	5311956.85	2187.03	5.5	203.268	AST Survey Line 3.5	poor fix	
01/06/26 04:52:35.00	493082.14	5311951.06	2186.938	5.3	204.449	AST Survey Line 3.5	go	
01/06/26 04:54:27.00	493075.71	5311936.34	2187.898	4.9	205.163	AST Survey Line 3.5	VID_GRAB	
01/06/26 04:54:43.00	493075.63	5311933.32	2187.896	5.6	203.643	AST Survey Line 3.5	20 m stop	
01/06/26 04:55:43.00	493074.85	5311933.8	2187.809	5	204.185	AST Survey Line 3.5	go	
01/06/26 04:58:18.00	493075.69	5311924.49	2190.046	4.2	318.767	AST Survey Line 3.5	VID_GRAB	sulfide
01/06/26 05:00:14.00	493067.36	5311922.13	2186.061	5.4	193.126	AST Survey Line 3.5	20 m stop	
01/06/26 05:01:16.00	493060.65	5311915.54	2186.147	5.5	191.666	AST Survey Line 3.5	go	
01/06/26 05:01:23.00	493060.78	5311915.08	2186.167	6	184.985	AST Survey Line 3.5	nav is better	
01/06/26 05:03:21.00	493061.83	5311903.4	2193.631	5.5	198.186	AST Survey Line 3.5	20 m stop	
01/06/26 05:03:30.00	493061.83	5311903.4	2193.411	5.7	197.763	AST Survey Line 3.5	nav poor	
01/06/26 05:04:48.00	493053.34	5311890.44	2195.206	2.1	206.359	AST Survey Line 3.5	VID_GRAB	
01/06/26 05:07:48.00	493040.76	5311868.91	2189.928	5.1	218.822	AST Survey Line 3.5	20 m stop	
01/06/26 05:08:50.00	493040.49	5311865.64	2190.009	5.3	215.472	AST Survey Line 3.5	go	



Date & Time	UTM (X)	UTM (Y)	Depth (m)	Alt. (m)	Heading		Event	
01/06/26 05:11:31.00	493041.78	5311841.08	2190.934	4.7	204.407	AST Survey Line 3.5	20 m stop	
01/06/26 05:12:31.00	493048.7	5311839.21	2190.115	5.6	201.74	AST Survey Line 3.5	go	
01/06/26 05:13:30.00	493048.31	5311839.61	2188.624	2.8	218.174	AST Survey Line 3.5	poor nav	
01/06/26 05:14:28.00	493023.94	5311820.03	2179.199	5	211.627	AST Survey Line 3.5	20 m stop	
01/06/26 05:15:34.00	493023.41	5311818.56	2179.192	10.6	211.777	AST Survey Line 3.5	go	
01/06/26 05:18:06.00	493018.76	5311806.18	2189.789	5.3	209.54	AST Survey Line 3.5	20 m stop	
01/06/26 05:19:06.00	493022.03	5311805.03	2189.436	6.3	206.105	AST Survey Line 3.5	go	
01/06/26 05:20:15.00	493012.23	5311790.24	2183.887	4.5	217.893	AST Survey Line 3.5	problems with nav because of ridge -	
						Jason is not communicating with transponders		
01/06/26 05:20:36.00	493013.34	5311776.53	2179.605	6.2	213.104	AST Survey Line 3.5	20 m stop	
01/06/26 05:21:37.00	493009.83	5311773.39	2180.59	5.6	211.054	AST Survey Line 3.5	go	
01/06/26 05:23:18.00	493005.31	5311754.32	2185.395	8.5	210.219	AST Survey Line 3.5	20 m stop	
01/06/26 05:24:16.00	493006.81	5311753.11	2185.774	8.2	210.484	AST Survey Line 3.5	go	
01/06/26 05:26:15.00	493001.42	5311731.7	2183.694	6	210.915	AST Survey Line 3.5	20 m stop	
01/06/26 05:27:17.00	492999.68	5311732.05	2184.392	5.4	209.738	AST Survey Line 3.5	go	
01/06/26 05:29:14.00	492991.79	5311711.19	2183.201	8.4	212.019	AST Survey Line 3.5	20 m stop	
01/06/26 05:30:15.00	492992.96	5311708.81	2182.842	9	209.264	AST Survey Line 3.5	go	
01/06/26 05:31:31.00	492983.69	5311691.01	2180.041	5.2	213.759	AST Survey Line 3.5	20 m stop	
01/06/26 05:32:29.00	492983.48	5311688.49	2180.485	4.7	210.089	AST Survey Line 3.5	go	
01/06/26 05:33:44.00	492976.01	5311668.86	2179.866	4.2	211.688	AST Survey Line 3.5	20 m stop	
01/06/26 05:34:46.00	492977.53	5311667.09	2179.727	4.2	209.281	AST Survey Line 3.5	go	
01/06/26 05:37:31.00	492965.12	5311641.23	2171.798	6	196.101	AST Survey Line 3.5	20 m stop	
01/06/26 05:38:30.00	492967.31	5311640.87	2173.368	5.6	194.121	AST Survey Line 3.5	go	
01/06/26 05:39:56.00	492960.65	5311629.13	2176.422	6.7	202.189	AST Survey Line 3.5	20 m stop	
01/06/26 05:41:00.00	492960.76	5311621.62	2176.515	7.5	199.579	AST Survey Line 3.5	go	
01/06/26 05:42:44.00	492954.74	5311604.95	2181.453	5.7	203.988	AST Survey Line 3.5	20 m stop	
01/06/26 05:43:46.00	492955.87	5311601.75	2181.606	5.7	197.209	AST Survey Line 3.5	go	
01/06/26 05:45:04.00	492945.59	5311581.01	2178.611	5.2	196.907	AST Survey Line 3.5	20 m stop	
01/06/26 05:46:03.00	492947.32	5311580.55	2179.357	4.5	194.903	AST Survey Line 3.5	go	
01/06/26 05:47:18.00	492938.98	5311563.76	2176.635	5	197.798	AST Survey Line 3.5	20 m stop	
01/06/26 05:48:20.00	492939.12	5311556.51	2177.427	4.7	203.808	AST Survey Line 3.5	go	
01/06/26 05:49:55.00	492931.17	5311535.29	2176.116	6.9	208.224	AST Survey Line 3.5	changing the baseline, which will	
							interfere with the navigation	
01/06/26 05:50:18.00	492933.05	5311532.74	2176.262	6	207.208	AST Survey Line 3.5	20 m stop	
01/06/26 05:51:22.00	492933.05	5311532.74	2176.122	4.9	204.379	AST Survey Line 3.5	go	
01/06/26 05:53:24.00	492933.05	5311532.74	2175.85	6.8	204.406	AST Survey Line 3.5	20 m stop	

Date & Time	UTM (X)	UTM (Y)	Depth (m)	Alt. (m)	Heading		Event	
01/06/26 05:54:25.00	492933.05	5311532.74	2176.096	6.6	205.144	AST Survey Line 3.5	go	
01/06/26 05:56:41.00	492933.05	5311532.74	2177.546	5.1	203.83	AST Survey Line 3.5	20 m stop	
01/06/26 05:57:40.00	492933.05	5311532.74	2177.553	5.1	202.883	AST Survey Line 3.5	go	
01/06/26 05:58:53.00	492933.05	5311532.74	2177.553	5.7	184.206	AST Survey Line 3.5	VID_GRAB	
01/06/26 05:58:58.00	492933.05	5311532.74	2177.773	5.7	175.796	AST Survey Line 3.5	VID_GRAB	
01/06/26 05:59:08.00	492933.05	5311532.74	2179.283	4.8	177.743	AST Survey Line 3.5	VID_GRAB	
01/06/26 05:59:29.00	492933.05	5311532.74	2181.905	2.6	214.176	AST Survey Line 3.5	VID_GRAB	
01/06/26 05:59:33.00	492933.05	5311532.74	2182.425	2	214.955	AST Survey Line 3.5	VID_GRAB	
01/06/26 06:01:08.00	492933.05	5311532.74	2174.055	5.3	205.196	AST Survey Line 3.5	20 m stop	
01/06/26 06:02:11.00	493095.84	5310841.59	2174.235	5.6	201.865	AST Survey Line 3.5	go	
01/06/26 06:03:15.00	502045.1	5308071.52	2179.949	5.4	205.539	AST Survey Line 3.5	20 m stop	
01/06/26 06:04:18.00	502120.91	5308042.15	2179.456	5.9	202.47	AST Survey Line 3.5	go	
01/06/26 06:04:42.00	493103.15	5310833.47	2179.319	6.9	203.956	AST Survey Line 3.5	@#^%\$\$#^%^^%	
01/06/26 06:05:10.00	493106.78	5310810.83	2179.233	5.7	204.091	AST Survey Line 3.5	still having many problems with the	
							navigation	
01/06/26 06:05:55.00	493106.56	5310810.2	2179.193	5	201.21	AST Survey Line 3.5		
01/06/26 06:06:31.00	493107.67	5310806.36	2179.398	4.1	202.705	AST Survey Line 3.5	20 m stop	
01/06/26 06:07:36.00	493109.12	5310805.28	2179.392	4.1	203.277	AST Survey Line 3.5	go	
01/06/26 06:10:33.00	502026.03	5308079.12	2181.497	4.3	207.215	AST Survey Line 3.5		
01/06/26 06:16:05.00	492894.94	5311446.49	2179.145	5.3	194.501	AST Survey Line 3.5	nav is still poor, due to wall	
01/06/26 06:16:07.00	492894.94	5311446.49	2179.155	5.3	194.606	AST Survey Line 3.5	20 m stop	
01/06/26 06:17:12.00	492897.9	5311447.49	2179.112	6.3	193.595	AST Survey Line 3.5	go	
01/06/26 06:20:01.00	492886.53	5311421.07	2174.79	5.5	201.94	AST Survey Line 3.5	20 m stop	
01/06/26 06:21:23.00	492886.86	5311422.04	2175.187	5.2	191.187	AST Survey Line 3.5	station repeat	
01/06/26 06:21:45.00	492888.41	5311421.84	2175.096	5.4	191.319	AST Survey Line 3.5	nav up	
01/06/26 06:22:19.00	492888.41	5311421.84	2174.983	5.5	190.865	AST Survey Line 3.5	go	
01/06/26 06:24:27.00	492878.05	5311405.54	2172.388	5.5	202.015	AST Survey Line 3.5	20 m stop	
01/06/26 06:25:26.00	492878.96	5311406.83	2173.273	5.2	193.571	AST Survey Line 3.5	go	
01/06/26 06:26:53.00	492872.11	5311382.25	2180.04	4.7	206.648	AST Survey Line 3.5	20 m stop	
01/06/26 06:27:53.00	492871.9	5311381.37	2180.259	4.5	203.674	AST Survey Line 3.5	go	
01/06/26 06:29:16.00	492867.4	5311363.04	2182.921	4.7	213.135	AST Survey Line 3.5	20 m stop	
01/06/26 06:30:15.00	492866.23	5311362.95	2182.262	5.9	210.54	AST Survey Line 3.5	go	
01/06/26 06:32:35.00	492856.49	5311341.57	2180.845	5.1	204.909	AST Survey Line 3.5	20 m stop	
01/06/26 06:33:08.00	492856.49	5311341.57	2180.852	5.5	198.788	AST Survey Line 3.5	go	
01/06/26 06:35:07.00	492851.22	5311315.24	2183.068	5.6	207.392	AST Survey Line 3.5	20 m stop	
01/06/26 06:36:08.00	492854.56	5311318.85	2182.702	6.2	188.489	AST Survey Line 3.5	go	

Date & Time	UTM (X)	UTM (Y)	Depth (m)	Alt. (m)	Heading		Event	
01/06/26 06:37:45.00	492847.16	5311302.28	2183.52	5	196.896	AST Survey Line 3.5	20 m stop	
01/06/26 06:38:43.00	492843.91	5311297.07	2183.461	5.3	195.511	AST Survey Line 3.5	go	
01/06/26 06:40:20.00	492831.06	5311272.47	2179.201	5.7	194.933	AST Survey Line 3.5	20 m stop	
01/06/26 06:41:21.00	492830.45	5311273.51	2180.18	5.1	198.846	AST Survey Line 3.5	go	
01/06/26 06:42:54.00	492827.66	5311250.67	2184.665	5.5	199.663	AST Survey Line 3.5	20 m stop	
01/06/26 06:43:56.00	492828.13	5311250.35	2184.939	5.2	197.826	AST Survey Line 3.5	go	
01/06/26 06:45:31.00	492828.33	5311249.43	2184.872	5.2	197.671	AST Survey Line 3.5		
01/06/26 06:46:51.00	492828.01	5311243.54	2183.195	4.3	188.597	AST Survey Line 3.5	New CTD file 308032	
01/06/26 06:47:13.00	492826.56	5311234.91	2180.969	5.2	197.166	AST Survey Line 3.5	20 m stop	
01/06/26 06:48:13.00	492826.56	5311234.91	2181.754	4.5	194.128	AST Survey Line 3.5	VID_GRAB	
01/06/26 06:48:14.00	492826.56	5311234.91	2181.754	4.4	193.357	AST Survey Line 3.5	go	
01/06/26 06:49:52.00	492814.59	5311207.29	2185.837	3	205.099	AST Survey Line 3.5	20 m stop	
01/06/26 06:50:12.00	492814.59	5311207.29	2185.544	3.1	202.887	AST Survey Line 3.5	VID_GRAB	
01/06/26 06:50:34.00	492814.59	5311207.29	2185.657	2.8	200.732	AST Survey Line 3.5	VID_GRAB	
01/06/26 06:50:51.00	492814.59	5311207.29	2185.662	2.8	200.899	AST Survey Line 3.5	go	
01/06/26 06:51:33.00	492814.59	5311207.29	2181.71	3.1	195.149	AST Survey Line 3.5	VID_GRAB	
01/06/26 06:51:59.00	492806.51	5311192.11	2179.667	4.7	194.102	AST Survey Line 3.5	20 m stop	
01/06/26 06:53:04.00	492806.77	5311194.31	2179.785	3.5	196.014	AST Survey Line 3.5	go	
01/06/26 06:54:04.00	492806.39	5311189.25	2174.182	4.7	189.274	AST Survey Line 3.5	20 m stop	
01/06/26 06:55:05.00	492801.41	5311175.75	2174.845	3.8	188.253	AST Survey Line 3.5	go	
01/06/26 06:55:43.00	492801.41	5311175.75	2173.703	5.2	193.829	AST Survey Line 3.5	VID_GRAB	
01/06/26 06:56:29.00	492801.41	5311175.75	2171.188	4.3	209.137	AST Survey Line 3.5	20 m stop	
01/06/26 06:56:39.00	492794.29	5311151.3	2171.588	4	209.965	AST Survey Line 3.5	VID_GRAB	
01/06/26 06:57:33.00	492793.04	5311151.36	2171.725	4	204.681	AST Survey Line 3.5	go	
01/06/26 06:57:40.00	492793.04	5311151.36	2170.854	4.4	202.728	AST Survey Line 3.5	VID_GRAB	
01/06/26 06:58:33.00	492788.72	5311141.38	2167.308	3	193.272	AST Survey Line 3.5	20 m stop	
01/06/26 06:58:38.00	492788.72	5311141.38	2167.448	4.4	200.857	AST Survey Line 3.5	VID_GRAB	
01/06/26 06:58:44.00	492788.72	5311141.38	2167.448	4.4	199.589	AST Survey Line 3.5	VID_GRAB	
01/06/26 06:58:51.00	492785.59	5311132.8	2167.402	6.2	196.16	AST Survey Line 3.5	VID_GRAB	
01/06/26 06:59:34.00	492785.5	5311132.03	2167.568	6.2	198.819	AST Survey Line 3.5	go	
01/06/26 07:00:08.00	492785.5	5311132.03	2169.064	6	199.506	AST Survey Line 3.5	VID_GRAB	
01/06/26 07:00:50.00	492785.02	5311116.02	2168.858	2.9	208.609	AST Survey Line 3.5	VID_GRAB	
01/06/26 07:00:55.00	492785.02	5311116.02	2168.798	2.9	210.966	AST Survey Line 3.5	20 m stop	
01/06/26 07:01:55.00	492785.02	5311116.02	2168.984	3.1	208.74	AST Survey Line 3.5	go	
01/06/26 07:02:15.00	492780.79	5311113.44	2167.182	4.3	263.283	AST Survey Line 3.5	VID_GRAB	
01/06/26 07:03:29.00	492767.89	5311109.76	2165.792	3.6	220.605	AST Survey Line 3.5	20 m stop	

Date & Time	UTM (X)	UTM (Y)	Depth (m)	Alt. (m)	Heading		Event	
01/06/26 07:03:38.00	492767.89	5311109.76	2166.144	3.7	213.791	AST Survey Line 3.5	VID_GRAB	
01/06/26 07:04:29.00	492764.24	5311095.57	2166.364	3	215.833	AST Survey Line 3.5	go	
01/06/26 07:04:48.00	492764.62	5311094.66	2166.208	2.1	218.369	AST Survey Line 3.5	VID_GRAB	
01/06/26 07:05:38.00	492758.26	5311081.71	2160.224	6.3	216.943	AST Survey Line 3.5	20 m stop	
01/06/26 07:06:38.00	492758	5311080.4	2161.267	5.6	215.003	AST Survey Line 3.5	go	
01/06/26 07:06:41.00	492758	5311080.4	2161.256	5.1	210.798	AST Survey Line 3.5	VID_GRAB	
01/06/26 07:07:07.00	492758	5311080.4	2161.19	1.8	214.278	AST Survey Line 3.5	VID_GRAB	
01/06/26 07:08:01.00	492751.5	5311063.58	2158.501	3.9	214.818	AST Survey Line 3.5	20 m stop	
01/06/26 07:08:07.00	492751.5	5311063.58	2158.501	4.2	209.66	AST Survey Line 3.5	VID_GRAB	
01/06/26 07:08:12.00	492748.41	5311059.85	2158.562	4.7	213.666	AST Survey Line 3.5	VID_GRAB	
01/06/26 07:09:03.00	492748.69	5311059.86	2158.521	4.7	215.774	AST Survey Line 3.5	go	
01/06/26 07:09:47.00	492749.11	5311054.52	2158.424	4.6	217.771	AST Survey Line 3.5	VID_GRAB	
01/06/26 07:09:55.00	492744.22	5311048.67	2158.53	4.8	212.143	AST Survey Line 3.5	VID_GRAB	
01/06/26 07:10:45.00	492743.86	5311039.95	2158.468	6.3	214.826	AST Survey Line 3.5	20 m stop	
01/06/26 07:11:46.00	492747.47	5311037.33	2158.388	7.8	216.819	AST Survey Line 3.5	go	
01/06/26 07:12:42.00	492740.2	5311022.07	2161.689	6.4	218.846	AST Survey Line 3.5	20 m stop	
01/06/26 07:12:53.00	492741.31	5311019.09	2161.368	6.7	215.933	AST Survey Line 3.5	VID_GRAB	
01/06/26 07:13:50.00	492741.86	5311018.56	2161.041	7.6	207.984	AST Survey Line 3.5	go	
01/06/26 07:14:34.00	492736.55	5311006.59	2161.813	5.8	220.263	AST Survey Line 3.5	20 m stop	
01/06/26 07:15:42.00	492734.34	5311003.65	2162.451	5.4	213.271	AST Survey Line 3.5	go	
01/06/26 07:16:40.00	492727.87	5310986.86	2163.695	5.7	217.774	AST Survey Line 3.5	20 m stop	
01/06/26 07:17:39.00	492727.95	5310985.55	2163.183	6.7	215.859	AST Survey Line 3.5	go	
01/06/26 07:18:30.00	492722.43	5310971.34	2165.59	5.4	218.297	AST Survey Line 3.5	20 m stop	
01/06/26 07:19:33.00	492722.38	5310969.6	2166.188	4.9	215.625	AST Survey Line 3.5	go	
01/06/26 07:20:23.00	492717.71	5310960.5	2168.776	6	214.967	AST Survey Line 3.5	20 m stop	
01/06/26 07:20:35.00	492715.27	5310953.33	2168.476	6.1	215.392	AST Survey Line 3.5	VID_GRAB	
01/06/26 07:21:25.00	492715.57	5310953.15	2168.461	6.1	216.031	AST Survey Line 3.5	go	
01/06/26 07:22:05.00	492714.39	5310949.38	2169.488	7.5	219.45	AST Survey Line 3.5	20 m stop	
01/06/26 07:23:06.00	492711.33	5310942.86	2169.013	8.2	215.947	AST Survey Line 3.5	go	
01/06/26 07:24:02.00	492706.86	5310932.92	2173.133	5.6	219.469	AST Survey Line 3.5	20 m stop	
01/06/26 07:25:01.00	492704.42	5310928.6	2173.187	5.5	215.687	AST Survey Line 3.5	go	
01/06/26 07:26:31.00	492693.67	5310908.59	2175.621	6.6	210.843	AST Survey Line 3.5	20 m stop	
01/06/26 07:27:31.00	492694.91	5310906.77	2175.654	6.5	216.111	AST Survey Line 3.5	go	
01/06/26 07:28:31.00	492686.41	5310891.8	2178.968	4.6	213.008	AST Survey Line 3.5	20 m stop	
01/06/26 07:29:30.00	492686.69	5310888.17	2178.789	4.1	215.992	AST Survey Line 3.5	go	
01/06/26 07:29:37.00	492686.69	5310888.17	2178.791	4.9	216.543	AST Survey Line 3.5	VID_GRAB	

Date & Time	UTM (X)	UTM (Y)	Depth (m)	Alt. (m)	Heading		Event	
01/06/26 07:30:17.00	492688.26	5310885.15	2175.83	6.2	209.193	AST Survey Line 3.5	VID_GRAB	
01/06/26 07:30:21.00	492688.26	5310885.15	2175.062	7.3	209.466	AST Survey Line 3.5	VID_GRAB	
01/06/26 07:31:33.00	492685.42	5310871.41	2178.491	7.5	208.567	AST Survey Line 3.5	20 m stop	
01/06/26 07:32:36.00	492684.99	5310865.83	2177.859	10.2	202.18	AST Survey Line 3.5	go	
01/06/26 07:34:00.00	492676.85	5310842.97	2182.831	6.8	209.486	AST Survey Line 3.5	20 m stop	
01/06/26 07:35:01.00	492678.27	5310841.03	2182.225	7.1	204.774	AST Survey Line 3.5	VID_GRAB	
01/06/26 07:35:04.00	492678.27	5310841.03	2182.238	7.2	202.348	AST Survey Line 3.5	go	
01/06/26 07:35:42.00	492672.89	5310832.89	2181.992	5.3	211.417	AST Survey Line 3.5	20 m stop	
01/06/26 07:36:43.00	492665.62	5310826.3	2182.171	5.5	207.894	AST Survey Line 3.5	go	
01/06/26 07:37:44.00	492662.09	5310811.55	2184.162	5.8	205.621	AST Survey Line 3.5	20 m stop	
01/06/26 07:38:46.00	492659.57	5310811.09	2183.776	6.4	206.489	AST Survey Line 3.5	go	
01/06/26 07:38:49.00	492659.57	5310811.09	2183.762	6.4	206.546	AST Survey Line 3.5	VID_GRAB	
01/06/26 07:39:39.00	492660.12	5310798.07	2184.801	6.2	211.185	AST Survey Line 3.5	20 m stop	
01/06/26 07:40:44.00	492657.53	5310793.1	2184.355	6.6	199.363	AST Survey Line 3.5	go	
01/06/26 07:41:29.00	492645.71	5310786.4	2184.022	5.9	200.764	AST Survey Line 3.5	20 m stop	
01/06/26 07:44:06.00	492646.95	5310765.08	2183.755	4.2	207.453	AST Survey Line 3.5	go	
01/06/26 07:44:08.00	492646.95	5310765.08	2183.749	4.2	201.295	AST Survey Line 3.5	20 m stop	
01/06/26 07:45:05.00	492645.55	5310755.81	2184.069	3.8	207.386	AST Survey Line 3.5	go	
01/06/26 07:46:46.00	492642.23	5310748.57	2183.283	4.6	201.387	AST Survey Line 3.5	VID_GRAB	
01/06/26 07:46:50.00	492638.67	5310741.21	2183.263	5.3	208.011	AST Survey Line 3.5	VID_GRAB	
01/06/26 07:46:53.00	492638.67	5310741.21	2183.283	5	206.683	AST Survey Line 3.5	20 m stop	
01/06/26 07:47:54.00	492639.4	5310738.9	2183.716	4.4	210.017	AST Survey Line 3.5	go	
01/06/26 07:48:42.00	492637.32	5310730.71	2183.663	4	205.167	AST Survey Line 3.5	VID_GRAB	
01/06/26 07:48:58.00	492637.32	5310730.71	2182.864	3	202.13	AST Survey Line 3.5	VID_GRAB	
01/06/26 07:49:04.00	492637.32	5310730.71	2182.997	2.8	207.055	AST Survey Line 3.5	20 m stop	
01/06/26 07:50:04.00	492635.8	5310714.84	2183.423	4.7	206.391	AST Survey Line 3.5	go	
01/06/26 07:50:42.00	492634.84	5310711.77	2183.376	5.4	201.575	AST Survey Line 3.5	VID_GRAB	
01/06/26 07:51:07.00	492634.13	5310704.72	2182.504	4.2	210.067	AST Survey Line 3.5	VID_GRAB	
01/06/26 07:51:15.00	492630.97	5310696.4	2181.153	5.6	208.637	AST Survey Line 3.5	20 m stop	
01/06/26 07:52:18.00	492631.29	5310695.63	2181.653	5	207.237	AST Survey Line 3.5	go	
01/06/26 07:53:25.00	492623.76	5310684.87	2180.475	6.1	204.2	AST Survey Line 3.5	20 m stop	
01/06/26 07:54:47.00	492625.52	5310677.81	2180.281	5.7	214.809	AST Survey Line 3.5	VID_GRAB	
01/06/26 07:55:33.00	492615.85	5310664.4	2176.792	7	203.617	AST Survey Line 3.5	VID_GRAB	
01/06/26 07:55:36.00	492615.85	5310664.4	2176.366	6.8	206.288	AST Survey Line 3.5	20 m stop	
01/06/26 07:56:36.00	492614.49	5310663.1	2177.152	6.3	207.864	AST Survey Line 3.5	go	
01/06/26 07:57:25.00	492609.45	5310656.83	2174.696	5	206.066	AST Survey Line 3.5	VID_GRAB	

Date & Time	UTM (X)	UTM (Y)	Depth (m)	Alt. (m)	Heading		Event	
01/06/26 07:57:33.00	492607.47	5310652.65	2174.335	4.4	200.131	AST Survey Line 3.5	VID_GRAB	
01/06/26 07:57:54.00	492604.46	5310647.37	2173.353	6	207.167	AST Survey Line 3.5	20 m stop	
01/06/26 07:58:54.00	492605.53	5310645.06	2173.557	5.8	205.514	AST Survey Line 3.5	go	
01/06/26 08:00:01.00	492600.99	5310636.45	2180.37	4	209.022	AST Survey Line 3.5	20 m stop	
01/06/26 08:01:04.00	492600.89	5310633.43	2179.738	4.3	208.613	AST Survey Line 3.5	go	
01/06/26 08:03:18.00	492590.09	5310610.52	2182.194	4.2	213.718	AST Survey Line 3.5	20 m stop	
01/06/26 08:04:09.00	492592.25	5310611.08	2182.271	4.1	206.51	AST Survey Line 3.5	go	
01/06/26 08:05:25.00	492584.54	5310593.67	2180.512	5.7	211.225	AST Survey Line 3.5	20 m stop	
01/06/26 08:06:22.00	492584.58	5310587.51	2181.097	6	211.073	AST Survey Line 3.5	go	
01/06/26 08:07:39.00	492573.26	5310570.26	2179.414	6.4	216.225	AST Survey Line 3.5	20 m stop	
01/06/26 08:08:42.00	492573.41	5310564.94	2179.492	6	208.958	AST Survey Line 3.5	go	
01/06/26 08:09:06.00	492573.74	5310565.15	2178.948	3.7	217.41	AST Survey Line 3.5	VID_GRAB	
01/06/26 08:09:43.00	492566.78	5310557.39	2175.393	5.8	215.034	AST Survey Line 3.5	20 m stop	
01/06/26 08:10:46.00	492565.33	5310550.44	2175.699	5.9	214.406	AST Survey Line 3.5	go	
01/06/26 08:11:41.00	492562.02	5310548.73	2175.053	4.9	220.81	AST Survey Line 3.5	VID_GRAB	
01/06/26 08:12:08.00	492556.49	5310542.79	2171.407	4.9	217.738	AST Survey Line 3.5	20 m stop	
01/06/26 08:13:13.00	492553.63	5310537.62	2171.946	6.1	216.906	AST Survey Line 3.5	go	
01/06/26 08:14:54.00	492555.58	5310515.77	2174.481	4.4	211.964	AST Survey Line 3.5	VID_GRAB	
01/06/26 08:15:13.00	492555.58	5310515.77	2171.731	5.6	210.389	AST Survey Line 3.5	20 m stop	
01/06/26 08:16:16.00	492552.27	5310510.82	2172.452	5.3	211.384	AST Survey Line 3.5	gogo	
01/06/26 08:16:37.00	492552.16	5310509.52	2172.662	4.8	216.201	AST Survey Line 3.5	VID_GRAB	
01/06/26 08:16:47.00	492552.16	5310509.52	2171.891	4.5	210.325	AST Survey Line 3.5	VID_GRAB	
01/06/26 08:17:32.00	492545.04	5310494.8	2169.809	5.1	208.65	AST Survey Line 3.5	20 m stop	
01/06/26 08:17:38.00	492545.04	5310494.8	2169.839	5.3	217.467	AST Survey Line 3.5	VID_GRAB	
01/06/26 08:18:34.00	492549.66	5310491.78	2170.451	4.6	206.331	AST Survey Line 3.5	go	
01/06/26 08:18:39.00	492549.66	5310491.78	2170.406	4.6	214.579	AST Survey Line 3.5	VID_GRAB	
01/06/26 08:19:34.00	492536.12	5310475.26	2168.556	5	215.29	AST Survey Line 3.5	VID_GRAB	
01/06/26 08:19:37.00	492536.12	5310475.26	2168.163	4.9	211.458	AST Survey Line 3.5	VID_GRAB	
01/06/26 08:19:53.00	492533.73	5310473.93	2166.799	5.2	217.648	AST Survey Line 3.5	20 m stop	
01/06/26 08:20:55.00	492533.43	5310470.3	2166.933	5	213.198	AST Survey Line 3.5	go	
01/06/26 08:21:29.00	492528.16	5310462.33	2164.16	4.4	207.338	AST Survey Line 3.5	VID_GRAB	
01/06/26 08:22:34.00	492528.18	5310449.76	2166.168	5.9	219.095	AST Survey Line 3.5	20 m stop	
01/06/26 08:23:37.00	492528.33	5310447.2	2165.663	6.5	210.907	AST Survey Line 3.5	go	
01/06/26 08:25:13.00	492520.69	5310427.97	2164.093	6.1	211.782	AST Survey Line 3.5	20 m stop	
01/06/26 08:26:11.00	492520.55	5310427.79	2164.273	6	212.353	AST Survey Line 3.5	go	
01/06/26 08:28:34.00	492516.84	5310401.66	2161.573	5.3	218.599	AST Survey Line 3.5	20 m stop	

Date & Time	UTM (X)	UTM (Y)	Depth (m)	Alt. (m)	Heading		Event	
01/06/26 08:28:44.00	492516.84	5310401.66	2161.958	5.2	214.22	AST Survey Line 3.5	VID_GRAB	
01/06/26 08:28:47.00	492516.84	5310401.66	2162.045	5.2	214.298	AST Survey Line 3.5	VID_GRAB	
01/06/26 08:29:36.00	492516.92	5310399.57	2162.138	4.6	213.292	AST Survey Line 3.5	go	
01/06/26 08:31:32.00	492499.07	5310376.53	2151.703	5.5	207.69	AST Survey Line 3.5	20 m stop	20 m stop
01/06/26 08:31:38.00	492499.07	5310376.53	2151.707	5.5	206.948	AST Survey Line 3.5	VID_GRAB	
01/06/26 08:31:47.00	492499.07	5310376.53	2152.106	5.7	205.579	AST Survey Line 3.5	VID_GRAB	
01/06/26 08:31:50.00	492499.19	5310375.7	2152.201	5.2	205.305	AST Survey Line 3.5	VID_GRAB	
01/06/26 08:32:00.00	492499.19	5310375.7	2152.299	5.5	204.681	AST Survey Line 3.5	VID_GRAB	
01/06/26 08:32:38.00	492499.2	5310375.88	2152.267	5.6	204.217	AST Survey Line 3.5	go	
01/06/26 08:35:25.00	492495.9	5310356.62	2146.442	8.3	204.216	AST Survey Line 3.5	20 m stop	
01/06/26 08:36:22.00	492498.27	5310354.36	2145.704	9.9	198.572	AST Survey Line 3.5	go	
01/06/26 08:38:05.00	492487.92	5310338.79	2132.836	5.4	209.707	AST Survey Line 3.5	20 m stop	
01/06/26 08:39:10.00	492484.84	5310335.94	2133.056	5.1	207.622	AST Survey Line 3.5	go	
01/06/26 08:41:30.00	492475.77	5310306.94	2132.651	7.9	212.341	AST Survey Line 3.5	20 m stop	
01/06/26 08:42:29.00	492475.09	5310307.69	2132.565	9.9	211.282	AST Survey Line 3.5	go	
01/06/26 08:42:48.00	492475.09	5310307.69	2132.546	9.3	203.294	AST Survey Line 3.5	End of AST	
01/06/26 08:43:40.00	492464.32	5310290.74	2132.538	5.7	179.779	AST Survey Line 3.5	If there is ever anymore AST we will kill ourselves	
01/06/26 09:15:49.00	492574.14	5310380.1	2191.658	3	134.962	AST Survey Line 3.5	VID_GRAB	
01/06/26 09:16:04.00	492574.14	5310380.1	2192.111	4	151.197	AST Survey Line 3.5	VID_GRAB	
01/06/26 09:16:25.00	492579.13	5310374.99	2194.814	1.6	170.668	VID_GRAB		
01/06/26 09:16:45.00	492580.27	5310371.75	2194.981	1.7	169.443	MAV 61		
01/06/26 09:16:59.00	492581.51	5310370.54	2195.027	1.5	171.51	VID_GRAB		
01/06/26 09:17:15.00	492581.51	5310370.54	2195.613	1	205.013	VID_GRAB		
01/06/26 09:17:22.00	492581.51	5310370.54	2196.026	30	204.728	VID_GRAB		
01/06/26 09:17:36.00	492582.29	5310367.56	2195.94	0.8	209.676	VID_GRAB		
01/06/26 09:19:48.00	492582.38	5310365.74	2196.152	30	216.637	VID_GRAB		
01/06/26 09:23:29.00	492578.63	5310370.19	2190.776	5.7	244.509	MAV 61 is on Jason		
01/06/26 09:48:12.00	492715.18	5310470.2	2210.91	30	167.43	Setting down the Mav to pick up the thermal blanket		
01/06/26 09:49:44.00	492714.39	5310470.82	2211.004	30	139.488	The thermal blanket is on Jason		
01/06/26 10:46:01.00	493171.06	5310559.07	2108.331	3.8	147.697	at elevator		
01/06/26 10:48:31.00	493167.59	5310561.19	2107.675	3.9	142.366	VID_GRAB		
01/06/26 10:54:16.00	493160.42	5310553.49	2111.167	1.9	162.701	VID_GRAB		
01/06/26 11:18:09.00	493137.13	5310564.96	2178.279	0.7	243.618	repositioning thermal blanket in order to fire Jason Niskins		
01/06/26 11:21:14.00	493137.13	5310564.96	2178.269	0.7	242.246	Jason Niskins	niskins fired	
01/06/26 11:27:30.00	493137.13	5310564.96	2178.312	0.7	238.801	Jason Niskins	second niskin fired	

[illegible]



Date & Time	UTM (X)	UTM (Y)	Depth (m)	Alt. (m)	Heading		Event		
01/06/27 19:47:37.00	492497.86	5307537.36	-5.69	30	66.624	elevator N3 493579, 5312197			
01/06/27 19:47:54.00	492497.86	5307537.36	-5.69	30	66.624	south elevator is over the side, preparing for jason 309			
01/06/27 20:15:29.00	492497.86	5307537.36	-5.69	30	66.624	doing UW CTD/ADCP test			
01/06/27 20:18:32.00	492497.86	5307537.36	-3.655	0	127.312				
01/06/27 20:18:51.00	492497.86	5307537.36	-3.655	0	127.312	test successful, 30 minutes until dive 309			
01/06/27 20:59:38.00	492497.86	5307537.36	-4.814	30	45.748	jason in the air			
01/06/27 20:59:49.00	492497.86	5307537.36	-4.82	30	41.056	for lowering JAS309			
01/06/27 21:00:05.00	492497.86	5307537.36	-4.79	30	355.57	VID_GRAB	deck		
01/06/27 21:00:16.00	492497.86	5307537.36	-4.792	30	294.561	VID_GRAB			
01/06/27 21:00:22.00	492497.86	5307537.36	-4.785	30	292.545	VID_GRAB			
01/06/27 21:00:26.00	492497.86	5307537.36	-4.774	30	269.484	VID_GRAB			
01/06/27 21:00:28.00	492497.86	5307537.36	-4.768	30	256.602	VID_GRAB			
01/06/27 21:00:30.00	492497.86	5307537.36	-4.774	30	256.155	VID_GRAB			
01/06/27 21:00:32.00	492497.86	5307537.36	-4.72	30	261.05	VID_GRAB			
01/06/27 21:00:34.00	492497.86	5307537.36	-4.785	30	261.198	VID_GRAB			
01/06/27 21:00:36.00	492497.86	5307537.36	-4.81	30	254.073	VID_GRAB			
01/06/27 21:00:39.00	492497.86	5307537.36	-4.732	30	255.997	VID_GRAB			
01/06/27 21:00:41.00	492497.86	5307537.36	-4.853	30	261.835	VID_GRAB			
01/06/27 21:00:52.00	492497.86	5307537.36	-4.792	30	256.593	VID_GRAB			
01/06/27 21:00:56.00	492497.86	5307537.36	-4.816	30	247.662	VID_GRAB			
01/06/27 21:00:59.00	492497.86	5307537.36	-4.828	30	248.905	VID_GRAB			
01/06/27 21:01:06.00	492497.86	5307537.36	-4.834	30	256.398	VID_GRAB			
01/06/27 21:01:27.00	492497.86	5307537.36	-4.83	30	216.279	VID_GRAB			
01/06/27 21:01:34.00	492497.86	5307537.36	-5.009	30	196.373	VID_GRAB			
01/06/27 21:01:37.00	492497.86	5307537.36	-4.81	30	172.897	VID_GRAB			
01/06/27 21:02:09.00	492497.86	5307537.36	-4.09	30	147.045	jason in the water			
01/06/27 21:02:14.00	492497.86	5307537.36	-3.498	30	142.462	VID_GRAB			
01/06/27 21:03:18.00	492497.86	5307537.36	-3.814	30	144.422	medea in the air			
01/06/27 21:03:21.00	492497.86	5307537.36	-3.953	30	145.247	VID_GRAB			
01/06/27 21:03:28.00	492497.86	5307537.36	-4.043	30	144.941	medea in the water			
01/06/27 21:03:34.00	492497.86	5307537.36	-3.941	30	144.066	begin JAS309			
01/06/27 21:52:50.00	493692.33	5312011.85	1002.809	30	183.671	preparing for tively twist			
01/06/27 21:57:56.00	493703.2	5312052.89	1020.34	30	196.28	starting tively twist			
01/06/27 22:01:08.00	493732.1	5312071.42	1030.877	30	42.793	end tively twist			
01/06/27 22:45:38.00	493438.92	5312295.51	1854.023	30	168.304	imagenex shows huge signal when port vertical thruster is energized			

Date & Time	UTM (X)	UTM (Y)	Depth (m)	Alt. (m)	Heading		Event		
01/06/27 22:46:09.00	493435.39	5312297.03	1863.408	30	171.069	here's a gratuituos picture of medea			
01/06/27 22:46:13.00	493435.39	5312297.03	1864.648	30	169.1	VID_GRAB			
01/06/27 22:47:16.00	493427.38	5312302.32	1884.449	30	177.435	smoke in but cam			
01/06/27 23:13:55.00	493447.66	5312358.18	2147.643	30	62.006	sm2000 see the bottom			
01/06/27 23:16:00.00	493447.99	5312351.4	2157.453	11.9	277.092	Imagenix is running in the forward looking in wide angle mode			
01/06/27 23:17:08.00	493446.66	5312346.82	2170.809	19.7	279.766	sm2000 claims it is storing in TN117/01f27001.mpb			
01/06/27 23:17:17.00	493446.66	5312346.82	2172.678	17.9	278.684	elevator in site			
01/06/27 23:18:56.00	493442.9	5312350.22	2183.832	6.7	280.122	VID_GRAB			
01/06/27 23:20:44.00	493444.79	5312345.44	2184.571	5.6	205.899	tryed to see if SM2000 is image reversed in the display by			
						moonning the elevator			
01/06/27 23:22:03.00	493444.79	5312345.44	2184.734	5.6	216.494	Target 64	Looks like the Target 64 is		
						pretty good location for the elevatar			
01/06/27 23:28:41.00	493456.29	5312361.37	2172.125	19.1	218.867	SM2000 "Howland" Spin	Complete of forward turn		
01/06/27 23:31:32.00	493455.89	5312361.62	2172.192	18.9	142.192	SM2000 "Howland" Spin	Looks like a good location for		
							spins		
01/06/27 23:31:44.00	493455.89	5312361.62	2172.055	18.9	143.143	SM2000 "Howland" Spin	End of "Howland" spin		
01/06/27 23:36:52.00	493444.88	5312347.6	2172.182	18.9	35.971	ADCP "Hautala" Gyration	Start of turn, Medea directly		
							above		
01/06/27 23:46:51.00	493444.81	5312347.26	2172.122	9.7	292.11	ADCP "Hautala" Gyration	End of gyration		
01/06/27 23:50:02.00	493436.62	5312351.19	2184.466	6.9	281.975	VID_GRAB			
01/06/27 23:50:14.00	493436.62	5312351.19	2184.459	6.8	282.071	VID_GRAB			
01/06/27 23:51:53.00	493427.89	5312360.23	2185.799	5.4	211.943	0,5, 10,15, 20 , 25, 30, 50, 70, 100, 200, 300cm are the			
						thermister elevations on the tower			
01/06/27 23:51:58.00	493427.89	5312360.23	2185.952	5.2	208.917	VID_GRAB			
01/06/27 23:52:01.00	493427.89	5312360.23	2186.121	5	200.249				
01/06/27 23:56:03.00	493425.11	5312360.69	2187.094	4.2	160.122	VID_GRAB			
01/06/27 23:57:36.00	493423.4	5312360.84	2184.986	6.3	149.819	VID_GRAB			
01/06/28 00:00:54.00	493427.41	5312359.37	2185.125	6.7	261.478	VID_GRAB			
01/06/28 00:01:48.00	493422.45	5312357.73	2185.465	6	220.073	target 65	Target 65 will be the		
							entrainment experiment location		
01/06/28 00:05:07.00	493425.24	5312359.27	2184.864	6.7	216.746	target 65	got it from the back side		
01/06/28 00:09:24.00	493420.95	5312358.61	2187.438	4.7	96.26	target 65	Letting go to tower. will		
						descend to inspect legs to see why having difficulty			
01/06/28 00:09:37.00	493419.51	5312359.97	2187.054	4.8	73.459	target 65	sm2000 directory changed to		
							tn129		
01/06/28 00:12:08.00	493419.35	5312363.1	2185.49	6.7	111.696	tower off elevator			

Date & Time	UTM (X)	UTM (Y)	Depth (m)	Alt. (m)	Heading		Event		
01/06/28 00:12:19.00	493419.35	5312363.1	2186.262	5.9	112.366	VID_GRAB			
01/06/28 00:12:26.00	493419.35	5312363.1	2186.395	5.8	113.816	VID_GRAB			
01/06/28 00:12:45.00	493418.42	5312361.19	2187.361	4	111.803	looking to set tower down to get better grip			
01/06/28 00:12:52.00	493418.56	5312359.41	2187.507	4.1	106.924	VID_GRAB			
01/06/28 00:13:32.00	493417.41	5312353.96	2187.98	4.1	40.798	VID_GRAB			
01/06/28 00:13:58.00	493422.48	5312353.11	2188.492	3.4	327.198	VID_GRAB			
01/06/28 00:15:23.00	493428.7	5312356.63	2181.993	10	264.847	VID_GRAB			
01/06/28 00:15:29.00	493429.44	5312358.55	2181.292	10.4	261.974	VID_GRAB			
01/06/28 00:20:59.00	493413.84	5312383.96	2173.013	13.6	340.891	VID_GRAB			
01/06/28 00:23:34.00	493420.65	5312390.95	2153.73	28.5	340.863	heading to target 65: the entrainment experiment			
01/06/28 00:44:21.00	493376.31	5312505.63	2131.216	30	338.559	VID_GRAB			
01/06/28 00:46:46.00	493372.22	5312507.02	2131.037	30	338.451	pilot thinks there is an eastward current			
01/06/28 01:01:31.00	493341.03	5312586.1	2174.175	5.3	257.154	on bottom near target 65, entrainment experiment			
01/06/28 01:02:03.00	493341.03	5312586.1	2173.828	5.7	188.04	Geological Features		Temp Anom	
01/06/28 01:02:08.00	493341.03	5312586.1	2173.683	5.6	188.224	changing tapes			
01/06/28 01:02:20.00	493341.03	5312586.1	2174.707	4.5	188.011		Temp Anom		
01/06/28 01:08:04.00	493341.03	5312586.1	2168.691	11	185.192	VID_GRAB			
01/06/28 01:08:40.00	493336.93	5312575.82	2169.952	9.4	184.642	smoker is not much of a smoker, it has a little shimmering by			
						not any smoke			
01/06/28 01:14:39.00	493334.76	5312586.89	2173.536	5.3	13.181	option 1 for entrainment experiment is diffused, moving to			
						entrainment experiment option 2			
01/06/28 01:15:14.00	493337.92	5312589.42	2173.602	5.2	351.651	Option 2 is the twin "tower option			
01/06/28 01:28:13.00	493321.24	5312671.65	2168.32	9.3	356.81	mav 56 is site			
01/06/28 01:28:21.00	493321.24	5312671.65	2168.287	9.7	356.191	VID_GRAB			
01/06/28 01:28:44.00	493321.42	5312674.38	2168.256	7.7	357.53	VID_GRAB			
01/06/28 01:34:45.00	493311.25	5312707.06	2161.068	6.4	93.469	VID_GRAB			
01/06/28 01:35:02.00	493319.52	5312709.61	2159.253	7.6	93.154	VID_GRAB			
01/06/28 01:35:07.00	493324.1	5312706.24	2159.321	7.6	93.597	VID_GRAB			
01/06/28 01:35:16.00	493324.1	5312706.24	2159.26	7.3	94.055	VID_GRAB			
01/06/28 01:36:23.00	493319.7	5312711.19	2159.26	7.3	93.918	VID_GRAB	black smoker		
01/06/28 01:36:58.00	493320.77	5312712.42	2159.706	6.9	77.42	VID_GRAB	very vigorous flow		
01/06/28 01:44:45.00	493316.71	5312726.07	2166.303	3.2	132.861	VID_GRAB			
01/06/28 01:45:13.00	493316.05	5312724.6	2166.848	2.5	136.908	VID_GRAB	setting tower down?		
01/06/28 01:46:54.00	493313.47	5312729.74	2165.95	5	205.531	VID_GRAB	moving to less steep location		
01/06/28 01:47:11.00	493311.81	5312730.63	2165.85	5	136.398	VID_GRAB	looks flat?		
01/06/28 01:48:04.00	493311.82	5312730.52	2170.479	30	146.739	VID_GRAB	we have touch down		

Date & Time	UTM (X)	UTM (Y)	Depth (m)	Alt. (m)	Heading		Event		
01/06/28 01:48:30.00	493311.89	5312729.59	2168.843	2.2	142.353	VID_GRAB	incredible amount of mud in		
							the water		
01/06/28 01:50:28.00	493312.74	5312728.2	2166.403	4.3	136.176	VID_GRAB			
01/06/28 01:50:36.00	493312.74	5312728.2	2166.455	4.2	136.614	VID_GRAB			
01/06/28 01:53:57.00	493313.33	5312726.65	2167.083	3.5	135.851	VID_GRAB	going to grab polypro line		
01/06/28 01:57:48.00	493313	5312729.3	2166.826	3.8	135.657	VID_GRAB	repositioning grip?		
01/06/28 02:00:23.00	493313.37	5312726.61	2167.126	3.3	136.835	VID_GRAB	we have a new grip		
01/06/28 02:01:21.00	493315.21	5312727.65	2166.893	3.4	135.891	VID_GRAB			
01/06/28 02:01:45.00	493315.58	5312727.48	2166.88	3.5	135.621	VID_GRAB	sulfides in the background		
01/06/28 02:02:22.00	493315.74	5312727.58	2166.899	3.5	135.421	may have taken a niskin sample?			
01/06/28 02:04:06.00	493314.02	5312727.59	2166.075	4	131.612	the tower is being entrained by the twin towers			
01/06/28 02:08:17.00	493315.16	5312727.48	2166.037	4.4	128.282	VID_GRAB			
01/06/28 02:08:21.00	493315.16	5312727.48	2165.78	4.7	133.829	VID_GRAB			
01/06/28 02:08:51.00	493315.75	5312730.26	2166.117	3.6	143.625	VID_GRAB			
01/06/28 02:09:23.00	493316.84	5312728.71	2166.343	3.7	143.925	VID_GRAB			
01/06/28 02:09:31.00	493315.67	5312729.04	2166.252	4	144.536	VID_GRAB			
01/06/28 02:17:22.00	493316.03	5312729.08	2164.764	4.9	158.449	good fix			
01/06/28 02:17:31.00	493316.32	5312726.95	2165.03	4.4	160.683	good fix			
01/06/28 02:19:22.00	493316.72	5312729.23	2165.037	5.1	168.809	VID_GRAB			
01/06/28 02:19:29.00	493314.62	5312729.03	2165.097	5.2	148.551	VID_GRAB			
01/06/28 02:20:18.00	493312.72	5312722.75	2164.884	4.9	87.273	VID_GRAB			
01/06/28 02:20:44.00	493314.24	5312719.72	2165.084	3.7	61.442	VID_GRAB	lots of hydrothermal sediments		
01/06/28 02:21:26.00	493317.76	5312711.12	2164.253	3.3	51.98	VID_GRAB	1M		
01/06/28 02:22:03.00	493322.24	5312711.23	2162.105	2.6	54.595	VID_GRAB	two black smokers		
01/06/28 02:22:06.00	493322.24	5312711.23	2161.599	3	55.157	VID_GRAB			
01/06/28 02:22:15.00	493323.66	5312713.46	2161.44	3.8	53.789	VID_GRAB			
01/06/28 02:22:44.00	493326.05	5312712.95	2161.732	2.5	55.217	VID_GRAB			
01/06/28 02:22:49.00	493326.54	5312714.04	2161.765	2.5	55.354	smoker			
01/06/28 02:22:54.00	493326.54	5312714.04	2161.846	2.4	55.032	VID_GRAB			
01/06/28 02:23:10.00	493326.75	5312714.67	2161.939	2.3	54.7	Target 67			
01/06/28 02:23:13.00	493326.75	5312714.67	2161.952	2.2	54.646	VID_GRAB			
01/06/28 02:23:24.00	493326.75	5312714.67	2161.918	2.1	54.042	target 67 is location of black smoker			
01/06/28 02:23:33.00	493326.78	5312713.22	2161.898	2.1	53.773	VID_GRAB			
01/06/28 02:23:58.00	493325.7	5312714.69	2161.905	2.1	53.675	VID_GRAB			
01/06/28 02:24:20.00	493327.15	5312713.5	2161.885	2.1	53.652	VID_GRAB			
01/06/28 02:25:27.00	493326.67	5312714.24	2161.887	2.1	53.691	VID_GRAB			

Date & Time	UTM (X)	UTM (Y)	Depth (m)	Alt. (m)	Heading		Event		
01/06/28 02:25:33.00	493326.67	5312714.24	2161.892	2	53.65	VID_GRAB			
01/06/28 02:25:48.00	493326.75	5312713.63	2161.898	2	53.672	VID_GRAB			
01/06/28 02:25:53.00	493326.75	5312713.63	2161.894	2.1	54.778	VID_GRAB			
01/06/28 02:27:04.00	493324.13	5312711.63	2161.925	4.8	98.682	VID_GRAB	some small spires		
01/06/28 02:27:26.00	493323.39	5312710.35	2161.958	4.7	99.275	VID_GRAB			
01/06/28 02:27:56.00	493323.03	5312710.7	2160.405	5.6	98.921	larger tower to south			
01/06/28 02:28:16.00	493322.96	5312710.05	2159.227	6.2	99.257	VID_GRAB	looks like a firemans helmet		
01/06/28 02:28:19.00	493322.96	5312710.05	2159.039	6.3	98.609	VID_GRAB			
01/06/28 02:28:25.00	493322.96	5312710.05	2159.139	6	98.263	VID_GRAB			
01/06/28 02:28:31.00	493324.55	5312710.54	2159.246	5.8	98.552	VID_GRAB			
01/06/28 02:28:42.00	493324.55	5312710.54	2158.926	5.9	98.803	VID_GRAB			
01/06/28 02:28:57.00	493324.87	5312710.23	2159.246	4.5	106.845	VID_GRAB			
01/06/28 02:29:41.00	493327.93	5312710.84	2159.797	2.9	104.777	looks like 6 or so little jets			
01/06/28 02:29:48.00	493328.16	5312710.66	2159.93	2.8	104.031	VID_GRAB			
01/06/28 02:29:54.00	493328.16	5312710.66	2160.012	2.7	103.925	VID_GRAB			
01/06/28 02:29:59.00	493328.16	5312710.66	2160.043	3.2	106.107	VID_GRAB			
01/06/28 02:30:12.00	493326.29	5312709.55	2159.924	3.5	103.717	VID_GRAB			
01/06/28 02:30:21.00	493326.29	5312709.55	2160.017	3.6	103.822	VID_GRAB			
01/06/28 02:30:36.00	493325.38	5312710.43	2160.11	3.8	104.172	VID_GRAB			
01/06/28 02:30:47.00	493325.08	5312710.31	2160.157	3.6	102.383	VID_GRAB			
01/06/28 02:30:56.00	493325.08	5312710.31	2160.132	3.4	103.737	VID_GRAB			
01/06/28 02:31:03.00	493325.08	5312710.31	2160.157	3.1	103.805	VID_GRAB			
01/06/28 02:31:12.00	493326.93	5312710.37	2160.183	3.1	104.327	VID_GRAB			
01/06/28 02:31:24.00	493326.93	5312710.37	2160.163	3	103.543	VID_GRAB			
01/06/28 02:31:38.00	493326.68	5312710.08	2160.157	3.1	108.533	VID_GRAB			
01/06/28 02:32:33.00	493325.9	5312711.77	2160.123	4.4	132.252	VID_GRAB			
01/06/28 02:32:40.00	493325.9	5312711.77	2159.817	5.1	130.23	VID_GRAB			
01/06/28 02:33:01.00	493325.39	5312712.29	2159.937	5.1	136.518	VID_GRAB			
01/06/28 02:33:29.00	493326	5312711.61	2159.485	5.5	115.185	VID_GRAB			
01/06/28 02:33:29.00	493326	5312711.61	2159.465	5.5	113.228				
01/06/28 02:33:29.00	493326	5312711.61	2159.465	5.5	113.228				
01/06/28 02:33:30.00	493326	5312711.61	2159.465	5.5	112.546				
01/06/28 02:33:30.00	493326	5312711.61	2159.465	5.5	112.546				
01/06/28 02:34:03.00	493325.24	5312710.15	2159.512	4.6	52.922				
01/06/28 02:34:27.00	493327.09	5312707.28	2159.478	4.8	22.725	VID_GRAB			
01/06/28 02:34:35.00	493327.09	5312707.28	2159.398	5.3	7.56	VID_GRAB			

Date & Time	UTM (X)	UTM (Y)	Depth (m)	Alt. (m)	Heading		Event		
01/06/28 02:34:48.00	493328.61	5312707.08	2159.279	5.6	352.054	VID_GRAB			
01/06/28 02:34:56.00	493328.61	5312707.08	2159.239	5.7	336.428	VID_GRAB			
01/06/28 02:35:13.00	493329.43	5312707.44	2159.152	5.5	311.702	VID_GRAB			
01/06/28 02:35:23.00	493329.43	5312707.44	2159.059	4.3	297.278	VID_GRAB			
01/06/28 02:35:51.00	493331.47	5312710.21	2159.392	4	297.786	VID_GRAB			
01/06/28 02:36:05.00	493331.47	5312710.21	2159.052	3.1	314.137	VID_GRAB			
01/06/28 02:36:16.00	493331.18	5312708.74	2158.986	3.9	324.585	VID_GRAB			
01/06/28 02:36:46.00	493330.05	5312708.04	2159.046	6.3	0.134	VID_GRAB			
01/06/28 02:36:56.00	493328.52	5312705.74	2158.88	6.3	28.797	VID_GRAB			
01/06/28 02:37:28.00	493324.81	5312707.15	2158.833	6.9	73.021	VID_GRAB			
01/06/28 02:37:43.00	493324.81	5312707.15	2159.012	6.7	82.246				
01/06/28 02:38:09.00	493325.34	5312709.04	2159.246	6.5	83.552	entrainment experiment	VID_GRAB		
01/06/28 02:38:27.00	493323.39	5312708.84	2159.877	6.2	83.014	entrainment experiment	VID_GRAB		
01/06/28 02:38:37.00	493323.39	5312708.84	2160.894	4.3	83.84	entrainment experiment	VID_GRAB		
01/06/28 02:38:57.00	493322.26	5312708.7	2163.128	4.3	90.241	entrainment experiment	dropping to base and moving to east side to explore		
01/06/28 02:39:01.00	493322.26	5312708.7	2163.621	4.1	91.436	entrainment experiment	VID_GRAB		
01/06/28 02:39:30.00	493321.83	5312709.34	2163.887	4	90.01	entrainment experiment	VID_GRAB		
01/06/28 02:40:21.00	493322.08	5312705.44	2164.413	3.5	64.763	entrainment experiment	VID_GRAB	octopus	
01/06/28 02:40:24.00	493322.08	5312705.44	2164.465	3.5	63.082	entrainment experiment	VID_GRAB		
01/06/28 02:40:37.00	493324.56	5312704.4	2165.67	2.5	61.177	entrainment experiment	VID_GRAB		
01/06/28 02:40:43.00	493324.56	5312704.4	2165.975	2.2	62.102	entrainment experiment	VID_GRAB		
01/06/28 02:40:54.00	493323.79	5312704.71	2166.128	2	62.905	entrainment experiment	VID_GRAB		
01/06/28 02:41:02.00	493323.79	5312704.71	2166.134	2	62.133	entrainment experiment	VID_GRAB	octopus	
01/06/28 02:41:05.00	493323.79	5312704.71	2166.114	2	62.191	entrainment experiment	VID_GRAB		
01/06/28 02:41:09.00	493323.54	5312704.15	2166.201	1.9	62.485	entrainment experiment	VID_GRAB		
01/06/28 02:41:20.00	493323.54	5312704.15	2166.061	2.2	62.518	entrainment experiment	VID_GRAB		
01/06/28 02:41:23.00	493323.54	5312704.15	2166.009	2.1	62.661	entrainment experiment	VID_GRAB		
01/06/28 02:41:28.00	493324.36	5312703.74	2166.009	2	62.824	entrainment experiment	VID_GRAB		
01/06/28 02:41:38.00	493324.36	5312703.74	2166.228	1.7	63.518	entrainment experiment	VID_GRAB		
01/06/28 02:41:42.00	493324.36	5312703.74	2166.275	1.8	63.09	entrainment experiment	VID_GRAB		
01/06/28 02:41:47.00	493324.36	5312703.74	2166.275	1.7	62.965	entrainment experiment	VID_GRAB		
01/06/28 02:41:51.00	493325.31	5312703.87	2166.301	1.7	62.337	entrainment experiment	VID_GRAB		
01/06/28 02:41:55.00	493325.31	5312703.87	2166.294	1.7	62.082	entrainment experiment	VID_GRAB		
01/06/28 02:41:59.00	493325.31	5312703.87	2166.288	1.7	62.225	entrainment experiment	VID_GRAB		
01/06/28 02:42:03.00	493325.31	5312703.87	2166.294	1.7	62.672	entrainment experiment	VID_GRAB		

Date & Time	UTM (X)	UTM (Y)	Depth (m)	Alt. (m)	Heading		Event		
01/06/28 02:42:07.00	493324.68	5312703.48	2166.294	1.7	62.816	entrainment experiment	VID_GRAB		
01/06/28 02:42:11.00	493324.68	5312703.48	2166.281	1.7	62.694	entrainment experiment	VID_GRAB		
01/06/28 02:51:12.00	493325.32	5312709.44	2160.487	3.8	63.274	entrainment experiment	VID_GRAB		
01/06/28 02:51:19.00	493325.32	5312709.44	2160.493	3.7	63.649	entrainment experiment	VID_GRAB		
01/06/28 02:52:23.00	493326.84	5312709.45	2160.54	3.6	63.919	entrainment experiment	VID_GRAB		
01/06/28 02:53:02.00	493327.12	5312708.76	2160.48	3.6	63.403	entrainment experiment	VID_GRAB		
01/06/28 02:54:29.00	493326.79	5312711.71	2161.415	3.2	76.501	entrainment experiment	VID_GRAB		
01/06/28 02:55:10.00	493326.37	5312715.05	2162.061	1.6	111.379	entrainment experiment	VID_GRAB		
01/06/28 02:56:33.00	493328.41	5312718.12	2162.284	1.2	187.637	entrainment experiment	VID_GRAB		
01/06/28 02:57:42.00	493327.75	5312715.9	2161.739	2.1	62.952	entrainment experiment	VID_GRAB		
01/06/28 02:58:05.00	493327.06	5312716.61	2162.038	2.2	64.464	entrainment experiment	VID_GRAB		
01/06/28 03:00:01.00	493325.88	5312715.69	2162.43	1.9	111.925	entrainment experiment	VID_GRAB		
01/06/28 03:01:00.00	493327.08	5312715.52	2162.51	1.9	111.879	entrainment experiment	VID_GRAB		
01/06/28 03:09:06.00	493326.51	5312711.87	2160.341	4.1	139.478	entrainment experiment	VID_GRAB		
01/06/28 03:15:56.00	493321.93	5312700.57	2165.629	5.2	272.348	entrainment experiment	going back to target 20 to get		
							MAV 56		
01/06/28 03:22:18.00	493312.33	5312684.74	2176.386	2.6	53.64	entrainment experiment	at MAV 56		
01/06/28 03:24:24.00	493314.64	5312682.94	2178.524	30	50.842	entrainment experiment	getting a bio sample for Janet		
01/06/28 03:24:42.00	493314.64	5312682.94	2178.607	30	51.819	entrainment experiment	VID_GRAB	bio sample area	
01/06/28 03:26:11.00	493314.64	5312682.94	2178.705	30	51.77	entrainment experiment	VID_GRAB	shimmering	
01/06/28 03:26:53.00	493314.64	5312682.94	2178.713	30	51.599	entrainment experiment	poor fix		
01/06/28 03:39:45.00	493314.68	5312686.54	2174.23	4.1	191.801	entrainment experiment	MAV 56 on Jason		
01/06/28 03:40:24.00	493312.74	5312685.89	2174.181	4.5	192.494	entrainment experiment	MAV 56 not retracting into tube		
01/06/28 03:42:11.00	493305.5	5312684.4	2172.02	3.3	192.723	entrainment experiment	heading to the elevator - 400 m		
							transit		
01/06/28 03:44:48.00	493317.95	5312653.22	2171.21	9.7	153.31	changing CTD file - new file 309002			
01/06/28 03:45:54.00	493330.68	5312656.27	2171.07	4.9	62.934	structure			
01/06/28 03:46:33.00	493333.17	5312654.63	2171.004	5.4	333.059	VID_GRAB			
01/06/28 03:46:40.00	493333.17	5312654.63	2171.123	5.2	357.142	VID_GRAB			
01/06/28 03:47:22.00	493337.67	5312655.4	2171.103	4.8	304.258	unidentified structure - sulfide, not on map			
01/06/28 03:48:08.00	493337.71	5312658.24	2167.592	7.9	265.292	VID_GRAB			
01/06/28 03:48:17.00	493337.71	5312658.24	2166.228	9.4	262.496	VID_GRAB			
01/06/28 03:49:03.00	493335.78	5312659.66	2167.532	8.5	240.516	VID_GRAB			
01/06/28 03:49:26.00	493334.36	5312659.77	2167.498	8.9	216.013	Target 68 - 8.5 meter high old sulfide structure			
01/06/28 03:50:28.00	493334.12	5312660.99	2168.216	8.5	201.808	VID_GRAB			
01/06/28 03:58:20.00	493363.98	5312585.48	2137.53	30	138.327		Temp Anom	0.07	

Date & Time	UTM (X)	UTM (Y)	Depth (m)	Alt. (m)	Heading	Event		
01/06/28 04:00:57.00	493361.65	5312569.36	2137.659	30	139.192	MAV 56 is still not retracted into his tube on the transit		
01/06/28 04:33:35.00	493420.6	5312358.49	2186.644	5.6	100.66	VID_GRAB	elevator	
01/06/28 04:33:47.00	493420.6	5312358.49	2186.693	5.2	102.052	New nav target for elevator 69		
01/06/28 04:34:21.00	493420.6	5312358.49	2186.014	5.8	99.882	MAV 56 is going into north elevator		
01/06/28 04:39:26.00	493423.34	5312364.03	2186.679	5	101.816	VID_GRAB		
01/06/28 04:41:01.00	493422.42	5312364.89	2185.88	5.7	100.629	VID_GRAB		
01/06/28 04:47:20.00	493420.77	5312361.64	2191.333	0.9	82.167	trouble getting Mav to retract to get it into the elevator		
01/06/28 04:50:26.00	493421.06	5312360.32	2189.695	2.5	84.901	MAV 56 retracted!		
01/06/28 04:52:38.00	493424.45	5312362.28	2185.568	5.7	141.431	MAV 56 in the elevator		
01/06/28 04:52:49.00	493424.71	5312363.4	2185.907	5.5	149.287	VID_GRAB		
01/06/28 04:54:51.00	493426.25	5312362.09	2187.099	4.5	157.355	VID_GRAB		
01/06/28 04:56:27.00	493422.91	5312363.49	2187.115	4.2	123.93	VID_GRAB	MAV 56 in there!	
01/06/28 04:57:40.00	493421.91	5312363.15	2187.088	4.2	96.155	recovering new mav from elevator - but, "not the one you just put in!"		
01/06/28 04:59:00.00	493425.33	5312361.35	2186.675	4.8	143.089	MAV 57 being removed		
01/06/28 05:02:50.00	493423.49	5312362.37	2186.611	4.7	128.331	removing MAV50 from elevator		
01/06/28 05:06:18.00	493419.89	5312362.41	2187.404	3.7	100.631	headed to target 67- entrainment site		
01/06/28 05:37:11.00	493345.59	5312603.01	2171.248	6.5	359.525	passing by target 68 to get another look at extinct sulfide encountered earlier		
01/06/28 05:43:13.00	493333.8	5312653.88	2168.486	6.8	350.825	VID_GRAB	target 68- extinct sulfide	
01/06/28 05:49:12.00	493331.96	5312686.94	2170.754	2	3.604	shimmering and bacterial mat, black smoker too. Nav target 70		
01/06/28 05:49:34.00	493331.5	5312689.81	2170.878	3.1	352.769	VID_GRAB		
01/06/28 05:49:38.00	493331.5	5312689.81	2170.924	3.1	352.274	VID_GRAB		
01/06/28 05:49:41.00	493331.5	5312689.81	2170.805	3.2	353.189	VID_GRAB		
01/06/28 05:49:47.00	493331.5	5312689.81	2170.807	3.1	352.402	VID_GRAB		
01/06/28 05:50:09.00	493331.5	5312689.81	2171.343	2.7	357.058	VID_GRAB		
01/06/28 05:50:28.00	493331.5	5312689.81	2171.35	2.9	350.628	VID_GRAB		
01/06/28 05:52:08.00	493331.5	5312689.81	2165.457	5.5	350.394	VID_GRAB	more bacterail mat	
01/06/28 05:53:02.00	493332.99	5312701.02	2159.598	7.2	343.132	VID_GRAB		
01/06/28 05:53:28.00	493330.91	5312704.2	2159.705	5.5	2.036	VID_GRAB		
01/06/28 05:57:08.00	493329.02	5312709.67	2160.618	2.1	42.484	VID_GRAB	under flange	
01/06/28 05:58:12.00	493329.16	5312709.39	2160.981	2.1	43.255	VID_GRAB		
01/06/28 05:58:23.00	493329.16	5312709.39	2160.968	2.9	42.562	VID_GRAB		
01/06/28 05:58:48.00	493328.38	5312708.95	2160.979	2.1	42.84	VID_GRAB	mirror under flange	
01/06/28 05:59:46.00	493328.42	5312710.17	2161.01	2	43.367	VID_GRAB		
01/06/28 06:02:25.00	493330.73	5312707.82	2160.972	2.9	43.105	VID_GRAB		



Date & Time	UTM (X)	UTM (Y)	Depth (m)	Alt. (m)	Heading		Event		
01/06/28 06:03:18.00	493333.02	5312703.37	2161.006	2.9	43.122	VID_GRAB			
01/06/28 06:07:25.00	493326.53	5312711.51	2161.817	2.9	13.59	looking for spot to place a MAV			
01/06/28 06:21:28.00	493327.02	5312719.96	2159.912	2.9	162.1	entrainment experiment	VID_GRAB		
01/06/28 06:22:16.00	493321.72	5312720.86	2159.952	5.2	56.99	entrainment experiment	VID_GRAB	MAV50 deployed	
01/06/28 06:23:04.00	493323.76	5312712.77	2159.98	6.4	40.079	entrainment experiment	VID_GRAB		
01/06/28 06:23:11.00	493322.2	5312712.2	2160.127	6.9	40.587	entrainment experiment	VID_GRAB		
01/06/28 06:23:16.00	493322.2	5312712.2	2160.193	7.2	37.079	entrainment experiment	VID_GRAB		
01/06/28 06:23:45.00	493320.16	5312711.64	2160.119	7.6	41.495	entrainment experiment	VID_GRAB	orientation 138	
01/06/28 06:26:08.00	493332.44	5312724.15	2159.639	8	181.599	entrainment experiment	VID_GRAB		
01/06/28 06:26:25.00	493332.44	5312724.15	2159.613	6.5	194.095	entrainment experiment	looking for place to put MAV 57		
01/06/28 06:28:04.00	493336.9	5312714.47	2159.207	5.2	257.536	entrainment experiment	VID_GRAB		
01/06/28 06:28:22.00	493335.48	5312716.59	2159.406	3.7	253.725	entrainment experiment	VID_GRAB	MAV 50	
01/06/28 06:28:31.00	493334.7	5312718.68	2159.595	3.5	254.732	entrainment experiment	VID_GRAB		
01/06/28 06:38:19.00	493328.74	5312722.94	2159.784	2.7	330.075	entrainment experiment	going to tower (target 66) to find flat spot for MAV 57		
01/06/28 06:47:20.00	493315.05	5312732.26	2166.301	2.9	208.598	entrainment experiment	MAV 57 is placed		
01/06/28 06:47:44.00	493314.79	5312732.73	2166.068	3.3	164.075	entrainment experiment	VID_GRAB		
01/06/28 06:50:17.00	493309.61	5312730.94	2168.229	1.9	72.976	entrainment experiment	mav heading 253 for the oreintation		
01/06/28 06:51:10.00	493312.34	5312731.55	2164.028	5.5	101.82	entrainment experiment	VID_GRAB	Mav 57 thermistor oreintation.	
01/06/28 06:52:25.00	493325.39	5312726.51	2163.211	1.9	87.421	entrainment experiment	Mavs deployments are through for now, we are moving onto the ADCP transects for the entrainment experiment.		
01/06/28 06:53:55.00	493326.97	5312724.13	2163.286	1.6	87.388	entrainment experiment	target 71 1.6 meters altitude. we are holding this station for 10 minutes and recording the ADCP data.		
01/06/28 06:56:48.00	493326.77	5312723.69	2163.273	1.8	86.842	entrainment experiment	just noticed that deck one of the hi 8 tapes has stopped recording. Jamie is currently switching the tapes and starting the recording process anew.		
01/06/28 07:04:03.00	493324.96	5312724.25	2163.384	1.8	4.197	entrainment experiment	end of station 71		
01/06/28 07:04:37.00	493325.48	5312724.12	2160.093	6.3	350.689	entrainment experiment	proceeding 5 meters to the north for the next adcp station		
01/06/28 07:07:51.00	493326.07	5312729.27	2165.266	1.8	353.529	entrainment experiment	on station, waiting for medea to move the tether out of the way.		
01/06/28 07:08:19.00	493324.19	5312729.14	2165.259	1.9	353.577	entrainment experiment	target 72 is the second of 9		

Date & Time	UTM (X)	UTM (Y)	Depth (m)	Alt. (m)	Heading		Event		
							adcp station		
01/06/28 07:11:12.00	493324.78	5312728.76	2165.286	1.8	353.163	entrainment experiment	starting station 72		
01/06/28 07:16:09.00	493324.47	5312728.52	2165.216	1.6	353.846	entrainment experiment	station 72 is approx. 16 meters		
							from the smoker as the rat fish swims.		
01/06/28 07:21:21.00	493325.29	5312728.66	2165.236	1.9	352.979	entrainment experiment	end of station 72.		
01/06/28 07:28:13.00	493326.91	5312720.74	2157.364	7.3	171.045	entrainment experiment	black smoker directly ahead		
							and on the left. to quick to get an official fram grab.		
01/06/28 07:29:02.00	493325.48	5312712.41	2157.544	7.1	152.856	entrainment experiment	VID_GRAB smoker		
01/06/28 07:33:42.00	493329.41	5312718.09	2159.719	2.3	160.204	entrainment experiment	VID_GRAB still working in the		
							direction of the next target.		
01/06/28 07:34:45.00	493328.58	5312718.74	2159.409	2.6	160.585	entrainment experiment	starting station 73. Within a		
							meter or so of the black smoker on JASON's left.		
01/06/28 07:36:30.00	493330.71	5312714.76	2159.477	2.5	160.818	entrainment experiment	VID_GRAB ADCP station 73		
							view through the MAV cam relative tomav 50 as seenin video grab		
01/06/28 07:45:55.00	493323.88	5312714.62	2156.155	8.6	268.118	entrainment experiment	Station 73 is done		
01/06/28 07:46:03.00	493323.88	5312714.62	2156.046	9.7	267.322	entrainment experiment	Moving to station 74		
01/06/28 07:49:30.00	493320.66	5312715.57	2162.391	3.5	270.08	entrainment experiment	VID_GRAB		
01/06/28 07:49:57.00	493321.04	5312714.56	2161.471	4.3	270.724	entrainment experiment	On station which is located next		
							to MAV 50		
01/06/28 07:50:43.00	493321.37	5312714.62	2161.252	3.9	85.75	entrainment experiment	VID_GRAB		
01/06/28 07:51:12.00	493322.22	5312714.45	2161.252	3.9	85.86	entrainment experiment	VID_GRAB		
01/06/28 08:01:25.00	493321.91	5312714.65	2161.405	4.5	86.51	entrainment experiment	End of station 74		
01/06/28 08:01:52.00	493318.08	5312712.78	2161.325	6.3	87.021	entrainment experiment	Moving to station 75		
01/06/28 08:06:15.00	493315.61	5312716.9	2164.936	3.7	85.04	entrainment experiment	On station 75		
01/06/28 08:07:21.00	493316.15	5312717.44	2164.956	3.2	85.345	entrainment experiment	VID_GRAB		
01/06/28 08:16:20.00	493317.78	5312716.07	2164.962	3.2	85.077	entrainment experiment	End of station 75		
01/06/28 08:17:02.00	493316.63	5312718.86	2164.93	3.3	85.014	entrainment experiment	Moving to station 76		
01/06/28 08:22:54.00	493311.02	5312716.83	2165.299	3.5	85.137	entrainment experiment	On station 76		
01/06/28 08:32:40.00	493311.95	5312716.64	2165.321	3.5	85.539	entrainment experiment	End of station 76		
01/06/28 08:53:58.00	493401.06	5312640.41	2150.593	11.8	160.332	entrainment experiment	VID_GRAB Headed to mav 51.		
01/06/28 08:54:25.00	493401.06	5312640.41	2149.913	11.7	147.838	entrainment experiment	VID_GRAB large hydrothermal		
							structure		
01/06/28 08:55:22.00	493401.06	5312640.41	2144.556	12.5	93.086	entrainment experiment	VID_GRAB		
01/06/28 08:55:50.00	493399.68	5312634.19	2141.308	7.8	91.11	VID_GRAB			
01/06/28 08:56:08.00	493400.76	5312631.38	2140.945	4.7	102.746	VID_GRAB			
01/06/28 08:56:28.00	493400.76	5312631.38	2139.981	5.4	92.511	VID_GRAB			

Date & Time	UTM (X)	UTM (Y)	Depth (m)	Alt. (m)	Heading		Event		
01/06/28 08:56:33.00	493400.76	5312631.38	2139.78	6.3	95.991	VID_GRAB			
01/06/28 08:57:31.00	493406.08	5312625.43	2139.274	14.3	19.788	VID_GRAB			
01/06/28 09:03:47.00	493414.1	5312632.13	2154.194	6.4	332.531	VID_GRAB			
01/06/28 09:03:53.00	493414.1	5312632.13	2153.941	6.7	333.235	VID_GRAB			
01/06/28 09:10:12.00	493410.25	5312631.05	2157.887	3	353.184	VID_GRAB			
01/06/28 09:10:17.00	493410.25	5312631.05	2157.688	3.3	339.744	VID_GRAB			
01/06/28 09:10:42.00	493410.25	5312631.05	2159.101	1.5	296.447	VID_GRAB			
01/06/28 09:11:01.00	493410.25	5312631.05	2160.008	0.8	279.075	VID_GRAB			
01/06/28 09:11:09.00	493410.25	5312631.05	2160.354	0.7	276.394	VID_GRAB			
01/06/28 09:12:48.00	493410.25	5312631.05	2157.736	3.2	298.043	Jason has Mavs 51			
01/06/28 09:13:10.00	493410.25	5312631.05	2156.947	4.6	310.787	On our way to the elevator			
01/06/28 09:53:04.00	493429.91	5312384.18	2183.423	6.9	148.548	VID_GRAB			
01/06/28 09:53:36.00	493429.91	5312384.18	2183.491	2.7	148.516	We are at the elevator			
01/06/28 09:55:48.00	493429.91	5312384.18	2184.367	6.5	93.668	VID_GRAB			
01/06/28 09:57:37.00	493429.91	5312384.18	2182.31	8.6	109.49	Mav 51 is in the north elevator in slot B			
01/06/28 09:58:45.00	493444.72	5312344.39	2177.619	13.4	47.432	Didn't bungee the Mav in			
01/06/28 10:18:33.00	493350.61	5312357.84	2095.991	30	30.454	Going to clam bed			
01/06/28 10:49:06.00	493168.82	5312230.23	2180.698	3.4	224.923	watch change			
01/06/28 10:52:16.00	493164.34	5312216.65	2178.821	2.9	189.455	VID_GRAB	arrive at clambd		
01/06/28 10:54:09.00	493160.22	5312200.77	2179.569	3.1	178.767	VID_GRAB			
01/06/28 10:55:46.00	493159.95	5312196.67	2179.536	4	344.738	VID_GRAB			
01/06/28 10:56:08.00	493162.21	5312197.27	2179.855	3.6	347.77	VID_GRAB			
01/06/28 10:57:00.00	493161.38	5312196.59	2182.324	1.4	348.932	VID_GRAB			
01/06/28 10:57:54.00	493162.25	5312197.12	2182.583	1.1	320.006	VID_GRAB			
01/06/28 10:59:36.00	493162.01	5312198.09	2179.917	4	299.088	VID_GRAB			
01/06/28 11:08:54.00	493148.89	5312198.5	2181.015	3	187.623	VID_GRAB			
01/06/28 11:08:57.00	493148.89	5312198.5	2181.03	2.9	186.383	VID_GRAB			
01/06/28 11:09:07.00	493161.09	5312199.85	2181.174	2.6	188.264	VID_GRAB	10049?		
01/06/28 11:11:37.00	493157.28	5312192.19	2182.04	1.1	207.191	VID_GRAB			
01/06/28 11:11:42.00	493157.28	5312192.19	2181.961	0.8	208.978	VID_GRAB			
01/06/28 11:11:55.00	493157.28	5312192.19	2182.087	1	215.619	looking to get biograb			
01/06/28 11:11:58.00	493157.28	5312192.19	2182.179	1	215.544	VID_GRAB			
01/06/28 11:12:02.00	493157.28	5312192.19	2182.16	1	214.936	VID_GRAB			
01/06/28 11:12:08.00	493158.34	5312191.41	2182.153	1	214.786	VID_GRAB			
01/06/28 11:12:18.00	493158.34	5312191.41	2182.106	1.1	214.318	VID_GRAB			
01/06/28 11:12:43.00	493158.34	5312191.41	2182.117	1.1	214.373	VID_GRAB			

Date & Time	UTM (X)	UTM (Y)	Depth (m)	Alt. (m)	Heading		Event		
01/06/28 11:12:57.00	493158.34	5312191.41	2182.126	1	214.484	VID_GRAB			
01/06/28 11:13:44.00	493158.34	5312191.41	2182.047	1.1	214.299	VID_GRAB			
01/06/28 11:14:06.00	493158.34	5312191.41	2182.051	1	214.429	clambd biosample	VID_GRAB		
01/06/28 11:14:25.00	493158.34	5312191.41	2182.038	1.1	214.306	clambd biosample	VID_GRAB		
01/06/28 11:14:30.00	493158.34	5312191.41	2182.031	1.1	214.247	clambd biosample	VID_GRAB		
01/06/28 11:14:45.00	493158.34	5312191.41	2182.038	1	214.289	clambd biosample	VID_GRAB		
01/06/28 11:15:02.00	493158.34	5312191.41	2182.018	1	214.26	clambd biosample	VID_GRAB		
01/06/28 11:15:09.00	493147.03	5312191.29	2182.024	1.1	214.218	clambd biosample			
01/06/28 11:15:13.00	493147.03	5312191.29	2182.024	1.1	214.228	clambd biosample	VID_GRAB		
01/06/28 11:15:18.00	493147.03	5312191.29	2182.038	1.1	214.213	clambd biosample	VID_GRAB		
01/06/28 11:15:31.00	493157.35	5312191.85	2182.018	1.1	214.017	clambd biosample	VID_GRAB		
01/06/28 11:15:46.00	493156.59	5312191.2	2182.031	1.1	214.149	clambd biosample	VID_GRAB		
01/06/28 11:15:58.00	493156.59	5312191.2	2182.038	1.1	214.09	clambd biosample	VID_GRAB		
01/06/28 11:16:36.00	493156.39	5312191.23	2182.071	1.1	214.019	clambd biosample	VID_GRAB		
01/06/28 11:18:44.00	493149.83	5312191.28	2182.051	0.8	213.919	clambd biosample	VID_GRAB		
01/06/28 11:18:54.00	493152.93	5312190.7	2182.057	0.9	213.888	clambd biosample	VID_GRAB	some shimmering	
								water	
01/06/28 11:18:57.00	493152.93	5312190.7	2182.069	0.8	213.901	clambd biosample	VID_GRAB		
01/06/28 11:19:54.00	493154.68	5312191.66	2182.089	0.9	213.793	clambd biosample	VID_GRAB		
01/06/28 11:19:59.00	493154.68	5312191.66	2182.096	0.8	213.887	clambd biosample	VID_GRAB		
01/06/28 11:24:50.00	493155.74	5312191.69	2182.19	1	213.931	clambd biosample	VID_GRAB		
01/06/28 11:24:55.00	493155.74	5312191.69	2182.184	1	213.961	clambd biosample	VID_GRAB		
01/06/28 11:25:00.00	493155.74	5312191.69	2182.184	1	213.989	clambd biosample	VID_GRAB		
01/06/28 11:25:32.00	493145.58	5312191.13	2182.224	1	213.891	clambd biosample	VID_GRAB		
01/06/28 11:30:54.00	493147.8	5312189.81	2182.252	1	213.905	clambd biosample	vhs tape change tape 66 to		
							tape 67		
01/06/28 11:36:03.00	493148.34	5312190.64	2182.322	1	214.224	clambd biosample	VID_GRAB		
01/06/28 11:36:29.00	493148.34	5312190.64	2182.327	1	214.123	clambd biosample	VID_GRAB		
01/06/28 11:37:13.00	493155.68	5312191.59	2182.327	1	214.01	clambd biosample	icl temperature probe		
							measurement		
01/06/28 11:37:49.00	493150.11	5312189.54	2182.274	0.9	213.946	clambd biosample	2.4 in bio-box		
01/06/28 11:38:36.00	493150.11	5312189.54	2182.301	0.9	214.089	clambd biosample	VID_GRAB		
01/06/28 11:38:42.00	493150.11	5312189.54	2182.307	0.9	214.071	clambd biosample	VID_GRAB		
01/06/28 11:40:28.00	493155.23	5312190.34	2182.301	1	213.949	clambd biosample	VID_GRAB		
01/06/28 11:41:49.00	493155.74	5312191.12	2182.284	0.9	213.946	clambd biosample	temp probe was used to close		
							bio-box, but ambient temperatures above the basket had		

Date & Time	UTM (X)	UTM (Y)	Depth (m)	Alt. (m)	Heading		Event		
							Tmax = 3.8 and Tmin = 2.1		
01/06/28 11:43:54.00	493154.25	5312189.7	2182.247	1.1	213.919	clambd biosample	VID_GRAB	looks like it's latched	
01/06/28 11:47:23.00	493153.02	5312190.95	2179.631	3.1	213.178	clambd biosample	alrighty, enough biology let's get		
01/06/28 11:48:44.00	493158.15	5312193.03	2181.715	1.8	351.228	clambd biosample	back to geology		
01/06/28 11:50:06.00	493163	5312196.66	2183.319	0.8	275.238	clambd biosample	VID_GRAB		
01/06/28 11:50:30.00	493159.6	5312196.53	2183.474	0.7	264.554	clambd biosample	VID_GRAB		
01/06/28 11:50:34.00	493159.6	5312196.53	2183.464	0.7	265.157	clambd biosample	VID_GRAB		
01/06/28 11:50:39.00	493159.6	5312196.53	2183.338	0.7	269.776	clambd biosample	VID_GRAB		
01/06/28 11:51:14.00	493159.2	5312196.05	2182.386	1.6	256.467	clambd biosample	VID_GRAB		
01/06/28 11:51:28.00	493156.72	5312197.05	2181.588	2.2	255.81	clambd biosample	10049 recovered		
01/06/28 11:56:55.00	493175.02	5312190	2180.346	6.1	255.417	clambd biosample	VID_GRAB		
01/06/28 11:57:29.00	493172.85	5312182.43	2180.565	7.7	289.393	clambd biosample	VID_GRAB		
01/06/28 11:57:43.00	493172.85	5312182.43	2181.992	6.4	287.548	clambd biosample	VID_GRAB		
01/06/28 11:57:48.00	493173.86	5312181.03	2182.655	5.9	288.347	clambd biosample	VID_GRAB		
01/06/28 11:57:54.00	493173.86	5312181.03	2183.414	5.3	287.977	clambd biosample	VID_GRAB		
01/06/28 11:58:19.00	493170.9	5312179.72	2185.127	3	289.02	clambd biosample	VID_GRAB		
01/06/28 11:58:48.00	493170.9	5312179.72	2184.208	2.1	289.045	clambd biosample	VID_GRAB		
01/06/28 11:59:14.00	493161.67	5312181.87	2184.548	2.4	273.673	clambd biosample	VID_GRAB		
01/06/28 11:59:59.00	493161.67	5312181.87	2184.221	2.8	294.739	clambd biosample	VID_GRAB		
01/06/28 12:00:00.00	493161.67	5312181.87	2184.221	2.7	294.715	clambd biosample			
01/06/28 12:00:34.00	493161.67	5312181.87	2184.447	2.5	303.181	clambd biosample	VID_GRAB		
01/06/28 12:01:22.00	493161.67	5312181.87	2184.289	2.9	270.582	clambd biosample	VID_GRAB		
01/06/28 12:02:21.00	493161.67	5312181.87	2184.554	2.1	258.295	clambd biosample	VID_GRAB	images of 10055	
01/06/28 12:09:50.00	493164.5	5312181.03	2184.075	1.7	315.736	VID_GRAB			
01/06/28 12:09:58.00	493164.5	5312181.03	2184.261	1.6	321.929	VID_GRAB			
01/06/28 12:10:13.00	493164.73	5312182.47	2184.011	1.7	315.27	VID_GRAB			
01/06/28 12:10:20.00	493164.73	5312182.47	2183.485	2.1	316.108	VID_GRAB			
01/06/28 12:10:22.00	493164.73	5312182.47	2183.205	2.4	315.618	VID_GRAB			
01/06/28 12:10:25.00	493164.73	5312182.47	2182.884	3	315.937	VID_GRAB			
01/06/28 12:10:28.00	493164.73	5312182.47	2182.421	3.3	318.828	VID_GRAB			
01/06/28 12:10:34.00	493164.73	5312182.47	2182.551	3.2	315.624	VID_GRAB			
01/06/28 12:10:51.00	493158.11	5312179.94	2183.452	2.9	314.96	VID_GRAB			
01/06/28 12:12:40.00	493165.57	5312179.64	2184.071	1.8	310.652	VID_GRAB	biology on acoustic sensors		
01/06/28 12:14:12.00	493167.3	5312180.23	2180.948	5.4	53.69	VID_GRAB	Design flaw 67: sometimes gets		
							stuck in deploy mode		
01/06/28 12:17:02.00	493167.4	5312180.19	2180.976	5.3	52.119	roughly 6m elevation, had temperature spike and eh anomaly			

Date & Time	UTM (X)	UTM (Y)	Depth (m)	Alt. (m)	Heading		Event		
01/06/28 12:29:22.00	493166.71	5312180.27	2180.89	5.6	54.493	transiting back to elevator			
01/06/28 12:39:05.00	493193.78	5312206.94	2149.431	21.2	48.91	pilot noticed northward current, agrees with tidal current prediction			
01/06/28 12:42:03.00	493226.25	5312220.69	2149.868	30	50.789	the bean bag of 10055 was deflated during our trials of getting it			
						to undeploy. Probably melted a hole in it.			
01/06/28 13:01:17.00	493406.07	5312353.88	2180.465	11.5	90.76	elevator in sight			
01/06/28 13:01:54.00	493410.82	5312354.18	2184.268	8	103.369	plan to deposit 10055 and 10049 in elevator then continue on to			
						do ADCP survey lines at High Rise and Clambed			
01/06/28 13:06:51.00	493421.08	5312356.47	2186.014	5.8	359.045	10055 in elevator			
01/06/28 13:06:59.00	493421.08	5312356.47	2185.894	6	345.574	VID_GRAB			
01/06/28 13:08:39.00	493424.18	5312357.52	2186.28	6	248.153	VID_GRAB			
01/06/28 13:08:47.00	493424.74	5312358.92	2186.766	5.7	248.17	10049 in elevator			
01/06/28 13:42:42.00	493430.64	5312357.14	2187.965	4.6	325.343	bearing 320 to start of ADCP line at High Rise			
01/06/28 14:46:16.00	493086.8	5312757.92	2132.126	21.6	112.763	o1f28001			
01/06/28 14:48:50.00	493087.9	5312756	2132.418	20.3	111.924	SM2000 file name c:\tn129\01F28031.mpb			
01/06/28 14:50:04.00	493099.6	5312749.45	2130.731	20.5	111.634	we are begining the northern ADCP/Bathy survey HighRise Line			
01/06/28 14:50:52.00	493103.09	5312741.56	2131.582	19.9	115.07	tapes for V are started			
01/06/28 14:52:01.00	493107.59	5312744.67	2131.535	21.1	112.752	V8 sounds like a drink, but is the tape #			
01/06/28 15:05:16.00	493160.36	5312726.38	2152.387	20.7	110.807	ADCP/Bathy survey - High Rise			
01/06/28 16:11:23.00	493673.92	5312495.42	2145.84	17.4	112.267	ADCP/Bathy survey - High Rise	CTD signal - smokey water		
						column			
01/06/28 16:12:19.00	493678.08	5312490.84	2144.363	13.9	112.558	ADCP/Bathy survey - High Rise	temp anomaly 0.05 C		
01/06/28 16:26:53.00	493807.85	5312427.12	2082.931	20.1	102.882	ADCP/Bathy survey - High Rise	end of first ADCP line		
01/06/28 16:28:58.00	493826.67	5312417.22	2084.045	19.9	172.532	ADCP/Bathy survey - High Rise	CTD peaks		
01/06/28 17:01:16.00	493700.42	5312031.27	2089.769	19	201.085	ADCP/Bathy survey - High Rise	CTD 309005 file started		
01/06/28 17:10:29.00	493653.35	5311961.94	2094.396	18.5	161.338	ADCP/Bathy survey - High Rise	starting second line of		
						ADCP/bathy survey			
01/06/28 17:27:25.00	493547.93	5312003.69	2133.295	19.9	289.957	ADCP/Bathy survey - High Rise	poor navigation		
01/06/28 18:23:24.00	493000.21	5312256.88	2119.598	17.9	307.6	ADCP/Bathy survey - Clam bed			
01/06/28 18:23:58.00	493001.82	5312254.86	2119.267	18.9	307.387	ADCP/Bathy survey - Clam bed	17:11 was the start of the ADCP		
						clam bed line - not the high rise line			
01/06/28 18:33:17.00	492909.89	5312301.56	2118.411	15.8	307.102	ADCP/Bathy survey - Clam bed	end of ADCP/Bathy Clam bed line		
01/06/28 18:37:12.00	492872.93	5312315.61	2110.581	20.6	241.372	long transit to start of SM 2000 Bathymetric Survey			
01/06/28 18:37:28.00	492868.82	5312311.02	2106.793	23.5	219.748				
01/06/28 18:37:36.00	492868.82	5312311.02	2104.431	24.7	211.438	SM 2000 Bathy survey			
01/06/28 18:38:36.00	492861.2	5312308.08	2086.821	30	215.761	SM 2000 Bathy survey	Full speed ahead - we are picking		
						it up to 1 knot!!			

Date & Time	UTM (X)	UTM (Y)	Depth (m)	Alt. (m)	Heading		Event		
01/06/28 18:42:50.00	492842.52	5312324.98	2072.152	30	173.373	SM 2000 Bathy survey	Heading to start of line 13		
01/06/28 19:28:32.00	493441.14	5312773.53	2040.94	30	210.745	SM 2000 Bathy survey		Temp Anom	large
								Temp spike	
01/06/28 20:03:13.00	493853.54	5313124.39	2162.166	2.1	226.22	SM 2000 Bathy survey	We are approaching line13		
01/06/28 20:04:35.00	493849.41	5313117.49	2160.991	3.6	212.409	SM 2000 Bathy survey	Starting line 13		
01/06/28 22:21:39.00	493513.34	5312230.51	2185.977	21.8	221.847	SM 2000 Bathy survey	Bad Jason Nav		
01/06/28 22:37:02.00	495141.3	5314831.04	2191.105	18.8	229.365	SM 2000 Bathy survey	Lisa is writting down Medda fixes		
							and Jason is under Medda right now		
01/06/28 22:46:43.00	493395.06	5311887.62	2187.499	20.2	219.783	SM 2000 Bathy survey	good fix		
01/06/29 00:30:37.00	493029.93	5310889.03	2205.687	21.3	214.998	SM 2000 Bathy survey	VID_GRAB		
01/06/29 00:37:18.00	493016.34	5310819.21	2206.935	21.4	216.642	SM 2000 Bathy survey	VID_GRAB		
01/06/29 00:38:50.00	493004.23	5310802.49	2207.175	20.8	214.915	SM 2000 Bathy survey	Still working on Line 13		
01/06/29 02:13:22.00	492678.87	5309956.57	2173.407	15.2	344.479	SM 2000 Bathy survey			
01/06/29 02:13:34.00	492678.39	5309958.23	2172.842	27.2	343.983	SM 2000 Bathy survey	Completed line 13		
01/06/29 02:18:07.00	492664.6	5309984.82	2192.351	13.3	340.101	SM 2000 Bathy survey	Transiting to MAV 59		
01/06/29 02:29:28.00	492643.96	5310078.98	2211.945	8.8	355.995	SM 2000 Bathy survey	JASON software problems,		
							rebooting JASON		
01/06/29 02:32:51.00	492620.43	5310136.75	2200.032	9.4	24.866	SM 2000 Bathy survey	2 extinct sulfide mounds, 5		
							meters tall		
01/06/29 02:33:07.00	492619.3	5310137.26	2200.005	9.7	3.348	SM 2000 Bathy survey	VID_GRAB	of sulfide mounds	
01/06/29 02:33:21.00	492619.3	5310137.26	2200.005	9.4	338.805	SM 2000 Bathy survey	VID_GRAB		
01/06/29 02:33:39.00	492620.33	5310136.6	2199.979	9.8	338.793	SM 2000 Bathy survey	Extinct sulfide mounds		
01/06/29 02:34:28.00	492614.43	5310144.21	2199.546	6.5	347.436	SM 2000 Bathy survey	started 309007 ctd file		
01/06/29 02:34:38.00	492614.43	5310144.21	2199.679	5.4	347.009	SM 2000 Bathy survey	salt boulderws		
01/06/29 02:34:45.00	492614.43	5310144.21	2199.779	5	346.637	SM 2000 Bathy survey	VID_GRAB		
01/06/29 02:34:58.00	492609.95	5310149.01	2199.912	2.4	346.466	SM 2000 Bathy survey	salt boulders and pockets		
01/06/29 02:36:08.00	492607.98	5310158.39	2198.746	2.2	4.995	SM 2000 Bathy survey	VID_GRAB		
01/06/29 02:36:32.00	492607.98	5310158.39	2197.508	3.7	357.782	SM 2000 Bathy survey	Very large sulfide mounds with		
							flanges and spires		
01/06/29 02:36:52.00	492609.52	5310159.61	2196.149	4.8	354.537	SM 2000 Bathy survey	VID_GRAB		
01/06/29 02:37:07.00	492609.98	5310160.24	2196.202	4.3	355.083	SM 2000 Bathy survey	Very large sulfide mounds		
01/06/29 02:37:31.00	492607.97	5310160.85	2196.583	3.7	349.761	SM 2000 Bathy survey	VID_GRAB		
01/06/29 02:39:07.00	492614.17	5310164.99	2195.024	5	293.702	SM 2000 Bathy survey	Active iron stains on side of		
							sulfide mound		
01/06/29 02:40:37.00	492606.8	5310170.63	2188.541	4.4	250.342	SM 2000 Bathy survey	VID_GRAB		
01/06/29 02:40:55.00	492604.34	5310171.1	2188.9	3.5	219.988	SM 2000 Bathy survey	More sulfide spires		

Date & Time	UTM (X)	UTM (Y)	Depth (m)	Alt. (m)	Heading		Event		
01/06/29 02:40:58.00	492604.34	5310171.1	2188.934	3.6	220.044	SM 2000 Bathy survey	VID_GRAB		
01/06/29 02:44:38.00	492608.57	5310162.53	2196.463	2.5	318.402	SM 2000 Bathy survey	VID_GRAB		
01/06/29 02:44:41.00	492608.57	5310162.53	2196.471	2.8	312.394	SM 2000 Bathy survey	VID_GRAB		
01/06/29 02:46:27.00	492611.95	5310167.22	2189.446	3.9	236.841	SM 2000 Bathy survey	VID_GRAB		
01/06/29 02:51:27.00	492608.19	5310176.48	2188.537	3.6	30.611	SM 2000 Bathy survey	VID_GRAB	sulfides!	
01/06/29 02:55:17.00	492609.03	5310179.38	2188.721	3.5	334.545	SM 2000 Bathy survey	VID_GRAB		
01/06/29 02:55:29.00	492608.66	5310182.74	2191.057	5.2	335.871	SM 2000 Bathy survey		mav 59 in sight	
01/06/29 02:55:54.00	492606.63	5310185.79	2191.124	5.6	320.942	SM 2000 Bathy survey	VID_GRAB		
01/06/29 02:56:18.00	492604.57	5310187.4	2193.714	3.6	293.557	SM 2000 Bathy survey	VID_GRAB	MAV 59	
01/06/29 02:56:42.00	492603.51	5310188.81	2196.311	1.4	294.607	SM 2000 Bathy survey	VID_GRAB		
01/06/29 02:57:14.00	492604.16	5310189.28	2195.718	1.8	275.239	SM 2000 Bathy survey	VID_GRAB		
01/06/29 02:57:17.00	492604.16	5310189.28	2195.386	2	276.417	SM 2000 Bathy survey	VID_GRAB		
01/06/29 02:57:28.00	492604.16	5310189.28	2193.368	4.1	277.086	SM 2000 Bathy survey		MAV 59 on Jason	
01/06/29 02:59:24.00	492604.49	5310197.05	2176.415	23.4	132.639	SM 2000 Bathy survey		MAV 59 back to elevator	
01/06/29 03:08:21.00	492582.87	5310167.87	2140.152	30	245.073	SM 2000 Bathy survey		transit to elevator - 500 m	
01/06/29 03:17:19.00	492582.87	5310167.87	2139.905	30	211.739	SM 2000 Bathy survey		target 81 - south elevator	
01/06/29 03:49:46.00	492746.31	5310701.27	2201.41	5.2	110.661	SM 2000 Bathy survey	VID_GRAB		
01/06/29 03:49:50.00	492746.31	5310701.27	2202.222	4.8	94.344	SM 2000 Bathy survey		at the elevator	
01/06/29 03:52:03.00	492754.55	5310699.65	2203.077	4.4	81.154	SM 2000 Bathy survey		MAV 59 getting ready to go into	
							elevator		
01/06/29 03:54:16.00	492752.06	5310702.1	2199.494	7.3	135.593	VID_GRAB		tube worms - help me!!	
01/06/29 03:55:37.00	492755.01	5310695.09	2201.832	6.3	79.844	VID_GRAB			
01/06/29 03:56:14.00	492758.59	5310695.08	2202.012	6.2	67.65	rings not deploying			
01/06/29 03:57:33.00	492759.91	5310694.39	2202.784	5.5	29.638	VID_GRAB			
01/06/29 03:57:53.00	492758.77	5310693.06	2203.284	5.6	4.771	In the hole!			
01/06/29 04:03:05.00	492766	5310693.31	2204.048	7.7	276.243	VID_GRAB			
01/06/29 04:03:45.00	492765.84	5310691.09	2204.15	5.4	310.444	going to pick up MAV 61, the thermal blanket, and hobos			
01/06/29 04:03:53.00	492763.39	5310691.39	2204.161	6	318.419	VID_GRAB			
01/06/29 04:08:43.00	492764.09	5310694.7	2205.543	3.4	233.473	VID_GRAB		retrieving hobo	
01/06/29 04:14:46.00	492760.08	5310695.3	2206.333	2.8	300.335	new nav target for elevator - 82			
01/06/29 04:17:46.00	492760.71	5310695.14	2206.159	2.9	298.934	retrieving thermal blanket from elevator			
01/06/29 04:27:17.00	492759.62	5310698.51	2204.717	3.1	113.736	Niskin sample taken - accidental, but it was taken here			
01/06/29 04:27:38.00	492758.46	5310698.47	2206.489	1.6	86.336	Left Niskin bottle closed			
01/06/29 04:33:42.00	492765.53	5310699.52	2204.346	4.4	156.931	taking MAVS 61 off elevator			
01/06/29 04:35:53.00	492765.02	5310696.78	2201.748	7.1	181.959	MAVS 61 out of elevator			
01/06/29 04:36:23.00	492766.07	5310698.31	2197.878	10.3	175.605	heading to S&M site nav target 34			



Date & Time	UTM (X)	UTM (Y)	Depth (m)	Alt. (m)	Heading		Event		
01/06/29 04:48:38.00	492704.6	5310638.51	2182.701	14.7	224.026		Temp Anom		Smoke
01/06/29 04:49:05.00	492703.38	5310635.91	2182.773	7.1	224.013	there is response from OBS after all			
01/06/29 04:50:17.00	492698.32	5310629.77	2178.495	20	219.224	>1 deg C T anomalies			
01/06/29 04:58:35.00	492628.82	5310553.82	2178.574	13.2	219.431	thermal blanket fell off during transit			
01/06/29 04:58:48.00	492628.82	5310553.82	2182.578	9.1	224.729	coming down to find it			
01/06/29 05:02:24.00	492628.2	5310554.34	2189.901	2.1	208.125	VID_GRAB	thermal blanket is upside down		
01/06/29 05:03:11.00	492628.76	5310554.11	2189.88	2.1	208.269	go drop off MAV 61 then come back to get thermal blanket			
01/06/29 05:10:01.00	492629.03	5310554.9	2189.88	2.1	207.774	target is about 10m south of where thermal blanket landed			
01/06/29 05:12:00.00	492629.71	5310547.2	2189.134	3.2	160.436	smoke			
01/06/29 05:14:14.00	492638.85	5310538.17	2187.863	3.9	52.254	replacing MAV54 with MAV61			
01/06/29 05:14:36.00	492635.98	5310540.13	2189.288	2.9	69.635	VID_GRAB			
01/06/29 05:17:59.00	492637.34	5310545.07	2191.409	1.1	82.073	MAV61 placement	MAV is down		
01/06/29 05:18:29.00	492638.25	5310544.51	2190.977	1.6	114.172	MAV61 placement	VID_GRAB		
01/06/29 05:19:03.00	492638.25	5310544.51	2192.281	0.9	158.936	MAV61 placement	VID_GRAB		
01/06/29 05:21:03.00	492638.25	5310544.51	2192.509	30	229.697	MAV61 placement	HOBO 34 being placed next to		
							MAV 61		
01/06/29 05:22:09.00	492638.25	5310544.51	2192.097	0.7	267.555	MAV61 placement	VID_GRAB		
01/06/29 05:24:46.00	492637.49	5310547.33	2191.24	1.4	58.253	MAV61 placement	VID_GRAB		
01/06/29 05:29:39.00	492633.96	5310550.08	2192.649	30	33.92	MAV61 placement	trying to upright MAV 61		
01/06/29 05:30:47.00	492638.02	5310544.46	2192.624	0.8	33.672	MAV61 placement	MAV has deployed		
01/06/29 05:33:52.00	492637.38	5310543.02	2189.685	2.7	296.496	MAV61 placement	VID_GRAB		
01/06/29 05:33:59.00	492637.38	5310543.02	2190.318	2.1	285.953	MAV61 placement	VID_GRAB		
01/06/29 05:38:29.00	492637.38	5310543.02	2192.013	30	283.552	MAV61 placement	VID_GRAB	61 is on the right	
01/06/29 05:42:22.00	492637.51	5310548.15	2192.417	30	225.695	MAV61 placement	VID_GRAB		
01/06/29 05:44:10.00	492642.66	5310541.97	2190.655	1.9	283.246	MAV61 placement	VID_GRAB		
01/06/29 05:44:15.00	492642.66	5310541.97	2190.499	2	284.791	MAV61 placement	VID_GRAB		
01/06/29 05:44:21.00	492642.66	5310541.97	2190.24	2.2	316.327	MAV61 placement	VID_GRAB		
01/06/29 05:44:29.00	492642.66	5310541.97	2190.033	2.4	314.017	MAV61 placement	VID_GRAB		
01/06/29 05:44:42.00	492642.66	5310541.97	2189.907	2.5	313.385	MAV61 placement	orientation 135		
01/06/29 05:45:25.00	492637.82	5310548.04	2188.666	3.5	304.333	go to pick up thermal blanket			
01/06/29 05:52:13.00	492630.49	5310551.99	2191.198	30	233.158	thermal blanket is back on jason			
01/06/29 05:54:14.00	492629.96	5310552.1	2191.141	30	232.814	taking thermal blanket to target 30			
01/06/29 06:10:57.00	492598.29	5310436.75	2187.034	4.5	88.395	thermal blanket	at target 30		
01/06/29 06:14:35.00	492599.28	5310445.77	2192.097	1	186.788	thermal blanket	putting blanket down		
01/06/29 06:17:58.00	492589.9	5310439.43	2191.385	1.2	306.693	thermal blanket	Paul doesn't like the location- try		
							to move it		

Date & Time	UTM (X)	UTM (Y)	Depth (m)	Alt. (m)	Heading		Event		
01/06/29 06:19:59.00	492593.15	5310437.33	2190.704	1.6	294.592	thermal blanket	VID_GRAB		
01/06/29 06:20:26.00	492597.61	5310443.02	2190.792	1.3	13.393	thermal blanket	VID_GRAB		
01/06/29 06:21:00.00	492590.15	5310441.67	2190.799	1.4	103.158	thermal blanket	VID_GRAB		
01/06/29 06:21:12.00	492590.15	5310441.67	2191.027	1.4	120.68	thermal blanket	VID_GRAB		
01/06/29 06:21:53.00	492590.15	5310441.67	2190.508	1.9	137.562	thermal blanket	move it a little to the right		
01/06/29 06:23:12.00	492594.41	5310452.71	2191.031	1.4	161.491	thermal blanket	VID_GRAB	new location	
01/06/29 06:23:56.00	492596.34	5310449.94	2190.465	1.7	156.194	thermal blanket	VID_GRAB		
01/06/29 06:24:09.00	492596.34	5310449.94	2190.653	1.7	123.175	thermal blanket	VID_GRAB		
01/06/29 06:25:05.00	492588.63	5310454.26	2190.933	1.6	56.823	thermal blanket	one edge is on a rock- try again		
01/06/29 06:29:05.00	492602.79	5310452.98	2191.166	1.2	6.22	thermal blanket	VID_GRAB		
01/06/29 06:30:06.00	492604.06	5310454.28	2191.607	0.9	1.333	thermal blanket	VID_GRAB		
01/06/29 06:30:20.00	492596.69	5310462.98	2191.494	1	317.675	thermal blanket	VID_GRAB		
01/06/29 06:30:31.00	492604.51	5310454.12	2190.968	1.8	256.668	thermal blanket	we have a winner		
01/06/29 06:31:43.00	492605.43	5310455.53	2184.58	7.8	7.452	go back to target 34 to get MAV 54			
01/06/29 06:38:47.00	492615	5310484.05	2164.437	14	8.28	MAV 54 recovery	passing through smoke		
01/06/29 06:48:22.00	492627.13	5310546.25	2179.259	12.4	4.407	MAV 54 recovery	VID_GRAB	tubeworm catching	
								a ride	
01/06/29 06:48:44.00	492630.03	5310546.88	2184.856	6.5	4.076	MAV 54 recovery	VID_GRAB		
01/06/29 06:50:00.00	492637.81	5310546.64	2189.489	1.8	111.184	MAV 54 recovery	VID_GRAB		
01/06/29 06:50:19.00	492642.59	5310543.57	2189.642	2.1	114.181	MAV 54 recovery	VID_GRAB		
01/06/29 06:50:49.00	492642.56	5310540.52	2189.889	1.9	97.896	MAV 54 recovery	Mav 54 is in sight		
01/06/29 06:50:58.00	492643.32	5310539.1	2189.902	1.7	78.225	MAV 54 recovery	VID_GRAB		
01/06/29 06:51:14.00	492644.96	5310536.51	2190.527	1.2	63.607	MAV 54 recovery	VID_GRAB		
01/06/29 06:52:44.00	492646.03	5310535.21	2190.414	1.2	47.473	MAV 54 recovery	VID_GRAB		
01/06/29 06:52:49.00	492646.03	5310535.21	2190.694	1.1	45.654	MAV 54 recovery	VID_GRAB		
01/06/29 06:53:36.00	492646.21	5310538.69	2187.017	4.7	30.966	MAV 54 recovery	Mav 54 is on Jason hook		
01/06/29 06:54:32.00	492644.35	5310528.66	2184.041	6.8	202.118	MAV 54 recovery	VID_GRAB		
01/06/29 07:10:29.00	492658.76	5310593.02	2099.268	30	244.75	MAV 54 recovery	VID_GRAB		
01/06/29 07:28:55.00	492758.21	5310694.99	2197.619	6.8	85.922	MAV 54 recovery	VID_GRAB		
01/06/29 07:29:14.00	492760.61	5310693.77	2199.664	6.4	83.12	MAV 54 recovery			
01/06/29 07:29:17.00	492760.61	5310693.77	2199.578	6.2	82.89	MAV 54 recovery	VID_GRAB		
01/06/29 07:30:23.00	492766.34	5310689.37	2201.264	6	6.996	MAV 54 recovery	We are at the elevator		
01/06/29 07:31:44.00	492770.11	5310686.27	2200.865	6.6	347.503	MAV 54 recovery	Will gave Mav 54 a love tap that		
						really was wacking in against the elevator			
01/06/29 07:32:32.00	492767.82	5310690.19	2201.697	5.7	355.464	MAV 54 recovery	Mav 54 is in the elevator		
01/06/29 07:33:33.00	492768.84	5310686.39	2202.813	4.5	335.393	MAV 54 recovery	Mav 54 is bungeed in		

Date & Time	UTM (X)	UTM (Y)	Depth (m)	Alt. (m)	Heading		Event		
01/06/29 07:33:42.00	492768.84	5310686.39	2202.759	4.6	344.617	MAV 54 recovery	VID_GRAB		
01/06/29 07:33:51.00	492769.61	5310686.4	2202.273	5.1	342.395	MAV 54 recovery	VID_GRAB		
01/06/29 07:34:05.00	492769.61	5310686.4	2202.332	5.2	346.768	MAV 54 recovery	VID_GRAB		
01/06/29 07:34:07.00	492769.61	5310686.4	2201.753	5.7	346.892	MAV 54 recovery	VID_GRAB		
01/06/29 07:34:33.00	492771.79	5310686.44	2198.066	5.5	346.178	MAV 54 recovery	Mav 54 is in slot F		
01/06/29 07:36:14.00	492766.38	5310699.36	2194.669	9.2	11.624	VID_GRAB			
01/06/29 07:36:25.00	492766.38	5310699.36	2196.034	7.5	9.678	VID_GRAB			
01/06/29 07:36:29.00	492765.08	5310698.04	2196.061	6.3	28.913				
01/06/29 07:36:32.00	492765.08	5310698.04	2195.974	6.5	30.07				
01/06/29 07:36:45.00	492765.08	5310698.04	2196.26	5.1	44.621	VID_GRAB			
01/06/29 07:36:47.00	492765.08	5310698.04	2196.621	4.5	44.834	VID_GRAB			
01/06/29 07:36:51.00	492763.56	5310698.6	2197.2	5.9	48.535	VID_GRAB			
01/06/29 07:36:56.00	492763.56	5310698.6	2198.034	5.9	83.873	VID_GRAB			
01/06/29 07:37:05.00	492763.56	5310698.6	2199.125	4.2	83.65	VID_GRAB			
01/06/29 07:37:09.00	492762.77	5310702.47	2199.198	4	82.847	VID_GRAB			
01/06/29 07:37:23.00	492762.77	5310702.47	2201.072	1.8	83.068	VID_GRAB			
01/06/29 07:37:26.00	492762.77	5310702.47	2201.456	1.5	93.364	VID_GRAB			
01/06/29 07:37:45.00	492762.56	5310703.06	2200.589	3.1	132.504	VID_GRAB			
01/06/29 07:37:49.00	492762.56	5310703.06	2199.857	4.7	131.614	VID_GRAB			
01/06/29 07:37:59.00	492762.56	5310703.06	2198.507	5.7	135.518	VID_GRAB			
01/06/29 07:38:10.00	492764.82	5310704.59	2198.927	4.7	139.131	VID_GRAB			
01/06/29 07:38:14.00	492764.82	5310704.59	2198.461	4.6	139.338	VID_GRAB			
01/06/29 07:38:28.00	492764.82	5310704.59	2197.635	3	136.394	VID_GRAB			
01/06/29 07:38:38.00	492767.13	5310703.26	2196.096	3.7	139.421	VID_GRAB			
01/06/29 07:38:48.00	492767.13	5310703.26	2194.832	7.6	82.525	VID_GRAB			
01/06/29 07:46:17.00	492764.02	5310736.66	2192.074	8	10.83	VID_GRAB			
01/06/29 07:46:26.00	492764.02	5310736.66	2192.193	7.8	6.912	VID_GRAB			
01/06/29 07:46:34.00	492763.79	5310740.31	2192.333	7.8	336.194	VID_GRAB			
01/06/29 07:47:17.00	492762.77	5310738.7	2192.325	5.8	277.285	VID_GRAB			
01/06/29 07:47:47.00	492759.49	5310738.85	2196.218	2.1	280.603	VID_GRAB			
01/06/29 07:47:54.00	492756.99	5310738.67	2195.745	2.3	276.121	VID_GRAB			
01/06/29 07:48:04.00	492756.99	5310738.67	2195.632	2.2	268.642	VID_GRAB			
01/06/29 07:48:48.00	492754.24	5310737.73	2195.372	2.1	334.797	Mav 53 has been knock over and is covered in tubworms			
01/06/29 07:48:52.00	492752.73	5310738.87	2195.283	2.4	337.773	VID_GRAB			
01/06/29 07:49:00.00	492752.73	5310738.87	2195.45	2.3	339.686	VID_GRAB			
01/06/29 07:49:10.00	492755.96	5310739.02	2196.453	1.4	328.208	VID_GRAB			

Date & Time	UTM (X)	UTM (Y)	Depth (m)	Alt. (m)	Heading		Event		
01/06/29 07:49:27.00	492755.96	5310739.02	2197.141	1.1	306.467	VID_GRAB			
01/06/29 07:49:33.00	492755.63	5310738.28	2197.292	1	296.649	VID_GRAB			
01/06/29 07:49:37.00	492755.63	5310738.28	2197.271	1	297.144	VID_GRAB			
01/06/29 07:49:54.00	492757.1	5310738.28	2197.172	1	282.394	The Mav has become one with its environment			
01/06/29 07:49:58.00	492757.1	5310738.28	2197.252	0.9	280.096	VID_GRAB			
01/06/29 07:50:32.00	492755.32	5310740.61	2193.447	3.6	297.901	VID_GRAB			
01/06/29 07:51:29.00	492754.23	5310743.8	2194.2	2.8	187.513	Stuff is growing up into the velocity sensors			
01/06/29 07:51:32.00	492754.28	5310743.04	2194.2	2.9	187.679	VID_GRAB			
01/06/29 08:03:35.00	492762.09	5310692.1	2198.15	5	99.882	Elevator is in sight			
01/06/29 08:08:38.00	492767.85	5310683.82	2201.971	5.4	318.956	MAV 53 IS IN THE ELEVATOR in slot E			
01/06/29 08:09:04.00	492769.56	5310683.08	2202.373	5	327.971	MAV 53 is bungeed in			
01/06/29 08:09:11.00	492768.19	5310683.13	2202.566	4.8	338.609	VID_GRAB			
01/06/29 08:11:55.00	492767.33	5310694.72	2194.166	6.8	319.128	VID_GRAB			
01/06/29 08:12:01.00	492767.33	5310694.72	2194.052	6.1	318.319	VID_GRAB			
01/06/29 08:22:21.00	492756.3	5310742.27	2188.356	6.7	37.498	VID_GRAB			
01/06/29 08:22:47.00	492756.3	5310742.27	2186.532	7.7	41.859	VID_GRAB			
01/06/29 08:22:53.00	492755.76	5310745.91	2186.772	7.6	53.068	VID_GRAB			
01/06/29 08:23:01.00	492755.76	5310745.91	2187.152	6.7	65.504	VID_GRAB			
01/06/29 08:23:07.00	492755.76	5310745.91	2186.872	7.3	69.045	VID_GRAB			
01/06/29 08:23:16.00	492754.36	5310747.4	2186.363	7.6	59.281	VID_GRAB			
01/06/29 08:26:38.00	492731.44	5310739.84	2192.306	4.3	15.758	VID_GRAB			
01/06/29 08:27:09.00	492743.21	5310744.52	2187.067	7.8	30.079	VID_GRAB			
01/06/29 08:27:41.00	492743.21	5310744.52	2185.833	9.6	79.818	VID_GRAB			
01/06/29 08:29:24.00	492748.57	5310759.91	2192.178	5.2	53.422	VID_GRAB			
01/06/29 08:33:43.00	492747.57	5310765.5	2192.483	8.3	85.226	VID_GRAB			
01/06/29 08:33:45.00	492747.57	5310765.5	2192.388	8.3	85.833	VID_GRAB			
01/06/29 08:40:17.00	492784.36	5310786.27	2206.289	2.6	35.892	VID_GRAB			
01/06/29 08:40:23.00	492784.36	5310786.27	2207.087	1.8	11.856	VID_GRAB			
01/06/29 08:41:22.00	492781.57	5310788.91	2207.914	0.9	88.779	Mag. 1 has been located and is on Jason			
01/06/29 08:41:40.00	492782.15	5310787.11	2207.928	1.3	140.384	VID_GRAB			
01/06/29 08:41:47.00	492782.15	5310787.11	2207.948	1.1	150.295	VID_GRAB			
01/06/29 08:41:49.00	492784.21	5310789.5	2208.128	1	156.746	VID_GRAB			
01/06/29 08:41:59.00	492784.21	5310789.5	2208.141	1	146.543	VID_GRAB			
01/06/29 08:42:05.00	492784.21	5310789.5	2207.975	1.2	137.099	VID_GRAB			
01/06/29 08:43:10.00	492783.5	5310790.2	2199.528	9.6	167.621	going back to the elevator			
01/06/29 09:07:52.00	492762.58	5310705.07	2187.709	13.6	177.153	smoke			

Date & Time	UTM (X)	UTM (Y)	Depth (m)	Alt. (m)	Heading		Event		
01/06/29 09:35:23.00	492839.92	5310747.86	2202.044	2.7	124.255	VID_GRAB			
01/06/29 09:35:29.00	492839.92	5310747.86	2201.964	2.6	156.408	VID_GRAB			
01/06/29 09:35:42.00	492841.92	5310750.77	2201.264	3.3	152.895	VID_GRAB			
01/06/29 09:36:25.00	492847.87	5310745.69	2202.483	2.2	223.846	VID_GRAB			
01/06/29 09:36:36.00	492848.42	5310738.81	2203.057	1.9	230.098	VID_GRAB			
01/06/29 09:36:48.00	492848.42	5310738.81	2202.517	2.5	249.465	VID_GRAB			
01/06/29 09:36:52.00	492848.42	5310738.81	2202.36	2.6	254.68	VID_GRAB			
01/06/29 09:36:58.00	492848.42	5310738.81	2202.292	2.5	252.025	VID_GRAB			
01/06/29 09:37:02.00	492848.42	5310738.81	2202.257	2.5	249.664	VID_GRAB			
01/06/29 09:37:49.00	492848.42	5310738.81	2203.771	0.8	329.48	Mag. 2 has been located and is on Jason			
01/06/29 09:37:53.00	492843.3	5310732.75	2203.738	0.7	328.939	VID_GRAB			
01/06/29 09:40:26.00	492842.42	5310735.13	2203.641	1.2	144.016	VID_GRAB			
01/06/29 09:41:34.00	492841.89	5310733.69	2204.002	0.9	35.75	VID_GRAB			
01/06/29 09:42:58.00	492840.82	5310734.62	2203.685	1.3	27.716	VID_GRAB			
01/06/29 09:44:14.00	492841.59	5310736.41	2202.473	2.2	5.887	VID_GRAB			
01/06/29 09:44:22.00	492841.59	5310736.41	2202.722	2	7.291	VID_GRAB			
01/06/29 10:02:47.00	492775.14	5310688.83	2200.184	9.2	211.479	We can see the elevator			
01/06/29 10:06:53.00	492766.8	5310687.21	2199.654	7.1	165.58	VID_GRAB			
01/06/29 10:06:59.00	492766.8	5310687.21	2199.658	6.8	165.255	VID_GRAB			
01/06/29 10:07:36.00	492761.58	5310683.36	2199.873	6.6	71.582	VID_GRAB			
01/06/29 10:15:10.00	492764.26	5310681.99	2202.798	3.1	68.494	Mag. 2 is on the elevator			
01/06/29 11:05:00.00	493231.84	5310397.52	2035.807	30	312.637	We are heading toward Line W			
01/06/29 11:17:26.00	493298.65	5310343.95	2060.399	30	278.565	01f29001 started			
01/06/29 11:20:04.00	493303.76	5310338.62	2076.292	21.6	278.967	Start of line W			
01/06/29 11:24:15.00	493267.4	5310350.44	2078.869	23.3	270.948	CTD file 309010.dat started			
01/06/29 11:25:05.00	493229.08	5310360.53	2083.318	21.6	277.432	Bad fixes			
01/06/29 11:26:04.00	493227.52	5310358.08	2082.887	22.3	269.101	Engineer complaining about imagenex on the monitored			
01/06/29 11:47:54.00	492983.51	5310393.89	2185.624	20.9	271.114	bad fixes			
01/06/29 11:57:16.00	492827.58	5310406	2185.193	19.3	269.785	Late entry: 2 minutes past a large geological feature about 10 meters long from above			
01/06/29 12:19:21.00	492513.26	5310419.78	2141.65	21.9	280.791		temp anom	0.075 C	
01/06/29 12:20:40.00	492489.71	5310422.78	2123.998	13.6	280.288	Geological Features		Wall	
01/06/29 12:39:32.00	492192.49	5310427.01	2104.252	21	307.772	End of line W			
01/06/29 12:41:36.00	492175.32	5310427.24	2102.024	22.8	254.2	Stopped recording on SM 2000			
01/06/29 12:43:12.00	492152.24	5310424.37	2082.315	30	290.955	Geological Features		Wall	
01/06/29 12:45:59.00	492147.55	5310422.25	2044.013	30	69.993	Shut down SM 200			

Date & Time	UTM (X)	UTM (Y)	Depth (m)	Alt. (m)	Heading	Event		
01/06/29 12:47:26.00	492132.71	5310419.92	2040.812	30	68.534	Rebooting JASON in order to correct software bug: flashing of		
						lights and camera pulsing		
01/06/29 12:48:04.00	492125.55	5310419.09	2040.327	30	59.103	Reloading SM 2000		
01/06/29 12:49:00.00	492127.49	5310420.75	2040.432	30	57.153	JASON software rebooted		
01/06/29 12:52:47.00	492115.71	5310411.27	2040.498	30	57.167	SM 2000 running		
01/06/29 12:58:51.00	492081.4	5310384.01	2042.114	24.4	28.232	ADCP not on line		
01/06/29 13:05:04.00	492088.31	5310350.8	2054.229	22.1	107.928	Reloading SM 2000		
01/06/29 13:06:22.00	492095.4	5310345.53	2054.676	30	110.371	Started ADCP file 309001		
01/06/29 13:08:06.00	492112.96	5310345.78	2054.829	30	109.377	SM 2000 reloaded		
01/06/29 13:11:22.00	492122.42	5310340.83	2055.155	30	126.867	Reloading SM 2000 and Win95 and everything that can possibly		
						be reloaded		
01/06/29 13:13:17.00	492125.66	5310339.95	2054.484	30	129.155	SM 200 RUNNING		
01/06/29 13:13:58.00	492128.97	5310338.12	2054.283	30	127.076	SM 2000 recording: file 01F29002		
01/06/29 13:14:08.00	492128.97	5310338.12	2055.477	30	131.902	Begin line SE		
01/06/29 14:09:50.00	492586.22	5310179.89	2176.092	19.4	116.124	SM 2000 was recording to tape, not to disk; John set it to record		
						to disk		
01/06/29 14:21:25.00	492701.65	5310135.39	2176.103	15.3	117.471	Line SW benign recorded to C:\tn129\01F29004.mpb		
01/06/29 14:42:57.00	492992.96	5310030.62	2125.804	24.8	122.373	Crossed over large ridge		
01/06/29 14:46:47.00	515641.23	5301928.85	2123.571	19.7	114.623	watch change		
01/06/29 14:47:46.00	499732.36	5307612.43	2118.393	17.5	113.698	Nav problems		
01/06/29 14:49:59.00	493112.48	5309993.01	2108.224	17.9	126.236	30 minutes to finish line		
01/06/29 15:07:26.00	493356.41	5309903.02	2132.906	17.9	125.857	nav is improving		
01/06/29 15:07:47.00	493358.33	5309902.76	2131.804	18.8	126.563	approaching the end of the line		
01/06/29 15:09:18.00	493385.34	5309891.64	2126.85	18.3	122.135	end of line SE		
01/06/29 15:10:09.00	493393.53	5309888.83	2125.662	21.3	121.037	std file 3090012		
01/06/29 15:13:53.00	493445.04	5309867.65	2142.003	23.8	124.82	going to move thermal blanket		
01/06/29 15:21:17.00	493303.98	5309905.49	2114.14	30	131.277	45 minute transit to blanket		
01/06/29 16:16:17.00	492672.07	5310378.5	2116.354	30	115.349	thermal blanket	blanket is at target 30	
01/06/29 16:20:49.00	492633.78	5310399.92	2130.964	30	98.509	Thermal Blanket	poor navigation	
01/06/29 16:23:22.00	492591.61	5310443.98	2157.293	22.5	358.657	Thermal Blanket	nav improving	
01/06/29 16:25:50.00	492592.92	5310450.9	2185.027	7.3	22.509	Thermal Blanket	thermal blanket in sight	
01/06/29 16:26:05.00	492592.92	5310450.9	2186.664	5.8	20.861	Thermal Blanket	VID_GRAB	
01/06/29 16:26:31.00	492590.15	5310453.32	2189.214	3.7	21.705	Thermal Blanket	VID_GRAB	
01/06/29 16:26:55.00	492591.53	5310453.55	2188.859	3.7	38.484	Thermal Blanket	VID_GRAB	
01/06/29 16:27:12.00	492591.74	5310455.06	2191.364	1.6	41.838	Thermal Blanket	VID_GRAB	
01/06/29 16:28:00.00	492593.04	5310460.46	2192.504	0.8	65.754	Thermal Blanket	VID_GRAB	

Date & Time	UTM (X)	UTM (Y)	Depth (m)	Alt. (m)	Heading		Event		
01/06/29 16:28:17.00	492593.04	5310460.46	2189.764	3.3	66.01	Thermal Blanket	blanket on Jason and moving to		
							next location		
01/06/29 16:29:07.00	492595.58	5310457.57	2186.919	6.1	72.408	Thermal Blanket	130 m transit		
01/06/29 16:37:14.00	492650.05	5310479.58	2192.756	5.7	61.177	Thermal Blanket	VID_GRAB		
01/06/29 16:37:21.00	492650.05	5310479.58	2193.342	5.4	78.339	Thermal Blanket	sulfide structure		
01/06/29 16:38:40.00	492659.69	5310477.32	2190.767	8.1	72.299	Thermal Blanket	sulfide had temp spike - 0.6 C		
01/06/29 16:50:42.00	492750.68	5310503.08	2208.418	1.9	84.498	Thermal Blanket	thermal blanket deployment		
01/06/29 16:51:31.00	492751.26	5310503.66	2208.807	1.8	48.313	Thermal Blanket	VID_GRAB		
01/06/29 16:51:38.00	492751.26	5310503.66	2208.787	1.8	48.512	Thermal Blanket	VID_GRAB		
01/06/29 16:51:45.00	492751.26	5310503.66	2208.647	1.9	48.535	Thermal Blanket	VID_GRAB		
01/06/29 16:52:06.00	492750.33	5310504.45	2208.726	1.6	63.393	Thermal Blanket	VID_GRAB		
01/06/29 16:52:09.00	492748.69	5310504.87	2208.647	1.7	43.563	Thermal Blanket	VID_GRAB		
01/06/29 16:52:14.00	492748.69	5310504.87	2208.833	1.7	22.695	Thermal Blanket	VID_GRAB		
01/06/29 16:52:47.00	492750.79	5310502.63	2209.228	1.2	231.864	Thermal Blanket	VID_GRAB		
01/06/29 16:53:01.00	492754.28	5310502.64	2209.402	0.9	230.349	Thermal Blanket	VID_GRAB		
01/06/29 16:53:06.00	492754.28	5310502.64	2209.169	1.1	229.652	Thermal Blanket	VID_GRAB		
01/06/29 16:53:16.00	492756.17	5310501.51	2208.963	1.3	229.58	Thermal Blanket	thermal blanket deployed!		
01/06/29 16:54:23.00	492754.57	5310504.45	2207.429	3.1	137.639	going to south elevator			
01/06/29 16:56:16.00	492756.37	5310521.46	2190.685	20.3	351.553	logging SM2000 to file 01F29005.mpb			
01/06/29 17:16:20.00	492759.26	5310661.43	2193.314	14.5	345.072	sulfide structure - 17 m			
01/06/29 17:16:29.00	492756.95	5310662.21	2193.494	14.6	346.253	VID_GRAB			
01/06/29 17:17:00.00	492755.51	5310664.59	2195.642	12	353.496	VID_GRAB			
01/06/29 17:17:24.00	492754.9	5310664.02	2196.611	2.9	8.059	VID_GRAB			
01/06/29 17:18:16.00	492754.66	5310668.46	2197.342	9.5	4.893	VID_GRAB			
01/06/29 17:18:29.00	492755.06	5310667.89	2197.516	9.3	10.653	VID_GRAB			
01/06/29 17:21:18.00	492764.91	5310684.2	2197.836	10.5	9.217	at the south elevator			
01/06/29 17:23:48.00	492767.92	5310694.38	2206.376	1.9	226.227	picking up a high temp HOBO			
01/06/29 17:26:00.00	492768.83	5310693.31	2207.762	1.4	227.983	HOBO 35 on jason			
01/06/29 17:27:44.00	492766.1	5310699.86	2202.785	3.4	145.664	picking up MAV58 from elevator			
01/06/29 17:32:31.00	492771.53	5310694.46	2196.81	11.7	340.684	taking HOBO and MAV to new field			
01/06/29 18:25:20.00	492789.66	5311235.02	2177.023	4	193.354	at new field			
01/06/29 18:26:37.00	492790.81	5311225.95	2177.728	3.4	312.345	VID_GRAB			
01/06/29 18:27:52.00	492788.33	5311234.41	2180.09	1.3	311.195	place MAV58 first then pick up MAV60			
01/06/29 18:29:08.00	492789.95	5311228.29	2179.449	2.2	317.334	MAV 58 is down and deployed- try to straighten			
01/06/29 18:29:54.00	492790.05	5311229.46	2181.08	1.2	300.499	VID_GRAB			
01/06/29 18:31:08.00	492790.05	5311229.46	2181.417	1.4	302.734	VID_GRAB	HOBO 35 placed next to MAV 58		

Date & Time	UTM (X)	UTM (Y)	Depth (m)	Alt. (m)	Heading		Event		
01/06/29 18:32:20.00	492788.29	5311236.19	2180.965	1.8	299.925	MAV 58 is straight			
01/06/29 18:32:49.00	492788.29	5311236.19	2180.941	30	300.054	VID_GRAB	MAV 60		
01/06/29 18:33:05.00	492788.29	5311236.19	2180.432	1.3	308.685	VID_GRAB			
01/06/29 18:33:12.00	492789.02	5311236.7	2180.31	2.1	307.543	VID_GRAB			
01/06/29 18:33:36.00	492789.02	5311236.7	2180.031	2.5	337.564	MAV 58 orientation 060			
01/06/29 18:33:55.00	492790.8	5311230.3	2180.237	2.9	337.968	VID_GRAB			
01/06/29 18:34:07.00	492790.8	5311230.3	2180.37	2.6	335.866	VID_GRAB			
01/06/29 18:35:23.00	492788.57	5311227.98	2178.302	1.3	343.59	picking up MAV 60			
01/06/29 18:40:51.00	492786.78	5311231.16	2175.665	4	11.23	MAV 60 has been retrieved			
01/06/29 18:46:42.00	492789.73	5311229.43	2174.75	5.5	200.605	VID_GRAB			
01/06/29 18:47:36.00	492793.1	5311226.96	2180.437	3.1	207.581	VID_GRAB			
01/06/29 18:47:51.00	492794.18	5311229.3	2182.041	1.9	208.612	VID_GRAB			
01/06/29 18:47:54.00	492794.18	5311229.3	2181.942	1.9	210.12	VID_GRAB			
01/06/29 18:51:25.00	492798.06	5311221.33	2183.293	1.7	332.089	VID_GRAB			
01/06/29 18:51:49.00	492798.06	5311221.33	2182.156	3.3	294.948	VID_GRAB			
01/06/29 19:44:16.00	492919.18	5311659.78	2139.217	30	160.211	smoke			
01/06/29 19:51:03.00	492931.72	5311710.5	2174.558	6.3	308.942	VID_GRAB			
01/06/29 19:51:15.00	492930.52	5311712.93	2173.11	5.1	329.428	pillow fragments			
01/06/29 19:52:29.00	492928.23	5311738.43	2181.354	2	47.203	Southward tidal flow			
01/06/29 19:52:34.00	492928.23	5311738.43	2181.931	1.6	85.772	VID_GRAB			
01/06/29 19:52:50.00	492928.23	5311738.43	2181.386	3.3	106.773	VID_GRAB			
01/06/29 19:53:40.00	492933.77	5311743.96	2177.768	2.2	71.444	VID_GRAB			
01/06/29 19:53:44.00	492933.77	5311743.96	2177.675	2.2	59.677	VID_GRAB			
01/06/29 19:54:29.00	492938.77	5311747.02	2177.574	2.6	45.391	VID_GRAB			
01/06/29 19:54:55.00	492941.21	5311748.54	2176.397	3.8	42.697	sulfide mound			
01/06/29 19:55:03.00	492941.21	5311748.54	2175.046	5.1	31.402	VID_GRAB			
01/06/29 19:55:09.00	492944	5311750.65	2173.903	6.3	37.932	VID_GRAB			
01/06/29 19:55:13.00	492944	5311750.65	2173.27	7	18.801	VID_GRAB			
01/06/29 19:55:30.00	492944.17	5311752.78	2172.425	6.7	63.488	huge sulfide stack 7m tall			
01/06/29 19:56:43.00	492952.29	5311756.96	2175.586	3.9	200.223	VID_GRAB			
01/06/29 19:56:48.00	492952.29	5311756.96	2175.721	3.7	232.837	VID_GRAB			
01/06/29 19:57:01.00	492953.82	5311754.83	2175.519	3.6	197.268	VID_GRAB			
01/06/29 19:57:31.00	492955.39	5311754.78	2177.501	1.8	161.406	VID_GRAB			
01/06/29 19:57:39.00	492955.39	5311754.78	2177.377	1.6	98.21	VID_GRAB			
01/06/29 19:57:54.00	492955.13	5311753.31	2176.978	2.1	331.688	VID_GRAB			
01/06/29 19:58:34.00	492957.8	5311755.89	2175.434	2	33.507	VID_GRAB			



Date & Time	UTM (X)	UTM (Y)	Depth (m)	Alt. (m)	Heading		Event		
01/06/29 19:58:49.00	492957.8	5311755.89	2174.022	2.2	44.846	VID_GRAB			
01/06/29 20:00:45.00	492954.68	5311762.45	2178.449	2.1	276.349	VID_GRAB	.		
01/06/29 20:01:37.00	492936.78	5311764.46	2177.677	6.8	221.393	Iron stains or weithered sulfide			
01/06/29 20:03:08.00	492941.85	5311765.26	2177.453	2.6	203.342	VID_GRAB			
01/06/29 20:03:44.00	492952.86	5311756.59	2176.768	3.3	73.471	Target seems to be centered on the big sulfide mound			
01/06/29 20:03:54.00	492951.92	5311756.33	2176.415	2.2	73.682	VID_GRAB			
01/06/29 20:04:03.00	492951.92	5311756.33	2175.902	3.2	73.808	VID_GRAB			
01/06/29 20:04:16.00	492959.97	5311754.11	2175.605	3.3	75.547	VID_GRAB			
01/06/29 20:05:40.00	492976.3	5311746.25	2180.283	4.5	184.961	VID_GRAB			
01/06/29 20:06:15.00	492977.26	5311747.29	2178.859	3.2	276.981	VID_GRAB			
01/06/29 20:06:31.00	492977.26	5311747.29	2176.137	3.4	269.966	VID_GRAB			
01/06/29 20:06:37.00	492977.26	5311747.29	2175.679	2.2	269.553	sheeted basalt			
01/06/29 20:07:11.00	492959	5311749.59	2174.767	4.5	270.527	VID_GRAB			
01/06/29 20:08:44.00	492936.31	5311746.22	2178.094	2.6	172.401	VID_GRAB			
01/06/29 20:11:40.00	492943.77	5311765.7	2173.491	7	178.855	VID_GRAB			
01/06/29 20:11:43.00	492943.77	5311765.7	2172.798	7.7	178.121	VID_GRAB			
01/06/29 20:11:45.00	492943.77	5311765.7	2172.639	7.7	177.872	VID_GRAB			
01/06/29 20:12:35.00	492946.91	5311757.75	2173.769	5	148.653	VID_GRAB			
01/06/29 20:13:12.00	492952.44	5311739.33	2178.873	2.3	146.475	VID_GRAB			
01/06/29 20:20:44.00	492946.63	5311725.28	2180.162	4.9	269.298	going to south AST target			
01/06/29 20:21:57.00	492941.99	5311726.12	2179.357	2.8	153.477	VID_GRAB			
01/06/29 20:25:03.00	492958.35	5311705.59	2180.349	3.2	166.207	VID_GRAB			
01/06/29 20:26:53.00	492947	5311681.37	2186.132	2.9	187.446	VID_GRAB			
01/06/29 20:27:13.00	492946.05	5311679.22	2185.692	3.3	126.084	VID_GRAB			
01/06/29 20:27:53.00	492947.21	5311676.73	2185.919	3.1	187.704	VID_GRAB			
01/06/29 20:28:08.00	492948.73	5311672.62	2185.027	4.2	186.122	VID_GRAB			
01/06/29 20:28:38.00	492948.73	5311672.62	2185.234	3.9	154.984	VID_GRAB			
01/06/29 20:29:05.00	492948.73	5311672.62	2184.601	3.3	155.165	VID_GRAB			
01/06/29 20:29:08.00	492948.73	5311672.62	2184.635	3.2	152.189	VID_GRAB			
01/06/29 20:29:22.00	492948.73	5311672.62	2183.523	3	172.23	VID_GRAB			
01/06/29 20:29:55.00	492948.73	5311672.62	2182.591	3.2	169.737	VID_GRAB			
01/06/29 20:32:09.00	492940.67	5311640.24	2182.134	3.1	163.859	VID_GRAB			
01/06/29 20:32:15.00	492940.67	5311640.24	2181.672	2.6	169.247	VID_GRAB			
01/06/29 20:32:30.00	492945.1	5311630.66	2181.402	2.9	170.233	VID_GRAB			
01/06/29 20:32:37.00	492945.1	5311630.66	2181.269	2.1	170.827	VID_GRAB			
01/06/29 20:33:26.00	492943.3	5311627	2179.237	1.3	224.226	VID_GRAB			

Date & Time	UTM (X)	UTM (Y)	Depth (m)	Alt. (m)	Heading		Event		
01/06/29 20:36:45.00	492936.79	5311614.4	2179.032	1.4	221.605	VID_GRAB			
01/06/29 20:38:16.00	492931.68	5311611.5	2179.18	2.7	87.406	VID_GRAB			
01/06/29 20:38:23.00	492931.68	5311611.5	2178.886	1.8	91.845	VID_GRAB			
01/06/29 20:38:28.00	492933.27	5311613.36	2178.44	1.8	91.586	VID_GRAB			
01/06/29 20:38:37.00	492933.27	5311613.36	2178.367	1.8	79.344	VID_GRAB			
01/06/29 20:38:48.00	492933.27	5311613.36	2178.201	2.1	90.098				
01/06/29 20:39:24.00	492941.77	5311617.6	2178.03	5.5	91.9	VID_GRAB			
01/06/29 20:39:34.00	492942.76	5311614.46	2177.389	4.9	110.261	VID_GRAB			
01/06/29 20:40:03.00	492947.14	5311611.74	2178.171	5.6	118.195	VID_GRAB			
01/06/29 20:40:07.00	492947.14	5311611.74	2178.055	6	113.171	VID_GRAB			
01/06/29 20:41:24.00	492959.4	5311614.33	2184.15	5.3	245.259	VID_GRAB			
01/06/29 20:41:43.00	492959.4	5311614.33	2183.691	3.7	247.882	VID_GRAB			
01/06/29 20:43:00.00	492956.05	5311606.16	2183.015	2.5	197.924	VID_GRAB			
01/06/29 20:43:15.00	492948.53	5311592.12	2181.863	1.8	196.495	VID_GRAB			
01/06/29 20:44:58.00	492949.76	5311593.47	2178.94	3.6	281.612	VID_GRAB			
01/06/29 20:45:18.00	492939.58	5311592.11	2177.09	4	271.508	VID_GRAB			
01/06/29 20:45:21.00	492939.58	5311592.11	2177.072	3.6	271.171	VID_GRAB			
01/06/29 20:48:31.00	492928.17	5311603.82	2185.562	3.5	39.729	VID_GRAB			
01/06/29 20:48:36.00	492928.17	5311603.82	2185.491	3.5	42.549	VID_GRAB			
01/06/29 20:51:40.00	492928.17	5311603.82	2179.498	4.9	155.436	VID_GRAB			
01/06/29 20:52:34.00	492943.56	5311610.79	2176.127	2.4	202.317	VID_GRAB			
01/06/29 20:52:40.00	492943.56	5311610.79	2175.701	2.9	200.498	VID_GRAB			
01/06/29 20:52:55.00	492944.73	5311608.11	2177.119	1.6	202.758	VID_GRAB			
01/06/29 20:53:00.00	492944.73	5311608.11	2176.924	1.6	204.149	VID_GRAB			
01/06/29 20:53:08.00	492944.73	5311608.11	2176.274	2.7	200.852	VID_GRAB			
01/06/29 20:54:16.00	492947.84	5311602.03	2174.914	4.8	276.866	VID_GRAB			
01/06/29 20:54:23.00	492947.84	5311602.03	2174.883	1.5	279.701	VID_GRAB			
01/06/29 20:56:46.00	492927.78	5311607.64	2178.136	2.9	31.353	VID_GRAB			
01/06/29 20:59:25.00	492941.42	5311639.98	2181.764	1.6	316.978	VID_GRAB			
01/06/29 21:01:00.00	492935.71	5311637.53	2188.052	1.8	312.735	VID_GRAB			
01/06/29 21:01:12.00	492935.71	5311637.53	2187.579	3	317.377	VID_GRAB			
01/06/29 21:01:41.00	492935.71	5311637.53	2185.371	3.3	278.882	VID_GRAB			
01/06/29 21:01:42.00	492935.71	5311637.53	2185.158	3.5	279.693				
01/06/29 21:01:46.00	492935.71	5311637.53	2184.492	4	280.472	VID_GRAB			
01/06/29 21:01:50.00	492935.71	5311637.53	2183.534	4.7	280.788	VID_GRAB			
01/06/29 21:02:00.00	492935.71	5311637.53	2181.544	6.4	279.812	VID_GRAB			

Date & Time	UTM (X)	UTM (Y)	Depth (m)	Alt. (m)	Heading		Event		
01/06/29 21:02:11.00	492921.7	5311651.65	2180.379	3.7	278.702	VID_GRAB			
01/06/29 21:02:19.00	492921.7	5311651.65	2179.401	4	280.372	VID_GRAB			
01/06/29 21:05:11.00	492910.15	5311660.52	2173.803	3.5	9.927	VID_GRAB			
01/06/29 21:05:20.00	492910.15	5311660.52	2173.679	2	9.286	VID_GRAB			
01/06/29 21:05:25.00	492910.15	5311660.52	2173.643	5.6	8.677	VID_GRAB			
01/06/29 21:05:32.00	492910.15	5311660.52	2173.751	5.4	9.182	VID_GRAB			
01/06/29 21:05:36.00	492910.15	5311660.52	2174.032	5.4	8.952	VID_GRAB			
01/06/29 21:08:30.00	492911.83	5311664.15	2175.672	4.3	8.557		Temp Anom		
01/06/29 21:56:41.00	492804.37	5311218.94	2179.731	7.2	269.764	VID_GRAB			
01/06/29 21:57:02.00	492800.72	5311214.09	2180.583	2.9	305.339	VID_GRAB			
01/06/29 21:57:20.00	492800.72	5311214.09	2179.272	3.2	303.724	VID_GRAB			
01/06/29 21:57:34.00	492800.72	5311214.09	2179.385	1.6	211.55	VID_GRAB			
01/06/29 21:58:21.00	492794.22	5311218.97	2177.942	4.4	217.714	VID_GRAB			
01/06/29 21:58:31.00	492792.21	5311217.17	2179.705	3.3	217.662	VID_GRAB			
01/06/29 21:58:42.00	492792.21	5311217.17	2180.876	2.4	215.631	VID_GRAB			
01/06/29 21:58:47.00	492792.21	5311217.17	2181.501	1.8	215.88	VID_GRAB			
01/06/29 21:58:51.00	492792.21	5311217.17	2181.854	1.5	214.877	VID_GRAB			
01/06/29 21:59:01.00	492792.21	5311217.17	2181.994	1.1	221.725	VID_GRAB			
01/06/29 21:59:06.00	492792.21	5311217.17	2182.2	1.1	224.082	VID_GRAB			
01/06/29 21:59:17.00	492792.21	5311217.17	2181.848	1.4	223.565	VID_GRAB			
01/06/29 21:59:57.00	492792.21	5311217.17	2179.411	4	222.215	Mav 65 in on Jason			
01/06/29 22:01:33.00	492794.58	5311211.83	2183.552	1.1	230.934	VID_GRAB			
01/06/29 22:01:46.00	492794.58	5311211.83	2182.294	2.1	234.63	VID_GRAB			
01/06/29 22:03:14.00	492794.03	5311212.3	2180.676	3.9	232.386	VID_GRAB			
01/06/29 22:03:32.00	492794.03	5311212.3	2178.846	5.3	312.376	VID_GRAB	Two peas in a pod		
01/06/29 22:03:49.00	492793.09	5311213.76	2176.244	7.8	9.475	VID_GRAB	both on the hook		
01/06/29 22:04:32.00	492794.61	5311215.2	2168.527	15.6	23.278	VID_GRAB			
01/06/29 22:23:55.00	492784.44	5311087.16	2093.857	30	2.311	Mav 65 and 60 are the Mav on Jason			
01/06/29 22:48:33.00	492761.63	5310761.63	2093.982	30	14.217	,			
01/06/29 22:59:08.00	492757.13	5310690.7	2196.063	9.7	132.506	VID_GRAB	at elevator target 82		
01/06/29 23:23:07.00	492775.26	5310695.56	2206.291	4	206.088	10060 in elevator			
01/06/29 23:23:45.00	492772.91	5310694.95	2202.087	7.4	224.014	tape change Hi8 - 187/8			
01/06/29 23:27:25.00	492762.98	5310686.99	2200.813	7	350.9	10065 in elevator			
01/06/29 23:32:00.00	492763.63	5310691.56	2203.977	4.2	188.215	losing samples out of bio-box			
01/06/29 23:35:02.00	492766.62	5310693.1	2203.63	4.5	189.511	Temp probe sample is at elevator trying to close bio-box before			
						losing more samples			

Date & Time	UTM (X)	UTM (Y)	Depth (m)	Alt. (m)	Heading		Event		
01/06/29 23:35:50.00	492765.46	5310693.71	2203.613	4.5	189.452	VID_GRAB	significantly reduced biograb		
01/06/29 23:45:14.00	492761.59	5310686.67	2204.338	3.5	101.304	10065 is secured			
01/06/29 23:54:48.00	492767.97	5310689.44	2202.505	7.4	214.947	VID_GRAB	10048P is on the hook,		
							manuvruing to pick up the Hobo		
01/06/29 23:56:27.00	492769.34	5310694.25	2201.979	4.2	182.853	water around elevator Tmax = 2.1 and Tmin = 1.8 degrees C			
01/06/30 00:08:39.00	492781.28	5310702.16	2183.162	26.5	11.339	moving to target 90			
01/06/30 00:23:58.00	492711.44	5310650.7	2147.701	30	25.756	smoke in the water column...to high to see the source			
01/06/30 00:26:04.00	492696.58	5310636.52	2147.661	30	28.801	Noted that the transmisometer and the obs lines on the ctd laptop did not indicate any change in the water column...perhaps they are not working correctly.			
01/06/30 00:28:32.00	492674.82	5310617.75	2147.608	30	19.982	smoke			
01/06/30 00:28:57.00	492673.24	5310614.39	2147.548	30	20.102				
01/06/30 00:29:02.00	492673.24	5310614.39	2147.548	30	20.242	ditto			
01/06/30 00:40:57.00	492599.22	5310529.82	2160.869	30	202.521	lots of smaoke			
01/06/30 00:43:49.00	492571.87	5310522.94	2177.054	14.9	231.049	deployment of 10048P	VID_GRAB		
01/06/30 00:44:23.00	492572.14	5310523.74	2180.887	11.5	155.8	deployment of 10048P	Long term deployment site		
01/06/30 00:45:21.00	492573.69	5310524.65	2188.537	4.7	121.963	deployment of 10048P	VID_GRAB		
01/06/30 00:46:08.00	492577.41	5310525.62	2191.513	2.1	148.713	deployment of 10048P	VID_GRAB		
01/06/30 00:46:40.00	492579.26	5310524.09	2191.538	2.8	193.486	deployment of 10048P	VID_GRAB		
01/06/30 00:47:47.00	492577.34	5310521.32	2192.154	1.9	293.388	deployment of 10048P	VID_GRAB		
01/06/30 00:48:10.00	492572.84	5310521.25	2192.199	2.1	295.474	deployment of 10048P	VID_GRAB		
01/06/30 00:48:32.00	492576.42	5310521.67	2192.452	1.7	310.787	deployment of 10048P	VID_GRAB		
01/06/30 00:51:28.00	492574.16	5310521.61	2192.506	1.5	66.052	deployment of 10048P	VID_GRAB		
01/06/30 00:52:13.00	492573.18	5310524.23	2192.673	1.4	76.199	deployment of 10048P	VID_GRAB		
01/06/30 00:54:55.00	492575.27	5310521.89	2192.578	1.6	293.26	deployment of 10048P	VID_GRAB		
01/06/30 00:55:14.00	492576.35	5310521.47	2192.58	1.6	283.906	deployment of 10048P	VID_GRAB		
01/06/30 00:56:14.00	492573.15	5310525.43	2193.411	0.9	280.165	deployment of 10048P	VID_GRAB		
01/06/30 00:56:37.00	492575.18	5310524.32	2192.928	1.1	287.017	deployment of 10048P	VID_GRAB		
01/06/30 00:56:52.00	492576.62	5310522.52	2192.568	1.6	300.486	deployment of 10048P	VID_GRAB		
01/06/30 00:57:35.00	492573.23	5310521.73	2192.256	1.5	6.229	deployment of 10048P	VID_GRAB		
01/06/30 00:57:46.00	492573.23	5310521.73	2192.19	1.4	16.436	deployment of 10048P	VID_GRAB		
01/06/30 00:58:50.00	492573.81	5310523.7	2192.489	1.5	57.045	deployment of 10048P	VID_GRAB		
01/06/30 01:01:19.00	492573.38	5310522	2192.247	1.9	43.367	deployment of 10048P	Low temp hobo 33 will be deployed near the mav site		
01/06/30 01:02:35.00	492573.38	5310522.88	2192.606	1.2	46.213	deployment of 10048P	near an old marker 7		
01/06/30 01:02:53.00	492573.66	5310521.71	2192.46	1.5	42.07	deployment of 10048P	lower thermister good up to 75C		

Date & Time	UTM (X)	UTM (Y)	Depth (m)	Alt. (m)	Heading		Event		
01/06/30 01:04:40.00	492572.93	5310523.23	2192.564	1.5	45.461	deployment of 10048P	VID_GRAB		
01/06/30 01:05:08.00	492573.56	5310522.61	2192.644	1.3	47.048	deployment of 10048P	looks a little cool in the first site,		
						going to try and rotate mav 48 to	get into more active flow		
01/06/30 01:07:20.00	492573.15	5310523.14	2192.875	1.4	20.565	deployment of 10048P	VID_GRAB		
01/06/30 01:07:22.00	492573.15	5310523.14	2192.531	1.6	19.526	deployment of 10048P	VID_GRAB		
01/06/30 01:07:26.00	492573.15	5310523.14	2192.156	2.2	20.92	deployment of 10048P	VID_GRAB		
01/06/30 01:07:30.00	492569.02	5310522.22	2191.596	2.1	18.449	deployment of 10048P	VID_GRAB		
01/06/30 01:07:35.00	492569.02	5310522.22	2191.723	1.9	14.455	deployment of 10048P	VID_GRAB		
01/06/30 01:07:40.00	492569.02	5310522.22	2191.698	2.2	20.835	deployment of 10048P	VID_GRAB		
01/06/30 01:08:00.00	492573.67	5310521.59	2191.363	2.9	10.294	deployment of 10048P	VID_GRAB		
01/06/30 01:08:05.00	492573.67	5310521.59	2191.384	2.7	10.101	deployment of 10048P	VID_GRAB		
01/06/30 01:08:38.00	492573.64	5310522.89	2192.003	2.1	341.724	deployment of 10048P	VID_GRAB		
01/06/30 01:08:42.00	492573.64	5310522.89	2191.909	2.3	340.306	deployment of 10048P	VID_GRAB		
01/06/30 01:08:59.00	492575.71	5310521.71	2191.716	2.4	345.814	deployment of 10048P	VID_GRAB		
01/06/30 01:09:04.00	492575.71	5310521.71	2191.437	2.7	342.876	deployment of 10048P	VID_GRAB		
01/06/30 01:10:21.00	492575.07	5310520.55	2190.278	3.8	342.883	deployment of 10048P	VID_GRAB		
01/06/30 01:10:25.00	492575.07	5310520.55	2190.285	3.8	342.98	deployment of 10048P	VID_GRAB		
01/06/30 01:11:16.00	492575.81	5310520.84	2190.305	3.7	342.981	deployment of 10048P	mav 10048P deployed		
01/06/30 01:15:50.00	492577.86	5310537.09	2183.775	10	76.552	change of tape Hi8 191/2			
01/06/30 01:24:20.00	492649.71	5310514.29	2177.556	29.2	59.3	VID_GRAB			
01/06/30 01:24:27.00	492649.71	5310514.29	2177.69	27.8	53.257	VID_GRAB			
01/06/30 01:24:32.00	492645.06	5310516.47	2178.434	10	54.627	VID_GRAB			
01/06/30 01:24:45.00	492645.06	5310516.47	2179.992	11.4	26.375	VID_GRAB			
01/06/30 01:25:03.00	492644.26	5310517.52	2180.032	10.7	27.375	VID_GRAB			
01/06/30 01:25:09.00	492642.57	5310516.86	2180.025	11.2	4.065	VID_GRAB			
01/06/30 01:25:11.00	492642.57	5310516.86	2180.032	6.8	353.073	VID_GRAB			
01/06/30 01:25:16.00	492642.57	5310516.86	2180.045	4.7	354.311	VID_GRAB			
01/06/30 01:25:22.00	492642.57	5310516.86	2179.832	11.7	5.412	VID_GRAB			
01/06/30 01:25:41.00	492642.49	5310516.6	2179.994	3.3	20.976	VID_GRAB			
01/06/30 01:26:42.00	492642.01	5310516.33	2180.065	4.3	22.836	VID_GRAB			
01/06/30 01:28:37.00	492645.31	5310508.81	2178.812	23.6	106.245	VID_GRAB			
01/06/30 01:30:09.00	492635.64	5310511.74	2172.802	18.9	250.439	VID_GRAB	free of spire		
01/06/30 01:39:48.00	492575.91	5310558.35	2128.658	30	284.677	fired port niskin			
01/06/30 01:41:17.00	492563.97	5310560.98	2128.598	30	277.573	fired starboard niskin			
01/06/30 01:42:27.00	492558.95	5310560.46	2128.581	30	278.613	we are planning to recover, recovery line is loose and poses a possible entanglement hazard with aft thrusters			

Date & Time	UTM (X)	UTM (Y)	Depth (m)	Alt. (m)	Heading		Event		
01/06/30 01:53:20.00	492592.66	5310543.31	1919.533	30	19.185	shutting down science bus, lost RS232 communication with CTD			
01/06/30 03:36:05.00	490689.03	5309978.71	-0.857	30	105.701	Jason is at the surface			
01/06/30 03:37:10.00	490681.5	5309975.89	-2.068	30	108.536	medea on deck			
01/06/30 03:37:40.00	490681.5	5309975.89	-1.672	30	99.347	enabling thrusters to maneuver on surface			
01/06/30 03:39:51.00	490681.5	5309975.89	-0.598	30	100.315	VID_GRAB	thruster z drive		
01/06/30 03:40:39.00	490681.5	5309975.89	-0.263	30	101.437	VID_GRAB	power off		
01/06/30 03:41:16.00	490681.5	5309975.89	-0.263	30	101.437	power back on			
01/06/30 03:43:18.00	490681.5	5309975.89	0.806	0	2.663	power down			
01/06/30 03:43:56.00	490681.5	5309975.89	0.806	0	2.663	jason on deck			
01/06/30 03:44:03.00	490681.5	5309975.89	0.806	0	2.663	end of jason 309			

Date & Time	UTM (X)	UTM(Y)	Depth (m)	Alt. (m)	Heading		Event		
01/06/30 04:41:54.00	490681.5	5309975.89	-4.76	30	246.867	BEGIN LOWERING 310			
01/06/30 04:43:32.00	490681.5	5309975.89	-4.958	15	16.87	Jason in the water			
01/06/30 04:44:29.00	490681.5	5309975.89	-3.993	30	22.103	Medea off deck			
01/06/30 04:44:52.00	490681.5	5309975.89	-3.961	30	18.869	Medea in the water			
01/06/30 04:47:03.00	490681.5	5309975.89	32.642	30	16.583	Video started for Verena to record descent			
01/06/30 04:49:53.00	493367	5310593.7	77.214	30	95.729	CTD file 310001			
01/06/30 05:50:13.00	492841	5310586.22	1501.945	30	183.768	dropping Alvin weight			
01/06/30 05:52:11.00	492855.9	5310588.92	1500.355	30	36.237	starting Tivey twist			
01/06/30 05:55:04.00	492856	5310591.92	1501.421	30	240.784	Tivey twist complete			
01/06/30 05:55:37.00	492856.4	5310589.16	1506.55	30	208.781	proceeding down and heading to target 36			
01/06/30 06:21:02.00	492762.7	5310509.54	1933.103	30	222.003	passing through smoke			
01/06/30 06:35:41.00	492750.6	5310505.37	2205.798	3.5	226.415	at the bottom			
01/06/30 06:37:23.00	492749.8	5310503.11	2205.233	4.2	137.361	VID_GRAB	found the thermal blanket		
01/06/30 06:37:50.00	492752.6	5310501.17	2207.456	1.7	151.408	Thermal blanket	VID_GRAB		
01/06/30 06:39:13.00	492750.5	5310500.08	2206.022	3.3	140.455	Thermal blanket	blanket has been picked up-take		
							to target 50		
01/06/30 06:42:53.00	492743.6	5310515.01	2208.283	2	225.988	Thermal blanket	something just fell off medea		
01/06/30 06:43:36.00	492742.1	5310515.17	2208.117	2.2	186.9	Thermal blanket	go place blanket then come back		
							to see what fell		
01/06/30 06:58:51.00	492703.4	5310478.43	2207.229	1.7	82.903	Thermal blanket	VID_GRAB		
01/06/30 07:00:31.00	492709.6	5310477.58	2209.111	30	80.164	Thermal blanket	Placing the thermal blanket		
01/06/30 07:03:31.00	492709.8	5310477.25	2209.122	30	78.584	Thermal blanket	VID_GRAB		
01/06/30 07:03:35.00	492709.8	5310477.25	2209.125	30	78.552	Thermal blanket	VID_GRAB		
01/06/30 07:03:39.00	492709.8	5310477.25	2209.118	30	78.537	Thermal blanket	VID_GRAB		
01/06/30 07:03:57.00	492710.5	5310476.3	2209.12	30	78.352	Thermal blanket	VID_GRAB		
01/06/30 07:04:25.00	492710.2	5310476.88	2209.083	30	80.136	Thermal blanket	VID_GRAB		
01/06/30 07:10:14.00	492697.3	5310471.61	2205.652	3.1	241.612	On our way back to see what medda dropped			
01/06/30 07:22:21.00	492743.3	5310512.11	2208.805	1.1	152.247	VID_GRAB			
01/06/30 07:24:07.00	492754.9	5310506.54	2208.921	1.4	346.911	VID_GRAB			
01/06/30 07:24:37.00	492750.5	5310513.2	2209.043	1.4	40.391	VID_GRAB			
01/06/30 07:25:45.00	492754.7	5310515.96	2209.985	0.7	304.955	VID_GRAB			
01/06/30 07:27:33.00	492745.8	5310518.54	2209.494	1.4	94.525	VID_GRAB			
01/06/30 07:27:42.00	492745.8	5310518.54	2209.483	1.4	95.025	VID_GRAB			
01/06/30 07:27:55.00	492745.8	5310518.54	2209.328	1.4	113.093	VID_GRAB			
01/06/30 07:28:33.00	492754.9	5310514.57	2209.143	1.2	266.478	VID_GRAB			
01/06/30 07:29:10.00	492746.9	5310513.81	2208.964	0.9	285.152	VID_GRAB			

Date & Time	UTM (X)	UTM(Y)	Depth (m)	Alt. (m)	Heading		Event		
01/06/30 07:29:17.00	492746.9	5310513.81	2208.82	1.2	285.46	VID_GRAB			
01/06/30 07:30:18.00	492744.5	5310513.17	2208.533	1.5	285.364	Can't find anything in the area where this object supposting fell			
01/06/30 07:30:58.00	492743.6	5310517.49	2202.25	8	319.102	Desided to move on and hope it was just a lead weight			
01/06/30 07:31:33.00	492737	5310531.64	2198.942	11.4	332.179	Making a 600m transit			
01/06/30 07:33:27.00	492730.1	5310546.98	2169.545	30	321.619	Then we will be starting the bathymetric survey			
01/06/30 08:24:44.00	492724.4	5309917.51	2178.214	6	128.36	Bathymetric Survey Line 14	Starting Bathymetric Survey		
							line 14		
01/06/30 08:28:29.00	492724.8	5309919.94	2164.776	24	27.179	Bathymetric Survey Line 14	Line 14 starts now		
01/06/30 08:38:15.00	492747.6	5309955.75	2161.494	21.5	24.985	Bathymetric Survey Line 14			
01/06/30 08:38:16.00	492747.6	5309955.75	2161.714	21.5	25.138	Bathymetric Survey Line 14			
01/06/30 08:38:16.00	492747.6	5309955.75	2161.714	21.5	25.203	Bathymetric Survey Line 14			
01/06/30 08:38:16.00	492747.6	5309955.75	2161.714	21.4	25.291	Bathymetric Survey Line 14			
01/06/30 08:38:16.00	492747.6	5309955.75	2161.714	21.4	25.291	Bathymetric Survey Line 14			
01/06/30 08:38:16.00	492747.6	5309955.75	2161.714	21.4	25.334	Bathymetric Survey Line 14			
01/06/30 08:38:16.00	492747.6	5309955.75	2161.714	21.4	25.334	Bathymetric Survey Line 14			
01/06/30 08:38:16.00	492747.6	5309955.75	2161.714	21.4	25.399	Bathymetric Survey Line 14			
01/06/30 08:38:16.00	492747.6	5309955.75	2161.714	21.4	25.399	Bathymetric Survey Line 14			
01/06/30 08:38:17.00	492747.6	5309955.75	2161.714	21.4	25.486	Bathymetric Survey Line 14			
01/06/30 08:38:17.00	492747.6	5309955.75	2161.714	21.4	25.486	Bathymetric Survey Line 14			
01/06/30 08:38:17.00	492747.6	5309955.75	2161.714	21.4	25.486	Bathymetric Survey Line 14			
01/06/30 08:38:17.00	492747.6	5309955.75	2161.714	21.4	25.552	Bathymetric Survey Line 14			
01/06/30 08:38:17.00	492747.6	5309955.75	2161.924	21.4	25.639	Bathymetric Survey Line 14			
01/06/30 08:38:17.00	492747.6	5309955.75	2161.924	21.4	25.639	Bathymetric Survey Line 14			
01/06/30 08:38:17.00	492747.6	5309955.75	2161.924	21.2	25.726	Bathymetric Survey Line 14			
01/06/30 08:38:17.00	492747.6	5309955.75	2161.924	21.2	25.726	Bathymetric Survey Line 14			
01/06/30 08:38:17.00	492747.6	5309955.75	2161.924	21.2	25.792	Bathymetric Survey Line 14			
01/06/30 08:38:17.00	492747.6	5309955.75	2161.924	21.2	25.792	Bathymetric Survey Line 14			
01/06/30 08:38:18.00	492747.6	5309955.75	2161.924	21.2	25.879	Bathymetric Survey Line 14			
01/06/30 08:38:18.00	492747.6	5309955.75	2161.924	21.2	25.879	Bathymetric Survey Line 14			
01/06/30 08:38:18.00	492747.6	5309955.75	2161.924	21.2	25.879	Bathymetric Survey Line 14			
01/06/30 08:38:18.00	492747.6	5309955.75	2161.924	21.2	25.922	Bathymetric Survey Line 14			
01/06/30 08:38:18.00	492747.6	5309955.75	2161.924	21.2	25.988	Bathymetric Survey Line 14			
01/06/30 08:38:18.00	492747.6	5309955.75	2162.146	21.1	26.009	Bathymetric Survey Line 14			
01/06/30 08:38:18.00	492747.6	5309955.75	2162.146	21.1	26.009	Bathymetric Survey Line 14			
01/06/30 08:38:18.00	492747.6	5309955.75	2162.146	21.1	26.008	Bathymetric Survey Line 14			



Date & Time	UTM (X)	UTM(Y)	Depth (m)	Alt. (m)	Heading		Event		
01/06/30 08:38:18.00	492747.6	5309955.75	2162.146	21.1	26.008	Bathymetric Survey Line 14			
01/06/30 08:38:19.00	492747.6	5309955.75	2162.146	21.1	26.008	Bathymetric Survey Line 14			
01/06/30 08:38:19.00	492747.6	5309955.75	2162.146	21.1	26.008	Bathymetric Survey Line 14			
01/06/30 08:38:19.00	492747.6	5309955.75	2162.146	21.1	26.008	Bathymetric Survey Line 14			
01/06/30 08:38:19.00	492747.6	5309955.75	2162.146	21.1	26.073	Bathymetric Survey Line 14			
01/06/30 08:38:19.00	492747.6	5309955.75	2162.146	21.1	26.248	Bathymetric Survey Line 14			
01/06/30 08:38:19.00	492747.6	5309955.75	2162.146	21.1	26.248	Bathymetric Survey Line 14			
01/06/30 08:38:19.00	492747.6	5309955.75	2162.146	21.1	26.423	Bathymetric Survey Line 14			
01/06/30 08:38:19.00	492747.6	5309955.75	2162.146	21.1	26.423	Bathymetric Survey Line 14			
01/06/30 08:38:19.00	492747.6	5309955.75	2162.362	21	26.62	Bathymetric Survey Line 14			
01/06/30 08:38:19.00	492747.6	5309955.75	2162.362	21	26.62	Bathymetric Survey Line 14			
01/06/30 08:38:20.00	492747.6	5309955.75	2162.362	21	26.818	Bathymetric Survey Line 14			
01/06/30 08:38:20.00	492747.6	5309955.75	2162.362	21	26.818	Bathymetric Survey Line 14			
01/06/30 08:38:20.00	492747.6	5309955.75	2162.362	21	26.818	Bathymetric Survey Line 14			
01/06/30 08:38:20.00	492747.6	5309955.75	2162.362	21	27.015	Bathymetric Survey Line 14			
01/06/30 08:38:20.00	492747.6	5309955.75	2162.362	21	27.19	Bathymetric Survey Line 14			
01/06/30 08:38:21.00	492747.6	5309955.75	2162.362	21.1	27.693	Bathymetric Survey Line 14			
01/06/30 08:38:21.00	492747.6	5309955.75	2162.362	21.1	27.693	Bathymetric Survey Line 14			
01/06/30 08:38:21.00	492747.6	5309955.75	2162.362	21.1	27.693	Bathymetric Survey Line 14			
01/06/30 08:38:21.00	492747.6	5309955.75	2162.482	21.1	27.825	Bathymetric Survey Line 14			
01/06/30 08:38:21.00	492747.6	5309955.75	2162.482	21.1	27.89	Bathymetric Survey Line 14			
01/06/30 08:38:21.00	492747.6	5309955.75	2162.482	21.1	27.89	Bathymetric Survey Line 14			
01/06/30 08:38:21.00	492747.6	5309955.75	2162.482	21.1	27.911	Bathymetric Survey Line 14			
01/06/30 08:38:21.00	492747.6	5309955.75	2162.482	21.1	27.911	Bathymetric Survey Line 14			
01/06/30 08:38:21.00	492747.6	5309955.75	2162.482	21.1	27.911	Bathymetric Survey Line 14			
01/06/30 08:38:21.00	492747.6	5309955.75	2162.482	21.1	27.911	Bathymetric Survey Line 14			
01/06/30 08:38:21.00	492747.6	5309955.75	2162.482	21.1	27.911	Bathymetric Survey Line 14			
01/06/30 08:38:22.00	492747.6	5309955.75	2162.482	21.6	27.866	Bathymetric Survey Line 14			
01/06/30 08:38:22.00	492747.6	5309955.75	2162.482	21.6	27.866	Bathymetric Survey Line 14			
01/06/30 08:38:22.00	492747.6	5309955.75	2162.409	21.6	27.513	Bathymetric Survey Line 14			
01/06/30 08:38:22.00	492747.6	5309955.75	2162.409	21.6	27.359	Bathymetric Survey Line 14			
01/06/30 08:38:22.00	492747.6	5309955.75	2162.409	21.6	27.359	Bathymetric Survey Line 14			
01/06/30 08:38:23.00	492747.6	5309955.75	2162.409	21.1	27.226	Bathymetric Survey Line 14			
01/06/30 08:38:23.00	492747.6	5309955.75	2162.409	21.1	27.226	Bathymetric Survey Line 14			
01/06/30 08:38:23.00	492747.6	5309955.75	2162.409	21.1	27.116	Bathymetric Survey Line 14			
01/06/30 08:38:23.00	492747.6	5309955.75	2162.409	21.1	27.116	Bathymetric Survey Line 14			

Date & Time	UTM (X)	UTM(Y)	Depth (m)	Alt. (m)	Heading		Event		
01/06/30 08:38:23.00	492747.6	5309955.75	2162.409	21.1	27.005	Bathymetric Survey Line 14			
01/06/30 08:38:23.00	492747.6	5309955.75	2162.283	21.1	26.961	Bathymetric Survey Line 14			
01/06/30 08:38:23.00	492747.6	5309955.75	2162.283	21.1	26.961	Bathymetric Survey Line 14			
01/06/30 08:38:23.00	492747.6	5309955.75	2162.283	21.1	26.894	Bathymetric Survey Line 14			
01/06/30 08:38:23.00	492747.6	5309955.75	2162.283	21.1	26.894	Bathymetric Survey Line 14			
01/06/30 08:38:24.00	492747.6	5309955.75	2162.283	21.1	26.85	Bathymetric Survey Line 14			
01/06/30 08:38:24.00	492747.6	5309955.75	2162.283	21.1	26.85	Bathymetric Survey Line 14			
01/06/30 08:38:24.00	492747.6	5309955.75	2162.283	21.1	26.85	Bathymetric Survey Line 14			
01/06/30 08:38:24.00	492747.6	5309955.75	2162.283	21.5	26.827	Bathymetric Survey Line 14			
01/06/30 08:38:24.00	492747.6	5309955.75	2162.283	21.5	26.827	Bathymetric Survey Line 14			
01/06/30 08:38:24.00	492747.6	5309955.75	2162.283	21.5	26.804	Bathymetric Survey Line 14			
01/06/30 08:38:24.00	492747.6	5309955.75	2162.283	21.5	26.804	Bathymetric Survey Line 14			
01/06/30 08:38:24.00	492747.6	5309955.75	2162.283	21.5	26.804	Bathymetric Survey Line 14			
01/06/30 08:38:24.00	492747.6	5309955.75	2162.283	21.5	26.825	Bathymetric Survey Line 14			
01/06/30 08:38:24.00	492747.6	5309955.75	2162.283	21.5	26.825	Bathymetric Survey Line 14			
01/06/30 08:38:25.00	492747.6	5309955.75	2162.283	21.5	26.825	Bathymetric Survey Line 14			
01/06/30 08:38:25.00	492747.6	5309955.75	2162.143	21.5	26.891	Bathymetric Survey Line 14			
01/06/30 08:38:25.00	492747.6	5309955.75	2162.143	21.5	26.891	Bathymetric Survey Line 14			
01/06/30 08:38:25.00	492747.6	5309955.75	2162.143	21.5	26.891	Bathymetric Survey Line 14			
01/06/30 08:38:25.00	492747.6	5309955.75	2162.143	21.2	26.978	Bathymetric Survey Line 14			
01/06/30 08:38:25.00	492747.6	5309955.75	2162.143	21.2	27.087	Bathymetric Survey Line 14			
01/06/30 08:38:25.00	492747.6	5309955.75	2162.143	21.2	27.087	Bathymetric Survey Line 14			
01/06/30 08:49:57.00	492773.7	5310041.79	2160.955	20.5	244.679	Bathymetric Survey Line 14	thruster Problem		
01/06/30 08:50:12.00	492770.8	5310044.4	2159.613	20.8	252.545	Bathymetric Survey Line 14	Turned off top side power		
01/06/30 08:51:13.00	492779.7	5310072.49	2155.357	19.8	276.694	Bathymetric Survey Line 14	Doing a topside reset		
01/06/30 10:10:43.00	493186.2	5311146.25	2155.404	17.4	29.157	Bathymetric Survey Line 14	SM 2000 problems		
01/06/30 10:10:56.00	493185.8	5311147.13	2155.178	16.4	30.963	Bathymetric Survey Line 14	stopped working		
01/06/30 10:11:17.00	493186.6	5311149.74	2154.919	15.2	35.405	Bathymetric Survey Line 14	rather, stopped recording		
01/06/30 10:12:27.00	493199.7	5311180.97	2155.444	25.9	29.261	Bathymetric Survey Line 14	the problem lasted 1 minute		
01/06/30 10:12:48.00	493199.9	5311180.44	2156.334	15.8	28.318	Bathymetric Survey Line 14	status now: it's recording tp dick,		
							not to tape		
01/06/30 10:13:36.00	493201.7	5311185.29	2158.682	15.5	29.206	Bathymetric Survey Line 14	what happened: the message		
							"repositioning tape" suddenly popped up on the screen		
01/06/30 10:13:48.00	493201.7	5311185.29	2158.556	16.1	25.062	Bathymetric Survey Line 14	we are back to 0.5 knots		
01/06/30 10:14:21.00	493203.5	5311203.45	2163.217	23.6	24.457	Bathymetric Survey Line 14	I didn't touch anything, I swear		
01/06/30 10:16:07.00	493208.5	5311234.13	2165.737	19.6	40.396	Bathymetric Survey Line 14	4 messages ago, what I meant to		

Date & Time	UTM (X)	UTM(Y)	Depth (m)	Alt. (m)	Heading		Event		
							to say "recording to DISK", sorry		
01/06/30 10:20:28.00	493228.4	5311290.38	2171.152	22.1	22.732	Bathymetric Survey Line 14	stopped recording		
01/06/30 10:20:37.00	493228.4	5311290.38	2171.222	21.8	18.661	Bathymetric Survey Line 14	tool out tape		
01/06/30 10:30:38.00	493279.3	5311415.47	2171.215	16.9	27.017	Bathymetric Survey Line 14	changed Verena's vhs tape from		
							#14 to #15		
01/06/30 10:31:02.00	493279.9	5311418.46	2168.389	17.9	26.241	Bathymetric Survey Line 14	changed set of hi-8 tapes, they		
							were filledup		
01/06/30 12:47:36.00	493903.6	5313116.06	2121.838	8.3	29.171	Bathymetric Survey Line 14	end of line 14		
01/06/30 12:49:14.00	493908.6	5313128.02	2121.049	23.5	26.657	Bathymetric Survey Line 15	01f30001 started		
01/06/30 12:55:23.00	493935.9	5313166.08	2112.673	23.5	94.996	Bathymetric Survey Line 15	c:\tn129\oqF20010.mpb		
01/06/30 12:59:15.00	493953	5313178.34	2112.819	23.7	165.947	Bathymetric Survey Line 15	the 4-8 watch has abandoned		
							me here		
01/06/30 13:00:48.00	493950.3	5313165.5	2112.673	21.2	197.564	Bathymetric Survey Line 15	file name should have been		
							c:\tn129\01F30010.mpb		
01/06/30 13:11:39.00	493939.5	5313077.7	2115.314	25.1	195.348	Bathymetric Survey Line 15	start of line		
01/06/30 13:44:13.00	493800.7	5312683.34	2126.332	18.4	192.061	Bathymetric Survey Line 15		Smoke	
01/06/30 13:50:14.00	493773.5	5312597.65	2112.05	25	204.181	Bathymetric Survey Line 15	c:\tn129\01F30011.mpb		
01/06/30 14:47:07.00	493464.1	5311787.84	2133.821	24.5	196.514	Bathymetric Survey Line 15	SM 2000 file name -		
							c:\tn129\01F30012.mpb		
01/06/30 14:58:42.00	493389.9	5311606.07	2138.586	20.6	189.843	Bathymetric Survey Line 15	nav poor		
01/06/30 15:17:33.00	493356.5	5311481.65	2153.492	22.5	196.658	Bathymetric Survey Line 15	Fran is working on changing the		
							baseline to get better nav		
01/06/30 15:25:08.00	493248.8	5311207.74	2158.15	18.8	188.646	Bathymetric Survey Line 15	nav is restored		
01/06/30 15:29:52.00	493223.9	5311139.13	2140.12	19.3	186.006	Bathymetric Survey Line 15	started V's tape 16		
01/06/30 15:34:28.00	493199.5	5311077.23	2134.886	18	188.882	Bathymetric Survey Line 15	SM 2000 experienced errors-		
							changed telemetry to 833mbit/s and no longer recording to		
							tape only to disk		
01/06/30 16:17:10.00	492992.5	5310497.05	2189.288	16.5	196.49	Bathymetric Survey Line 15	red nav		
01/06/30 16:54:18.00	492782.6	5309906.44	2148.266	30	199.348	Bathymetric Survey Line 15	end of line 15!!!!		
01/06/30 16:55:09.00	492774.2	5309900.33	2148.442	30	91.065	Bathymetric Survey Line 15	starting new CTD file-310003		
01/06/30 17:01:55.00	492809.1	5309874.59	2148.476	30	115.942	started new SM 2000 tape - 01F30002			
01/06/30 17:02:24.00	492809.4	5309876.9	2148.151	29.8	105.986	SM 2000 data storage - c:\tn129\01F30014			
01/06/30 17:04:15.00	492827.4	5309874.91	2148.523	28.5	114.791	start of line 16			
01/06/30 17:07:05.00	492831.8	5309873.27	2155.689	20.9	358.556	this is really the start of line 16			
01/06/30 17:20:14.00	492856.8	5309988.72	2158.355	24.4	21.626	Bathymetric Survey Line 16			
01/06/30 17:57:27.00	492994.6	5310366.33	2137.707	22.1	28.269	Bathymetric Survey Line 16	Changed V's tape #17- changed		

Date & Time	UTM (X)	UTM(Y)	Depth (m)	Alt. (m)	Heading		Event		
							it back to SP		
01/06/30 18:06:35.00	493039.5	5310477.07	2152.378	29	32.961	Bathymetric Survey Line 16	c:\tn129\01F30015.mpb		
01/06/30 19:56:43.00	493618.7	5312050.4	2096.388	20.5	30.16	Bathymetric Survey Line 16	Lock up		
01/06/30 19:56:50.00	493618.7	5312050.4	2096.388	20.5	30.16	Bathymetric Survey Line 16	Reseting topside		
01/06/30 19:57:42.00	493620.6	5312060.59	2092.728	24.8	185.674	Bathymetric Survey Line 16	Same problem as they have been		
							having before		
01/06/30 19:58:10.00	493624.3	5312070.42	2090.333	27.7	168.318	Bathymetric Survey Line 16	The reset worked and everything		
							seems to be ok now		
01/06/30 19:59:16.00	493625.2	5312082.28	2094.178	23.1	26.767	Bathymetric Survey Line 16	Data gap in bathy		
01/06/30 21:07:20.00	494005	5313080.48	2104.283	16.2	31.305	Bathymetric Survey Line 16	End of line 16		
01/06/30 21:26:45.00	494031.4	5313054.35	2088.892	16	223.454	Bathymetric Survey Line 16	beginning line #17 from North		
							to South.		
01/06/30 21:28:11.00	494025.8	5313038.79	2084.21	17.8	222.098	Bathymetric Survey Line 17	Beginning line #17 from North		
							to South.		
01/06/30 22:15:09.00	493802.4	5312425.02	2089.706	22.3	219.455	Bathymetric Survey Line 17	end of line #17A. Will be		
							resumed later after the entrainment experiment.		
01/06/30 22:20:57.00	493818.3	5312390.48	2033.263	30	61.651	Bathymetric Survey Line 17	VID_GRAB		
01/06/30 23:25:42.00	493324.8	5312735.44	2082.486	30	235.302		Smoke		
01/06/30 23:26:47.00	493326.7	5312733.13	2099.71	30	177.162	entrainment experiment			
01/06/30 23:29:46.00	493327.6	5312724.27	2141.005	21.6	178.841	entrainment experiment	3C temp anomaly		
01/06/30 23:30:03.00	493327.7	5312723.53	2145.132	19.7	169.78	entrainment experiment	3.5C temp anomaly		
01/06/30 23:30:43.00	493327.3	5312727.86	2155.452	6	177.482	entrainment experiment	VID_GRAB		
01/06/30 23:30:52.00	493327.3	5312727.86	2157.201	10.1	169.477	entrainment experiment	mav in site		
01/06/30 23:31:15.00	493328.4	5312728.86	2157.014	11.5	166.507	entrainment experiment	VID_GRAB		
01/06/30 23:32:20.00	493331.1	5312737.16	2164.675	6.7	163.453	entrainment experiment	bottom in view		
01/06/30 23:33:14.00	493328.6	5312733.48	2164.323	3.9	197.919	entrainment experiment	VID_GRAB	bottom	
01/06/30 23:36:18.00	493324.9	5312729.77	2164.404	2.8	95.675	entrainment experiment	VID_GRAB	adcp station 72	
01/06/30 23:38:40.00	493323.6	5312729.04	2164.161	2.1	253.865	entrainment experiment	VID_GRAB	tower in site	
01/06/30 23:38:55.00	493323.6	5312729.04	2164.207	2	254.215	entrainment experiment	they were just kidding, start adcp		
							station 72 now		
01/06/30 23:39:17.00	493322.8	5312729.82	2164.207	1.8	253.861	entrainment experiment	VID_GRAB		
01/06/30 23:39:28.00	493322.8	5312729.82	2164.194	1.9	253.673	entrainment experiment	VID_GRAB		
01/06/30 23:39:54.00	493323.5	5312729.75	2164.201	1.9	253.485	entrainment experiment	sorry, start over		
01/06/30 23:40:09.00	493322.6	5312729.95	2164.168	2.9	294.751	entrainment experiment	VID_GRAB		
01/06/30 23:40:25.00	493322.7	5312730.36	2164.334	2.1	291.274	entrainment experiment	VID_GRAB	mav in distance	
01/06/30 23:40:56.00	493326	5312725.83	2164.254	2.7	291.244	entrainment experiment	start adcp station 72 (again)		

Date & Time	UTM (X)	UTM(Y)	Depth (m)	Alt. (m)	Heading		Event		
01/06/30 23:44:51.00	493325.8	5312725.65	2164.338	2.7	285.69	entrainment experiment	changed tapes to Hi8 209/10		
01/06/30 23:47:57.00	493324.8	5312731.86	2164.427	2.8	274.163	entrainment experiment	start adcp station 72 (again)		
01/06/30 23:50:05.00	493325.1	5312731.59	2164.332	2.9	274.018	entrainment experiment	facing mav		
01/06/30 23:52:43.00	493325.3	5312730.47	2164.359	3	274.199	entrainment experiment	VID_GRAB		
01/06/30 23:52:54.00	493325.3	5312730.47	2164.388	3	274.231	entrainment experiment	VID_GRAB		
01/06/30 23:53:43.00	493324	5312731.55	2164.301	3.1	273.688	entrainment experiment	particles in water are moving		
							towards us and to the left		
01/06/30 23:54:44.00	493324.1	5312731.56	2164.248	3	273.832	entrainment experiment	we think that makes it a		
							southeastward current, but check the heading		
01/06/30 23:57:52.00	493325	5312730.82	2164.359	3.1	274.339	entrainment experiment	particle in water now look more		
							like they are just falling and slightly toward us		
01/06/30 23:59:53.00	493325.8	5312729.44	2164.353	3	266.129	entrainment experiment	end of adcp station 72		
01/07/01 00:02:36.00	493328.5	5312725.43	2161.21	4.6	180.447	entrainment experiment	VID_GRAB		
01/07/01 00:02:41.00	493328.5	5312725.43	2160.804	4.7	178.74	entrainment experiment	VID_GRAB		
01/07/01 00:03:04.00	493328.5	5312725.43	2161.276	4.2	181.198	entrainment experiment	VID_GRAB	smokers in site	
01/07/01 00:03:18.00	493319.6	5312734.57	2161.323	4.3	180.561	entrainment experiment	particles in water flowing left to		
							right		
01/07/01 00:06:14.00	493324.3	5312728.94	2158.845	5.8	180.248	entrainment experiment	Note bad navigation on both		
							JASON and Medda.		
01/07/01 00:07:18.00	493329.9	5312722.83	2158.811	5.5	180.495	entrainment experiment	good jason fix		
01/07/01 00:07:44.00	493330.2	5312720.02	2158.705	4.3	181.075	entrainment experiment	VID_GRAB	black smoker	
							underneath the basket		
01/07/01 00:09:59.00	493326.1	5312725.6	2160.613	5.8	177.985	entrainment experiment	The black smoker above was		
							near station 73		
01/07/01 00:10:51.00	493327.7	5312726.04	2164.851	2.2	179.808	entrainment experiment	VID_GRAB	on station #71	
01/07/01 00:11:19.00	493328.7	5312725.31	2164.789	1.8	180.292	entrainment experiment	starting station 71		
01/07/01 00:11:37.00	493328.2	5312725.2	2164.829	2	180.48	entrainment experiment	Navigation is good		
01/07/01 00:13:20.00	493327.8	5312724.65	2164.77	1.9	180.081	entrainment experiment	VID_GRAB	view of MAVs #50	
							from station #71		
01/07/01 00:17:46.00	493327.5	5312724.72	2164.738	2	180.373	entrainment experiment	Particles in the water column are		
							moving North-ish (a Susan term).		
01/07/01 00:24:45.00	493328	5312720.38	2162.694	1.4	170.976	entrainment experiment	change tape 78		
01/07/01 00:24:57.00	493328	5312719.7	2162.694	1.4	170.981	entrainment experiment	VID_GRAB		
01/07/01 00:25:02.00	493328	5312719.7	2162.668	1.3	171.802	entrainment experiment	smoker in site		
01/07/01 00:25:56.00	493326.6	5312719.55	2162.522	1.3	170.98	entrainment experiment	VID_GRAB	very slight tilt of	
							plume to west		

Date & Time	UTM (X)	UTM(Y)	Depth (m)	Alt. (m)	Heading		Event		
01/07/01 00:27:19.00	493327.5	5312719.57	2162.396	1.4	170.489	entrainment experiment	VID_GRAB	mav 50	
01/07/01 00:29:22.00	493328.9	5312718.71	2162.283	0.9	216.059	entrainment experiment	in butt-cam the particles are still moving west		
01/07/01 00:29:29.00	493328.9	5312718.71	2162.335	0.8	216.061	entrainment experiment	VID_GRAB		
01/07/01 00:29:59.00	493328.5	5312718.45	2162.389	0.8	219.287	entrainment experiment	VID_GRAB		
01/07/01 00:31:13.00	493326.9	5312718.73	2161.665	1.2	223.129	entrainment experiment	VID_GRAB		
01/07/01 00:31:16.00	493326.9	5312718.73	2161.671	1.3	223.757	entrainment experiment	VID_GRAB		
01/07/01 00:31:19.00	493327.5	5312717.79	2161.624	1.3	223.945	entrainment experiment	VID_GRAB		
01/07/01 00:31:23.00	493327.5	5312717.79	2161.611	1.2	223.822	entrainment experiment	VID_GRAB		
01/07/01 00:31:32.00	493327.5	5312717.79	2161.631	1.2	223.532	entrainment experiment	VID_GRAB		
01/07/01 00:31:50.00	493327.7	5312717.54	2161.584	1.2	223.982	entrainment experiment	start station adcp 73		
01/07/01 00:32:05.00	493327.5	5312717.31	2161.611	1.2	223.872	entrainment experiment	VID_GRAB		
01/07/01 00:33:07.00	493326.5	5312718.14	2161.531	1.2	223.882	entrainment experiment	VID_GRAB		
01/07/01 00:33:35.00	493326.5	5312717.82	2161.498	1.3	224.062	entrainment experiment	VID_GRAB		
01/07/01 00:34:23.00	493328.3	5312717.48	2161.524	1.2	223.652	entrainment experiment	VID_GRAB		
01/07/01 00:36:01.00	493327.6	5312717.33	2161.624	1.3	223.531	entrainment experiment	VID_GRAB		
01/07/01 00:37:44.00	493326.3	5312717.42	2161.565	1.2	223.813	entrainment experiment	VID_GRAB		
01/07/01 00:38:21.00	493327.7	5312716.89	2161.591	1.2	223.899	entrainment experiment	VID_GRAB		
01/07/01 00:38:44.00	493327.4	5312716.99	2161.591	1.3	223.566	entrainment experiment	VID_GRAB		
01/07/01 00:39:05.00	493327.4	5312717.32	2161.591	1.3	223.962	entrainment experiment			
01/07/01 00:40:02.00	493327.7	5312716.91	2161.538	1.2	223.66	entrainment experiment	VID_GRAB		
01/07/01 00:40:27.00	493327.1	5312717.63	2161.565	1.2	223.649	entrainment experiment	VID_GRAB		
01/07/01 00:41:09.00	493327.9	5312716.3	2161.565	1.1	223.589	entrainment experiment	VID_GRAB		
01/07/01 00:41:32.00	493327	5312717.69	2161.579	1.1	223.803	entrainment experiment	end of station		
01/07/01 00:41:56.00	493327.3	5312717.75	2161.351	1.9	186.333	entrainment experiment	VID_GRAB		
01/07/01 00:44:57.00	493325.2	5312713.32	2160.583	4.1	82.576	entrainment experiment	VID_GRAB		
01/07/01 00:45:10.00	493325.2	5312713.32	2160.615	4.5	79.592	entrainment experiment	VID_GRAB		
01/07/01 00:45:35.00	493326.1	5312712.97	2160.421	4.3	95.955	entrainment experiment	VID_GRAB		
01/07/01 00:45:54.00	493325	5312714.34	2160.647	4	92.38	entrainment experiment	VID_GRAB		
01/07/01 00:46:31.00	493325.2	5312714.16	2160.728	4	88.886	entrainment experiment	VID_GRAB	2 smokers	
01/07/01 00:47:00.00	493323.9	5312714.82	2160.716	4.8	91.105	entrainment experiment	VID_GRAB		
01/07/01 00:47:29.00	493324	5312716.31	2160.6	4.8	88.072	entrainment experiment	VID_GRAB	start of adcp station	
								74	
01/07/01 00:47:47.00	493323.6	5312716.3	2160.637	4.8	87.159	entrainment experiment	VID_GRAB		
01/07/01 00:47:57.00	493324.2	5312715.8	2160.64	4.8	87.196	entrainment experiment	VID_GRAB		
01/07/01 00:48:04.00	493324.2	5312715.8	2160.634	4.8	87.283	entrainment experiment	VID_GRAB		

Date & Time	UTM (X)	UTM(Y)	Depth (m)	Alt. (m)	Heading		Event		
01/07/01 00:49:20.00	493323.4	5312716.26	2160.649	4.7	87.626	entrainment experiment	last two framegrabs may be combined for psuedo-panarama of mav to smoker locations		
01/07/01 00:52:13.00	493323.8	5312715.73	2160.656	4.8	87.476	entrainment experiment	VID_GRAB		
01/07/01 00:53:00.00	493323.2	5312715.91	2160.656	4.8	87.422	entrainment experiment	VID_GRAB		
01/07/01 00:53:48.00	493323.7	5312716.02	2160.662	4.9	87.342	entrainment experiment			
01/07/01 00:53:54.00	493323.7	5312716.02	2160.649	4.9	87.435	entrainment experiment	VID_GRAB		
01/07/01 00:56:10.00	493325.3	5312716.1	2160.649	4.9	87.395	entrainment experiment	VID_GRAB		
01/07/01 00:57:21.00	493323.5	5312716.34	2160.662	4.9	92.86	entrainment experiment	end of station		
01/07/01 00:57:48.00	493322.8	5312715.87	2161.141	5.2	96.206	entrainment experiment	VID_GRAB		
01/07/01 00:57:58.00	493322.1	5312715.04	2161.081	4.8	96.967	entrainment experiment	VID_GRAB		
01/07/01 00:59:43.00	493318.1	5312715.89	2161.609	4.1	94.694	entrainment experiment	VID_GRAB		
01/07/01 01:00:26.00	493320.1	5312716.29	2160.935	4.5	126.382	entrainment experiment	VID_GRAB		
01/07/01 01:00:36.00	493318.5	5312716.2	2160.855	4.6	127.493	entrainment experiment	start of station adcp 75		
01/07/01 01:01:35.00	493319.5	5312715.65	2160.865	4.6	127.184	entrainment experiment	VID_GRAB		
01/07/01 01:03:22.00	493318.5	5312716.05	2160.824	4.7	127.277	entrainment experiment	particles are moving right to left		
01/07/01 01:07:39.00	493319	5312716.63	2160.865	4.7	126.939	entrainment experiment	VID_GRAB		
01/07/01 01:10:57.00	493319.7	5312715.41	2160.872	4.7	96.94	entrainment experiment	done with station		
01/07/01 01:11:21.00	493317.6	5312715.59	2160.791	7.8	89.593	entrainment experiment	VID_GRAB		
01/07/01 01:16:41.00	493312.1	5312713.83	2165.034	5.1	169.878	entrainment experiment	start of station adcp 76		
01/07/01 01:16:50.00	493312.1	5312713.83	2165.02	5.1	169.917	entrainment experiment	VID_GRAB		
01/07/01 01:17:01.00	493311.5	5312713.75	2164.991	5.1	169.887	entrainment experiment	VID_GRAB		
01/07/01 01:21:46.00	493311.7	5312714.37	2164.934	5.2	169.681	entrainment experiment	VID_GRAB		
01/07/01 01:21:54.00	493311.7	5312714.37	2164.927	5.2	169.854	entrainment experiment	VID_GRAB		
01/07/01 01:22:29.00	493311.5	5312714.48	2164.925	5.3	169.99	entrainment experiment	particles moving right to left in screen		
01/07/01 01:23:11.00	493312.9	5312714.52	2164.894	5.3	169.69	entrainment experiment	particles in median cam are also moving from Jason's right to left		
01/07/01 01:25:18.00	493311.1	5312714.32	2164.861	5.4	169.853	entrainment experiment	medea is at about 22m altitude		
01/07/01 01:25:38.00	493312	5312714.25	2164.848	5.4	169.946	entrainment experiment	oh, maybe it's more like 25m altitude		
01/07/01 01:26:52.00	493310.8	5312714.67	2164.9	5.4	124.062	entrainment experiment	end of station		
01/07/01 01:28:12.00	493321.3	5312717.75	2162.221	3.8	126.975	entrainment experiment	VID_GRAB		
01/07/01 01:28:22.00	493322.6	5312720.58	2162.035	4.3	141.688	entrainment experiment	VID_GRAB		
01/07/01 01:28:32.00	493322.6	5312720.58	2161.808	4.5	148.91	entrainment experiment	VID_GRAB		
01/07/01 01:28:40.00	493323.9	5312722.05	2161.476	4.5	150.292	entrainment experiment	VID_GRAB		
01/07/01 01:29:02.00	493326.8	5312721.6	2161.962	2.6	164.442	entrainment experiment	chain of smokers at heading of		

Date & Time	UTM (X)	UTM(Y)	Depth (m)	Alt. (m)	Heading		Event		
							142		
01/07/01 01:29:30.00	493327.6	5312720.12	2162.799	30	179.055	entrainment experiment	VID_GRAB		
01/07/01 01:29:38.00	493328.4	5312718.48	2162.793	30	180.744	entrainment experiment	VID_GRAB		
01/07/01 01:29:47.00	493328.4	5312718.48	2162.946	30	183.818	entrainment experiment	VID_GRAB		
01/07/01 01:30:04.00	493328.7	5312718.67	2162.909	30	183.986	entrainment experiment	VID_GRAB		
01/07/01 01:30:35.00	493327.8	5312718.23	2162.946	30	184.352	entrainment experiment	diffuse vent or source closer to mavs than smoker		
01/07/01 01:30:48.00	493328.5	5312718.16	2162.979	30	184.204	entrainment experiment	VID_GRAB		
01/07/01 01:31:07.00	493328.5	5312717.98	2162.946	30	183.532	entrainment experiment	bio-grab		
01/07/01 01:33:53.00	493329.2	5312718.06	2163.136	30	183.643	entrainment experiment	VID_GRAB		
01/07/01 01:34:03.00	493328.4	5312718.14	2163.114	30	183.702	entrainment experiment	VID_GRAB		
01/07/01 01:34:14.00	493328.4	5312718.14	2163.167	30	183.69	entrainment experiment	VID_GRAB		
01/07/01 01:34:29.00	493328.5	5312717.99	2163.134	30	183.821	entrainment experiment			
01/07/01 01:34:33.00	493328.5	5312717.99	2163.12	30	183.785	entrainment experiment	VID_GRAB		
01/07/01 01:34:39.00	493331	5312718.51	2163.2	30	183.635	entrainment experiment	VID_GRAB		
01/07/01 01:34:47.00	493331	5312718.51	2163.187	30	183.349	entrainment experiment	VID_GRAB		
01/07/01 01:34:50.00	493331	5312718.51	2163.194	30	183.341	entrainment experiment	VID_GRAB		
01/07/01 01:34:59.00	493328.6	5312718.24	2163.207	30	183.423	entrainment experiment	VID_GRAB		
01/07/01 01:35:27.00	493327.5	5312718.08	2163.22	19.9	183.162	entrainment experiment	VID_GRAB		
01/07/01 01:35:39.00	493328.8	5312718.61	2163.174	30	183.367	entrainment experiment			
01/07/01 01:35:41.00	493328.8	5312718.61	2163.198	30	183.384	entrainment experiment	VID_GRAB		
01/07/01 01:35:51.00	493328.8	5312718.61	2163.2	30	183.241	entrainment experiment	VID_GRAB		
01/07/01 01:35:55.00	493328.8	5312718.61	2163.198	30	183.229	entrainment experiment	VID_GRAB		
01/07/01 01:36:11.00	493328.2	5312718.22	2163.218	9.4	183.203	entrainment experiment	VID_GRAB		
01/07/01 01:36:19.00	493328.5	5312717.76	2163.198	30	183.224	entrainment experiment	VID_GRAB		
01/07/01 01:36:24.00	493328.5	5312717.76	2163.222	30	183.122	entrainment experiment	VID_GRAB		
01/07/01 01:36:38.00	493328.1	5312718.06	2163.268	30	183.43	entrainment experiment	VID_GRAB		
01/07/01 01:37:05.00	493329.2	5312718.37	2163.326	30	183.392	entrainment experiment	tapes were changed tohi8 211/12		
01/07/01 01:37:09.00	493329.2	5312718.37	2163.333	17.4	183.27	entrainment experiment	VID_GRAB		
01/07/01 01:40:54.00	493328.1	5312718.01	2163.284	30	183.051	entrainment experiment	VID_GRAB	high of 5.9C	
01/07/01 01:41:04.00	493330.2	5312718.03	2163.335	30	183.151	entrainment experiment	VID_GRAB		
01/07/01 01:41:07.00	493330.2	5312718.03	2163.348	30	183.12	entrainment experiment	VID_GRAB		
01/07/01 01:41:10.00	493330.2	5312718.03	2163.335	30	183.157	entrainment experiment	VID_GRAB		
01/07/01 01:41:12.00	493330.2	5312718.03	2163.321	30	183.173	entrainment experiment	VID_GRAB		
01/07/01 01:41:14.00	493330.2	5312718.03	2163.314	30	183.123	entrainment experiment	VID_GRAB		
01/07/01 01:41:16.00	493329.2	5312718.45	2163.301	30	183.117	entrainment experiment	VID_GRAB		



Date & Time	UTM (X)	UTM(Y)	Depth (m)	Alt. (m)	Heading		Event		
01/07/01 01:41:18.00	493329.2	5312718.45	2163.275	30	183.111	entrainment experiment	VID_GRAB		
01/07/01 01:41:19.00	493329.2	5312718.45	2163.281	30	183.084	entrainment experiment	VID_GRAB		
01/07/01 01:41:21.00	493329.2	5312718.45	2163.294	30	183.099	entrainment experiment	VID_GRAB		
01/07/01 01:41:24.00	493329.2	5312718.45	2163.301	30	183.137	entrainment experiment	VID_GRAB		
01/07/01 01:41:26.00	493329.2	5312718.45	2163.307	30	183.109	entrainment experiment	VID_GRAB		
01/07/01 01:41:27.00	493329.2	5312718.45	2163.294	30	183.125	entrainment experiment	VID_GRAB		
01/07/01 01:41:29.00	493329.2	5312718.45	2163.307	30	183.031	entrainment experiment	VID_GRAB		
01/07/01 01:41:31.00	493329.2	5312718.45	2163.294	30	183.07	entrainment experiment	VID_GRAB		
01/07/01 01:41:33.00	493329.2	5312718.45	2163.281	30	183.109	entrainment experiment	VID_GRAB		
01/07/01 01:41:35.00	493329.2	5312718.45	2163.268	30	183.037	entrainment experiment	VID_GRAB		
01/07/01 01:41:36.00	493329	5312718.7	2163.268	30	183.054	entrainment experiment	VID_GRAB		
01/07/01 01:41:39.00	493329	5312718.7	2163.294	30	183.091	entrainment experiment	VID_GRAB		
01/07/01 01:41:41.00	493329	5312718.7	2163.301	30	183.085	entrainment experiment	VID_GRAB		
01/07/01 01:41:44.00	493329	5312718.7	2163.314	30	183.074	entrainment experiment			
01/07/01 01:41:46.00	493329	5312718.7	2163.314	30	183.133	entrainment experiment			
01/07/01 01:41:51.00	493329	5312718.7	2163.307	30	183.142	entrainment experiment	VID_GRAB		
01/07/01 01:41:53.00	493329	5312718.7	2163.292	30	183.07	entrainment experiment	VID_GRAB		
01/07/01 01:41:55.00	493329	5312718.7	2163.301	27.7	183.087	entrainment experiment	VID_GRAB		
01/07/01 01:41:57.00	493328	5312718.04	2163.314	30	183.125	entrainment experiment	VID_GRAB		
01/07/01 01:41:58.00	493328	5312718.04	2163.305	30	183.163	entrainment experiment	VID_GRAB		
01/07/01 01:42:01.00	493328	5312718.04	2163.307	30	183.068	entrainment experiment	VID_GRAB		
01/07/01 01:42:03.00	493328	5312718.04	2163.307	30	183.062	entrainment experiment	VID_GRAB		
01/07/01 01:42:05.00	493328	5312718.04	2163.321	30	183.122	entrainment experiment	VID_GRAB		
01/07/01 01:42:06.00	493328	5312718.04	2163.305	30	183.117	entrainment experiment	VID_GRAB		
01/07/01 01:42:08.00	493328	5312718.04	2163.299	30	183.133	entrainment experiment	VID_GRAB		
01/07/01 01:42:12.00	493328	5312718.04	2163.279	30	183.1	entrainment experiment	VID_GRAB		
01/07/01 01:42:15.00	493328	5312718.04	2163.279	30	183.114	entrainment experiment	VID_GRAB		
01/07/01 01:42:19.00	493328.1	5312718.46	2163.292	30	183.081	entrainment experiment	VID_GRAB		
01/07/01 01:42:21.00	493328.1	5312718.46	2163.286	30	183.16	entrainment experiment	VID_GRAB		
01/07/01 01:42:25.00	493328.1	5312718.46	2163.286	29.5	183.082	entrainment experiment	VID_GRAB		
01/07/01 01:42:28.00	493328.1	5312718.46	2163.292	30	183.207	entrainment experiment	VID_GRAB		
01/07/01 01:42:33.00	493328.1	5312718.46	2163.292	30	183.081	entrainment experiment	VID_GRAB		
01/07/01 01:42:36.00	493328.1	5312718.46	2163.279	30	183.139	entrainment experiment	VID_GRAB		
01/07/01 01:42:38.00	493328.4	5312718.29	2163.276	30	183.066	entrainment experiment	VID_GRAB		
01/07/01 01:42:41.00	493328.4	5312718.29	2163.273	30	182.992	entrainment experiment	VID_GRAB		
01/07/01 01:42:57.00	493327.9	5312718.37	2163.27	30	183.075	entrainment experiment	10 degrees while close to vent		

Date & Time	UTM (X)	UTM(Y)	Depth (m)	Alt. (m)	Heading		Event		
01/07/01 01:43:04.00	493327.9	5312718.37	2163.31	30	183.073	entrainment experiment	VID_GRAB		
01/07/01 01:43:12.00	493327.9	5312718.37	2163.31	30	183.072	entrainment experiment	VID_GRAB		
01/07/01 01:43:18.00	493328	5312718.91	2163.297	30	183.054	entrainment experiment	VID_GRAB		
01/07/01 01:43:29.00	493328	5312718.91	2163.31	30	182.998	entrainment experiment	VID_GRAB		
01/07/01 01:43:39.00	493328.8	5312717.52	2163.27	30	182.947	entrainment experiment	VID_GRAB		
01/07/01 01:43:42.00	493328.8	5312717.52	2163.297	10.1	182.96	entrainment experiment	VID_GRAB		
01/07/01 01:43:45.00	493328.8	5312717.52	2163.27	30	183.015	entrainment experiment	VID_GRAB		
01/07/01 01:43:50.00	493328.8	5312717.52	2163.276	30	183	entrainment experiment	VID_GRAB		
01/07/01 01:43:55.00	493328.8	5312717.52	2163.294	30	182.942	entrainment experiment	VID_GRAB		
01/07/01 01:43:59.00	493328.7	5312718.29	2163.292	30	183.04	entrainment experiment	VID_GRAB		
01/07/01 01:44:05.00	493328.7	5312718.29	2163.274	30	182.913	entrainment experiment	VID_GRAB		
01/07/01 01:44:09.00	493328.7	5312718.29	2163.273	30	182.944	entrainment experiment	VID_GRAB		
01/07/01 01:44:16.00	493328.4	5312718.32	2163.266	30	183.031	entrainment experiment	VID_GRAB		
01/07/01 01:44:31.00	493328.4	5312718.32	2163.305	30	182.943	entrainment experiment	VID_GRAB		
01/07/01 01:44:35.00	493328.4	5312718.32	2163.305	30	182.998	entrainment experiment	VID_GRAB		
01/07/01 01:44:38.00	493328.9	5312718.65	2163.292	30	183.055	entrainment experiment	VID_GRAB		
01/07/01 01:44:41.00	493328.9	5312718.65	2163.258	30	182.958	entrainment experiment	VID_GRAB		
01/07/01 01:44:43.00	493328.9	5312718.65	2163.256	30	182.993	entrainment experiment	VID_GRAB		
01/07/01 01:44:46.00	493328.9	5312718.65	2163.286	30	182.962	entrainment experiment	VID_GRAB		
01/07/01 01:44:50.00	493328.9	5312718.65	2163.276	30	182.931	entrainment experiment	VID_GRAB		
01/07/01 01:44:53.00	493328.9	5312718.65	2163.279	30	182.987	entrainment experiment	VID_GRAB		
01/07/01 01:44:56.00	493328.7	5312718.89	2163.303	30	182.999	entrainment experiment	VID_GRAB		
01/07/01 01:45:03.00	493328.7	5312718.89	2163.296	30	183.067	entrainment experiment	VID_GRAB		
01/07/01 01:45:09.00	493328.7	5312718.89	2163.309	30	183.025	entrainment experiment	VID_GRAB		
01/07/01 01:45:24.00	493328.3	5312718.21	2163.303	30	183.046	entrainment experiment	VID_GRAB		
01/07/01 01:45:32.00	493328.3	5312718.21	2163.29	30	183.109	entrainment experiment	VID_GRAB		
01/07/01 01:45:59.00	493328.4	5312717.9	2163.254	30	183.16	entrainment experiment	end of temp and orifice size		
							determination		
01/07/01 01:46:10.00	493328.4	5312717.9	2163.323	30	183.282	entrainment experiment	Tmax = 344.4C		
01/07/01 01:51:06.00	493328.8	5312718.87	2163.281	30	183.572	entrainment experiment	VID_GRAB		
01/07/01 01:57:12.00	493320.9	5312713.04	2163.034	5	5.547	recovery of 10050and10057	VID_GRAB		
01/07/01 01:57:28.00	493320.3	5312713.26	2163.196	5.1	349.747	recovery of 10050and10057	VID_GRAB		
01/07/01 01:57:49.00	493319.7	5312714.53	2162.14	6.7	0.513	recovery of 10050and10057	VID_GRAB		
01/07/01 01:58:16.00	493315.4	5312723.38	2163.756	5.8	357.204	recovery of 10050and10057			
01/07/01 01:58:20.00	493315.4	5312723.38	2163.888	7	357.872	recovery of 10050and10057			
01/07/01 01:59:17.00	493314.9	5312728.26	2169.867	1.5	327.398	recovery of 10050and10057			

Date & Time	UTM (X)	UTM(Y)	Depth (m)	Alt. (m)	Heading		Event		
01/07/01 01:59:20.00	493314.9	5312728.26	2169.8	1.4	313.657	recovery of 10050and10057	VID_GRAB		
01/07/01 01:59:25.00	493314.9	5312728.26	2169.86	1.4	304.609	recovery of 10050and10057	VID_GRAB		
01/07/01 01:59:31.00	493314.9	5312728.26	2170.054	1.1	306.483	recovery of 10050and10057	VID_GRAB		
01/07/01 02:00:24.00	493314.9	5312730.48	2168.952	2.5	352.881	recovery of 10050and10057	VID_GRAB		
01/07/01 02:00:32.00	493314.9	5312730.48	2169.111	2.3	355.165	recovery of 10050and10057	VID_GRAB		
01/07/01 02:01:49.00	493314.4	5312731.02	2168.546	2.7	349.989	recovery of 10050and10057	VID_GRAB		
01/07/01 02:01:56.00	493314	5312729.58	2168.738	2.6	8.645	recovery of 10050and10057	VID_GRAB		
01/07/01 02:02:41.00	493311.7	5312730.22	2169.184	2	38.48	recovery of 10050and10057	VID_GRAB		
01/07/01 02:02:48.00	493311.7	5312730.22	2169.403	1.9	39.117	recovery of 10050and10057	VID_GRAB		
01/07/01 02:03:17.00	493313.2	5312730.56	2169.061	2.1	52.782	recovery of 10050and10057	VID_GRAB		
01/07/01 02:04:01.00	493312.5	5312730.02	2168.875	2.1	78.424	recovery of 10050and10057	VID_GRAB		
01/07/01 02:04:11.00	493312.5	5312730.02	2168.96	2	91.225	recovery of 10050and10057	VID_GRAB		
01/07/01 02:04:44.00	493312.4	5312731.01	2168.881	2.1	90.62	recovery of 10050and10057	VID_GRAB		
01/07/01 02:05:46.00	493312.1	5312731.57	2169.874	1.4	55.011	recovery of 10050and10057	VID_GRAB	mav jousting	
01/07/01 02:06:26.00	493312.7	5312730.96	2166.163	4.9	55.487	recovery of 10050and10057	VID_GRAB		
01/07/01 02:17:15.00	493304.3	5312741.24	2078.988	30	16.162	recovery of 10050and10057	new ctd file 310006		
01/07/01 03:02:50.00	493427.6	5312361.39	2186.954	5.9	165.072	recovery of 10050and10057	at the north elevator		
01/07/01 03:07:20.00	493427	5312353.83	2187.652	5.6	342.121	recovery of 10050and10057	MAV 50 on the elevator		
01/07/01 03:13:11.00	493435.5	5312355.34	2187.352	5.9	234.821	recovery of 10050and10057	MAV 57 on the elevator		
01/07/01 03:26:20.00	493677.6	5312147.55	2189.5	3.9	280.686	Tower recovery	fired left Niskin on north elevator		
01/07/01 03:27:51.00	493438.8	5312349.99	2179.569	13.3	159.035	Tower recovery	going to target 72 (entrainment site) to pick up the tower		
01/07/01 04:10:06.00	493330.8	5312731.51	2160.064	9.9	49.682	Tower recovery	naering entrainment site		
01/07/01 04:12:38.00	493326.5	5312729.7	2164.519	4.8	259.543	Tower recovery	at the tower		
01/07/01 04:12:55.00	493321.5	5312727.2	2165.907	3	260.875	Tower recovery	VID_GRAB		
01/07/01 04:13:02.00	493321.5	5312727.2	2166.465	2.4	266.217	Tower recovery	VID_GRAB		
01/07/01 04:13:14.00	493321.5	5312727.2	2166.784	2.8	262.644	Tower recovery	VID_GRAB		
01/07/01 04:15:35.00	493318	5312732.66	2147.786	22.2	253.712	Tower recovery	tower is recovered- take back to north elevator		
01/07/01 04:19:44.00	493309.7	5312754.23	2107.16	30	341.684	Tower recovery	changed range onSM2000 to75m		
01/07/01 04:53:03.00	493424.4	5312357.68	2184.08	9.2	137.969	Tower recovery	back at the elevator		
01/07/01 04:56:26.00	493424.4	5312357.68	2185.273	8.2	23.867	Tower recovery	dropped the tower getting it off jason		
01/07/01 05:01:40.00	493436.4	5312346.42	2190.816	2.6	218.207	Tower recovery	jason has the tower again		
01/07/01 05:06:04.00	493436.4	5312354.01	2186.425	6.7	245.447	Tower recovery	tower is hooked onto elevator at hook on top		

Date & Time	UTM (X)	UTM(Y)	Depth (m)	Alt. (m)	Heading		Event		
01/07/01 05:07:28.00	493436.4	5312354.01	2186.685	6.6	245.325	Tower recovery	VID_GRAB		
01/07/01 05:08:05.00	493436.4	5312354.01	2181.286	11.6	256.418	Tower recovery	thruster problems		
01/07/01 05:09:57.00	493441.4	5312360.87	2180.049	11.4	214.901	Tower recovery	powered down jason from top lab		
							to try to fix problem		
01/07/01 05:10:14.00	493441.4	5312360.87	2179.982	11.4	195.272	Tower recovery	thrusters are back		
01/07/01 05:12:45.00	493449.4	5312366.11	2181.683	10.9	220.606	Tower recovery	start CTD file 310007		
01/07/01 05:20:49.00	493449.4	5312366.11	2188.979	4.5	341.741	Tower recovery	VID_GRAB		
01/07/01 05:21:02.00	493449.4	5312366.11	2188.482	4.9	341.177	Tower recovery	VID_GRAB		
01/07/01 05:21:41.00	493449.4	5312366.11	2188.833	4.6	212.302	Tower recovery	trying to get tower onto biner		
01/07/01 05:22:21.00	493449.4	5312366.11	2188.74	4.5	218.447	Tower recovery	VID_GRAB		
01/07/01 05:25:15.00	493449.4	5312366.11	2188.469	4.9	186.676	Tower recovery	VID_GRAB		
01/07/01 05:35:17.00	493449.4	5312366.11	2188.174	5.1	261.544	Tower recovery	carabiner appears to be rusted shut		
01/07/01 05:57:00.00	493434.3	5312351.79	2189.115	4.3	197.636	Tower recovery	VID_GRAB		
01/07/01 06:06:58.00	493434.3	5312351.79	2193.422	30	315.407	Tower recovery	VID_GRAB		
01/07/01 06:14:43.00	493434.3	5312351.79	2188.225	5.1	248.204	Tower recovery	VID_GRAB		
01/07/01 06:14:52.00	493434.3	5312351.79	2188.111	5.2	246.376	Tower recovery	tower is in the biner		
01/07/01 06:16:40.00	493434.3	5312351.79	2189.071	4.5	261.353	Tower recovery	VID_GRAB	bungee is stuck	
01/07/01 06:16:56.00	493434.3	5312351.79	2189.21	4.2	301.626	Tower recovery	VID_GRAB		
01/07/01 06:21:56.00	493434.3	5312351.79	2188.272	4.7	324.881	Tower recovery	VID_GRAB		
01/07/01 06:22:03.00	493434.3	5312351.79	2188.232	4.6	330.156	Tower recovery	carabiner is closed		
01/07/01 06:23:05.00	493434.3	5312351.79	2187.699	5.7	263.993	Tower recovery	VID_GRAB		
01/07/01 06:23:20.00	493434.3	5312351.79	2187.453	6	247.447	Tower recovery	bungee looks a little caught, but		
							it's ok		
01/07/01 06:36:23.00	493410.4	5312348.44	2095.427	30	46.888	Tower recovery	we are heading to pick up MAV		
							63 and resume survey		
01/07/01 06:36:43.00	493407.9	5312346.53	2095.451	30	50.894				
01/07/01 07:01:26.00	493212.8	5312259.23	2178.996	2.5	97.396	MAVS 10063	VID_GRAB		
01/07/01 07:01:55.00	493212.8	5312259.23	2179.594	2.4	86.277	MAVS 10063	VID_GRAB		
01/07/01 07:03:37.00	493212.8	5312259.23	2182.376	1	137.146	MAVS 10063	VID_GRAB		
01/07/01 07:03:45.00	493212.8	5312259.23	2182.642	0.8	140.986	MAVS 10063	VID_GRAB		
01/07/01 07:04:07.00	493212.8	5312259.23	2181.757	1.7	138.79	MAVS 10063	Who was drinking beer down		
							here?		
01/07/01 07:05:44.00	493212.8	5312259.23	2179.747	2.3	344.599	MAVS 10063	Can see Mav 63		
01/07/01 07:05:59.00	493212.8	5312259.23	2179.282	2.7	359.738	MAVS 10063	VID_GRAB		
01/07/01 07:06:13.00	493212.8	5312259.23	2179.049	2.6	20.986	MAVS 10063	VID_GRAB		
01/07/01 07:06:30.00	493212.8	5312259.23	2179.088	1.8	79.293	MAVS 10063	VID_GRAB		

Date & Time	UTM (X)	UTM(Y)	Depth (m)	Alt. (m)	Heading		Event		
01/07/01 07:06:36.00	493212.8	5312259.23	2179.141	1.8	124.868	MAVS 10063	VID_GRAB		
01/07/01 07:06:43.00	493212.8	5312259.23	2179.302	1.6	127.264	MAVS 10063	VID_GRAB		
01/07/01 07:07:10.00	493212.8	5312259.23	2178.722	2.2	131.708	MAVS 10063	VID_GRAB		
01/07/01 07:07:40.00	493212.8	5312259.23	2180.373	1.3	162.118	MAVS 10063	VID_GRAB		
01/07/01 07:08:16.00	493212.8	5312259.23	2178.517	2.8	165.216	MAVS 10063	Mav 63 is on the hook		
01/07/01 07:46:58.00	493421.9	5312345.05	2049.845	30	248.759	MAVS 10063	smoke		
01/07/01 08:28:36.00	493826	5312513.75	2100.671	20.4	212.566	Bathymetric line 17b	Start of bathymetric line 17b		
01/07/01 11:47:24.00	492873.7	5309852.83	2144.284	21.7	189.06	Bathymetric line 17b	end of survey line 17b		
01/07/01 12:48:23.00	492712.7	5310472.75	2117.5	30	345.167	Transit to thermal blanket complete			
01/07/01 12:57:48.00	492709.4	5310478.47	2206.723	2.4	176.862	VID_GRAB			
01/07/01 12:57:56.00	492707.4	5310478.54	2206.821	2.4	156.334	VID_GRAB			
01/07/01 12:58:01.00	492707.4	5310478.54	2206.837	2.4	145.948	VID_GRAB			
01/07/01 12:58:12.00	492707.4	5310478.54	2206.924	2.2	114.539	VID_GRAB			
01/07/01 13:06:18.00	492706.4	5310473.97	2209.267	30	15.841	VID_GRAB			
01/07/01 13:09:52.00	492706.9	5310473.27	2204.979	4.5	14.621	VID_GRAB			
01/07/01 13:12:58.00	492714.1	5310489.62	2199.332	7.5	210.956	Thermal Blanket Retrieve and on the basket			
01/07/01 13:13:58.00	492709.6	5310479.99	2207.362	1.9	185.395	VID_GRAB			
01/07/01 13:14:03.00	492709.6	5310479.99	2207.912	1.4	159.453	VID_GRAB			
01/07/01 13:14:09.00	492709.6	5310479.99	2207.961	1.3	144.404	VID_GRAB			
01/07/01 13:14:12.00	492709.6	5310479.99	2207.775	1.4	130.905	VID_GRAB			
01/07/01 13:14:21.00	492706.9	5310479.47	2207.954	1.2	115.673	VID_GRAB			
01/07/01 13:14:24.00	492706.9	5310479.47	2208.192	1.1	118.125	VID_GRAB			
01/07/01 13:16:13.00	492707.6	5310478.24	2208.221	1	168.639	VID_GRAB			
01/07/01 13:16:15.00	492707.6	5310478.24	2208.315	0.9	169.621	VID_GRAB			
01/07/01 13:16:52.00	492707.9	5310478.4	2208.034	1.1	170.563	VID_GRAB			
01/07/01 13:17:29.00	492706.6	5310478.68	2208.288	0.8	154.06	VID_GRAB			
01/07/01 13:17:56.00	492708.8	5310475.11	2208.274	1	144.749	Animal observations	Crab		
01/07/01 13:18:02.00	492708.8	5310475.11	2207.741	1.4	137.921				
01/07/01 13:19:01.00	492707.6	5310476.23	2202.831	6.2	137.413	The crab is attacking MAV 63!!			
01/07/01 13:19:46.00	492706.6	5310478.61	2201.954	7.2	137.189	Poor Visibility combined w/ the attacking crab is making this			
						a tense situation.			
01/07/01 13:20:03.00	492705.6	5310479	2201.981	7.2	137.203	More crabs closing in!			
01/07/01 13:20:12.00	492705.6	5310479.35	2201.992	7.1	137.197	Visibility poor.			
01/07/01 13:20:29.00	492705.6	5310479.35	2201.965	7	137.168	Attacking crab will not surrender!			
01/07/01 13:21:30.00	492703.7	5310481.12	2201.948	7	136.04	MAV 63 recovered, no sign of crab.			
01/07/01 13:21:39.00	492703.7	5310479.92	2201.934	7.1	130.197				

Date & Time	UTM (X)	UTM(Y)	Depth (m)	Alt. (m)	Heading	Event		
01/07/01 13:55:34.00	492762	5310690.49	2200.914	7.4	202.093	Arrived at South elevator (the ugly one according to the pilot, Jim)		
01/07/01 13:56:37.00	492761.7	5310687.67	2201.754	6	259.033	MAV 63 placed on elevator		
01/07/01 13:59:13.00	492758.2	5310695.29	2194.581	11.3	138.437	VID_GRAB		
01/07/01 14:02:46.00	492766.5	5310695.05	2197.433	11.9	230.823	VID_GRAB		
01/07/01 14:05:36.00	492760.1	5310685.44	2199.374	8.3	306.621	VID_GRAB		
01/07/01 14:11:58.00	492757.6	5310691.49	2203.555	2.6	84.42	VID_GRAB		
01/07/01 14:12:32.00	492752.9	5310690.86	2203.754	2.3	84.361	Fired remaining NISKIN bottle		
01/07/01 14:14:52.00	492758.8	5310687.5	2204.33	1.8	332.888	VID_GRAB		
01/07/01 14:16:24.00	492757.9	5310690.12	2204.417	2	327.643	VID_GRAB		
01/07/01 14:16:55.00	492755.5	5310690.28	2204.65	1.6	326.978			
01/07/01 14:19:41.00	492757.5	5310690.73	2204.33	3.7	325.376	VID_GRAB		
01/07/01 14:20:02.00	492758.9	5310689.88	2204.084	3.1	326.763	VID_GRAB		
01/07/01 14:20:26.00	492757.2	5310689	2203.637	4.3	323.613	Removed JASON weight from elevator		
01/07/01 14:22:43.00	492758.3	5310690.12	2203.613	4.3	348.291	VID_GRAB		
01/07/01 14:26:06.00	492759.4	5310688.23	2202.487	5.7	329.836	VID_GRAB		
01/07/01 14:26:35.00	492763.2	5310687.64	2202.303	8.3	37.293	Removed 2 fecal pellets from elevator		
01/07/01 14:27:28.00	492771.4	5310690.7	2202.616	8.2	38.693	Transiting to deploy thermal blanket east of MEF		
01/07/01 14:39:10.00	492800.7	5310760.61	2149.086	30	17.893	TAPE CHANGE TO hi8-225/6		
01/07/01 14:49:13.00	492854.9	5310843.09	2149.171	30	42.521	VID_GRAB		
01/07/01 14:50:38.00	492861.5	5310851.71	2156.602	30	351.546			
01/07/01 14:54:20.00	492848.7	5310863.05	2207.414	4.2	358.434	thermal blanket	looking for thermal blanket site	
01/07/01 14:54:32.00	492848.7	5310863.05	2207.128	4.5	2.682	thermal blanket		
01/07/01 14:55:34.00	492850.5	5310863.74	2210.28	1.4	225.21	thermal blanket	VID_GRAB	
01/07/01 14:56:07.00	492850.7	5310863.56	2210.167	1.6	224.801	thermal blanket	VID_GRAB	
01/07/01 14:56:22.00	492851.7	5310863.06	2209.98	1.7	226.229	thermal blanket	VID_GRAB	
01/07/01 14:56:24.00	492851.7	5310863.06	2209.906	1.9	225.783	thermal blanket	VID_GRAB	
01/07/01 14:57:11.00	492850.8	5310863.22	2210.659	1	223.883	thermal blanket	VID_GRAB	
01/07/01 14:57:23.00	492851.2	5310863.38	2210.953	0.9	196.052	thermal blanket	VID_GRAB	
01/07/01 14:57:54.00	492847.6	5310863.96	2210.78	1	89.212	thermal blanket	VID_GRAB	
01/07/01 14:58:06.00	492847.6	5310863.96	2210.68	1.2	45.277	thermal blanket	perfect deployment	
01/07/01 15:01:03.00	492845.9	5310871.11	2193	17.5	57.308	thermal blanket	670 m transit to survey line	
01/07/01 15:03:04.00	492856.9	5310899.76	2159.309	30	35.938			
01/07/01 15:03:17.00	492857.3	5310899.47	2159.714	30	21.702	Crossline Survey		
01/07/01 15:48:29.00	493244.4	5310389.32	2069.051	29.7	339.065	Crossline Survey	restarted tape on SM2000 - getting ready to start survey	

Date & Time	UTM (X)	UTM(Y)	Depth (m)	Alt. (m)	Heading		Event		
01/07/01 15:48:59.00	493275.2	5310369.72	2068.724	28.9	336.689	Crossline Survey	File on SM2000 -		
							c:\tn129\01G01015.mpb		
01/07/01 15:49:27.00	493255.3	5310378.91	2071.495	26	333.527	Crossline Survey	CTD 310010 file		
01/07/01 15:52:57.00	493286.3	5310335.78	2077.733	18.9	17.146	Cross-axis Survey			
01/07/01 15:54:57.00	493311.7	5310329.58	2077.487	19.4	253.359	Cross-axis Survey	SM 2000 10 m spire in view		
01/07/01 15:55:19.00	493311.7	5310329.58	2079.461	19.4	298.269	Cross-axis Survey	have time to take a look at the		
							spire		
01/07/01 15:55:42.00	493311.7	5310329.58	2084.93	14.1	249.552	Cross-axis Survey	smoke		
01/07/01 15:56:07.00	493311.7	5310329.58	2089.277	9.6	177.935	Cross-axis Survey	Sulfide structure		
01/07/01 15:56:13.00	493311.7	5310329.58	2089.084	9.8	192.418	Cross-axis Survey	VID_GRAB		
01/07/01 15:56:24.00	493311.7	5310329.58	2090.389	8.4	206.471	Cross-axis Survey	VID_GRAB		
01/07/01 15:56:46.00	493311.7	5310329.58	2091.874	7.3	207.766	Cross-axis Survey	VID_GRAB		
01/07/01 15:57:11.00	493290	5310342.13	2090.072	8.2	291.955	Cross-axis Survey	Major field of sulfide structures!		
01/07/01 15:58:12.00	493281.9	5310350.66	2093.202	5.1	269.118	Cross-axis Survey	looking for an active smoker		
01/07/01 15:59:01.00	493284.6	5310351.28	2091.095	4.8	254.467	Cross-axis Survey	5 m high structure		
01/07/01 15:59:35.00	493284.6	5310351.28	2093.068	2.2	254.187	Cross-axis Survey	VID_GRAB		
01/07/01 16:00:18.00	493284.6	5310351.28	2094.655	4.2	258.122	Cross-axis Survey	VID_GRAB		
01/07/01 16:00:27.00	493284.6	5310351.28	2095.861	2.7	272.53	Cross-axis Survey	VID_GRAB		
01/07/01 16:00:39.00	493284.6	5310351.28	2095.934	1.9	236.898	Cross-axis Survey	continued sulfides		
01/07/01 16:01:33.00	493284.6	5310351.28	2095.297	2.9	70.14	Cross-axis Survey	iron staining on sulfide mound		
01/07/01 16:02:29.00	493284.6	5310351.28	2094.582	2.5	133.272	Cross-axis Survey	changed tape back to UW tape -		
							V's tape went in for start of survey, but we are now exploring		
01/07/01 16:02:47.00	493284.6	5310351.28	2093.408	2.5	120.319	Cross-axis Survey	VID_GRAB		
01/07/01 16:03:21.00	493284.6	5310351.28	2092.845	4.4	95.761	Cross-axis Survey	VID_GRAB		
01/07/01 16:04:36.00	493277.4	5310352.98	2092.759	2.6	248.444	Cross-axis Survey	VID_GRAB		
01/07/01 16:04:47.00	493277.4	5310352.98	2092.993	1.2	241.049	Cross-axis Survey	VID_GRAB		
01/07/01 16:08:14.00	493270.1	5310354.72	2092.054	6.9	158.751	Cross-axis Survey	VID_GRAB		
01/07/01 16:10:22.00	493271.4	5310346.69	2094.334	4.8	131.798	Cross-axis Survey	VID_GRAB		
01/07/01 16:11:13.00	493271.4	5310346.69	2093.294	6	46.433	Cross-axis Survey	VID_GRAB		
01/07/01 16:11:31.00	493271.4	5310346.69	2090.697	7.4	38.536	Cross-axis Survey	8 m high sulfide		
01/07/01 16:11:37.00	493271.4	5310346.69	2090.237	10.1	36.055	Cross-axis Survey	field at least 50 m in size		
01/07/01 16:12:03.00	493271.4	5310346.69	2091.086	10.8	338.693	Cross-axis Survey	No isolated chimney! - major field		
01/07/01 16:12:18.00	493271.4	5310346.69	2094.801	7.1	338.759	Cross-axis Survey	VID_GRAB		
01/07/01 16:12:30.00	493271.4	5310346.69	2096.648	5.2	356.456	Cross-axis Survey	VID_GRAB		
01/07/01 16:12:37.00	493271.4	5310346.69	2097.267	4.6	4.034	Cross-axis Survey	VID_GRAB		
01/07/01 16:12:49.00	493271.4	5310346.69	2097.639	4.1	7.823	Cross-axis Survey	VID_GRAB		

Date & Time	UTM (X)	UTM(Y)	Depth (m)	Alt. (m)	Heading		Event		
01/07/01 16:14:18.00	493262.9	5310368.35	2092.374	5.1	156.44	Cross-axis Survey	Minor temp blip		
01/07/01 16:14:28.00	493262.9	5310368.35	2091.798	5.7	151.312	Cross-axis Survey	Geological Fissure		
01/07/01 16:15:44.00	493262.9	5310368.35	2098.198	2.6	166.901	still haven't started line yet, still exploring			
01/07/01 16:15:59.00	493262.9	5310368.35	2097.76	3.8	178.062	Substrate	Pillow lava		
01/07/01 16:17:34.00	493283	5310334.21	2096.567	5.1	208.361	sulfide			
01/07/01 16:19:35.00	493283	5310334.21	2097.298	4.6	339.722	Geological Features	Fissure		
01/07/01 16:19:40.00	493283	5310334.21	2097.179	4.7	300.264	VID_GRAB			
01/07/01 16:20:04.00	493283	5310334.21	2096.026	2.5	270.902	Substrate	Sheet flow		
01/07/01 16:20:16.00	493283	5310334.21	2097.166	0.7	274.887	VID_GRAB			
01/07/01 16:22:25.00	493266.4	5310348.83	2092.663	5.1	125.961	7.0 m high sulfide			
01/07/01 16:26:19.00	493270.9	5310324.73	2105.515	0.9	177.858	more sulfide material			
01/07/01 16:30:06.00	493270.9	5310324.73	2103.587	4.6	205.735	493306 5310309 - Medea fix, Jason nav is poor (Medea is within 20 m of Jason south)			
01/07/01 16:32:17.00	493270.9	5310324.73	2096.309	3.8	301.048	sulfides			
01/07/01 16:32:39.00	493270.9	5310324.73	2096.129	4.1	300.936	poor nav on Jason			
01/07/01 16:37:52.00	493279.8	5310320.52	2098.022	4.6	281.334	VID_GRAB			
01/07/01 16:39:15.00	493271.7	5310320.42	2096.045	2.9	241.268	sulfides continue			
01/07/01 16:41:46.00	493265.3	5310345.12	2094.023	1.4	305.456	iron staining			
01/07/01 16:42:29.00	493265.3	5310345.12	2093.142	2.5	267.972	c:\tn129\01G01016.mpb			
01/07/01 16:42:50.00	493265.3	5310345.12	2092.187	6.4	200.891	started survey line			
01/07/01 16:42:53.00	493265.3	5310345.12	2091.557	8	200.134	Cross-axis Survey			
01/07/01 16:44:52.00	493262.1	5310344.6	2078.661	20.6	272.108	Cross-axis Survey Line W2			
01/07/01 16:45:00.00	493262.1	5310344.6	2078.458	23.1	272.567	Cross-axis Survey Line W2	start now		
01/07/01 17:06:38.00	493046.1	5310380.83	2116.219	20.1	264.597	Cross-axis Survey Line W2	back to the LK baseline- better Jason fix		
01/07/01 17:07:11.00	493041.8	5310380.11	2115.857	21.9	278.888	Cross-axis Survey Line W2	around bend - heading changed from 280 to 275		
01/07/01 17:10:28.00	493006.9	5310387.97	2142.68	20.8	274.69	Cross-axis Survey Line W2	Dopplar problems		
01/07/01 17:13:27.00	492985	5310383.04	2163.019	22.6	259.995	Cross-axis Survey Line W2	c:\tn129\01G01017.mpb		
01/07/01 17:43:54.00	492570.6	5310406.62	2173.094	20.5	258.729	Cross-axis Survey Line W2	Smoke		
01/07/01 17:58:59.00	492352.7	5310410.53	2104.102	16.8	296.673	Cross-axis Survey Line W2	small deviation south of line... decided to proceed		
01/07/01 18:13:17.00	492195.2	5310424.82	2110.61	18.7	248.052	Cross-axis Survey Line W2	end of line W2		
01/07/01 18:19:06.00	492149.7	5310431.17	2072.652	22.6	239.396	Cross-axis Survey Line W2	jason at a sheer face wall (26m high)		
01/07/01 18:20:31.00	492130.6	5310412.24	2075.639	30	261.002	Cross-axis Survey Line	heading to Lisa's southern		



Date & Time	UTM (X)	UTM(Y)	Depth (m)	Alt. (m)	Heading		Event		
							across-axis line		
01/07/01 18:28:46.00	492118.3	5310335.4	2068.347	10	101.73	Cross-axis Survey LineSE2	start line SE2		
01/07/01 18:41:20.00	492181	5310306.43	2120.132	15.3	107.708	Cross-axis Survey LineSE2	weather deteriorating, finish this		
							line, go get thermal blanket and recover jason and elevators		
01/07/01 19:09:45.00	492238.7	5310287.8	2165.346	30	118.192	Cross-axis Survey LineSE2	Having difficulty with bad JASON		
							fixes		
01/07/01 19:12:14.00	492567.5	5310206.41	2182.691	19.5	122.223	Cross-axis Survey LineSE2	good fix		
01/07/01 19:12:26.00	492567.5	5310206.41	2182.873	19.3	121.507	Cross-axis Survey LineSE2	oops missed it by one		
01/07/01 19:12:32.00	492574.2	5310200.18	2182.917	19.3	121.312	Cross-axis Survey LineSE2	good fix		
01/07/01 19:13:35.00	492582.3	5310190.63	2181.666	20.1	161.552	Cross-axis Survey LineSE2	end of cross line W2		
01/07/01 19:14:04.00	492582.3	5310190.63	2179.06	22.1	204.663	Cross-axis Survey LineSE2	Lisa made a mistake, the corss		
							axis line wejust finished wasSE2		
01/07/01 19:14:17.00	492582.3	5310190.63	2178.288	23	213.875	Cross-axis Survey LineSE2	Heading to the thermal blanket		
							is 007.		
01/07/01 19:16:29.00	492582.3	5310190.63	2150.399	30	268.096	Cross-axis Survey LineSE2	adjusting Verena's tape to view		
							the plankton while being towed backwards to the thermal		
							blanket site.		
01/07/01 20:21:35.00	492825.2	5310821.07	2195.408	16.7	24.676	Cross-axis Survey LineSE2	stopping V's tape and putting		
							in ours		
01/07/01 20:23:34.00	492835.5	5310846.58	2210.456	2.1	18.473	Cross-axis Survey LineSE2	VID_GRAB		
01/07/01 20:25:04.00	492837.4	5310850.07	2210.752	1.9	191.652	Cross-axis Survey LineSE2	VID_GRAB		
01/07/01 20:25:30.00	492837.4	5310850.07	2212.325	30	207.438	Cross-axis Survey LineSE2	VID_GRAB		
01/07/01 20:25:32.00	492837.4	5310850.07	2212.271	0.7	191.743	Cross-axis Survey LineSE2	VID_GRAB		
01/07/01 20:28:35.00	492836.8	5310852.66	2211.494	1.3	151.835	VID_GRAB			
01/07/01 20:28:39.00	492836.8	5310852.66	2211.714	1.6	147.274	VID_GRAB			
01/07/01 20:28:41.00	492836.8	5310852.66	2211.807	1.8	145.729	VID_GRAB			
01/07/01 20:31:55.00	492855.5	5310841.12	2211.603	2.4	84.918		Temp Anom	0.6	
01/07/01 20:32:42.00	492859.4	5310835.78	2211.472	1.9	24.547	lots of animals around this area			
01/07/01 20:33:27.00	492859.4	5310835.78	2209.459	2.6	97.051	VID_GRAB			
01/07/01 20:34:05.00	492859.4	5310835.78	2209.382	2.6	30.382	VID_GRAB			
01/07/01 20:34:07.00	492859.4	5310835.78	2209.395	2.6	29.695	VID_GRAB			
01/07/01 20:35:22.00	492875.2	5310855.64	2209.688	2.3	299.204	VID_GRAB			
01/07/01 20:35:25.00	492875.2	5310855.64	2209.742	2.1	292.781	VID_GRAB			
01/07/01 20:35:50.00	492875.2	5310855.64	2211.488	0.8	255.528	VID_GRAB			
01/07/01 20:36:01.00	492870.3	5310860.94	2211.823	2.6	277.554	VID_GRAB			
01/07/01 20:36:12.00	492870.3	5310860.94	2211.856	30	278.025	VID_GRAB			

Date & Time	UTM (X)	UTM(Y)	Depth (m)	Alt. (m)	Heading		Event		
01/07/01 20:36:32.00	492870.3	5310860.94	2211.99	30	276.316	Picking up thermal blanket			
01/07/01 20:37:20.00	492870.3	5310860.94	2211.863	30	276.656	Thermal blanket is on Jason			
01/07/01 20:37:24.00	492870.3	5310860.94	2211.876	30	276.578	VID_GRAB			
01/07/01 20:37:43.00	492870.3	5310860.94	2211.863	8.9	276.167	Temp is going up			
01/07/01 20:37:57.00	492870.3	5310860.94	2211.87	30	276.39		Temp Anom		
01/07/01 20:39:48.00	492869.9	5310855.75	2207.947	3.2	224.309	Second anom. also had a transisoitor spike but could have			
						been since we landed on bottom			
01/07/01 20:44:56.00	492866	5310846.05	2199.698	11.2	297.029	We are heading up to the surface because of weather			
01/07/01 22:16:02.00	492754.4	5310402.75	1032.602	30	110.067	begin tively twist			
01/07/01 22:19:33.00	492779.4	5310404.81	1024.666	30	71.569	finish tively twist			
01/07/01 23:16:32.00	492681.9	5310636	270.678	30	340.165	VID_GRAB	killing biology		
01/07/01 23:16:36.00	492681.9	5310636	269.725	30	340.613	VID_GRAB			
01/07/01 23:17:04.00	492681.9	5310636	262.499	30	342.088	VID_GRAB			
01/07/01 23:17:18.00	492681.9	5310636	259.011	30	340.881	VID_GRAB			
01/07/01 23:17:51.00	492681.9	5310636	250.938	30	342.671	VID_GRAB			
01/07/01 23:22:33.00	492681.9	5310636	181.302	30	329.294	I don't know if it's a good or bad omen, but Susan is messing			
						with the bear.			
01/07/01 23:31:44.00	492681.9	5310636	48.876	30	310.86	50m			
01/07/01 23:34:58.00	492681.9	5310636	7.092	30	342.662	medea at surface			
01/07/01 23:35:47.00	492681.9	5310636	-0.729	30	340.997	medea on deck			
01/07/01 23:40:34.00	492681.9	5310636	-0.977	30	10.561	Jason lifting to surface			
01/07/01 23:41:55.00	492681.9	5310636	-0.455	30	253.756	cut power to Jason			
01/07/01 23:42:34.00	492681.9	5310636	-0.455	30	253.756	Jason on deck			
01/07/01 23:42:47.00	492681.9	5310636	-0.455	30	253.756	end of JAS310			

Date & Time	UTM (X)	UTM (Y)	Depth (m)	Alt. (m)	Heading	Event				
01/07/02 04:50:59.00	492681.9	5310636	-4.432	30	336.32	power on on Jason for dive 311				
01/07/02 04:55:13.00	492681.9	5310636	-4.885	30	308.313	Jason off deck				
01/07/02 04:56:40.00	492681.9	5310636	-4.944	26.1	77.083	Jason in the water				
01/07/02 04:57:07.00	492681.9	5310636	-3.881	30	76.916	DIVE 311				
01/07/02 05:00:13.00	495911.3	5307540	24.051	30	80.902	started V's tape 23- dive 311 descent				
01/07/02 05:03:39.00	494088.3	5312438	85.06	30	81.973	CTD file 311001				
01/07/02 06:32:28.00	493668.2	5312171	2111.135	8.3	167.572	dropping down on CTD anomaly for exploration				
01/07/02 06:32:49.00	493666.2	5312171	2113.138	5.9	152.987	Exploration				
01/07/02 06:33:28.00	493668.1	5312159	2113.417	5.5	146.873	Exploration	Substrate	Sheet flow		
01/07/02 06:39:54.00	493689	5312172	2112.941	4.5	104.317	Exploration	VID_GRAB			
01/07/02 06:43:53.00	493684.4	5312187	2116.171	3.3	66.274	Exploration	VID_GRAB			
01/07/02 06:47:55.00	493720.8	5312203	2113.716	3.9	130.455	Exploration	Traveled east of line 16 and found nothing so we are going to move north on line 16			
01/07/02 06:54:35.00	493722.1	5312217	2115.297	2.7	65.067	Exploration	VID_GRAB			
01/07/02 06:56:03.00	493722.1	5312217	2116.074	2.5	238.308	Exploration	VID_GRAB			
01/07/02 06:56:13.00	493722.1	5312217	2116.004	1.7	237.883	Exploration	crustal verosity			
01/07/02 06:56:22.00	493722.1	5312217	2116.288	1.7	238.67	Exploration	VID_GRAB			
01/07/02 06:56:51.00	493722.1	5312217	2116.632	1.6	336.603	Exploration	VID_GRAB			
01/07/02 06:58:55.00	493698.8	5312233	2116.512	1.6	350.394	Exploration	VID_GRAB			
01/07/02 07:09:49.00	493715.5	5312271	2114.283	2.7	79.552	Exploration	VID_GRAB			
01/07/02 07:12:16.00	493705.6	5312281	2122.298	1.6	227.531	Exploration	VID_GRAB			
01/07/02 07:12:44.00	493691.3	5312279	2122.387	2.7	317.667	Exploration	VID_GRAB			
01/07/02 07:12:58.00	493688.2	5312279	2122.108	2.6	288.927	Exploration	VID_GRAB			
01/07/02 07:14:13.00	493688.1	5312284	2121.19	1.4	45.551	Exploration	VID_GRAB			
01/07/02 07:14:46.00	493696.4	5312291	2120.922	4.6	55.89	Exploration	VID_GRAB			
01/07/02 07:14:49.00	493696.4	5312291	2120.916	4	56.759	Exploration	VID_GRAB			
01/07/02 07:14:53.00	493696.4	5312291	2120.965	4.1	56.309	Exploration	VID_GRAB			
01/07/02 07:19:35.00	493711.9	5312312	2119.872	1.4	335.869	Exploration	VID_GRAB			
01/07/02 07:20:46.00	493713.3	5312314	2118.965	1.7	40.936	Exploration	VID_GRAB			
01/07/02 07:29:43.00	493740	5312350	2116.856	2.9	83.015	Exploration	lots of pillow and sheeted basalts			
01/07/02 07:49:03.00	493756.4	5312437	2117.687	2.8	265.722	Exploration	VID_GRAB			
01/07/02 07:53:13.00	493723.7	5312463	2129.02	1.4	302.715	Exploration	VID_GRAB			
01/07/02 07:57:09.00	493729.3	5312481	2126.31	1.7	21.541	Exploration	VID_GRAB			
01/07/02 07:57:17.00	493729.3	5312481	2125.825	1.8	20.617	Exploration	VID_GRAB			
01/07/02 07:57:21.00	493729.3	5312481	2126.038	1.7	19.42	Exploration	VID_GRAB			
01/07/02 07:57:28.00	493726.1	5312485	2126.361	1.6	19.683	Exploration	VID_GRAB			

Date & Time	UTM (X)	UTM (Y)	Depth (m)	Alt. (m)	Heading		Event				
01/07/02 07:57:49.00	493728.6	5312486	2125.785	1.6	21.599	Exploration	VID_GRAB				
01/07/02 07:58:07.00	493731.1	5312487	2123.986	2.7	11.327	Exploration	VID_GRAB				
01/07/02 07:58:11.00	493731.1	5312487	2124	2.6	10.171	Exploration	VID_GRAB				
01/07/02 07:58:24.00	493731.1	5312487	2122.698	3.4	0.069	Exploration	VID_GRAB				
01/07/02 07:59:46.00	493726.1	5312498	2123.076	3.3	8.17	Exploration	VID_GRAB				
01/07/02 07:59:57.00	493726.1	5312498	2123.103	3.3	8.202	Exploration	VID_GRAB				
01/07/02 08:01:15.00	493729.1	5312500	2121.981	2.3	46.286	Exploration	VID_GRAB				
01/07/02 08:01:18.00	493729.1	5312500	2121.868	1.7	44.762	Exploration	VID_GRAB				
01/07/02 08:04:37.00	493740.8	5312530	2123.474	5.3	354.719	Exploration	VID_GRAB				
01/07/02 08:15:42.00	493782.2	5312577	2124.546	3.1	38.542	Exploration	VID_GRAB				
01/07/02 08:16:56.00	493805.5	5312587	2124.406	1.6	106.874	Exploration	VID_GRAB				
01/07/02 08:16:59.00	493805.5	5312587	2124.429	1.6	105.943	Exploration	VID_GRAB				
01/07/02 08:17:01.00	493805.5	5312587	2124.394	1.5	102.442	Exploration	VID_GRAB				
01/07/02 08:23:14.00	493817.3	5312580	2104.456	2.9	52.292	Exploration	VID_GRAB				
01/07/02 08:25:04.00	493853.8	5312581	2102.506	1.7	341.933	Exploration	VID_GRAB				
01/07/02 08:25:27.00	493853.8	5312581	2102.711	1.1	303.959	Exploration	sheeted basalt				
01/07/02 08:35:32.00	493852.9	5312621	2049.232	30	82.271	Exploration	We are now moving to High Rise because nothing was found at the Anom. sights				
01/07/02 09:23:04.00	493326.6	5312712	2155.565	5.8	285.518	Exploration	VID_GRAB				
01/07/02 09:24:04.00	493324.9	5312714	2158.833	5.6	331.259	Exploration	VID_GRAB				
01/07/02 09:24:22.00	493320.2	5312711	2158.463	5.8	342.403	Exploration	VID_GRAB				
01/07/02 09:26:13.00	493317.9	5312710	2158.909	5.8	33.175	Exploration	VID_GRAB				
01/07/02 09:26:54.00	493314.8	5312711	2160.624	2.5	29.492	Exploration	VID_GRAB				
01/07/02 09:26:58.00	493314.8	5312711	2160.702	2.5	19.9	Exploration	VID_GRAB				
01/07/02 09:27:15.00	493319	5312712	2161.121	1.6	20.947	Exploration	VID_GRAB				
01/07/02 09:27:21.00	493319	5312712	2161.11	3.3	19.194	Exploration	VID_GRAB				
01/07/02 09:28:49.00	493317.4	5312711	2161.307	2	27.013	Exploration	VID_GRAB				
01/07/02 09:28:57.00	493317.4	5312711	2161.193	2.1	21.607	Exploration	VID_GRAB				
01/07/02 09:29:06.00	493316.7	5312712	2161.05	2.3	21.621	Exploration	VID_GRAB				
01/07/02 09:29:17.00	493316.7	5312712	2161.023	2.3	21.501	Exploration	VID_GRAB				
01/07/02 09:29:23.00	493316.7	5312712	2161.067	2.2	21.352	Exploration	VID_GRAB				
01/07/02 09:31:45.00	493319.8	5312711	2159.518	3.8	13.648	Exploration	VID_GRAB				
01/07/02 09:33:18.00	493308.3	5312708	2158.826	5.9	71.375	Exploration	VID_GRAB				
01/07/02 09:34:10.00	493316	5312714	2159.179	5.6	94.794	Exploration	VID_GRAB				
01/07/02 09:34:55.00	493312.8	5312715	2159.306	5.5	71.917	Exploration	VID_GRAB				
01/07/02 09:34:59.00	493312.8	5312715	2159.651	5.2	75.551	Exploration	VID_GRAB				

Date & Time	UTM (X)	UTM (Y)	Depth (m)	Alt. (m)	Heading		Event				
01/07/02 09:35:03.00	493312.8	5312715	2160.222	4.6	75.033	Exploration	VID_GRAB				
01/07/02 09:35:08.00	493313.7	5312717	2160.297	4.3	71.042	Exploration	VID_GRAB				
01/07/02 09:35:30.00	493313.8	5312718	2160.599	3	76.402	Exploration	VID_GRAB				
01/07/02 09:35:44.00	493313.8	5312718	2161.052	2.6	76.689	Exploration					
01/07/02 09:40:51.00	493314.4	5312718	2161.029	3.2	101.094	Exploration	taking temp probe				
01/07/02 09:41:06.00	493312.1	5312716	2161.402	2.3	100.874	Exploration	VID_GRAB				
01/07/02 09:43:09.00	493316.8	5312718	2161.545	2.1	92.306	Exploration	VID_GRAB				
01/07/02 09:43:14.00	493316.8	5312718	2161.558	2.1	92.51	Exploration	VID_GRAB				
01/07/02 09:44:08.00	493309.2	5312715	2161.497	2.1	92.105	Exploration	VID_GRAB				
01/07/02 09:45:14.00	493308.5	5312717	2161.461	2.2	91.115	Exploration	VID_GRAB				
01/07/02 09:45:19.00	493308.5	5312717	2161.474	2.2	91.188	Exploration	VID_GRAB				
01/07/02 09:46:02.00	493328.7	5312722	2161.581	2	92.09	Exploration	High was 67.6 and low was 2.5				
01/07/02 09:46:16.00	493320.1	5312719	2161.492	2.1	92.048	Exploration	taking double major sample				
01/07/02 09:46:29.00	493301.1	5312718	2161.532	2.1	91.68	Exploration	water sampling				
01/07/02 09:46:46.00	493297.1	5312717	2161.537	1.5	91.428	Exploration	VID_GRAB				
01/07/02 09:48:03.00	493306.5	5312715	2161.517	2.1	91.395	Exploration	VID_GRAB				
01/07/02 09:48:06.00	493293.1	5312720	2161.496	2.1	91.341	Exploration	VID_GRAB				
01/07/02 09:48:35.00	493317.5	5312717	2161.448	2.2	91.297	Exploration	VID_GRAB				
01/07/02 09:48:39.00	493317.5	5312717	2161.448	2.2	91.308	Exploration	VID_GRAB				
01/07/02 09:48:48.00	493317.5	5312717	2161.5	2.1	91.369	Exploration	VID_GRAB				
01/07/02 09:48:58.00	493317.5	5312717	2161.434	2.2	91.493	Exploration	VID_GRAB				
01/07/02 09:49:04.00	493317.5	5312717	2161.407	2.2	91.518	Exploration	VID_GRAB				
01/07/02 09:49:08.00	493307.9	5312717	2161.432	2.2	91.395	Exploration	VID_GRAB				
01/07/02 09:49:25.00	493307.9	5312717	2161.471	2.1	91.123	Exploration	VID_GRAB				
01/07/02 09:50:31.00	493311.6	5312718	2161.489	2.1	91.144	Exploration	VID_GRAE	water sampling			
01/07/02 09:51:19.00	493317.1	5312718	2161.443	2.1	91.702	Exploration	VID_GRAB				
01/07/02 09:52:45.00	493300.4	5312719	2161.478	2.1	90.914	Exploration	water sampling done and now moving onto getting a				
							biology grab				
01/07/02 09:52:50.00	493300.4	5312719	2161.505	2.1	90.856	Exploration	VID_GRAB				
01/07/02 09:53:42.00	493306.2	5312715	2161.571	2	90.94	Exploration	VID_GRAB				
01/07/02 09:55:57.00	493311.1	5312717	2161.393	2	65.658	Exploration	VID_GRAB				
01/07/02 09:56:01.00	493311.1	5312717	2161.385	2	65.469	Exploration	VID_GRAB				
01/07/02 09:56:38.00	493314.4	5312717	2161.405	2	66.238	Exploration	VID_GRAB				
01/07/02 09:56:56.00	493297	5312719	2161.425	2	66.665	Exploration	VID_GRAB				
01/07/02 09:57:03.00	493297	5312719	2161.445	2	66.756	Exploration	VID_GRAB				
01/07/02 09:57:15.00	493314.8	5312719	2161.425	2	66.543	Exploration	VID_GRAB				

Date & Time	UTM (X)	UTM (Y)	Depth (m)	Alt. (m)	Heading		Event				
01/07/02 09:57:19.00	493314.8	5312719	2161.418	2	66.309	Exploration	VID_GRAB				
01/07/02 09:57:35.00	493309.7	5312718	2161.438	1.9	66.9	Exploration	VID_GRAB				
01/07/02 09:58:18.00	493309.7	5312718	2161.389	2	66.485	Exploration	Grab is in the bio box				
01/07/02 09:58:28.00	493310.6	5312718	2161.383	2	65.861	Exploration	Getting more of the same sample				
01/07/02 09:58:33.00	493310.6	5312718	2161.373	1.9	66.813	Exploration	VID_GRAB				
01/07/02 09:59:38.00	493315.1	5312717	2161.359	2	65.78	Exploration	VID_GRAB				
01/07/02 10:00:06.00	493315.1	5312717	2161.364	2	65.87	Exploration	VID_GRAB				
01/07/02 10:01:03.00	493311.5	5312719	2161.378	1.9	65.787	Exploration	VID_GRAB				
01/07/02 10:06:59.00	493315.3	5312717	2161.368	2	67.235	Exploration	VID_GRAB				
01/07/02 10:09:24.00	493310	5312712	2166.54	30	65.148	Exploration	Doing a 10 min ADCP entrainment stop				
01/07/02 10:16:34.00	493312.7	5312713	2166.558	30	66.154	Exploration	VID_GRAB				
01/07/02 10:16:41.00	493312.7	5312713	2166.582	30	66.374	Exploration	VID_GRAB				
01/07/02 10:18:40.00	493310.8	5312712	2163.527	3	72.364	Exploration	Done with the ADCP stop				
01/07/02 10:18:54.00	493310.8	5312712	2158.74	7.8	36.267	Exploration	We are now off the bottom for good				
01/07/02 10:19:13.00	493310.8	5312712	2155.682	11.7	278.81	Exploration	We are heading to the surface				
01/07/02 11:58:53.00	493509.5	5311542	14.382	30	0.422	15 m from surface					
01/07/02 11:59:23.00	493482.1	5311502	6.553	30	6.705	VID_GRAB					
01/07/02 11:59:28.00	493507.2	5311495	5.217	30	6.579	VID_GRAB					
01/07/02 12:00:34.00	493480	5311493	-1.942	30	6.401	Medea out of the water					
01/07/02 12:01:25.00	493480	5311493	-1.505	30	12.156	Medea on Deck					
01/07/02 12:02:43.00	493480	5311493	-0.766	30	22.71	Jason killed forward lights					
01/07/02 12:06:29.00	493480	5311493	0.316	30	357.921	Jason out of the water					
01/07/02 12:08:39.00	493480	5311493	0.404	30	242.598	Jason on deck					
01/07/02 12:08:46.00	493480	5311493	0.404	30	242.598	End dive 311					