

### Pump Cast: Station 21 Deep Cast

Pump ID	Flow S/N	Prev. End	Start (l)	End (l)	Calc. Diff
1	19008653	47894.7	47894.7	48916.6	1021.9
	21973472	9051.4	9051.4	9389.2	337.8
	19008655	72096.4	72096.4	73460.4	1364.0
2	19008629	85608.4	85608.5	86235.0	626.5
	19008630	35262.1	35262.2	36056.2	794.0
	19008631	120459.5	120459.6	122139.3	1679.7
3	19008656	102419.8	102419.8	103459.7	1039.9
	19008657	50271.0	50271.0	50635.9	364.9
	19008658	161009.4	161009.5	162405.8	1396.3
4	19008638	52484.8	52484.7	53547.5	1062.8
	19008639	35940.6	35940.7	36414.6	473.9
	19008640	89697.0	89697.0	91246.5	1549.5
5	20007741	67257.0	67257.0	68408.8	1151.8
	20007742	49326.9	49327.0	49762.3	435.3
	20007743	117649.2	117649.3	119231.4	1582.1
6	20008125	40483.5	40483.5	41681.3	1197.8
n	20008126	37007.0	37007.0	37443.8	436.8
	20008127	78632.1	78632.1	80266.4	1634.3
7	20007747	45679.0	45679.0	46679.7	1000.7
	20007748	20314.4	20314.4	20667.0	352.6
	20007749	74064.2	74064.3	75420.9	1356.6
8	20007744	50766.2	50766.1	51964.0	1197.9
	20007745	27174.6	27174.7	27601.9	427.2
	20007746	86113.2	86113.3	87738.0	1624.7
9					
10					
11					
12					

Dates Y/M/D and times in local time (and GMT)

GMT=LCL+ 7  

Date 2013/11/26

Event 4279

Station 21

Cast 7

Water depth 3264m

Delay duration 02:20:00

Pump duration 04:00:00

Trigger time 07:24 (14:24)

Pumps on 09:44 (16:44)

Pumps off 13:44 (20:44)

CTD/first pump in water 07:25 (14:25)

Last pump in water 08:51 (15:51)

Time at target depth 09:11 (16:11)

Water below pinger -10m.  
11:44 (sched)

Messenger drop 12:57 (actual) (19:57)

Recovery begins 13:48 (20:48)

All aboard 15:49 (22:49)

**Post deployment download information**

Pump ID	Nisk	Nom depth	GT#	Low (rest) voltage	Error msg	Vol pumped (l)
CTD		3250	NA			
1		3230	8879	26.7 (33.6)		1647
2		3000	8880	24.9 (31.3)	changed batt	1630
3		2600	8881	24.8 (32.1)	changed batt	1522
4		2450	8882	29.1 (34.4)		1647
5		2400	8883	28 (34)		1647
6		2300	8884	27.3 (34.1)		1647
7		2000	8885	23.6 (31.6)	changed batt	1459
8		750	8886	28 (34.7)		1647

**Notes**

Full station with HT signal at 2450m  
 MAPRs on Pump 8 and 4. DBs on Pump 2. Final payout: 3240m.

Lost steerage at ~10:45am local. Vectran damaged by keel chines as wire fouled under ship. After propulsion restored and wire leveled, retracted to 3229m to assess wire damage. Jacket and core heavily compromised. Sister/safety wire attached above and below damaged section and retracted. Pay not noted. Pumps retrieved on schedule starting at 13:48 local. Pump 2 with dipped blanks and "angel wings" (GT# 8880) lost sample platform, likely due to shear during wire drift. Pump OK, minus four sample holders and a few sheared fittings. CTD notably touched bottom, as sediment found in dive weights.