



Daily Operations Log

Fugro Robertson Inc.
LCT Gravity and Magnetics Division

job	Client	Survey Vessel	Survey Location	
26514	Shell/Univ. of Texas	USCGC Healy	Chukchi and Canada Basins	
Date	Julian Day	Technician (1)	Technician (2)	
July 17, 2006	198	Robert Shepherd		
Gravity Meter Model and Serial Number		Magnetometer Model and Serial Number		
Ultrasys/UNISON/LaCoste & Romberg S-71		N/A		

TIME(utc)	ENTRIES
00:00	Standing by in Barrow, Alaska.



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job	Client	Survey Vessel	Survey Location	
26514	Shell/Univ. of Texas	USCGC Healy	Chukchi and Canada Basins	
Date		Julian Day	Technician (1)	Technician (2)
July 18, 2006		199	Robert Shepherd	
Gravity Meter Model and Serial Number			Magnetometer Model and Serial Number	
Ultrasys/UNISON/LaCoste & Romberg S-71			N/A	

TIME(utc)	ENTRIES
00:00	Standing by in Barrow, Alaska.
22:00	Shepherd's departs accommodations at the Ilisagvik College and is transported to the Barrow Search and Rescue hanger where helicopter operations to the vessel are due to commence.
< >	Standing by at the helicopter base. Shepherd is informed that his flight won't depart for several more hours.



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job	Client	Survey Vessel	Survey Location	
26514	Shell/Univ. of Texas	USCGC Healy	Chukchi Borderland/Mendelev Ridge	
Date	Julian Day	Technician (1)	Technician (2)	
July 19, 2006	200	Robert Shepherd		
Gravity Meter Model and Serial Number		Magnetometer Model and Serial Number		
Ultrasys/UNISON/LaCoste & Romberg S-71		N/A		

TIME(utc)	ENTRIES
00:00	Standing by in Barrow – helicopter departure to the vessel will be soon
02:45	Approximate time of departure from Barrow
03:00	Arrived on the USCGC Healy
	Gravimeter S-71 inspected and found to be properly heating.
	Due to the heavy ice conditions, personnel transfers and other research equipment issues, seismic acquisition won't begin for several more days.
23:00	Safety/Informational meeting.
	Vessel Phone# 808-434-4897



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26514	Shell/Univ. of Texas	USCGC Healy	Chukchi Borderland/Mendeleev Ridge	
Date	Julian Day	Technician (1)	Technician (2)	
July 20, 2006	201	Robert Shepherd		
Gravity Meter Model and Serial Number		Magnetometer Model and Serial Number		
Ultrasys/UNISON/LaCoste & Romberg S-71		N/A		

TIME(utc)	ENTRIES
00:00	On board the USCGC Healy.
	Day spent locating gravity system boxes, building serial lines for navigation interfaces, organization of a workspace, discussing navigation options etc..
	Gravity system remains on standby throughout the day.
	(Slow going at the moment due to the amount of researchers/experiments on board and the high volume of technical requests to vessel personnel. Since the gravimeter won't be needed for several days, the system remains on standby while other researchers have their immediate needs addressed).
	Located a good collection of navigation and bathymetric data on the vessel's server. If no other nav source is available, manual downloads of primary and secondary navigations sources, as well depth data, will be possible.



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job	Client	Survey Vessel	Survey Location
26514	Shell/Univ. of Texas	USCGC Healy	Chukchi Borderland/Mendelev Ridge
Date	Julian Day	Technician (1)	Technician (2)
July 21, 2006	202	Robert Shepherd	
Gravity Meter Model and Serial Number		Magnetometer Model and Serial Number	
Ultrasys/UNISON/LaCoste & Romberg S-71		N/A	

TIME(utc)	ENTRIES
00:00	Standing by as we crash through thick ice. Vessel is making only 0.5 kts or so to the prospect area.
03:00	Main engines are shut down and the Healy drifts with the ice towards the designated survey area.
07:30	Approximate time logging to Ultrasys <i>attempted</i> . (System later failed at 12:02 utc) Attempting to parse data from an ASHTECH ADU5 string of NMEA messages. Single data line run to our working location contains all necessary nav messages. However, limitations with the UNISON logging software prevent the ability of selecting individual NMEA messages, as well as the ability to parse these data sets for display on the UNISON screen and printout. UNISON logging also started, but the system also crashed at 10:00.
16:25	ULTRASYS and UNISON systems both discovered to have failed. UNISON stopped in the 10:00 hour. Displayed on the screen is a message indicating: <i>Exception Access Violation [OXC000005] Address 0x7717d4b1</i> ULTRASYS discovered to have locked up at 12:02. Gimble table found to be without torque motors. Beam Clamped and the system restarted. When ULTRASYS re-booted, the beam slew (blower) motor came on – it shouldn't. System shut down. Informed the office of the above incidents and asked to advise. In the meantime, the ULTRASYS Platform Control Box was swapped with its spare, which then solved the errant start-up of the beam motor. Swapped back to the original PCB after opening the box and inspecting for obvious damage. Same problem occurred. The ULTRASYS program indicated it had "timed-out" waiting for data from the platform control box, and then proceeded to self re-start the program. Swapped PCB boxes again. (PCB 0038 now in use) (PCB 38 382253 unstable)
21:41	ULTRASYS back on and logging valid data following Spring Tension syncs and time updates. Refer to vessel navigation files for nav/depth data at this time.
22:00	Helicopter/Aircraft safety meeting.
	Working on establishing a nav feed for UNISON and configuring the system.
	UNISON serial-7 box (s/n USNB 028) not responding to commands. Removed.
	Now using serial-7 box USNB027. All seems good at the moment.



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26514	Shell/Univ. of Texas	USCGC Healy	Chukchi Borderland/Mendeleev Ridge
Date	Julian Day	Technician (1)	Technician (2)
July 22, 2006	203	Robert Shepherd	
Gravity Meter Model and Serial Number		Magnetometer Model and Serial Number	
Ultrasys/UNISON/LaCoste & Romberg S-71		N/A	

TIME(utc)	ENTRIES
00:00	Vessel drifting with ice. ULTRASYS logging data, although the time is currently incorrect. Spring tension is also incorrect.
00:08	ULTRASYS time properly sync'd
00:15	ULTRASYS Spring Tension sync'd
00:16	Spring Tension on – system values settling
03:15	UNISON logging stopped to build an instrument for a navigation string. Via the vessel's network, NOAA data software and a 4-port RS-232 network conversion box, the single ASHTECH ADU5 GGA string is now available on the UNISON serial port 2.
05:43	UNISON logging begins
17:46	Spring Tension updated –0.1 units from 13915.0 to a new value of 13914.9.
23:00	Helicopter Safety briefing/tour of the aircraft.
23:45	Daily Checks – Sensor pressure at this point is 29.13"
< >	Note that valid gravity data begins at apx 01:00 today (ULTRASYS and vessel navigation only). UNISON begins uninterrupted at 05:43.



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job	Client	Survey Vessel	Survey Location
26514	Shell/Univ. of Texas	USCGC Healy	Chukchi Borderland/Mendelev Ridge
Date	Julian Day	Technician (1)	Technician (2)
July 24, 2006	205	Robert Shepherd	
Gravity Meter Model and Serial Number		Magnetometer Model and Serial Number	
Ultrasys/UNISON/LaCoste & Romberg S-71		N/A	

TIME(utc)	ENTRIES
00:00	Standing by as we transit through the ice. Vessel is staying near Barrow, AK to conduct helo operations to shore in the next few days.
00:32	Spring Tension OFF to adjust sync. Spring Tension slewed several units up/down to find a sensor counter location that is easily viewed in order to accurately sync the Ultrasys digital spring tension value.
00:41	Spring tension updated +2.8 units from 13921.24 to a new value of 13924.0
00:44	Spring Tension ON.
02:55	UNISON logging stopped. Adding a bathymetric instrument to the serial data. SeaBeam Center Beam data string is now recorded by the UNISON. String includes date, position, time and depth values.
03:20	Approximate time UNISON logging resumed.
07:08	UNISON logging stopped to gather data for weekly report
07:10	UNISON logging resumed
07:14	Spring Tension OFF Spring tension updated +1.0 cu from 13908.4 to a new value of 13909.4
07:15	Spring Tension ON
19:57	Spring Tension OFF, Beam Clamped, Torque motors off Adjusting stepper motor frame in an attempt to improve SPT sync. Spring Tension updated -0.7 cU from 13917.7 to a new value of 13917.0
20:07	Torque Motors back on, Beam unclamped a few minutes late Spring Tension on
< >	Deployment tests of an air gun frame and a 300m streamer occur today. Helicopter flights to ice flows to test remote seismic acquisition systems. Helo flight to Barrow to retrieve some seismic source parts.



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job	Client	Survey Vessel	Survey Location	
26514	Shell/Univ. of Texas	USCGC Healy	Chukchi Borderland/Mendeleev Ridge	
Date	Julian Day	Technician (1)	Technician (2)	
July 25, 2006	206	Robert Shepherd		
Gravity Meter Model and Serial Number		Magnetometer Model and Serial Number		
Ultrasys/UNISON/LaCoste & Romberg S-71		N/A		

TIME(utc)	ENTRIES
00:00	Vessel remains close to Barrow to accommodate personnel and equipment transfers via helicopter flights.
	Seismic gun 'cage' work continues as the ship stands by in relatively open water.
18:36	Spring Tension OFF Spring Tension slewed -0.4 units to a counter value of 13923.0 (Spring tension counter slewed this amount to enable a better reference point for syn'c the Ultrasys digital value) Spring Tension updated -0.7 cU from 13923.7 to a new digital value 13923.0
18:42	Ultrasys time updated Spring Tension back on
18:43	UNISON computer stopped. Re-booted in an attempt to solve some printer quality issues. Earlier today the system's printer was swapped with its spare. Printout 'quality' has improved, but portions of traces are often dropped from the hard copy. Screen display looks OK - errors appear only on the printout.
18:44	UNISON briefly on - then back off to change the time interval on the screen display. Changed from a value of ten minutes between time marks to a new value of 5 minutes between marks.
18:57	UNISON is logging again.



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26514	Shell/Univ. of Texas	USCGC Healy	Chukchi Borderland/Mendeleev Ridge
Date	Julian Day	Technician (1)	Technician (2)
July 26, 2006	207	Robert Shepherd	
Gravity Meter Model and Serial Number		Magnetometer Model and Serial Number	
Ultrasys/UNISON/LaCoste & Romberg S-71		N/A	

TIME(utc)	ENTRIES
00:00	Vessel circling in open water while the air gun array is assembled Ship is staying within chopper range to accommodate personnel transfers
02:00	Test firing of air guns commences. Stopped a few minutes later after a successful test of 4 guns.
04:33	UNISON briefly off to try another chart time interval.
05:30	Helicopter operations complete, final person is transferred to Barrow. Vessel begins the transit toward the survey area.
06:25	UNISON off again. No luck in trying different chart time intervals to restore a proper printout.
06:33	Power strip switch in the Ultrasys/UNISON computer box bumped OFF while installing a new printer cable. Both systems down.
06:39	Ultrasys on – values settling in, UNISON also back on (An hour or so later the printout was inspected – Woo Hoo! Printout is now properly working. New printer cable (or possibly reseating the cable) solved the errors).
18:35	Spring Tension OFF to check sync. Counter slewed -0.3 units to aid in setting digital value Spring Tension updated $+0.3$ units from 13970.7 to a new value of 13971.0
18:41	Ultrasys time updated apx. $+ 2$ seconds Following this time update and turning on the Spring Tension, the gimble table dumps. Ultrasys shut down, beam clamped.
18:48	Ultrasys back on.
18:49	Spring Tension off, slewed to a value of 13971.0 (value prior to dump)
18:52	Time re-sync'd
18:53	Spring tension slewed -0.2 to place counter in a convenient spot for synchronizing the digital Ultrasys value. Spring Tension updated $+0.2$ units from 13970.8 to a new value of 13971.0
18:55	Spring Tension ON, values stabilizing
22:26	Spring Tension OFF. SPT slewed a net of -0.8 to place counter in a convenient spot for synchronizing the digital Ultrasys value Spring Tension updated $+1.3$ from 13942.7 to a new value of 13944.0
22:32	Spring Tension on.
< >	Majority of the day spent breaking thick ice. Gravimeter accelerometers traces are huge due to the rapid course changes and collisions with ice flows.



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job	Client	Survey Vessel	Survey Location
26514	Shell/Univ. of Texas	USCGC Healy	Chukchi Borderland/Mendeleev Ridge
Date	Julian Day	Technician (1)	Technician (2)
July 27, 2006	208	Robert Shepherd	
Gravity Meter Model and Serial Number		Magnetometer Model and Serial Number	
Ultrasys/UNISON/LaCoste & Romberg S-71		N/A	

TIME(utc)	ENTRIES
00:00	Vessel breaking ice in transit to survey area.
	Work continues on air gun 'cage'
07:00	Polar bears spotted about a mile off the port beam.
08:33	Spring Tension OFF
	Spring Tension updated +4.1 units from 13987.4 to a new value of 13991.5
08:35	Spring Tension ON
18:01	Spring Tension OFF
	Slewed a total of 0.8 units to place counter in a convenient place to sync with the Ultrasys
	Spring Tension updated -0.6 units from 14062.6 to a new value of 14062.0
18:05	Spring Tension ON



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26514	Shell/Univ. of Texas	USCGC Healy	Chukchi Borderland/Mendeleev Ridge
Date	Julian Day	Technician (1)	Technician (2)
July 28, 2006	209	Robert Shepherd	
Gravity Meter Model and Serial Number		Magnetometer Model and Serial Number	
Ultrasys/UNISON/LaCoste & Romberg S-71		N/A	

TIME(utc)	ENTRIES
00:00	Vessel nears the first proposed survey line.
	Gun cage assembly continues.
02:09	Spring Tension OFF
	Spring Tension updated +2.7 units from 14102.9 to a new value of 14105.6
02:45	Apx. time Ultrasys, Unison logging stopped. Ultrasys system shut down and on auxiliary heat. Replacing Stepper Motor in an effort to improve SPT sync.
03:35	Ultrasys ON
03:36	Spring Tension OFF
	Spring Tension updated +0.9 units from 14109.2 to a new value of 14110.1
03:41	Ultrasys time updated
	Spring Tension ON
03:51	Spring Tension OFF
	Spring Tension updated +24.1 units from 14063.8 to a new value of 14087.9
	Stepper motor gears slightly moved away from the Spring Tension gears in order to improve sync.
03:53	Spring Tension ON
06:33	UNISON ON
18:08	Spring Tension OFF – Sync OK!! Yeah!
18:23	Spring Tension ON



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26514	Shell/Univ. of Texas	USCGC Healy	Chukchi Borderland/Mendeleev Ridge	
Date	Julian Day	Technician (1)	Technician (2)	
July 29, 2006	210	Robert Shepherd		
Gravity Meter Model and Serial Number		Magnetometer Model and Serial Number		
Ultrasys/UNISON/LaCoste & Romberg S-71		N/A		

TIME(utc)	ENTRIES
00:00	Sailing near first proposed experiment, however due to poor ice, the anisotropy phase of the survey will be abandoned.
	Vessel will attempt a core sample later today.
	Gun array assembly continues.
07:10	Vessel stops to perform core sample
	Slight course, position changes, but gravity data is stable at this time.
13:54	Core sample complete, vessel underway to the start of first seismic line.



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job	Client	Survey Vessel	Survey Location
26514	Shell/Univ. of Texas	USCGC Healy	Chukchi Borderland/Mendeleev Ridge
Date	Julian Day	Technician (1)	Technician (2)
August 1, 2006	213	Robert Shepherd	
Gravity Meter Model and Serial Number		Magnetometer Model and Serial Number	
Ultrasys/UNISON/LaCoste & Romberg S-71		N/A	

TIME(utc)	ENTRIES
00:00	Core sample in progress. Vessel is still and stable
04:05	Core sample complete. Vessel transits to start of next seismic line.
21:25	Gun array cage and streamer deployment
< >	Gun cage is catching ice and is unstable. Only a few shots were fired before shooting was aborted.
< >	The 300 meter streamer, which runs over the top of the gun cage, was damaged during today's deployment. 2 streamers remain.



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26514	Shell/Univ. of Texas	USCGC Healy	Chukchi Borderland/Mendeleev Ridge
Date	Julian Day	Technician (1)	Technician (2)
August 2, 2006	214	Robert Shepherd	
Gravity Meter Model and Serial Number		Magnetometer Model and Serial Number	
Ultrasys/UNISON/LaCoste & Romberg S-71		N/A	

TIME(utc)	ENTRIES
00:00	Vessel is stationary. Gun array cage retrieval in progress.
00:20	Gun array cage on deck. Transit to far eastern end of proposed line.
03:45	Vessel stopped for another core sample and core equipment maintenance.
16:45	Coring work/additional samples finished. Vessel underway. Task at hand is locating a missing seismometer placed on an ice flow several days ago.
< >	Day spent in search of seismometer while repairs to the gun cage were performed.



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job	Client	Survey Vessel	Survey Location
26514	Shell/Univ. of Texas	USCGC Healy	Chukchi Borderland/Mendelev Ridge
Date	Julian Day	Technician (1)	Technician (2)
August 3, 2006	215	Robert Shepherd	
Gravity Meter Model and Serial Number		Magnetometer Model and Serial Number	
Ultrasys/UNISON/LaCoste & Romberg S-71		N/A	

TIME(utc)	ENTRIES
00:00	Standing by while gun array cage repairs are performed. Searching for missing seismometer.
09:30	Gun array cage is in the water. Streamer is not deployed. Seismic data to be recorded by the remote seismometers placed on the ice.
09:53	Shooting Begins. Fugro-Robertson (FRI) Seq=001 HDG=apx. 295° (varies as flows are encountered) Sea=Calm (ice) SOL Position=150.914396° W 76.755093° N Water Depth=3836 m Due to ice coverage and technical issues, survey plan has been greatly modified. Client (Univ of Texas) line designation not known at this time. Shot points are based on time. Not all shots fired due to the gun array cage rising to the surface due to ice. As line progressed, guns were slowly brought out of service primarily due to air leaks. Apparently we can continue as long as 4 out of 8 air guns are firing.
22:20	Shooting Stopped. EOL Position=152.824696° W 76.890645° N Water Depth=3843.4 Approximately 55 km of sail line gravity data acquired. (Based on distances roughly following the vessel's track).
< >	Gun array cage hoisted out of the water due to heavy ice. Upon inspection, one gun is missing and another has fallen off one of two mounts to the frame. Failed weld is the culprit. Standing by as repairs are performed.



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26514	Shell/Univ. of Texas	USCGC Healy	Chukchi Borderland/Mendelev Ridge	
Date		Julian Day	Technician (1)	Technician (2)
August 5, 2006		217	Robert Shepherd	
Gravity Meter Model and Serial Number			Magnetometer Model and Serial Number	
Ultrasys/UNISON/LaCoste & Romberg S-71			N/A	

TIME(utc)	ENTRIES
00:00	Vessel at rest. Waiting for helo to return from seismometer retrieval.
	Core sampling complete.
	Seismic operations suspended until gun array cage is repaired.
01:10	Vessel underway to retrieve other seismometer stations
22:45	Vessel at rest – performing a drift test prior to a Benthos core sample.
< >	Today was spent retrieving seismometer stations, coring and acquiring gravity, sub-bottom and multibeam data while transiting across the Chukchi Cap.
	All seismometer stations recovered from the ice.



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26514	Shell/Univ. of Texas	USCGC Healy	Chukchi Borderland/Mendeleev Ridge
Date	Julian Day	Technician (1)	Technician (2)
August 6, 2006	218	Robert Shepherd	
Gravity Meter Model and Serial Number		Magnetometer Model and Serial Number	
Ultrasys/UNISON/LaCoste & Romberg S-71		N/A	

TIME(utc)	ENTRIES
00:00	Vessel at rest/slightly drifting as a core sample is prepared.
01:17	Spring Tension OFF
	Spring Tension updated -0.2 units from 14207.7 to a new value of 14207.5
01:19	Spring Tension ON
03:30	Vessel underway to another core site.
03:53	Vessel stops for another core
09:05	Core complete. Underway to the west to deploy seismometer ice stations.
15:00	USCGC <i>Polar Star</i> briefly rendezvous with the <i>Healy</i> .



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26514	Shell/Univ. of Texas	USCGC Healy	Chukchi Borderland/Mendelev Ridge
Date	Julian Day	Technician (1)	Technician (2)
August 7, 2006	219	Robert Shepherd	
Gravity Meter Model and Serial Number		Magnetometer Model and Serial Number	
Ultrasys/UNISON/LaCoste & Romberg S-71		N/A	

TIME(utc)	ENTRIES
00:00	Gun array maintenance in progress. Seismometer stations are being flown to various locations on the ice.
02:09	UNISON OFF. Obtaining data from ZIP disk for Weekly Report
02:31	Ultrasys time updated +1.5 seconds
02:32	UNISON ON.
09:27	Gun array cage in the water Guns begin the required mammal protection ramp-up and then full shooting commences. Note: Since there are no true "lines" to this survey, no Fugro-Robertson "line-logs" will be generated and the standard SOL/EOL format for the Daily Log will be modified. From this point forward, simply look for the "Gun array Cage in/out of the Water" entries for periods where the gravity data coincides with seismic refractive surveys. At all other times, unless noted in the Daily Logs, the UNISON system is continually logging gravity, NMEA GGA messages from the ASHTECH GPS system and SeaBeam 2100 depth data.
12:30	Approximate time Gun Array Cage Nearly backed over by the Healy. Shooting stops as cage is recovered.
14:56	Gun array Cage is back in the water Required ramp-up and then full source shooting begins
16:45	Cage briefly hoisted out of the water due to heavy ice.
16:55	Cage back in the water. Shooting resumes
18:30	Cage out of the water. Shooting stopped d/t winch remote control failure.
< >	Gun modifications/ Seismic Refraction Acquisition today Total Sail Line Km's of Gravity during transits and acquisition=Apx. 90 km



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26514	Shell/Univ. of Texas	USCGC Healy	Chukchi Borderland/Mendelev Ridge	
Date	Julian Day	Technician (1)	Technician (2)	
August 8, 2006	220	Robert Shepherd		
Gravity Meter Model and Serial Number		Magnetometer Model and Serial Number		
Ultrasys/UNISON/LaCoste & Romberg S-71		N/A		

TIME(utc)	ENTRIES
00:00	Gun array repairs underway
00:55	Gun array cage in the water. Air gun ramp-up (30 minutes), then seismic acquisition underway.
05:05	Gun array cage brought on deck for inspection. Shooting stopped
06:45	Underway to a core sample site.
09:11	Vessel stops – core sampling underway
11:15	Coring complete. Vessel begins a transit south to cross an earlier transit to acquire a gravity “tie” line. (A later transit north also crosses some transits).
17:55	Vessel stops – preparing to put the gun cage in the water.
19:35	Gun array cage is in the water. Air gun ramp-up (30 minutes), then refractive seismic acquisition underway.
23:59	Shooting stopped – heavy ice
	Acquisition/Transit Sail Lines with recorded Gravity=Apx. 124 km



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26514	Shell/Univ. of Texas	USCGC Healy	Chukchi Borderland/Mendeleev Ridge
Date	Julian Day	Technician (1)	Technician (2)
August 10, 2006	222	Robert Shepherd	
Gravity Meter Model and Serial Number		Magnetometer Model and Serial Number	
Ultrasys/UNISON/LaCoste & Romberg S-71		N/A	

TIME(utc)	ENTRIES
00:00	Gun array cage in the water. Refractive acquisition in progress.
03:00	Gun array cage hoisted out of the water.
	Array inspected and repaired as necessary.
04:00	Ship underway
04:20	Gun array cage back in the water.
04:32	Shooting resumes with the required ramp-up.
08:25	Shooting stops
08:40	Gun array cage on deck.
	Array inspected
09:48	Gun array cage in the water.
13:34	Shooting stopped
13:45	Gun array cage on deck.
	Array inspected
14:55	Gun array cage in the water.
15:00	Shooting resumes with required ramp-up
18:55	Shooting stopped
19:05	Gun array cage on deck,
19:30	Vessel underway
20:00	Helicopter operations to recover seismometer stations.
	Gravity Sail Line Data Recorded Today=Apx. 80 km



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26514	Shell/Univ. of Texas	USCGC Healy	Chukchi Borderland/Mendelev Ridge
Date	Julian Day	Technician (1)	Technician (2)
August 11, 2006	223	Robert Shepherd	
Gravity Meter Model and Serial Number		Magnetometer Model and Serial Number	
Ultrasys/UNISON/LaCoste & Romberg S-71		N/A	

TIME(utc)	ENTRIES
00:00	Helicopter operations underway to retrieve seismometer stations.
01:30	Helo operations complete. Moving from the Chukchi Cap to the Mendelev Ridge. for more refractive seismology.
19:12	Spring Tension OFF Spring Tension updated -0.3 units from 14224.3 to a new value of 14224.0
19:13	Spring Tension ON
21:00	Coast Guard Fire Drill – No Muster/Drill for the Scientists.
	Transit Gravity Data Acquired Today=Apx. 230 km



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26514	Shell/Univ. of Texas	USCGC Healy	Chukchi Borderland/Mendeleev Ridge	
Date	Julian Day	Technician (1)	Technician (2)	
August 13, 2006	225	Robert Shepherd		
Gravity Meter Model and Serial Number		Magnetometer Model and Serial Number		
Ultrasys/UNISON/LaCoste & Romberg S-71		N/A		

TIME(utc)	ENTRIES
00:00	Vessel stopped for a core sample
00:34	Ultrasys time updated apx. +2 seconds
01:28	UNISON logging OFF
	Changing trace display interval to 10 minute time marks
	Backup printer tests indicate the printer's print head is damaged.
01:29	UNISON ON
01:30	UNISON OFF again
	Start recording to Disk #2
01:34	UNISON ON
05:15	Coring complete – vessel underway to another core site.
05:55	UNISON OFF – archiving data from hard drive to create a backup copy of Disk 1
06:06	UNISON briefly ON – then OFF again. Wrong ZIP disk in drive
06:09	UNISON ON
21:50	Coring in progress
23:45	Moving to another core site
	Transit Sail Line Gravity Acquisition Today=Apx. 160 km



Daily Operations Log

Fugro Robertson Inc.
LCT Gravity and Magnetics Division

job	Client	Survey Vessel	Survey Location
26514	Shell/Univ. of Texas	USCGC Healy	Chukchi Borderland/Mendelev Ridge
Date	Julian Day	Technician (1)	Technician (2)
August 14, 2006	226	Robert Shepherd	
Gravity Meter Model and Serial Number		Magnetometer Model and Serial Number	
Ultrasys/UNISON/LaCoste & Romberg S-71		N/A	

TIME(utc)	ENTRIES
00:00	Vessel on core site.
02:14	Spring Tension updated -0.1 units from 14282.9 to a new value of 14282.8
02:35	Coring complete – vessel underway.
	Ship is investigating a nearby pockmark and other interesting features on the seafloor.
	Transiting to an area that is accommodating to seismometer deployment
11:40	Seismometer placements underway.
	Transit/Coring Sail Line Gravity Data Acquisition=Apx. 112 km



Fugro Robertson Inc.
LCT Gravity and Magnetics Division

Daily Operations Log

job	Client	Survey Vessel	Survey Location
26514	Shell/Univ. of Texas	USCGC Healy	Chukchi Borderland/Mendelev Ridge
Date	Julian Day	Technician (1)	Technician (2)
August 15, 2007	227	Robert Shepherd	
Gravity Meter Model and Serial Number		Magnetometer Model and Serial Number	
Ultrasys/UNISON/LaCoste & Romberg S-71		N/A	

TIME(utc)	ENTRIES
00:00	Flights underway to place seismometer stations out on the ice.
02:56	Spring Tension OFF
	Spring Tension updated +0.2 units from 14195.1 to a new value of 14196.1
02:58	Spring Tension ON
03:05	Spring Tension OFF
	Spring Tension updated -0.1 unit from 14205.7 to a new value of 14205.6
03:06	Spring Tension ON
07:41	Ship stopped – preparing to deploy Gun array cage.
08:15	Gun array cage in the water.
	Shooting begins after the required mammal protection ramp –up
09:45	Shooting stopped due to a seal sighting
	Gun's re-ramped shortly thereafter – shooting resumes
12:40	Gun array cage hoisted out of the water.
	Heavy ice prompts the lift as well as the 4 hour scheduled maintenance of the cage.
14:44	Gun array cage in the water.
	Shooting begins after the required mammal protection ramp –up
18:40	Gun array cage hoisted out of the water.
	Heavy ice/scheduled inspection.
21:15	Gun array cage in the water.
	Shooting begins after the required mammal protection ramp –up
	Total Transit/Seismic Acquisition Gravity Sail Line Data= Apx. 127 km



Fugro Robertson Inc.
LCT Gravity and Magnetics Division

Daily Operations Log

job	Client	Survey Vessel	Survey Location
26514	Shell/Univ. of Texas	USCGC Healy	Chukchi Borderland/Mendelev Ridge
Date	Julian Day	Technician (1)	Technician (2)
August 16, 2006	228	Robert Shepherd	
Gravity Meter Model and Serial Number		Magnetometer Model and Serial Number	
Ultrasys/UNISON/LaCoste & Romberg S-71		N/A	

TIME(utc)	ENTRIES
00:00	Currently acquiring Refractive Seismic Data
01:40	Shooting stopped
01:55	Gun array cage hoisted out of the water.
	Underway to a piston core site.
02:30	Ship stopped
03:10	Cable test
04:30	Core samples
04:55	Helo out looking for a missing seismometer
06:09	Spring Tension updated +0.1 units from 14207.3 to a new value of 14207.4
06:12	Ultrasys time updated +02 seconds
06:15	Ultrasys time updated apx. -01 seconds – Net of a +01 second update.
06:30	Coring complete – vessel underway
06:50	Vessel is sailing a 'triangular' set of waypoints while investigating an interesting depression or crater.
10:40	Gun array cage is in the water.
	Shooting resumes after the required mammal protection gun ramp-up
15:50	Shooting stops
16:00	Gun array cage hoisted out of the water.
16:10	Gun array cage in the water.
	Shooting resumes after the required mammal protection gun ramp-up
20:54	Gun array cage hoisted out of the water.
	Removed for inspection and maintenance.
22:03	Gun array cage in the water.
	Shooting resumes after the required mammal protection gun ramp-up
	Seismic acquisition/Multi-beam/core sample Gravity Sail Lines Today=apx. 96 km



Fugro Robertson Inc.
LCT Gravity and Magnetics Division

Daily Operations Log

job	Client	Survey Vessel	Survey Location
26514	Shell/Univ. of Texas	USCGC Healy	Chukchi Borderland/Mendelev Ridge
Date	Julian Day	Technician (1)	Technician (2)
August 17, 2006	229	Robert Shepherd	
Gravity Meter Model and Serial Number		Magnetometer Model and Serial Number	
Ultrasys/UNISON/LaCoste & Romberg S-71		N/A	

TIME(utc)	ENTRIES
00:00	Refractive seismology underway
00:55	Gun array cage hoisted out of the water.
	Inspection and maintenance.
02:04	Spring Tension updated +0.1 units from 14230.9 to a new value of 14231.0
03:05	Gun array cage in the water.
	Shooting begins after the mammal protection ramp-up.
08:15	Gun array cage hoisted out of the water.
	Inspection/repairs underway
08:45	Gun array cage in the water.
	Shooting begins after the required mammal protection ramp-up
11:36	Gun array cage hoisted out of the water.
12:20	Helicopter operations underway to retrieve seismometers. Seismic Refraction studies terminated.
< >	As the vessel transits south to retrieve seismometer stations, a track is made to acquire multibeam, sub-bottom and gravity data between recently sailed track lines. These lines parallel the ridge line of the Mendelev Ridge.
22:20	Helicopter operations finished – seismometers retrieved
22:35	Vessel heads a bit north to find ice for an ice liberty.
23:45	Vessel stopping for ice liberty.
	Refractive acquisition/Multibeam Gravity Sail Lines Today=Apx. 148 km



Fugro Robertson Inc.
LCT Gravity and Magnetics Division

Daily Operations Log

job	Client	Survey Vessel	Survey Location
26514	Shell/Univ. of Texas	USCGC Healy	Chukchi Borderland/Mendeleev Ridge
Date	Julian Day	Technician (1)	Technician (2)
August 18, 2006	230	Robert Shepherd	
Gravity Meter Model and Serial Number		Magnetometer Model and Serial Number	
Ultrasys/UNISON/LaCoste & Romberg S-71		N/A	

TIME(utc)	ENTRIES
00:00	Vessel at rest for ice liberty
02:45	Ice liberty over
02:54	Problems reported with two scuba divers in the water. Rescue efforts underway.
03:20	Vessel speeding towards Barrow for medivac of injured divers.
04:20	Crew and Scientists are briefed that the divers have died.
04:31	Vessel back on course to Barrow – uncertain how today's tragic events will affect the next scheduled week of surveying.
11:51	Found that the Ultrasys computer had malfunctioned at 10:47:40 utc. Following Message Displayed: Run Time Error M6111 and Floating Point Error: Stack Overflow
11:54	Ultrasys program re-booted
12:10	Gravity data stabilized and valid. (Apx 22 km of Data Loss)
< >	Information received today indicates that the science project has been terminated. Vessel schedule has been moved up 4 days with changes in potential port calls. Majority of the science crew will disembark on 8/22 at Nome. Gravimeter tech will stay on board for 4 more days until an arrival at Kodiak on 8/26. Vessel will depart Kodiak on 8/30 and will then arrive in Dutch Harbor on 9/1. Unclear at this point if the gravimeter equipment will be removed from the vessel in Kodiak or Dutch Harbour.
	Sail Line Gravity Today= Apx. 333 km



Daily Operations Log

Fugro Robertson Inc.
LCT Gravity and Magnetics Division

job	Client	Survey Vessel	Survey Location	
26514	Shell/Univ. of Texas	USCGC Healy	Chukchi and Canada Basins	
Date	Julian Day	Technician (1)	Technician (2)	
August 19, 2006	231	Robert Shepherd		
Gravity Meter Model and Serial Number		Magnetometer Model and Serial Number		
Ultrasys/UNISON/LaCoste & Romberg S-71		N/A		

TIME(utc)	ENTRIES
00:00	Transit towards Barrow.
	Sail Line with Gravity Acquisition= apx. 411 km



Fugro Robertson Inc.
LCT Gravity and Magnetics Division

Daily Operations Log

job	Client	Survey Vessel	Survey Location
26514	Shell/Univ. of Texas	USCGC Healy	Chukchi Borderland/Mendeleev Ridge
Date	Julian Day	Technician (1)	Technician (2)
August 20, 2006	232	Robert Shepherd	
Gravity Meter Model and Serial Number		Magnetometer Model and Serial Number	
Ultrasys/UNISON/LaCoste & Romberg S-71		N/A	

TIME(utc)	ENTRIES
00:00	Transit towards Barrow
05:12	No navigation data on vessel. Navigation recording stopped as system is re-configured for the next voyage.
	No SeaBeam data either.
05:49	Navigation data restored. SeaBeam data records taken from server.
	No SeaBeam data currently on UNISON records.
06:48	SeaBeam now recording to UNISON.
< >	Memorial service for the fallen crewmembers is held today before their bodies are helicoptered to shore.
< >	Case with a spare Ultrasys Platform Control Box arrives on board. The unit has been stored for the past three weeks at the BASC office in Barrow.
< >	After a helo transfer of personnel to and from the vessel, the <i>Healy</i> begins the voyage towards Nome where the majority of the science party will disembark.
	Gravity Sail Line acquisition (minus the period of no navigation)=Apx. 234 km



Fugro Robertson Inc.
LCT Gravity and Magnetics Division

Daily Operations Log

job	Client	Survey Vessel	Survey Location	
26514	Shell/Univ. of Texas	USCGC Healy	Chukchi Borderland/Mendeleev Ridge	
Date		Julian Day	Technician (1)	Technician (2)
August 21, 2006		233	Robert Shepherd	
Gravity Meter Model and Serial Number			Magnetometer Model and Serial Number	
Ultrasys/UNISON/LaCoste & Romberg S-71			N/A	

TIME(utc)	ENTRIES
00:00	Transit to Nome
21:00	Crisis meeting with the scientists to discuss recent events.
	Gravity Sail Line Acquisition=Apx. 607 km



Fugro Robertson Inc.
LCT Gravity and Magnetics Division

Daily Operations Log

job	Client	Survey Vessel	Survey Location	
26514	Shell/Univ. of Texas	USCGC Healy	Chukchi Borderland/Mendelev Ridge	
Date	Julian Day	Technician (1)	Technician (2)	
August 22, 2006	234	Robert Shepherd		
Gravity Meter Model and Serial Number		Magnetometer Model and Serial Number		
Ultrasys/UNISON/LaCoste & Romberg S-71		N/A		

TIME(utc)	ENTRIES
00:00	Transit to Nome
15:00	Vessel arrives outside Nome for helo transfers of personnel to and from shore. Majority of the science party leaves. Additional Coast Guard crewmen arrive, as well as Coast Guard civilian employees, assigned to investigate the dive accident. The Coast Guard Commandant (4 Star Admiral) also arrives for a brief visit to the vessel.
16:01	Spring Tension updated -0.1 units from 13475.4 to a new value of 13475.3
21:11:30	Ultrasys time updated +1.5 seconds
21:42	SeaBeam Depth Data interrupted due to SeaBeam maintenance.
22:10	Vessel underway to Kodiak. ETA is 8/26.
23:30	SeaBeam Data now working. (The Knudsen Sub-Bottom profile data is included with today's SeaBeam, stand-alone, ZIP data file. UNISON does not have depth data from 21:42-23:30).
	Sail Line Gravity Acquisition= Apx. 488 km



Fugro Robertson Inc.
LCT Gravity and Magnetics Division

Daily Operations Log

job	Client	Survey Vessel	Survey Location	
26514	Shell/Univ. of Texas	USCGC Healy	Chukchi Borderland/Mendelev Ridge	
Date		Julian Day	Technician (1)	Technician (2)
August 23, 2006		235	Robert Shepherd	
Gravity Meter Model and Serial Number			Magnetometer Model and Serial Number	
Ultrasys/UNISON/LaCoste & Romberg S-71			N/A	

TIME(utc)	ENTRIES
00:00	Transit to Kodiak
22:52	SeaBeam Data Loss due to maintenance
	Gravity Sail Line Acquisition=Apx. 683 km



Daily Operations Log

Fugro Robertson Inc.
LCT Gravity and Magnetics Division

job	Client	Survey Vessel	Survey Location
26514	Shell/Univ. of Texas	USCGC Healy	Chukchi Borderland/Mendelev Ridge
Date	Julian Day	Technician (1)	Technician (2)
August 24, 2006	236	Robert Shepherd	
Gravity Meter Model and Serial Number		Magnetometer Model and Serial Number	
Ultrasys/UNISON/LaCoste & Romberg S-71		N/A	

TIME(utc)	ENTRIES
00:00	Transit to Kodiak
00:02	SeaBeam Data restored – maintenance complete.
< >	Additional SeaBeam and Knudsen sub-bottom profiler interruptions throughout the day.
	Gravity Sail Line Acquisition=Apx. 663 km



Fugro Robertson Inc.
LCT Gravity and Magnetism Division

Daily Operations Log

job	Client	Survey Vessel	Survey Location	
26514	Shell/Univ. of Texas	USCGC Healy	Chukchi Borderland/Mendelev Ridge	
Date		Julian Day	Technician (1)	Technician (2)
August 25, 2006		237	Robert Shepherd	
Gravity Meter Model and Serial Number			Magnetometer Model and Serial Number	
Ultrasys/UNISON/LaCoste & Romberg S-71			N/A	

TIME(utc)	ENTRIES
00:00	Transit to Kodiak
01:00	Vessel slows due to cooling water leak in electric motor room.
	Sail Line Gravity Acquisition=Apx. 529 km



Fugro Robertson Inc.
LCT Gravity and Magnetics Division

Daily Operations Log

job	Client	Survey Vessel	Survey Location
26514	Shell/Univ. of Texas	USCGC Healy	Chukchi Borderland/Mendelev Ridge
Date	Julian Day	Technician (1)	Technician (2)
August 26, 2006	238	Robert Shepherd	
Gravity Meter Model and Serial Number		Magnetometer Model and Serial Number	
Ultrasys/UNISON/LaCoste & Romberg S-71		N/A	

TIME(utc)	ENTRIES
00:00	Transit to Kodiak.
02:45	Remaining civilians/scientists meet with crisis counselors.
< >	While outside Kodiak this morning (local), the remaining helicopter is shuttled off the vessel.
16:22	SeaBeam is stopped. No depths available.
17:07	Vessel arrives alongside the Pier 2 – Fisherman’s Terminal, Kodiak, Alaska Lat: 57° 47.01497 North Longitude: 152° 25.65849 West Sensor Pressure=29.1”
19:41	Spring Tension updated –0.1 units from 12952.4 to a new value of 12952.3
19:43	Spring Tension updated +0.1 units from 12952.3 to a new value of 12952.4 Net Change of 0.0
21:00	Begin Still Reading
21:30	Dock to Water= 4.9 m Water Depth= 12.3 m Gravimeter ABOVE Water=0.8 m Gravimeter BELOW Dock=4.1 m
22:00	Average Gravity=12951.94 Average Spring Tension=12951.87 Begin K-Check – Spring Tension OFF Spring Tension Slewed +30 units to 12981.9
22:15	Gravity=12951.6 Average TC= -30.2
22:16	Spring Tension Slewed –60 units to 12921.9
22:30	Gravity=12951.9 Average TC= +30.0
22:33	Spring Tension slewed +30 units to 12951.9 Beam Zero= -4 mV (within specs) Beam Gain=8993 mV (within specs) No Adjustments necessary. Spirit Level Bubbles in Both Axis’ are OK.
22:39	Spring Tension ON
< >	Sail Line Gravity Acquisition Today= Apx. 340 km
< >	Learned today that the remaining Healy missions for 2006 have been cancelled. The Dutch Harbor visit has been cancelled. The vessel will sail to its home port of Seattle sometime 8/30. Arrival in Seattle is expected on 9/3.



Daily Operations Log

Fugro Robertson Inc.
LCT Gravity and Magnetics Division

job	Client	Survey Vessel	Survey Location	
26514	Shell/Univ. of Texas	USCGC Healy	Chukchi Borderland/Mendelev Ridge	
Date		Julian Day	Technician (1)	Technician (2)
August 27, 2006		239	Robert Shepherd	
Gravity Meter Model and Serial Number			Magnetometer Model and Serial Number	
Ultrasys/UNISON/LaCoste & Romberg S-71			N/A	

TIME(utc)	ENTRIES
00:00	Alongside in Kodiak – Pier 2 – Fisherman’s Terminal
02:00	UNISON and Ultrasys shutdown. Element is on the Auxiliary Heater.



Fugro Robertson Inc.
LCT Gravity and Magnetics Division

Daily Operations Log

job	Client	Survey Vessel	Survey Location	
26514	Shell/Univ. of Texas	USCGC Healy	Chukchi Borderland/Mendelev Ridge	
Date		Julian Day	Technician (1)	Technician (2)
August 28, 2006		240	Robert Shepherd	
Gravity Meter Model and Serial Number			Magnetometer Model and Serial Number	
Ultrasys/UNISON/LaCoste & Romberg S-71			N/A	

TIME(utc)	ENTRIES
00:00	Vessel alongside Pier 2 – Fisherman’s Terminal, Kodiak, Alaska
	Gravimeter is on auxiliary heat.



Fugro Robertson Inc.
LCT Gravity and Magnetics Division

Daily Operations Log

job	Client	Survey Vessel	Survey Location	
26514	Shell/Univ. of Texas	USCGC Healy	Chukchi Borderland/Mendelev Ridge	
Date		Julian Day	Technician (1)	Technician (2)
August 29, 2006		241	Robert Shepherd	
Gravity Meter Model and Serial Number			Magnetometer Model and Serial Number	
Ultrasys/UNISON/LaCoste & Romberg S-71			N/A	

TIME(utc)	ENTRIES
00:00	Vessel alongside Pier 2 – Fisherman’s Terminal, Kodiak, Alaska Gravimeter is on auxiliary heat.
18:00	Memorial service for the fallen divers held at the Kodiak Coast Guard Base. Fugro-Robertson tech Shepherd in attendance.
21:00	A copy of all UNISON, Ultrasys, Navigation and Bathymetry data acquired to date is FedEx’d to the Houston office. Shipment Includes: 2 Unison Data Disks, 4 Navigation/Bathymetry Disks and 1 Raw Ultrasys Disk.



Fugro Robertson Inc.
LCT Gravity and Magnetics Division

Daily Operations Log

job	Client	Survey Vessel	Survey Location
26514	Shell/Univ. of Texas	USCGC Healy	Chukchi Borderland/Mendelev Ridge
Date	Julian Day	Technician (1)	Technician (2)
August 30, 2006	242	Robert Shepherd	
Gravity Meter Model and Serial Number		Magnetometer Model and Serial Number	
Ultrasys/UNISON/LaCoste & Romberg S-71		N/A	

TIME(utc)	ENTRIES
00:00	Vessel alongside Pier 2 – Fisherman’s Terminal, Kodiak, Alaska
10:15	Ultrasys ON
10:20	Ultrasys time updated
10:21	Spring Tension OFF
	Spring Tension updated +0.1 units from 12802.6 to a new value of 12802.7
10:23	Spring Tension ON
17:45	Begin a Still Reading
	Lat: 57° 47.01497 North Longitude: 152° 25.65849 West Sensor Pressure: 29.1”
18:20	Dock to Water=5.2 m Water Depth=12.0 m
	Gravimeter ABOVE Water=0.8 m Gravimeter BELOW Dock=4.4 m
18:45	Average Gravity= 12951.3 Average Spring Tension=12951.1
18:51	Spring Tension OFF
18:52	Begin K-Check, Spring Tension slewed +30 units to 12981.7
19:07	Gravity=12951.0 Average TC= +30.5
	Spring Tension slewed –60 units to 12921.7
19:22	Gravity=12951.4 Average TC= -29.7
19:23	Spring Tension slewed +30
	Beam Zero= -4 mV
	Beam Gain= 8992 mV
	(No adjustments necessary)
	Spirit Levels OK
19:30	Spring Tension updated –0.1 units from 12951.7 to a new value of 12951.6
19:32	Spring Tension ON
20:55	Begin Still Reading
21:35	Dock to Water=5.0 m Water Depth=12.2 m
	Gravimeter ABOVE Water=0.8 m Gravimeter BELOW Dock=4.2 m
21:55	Average Gravity=12951.2 Average Spring Tension=12951.3
	No K-Check Performed
21:55	Ultrasys time updated apx. +2 seconds
21:57	Spring Tension updated +0.1 units from 12951.0 to a new value of 12951.1
22:00	Vessel departs Kodiak. Underway to Seattle, WA.
23:30	Muster in Science Lounge for a Man Overboard Drill.
< >	Sail Line Gravity Acquisition Today=Apx. 44 km



Fugro Robertson Inc.
LCT Gravity and Magnetics Division

Daily Operations Log

job	Client	Survey Vessel	Survey Location	
26514	Shell/Univ. of Texas	USCGC Healy	Chukchi Borderland/Mendelev Ridge	
Date		Julian Day	Technician (1)	Technician (2)
August 31, 2006		243	Robert Shepherd	
Gravity Meter Model and Serial Number			Magnetometer Model and Serial Number	
Ultrasys/UNISON/LaCoste & Romberg S-71			N/A	

TIME(utc)	ENTRIES
00:00	Transit to Seattle
00:15	Muster to Science Lounge during a general emergency drill
< >	Sail Line Gravity Acquisition= Apx. 733 km



Fugro Robertson Inc.
LCT Gravity and Magnetics Division

Daily Operations Log

job	Client	Survey Vessel	Survey Location	
26514	Shell/Univ. of Texas	USCGC Healy	Chukchi Borderland/Mendelev Ridge	
Date		Julian Day	Technician (1)	Technician (2)
September 1, 2006		244	Robert Shepherd	
Gravity Meter Model and Serial Number			Magnetometer Model and Serial Number	
Ultrasys/UNISON/LaCoste & Romberg S-71			N/A	

TIME(utc)	ENTRIES
00:00	Transit to Seattle
20:00	Fire Drill for crew – Civilians and Coast Guard Visitors muster in Science Lounge
< >	Sail Line Gravity Acquisition Today=apx. 653 km



Fugro Robertson Inc.
LCT Gravity and Magnetics Division

Daily Operations Log

job	Client	Survey Vessel	Survey Location	
26514	Shell/Univ. of Texas	USCGC Healy	Chukchi Borderland/Mendelev Ridge	
Date	Julian Day	Technician (1)	Technician (2)	
September 2, 2006	245	Robert Shepherd		
Gravity Meter Model and Serial Number		Magnetometer Model and Serial Number		
Ultrasys/UNISON/LaCoste & Romberg S-71		N/A		

TIME(utc)	ENTRIES
00:00	Transit to Seattle.
< >	Sail Line Gravity Acquisition Today=Apx. 616 km



Daily Operations Log

Fugro Robertson Inc.
LCT Gravity and Magnetics Division

job	Client	Survey Vessel	Survey Location
26514	Shell/Univ. of Texas	USCGC Healy	Chukchi Borderland/Mendeleev Ridge
Date	Julian Day	Technician (1)	Technician (2)
September 3, 2006	246	Robert Shepherd	
Gravity Meter Model and Serial Number		Magnetometer Model and Serial Number	
Ultrasys/UNISON/LaCoste & Romberg S-71		N/A	

TIME(utc)	ENTRIES
00:00	Transit to Seattle.
15:00	Helo operations- Chaplain going ashore
20:10	Vessel Arrives at the Seattle Coast Guard Base
	Moored at Terminal 36
	Lat: 47° 35.40282' North Long: 122° 20.54994" West
21:30	Begin Final Still Reading
	No printout for this still reading –
22:00	Dock to Water= 2.3 m Water Depth= 15.3 m
	Gravimeter ABOVE Water=0.9 m Gravimeter BELOW Dock=1.4 m
22:30	Average Gravity=11930.9 Average Spring Tension=11931.0
22:32	Spring Tension OFF – Begin K-Check
	Spring Tension slewed +30 to 11960.9
22:47	Gravity=11930.6 Average TC= -30.3
	Spring Tension slewed –60 to 11900.9
23:03	Gravity=11931.1 Average TC= +30.0
23:09	Spring Tension Slewled +30
	Beam clamped
	Beam Zero=2 mV
	Beam Gain=8980 mV
23:13	Beam Clamped – Spring Tension slewled to upper stop for shipping.
< >	Ultrasys and UNISON systems shut down. Beginning the de-MOB of the gravity equipment. Scheduled offload is for the morning of September 5.
< >	Sail Line Gravity Acquisition Today=Apx. 383 km