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Nunalingni Kavamatkunillu Pivikhaqautikkut
Department of Community Government Services
Ministère des Services communautaires et gouvernementaux

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November 20, 2009

Attention: Richard Dwyer, Licensing administrator

Sub: Commissioning the P-Lake Sewage Lagoon and Compliancy of Water license # 3BM-CAP 0810 of Municipality of Cape Dorset

Dear Phyllis,

I am writing on behalf of the Municipality of Cape Dorset in response to the comments made by INAC, EC and GN –DOE during reviewing the previous submission dated Sep.04, 2009. The following appendices are the “**Plan for Compliances**” that clearly demonstrates the ways and means the community will undertake to achieve full compliance with the conditions of the license. I believe that this letter will satisfy the concerns raised by INAC, EC and GN –DOE.

Appendix-A: Detailed explanation of the deficiency of the depth of the thermistors and Corrected beads with the recent recorded temperature of the data Loggers. Recoded temperature data attached from December 15, 2008 to November 1, 2009.

Appendix-B: Corrected O&M manual prepared by Dillon Consultant Ltd of the P-lake Sewage Lagoon

Appendix-C: Annual Reports of 2008 and 2009 of the Municipality of Cape Dorset

Appendix-D: The Report of the Consultant of Cape Dorset Municipality of the Metal Dump.

Appendix-E: Scope of Works of the proposed consultant of the Monitoring wells.
The wells are expected to construct during summer.

Appendix-F: GN-MTO Training Program for 2009-10 to Municipal staffs. For
(1) Work Foreman and (2) Planning and Land Administration



Concerns:

1. **Monitoring stations:** Part H, item 2 of the water License, sampling from the stations CAP-3 to CAP-15 before and during decanting is confusing. The simple reason is that CAP 4 and CAP-5 belong to the old sewage lagoons. The New Lagoon and old Lagoons will function independently. Decanting the new Lagoon has absolutely no relationship with the old Lagoons. Two operations are not connected. Therefore sampling before and during decanting of the new Lagoon established at the stations CAP-6 to 14 at page 19 of the O&M manual are correct. Of course during decanting of the old lagoons, the standard sampling procedure will be followed. NWB is requested to correct this item 2 during issuing the new license.
2. **Spill Contingency Planning:** The Municipality will keep in the loop the representatives of GN-DOE at (867)975-7729 and EC at (867)975-4644.
3. **Assumptions made in the Geothermal Modeling:** The recorded temperatures by the data loggers satisfy the conditions of the geothermal modeling. Therefore we can easily consider that the P-Lake lagoon berms are stable, non permeable and the facility is in containment.
4. **Monitoring wells at New Sewage Lagoon:** P-Lake and Tee Lake are located approximately 1km apart. The surface of Tee Lake is 37.50 meters higher than the surface of P Lake. In addition, the land mass lying in between P-Lake and Tee-Lake is significantly higher in elevation than P- Lake creating a physically impossible path for sewage to flow to Tee Lake from P-Lake. Therefore the possibility of running ground water or sewage from P- Lake to Tee Lake is highly unlikely. The second flow path extends from north east from the P Lake and this path is blocked once lagoon berm have been constructed. Therefore groundwater monitoring at P- Lake sewage lagoon is not recommended and justified. This item should be deleted from the Water License.



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I strongly believe that the present submission will satisfy the requirements of the Water License to commission the new P-lake sewage Lagoon. The Municipality is planning to keep them under compliances within a short period.

If you have any question, please do not hesitate to contact me at any time.

Thanks.

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Timoon Toonoo, Regional Director, GN-CGS, Baffin Region
Roy Green, Director, Community Infrastructure, GN-CGS
John Ivey, SAO, Municipality of Cape Dorset

APPENDIX - A

Progress Report of Monitoring the thermistors and depth deficiency Cape Dorset P-Lake Sewage Lagoon

Introduction: All the four thermistors were installed in March 2009. The data loggers are reading temperature at every eight hours intervals and data is being collected from the field on a four month intervals. It was observed that few beads ere not working. These were corrected during the summer.

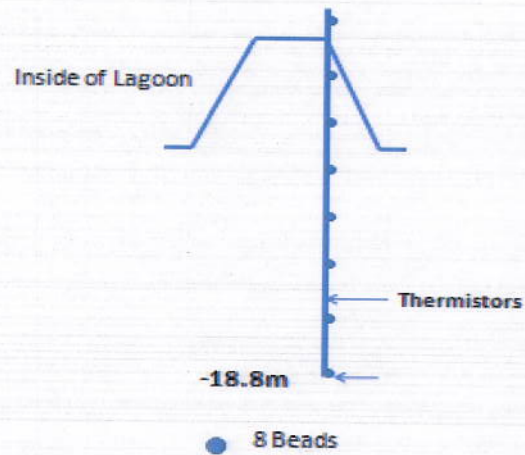
NWB: In item 6 of Part H of the Water License # 3BM-CAP 0810, NWB has suggested minimum three thermistors to be installed in crest of the west berm and at least one thermistor in the crest of east berm to a minimum depth of 20-25m.

Construction: The equipment available in the community was not adequate to reach 20 to 25m. Kudlik Construction Ltd was hired and they could reach only 18.8m depth due to hard rock. Therefore boring depth was restricted at a depth of 18.8m for all the four locations. Given the type of material encountered and the availability of equipment, it is highly unlikely that a greater depth can be achieved.

ACR System data loggers have been used to read temperature. Following the technical specifications of the manufacturer, the information is recorded at eight hour intervals. This should be sufficient enough to monitor the temperature inside the berm and also in the original ground. A system has been set up to collect the field data on a four month intervals.

Conclusion: The attached spread sheets in Appendix-A will explain the design and constructed thermistors at the field. All the data will be sent to the NWB along with the annual report sometime in January each year. Validating the assumptions of the geothermal analysis through adequate monitoring of the thermal regime will be continued to satisfy the requirements of the Hamlet Water License. The Recorded temperature from December 15, 2008 to November 01, 2009 are attached.

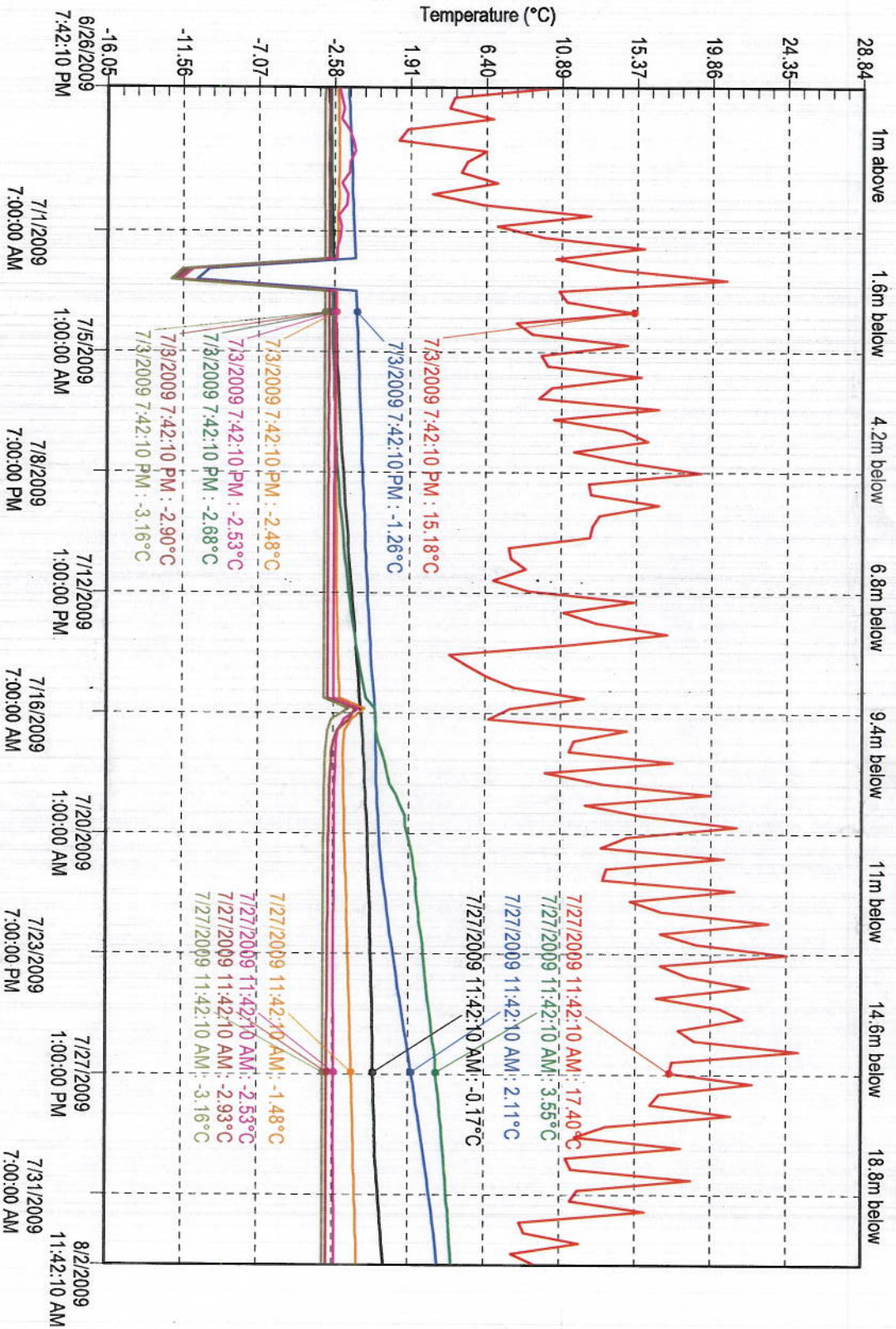
**Thermistors Installation
Constructed for BH #1,2,3 and 4**



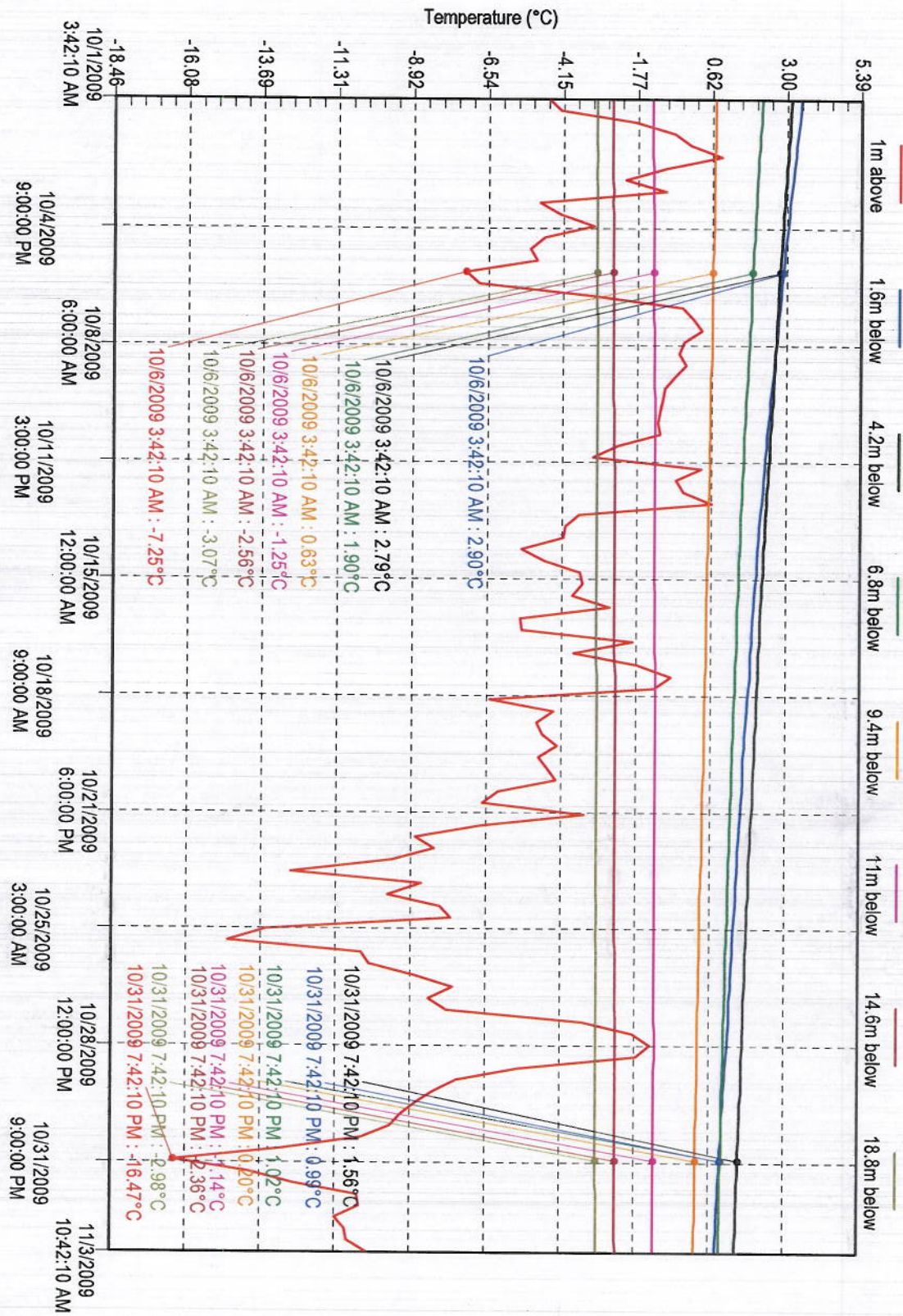
Actual Construction				
Beads	Boreholes			
	BH-1	BH-2	BH-3	BH-4
	Depth of Beads (m)			
1st	1.0	1.0	1.0	1.0
2nd	-1.6	-1.6	-1.6	-1.6
3rd	-4.2	-4.2	-4.2	-4.2
4th	-6.8	-6.8	-6.8	-6.8
5th	-9.4	-9.4	-9.4	-9.4
6th	-11.0	-11.0	-11.0	-11.0
7th	-14.6	-14.6	-14.6	-14.6
8th	-18.8	-18.8	-18.8	-18.8

88355 SRP-8-32K

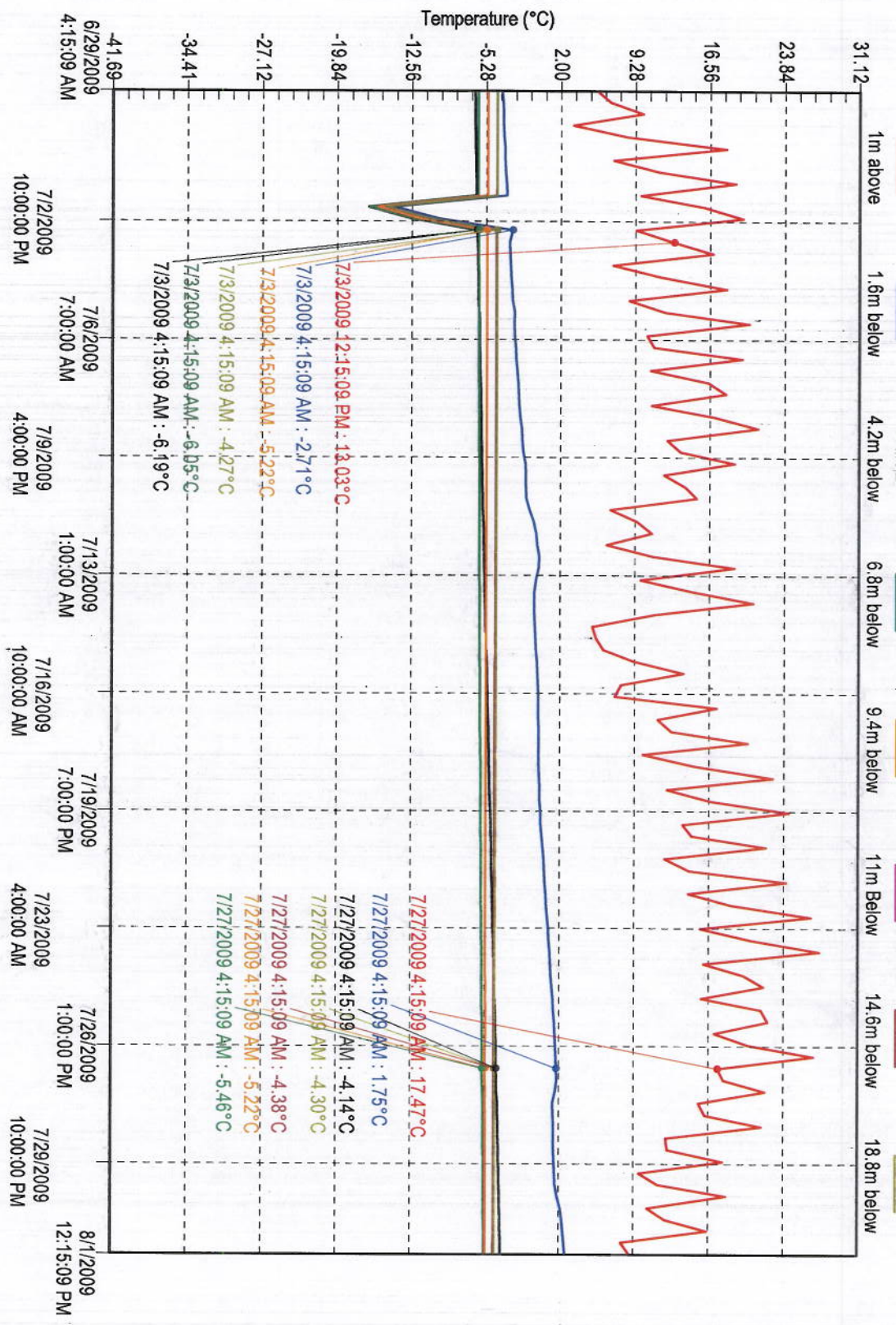
Cape Dorset recorded Temp July 1, 2009 to August 1, 2009 Logger #1



88355 SRP-8-32K Cape Dorset recorded Temp Oct 1, 2009 to Nov 1, 2009 Logger #1

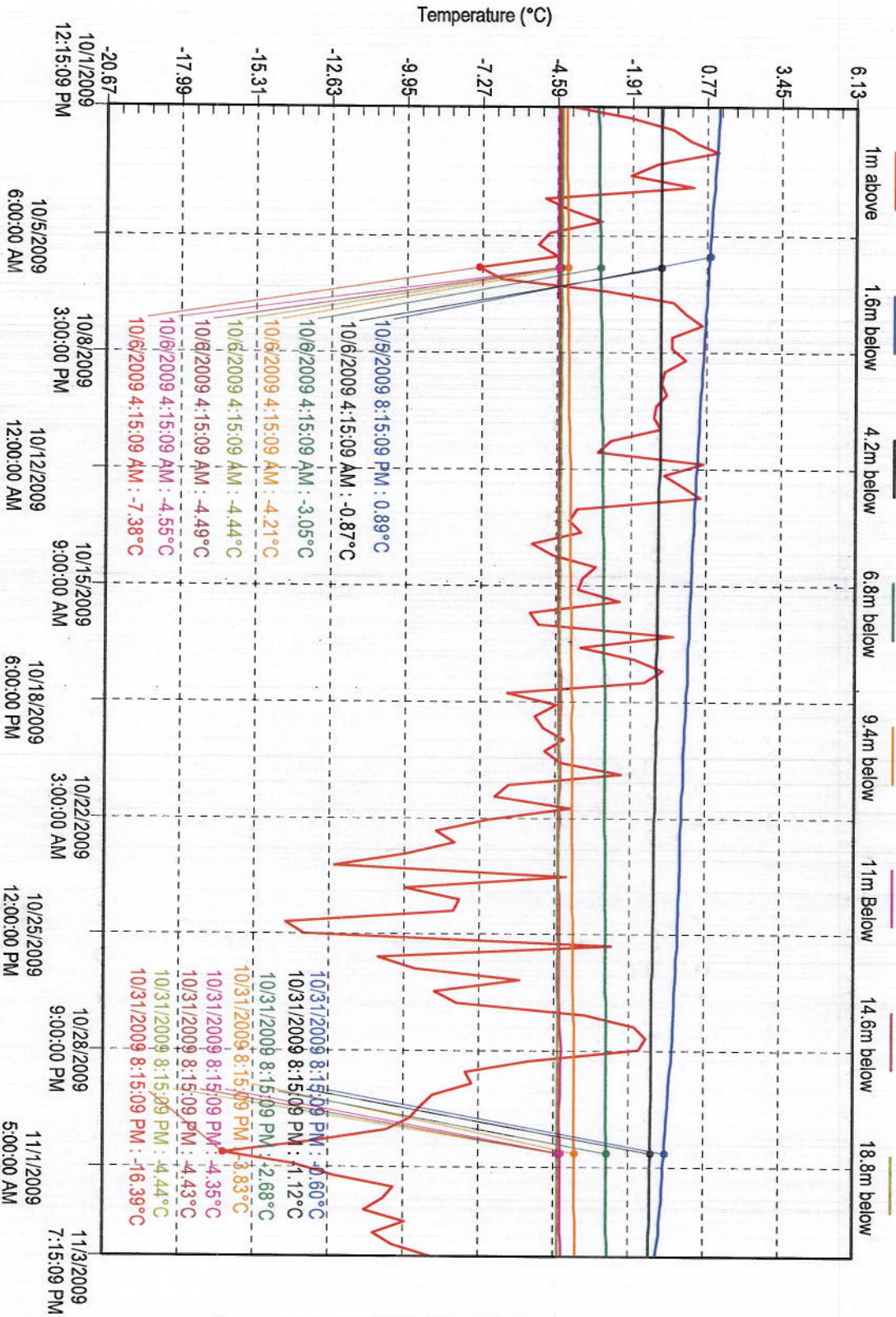


88356 SRP-8-32K Cape Dorset recorded Temp July. 1, 2009 to August 1, 2009 Logger #2

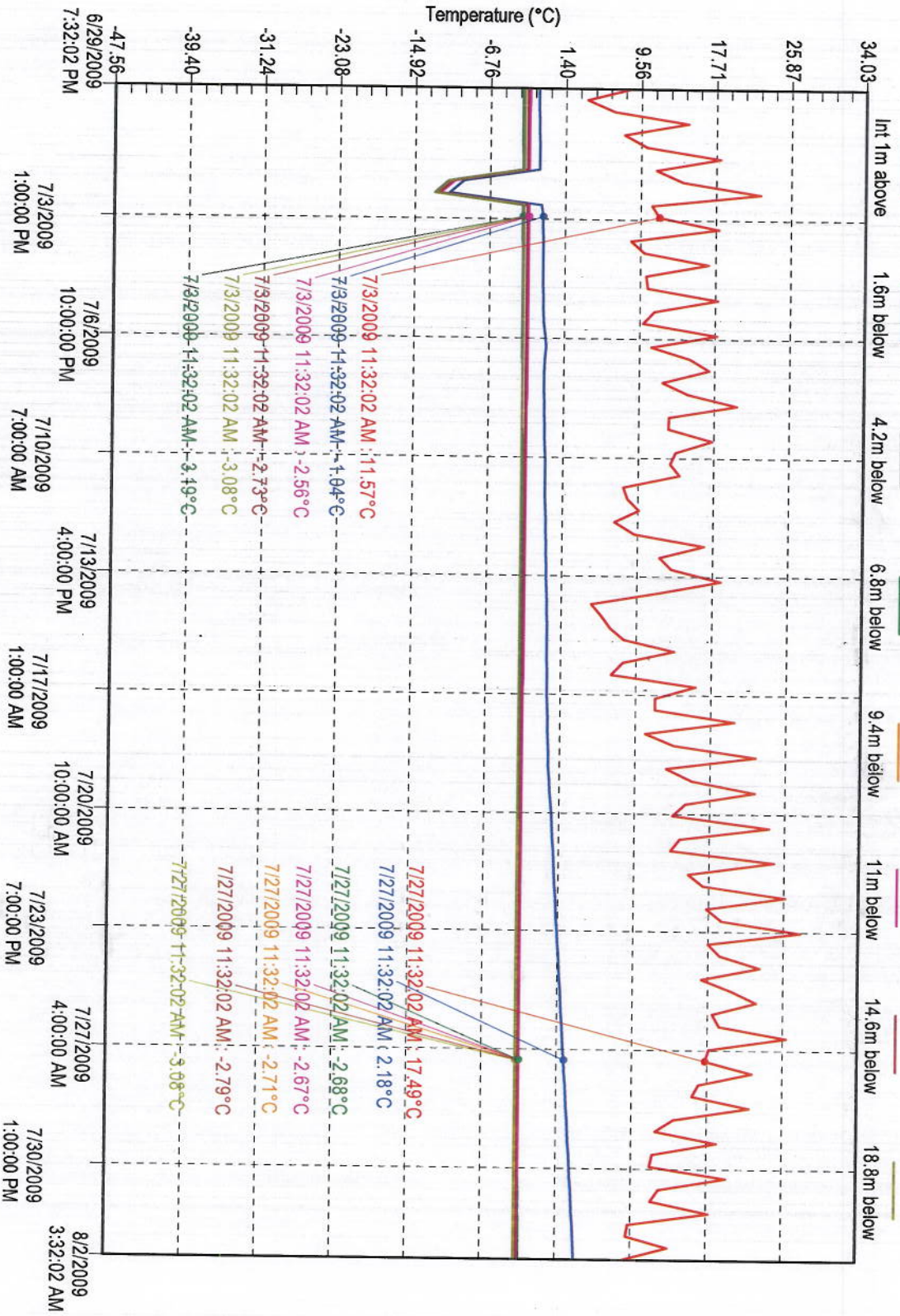


88356 SRP-8-32K

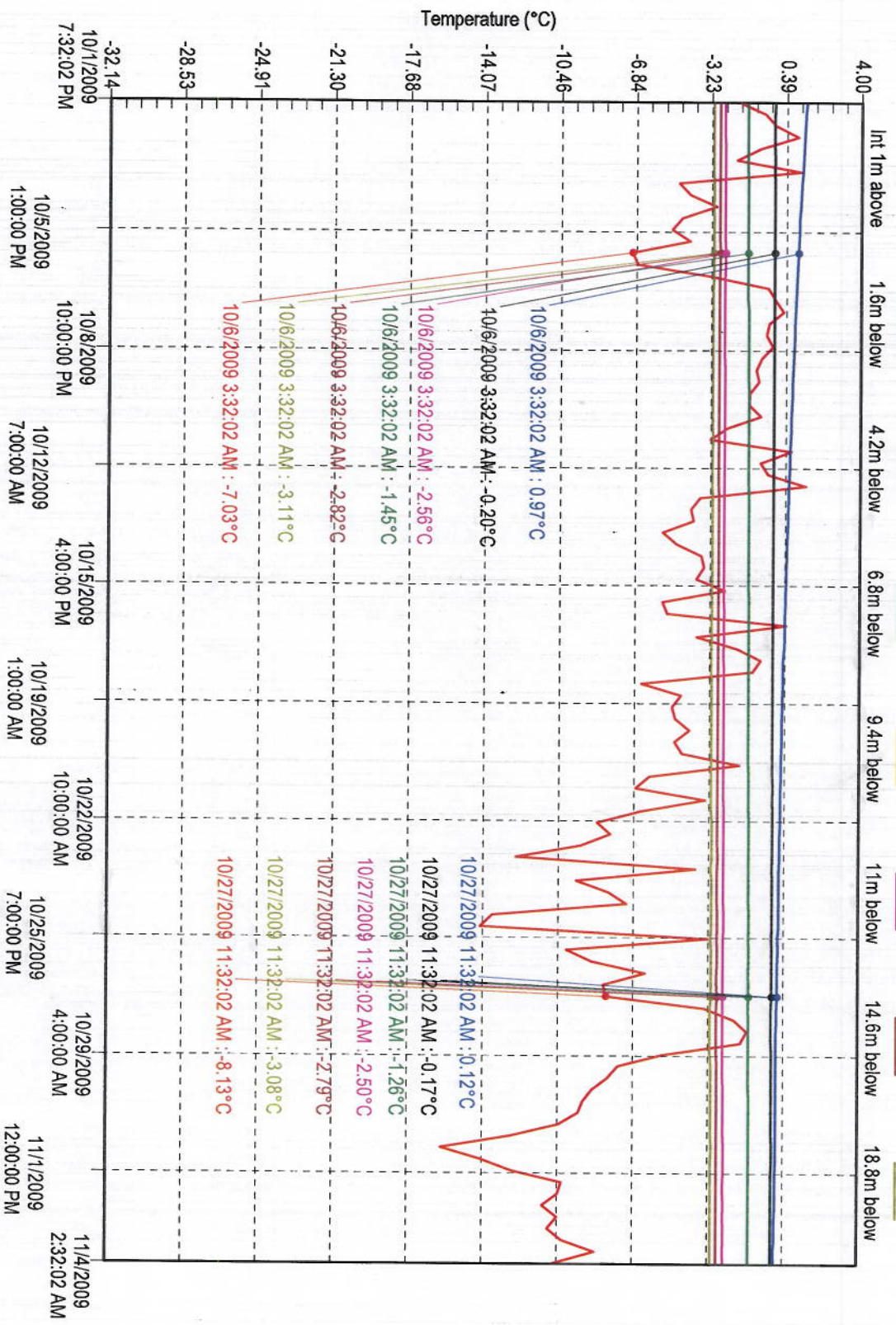
Cape Dorset recorded Temp Oct. 1, 2009 to Nov. 1 2009 Logger #2



88357 SRP-8-32K Cape Dorset recorded Temp July 1, 2009 to August 1, 2009 Logger #3

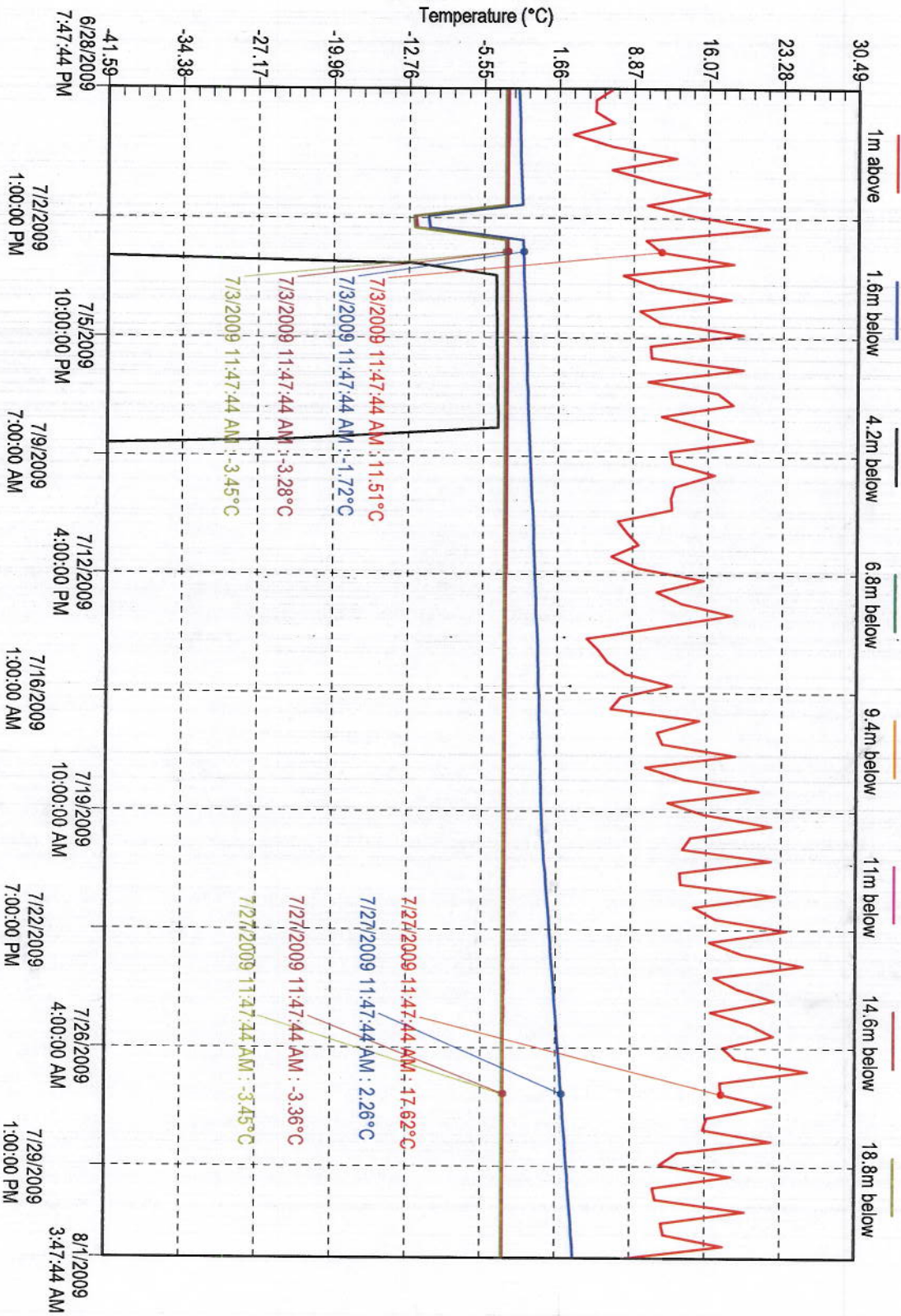


88357 SRP-8-32K Cape Dorset recorded Temp Oct. 1, 2009 to Nov. 1, 2009 Logger #3



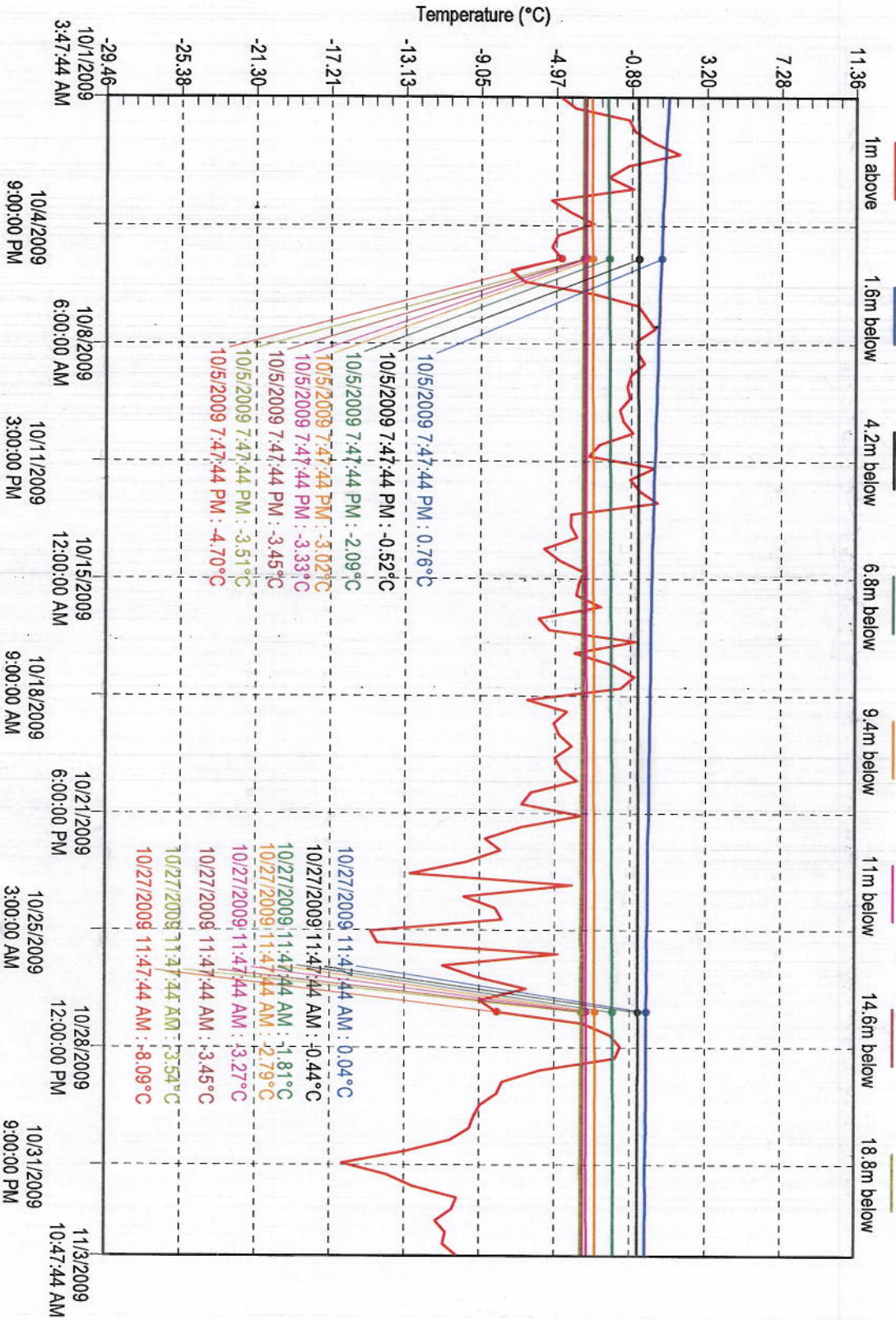
88358 SRP-8-32K

Cape Dorset recorded Temp July 1, 2009 to August 1, 2009 Logger #4

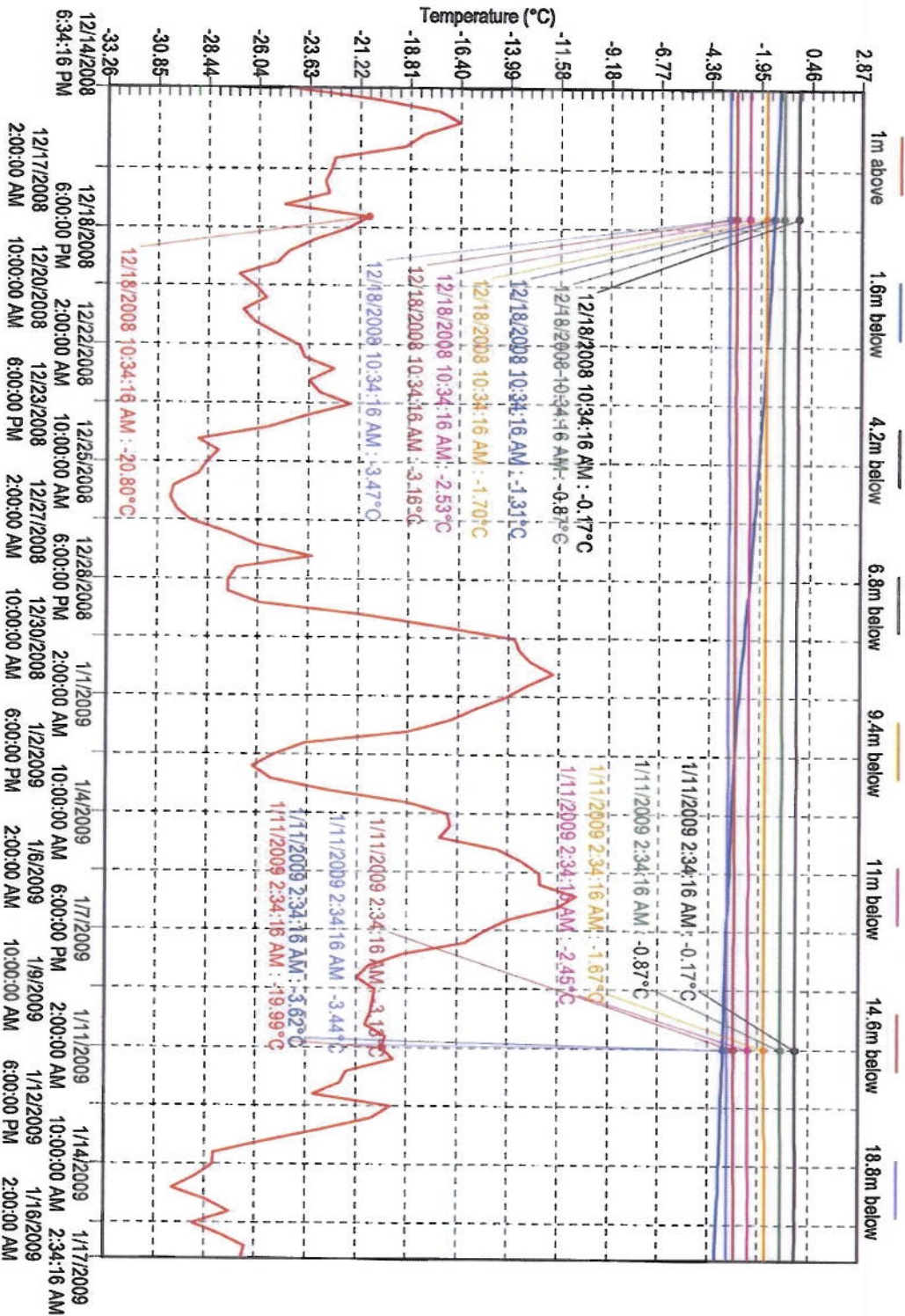


88358 SRP-8-32K

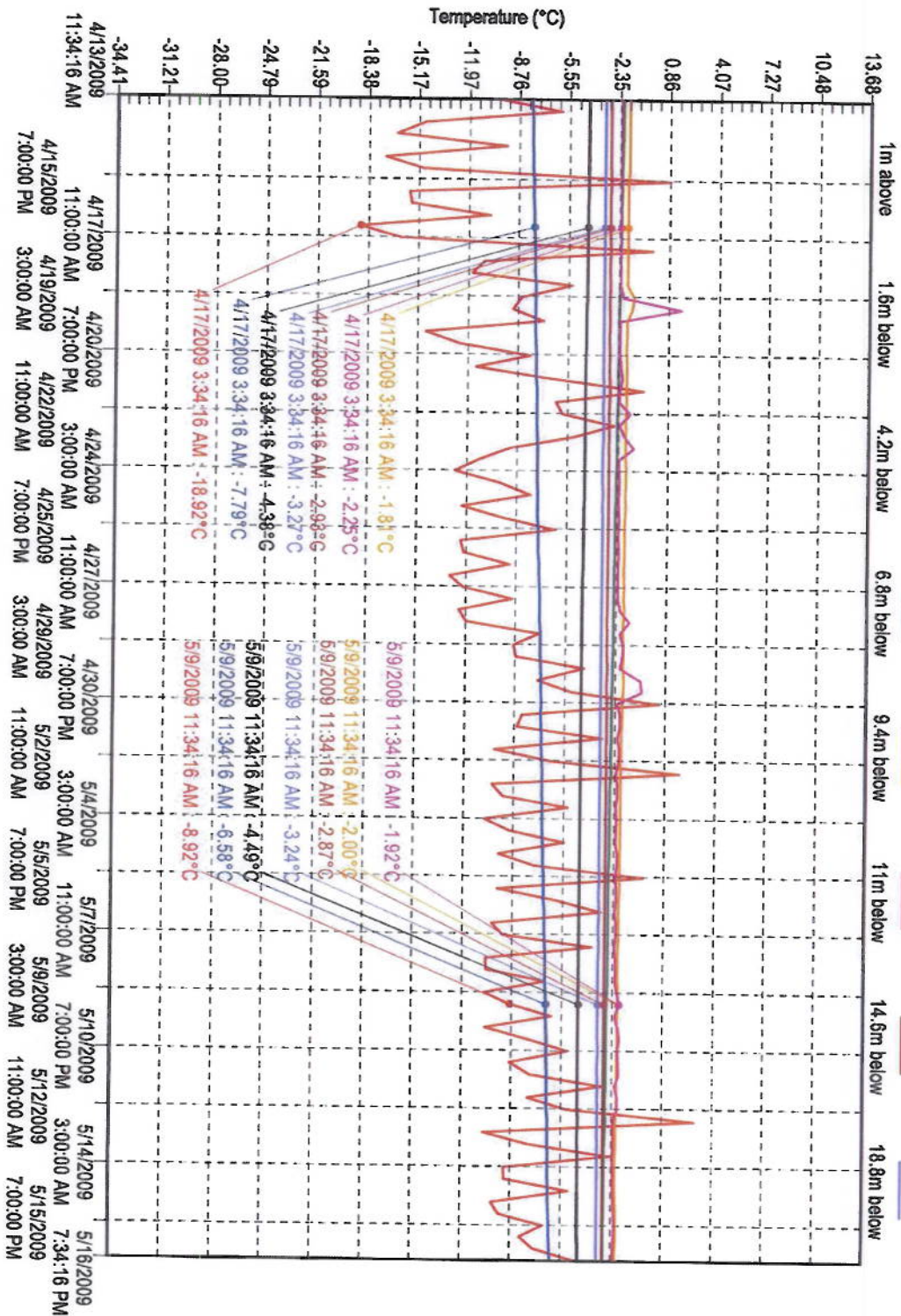
Cape Dorset recorded Temp Oct. 1, 2009 to Nov. 1, 2009 Logger #4



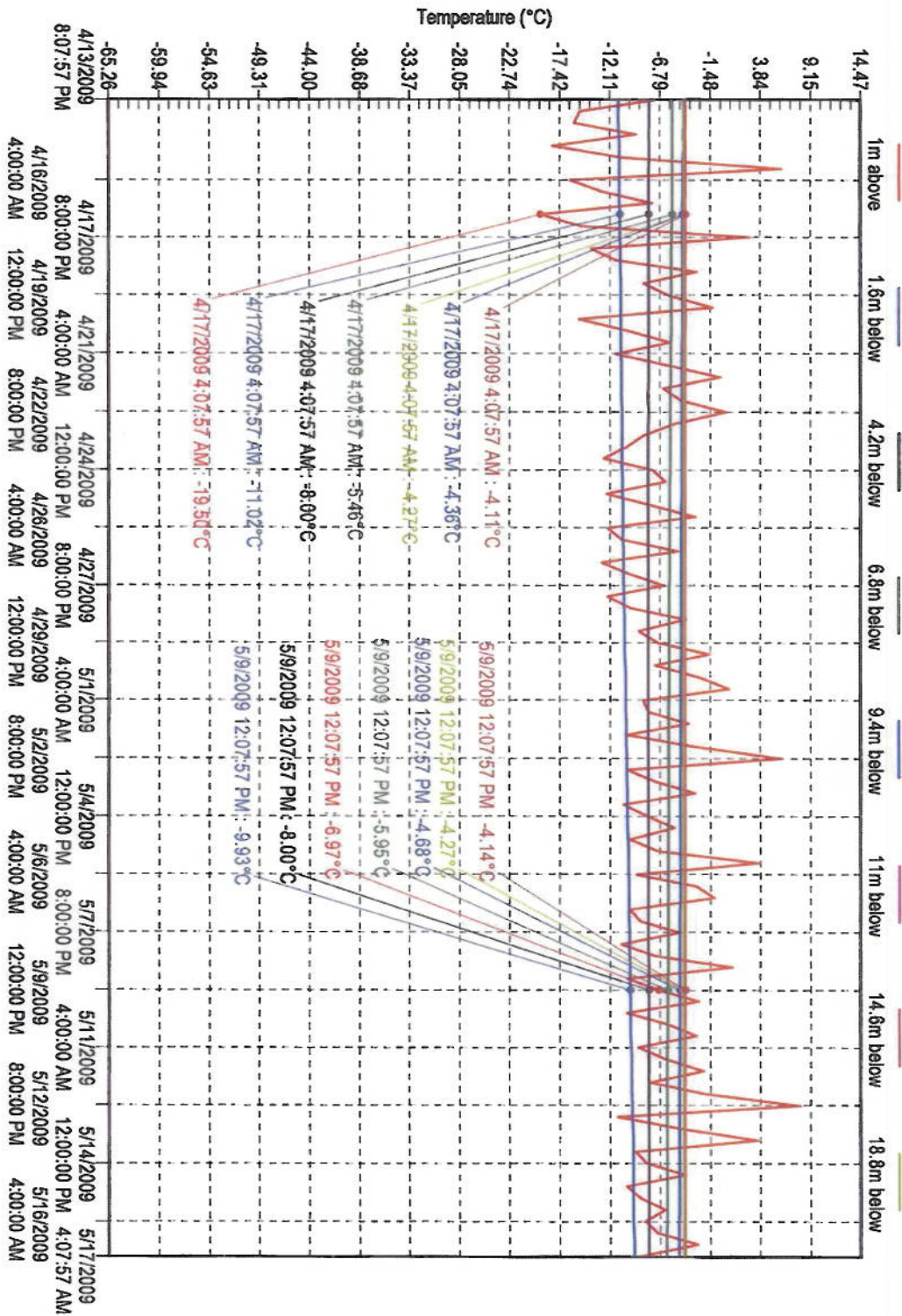
SmartReader Plus 88355 Cape Dorset recorded Temp Dec 15, 2008 to Jan 15, 2009 Logger #1



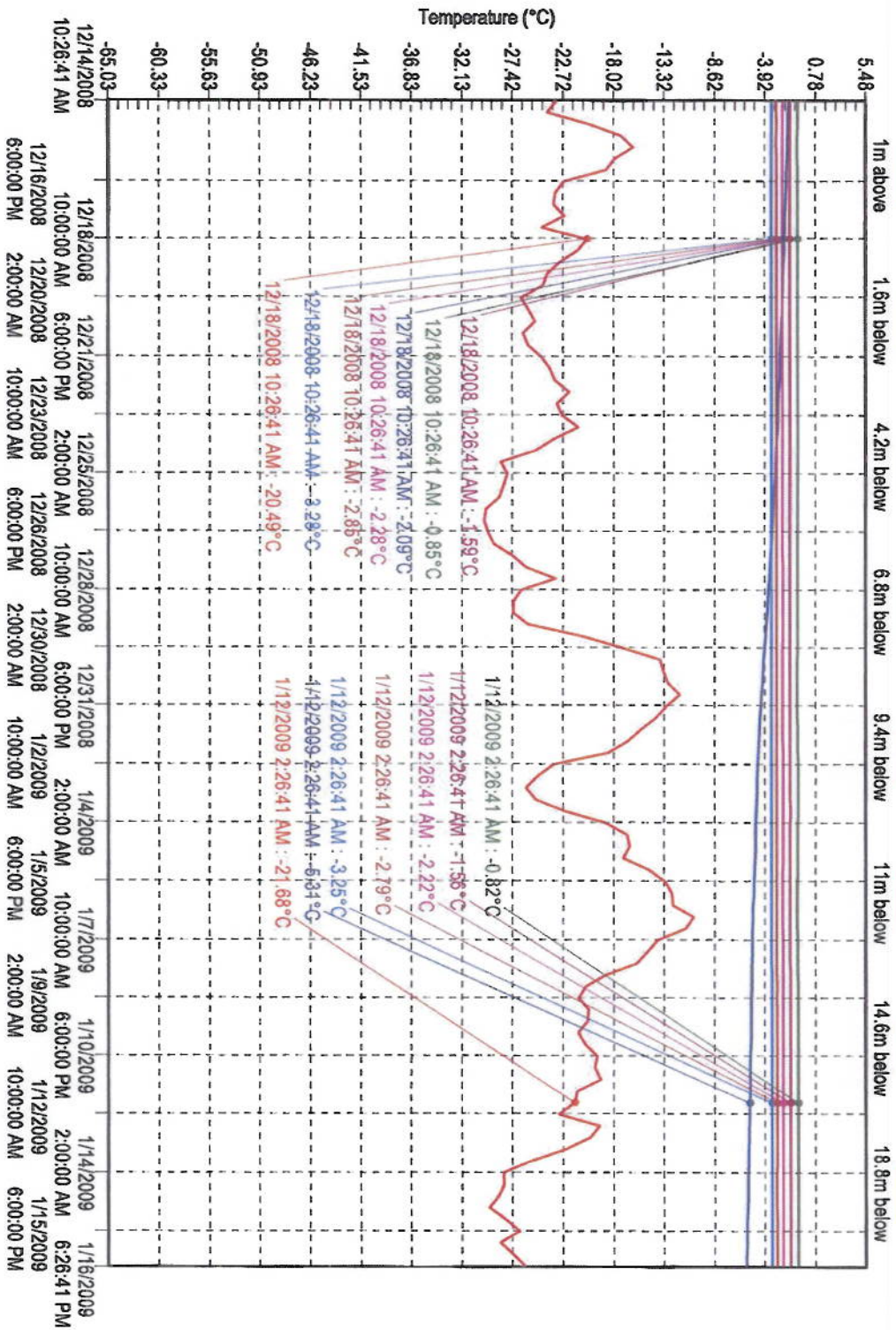
SmartReader Plus 88355 Cape Dorset recorded Temp April 15, to May 15, 2009 Logger #1



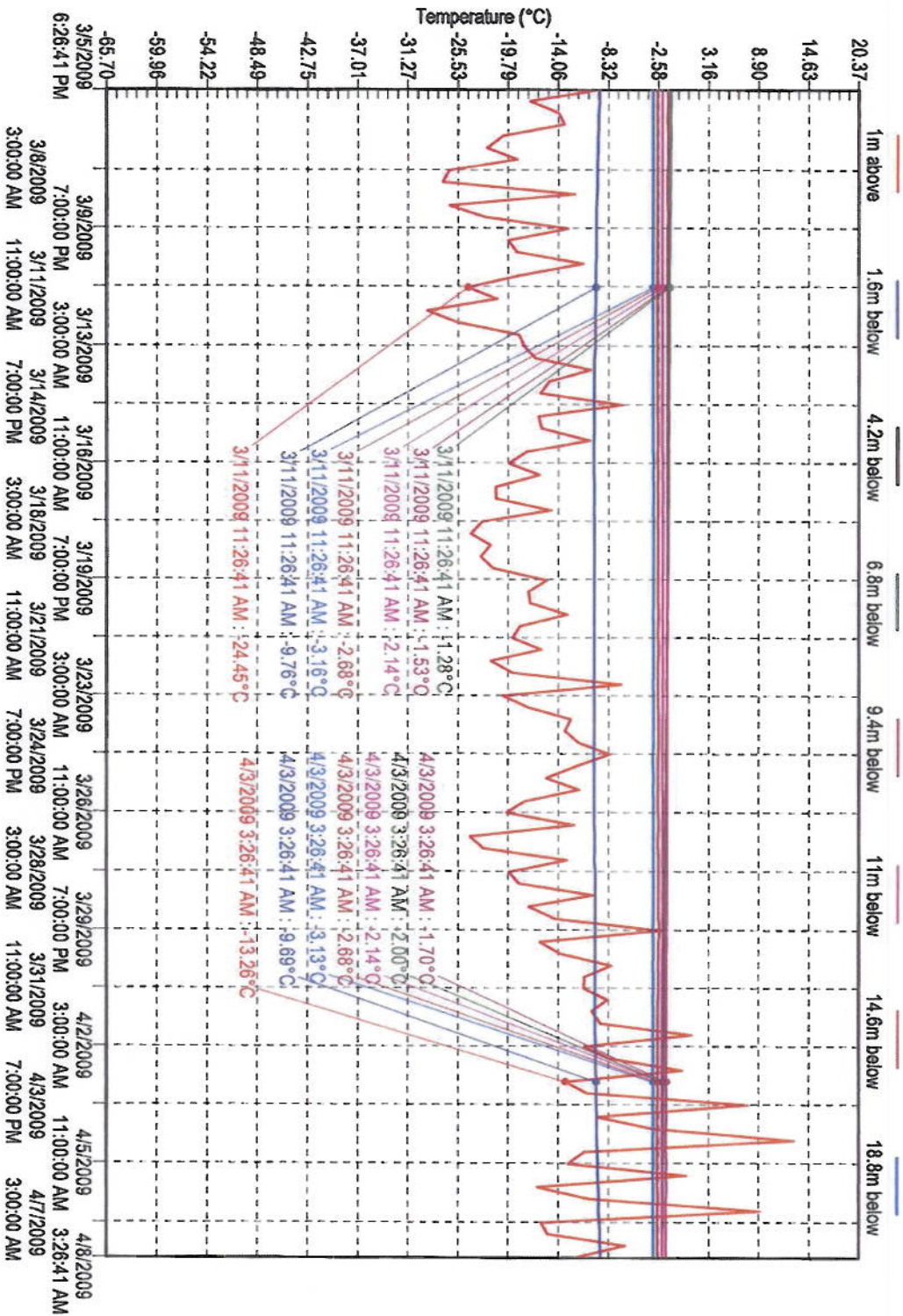
SmartReader Plus 88356



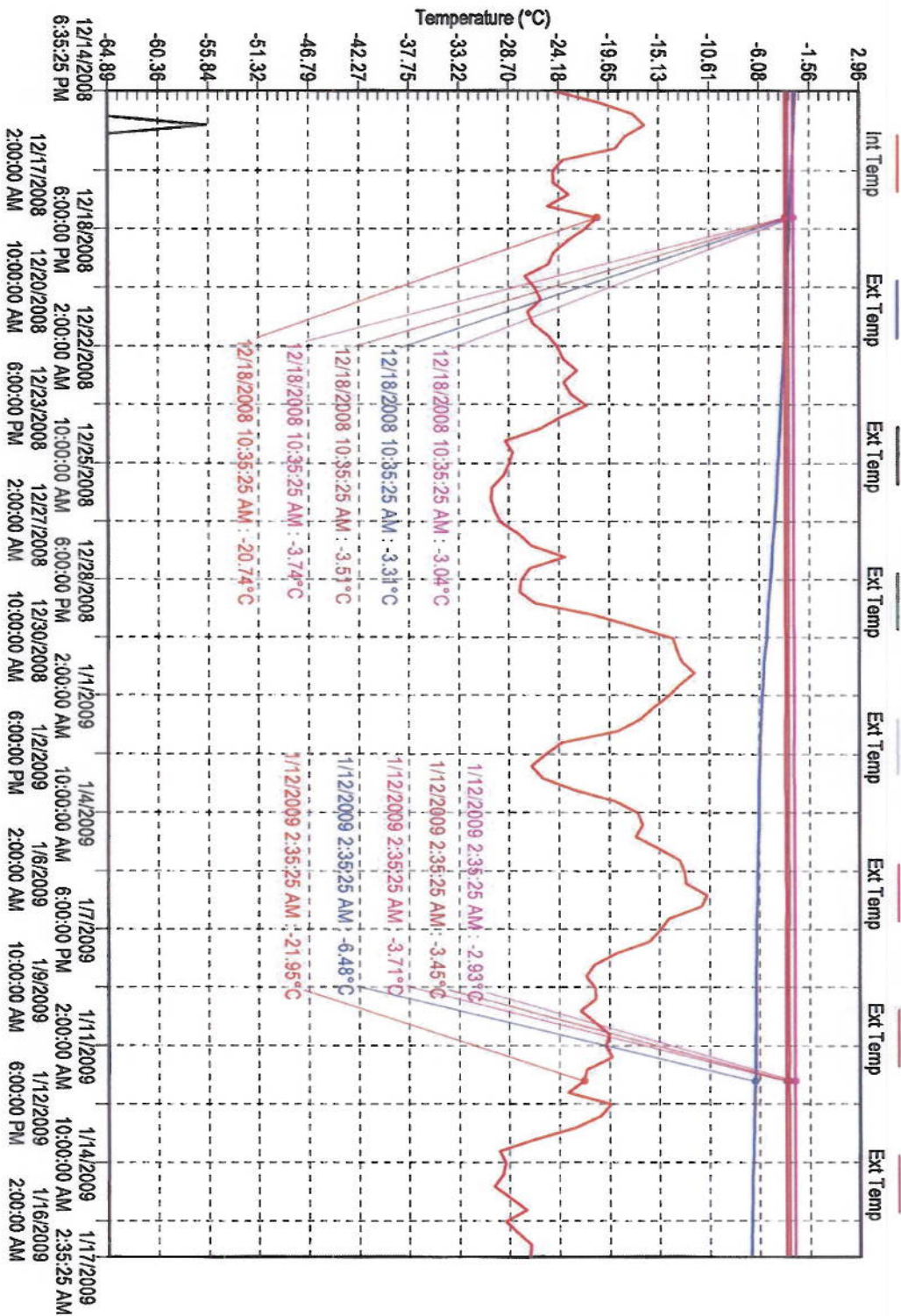
SmartReader Plus 88357 Cape Dorset temp. Readings Dec 15 2008 to Jan 15, 2009 logger #3



SmartReader Plus 88357 Cape Dorset temp. Readings March 6, to May 6, 2009 logger #3



88358 SRP-8-32K
Cape Dorset Temp. readings Dec.15, 2008 to Jan. 15, 2009 Logger #4



88358 SRP-8-32K Cape Dorset Temp. readings March 6 to May 6, 2009 Logger #4

