FILE NAME: Station Record AK 007.doc

LAST UPDATED: 8/28/23

**PRUDHOE BAY, ALASKA**

### WEST DOCK LOW

### Station Record

**STATION:** AK007, WEST DOCK LOW (007)

|  |  |  |  |
| --- | --- | --- | --- |
| **PROJECT MANAGER:**  Phone:  FAX:  E-mail: | C.A. Seybold  USDA NRCS  Federal Bldg., Rm. 152  Lincoln, NE 68508  (402) 437-4132  (402) 437-5336  cathy.seybold@lin.usda.gov | F. E. Nelson  Department of Geography  University of Delaware  Newark, Delaware 19711  (302) 831-0852  (302) 831-6654  fnelson@udel.edu | K. M. Hinkel  Department of Geography  University of Cincinnati  Cincinnati, Ohio 45221-0131  513-556-3430  513-556-3370  71042.2643@compuserve.com |

**LOCATION:** Prudhoe Bay, Alaska, on the ARCO oil field near West Dock.

GPS (08/13/01): 70° 22’ 13.6” N

148° 33’ 55.9” W

25 ft elevation

GPS (06/23/02): 70° 22’ 13.7” N

148° 33’ 56.3” W

35 ft elevation

GPS (08/21/03): 70° 22’ 13.5” N

148° 33’ 56.2” W

-8 ft elevation

GPS (08/19/04): 70° 22’ 13.7” N

148° 33’ 56.2” W

-5 ft elevation

GPS (08/10/08): 70° 22’ 13.6” N

148° 33’ 56.4” W

2 ft elevation

GPS (08/17/09): 70° 22’ 13.7” N

148° 33’ 56.4” W

2 ft elevation

GPS (08/11/10): 70° 22’ 13.6” N

148° 33’ 56.3” W

1 ft elevation (0, -2 ft)

GPS (08/9/12): 70° 22’ 13.5” N

148° 33’ 56.3” W

0 ft elevation

**INSTRUMENTATION:**

Summary

| Quantity | Description | Comments |
| --- | --- | --- |
| 1 | Campbell ENC 16/18 enclosure. | Installed 2001 Supplied by Fritz Nelson |
| 1 | Campbell 6-ft tripod | Installed 2001 Supplied by Fritz Nelson |
| (1) | Campbell CR-10X datalogger SN: X5384. Wiring panel SN: 10731. | Installed 2001, removed 2004 |
| (1) | Campbell CR-10X-2M-Extended Memory  SN: X 20069  Wiring Panel SN: 10731 | Installed 2004, removed 2007; removed 2008 |
| 1 | Campbell CR1000 and Wiring panel | Installed 2008 |
| 1 | Campbell CR-10X-2M-Extended Memory  SN:  Wiring Panel SN: 10731 | Installed 2007 |
| (1) | Campbell CSM1-XT card storage module SN: E3405. | Installed 2001, removed 2003 |
| 1 | Campbell SM4M storage module | Installed 2003 |
| 1 | Campbell PS12LA power supply SN:18099. | Installed 2001 |
| (1) | 7 Ah battery | replaced 2003, removed 2005 |
| 1 | 12 Ah battery | Installed 2005; replaced 2012 |
| 1 | Campbell Solar panel. | Installed 2001 Supplied by Fritz Nelson |
| 2 | LiCor LI200X solar radiation sensors | Installed 2001 one pointed downward for albedo |
| (1) | REBS Q\*7.1 net radiometer (SN:) | Installed 2001; Removed 2008 |
| 1 | CNR2 net radiometer (SN:070003) | Installed 2008 |
| (1) | MetOne wind sensor | Installed 2001, replaced 2004, removed 2006 |
| 1 | R.M. Young wind sensor | Installed 2006 |
| 1 | Campbell 107 air temperature sensor | Installed 2001 |
| 1 | Campbell gill shield radiation sensor for 107 | Installed 2001 |
| 4 | MRC soil temperature probes | Supplied by Fritz Nelson, installed 2002. |

**HISTORY:**  August 13, 2001: Station initiated. A Campbell Scientific CR10X datalogger along with a Campbell CSM1-XT Card Storage Module, and a Campbell PS12LA power supply, were located inside of a Campbell ENC16/18 enclosure. Instrumentation consists of a Campbell 107 air temperature sensor mounted at 2 m, two Licor LI200X solar radiation sensors, one pointing up and one pointing down for albedo, a MetOne wind sensor, and a Q7 net radiometer. The MRC probes will be installed in June 2002. They weren’t installed due to problems with the drill. The wind direction sensor needs to be pointed south and unlocked. Datalogger was set to Alaska Savings Time. The datalogger program, *westdk7* v. 1.00, was downloaded to the CR10. Measurements are made at 20-minute intervals and averaged and recorded every hour. The enclosure was mounted on a 6-ft tripod. Power is supplied by a Campbell (SolarX) MSX10 solar panel, mounted on the tripod.

June 23, 2002: Wind direction vane broke off. Downloaded data to palmtop. Li Battery V = 2.9392V. Datalogger ID set to 7. Completed installation of the four MRC probes that were not installed last year. Everything seems to be working OK. No desiccant in enclosure. Water condensing inside enclosure.

August 21, 2003: Tripod stack were out of the ground 3-4 inches—Ron pushed them back into the ground. Replaced the globe on radiometer (birds had chewed holes in it). Wind direction vane was broke off—it was not fixed (forgot to bring one to the site). Extra globes were left at the station (need extra screws). Downloaded data. Downloaded updated program to get maximum wind speed. Added storage module SN: 3473. Li Battery V = 7.005V and 2718V. Replaced power supply—12V,7ah. Reset clock—was about one hour ahead. Everything seems to be working OK. Added two desiccant. White conduit was located underneath the radiation sensor. Watch corrosion on wind speed instrument.

August 19, 2004: Tripod stack were out of the ground 3-4 inches—pushed them back into the ground. Wind sensor was corroded and wind speed device was not turning. Installed new wind sensor. Downloaded data from storage module. Added storage module SN:3474. Station clock was 4.5 hr ahead and dated 6-2-38. Internal battery was 5.8373 V. Installed new datalogger (CR10X-2M). Downloaded program to datalogger. Swapped storage modules. Added storage module SN:3478. Everything seemed to be working OK. Added two desiccants. White conduit was located underneath the radiation sensor. MRC probes were out of ground--#5 was 5 cm, #6 was 17 cm, #7 was 17 cm, and #8 was 17 cm above soil surface.

August 16, 2005: The globe on both sides of the net radiometer was replaced; leveled net radiometer. Downloaded data from data logger and swapped storage modules. Added storage module SN:4183. Station clock was 13 min ahead. Internal battery was 2.9992 V. Replaced 7 Ah battery with a 12 Ah battery. Old battery had leaked out onto regulator casing. Added storage module SN:3478. Everything seemed to be working OK. Added two desiccants. MRC probes were out of ground--#5 was 11 cm, #6 was 19.5 cm, #7 was 20.5 cm, and #8 was 22 cm above soil surface.

August 18, 2006: The plastic globe on both sides of the net radiometer was replaced; leveled net radiometer; added cable ties sticking out in all directions to help prevent bird damage. The wind speed sensor was noisy. Replaced the Met One wind sensor with an R.M. Young wind sensor. Downloaded data from datalogger and swapped storage modules. Retrieved logger program. Downloaded revised program, but palm ran out of power; could not finish installing. Station clock was 21 min behind; reset clock.

August 19, 2006: Arrived at about 6:15 PM. Downloaded revised program (westdck.dld) to logger. Swapped storage modules. Added four desiccants packs. MRC probes were out of ground--#5 was 12 cm, #6 was 20 cm, #7 was 21 cm, and #8 was 21 cm above soil surface to middle of MRC cable insertion point. Everything seemed to be working OK, except albedo was zero. Need to correct solar radiation in the program for next time.

August 13, 2007: Swapped storage modules. Station clock was about 15 min behind. Lithium battery was 2.89. Battery voltage was 12.9 V. Could not download data from logger to palm. Communication was established with data logger, but when trying to download data, communication was lost (everytime). Replaced datalogger with new CR10X-2M logger. Reset clock. Lithium battery was 3.08. Downloaded revised program to logger. The new program corrects the solar radiation. Everything seemed to be working okay. Downloaded data to palm from new program and logger. Added two desiccants packs. The globes (both) of the net radiometer were chewed to pieces by birds. Both globe halves were replaced. The net radiometer was leveled. Need to replace net radiometer for next time. Extra globes, gaskets, and screws were left in the enclosure. MRC probes were out of ground--#5 was 12 cm, #6 was 23.5 cm, #7 was 22.5 cm, and #8 was 22.5 cm above soil surface to middle of MRC cable insertion point. (Back in Lincoln, data from logger was retrieved. However, the storage module was bad. The storage module may have been draining power from the battery. For next time look for anything that might be draining the battery; also replace the battery and possibly the regulator.)

August 10, 2008: Arrived at station at about 5:00 PM. The CR10X datalogger was replaced with a CR1000 datalogger to accommodate a new net radiometer (CNR2). Station clock was 3 minutes ahead. Removed CR10X (lithium battery was 3.13 V) and storage module and downloaded at the Hotel. Installed a CNR2 net radiometer and removed the old Rebs net radiometer. The globes were in tacked and not dented. The radiometer was slightly off level. Reset the clock. MRC probes were out of ground--#5 was ? cm, #6 was 23.5 cm, #7 was 21.0 cm, and #8 was 22.5 cm above soil surface to middle of MRC cable insertion point (measured from ground surface to middle of MRC cable insertion point). Need to bring one U bolt and screws for net radiometer post for next time.

August 11, 2008: Put silicone sealant on connection between net radiometer and power cord, and between net radiometer and post.

August 17, 2009: Downloaded data from CR1000. Everything seemed to be working okay. Checked reference values on the MRC probes—#6 was 1.21. Replaced desiccant on the CNR2 net radiometer. The radiometer was level. Station clock was okay. MRC probes were above the soil surface—#5 was 11 cm, #6 was 21 cm, #7 was 19 cm, and #8 was 20 cm above soil surface (measured from ground surface to middle of MRC cable insertion point). MRC vegetation sensor #6 was pushed back into the surface veg. MRC #8 cable had teeth marks at insertion to the probe—it was tapped. Replaced the 12 Ahr battery. Added two desiccant packs. Extra CNR2 desiccant (3) were left in the enclosure. Air temp was 3.0°C.

August 11, 2010: Downloaded data from CR1000 with RECON. Everything seemed to be working okay. Attempted to replace desiccant on the CNR2 net radiometer, but was unable to get screws out. The net radiometer was tilted down; re-leveled. Station clock was 50 s behind. Lithium battery was 3.39 volts; battery was 13.6 volts. Wind sensor looked good with no noise. MRC probes were above the soil surface—#5 was 8.5 cm, #6 was 21 cm, #7 was 19.5 cm, and #8 was 18.5 cm above soil surface (measured from ground surface to middle of MRC cable insertion point). Extra CNR2 desiccants (3) are in the enclosure. Air temp was 4.4°C, wind speed was 12-13 mph, and was foggy.

August 9, 2012: Downloaded data from CR1000 with RECON. Everything seemed to be working okay. The net radiometer was slightly tilted down; re-leveled. Station clock was 2 min ahead; reset clock. Lithium battery was 3.4 volts; battery was 12.11 volts. Replaced the battery; battery voltage was 12.48 volts. Wind sensor looked good with some noise; replaced bearings. Wiped off pyronometer sensors; top sensor was slightly off center. MRC probes were above the soil surface—#5 was 9 cm, #6 was 22 cm, #7 was 21.5 cm, and #8 was 21 cm (white surface wire was chewed through) above soil surface (measured from ground surface to middle of MRC cable insertion point). Extra CNR2 desiccants (3) are in the enclosure. Air temp was 14°C, wind speed was 7 mph, and was overcast. Pushed tripod rebar stakes back in a couple of inches.

August 9, 2014: Station was down. Disconnected the battery and removed the datalogger. MRC probes were above the soil surface—#5 was 12 cm, #6 was 27 cm, #7 was 27 cm, and #8 was 26 cm above soil surface (measured from ground surface to top of MRC probe). Bring new battery and datalogger for next time.

August 11, 2015: AEK. Plugged in datalogger (plugged in at 1:51 pm), replaced battery, re-leveled the net radiometer. Was bit of condensation inside lid – add desiccant next time. Did remove 1 bag of desiccant that seemed damp and a bit moldy. MRC’s – all solid in ground. MRC probes were above the soil surface—#5 was 11 cm, #6 was 29 cm, #7 was 27 cm, and #8 was 26 cm above soil surface (measured from ground surface to top of MRC probe). Add slurry next year to fill space around MRCs.

August 11, 2016: Station was down. It was determined that the regulator was bad. Compared voltages from old and new solar panels and they were great on their own but not through the regulator. Voltage coming through regulator was 1.6v compared to 20.4v at westdock8 station. Removed the datalogger and sent it back to Lincoln. MRC probe #7, is broken in two, 32 cm from the top. There were lots of vehicle tracks, we think from winter driving off road. I left it in place and could try to replace next year. (For next time replace battery and regulator and install datalogger.)

August 10, 2017: Replaced the battery and regulator. Installed the datalogger.

August 8, 2018: Downloaded data onto RECON. MRC probe #5 height = 12 cm; MRC probe #6 height = 29.5 cm; MRC probe #7 height = Broken; MRC probe #8 height = 32.5 cm. Net radiometer was level.

August 10, 2019: Downloaded data onto RECON. MRC probe #5 height = 12 cm; MRC probe #6 height = 28 cm; MRC probe #7 height = Broken; MRC probe #8 height = 32 cm. Net radiometer was leveled on Aug. 9th.

August 9, 2021: Downloaded data onto RECON. MRC probe #5 height = 12 cm; MRC probe #6 height = 29.5, MRC probe #7 height = Broken, MRC probe #8 = 34.5 cm. Net radiometer was leveled.

August 8, 2022: Downloaded data onto RECON. MRC probe #5 height = 13 cm; MRC probe #6 height = 27, MRC probe #7 height = Broken, MRC probe #8 = 36 cm. Net radiometer was leveled.

August 7, 2023: Downloaded data onto RECON. MRC probe #5 height = 12 cm; MRC probe #6 height = 32 cm (cable is chewed and no longer connected), MRC probe #7 height = broken, MRC probe #8 = broken. Net radiometer was leveled.

**DATA:**

DATALOGGER OUTPUT:

| COL | OUTPUT | UNITS | LOCATION | SENSOR | COMMENTS |
| --- | --- | --- | --- | --- | --- |
| 1 | Station ID | N/A | N/A | Campbell CR10 | 007 |
| 2 | Year | N/A | N/A | Campbell CR10 |  |
| 3 | Day | N/A | N/A | Campbell CR10 |  |
| 4 | Time | N/A | N/A | Campbell CR10 | AK savings time |
| 5 | Battery | Volts | Enclosure | Campbell CR10 |  |
| 6 | Int Temp | °C | Datalogger | Campbell CR10 |  |
| 7 | Air Temp | °C | Air 2 m | Campbell 107 |  |
| 8 | Solar Rad | W/m2 | Air 2 m | LiCor LI200X pyranometer | Facing up |
| 9 | Solar Rad | W/m2 | Air 2 m | LiCor LI200X pyranometer | Facing down |
| 10 | Net Rad | W/m2 | Air ½ m | REBS Q\*7.1 net radiometer |  |
| 11 | Net Rad | mV | Air ½ m | REBS Q\*7.1 net radiometer |  |
| 12 | Wind | mph | Air 2 m | MetOne | Speed |
| 13 | Wind | deg | Air 2 m | MetOne | Direction |
| 14 | Soil Temp | °C | Soil 0 cm | MRC Temperature Probe #1 |  |
| 15 | Soil Temp | °C | Soil 0 cm | MRC Temperature Probe #1 |  |
| 16 | Soil Temp | °C | Soil 0 cm | MRC Temperature Probe #1 |  |
| 17 | Soil Temp | °C | Soil 0 cm | MRC Temperature Probe #1 |  |
| 18 | Soil Temp | °C | Soil 0 cm | MRC Temperature Probe #1 |  |
| 19 | Soil Temp | °C | Soil 0 cm | MRC Temperature Probe #1 |  |
| 20 | Soil Temp | °C | Soil 0 cm | MRC Temperature Probe #1 |  |
| 21 | Soil Temp | °C | Soil 0 cm | MRC Temperature Probe #1 |  |
| 22 | Soil Temp | °C | Soil 0 cm | MRC Temperature Probe #1 |  |
| 23 | Soil Temp | °C | Soil 0 cm | MRC Temperature Probe #1 |  |
| 24 | Soil Temp | °C | Soil 0 cm | MRC Temperature Probe #1 |  |
| 25 | Soil Temp | °C | Soil 0 cm | MRC Temperature Probe #1 |  |
| 26 | Soil Temp | °C | Soil 0 cm | MRC Temperature Probe #1 |  |
| 27 | Soil Temp | °C |  | MRC Temperature Probe #1 | Reference value |
| 29 | Soil Temp | °C | Soil 0 cm | MRC Temperature Probe #2 |  |
| 29 | Soil Temp | °C | Soil 0 cm | MRC Temperature Probe #2 |  |
| 30 | Soil Temp | °C | Soil 0 cm | MRC Temperature Probe #2 |  |
| 31 | Soil Temp | °C | Soil 0 cm | MRC Temperature Probe #2 |  |
| 32 | Soil Temp | °C | Soil 0 cm | MRC Temperature Probe #2 |  |
| 33 | Soil Temp | °C | Soil 0 cm | MRC Temperature Probe #2 |  |
| 34 | Soil Temp | °C | Soil 0 cm | MRC Temperature Probe #2 |  |
| 35 | Soil Temp | °C | Soil 0 cm | MRC Temperature Probe #2 |  |
| 36 | Soil Temp | °C | Soil 0 cm | MRC Temperature Probe #2 |  |
| 37 | Soil Temp | °C | Soil 0 cm | MRC Temperature Probe #2 |  |
| 38 | Soil Temp | °C | Soil 0 cm | MRC Temperature Probe #2 |  |
| 39 | Soil Temp | °C | Soil 0 cm | MRC Temperature Probe #2 |  |
| 40 | Soil Temp | °C | Soil 0 cm | MRC Temperature Probe #2 |  |
| 41 | Soil Temp | °C |  | MRC Temperature Probe #2 | Reference value |
| 42 | Soil Temp | °C | Soil 0 cm | MRC Temperature Probe #3 |  |
| 43 | Soil Temp | °C | Soil 0 cm | MRC Temperature Probe #3 |  |
| 44 | Soil Temp | °C | Soil 0 cm | MRC Temperature Probe #3 |  |
| 45 | Soil Temp | °C | Soil 0 cm | MRC Temperature Probe #3 |  |
| 46 | Soil Temp | °C | Soil 0 cm | MRC Temperature Probe #3 |  |
| 47 | Soil Temp | °C | Soil 0 cm | MRC Temperature Probe #3 |  |
| 48 | Soil Temp | °C | Soil 0 cm | MRC Temperature Probe #3 |  |
| 49 | Soil Temp | °C | Soil 0 cm | MRC Temperature Probe #3 |  |
| 50 | Soil Temp | °C | Soil 0 cm | MRC Temperature Probe #3 |  |
| 51 | Soil Temp | °C | Soil 0 cm | MRC Temperature Probe #3 |  |
| 52 | Soil Temp | °C | Soil 0 cm | MRC Temperature Probe #3 |  |
| 53 | Soil Temp | °C | Soil 0 cm | MRC Temperature Probe #3 |  |
| 54 | Soil Temp | °C | Soil 0 cm | MRC Temperature Probe #3 |  |
| 55 | Soil Temp | °C |  | MRC Temperature Probe #3 | Reference value |
| 56 | Soil Temp | °C | Soil 0 cm | MRC Temperature Probe #4 |  |
| 57 | Soil Temp | °C | Soil 0 cm | MRC Temperature Probe #4 |  |
| 58 | Soil Temp | °C | Soil 0 cm | MRC Temperature Probe #4 |  |
| 59 | Soil Temp | °C | Soil 0 cm | MRC Temperature Probe #4 |  |
| 60 | Soil Temp | °C | Soil 0 cm | MRC Temperature Probe #4 |  |
| 61 | Soil Temp | °C | Soil 0 cm | MRC Temperature Probe #4 |  |
| 62 | Soil Temp | °C | Soil 0 cm | MRC Temperature Probe #4 |  |
| 63 | Soil Temp | °C | Soil 0 cm | MRC Temperature Probe #4 |  |
| 64 | Soil Temp | °C | Soil 0 cm | MRC Temperature Probe #4 |  |
| 65 | Soil Temp | °C | Soil 0 cm | MRC Temperature Probe #4 |  |
| 66 | Soil Temp | °C | Soil 0 cm | MRC Temperature Probe #4 |  |
| 67 | Soil Temp | °C | Soil 0 cm | MRC Temperature Probe #4 |  |
| 68 | Soil Temp | °C | Soil 0 cm | MRC Temperature Probe #4 |  |
| 69 | Soil Temp | °C |  | MRC Temperature Probe #4 | Reference value |
| 70 | Max Wind | mph | Air 2 m | MetOne | Hourly max 10-s |
| 71 | Max Air Temp | °C | Air 2 m | Campbell 107 | Hourly max 10-s |
| 72 | Min Air Temp | °C | Air 2 m | Campbell 107 | Hourly min 10-s |

DATALOGGER OUTPUT: After 8/19/2006

| COL | OUTPUT | UNITS | LOCATION | SENSOR | COMMENTS |
| --- | --- | --- | --- | --- | --- |
| 1 | Station ID | N/A | N/A | Campbell CR10 | 007 |
| 2 | Year | N/A | N/A | Campbell CR10 |  |
| 3 | Day | N/A | N/A | Campbell CR10 |  |
| 4 | Time | N/A | N/A | Campbell CR10 | AK savings time |
| 5 | Battery | Volts | Enclosure | Campbell CR10 | Hourly ave |
| 6 | Lith Battery | Volts | Datalogger | Campbell CR10 | Hourly min |
| 7 | Int Temp | °C | Datalogger | Campbell CR10 |  |
| 8 | Air Temp | °C | Air 2 m | Campbell 107 | Hourly average |
| 9 | Max Air Temp | °C | Air 2 m | Campbell 107 | Hourly max 10-s |
| 10 | Min Air Temp | °C | Air 2 m | Campbell 107 | Hourly min 10-s |
| 11 | Solar Rad | W/m2 | Air 2 m | LiCor LI200X pyranometer | Facing up |
| 12 | Albedo | W/m2 | Air 2 m | LiCor LI200X pyranometer | Facing down |
| 13 | Net Rad | W/m2 | Air ½ m | REBS Q\*7.1 net radiometer |  |
| 14 | Net Rad | mV | Air ½ m | REBS Q\*7.1 net radiometer |  |
| 15 | Wind | mph | Air 2 m | R.M. Young | Speed |
| 16 | Wind | deg | Air 2 m | R.M. Young | Direction |
| 17 | Max Wind | mph | Air 2 m | R.M. Young | Hourly max 10-s |
| 18 | Soil Temp | °C | Soil 0 cm | MRC Temperature Probe #1 | Trough |
| 19 | Soil Temp | °C | Soil 0 cm | MRC Temperature Probe #1 | Trough |
| 20 | Soil Temp | °C | Soil 0 cm | MRC Temperature Probe #1 | Trough |
| 21 | Soil Temp | °C | Soil 0 cm | MRC Temperature Probe #1 | Trough |
| 22 | Soil Temp | °C | Soil 0 cm | MRC Temperature Probe #1 | Trough |
| 23 | Soil Temp | °C | Soil 0 cm | MRC Temperature Probe #1 | Trough |
| 24 | Soil Temp | °C | Soil 0 cm | MRC Temperature Probe #1 | Trough |
| 25 | Soil Temp | °C | Soil 0 cm | MRC Temperature Probe #1 | Trough |
| 26 | Soil Temp | °C | Soil 0 cm | MRC Temperature Probe #1 | Trough |
| 27 | Soil Temp | °C | Soil 0 cm | MRC Temperature Probe #1 | Trough |
| 28 | Soil Temp | °C | Soil 0 cm | MRC Temperature Probe #1 | Trough |
| 29 | Soil Temp | °C | Soil 0 cm | MRC Temperature Probe #1 | Trough |
| 30 | Soil Temp | °C | Soil 0 cm | MRC Temperature Probe #1 | Trough |
| 31 | Soil Temp | °C |  | MRC Temperature Probe #1 | Reference value |
| 32 | Soil Temp | °C | Soil 0 cm | MRC Temperature Probe #2 | Ridge |
| 33 | Soil Temp | °C | Soil 0 cm | MRC Temperature Probe #2 | Ridge |
| 34 | Soil Temp | °C | Soil 0 cm | MRC Temperature Probe #2 | Ridge |
| 35 | Soil Temp | °C | Soil 0 cm | MRC Temperature Probe #2 | Ridge |
| 36 | Soil Temp | °C | Soil 0 cm | MRC Temperature Probe #2 | Ridge |
| 37 | Soil Temp | °C | Soil 0 cm | MRC Temperature Probe #2 | Ridge |
| 38 | Soil Temp | °C | Soil 0 cm | MRC Temperature Probe #2 | Ridge |
| 39 | Soil Temp | °C | Soil 0 cm | MRC Temperature Probe #2 | Ridge |
| 40 | Soil Temp | °C | Soil 0 cm | MRC Temperature Probe #2 | Ridge |
| 41 | Soil Temp | °C | Soil 0 cm | MRC Temperature Probe #2 | Ridge |
| 42 | Soil Temp | °C | Soil 0 cm | MRC Temperature Probe #2 | Ridge |
| 43 | Soil Temp | °C | Soil 0 cm | MRC Temperature Probe #2 | Ridge |
| 44 | Soil Temp | °C | Soil 0 cm | MRC Temperature Probe #2 | Ridge |
| 45 | Soil Temp | °C |  | MRC Temperature Probe #2 | Reference value |
| 46 | Soil Temp | °C | Soil 0 cm | MRC Temperature Probe #3 | In polygon |
| 47 | Soil Temp | °C | Soil 0 cm | MRC Temperature Probe #3 | In polygon |
| 48 | Soil Temp | °C | Soil 0 cm | MRC Temperature Probe #3 | In polygon |
| 49 | Soil Temp | °C | Soil 0 cm | MRC Temperature Probe #3 | In polygon |
| 50 | Soil Temp | °C | Soil 0 cm | MRC Temperature Probe #3 | In polygon |
| 51 | Soil Temp | °C | Soil 0 cm | MRC Temperature Probe #3 | In polygon |
| 52 | Soil Temp | °C | Soil 0 cm | MRC Temperature Probe #3 | In polygon |
| 53 | Soil Temp | °C | Soil 0 cm | MRC Temperature Probe #3 | In polygon |
| 54 | Soil Temp | °C | Soil 0 cm | MRC Temperature Probe #3 | In polygon |
| 55 | Soil Temp | °C | Soil 0 cm | MRC Temperature Probe #3 | In polygon |
| 56 | Soil Temp | °C | Soil 0 cm | MRC Temperature Probe #3 | In polygon |
| 57 | Soil Temp | °C | Soil 0 cm | MRC Temperature Probe #3 | In polygon |
| 58 | Soil Temp | °C | Soil 0 cm | MRC Temperature Probe #3 | In polygon |
| 59 | Soil Temp | °C |  | MRC Temperature Probe #3 | Reference value |
| 60 | Soil Temp | °C | Soil 0 cm | MRC Temperature Probe #4 | In polygon |
| 61 | Soil Temp | °C | Soil 0 cm | MRC Temperature Probe #4 | In polygon |
| 62 | Soil Temp | °C | Soil 0 cm | MRC Temperature Probe #4 | In polygon |
| 63 | Soil Temp | °C | Soil 0 cm | MRC Temperature Probe #4 | In polygon |
| 64 | Soil Temp | °C | Soil 0 cm | MRC Temperature Probe #4 | In polygon |
| 65 | Soil Temp | °C | Soil 0 cm | MRC Temperature Probe #4 | In polygon |
| 66 | Soil Temp | °C | Soil 0 cm | MRC Temperature Probe #4 | In polygon |
| 67 | Soil Temp | °C | Soil 0 cm | MRC Temperature Probe #4 | In polygon |
| 68 | Soil Temp | °C | Soil 0 cm | MRC Temperature Probe #4 | In polygon |
| 69 | Soil Temp | °C | Soil 0 cm | MRC Temperature Probe #4 | In polygon |
| 70 | Soil Temp | °C | Soil 0 cm | MRC Temperature Probe #4 | In polygon |
| 71 | Soil Temp | °C | Soil 0 cm | MRC Temperature Probe #4 | In polygon |
| 72 | Soil Temp | °C | Soil 0 cm | MRC Temperature Probe #4 | In polygon |
| 73 | Soil Temp | °C |  | MRC Temperature Probe #4 | Reference value |

DATALOGGER OUTPUT: After 8/10/2008

| COL | OUTPUT | UNITS | LOCATION | SENSOR | COMMENTS |
| --- | --- | --- | --- | --- | --- |
| 1 | Time Stamp | N/A | N/A | Campbell CR1000 |  |
| 2 | Record No. | N/A | N/A | Campbell CR1000 |  |
| 3 | Year | N/A | N/A | Campbell CR1000 |  |
| 4 | Day | N/A | N/A | Campbell CR1000 | Julian day |
| 5 | Hour | N/A | N/A | Campbell CR1000 | AK savings time |
| 6 | Battery | Volts | Enclosure |  | Hourly ave |
| 7 | Lith Battery | Volts | Datalogger | Campbell CR1000 | Hourly min |
| 8 | Int Temp | °C | Datalogger | Campbell CR1000 |  |
| 9 | Air Temp | °C | Air 2 m | Campbell 107 | Hourly average |
| 10 | Max Air Temp | °C | Air 2 m | Campbell 107 | Hourly max 10-s |
| 11 | Min Air Temp | °C | Air 2 m | Campbell 107 | Hourly min 10-s |
| 12 | Solar Rad | W/m2 | Air 2 m | LiCor LI200X pyranometer | Facing up |
| 13 | Albedo | W/m2 | Air 2 m | LiCor LI200X pyranometer | Facing down |
| 14 | Net Rad Short | W/m2 | Air ½ m | CNR2 net radiometer |  |
| 15 | Net Rad Long | W/m2 | Air ½ m | CNR2 net radiometer |  |
| 16 | Wind Speed | mph | Air 2 m | R.M. Young |  |
| 17 | Wind Direction | deg | Air 2 m | R.M. Young |  |
| 18 | Max Wind | mph | Air 2 m | R.M. Young | Hourly max 10-s |
| 19 | Wind Speed m | m/s | Air 2 M | R.M. Young |  |
| 20 | Soil Temp | °C | Soil 0 cm | MRC Temperature Probe #1 | In polygon |
| 21 | Soil Temp | °C | Soil 0 cm | MRC Temperature Probe #1 | In polygon |
| 22 | Soil Temp | °C | Soil 0 cm | MRC Temperature Probe #1 | In polygon |
| 23 | Soil Temp | °C | Soil 0 cm | MRC Temperature Probe #1 | In polygon |
| 24 | Soil Temp | °C | Soil 0 cm | MRC Temperature Probe #1 | In polygon |
| 25 | Soil Temp | °C | Soil 0 cm | MRC Temperature Probe #1 | In polygon |
| 26 | Soil Temp | °C | Soil 0 cm | MRC Temperature Probe #1 | In polygon |
| 27 | Soil Temp | °C | Soil 0 cm | MRC Temperature Probe #1 | In polygon |
| 28 | Soil Temp | °C | Soil 0 cm | MRC Temperature Probe #1 | In polygon |
| 29 | Soil Temp | °C | Soil 0 cm | MRC Temperature Probe #1 | In polygon |
| 30 | Soil Temp | °C | Soil 0 cm | MRC Temperature Probe #1 | In polygon |
| 31 | Soil Temp | °C | Soil 0 cm | MRC Temperature Probe #1 | In polygon |
| 32 | Soil Temp | °C | Soil 0 cm | MRC Temperature Probe #1 | In polygon |
| 33 | Soil Temp | °C |  | MRC Temperature Probe #1 | Reference value |
| 34 | Soil Temp | °C | Soil 0 cm | MRC Temperature Probe #2 | Ridge |
| 35 | Soil Temp | °C | Soil 0 cm | MRC Temperature Probe #2 | Ridge |
| 36 | Soil Temp | °C | Soil 0 cm | MRC Temperature Probe #2 | Ridge |
| 37 | Soil Temp | °C | Soil 0 cm | MRC Temperature Probe #2 | Ridge |
| 38 | Soil Temp | °C | Soil 0 cm | MRC Temperature Probe #2 | Ridge |
| 39 | Soil Temp | °C | Soil 0 cm | MRC Temperature Probe #2 | Ridge |
| 40 | Soil Temp | °C | Soil 0 cm | MRC Temperature Probe #2 | Ridge |
| 41 | Soil Temp | °C | Soil 0 cm | MRC Temperature Probe #2 | Ridge |
| 42 | Soil Temp | °C | Soil 0 cm | MRC Temperature Probe #2 | Ridge |
| 43 | Soil Temp | °C | Soil 0 cm | MRC Temperature Probe #2 | Ridge |
| 44 | Soil Temp | °C | Soil 0 cm | MRC Temperature Probe #2 | Ridge |
| 45 | Soil Temp | °C | Soil 0 cm | MRC Temperature Probe #2 | Ridge |
| 46 | Soil Temp | °C | Soil 0 cm | MRC Temperature Probe #2 | Ridge |
| 47 | Soil Temp | °C |  | MRC Temperature Probe #2 | Reference value |
| 48 | Soil Temp | °C | Soil 0 cm | MRC Temperature Probe #3 | Trough |
| 49 | Soil Temp | °C | Soil 0 cm | MRC Temperature Probe #3 | Trough |
| 50 | Soil Temp | °C | Soil 0 cm | MRC Temperature Probe #3 | Trough |
| 51 | Soil Temp | °C | Soil 0 cm | MRC Temperature Probe #3 | Trough |
| 52 | Soil Temp | °C | Soil 0 cm | MRC Temperature Probe #3 | Trough |
| 53 | Soil Temp | °C | Soil 0 cm | MRC Temperature Probe #3 | Trough |
| 54 | Soil Temp | °C | Soil 0 cm | MRC Temperature Probe #3 | Trough |
| 55 | Soil Temp | °C | Soil 0 cm | MRC Temperature Probe #3 | Trough |
| 56 | Soil Temp | °C | Soil 0 cm | MRC Temperature Probe #3 | Trough |
| 57 | Soil Temp | °C | Soil 0 cm | MRC Temperature Probe #3 | Trough |
| 58 | Soil Temp | °C | Soil 0 cm | MRC Temperature Probe #3 | Trough |
| 59 | Soil Temp | °C | Soil 0 cm | MRC Temperature Probe #3 | Trough |
| 60 | Soil Temp | °C | Soil 0 cm | MRC Temperature Probe #3 | Trough |
| 61 | Soil Temp | °C |  | MRC Temperature Probe #3 | Reference value |
| 62 | Soil Temp | °C | Soil 0 cm | MRC Temperature Probe #4 | In polygon |
| 63 | Soil Temp | °C | Soil 0 cm | MRC Temperature Probe #4 | In polygon |
| 64 | Soil Temp | °C | Soil 0 cm | MRC Temperature Probe #4 | In polygon |
| 65 | Soil Temp | °C | Soil 0 cm | MRC Temperature Probe #4 | In polygon |
| 66 | Soil Temp | °C | Soil 0 cm | MRC Temperature Probe #4 | In polygon |
| 67 | Soil Temp | °C | Soil 0 cm | MRC Temperature Probe #4 | In polygon |
| 68 | Soil Temp | °C | Soil 0 cm | MRC Temperature Probe #4 | In polygon |
| 69 | Soil Temp | °C | Soil 0 cm | MRC Temperature Probe #4 | In polygon |
| 70 | Soil Temp | °C | Soil 0 cm | MRC Temperature Probe #4 | In polygon |
| 71 | Soil Temp | °C | Soil 0 cm | MRC Temperature Probe #4 | In polygon |
| 72 | Soil Temp | °C | Soil 0 cm | MRC Temperature Probe #4 | In polygon |
| 73 | Soil Temp | °C | Soil 0 cm | MRC Temperature Probe #4 | In polygon |
| 74 | Soil Temp | °C | Soil 0 cm | MRC Temperature Probe #4 | In polygon |
| 75 | Soil Temp | °C |  | MRC Temperature Probe #4 | Reference value |

DATA PROCESSING ALGORITHMS:

Vitel Hydra Probe soil moisture, temperature, complex dielectric constant, electrical conductivity, and salinity are determined from the raw data (four voltages), and a calibration option (1, 2, or 3), depending on the soil texture, with a program supplied by Vitel, Inc. Option 2 (silt) is used here.

DATA STORAGE AND ACCESS:

Processed data are available on the USDA NRCS NSSC Internet home page at [http://www.wcc.nrcs.usda.gov](http://www.wcc.nrcs.usda.gov/). Data are in Excel files organized by calendar year. Each file consists of a page containing all downloaded data for that year with the following column headings: ID (site), YEAR, DAY OF YEAR, HOUR, TIME, DATE, BATT VOLT (battery voltage), INT TEMP °C (datalogger temperature), Air TEMP °C, SOLAR RADIATION IN W/m2, SOLAR RADIATION OUT W/m2, NET RAD W/m2, NET RAD mV, WIND mph, WIND dir, MRC1 veg °C, MRC2 0 cm °C, MRC3 0 cm °C, MRC4 0 cm °C, MRC5 0 cm °C, MRC6 0 cm °C, MRC7 0 cm °C, MRC8 0 cm °C, MRC9 0 cm °C, MRC10 0 cm °C, MRC11 0 cm °C, MRC12 0 cm °C, MRC13 0 cm °C, MRC ref, MRC1 veg °C, MRC2 0 cm °C, MRC3 0 cm °C, MRC4 0 cm °C, MRC5 0 cm °C, MRC6 0 cm °C, MRC7 0 cm °C, MRC8 0 cm °C, MRC9 0 cm °C, MRC10 0 cm °C, MRC11 0 cm °C, MRC12 0 cm °C, MRC13 0 cm °C, MRC ref, MRC1 veg °C, MRC2 0 cm °C, MRC3 0 cm °C, MRC4 0 cm °C, MRC5 0 cm °C, MRC6 0 cm °C, MRC7 0 cm °C, MRC8 0 cm °C, MRC9 0 cm °C, MRC10 0 cm °C, MRC11 0 cm °C, MRC12 0 cm °C, MRC13 0 cm °C, MRC ref, MRC1 veg °C, MRC2 0 cm °C, MRC3 0 cm °C, MRC4 0 cm °C, MRC5 0 cm °C, MRC6 0 cm °C, MRC7 0 cm °C, MRC8 0 cm deg C, MRC9 0 cm °C, MRC10 0 cm °C, MRC11 0 cm °C, MRC12 0 cm °C, MRC13 0 cm °C, MRC ref.

**SOILS:**

CLASSIFICATION:

Soils were sampled and described near Ken Hinkel’s site at Westdock.

**LANDSCAPE:**

SLOPE:

ASPECT:

ELEVATION:

**VEGETATION:** Moss, grass, and small annual flowers.

GROUND COVER:

CANOPY COVER:

**COMMENTS:** Added proper coefficients for net radiometer to datalogger program. (Check SN: Q96018 (hopefully this was completed in 2002). The coefficients for the REBS net radiometer are C.F. Top 9.35 Wm-2 mV-1, C.F. Bot 11.59 Wm-2 mV-1(SN:Q96018), which was removed in 2008.

**NOTES FOR NEXT STATION VISIT:** Routine maintenance.