

Statement of Work: Key punching for Monitoring Strategies & Data Management Division (MSDMD)

Appendix A: Form Types

0063-2270 Class "A" Pan Evaporation Monthly Record

Environment Canada		Environnement Canada		2270 4020560 - 0660E BEECHY COOL									
CLASS "A" PAN EVAPORATION - MONTHLY RECORD EVAPOURATION DU BAC DE CLASSE "A" - RELEVÉ MENSUEL							MONTH/MOIS <u>JUNE</u> 2007						
DATE	Water		Rain Gauge	Net	MOISTURE	Daily Wind Run	Water Temperature Temp. de l'eau (C)			Air Temperature Temp. de l'air			REMARKS REMARQUES
	Added (1)	Removed (2)	Précip. au pluviomètre (mm) (3)	water loss from pan (mm) (4)	Parcours Accumulé du vent (mm) (5)	Parcours quotidien du vent (mm) (6)	Max (7)	Min (8)	Mean Moyenne (9)	Max (10)	Min (11)	Mean Moyenne (12)	
1	4.5				7289		23.5	9.5		24.0	11.0		
2	3.4				7401		26.5	14.0		28.0	8.0		
3	6.8				7486		32.0	13.0		29.5	10.5		
4	2.1		0.3		7555		29.5	14.0		24.5	8.0		
5	7.2				7599		28.0	13.0		28.0	8.5		
6	6.3				7683		30.0	12.0		17.0	10.5		
7	3.8		2.0		7863		20.5	5.0		18.5	0.5		
8	6.2				8070		20.5	5.0		24.5	5.5		
9	6.6				8200		23.5	8.0		24.0	4.5		
10	0.2		2.2		8241		25.5	9.5		25.0	10.0		
11	2.4		2.1		8273		26.5	13.5		26.0	12.0		
12	1.8		4.6		8359		28.0	14.0		28.5	6.5		
13	7.2				8461		25.0	10.0		25.5	5.0		
14	9.2				8554		27.0	14.5		24.5	7.5		
15	4.8		0.3		8635		25.5	13.0		23.5	9.5		
16	4.8				8728		24.0	11.5		25.0	4.0		
17	5.0				8774		27.0	11.0		19.0	13.0		
18		14.4	15.8		8733		20.5	9.0		20.0	9.0		
19	7.8		1.3		9194		22.0	9.0		23.0	4.0		
20	6.2				9282		27.0	8.5		25.5	8.0		
21	5.3				9321		32.5	13.0		32.5	10.5		
22	9.2				9442		30.5	15.0		31.5	12.0		
23	7.2				9491		32.5	16.0		27.5	12.5		
24	8.2				9641		29.5	13.5		17.0	5.5		
25		3.7	5.0		9672		18.0	13.0		18.0	12.5		
26		7.2	11.9		9797		21.0	10.5		17.5	8.5		
27	2.4				0024		18.5	9.5		19.5	5.5		
28	7.0				0078		28.0	9.0		24.0	8.5		
29	5.2				0193		28.5	12.0		26.0	12.0		
30	1.3		4.5		0349		26.5	13.5		27.5	15.0		
31			50.0										

Use of shaded areas is at discretion of regional headquarters
L'emploi des espaces ombrés est à la discrétion de la direction régionale
0063-2270 (88-06)

0063-2271 Monthly Record of Soil Temperature

Statement of Work: Key punching for Monitoring Strategies & Data Management Division (MSDMD)


Environment Canada
 Environnement Canada
 Atmospheric Environment Service
 Service de l'environnement atmosphérique

2271 4012400 - 2580D
ESTEVAN A

**MONTHLY RECORD OF
 SOIL TEMPERATURE**

OBSERVATIONS											
STATION ESTEVAN A											
PROVINCE SK MONTH JAN YEAR 2007											
DATE	MORNING.....08.00.....ST								AFTERNOON.....16.00.....ST		
	5 cm	10 cm	20 cm	50 cm	100 cm	150 cm	300 cm	Depth of Snow on the Ground (whole cm)	5 cm	10 cm	20 cm
1	2	3	4	5	6	7	8	9	10	11	12
1	-2.5	-2.5	-1.5	-0.5	1.5	3.0	6.0	15	-2.5	-2.5	-1.5
2	-2.5	-2.5	-2.0	-0.5	1.5	3.0	6.0	14	-2.0	-2.5	-1.5
3	-2.0	-2.0	-1.5	-0.5	1.5	3.0	6.0	13	-1.5	-2.0	-1.5
4	-1.5	-1.5	-1.5	-0.5	1.5	3.0	6.0	12	-1.5	-1.5	-1.0
5	-2.0	-2.0	-1.0	-0.5	1.5	3.0	6.0	12	-2.0	-2.0	-1.5
6	-3.0	-3.0	-1.5	-0.5	1.5	3.0	6.0	10	-2.5	-2.5	-2.0
7	-2.5	-2.5	-1.5	-0.5	1.0	3.0	6.0	9	-2.5	-3.0	-2.0
8	-2.5	-2.5	-2.0	-0.5	1.5	3.0	6.0	9	-2.0	-2.5	-2.0
9	-3.0	-3.5	-2.0	-0.5	1.0	3.0	6.0	9	-3.0	-3.5	-2.0
10	-3.0	-3.0	-2.0	-0.5	1.0	3.0	5.5	9	-3.0	-3.0	-2.0
11	-4.0	-4.5	-2.5	-1.0	1.0	2.5	5.5	9	-5.0	-5.0	-3.0
12	-7.0	-7.5	-4.0	-1.0	1.0	3.0	5.5	11	-7.0	-7.5	-4.5
13	-7.0	-7.5	-5.0	-1.0	1.0	2.5	5.5	10	-7.0	-7.5	-5.0
14	-6.5	-7.0	-5.0	-1.5	1.0	2.5	5.5	10	-6.5	-7.0	-5.0
15	-7.5	-8.0	-5.5	-2.0	1.0	2.5	5.5	10	-7.5	-7.5	-5.5
16	-7.5	-7.5	-5.5	-2.0	1.0	3.0	5.5	10	-6.0	-6.5	-5.0
17	-5.5	-6.0	-4.5	-2.0	1.0	2.5	5.5	10	-5.5	-5.5	-4.5
18	-5.5	-5.5	-4.0	-2.0	1.0	2.5	5.5	10	-5.0	-5.0	-4.0
19	-5.5	-6.0	-4.0	-2.0	1.0	2.5	5.5	10	-5.5	-6.0	-4.5
20	-4.5	-5.0	-4.0	-2.0	1.0	2.5	5.5	10	-4.5	-4.5	-4.0
21	-5.0	-5.5	-4.0	-2.0	1.0	2.5	5.5	10	-5.0	-5.5	-4.0
22	-5.0	-5.5	-4.0	-2.0	2.5	2.5	5.5	9	-4.5	-5.0	-4.0
23	-4.0	-4.0	-3.5	-2.0	2.5	2.5	5.5	10	-3.5	-3.5	-3.0
24	-3.5	-3.5	-3.0	-2.0	0.5	2.0	5.0	10	-4.0	-4.0	-3.0
25	-3.5	-3.5	-3.0	-2.0	0.5	2.0	5.0	10	-3.0	-3.5	-3.0
26	-3.0	-3.0	-2.5	-1.5	0.5	2.0	5.0	9	-3.0	-3.0	-2.5
27	-4.0	-4.0	-3.0	-1.5	0.5	2.0	5.0	9	-4.5	-4.5	-3.0
28	-5.0	-5.5	-3.5	-2.0	0.5	2.0	5.0	11.0	-4.5	-5.0	-4.0
29	-5.0	-5.0	-3.5	-2.0	0.5	2.0	5.0	11.0	-5.5	-5.5	-4.0
30	-7.0	-7.0	-4.5	-2.0	0.5	2.0	5.0	11.0	-6.5	-7.0	-5.0
31	-5.5	-6.0	-4.5	-2.5	0.5	2.0	5.0	11.0	-6.0	-6.5	-5.0
Sum	-135.5	-142.0	-99.5	-43.0	29.5	77.0	171		-132.0	-140.0	-102.5
Mean	-4.4	-4.6	-3.2	-1.4	1.0	2.5	5.5		-4.3	-4.5	-3.3

Daily Temperatures - record to nearest 0.5 degree C, i.e. 6.0, -1.5, 0.0, 20.5, -4.0 : mean temperatures - record to nearest 0.1°C, i.e. 2.3, 0.5, 8.7
 Depth of snow on ground - record to nearest whole cm, less than .5 cm but more than 0 cm enter ".5" for trace. Enter 0 for no snow.

REMARKS: (Note any departures from normal temperature range at any depth)

Statement of Work: Key punching for Monitoring Strategies & Data Management Division (MSDMD)

0063-2304 Climatological Station Report



Climatological Station Report

Code
L1



0420D 8201410 NS

DEMING

Station: Deming

Province: New Mexico

Month: APRIL 2009

Observer: L. K. Carr

MORNING OBSERVATION AT 5: LT										AFTERNOON OBSERVATION AT 4: LT										TIME OF PRECIPITATION (Calendar Day)		REMARKS (Calendar Day)
TEMPERATURE (°C)		PRECIPITATION			SNOW ON GROUND (cm)		TEMPERATURE (°C)		PRECIPITATION			SNOW ON GROUND (cm)		WIND		WIND		BEGAN	ENDED			
1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21		
		3.0	2.0					4.0	2.5	3.5												
		3.0	1.5	1.5				5.5	1.5	4.5												
		5.5	3.5	4.5	2.4			5.0	3.0	4.5	2.2											
		5.0	0.5	2.0	0.8			5.0	2.0	3.0												
		4.0	0.5	1.5	0.8			7.0	1.5	6.0												
		7.0	0.0	2.0	1.2			6.0	2.0	5.0	1.0											
		7.0	1.5	2.0	7.0			5.0	2.0	4.0	1.0											
		4.0	0.0	1.5				6.0	1.5	5.0												
		5.5	1.5	1.5				5.0	1.5	5.0												
		6.0	0.5	1.0				4.5	1.0	3.0	1.8											
		6.0	2.0	5.0	16.6			6.5	4.0	4.0	2.0											
		5.0	0.5	2.0	0.4	T		5.0	2.0	4.0												
		4.0	0.0	2.0				5.0	2.0	4.0												
		4.0	0.0	2.0				6.0	2.0	5.0												
		5.5	3.0	0.0				3.0	1.0	2.0												
		2.0	4.5	1.0				9.0	1.0	4.5												
		4.5	1.0	1.0	2.0			4.5	2.0	13.0												
		3.0	3.0	0.5				6.5	1.0	1.0												
		5.0	4.0	2.0				9.0	0.0	5.5												
		6.0	2.0	0.5				7.0	0.5	5.0												
		5.5	2.5	1.5	3.4			8.0	3.0	7.0												
		2.5	5.0	6.0	6.6			7.5	4.5	6.0	1.8											
		6.0	3.5	4.0				13.0	4.0	11.0												
		11.5	0.0	4.0				9.0	4.0	8.5												
		8.5	2.0	4.5				12.0	4.5	8.0	1.0											
		8.5	0.5	3.0				9.0	3.0	7.0												
		7.0	3.0	4.5				7.5	4.5	7.0												
		14.5	4.0	6.0				8.0	5.0	6.5												
		7.5	1.0	8.5				8.5	3.5	8.0												
		8.5																				
20 TOTAL																						
21 MEAN																						

NOTE: To complete a month, enter the AM readings of day 1 of the new month on the last line above.

0063-2304 (5/07)

Statement of Work: Key punching for Monitoring Strategies & Data Management Division (MSDMD)

0063-2325 Monthly Summary of Instrument Malfunctions, Changes and New Installations

FOR A&S DOWNS/VIEW USE ONLY		STATION <u>COEA - HARBOUR</u> PROV. <u>ALBERTA</u> MONTH <u>JANUARY</u> <u>192015</u>		APR I.D. Label MONTHLY SUMMARY OF INSTRUMENT MALFUNCTIONS, CHANGES AND NEW INSTALLATIONS	
ACTION COMPLETED		DAY 1	0	DAY 11	1
NO. 1 CARDS PUNCHED		DAY 2		DAY 12	3
NO. 4 CARDS PUNCHED		DAY 3	1	DAY 13	
MICROFILMED		DAY 4	1	DAY 14	1
FOR STATION USE		DAY 5	1	DAY 15	2
1. OBSERVING PROGRAM		DAY 6	5	DAY 16	3
(a) Number of scheduled observations taken daily and entered in Section II of Form		DAY 7	6	DAY 17	4
(b) Was the observing program during this month carried out as published in the current issue of "METSTAT" - Meteorological Stations in Canada? If "no" give details in Remarks.		DAY 8	3	DAY 18	0
(c) Are 24-hour wind observations recorded?		DAY 9	3	DAY 19	3
2. WIND RECORDERS (Graph or Chart)		DAY 10	0	DAY 20	0
MSC Anemograph (sigs recorder)		DAY 11		DAY 21	2
U2A - Manuo (sigs recorder)		DAY 12		DAY 22	7
Bendix-Foster (sigs recorder)		DAY 13		DAY 23	
Other (specify)		DAY 14		DAY 24	
3. WIND INDICATORS (No graph or Chart)		DAY 15		DAY 25	
7ED (sigs)		DAY 16		DAY 26	
U2A (direct dial reading)		DAY 17		DAY 27	
Other (specify)		DAY 18		DAY 28	
4. WIND ESTIMATED		DAY 19		DAY 29	
No wind equipment operational		DAY 20		DAY 30	
5. PSYCHROMETER		DAY 21		DAY 31	
Vented - Motor or Sling		DAY 22		DAY 32	
Non-Vented		DAY 23		DAY 33	
Dewcel		DAY 24		DAY 34	
6. NEPHER SNOW GAUGE		DAY 25		DAY 35	
Standard, Type B (large capacity)		DAY 26		DAY 36	
Recording (SNC)		DAY 27		DAY 37	
Other (specify)		DAY 28		DAY 38	
7. RAIN GAUGES		DAY 29		DAY 39	
Standard, Type B (large capacity)		DAY 30		DAY 40	
Recording (SNC)		DAY 31		DAY 41	
Other (specify)		DAY 32		DAY 42	
8. COLLOCATED AUTOMATIC STATION: Specify type if any.		DAY 33		DAY 43	
INSTRUCTIONS		DAY 34		DAY 44	
1. All stations shall complete three copies of Form 0063-2325; the original to A&S Edmonton, one carbon copy for the A&S Regional Headquarters and the other carbon copy for the station record.		DAY 35		DAY 45	
2. At the top of Form 0063-2325 print or stamp the Station name, Province, Month and Year. Enter the station name as published in METSTAT. If followed by the three-letter station identifier, also a corrected, corrected, also leaving the station name, province, and being carried by the upper right-hand corner of the original sent to A&S Edmonton.		DAY 36		DAY 46	
3. Whenever it is necessary to make entries on major changes in the observing program on Form 0063-2325, identical entries shall be made in the appropriate space under "Remarks" of this form. Entries on instrument changes, relocation of instruments, changes in observing schedule, new installations and new programs shall be considered major. Major entries such as "note changes" should not be transferred to this Form. Use the "Day" space which corresponds to the "Day" entry in Col. 44 of Form 0063-2325.		DAY 37		DAY 47	
4. Do not make entries in the Section marked "For Station Use Only".		DAY 38		DAY 48	
5. In the Section marked "For Station Use" appropriate entries shall be made in the boxes provided. Make check (✓) entries except in Part 8(a) where "Number" entry is required. In Part 8(c), if "No" is checked, state the reason in the "Remarks" Section of the form. In Part 2 and 3, all types of wind equipment in operation at the Station shall be checked.		DAY 39		DAY 49	
6. The "Remarks" Section may be used at the discretion of the observer. For example, it may be used as additional space whenever a daily space is completely filled. Above "Remarks", indicate with a check (✓) in the appropriate box the appropriate remarks.		DAY 40		DAY 50	
7. At the end of each month distribute completed copies of Form 0063-2325 as follows: (a) Forward the original to A&S Edmonton as the top sheet of the Surface Weather Report Form 0063-2325. Do not put the copy (original) in the envelope. (b) Forward one of the carbon copies to the A&S Regional Headquarters. (c) Retain one copy for the station record.		DAY 41		DAY 51	
8. Although this form reports instrument defects to the A&S Regional Headquarters, it is nevertheless the responsibility of the field office to notify A&S Regional Headquarters in recosity of any instrument problems.		DAY 42		DAY 52	
REMARKS (PROGRAM CHANGES, ETC.)		DAY 43		DAY 53	
OBSERVING AGENCY		DAY 44		DAY 54	
A&S = TC = Contact ✓		DAY 45		DAY 55	
Other		DAY 46		DAY 56	
DAY 21: Calibration projection done in service		DAY 47		DAY 57	
DAY 22: Calibration projection done in service		DAY 48		DAY 58	
DAY 23: Calibration projection done in service		DAY 49		DAY 59	
DAY 24: Calibration projection done in service		DAY 50		DAY 60	
DAY 25: Calibration projection done in service		DAY 51		DAY 61	
DAY 26: Calibration projection done in service		DAY 52		DAY 62	
DAY 27: Calibration projection done in service		DAY 53		DAY 63	
DAY 28: Calibration projection done in service		DAY 54		DAY 64	
DAY 29: Calibration projection done in service		DAY 55		DAY 65	
DAY 30: Calibration projection done in service		DAY 56		DAY 66	
DAY 31: Calibration projection done in service		DAY 57		DAY 67	
DAY 32: Calibration projection done in service		DAY 58		DAY 68	
DAY 33: Calibration projection done in service		DAY 59		DAY 69	
DAY 34: Calibration projection done in service		DAY 60		DAY 70	
DAY 35: Calibration projection done in service		DAY 61		DAY 71	
DAY 36: Calibration projection done in service		DAY 62		DAY 72	
DAY 37: Calibration projection done in service		DAY 63		DAY 73	
DAY 38: Calibration projection done in service		DAY 64		DAY 74	
DAY 39: Calibration projection done in service		DAY 65		DAY 75	
DAY 40: Calibration projection done in service		DAY 66		DAY 76	
DAY 41: Calibration projection done in service		DAY 67		DAY 77	
DAY 42: Calibration projection done in service		DAY 68		DAY 78	
DAY 43: Calibration projection done in service		DAY 69		DAY 79	
DAY 44: Calibration projection done in service		DAY 70		DAY 80	
DAY 45: Calibration projection done in service		DAY 71		DAY 81	
DAY 46: Calibration projection done in service		DAY 72		DAY 82	
DAY 47: Calibration projection done in service		DAY 73		DAY 83	
DAY 48: Calibration projection done in service		DAY 74		DAY 84	
DAY 49: Calibration projection done in service		DAY 75		DAY 85	
DAY 50: Calibration projection done in service		DAY 76		DAY 86	
DAY 51: Calibration projection done in service		DAY 77		DAY 87	
DAY 52: Calibration projection done in service		DAY 78		DAY 88	
DAY 53: Calibration projection done in service		DAY 79		DAY 89	
DAY 54: Calibration projection done in service		DAY 80		DAY 90	
DAY 55: Calibration projection done in service		DAY 81		DAY 91	
DAY 56: Calibration projection done in service		DAY 82		DAY 92	
DAY 57: Calibration projection done in service		DAY 83		DAY 93	
DAY 58: Calibration projection done in service		DAY 84		DAY 94	
DAY 59: Calibration projection done in service		DAY 85		DAY 95	
DAY 60: Calibration projection done in service		DAY 86		DAY 96	
DAY 61: Calibration projection done in service		DAY 87		DAY 97	
DAY 62: Calibration projection done in service		DAY 88		DAY 98	
DAY 63: Calibration projection done in service		DAY 89		DAY 99	
DAY 64: Calibration projection done in service		DAY 90		DAY 100	

TOTAL SP'S 78

Statement of Work: Key punching for Monitoring Strategies & Data Management Division (MSDMD)

Appendix B: File Formats

0063-2270 Class “A” Pan Evaporation Monthly Record

Evaporation data is recorded

File Format

```
032202208199909191000230 00000      T05369 0158 0044 0176 0054
032202208199909201000570 00000 00000 05574 0171 0060 0191 0052
032202208199909211000300 00000 00000 05656 0147 0052 0172 0024
032202208199909221000020 00000 00130 05795 0155 0051 0156 0004
032202208199909231000310 00000 00010 05969 0151 0050 0191 0061
032202208199909241000380 00000 00000 06132 0157 0038 0160 0002
032202208199909251000210 00000 00000 06290 0143 0021 0093 0002
032202208199909261000260 00000 00000 06401 0121 0018 0103 0003
032202208199909271000210 00000 00000 06539 0107 0021 0104 0026
0322022081999092810      M      M      M      M      M      M      M      M
```

Unless otherwise indicated, information is numeric except station number may be alphanumeric and any CODE will be usually alphabetic.

Column	Field	Remarks
01 - 02	Record Type	Pan Evaporation is always 03
03 - 09	Station Number	Alphanumeric
10 - 13	Year	4 digits
14 - 15	Month	2 digits
16 - 17	Day	2 digits
18 - 19	Transaction Type	Code 10
20 -24	Water Added	5 digits
25	Water Added Code	M or Blank
26 - 30	Water Removed	5 digits
31	Water Removed Code	M or Blank
32 - 36	Standard Rain Gauge	5 digits
37	Standard Rain Gauge Code	M or Blank
38 - 42	Accumulated Wind	5 digits (in whole km)
43	Accumulated Wind Code	M or Blank
44 - 47	Maximum Water Temp.	4 digits
48	Maximum Water Temp. Code	M or Blank
49 - 52	Minimum Water Temp.	4 digits
53	Minimum Water Temp. Code	M or Blank
54 - 57	Maximum Air Temp	4 digits (see Note 2)
58	Maximum Air Temp. Code	M or Blank
59 - 62	Minimum Air Temp.	4 digits
63	Minimum Air Temp. Code	M or Blank
64 - 80	Unassigned	

Notes:

Statement of Work: Key punching for Monitoring Strategies & Data Management Division (MSDMD)

- The negative sign of a negative value occupies one column of the 4 digit field (i.e. -1.5 would be formatted as -015)

0063-2271 Monthly Record of Soil Temperature

The daily soil temperature is recorded at a number of depths along with the corresponding amount of snow on the ground in the morning (AM) and the afternoon (PM).

1250520602001062210	M	M	M	M	M	M	M0000	M	M	M
1250520602001062310	M	M	M	M	M	M	M0000	M	M	M
1250520602001062410	M	M	M	M	M	M	M0000	M	M	M
12505206020010625100120	0135	0125	0122	0090	0064	0042	0000	0120	0135	0125
12505206020010626100120	0135	0125	0122	0090	0064	0042	0000	0120	0135	0125
12505206020010627100125	0140	0125	0122	0090	0064	0042	0000	0125	0140	0125
12505206020010628100125	0140	0130	0122	0090	0064	0042	0000	0125	0140	0130
12505206020010629100130	0145	0130	0122	0090	0064	0042	0000	0130	0145	0130
12505206020010630100136	0145	0130	0122	0090	0064	0042	0000	0136	0145	0130
12506292620010601100120	0120	0120	0115	0065	0035	0025	0000	0130	0130	0120

Unless otherwise indicated, information is numeric except station number may be alphanumeric and any CODE will be usually alphabetic.

Column	Field	Remarks
01 - 02	Record Type	Soil Temperature always 12
03 - 09	Station Number	Alphanumeric
10 - 13	Year	4 digits
14 - 15	Month	2 digits
16 - 17	Day	2 digits
18 - 19	Transaction Type	Code 10
20 - 23	5 cm Temp AM	4 digits
24	5 cm AM code	M or Blank
25 - 28	10 cm Temp AM	4 digits
29	10 cm AM code	M or Blank
30 - 33	20 cm Temp AM	4 digits
34	20 cm AM code	M or Blank
35 - 38	50 cm Temp AM	4 digits
39	50 cm AM code	M or Blank
40 - 43	100 cm Temp AM	4 digits
44	100 cm AM code	M or Blank
45 - 48	150 cm Temp AM	4 digits
49	150 cm AM code	M or Blank
50 - 53	300 cm Temp AM	4 digits
54	300 cm AM code	M or Blank
55 - 58	Snow Depth in AM	4 digits
59	Snow Depth in AM code	M, T or Blank
60 - 63	5 cm Temp PM	4 digits
64	5 cm PM code	M or Blank
65 - 68	10 cm Temp PM	4 digits
69	10 cm PM code	M or Blank

Statement of Work: Key punching for Monitoring Strategies & Data Management Division (MSDMD)

70 - 73	20 cm Temp PM	4 digits
74	20 cm PM code	M or Blank
75 - 79	Unassigned	
80	Unassigned	

Notes

- Columns 55 through 59 represent the snow depth measurement and is formatted as 4 digits and a space for a flag. Unless a value greater than zero has been entered, this group should be blank. Enter "T" in column 59 if a trace is indicated on the form.

0063-2304 Climatological Station Report

This form contains daily temperature and precipitation observations, taken once or twice daily.

File Format

CHALK RIVER AEC				1200M16101335 0607				4	*
1200M16101335060701	110	165		M	M	M	0	84	*
1200M16101335060702	250	165	220 84	M	M	M	0		*
1200M16101335060703	240	140	200	M	M	M	0	63	*
1200M16101335060704	275	165	200 63	M	M	M	0	6	*
1200M16101335060705	240	130	155 6	190	155	180	0	2	*
1200M16101335060706	190	125	150 2	230	150	215	0		*
1200M16101335060707	230	110	160	290	160	290	0		*
1200M16101335060708	290	140	215	M	M	M	0		*
1200M16101335060709	295	155	215	M	M	M	0	18	*
1200M16101335060710	290	180	190 18	240	190	235 T	0	12	*
1200M16101335060711	255	180	190 12	255	190	255	0		*
1200M16101335060712	260	175	200	260	200	260	0		*
1200M16101335060713	265	175	195	315	195	300	0		*
1200M16101335060714	320	165	230	330	230	310	0	E	*
1200M16101335060715	320	220	225	M	M	M	0	2	*
1200M16101335060716	305	175	195 2	M	M	M	0		*
1200M16101335060717	325	190	240	340	240	330	0	268	*
1200M16101335060718	340	185	200268	M	M	M	0X		*
1200M16101335060719	260	120	185	275	185	270	0		*
1200M16101335060720	275	175	205	300	205	270	0	48	*
1200M16101335060721	270	175	180 48	235	165	235	0		*
1200M16101335060722	240	155	190	M	M	M	0		*
1200M16101335060723	245	140	190	M	M	M	0	12	*
1200M16101335060724	245	100	165 12	235	165	220	0	103	*
1200M16101335060725	220	180	190103	280	190	275	0		*
1200M16101335060726	290	160	190	280	190	230 80	0X	384	*
1200M16101335060727	230	200	220304	280	220	270	0		*
1200M16101335060728	280	185	210	300	210	295	0		*
1200M16101335060729	300	185	240	M	M	M	0		*
1200M16101335060730	290	120	195	M	M	M	0		*
1200M16101335060731	250	165	205	290	200	245 52	0X	225	*
1200M16101335060801	250		173					227 E	*

The file format for the **Climatological Station Report** is to include a header¹ identifying the station associated to the data, according to the following layout:

Record 1

Column	Field	Remarks
--------	-------	---------

¹ It is imperative that this header is entered correctly, in order for Environment Canada software to read and subsequently quality assure/quality control the climatological data. Characters for the entry of all data, including the Station Identification Record, must be entered into the pre-defined order.

Statement of Work: Key punching for Monitoring Strategies & Data Management Division (MSDMD)

01	Blank	
02 – 41	Station name	
42 – 46	Regional ID	5 characters
47	Units	“1” for Metric
48 – 54	National ID	7 characters
55	Blank	
56 – 57	Year	2 digits
58 – 59	Month	2 digits
60 – 63	Blank	
64	“Form” code describing the observing program. (if blank, value is obtained from station directory. If not blank, value is verified against station directory)	
	0 precipitation only, twice a day	
	2 temperature and precipitation once a day (A.M.)	
	3 temperature and precipitation once a day (P.M.)	
	4 temperature and precipitation twice daily	
	7 precipitation only once a day (A.M.)	
65	Blank (or “D” for Processed information; ignored)	
66	Blank or “N” for nipher station (verified against station directory)	
67 – 79	Blank	
80	“*”	

The header, or line identifying the record, is followed by the remaining data which must be entered, character by character, as follows:

Records 2 to last day in current month (data records)

Column	Field	Remarks
01 – 05	Regional ID	5 characters
06	Units	“1” for Metric
07 – 13	National ID	7 characters
14 – 15	Year	2 digits
16 – 17	Month	2 digits
18 – 19	Day	2 digits
20 – 23	AM Max temperature	
24 – 27	AM Min temperature	
28 – 31	AM Reset temperature	
32 – 34	AM Rainfall	
35 – 37	AM Snowfall	
38 – 41	PM Max temperature	
42 – 45	PM Min temperature	
46 – 49	PM Reset temperature	
50 – 52	PM Rainfall	
53 – 55	PM Snowfall	
56	Blank	
57 – 59	Snow on Ground	

Statement of Work: Key punching for Monitoring Strategies & Data Management Division (MSDMD)

60	“x” if thunderstorm occurred
61	“x” if freezing rain occurred
62	“x” if hail occurred

The following fields are normally blank. If present, however, they will be interpreted as follows:

63 – 65	Nipher Value (Total daily precipitation)
66	Blank
67	“E” if Max temperature estimated
68	“E” if Min temperature estimated
69	“E” if rainfall estimated
70	“E” if snowfall estimated
71	“E” if snow on ground estimated
73	“x” if remarks included
74 - 79	Blank
80	“*”

0063-2306 Abstract of the Wind

This form is used to record wind direction and speed.

File Format

```

152402540199801011008TN 2506 2408 2409 2407 2410 2408 2303 2001
152402540199801012008TN 2307 2208 2309 2308 2406 2404 2402 0000
152402540199801013008TN 0000 2403 0000 0000 0000 2301 2405 0000
152402540199801021008TN 2504 0000 2502 0000 2502 2501 2501 0000
152402540199801022008TN 2502 2501 2503 2806 2805 2806 2706 2701
152402540199801023008TN 2704 2806 2804 2801 2801 2805 2803 2707
152402540199801031008TN 2806 2806 2805 2806 2804 2805 2801 2802
152402540199801032008TN 2804 2906 3007 3006 3006 3007 3006 2806
152402540199801033008TN 2806 2806 2906 2805 2706 2705 2705 2806
152402540199801041008TN 2806 2707 2706 2708 2608 2707 2608 2606
152402540199801042008TN 2507 2607 2508 2608 2608 2707 2508 2509
152402540199801043008TN 2609 2706 2707 2709 2707 2609 2709 2707

```

Unless otherwise indicated, information is numeric except station number may be alphanumeric and any CODE will be usually alphabetic.

Column	Field	Remarks
01 - 02	Record Type	Wind Run always 15
03 - 09	Station Number	Alphanumeric
10 - 13	Year	4 digits
14 - 15	Month	2 digits
16 - 17	Day	2 digits
18 - 19	Transaction Type	Code 10
20 - 21	Time of Chart Change	See Note 1
22	Unit of measurement for Direction	See Note 2
23	Unit of measurement for Speed	See Note 3
24	Day Code	See Note 4

Statement of Work: Key punching for Monitoring Strategies & Data Management Division (MSDMD)

25	Wind direction flag for hour 01	1 column (see Note 5)
26-27	Wind direction for hour 01	2 columns (see Note 6)
28-29	Wind speed for hour 01	2 columns
30	Wind speed flag for hour 01	1 column
31	Wind direction flag for hour 02	1 column
32-33	Wind direction for hour 02	2 columns
34-35	Wind speed for hour 02	2 columns
36	Wind speed flag for hour 02	1 column
37	Wind direction flag for hour 03	1 column
38-39	Wind direction for hour 03	2 columns
40-41	Wind speed for hour 03	2 columns
42	Wind speed flag for hour 03	1 column
43	Wind direction flag for hour 04	1 column
44-45	Wind direction for hour 04	2 columns
46-47	Wind speed for hour 04	2 columns
48	Wind speed flag for hour 04	1 column
49	Wind direction flag for hour 05	1 column
50-51	Wind direction for hour 05	2 columns
52-53	Wind speed for hour 05	2 columns
54	Wind speed flag for hour 05	1 column
55	Wind direction flag for hour 06	1 column
56-57	Wind direction for hour 06	2 columns
58-59	Wind speed for hour 06	2 columns
60	Wind speed flag for hour 06	1 column
61	Wind direction flag for hour 07	1 column
62-63	Wind direction for hour 07	2 columns
64-65	Wind speed for hour 07	2 columns
66	Wind speed flag for hour 07	1 column
67	Wind direction flag for hour 08	1 column
68-69	Wind direction for hour 08	2 columns
70-71	Wind speed for hour 08	2 columns
72	Wind speed flag for hour 08	1 column
73-80	Unassigned	

Transaction Type 20

Columns 01 to 17 remain the same as noted above. Columns 25 through 72 represent the hourly wind direction and wind speed for hours 09 through 16.

18 - 19	Transaction Type	Code 20
20 - 21	Time of Chart Change	See Note 1
22	Unit of measurement for Direction	See Note 2
23	Unit of measurement for Speed	See Note 3
24	Day Code	See Note 4
25	Wind direction flag for hour 09	1 column (see Note 5)
26-27	Wind direction for hour 09	2 columns (see Note 6)
28-29	Wind speed for hour 09	2 columns

Statement of Work: Key punching for Monitoring Strategies & Data Management Division (MSDMD)

30	Wind speed flag for hour 09	1 column
31	Wind direction flag for hour 10	1 column
32-33	Wind direction for hour 10	2 columns
34-35	Wind speed for hour 10	2 columns
36	Wind speed flag for hour 10	1 column
37	Wind direction flag for hour 11	1 column
38-39	Wind direction for hour 11	2 columns
40-41	Wind speed for hour 11	2 columns
42	Wind speed flag for hour 11	1 column
43	Wind direction flag for hour 12	1 column
44-45	Wind direction for hour 12	2 columns
46-47	Wind speed for hour 12	2 columns
48	Wind speed flag for hour 12	1 column
49	Wind direction flag for hour 13	1 column
50-51	Wind direction for hour 13	2 columns
52-53	Wind speed for hour 13	2 columns
54	Wind speed flag for hour 13	1 column
55	Wind direction flag for hour 14	1 column
56-57	Wind direction for hour 14	2 columns
58-59	Wind speed for hour 14	2 columns
60	Wind speed flag for hour 14	1 column
61	Wind direction flag for hour 15	1 column
62-63	Wind direction for hour 15	2 columns
64-65	Wind speed for hour 15	2 columns
66	Wind speed flag for hour 15	1 column
67	Wind direction flag for hour 16	1 column
68-69	Wind direction for hour 16	2 columns
70-71	Wind speed for hour 16	2 columns
72	Wind speed flag for hour 16	1 column
73-80	Unassigned	

Transaction Type 30

Columns 01 to 17 remain the same as noted above. Columns 25 through 72 represent the hourly wind direction and wind speed for hours 17 through 24.

18 - 19	Transaction Type	Code 30
20 - 21	Time of Chart Change	See Note 1
22	Unit of measurement for Direction	See Note 2
23	Unit of measurement for Speed	See Note 3
24	Day Code	See Note 4
25	Wind direction flag for hour 17	1 column (see Note 5)
26-27	Wind direction for hour 17	2 columns (see Note 6)
28-29	Wind speed for hour 17	2 columns
30	Wind speed flag for hour 17	1 column
31	Wind direction flag for hour 18	1 column
32-33	Wind direction for hour 18	2 columns

Statement of Work: Key punching for Monitoring Strategies & Data Management Division (MSDMD)

34-35	Wind speed for hour 18	2 columns
36	Wind speed flag for hour 18	1 column
37	Wind direction flag for hour 19	1 column
38-39	Wind direction for hour 19	2 columns
40-41	Wind speed for hour 19	2 columns
42	Wind speed flag for hour 19	1 column
43	Wind direction flag for hour 20	1 column
44-45	Wind direction for hour 20	2 columns
46-47	Wind speed for hour 20	2 columns
48	Wind speed flag for hour 20	1 column
49	Wind direction flag for hour 21	1 column
50-51	Wind direction for hour 21	2 columns
52-53	Wind speed for hour 21	2 columns
54	Wind speed flag for hour 21	1 column
55	Wind direction flag for hour 22	1 column
56-57	Wind direction for hour 22	2 columns
58-59	Wind speed for hour 22	2 columns
60	Wind speed flag for hour 22	1 column
61	Wind direction flag for hour 23	1 column
62-63	Wind direction for hour 23	2 columns
64-65	Wind speed for hour 23	2 columns
66	Wind speed flag for hour 23	1 column
67	Wind direction flag for hour 24	1 column
68-69	Wind direction for hour 24	2 columns
70-71	Wind speed for hour 24	2 columns
72	Wind speed flag for hour 24	1 column
73-80	Unassigned	

Notes

1. The time of the chart change is always 01 Local Standard Time (LST).
2. The unit of measurement for the wind direction will be indicated on the top of the form and appropriately coded for processing. The wind direction codes are as follows:
 - T = U2A 36 -PT 10's of degree
 - U = U2A 8 - PT Alphabetic direction data
 - A = U2A 8 - PT 10's of degree
 - E = U2A 16 - PT 10's of degree
 - C = 45B 8 - PT Alphabetic direction data
 - F = 45B 8 - PT 10's of degree
3. The unit of measurement for wind speed will be indicated on the top of the form and appropriately coded for processing. The wind speed codes are as follows:
 - M = miles
 - N = knots
 - K = kilometres
4. Column 24 is left blank if there is any valid data for the day. If the day's data is missing a dash "-" is entered in column 24 and there will not be a corresponding transaction type 20 or 30.

Statement of Work: Key punching for Monitoring Strategies & Data Management Division (MSDMD)

5. Columns 25 and 30 are left blank if there is valid wind direction and wind speed data for the hour. If the wind direction and/or wind speed is missing a dash “-“ is entered in one or both of these columns. If the wind direction and/or wind speed is estimated an asterisk “*” is entered in one or both of these columns.
6. The wind direction in columns 26 and 27 are numeric. Calm conditions are digitized as 0000 in columns 26-29.

0063-2307 Sunshine Record

This form records the amount of bright sunshine in tenths of an hour of sunshine for a particular station month.

File Format

1010817881996081710	03071001	021
1010817881996081810	020405070710101002	057
1010817881996081910	010810101007070603 060501	074
1010817881996082010	0301040404080105101004	054
1010817881996082110		
1010817881996082210	0108100610101010 080703	083
1010817881996082310	0108101010101010101009 01	099
1010817881996082410	04081010101010101010101001	123
1010817881996082510	M M M M M M M M M M M M M M	M
1010817881996082610	M M M M M M M M M M M M M M	M

Unless otherwise indicated, information is numeric except station number may be alphanumeric and any CODE will be usually alphabetic.

Column	Field	Remarks
01 - 02	Record Type	Bright Sunshine is always 10
03 - 09	Station Number	Alphanumeric
10 - 13	Year	4 digits
14 - 15	Month	2 digits
16 - 17	Day	2 digits
18 - 19	Transaction Type	Code 10
20	Day Code	See Note 1
21 - 22	Amt. Of Sunshine for hour ending 01	See Note 2
23 - 24	Amt. Of Sunshine for hour ending 02	2 digits
25 - 26	Amt. Of Sunshine for hour ending 03	2 digits
27 - 28	Amt. Of Sunshine for hour ending 04	2 digits
29 - 30	Amt. Of Sunshine for hour ending 05	2 digits
31 - 32	Amt. Of Sunshine for hour ending 06	2 digits
33 - 34	Amt. Of Sunshine for hour ending 07	2 digits
35 - 36	Amt. Of Sunshine for hour ending 08	2 digits
37 - 38	Amt. Of Sunshine for hour ending 09	2 digits
39 - 40	Amt. Of Sunshine for hour ending 10	2 digits
41 - 42	Amt. Of Sunshine for hour ending 11	2 digits
43 - 44	Amt. Of Sunshine for hour ending 12	2 digits
45 - 46	Amt. Of Sunshine for hour ending 13	2 digits
47 - 48	Amt. Of Sunshine for hour ending 14	2 digits
49 - 50	Amt. Of Sunshine for hour ending 15	2 digits

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51 - 52	Amt. Of Sunshine for hour ending 16	2 digits
53 - 54	Amt. Of Sunshine for hour ending 17	2 digits
55 - 56	Amt. Of Sunshine for hour ending 18	2 digits
57 - 58	Amt. Of Sunshine for hour ending 19	2 digits
59 - 60	Amt. Of Sunshine for hour ending 20	2 digits
61 - 62	Amt. Of Sunshine for hour ending 21	2 digits
63 - 64	Amt. Of Sunshine for hour ending 22	2 digits
65 - 66	Amt. Of Sunshine for hour ending 23	2 digits
67 - 68	Amt. Of Sunshine for hour ending 24	2 digits
69 - 71	Total Sunshine for Day 3 digits	(See Note 3)
72 - 80	Unassigned	

Notes

1. Column 20 is left blank if there is any valid data for the day and is P if the station is experiencing polar night (no sunshine). The first day of polar night and the last day of polar night are digitized with a P. To save resources, there is no requirement to digitize the days during this period.
2. Columns 21 through 68 consist of the hourly amounts of bright sunshine and are formatted as 2 digits for each hour of the day. Each hourly amount represents the number of tenths of an hour of bright sunshine (the decimal place is assumed). An entry of 1 on the 2307 form for an hourly value would indicate 0.1 hours of bright sunshine occurred that hour; an entry of 10 would indicate a full hour of sunshine. A blank entry for any hour indicates zero bright sunshine and is formatted as 2 blanks. A missing entry for any hour is formatted as M in the first column of the 2 digit field.
3. Columns 69 through 71 are the total hours (and tenths) of bright sunshine for the day and are formatted as 3 digits. A blank entry for the day indicates zero bright sunshine for the day and is formatted as 3 blanks. A missing entry for the day indicates missing bright sunshine for the day and is formatted as M in column 69.

0063-2322 Surface Weather Record / 0063-2330 Observations Météorologiques en Surface

This form will be accompanied by form 0063-2325 Monthly Summary of Instrument Malfunctions, Changes and New Installations, or a digital equivalent. The station number identifiers will be provided on form 0063-2325, or in the absence of this sheet, on the first 0063-2322/2330. Section IV Summary for the Climatological Day Ending 0600 UTC, columns 44 through 68 are keypunched and contain the day's climate data. In addition to the climate data, the hourly wind data, columns 36 and 37, may also be keypunched and this will be indicated by a "W" on the 0063-2325 or the first 0063-2322/2330.

File Format of the Daily Climate Data

```
04401908020010801100256 0141 M M0014 T0000 0000 0014 0000 00014
```

Statement of Work: Keypunching for Monitoring Strategies & Data Management Division (MSDMD)

```

04401908020010801200000 0 00 000000
04401908020010802100298 0131 M M0000 0000 0000 0000 0000 0000 00000
04401908020010802200000 0 00 00000016 022E21
04401908020010803100353 0174 M M0000 0000 0000 0000 0000 0000 00000
04401908020010803200000 0 00 000000
04401908020010804100309 0211 M M0000 0022 0002 0000 0024 0000 00024
04401908020010804200000 1 00 00000013 017E19
04401908020010805100306 0176 M M0052 0002 0000 0000 0054 0000 00054
04401908020010805200000 1 00 00001126 047E12
  
```

Unless otherwise indicated, information is numeric except station number may be alphanumeric and any CODE will be usually alphabetic.

Column	Field	Remarks
01 - 02	Record Type	Daily Climate is always 04
03 - 09	Station Number	Alphanumeric, 7 characters
10 - 13	Year	4 digits
14 - 15	Month	2 digits
16 - 17	Day	2 digits
18 - 19	Transaction Type	Code 10
20 - 23	Maximum Temp.	4 digits (see Note 1)
24	Maximum Temp. code	M or Blank
25 - 28	Minimum Temp.	4 digits
29	Minimum Temp. code	M or Blank
30 - 32	Maximum RH	3 digits
33	Maximum RH code	M or Blank
34 - 36	Minimum RH	3 digits
37	Minimum RH code	M or Blank
38 - 41	6 Hr. Prec. Amt. at 12Z	4 digits
42	6 Hr. Prec. Amt. at 12Z code	T, M or Blank
43 - 46	6 Hr. Prec. Amt. at 18Z	4 digits
47	6 Hr. Prec. Amt. at 18Z code	T, M or Blank
48 - 51	6 Hr. Prec. Amt. at 00Z	4 digits
52	6 Hr. Prec. Amt. at 00Z code	T, M or Blank
53 - 56	6 Hr. Prec. Amt. at 06Z	4 digits
57	6 Hr. Prec. Amt. at 06Z code	T, M or Blank
58 - 61	24 Hr. Rainfall Amt.	4 digits
62	24 Hr. Rainfall Amt. code	T, M or Blank
63 - 66	24 Hr. Snowfall Amt.	4 digits
67	24 Hr. Snowfall Amt. code	T, M or Blank
68 - 72	24 Hr. Total Prec. Amt.	5 digits
73	24 Hr. Total Prec. Amt. code	T, M or Blank

Transaction Type 20

Columns 01 to 17 remain the same as noted above.

Column	Field	Remarks
--------	-------	---------

Statement of Work: Key punching for Monitoring Strategies & Data Management Division (MSDMD)

18 – 19	Transaction Type	Code 20
20 – 23	Snow depth	4 digits
24	Snow depth code	T, M or Blank
25	Unassigned	
26	Day With Thunderstorms	1, 0 or M (See Note 2)
27	Unassigned	
28	Day With Freezing Rain/Drizzle	1, 0 or M
29	Day With Hail	1, 0 or M
30	Unassigned	
31	Day With Fog/Ice Fog	1, 0 or M
32	Day With Smoke/Haze	1, 0 or M
33	Day With Blowing Dust/Sand	1, 0 or M
34	Day With Blowing Snow	1, 0 or M
35	Day With Mean Wind of 28 kts	1, 0 or M
36	Day With Mean Wind of 34 kts	1, 0 or M
37 – 38	Peak Wind Direction	2 digits (see Note 3)
39	Peak Wind Direction code	M or Blank
40 – 42	Peak Wind Speed	3 digits
43	Peak Wind Speed code	E, M or Blank
44 – 45	Peak Wind Time	2 digits
46	Peak Wind Time code	M or Blank

Notes

1. Columns 20 and 25 are always zero for a positive temperature value or a minus sign (-) for a negative temperature value.
2. The Day With groups will have a value of 1 if the type of weather occurred, a zero if the type of weather did not occur or an M if the data is unavailable.
3. The peak wind direction, speed and time groups are optional and if blank on form 0063-2322/2330, should be digitized as blanks.

File Format of the Hourly Wind Data

```

YCQ 1181508
YCQ W000106091 2002 =
YCQ W000106101 2405 =
YCQ W000106111 0000 =
YCQ W000106121 0000 =
YCQ W000106131 2704 =
YCQ W000107011 MM =
YCQ W000107021 2412 =
YCQ W000107031 2410 =
YCQ W000107041 2316 =
YCQ W000107051 2304 =

```

At the beginning of each new set of station specific records, the 3-letter TC ID must appear on a separate line with its corresponding 7-character climate ID, separated by a space (see above). The data lines will then follow using the format below. The length of these hourly wind data records can be 19 to 21 columns.

Statement of Work: Key punching for Monitoring Strategies & Data Management Division (MSDMD)

Unless otherwise indicated, information is numeric except station number may be alphanumeric and any CODE will be usually alphabetic.

Column	Field	Remarks
01 - 03	TC ID	Alphabetic
04	Unassigned	
05	Always W	Indicates wind data
06 - 07	Year	2 digits
08 - 09	Month	2 digits
10 - 11	Day	2 digits
12 - 13	Hour	2 digits
14	1	Hourly wind is always 1
15	Wind direction code	E or Blank
16 - 17	Wind direction	2 digits
18 - 19	Wind speed	2 digits
20	Wind speed code	E or Blank
21	=	Indicates end of record

Notes

When both the wind direction and wind speed are missing the following format is to be used:

Column	Field	Remarks
01 - 14		Same as above
15	Wind direction code	E or Blank
16	Wind direction	M
17	Wind speed	M
18	Wind speed code	E or Blank
19	=	Indicates end of record

When wind direction is missing the following format is to be used:

Column	Field	Remarks
01 - 14		Same as above
15	Wind direction code	E or Blank
16	Wind direction	M
17 - 18	Wind speed	2 digits
19	Wind speed code	E or Blank
20	=	Indicates end of record

When wind speed is missing the following format is to be used:

Column	Field	Remarks
--------	-------	---------

Statement of Work: Key punching for Monitoring Strategies & Data Management Division (MSDMD)

01 - 14		Same as above
15	Wind direction code	E or Blank
16 - 17	Wind direction	2 digits
18	Wind speed	M
19	Wind speed code	E or Blank
20	=	Indicates end of record

0063-9605 Anemograph Chart

This form is used to record wind direction and speed.

File Format

```

155043158199707041008CM  NW08  NW10  NW09  NW13  NW14  NW12  NW12  NW11
155043158199707042008CM  NW13  NW07  NW12  NW18  NW11  NW13  NW14  NW11
155043158199707043008CM  NW10  NW09  NW13  NW13  NW14  NW12  NW16  NW15
155043158199707051008CM  NW10  NW12  NW10  NW12  NW14  NW16  NW13  NW13
155043158199707052008CM  NW12  NW10  NW10  NW07  NW05  NW03  NW04  NW06
155043158199707053008CM  NW06  NW07  NW06  NW06  NW05  NW07  NW07  NW02
155043158199707061008CM  NW03  SE04  SE06  -    -    -    -    -
155043158199707062008CM  -    -    -    -    -    -    -    -
155043158199707063008CM  -    -    -    -    -    -    -    -
155043158199707071008CM-
155043158199707081008CM-

```

Unless otherwise indicated, information is numeric except station number may be alphanumeric and any CODE will be usually alphabetic.

Column	Field	Remarks
01 - 02	Record Type	Wind Run always 15
03 - 09	Station Number	Alphanumeric
10 - 13	Year	4 digits
14 - 15	Month	2 digits
16 - 17	Day	2 digits
18 - 19	Transaction Type	Code 10
20 - 21	Time of Chart Change	See Note 1
22	Unit of measurement for Direction	See Note 2
23	Unit of measurement for Speed	See Note 3
24	Day Code	See Note 4
25	Wind direction flag for hour 01	1 column (see Note 5)
26-27	Wind direction for hour 01	2 columns (see Note 6)
28-29	Wind speed for hour 01	2 columns
30	Wind speed flag for hour 01	1 column
31	Wind direction flag for hour 02	1 column
32-33	Wind direction for hour 02	2 columns
34-35	Wind speed for hour 02	2 columns
36	Wind speed flag for hour 02	1 column
37	Wind direction flag for hour 03	1 column

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38-39	Wind direction for hour 03	2 columns
40-41	Wind speed for hour 03	2 columns
42	Wind speed flag for hour 03	1 column
43	Wind direction flag for hour 04	1 column
44-45	Wind direction for hour 04	2 columns
46-47	Wind speed for hour 04	2 columns
48	Wind speed flag for hour 04	1 column
49	Wind direction flag for hour 05	1 column
50-51	Wind direction for hour 05	2 columns
52-53	Wind speed for hour 05	2 columns
54	Wind speed flag for hour 05	1 column
55	Wind direction flag for hour 06	1 column
56-57	Wind direction for hour 06	2 columns
58-59	Wind speed for hour 06	2 columns
60	Wind speed flag for hour 06	1 column
61	Wind direction flag for hour 07	1 column
62-63	Wind direction for hour 07	2 columns
64-65	Wind speed for hour 07	2 columns
66	Wind speed flag for hour 07	1 column
67	Wind direction flag for hour 08	1 column
68-69	Wind direction for hour 08	2 columns
70-71	Wind speed for hour 08	2 columns
72	Wind speed flag for hour 08	1 column
73-80	Unassigned	

Transaction Type 20

Columns 01 to 17 remain the same as noted above. Columns 25 through 72 represent the hourly wind direction and wind speed for hours 09 through 16.

18 - 19	Transaction Type	Code 20
20 - 21	Time of Chart Change	See Note 1
22	Unit of measurement for Direction	See Note 2
23	Unit of measurement for Speed	See Note 3
24	Day Code	See Note 4
25	Wind direction flag for hour 09	1 column (see Note 5)
26-27	Wind direction for hour 09	2 columns (see Note 6)
28-29	Wind speed for hour 09	2 columns
30	Wind speed flag for hour 09	1 column
31	Wind direction flag for hour 10	1 column
32-33	Wind direction for hour 10	2 columns
34-35	Wind speed for hour 10	2 columns
36	Wind speed flag for hour 10	1 column
37	Wind direction flag for hour 11	1 column
38-39	Wind direction for hour 11	2 columns
40-41	Wind speed for hour 11	2 columns
42	Wind speed flag for hour 11	1 column

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43	Wind direction flag for hour 12	1 column
44-45	Wind direction for hour 12	2 columns
46-47	Wind speed for hour 12	2 columns
48	Wind speed flag for hour 12	1 column
49	Wind direction flag for hour 13	1 column
50-51	Wind direction for hour 13	2 columns
52-53	Wind speed for hour 13	2 columns
54	Wind speed flag for hour 13	1 column
55	Wind direction flag for hour 14	1 column
56-57	Wind direction for hour 14	2 columns
58-59	Wind speed for hour 14	2 columns
60	Wind speed flag for hour 14	1 column
61	Wind direction flag for hour 15	1 column
62-63	Wind direction for hour 15	2 columns
64-65	Wind speed for hour 15	2 columns
66	Wind speed flag for hour 15	1 column
67	Wind direction flag for hour 16	1 column
68-69	Wind direction for hour 16	2 columns
70-71	Wind speed for hour 16	2 columns
72	Wind speed flag for hour 16	1 column
73-80	Unassigned	

Transaction Type 30

Columns 01 to 17 remain the same as noted above. Columns 25 through 72 represent the hourly wind direction and wind speed for hours 17 through 24.

18 - 19	Transaction Type	Code 30
20 - 21	Time of Chart Change	See Note 1
22	Unit of measurement for Direction	See Note 2
23	Unit of measurement for Speed	See Note 3
24	Day Code	See Note 4
25	Wind direction flag for hour 17	1 column (see Note 5)
26-27	Wind direction for hour 17	2 columns (see Note 6)
28-29	Wind speed for hour 17	2 columns
30	Wind speed flag for hour 17	1 column
31	Wind direction flag for hour 18	1 column
32-33	Wind direction for hour 18	2 columns
34-35	Wind speed for hour 18	2 columns
36	Wind speed flag for hour 18	1 column
37	Wind direction flag for hour 19	1 column
38-39	Wind direction for hour 19	2 columns
40-41	Wind speed for hour 19	2 columns
42	Wind speed flag for hour 19	1 column
43	Wind direction flag for hour 20	1 column
44-45	Wind direction for hour 20	2 columns
46-47	Wind speed for hour 20	2 columns

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48	Wind speed flag for hour 20	1 column
49	Wind direction flag for hour 21	1 column
50-51	Wind direction for hour 21	2 columns
52-53	Wind speed for hour 21	2 columns
54	Wind speed flag for hour 21	1 column
55	Wind direction flag for hour 22	1 column
56-57	Wind direction for hour 22	2 columns
58-59	Wind speed for hour 22	2 columns
60	Wind speed flag for hour 22	1 column
61	Wind direction flag for hour 23	1 column
62-63	Wind direction for hour 23	2 columns
64-65	Wind speed for hour 23	2 columns
66	Wind speed flag for hour 23	1 column
67	Wind direction flag for hour 24	1 column
68-69	Wind direction for hour 24	2 columns
70-71	Wind speed for hour 24	2 columns
72	Wind speed flag for hour 24	1 column
73-80	Unassigned	

Notes

1. The time of the chart change is entered on the form.
2. The unit of measurement for the wind direction is always C which is equivalent to the 45B 8 - PT Alphabetic direction. The wind direction codes are as follows:
 - a. T = U2A 36 -PT 10's of degree
 - b. U = U2A 8 - PT Alphabetic direction data
 - c. A = U2A 8 - PT 10's of degree
 - d. E = U2A 16 - PT 10's of degree
 - e. C = 45B 8 - PT Alphabetic direction data
 - f. F = 45B 8 - PT 10's of degree
3. The unit of measurement for wind speed is always recorded in miles (column 23=M).
4. Column 24 is left blank if there is any valid data for the day. If the day's data is missing a dash "-" is entered in column 24 and there will not be a corresponding transaction type 20 or 30.
5. Columns 25 and 30 are left blank if there is valid wind direction and wind speed data for the hour. If the wind direction and/or wind speed is missing a dash "-" is entered in one or both of these columns. If the wind direction and/or wind speed is estimated an asterisk "*" is entered in one or both of these columns.
6. The wind direction in columns 26 and 27 are alphabetic. Calm conditions, when wind direction and speed are both 00, are digitized as CC in columns 26 and 27 with blanks for columns 28 and 29. The four cardinal directions of North (N), South (S), East (E) and West (W) annotated must be digitized as NN, SS, EE and WW respectively.

0063-9686 Recording Rain Gauge Daily Chart 99 / 0063-9689 Recording Precipitation Gauge - Monthly Report

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The source documents for the rainfall rate data is form 0063-9686 Recording Precipitation Gauge-Daily Chart 99 and form 0063-9689 Recording Precipitation Gauge-Monthly Report.

Form 0063-9686 is used to record the daily rainfall rate. All charts are sorted by station month. Only those days on which precipitation fell will have a chart. If there is no chart for a particular day in a month then that day is considered to be a “zero rain” day. Consequently, all days in the month will be digitized with each chart being keyed as a separate record.

Form 0063-9687 is used to record the monthly rainfall rate. The 5, 10, 15 and 30 minute rainfall rates always have missing values on the monthly chart. The digitizing instructions that follow are applicable to the daily and monthly precipitation charts.

File Format

```
036142400199704121008 0078 0004 0008 0010 0018 0032 0038 0078 0096
0361424001997041220000 004 012 022 002 020 014 004 014 000 002 002
0361424001997041230000 000 000 000 000 000 000 000 000 000 000
036142400199704131008 0003      M      M      M      M      M      M      M      M
0361424001997041320002 008 000 000 000 002 000 000 000 000 000 000
0361424001997041330000 000 000 000 000 000 000 000 000 000 000 000
0361424001997041410080
0361424001997041510080
036142400199704161008 0044 0004 0008 0010 0018 0022 0036 0042 0042
0361424001997041620000 000 000 010 018 012 002 000 000 000 000 000
0361424001997041630000 000 000 000 000 000 000 000 000 000 000 000
036142400199704171008 0002      M      M      M      M      M      M      M      M
0361424001997041720      M      M      M      M      M      M      M      M      M      M      M
0361424001997041730      M      M      M      M      M      M      M      M      M      M      M
```

Unless otherwise indicated, information is numeric except station number may be alphanumeric and any CODE will be usually alphabetic.

Column	Field	Remarks
01 - 02	Record Type	Rainfall rate is always 03
03 - 09	Station Number	Alphanumeric
10 - 13	Year	4 digits
14 - 15	Month	2 digits
16 - 17	Day	2 digits (see Note 1)
18 - 19	Transaction Type	10
20 - 21	Time of Chart Change	2 digits (see Note 2)
22	Day Code	See note 3
23 - 26	Standard Gauge Total	4 digits
27	Std. Gauge Total Code	See note 4
28 - 31	Greatest Amt. 5 Minutes	4 digits
32	Code 5 Minutes	M or Blank
33 - 36	Greatest Amt. 10 Minutes	4 digits
37	Code 10 Minutes	M or Blank
38 - 41	Greatest Amt. 15 Minutes	4 digits
42	Code 15 Minutes	M or Blank
43 - 46	Greatest Amt. 30 Minutes	4 digits

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47	Code 30 Minutes	M or Blank
48 - 51	Greatest Amt. 60 Minutes	4 digits
52	Code 60 Minutes	M or Blank
53 - 56	Greatest Amt. 120 Minutes	4 digits
57	Code 120 Minutes	M or Blank
58 - 61	Greatest Amt. 6 Hours	4 digits
62	Code 6 Hours	M or Blank
63 - 66	Greatest Amt. 12 Hours	4 digits
67	Code 12 Hours	M or Blank
68 - 79	Unassigned	Leave Blank
80	Unassigned	Leave Blank

Transaction Type 20

Columns 01 to 17 remain the same as noted above. Columns 20 through 67 represent the hourly amount of precipitation for hours 1 through 12.

Column	Field	Remarks
18 - 19	Transaction Type	20
20 - 22	Amt. Pcpn. Hr ending 1	3 digits
23	Amt. Pcpn. Hr ending 1	code M or Blank
24 - 26	Amt. Pcpn. Hr ending 2	3 digits
27	Amt. Pcpn. Hr ending 2 code	M or Blank
28 - 30	Amt. Pcpn. Hr ending 3	3 digits
31	Amt. Pcpn. Hr ending 3 code	M or Blank
32 - 34	Amt. Pcpn. Hr ending 4	3 digits
35	Amt. Pcpn. Hr ending 4 code	M or Blank
36 - 38	Amt. Pcpn. Hr ending 5	M or Blank
40 - 42	Amt. Pcpn. Hr ending 6	3 digits
43	Amt. Pcpn. Hr ending 6 code	M or Blank
44 - 46	Amt. Pcpn. Hr ending 7	3 digits
47	Amt. Pcpn. Hr ending 7 code	M or Blank
48 - 50	Amt. Pcpn. Hr ending 8	3 digits
51	Amt. Pcpn. Hr ending 8 code	M or Blank
52 - 54	Amt. Pcpn. Hr ending 9	3 digits
55	Amt. Pcpn. Hr ending 9 code	M or Blank
56 - 58	Amt. Pcpn. Hr ending 10	3 digits
59	Amt. Pcpn. Hr ending 10 code	M or Blank
60 - 62	Amt. Pcpn. Hr ending 11	3 digits
63	Amt. Pcpn. Hr ending 11 code	M or Blank
64 - 66	Amt. Pcpn. Hr ending 12	3 digits
67	Amt. Pcpn. Hr ending 12 code	M or Blank
68 - 79	Unassigned	Leave Blank
80	Unassigned	Leave Blank

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Transaction Type 30

Columns 01 to 17 remain the same as noted above. Columns 20 through 67 represent the hourly amount of precipitation for hours 13 through 24 plus hour 25 which goes in column 68 - 71.

Column	Field	Remarks
18 - 19	Transaction Type	30
20 - 22	Amt. Pcpn. Hr ending 13	3 digits
23	Amt. Pcpn. Hr ending 13 code	M or Blank
24 - 26	Amt. Pcpn. Hr ending 14	3 digits
27	Amt. Pcpn. Hr ending 14 code	M or Blank
28 - 30	Amt. Pcpn. Hr ending 15	3 digits
31	Amt. Pcpn. Hr ending 15 code	M or Blank
32 - 34	Amt. Pcpn. Hr ending 16	3 digits
35	Amt. Pcpn. Hr ending 16 code	M or Blank
36 - 38	Amt. Pcpn. Hr ending 17	3 digits
39	Amt. Pcpn. Hr ending 17 code	M or Blank
40 - 42	Amt. Pcpn. Hr ending 18	3 digits
43	Amt. Pcpn. Hr ending 18 code	M or Blank
44 - 46	Amt. Pcpn. Hr ending 19	3 digits
47	Amt. Pcpn. Hr ending 19 code	M or Blank
48 - 50	Amt. Pcpn. Hr ending 20	3 digits
51	Amt. Pcpn. Hr ending 20 code	M or Blank
52 - 54	Amt. Pcpn. Hr ending 21	3 digits
55	Amt. Pcpn. Hr ending 21 code	M or Blank
56 - 58	Amt. Pcpn. Hr ending 22	3 digits
59	Amt. Pcpn. Hr ending 22 code	M or Blank
60 - 62	Amt. Pcpn. Hr ending 23	3 digits
63	Amt. Pcpn. Hr ending 23 code	M or Blank
64 - 66	Amt. Pcpn. Hr ending 24	3 digits
67	Amt. Pcpn. Hr ending 24 code	M or Blank
68 - 71	Amt. Pcpn. Hr ending 25	3 digits (see Note 5)
72	Amt. Pcpn. Hr ending 25 code	M or Blank
73-80	Unassigned	Leave Blank

Notes

1. If station opened for the season and is not the first day of the month then the opening day will be represented by 00.
2. Columns 20 and 21 must have the same value for all days in a month.
3. Column 22 is blank if there is any rainfall rate data for the day, zero if this is a zero rainfall rate day (no chart for the day or the chart indicates no rainfall rate data) or M if the chart indicates all the rainfall rate data is missing for the day. If the day code is zero or M, there will not be a transaction type 20 or 30.
4. If the standard gauge amount is missing, columns 23 - 26 are coded as blanks and M is coded in column 27. If a trace is annotated on the chart then columns 23 - 26 are coded as blanks and a T is coded in column 27.

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5. Hour 25 is there as an overflow, in case the chart is not changed. The data for hour 25 is to be entered in hour 01 of the next day.