# **Annual Report of Alberta Severe Weather Management Society Hail Suppression Efforts**

2021 Operations - June 1 through 15 September

Information prepared by Weather Modification LLC, dba Weather Modification International (WMI) info@weathermod.com, www.weathermod.com

All cloud seeding flights were conducted in accordance with the scientific principles described in the *Notice of Intent to Engage in Weather Modification Activities* submitted to Environment Canada on May 28, 2021, within the limits of the operations area delineated therein.

Accordingly, some acronyms used in the following tables require explanations, provided below.

## Missions by Type (top left table)

*Total time* – the elapsed time from engine start to engine stop.

Air time – the elapsed time from takeoff to landing.

SEED - time flown on missions during which any seeding was conducted, regardless of amount.

PATROL – time flown in anticipation of encountering potential severe weather, when seeding did not occur.

REPO – (Reposition) time flown when aircraft were flown to other airports in anticipation of severe weather.

PR – flights made to the project operations centre for the purposes of the insurance industry-accredited lectures.

DUAL – flights flown for dual-mode seeding, that is, the combined use of ice-forming and drop-forming seeding agents.

MX – maintenance flights. Maintenance flights were to ensure functionality after repairs, and at the expense of WMI.

#### **Aircraft Identifiers**

Hailstop #1, HS1 - tail number N904DK, based in Springbank

Hailstop #2, HS2 - tail number N6111V, based in Springbank

Hailstop #3, HS3 - tail number N127ZW, based in Red Deer

Hailstop #4, HS4 - tail number N522JP, based in Red Deer

Hailstop #5, HS5 - tail number N518TS, based in Springbank

### Flare Usage (by aircraft, top right table)

BIP – burn-in-place flare, contains 150g of ice-forming seeding agent

HBIP – burn-in-place flare, contains 1000g of drop-forming seeding agent (salt)

EJ – ejectable flare, contains 20g of ice-forming seeding agent

TOTAL GRAMS – the total mass of seeding agent released in each category, in grams.

# <u>Flight Time</u> (by aircraft, by month, found below the *Flare Usage* table)

Self-explanatory.

TOTAL HOURS – the total time flown by all five Hailstop aircraft in each month, given in hours and minutes.

## **Operations Summary** (the large table that comprises the remainder of the document)

# Flights – the total number of flights flown for project purposes (not maintenance)

*UTC DATE* – Universal Time Coordinates, or UTC, is used worldwide for all meteorological and aviation purposes. UTC is six hours ahead of Mountain Daylight Time (MDT), so to convert UTC to MDT, subtract six hours.

HAILSTOP – the aircraft flying the mission, e.g. HS2 = Hailstop 2, based in Springbank (see Aircraft Identifiers, above)

OPS # -- The flight number for each specific aircraft, used only for administrative purposes.

ENGINES ON – the UTC time engines were started for that mission.

ENGINES OFF -- the UTC time engines were shut down after that mission.

TOTAL TIME – the time the engines ran, in hours and minutes.

MISSION TYPE – see Missions by Type, above.

EJ # – the number of ice-forming EJ flares expended on the mission.

BIP # -- the number of ice-forming BIP flares expended on the mission.

HYGRO # -- the number of droplet-forming hygroscopic (salt) flares expended on the mission.

TOTAL TIME FOR DAY – the total time accrued by all HS aircraft on each day.

EJ – the total number of EJ pyrotechnics (flares) used on each date.

BIP – the total number of BIP pyrotechnics (flares) used on each date.

AGI SEED AMOUNT PER DAY – the total mass of ice-forming seeding agent released on each date. This is the total of the amounts in the EJs and BIPs.

HYGROSCOPIC FLARES – the total number of droplet-forming (salt) flares burned on each date.

CaCl SEED AMOUNT PER DAY – the total mass of calcium chloride salt dispersed through the use of HYGRO flares on each date.

# Storms – the total number of storm complexes seeded on each date.

At the bottom of the table, season totals are provided.

|   | 01  |  | <b>ALBERT</b>  | A HAIL SUP  | PRESSIOI   | V PROJ   | ECT 20   | 21 - Uni                                  | iversal Tim  | e Coordina  | ites   |  |
|---|---|--|--|---|--|--|--|---|--|---|--|--|
|   |   |  | Last Data Re   | evision Date:   | 10/12/2021   |  |  |   |  |   |  |  |
| WEAT  | HER MODI  | FICATION   |  |   |  |  |  |   |  |   |  |  |
|   | INTERNATION   |  |  |   |  |  |  |   |  |   |  |  |
|   |   | AIR<br>TIME  |  | FLARE USAGE   | HS1  | HS2  | HS3  | HS4                                       | HS5  |   |  |  |
|   | SEED  | 122:03   |  | BIP (150g)  | 194  | 152  | 213  | 176                                       | 237  |   |  |  |
|   | PATROL  | 12:14  |  | HBIP (1000g)  | 31   | 0  | 0  | 0   | 0  |   |  |  |
|   | REPO  | 2:00   |  | EJ (20g)  | 261  | 1656   | 832  | 27  | 615  |   |  |  |
|   | PR  | 0:00   |  |   |  |  |  |   |  |   |  |  |
|   | DUAL  | 8:50   |  |   |  |  |  |   |  |   |  |  |
|   | MX  | 2:52   |  |   |  |  |  |   |  |   |  |  |
|   | FERRY   | 0:00   |  |   |  |  |  |   |  |   |  |  |
|   | CUR   | 0:00   |  | FLIGHT TIME   | HS1  | HS2  | HS3  | HS4                                       | HS5  |   |  |  |
|   | TOTALS  | 147:59   |  | JUNE  | 2:18   | 3:56   | 3:53   | 9:55                                      | 9:43   |   |  |  |
|   |   |  |  | JULY  | 22:26  | 23:41  | 19:42  | 17:17                                     | 20:20  |   |  |  |
|   | HAILSTOP #1   |  |  | AUGUST  | 6:53   | 8:49   | 7:04   | 6:51                                      | 3:34   |   |  |  |
|   | HAILSTOP #2   |  |  | SEPTEMBER   | 0:00   | 0:00   | 0:00   | 0:00                                      | 0:00   |   |  |  |
|   | HAILSTOP #3   |  |  | TOTAL BY HS#  | 31:37  | 36:26  | 30:39  | 34:03                                     | 33:37  |   |  |  |
|   | HAILSTOP #4   |  |  |   |  |  |  |   |  |   |  |  |
|   | HAILSTOP #5   |  |  |   |  |  |  |   | ST   | ORM DAY   | SUB-TOTA   | ALS                                    |
|   |   |  |  |   | * Indicates py   | rotechnic m  | aterial evne   | ended for                                 | (Storm-day   | chemical tota   | als ONLY inc   | lude flares                            |
|   |   |  |  |   | testing.   | TOLECTITIC III   | uteriui expe   | naea joi                                  | (Storm-day chemical totals ONLY include flares spent for seeding). |   |  |  |
|   |   |  |  |   |  |  |  |   |  |   | HYGROSC<br>OPIC<br>SEEDING   |  |
|   |   |  |  |   |  |  |  |   |  | GLACIO  | CACI2  |  |
| UTC<br>DATE   | HAILSTOP  | ENGINES<br>ON<br>(UTC)   | ENGINES<br>OFF<br>(UTC)  | TOTAL TIME  | MISSION<br>TYPE  | EJ<br>(#)  | BIP<br>(#)   | HYGRO<br>(#)                              | SEEDING<br>TIME PER<br>DAY   | SEED<br>AMOUNT<br>PER DAY<br>(Grams)  | SEED<br>AMOUNT<br>PER DAY  | # Storms                               |
| DATE  | HAILSTOP<br>HS4   | ON<br>(UTC)  | OFF<br>(UTC)   | (hh:mm)   | TYPE   | (#)  | (#)  | (#)                                       | TIME PER<br>DAY  | AMOUNT<br>PER DAY<br>(Grams)  | SEED<br>AMOUNT<br>PER DAY<br>(Grams)                               |  |
| <b>DATE</b><br>04-Jun-21  | HS4   | ON<br>(UTC)<br>19:37   | OFF<br>(UTC)<br>22:14  | (hh:mm)<br>2:37   | TYPE<br>SEED   | <b>(#)</b><br>10   | <b>(#)</b>   | <b>(#)</b>                                | TIME PER<br>DAY  | AMOUNT<br>PER DAY<br>(Grams)<br>650   | SEED<br>AMOUNT<br>PER DAY<br>(Grams)                               | # Storms                               |
| <b>DATE</b><br>04-Jun-21<br>05-Jun-21   | HS4<br>HS5  | ON<br>(UTC)<br>19:37<br>18:09  | OFF<br>(UTC)<br>22:14<br>20:04   | (hh:mm)<br>2:37<br>1:55   | TYPE<br>SEED<br>SEED   | (#)<br>10<br>0   | ( <b>#)</b> 3 17   | ( <b>#)</b><br>0                          | TIME PER<br>DAY<br>2:37  | AMOUNT<br>PER DAY<br>(Grams)<br>650   | SEED<br>AMOUNT<br>PER DAY<br>(Grams)<br>0                          | ************************************** |
| <b>DATE</b> 04-Jun-21 05-Jun-21 05-Jun-21   | HS4<br>HS5<br>HS3   | ON<br>(UTC)<br>19:37<br>18:09<br>23:43   | OFF<br>(UTC)<br>22:14<br>20:04<br>0:28   | (hh:mm)<br>2:37<br>1:55<br>0:45   | TYPE SEED SEED PATROL  | (#)<br>10<br>0   | (#)<br>3<br>17<br>0  | (#)<br>0<br>0                             | 2:37<br>2:40   | AMOUNT<br>PER DAY<br>(Grams)<br>650<br>0<br>2550  | SEED<br>AMOUNT<br>PER DAY<br>(Grams)<br>0                          | 2                                      |
| DATE<br>04-Jun-21<br>05-Jun-21<br>05-Jun-21   | HS4<br>HS5<br>HS3<br>HS4  | ON<br>(UTC)<br>19:37<br>18:09<br>23:43<br>23:30  | OFF<br>(UTC)<br>22:14<br>20:04<br>0:28<br>0:30   | (hh:mm)<br>2:37<br>1:55<br>0:45<br>1:00   | TYPE SEED SEED PATROL MX   | (#)<br>10<br>0<br>0  | (#)<br>3<br>17<br>0  | (#)<br>0<br>0<br>0                        | TIME PER<br>DAY<br>2:37  | AMOUNT<br>PER DAY<br>(Grams)<br>650<br>0<br>2550  | SEED<br>AMOUNT<br>PER DAY<br>(Grams)<br>0<br>0                     | 2<br>2<br>0                            |
| DATE 04-Jun-21 05-Jun-21 05-Jun-21 09-Jun-21 14-Jun-21  | HS4<br>HS5<br>HS3<br>HS4  | ON<br>(UTC)<br>19:37<br>18:09<br>23:43<br>23:30<br>19:57   | OFF<br>(UTC)<br>22:14<br>20:04<br>0:28<br>0:30<br>22:15  | (hh:mm)<br>2:37<br>1:55<br>0:45<br>1:00<br>2:18   | TYPE SEED SEED PATROL MX SEED  | (#)<br>10<br>0<br>0<br>0<br>91   | (#)<br>3<br>17<br>0<br>0   | (#)<br>0<br>0<br>0                        | 2:37<br>2:40   | AMOUNT<br>PER DAY<br>(Grams)<br>650<br>0<br>2550  | SEED<br>AMOUNT<br>PER DAY<br>(Grams)<br>0<br>0<br>0                | 2<br>2<br>0                            |
| DATE 04-Jun-21 05-Jun-21 05-Jun-21 09-Jun-21 14-Jun-21 14-Jun-21  | HS4<br>HS5<br>HS3<br>HS4<br>HS1<br>HS3  | ON<br>(UTC)<br>19:37<br>18:09<br>23:43<br>23:30<br>19:57<br>20:46  | OFF<br>(UTC)<br>22:14<br>20:04<br>0:28<br>0:30<br>22:15<br>21:59   | (hh:mm)<br>2:37<br>1:55<br>0:45<br>1:00<br>2:18<br>1:13   | TYPE SEED SEED PATROL MX SEED SEED SEED  | (#) 10 0 0 0 91  | (#)<br>3<br>17<br>0<br>0<br>13<br>10                                 | (#)<br>0<br>0<br>0<br>0                   | 2:37<br>2:40   | AMOUNT PER DAY (Grams) 650 0 2550 0 0   | SEED AMOUNT PER DAY (Grams)  0 0 0 0 0 0                           | 2<br>2<br>0                            |
| DATE  04-Jun-21  05-Jun-21  05-Jun-21  09-Jun-21  14-Jun-21  14-Jun-21  14-Jun-21   | HS4<br>HS5<br>HS3<br>HS4<br>HS1<br>HS3  | ON<br>(UTC)<br>19:37<br>18:09<br>23:43<br>23:30<br>19:57<br>20:46<br>21:44   | OFF<br>(UTC)<br>22:14<br>20:04<br>0:28<br>0:30<br>22:15<br>21:59   | (hh:mm) 2:37 1:55 0:45 1:00 2:18 1:13 3:56  | TYPE SEED SEED PATROL MX SEED SEED SEED  | (#) 10 0 0 0 91 0 142  | (#) 3 17 0 0 13 10 9   | (#)<br>0<br>0<br>0<br>0<br>0              | 2:37<br>2:40   | AMOUNT PER DAY (Grams) 650 0 2550 0 0 0 0   | SEED AMOUNT PER DAY (Grams)  0 0 0 0 0 0 0                         | 2<br>2<br>0                            |
| 04-Jun-21<br>05-Jun-21<br>05-Jun-21<br>09-Jun-21<br>14-Jun-21<br>14-Jun-21<br>14-Jun-21   | HS4<br>HS5<br>HS3<br>HS4<br>HS1<br>HS3<br>HS2<br>HS5                                    | ON<br>(UTC)<br>19:37<br>18:09<br>23:43<br>23:30<br>19:57<br>20:46<br>21:44<br>23:41  | OFF<br>(UTC)<br>22:14<br>20:04<br>0:28<br>0:30<br>22:15<br>21:59<br>1:40<br>4:33   | (hh:mm) 2:37 1:55 0:45 1:00 2:18 1:13 3:56 4:52   | TYPE  SEED  SEED  PATROL  MX  SEED  SEED  SEED  SEED  SEED   | (#) 10 0 0 0 91 0 142  | (#) 3 17 0 0 13 10 9 40  | (#)<br>0<br>0<br>0<br>0<br>0              | 2:37<br>2:40<br>0:00   | AMOUNT PER DAY (Grams) 650 0 2550 0 0 0 0 0   | SEED AMOUNT PER DAY (Grams)  0  0  0  0  0  0  0  0  0             | 2 2 0                                  |
| DATE  04-Jun-21  05-Jun-21  05-Jun-21  14-Jun-21  14-Jun-21  14-Jun-21  14-Jun-21  15-Jun-21  | HS4<br>HS5<br>HS3<br>HS4<br>HS1<br>HS3<br>HS2<br>HS5                                    | ON<br>(UTC)<br>19:37<br>18:09<br>23:43<br>23:30<br>19:57<br>20:46<br>21:44<br>23:41  | OFF<br>(UTC)<br>22:14<br>20:04<br>0:28<br>0:30<br>22:15<br>21:59<br>1:40<br>4:33<br>4:47   | (hh:mm) 2:37 1:55 0:45 1:00 2:18 1:13 3:56 4:52 4:07  | TYPE SEED SEED PATROL MX SEED SEED SEED SEED SEED SEED   | 10<br>0<br>0<br>0<br>91<br>0<br>142<br>0   | (#) 3 17 0 0 13 10 9 40 37   | (#) 0 0 0 0 0 0 0 0 0 0 0 0 0 0           | 2:37<br>2:40<br>0:00   | AMOUNT PER DAY (Grams) 650 0 2550 0 0 0 251010  | SEED AMOUNT PER DAY (Grams)  0  0  0  0  0  0  0  0  0  0 0 0 0    | 2<br>2<br>0                            |
| DATE  04-Jun-21  05-Jun-21  05-Jun-21  09-Jun-21  14-Jun-21  14-Jun-21  14-Jun-21  15-Jun-21  15-Jun-21   | HS4<br>HS5<br>HS3<br>HS4<br>HS1<br>HS3<br>HS2<br>HS5<br>HS4                             | ON<br>(UTC)<br>19:37<br>18:09<br>23:43<br>23:30<br>19:57<br>20:46<br>21:44<br>23:41<br>0:40  | OFF<br>(UTC)<br>22:14<br>20:04<br>0:28<br>0:30<br>22:15<br>21:59<br>1:40<br>4:33<br>4:47<br>16:39  | (hh:mm) 2:37 1:55 0:45 1:00 2:18 1:13 3:56 4:52 4:07 1:55   | TYPE  SEED  SEED  PATROL  MX  SEED  SEED  SEED  SEED  SEED  SEED  SEED  SEED   | 10<br>0<br>0<br>0<br>91<br>0<br>142<br>0<br>0  | (#) 3 17 0 0 13 10 9 40 37 34  | (#) 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 | 2:37<br>2:40<br>0:00   | AMOUNT PER DAY (Grams) 650 0 2550 0 0 0 251010 0  | SEED AMOUNT PER DAY (Grams)  0  0  0  0  0  0  0  0  0  0  0  0  0 | 2 2 0                                  |
| DATE  04-Jun-21  05-Jun-21  09-Jun-21  14-Jun-21  14-Jun-21  14-Jun-21  15-Jun-21  15-Jun-21  15-Jun-21   | HS4<br>HS5<br>HS3<br>HS4<br>HS1<br>HS3<br>HS2<br>HS5<br>HS4<br>HS3                      | ON<br>(UTC)<br>19:37<br>18:09<br>23:43<br>23:30<br>19:57<br>20:46<br>21:44<br>23:41<br>0:40<br>14:44<br>15:39  | OFF<br>(UTC)<br>22:14<br>20:04<br>0:28<br>0:30<br>22:15<br>21:59<br>1:40<br>4:33<br>4:47<br>16:39  | (hh:mm)  2:37  1:55  0:45  1:00  2:18  1:13  3:56  4:52  4:07  1:55  1:21   | TYPE  SEED  SEED  PATROL  MX  SEED   | 10<br>0<br>0<br>0<br>91<br>0<br>142<br>0<br>0  | (#) 3 17 0 0 13 10 9 40 37 34 16                                     | (#) 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 | 2:37<br>2:40<br>0:00   | AMOUNT PER DAY (Grams) 650 0 2550 0 0 0 21010 0 0   | SEED AMOUNT PER DAY (Grams)  0  0  0  0  0  0  0  0  0  0  0  0  0 | 2 2 0                                  |
| DATE  04-Jun-21  05-Jun-21  09-Jun-21  14-Jun-21  14-Jun-21  14-Jun-21  15-Jun-21  15-Jun-21  15-Jun-21  15-Jun-21  | HS4<br>HS5<br>HS3<br>HS4<br>HS1<br>HS3<br>HS2<br>HS5<br>HS4<br>HS3<br>HS4               | ON (UTC)  19:37  18:09  23:43  23:30  19:57  20:46  21:44  23:41  0:40  14:44  15:39  22:43  | OFF<br>(UTC)<br>22:14<br>20:04<br>0:28<br>0:30<br>22:15<br>21:59<br>1:40<br>4:33<br>4:47<br>16:39<br>17:00   | (hh:mm)  2:37  1:55  0:45  1:00  2:18  1:13  3:56  4:52  4:07  1:55  1:21  2:56   | TYPE  SEED  SEED  PATROL  MX  SEED   | 10<br>0<br>0<br>0<br>91<br>0<br>142<br>0<br>0<br>0   | (#) 3 17 0 0 13 10 9 40 37 34 16                                     | (#) 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 | 2:37<br>2:40<br>0:00<br>16:26                                      | AMOUNT PER DAY (Grams) 650 0 2550 0 0 0 21010 0 8500  | SEED AMOUNT PER DAY (Grams)  0  0  0  0  0  0  0  0  0  0  0  0  0 | 2 2 0                                  |
| DATE  04-Jun-21  05-Jun-21  05-Jun-21  09-Jun-21  14-Jun-21  14-Jun-21  14-Jun-21  15-Jun-21  15-Jun-21  15-Jun-21  15-Jun-21  15-Jun-21  29-Jun-21   | HS4<br>HS5<br>HS3<br>HS4<br>HS1<br>HS3<br>HS2<br>HS5<br>HS4<br>HS3<br>HS4<br>HS5        | ON<br>(UTC)<br>19:37<br>18:09<br>23:43<br>23:30<br>19:57<br>20:46<br>21:44<br>23:41<br>0:40<br>14:44<br>15:39<br>22:43   | OFF<br>(UTC)<br>22:14<br>20:04<br>0:28<br>0:30<br>22:15<br>21:59<br>1:40<br>4:33<br>4:47<br>16:39<br>17:00<br>1:39   | (hh:mm)  2:37  1:55  0:45  1:00  2:18  1:13  3:56  4:52  4:07  1:55  1:21  2:56  0:50   | TYPE  SEED  SEED  PATROL  MX  SEED  SEED  SEED  SEED  SEED  SEED  SEED  SEED  MX   | 10<br>0<br>0<br>0<br>91<br>0<br>142<br>0<br>0<br>0   | (#)  3 17 0 0 13 10 9 40 37 34 16 4 0                                | (#) 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 | 2:37<br>2:40<br>0:00<br>16:26<br>6:12<br>0:00                      | AMOUNT PER DAY (Grams) 650 0 2550 0 0 0 21010 0 8500  | SEED AMOUNT PER DAY (Grams)  0  0  0  0  0  0  0  0  0  0  0  0  0 | 2<br>2<br>0<br>4<br>4                  |
| DATE  04-Jun-21  05-Jun-21  05-Jun-21  09-Jun-21  14-Jun-21  14-Jun-21  14-Jun-21  15-Jun-21  15-Jun-21  15-Jun-21  15-Jun-21  15-Jun-21  01-Jul-21   | HS4<br>HS5<br>HS3<br>HS4<br>HS1<br>HS3<br>HS2<br>HS5<br>HS4<br>HS3<br>HS4<br>HS5<br>HS4 | ON<br>(UTC)<br>19:37<br>18:09<br>23:43<br>23:30<br>19:57<br>20:46<br>21:44<br>23:41<br>0:40<br>14:44<br>15:39<br>22:43<br>15:15                                  | OFF<br>(UTC)<br>22:14<br>20:04<br>0:28<br>0:30<br>22:15<br>21:59<br>1:40<br>4:33<br>4:47<br>16:39<br>17:00<br>1:39<br>16:05  | (hh:mm)  2:37  1:55  0:45  1:00  2:18  1:13  3:56  4:52  4:07  1:55  1:21  2:56  0:50  0:45   | TYPE  SEED  SEED  PATROL  MX  SEED  SEED  SEED  SEED  SEED  SEED  SEED  SEED  SEED  MX  MX   | 10<br>0<br>0<br>0<br>91<br>0<br>142<br>0<br>0<br>0   | (#)  3 17 0 0 13 10 9 40 37 34 16 4 0                                | (#) 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 | 2:37<br>2:40<br>0:00<br>16:26<br>6:12<br>0:00                      | AMOUNT PER DAY (Grams) 650 0 2550 0 0 251010 0 21010 0 8500 0                               | SEED AMOUNT PER DAY (Grams)  0  0  0  0  0  0  0  0  0  0  0  0  0 | 2<br>2<br>0<br>4<br>4                  |
| DATE  04-Jun-21  05-Jun-21  05-Jun-21  14-Jun-21  14-Jun-21  14-Jun-21  15-Jun-21  15-Jun-21  15-Jun-21  15-Jun-21  15-Jun-21  15-Jun-21  01-Jul-21  02-Jul-21  | HS4 HS5 HS3 HS4 HS1 HS2 HS5 HS5 HS4 HS3 HS4 HS5 HS4 HS5                                 | ON<br>(UTC)<br>19:37<br>18:09<br>23:43<br>23:30<br>19:57<br>20:46<br>21:44<br>23:41<br>0:40<br>14:44<br>15:39<br>22:43<br>15:15<br>17:30                         | OFF<br>(UTC)<br>22:14<br>20:04<br>0:28<br>0:30<br>22:15<br>21:59<br>1:40<br>4:33<br>4:47<br>16:39<br>17:00<br>1:39<br>16:05  | (hh:mm)  2:37  1:55  0:45  1:00  2:18  1:13  3:56  4:52  4:07  1:55  1:21  2:56  0:50  0:45  4:18   | TYPE  SEED  SEED  PATROL  MX  SEED  SEED  SEED  SEED  SEED  SEED  SEED  SEED  MX  MX  MX  SEED   | 10<br>0<br>0<br>0<br>91<br>0<br>142<br>0<br>0<br>0<br>0<br>20<br>0                         | (#)  3 17 0 0 13 10 9 40 37 34 16 4 0 0 13                           | (#) 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 | 2:37 2:40 0:00 16:26 6:12 0:00 0:00                                | AMOUNT PER DAY (Grams) 650 0 2550 0 0 0 251010 0 8500 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0       | SEED AMOUNT PER DAY (Grams)  0  0  0  0  0  0  0  0  0  0  0  0  0 | 2<br>0<br>0<br>4<br>3<br>0             |
| DATE  04-Jun-21  05-Jun-21  09-Jun-21  14-Jun-21  14-Jun-21  14-Jun-21  15-Jun-21  15-Jun-21  15-Jun-21  15-Jun-21  01-Jul-21  02-Jul-21  | HS4 HS5 HS3 HS4 HS1 HS2 HS5 HS5 HS4 HS5 HS4 HS5 HS4 HS5 HS4 HS5 HS4                     | ON (UTC)  19:37  18:09  23:43  23:30  19:57  20:46  21:44  23:41  0:40  14:44  15:39  22:43  15:15  17:30  18:59  19:09  | OFF<br>(UTC)<br>22:14<br>20:04<br>0:28<br>0:30<br>22:15<br>21:59<br>1:40<br>4:33<br>4:47<br>16:39<br>17:00<br>1:39<br>16:05<br>18:15<br>23:17  | (hh:mm)  2:37  1:55  0:45  1:00  2:18  1:13  3:56  4:52  4:07  1:55  1:21  2:56  0:50  0:45  4:18  1:17   | TYPE  SEED  SEED  PATROL  MX  SEED  SEED  SEED  SEED  SEED  SEED  SEED  MX  MX  MX  SEED   | 10<br>0<br>0<br>0<br>91<br>0<br>142<br>0<br>0<br>0<br>20<br>0<br>298                       | (#)  3  17  0  0  13  10  9  40  37  34  16  4  0  0  13             | (#) 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 | 2:37 2:40 0:00 16:26 6:12 0:00 0:00                                | AMOUNT PER DAY (Grams) 650 0 2550 0 0 0 251010 0 8500 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0       | SEED AMOUNT PER DAY (Grams)  0  0  0  0  0  0  0  0  0  0  0  0  0 | 2<br>2<br>0<br>4<br>4                  |
| DATE  04-Jun-21  05-Jun-21  09-Jun-21  14-Jun-21  14-Jun-21  14-Jun-21  15-Jun-21  15-Jun-21  15-Jun-21  01-Jul-21  02-Jul-21  02-Jul-21  | HS4 HS5 HS3 HS4 HS1 HS2 HS5 HS5 HS4 HS5 HS4 HS5 HS4 HS5 HS4 HS5 HS4 HS2 HS5             | ON (UTC)  19:37  18:09  23:43  23:30  19:57  20:46  21:44  23:41  0:40  14:44  15:39  22:43  15:15  17:30  18:59  19:09  19:11                                   | OFF<br>(UTC)<br>22:14<br>20:04<br>0:28<br>0:30<br>22:15<br>21:59<br>1:40<br>4:33<br>4:47<br>16:39<br>17:00<br>1:39<br>16:05<br>18:15<br>23:17  | (hh:mm)  2:37  1:55  0:45  1:00  2:18  1:13  3:56  4:52  4:07  1:55  1:21  2:56  0:50  0:45  4:18  1:17  4:34                                     | TYPE  SEED  SEED  PATROL  MX  SEED  SEED  SEED  SEED  SEED  SEED  SEED  MX  MX  MX  SEED  PATROL  SEED   | 10<br>0<br>0<br>0<br>91<br>0<br>142<br>0<br>0<br>0<br>20<br>0<br>298<br>0                  | (#) 3 17 0 0 13 10 9 40 37 34 16 4 0 0 13                            | (#) 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 | 2:37 2:40 0:00 16:26 6:12 0:00 0:00                                | AMOUNT PER DAY (Grams) 650 0 2550 0 0 0 21010 0 8500 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0        | SEED AMOUNT PER DAY (Grams)  0  0  0  0  0  0  0  0  0  0  0  0  0 | 2<br>2<br>0<br>4<br>4                  |
| DATE  04-Jun-21  05-Jun-21  09-Jun-21  14-Jun-21  14-Jun-21  14-Jun-21  15-Jun-21  15-Jun-21  15-Jun-21  15-Jun-21  01-Jul-21  02-Jul-21  02-Jul-21  02-Jul-21  02-Jul-21   | HS4 HS5 HS3 HS4 HS1 HS2 HS5 HS4 HS5 HS4 HS5 HS4 HS5 HS4 HS2 HS5 HS4 HS2                 | ON (UTC)  19:37  18:09  23:43  23:30  19:57  20:46  21:44  23:41  0:40  14:44  15:39  22:43  15:15  17:30  18:59  19:09  19:11  19:45                            | OFF<br>(UTC)<br>22:14<br>20:04<br>0:28<br>0:30<br>22:15<br>21:59<br>1:40<br>4:33<br>4:47<br>16:39<br>17:00<br>1:39<br>16:05<br>18:15<br>23:17<br>20:26<br>23:45                                  | (hh:mm)  2:37  1:55  0:45  1:00  2:18  1:13  3:56  4:52  4:07  1:55  1:21  2:56  0:50  0:45  4:18  1:17  4:34  1:14                               | TYPE  SEED  SEED  PATROL  MX  SEED  MX  MX  SEED  PATROL | 10<br>0<br>0<br>0<br>91<br>0<br>142<br>0<br>0<br>0<br>20<br>0<br>298<br>0                  | (#)  3 17 0 0 13 10 9 40 37 34 16 4 0 0 13 0 36                      | (#) 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 | 2:37 2:40 0:00 16:26 6:12 0:00                                     | AMOUNT PER DAY (Grams) 650 0 2550 0 0 251010 0 21010 0 8500 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 | SEED AMOUNT PER DAY (Grams)  0  0  0  0  0  0  0  0  0  0  0  0  0 | 2<br>0<br>0<br>4<br>3<br>0<br>0        |
| DATE  04-Jun-21  05-Jun-21  05-Jun-21  14-Jun-21  14-Jun-21  14-Jun-21  15-Jun-21  15-Jun-21  15-Jun-21  15-Jun-21  02-Jul-21  02-Jul-21  02-Jul-21  02-Jul-21  02-Jul-21  02-Jul-21  02-Jul-21   | HS4 HS5 HS3 HS4 HS1 HS2 HS5 HS4 HS5 HS4 HS5 HS4 HS5 HS4 HS2 HS5 HS4 HS1 HS4 HS1         | ON (UTC)  19:37  18:09  23:43  23:30  19:57  20:46  21:44  23:41  0:40  14:44  15:39  22:43  15:15  17:30  18:59  19:09  19:11  19:45  21:04                     | OFF<br>(UTC)<br>22:14<br>20:04<br>0:28<br>0:30<br>22:15<br>21:59<br>1:40<br>4:33<br>4:47<br>16:39<br>17:00<br>1:39<br>16:05<br>18:15<br>23:17<br>20:26<br>23:45<br>20:59                         | (hh:mm)  2:37  1:55  0:45  1:00  2:18  1:13  3:56  4:52  4:07  1:55  1:21  2:56  0:50  0:45  4:18  1:17  4:34  1:14  3:38                         | TYPE   | 10<br>0<br>0<br>0<br>91<br>0<br>142<br>0<br>0<br>0<br>20<br>0<br>298<br>0<br>0             | (#) 3 17 0 0 13 10 9 40 37 34 16 4 0 0 13 0 13 0 18                  | (#) 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 | 2:37 2:40 0:00 16:26 6:12 0:00                                     | AMOUNT PER DAY (Grams) 650 0 2550 0 0 251010 0 21010 0 0 0 0 0 0 0 0 0 0 0 0 0 0            | SEED AMOUNT PER DAY (Grams)  0  0  0  0  0  0  0  0  0  0  0  0  0 | 2<br>0<br>0<br>4<br>4                  |
| DATE  04-Jun-21  05-Jun-21  09-Jun-21  14-Jun-21  14-Jun-21  14-Jun-21  15-Jun-21  15-Jun-21  15-Jun-21  01-Jul-21  02-Jul-21  02-Jul-21  02-Jul-21  02-Jul-21  02-Jul-21  02-Jul-21  02-Jul-21  02-Jul-21  02-Jul-21   | HS4 HS5 HS3 HS4 HS1 HS2 HS5 HS4 HS5 HS4 HS5 HS4 HS5 HS4 HS2 HS5 HS4 HS1 HS4 HS1         | ON (UTC)  19:37  18:09  23:43  23:30  19:57  20:46  21:44  23:41  0:40  14:44  15:39  22:43  15:15  17:30  18:59  19:09  19:11  19:45  21:04  21:56              | OFF<br>(UTC)<br>22:14<br>20:04<br>0:28<br>0:30<br>22:15<br>21:59<br>1:40<br>4:33<br>4:47<br>16:39<br>17:00<br>1:39<br>16:05<br>18:15<br>23:17<br>20:26<br>23:45<br>20:59<br>0:42                 | (hh:mm)  2:37  1:55  0:45  1:00  2:18  1:13  3:56  4:52  4:07  1:55  1:21  2:56  0:50  0:45  4:18  1:17  4:34  1:14  3:38  3:53                   | TYPE   | 10<br>0<br>0<br>0<br>91<br>0<br>142<br>0<br>0<br>0<br>20<br>0<br>298<br>0<br>0<br>0        | #) 3 17 0 0 13 10 9 40 37 34 16 4 0 0 13 0 13 0 18 26                | (#) 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 | 2:37 2:40 0:00 16:26 6:12 0:00                                     | AMOUNT PER DAY (Grams) 650 0 2550 0 0 2550 0 0 21010 0 8500 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 | SEED AMOUNT PER DAY (Grams)  0  0  0  0  0  0  0  0  0  0  0  0  0 | 2<br>0<br>4<br>4                       |
| DATE  04-Jun-21  05-Jun-21  09-Jun-21  14-Jun-21  14-Jun-21  14-Jun-21  15-Jun-21  15-Jun-21  15-Jun-21  02-Jul-21   | HS4 HS5 HS3 HS4 HS1 HS2 HS5 HS4 HS5 HS4 HS5 HS4 HS5 HS4 HS5 HS4 HS2 HS5 HS4 HS1 HS2 HS5 | ON (UTC)  19:37  18:09  23:43  23:30  19:57  20:46  21:44  23:41  0:40  14:44  15:39  22:43  15:15  17:30  18:59  19:09  19:11  19:45  21:04  21:56  23:46       | OFF<br>(UTC)<br>22:14<br>20:04<br>0:28<br>0:30<br>22:15<br>21:59<br>1:40<br>4:33<br>4:47<br>16:39<br>17:00<br>1:39<br>16:05<br>18:15<br>23:17<br>20:26<br>23:45<br>20:59<br>0:42                 | (hh:mm)  2:37  1:55  0:45  1:00  2:18  1:13  3:56  4:52  4:07  1:55  1:21  2:56  0:50  0:45  4:18  1:17  4:34  1:14  3:38  3:53  2:42             | TYPE   | 10<br>0<br>0<br>0<br>91<br>0<br>142<br>0<br>0<br>0<br>20<br>0<br>298<br>0<br>0<br>0        | (#)  3  17  0  13  10  9  40  37  34  16  4  0  0  13  0  18  26  21 | (#) 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 | 2:37 2:40 0:00 16:26 6:12 0:00                                     | AMOUNT PER DAY (Grams) 650 0 2550 0 0 251010 0 21010 0 0 0 0 0 0 0 0 0 0 0 0 0 0            | SEED AMOUNT PER DAY (Grams)  0  0  0  0  0  0  0  0  0  0  0  0  0 | 2<br>0<br>4<br>3<br>0                  |
| DATE  04-Jun-21  05-Jun-21  09-Jun-21  14-Jun-21  14-Jun-21  14-Jun-21  15-Jun-21  15-Jun-21  15-Jun-21  02-Jul-21  02-Jul-21 | HS4 HS5 HS3 HS4 HS1 HS2 HS5 HS4 HS5 HS4 HS5 HS4 HS5 HS4 HS5 HS4 HS2 HS5 HS4 HS1 HS2 HS1 | ON (UTC)  19:37  18:09  23:43  23:30  19:57  20:46  21:44  23:41  0:40  14:44  15:39  22:43  15:15  17:30  18:59  19:09  19:11  19:45  21:04  21:56  23:46  1:45 | OFF<br>(UTC)<br>22:14<br>20:04<br>0:28<br>0:30<br>22:15<br>21:59<br>1:40<br>4:33<br>4:47<br>16:39<br>17:00<br>1:39<br>16:05<br>18:15<br>23:17<br>20:26<br>23:45<br>20:59<br>0:42<br>1:49<br>2:28 | (hh:mm)  2:37  1:55  0:45  1:00  2:18  1:13  3:56  4:52  4:07  1:55  1:21  2:56  0:50  0:45  4:18  1:17  4:34  1:14  3:38  3:53  2:42  0:43       | TYPE   | 10<br>0<br>0<br>0<br>91<br>0<br>142<br>0<br>0<br>0<br>20<br>0<br>298<br>0<br>0<br>0<br>161 | (#)  3 17 0 0 13 10 9 40 37 34 16 4 0 0 13 0 18 26 21                | (#) 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 | 2:37 2:40 0:00 16:26 6:12 0:00                                     | AMOUNT PER DAY (Grams) 650 0 2550 0 0 2550 0 0 21010 0 0 8500 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 | SEED AMOUNT PER DAY (Grams)  0  0  0  0  0  0  0  0  0  0  0  0  0 | 2<br>0<br>4<br>3<br>0                  |
| DATE  04-Jun-21  05-Jun-21  09-Jun-21  14-Jun-21  14-Jun-21  14-Jun-21  15-Jun-21  15-Jun-21  15-Jun-21  02-Jul-21   | HS4 HS5 HS3 HS4 HS1 HS2 HS5 HS4 HS5 HS4 HS5 HS4 HS5 HS4 HS5 HS4 HS2 HS5 HS4 HS1 HS2 HS5 | ON (UTC)  19:37  18:09  23:43  23:30  19:57  20:46  21:44  23:41  0:40  14:44  15:39  22:43  15:15  17:30  18:59  19:09  19:11  19:45  21:04  21:56  23:46       | OFF<br>(UTC)<br>22:14<br>20:04<br>0:28<br>0:30<br>22:15<br>21:59<br>1:40<br>4:33<br>4:47<br>16:39<br>17:00<br>1:39<br>16:05<br>23:17<br>20:26<br>23:45<br>20:59<br>0:42<br>1:49<br>2:28<br>2:28  | (hh:mm)  2:37  1:55  0:45  1:00  2:18  1:13  3:56  4:52  4:07  1:55  1:21  2:56  0:50  0:45  4:18  1:17  4:34  1:14  3:38  3:53  2:42  0:43  0:43 | TYPE   | 10<br>0<br>0<br>0<br>91<br>0<br>142<br>0<br>0<br>0<br>20<br>0<br>298<br>0<br>0<br>0        | (#)  3  17  0  13  10  9  40  37  34  16  4  0  0  13  0  18  26  21 | (#) 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 | 2:37 2:40 0:00 16:26 6:12 0:00                                     | AMOUNT PER DAY (Grams) 650 0 2550 0 0 251010 0 21010 0 0 0 0 0 0 0 0 0 0 0 0 0 0            | SEED AMOUNT PER DAY (Grams)  0  0  0  0  0  0  0  0  0  0  0  0  0 | 2<br>0<br>4<br>3<br>0                  |

|                        |            |                        |                         |                       |                  |                       |                       |                          |                            |  | HYGROSC<br>OPIC<br>SEEDING                    |                          |
|------------------------|------------|------------------------|-------------------------|-----------------------|------------------|-----------------------|-----------------------|--------------------------|----------------------------|--|---|--------------------------|
| UTC<br>DATE            | HAILSTOP   | ENGINES<br>ON<br>(UTC) | ENGINES<br>OFF<br>(UTC) | TOTAL TIME<br>(hh:mm) | MISSION<br>TYPE  | EJ<br>(#)             | BIP<br>(#)            | HYGRO<br>(#)             | SEEDING<br>TIME PER<br>DAY | GLACIO<br>SEED<br>AMOUNT<br>PER DAY<br>(Grams) | CACI2<br>SEED<br>AMOUNT<br>PER DAY<br>(Grams) | # Storms                 |
| 03-Jul-21              | HS5        | 22:21                  | 1:32                    | 3:11                  | SEED             | 0                     | 22                    | 0                        |                            | 0  | 0   |                          |
| 03-Jul-21<br>03-Jul-21 | HS1<br>HS2 | 22:20<br>22:22         | 1:06<br>2:36            | 2:46<br>4:14          | SEED<br>SEED     | 159<br>200            | 15<br>13              | 0                        |                            | 0  | 0   |                          |
| 03-Jul-21              | HS4        | 23:17                  | 1:53                    | 2:36                  | SEED             | 0                     | 23                    | 0                        |                            | 0  | 0   |                          |
| 04-Jul-21              | HS3        | 0:04                   | 3:14                    | 3:10                  | SEED             | 0                     | 11                    | 0                        |                            | 0  | 0   |                          |
| 04-Jul-21              | HS1        | 2:04                   | 3:32                    | 1:28                  | SEED             | 11                    | 5                     | 0                        | 17:25                      | 20750  | 0   | 2                        |
| 04-Jul-21<br>04-Jul-21 | HS5<br>HS2 | 20:27<br>20:31         | 23:28<br>23:21          | 3:01<br>2:50          | SEED<br>SEED     | 0                     | 12<br>12              | 0                        |                            | 0  | 0   |                          |
| 04-Jul-21<br>04-Jul-21 | HS1        | 20:31                  | 23:21                   | 1:28                  | PATROL           | 0                     | 0                     | 0                        |                            | 0  | 0   |                          |
| 04-Jul-21              | HS1        | 22:53                  | 23:33                   | 0:40                  | REPO             | 0                     | 0                     | 0                        | 7:19                       | 3600   | 0   | 1                        |
| 05-Jul-21              | HS3        | 22:16                  | 23:16                   | 1:00                  | MX               | 0                     | 0                     | 0                        | 0:00                       | 0  | 0   | 0                        |
| 06-Jul-21              | HS2        | 20:50                  | 23:04                   | 2:14                  | SEED             | 44                    | 0                     | 0                        |                            | 0  |   |                          |
| 06-Jul-21<br>06-Jul-21 | HS5<br>HS3 | 21:53<br>22:10         | 23:11<br>1:08           | 1:18<br>2:58          | PATROL<br>PATROL | 0                     | 0                     | 0                        |                            | 0  | 0   |                          |
| 06-Jul-21<br>07-Jul-21 | HS2        | 0:47                   | 2:49                    | 2:02                  | SEED             | 214                   | 17                    | 0                        |                            | 0  | 0   |                          |
| 07-Jul-21              | HS1        | 0:46                   | 2:42                    | 1:56                  | SEED             | 0                     | 28                    | 0                        |                            | 0  | 0   |                          |
| 07-Jul-21              | HS5        | 1:14                   | 2:43                    | 1:29                  | SEED             | 0                     | 24                    | 0                        |                            | 0  | 0   | _                        |
| 07-Jul-21<br>07-Jul-21 | HS5        | 4:17                   | 5:31                    | 1:14                  | SEED             | 56<br>0               | 11<br>0               | 0                        | 13:11                      | 18280<br>0                                     | 0   | 3                        |
| 07-Jul-21<br>08-Jul-21 | HS5<br>HS2 | 20:45<br>2:08          | 21:16<br>3:53           | 0:31<br>1:45          | PATROL<br>SEED   | 217                   | 11                    | 0                        |                            | 0  | 0   |                          |
| 08-Jul-21              | HS5        | 2:10                   | 4:00                    | 1:50                  | SEED             | 0                     | 29                    | 0                        |                            | 0  |   |                          |
| 08-Jul-21              | HS1        | 2:10                   | 4:30                    | 2:20                  | SEED             | 0                     | 26                    | 0                        |                            | 0  | 0   |                          |
| 08-Jul-21              | HS4        | 2:57                   | 4:23                    | 1:26                  | SEED             | 17                    | 4                     | 0                        | 7:52                       | 15180  | 0   | 1                        |
| 10-Jul-21<br>21-Jul-21 | HS3<br>HS1 | 21:21<br>2:45          | 22:43<br>4:45           | 1:22<br>2:00          | PATROL<br>PATROL | 0                     | 0                     | 0                        | 1:22<br>2:00               | 0  | 0   | 0                        |
| 22-Jul-21              | HS3        | 1:41                   | 4:43                    | 2:38                  | SEED             | 189                   | 30                    | 0                        | 2.00                       | 0  | 0   | 0                        |
| 22-Jul-21              | HS4        | 2:30                   | 4:26                    | 1:56                  | SEED             | 0                     | 15                    | 0                        | 4:34                       | 10530  | 0   | 1                        |
| 22-Jul-21              | HS4        | 18:16                  | 20:52                   | 2:36                  | SEED             | 0                     | 19                    | 0                        |                            | 0  |   |                          |
| 22-Jul-21              | HS1        | 18:17                  | 20:17                   | 2:00                  | DUAL             | 163                   | 11                    | 14                       |                            | 0  | 0   |                          |
| 22-Jul-21<br>22-Jul-21 | HS3        | 18:24<br>19:21         | 20:23<br>20:58          | 1:59<br>1:37          | DUAL<br>SEED     | 163<br>36             | 8<br>6                | 0                        | 8:12                       | 0<br>10580                                     | 0<br>14000                                    | 2                        |
| 26-Jul-21              | HS4        | 1:38                   | 4:23                    | 2:45                  | SEED             | 0                     | 32                    | 0                        | 0.12                       | 0  | 0   | ٢                        |
| 26-Jul-21              | HS3        | 1:39                   | 5:32                    | 3:53                  | SEED             | 271                   | 44                    | 0                        |                            | 0  | 0   |                          |
| 26-Jul-21              | HS1        | 2:07                   | 4:38                    | 2:31                  | SEED             |                       |                       |                          |                            | 0  |   |                          |
| 26-Jul-21<br>26-Jul-21 | HS2<br>HS5 | 2:29<br>2:58           | 5:36<br>5:43            | 3:07<br>2:45          | SEED<br>SEED     | 133<br>241            | 30<br>27              | 0                        |                            | 0  | 0   |                          |
| 26-Jul-21              | HS4        | 5:22                   | 5:50                    | 0:28                  | REPO             | 0                     | 0                     | 0                        | 15:01                      | 37050  | 0   | 2                        |
| 04-Aug-21              | HS4        | 22:13                  | 2:14                    | 4:01                  | SEED             | 0                     | 9                     | 0                        |                            | 0  | 0   |                          |
| 05-Aug-21              | HS2        | 0:38                   |                         | 2:12                  | SEED             | 139                   | 2                     | 0                        |                            | 0  | 0   |                          |
| 05-Aug-21              | HS1        | 1:25                   | 2:57                    | 1:32                  | SEED             | 0                     | 6                     | 0                        | 7:45                       |  | 0   | 2                        |
| 21-Aug-21<br>21-Aug-21 | HS2<br>HS5 | 17:39<br>17:40         | 18:00<br>18:10          | 0:21<br>0:30          | MX<br>MX         | 0                     | 0                     | 0                        |                            | 0  |   |                          |
| 21-Aug-21              | HS1        | 18:09                  | 18:47                   | 0:38                  | MX               | 0                     | 0                     | 0                        |                            | 0  | 0   |                          |
| 21-Aug-21              | HS4        | 19:00                  | 19:46                   | 0:46                  | MX               | 0                     | 0                     | 0                        |                            | 0  |   |                          |
| 21-Aug-21              | HS3        | 20:15                  | 20:52                   | 0:37                  | MX               | 0                     | 0                     | 0                        | 0:00                       | 0  |   | 0                        |
| 22-Aug-21<br>22-Aug-21 | HS2<br>HS3 | 21:33<br>21:44         | 23:54<br>1:24           | 2:21<br>3:40          | SEED<br>DUAL     | 177<br>147            | 15<br>43              | 0                        |                            | 0  | 0   |                          |
| 22-Aug-21<br>22-Aug-21 | HS1        | 23:26                  | 1:24                    | 2:12                  | DUAL             | 0                     | 12                    | 17                       |                            | 0  |   |                          |
| 22-Aug-21              | HS4        | 23:40                  |                         | 2:04                  | PATROL           | 0                     | 0                     | 0                        | 10:17                      | 16980  | 17000   | 1                        |
| 31-Aug-21              | HS2        | 21:38                  |                         | 3:55                  | SEED             | 193                   | 11                    | 0                        |                            | 0  |   |                          |
| 31-Aug-21              | HS5        | 21:44                  | 0:48                    | 3:04                  | SEED             | 0                     | 38                    | 0                        |                            | 0  | 0   |                          |
| 31-Aug-21<br>31-Aug-21 | HS3<br>HS1 | 22:11<br>23:15         | 0:58<br>1:46            | 2:47<br>2:31          | SEED<br>SEED     | 62<br>0               | 12<br>14              | 0                        | 12:17                      | 0<br>16350                                     | 0   | 5                        |
| JI Mug-ZI              | 1191       | 23.13                  | 1.40                    | 2.31                  | JLLD             | 3391                  | 972                   | 31                       | 156:46                     | 213620   | 31000   | 35                       |
| SEASON<br>TOTALS       |            |                        |                         |                       |                  | TOTAL<br>EJ<br>FLARES | TOTAL<br>BIP<br>FLARE | TOTAL<br>HYGRO<br>FLARES | HOURS<br>FLOWN             | TOTAL<br>GLACIO-<br>GENIC<br>SEEDING<br>AGENT  | TOTAL<br>CaCI<br>SEEDING<br>AGENT             | TOTAL # OF STORMS SEEDED |