|                                       |                                  |                     |                                  |                        |                              |                                    |             |                        | august_2016 | grazed<br>june_2016 | august_2015 | august_2016 | exclosed<br>june_2016 | august_2015 |
|---------------------------------------|----------------------------------|---------------------|----------------------------------|------------------------|------------------------------|------------------------------------|-------------|------------------------|-------------|---------------------|-------------|-------------|-----------------------|-------------|
| Bacteria(MOB_like)                    | Proteobacteria                   | Gammaproteobacteria | Methylococcales                  | Methylococcaceae       | Methylobacter                | Methylobacter_X                    | >EF472941.1 | 87.69 X4               | sv1 sv2     | sv1 sv2             | sv1 sv2     | sv1 sv2     | sv1 sv2               | sv1 sv2     |
| Bacteria(MOB_like)                    | Proteobacteria                   | Gammaproteobacteria | Methylococcales                  | Methylococcaceae       | Methylobacter                | Methylobacter_X  Methylobacter_X   | >GQ906796.1 | 99.58 X3               |             |                     |             |             |                       |             |
| Bacteria(MOB_like)                    | Proteobacteria                   | Gammaproteobacteria | Methylococcales                  | Methylococcaceae       | Methylobacter                | Methylobacter_X Methylobacter_X    | >HE617723.1 | 94.69 X11              |             |                     |             |             |                       |             |
| Bacteria(MOB_like)                    | Proteobacteria                   | Gammaproteobacteria | Methylococcales                  | Methylococcaceae       | Methylococcaceae_X           | Methylococcaceae_XX                |             |                        |             |                     |             |             |                       |             |
| Bacteria(MOB_like)                    | Proteobacteria                   | Gammaproteobacteria | Methylococcales                  | Methylococcaceae       | Methylobacter                | Methylobacter_X                    | >AB722373.1 | 85.35 X21<br>99.36 X16 |             |                     |             |             |                       |             |
| Bacteria(MOB_like)                    | Proteobacteria                   | Gammaproteobacteria | Methylococcales                  | Methylococcaceae       | Methylobacter                | Methylobacter_X  Methylobacter_X   | >GQ906785.1 |                        |             |                     |             |             |                       |             |
| Bacteria(MOB_like)                    | Proteobacteria                   | Gammaproteobacteria | Methylococcales                  | Methylococcaceae       | Methylobacter                | Methylobacter_X  Methylobacter_X   | >HE617723.1 |                        |             |                     |             |             |                       |             |
| Bacteria(MOB_like)                    | Proteobacteria                   | Gammaproteobacteria | Methylococcales                  | Methylococcaceae       | Methylobacter                | Methylobacter_X  Methylobacter_X   | >GQ906794.1 |                        |             |                     |             |             |                       |             |
| Bacteria(MOB_like)                    | Proteobacteria                   | Gammaproteobacteria | Methylococcales                  | Methylococcaceae       | Methylobacter                | Methylobacter_X  Methylobacter_X   | >FN597117.1 |                        |             |                     |             |             |                       |             |
| Bacteria(MOB_like)                    | Proteobacteria                   | Gammaproteobacteria | Methylococcales                  | Methylococcaceae       | Methylobacter                | Methylobacter_X  Methylobacter_X   | >HQ883356.1 | 94.06 X40              |             |                     |             |             |                       |             |
| Bacteria(MOB_like)                    | Proteobacteria Proteobacteria    | Gammaproteobacteria | •                                | Methylococcaceae       | Methylobacter                | Methylobacter_X                    | >GQ906786.1 | 96.18 X74              |             |                     |             |             |                       |             |
| Bacteria(MOB_like)                    | Proteobacteria                   | Gammaproteobacteria | Methylococcales  Mothylococcales | Methylococcaceae       | Methylomicrobium             | Methylomicrobium_japanense-related | >AF150758.1 | 93.63 X49              |             |                     |             |             |                       |             |
| · · · · · · · · · · · · · · · · · · · | Proteobacteria Proteobacteria    | •                   | Methylococcales  Methylococcales | Methylococcaceae       | •                            | , ,                                | >HE617752.1 | 92.14 X1               |             |                     |             |             |                       |             |
| Bacteria(MOB_like)                    |                                  | Gammaproteobacteria | Methylococcales  Methylococcales | •                      | Methylobacter  Methylobacter | Methylobacter_X                    | >AF150758.1 | 94.27 X5               |             |                     |             |             |                       |             |
| Bacteria(MOB_like)                    | Proteobacteria<br>Proteobacteria | Gammaproteobacteria | Methylococcales  Methylococcales | Methylococcaceae       | •                            | Methylobacter_X                    | >HQ883332.1 | 93.63 X6               |             |                     |             |             |                       |             |
| Bacteria(MOB_like)                    |                                  | Gammaproteobacteria | Methylococcales                  | Methylococcaceae       | Methylobacter Methylobacter  | Methylobacter_X                    | >HE617836.1 | 88.32 X15              |             |                     |             |             |                       |             |
| Bacteria(MOB_like)                    | Proteobacteria  Proteobacteria   | Gammaproteobacteria | Methylococcales                  | Methylococcaceae       | Methylobacter Methylobacter  | Methylobacter_X                    | >HQ883352.1 | 93.63 X9               |             |                     |             |             |                       |             |
| Bacteria(MOB_like)                    | Proteobacteria                   | Gammaproteobacteria | Methylococcales                  | Methylococcaceae       | Methylobacter Methylobacter  | Methylobacter_X                    | >AF150758.1 | 93.42 X12              |             |                     |             |             |                       |             |
| Bacteria(MOB_like)                    | Proteobacteria  Proteobacteria   | Gammaproteobacteria | Methylococcales                  | Methylococcaceae       | Methylobacter Methylobacter  | Methylobacter_X                    | >HQ383775.1 | 90.02 X22              |             |                     |             |             |                       |             |
| Bacteria(MOB_like)                    | Proteobacteria                   | Gammaproteobacteria | Methylococcales                  | Methylococcaceae       | Methylobacter Methylobacter  | Methylobacter_X                    | >EF472939.1 | 96.18 X39              |             |                     |             |             |                       |             |
| Bacteria(MOB_like)                    | Proteobacteria                   | Gammaproteobacteria | Methylococcales                  | Methylococcaceae       | Methylobacter                | Methylobacter_tundripaludum        | >ref        | 100 X29                |             |                     |             |             |                       |             |
| Bacteria(MOB_like)                    | Proteobacteria                   | Gammaproteobacteria | Methylococcales                  | Methylococcaceae       | Methylobacter                | Methylobacter_X                    | >HQ883337.1 | 99.36 X25              |             |                     |             |             |                       |             |
| Bacteria(MOB_like)                    | Proteobacteria                   | Gammaproteobacteria | Methylococcales                  | Methylococcaceae       | Methylobacter                | Methylobacter_X                    | >FN597117.1 | 91.51 X18              |             |                     |             |             |                       |             |
| Bacteria(MOB_like)                    | Proteobacteria                   | Gammaproteobacteria | Methylococcales                  | Methylococcaceae       | Methylomicrobium             | Methylomicrobium_japanense-related | >JQ040569.1 | 92.78 X27              |             |                     |             |             |                       |             |
| Bacteria(MOB_like)                    | Proteobacteria                   | Gammaproteobacteria | Methylococcales                  | Methylococcaceae       | Methylobacter                | Methylobacter_X                    | >AF150758.1 | 93.42 X28              |             |                     |             |             |                       |             |
| Bacteria(MOB_like)                    | Proteobacteria                   | Gammaproteobacteria | Gammaproteobacteria_X            | Gammaproteobacteria_XX | Gammaproteobacteria_XXX      | Gammaproteobacteria_XXXX           | >HQ383787.1 | 95.12 X2               |             |                     |             |             |                       |             |
| Bacteria(MOB_like)                    | Proteobacteria                   | Gammaproteobacteria | Methylococcales                  | Methylococcaceae       | Methylobacter                | Methylobacter_X                    | >HQ383716.1 | 92.14 X31              |             |                     |             |             |                       |             |
| Bacteria(MOB_like)                    | Proteobacteria                   | Gammaproteobacteria | Methylococcales                  | Methylococcaceae       | Methylomicrobium             | Methylomicrobium_japanense-related | >HE617752.1 | 91.08 X32              |             |                     |             |             |                       |             |
| Bacteria(MOB_like)                    | Proteobacteria                   | Gammaproteobacteria | Methylococcales                  | Methylococcaceae       | Methylobacter                | Methylobacter_X                    | >KC352654.1 | 94.69 X26              |             |                     |             |             |                       |             |
| Bacteria(MOB_like)                    | Proteobacteria                   | Gammaproteobacteria | Methylococcales                  | Methylococcaceae       | Methylobacter Methylobacter  | Methylobacter_X                    | >HQ883347.1 | 98.73 X23              |             |                     |             |             |                       |             |
| Bacteria(MOB_like)                    | Proteobacteria                   | Gammaproteobacteria | Methylococcales                  | Methylococcaceae       | Methylobacter                | Methylobacter_X                    | >FN597117.1 | 90.23 X13              |             |                     |             |             |                       |             |
| Bacteria(MOB_like)                    | Proteobacteria                   | Gammaproteobacteria | Methylococcales                  | Methylococcaceae       | Methylobacter                | Methylobacter_X                    | >HQ883355.1 | 91.93 X33              |             |                     |             |             |                       |             |
| Bacteria(MOB_like)                    | Proteobacteria                   | Gammaproteobacteria | Methylococcales                  | Methylococcaceae       | Methylobacter                | Methylobacter_tundripaludum        | >ref        | 98.09 X20              |             |                     |             |             |                       |             |
| Bacteria(MOB_like)                    | Proteobacteria                   | Gammaproteobacteria | Methylococcales                  | Methylococcaceae       | Methylobacter                | Methylobacter_tundripaludum        | >ref        | 97.45 X34              |             |                     | _           |             |                       |             |
| Bacteria(MOB_like)                    | Proteobacteria                   | Gammaproteobacteria | Methylococcales                  | Methylococcaceae       | Methylobacter                | Methylobacter_X                    | >GQ906790.1 | 99.15 X19              |             |                     |             |             |                       |             |
| Bacteria(MOB_like)                    | Proteobacteria  Proteobacteria   | Gammaproteobacteria | Methylococcales                  | Methylococcaceae       | Methylobacter Methylobacter  | Methylobacter_X                    | >HQ383781.1 | 92.99 X24              |             |                     |             |             |                       |             |
| Bacteria(MOB_like)                    | Proteobacteria  Proteobacteria   | Gammaproteobacteria | Methylococcales                  | Methylococcaceae       | Methylobacter Methylobacter  | Methylobacter_X                    | >EF472939.1 | 95.75 X58              |             |                     |             |             |                       |             |
| Bacteria(MOB_like)                    | Proteobacteria  Proteobacteria   | Gammaproteobacteria | Methylococcales                  | Methylococcaceae       | Methylobacter Methylobacter  | Methylobacter_X                    | >HQ883345.1 | 99.58 X72              |             |                     |             |             |                       |             |
| Bacteria(MOB_like)                    | Proteobacteria                   | Gammaproteobacteria | Methylococcales                  | Methylococcaceae       | Methylobacter Methylobacter  | Methylobacter_X                    | >HQ883347.1 | 96.18 X36              |             |                     |             |             |                       |             |
| Bacteria(MOB_like)                    | Proteobacteria                   | Gammaproteobacteria | Methylococcales                  | Methylococcaceae       | Methylobacter                | Methylobacter_X                    | >KF757059.1 | 99.15 X45              |             |                     |             |             |                       |             |

