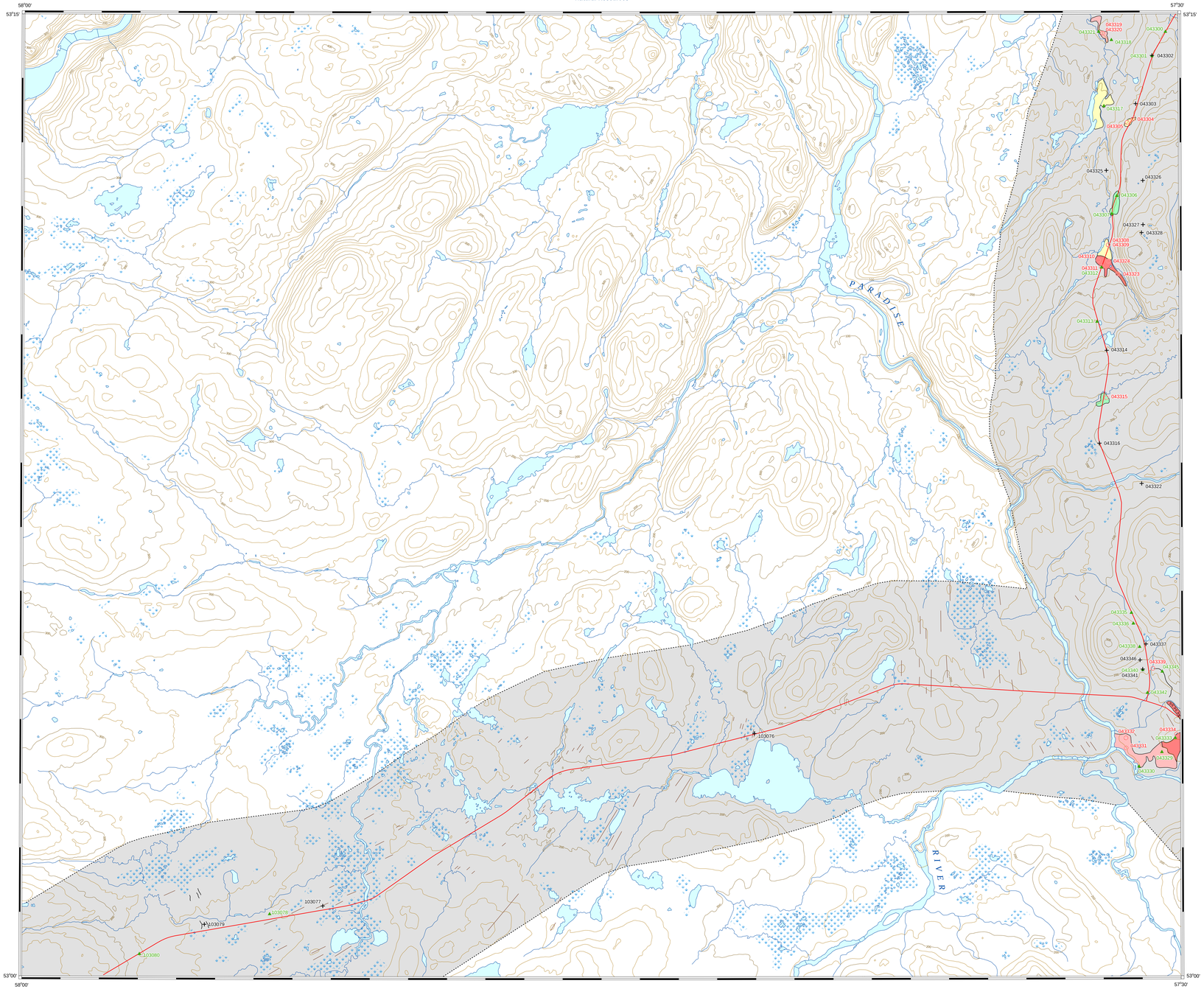
Newfoundland Labrador

Natural Resources




**MAP 2011-20**

# UNTITLED

**NEWFOUNDLAND AND LABRADOR**

1 0.5 0 1 2 3 4

kilometres

Geological Survey

# GRANULAR-AGGREGATE RESOURCES OF NTS MAP AREA 13H/04

## MAP 2011-20

### LEGEND

Sample types (based on laboratory sieve analysis - see Table 1)

| Sample Symbol | Definition |
|---|---|
| ○ | Commonly gravel or sand, having silt-clay content < 5 percent. Deposits are commonly graded and stratified |
| ▲ | Commonly till, poorly graded and of variable grain size, having a silt-clay content (≥ 5 and ≤ 15 percent) and stone size exceeding allowable limits for most geotechnical purposes (except subgrade uses) without processing (i.e., washing, screening or crushing) |
| + | Commonly silty till, silt or clay samples, having silt-clay content > 15 percent |

Multiple samples taken from the same site in different years are listed in order from oldest to youngest. Multiple samples taken at the same site in the same year are listed in order, from the top of the exposure to bottom.

**Note**
This is a composite legend for all granular-aggregate resource maps. All aggregate zones, study areas, and sample types shown in the legend may not appear on this map. *Aggregate zone classification* is based on airphoto interpretation, field investigation and sieve analyses. Areas outside the coloured zones have no known potential for granular materials; however silty tills, rock rubble suitable for fill, and bedrock suitable for aggregate may be present. Classification criteria used on this map do not consider current or conflicting land uses, nor do they guarantee either access to, or the quality of, the material located within these zones.

### ZONES OF AGGREGATE POTENTIAL

- Contains granular materials; probability of locating economic deposits is moderate to high
- Contains thin (less than 2 m) or discontinuous granular materials; also includes areas where extent of thicker deposits could not be determined by field investigation; probability of locating economic deposits is moderate to low
- May contain granular materials but deposits are not substantiated by field investigation; probability of locating economic deposits is moderate to low
- Material of granular composition (*e.g.*, sandy tills and colluvium) that generally contains up to 8 percent silt-clay, but could be improved for higher grade uses by washing or screening
- Contains sand-size granular materials; high potential for economic exploitation of sand; low to moderate potential for coarser granular materials
- Eskers: sinuous ridges of granular materials; moderate to high potential for economic exploitation
- Till ridge 5-20 m high and 100-3000 m long; perpendicular to ice flow
- Till and bedrock ridge 1-50 m high and 10-3000 m long; parallel to ice flow
- Study area within the dashed outline

In addition to this map data, a granular-aggregate database is accessible in the Geoscience Atlas of Newfoundland and Labrador (http://gis.geosurv.gov.nl.ca) for all granular-aggregate maps and sample data. The database provides information on more than 13 000 samples collected from 230, 1:50 000-scale map areas in Newfoundland and Labrador.

The east part of this map was originally produced from airphoto interpretation and field work conducted in 2004 (Ricketts, 2005). Additional work was conducted in 2010 (Ricketts, 2011).

GIS / digital cartography by T. Paltanavage.

The location of roads added to topographic map base are approximate.

Elevation in metres above mean sea level. Contour interval 20 metres.


Copies of this map may be obtained from the Geoscience Publications and Information Section, Geological Survey, Department of Natural Resources, Government of Newfoundland and Labrador, P.O. Box 8700, St. John's, NL, Canada, A1B 4J6.


This map is subject to review and revision. Comments to the author concerning errors or omissions are invited.


Base from maps published by Surveys and Mapping Branch, Department of Natural Resources, Ottawa, Canada.

OPEN FILE 13H/04/0067
This map supercedes Map 2005-28, Open File 13H/04/0057

PUBLISHED 2011



Department: http://www.nr.gov.nl.ca/nr/
Geological Survey: http://www.nr.gov.nl.ca/nr/mines/geoscience/
E-mail: pub@gov.nl.ca


**References**


Kirby, F.T., Ricketts, R.J. and Vanderveer, D.G

1983: Inventory of aggregate resources in Newfoundland and Labrador; information report and index maps. Newfoundland Department of Mines and Energy, Mineral Development Division, Report 83-2, 36 pages.

Ricketts, M.J.

2005: Granular-aggregate resources of the NTS area 13H/04. Government of Newfoundland and Labrador, Department of Natural Resources, Geological Survey, Map 2005-28, Open File 013H/04/0057.

2011: Granular-aggregate mapping along the Trans Labrador Highway from Cartwright Junction to the Churchill River. *In* Current Research. Geological Survey, Department of Natural Resources, Government of Newfoundland and Labrador, pages 69-88.


**Recommended citation**

Ricketts, M.J.

2011: Granular-aggregate resources of NTS map area 13H/04. Geological Survey, Department of Natural Resources, Government of Newfoundland and Labrador, Map 2011-20, Open File 13H/04/0067.

**Note**
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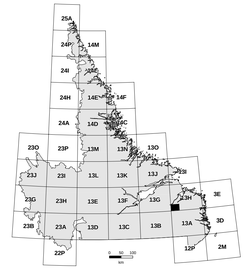


## GRAIN-SIZE ANALYSES

Grain-size results from the 63, 32, 16 and 8 mm mesh sieves were obtained at the sample site location by sieving approximately 15 kg of material. A 500 to 1000 gm split of the <8 mm material (sand-silt-clay) was retained for laboratory sieve analysis. Laboratory sieve analyses included the use of seven sieves with mesh openings of 4, 2, 1, 0.5, 0.25, 0.125, 0.062 and the -0.062 mm pan fraction. Samples were wet and/or dry sieved (Kirby *et al.*, 1983) depending on silt-clay content and consolidation of particles.

**Table 1:** Exposure thickness (Exp), estimated deposit thickness (Dep), petrographic number (PN), grain-size percentages (based on percent retained on the 63 mm down to the -0.062 mm mesh sieves) and gravel (Grv), sand and silt-clay (SL-CL) content of sample material collected in NTS area 13H/04.

| | | | | Percent retained through sieve opening (millimetres) | | | | | | | | | Percent | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| **Sample** | **Exp** | **Dep** | **PN** | **63** | **32** | **16** | **8** | **4** | **2** | **1** | **0.5** | **0.25** | **0.125** | **0.062** | **<0.062** | **Grv** | **Sand** | **SL-CL** |
| 043300 | 3.0 | 2.0 | 245 | 21.2 | 6.4 | 3.8 | 5.8 | 7.9 | 6.2 | 7.2 | 7.7 | 8.9 | 7.9 | 6.2 | 10.9 | 43.1 | 44.5 | 12.4 |
| 043301 | 5.0 | 3.0 | 134 | 11.6 | 6.8 | 6.1 | 6.1 | 3.6 | 9.6 | 8.6 | 10.0 | 10.3 | 8.8 | 7.6 | 11.0 | 33.3 | 53.8 | 12.9 |
| 043302 | 5.0 | 2.0 | 142 | 14.0 | 3.7 | 5.5 | 5.5 | 3.5 | 4.8 | 6.8 | 8.2 | 11.4 | 11.4 | 8.7 | 16.6 | 31.3 | 50.0 | 18.8 |
| 043303 | 3.0 | 2.0 | 145 | 2.5 | 8.8 | 5.7 | 8.8 | 5.4 | 7.6 | 8.2 | 8.7 | 10.5 | 10.3 | 8.1 | 15.5 | 29.8 | 52.7 | 17.5 |
| 043304 | 3.0 | 3.0 | 109 | 7.1 | 6.6 | 12.6 | 15.9 | 18.3 | 16.8 | 14.9 | 6.0 | 1.2 | 0.3 | 0.2 | 0.1 | 56.0 | 43.9 | 0.1 |
| 043305 | 2.0 | 2.0 | 122 | 0.0 | 0.7 | 5.4 | 10.1 | 11.9 | 16.8 | 24.9 | 19.5 | 8.2 | 2.0 | 0.4 | 0.2 | 25.0 | 74.7 | 0.3 |
| 043306 | 2.0 | 3.0 | 175 | 15.2 | 15.2 | 9.9 | 10.5 | 7.1 | 7.6 | 6.4 | 6.8 | 7.6 | 5.5 | 3.3 | 4.7 | 56.2 | 38.3 | 5.5 |
| 043307 | 5.0 | 7.0 | 148 | 6.0 | 21.7 | 11.4 | 8.4 | 5.6 | 6.7 | 6.9 | 8.1 | 7.0 | 5.3 | 5.9 | 51.8 | 41.0 | 7.2 | |
| 043308 | 1.7 | 1.5 | | 4.9 | 21.9 | 16.9 | 12.0 | 9.5 | 9.7 | 11.4 | 9.1 | 3.5 | 0.8 | 0.2 | 0.1 | 62.8 | 37.0 | 0.1 |
| 043309 | 1.7 | 0.5 | 127 | | | | 0.0 | 0.0 | 0.3 | 0.7 | 11.3 | 41.4 | 33.0 | 11.3 | 2.0 | 0.0 | 95.2 | 4.8 |
| 043310 | 4.0 | 5.0 | 132 | 0.0 | 5.5 | 5.5 | 6.6 | 7.8 | 13.3 | 27.7 | 25.4 | 7.1 | 0.8 | 0.1 | 0.0 | 23.5 | 76.4 | 0.1 |
| 043311 | 6.0 | 2.0 | 110 | 4.8 | 14.4 | 14.9 | 13.3 | 13.5 | 13.9 | 13.1 | 7.9 | 3.2 | 0.8 | 0.2 | 0.1 | 57.5 | 42.4 | 0.1 |
| 043312 | 6.0 | 4.0 | 121 | 11.2 | 9.3 | 8.7 | 9.9 | 4.6 | 6.2 | 6.5 | 8.9 | 10.9 | 8.7 | 5.7 | 9.3 | 42.6 | 46.6 | 10.8 |
| 043313 | 6.0 | 10.0 | 164 | 19.4 | 7.1 | 5.2 | 5.2 | 1.3 | 3.6 | 6.1 | 8.4 | 13.0 | 13.1 | 7.7 | 10.0 | 37.8 | 50.2 | 12.0 |
| 043314 | 2.5 | 3.0 | 130 | 10.9 | 10.4 | 5.2 | 4.7 | 2.8 | 3.6 | 4.5 | 7.4 | 9.7 | 9.2 | 8.2 | 23.2 | 33.4 | 41.4 | 25.3 |
| 043315 | 1.0 | 3.0 | 135 | 7.3 | 1.8 | 3.7 | 5.5 | 5.3 | 6.8 | 9.3 | 16.1 | 22.2 | 13.8 | 5.3 | 3.0 | 22.2 | 73.5 | 4.3 |
| 043316 | 0.7 | 3.0 | 133 | 4.1 | 4.7 | 4.1 | 4.7 | 2.2 | 6.1 | 10.7 | 12.0 | 14.2 | 12.6 | 9.2 | 15.4 | 19.2 | 63.0 | 17.7 |
| 043317 | 1.1 | 2.5 | | | | | 0.0 | 1.5 | 1.5 | 2.7 | 11.0 | 30.2 | 29.1 | 18.6 | 5.4 | 1.1 | 88.8 | 10.0 |
| 043318 | 0.8 | 3.0 | 234 | 15.5 | 17.3 | 11.8 | 12.7 | 3.4 | 5.1 | 4.3 | 4.2 | 6.2 | 7.5 | 5.3 | 6.7 | 59.8 | 32.1 | 8.1 |
| 043319 | 1.5 | 0.8 | 105 | 0.0 | 5.0 | 8.8 | 13.2 | 12.7 | 9.7 | 14.3 | 18.6 | 10.6 | 4.6 | 1.7 | 0.7 | 36.6 | 62.3 | 1.1 |
| 043320 | 1.5 | 8.0 | | | | | 0.0 | 0.0 | 0.5 | 2.6 | 21.5 | 47.8 | 22.1 | 5.0 | 0.6 | 0.0 | 98.2 | 1.8 |
| 043321 | 2.0 | 8.0 | | | | | 0.0 | 0.5 | 3.5 | 5.6 | 15.8 | 26.0 | 31.1 | 15.1 | 2.5 | 0.3 | 93.4 | 6.3 |
| 043322 | 1.0 | 8.0 | 170 | 0.0 | 6.5 | 5.8 | 5.8 | 3.6 | 5.5 | 9.1 | 10.3 | 12.6 | 13.1 | 9.6 | 18.2 | 20.8 | 58.6 | 20.6 |
| 043323 | 0.9 | 6.0 | 182 | 15.3 | 16.8 | 17.4 | 14.2 | 10.3 | 11.5 | 7.7 | 3.8 | 1.9 | 0.7 | 0.3 | 0.1 | 71.4 | 28.4 | 0.2 |
| 043324 | 2.4 | 8.0 | 119 | 24.8 | 27.2 | 8.9 | 5.9 | 6.7 | 9.7 | 10.8 | 4.2 | 1.2 | 0.4 | 0.1 | 0.1 | 71.9 | 28.0 | 0.1 |
| 043325 | 0.7 | 5.0 | 148 | 0.0 | 5.1 | 4.0 | 4.5 | 3.0 | 6.4 | 10.1 | 12.5 | 14.8 | 12.9 | 10.3 | 16.4 | 15.8 | 65.1 | 19.0 |
| 043326 | 1.0 | 6.0 | 221 | 19.2 | 9.6 | 4.8 | 3.4 | 2.1 | 3.0 | 5.3 | 7.0 | 10.2 | 10.9 | 8.1 | 16.4 | 38.6 | 43.0 | 18.4 |
| 043327 | 0.8 | 5.0 | 181 | 0.0 | 3.1 | 4.4 | 6.3 | 4.5 | 6.2 | 7.8 | 10.9 | 13.1 | 12.3 | 11.0 | 20.3 | 17.2 | 59.7 | 23.1 |
| 043328 | 1.2 | 8.0 | 214 | 31.3 | 6.3 | 2.8 | 3.5 | 3.1 | 3.9 | 3.9 | 3.3 | 3.6 | 6.0 | 9.6 | 22.9 | 46.1 | 28.6 | 25.3 |
| 043329 | 1.2 | 4.0 | | | | | 3.7 | 3.7 | 5.6 | 9.3 | 12.2 | 26.0 | 24.8 | 9.2 | 5.4 | 6.5 | 85.8 | 7.7 |
| 043330 | 1.2 | 8.0 | | | | | 0.0 | 1.0 | 3.3 | 5.7 | 18.5 | 35.6 | 25.9 | 6.8 | 0.7 | 86.0 | 13.2 | |
| 043331 | 1.2 | 8.0 | 110 | 4.1 | 8.2 | 5.3 | 5.3 | 8.3 | 10.8 | 21.1 | 24.3 | 10.3 | 1.8 | 0.2 | 0.1 | 29.2 | 70.6 | 0.2 |
| 043332 | 1.2 | 4.0 | | | | | 0.0 | 2.8 | 4.2 | 10.8 | 26.2 | 39.8 | 14.8 | 1.2 | 0.1 | 2.1 | 97.5 | 0.4 |
| 043333 | 1.3 | 4.0 | | | | | 0.0 | 0.6 | 2.1 | 12.0 | 33.1 | 24.7 | 15.0 | 8.3 | 4.2 | 0.4 | 93.3 | 6.3 |
| 043334 | 1.4 | 6.0 | | | | | 0.0 | 0.0 | 0.0 | 0.2 | 0.8 | 38.0 | 51.1 | 8.9 | 1.0 | 0.0 | 96.8 | 3.2 |
| 043335 | 4.0 | 4.0 | 166 | 2.5 | 9.0 | 9.0 | 10.0 | 7.3 | 7.6 | 8.6 | 8.9 | 11.1 | 10.6 | 6.7 | 8.8 | 35.9 | 53.6 | 10.5 |
| 043336 | 2.0 | 5.0 | 170 | 0.0 | 1.3 | 1.9 | 4.5 | 4.8 | 5.7 | 9.2 | 12.6 | 22.2 | 22.9 | 10.0 | 4.9 | 11.4 | 81.2 | 7.4 |
| 043337 | 1.5 | 5.0 | | | | | 0.0 | 0.3 | 0.8 | 2.9 | 7.7 | 13.3 | 14.8 | 16.1 | 44.2 | 0.2 | 51.6 | 48.2 |
| 043338 | 2.0 | 8.0 | | 6.3 | 4.0 | 5.7 | 8.0 | 5.9 | 6.7 | 8.4 | 10.7 | 12.5 | 10.9 | 8.6 | 12.3 | 28.5 | 57.1 | 14.4 |
| 043339 | 1.8 | 4.0 | 122 | 5.5 | 4.0 | 6.5 | 10.0 | 8.3 | 8.0 | 9.8 | 13.4 | 19.0 | 11.9 | 3.0 | 0.6 | 32.2 | 66.4 | 1.4 |
| 043340 | 2.0 | 1.0 | 153 | 14.2 | 8.1 | 4.1 | 4.1 | 4.3 | 5.0 | 7.0 | 9.4 | 13.4 | 13.6 | 8.7 | 8.1 | 33.6 | 56.1 | 10.3 |
| 043341 | 2.0 | 4.0 | 142 | | | | 0.0 | 0.0 | 0.5 | 0.6 | 2.0 | 10.1 | 26.6 | 35.2 | 25.1 | 0.0 | 66.1 | 33.9 |
| 043342 | 2.0 | 2.0 | | | | | 1.1 | 3.1 | 5.1 | 8.7 | 14.9 | 24.6 | 20.3 | 14.9 | 7.3 | 3.4 | 85.6 | 11.0 |
| 043345 | 2.0 | 5.0 | 113 | 5.4 | 7.1 | 2.7 | 3.8 | 20.7 | 10.9 | 8.1 | 7.9 | 9.0 | 8.6 | 6.3 | 9.4 | 34.6 | 54.4 | 11.0 |
| 043346 | 2.0 | 5.0 | 135 | 13.6 | 7.3 | 2.9 | 3.4 | 4.1 | 5.8 | 5.9 | 6.8 | 9.0 | 10.4 | 10.6 | 20.2 | 30.3 | 46.9 | 22.8 |
| 103076 | 2.0 | 2.0 | 146 | 6.1 | 6.5 | 4.8 | 4.8 | 3.9 | 6.6 | 7.1 | 8.8 | 11.6 | 10.5 | 8.3 | 20.9 | 25.1 | 53.8 | 23.0 |
| 103077 | 3.0 | 3.0 | 167 | 19.6 | 7.8 | 4.4 | 7.2 | 2.2 | 4.7 | 5.7 | 6.7 | 9.4 | 9.8 | 7.8 | 14.7 | 40.6 | 42.8 | 16.6 |
| 103078 | 1.5 | 2.0 | 170 | 12.6 | 6.7 | 5.6 | 5.7 | 6.0 | 7.5 | 7.4 | 9.0 | 10.7 | 9.2 | 6.9 | 12.6 | 35.1 | 50.6 | 14.3 |
| 103079 | 6.0 | | 207 | 21.3 | 1.9 | 1.3 | 2.7 | 2.1 | 5.0 | 5.2 | 7.9 | 10.4 | 9.7 | 9.1 | 23.4 | 28.8 | 45.5 | 25.7 |
| 103080 | 2.0 | | 280 | 34.1 | 6.8 | 3.8 | 3.6 | 3.7 | 4.3 | 4.7 | 5.4 | 7.3 | 7.8 | 7.8 | 10.7 | 51.1 | 36.3 | 12.7 |