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doi:10.4095/288026

This publication is available from the Geological Survey of Canada Bookstore (http://gsc.nrcan.gc.ca/bookstore_e.php).
It can also be downloaded free of charge from GeoPub (http://geopub.nrcan.gc.ca/).

Recommended citation
Issler, D.R. and Jessop, A.M., 2011. Thermal conductivity analysis of Cenozoic, Mesozoic and Paleozoic core samples, Beaufort-Mackenzie Basin, northern Canada; Geological Survey of Canada, Open File 6734, 128 p.

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ABSTRACT

One hundred and sixty-two vertically-oriented (parallel to core axis and direction of heat flow), one-inch (2.54 cm) diameter core plugs were obtained from conventional cores from 43 petroleum exploration wells in the Beaufort-Mackenzie Basin. Samples were collected from Upper Cretaceous-Oligocene post-rift and Jurassic-Lower Cretaceous syn-rift sandstone and shale, and Paleozoic pre-rift sandstone, shale and carbonate. Multiple disk samples (approximately one cm in thickness) were cut from these plugs and used for thermal conductivity analysis. Samples were measured dry and saturated with heptane (three samples were water-saturated) using the steady-state divided-bar apparatus at the Geological Survey of Canada in Calgary. In general, each disk sample was measured in triplicate by two different analysts and results were averaged for each set of replicate disk samples to yield 136 dry, 129 heptane-saturated and three water-saturated bulk conductivity values for samples from 39 wells (some samples disintegrated during preparation and analysis). Sample porosity values for the first analyst (initial measurements) are systematically higher than those for the second analyst. A comparison of dry and saturated density data suggests that residual heptane saturation (from incomplete oven drying) has resulted in higher dry density values and lower porosity values for the second analyst and therefore the values of the first analyst are considered to represent the true porosity.

Rock matrix thermal conductivity values were calculated for each sample using six different conductivity models: series, parallel, Sugawara and Yoshizawa, self-consistent effective medium theory, Maxwell/Hashin-Shtrikman and weighted geometric mean. The weighted geometric mean model provides the most consistent fit to the thermal conductivity data for all lithologies and for the full range of porosity values (0 to 25 %). Average geometric mean rock matrix values for dry and heptane-saturated thermal conductivity measurements generally agree to within 0.1 W/mK or better for sandstone, shale and carbonate samples from different age/tectonic groupings. Post-rift lithic sandstone and pre-rift sandstone samples are relatively homogeneous with average rock matrix thermal conductivity values of 2.5 W/mK and 3.1 W/mK, respectively. The syn-rift sandstone samples are more heterogeneous with matrix conductivity values ranging from approximately 2.2-3.5 W/mK. The lowest matrix conductivity (0.8 W/mK) was determined for organic-rich, post-rift shale samples from the Smoking Hills sequence. Organically-lean post-rift and syn-rift shale samples have similar matrix conductivity values of 1.65 W/mK and 1.6 W/mK, respectively, whereas pre-rift shale samples have a higher average matrix value (2.1 W/mK). The average matrix conductivity for pre-rift carbonate samples is approximately 2.6 W/mK with dolomite samples having a higher average matrix conductivity (2.7 W/mK) than the limestone samples (2.5 W/mK).

Water-saturated bulk thermal conductivity (K_{water}) values were calculated using the geometric mean matrix conductivity values in order to estimate *in situ* thermal conductivity for the various rock successions examined. Post-rift sandstone and shale samples have K_{water} values ranging from 1.3-2.5 W/mK and 0.7-2.1 W/mK, respectively. K_{water} values range from 1.5-3.4 W/mK and 1.0-2.3 W/mK for syn-rift sandstone and shale samples, respectively. For the pre-rift succession, K_{water} values range from 2.1-3.4 W/mK for sandstone, 1.7-2.3 W/mK for shale and 2.0-3.2 W/mK for carbonate samples.

INTRODUCTION AND BACKGROUND

The Geological Survey of Canada (GSC) was involved with a multi-disciplinary, industry-government funded study of petroleum systems of the Beaufort-Mackenzie Basin during the period, December 2000 to March 31, 2010. This multi-year research project was initiated with PERD (Program of Energy Research and Development) and industry (Beaufort-Mackenzie consortium) funding and continued under the Earth Sciences Sector Northern Resources Development (2003-2006) and Secure Canadian Energy Supply (2006-2009) programs, and the current Geo-Mapping for Energy and Minerals (GEM) Program. As part of this research, core samples were selected from a variety of rock formations of different lithology for thermal conductivity analysis using the divided-bar apparatus (e.g. Jessop, 1990) at the GSC in Calgary. The purpose of this research is to provide information on rock thermophysical properties for constraining models of heat flow and thermal history for the Beaufort-Mackenzie region. Such models have application for modelling petroleum generation, permafrost development and gas hydrate accumulation.

Although numerous compilations of mineral and rock thermal conductivity data are available in the scientific and engineering literature (e.g. Birch and Clark, 1940; Clark, 1966; Horai, 1971; Kappelmeyer and Haenel, 1974; Robertson, 1979; Roy *et al*., 1981), their application to specific sedimentary basins is limited. Thermal conductivity depends on sediment composition, grain size and texture (in addition to other factors such as temperature, pressure, porosity and pore fluid type) and these will vary with differences in sediment source, transport and depositional environments, and post-depositional diagenesis. As a result, thermal conductivity can vary significantly for any particular rock type both within a single sedimentary basin and between different basins. Therefore, samples were collected from conventional cores to investigate the variability in thermal conductivity and the compositional factors that influence this for the Beaufort-Mackenzie region.

Conventional cores from Beaufort-Mackenzie exploration wells are a limited resource representing a small fraction of the drilled sedimentary succession. Therefore, it is not possible to provide direct measurements of the fine-scale vertical variation in thermal conductivity with depth in a given borehole. Furthermore, there are no high quality detailed temperature surveys in the area that extend below 1000 m (Taylor *et al*., 1982; Jessop *et al*., 2005) so it is not possible to observe directly how thermal conductivity influences the detailed temperature distribution (point-wise temperature data are available from wireline logging and drillstem tests; Hu *et al*., 2010). The objective of this study is to examine a limited number of well characterized core samples that were chosen to be representative of typical rock types in the area in order to develop a composition-based model for thermal conductivity that can be used to estimate *in situ* thermal properties. Core samples for this study include sandstone and shale from post-rift (Upper Cretaceous-Cenozoic) and syn-rift (Jurassic-Lower Cretaceous) successions as well as sandstone, shale and carbonate from pre-rift (Ordovician to Permian) successions based on the tectonic framework of Embry and Dixon (1990) and Lane and Dietrich (1995).

SAMPLES, WELL LOCATIONS AND STRATIGRAPHY

Conventional Cores

Well cuttings (rock chip samples) collected during rotary drilling are the most abundant form of sample available from petroleum exploration wells and they have been used successfully for thermal conductivity measurement in various studies (e.g. Sass *et al*., 1971). For example, thermal conductivity measurements for sedimentary rocks in the Canadian geothermal data compilation are based mainly on the chip technique (Jessop *et al*., 2005). Nevertheless, cuttings samples commonly suffer from contamination due to drilling mud additives and mixing of rock material from different depth intervals. Furthermore, an amalgamation of rock fragments cannot account for the fabric of the solid rock. Therefore, measurements made on chip samples are generally less accurate than those made on solid rock samples. The National Energy Board (NEB) has a collection of conventional cores of variable diameter from numerous petroleum exploration wells that were obtained during halts in downhole rotary drilling. A subset of these cores was examined and intervals were selected for sampling. The vast majority of wells in the Beaufort-Mackenzie Basin were drilled vertically with minimal deviation and therefore core axes are oriented vertically in the direction of basin heat flow (upward to the ground surface or seafloor). Most of the samples are from split cores (⅓, ½ or ⅔ core slabs) with original diameters of 3 to 5 inches (7.6 to 12.7 cm) (3½ inch (8.9 cm) diameter ⅔ core slabs were the most common cores sampled).

Core Plug Samples

The original plan was to obtain 207 core plugs from 50 Beaufort-Mackenzie petroleum exploration wells with conventional cores from Paleozoic, Mesozoic and Cenozoic successions. However, six of these wells (Amaguk H-16, Amauligak I-65A, Issungnak 2O-61, Kadluk O-07, Mallik A-06 and Taglu H-54) were deemed to be unsuitable for sampling due to the friable nature of the core or because there was insufficient core material. Table 1 contains a list of the remaining 44 wells that were approved by the NEB for sampling, the number of plugs that were planned to be cut (177), the actual number of plugs that were cut (162 plugs from 43 wells), the core plug series names for each well, and comments. Initially, the NEB approved the drilling of one-inch (2.54 cm) diameter core plugs with a maximum length of 1.5 inches (3.8 cm) plus the additional collection of 10 to 20 g of adjacent core material for chemical and other analyses. However, following consultations with the NEB and the Head of the Core and Sample Repository at GSC Calgary, it was decided that one-inch (2.54 cm) diameter core plugs of up to two inches (5.08 cm) in length could be used for all analyses without the need for extra sampling. Core pieces were collected from the NEB core and sample repository at the GSC in Calgary and shipped in six separate batches to AGAT Laboratories Ltd. for core plug cutting. Vertically-oriented one-inch (2.54 cm) diameter core plugs were cut from the core slabs in a direction parallel to the core axis so that they were aligned in the direction of vertically-upward heat flow (opposite to the usual orientation (perpendicular to core slab and aligned with horizontal fluid flow in reservoir rocks) of plugs taken for conventional porosity and permeability measurement). Well indurated sandstones and carbonate rocks were drilled using water whereas more friable rocks such as shale were drilled using liquid nitrogen. In order to preserve the integrity of the core collections, twelve plugs were not cut due to the poorly consolidated nature of the cores (Table 1). Also, three plugs disintegrated during attempts at coring (ATG-01, ATK-03 and REID-05; Table 1).

Generally, two approximately one centimetre thick disks were cut from each core plug for thermal conductivity measurement. Table 2 lists the initial and final number of disk samples and the corresponding lithology, rock formation, depth, sample series name and well name. Although most of the core intervals for the Beaufort-Mackenzie Basin are sandstone, shale is the dominant lithology for the rift and post-rift successions of the Beaufort-Mackenzie Basin. Shale exerts an important control on subsurface temperature because of its generally low thermal conductivity in comparison to sandstone and carbonate rocks. Therefore, shale was sampled preferentially in order to better characterise this important lithology. Of the 162 core plugs that were drilled, 72 are from sandstone, 79 are from shale (mudstone, claystone and siltstone) and 11 are from carbonate rock (limestone and dolomite). Initially, 269 disk samples were prepared but some disks disintegrated (mainly friable shale and poorly consolidated sandstone) during preparation and thermal conductivity measurement.

Thermal conductivity data are available for samples from 39 of the 44 wells listed in Table 1 (see Figure 1 for well locations). Data are not available for five wells because the core was deemed unsuitable for sampling (Tuk J-29) or sample core plugs and/or disks degenerated and were in too poor a condition for measurement (Atertak L-31, Pikiolik G-21, Reindeer D-27, Taglu West P-03) (Table 1). Mesozoic-Cenozoic syn-rift and post-rift stratigraphy for the Beaufort-Mackenzie Basin is shown in Figure 2. The generalized stratigraphy for the physiographic region known as the Anderson Plain, located south of Tuktoyaktuk Peninsula on the southeastern basin margin, is shown to illustrate pre-rift Devonian and older formations (Figure 3). Sampled post-rift Upper Cretaceous-Cenozoic sequences (Smoking Hills, Fish River, Aklak, Taglu, Richards and Kugmallit; Table 2 and Figure 2) are mainly from the more northerly wells located offshore and on or near Richards Island (Figure 1). Sampled Jurassic-Lower Cretaceous syn-rift successions include the Arctic Red Formation and time-equivalent Albian flysch, the Mount Goodenough and stratigraphically-equivalent Rat River and Atkinson Point formations, the Kamik, McGuire and Martin Creek formations of the Parsons Group, the Husky Formation, and the Aklavik Formation of the Bug Creek Group (Table 2 and Figure 2). Sampled pre-rift successions include Permian (Jungle Creek and Longstick formations where indicated in Table 2), Carboniferous and Upper Devonian (Imperial Formation) sandstone and shale, Lower Devonian limestone and dolomite (Landry and Arnica formations) and Upper Cambrian to Lower Devonian dolomite of the Ronning Group (Franklin Mountain, Mount Kindle and Peel formations) (Table 2 and Figure 3).

THERMAL CONDUCTIVITY ANALYSIS

Divided-Bar Method

Jessop (1990) discusses the basic design and theoretical basis for the divided-bar method. The divided-bar is a steady-state device for measuring the thermal conductivity of a sample using comparative temperature measurements. In the basic design, a cylindrical glass bar of known thermal conductivity is split in the middle and a sample of unknown thermal conductivity is inserted between the two halves. Both ends of the bar are held to a constant but different temperature and temperatures are recorded above and below the sample and at each end of the bar. Thermal conductivity is determined for the sample by comparing the temperature difference across the sample with the temperature differences across each side of the bar.

Figure 4 is a schematic diagram showing the divided-bar configuration used at the GSC in Calgary. Fused quartz glass disk standards are used for the bar because their thermal conductivity (K_g; 1.36 W/mK at 25°C) is of a similar magnitude to that of the rock sample being measured. The lower temperature-controlled water bath is mounted on a hydraulic piston so it can be lowered for the insertion and removal of samples. A 10°C temperature difference is maintained between the upper and lower water baths. Brass disks are inserted at both ends of the glass disks to enable temperature measurement. Thermistors are inserted into holes within the brass disks and resistance (converted to temperature) is measured for each thermistor at one second intervals to monitor the system's approach to thermal equilibrium (typically 5 to 10 minutes). To minimize thermal contact resistance between the various bar components, all contacting surfaces are lubricated with glycerine and the lower water bath is raised and held at 250 kPa during measurement. At equilibrium, thermistor temperature values are converted to temperature differences across the upper (ΔT_1) and lower (ΔT_3) glass standards and the sample (ΔT_2) (Figure 4) and these are used to calculate the sample thermal conductivity, K_s, according to the formula (Jessop, 1990)

$$K_s = \frac{d_s K_g}{(d_g \, \Delta T_2 / (\Delta T_1 + \Delta T_3) - RK_g)} \quad \textbf{(1)}$$

where d_s is the average thickness of the sample, d_g is the combined thickness of the two glass disks, and R is an estimate of the unwanted thermal resistance associated with various components of the divided-bar equipment (i.e. contact surfaces, metal disks). R is assumed to be a constant with an empirically determined value of approximately 1.0 x 10^{-4} Km^2W^{-1} which is significantly less than the total resistance across the bar.

The method assumes that heat flow through the bar is in the vertical (axial) direction only. The divided-bar has been designed and is operated in a manner that minimizes lateral heat loss. The diameter of the water baths is much larger than that of the bars to ensure axial heat flow through each bar. The upper water baths are maintained at a higher temperature than the lower baths to avoid inducing heat convection around the bars. The temperature-controlled water baths are adjusted to maintain their average temperature close to the room temperature (room temperature + 5°C for upper baths; room temperature - 5°C for lower baths). In addition, Parafilm is wrapped around each bar to insulate them and prevent evaporation and cooling during measurement and both bars are inside a cabinet to provide stable operating temperatures and reduce air currents.

Although the glass standards have bevelled edges to minimize damage, inevitably they become chipped during normal operation of the bar. The divided-bar must be recalibrated periodically to account for damaged glass disks or for every change of half-bar. This is done using samples of variable thickness and known conductivity (usually fused quartz). Thermistors must also be recalibrated periodically to correct for drift in resistance.

Disk Sample Preparation and Treatment

Thermal conductivity was measured on dry and saturated rock sample disks by two different analysts. Ehren Goodall (EG) performed the first set of measurements during the period, August 2002 to August 2003. Kathleen Grundman (KG) reanalysed the samples during January 2004 to March 2005. For most samples, there were duplicate disks (in a few cases, there were three or four; Table 2) and multiple conductivity measurements were done for each disk. Disk faces were ground and polished within specific tolerances (flat within 0.03 mm and parallel within 0.1 mm) to ensure good thermal contacts on the divided-bar equipment by avoiding wedge shapes and concave/convex surfaces.

Following grinding and polishing, sample disks were oven-dried at 80°C to drive off adsorbed water. Dry disks were weighed on a Mettler balance to determine their mass, m (g). Disk volume (V, cm^3) was calculated assuming a cylindrical geometry and using the average of a series of caliper measurements for disk thickness and diameter. The sample dry density (ρ_d) was calculated using the formula

$$\rho_d = \frac{m}{V} \quad \textbf{(2)}$$

The thermal conductivity of the dry disk samples was determined first as a reference for comparison with the saturated disk measurements. During initial dry measurement, the samples experienced minimal handling and therefore were in their best condition. With continued handling including saturation and drying, some of the more friable samples disintegrated with time. Where possible, some samples that had deteriorated were reground and repolished prior to reanalysis. In a few cases, cleanly fractured disk samples were glued together using epoxy and subsequently measured for thermal conductivity. Vertically fractured samples are less of a problem than samples with bedding-parallel fractures because the fracture surface is only a small part of the heat flow path. In contrast, bedding parallel fractures cut across the entire heat flow path and therefore they have a greater impact on the heat flux. Measurements on fractured samples were treated with caution and some results were rejected during data quality assessment.

Thermal conductivity measurements for fluid-saturated samples are more representative of the true *in situ* thermal conductivity than measurements for dry samples (which will be lower). The thermal conductivity of air (0.026 W/mK at 25°C) is significantly less than that for water (0.607 W/mK for distilled water at 25°C) and two orders of magnitude less than that for common rock mineral constituents (typically 2-8 W/mK). However, many of the samples are argillaceous and weakly consolidated and therefore they could not be immersed in water without disintegrating due to swelling of clays. Only three sandstone disk samples (ADL-01, ADL-06 and ADL-07; Table 2) were saturated in water for thermal conductivity measurement. Certain brine solutions may help to stabilize the clays but it was decided not to use water-based solutions to avoid damaging the samples through the trial and error process of determining suitable brine compositions. Instead, heptane was used as the saturant because of its relatively low toxicity, low cost and well known properties (thermal conductivity of 0.12 W/mK at 25°C).

Disk samples were immersed in a beaker filled with heptane (water for three of the samples) and placed in a dessicator attached to a vacuum pump. Air was evacuated for at least 12 hours to remove air trapped in the pore spaces and then the beaker was exposed to atmospheric pressure for at least another 12 hours to allow the fluid to permeate the sample. Samples were weighed on removal from the saturation bath and the saturated density (ρ_s) was calculated in the same manner as the dry density in equation 2. Samples were returned to the saturation bath prior to thermal conductivity measurement to minimize evaporative loss of the saturating fluid from the sample. Sample porosity (ϕ) was calculated using the known fluid density (ρ_f) and measured sample densities as follows

$$\varphi = \frac{(\rho_s - \rho_d)}{\rho_f} \qquad \textbf{(3)}$$

where the density of heptane and water are 682 and 1000 kg/m^3, respectively. Sample grain density (solid rock density excluding porosity), ρ_g, was calculated using the following formula

$$\rho_g = \frac{\rho_d}{(1-\varphi)} \qquad \textbf{(4)}$$

Following conductivity analysis, saturated samples were oven-dried as described above.

RESULTS

Sample Density and Porosity

Appendix A lists the results of 514 sets of volume and mass measurements on disk samples used for thermal conductivity analysis. This table includes sample information (sample name, rock formation, lithology, and depth), measured parameters (average disk thickness, average diameter, dry and saturated mass), and calculated parameters (disk volume, saturated, dry and grain densities, and porosity (expressed as a volume fraction)). The data are ordered by sample number and linked to the analyst who made the measurements (EG or KG). Also included is a qualitative assessment of disk quality after measurement. Most of the samples are of “a” or “b” quality and these should yield the most representative density and porosity values. Samples of "a" quality conform closely to a cylinder with reasonably flat and parallel ends. Samples of "b" quality have relatively small imperfections (small cracks or chips). Samples of "c" quality show significant degradation with rounded corners, large chips and/or fractures that may have been epoxied and/or they may be very thin or wedge-shaped. Samples of "d" quality are the most friable and are severely degraded or completely disaggregated. Many of the "d" quality samples yielded incomplete information before disintegrating. In some cases, the first analyst (EG) obtained useful measurements on "d" quality samples prior to their deterioration.

Figure 5 shows a comparison of the porosity values of analysts EG and KG for the shale, sandstone and carbonate disk samples of quality "a" to "d". In general, the porosity values of KG are systematically lower than those of EG for all three lithologies. Exceptions include high porosity values (>20 %) for sandstones (Figure 5b) and these are mainly associated with more friable samples that have lost mass (e.g. ADL-06, -07; Appendix A). Fortunately, many of the original well cores had horizontal (perpendicular to core axis) plugs taken by various companies for porosity-permeability measurements (mainly done by Core Laboratories Ltd.) and these data were compiled from the well history reports by Hu and Issler (2009) and serve as a reference for comparison. The disk samples were first measured by analyst EG and his porosity values are in close agreement (many values within 1 % porosity) with nearby pre-existing porosity measurements (Hu and Issler, 2009), suggesting that at least the sandstones were fully saturated with heptane.

The most reasonable explanation for the difference in the porosity values of analysts EG and KG is that oven-drying failed to remove all of the heptane from the disk samples following the first phase of heptane saturation. This conclusion is supported by an analysis of the sample wet, dry and grain density data of Appendix A. These density values were averaged for the quality "a" and "b" disk samples that were analysed by both EG and KG. Average wet density values (in kg/m^3) are 2432 (EG) and 2429 (KG) for sandstone, 2517 (EG) and 2522 (KG) for shale, and 2718 (EG) and 2719 (KG) for carbonate, indicating that both analysts obtained similar results for the heptane-saturated density. In contrast, average dry density values (in kg/m^3) are 2349 (EG) and 2375 (KG) for sandstone, 2460 (EG) and 2487 (KG) for shale, and 2695 (EG) and 2712 (KG) for carbonate, indicating that the dry density values of KG tend to be higher than those of EG. Also, average grain density values (in kg/m^3) are 2680 (EG) and 2592 (KG) for sandstone, 2682 (EG) and 2624 (KG) for shale, and 2784 (EG) and 2734 (KG) for carbonate, indicating that the grain density values of KG are lower than those of EG. Calculated average porosity, based on the average density values of KG, is too low with respect to the values of EG by approximately 4%, 3% and 2% (absolute values) for sandstone, shale and carbonate, respectively. The difference in average dry and average grain density between EG and KG can be accounted for if this residual pore space is assumed to be filled with heptane.

In summary, the density results (Appendix A) are consistent with residual heptane saturation of the "dry" samples analysed by KG. Therefore, the porosity values of EG are most representative of the true sample porosity (as confirmed by comparison with Core Laboratories data) and they are used for subsequent calculations. EG did not measure saturated disks for some of the samples and the measurements of KG were used instead. In these cases, values of KG should be representative of the true porosity because these samples were not saturated previously with heptane.

Sample Thermal Conductivity

Raw data for dry and heptane-saturated samples

Thermal conductivity measurements for dry disk samples are in Appendix B. Appendix C contains thermal conductivity measurements for heptane-saturated samples and three water-saturated samples (ADL-01, -06 and -07). The tables in both appendices contain the following information: sample name, rock unit, lithology, depth, thermal conductivity, porosity, disk sample quality (rated "a" to "d" as above), analyst and comments. Most of the samples have duplicate disks and, where possible, each disk was measured in triplicate by each analyst, typically yielding 12 thermal conductivity measurements per dry and saturated sample. In some cases, extra disks were cut or disks were repolished and reanalysed which increased the number of thermal conductivity measurements. Some of the samples with fewer measurements deteriorated through time and/or were measured only by one analyst. Thermal conductivity was measured on the dry samples first. Therefore, there are more dry measurements than saturated measurements because some of the samples had deteriorated to point where they became unsuitable for further measurement.

The thermal conductivity data were examined carefully multiple times and as many data points as possible were used (highlighted in green in Appendices B and C) to calculate preferred average sample thermal conductivity values. In most cases, the measurements of each analyst were treated equally in the calculation of sample average conductivity values. Values highlighted in yellow in Appendices B and C were excluded from the calculation of average thermal conductivity. Rejected values were either physically unrealistic (too high or too low based on published rock properties) and/or they were inconsistent with other measurements for the same sample. For example, if the dry thermal conductivity values of an analyst were significantly higher than their corresponding saturated values, then either the saturated or dry values were rejected, depending on the consistency of the results of both analysts for different splits of the same sample. This is a valid criterion for rejecting measurements because heptane is approximately five times more conductive than air, meaning that moderate to high porosity samples must have a higher thermal conductivity when saturated with heptane in comparison to their dry state. For very low porosity samples, thermal conductivity values for saturated and dry samples are expected to be similar within error.

Some rejected conductivity values are related to poor sample quality. In general, obvious outlier points were rejected to avoid distorting sample averages. For cases where there is large variability in conductivity measurements, it is preferable to tolerate larger standard deviations on averaged measurements than to subjectively delete data and bias results in favour of one analyst. This is particularly true when there are systematic differences between analysts and there is no objective method to decide which set of data is more representative of the true conductivity.

Averaged data for dry and heptane-saturated samples

Table 3 lists the average (all measurements) and preferred average (selected measurements) thermal conductivity values for 136 dry core plug samples based on the data of Appendix B. Table 4 contains similar results for 129 saturated core plugs derived from the data of Appendix C. In both tables, results are grouped by lithology (sandstone, shale and carbonate) and age/tectonic setting (Paleozoic pre-rift, Jurassic-Lower Cretaceous syn-rift and Upper Cretaceous-Cenozoic post-rift successions). Standard deviations for preferred average conductivity values are listed in absolute terms and as a percentage in Tables 3 and 4. Standard deviations between 20% and 30% are colour-coded in orange and values greater than 30% are colour-coded in purple. For the dry measurements, 63% (86 samples) of the samples have standard deviations less than or equal to 20%, 26% (35 samples) have values greater than 20% and less than or equal to 30%, and 11% (15 samples) have values greater than 30% (Table 3). Corresponding values for the saturated measurements are 58% (77 samples) (standard deviation ≤ 20%), 27% (36 samples) (20% < standard deviation ≤ 30%) and 14% (18 samples) (standard deviation > 30%) with one sample (NATK-02) represented by a single measurement (Table 4).

The nominal accuracy of the divided-bar (2%: Jessop, 1990) is only likely to be achieved under ideal conditions with well characterised media (glass or crystalline rock) with flat and parallel disk faces. For natural sedimentary rock samples of variable porosity, the results in Tables 3 and 4 suggest that a more realistic accuracy is 5-15% for the better quality samples where average conductivity values for duplicate disk samples show good agreement between the two analysts (see Appendices B and C for examples). Average conductivity values with larger standard deviations are associated with three types of data. First, there are samples with more highly variable individual measurements that yield averages that are consistent between analysts and with similar types of samples that have lower standard deviations. Second, there are samples with systematic differences in measurements between analysts for both dry and saturated conditions and for replicate disks. Third, there are samples with apparent compositional differences between replicate disks that yield consistent different average conductivity values. These compositionally variable sample disks may or may not show systematic differences in measurements between analysts.

Sources of measurement error

There are numerous potential sources of measurement error and these are mainly related to sample quality, instrument drift and differences between analysts. Depending on the sample, any one of these factors could be the main source of error. Sample quality is a significant factor that influences all measurements. It can be difficult to obtain the flat and parallel disk ends that are required for maintaining good thermal contacts on the divided-bar equipment when working with sedimentary rock samples. For example, fissility, poor consolidation and friability, fractures and vugs can make it difficult to avoid the flaking and chipping of disks and the plucking of grains that lead to non-planar surfaces and rounding of disk edges when grinding and polishing samples. Some of the more highly variable conductivity measurements may be related to sample imperfections that contribute to a variable thermal contact resistance. Fortunately, the majority of disk samples are of “a” or “b” quality (Figure 5, Tables 3 and 4, Appendices A, B and C). However, even some “d” quality plugs yielded good measurements prior to deteriorating with time. Inevitably, samples can change during multiple cycles of saturation, drying and measurement and some samples required re-polishing as a result.

Instrument drift and variable operating conditions could contribute to systematic differences in thermal conductivity measurements between analysts. Conductivity measurements were undertaken over the course of several years and, during normal operations, thermistors drift and glass disks become chipped. In addition, two bars are used for measurement and any misalignment in one of the bars could yield systematic errors. To minimize these types of errors, thermistors were calibrated on a regular basis and damaged glass disks were replaced. Nevertheless, some measurements show systematic differences between analysts and instrument calibration may be a factor.

Finally, there are differences between analysts that are difficult to assess. For example, the “dry” thermal conductivity measurements of KG include any effect of residual heptane saturation. However, the dry measurements of KG do not appear to be systematically higher than those of EG because of this (Appendix B). The small standard deviations for many of the measurements of EG imply that they are not truly independent trials that involve deconstructing and rebuilding the bar. Rather, it appears that, at least for some of the samples, separate readings were taken at different times for the same bar configuration. In spite of this, the measurements of both analysts were treated equally (except where problematic data could be identified) to avoid biasing results in favour of a particular analyst. This was done in recognition of the fact that both sample properties and the quality of measurements may change with time. Such differences in sample treatment will introduce variable errors that should at least be partially offset by the large number of measurements done under dry and saturated conditions.

A review of all the data suggests that the quality of measurements did vary with time for both analysts. The initial measurements of EG are quite consistent and appear to be of good quality (in particular, the porosity values show very good agreement with independent porosity measurements). However, the quality of the EG data appears to have decreased during the latter stages of analysis as evidenced by the poor correspondence between dry and saturated measurements for some of the samples (Appendix C). In contrast, initial measurements by KG showed significant variability but became more consistent with time. Both analysts measured the samples under dry conditions first and tended to measure them in a similar order (alphabetically by sample name). Analysis of the combined data sets helped to reduce the effect of this apparent time variation in data quality.

Rock matrix thermal conductivity models

In order to compare and assess the quality of the saturated and dry thermal conductivity measurements and to investigate the influence of rock composition on thermal conductivity, it is useful to eliminate the effect of porosity and pore-filling medium (air, heptane or water) on thermal conductivity. We assume a two component rock model consisting of a rock matrix with thermal conductivity, K_r, and pore-filling fluid with conductivity, K_f. Six different composite models (series, parallel, Sugarawa and Yoshizawa, self-consistent effective medium, Hashin-Shtrikman (Maxwell) and weighted geometric mean models) were used to convert measured bulk thermal conductivity of the samples into zero porosity rock matrix conductivity values based on the volume fractions of the two components. These models were chosen because most of them are well known, some of them have a physical basis and they are simple models that have been used in various applications. Other analytical models (e.g. see Roy *et al*., 1981; Torquato, 1987; Grolier et al., 1989; Somerton, 1992) exist but they are more complicated and difficult to use in practical applications and it is unclear whether they would give better results for the data in this report. Numerical methods have been used to compute the thermal conductivity of composite materials and results have been compared with some analytical models (e.g. Van Stone, 1985; Jones and Pascal, 1994, 1995; Pascal and Jones, 1994; Jessop, 2008).

The lowest value for computed composite thermal conductivity, K, is for a series arrangement of components relative to the direction of heat flow given by a weighted harmonic mean of component conductivity values (e.g. Somerton, 1992)

$$K = \left[\frac{\phi}{K_f} + \frac{1-\phi}{K_r} \right]^{-1} \qquad \textbf{(5)}$$

We can compute rock matrix conductivity values using the known K_f value and the measured K and ϕ values by rearranging equation 5 to give

$$K_r = \frac{K(1-\phi)}{1-\frac{K\phi}{K_f}} \quad \textbf{(6)}$$

For positive K_r values, the product $K\phi$ must be less than K_f in equation 6. The highest value for K is for a parallel arrangement of components with a porosity-weighted arithmetic mean of component conductivities (e.g. Somerton, 1992)

$$K = K_f \phi + K_r (1-\phi) \quad \textbf{(7)}$$

Equations 5 and 7 are sometimes referred to as the Wiener bounds and they apply to both isotropic and anisotropic media (e.g. Torquato, 1987; Zimmerman, 1989; Tong *et al.*, 2009). Some authors propose effective conductivity models based on a combination of the series and parallel models (e.g. Bachu, 1991; Tong *et al.*, 2009). However, these models involve more parameters than the simple models presented here and therefore they were not used in this report.

Sugarawa and Yoshizawa (1961, 1962) presented a weighted arithmetic mean model using a weighting factor that attempts to account for pore geometry

$$K = K_f A + K_r (1-A) \quad \textbf{(8)}$$

$$\text{where } A = \frac{2^n}{2^n - 1}\left\{1 - \frac{1}{(1+\phi)^n}\right\}$$

and n is an empirical exponent with values of 2 and 2.5 for the sandstones they investigated. Note that for an array of cylindrical pores aligned with the direction of heat flow, $A=\phi$ and the model is equivalent to equation 7. The exponent n was set equal to 2.5 for the calculations of this report.

Budiansky (1970) used a self-consistent approach to develop an effective medium model for thermal conductivity, which for a two-component isotropic composite is

$$\frac{\phi}{\frac{2}{3}+\frac{1}{3}\left(\frac{K_f}{K}\right)} + \frac{1-\phi}{\frac{2}{3}+\frac{1}{3}\left(\frac{K_r}{K}\right)} = 1 \quad \textbf{(9)}$$

This model was adapted for a three-phase composite material and used to model sedimentary basin thermal histories (Mackenzie and McKenzie, 1983; Issler and Beaumont, 1987, 1989). Rearranging equation 9 in terms of matrix conductivity gives

$$K_r = K\left\{\frac{1-\phi}{\frac{1}{3}-\phi\left[2+\frac{K_f}{K}\right]^{-1}} - 2\right\} \quad \textbf{(10)}$$

The upper and lower bounds on composite thermal conductivity can be narrowed significantly relative to the Wiener bounds by using the Hashin and Shtrikman (1962) bounds for isotropic media. This model is a variant of the Maxwell (1881) model for non-interacting spheres of the same conductivity immersed in a matrix with a different conductivity. The lower and upper limits of

Hashin and Shtrikman (1962) can be obtained by interchanging the conductivity values and volume fractions of the spheres and matrix in the Maxwell model (e.g. Beck, 1976). Zimmerman (1989) developed a modified Maxwell model that includes the effects of pore aspect ratio; a thin crack pore model produces the lower Hashin-Shtrikman bound on conductivity whereas a spherical pore model reproduces the upper bound. For a statistically homogeneous and isotropic two-phase medium, bulk conductivity can be calculated by taking the average of the lower and upper Hashin-Shtrikman bounds

$$K = \frac{1}{2}\left\{K_f + \frac{1-\phi}{\frac{1}{K_r - K_f} + \frac{\phi}{3K_f}} + K_r + \frac{\phi}{\frac{1}{K_f - K_r} + \frac{1-\phi}{3K_r}}\right\} \qquad \textbf{(11)}$$

K_r can be determined from equation 11 by iteration using the Newton-Raphson method (e.g. Press *et al.*, 1992).

The weighted geometric mean model has been used widely and, although it has no theoretical basis, it can give good results that are similar to or even better than the Maxwell and Hashin-Shtrikman models (e.g. Woodside and Messmer, 1961; Sass *et al.*, 1971; Van Stone, 1985; Beck, 1976; Brigaud and Vasseur, 1989; Demongodin *et al.*, 1991). For a two-phase isotropic composite consisting of rock and fluid, the geometric mean conductivity is given by

$$K = K_f^{\phi} K_r^{1-\phi} \qquad \textbf{(12)}$$

Rock matrix thermal conductivity values

Rock matrix conductivity values were calculated for each sample series from the average porosity and dry and saturated bulk thermal conductivity values in Tables 3 and 4 using the above six thermal conductivity models. Detailed results, grouped by lithology (sandstone, shale and carbonate) and age/tectonic setting (Paleozoic pre-rift, Jurassic-Lower Cretaceous syn-rift and Upper Cretaceous-Cenozoic post-rift successions), are presented in Appendix D in Tables D.1 to D.15. Average values for each lithology from different age/tectonic groupings are summarized for five of the conductivity models in Tables 5 (geometric mean), 6 (Maxwell/Hashin-Shtrikman), 7 (Sugawara and Yoshizawa), 8 (self-consistent/effective medium) and 9 (parallel). Summary results are not shown for the series model because it is clearly inappropriate for analysing the data in this report. Most of the calculated K_r values are negative for the series model (Tables D.1 to D.15 in Appendix D) because the product $K\phi$ is greater than K_f in equation 6.

The geometric mean model gives the most consistent results when comparing average K_r values for the saturated and dry measurements for all lithologies in different age/tectonic groupings (Table 5). In most cases, the average K_r values for the wet and dry measurements agree to within 0.1 W/mK or better. A comparison of K_r values for the dry and saturated disk samples confirms the good correspondence between the saturated and dry thermal conductivity measurements (Figure 6). Geometric mean K_r values conform closely to a 1:1 line (as shown by the reduced major axis regression line), indicating a uniform distribution of data with most of the measurements (73%; 93 points) agreeing within 10% error over the conductivity range, 0.75-4.7 W/mK. Importantly, the geometric mean K_r values show consistency for a broad range of porosity (0-25 %) and bulk thermal conductivity (0.39-2.87 W/mK dry; 0.52-3.11 W/mK saturated) values (Tables 3 and 4).

The Maxwell/Hashin-Shtrikman model gives similar K_r values as the geometric mean model for dry and saturated shale and sandstone samples from the post-rift and syn-rift successions (Table 6). These samples have mainly intermediate to high porosity values. Both models also yield similar K_r values for heptane-saturated samples from the lower porosity pre-rift successions. However, the Maxwell/Hashin-Shtrikman model gives higher K_r values for dry samples compared with heptane-saturated samples from the pre-rift successions (Table 6). In contrast, the Sugawara and Yoshizawa (Table 7), self-consistent/effective medium (Table 8) and parallel (Table 9) models yield K_r values that are similar to those of the geometric mean model for low porosity pre-rift rocks (particularly carbonates and mudstones) but they predict lower K_r values for higher porosity rocks from younger successions. Unlike the Maxwell/Hashin-Shtrikman model, these models show good agreement between the dry and heptane-saturated K_r values at low porosity; for increasing porosity, calculated K_r values are lower for the dry samples than the heptane-saturated samples (Tables 7, 8 and 9).

Assessment of sample thermal conductivity data

One of the main goals of this study is to calibrate a composition-based predictive model for thermal conductivity for the Beaufort-Mackenzie region. Given the good results obtained for the weighted geometric mean conductivity model, it is instructive to compare measured conductivity values with values calculated using this model. Figures 7 to 13 show plots of dry (panel a) and heptane-saturated (panel b) sample thermal conductivity versus porosity for various lithologies from different geologic successions (post-, syn- and pre-rift). Each figure includes a red curve representing the calculated bulk thermal conductivity using the weighted geometric mean model (equation 12) with appropriate average K_r (Table 5) and K_f (0.024 W/mK for air; 0.1224 W/mK for heptane) values. Also shown in these figures for reference is a dashed blue curve representing the geometric mean water-saturated thermal conductivity with corresponding average K_r (Table 5) and K_f (0.6071 W/mK for water) values. The water-saturated curve is included to approximate *in situ* thermal conductivity conditions. Samples from each geologic succession cluster around different porosity ranges with the youngest and generally less compacted, post-rift succession having the highest range of porosity values and the oldest and most compacted pre-rift succession having the narrowest range of porosity values.

Figure 7 shows dry and heptane-saturated thermal conductivity versus porosity for Upper Cretaceous-Cenozoic post-rift sandstone samples of the Beaufort-Mackenzie Basin. It is important to note that the geometric mean curve is not directly fitted to the data using regression methods. However, the geometric mean model does provide a good first-order fit to the data using average K_r values of 2.45 and 2.54 W/mK for the dry and heptane-saturated samples, respectively (Table 5). The similarity in K_r values for dry and heptane-saturated samples suggests that the geometric mean model can be used predict the thermal conductivity of these samples when saturated with other fluids such as water (blue dashed curve; Figure 7). As discussed above, water was not used as a saturant for most of the samples due to their fragile nature. Three sandstones from the Aklak sequence were saturated with water and yield K_r values that are similar to the dry and heptane-saturated values (Table D-15 in Appendix D and Table 5). The good correspondence between measured and calculated thermal conductivity over the porosity range of 7 to 25% (Figure 7) suggests that the post-rift sandstone samples have a limited range in composition and therefore a model based on average properties may give useful predictions. This is consistent with petrographic analyses indicating that the post-rift lithic sandstones are fairly uniform in composition and dominated by quartz, chert, low-grade metamorphic rock fragments, allochthonous sedimentary rock fragments and intraformational sediment clasts with variable amounts of feldspar, mica and volcanic rock fragments (Schmidt, 1987). The abundance of lower conductivity matrix components relative to high conductivity quartz may account for the low K_r value for these sandstone samples.

Figure 8 shows dry and heptane-saturated thermal conductivity versus porosity for Jurassic-Lower Cretaceous syn-rift sandstone samples of the Beaufort-Mackenzie Basin. The geometric mean model does not adequately describe the first-order variation in thermal conductivity for the set of samples when using the average K_r value determined for all samples (2.96 W/mK dry; 3.04 W/mK heptane-saturated; Table 5). Thermal conductivity does not show a simple increase with decreasing porosity over the measured porosity range of 2 to 18% and instead seems to be strongly influenced by the variation in rock composition. Quartz and clay content and grain size are probably significant factors controlling the thermal conductivity of the syn-rift sandstones. The samples can be organized into different groups based on qualitative knowledge of their characteristics. For example, the Kamik, Martin Creek, Husky and Aklavik formations are known to contain quartz arenite and samples from these units yield the highest average K_r value (3.41 W/mK dry; 3.54 W/mK saturated; Table 5). Sandstones from the Atkinson Point, Mt. Goodenough, McGuire and Rat River successions have a lower K_r value (2.68 W/mK dry; 2.70 W/mK saturated; Table 5) and this may be because they are finer-grained and have a higher argillaceous content. There are only three samples for the Albian/Arctic Red successions but the data suggest that they have the lowest K_r value (2.07 W/mK dry; 2.23 W/mK saturated; Table 5).

Figure 9 shows dry and heptane-saturated thermal conductivity versus porosity for Permian, Carboniferous and Devonian pre-rift sandstone samples of the Beaufort-Mackenzie Basin. The limited data (only nine samples) show an overall increase in sample thermal conductivity with decreasing porosity over the porosity range of 3 to 13%, suggesting that these samples have a limited range in composition. The average K_r value is relatively high (3.12 W/mK dry and saturated; Table 5) which suggests that the samples have a relatively high quartz content.

Figure 10 shows dry and heptane-saturated thermal conductivity versus porosity for Upper Cretaceous-Cenozoic post-rift shale samples of the Beaufort-Mackenzie Basin. The shale samples were separated into two groups; organically-lean shale of the Maastrichtian-Oligocene deltaic sequences (Fish River, Aklak, Taglu, Richards and Kugmallit) (plus an organically-lean bentonite sample from the Smoking Hills sequence; Figure 10a) and organic-rich shale of the Santonian-Campanian Smoking Hills Sequence. Both groups show an increase in thermal conductivity with decreasing porosity over the measured porosity range of 1.5 to 30%, suggesting that porosity has a stronger influence on conductivity than composition for the samples in each of these groups. Thermal conductivity values for the Maastrichtian-Oligocene samples are scattered about the geometric mean model curve but there do not appear to be systematic differences among the various rock sequences. Compositional and textural differences among these samples probably account for much of the data scatter. Bloch and Issler (1996) observed differences in grain sorting and compaction fabrics between overpressured and normally pressured samples and noted that quartz and mixed layer illite/smectite were the dominant minerals (with lesser and variable amounts of kaolinite, chlorite, plagioclase, siderite, calcite, dolomite and pyrite) with TOC (total organic carbon) generally less than 2 wt%. Overall, they considered these rocks to be relatively homogeneous. Thermal conductivity values for the organic-rich Smoking Hills samples are tightly distributed around the geometric mean model curve (Figure 10). The average K_r value for the Smoking Hills samples (0.81 W/mK dry; 0.78 W/mK saturated; Table 5) is only 50% of the value for the Maastrichtian-Oligocene samples (1.65 W/mK dry and saturated; Table 5) due to their high content of low conductivity organic matter.

Figure 11 shows dry and heptane-saturated thermal conductivity versus porosity for Jurassic-Lower Cretaceous syn-rift shale samples of the Beaufort-Mackenzie Basin. These rock samples are more compacted than the post-rift shale samples and have porosity values mainly between 2 to 10%. Sample thermal conductivity does not show an increase with decreasing porosity over this limited porosity range. In fact, many of the samples show either little change or a decrease in thermal conductivity with porosity for both the dry and saturated measurements (Figure 11). Like the syn-rift sandstones (Figure 8), this is probably due to variations in texture and composition. However, unlike the syn-rift sandstones, this variability occurs within many of the formations and therefore it is not obvious how to group the data. The average K_r value for the syn-rift shale samples (1.59 W/mK dry; 1.61 W/mK saturated; Table 5) is very similar to that for the organically-lean post-rift shale samples (1.65 W/mK; Table 5).

Figure 12 shows dry and heptane-saturated thermal conductivity versus porosity for Paleozoic pre-rift shale samples of the Beaufort-Mackenzie Basin. There are only a small number of samples over a limited porosity range (0 – 8%). A number of the samples have large uncertainties for both the dry and saturated thermal conductivity values (Tables 3 and 4). Nevertheless, the data conform reasonably well to the predictions of the geometric mean model. The average K_r value for these Paleozoic samples (2.18 W/mK dry; 2.09 W/mK saturated; Table 5) is significantly higher than the corresponding values for the post-rift and syn-rift shale samples (1.65 and 1.6 W/mK; Table 5). This suggests that the Paleozoic shale samples may have a higher abundance of quartz and a lower abundance of clay minerals than the younger shale samples.

Figure 13 shows dry and heptane-saturated thermal conductivity versus porosity for Paleozoic pre-rift carbonate samples of the Beaufort-Mackenzie Basin. There are only 11 samples and most of them have very low porosity (<3%) so it is not possible to judge how well these carbonate samples would conform to a geometric mean model at higher porosity values. The dry conductivity values (Figure 13a) show larger variability than the heptane-saturated values (Figure 13b) and this is reflected in the larger uncertainties for these measurements (compare values in Tables 3 and 4). The average K_r value is similar for all the dry (2.68 W/mK; Table 5) and heptane-saturated (2.59 W/mK; Table 5) samples. The Arnica and Ronning carbonates are dominated by dolomite whereas the Landry and Carboniferous carbonates tend to be limestone (e.g. Wielens, 1992). Grouping the samples on this basis, the average K_r value for the Arnica and Ronning dolomites (2.90 W/mK dry; 2.67 W/mK saturated; Table 5) is a little higher than the corresponding value for the Carboniferous and Landry limestones (2.49 W/mK dry; 2.52 W/mK saturated; Table 5). The actual amount of dolomite in the samples is unknown at present but this observation is consistent with the fact that dolomite has a higher thermal conductivity than calcite (e.g. Horai, 1971).

Water-Saturated Thermal Conductivity

The measurement of disk samples under dry and heptane-saturated conditions is a laboratory convenience that was selected to minimize sample damage during analysis. In reality, the sampled rock units are saturated with water under *in situ* subsurface conditions. It has been shown above that the geometric mean model yields consistent K_r values for both the dry (K_{dry}) and heptane-saturated ($K_{heptane}$) thermal conductivity measurements. Therefore calculated K_r values were used to compute water-saturated bulk conductivity (K_{water}) values for each sample. Table 10 lists preferred average K_{dry} and $K_{heptane}$ values (from Tables 3 and 4) along with corresponding derived geometric mean K_r (from Appendix D) and K_{water} values for each sample grouped by lithology and age/tectonic setting. Measured K_{water} values for three sandstone samples from the Aklak Sequence are included in Table 10 for comparison with calculated values. For the post-rift succession, calculated K_{water} values range from 1.3-2.5 W/mK for sandstone samples and 0.7-2.1 W/mK for shale samples. Syn-rift sandstone and shale samples have corresponding K_{water} values of 1.5-3.4 W/mK and 1.0-2.3 W/mK, respectively. K_{water} values for samples from the pre-rift succession range from 2.1-3.4 W/mK for sandstone, 1.7-2.3 W/mK for shale and 2.0-3.2 W/mK for carbonate rocks.

DISCUSSION

Of the six thermal conductivity models investigated, the weighted geometric mean model provides the most consistent fit to the Beaufort-Mackenzie thermal conductivity measurements. Roy *et al*. (1981) state that computed conductivity contains large errors when applying the geometric mean model to dry porous rocks because of the large conductivity contrast between air and rock. However, this may have more to do with experimental conditions and rock texture than deficiencies in the geometric mean model. Woodside and Messmer (1961) observed that the measured conductivity of air- and gas-saturated samples at atmospheric pressure was lower than expected and attributed the cause to molecular effects related to inferred pores that are smaller than the mean free paths of gases. They also noted that thermal conductivity increased with gas pressure and simulated overburden pressure for dry rocks due to crack closure and improved contact between grains. Zimmerman (1989) developed a variant of the Maxwell model to show how the pore aspect ratio (cracks versus spherical pores) affects conductivity and discussed how the weighted geometric mean model cannot account for this pressure-dependent behaviour. However, Beck (1976) showed that thermal contact resistance can explain much of the difference between dry and saturated conductivity measurements and proposed corrections for using the Maxwell model with a low conductivity saturant such as air.

Other published studies involving mainly sedimentary rocks have shown that there is a reasonable correspondence between dry and saturated conductivity values determined using the weighted geometric mean model, with dry measurements tending to be associated with larger errors (Brigaud and Vasseur, 1989; Demongodin et al., 1991; Norden and Förster, 2006). In a numerical study of the thermal conductivity of crystalline rocks, Jessop (2008) observed that the Hashin-Shtrikman model provided a close fit to numerical conductivity values whereas the geometric model underestimated conductivity. For the current study, there is an excellent correspondence between measured dry and saturated thermal conductivity and values calculated using the weighted geometric mean model (Figure 6, figures 7 to 13 and Table 5). Based on these and other published results, it would appear that the geometric model provides a better estimation of thermal conductivity for higher porosity sedimentary rocks than for lower porosity crystalline rocks.

The successful application of the geometric model suggests that experimental procedures may have helped to minimize thermal contact resistance on the divided-bar (i.e. coating sample contact surfaces with glycerine, applying pressure to the bar). The fact that most of the disk samples are of good quality also helped to minimize contact resistance. The measured conductivity values seem reasonable and consistent with the known characteristics of the rocks under study and they are in the range of published values for these types of lithologies. However, it is difficult to fully assess the quality of the thermal conductivity measurements because published conductivity values show considerable variation for similar lithologies and therefore can only provide general limits on acceptable values. Data quality in this report has been investigated in terms of the reproducibility of multiple conductivity measurements, the correspondence between saturated and dry conductivity measurements for the same sample, and by comparing measured porosity for sample disks with nearby core porosity values from Core Laboratories Ltd. and other sources (NEB well history reports; Hu and Issler, 2009). Some conductivity measurements are associated with large standard deviations (Tables 3 and 4) and therefore further work is needed to determine whether the average values for these samples are representative of the true conductivity. Chemical data (Rock-

Eval/TOC, XRD, S, total C, XRF/ICP-MS elemental analyses) have been acquired as a further check on data quality. These data will be used to calculate mineral modes for each of the samples in order to investigate the effect of rock composition on thermal conductivity. Such data can be used to calibrate log-based methods for calculating *in situ* thermal conductivity for regional studies of heat flow and thermal history.

CONCLUSIONS

A steady-state divided-bar instrument was used to measure the thermal conductivity of multiple disk samples cut from vertically-oriented (parallel to core axis and direction of heat flow), one-inch (2.54 cm) diameter core plugs taken from sandstone, shale and carbonate post-rift, syn-rift and pre-rift successions in conventional cores from petroleum exploration wells of the Beaufort-Mackenzie Basin. Results were averaged for each set of sample disks to give 136 dry, 129 heptane-saturated and three water-saturated bulk conductivity values for samples from 39 wells. Six different thermal conductivity models were used to calculate rock matrix (zero porosity) conductivity values in order to compare and assess the sample saturated and dry bulk thermal conductivity measurements. The weighted geometric mean model gives the best results; calculated rock matrix conductivity values for dry and saturated samples conform closely to a 1:1 relationship and differ by < 10% for 73% of the data (93 values) and agree to within 20% for 92% of the data (117 values). As a result, average geometric mean matrix conductivity values are very similar (generally within ±0.1 W/mK) when comparing dry and saturated samples of similar lithology (sandstone, shale or carbonate) from the same geologic successions.

In general, samples from the post-rift and pre-rift successions are more compositionally homogeneous than those from the syn-rift successions and they show systematic variations in bulk thermal conductivity with porosity as predicted by the weighted geometric mean model. Organic-rich shale samples of the post-rift, Upper Cretaceous Smoking Hills Sequence have the lowest average matrix conductivity (0.8 W/mK). Organically-lean Upper Cretaceous-Oligocene post-rift and Jurassic-Lower Cretaceous syn-rift shale samples have similar average matrix conductivity values of 1.65 and 1.6 W/mK, respectively, with the syn-rift shale samples showing more variability. There are fewer pre-rift Paleozoic shale samples but they have a higher average matrix conductivity (2.1 W/mK). Upper Cretaceous-Oligocene lithic sandstones of the post-rift succession have a relatively low average matrix conductivity of 2.5 W/mK whereas Paleozoic sandstones of the pre-rift succession have a higher average matrix conductivity of 3.1 W/mK. Jurassic-Lower Cretaceous sandstone samples from the syn-rift succession show the largest variation in conductivity with average matrix conductivity values ranging from approximately 2.2 W/mK to 3.5 W/mK, depending on rock formation. Paleozoic dolomite samples have a higher average matrix conductivity value (2.7 W/mK) than the Paleozoic limestone samples (2.5 W/mK).

Geometric mean matrix conductivity values were used to calculate water-saturated bulk thermal conductivity values in order to estimate *in situ* thermal conductivity for the various geologic successions. Calculated K_{water} values range from 1.3-2.5 W/mK for sandstone samples and 0.7-2.1 W/mK for shale samples from the post-rift succession. Syn-rift sandstone and shale samples have corresponding K_{water} values of 1.5-3.4 W/mK and 1.0-2.3 W/mK, respectively. K_{water} values for samples from the pre-rift succession range from 2.1-3.4 W/mK for sandstone, 1.7-2.3 W/mK for shale and 2.0-3.2 W/mK for carbonate rocks.

ACKNOWLEDGEMENTS

The authors thank Alan Taylor for his thoughtful review and helpful suggestions that improved the quality of the manuscript. This study would not have been possible without permission from the National Energy Board of Canada to sample their well core collection housed at the Geological Survey of Canada in Calgary. We thank Kezhen Hu (GSC Calgary) for assisting with the collection of core material. Darrell Brabant of AGAT Laboratories Ltd. coordinated the drilling of core plugs from core segments on loan from the NEB core collection. Jennifer MacLeod assisted with getting the divided-bar operational and establishing laboratory procedures during several co-op work terms as a University of Calgary physics student during 1996 and 1997. Ehren Goodall and Kathleen Grundman (contractors) did the sample disk preparation and thermal conductivity measurements. Krista Boyce (GSC Calgary) organized and prepared residual core material for geochemical analyses. Denise Then (GSC Calgary) assisted with the cataloguing and curation of disk sample material. This study was funded by recent (BP Canada Energy Company, Chevron Canada Limited, ConocoPhillips Canada Resources Corporation, Imperial Oil Resources Ventures Limited, MGM Energy Corporation and Shell Exploration and Production Company) and former (Anadarko Canada Corporation, Burlington Resources, Devon Canada Corporation, EnCana Corporation, Petro-Canada, Shell Canada Limited) members of the Beaufort-Mackenzie consortium, the Program of Energy Research and Development (PERD) and Natural Resources Canada through the Earth Sciences Sector Northern Resources Development (2003-2006), Secure Canadian Energy Supply (2006-2009) and the current Geo-Mapping for Energy and Minerals (GEM) programs.

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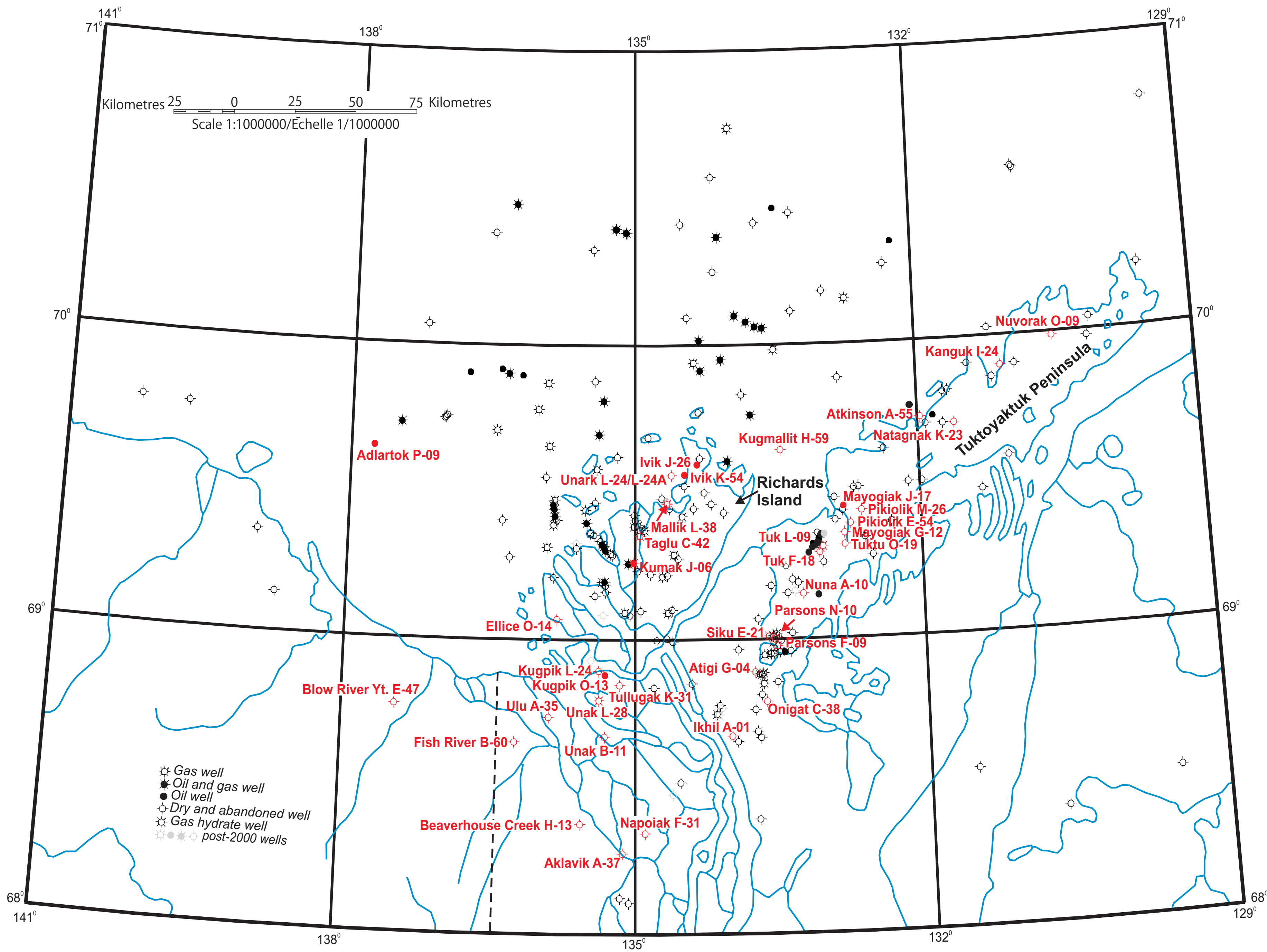

Figure 1. Map showing location of the thirty-nine study wells (in red) with thermal conductivity data, Beaufort-Mackenzie Basin, Northwest Territories.

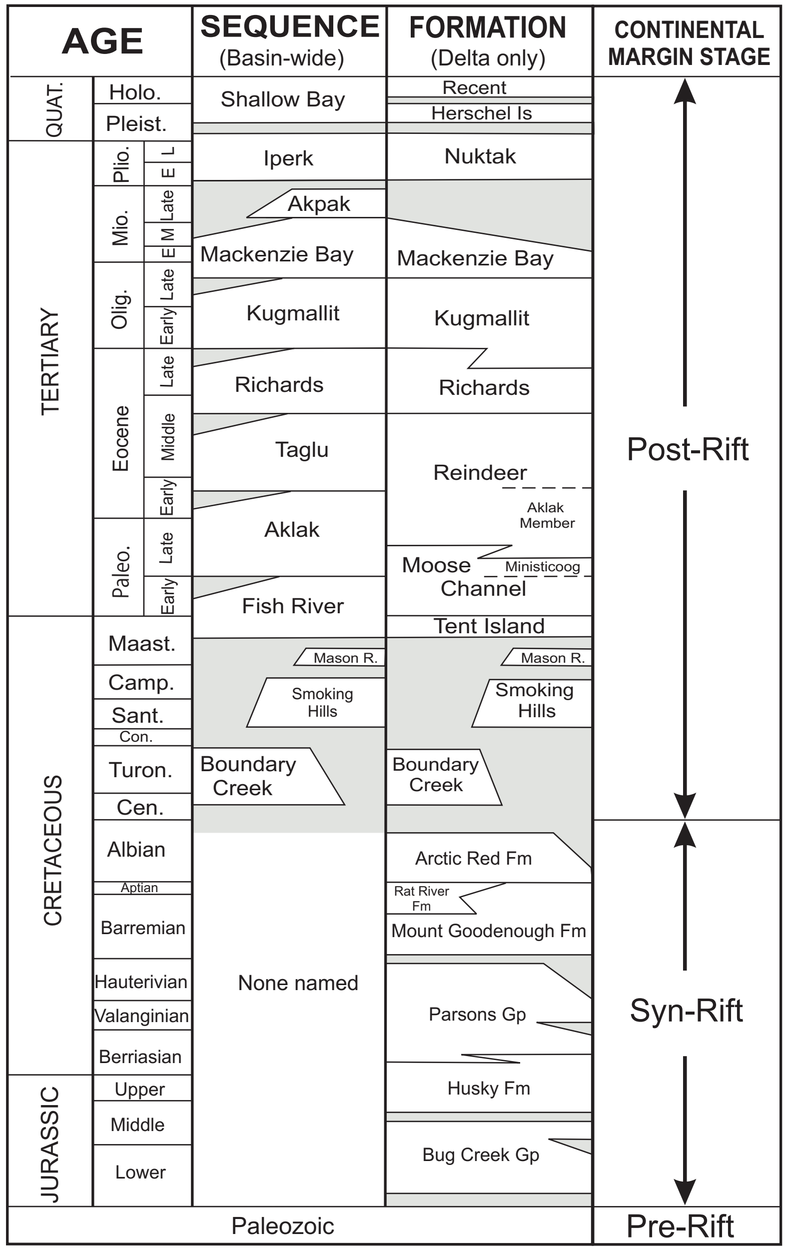

Figure 2. Stratigraphy of the Beaufort-Mackenzie region (modified from J. Dixon, personal communication, 2009).

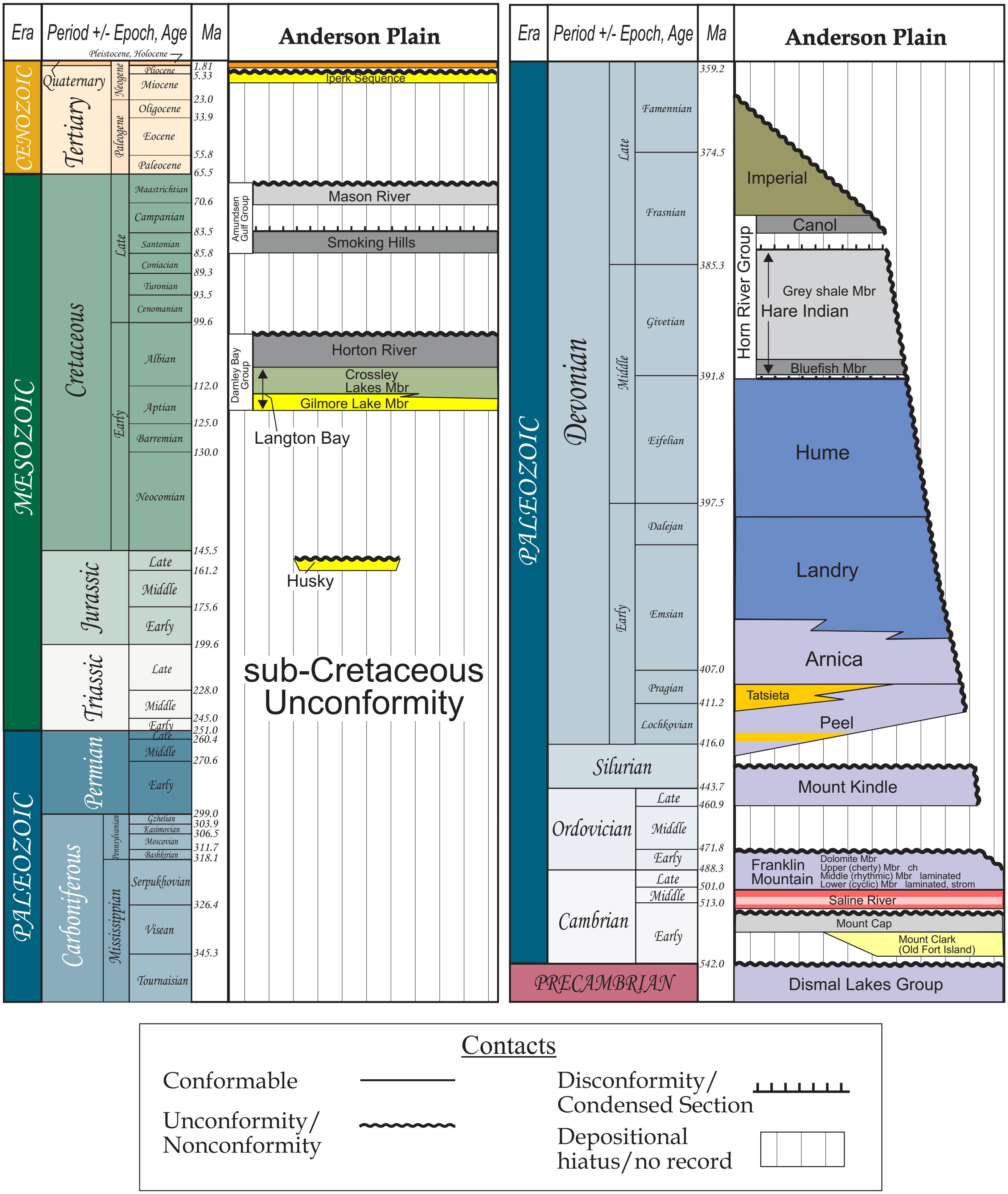

Figure 3. Stratigraphy of the Anderson Plain region (modified after Morrow *et al.*, 2006).

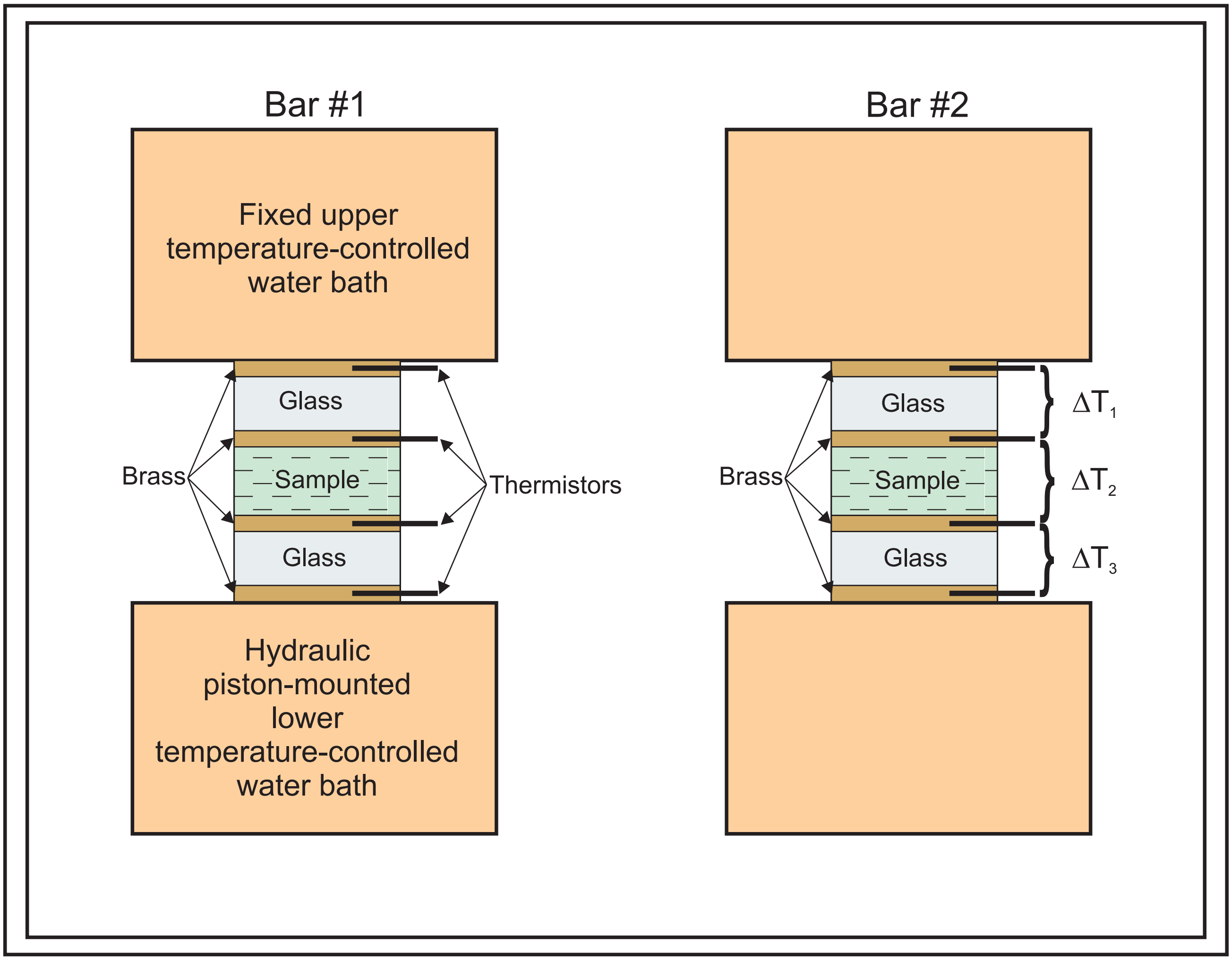

Figure 4. Schematic diagram of the divided-bar apparatus at the Geological Survey of Canada in Calgary. Two bars are enclosed in a cabinet with plexiglass sliding doors in front to minimize the effect of air currents. Each bar consists of identical upper and lower fused quartz glass disks in contact with water baths that are maintained at a constant 10°C temperature difference. Samples of unknown thermal conductivity are sandwiched between two glass standards of known conductivity. Thermally conductive brass disks are inserted where the glass standards contact the sample and water baths to facilitate temperature measurement. Each brass disk has a hole where a thermistor can be inserted for temperature measurement. Once the temperatures have stabilised and heat flow is uniform across the bar, the temperature differences across the upper glass standard (ΔT_1), the sample (ΔT_2), and the lower glass standard (ΔT_3) are recorded and used for the calculation of the sample thermal conductivity.

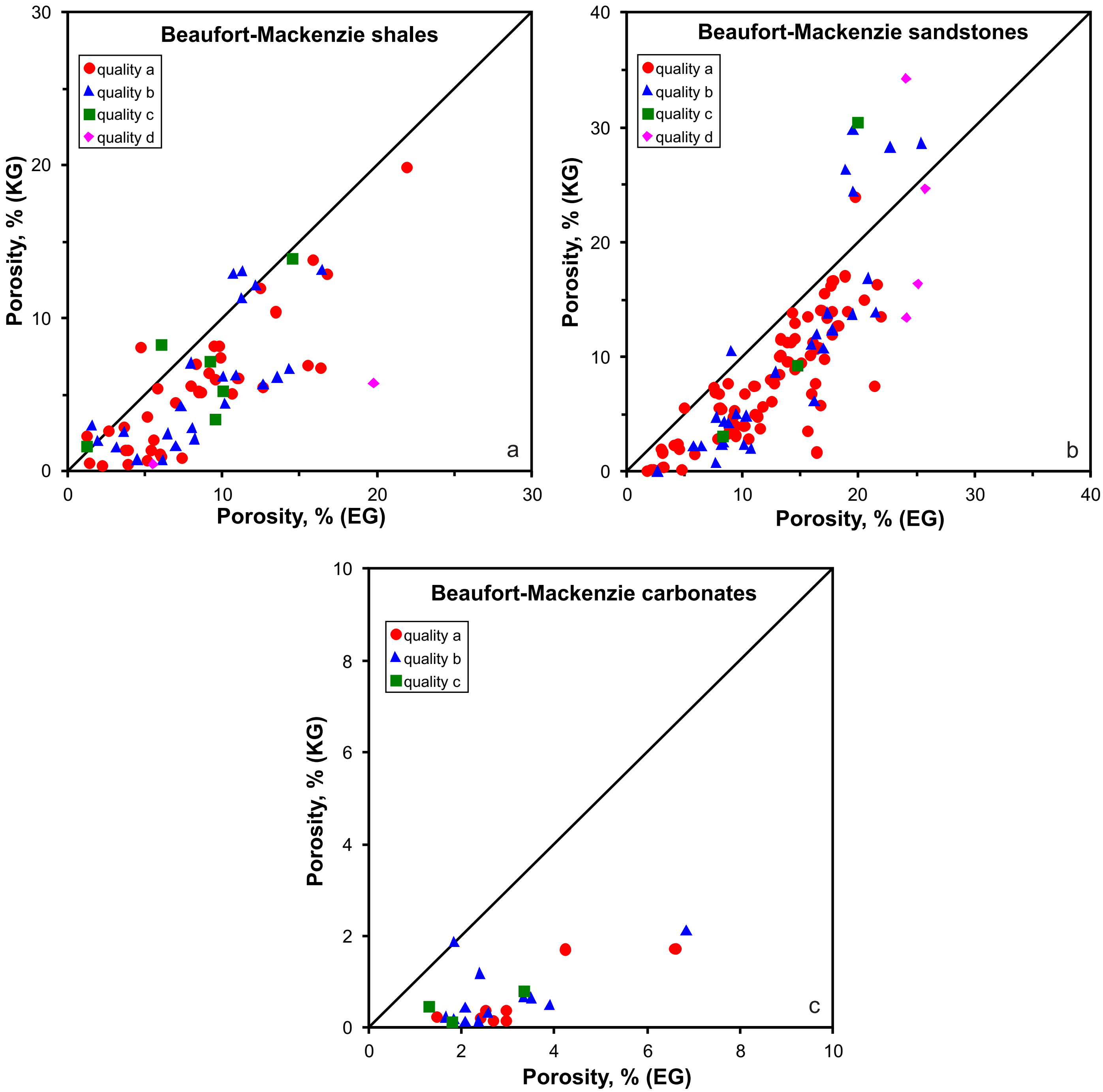

Figure 5. Comparison between porosity values of analyst EG and analyst KG for (a) shale, (b) sandstone and (c) carbonate thermal conductivity disk samples. The porosity values of analyst KG are systematically lower because the "dry" samples include residual heptane saturation. Sample disk quality: a - good with cylindrical shape and flat, parallel disk faces; b - okay with small cracks or chips; c - fair, degraded with rounded edges and/or larger chips and/or fractures, may be epoxied or very thin and/or wedge-shaped; d - poor, disintegrated.

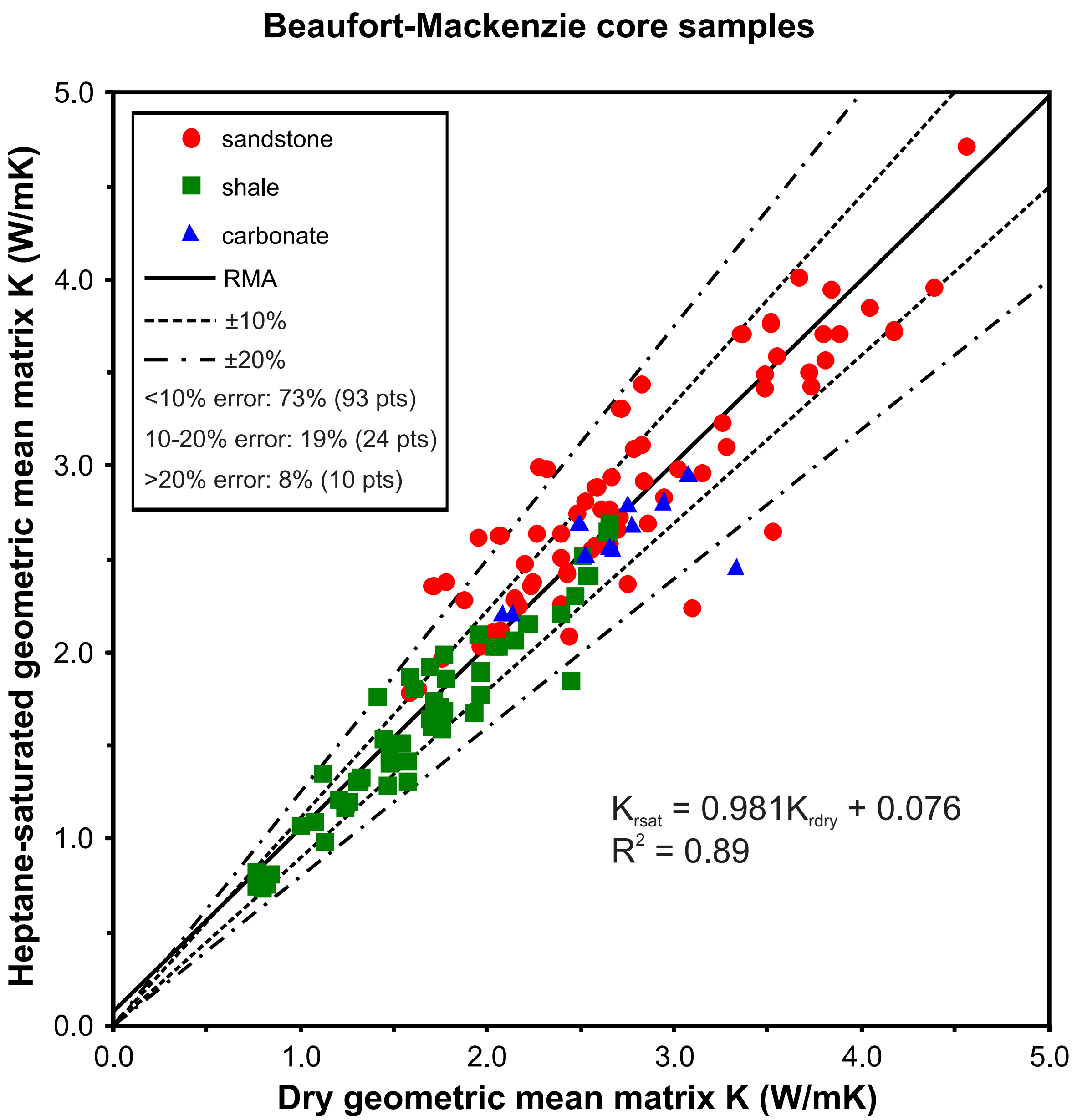

Figure 6. Comparison of calculated rock matrix thermal conductivity values based on the weighted geometric mean model for 127 dry and heptane-saturated disk samples from sandstone, shale and carbonate rocks of the Beaufort-Mackenzie Basin. Heavy black line represents the reduced major axis fit to the data given by the equation. Dashed lines represent ±10% and ±20% errors relative to a 1:1 line through the data.

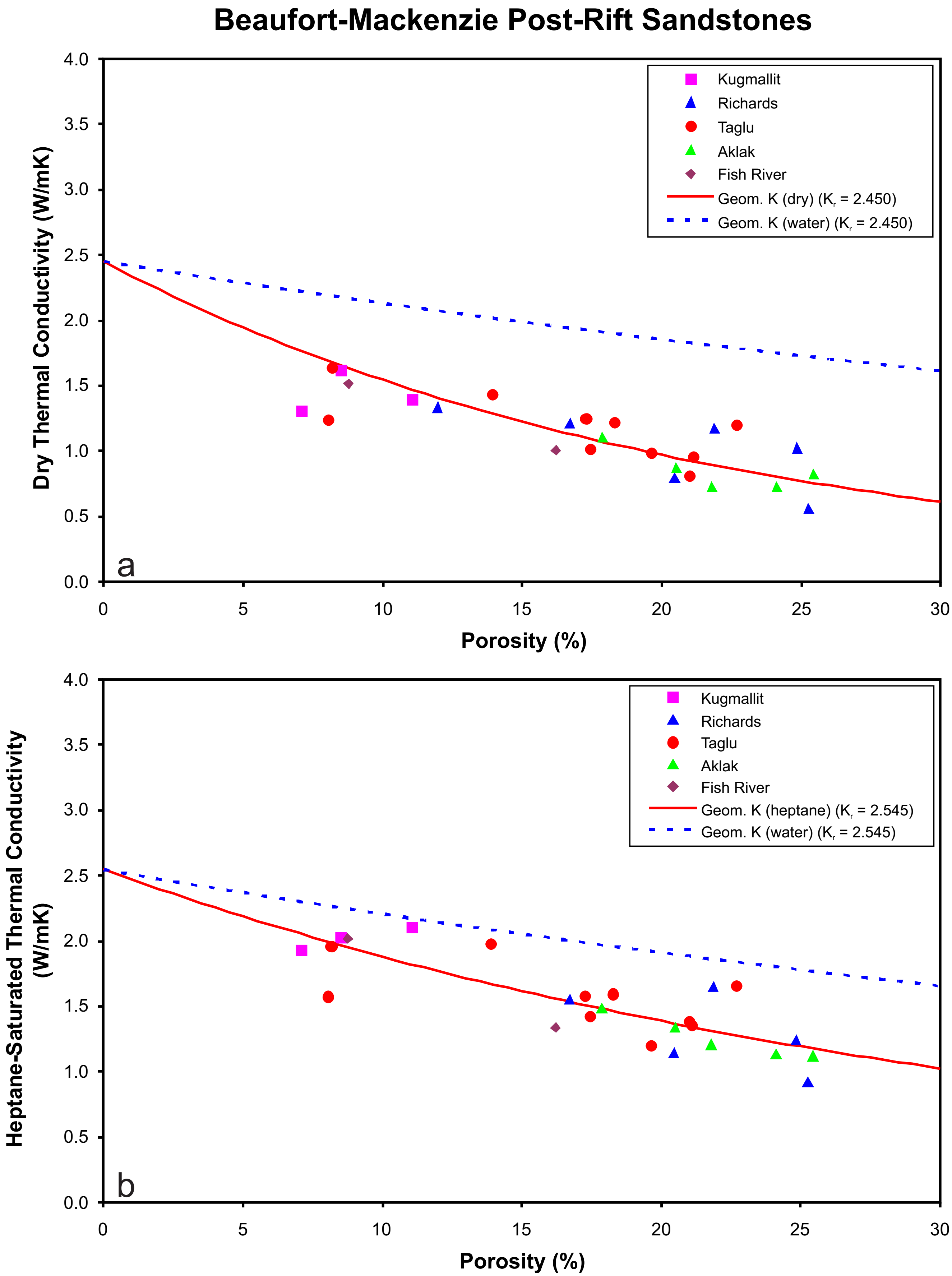

Figure 7. Average thermal conductivity for (a) dry and (b) heptane-saturated disk samples from Upper Cretaceous-Cenozoic post-rift sandstones of the Beaufort-Mackenzie Basin. Symbols represent samples from different stratigraphic sequences. Red curve is the calculated geometric mean (a) dry and (b) heptane-saturated thermal conductivity based on average sandstone matrix conductivity (K_r) values derived from the disk measurements. Dashed blue curve represents the corresponding calculated water-saturated thermal conductivity.

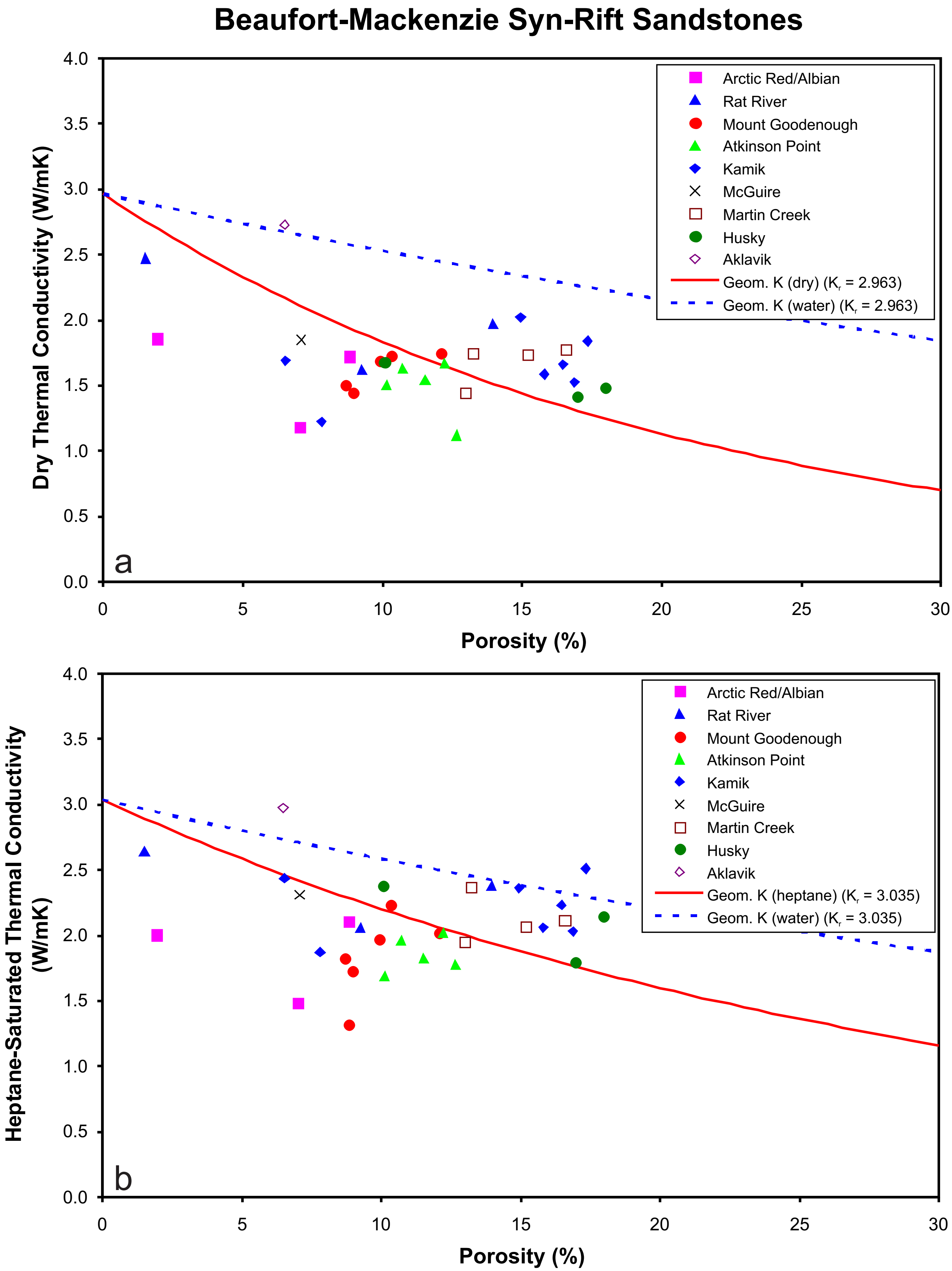

Figure 8. Average thermal conductivity for (a) dry and (b) heptane-saturated disk samples from Jurassic-Lower Cretaceous syn-rift sandstones of the Beaufort-Mackenzie Basin. Symbols represent samples from different stratigraphic sequences. Red curve is the calculated geometric mean (a) dry and (b) heptane-saturated thermal conductivity based on average sandstone matrix conductivity (K_r) values derived from the disk measurements. Dashed blue curve represents the corresponding calculated water-saturated thermal conductivity.

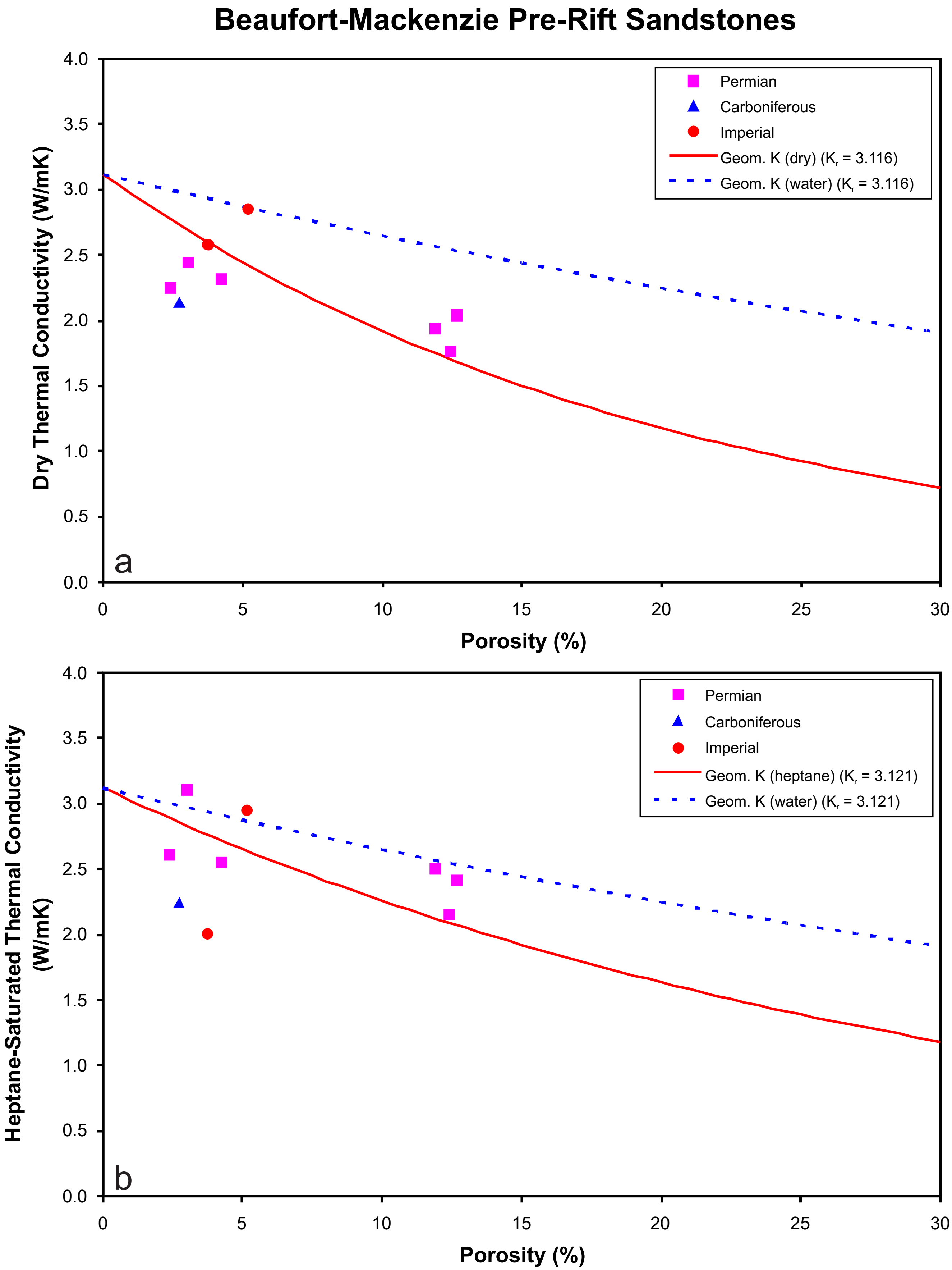

Figure 9. Average thermal conductivity for (a) dry and (b) heptane-saturated disk samples from Paleozoic pre-rift sandstones of the Beaufort-Mackenzie Basin. Symbols represent samples from different stratigraphic sequences. Red curve is the calculated geometric mean (a) dry and (b) heptane-saturated thermal conductivity based on average sandstone matrix conductivity (K_r) values derived from the disk measurements. Dashed blue curve represents the corresponding calculated water-saturated thermal conductivity.

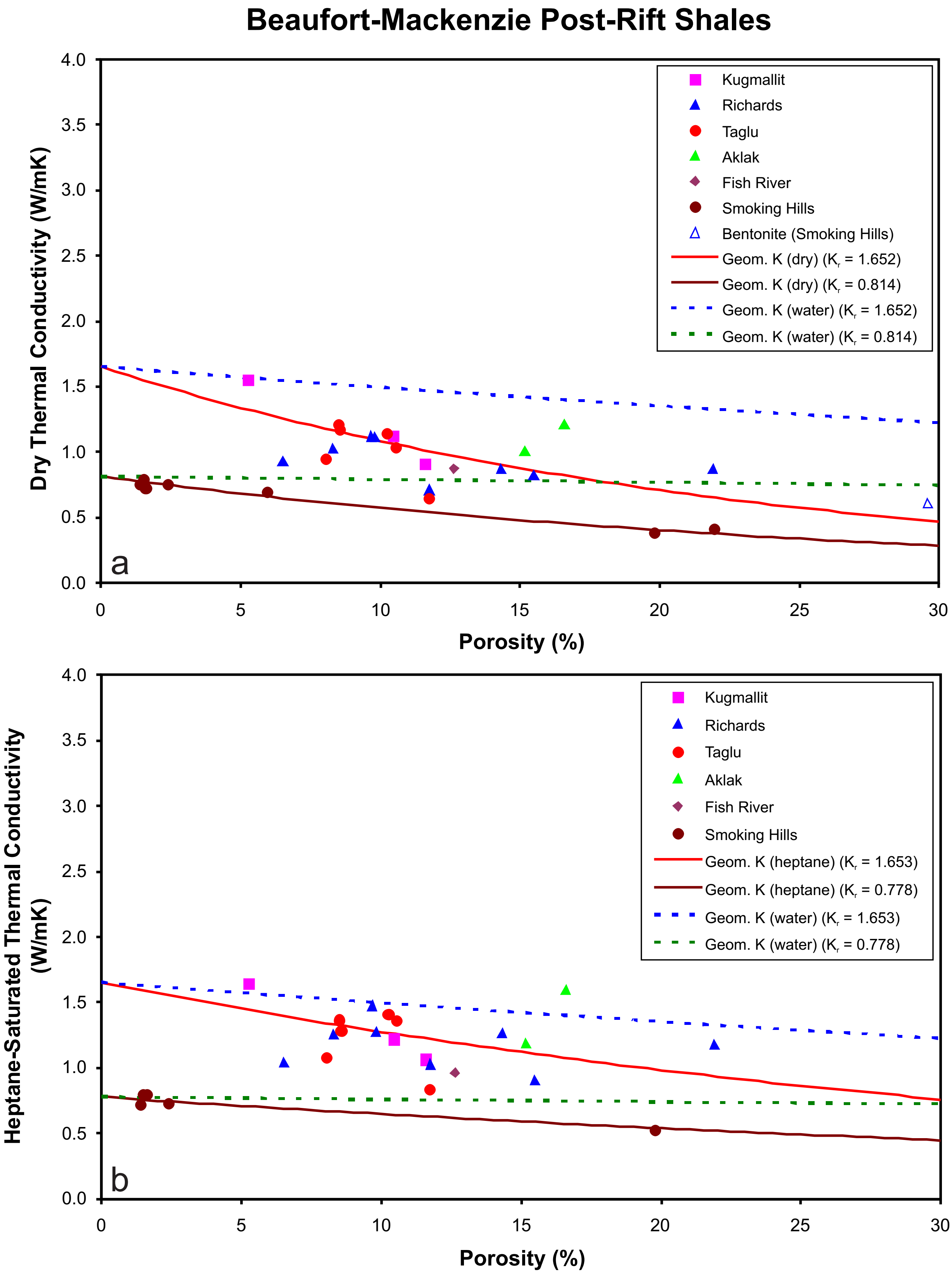

Figure 10. Average thermal conductivity for (a) dry and (b) heptane-saturated disk samples from Upper Cretaceous-Cenozoic post-rift shales of the Beaufort-Mackenzie Basin. Symbols represent samples from different stratigraphic sequences. Red curve is the calculated geometric mean (a) dry and (b) heptane-saturated thermal conductivity based on average shale matrix conductivity (K_r) values derived from the disk measurements. Dashed blue and green curves represent the corresponding calculated water-saturated thermal conductivity.

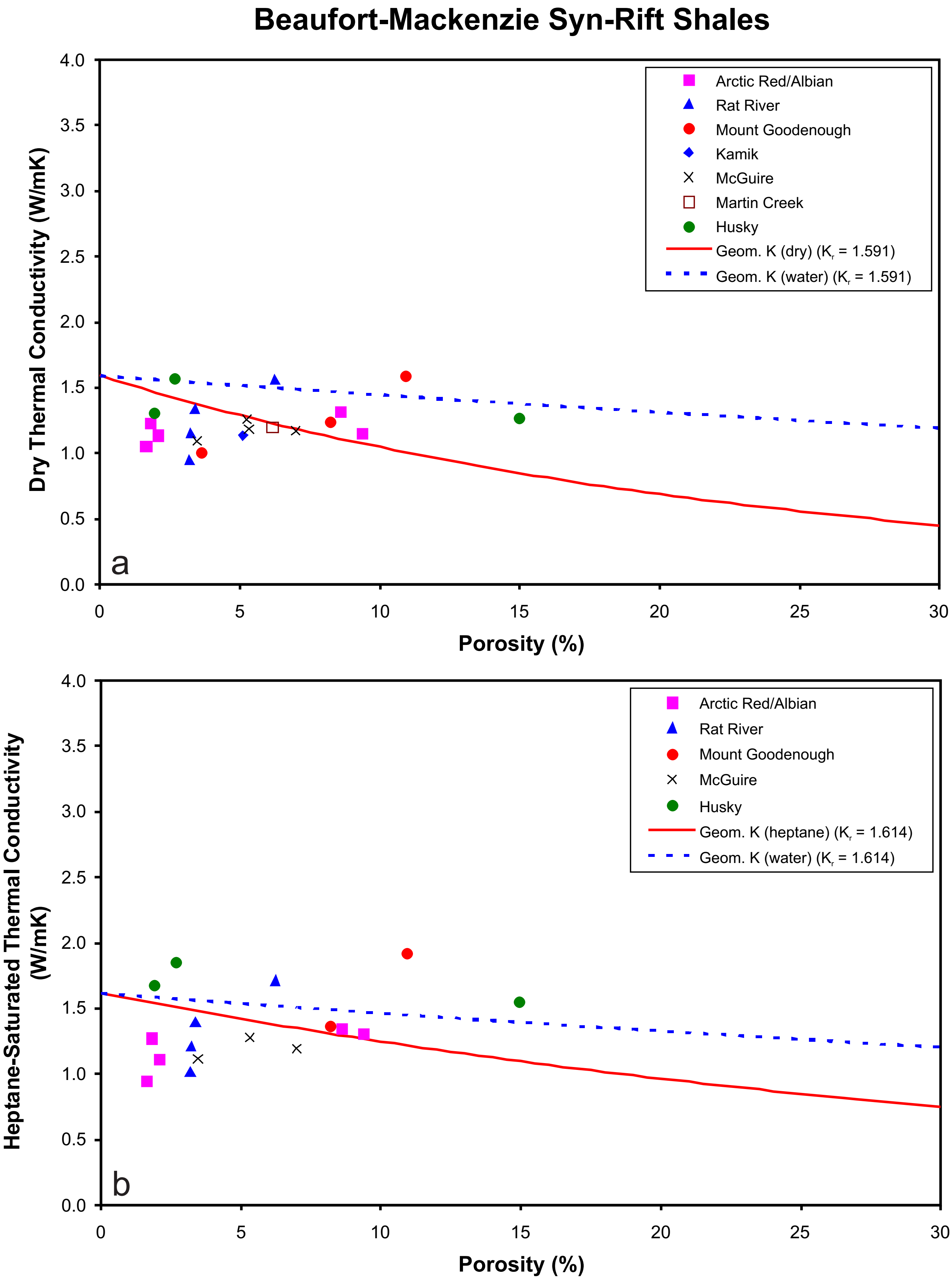

Figure 11. Average thermal conductivity for (a) dry and (b) heptane-saturated disk samples from Jurassic-Lower Cretaceous syn-rift shales of the Beaufort-Mackenzie Basin. Symbols represent samples from different stratigraphic sequences. Red curve is the calculated geometric mean (a) dry and (b) heptane-saturated thermal conductivity based on average shale matrix conductivity (K_r) values derived from the disk measurements. Dashed blue curve represents the corresponding calculated water-saturated thermal conductivity.

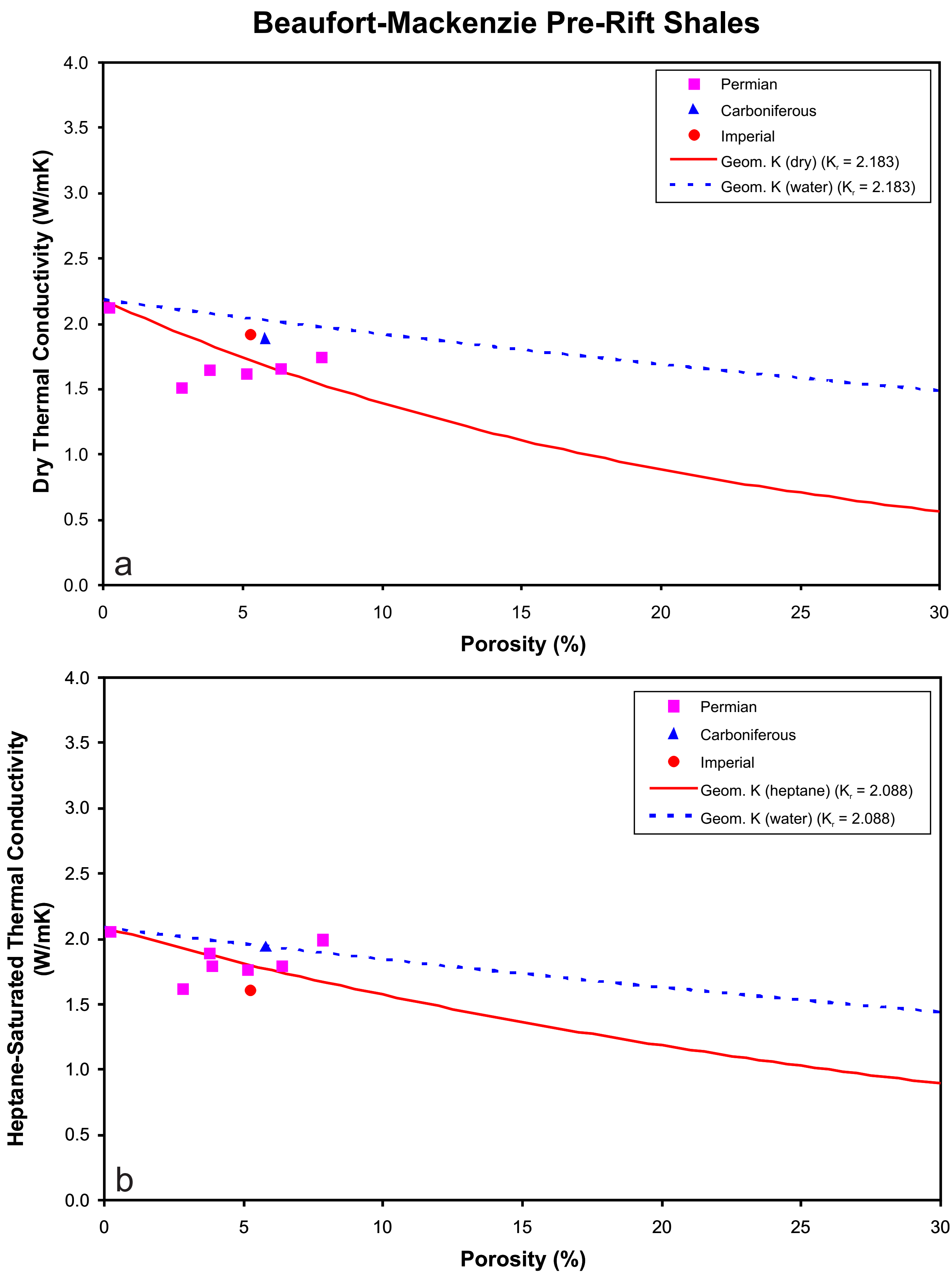

Figure 12. Average thermal conductivity for (a) dry and (b) heptane-saturated disk samples from Paleozoic pre-rift shales of the Beaufort-Mackenzie Basin. Symbols represent samples from different stratigraphic sequences. Red curve is the calculated geometric mean (a) dry and (b) heptane-saturated thermal conductivity based on average shale matrix conductivity (K_r) values derived from the disk measurements. Dashed blue curve represents the corresponding calculated water-saturated thermal conductivity.

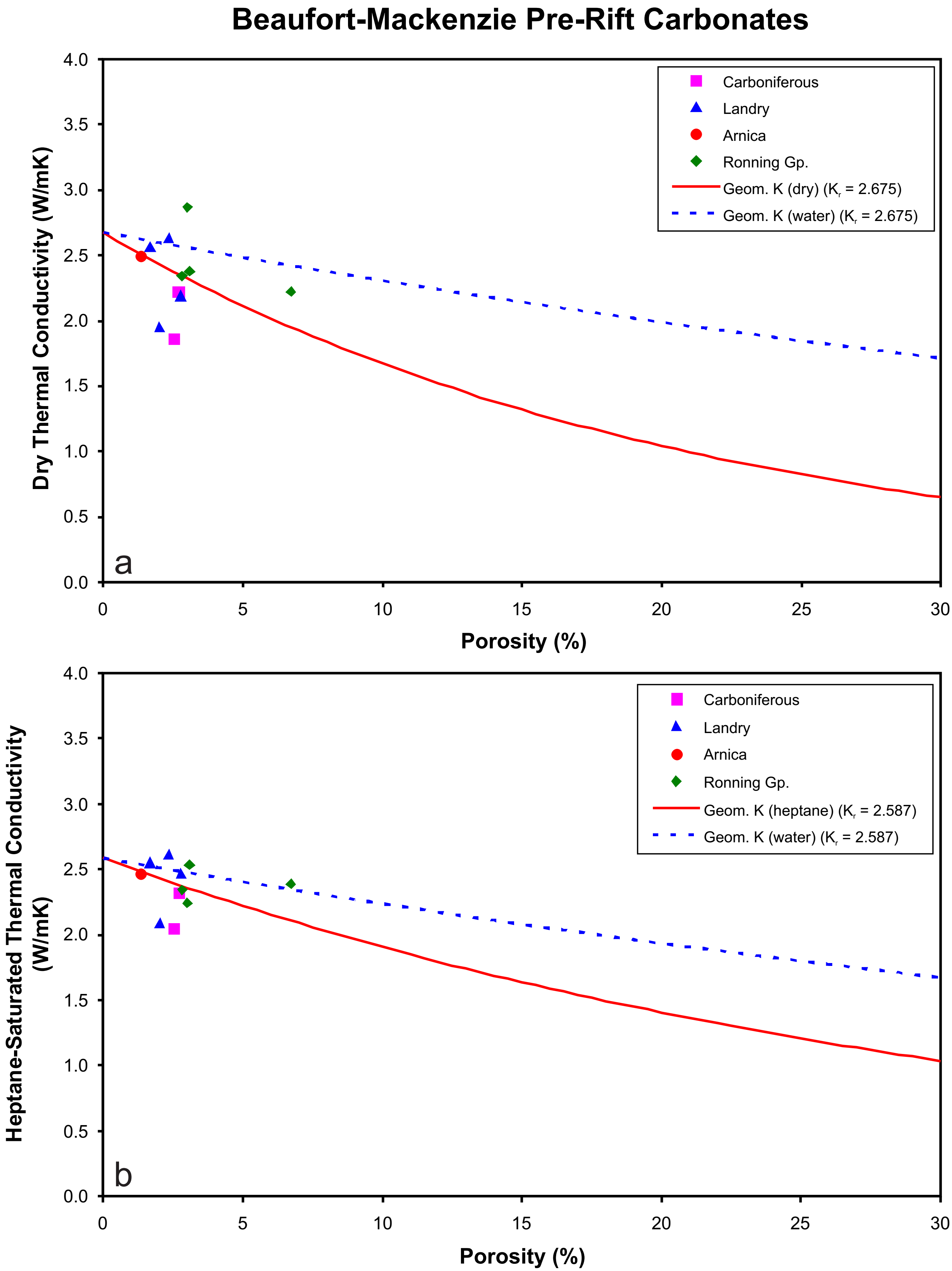

Figure 13. Average thermal conductivity for (a) dry and (b) heptane-saturated disk samples from Paleozoic pre-rift carbonates of the Beaufort-Mackenzie Basin. Symbols represent samples from different stratigraphic sequences. Red curve is the calculated geometric mean (a) dry and (b) heptane-saturated thermal conductivity based on average carbonate matrix conductivity (K_r) values derived from the disk measurements. Dashed blue curve represents the corresponding calculated water-saturated thermal conductivity.

Table 1. Beaufort-Mackenzie core plugs for thermal conductivity measurement

Well Name	No. of planned plugs	No. of plugs cut	Sample Name	Comments
Batch #1 (received Oct. 21, 2002)				
Adlartok P-09	7	7	ADL-01 to ADL-07	ADL-03 poor
Batch #2 (received Nov. 5, 2002)				
Aklavik A-37	1	1	AVK-1	
Atertak L-31	2	2	ATR-01, 02	no conductivity data
Atigi G-04	5	4	ATG-01 to 05	ATG-01 unsuccessful
Atkinson A-55	3	2	ATK-01, 02	ATK-03 unsuccessful
Beaverhouse Creek H-13	2	2	BVR-01, BVR-02	
Blow River E-47	2	2	BLR-01, BLR-02	
Ellice O-14	6	6	ELL-01 to 06	
Fish River B-60	5	5	FR-01 to 05	
Ikhil A-01	2	2	IKH-01, 02	
Ivik J-26	8	8	IVK-01 to 08	
Subtotal	**36**	**34**		
Batch #3 (received Nov. 13, 2002)				
Ivik K-54	1	1	IVKK-01	
Kanguk I-24	3	3	KANG-01 to 03	
Kugmallit H-59	1	1	KUG-01	
Kugpik L-24	5	5	KPKL-01 to 05	KPKL-03 poor
Kugpik O-13	8	7	KPKO-01 to 03, 05 to 08	KPKO-04 not drilled, KPKO-03 poor
Kumak J-06	8	8	KUM-01 to 08	
Mallik L-38	1	1	MAL-01	
Mayogiak G-12	4	4	MAYG-01 to 04	
Mayogiak J-17	5	5	MAYJ-01 to 05	
Subtotal	**36**	**35**		
Batch #4 (received Nov. 21, 2002)				
Napoiak F-31	9	9	NAPF-01 to 09	
Natagnak K-23	3	3	NATK-01 to 03	NatK-01,NATK-02 short friable discs
Nuna A-10	2	2	NUNAA-01, 02	
Nuvorak O-09	3	3	NUVO-01 to 03	
Onigat C-38	2	2	ONGC-01, 02	
Parsons F-09	3	3	PARF-01 to 03	
Parsons N-10	5	5	PARN-01 to 05	
Pikiolik G-21	1	1	PIKG-01	disintegrated, no conductivity data
Pikiolik M-26	1	1	PIKM-01	
Subtotal	**29**	**29**		
Batch #5 (received Dec. 6, 2002)				
Pikiolik E-54	8	8	PIKE-01 to 08	mainly good plugs
Reindeer D-27	8	2	REID-01, 04	REID-05 disintegrated, no conductivity data
Siku E-21	3	2	SIKE-02, 03	SIKE-01 not drilled
Taglu C-42	5	5	TAGC-01 to 05	good recovery
Taglu West P-03	1	1	TAGP-01	disintegrated, no conductivity data
Tuk F-18	7	7	TUKF-01 to 07	TUKF-01 fissile
Tuk J-29	1	0		not drilled, no conductivity data
Subtotal	**33**	**25**		
Batch #6 (received Dec. 11, 2002)				
Tuk L-09	2	2	TUKL-01, 02	good plugs
Tuktu O-19	4	4	TUKO-01 to 04	good recovery
Tullugak K-31	2	2	TULK-01, 02	good recovery
Ulu A-35	3	3	ULUA-01 to 03	ULUA-02 broken but useable
Unak B-11	4	3	UNAB-01, 03, 04	UNAB-02 not drilled
Unak L-28	8	7	UNAL-01, 03 to 08	UNAL-02 not drilled, UNAL-08 diagonally fractured
Unark L-24	4	4	UNRL-01 to 04	
Unark L-24A	9	7	UNRLA-02 to 07, 09	UNRLA-01, 08 not drilled
Subtotal	**36**	**32**		
Total of all samples	**177**	**162**		
Total Wells	**44**	**43**		

Table 2. Core plug lithology and number of disk samples for thermal conductivity measurement

Well Name	Sample Name	Sample Depth (mKB)	Sequence/ Formation	Core Plug Lithology			Initial no. of disk samples	Final no. of disk samples	Comments
				ss	sh	CO_3			
Kugmallit H-59	KUG-01	1756.17	Kugmallit		1		2	2	
Taglu West P-03	TAGP-01	1480.59	Kugmallit		1		0	0	disintegrated
Unark L-24	UNRL-01	2731.27	Kugmallit	1			0	0	
Unark L-24	UNRL-02	2732.77	Kugmallit	1			2	2	
Unark L-24	UNRL-03	2733.8	Kugmallit		1		2	2	
Unark L-24	UNRL-04	2739.77	Kugmallit		1		0	0	
Unark L-24A	UNRLA-02	2955.95	Kugmallit	1			1	1	
Unark L-24A	UNRLA-03	2967.43	Kugmallit	1			2	2	
Unark L-24A	UNRLA-04	2973.73	Kugmallit		1		0	0	
Unark L-24A	UNRLA-05	2977.95	Kugmallit		1		2	2	
Subtotal				4	6	0	11	11	
Ivik J-26	IVK-01	2489.97	Richards	1			2	0	friable
Ivik J-26	IVK-02	2491.68	Richards	1			2	2	
Ivik J-26	IVK-03	2688.18	Richards	1			2	2	
Ivik J-26	IVK-04	2694.25	Richards	1			2	1	
Ivik J-26	IVK-05	3115.36	Richards		1		2	1	
Ivik J-26	IVK-06	3116.58	Richards		1		1	0	
Ivik J-26	IVK-07	3199.09	Richards		1		2	1	
Ivik J-26	IVK-08	3200.7	Richards		1		2	2	
Ivik K-54	IVKK-01	2924.9	Richards		1		2	2	
Mallik L-38	MAL-01	2303.07	Richards		1		2	1	
Taglu C-42	TAGC-01	2582.96	Richards	1			2	2	
Taglu C-42	TAGC-02	2591.98	Richards		1		1	1	
Unark L-24A	UNRLA-06	3873.67	Richards	1			2	2	
Unark L-24A	UNRLA-07	3893.55	Richards	1			1	1	
Unark L-24A	UNRLA-09	3917.29	Richards		1		1	1	
Subtotal				7	8	0	26	19	
Ellice O-14	ELL-01	1603.55	Taglu	1			2	2	
Ellice O-14	ELL-02	1610.3	Taglu	1			2	2	
Ellice O-14	ELL-03	1917.04	Taglu		1		1	1	
Ellice O-14	ELL-04	1918.65	Taglu		1		2	2	
Ellice O-14	ELL-05	1921.33	Taglu		1		2	2	
Ellice O-14	ELL-06	1924	Taglu	1			2	2	
Kumak J-06	KUM-01	1370.08	Taglu		1		2	2	
Kumak J-06	KUM-02	1373.73	Taglu	1			2	2	
Kumak J-06	KUM-03	1379.68	Taglu	1			2	2	
Kumak J-06	KUM-04	2174.44	Taglu	1			2	2	
Kumak J-06	KUM-05	2182.67	Taglu	1			2	1	
Kumak J-06	KUM-06	2296.12	Taglu	1			2	2	
Kumak J-06	KUM-07	2303.43	Taglu		1		0	0	
Kumak J-06	KUM-08	2306.42	Taglu	1			2	2	
Taglu C-42	TAGC-03	2880.84	Taglu		1		1	1	
Taglu C-42	TAGC-04	2891.17	Taglu	1			2	2	
Taglu C-42	TAGC-05	2896.46	Taglu		1		4	4	
Subtotal				10	7	0	32	31	
Adlartok P-09	ADL-01	1766.86	Aklak	1			2	1	
Adlartok P-09	ADL-02	1767.42	Aklak	1			2	2	
Adlartok P-09	ADL-03	1770.86	Aklak	1			2	0	poor
Adlartok P-09	ADL-04	1775.99	Aklak		1		2	2	glued
Adlartok P-09	ADL-05	1781.78	Aklak		1		2	2	
Adlartok P-09	ADL-06	1869.96	Aklak	1			2	2	
Adlartok P-09	ADL-07	1873.14	Aklak	1			3	3	
Subtotal				5	2	0	15	12	
Ulu A-35	ULUA-01	1474.99	Fish River (Moose Channel)	1			2	2	

Well Name	Sample Name	Sample Depth (mKB)	Sequence/ Formation	Core Plug Lithology			Initial no. of disk samples	Final no. of disk samples	Comments
				ss	sh	CO_3			
Reindeer D-27	REID-01	2920.16	Fish River		1		0	0	disintegrated
Reindeer D-27	REID-04	3159.76	Fish River		1		0	0	disintegrated
Tuk F-18	TUKF-01	2171.37	Fish River		1		1	1	
Tuk F-18	TUKF-02	2171.97	Fish River	1			2	2	
Tuk F-18	TUKF-03	2175.24	Fish River		1		0	0	poor
Subtotal				2	4	0	5	5	
Kugpik O-13	KPKO-01	1987.75	Smoking Hills		1		2	2	
Kugpik O-13	KPKO-02	1990.83	Smoking Hills		1		2	2	
Kugpik O-13	KPKO-03	2122.78	Smoking Hills		1		2	0	poor
Kugpik L-24	KPKL-01	2007.6	Smoking Hills		1		2	2	
Kugpik L-24	KPKL-02	2011.68	Smoking Hills		1		1	0	
Tuk F-18	TUKF-04	2464.59	Smoking Hills		1		0	0	poor
Pikiolik G-21	PIKG-01	1316.45	Smoking Hills		1		0	0	poor
Kanguk I-24	KANG-01	1196	Smoking Hills		1		1	0	bentonite
Kanguk I-24	KANG-02	1199.2	Smoking Hills		1		2	0	
Kanguk I-24	KANG-03	1199.4	Smoking Hills		1		2	0	
Subtotal				0	10	0	14	6	
Atigi G-04	ATG-02	2306.47	Arctic Red		1		2	2	
Atigi G-04	ATG-03	2306.85	Arctic Red		1		2	2	
Natagnak K-23	NATK-01	1392	Arctic Red		1		1	1	
Natagnak K-23	NATK-02	1397.11	Arctic Red		1		2	1	
Pikiolik E-54	PIKE-01	2388.45	Arctic Red		1		0	0	
Pikiolik E-54	PIKE-02	2389.7	Arctic Red	1			2	2	
Pikiolik E-54	PIKE-03	2391.56	Arctic Red	1			2	2	
Fish River B-60	FR-01	2447.85	Albian flysch		1		2	0	
Fish River B-60	FR-02	2450.6	Albian flysch		1		2	0	
Blow River E-47	BLR-01	3386.94	Albian flysch	1			2	2	
Blow River E-47	BLR-02	3387.67	Albian flysch		1		2	2	
Subtotal				3	8	0	19	14	
Fish River B-60	FR-03	2631.4	Rat River		1		2	1	
Fish River B-60	FR-04	2632.32	Rat River	1			1	1	
Fish River B-60	FR-05	2633.01	Rat River		1		1	0	
Mayogiak G-12	MAYG-01	2474.75	Rat River		1		2	2	
Mayogiak G-12	MAYG-02	2478	Rat River	1			2	2	
Mayogiak G-12	MAYG-03	2482.4	Rat River	1			2	2	
Mayogiak G-12	MAYG-04	2485.45	Rat River		1		2	2	
Napoiak F-31	NAPF-01	696.42	Mount Goodenough	1			2	2	
Napoiak F-31	NAPF-02	697.76	Mount Goodenough		1		2	2	
Atertak L-31	ATR-01	2586.2	Mount Goodenough		1		2	0	
Atertak L-31	ATR-02	2586.45	Mount Goodenough		1		2	0	
Tuk L-09	TUKL-01	2607.75	Mount Goodenough	1			2	2	
Tuk L-09	TUKL-02	2608.2	Mount Goodenough	1			2	2	
Pikiolik E-54	PIKE-06	2591.26	Mount Goodenough	1			2	2	
Tuk F-18	TUKF-05	2784.6	Mount Goodenough		1		1	1	
Tuk F-18	TUKF-06	2872.83	Mount Goodenough	1			2	2	
Tuk F-18	TUKF-07	2881.87	Mt Goodenough (Siku Mbr)		1		0	0	
Atigi G-04	ATG-04	2723.2	Mt Goodenough (Siku Mbr)		1		2	0	
Atigi G-04	ATG-05	2724.76	Mt Goodenough (Siku Mbr)		1		1	0	
Unak B-11	UNAB-01	1198.04	Mt Goodenough (Siku Mbr)	1			1	1	
Tuktu O-19	TUKO-01	1988.4	Atkinson Pt.	1			2	2	
Tuktu O-19	TUKO-02	1992.78	Atkinson Pt.	1			2	2	
Pikiolik E-54	PIKE-04	2472.12	Atkinson Pt.	1			2	2	
Pikiolik E-54	PIKE-05	2475.43	Atkinson Pt.	1			1	1	
Atkinson A-55	ATK-01	2027.04	Atkinson Pt.	1			2	2	
Atkinson A-55	ATK-02	2030.39	Atkinson Pt.	1			2	2	
Subtotal				15	11	0	44	35	

Well Name	Sample Name	Sample Depth (mKB)	Sequence/ Formation	Core Plug Lithology			Initial no. of disk samples	Final no. of disk samples	Comments
				ss	sh	CO_3			
Ikhil A-01	IKH-01	2302.31	Kamik (Parsons Gp.)	1			2	2	
Ikhil A-01	IKH-02	2308.5	Kamik (Parsons Gp.)	1			2	2	
Unak L-28	UNAL-01	2046.65	Kamik (Parsons Gp.)	1			2	2	
Unak L-28	UNAL-03	2069.75	Kamik (Parsons Gp.)	1			1	1	
Unak L-28	UNAL-04	2075.32	Kamik (Parsons Gp.)	1			0	0	
Unak L-28	UNAL-05	2091.75	Kamik (Parsons Gp.)	1			2	2	
Unak L-28	UNAL-06	2159.61	Kamik (Parsons Gp.)		1		0	0	
Unak L-28	UNAL-07	2163.18	Kamik (Parsons Gp.)	1			2	2	
Siku E-21	SIKE-02	3046.31	Kamik (Parsons Gp.)	1			2	2	
Siku E-21	SIKE-03	3047.86	Kamik (Parsons Gp.)		1		0	0	
Subtotal				8	2	0	13	13	
Parsons N-10	PARN-01	2844.29	McGuire (Parsons Gp.)		1		1	1	
Parsons N-10	PARN-02	2846.86	McGuire (Parsons Gp.)		1		2	2	
Parsons F-09	PARF-01	2994.54	McGuire (Parsons Gp.)		1		1	1	
Parsons F-09	PARF-02	2998.24	McGuire (Parsons Gp.)		1		2	2	
Parsons F-09	PARF-03	2998.59	McGuire (Parsons Gp.)	1			2	2	
Subtotal				1	4	0	8	8	
Parsons N-10	PARN-03	2853.44	Martin Creek (Parsons Gp.)	1			2	2	
Parsons N-10	PARN-04	2859.27	Martin Creek (Parsons Gp.)	1			2	2	
Parsons N-10	PARN-05	2869.77	Martin Creek (Parsons Gp.)	1			2	2	
Tullugak K-31	TULK-01	2011.6	Martin Creek (Parsons Gp.)		1		1	1	
Tullugak K-31	TULK-02	2023.03	Martin Creek (Parsons Gp.)	1			2	2	
Subtotal				4	1	0	9	9	
Unak L-28	UNAL-08	3252.54	Husky		1		0	0	fractured
Kugpik O-13	KPKO-05	2953.02	Husky		1		2	2	
Kugpik O-13	KPKO-06	2955.5	Husky		1		2	2	
Kugpik L-24	KPKL-03	2264.24	Husky		1		2	0	
Tuktu O-19	TUKO-03	2099.03	Husky	1			2	1	
Tuktu O-19	TUKO-04	2101.6	Husky	1			2	2	
Pikiolik E-54	PIKE-07	2696.12	Husky		1		0	0	
Pikiolik E-54	PIKE-08	2701.7	Husky		1		0	0	
Onigat C-38	ONGC-01	1198.17	Husky		1		2	2	
Onigat C-38	ONGC-02	1200.44	Husky	1			2	2	
Aklavik A-37	AVK-01	1588.88	Aklavik (Bug Creek Gp.)	1			2	2	
Subtotal				4	7	0	16	13	
Kugpik O-13	KPKO-07	3098.14	Permian	1			2	2	
Kugpik O-13	KPKO-08	3101.04	Permian	1			2	2	
Kugpik L-24	KPKL-04	2496.92	Permian	1			2	2	
Kugpik L-24	KPKL-05	2501.54	Permian	1			2	2	
Napoiak F-31	NAPF-03	1243.46	Permian (Jungle Creek)		1		2	2	
Napoiak F-31	NAPF-04	1245.34	Permian (Jungle Creek)	1			2	2	
Napoiak F-31	NAPF-05	1255.57	Permian (Jungle Creek)	1			2	2	
Beaverhouse Creek H-13	BVR-01	1478.97	Permian (Longstick)		1		2	2	
Beaverhouse Creek H-13	BVR-02	1483.5	Permian (Longstick)		1		2	2	
Unak B-11	UNAB-03	2894.72	Permian (Jungle Creek)		1		1	1	
Unak B-11	UNAB-04	2898.19	Permian (Jungle Creek)		1		2	2	
Ulu A-35	ULUA-02	2940.8	Permian (Longstick)		1		1	1	
Ulu A-35	ULUA-03	2948.33	Permian (Longstick)		1		2	2	
Subtotal				6	7	0	24	24	
Napoiak F-31	NAPF-06	1514.94	Carboniferous			1	2	2	
Napoiak F-31	NAPF-07	1517.22	Carboniferous			1	1	1	
Napoiak F-31	NAPF-08	1517.85	Carboniferous	1			2	2	
Napoiak F-31	NAPF-09	1521.86	Carboniferous		1		2	2	
Subtotal				1	1	2	7	7	
Nuvorak O-09	NUVO-01	1050.15	Imperial	1			2	2	
Nuvorak O-09	NUVO-02	1053.36	Imperial	1			2	2	

Well Name	Sample Name	Sample Depth (mKB)	Sequence/ Formation	Core Plug Lithology ss	sh	CO_3	Initial no. of disk samples	Final no. of disk samples	Comments
Nuvorak O-09	NUVO-03	1060.54	Imperial		1		2	2	
Subtotal				2	1	0	6	6	
Mayogiak J-17	MAYJ-01	2892.95	Landry			1	2	2	
Mayogiak J-17	MAYJ-02	2901.06	Landry			1	2	2	
Mayogiak J-17	MAYJ-03	2903.57	Landry			1	2	2	
Mayogiak J-17	MAYJ-04	2918.41	Landry			1	2	2	
Mayogiak J-17	MAYJ-05	3682.6	Arnica			1	2	2	
Natagnak K-23	NATK-03	1512.15	Ronning Gp. (M. Ord.)			1	2	2	
Nuna A-10	NUNAA-01	3245.36	Ronning Gp.			1	3	3	
Nuna A-10	NUNAA-02	3249.84	Ronning Gp.			1	3	3	
Pikiolik M-26	PIKM-01	1718.09	Ronning Gp.			1	2	2	
Subtotal				0	0	9	20	20	
Grand Total				72	79	11	269	233	

Table 3. Average dry thermal conductivity for 136 combined splits from Beaufort-Mackenzie core plugs

Lithology Code: 1 - sandstone; 2 - shale; 3 - carbonate
Age Code: 1 - Upper Cretaceous-Cenozoic post-rift; 2 - Mesozoic syn-rift; 3 - Paleozoic pre-rift

Sample	Rock Unit	Lithology	Lith Code	Age Code	Depth (mKB)	All Trials: Average K_{dry} (W/mK)	All Trials: Stand. Dev. (W/mK)	All Trials: Total # trials	Porosity Vol. Frac.	Porosity (%)	Selected Trials: Average K_{dry} (W/mK)	Selected Trials: Standard Deviation (W/mK)	Selected Trials: Standard Deviation (%)	# trials used	Plug Qual.
ADL-01	Aklak	ss	1	1	1766.90	0.727	0.096	9	0.241	24.1	0.727	0.096	13.2	9	d
ADL-02	Aklak	f.g. ss	1	1	1767.40	1.107	0.118	12	0.179	17.9	1.107	0.118	10.7	12	a
ADL-03	Aklak	ss	1	1	1770.9	0.823	0.057	5	0.254	25.4	0.823	0.057	6.9	5	d
ADL-06	Aklak	ss	1	1	1870.00	5.539	16.674	12	0.218	21.8	0.725	0.083	11.4	11	b,d
ADL-07	Aklak	ss	1	1	1873.1	0.871	0.229	17	0.205	20.5	0.871	0.229	26.3	17	c,b,b
TUKF-02	Fish River	ss	1	1	2171.97	1.517	0.287	9	0.088	8.8	1.517	0.287	18.9	9	a
ULUA-01	Fish River	ss	1	1	1474.99	1.199	0.734	12	0.162	16.2	1.005	0.316	31.5	11	b,a
UNRL-02	Kugmallit	ss	1	1	2732.77	1.311	0.420	12	0.071	7.1	1.311	0.420	32.1	12	b
UNRLA-02	Kugmallit	ss	1	1	2955.95	1.398	0.527	6	0.110	11.0	1.398	0.527	37.7	6	a
UNRLA-03	Kugmallit	ss	1	1	2967.43	1.619	0.441	12	0.085	8.5	1.619	0.441	27.3	12	a
IVK-01	Richards	ss	1	1	2489.97	1.333	0.180	6	0.120	12.0	1.333	0.180	13.5	6	d
IVK-02	Richards	ss	1	1	2491.68	1.379	0.312	9	0.248	24.8	1.022	0.173	16.9	3	d
IVK-03	Richards	ss	1	1	2688.18	1.021	0.453	11	0.253	25.3	0.560	0.115	20.5	5	d
TAGC-01	Richards	ss	1	1	2582.96	0.793	0.163	12	0.205	20.5	0.793	0.163	20.5	12	b
UNRLA-06	Richards	ss	1	1	3873.67	1.209	0.248	12	0.167	16.7	1.209	0.248	20.5	12	a
UNRLA-07	Richards	ss	1	1	3893.55	1.169	0.267	6	0.219	21.9	1.169	0.267	22.9	6	a
ELL-01	Taglu	ss	1	1	1603.55	0.809	0.231	12	0.210	21.0	0.809	0.231	28.5	12	a
ELL-02	Taglu	ss	1	1	1610.30	1.017	0.171	12	0.174	17.4	1.017	0.171	16.8	12	a
ELL-06	Taglu	shaly ss	1	1	1924.00	1.243	0.220	12	0.080	8.0	1.243	0.220	17.7	12	a
KUM-02	Taglu	ss	1	1	1373.73	4.586	12.481	12	0.196	19.6	0.983	0.152	15.5	11	b,a
KUM-03	Taglu	ss	1	1	1379.68	1.221	0.167	12	0.183	18.3	1.221	0.167	13.7	12	a
KUM-04	Taglu	ss	1	1	2174.44	1.248	0.177	12	0.173	17.3	1.248	0.177	14.1	12	a
KUM-05	Taglu	ss	1	1	2182.67	1.205	0.090	12	0.227	22.7	1.205	0.090	7.5	12	a
KUM-06	Taglu	ss	1	1	2296.12	1.434	0.184	12	0.139	13.9	1.434	0.184	12.8	12	a
KUM-08	Taglu	shaly ss	1	1	2306.42	1.505	0.268	12	0.082	8.2	1.640	0.125	7.7	9	a
TAGC-04	Taglu	ss	1	1	2891.17	0.959	0.231	10	0.211	21.1	0.959	0.231	24.1	10	b,c
AVK-01	Aklavik	ss	1	2	1588.88	2.729	0.555	12	0.065	6.5	2.729	0.555	20.4	12	a,b
BLR-01	Albian flysch	f.g. ss	1	2	3386.94	1.857	1.007	12	0.019	1.9	1.857	1.007	54.2	12	a
PIKE-02	Arctic Red	shaly ss	1	2	2389.70	1.178	0.173	6	0.070	7.0	1.178	0.173	14.7	6	a,b
PIKE-03	Arctic Red	shaly ss	1	2	2391.56	1.722	0.655	12	0.088	8.8	1.722	0.655	38.0	12	a,b
ATK-01	Atkinson Pt.	ss	1	2	2027.00	1.119	0.188	10	0.126	12.6	1.119	0.188	16.8	10	a

Sample	Rock Unit	Lithology	Lith Code	Age Code	Depth (mKB)	All Trials Average K_{dry} (W/mK)	All Trials Stand. Dev. (W/mK)	Total # trials	Porosity Vol. Frac.	Porosity (%)	Selected Trials Average K_{dry} (W/mK)	Selected Trials Standard Deviation (W/mK)	Selected Trials Standard Deviation (%)	# trials used	Plug Qual.
ATK-02	Atkinson Pt.	ss	1	2	2030.4	1.673	0.255	12	0.122	12.2	1.673	0.255	15.2	12	b,c
PIKE-04	Atkinson Pt.	shaly ss	1	2	2472.12	1.389	0.396	9	0.115	11.5	1.539	0.299	19.5	7	a
TUKO-01	Atkinson Pt.	muddy ss	1	2	1988.40	1.881	0.655	6	0.107	10.7	1.629	0.242	14.8	5	a,b
TUKO-02	Atkinson Pt.	muddy ss	1	2	1992.78	1.504	0.288	6	0.101	10.1	1.504	0.288	19.1	6	a
ONGC-02	Husky	shaly ss	1	2	1200.44	1.681	0.586	12	0.101	10.1	1.681	0.586	34.9	12	a,b
TUKO-03	Husky	ss	1	2	2099.03	1.418	0.161	3	0.170	17.0	1.418	0.161	11.3	3	b
TUKO-04	Husky	ss	1	2	2101.60	1.483	0.214	6	0.180	18.0	1.483	0.214	14.4	6	a,b
IKH-01	Kamik	ss	1	2	2302.31	1.223	0.190	12	0.078	7.8	1.223	0.190	15.5	12	a
IKH-02	Kamik	ss	1	2	2308.50	1.690	0.470	12	0.065	6.5	1.690	0.470	27.8	12	a
SIKE-02	Kamik	ss	1	2	3046.31	1.523	0.585	12	0.169	16.9	1.523	0.585	38.4	12	a
UNAL-01	Kamik	ss	1	2	2046.65	2.019	0.490	12	0.149	14.9	2.019	0.490	24.3	12	a
UNAL-03	Kamik	ss	1	2	2069.75	2.018	0.466	6	0.173	17.3	1.838	0.164	8.9	5	b
UNAL-05	Kamik	ss	1	2	2091.75	1.659	0.260	12	0.165	16.5	1.659	0.260	15.7	12	a,b
UNAL-07	Kamik	ss	1	2	2163.18	2.117	1.026	12	0.158	15.8	1.585	0.184	11.6	9	a
PARN-03	Martin Creek	ss	1	2	2853.44	1.443	0.237	12	0.130	13.0	1.443	0.237	16.4	12	b,a
PARN-04	Martin Creek	ss	1	2	2859.27	1.748	0.273	12	0.132	13.2	1.748	0.273	15.6	12	a
PARN-05	Martin Creek	ss	1	2	2869.77	1.733	0.269	12	0.152	15.2	1.733	0.269	15.5	12	b,a
TULK-02	Martin Creek	ss	1	2	2023.03	1.772	0.410	9	0.166	16.6	1.772	0.410	23.2	9	a
PARF-03	McGuire	ss	1	2	2998.59	1.850	0.365	12	0.071	7.1	1.850	0.365	19.7	12	a,b
NAPF-01	Mount Goodenough	shaly ss	1	2	696.42	1.742	0.460	12	0.121	12.1	1.742	0.460	26.4	12	a
PIKE-06	Mount Goodenough	shaly ss	1	2	2591.26	1.727	0.348	9	0.103	10.3	1.727	0.348	20.1	9	a,b
TUKF-06	Mount Goodenough	ss	1	2	2872.83	1.288	0.401	12	0.090	9.0	1.444	0.335	23.2	9	b
TUKL-01	Mount Goodenough	ss	1	2	2607.75	1.686	0.172	6	0.099	9.9	1.686	0.172	10.2	6	a
TUKL-02	Mount Goodenough	shaly ss	1	2	2608.20	1.503	0.172	6	0.087	8.7	1.503	0.172	11.4	6	a,b
MAYG-02	Rat River	muddy ss	1	2	2478.00	1.971	0.537	12	0.140	14.0	1.971	0.537	27.3	12	a
MAYG-03	Rat River	muddy ss	1	2	2482.40	1.619	0.424	12	0.092	9.2	1.619	0.424	26.2	12	c,a
FR-04	Rat River	ss	1	2	2632.32	2.471	0.272	6	0.015	1.5	2.471	0.272	11.0	6	b
NAPF-08	Carboniferous	ss	1	3	1517.85	2.135	0.608	12	0.027	2.7	2.135	0.608	28.5	12	a
NUVO-01	Imperial	shaly ss	1	3	1050.15	2.585	0.606	15	0.037	3.7	2.585	0.606	23.4	15	b,a
NUVO-02	Imperial	ss	1	3	1053.36	2.858	0.761	12	0.052	5.2	2.858	0.761	26.6	12	b,a
KPKL-04	Permian	ss	1	3	2496.92	2.320	0.418	12	0.042	4.2	2.320	0.418	18.0	12	a
KPKL-05	Permian	ss	1	3	2501.54	1.939	0.269	12	0.119	11.9	1.939	0.269	13.9	12	a
KPKO-07	Permian	muddy ss	1	3	3098.14	2.446	0.391	12	0.030	3.0	2.446	0.391	16.0	12	a
KPKO-08	Permian	muddy ss	1	3	3101.04	2.256	0.335	12	0.024	2.4	2.256	0.335	14.9	12	a
NAPF-04	Permian (Jungle Ck)	shaly ss	1	3	1245.34	1.770	0.232	12	0.124	12.4	1.770	0.232	13.1	12	a
NAPF-05	Permian (Jungle Ck)	ss	1	3	1255.57	2.043	0.211	12	0.126	12.6	2.043	0.211	10.4	12	a

Sample	Rock Unit	Lithology	Lith Code	Age Code	Depth (mKB)	All Trials Average K_{dry} (W/mK)	All Trials Stand. Dev. (W/mK)	Total # trials	Porosity Vol. Frac.	Porosity (%)	Selected Trials Average K_{dry} (W/mK)	Selected Trials Standard Deviation (W/mK)	Selected Trials Standard Deviation (%)	# trials used	Plug Qual.
ADL-04	Aklak	mdst	2	1	1776.00	1.004	0.194	12	0.152	15.2	1.004	0.194	19.4	12	c,a
ADL-05	Aklak	sandy sh	2	1	1781.80	1.208	0.079	12	0.166	16.6	1.208	0.079	6.5	12	b,a
TUKF-01	Fish River	sh	2	1	2171.37	0.636	0.262	6	0.126	12.6	0.874	0.007	0.8	3	b
KUG-01	Kugmallit	sh	2	1	1756.17	1.548	0.273	12	0.053	5.3	1.548	0.273	17.6	12	a
UNRL-03	Kugmallit	sh	2	1	2733.80	0.912	0.119	12	0.116	11.6	0.912	0.119	13.1	12	a
UNRLA-05	Kugmallit	sh	2	1	2977.95	1.123	0.225	12	0.104	10.4	1.123	0.225	20.0	12	b
IVK-04	Richards	sh	2	1	2694.25	0.873	0.108	9	0.219	21.9	0.873	0.108	12.4	9	a
IVK-05	Richards	sh	2	1	3115.36	1.025	0.157	9	0.083	8.3	1.025	0.157	15.3	9	a
IVK-07	Richards	sh	2	1	3199.09	1.117	0.267	9	0.098	9.8	1.117	0.267	23.9	9	a
IVK-08	Richards	sh	2	1	3200.70	7.420	21.829	12	0.097	9.7	1.118	0.154	13.8	11	a
IVKK-01	Richards	slty mdst	2	1	2924.90	0.711	0.119	15	0.117	11.7	0.711	0.119	16.8	15	b,a
MAL-01	Richards	lam sh	2	1	2303.07	0.932	0.084	8	0.065	6.5	0.932	0.084	9.0	8	c
TAGC-02	Richards	sandy sh	2	1	2591.98	0.868	0.101	6	0.143	14.3	0.868	0.101	11.7	6	b
UNRLA-09	Richards	sh	2	1	3917.29	0.822	0.257	6	0.155	15.5	0.822	0.257	31.2	6	a
KANG-01	Smoking Hills	bentonite	2	1	1196.00	0.607	0.002	3	0.296	29.6	0.607	0.002	0.3	3	
KANG-02	Smoking Hills	sh (bent.)	2	1	1199.20	0.695	0.015	6	0.059	5.9	0.695	0.015	2.2	6	
KANG-03	Smoking Hills	sh (bent.)	2	1	1199.40	0.751	0.008	6	0.024	2.4	0.751	0.008	1.0	6	
KPKL-01	Smoking Hills	lam black sh	2	1	2007.60	0.754	0.110	12	0.014	1.4	0.754	0.110	14.6	12	c,b
KPKO-01	Smoking Hills	sh	2	1	1987.75	0.790	0.065	12	0.015	1.5	0.790	0.065	8.2	12	a,c
KPKO-02	Smoking Hills	sh	2	1	1990.83	0.723	0.131	12	0.016	1.6	0.723	0.131	18.1	12	a,b
KPKO-03	Smoking Hills	sh	2	1	2122.78	0.723	0.061	6	0.015	1.5	0.723	0.061	8.5	6	
NATK-01	Smoking Hills	mdst	2	1	1392.00	0.414	0.143	8	0.219	21.9	0.414	0.143	34.5	8	d
NATK-02	Smoking Hills	mdst	2	1	1397.11	0.331	0.110	15	0.198	19.8	0.386	0.083	21.5	9	d
ELL-03	Taglu	sh	2	1	1917.04	1.209	0.226	6	0.085	8.5	1.209	0.226	18.7	6	a
ELL-04	Taglu	sh	2	1	1918.65	1.031	0.265	12	0.105	10.5	1.031	0.265	25.7	12	b,a
ELL-05	Taglu	sh	2	1	1921.33	1.176	0.228	12	0.086	8.6	1.176	0.228	19.4	12	a
KUM-01	Taglu	sh	2	1	1370.08	0.577	0.119	9	0.117	11.7	0.647	0.072	11.1	6	b
TAGC-03	Taglu	sh	2	1	2880.84	0.948	0.259	6	0.080	8.0	0.948	0.259	27.3	6	b
TAGC-05	Taglu	sh	2	1	2896.46	1.198	0.354	20	0.102	10.2	1.145	0.269	23.5	19	a,c
BLR-02	Albian flysch	sh	2	2	3387.67	1.230	0.341	11	0.018	1.8	1.230	0.341	27.7	11	a
FR-01	Albian flysch	sh, ss lam.	2	2	2447.85	1.060	0.272	6	0.016	1.6	1.060	0.272	25.7	6	
FR-02	Albian flysch	sh	2	2	2450.60	1.138	0.198	6	0.021	2.1	1.138	0.198	17.4	6	
ATG-02	Arctic Red	sh	2	2	2306.50	1.318	0.263	12	0.086	8.6	1.318	0.263	20.0	12	c,b
ATG-03	Arctic Red	sh	2	2	2306.85	1.167	0.456	12	0.094	9.4	1.156	0.162	14.0	6	c
KPKO-05	Husky	sandy mdst	2	2	2953.02	1.572	0.202	12	0.027	2.7	1.572	0.202	12.8	12	b,a
KPKO-06	Husky	sandy mdst	2	2	2955.50	1.309	0.150	9	0.019	1.9	1.309	0.150	11.5	9	b,a

						All Trials					Selected Trials				
Sample	Rock Unit	Lithology	Lith Code	Age Code	Depth (mKB)	Average K_{dry} (W/mK)	Stand. Dev. (W/mK)	Total # trials	Porosity Vol. Frac.	Porosity (%)	Average K_{dry} (W/mK)	Standard Deviation (W/mK)	Standard Deviation (%)	# trials used	Plug Qual.
ONGC-01	Husky	sandy sh	2	2	1198.17	1.266	0.251	11	0.149	14.9	1.266	0.251	19.8	11	a,b
UNAL-06	Kamik	sh	2	2	2159.61	1.137	0.003	3	0.051	5.1	1.137	0.003	0.2	3	
TULK-01	Martin Creek	sh	2	2	2011.60	1.197	0.218	3	0.061	6.1	1.197	0.218	18.2	3	b
PARF-01	McGuire	sandy sh	2	2	2994.54	1.259	0.168	6	0.052	5.2	1.259	0.168	13.4	6	b
PARF-02	McGuire	sandy sh	2	2	2998.24	1.185	0.140	15	0.053	5.3	1.185	0.140	11.8	15	d,a
PARN-01	McGuire	sh	2	2	2844.29	1.092	0.128	6	0.035	3.5	1.092	0.128	11.7	6	a
PARN-02	McGuire	sh	2	2	2846.86	1.346	0.675	12	0.070	7.0	1.169	0.293	25.0	11	b
NAPF-02	Mount Goodenough	sandy sh	2	2	697.76	1.589	0.182	12	0.109	10.9	1.589	0.182	11.4	12	b,a
TUKF-05	Mount Goodenough	sh	2	2	2784.60	1.242	0.287	6	0.082	8.2	1.242	0.287	23.1	6	b
ATG-04	Mt. Goodenough (Siku)	sh	2	2	2723.2	0.816	0.208	6	0.036	3.6	1.006	0.004	0.4	3	d
MAYG-01	Rat River	sandy mdst	2	2	2474.75	1.560	0.203	9	0.062	6.2	1.560	0.203	13.0	9	b,a
MAYG-04	Rat River	sandy sh	2	2	2485.45	1.339	0.404	12	0.034	3.4	1.339	0.404	30.2	12	a,b
FR-03	Rat River	sh	2	2	2631.40	0.950	0.089	9	0.032	3.2	0.950	0.089	9.3	9	b
FR-05	Rat River	sh	2	2	2633.00	1.152	0.002	3	0.032	3.2	1.152	0.002	0.1	3	
NAPF-09	Carboniferous	sh	2	3	1521.86	1.888	0.357	12	0.058	5.8	1.888	0.357	18.9	12	a
NUVO-03	Imperial	sandy sh	2	3	1060.54	1.922	0.448	15	0.052	5.2	1.922	0.448	23.3	15	a,b
NAPF-03	Permian (Jungle Ck)	sandy sh	2	3	1243.46	1.747	0.175	12	0.078	7.8	1.747	0.175	10.0	12	a
UNAB-04	Permian (Jungle Ck)	sh	2	3	2898.19	1.517	0.108	12	0.028	2.8	1.517	0.108	7.1	12	a,b
BVR-01	Permian (Longstick)	sh	2	3	1479.00	1.645	0.517	12	0.038	3.8	1.645	0.517	31.4	12	a
BVR-02	Permian (Longstick)	sh	2	3	4867.00	1.621	0.189	12	0.051	5.1	1.621	0.189	11.7	12	b
ULUA-02	Permian (Longstick)	sh	2	3	2940.80	2.125	1.179	6	0.002	0.2	2.125	1.179	55.5	6	a
ULUA-03	Permian (Longstick)	sandy sh	2	3	2948.33	1.653	1.284	15	0.064	6.4	1.656	0.572	34.5	10	a
MAYJ-05	Arnica (Road R)	carbonate	3	3	3682.60	2.145	0.721	9	0.013	1.3	2.496	0.581	23.3	6	a
NAPF-06	Carboniferous	lmst	3	3	1514.94	2.227	0.794	9	0.027	2.7	2.227	0.794	35.6	9	a
NAPF-07	Carboniferous	lmst	3	3	1517.22	1.859	0.732	6	0.025	2.5	1.859	0.732	39.4	6	a
MAYJ-01	Landry	frac. carbonate	3	3	2892.95	2.189	0.448	12	0.028	2.8	2.189	0.448	20.5	12	a,c
MAYJ-02	Landry	frac. carbonate	3	3	2901.06	2.915	0.656	12	0.017	1.7	2.561	0.090	3.5	8	a,b
MAYJ-03	Landry	carbonate	3	3	2903.57	1.951	0.379	10	0.020	2.0	1.951	0.379	19.4	10	b
MAYJ-04	Landry	frac. carbonate	3	3	2918.41	3.818	1.950	12	0.023	2.3	2.632	0.582	22.1	8	b
NATK-03	M. Ordovician (Ronning)	dolomite	3	3	1512.15	2.341	0.478	12	0.028	2.8	2.341	0.478	20.4	12	a
NUNAA-01	Ronning	carbonate	3	3	3245.36	2.375	0.708	18	0.031	3.1	2.375	0.708	29.8	18	b,c
NUNAA-02	Ronning	carbonate	3	3	3249.84	3.606	1.684	18	0.030	3.0	2.870	0.462	16.1	13	b,c
PIKM-01	Ronning	carbonate	3	3	1718.09	2.221	0.342	12	0.067	6.7	2.221	0.342	15.4	12	b,a

Table 4: Average saturated thermal conductivity for 129 combined splits from Beaufort-Mackenzie core plugs

Lithology Code: 1 - sandstone; 2 - shale; 3 - carbonate
Age Code: 1 - Upper Cretaceous-Cenozoic post-rift; 2 - Mesozoic syn-rift; 3 - Paleozoic pre-rift

						All Trials					Selected Trials				
[1]Sample	Rock Unit	Lithology	Lith Code	Age Code	Depth (mKB)	Ave K_{sat} (W/mK)	S. D. (W/mK)	Total # trials	Porosity Vol. Frac.	Porosity (%)	Average K_{sat} (W/mK)	Standard Deviation (W/mK)	Standard Deviation (%)	# trials used	Plug Qual.
*ADL-01	Aklak	ss	1	1	1766.90	1.817	0.083	3	0.241	24.1	1.817	0.083	4.6	3	d
*ADL-06	Aklak	ss	1	1	1870.00	1.961	0.310	6	0.218	21.8	1.961	0.310	15.8	6	b,d
*ADL-07	Aklak	ss	1	1	1873.10	1.618	0.406	9	0.205	20.5	1.618	0.406	25.1	9	c,b,b
ADL-01	Aklak	ss	1	1	1766.90	1.131	0.026	2	0.241	24.1	1.131	0.026	2.3	2	d
ADL-02	Aklak	f.g. ss	1	1	1767.40	1.483	0.343	12	0.179	17.9	1.483	0.343	23.1	12	a
ADL-03	Aklak	ss	1	1	1770.90	1.118	0.174	3	0.254	25.4	1.118	0.174	15.6	3	d
ADL-06	Aklak	ss	1	1	1870.00	36.619	40.169	6	0.218	21.8	1.207	0.135	11.2	3	b,d
ADL-07	Aklak	ss	1	1	1873.10	35.981	65.748	8	0.205	20.5	1.341	0.162	12.1	6	c,b,b
TUKF-02	Fish River	ss	1	1	2171.97	2.015	0.398	9	0.088	8.8	2.015	0.398	19.7	9	a
ULUA-01	Fish River	ss	1	1	1474.99	1.337	0.347	12	0.162	16.2	1.337	0.347	26.0	12	b,a
UNRL-02	Kugmallit	ss	1	1	2732.77	1.670	0.584	12	0.071	7.1	1.933	0.399	20.6	9	b
UNRLA-02	Kugmallit	ss	1	1	2955.95	1.355	0.824	6	0.110	11.0	2.104	0.112	5.3	3	a
UNRLA-03	Kugmallit	ss	1	1	2967.43	2.031	0.733	12	0.085	8.5	2.031	0.733	36.1	12	a
IVK-02	Richards	ss	1	1	2491.68	13.897	33.493	7	0.248	24.8	1.238	0.248	20.0	6	d
IVK-03	Richards	ss	1	1	2688.18	25.136	51.060	10	0.253	25.3	0.917	0.145	15.8	8	d
TAGC-01	Richards	ss	1	1	2582.96	11.815	37.445	12	0.205	20.5	1.147	0.321	28.0	8	b
UNRLA-06	Richards	ss	1	1	3873.67	1.393	0.349	12	0.167	16.7	1.554	0.225	14.5	9	a
UNRLA-07	Richards	ss	1	1	3893.55	1.219	0.479	6	0.219	21.9	1.652	0.092	5.6	3	a
ELL-01	Taglu	ss	1	1	1603.55	14.833	31.435	12	0.210	21.0	1.384	0.240	17.3	10	a
ELL-02	Taglu	ss	1	1	1610.30	1.423	0.240	12	0.174	17.4	1.423	0.240	16.8	12	a
ELL-06	Taglu	shaly ss	1	1	1924.00	1.576	0.231	12	0.080	8.0	1.576	0.231	14.7	12	a
KUM-02	Taglu	ss	1	1	1373.73	1.197	0.142	9	0.196	19.6	1.197	0.142	11.8	9	b,a
KUM-03	Taglu	ss	1	1	1379.68	1.596	0.163	10	0.183	18.3	1.596	0.163	10.2	10	a
KUM-04	Taglu	ss	1	1	2174.44	1.579	0.200	10	0.173	17.3	1.579	0.200	12.6	10	a
KUM-05	Taglu	ss	1	1	2182.67	1.460	0.286	5	0.227	22.7	1.663	0.086	5.2	3	a
KUM-06	Taglu	ss	1	1	2296.12	1.979	0.140	10	0.139	13.9	1.979	0.140	7.1	10	a
KUM-08	Taglu	shaly ss	1	1	2306.42	1.964	0.176	12	0.082	8.2	1.964	0.176	9.0	12	a
TAGC-04	Taglu	ss	1	1	2891.17	1.206	0.448	12	0.211	21.1	1.354	0.422	31.1	9	b,c
AVK-01	Aklavik	ss	1	2	1588.88	2.974	1.008	12	0.065	6.5	2.974	1.008	33.9	12	a,b
BLR-01	Albian flysch	f.g. ss	1	2	3386.94	2.177	0.889	12	0.019	1.9	2.004	0.688	34.3	11	a

[1]Sample	Rock Unit	Lithology	Lith Code	Age Code	Depth (mKB)	All Trials Ave K_{sat} (W/mK)	S. D. (W/mK)	Total # trials	Porosity Vol. Frac.	(%)	Selected Trials Average K_{sat} (W/mK)	Standard Deviation (W/mK)	(%)	# trials used	Plug Qual.
PIKE-02	Arctic Red	shaly ss	1	2	2389.70	1.484	0.115	6	0.070	7.0	1.484	0.115	7.7	6	a,b
PIKE-03	Arctic Red	shaly ss	1	2	2391.56	2.109	0.704	12	0.088	8.8	2.109	0.704	33.4	12	a,b
ATK-01	Atkinson Pt.	ss	1	2	2027.00	1.779	0.430	11	0.126	12.6	1.779	0.430	24.2	11	a
ATK-02	Atkinson Pt.	ss	1	2	2030.40	32.039	94.922	10	0.122	12.2	2.022	0.490	24.2	9	b,c
PIKE-04	Atkinson Pt.	shaly ss	1	2	2472.12	1.821	0.615	9	0.115	11.5	1.821	0.615	33.7	9	a
TUKO-01	Atkinson Pt.	muddy ss	1	2	1988.40	1.736	0.465	12	0.107	10.7	1.960	0.267	13.6	9	a,b
TUKO-02	Atkinson Pt.	muddy ss	1	2	1992.78	1.455	0.274	12	0.101	10.1	1.685	0.188	11.2	6	a
ONGC-02	Husky	shaly ss	1	2	1200.44	1.573	0.874	12	0.101	10.1	2.378	0.263	11.1	6	a,b
TUKO-03	Husky	ss	1	2	2099.03	1.238	0.430	9	0.170	17.0	1.792	0.171	9.6	3	b
TUKO-04	Husky	ss	1	2	2101.60	1.354	0.495	8	0.180	18.0	2.141	0.081	3.8	2	a,b
IKH-01	Kamik	ss	1	2	2302.31	2.057	0.793	12	0.078	7.8	1.871	0.483	25.8	11	a
IKH-02	Kamik	ss	1	2	2308.50	2.436	0.565	12	0.065	6.5	2.436	0.565	23.2	12	a
SIKE-02	Kamik	ss	1	2	3046.31	2.030	0.685	11	0.169	16.9	2.030	0.685	33.7	11	a
UNAL-01	Kamik	ss	1	2	2046.65	2.359	0.635	9	0.149	14.9	2.359	0.635	26.9	9	a
UNAL-03	Kamik	ss	1	2	2069.75	2.199	0.464	5	0.173	17.3	2.509	0.265	10.5	3	b
UNAL-05	Kamik	ss	1	2	2091.75	2.230	0.572	12	0.165	16.5	2.230	0.572	25.7	12	a,b
UNAL-07	Kamik	ss	1	2	2163.18	2.396	0.621	12	0.158	15.8	2.060	0.106	5.1	9	a
PARN-03	Martin Creek	ss	1	2	2853.44	1.948	0.563	12	0.130	13.0	1.948	0.563	28.9	12	b,a
PARN-04	Martin Creek	ss	1	2	2859.27	2.365	0.640	12	0.132	13.2	2.365	0.640	27.1	12	a
PARN-05	Martin Creek	ss	1	2	2869.77	2.069	0.301	12	0.152	15.2	2.069	0.301	14.5	12	b,a
TULK-02	Martin Creek	ss	1	2	2023.03	1.679	0.480	6	0.166	16.6	2.115	0.005	0.2	3	a
PARF-03	McGuire	ss	1	2	2998.59	2.308	0.715	12	0.071	7.1	2.308	0.715	31.0	12	a,b
NAPF-01	Mount Goodenough	shaly ss	1	2	696.42	1.936	0.924	12	0.121	12.1	2.015	0.648	32.2	8	a
PIKE-06	Mount Goodenough	shaly ss	1	2	2591.26	2.236	1.059	9	0.103	10.3	2.236	1.059	47.3	9	a,b
TUKF-06	Mount Goodenough	ss	1	2	2872.83	1.374	0.681	10	0.090	9.0	1.730	0.450	26.0	7	b
TUKL-01	Mount Goodenough	ss	1	2	2607.75	1.965	0.606	12	0.099	9.9	1.965	0.606	30.8	12	a
TUKL-02	Mount Goodenough	shaly ss	1	2	2608.20	1.828	0.782	12	0.087	8.7	1.828	0.782	42.8	12	a,b
UNAB-01	Mount Goodenough	shaly ss	1	2	1198.04	1.091	0.264	6	0.089	8.9	1.321	0.126	9.5	3	a
MAYG-02	Rat River	muddy ss	1	2	2478.00	2.378	0.643	11	0.140	14.0	2.378	0.643	27.0	11	a
MAYG-03	Rat River	muddy ss	1	2	2482.40	9.557	27.096	12	0.092	9.2	2.062	0.493	23.9	8	c,a
FR-04	Rat River	ss	1	2	2632.32	3.217	0.891	6	0.015	1.5	2.645	0.044	1.7	4	b
NAPF-08	Carboniferous	ss	1	3	1517.85	2.242	0.959	12	0.027	2.7	2.242	0.959	42.8	12	a
NUVO-01	Imperial	shaly ss	1	3	1050.15	2.013	0.069	6	0.037	3.7	2.013	0.069	3.4	6	b,a
NUVO-02	Imperial	ss	1	3	1053.36	2.463	0.533	6	0.052	5.2	2.949	0.004	0.1	3	b,a
KPKL-04	Permian	ss	1	3	2496.92	2.558	0.399	12	0.042	4.2	2.558	0.399	15.6	12	a

[1]Sample	Rock Unit	Lithology	Lith Code	Age Code	Depth (mKB)	All Trials Ave K_{sat} (W/mK)	All Trials S. D. (W/mK)	Total # trials	Porosity Vol. Frac.	Porosity (%)	Selected Trials Average K_{sat} (W/mK)	Selected Trials Standard Deviation (W/mK)	Selected Trials Standard Deviation (%)	# trials used	Plug Qual.
KPKL-05	Permian	ss	1	3	2501.54	2.509	0.597	9	0.119	11.9	2.509	0.597	23.8	9	a
KPKO-07	Permian	muddy ss	1	3	3098.14	3.113	0.306	9	0.030	3.0	3.113	0.306	9.8	9	a
KPKO-08	Permian	muddy ss	1	3	3101.04	2.610	0.416	6	0.024	2.4	2.610	0.416	15.9	6	a
NAPF-04	Permian (Jungle Ck)	shaly ss	1	3	1245.34	2.061	0.310	12	0.124	12.4	2.159	0.298	13.8	9	a
NAPF-05	Permian (Jungle Ck)	ss	1	3	1255.57	1.986	0.479	12	0.126	12.6	2.419	0.233	9.6	6	a
ADL-04	Aklak	mdst	2	1	1776.00	1.079	0.241	12	0.152	15.2	1.184	0.169	14.3	9	c,a
ADL-05	Aklak	sandy sh	2	1	1781.80	1.593	0.463	11	0.166	16.6	1.593	0.463	29.1	11	b,a
TUKF-01	Fish River	sh	2	1	2171.37	0.695	0.299	6	0.126	12.6	0.959	0.119	12.4	3	b
KUG-01	Kugmallit	sh	2	1	1756.17	1.643	0.637	9	0.053	5.3	1.643	0.637	38.8	9	a
UNRL-03	Kugmallit	sh	2	1	2733.80	1.064	0.161	12	0.116	11.6	1.064	0.161	15.1	12	a
UNRLA-05	Kugmallit	sh	2	1	2977.95	1.221	0.229	12	0.104	10.4	1.221	0.229	18.7	12	b
IVK-04	Richards	sh	2	1	2694.25	1.174	0.285	4	0.219	21.9	1.174	0.285	24.3	4	a
IVK-05	Richards	sh	2	1	3115.36	1.251	0.122	6	0.083	8.3	1.251	0.122	9.8	6	a
IVK-07	Richards	sh	2	1	3199.09	1.278	0.168	6	0.098	9.8	1.278	0.168	13.1	6	a
IVK-08	Richards	sh	2	1	3200.70	1.473	0.143	12	0.097	9.7	1.473	0.143	9.7	12	a
IVKK-01	Richards	slty mdst	2	1	2924.90	1.026	0.088	9	0.117	11.7	1.026	0.088	8.5	9	b,a
MAL-01	Richards	lam sh	2	1	2303.07	1.042	0.096	9	0.065	6.5	1.042	0.096	9.2	9	c
TAGC-02	Richards	sandy sh	2	1	2591.98	0.979	0.326	6	0.143	14.3	1.269	0.114	9.0	3	b
UNRLA-09	Richards	sh	2	1	3917.29	0.906	0.233	6	0.155	15.5	0.906	0.233	25.8	6	a
KANG-03	Smoking Hills	sh (bent.)	2	1	1199.40	0.605	0.139	6	0.024	2.4	0.731	0.001	0.1	3	
KPKL-01	Smoking Hills	lam black sh	2	1	2007.60	0.723	0.266	12	0.014	1.4	0.723	0.266	36.8	12	c,b
KPKO-01	Smoking Hills	sh	2	1	1987.75	0.795	0.102	12	0.015	1.5	0.795	0.102	12.8	12	a,c
KPKO-02	Smoking Hills	sh	2	1	1990.83	0.796	0.124	12	0.016	1.6	0.796	0.124	15.6	12	a,b
NATK-02	Smoking Hills	mdst	2	1	1397.11	0.275	0.165	4	0.198	19.8	0.522		0.0	1	d
ELL-03	Taglu	sh	2	1	1917.04	1.261	0.381	6	0.085	8.5	1.366	0.314	23.0	5	a
ELL-04	Taglu	sh	2	1	1918.65	1.361	0.304	11	0.105	10.5	1.361	0.304	22.4	11	b,a
ELL-05	Taglu	sh	2	1	1921.33	1.283	0.327	12	0.086	8.6	1.283	0.327	25.5	12	a
KUM-01	Taglu	sh	2	1	1370.08	0.680	0.227	12	0.117	11.7	0.835	0.220	26.3	6	b
TAGC-03	Taglu	sh	2	1	2880.84	1.082	0.412	6	0.080	8.0	1.082	0.412	38.1	6	b
TAGC-05	Taglu	sh	2	1	2896.46	1.134	0.376	18	0.102	10.2	1.412	0.198	14.0	12	a,c
BLR-02	Albian flysch	sh	2	2	3387.67	1.274	0.214	12	0.018	1.8	1.274	0.214	16.8	12	a
FR-01	Albian flysch	sh, ss lam.	2	2	2447.85	0.951	0.082	6	0.016	1.6	0.951	0.082	8.6	6	
FR-02	Albian flysch	sh	2	2	2450.60	1.114	0.052	6	0.021	2.1	1.114	0.052	4.7	6	
ATG-02	Arctic Red	sh	2	2	2306.50	1.343	0.276	12	0.086	8.6	1.343	0.276	20.6	12	c,b
ATG-03	Arctic Red	sh	2	2	2306.85	1.178	0.305	12	0.094	9.4	1.309	0.210	16.0	9	c

Sample[1]	Rock Unit	Lithology	Lith Code	Age Code	Depth (mKB)	All Trials					Selected Trials				
						Ave K_{sat} (W/mK)	S. D. (W/mK)	Total # trials	Porosity Vol. Frac.	Porosity (%)	Average K_{sat} (W/mK)	Standard Deviation (W/mK)	Standard Deviation (%)	# trials used	Plug Qual.
KPKO-05	Husky	sandy mdst	2	2	2953.02	1.545	0.483	9	0.027	2.7	1.851	0.190	10.3	6	b,a
KPKO-06	Husky	sandy mdst	2	2	2955.50	1.676	0.301	12	0.019	1.9	1.676	0.301	18.0	12	b,a
ONGC-01	Husky	sandy sh	2	2	1198.17	1.297	0.396	12	0.149	14.9	1.550	0.431	27.8	6	a,b
PARF-02	McGuire	sandy sh	2	2	2998.24	1.276	0.338	12	0.053	5.3	1.276	0.338	26.5	12	d,a
PARN-01	McGuire	sh	2	2	2844.29	0.904	0.233	6	0.035	3.5	1.114	0.047	4.2	3	a
PARN-02	McGuire	sh	2	2	2846.86	1.195	0.346	5	0.070	7.0	1.195	0.346	29.0	5	b
NAPF-02	Mount Goodenough	sandy sh	2	2	697.76	1.579	0.384	12	0.109	10.9	1.923	0.041	2.2	6	b,a
TUKF-05	Mount Goodenough	sh	2	2	2784.60	1.365	0.243	6	0.082	8.2	1.365	0.243	17.8	6	b
MAYG-01	Rat River	sandy mdst	2	2	2474.75	1.714	0.213	12	0.062	6.2	1.714	0.213	12.5	12	b,a
MAYG-04	Rat River	sandy sh	2	2	2485.45	1.396	0.418	11	0.034	3.4	1.396	0.418	29.9	11	a,b
FR-03	Rat River	sh	2	2	2631.40	1.019	0.297	9	0.032	3.2	1.019	0.297	29.1	9	b
FR-05	Rat River	sh	2	2	2633.00	1.214	0.003	3	0.032	3.2	1.214	0.003	0.3	3	
NAPF-09	Carboniferous	sh	2	3	1521.86	1.944	0.662	12	0.058	5.8	1.944	0.662	34.0	12	a
NUVO-03	Imperial	sandy sh	2	3	1060.54	1.609	0.097	6	0.052	5.2	1.609	0.097	6.1	6	a,b
NAPF-03	Permian (Jungle Ck)	sandy sh	2	3	1243.46	1.995	0.182	12	0.078	7.8	1.995	0.182	9.1	12	a
UNAB-03	Permian (Jungle Ck)	sh	2	3	2894.72	1.793	0.473	6	0.039	3.9	1.793	0.473	26.4	6	a
UNAB-04	Permian (Jungle Ck)	sh	2	3	2898.19	1.616	0.344	9	0.028	2.8	1.616	0.344	21.3	9	a,b
BVR-01	Permian (Longstick)	sh	2	3	1479.00	1.889	0.480	12	0.038	3.8	1.889	0.480	25.4	12	a
BVR-02	Permian (Longstick)	sh	2	3	4867.00	1.547	0.440	12	0.051	5.1	1.767	0.223	12.6	9	b
ULUA-02	Permian (Longstick)	sh	2	3	2940.80	2.060	0.051	3	0.002	0.2	2.060	0.051	2.5	3	a
ULUA-03	Permian (Longstick)	sandy sh	2	3	2948.33	1.794	0.665	11	0.064	6.4	1.794	0.665	37.1	11	a
MAYJ-05	Arnica (Road R)	carbonate	3	3	3682.60	2.844	0.946	6	0.013	1.3	2.469	0.257	10.4	5	a
NAPF-06	Carboniferous	lmst	3	3	1514.94	1.667	0.746	12	0.027	2.7	2.324	0.403	17.3	6	a
NAPF-07	Carboniferous	lmst	3	3	1517.22	1.612	0.499	6	0.025	2.5	2.053	0.199	9.7	3	a
MAYJ-01	Landry	frac. carbonate	3	3	2892.95	2.473	0.261	12	0.028	2.8	2.473	0.261	10.5	12	a,c
MAYJ-02	Landry	frac. carbonate	3	3	2901.06	2.551	0.285	8	0.017	1.7	2.551	0.285	11.2	8	a,b
MAYJ-03	Landry	carbonate	3	3	2903.57	2.180	0.357	12	0.020	2.0	2.088	0.174	8.3	11	b
MAYJ-04	Landry	frac. carbonate	3	3	2918.41	2.915	1.198	12	0.023	2.3	2.615	0.623	23.8	11	b
NATK-03	M. Ordovician (Ronning)	carbonate	3	3	1512.15	2.346	0.599	12	0.028	2.8	2.346	0.599	25.5	12	a
NUNAA-01	Ronning	carbonate	3	3	3245.36	2.536	0.479	14	0.031	3.1	2.536	0.479	18.9	14	b,c
NUNAA-02	Ronning	carbonate	3	3	3249.84	2.244	0.558	9	0.030	3.0	2.244	0.558	24.9	9	b,c
PIKM-01	Ronning	carbonate	3	3	1718.09	1.996	0.748	12	0.067	6.7	2.388	0.275	11.5	5	b,a

[1]asterisk indicates water-saturated sample; all other samples saturated with heptane

Table 5. Average geometric mean rock matrix thermal conductivity (W/mK) based on dry and saturated measurements for combined sample splits

Post-Rift (Upper Cretaceous-Cenozoic) sandstones

	All Samples	***Aklak Sequence***
Dry	2.450±0.547 (26)	2.303±0.344 (5)
Heptane-saturated	2.545±0.419 (25)	2.396±0.120 (5)
Water-saturated		2.459±0.333 (3)
Water- & Heptane-saturated		2.420±0.202 (8)

Syn-Rift (Jurassic-Lower Cretaceous) sandstones

	All Samples	***Kamik/Husky/ Martin Ck/Aklavik***	***Atkinson Pt./Mt. Good. McGuire/Rat R.***	***Albian/ Arctic Red***
Dry	2.963±0.783 (32)	3.409±0.785 (15)	2.679±0.507 (14)	2.067±0.513 (3)
Heptane-saturated	3.035±0.698 (33)	3.535±0.557 (15)	2.697±0.485 (15)	2.227±0.502 (3)

Pre-Rift (Paleozoic) sandstones

	All Samples
Dry	3.116±0.514 (9)
Heptane-saturated	3.121±0.551 (9)

Post-Rift (Upper Cretaceous-Cenozoic) mudrocks

	Excluding Smoking Hills	***Smoking Hills***
Dry	1.652±0.391 (20)	0.814±0.056 (8)
Heptane-saturated	1.653±0.373 (20)	0.778±0.039 (5)

Syn-Rift (Jurassic-Lower Cretaceous) mudrocks

Dry	1.591±0.423 (21)
Heptane-saturated	1.614±0.464 (17)

Pre-Rift (Paleozoic) mudrocks

Dry	2.183±0.284 (8)
Heptane-saturated	2.088±0.232 (9)

Pre-Rift (Paleozoic) carbonates

	All Samples	***Arnica/ Ronning Dolomite***	***Carboniferous/ Landry Limestone***
Dry	2.675±0.371 (11)	2.895±0.295 (5)	2.491±0.341 (6)
Heptane-saturated	2.587±0.236 (11)	2.665±0.204 (5)	2.523±0.259 (6)

Table 6. Average (Maxwell model) rock matrix thermal conductivity (W/mK) based on dry and saturated measurements for combined sample splits

Post-Rift (Upper Cretaceous-Cenozoic) sandstones

	All Samples	***Aklak Sequence***
Dry	2.421±0.476 (26)	2.044±0.319 (5)
Heptane-saturated	2.494±0.433 (25)	2.264±0.175 (5)
Water-saturated		2.356±0.303 (3)
Water- & Heptane-saturated		2.299±0.215 (8)

Syn-Rift (Jurassic-Lower Cretaceous) sandstones

	All Samples	***Kamik/Husky/ Martin Ck/Aklavik***	***Atkinson Pt./Mt. Good. McGuire/Rat R.***	***Albian/ Arctic Red***
Dry	3.332±0.715 (32)	3.650±0.737 (15)	3.172±0.506 (14)	2.492±0.676 (3)
Heptane-saturated	3.140±0.721 (33)	3.647±0.560 (15)	2.803±0.528 (15)	2.293±0.562 (3)

Pre-Rift (Paleozoic) sandstones

	All Samples
Dry	3.866±0.631 (9)
Heptane-saturated	3.277±0.625 (9)

Post-Rift (Upper Cretaceous-Cenozoic) mudrocks

	Excluding Smoking Hills	***Smoking Hills***
Dry	1.857±0.385 (20)	0.837±0.063 (8)
Heptane-saturated	1.649±0.372 (20)	0.770±0.047 (5)

Syn-Rift (Jurassic-Lower Cretaceous) mudrocks

Dry	1.851±0.519 (21)
Heptane-saturated	1.632±0.486 (17)

Pre-Rift (Paleozoic) mudrocks

Dry	2.677±0.465 (8)
Heptane-saturated	2.137±0.258 (9)

Pre-Rift (Paleozoic) carbonates

	All Samples	***Arnica/ Ronning Dolomite***	***Carboniferous/ Landry Limestone***
Dry	3.341±0.577 (11)	3.683±0.526 (5)	3.055±0.479 (6)
Heptane-saturated	2.662±0.268 (11)	2.756±0.251 (5)	2.584±0.278 (6)

Table 7. Average (Sugawara & Yoshizawa model) rock matrix thermal conductivity (W/mK) based on dry and saturated measurements for combined sample splits

Post-Rift (Upper Cretaceous-Cenozoic) sandstones

	All Samples	*Aklak Sequence*
Dry	1.800±0.298 (26)	1.588±0.201 (5)
Heptane-saturated	2.417±0.334 (25)	2.268±0.115 (5)
Water-saturated		2.896±0.387 (3)
Water- & Heptane-saturated		2.504±0.395 (8)

Syn-Rift (Jurassic-Lower Cretaceous) sandstones

	All Samples	*Kamik/Husky/ Martin Ck/Aklavik*	*Atkinson Pt./Mt. Good. McGuire/Rat R.*	*Albian/ Arctic Red*
Dry	2.345±0.442 (32)	2.541±0.456 (15)	2.234±0.331 (14)	1.881±0.399 (3)
Heptane-saturated	2.873±0.557 (33)	3.264±0.421 (15)	2.616±0.416 (15)	2.207±0.459 (3)

Pre-Rift (Paleozoic) sandstones

	All Samples
Dry	2.725±0.308 (9)
Heptane-saturated	3.023±0.473 (9)

Post-Rift (Upper Cretaceous-Cenozoic) mudrocks

	Excluding Smoking Hills	*Smoking Hills*
Dry	1.407±0.255 (20)	0.774±0.050 (8)
Heptane-saturated	1.664±0.332 (20)	0.804±0.039 (5)

Syn-Rift (Jurassic-Lower Cretaceous) mudrocks

Dry	1.461±0.292 (21)
Heptane-saturated	1.617±0.440 (17)

Pre-Rift (Paleozoic) mudrocks

Dry	2.025±0.218 (8)
Heptane-saturated	2.083±0.218 (9)

Pre-Rift (Paleozoic) carbonates

	All Samples	*Arnica/ Ronning Dolomite*	*Carboniferous/ Landry Limestone*
Dry	2.543±0.324 (11)	2.719±0.243 (5)	2.397±0.326 (6)
Heptane-saturated	2.572±0.224 (11)	2.643±0.183 (5)	2.513±0.254 (6)

Table 8. Average (Effective Medium) rock matrix thermal conductivity (W/mK) based on dry and saturated measurements for combined sample splits

Post-Rift (Upper Cretaceous-Cenozoic) sandstones				
	All Samples	***Aklak Sequence***		
Dry	1.473±0.271 (26)	1.243±0.173 (5)		
Heptane-saturated	1.969±0.307 (25)	1.768±0.129 (5)		
Water-saturated		2.276±0.272 (3)		
Water- & Heptane-saturated		1.958±0.316 (8)		
Syn-Rift (Jurassic-Lower Cretaceous) sandstones				
	All Samples	***Kamik/Husky/ Martin Ck/Aklavik***	***Atkinson Pt./Mt. Good. McGuire/Rat R.***	***Albian/ Arctic Red***
Dry	2.020±0.359 (32)	2.135±0.382 (15)	1.959±0.303 (14)	1.733±0.366 (3)
Heptane-saturated	2.475±0.422 (33)	2.743±0.327 (15)	2.295±0.355 (15)	2.032±0.383 (3)
Pre-Rift (Paleozoic) sandstones				
	All Samples			
Dry	2.495±0.285 (9)			
Heptane-saturated	2.762±0.377 (9)			
Post-Rift (Upper Cretaceous-Cenozoic) mudrocks				
	Excluding Smoking Hills	***Smoking Hills***		
Dry	1.214±0.219 (20)	0.715±0.097 (8)		
Heptane-saturated	1.436±0.265 (20)	0.755±0.060 (5)		
Syn-Rift (Jurassic-Lower Cretaceous) mudrocks				
Dry	1.348±0.225 (21)			
Heptane-saturated	1.489±0.353 (17)			
Pre-Rift (Paleozoic) mudrocks				
Dry	1.894±0.197 (8)			
Heptane-saturated	1.952±0.177 (9)			
Pre-Rift (Paleozoic) carbonates				
	All Samples	***Arnica/ Ronning Dolomite***	***Carboniferous/ Landry Limestone***	
Dry	2.440±0.305 (11)	2.589±0.235 (5)	2.316±0.319 (6)	
Heptane-saturated	2.469±0.245 (11)	2.516±0.131 (5)	2.429±0.245 (6)	

Table 9. Average (parallel model) rock matrix thermal conductivity (W/mK) based on dry and saturated measurements for combined sample splits

Post-Rift (Upper Cretaceous-Cenozoic) sandstones

	All Samples	***Aklak Sequence***
Dry	1.328±0.276 (26)	1.079±0.167 (5)
Heptane-saturated	1.799±0.314 (25)	1.570±0.143 (5)
Water-saturated		2.139±0.236 (3)
Water- & Heptane-saturated		1.784±0.338 (8)

Syn-Rift (Jurassic-Lower Cretaceous) sandstones

	All Samples	***Kamik/Husky/ Martin Ck/Aklavik***	***Atkinson Pt./Mt. Good. McGuire/Rat R.***	***Albian/ Arctic Red***
Dry	1.892±0.335 (32)	1.968±0.361 (15)	1.855±0.299 (14)	1.681±0.361 (3)
Heptane-saturated	2.332±0.378 (33)	2.549±0.304 (15)	2.186±0.337 (15)	1.976±0.362 (3)

Pre-Rift (Paleozoic) sandstones

	All Samples
Dry	2.410±0.298 (9)
Heptane-saturated	2.673±0.359 (9)

Post-Rift (Upper Cretaceous-Cenozoic) mudrocks

	Excluding Smoking Hills	***Smoking Hills***
Dry	1.193±0.210 (20)	0.692±0.122 (8)
Heptane-saturated	1.362±0.242 (20)	0.742±0.076 (5)

Syn-Rift (Jurassic-Lower Cretaceous) mudrocks

Dry	1.308±0.203 (21)
Heptane-saturated	1.449±0.326 (17)

Pre-Rift (Paleozoic) mudrocks

Dry	1.849±0.195 (8)
Heptane-saturated	1.912±0.167 (9)

Pre-Rift (Paleozoic) carbonates

	All Samples	***Arnica/ Ronning Dolomite***	***Carboniferous/ Landry Limestone***
Dry	2.405±0.301 (11)	2.545±0.238 (5)	2.289±0.316 (6)
Heptane-saturated	2.437±0.191 (11)	2.477±0.119 (5)	2.404±0.243 (6)

Table 10. Calculated water-saturated thermal conductivity for Beaufort-Mackenzie core disk samples

Lithology Code: 1 - sandstone; 2 - shale; 3 - carbonate
Age Code: 1 - Upper Cretaceous-Cenozoic post-rift; 2 - Mesozoic syn-rift; 3 - Paleozoic pre-rift

							Dry measurements			Saturated measurements			
[1]Sample	Rock Unit	Lithology	Lith Code	Age Code	Depth (mKB)	Porosity (%)	Ave. K_{dry} (W/mK)	Ave. K_r (W/mK)	Ave. K_{water} (W/mK)	Ave. $K_{heptane}$ (W/mK)	Ave. K_r (W/mK)	Ave. K_{water} (W/mK)	Plug Qual.
*ADL-01	Aklak	ss	1	1	1766.90	24.1					2.574	1.817	d
*ADL-06	Aklak	ss	1	1	1870.00	21.8					2.719	1.961	b,d
*ADL-07	Aklak	ss	1	1	1873.10	20.5					2.083	1.618	c,b,b
ADL-01	Aklak	ss	1	1	1766.90	24.1	0.727	2.147	1.583	1.131	2.289	1.662	d
ADL-02	Aklak	f.g. ss	1	1	1767.40	17.9	1.107	2.552	1.974	1.483	2.553	1.975	a
ADL-03	Aklak	ss	1	1	1770.9	25.4	0.823	2.742	1.868	1.118	2.372	1.677	d
ADL-06	Aklak	ss	1	1	1870.00	21.8	0.725	1.875	1.466	1.207	2.282	1.710	b,d
ADL-07	Aklak	ss	1	1	1873.1	20.5	0.871	2.199	1.689	1.341	2.484	1.861	c,b,b
TUKF-02	Fish River	ss	1	1	2171.97	8.8	1.517	2.263	2.016	2.015	2.639	2.320	a
ULUA-01	Fish River	ss	1	1	1474.99	16.2	1.005	2.069	1.696	1.337	2.121	1.732	b,a
UNRL-02	Kugmallit	ss	1	1	2732.77	7.1	1.311	1.780	1.650	1.933	2.386	2.166	b
UNRLA-02	Kugmallit	ss	1	1	2955.95	11.0	1.398	2.310	1.993	2.104	2.989	2.506	a
UNRLA-03	Kugmallit	ss	1	1	2967.43	8.5	1.619	2.394	2.131	2.031	2.636	2.327	a
IVK-01	Richards	ss	1	1	2489.97	12.0	1.333	2.305	1.965				d
IVK-02	Richards	ss	1	1	2491.68	24.8	1.022	3.522	2.275	1.238	2.653	1.839	d
IVK-03	Richards	ss	1	1	2688.18	25.3	0.560	1.627	1.268	0.917	1.812	1.375	d
TAGC-01	Richards	ss	1	1	2582.96	20.5	0.793	1.954	1.538	1.147	2.041	1.593	b
UNRLA-06	Richards	ss	1	1	3873.67	16.7	1.209	2.653	2.074	1.554	2.585	2.029	a
UNRLA-07	Richards	ss	1	1	3893.55	21.9	1.169	3.476	2.373	1.652	3.424	2.345	a
ELL-01	Taglu	ss	1	1	1603.55	21.0	0.809	2.061	1.594	1.384	2.635	1.936	a
ELL-02	Taglu	ss	1	1	1610.30	17.4	1.017	2.239	1.784	1.423	2.384	1.878	a
ELL-06	Taglu	shaly ss	1	1	1924.00	8.0	1.243	1.752	1.609	1.576	1.968	1.790	a
KUM-02	Taglu	ss	1	1	1373.73	19.6	0.983	2.430	1.851	1.197	2.085	1.636	b,a
KUM-03	Taglu	ss	1	1	1379.68	18.3	1.221	2.944	2.206	1.596	2.835	2.139	a
KUM-04	Taglu	ss	1	1	2174.44	17.3	1.248	2.852	2.183	1.579	2.694	2.083	a
KUM-05	Taglu	ss	1	1	2182.67	22.7	1.205	3.806	2.510	1.663	3.575	2.392	a
KUM-06	Taglu	ss	1	1	2296.12	13.9	1.434	2.775	2.247	1.979	3.100	2.471	a
KUM-08	Taglu	shaly ss	1	1	2306.42	8.2	1.640	2.392	2.139	1.964	2.516	2.241	a
TAGC-04	Taglu	ss	1	1	2891.17	21.1	0.959	2.571	1.896	1.354	2.573	1.897	b,c
AVK-01	Aklavik	ss	1	2	1588.88	6.5	2.729	3.792	3.367	2.974	3.712	3.301	a,b

[1]Sample	Rock Unit	Lithology	Lith Code	Age Code	Depth (mKB)	Porosity (%)	Dry measurements Ave. K_{dry} (W/mK)	Ave. K_r (W/mK)	Ave. K_{water} (W/mK)	Saturated measurements Ave. $K_{heptane}$ (W/mK)	Ave. K_r (W/mK)	Ave. K_{water} (W/mK)	Plug Qual.
BLR-01	Albian flysch	f.g. ss	1	2	3386.94	1.9	1.857	2.020	1.974	2.004	2.115	2.065	a
PIKE-02	Arctic Red	shaly ss	1	2	2389.70	7.0	1.178	1.579	1.477	1.484	1.790	1.659	a,b
PIKE-03	Arctic Red	shaly ss	1	2	2391.56	8.8	1.722	2.601	2.288	2.109	2.775	2.427	a,b
ATK-01	Atkinson Pt.	ss	1	2	2027.00	12.6	1.119	1.947	1.680	1.779	2.615	2.174	a
ATK-02	Atkinson Pt.	ss	1	2	2030.4	12.2	1.673	3.017	2.480	2.022	2.984	2.456	b,c
PIKE-04	Atkinson Pt.	shaly ss	1	2	2472.12	11.5	1.539	2.643	2.231	1.821	2.585	2.188	a
TUKO-01	Atkinson Pt.	muddy ss	1	2	1988.40	10.7	1.629	2.700	2.301	1.960	2.732	2.325	a,b
TUKO-02	Atkinson Pt.	muddy ss	1	2	1992.78	10.1	1.504	2.394	2.083	1.685	2.261	1.979	a
ONGC-02	Husky	shaly ss	1	2	1200.44	10.1	1.681	2.709	2.330	2.378	3.317	2.796	a,b
TUKO-03	Husky	ss	1	2	2099.03	17.0	1.418	3.270	2.458	1.792	3.103	2.353	b
TUKO-04	Husky	ss	1	2	2101.60	18.0	1.483	3.667	2.655	2.141	4.010	2.857	a,b
IKH-01	Kamik	ss	1	2	2302.31	7.8	1.223	1.706	1.574	1.871	2.356	2.120	a
IKH-02	Kamik	ss	1	2	2308.50	6.5	1.690	2.272	2.085	2.436	2.998	2.701	a
SIKE-02	Kamik	ss	1	2	3046.31	16.9	1.523	3.542	2.631	2.030	3.591	2.661	a
UNAL-01	Kamik	ss	1	2	2046.65	14.9	2.019	4.387	3.265	2.359	3.958	2.991	a
UNAL-03	Kamik	ss	1	2	2069.75	17.3	1.838	4.555	3.212	2.509	4.716	3.305	b
UNAL-05	Kamik	ss	1	2	2091.75	16.5	1.659	3.831	2.829	2.230	3.955	2.905	a,b
UNAL-07	Kamik	ss	1	2	2163.18	15.8	1.585	3.479	2.640	2.060	3.497	2.652	a
PARN-03	Martin Creek	ss	1	2	2853.44	13.0	1.443	2.661	2.197	1.948	2.944	2.399	b,a
PARN-04	Martin Creek	ss	1	2	2859.27	13.2	1.748	3.355	2.676	2.365	3.708	2.919	a
PARN-05	Martin Creek	ss	1	2	2869.77	15.2	1.733	3.732	2.832	2.069	3.433	2.638	b,a
TULK-02	Martin Creek	ss	1	2	2023.03	16.6	1.772	4.172	3.031	2.115	3.727	2.759	a
PARF-03	McGuire	ss	1	2	2998.59	7.1	1.850	2.579	2.328	2.308	2.888	2.586	a,b
NAPF-01	Mount Goodenough	shaly ss	1	2	696.42	12.1	1.742	3.142	2.576	2.015	2.962	2.445	a
PIKE-06	Mount Goodenough	shaly ss	1	2	2591.26	10.3	1.727	2.822	2.408	2.236	3.120	2.635	a,b
TUKF-06	Mount Goodenough	ss	1	2	2872.83	9.0	1.444	2.165	1.932	1.730	2.247	1.999	b
TUKL-01	Mount Goodenough	ss	1	2	2607.75	9.9	1.686	2.690	2.321	1.965	2.665	2.302	a
TUKL-02	Mount Goodenough	shaly ss	1	2	2608.20	8.7	1.503	2.229	1.991	1.828	2.364	2.101	a,b
UNAB-01	Mount Goodenough	shaly ss	1	2	1198.04	8.9				1.321	1.666	1.524	a
MAYG-02	Rat River	muddy ss	1	2	2478.00	14.0	1.971	4.040	3.101	2.378	3.852	2.977	a
MAYG-03	Rat River	muddy ss	1	2	2482.40	9.2	1.619	2.481	2.178	2.062	2.744	2.387	c,a
FR-04	Rat River	ss	1	2	2632.32	1.5	2.471	2.652	2.594	2.645	2.772	2.709	b
NAPF-08	Carboniferous	ss	1	3	1517.85	2.7	2.135	2.418	2.329	2.242	2.430	2.340	a
NUVO-01	Imperial	shaly ss	1	3	1050.15	3.7	2.585	3.094	2.912	2.013	2.241	2.135	b,a
NUVO-02	Imperial	ss	1	3	1053.36	5.2	2.858	3.715	3.383	2.949	3.511	3.207	b,a

[1]Sample	Rock Unit	Lithology	Lith Code	Age Code	Depth (mKB)	Porosity (%)	Dry measurements Ave. K_{dry} (W/mK)	Ave. K_r (W/mK)	Ave. K_{water} (W/mK)	Saturated measurements Ave. $K_{heptane}$ (W/mK)	Ave. K_r (W/mK)	Ave. K_{water} (W/mK)	Plug Qual.
KPKL-04	Permian	ss	1	3	2496.92	4.2	2.320	2.835	2.657	2.558	2.922	2.735	a
KPKL-05	Permian	ss	1	3	2501.54	11.9	1.939	3.509	2.849	2.509	3.771	3.036	a
KPKO-07	Permian	muddy ss	1	3	3098.14	3.0	2.446	2.822	2.694	3.113	3.440	3.265	a
KPKO-08	Permian	muddy ss	1	3	3101.04	2.4	2.256	2.523	2.439	2.610	2.814	2.714	a
NAPF-04	Permian (Jungle Ck)	shaly ss	1	3	1245.34	12.4	1.770	3.254	2.642	2.159	3.240	2.632	a
NAPF-05	Permian (Jungle Ck)	ss	1	3	1255.57	12.6	2.043	3.877	3.067	2.419	3.717	2.956	a
ADL-04	Aklak	mdst	2	1	1776.00	15.2	1.004	1.961	1.641	1.184	1.777	1.510	c,a
ADL-05	Aklak	sandy sh	2	1	1781.80	16.6	1.208	2.635	2.066	1.593	2.653	2.077	b,a
TUKF-01	Fish River	sh	2	1	2171.37	12.6	0.874	1.468	1.313	0.959	1.290	1.173	b
KUG-01	Kugmallit	sh	2	1	1756.17	5.3	1.548	1.955	1.838	1.643	1.900	1.789	a
UNRL-03	Kugmallit	sh	2	1	2733.80	11.6	0.912	1.470	1.327	1.064	1.413	1.281	a
UNRLA-05	Kugmallit	sh	2	1	2977.95	10.4	1.123	1.755	1.571	1.221	1.594	1.441	b
IVK-04	Richards	sh	2	1	2694.25	21.9	0.873	2.392	1.771	1.174	2.211	1.666	a
IVK-05	Richards	sh	2	1	3115.36	8.3	1.025	1.440	1.340	1.251	1.543	1.428	a
IVK-07	Richards	sh	2	1	3199.09	9.8	1.117	1.695	1.533	1.278	1.648	1.494	a
IVK-08	Richards	sh	2	1	3200.70	9.7	1.118	1.689	1.530	1.473	1.924	1.721	a
IVKK-01	Richards	slty mdst	2	1	2924.90	11.7	0.711	1.114	1.037	1.026	1.359	1.236	b,a
MAL-01	Richards	lam sh	2	1	2303.07	6.5	0.932	1.202	1.150	1.042	1.209	1.156	c
TAGC-02	Richards	sandy sh	2	1	2591.98	14.3	0.868	1.580	1.378	1.269	1.874	1.595	b
UNRLA-09	Richards	sh	2	1	3917.29	15.5	0.822	1.572	1.357	0.906	1.307	1.161	a
KANG-01	Smoking Hills	bentonite	2	1	1196.00	29.6	0.607	2.361	1.580				
KANG-02	Smoking Hills	sh (bent.)	2	1	1199.20	5.9	0.695	0.858	0.841				
KANG-03	Smoking Hills	sh (bent.)	2	1	1199.40	2.4	0.751	0.817	0.811	0.731	0.764	0.760	
KPKL-01	Smoking Hills	lam black sh	2	1	2007.60	1.4	0.754	0.792	0.789	0.723	0.741	0.739	c,b
KPKO-01	Smoking Hills	sh	2	1	1987.75	1.5	0.790	0.833	0.829	0.795	0.818	0.814	a,c
KPKO-02	Smoking Hills	sh	2	1	1990.83	1.6	0.723	0.764	0.761	0.796	0.821	0.817	a,b
KPKO-03	Smoking Hills	sh	2	1	2122.78	1.5	0.723	0.761	0.758				
NATK-01	Smoking Hills	mdst	2	1	1392.00	21.9	0.414	0.920	0.840				d
NATK-02	Smoking Hills	mdst	2	1	1397.11	19.8	0.386	0.766	0.732	0.522	0.746	0.716	d
ELL-03	Taglu	sh	2	1	1917.04	8.5	1.209	1.740	1.591	1.366	1.709	1.565	a
ELL-04	Taglu	sh	2	1	1918.65	10.5	1.031	1.603	1.447	1.361	1.805	1.609	b,a
ELL-05	Taglu	sh	2	1	1921.33	8.6	1.176	1.696	1.553	1.283	1.600	1.473	a
KUM-01	Taglu	sh	2	1	1370.08	11.7	0.647	1.001	0.944	0.835	1.076	1.006	b
TAGC-03	Taglu	sh	2	1	2880.84	8.0	0.948	1.305	1.227	1.082	1.307	1.229	b
TAGC-05	Taglu	sh	2	1	2896.46	10.2	1.145	1.776	1.591	1.412	1.863	1.661	a,c

[1]Sample	Rock Unit	Lithology	Lith Code	Age Code	Depth (mKB)	Porosity (%)	Dry measurements Ave. K_{dry} (W/mK)	Ave. K_r (W/mK)	Ave. K_{water} (W/mK)	Saturated measurements Ave. $K_{heptane}$ (W/mK)	Ave. K_r (W/mK)	Ave. K_{water} (W/mK)	Plug Qual.
BLR-02	Albian flysch	sh	2	2	3387.67	1.8	1.230	1.322	1.304	1.274	1.330	1.311	a
FR-01	Albian flysch	sh, ss lam.	2	2	2447.85	1.6	1.060	1.127	1.116	0.951	0.983	0.975	
FR-02	Albian flysch	sh	2	2	2450.60	2.1	1.138	1.236	1.218	1.114	1.168	1.152	
ATG-02	Arctic Red	sh	2	2	2306.50	8.6	1.318	1.921	1.740	1.343	1.682	1.541	c,b
ATG-03	Arctic Red	sh	2	2	2306.85	9.4	1.156	1.728	1.567	1.309	1.673	1.521	c
KPKO-05	Husky	sandy mdst	2	2	2953.02	2.7	1.572	1.765	1.716	1.851	1.996	1.934	b,a
KPKO-06	Husky	sandy mdst	2	2	2955.50	1.9	1.309	1.414	1.391	1.676	1.763	1.727	b,a
ONGC-01	Husky	sandy sh	2	2	1198.17	14.9	1.266	2.535	2.047	1.550	2.416	1.965	a,b
UNAL-06	Kamik	sh	2	2	2159.61	5.1	1.137	1.399	1.341				
TULK-01	Martin Creek	sh	2	2	2011.60	6.1	1.197	1.543	1.457				b
PARF-01	McGuire	sandy sh	2	2	2994.54	5.2	1.259	1.564	1.488				b
PARF-02	McGuire	sandy sh	2	2	2998.24	5.3	1.185	1.474	1.406	1.276	1.455	1.389	d,a
PARN-01	McGuire	sh	2	2	2844.29	3.5	1.092	1.254	1.223	1.114	1.207	1.179	a
PARN-02	McGuire	sh	2	2	2846.86	7.0	1.169	1.566	1.466	1.195	1.418	1.336	b
NAPF-02	Mount Goodenough	sandy sh	2	2	697.76	10.9	1.589	2.654	2.259	1.923	2.692	2.288	b,a
TUKF-05	Mount Goodenough	sh	2	2	2784.60	8.2	1.242	1.767	1.619	1.365	1.693	1.556	b
ATG-04	Mt. Goodenough (Siku)	sh	2	2	2723.2	3.6	1.006	1.157	1.130				d
MAYG-01	Rat River	sandy mdst	2	2	2474.75	6.2	1.560	2.056	1.905	1.714	2.040	1.891	b,a
MAYG-04	Rat River	sandy sh	2	2	2485.45	3.4	1.339	1.543	1.495	1.396	1.521	1.474	a,b
FR-03	Rat River	sh	2	2	2631.40	3.2	0.950	1.073	1.054	1.019	1.093	1.073	b
FR-05	Rat River	sh	2	2	2633.00	3.2	1.152	1.309	1.277	1.214	1.310	1.278	
NAPF-09	Carboniferous	sh	2	3	1521.86	5.8	1.888	2.470	2.277	1.944	2.304	2.133	a
NUVO-03	Imperial	sandy sh	2	3	1060.54	5.2	1.922	2.444	2.272	1.609	1.853	1.748	a,b
NAPF-03	Permian (Jungle Ck)	sandy sh	2	3	1243.46	7.8	1.747	2.511	2.248	1.995	2.526	2.260	a
UNAB-03	Permian (Jungle Ck)	sh	2	3	2894.72	3.9				1.793	1.999	1.909	a
UNAB-04	Permian (Jungle Ck)	sh	2	3	2898.19	2.8	1.517	1.709	1.660	1.616	1.741	1.690	a,b
BVR-01	Permian (Longstick)	sh	2	3	1479.00	3.8	1.645	1.944	1.860	1.889	2.104	2.008	a
BVR-02	Permian (Longstick)	sh	2	3	4867.00	5.1	1.621	2.033	1.911	1.767	2.039	1.916	b
ULUA-02	Permian (Longstick)	sh	2	3	2940.80	0.2	2.125	2.144	2.139	2.060	2.072	2.067	a
ULUA-03	Permian (Longstick)	sandy sh	2	3	2948.33	6.4	1.656	2.212	2.037	1.794	2.155	1.988	a
MAYJ-05	Arnica (Road R)	carbonate	3	3	3682.60	1.3	2.496	2.653	2.602	2.469	2.569	2.521	a
NAPF-06	Carboniferous	lmst	3	3	1514.94	2.7	2.227	2.525	2.430	2.324	2.522	2.428	a
NAPF-07	Carboniferous	lmst	3	3	1517.22	2.5	1.859	2.078	2.015	2.053	2.207	2.137	a
MAYJ-01	Landry	frac. carbonate	3	3	2892.95	2.8	2.189	2.493	2.397	2.473	2.696	2.587	a,c
MAYJ-02	Landry	frac. carbonate	3	3	2901.06	1.7	2.561	2.776	2.707	2.551	2.688	2.622	a,b

[1]Sample	Rock Unit	Lithology	Lith Code	Age Code	Depth (mKB)	Porosity (%)	Dry measurements Ave. K_{dry} (W/mK)	Ave. K_r (W/mK)	Ave. K_{water} (W/mK)	Saturated measurements Ave. $K_{heptane}$ (W/mK)	Ave. K_r (W/mK)	Ave. K_{water} (W/mK)	Plug Qual.
MAYJ-03	Landry	carbonate	3	3	2903.57	2.0	1.951	2.134	2.081	2.088	2.212	2.155	b
MAYJ-04	Landry	frac. carbonate	3	3	2918.41	2.3	2.632	2.940	2.834	2.615	2.810	2.711	b
NATK-03	M. Ordovician (Ronning)	dolomite	3	3	1512.15	2.8	2.341	2.671	2.562	2.346	2.554	2.453	a
NUNAA-01	Ronning	carbonate	3	3	3245.36	3.1	2.375	2.751	2.626	2.536	2.794	2.666	b,c
NUNAA-02	Ronning	carbonate	3	3	3249.84	3.0	2.870	3.328	3.162	2.244	2.455	2.354	b,c
PIKM-01	Ronning	carbonate	3	3	1718.09	6.7	2.221	3.074	2.757	2.388	2.955	2.657	b,a

[1]asterisk indicates measured water-saturated K values; all other samples have calculated water-saturated K values

Appendix A. Dry and saturated mass, density, and porosity values for Beaufort-Mackenzie core disk samples

Density of heptane: 681.6 kg/m^3
Density of water: 1000 kg/m^3

Lithology: ss - sandstone; sh - shale; mdst - mudstone; lmst - limestone; bent. - bentonitic; slty - silty; frac. - fractured; lam - laminated

Disk quality: a = good; b = okay, small cracks or some flaking; c = fair, corners rounded, disintegrating or epoxied; d = unusable

Sample #	Rock Unit	Lithology	Depth (mKB)	Ave. Thick. (mm)	Ave. Diam. (mm)	Sample Volume (cm^3)	Wet Mass (g)	Wet Density (kg/m^3)	Dry Mass (g)	Dry Density (kg/m^3)	Porosity Fraction	Grain Density (kg/m^3)	Disk Qual.	Anal.	Comment
ADL-01-01	Aklak	ss	1766.90	10.15	25.26	5.08654			9.350	1838.2			d	EG	disintegrated during saturation
01-02	Aklak	ss	1766.90	10.30	25.48	5.25201	11.217	2135.8	9.950	1894.5	0.241	2496.9		EG	water-saturation
01-02	Aklak	ss	1766.90	5.95	25.48	3.03393	6.2290	2053.1	5.9513	1961.6	0.134	2265.9	d	KG	disintegrated
02-01	Aklak	f.g. ss	1767.40	9.24	25.06	4.55747	10.8570	2382.2	10.2670	2252.8	0.190	2781.0		EG	
02-01	Aklak	f.g. ss	1767.40	9.12	25.06	4.49582	10.5070	2337.1	10.0771	2241.4	0.140	2607.2	a	KG	
02-02	Aklak	f.g. ss	1767.40	10.00	25.30	5.02726	11.7060	2328.5	11.1320	2214.3	0.168	2659.9		EG	
02-02	Aklak	f.g. ss	1767.40	9.81	25.30	4.93299	11.5030	2331.8	11.0275	2235.5	0.141	2603.7	a	KG	
03-01	Aklak	ss	1770.9	10.10	25.20	5.03747	9.9380	1972.8	9.0000	1786.6	0.273	2458.1		EG	very crumbly, destroyed during sat.
03-02	Aklak	ss	1770.9	9.60	25.06	4.73504	8.8210	1862.9	8.0600	1702.2	0.236	2227.4		EG	very crumbly
04-01	Aklak	mdst	1776.00	10.19	25.14	5.05818	11.8900	2350.6	11.3900	2251.8	0.145	2633.8		EG	broken and glued
04-01	Aklak	mdst	1776.00	9.25	25.14	4.59282	10.8550	2363.5	10.4183	2268.4	0.139	2636.1	c	KG	3 chips have been epoxied in
04-02	Aklak	mdst	1776.00	8.80	25.12	4.36126	10.3110	2364.2	9.8400	2256.2	0.158	2681.0		EG	broken and glued
04-02	Aklak	mdst	1776.00	6.65	25.12	3.29325	7.7800	2362.4	7.4694	2268.1	0.138	2632.3	a	KG	
05-01	Aklak	sandy sh	1781.80	10.06	25.16	5.00160	12.0100	2401.2	11.4500	2289.3	0.164	2739.2		EG	
05-01	Aklak	sandy sh	1781.80	9.85	25.16	4.89719	11.6670	2382.4	11.2274	2292.6	0.132	2640.3	b	KG	1 chip, no epoxy
05-02	Aklak	sandy sh	1781.80	9.45	25.11	4.67967	11.1540	2383.5	10.6200	2269.4	0.167	2725.7		EG	
05-02	Aklak	sandy sh	1781.80	9.19	25.11	4.54844	10.9350	2404.1	10.5346	2316.1	0.129	2659.6	a	KG	
06-01	Aklak	ss	1870.00	9.90	25.25	4.95733	10.2770	2073.1	9.3100	1878.0	0.195	2333.1		EG	water-saturation
06-01	Aklak	ss	1870.00	8.53	25.25	4.27257	8.9020	2083.5	8.0344	1880.5	0.298	2678.4	b	KG	losing grains, but whole
06-02	Aklak	ss	1870.00	9.80	25.09	4.84526	10.0720	2078.7	8.9050	1837.9	0.241	2421.0		EG	water-saturation
06-02	Aklak	ss	1870.00	7.71	25.09	3.81317	8.0570	2112.9	7.1666	1879.4	0.343	2858.8	d	KG	falling apart
07-01	Aklak	ss	1873.10	5.60	24.85	2.71601	5.6910	2095.4	5.1500	1896.2	0.199	2367.8		EG	water-saturation
07-01	Aklak	ss	1873.10	5.54	24.85	2.68691	5.4230	2018.3	4.8653	1810.7	0.305	2603.6	c	KG	large chip out and grains falling off
07-02	Aklak	ss	1873.10	10.70	25.08	5.28602	11.1910	2117.1	9.9900	1889.9	0.227	2445.5		EG	water-saturation
07-02	Aklak	ss	1873.10	10.48	25.08	5.17486	10.8120	2089.3	9.8145	1896.6	0.283	2644.4	b	KG	losing grains, but whole
07-03	Aklak	ss	1873.10	11.03	25.11	5.46209	11.6820	2138.7	10.6500	1949.8	0.189	2404.0		EG	water-saturation
07-03	Aklak	ss	1873.10	10.78	25.11	5.33829	11.3610	2128.2	10.4023	1948.6	0.263	2645.7	b	KG	losing grains, but whole
AVK-01-01	Aklavik	ss	1588.88	10.60	24.81	5.12447			12.8880	2515.0				EG	
01-01	Aklavik	ss	1588.88	10.47	24.98	5.13245	12.9710	2527.3	12.7883	2491.7	0.052	2629.0	a	KG	
01-02	Aklavik	ss	1588.88	10.00	24.80	4.83051	12.1860	2522.7	11.9310	2469.9	0.077	2677.3		EG	
01-02	Aklavik	ss	1588.88	9.78	24.90	4.76120	12.0270	2526.0	11.8729	2493.7	0.047	2618.0	b	KG	edges slightly rounded
ATG-02-01	Arctic Red	sh	2306.50	9.50	24.86	4.61122			12.7870	2773.0				EG	
02-01	Arctic Red	sh	2306.50	10.00	24.93	4.87885	11.7430	2406.9	11.4371	2344.2	0.092	2581.7	c	KG	epoxied and chipped
02-02	Arctic Red	sh	2306.50	9.50	24.78	4.58159	11.6980	2553.3	11.4490	2498.9	0.080	2715.4		EG	
02-02	Arctic Red	sh	2306.50	9.47	24.82	4.58067	11.5600	2523.6	11.3383	2475.3	0.071	2664.4	b	KG	edges slightly rounded and chipped

Sample #	Rock Unit	Lithology	Depth (mKB)	Ave. Thick. (mm)	Ave. Diam. (mm)	Sample Volume (cm^3)	Wet Mass (g)	Wet Density (kg/m^3)	Dry Mass (g)	Dry Density (kg/m^3)	Porosity Fraction	Grain Density (kg/m^3)	Disk Qual.	Anal.	Comment
03-01	Arctic Red	sh	2306.85	11.40	24.88	5.54237	13.8840	2505.1	13.5360	2442.3	0.092	2690.1		EG	
03-01	Arctic Red	sh	2306.85	4.78	24.76	2.30275	5.6860	2469.2	5.5731	2420.2	0.072	2607.8	c	KG	chips/flaking and very thin
03-02	Arctic Red	sh	2306.85	11.50	24.80	5.55509	13.8450	2492.3	13.4840	2427.3	0.095	2683.1		EG	
03-02	Arctic Red	sh	2306.85	9.04	25.05	4.45280	11.0000	2470.4	10.8962	2447.0	0.034	2533.7	c	KG	epoxied and chipped
04-01	Mt. Good. (Siku)	sh	2723.2	12.30	25.79	6.42536	14.6500	2280.0	14.4910	2255.3	0.036	2340.2		EG	not very sturdy
04-02	Mt. Good. (Siku)	sh	2723.2	11.70	25.14	5.80773	12.4790	2148.7	12.4290	2140.1	0.013	2167.5		EG	not very sturdy
05-01	Mt. Good. (Siku)	sh	2724.8	10.90	24.85	5.28651			12.9580	2451.1				EG	chipped
05-02	Mt. Good. (Siku)	sh	2724.8	12.10	25.92	6.38477			14.1790	2220.8				EG	split in half, epoxied
ATK-01-01	Atkinson Pt.	ss	2027.00	9.01	24.85	4.36986			10.0100	2290.7				EG	
01-01	Atkinson Pt.	ss	2027.00	8.76	24.99	4.29416	10.1890	2372.8	9.8544	2294.8	0.114	2591.0	a	KG	
01-02	Atkinson Pt.	ss	2027.00	8.20	24.82	3.96741	9.3600	2359.2	8.9850	2264.7	0.139	2629.3		EG	
01-02	Atkinson Pt.	ss	2027.00	7.87	24.78	3.79548	9.3630	2466.9	9.1135	2401.1	0.096	2657.4	a	KG	
02-01	Atkinson Pt.	ss	2030.40	10.80	24.78	5.20854	12.1800	2338.5	11.8590	2276.8	0.090	2503.2		EG	
02-01	Atkinson Pt.	ss	2030.40	10.73	24.76	5.16643	12.2180	2364.9	11.8473	2293.1	0.105	2562.9	b	KG	chipped
02-02	Atkinson Pt.	ss	2030.40	10.70	24.82	5.17699	12.1810	2352.9	11.6640	2253.0	0.147	2639.8		EG	
02-02	Atkinson Pt.	ss	2030.40	10.75	24.77	5.18145	12.2050	2355.5	11.8765	2292.1	0.093	2527.2	c	KG	chipped
BVR-01-01	Permian (Longstick)	sh	1479.00	9.50	24.95	4.64467	12.3050	2649.3	12.1830	2623.0	0.039	2728.1		EG	
01-01	Permian (Longstick)	sh	1479.00	9.45	24.93	4.61038	12.1850	2643.0	12.1397	2633.1	0.014	2671.6	a	KG	
01-02	Permian (Longstick)	sh	1479.00	9.50	24.96	4.64839	11.9400	2568.6	11.8230	2543.5	0.037	2641.0		EG	
01-02	Permian (Longstick)	sh	1479.00	9.48	24.77	4.56705	11.8700	2599.1	11.8261	2589.4	0.014	2626.5	a	KG	
02-01	Permian (Longstick)	sh	4867.00	9.20	24.88	4.47279	11.7110	2618.3	11.5140	2574.2	0.065	2752.1		EG	
02-01	Permian (Longstick)	sh	4867.00	9.00	24.77	4.33575	11.3180	2610.4	11.2450	2593.6	0.025	2659.2	b	KG	chipped
02-02	Permian (Longstick)	sh	4867.00	11.30	24.87	5.48934	14.1920	2585.4	14.0500	2559.5	0.038	2660.5		EG	
02-02	Permian (Longstick)	sh	4867.00	11.16	24.78	5.38096	13.8560	2575.0	13.9087	2584.8	-0.014	2548.2	b	KG	chipped
BLR-01-01	Albian flysch	f.g. ss	3386.94	10.20	24.63	4.85981	13.1760	2711.2	13.1190	2699.5	0.017	2746.8		EG	
01-01	Albian flysch	f.g. ss	3386.94	10.23	24.62	4.86895	13.0910	2688.7	13.0862	2687.7	0.001	2691.6	a	KG	
01-02	Albian flysch	f.g. ss	3386.94	10.70	24.60	5.08562	13.6290	2679.9	13.5550	2665.4	0.021	2723.5		EG	
01-02	Albian flysch	f.g. ss	3386.94	10.45	24.62	4.97607	13.3230	2677.4	13.3163	2676.1	0.002	2681.4	a	KG	
02-01	Albian flysch	sh	3387.67	11.00	24.79	5.30928	14.1920	2673.1	14.1120	2658.0	0.022	2718.1		EG	
02-01	Albian flysch	sh	3387.67	7.90	24.81	3.81797	10.5050	2751.5	10.4934	2748.4	0.004	2760.7	a	KG	
02-02	Albian flysch	sh	3387.67	10.10	24.84	4.89457	13.1590	2688.5	13.1130	2679.1	0.014	2716.5		EG	
02-02	Albian flysch	sh	3387.67	9.28	24.75	4.46586	12.2060	2733.2	12.1881	2729.2	0.006	2745.3	a	KG	one very tiny chip
ELL-01-01	Taglu	ss	1603.55	12.30	24.88	5.97993	13.3000	2224.1	12.4230	2077.5	0.215	2647.0		EG	
01-01	Taglu	ss	1603.55	9.66	24.78	4.65755	10.7210	2301.9	10.2016	2190.3	0.164	2618.8	a	KG	
01-02	Taglu	ss	1603.55	9.10	24.96	4.45267	9.6500	2167.2	9.0280	2027.5	0.205	2550.2		EG	
01-02	Taglu	ss	1603.55	8.37	24.85	4.06067	9.2150	2269.3	8.7994	2167.0	0.150	2549.9	a	KG	
02-01	Taglu	ss	1610.30	11.30	24.80	5.45848	12.7330	2332.7	12.0760	2212.3	0.177	2686.8		EG	
02-01	Taglu	ss	1610.30	10.81	24.76	5.20616	12.2470	2352.4	11.8202	2270.4	0.120	2580.8	a	KG	
02-02	Taglu	ss	1610.30	12.10	24.78	5.83550	13.5300	2318.6	12.8460	2201.4	0.172	2658.5		EG	
02-02	Taglu	ss	1610.30	7.98	24.80	3.85475	9.2270	2393.7	8.8731	2301.9	0.135	2660.2	a	KG	
03-01	Taglu	sh	1917.04	9.80	24.86	4.75684	12.0050	2523.7	11.7300	2465.9	0.085	2694.5		EG	
03-01	Taglu	sh	1917.04	8.40	24.78	4.05109	10.3600	2557.3	10.2151	2521.6	0.052	2661.2	a	KG	
03-02	Taglu	sh	1917.04	9.60	24.88	4.66726	11.7700	2521.8	11.4640	2456.3	0.096	2717.7		EG	cracked, epoxied; dry wt uncertain
04-01	Taglu	sh	1918.65	10.20	24.78	4.91918	12.4960	2540.3	12.1590	2471.8	0.101	2747.9		EG	cracked, epoxied

Sample #	Rock Unit	Lithology	Depth (mKB)	Ave. Thick. (mm)	Ave. Diam. (mm)	Sample Volume (cm^3)	Wet Mass (g)	Wet Density (kg/m^3)	Dry Mass (g)	Dry Density (kg/m^3)	Porosity Fraction	Grain Density (kg/m^3)	Disk Qual.	Anal.	Comment
04-01	Taglu	sh	1918.65	9.83	24.78	4.74074	12.0580	2543.5	11.8573	2501.2	0.062	2666.8	b	KG	epoxied
04-02	Taglu	sh	1918.65	10.70	24.80	5.16865	13.0610	2543.5	12.7590	2468.5	0.110	2773.5		EG	
04-02	Taglu	sh	1918.65	10.29	24.87	4.99748	12.5840	2518.1	12.3765	2476.5	0.061	2637.2	a	KG	
05-01	Taglu	sh	1921.33	7.50	24.82	3.62873	9.3650	2580.8	9.1390	2518.5	0.091	2771.8		EG	
05-01	Taglu	sh	1921.33	7.42	24.82	3.59002	9.2260	2569.9	9.0683	2526.0	0.064	2700.0	a	KG	
05-02	Taglu	sh	1921.33	10.10	24.76	4.86309	12.5520	2581.1	12.2880	2526.8	0.080	2745.5		EG	
05-02	Taglu	sh	1921.33	10.11	24.74	4.86005	12.4400	2559.6	12.2546	2521.5	0.056	2671.0	a	KG	
06-01	Taglu	shaly ss	1924.00	9.40	24.88	4.57002	11.5700	2531.7	11.3210	2477.2	0.080	2692.5		EG	
06-01	Taglu	shaly ss	1924.00	9.32	24.71	4.46702	11.4310	2559.0	11.2604	2520.8	0.056	2670.4	a	KG	
06-02	Taglu	shaly ss	1924.00	9.70	24.76	4.67049	12.0170	2573.0	11.7590	2517.7	0.081	2739.8		EG	
06-02	Taglu	shaly ss	1924.00	9.75	24.76	4.69216	11.9400	2544.7	11.7647	2507.3	0.055	2652.7	a	KG	
FR-01-01	Albian flysch	sh with ss lam.	2447.85	8.50	24.80	4.10594			10.2450	2495.2				EG	
01-02	Albian flysch	sh with ss lam.	2447.85	11.20	24.80	5.41017	13.8740	2564.4	13.8140	2553.3	0.016	2595.6		EG	
02-01	Albian flysch	sh	2450.60	12.03	24.98	5.89577	15.1990	2578.0	15.1350	2567.1	0.016	2608.6		EG	
02-02	Albian flysch	sh	2450.60	12.66	24.98	6.20452	16.4230	2646.9	16.3150	2629.5	0.026	2698.4		EG	
03-01	Rat River	sh	2631.40	9.00	24.92	4.38964	11.0330	2513.4	10.9240	2488.6	0.036	2582.7		EG	
03-01	Rat River	sh	2631.40	7.31	24.98	3.58010	9.3190	2603.0	9.2554	2585.2	0.026	2654.4	b	KG	chips
03-02	Rat River	sh	2631.40	8.20	24.78	3.95463	10.4370	2639.2	10.3630	2620.5	0.027	2694.4		EG	Sat. mass mislabelled as FR03-01?
04-01	Rat River	ss	2632.32	10.50	24.68	5.02307			13.2810	2644.0				EG	
04-01	Rat River	ss	2632.32	10.54	24.79	5.08846	13.2840	2610.6	13.2317	2600.3	0.015	2640.1	b	KG	might need grinding
05-01	Rat River	sh	2633.00	9.80	24.78	4.72627	12.1980	2580.9	12.0940	2558.9	0.032	2644.3		EG	
IKH-01-01	Kamik	ss	2302.31	9.80	24.74	4.71102	11.4690	2434.5	11.2140	2380.4	0.079	2585.7		EG	
01-01	Kamik	ss	2302.31	9.35	24.80	4.51532	11.0440	2445.9	10.8340	2399.4	0.068	2575.1	a	KG	
01-02	Kamik	ss	2302.31	10.10	24.96	4.94197	11.7350	2374.6	11.4770	2322.4	0.077	2515.0		EG	
01-02	Kamik	ss	2302.31	7.86	25.08	3.88424	9.4930	2444.0	9.3106	2397.0	0.069	2574.4	a	KG	small chip
02-01	Kamik	ss	2308.50	12.20	24.79	5.88847			14.1260	2398.9				EG	
02-01	Kamik	ss	2308.50	11.96	24.81	5.77954	14.2430	2464.4	13.9364	2411.3	0.078	2614.9	a	KG	
02-02	Kamik	ss	2308.50	8.20	24.76	3.94825	9.8440	2493.3	9.7120	2459.8	0.049	2586.7		EG	
02-02	Kamik	ss	2308.50	8.20	24.92	3.99945	9.7550	2439.1	9.6019	2400.8	0.056	2543.7	a	KG	
IVK-01-01	Richards	ss	2489.97	8.60	23.22	3.64177	11.7250	3219.6	11.4180	3135.3	0.124	3577.8		EG	very crumbly; no dry wt in lab book
01-02	Richards	ss	2489.97	8.60	24.04	3.90353	11.7350	3006.3	11.4280	2927.6	0.115	3309.5		EG	
02-01	Richards	ss	2491.68	12.88	24.50	6.07209	12.6380	2081.3	11.5720	1905.8	0.258	2566.9		EG	
02-01	Richards	ss	2491.68	11.59	24.54	5.48179	11.4210	2083.4	10.4989	1915.2	0.247	2542.8	d	KG	disintegrated
02-02	Richards	ss	2491.68	11.00	24.70	5.27080	10.6540	2021.3	9.7940	1858.2	0.239	2443.0		EG	
02-02	Richards	ss	2491.68	9.43		0.00000			8.6067					KG	
03-01	Richards	ss	2688.18	12.52	24.30	5.80640	12.2550	2110.6	11.2610	1939.4	0.251	2589.9		EG	
03-01	Richards	ss	2688.18	6.26	24.48	2.94637	6.1670	2093.1	5.8377	1981.3	0.164	2369.9	d	KG	disintegrated
03-02	Richards	ss	2688.18	12.42	24.45	5.83135	12.2500	2100.7	11.2400	1927.5	0.254	2584.2		EG	
03-02	Richards	ss	2688.18	5.58	24.40	2.61035	5.6340	2158.3	5.1249	1963.3	0.286	2750.3	b	KG	chipped, flaked
04-01	Richards	sh	2694.25	11.37	24.85	5.51446			11.3380	2056.0				EG	
04-02	Richards	sh	2694.25	12.55	24.95	6.13585	13.6020	2216.8	12.6860	2067.5	0.219	2647.4		EG	
04-02	Richards	sh	2694.25	10.11	24.82	4.88911	11.1360	2277.7	10.4739	2142.3	0.199	2673.5	a	KG	
05-01	Richards	sh	3115.36	10.01	24.75	4.81587			11.8310	2456.7				EG	
05-02	Richards	sh	3115.36	10.00	24.80	4.83051	12.0120	2486.7	11.7390	2430.2	0.083	2649.9		EG	

Sample #	Rock Unit	Lithology	Depth (mKB)	Ave. Thick. (mm)	Ave. Diam. (mm)	Sample Volume (cm^3)	Wet Mass (g)	Wet Density (kg/m^3)	Dry Mass (g)	Dry Density (kg/m^3)	Porosity Fraction	Grain Density (kg/m^3)	Disk Qual.	Anal.	Comment
05-02	Richards	sh	3115.36	9.05	24.93	4.41635	10.9480	2479.0	10.7368	2431.2	0.070	2614.6	a	KG	
06-01	Richards	sh	3116.58	10.80	25.22	5.39515			12.7110	2356.0				EG	
07-01	Richards	sh	3199.09	9.75	24.76	4.69457			11.2880	2404.5				EG	
07-02	Richards	sh	3199.09	13.20	24.80	6.37628	15.8450	2485.0	15.4190	2418.2	0.098	2681.0		EG	
07-02	Richards	sh	3199.09	6.19	24.87	3.00456	7.5370	2508.5	7.3684	2452.4	0.082	2672.4	a	KG	
08-01	Richards	sh	3200.70	10.80	25.22	5.39515	12.9400	2398.4	12.5920	2333.9	0.095	2577.9		EG	
08-01	Richards	sh	3200.70	9.79	24.84	4.74555	11.9550	2519.2	11.6894	2463.2	0.082	2683.6	a	KG	small chip
08-02	Richards	sh	3200.70	11.70	24.75	5.62893	14.1860	2520.2	13.8070	2452.9	0.099	2721.7		EG	
08-02	Richards	sh	3200.70	10.39	24.90	5.05702	12.5690	2485.5	12.3124	2434.7	0.074	2630.5	a	KG	small chip
IVKK-01-01	Richards	slty mdst	2924.90	8.20	24.66	3.91643	9.2000	2349.1	8.9000	2272.5	0.112	2560.2		EG	
01-01	Richards	slty mdst	2924.90	7.38	24.86	3.58340	8.5240	2378.7	8.2477	2301.6	0.113	2595.2	b	KG	chipped
01-02	Richards	slty mdst	2924.90	11.10	24.94	5.42258	12.6140	2326.2	12.1550	2241.6	0.124	2559.4		EG	
01-02	Richards	slty mdst	2924.90	8.35	24.99	4.09552			9.3165	2274.8				KG	
01-02	Richards	slty mdst	2924.90	7.56	24.99	3.70926	8.7380	2355.7	8.4347	2274.0	0.120	2583.9	a	KG	21 Dec 04 repolished
KANG-01-01	Smoking Hills	bentonite	1196.00	15.60	24.88	7.58430	14.5100	1913.2	12.9800	1711.4	0.296	2430.9		EG	
02-01	Smoking Hills	sh (bent.)	1199.20	10.70	25.03	5.26496	12.4720	2368.9	12.1930	2315.9	0.078	2511.1		EG	
02-02	Smoking Hills	sh (bent.)	1199.20	10.10	25.07	4.98563	11.2490	2256.3	11.1090	2228.2	0.041	2323.9		EG	
03-01	Smoking Hills	sh (bent.)	1199.40	11.10	24.87	5.39218	13.1170	2432.6	13.0480	2419.8	0.019	2466.1		EG	
03-02	Smoking Hills	sh (bent.)	1199.40	11.10	24.93	5.41823	12.5850	2322.7	12.4780	2303.0	0.029	2371.7		EG	
KUG-01-01	Kugmallit	sh	1756.17	10.30	24.88	5.00758	13.2170	2639.4	13.0200	2600.1	0.058	2759.3		EG	
01-01	Kugmallit	sh	1756.17	10.03	24.78	4.83478	12.7700	2641.3	12.5903	2604.1	0.055	2754.3	a	KG	small chip
01-02	Kugmallit	sh	1756.17	12.70	24.86	6.16447	16.1040	2612.4	15.9050	2580.1	0.047	2708.4		EG	
01-02	Kugmallit	sh	1756.17	12.41	24.78	5.98380	15.8910	2655.7	15.5580	2600.0	0.082	2831.2	a	KG	
KPKL-01-01	Smoking Hills	lam black sh	2007.60	8.20	25.06	4.04451	9.0890	2247.2	9.0560	2239.1	0.012	2266.2		EG	
01-01	Smoking Hills	lam black sh	2007.60	5.73	25.00	2.81025	6.7232	2392.4	6.6911	2381.0	0.017	2421.5	c	KG	thin with chips/flaking
01-02	Smoking Hills	lam black sh	2007.60	11.90	24.68	5.69282	13.9510	2450.6	13.8900	2439.9	0.016	2478.9		EG	
01-02	Smoking Hills	lam black sh	2007.60	7.54	24.94	3.68344	9.1040	2471.6	9.0277	2450.9	0.030	2527.7	b	KG	few chips
02-01	Smoking Hills	lam black sh	2011.68	8.80	24.89	4.28176			9.9770	2330.1				EG	severely chipped
03-01	Husky	sh	2264.34	10.90	24.99	5.34625	11.1930	2093.6	11.1490	2085.4	0.012	2110.9		EG	severely chipped; disintegrated
04-01	Permian	ss	2496.92	8.70	24.79	4.19916	10.9690	2612.2	10.8440	2582.4	0.044	2700.4		EG	
04-01	Permian	ss	2496.92	8.47	24.82	4.09805	10.8011	2635.7	10.7318	2618.8	0.025	2685.4	a	KG	
04-02	Permian	ss	2496.92	10.50	24.95	5.13358	13.5620	2641.8	13.4200	2614.2	0.041	2724.7		EG	
04-02	Permian	ss	2496.92	10.34	24.78	4.98790	13.2739	2661.2	13.1956	2645.5	0.023	2707.9	a	KG	
05-01	Permian	ss	2501.54	8.40	24.84	4.07073	9.9720	2449.7	9.6670	2374.8	0.110	2668.0		EG	
05-01	Permian	ss	2501.54	8.20	24.86	3.98142	9.7500	2448.9	9.5458	2397.6	0.075	2592.7	a	KG	
05-02	Permian	ss	2501.54	10.40	24.95	5.08469	12.3950	2437.7	11.9530	2350.8	0.128	2694.4		EG	
05-02	Permian	ss	2501.54	10.14	24.98	4.97073	12.0630	2426.8	11.8008	2374.1	0.077	2573.2	a	KG	
KPKO-01-01	Smoking Hills	sh	1987.75	12.90	24.83	6.24645	15.2040	2434.0						EG	
01-01	Smoking Hills	sh	1987.75	12.56	24.86	6.09530	14.7760	2424.2	14.7189	2414.8	0.014	2448.4	a	KG	
01-02	Smoking Hills	sh	1987.75	11.40	24.86	5.53346	13.4730	2434.8						EG	
01-02	Smoking Hills	sh	1987.75	8.94	24.85	4.33348	10.8100	2494.5	10.7623	2483.5	0.016	2524.3	c	KG	chips and ring around outside
02-01	Smoking Hills	sh	1990.83	10.10	24.85	4.89851	12.0490	2459.7						EG	
02-01	Smoking Hills	sh	1990.83	9.03	24.77	4.35261	11.0020	2527.7	10.9598	2518.0	0.014	2554.3	a	KG	
02-02	Smoking Hills	sh	1990.83	8.40	24.92	4.09699	9.7840	2388.1						EG	

Sample #	Rock Unit	Lithology	Depth (mKB)	Ave. Thick. (mm)	Ave. Diam. (mm)	Sample Volume (cm^3)	Wet Mass (g)	Wet Density (kg/m^3)	Dry Mass (g)	Dry Density (kg/m^3)	Porosity Fraction	Grain Density (kg/m^3)	Disk Qual.	Anal.	Comment
02-02	Smoking Hills	sh	1990.83	7.45	24.82	3.60575	9.0740	2516.5	9.0308	2504.6	0.018	2549.4	b	KG	flakes getting thin
03-01	Smoking Hills	sh	2122.78	12.70	25.11	6.28908			13.6670	2173.1				EG	seriously chipped
03-02	Smoking Hills	sh	2122.78	10.50	25.04	5.17068			11.8190	2285.8				EG	seriously chipped
05-01	Husky	sandy mdst	2953.02	10.40	25.01	5.10917			12.8120	2507.6				EG	
05-01	Husky	sandy mdst	2953.02	8.99	24.83	4.35193	11.3380	2605.3	11.9459	2745.0	-0.205	2278.1	b	KG	rounded edge
05-02	Husky	sandy mdst	2953.02	7.80	24.83	3.77692	9.4438	2500.4	9.3750	2482.2	0.027	2550.3		EG	
05-02	Husky	sandy mdst	2953.02	7.27	24.81	3.51462	9.1910	2615.1	9.1276	2597.0	0.026	2667.6	a	KG	
06-01	Husky	sandy mdst	2955.50	10.30	24.77	4.96340	12.6800	2554.7	12.6140	2541.4	0.020	2592.0		EG	
06-01	Husky	sandy mdst	2955.50	7.27	25.06	3.58704	9.1960	2563.7	9.1463	2549.8	0.020	2602.7	b	KG	small chips
06-02	Husky	sandy mdst	2955.50	9.90	24.50	4.66721	12.4040	2657.7	12.3650	2649.3	0.012	2682.2		EG	
06-02	Husky	sandy mdst	2955.50	9.37	24.87	4.54935	11.7870	2590.9	11.7142	2574.9	0.023	2636.8	a	KG	
07-01	Permian	muddy ss	3098.14	12.50	24.92	6.09672	15.7160	2577.8	15.5900	2557.1	0.030	2637.1		EG	
07-01	Permian	muddy ss	3098.14	12.27	24.86	5.95333	15.4840	2600.9	15.4106	2588.6	0.018	2636.3	a	KG	
07-02	Permian	muddy ss	3098.14	12.60	24.85	6.11101	15.8370	2591.6	15.7120	2571.1	0.030	2650.6		EG	
07-02	Permian	muddy ss	3098.14	12.49	24.85	6.05524	15.6810	2589.7	15.5993	2576.2	0.020	2628.2	a	KG	
08-01	Permian	muddy ss	3101.04	8.90	24.85	4.31651	11.2690	2610.7	11.1790	2589.8	0.031	2671.5		EG	
08-01	Permian	muddy ss	3101.04	8.80	24.82	4.25650	11.1310	2615.1	11.0817	2603.5	0.017	2648.5	a	KG	
08-02	Permian	muddy ss	3101.04	9.10	24.82	4.40286			11.4730	2605.8				EG	
08-02	Permian	muddy ss	3101.04	8.89	24.98	4.35689	11.3270	2599.8	11.2774	2588.4	0.017	2632.4	a	KG	
KUM-01-01	Taglu	sh	1370.08	10.70	24.94	5.22717	11.6740	2233.3	11.2410	2150.5	0.122	2448.0		EG	
01-01	Taglu	sh	1370.08	5.91	24.78	2.85144	6.7930	2382.3	6.5567	2299.4	0.122	2617.7	b	KG	slight chip and thin
01-02	Taglu	sh	1370.08	8.80	24.64	4.19618	9.2390	2201.8	8.9160	2124.8	0.113	2395.3		EG	
01-02	Taglu	sh	1370.08	4.50	24.68	2.15394	5.1560	2393.8	4.9635	2304.4	0.131	2652.1	b	KG	thin and slight flaking
02-01	Taglu	ss	1373.73	12.20	24.82	5.90273	12.5220	2121.4	11.7360	1988.2	0.195	2471.0		EG	
02-01	Taglu	ss	1373.73	5.16	24.92	2.51551	5.3750	2136.7	4.9573	1970.7	0.244	2605.4	b	KG	thin
02-02	Taglu	ss	1373.73	11.70	24.80	5.65170	11.8140	2090.3	11.0540	1955.9	0.197	2436.6		EG	
02-02	Taglu	ss	1373.73	6.95	24.89	3.37918	7.2220	2137.2	6.6696	1973.7	0.240	2596.4	a	KG	
03-01	Taglu	ss	1379.68	11.70	24.80	5.65170	12.8710	2277.4	12.1460	2149.1	0.188	2647.3		EG	
03-01	Taglu	ss	1379.68	10.64	24.70	5.09830	11.8710	2328.4	11.2780	2212.1	0.171	2667.3	a	KG	
03-02	Taglu	ss	1379.68	12.00	24.82	5.80597	13.6990	2359.5	12.9970	2238.6	0.177	2721.3		EG	
03-02	Taglu	ss	1379.68	11.67	24.84	5.65420	13.3500	2361.1	12.7089	2247.7	0.166	2696.2	a	KG	
04-01	Taglu	ss	2174.44	11.90	24.82	5.75759	13.3880	2325.3	12.7210	2209.4	0.170	2661.9		EG	
04-01	Taglu	ss	2174.44	8.67	24.99	4.25002	9.7520	2294.6	9.3009	2188.4	0.156	2592.1	a	KG	
04-02	Taglu	ss	2174.44	11.40	24.83	5.52012	12.8370	2325.5	12.1770	2205.9	0.175	2675.2		EG	
04-02	Taglu	ss	2174.44	10.86	24.82	5.25198	12.2560	2333.6	11.6746	2222.9	0.162	2653.9	a	KG	
05-01	Taglu	ss	2182.67	11.80	24.85	5.72301	12.9170	2257.0	12.0840	2111.5	0.214	2684.8		EG	
05-01	Taglu	ss	2182.67	8.22	24.86	3.98992			8.3105	2082.9				KG	
05-01	Taglu	ss	2182.67	8.12	24.86	3.94138	8.8640	2249.0	8.6629	2197.9	0.075	2375.8	a	KG	repolished
05-02	Taglu	ss	2182.67	9.10	24.82	4.40286	9.9350	2256.5	9.2150	2093.0	0.240	2753.6		EG	
06-01	Taglu	ss	2296.12	9.70	24.86	4.70830	11.2920	2398.3	10.8650	2307.6	0.133	2661.8		EG	
06-01	Taglu	ss	2296.12	9.41	24.80	4.54551	10.9150	2401.3	10.5561	2322.3	0.116	2626.6	a	KG	
06-02	Taglu	ss	2296.12	9.90	24.87	4.80924	11.4690	2384.8	10.9940	2286.0	0.145	2673.4		EG	
06-02	Taglu	ss	2296.12	9.75	24.79	4.70475	11.2600	2393.3	10.8443	2305.0	0.130	2648.3	a	KG	
08-01	Taglu	shaly ss	2306.42	12.40	24.80	5.98984	14.6490	2445.6	14.2910	2385.9	0.088	2615.2		EG	

Sample #	Rock Unit	Lithology	Depth (mKB)	Ave. Thick. (mm)	Ave. Diam. (mm)	Sample Volume (cm^3)	Wet Mass (g)	Wet Density (kg/m^3)	Dry Mass (g)	Dry Density (kg/m^3)	Porosity Fraction	Grain Density (kg/m^3)	Disk Qual.	Anal.	Comment
08-01	Taglu	shaly ss	2306.42	11.07	24.86	5.37328	13.1310	2443.8	12.8487	2391.2	0.077	2590.9	a	KG	slight rounded edge 1/4
08-02	Taglu	shaly ss	2306.42	12.50	24.80	6.03814	14.9100	2469.3	14.6000	2418.0	0.075	2614.9		EG	
08-02	Taglu	shaly ss	2306.42	11.85	24.80	5.72416	14.1430	2470.8	13.8545	2420.4	0.074	2613.6	a	KG	
MAL-01-01	Richards	lam sh	2303.07	13.10	24.88	6.36886	15.3010	2402.5	15.0390	2361.3	0.060	2513.0		EG	
01-01	Richards	lam sh	2303.07	10.52	24.83	5.09400	12.3900	2432.3	12.1017	2375.7	0.083	2590.8	c	KG	epoxied and flaking
01-02	Richards	lam sh	2303.07	7.20	24.78	3.47236	7.9760	2297.0	7.8110	2249.5	0.070	2418.1		EG	
MAYG-01-01	Rat River	sandy mdst	2474.75	12.40	25.00	6.08684	15.5740	2558.6	15.2700	2508.7	0.073	2707.1		EG	
01-01	Rat River	sandy mdst	2474.75	12.62	25.06	6.22213	15.4950	2490.3	15.3140	2461.2	0.043	2570.9	b	KG	chipped and rounded
01-02	Rat River	sandy mdst	2474.75	12.50	24.99	6.13102	15.6720	2556.2	15.4570	2521.1	0.051	2657.9		EG	
01-02	Rat River	sandy mdst	2474.75	12.60	25.07	6.22068	15.6360	2513.6	15.4841	2489.1	0.036	2581.6	a	KG	
02-01	Rat River	muddy ss	2478.00	10.70	24.96	5.23556	12.1890	2328.1	11.6970	2234.1	0.138	2591.4		EG	
02-01	Rat River	muddy ss	2478.00	10.23	24.88	4.97233	11.7300	2359.1	11.3470	2282.0	0.113	2572.8	a	KG	small chip
02-02	Rat River	muddy ss	2478.00	10.40	24.84	5.03995	12.0100	2383.0	11.5250	2286.7	0.141	2662.7		EG	
02-02	Rat River	muddy ss	2478.00	10.38	24.84	5.02905	11.9730	2380.8	11.5845	2303.5	0.113	2598.0	a	KG	small chip
03-01	Rat River	muddy ss	2482.40	9.90	24.84	4.79765	12.0000	2501.2	11.7280	2444.5	0.083	2666.3		EG	
03-01	Rat River	muddy ss	2482.40	10.11	24.98	4.95480	11.6830	2357.9	11.5777	2336.7	0.031	2411.9	c	KG	large chip
03-02	Rat River	muddy ss	2482.40	9.70	24.95	4.74245	11.6940	2465.8	11.3650	2396.4	0.102	2668.0		EG	
03-02	Rat River	muddy ss	2482.40	9.70	24.86	4.70587	11.6480	2475.2	11.4296	2428.8	0.068	2606.3	a	KG	
04-01	Rat River	sandy sh	2485.45	12.20	24.92	5.95039	14.7160	2473.1	14.5690	2448.4	0.036	2540.5		EG	
04-01	Rat River	sandy sh	2485.45	8.97	24.84	4.34575	14.6560	3372.5	14.5699	3352.7	0.029	3453.1	a	KG	
04-02	Rat River	sandy sh	2485.45	12.50	24.88	6.07716	14.7060	2419.9	14.5760	2398.5	0.031	2476.2		EG	
04-02	Rat River	sandy sh	2485.45	12.26	24.85	5.94611	10.8900	1831.4	10.8267	1820.8	0.016	1849.7	b	KG	rounded
MAYJ-01-01	Landry	frac. carbonate	2892.95	10.10	24.89	4.91429	13.1120	2668.1	12.9700	2639.2	0.042	2756.1		EG	
01-01	Landry	frac. carbonate	2892.95	9.99	24.80	4.82447	12.9130	2676.6	12.8565	2664.8	0.017	2711.4	a	KG	small chip, natural fissures
01-02	Landry	frac. carbonate	2892.95	10.70	24.84	5.18534	13.9520	2690.7	13.9060	2681.8	0.013	2717.2		EG	
01-02	Landry	frac. carbonate	2892.95	10.39	24.79	5.01606	13.2720	2645.9	13.2558	2642.7	0.005	2655.3	c	KG	large chip
02-01	Landry	frac. carbonate	2901.06	12.80	24.85	6.20801	17.0030	2738.9	16.9410	2728.9	0.015	2769.5		EG	
02-01	Landry	frac. carbonate	2901.06	9.41	24.75	4.52841	16.0200	3537.7	16.0124	3536.0	0.002	3544.7	a, b	KG	chip
02-02	Landry	frac. carbonate	2901.06	9.60	24.95	4.69356	12.7940	2725.9	12.7350	2713.3	0.018	2764.3		EG	
02-02	Landry	frac. carbonate	2901.06	9.22	24.92	4.49572	12.2400	2722.6	12.2338	2721.2	0.002	2726.7	b	KG	rounded
02-02	Landry	frac. carbonate	2901.06	8.74	25.02	4.29588	12.2400	2849.2	12.1848	2836.4	0.019	2890.9	b	KG	rounded
03-01	Landry	carbonate	2903.57	9.70	25.04	4.77673	12.7410	2667.3	12.6640	2651.2	0.024	2715.4		EG	
03-01	Landry	carbonate	2903.57	9.23	24.96	4.51383	12.1930	2701.3	12.1883	2700.2	0.002	2704.3	b	KG	rounded
03-02	Landry	carbonate	2903.57	10.30	25.21	5.14130	13.4700	2620.0	13.4120	2608.7	0.017	2652.6		EG	
03-02	Landry	carbonate	2903.57	10.19	25.00	4.99955	13.4280	2685.8	13.4199	2684.2	0.002	2690.6	b	KG	slightly chipped edges
04-01	Landry	frac. carbonate	2918.41	11.90	25.00	5.84140	15.6050	2671.4	15.5220	2657.2	0.021	2713.8		EG	
04-01	Landry	frac. carbonate	2918.41	11.51	25.02	5.65900	15.0730	2663.5	15.0677	2662.6	0.001	2666.3	b	KG	chipped edge
04-01	Landry	frac. carbonate	2918.41	8.74	25.01	4.29244	15.0730	3511.5	15.0600	3508.5	0.004	3524.2	b	KG	chipped edge
04-02	Landry	frac. carbonate	2918.41	10.20	25.01	5.01092	13.4620	2686.5	13.3740	2669.0	0.026	2739.6		EG	
04-02	Landry	frac. carbonate	2918.41	10.15	25.02	4.98912			12.1848	2442.3				KG	
04-02	Landry	frac. carbonate	2918.41	8.74	25.02	4.29588	11.6650	2715.4	11.6553	2713.1	0.003	2722.2	b	KG	chipped, repolished
05-01	Arnica	carbonate	3682.60	10.38	24.92	5.06271			13.5264	2671.8				KG	
05-01	Arnica	carbonate	3682.60	9.21	24.92	4.49206	12.0480	2682.1	12.0015	2671.7	0.015	2712.9	a	KG	repolished
05-02	Arnica	carbonate	3682.60	12.16	24.84	5.89408	14.9450	2535.6	14.9007	2528.1	0.011	2556.3	a	KG	

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NAPF-01-01	Mount Goodenough	shaly ss	696.42	11.70	25.16	5.81697	14.1230	2427.9	13.6580	2348.0	0.117	2659.9		EG	
01-01	Mount Goodenough	shaly ss	696.42	11.56	25.02	5.68236	12.2300	2152.3	12.0091	2113.4	0.057	2241.2	a	KG	
01-02	Mount Goodenough	shaly ss	696.42	8.60	24.99	4.21814	10.5860	2509.6	10.2280	2424.8	0.125	2769.6		EG	
01-02	Mount Goodenough	shaly ss	696.42	8.73	25.04	4.29659	9.7940	2279.5	9.6128	2237.3	0.062	2384.9	a	KG	
02-01	Mount Goodenough	sandy sh	697.76	11.00	24.99	5.39529	13.0950	2427.1	12.6950	2353.0	0.109	2640.1		EG	
02-01	Mount Goodenough	sandy sh	697.76	10.94	25.01	5.37323	13.1010	2438.2	12.8700	2395.2	0.063	2556.5	b	KG	chipped
02-02	Mount Goodenough	sandy sh	697.76	10.50	25.02	5.16243	12.7540	2470.5	12.3690	2396.0	0.109	2690.3		EG	
02-02	Mount Goodenough	sandy sh	697.76	10.51	25.06	5.18141	12.6890	2448.9	12.4729	2407.2	0.061	2564.1	a	KG	small chip
03-01	Permian (Jungle Ck)	sandy sh	1243.46	11.00	25.09	5.43856	14.5680	2678.7	14.3100	2631.2	0.070	2828.0		EG	
03-01	Permian (Jungle Ck)	sandy sh	1243.46	10.96	25.00	5.38120	14.5670	2707.0	14.4006	2676.1	0.045	2803.3	a	KG	
03-02	Permian (Jungle Ck)	sandy sh	1243.46	10.60	25.09	5.24079	13.4860	2573.3	13.1770	2514.3	0.087	2752.4		EG	
03-02	Permian (Jungle Ck)	sandy sh	1243.46	10.63	24.98	5.20719	13.4610	2585.1	13.2774	2549.8	0.052	2688.9	a	KG	
04-01	Permian (Jungle Ck)	shaly ss	1245.34	11.00	25.01	5.40393			12.9540	2397.1				EG	
04-01	Permian (Jungle Ck)	shaly ss	1245.34	10.97	25.04	5.40090	13.3390	2469.8	13.0658	2419.2	0.074	2613.1	a	KG	
04-02	Permian (Jungle Ck)	shaly ss	1245.34	10.90	25.07	5.38053	13.1980	2452.9	12.7430	2368.4	0.124	2703.8		EG	
04-02	Permian (Jungle Ck)	shaly ss	1245.34	10.87	25.02	5.34557	13.1420	2458.5	12.8486	2403.6	0.081	2614.1	a	KG	
05-01	Permian (Jungle Ck)	ss	1255.57	10.90	25.01	5.35481	12.8510	2399.9	12.3040	2297.7	0.150	2702.8		EG	
05-01	Permian (Jungle Ck)	ss	1255.57	10.89	25.02	5.35540	12.7670	2383.9	12.4197	2319.1	0.095	2562.9	a	KG	tiny chip
05-02	Permian (Jungle Ck)	ss	1255.57	10.80	24.98	5.29296	12.7100	2401.3	12.1870	2302.5	0.145	2692.9		EG	
05-02	Permian (Jungle Ck)	ss	1255.57	10.90	25.04	5.36643	12.6750	2361.9	12.2510	2282.9	0.116	2582.2	a	KG	small area on edge is rounded
06-01	Carboniferous	lmst	1514.94	9.60	24.98	4.70485	12.4740	2651.3	12.3970	2634.9	0.024	2699.8		EG	
06-01	Carboniferous	lmst	1514.94	9.31	24.93	4.54326	12.1640	2677.4	12.1574	2675.9	0.002	2681.6	a	KG	
06-02	Carboniferous	lmst	1514.94	10.70	25.03	5.26496	13.8410	2628.9	13.7350	2608.8	0.030	2688.2		EG	
06-02	Carboniferous	lmst	1514.94	10.06	24.96	4.91995	13.1240	2667.5	13.1108	2664.8	0.004	2675.4	a	KG	
07-01	Carboniferous	lmst	1517.22	12.00	25.02	5.89991	15.3960	2609.5	15.2950	2592.4	0.025	2659.2		EG	
07-01	Carboniferous	lmst	1517.22	9.03	25.00	4.43259	11.8960	2683.8	11.8845	2681.2	0.004	2691.4	a	KG	small flakes
08-01	Carboniferous	ss	1517.85	10.50	25.13	5.20792	13.7720	2644.4	13.6900	2628.7	0.023	2690.8		EG	
08-01	Carboniferous	ss	1517.85	10.60	25.00	5.20204	13.3700	2570.1	13.3614	2568.5	0.002	2574.7	a	KG	tiny chip
08-02	Carboniferous	ss	1517.85	10.20	25.22	5.09542	13.4590	2641.4	13.3500	2620.0	0.031	2704.9		EG	
08-02	Carboniferous	ss	1517.85	9.87	25.07	4.87333	12.9650	2660.4	12.9517	2657.7	0.004	2668.4	a	KG	
09-01	Carboniferous	sh	1521.86	10.10	25.11	5.00155	12.9490	2589.0	12.7430	2547.8	0.060	2711.7		EG	
09-01	Carboniferous	sh	1521.86	10.04	24.99	4.92321	11.6510	2366.5	11.6182	2359.9	0.010	2383.2	a	KG	
09-02	Carboniferous	sh	1521.86	12.20	25.12	6.04629	16.9450	2802.5	16.7170	2764.8	0.055	2926.8		EG	
09-02	Carboniferous	sh	1521.86	13.08	24.98	6.41159	16.8820	2633.0	16.7899	2618.7	0.021	2675.1	a	KG	
NATK-01-01	Arctic Red	mdst	1392.00	9.80	25.04	4.82597	12.0510	2497.1	11.3290	2347.5	0.219	3007.7		EG	
01-01	Arctic Red	mdst	1392.00	9.20	25.08	4.54499			9.5073	2091.8			d	KG	flaked, crushed beyond recognition
01-01	Arctic Red	mdst	1392.00	8.82	25.08	4.35479							d	KG	flaked, crushed beyond recognition
02-01	Arctic Red	mdst	1397.11	9.40	24.90	4.57737	9.5050	2076.5	8.8880	1941.7	0.198	2420.4		EG	
02-01	Arctic Red	mdst	1397.11	7.51	25.00	3.68646			7.4432	2019.1			d	KG	thin, chipped and cracked
02-01	Arctic Red	mdst	1397.11	7.19	25.00	3.52693	7.5820	2149.7	7.4432	2110.4	0.058	2239.7	d	KG	thin, chipped and cracked
02-02	Arctic Red	mdst	1397.11	8.60	24.72	4.12748			7.9660	1930.0				EG	broken on bedding plane
02-02	Arctic Red	mdst	1397.11	5.36	24.76	2.57840		0.0	5.3099	2059.4			d	KG	thin, chipped and cracked
02-02	Arctic Red	mdst	1397.11	5.34		0.00000							d	KG	thin, chipped and cracked
03-01	M. Ordovician	carbonate	1512.15	9.50	25.00	4.66330	13.1680	2823.8	13.0740	2803.6	0.030	2889.0		EG	

Sample #	Rock Unit	Lithology	Depth (mKB)	Ave. Thick. (mm)	Ave. Diam. (mm)	Sample Volume (cm^3)	Wet Mass (g)	Wet Density (kg/m^3)	Dry Mass (g)	Dry Density (kg/m^3)	Porosity Fraction	Grain Density (kg/m^3)	Disk Qual.	Anal.	Comment
03-01	M. Ordovician	carbonate	1512.15	9.50	25.02	4.67077	13.0850	2801.5	13.0794	2800.3	0.002	2805.2	a	KG	
03-02	M. Ordovician	carbonate	1512.15	9.50	25.00	4.66330	13.2350	2838.1	13.1500	2819.9	0.027	2897.4		EG	
03-02	M. Ordovician	carbonate	1512.15	9.59	25.02	4.71624	13.1590	2790.1	13.1533	2788.9	0.002	2793.9	a	KG	
NUNAA-01-01	Ronning	carbonate	3245.36	12.10	23.47	5.23482	16.1590	3086.8	16.0340	3063.0	0.035	3174.2		EG	
01-01	Ronning	carbonate	3245.36	12.19	24.97	5.96818	16.0720	2693.0	16.0452	2688.5	0.007	2706.3	b	KG	1 large chip, small holes
01-02	Ronning	carbonate	3245.36	12.30	25.05	6.06192	16.2030	2672.9	16.1040	2656.6	0.024	2721.8		EG	
01-02	Ronning	carbonate	3245.36	12.28	24.99	6.02188	16.1290	2678.4	16.0801	2670.3	0.012	2702.5	b	KG	natural vacuoles and epoxied
01-03	Ronning	carbonate	3245.36	12.70	25.03	6.24907	16.9290	2709.0	16.7870	2686.3	0.033	2779.0		EG	epoxied
01-03	Ronning	carbonate	3245.36	12.39	25.10	6.13192	16.7110	2725.2	16.6773	2719.8	0.008	2741.9	c	KG	epoxied, natural vacuoles
02-01	Ronning	carbonate	3249.84	11.60	25.03	5.70781	15.4930	2714.4	15.3630	2691.6	0.033	2784.6		EG	
02-01	Ronning	carbonate	3249.84	10.45	25.02	5.13784	14.1960	2763.0	14.1721	2758.4	0.007	2777.3	b	KG	chip
02-02	Ronning	carbonate	3249.84	12.30	25.02	6.04741	16.9120	2796.6	16.7510	2769.9	0.039	2882.5		EG	
02-02	Ronning	carbonate	3249.84	11.86	25.04	5.83795	16.3160	2794.8	16.2957	2791.3	0.005	2805.7	b	KG	epoxied
02-03	Ronning	carbonate	3249.84	12.20	25.04	6.00784	16.6470	2770.9	16.5740	2758.7	0.018	2808.8		EG	epoxied
02-03	Ronning	carbonate	3249.84	11.75	25.01	5.77115	16.0460	2780.4	16.0408	2779.5	0.001	2783.2	c	KG	epoxied and chipped
NUVO-01-01	Imperial	shaly ss	1050.15	10.90	25.12	5.40201	14.2360	2635.3	14.1370	2617.0	0.027	2689.3		EG	
01-01	Imperial	shaly ss	1050.15	10.86	25.03	5.34492			14.1785	2652.7				KG	
01-01	Imperial	shaly ss	1050.15	10.64	25.03	5.23667	13.9220	2658.6	13.9199	2658.2	0.001	2659.7	b	KG	slight rounded edges, repolished
01-02	Imperial	shaly ss	1050.15	10.12	25.16	5.03143	13.2850	2640.4	13.1220	2608.0	0.048	2738.1		EG	
01-02	Imperial	shaly ss	1050.15	10.10	25.01	4.96056	13.1640	2653.7	13.1586	2652.6	0.002	2656.9	a	KG	
02-01	Imperial	ss	1053.36	13.10	25.07	6.46651	16.9150	2615.8	16.6600	2576.4	0.058	2734.6		EG	
02-01	Imperial	ss	1053.36	13.12	25.02	6.44934	16.8100	2606.5	16.7104	2591.0	0.023	2651.1	b	KG	flake
02-02	Imperial	ss	1053.36	13.20	25.13	6.54710	16.0940	2458.2	15.8910	2427.2	0.045	2542.9		EG	
02-02	Imperial	ss	1053.36	12.42	25.04	6.11372	15.9420	2607.6	15.8579	2593.8	0.020	2647.2	a	KG	
03-01	Imperial	sandy sh	1060.54	9.10	25.02	4.47410	11.7480	2625.8	11.5660	2585.1	0.060	2749.2		EG	
03-01	Imperial	sandy sh	1060.54	9.14	24.98	4.48064	11.6820	2607.2	11.6465	2599.3	0.012	2629.9	a	KG	
03-02	Imperial	sandy sh	1060.54	10.30	25.03	5.06814	13.2310	2610.6	13.0750	2579.8	0.045	2701.9		EG	
03-02	Imperial	sandy sh	1060.54	10.24	25.02	5.03336			13.1548	2613.5				KG	
03-02	Imperial	sandy sh	1060.54	10.01	25.02	4.92028	12.9070	2623.2	12.8800	2617.7	0.008	2639.0	b	KG	slight rounded edges, repolished
ONGC-01-01	Husky	sandy sh	1198.17	7.70	25.08	3.80396	9.3650	2461.9	8.9410	2350.4	0.164	2810.0		EG	
01-01	Husky	sandy sh	1198.17	7.72	25.00	3.78955	9.2560	2442.5	9.0798	2396.0	0.068	2571.4	a	KG	
01-02	Husky	sandy sh	1198.17	7.80	24.95	3.81352	9.4870	2487.7	9.1350	2395.4	0.135	2770.6		EG	
01-02	Husky	sandy sh	1198.17	7.96	24.98	3.90233	9.3110	2386.0	9.1471	2344.0	0.062	2497.9	b	KG	chip
02-01	Husky	shaly ss	1200.44	8.30	24.98	4.06774	10.3990	2556.5	10.1380	2492.3	0.094	2751.3		EG	
02-01	Husky	shaly ss	1200.44	8.35	24.96	4.08324	10.3490	2534.5	10.2373	2507.1	0.040	2612.0	a	KG	
02-02	Husky	shaly ss	1200.44	9.10	25.07	4.49200	12.7520	2838.8	12.4240	2765.8	0.107	3097.7		EG	
02-02	Husky	shaly ss	1200.44	10.06	25.03	4.95128	12.5830	2541.4	12.5138	2527.4	0.021	2580.3	b	KG	uneven, but getting thin
PARF-01-01	McGuire	sandy sh	2994.54	12.50	24.98	6.12611	15.5550	2539.1	15.3360	2503.4	0.052	2641.9		EG	
01-01	McGuire	sandy sh	2994.54	12.45	25.04	6.12849			15.4950	2528.4				KG	
01-01	McGuire	sandy sh	2994.54	9.88									b	KG	chipped, repolished
02-01	McGuire	sandy sh	2998.24	9.80	25.05	4.82983	12.2910	2544.8	12.1090	2507.1	0.055	2653.8		EG	
02-01	McGuire	sandy sh	2998.24	9.75	25.04	4.80135	12.2600	2553.4	12.2446	2550.2	0.005	2562.3		KG	
02-01	McGuire	sandy sh	2998.24	9.71	25.04	4.78165	12.2600	2564.0	12.2446	2560.7	0.005	2572.9	d	KG	wedge, repolished
02-02	McGuire	sandy sh	2998.24	9.10	24.96	4.45267	11.5130	2585.6	11.3580	2550.8	0.051	2688.1		EG	

Sample #	Rock Unit	Lithology	Depth (mKB)	Ave. Thick. (mm)	Ave. Diam. (mm)	Sample Volume (cm^3)	Wet Mass (g)	Wet Density (kg/m^3)	Dry Mass (g)	Dry Density (kg/m^3)	Porosity Fraction	Grain Density (kg/m^3)	Disk Qual.	Anal.	Comment
02-02	McGuire	sandy sh	2998.24	8.68	25.00	4.25833	11.0170	2587.2	10.9944	2581.9	0.008	2602.1	a	KG	
03-01	McGuire	ss	2998.59	9.90	25.03	4.87132	14.0560	2885.5	13.8620	2845.6	0.058	3022.2		EG	thickness not in lab book
03-01	McGuire	ss	2998.59	11.05	25.01	5.42727	14.0220	2583.6	13.9645	2573.0	0.016	2613.7	a	KG	
03-02	McGuire	ss	2998.59	10.00	25.17	4.97572	15.4720	3109.5	15.1900	3052.8	0.083	3329.7		EG	thickness not in lab book
03-02	McGuire	ss	2998.59	11.27	25.08	5.56761	14.3450	2576.5	14.2484	2559.2	0.025	2626.0	b	KG	chip
PARN-01-01	McGuire	sh	2844.29	10.00	25.02	4.91660	12.1210	2465.3	12.0050	2441.7	0.035	2529.3		EG	
01-01	McGuire	sh	2844.29	6.63	24.98	3.24684	8.2920	2553.9	8.3016	2556.8	-0.004	2545.8	a	KG	tiny chip, getting too thin
02-01	McGuire	sh	2846.86	10.00	25.06	4.93233	13.1140	2658.8	12.8790	2611.1	0.070	2807.4		EG	thickness not in lab book
02-01	McGuire	sh	2846.86	8.67	25.00	4.25588	10.8080	2539.5	10.7589	2528.0	0.017	2571.5	b	KG	flake
02-02	McGuire	sh	2846.86	7.80	24.98	3.82269			8.9100	2330.8				EG	
02-02	McGuire	sh	2846.86	5.74	25.02	2.82090	7.1420	2531.8	7.0956	2515.4	0.024	2577.6	b	KG	small rounded edge
03-01	Martin Creek	ss	2853.44	12.30	25.02	6.04741	14.7450	2438.2	14.2160	2350.8	0.128	2696.9		EG	
03-01	Martin Creek	ss	2853.44	12.25	24.98	6.00481	14.6640	2442.0	14.3085	2382.8	0.087	2609.5	b	KG	small rounded edge
03-02	Martin Creek	ss	2853.44	12.20	25.01	5.99345	14.4720	2414.6	13.9360	2325.2	0.131	2676.4		EG	
03-02	Martin Creek	ss	2853.44	11.98	24.98	5.87249	14.3840	2449.4	14.0439	2391.5	0.085	2613.5	a	KG	
04-01	Martin Creek	ss	2859.27	10.20	25.03	5.01894	12.2600	2442.7	11.8090	2352.9	0.132	2710.2		EG	
04-01	Martin Creek	ss	2859.27	10.32	25.02	5.07147	12.2530	2416.1	11.9053	2347.5	0.101	2610.0	a	KG	
04-02	Martin Creek	ss	2859.27	12.60	25.06	6.21473	15.1260	2433.9	14.5640	2343.5	0.133	2701.9		EG	
04-02	Martin Creek	ss	2859.27	12.65	25.02	6.21949	15.0810	2424.8	14.6512	2355.7	0.101	2621.5	a	KG	
05-01	Martin Creek	ss	2869.77	12.60	24.82	6.09627	14.5270	2382.9	13.8640	2274.2	0.160	2705.9		EG	
05-01	Martin Creek	ss	2869.77	12.51	24.96	6.11997	14.4720	2364.7	14.0092	2289.1	0.111	2574.8	b	KG	rounded edge
05-02	Martin Creek	ss	2869.77	10.10	24.98	4.94990	11.5430	2332.0	11.0560	2233.6	0.144	2610.4		EG	
05-02	Martin Creek	ss	2869.77	9.90	24.97	4.84677	11.5650	2386.1	11.2709	2325.4	0.089	2552.7	a	KG	
PIKE02-01	Arctic Red	shaly ss	2389.70	9.04	25.00	4.43873	11.0560	2490.8	10.8506	2444.5	0.068	2622.6	a	KG	
02-02	Arctic Red	shaly ss	2389.70	10.55	25.02	5.18701	12.7080	2450.0	12.4519	2400.6	0.072	2588.1	b	KG	chipped
03-01	Arctic Red	shaly ss	2391.56	9.10	25.08	4.49559	11.2370	2499.6	10.9480	2435.3	0.094	2688.9		EG	
03-01	Arctic Red	shaly ss	2391.56	8.68	25.00	4.26201	10.7200	2515.2	10.6277	2493.6	0.032	2575.4	a	KG	
03-02	Arctic Red	shaly ss	2391.56	12.10	25.06	5.96812	14.6980	2462.8	14.3640	2406.8	0.082	2622.1		EG	
03-02	Arctic Red	shaly ss	2391.56	11.12	24.99	5.45293	13.7920	2529.3	13.7053	2513.4	0.023	2573.4	b	KG	small chip
04-01	Atkinson Pt.	shaly ss	2472.12	9.70	25.08	4.79200	12.0600	2516.7	11.6840	2438.2	0.115	2755.4		EG	
04-01	Atkinson Pt.	shaly ss	2472.12	9.81	24.99	4.81285	11.9970	2492.7	11.8741	2467.2	0.037	2563.2	a	KG	
04-02	Atkinson Pt.	shaly ss	2472.12	10.17	25.00	4.99096	12.4100	2486.5	12.1918	2442.8	0.064	2610.2	a	KG	
05-01	Atkinson Pt.	shaly ss	2475.43	9.88	25.00	4.84861	11.7560	2424.6	11.7569	2424.8	0.000	2424.1	c	KG	chipped and rounded
06-01	Mount Goodenough	shaly ss	2591.26	7.22	25.02	3.54855	9.0130	2539.9	8.8803	2502.5	0.055	2647.8	a	KG	
06-02	Mount Goodenough	shaly ss	2591.26	11.70	25.06	5.77082	14.4680	2507.1	14.0620	2436.7	0.103	2717.2		EG	
06-02	Mount Goodenough	shaly ss	2591.26	11.58	24.94	5.65707	14.3760	2541.2	14.1884	2508.1	0.049	2636.4	b	KG	small uneveneness on surface
PIKM-01-01	Ronning	carbonate	1718.09	9.90	25.08	4.89080	13.0630	2670.9	12.8350	2624.3	0.068	2817.0		EG	
01-01	Ronning	carbonate	1718.09	9.39	25.05	4.62530	12.4310	2687.6	12.3638	2673.1	0.021	2731.3	b	KG	epoxied vertically
01-02	Ronning	carbonate	1718.09	10.50	25.34	5.29532	14.0830	2659.5	13.8450	2614.6	0.066	2799.2		EG	
01-02	Ronning	carbonate	1718.09	10.27	25.04	5.05865	13.6450	2697.4	13.5854	2685.6	0.017	2732.8	a	KG	
SIKE-02-01	Kamik	ss	3046.31	12.90	25.04	6.35255	14.7160	2316.5	14.0200	2207.0	0.161	2629.7		EG	
02-01	Kamik	ss	3046.31	12.78	25.00	6.27214	14.5950	2327.0	14.1138	2250.2	0.113	2535.6	a	KG	
02-02	Kamik	ss	3046.31	9.90	25.09	4.89470	11.2160	2291.5	10.6270	2171.1	0.177	2636.6		EG	
02-02	Kamik	ss	3046.31	9.86	25.00	4.84124	11.1560	2304.4	10.6958	2209.3	0.139	2567.4	a	KG	

Sample #	Rock Unit	Lithology	Depth (mKB)	Ave. Thick. (mm)	Ave. Diam. (mm)	Sample Volume (cm^3)	Wet Mass (g)	Wet Density (kg/m^3)	Dry Mass (g)	Dry Density (kg/m^3)	Porosity Fraction	Grain Density (kg/m^3)	Disk Qual.	Anal.	Comment
TAGC-01-01	Richards	ss	2582.96	9.70	25.08	4.79200	11.1700	2331.0	10.4690	2184.7	0.215	2781.7		EG	
01-01	Richards	ss	2582.96	9.75	24.92	4.75666	11.1410	2342.2	10.6910	2247.6	0.139	2609.8	b	KG	rounded edge and flaking
01-02	Richards	ss	2582.96	10.70	25.08	5.28602	12.0980	2288.7	11.3970	2156.1	0.195	2676.9		EG	
01-02	Richards	ss	2582.96	10.67	24.96	5.22088	12.1480	2326.8	11.6604	2233.4	0.137	2588.0	b	KG	flaking
02-02	Richards	sandy sh	2591.98	10.30	24.96	5.03983	11.8060	2342.5	11.3140	2244.9	0.143	2620.2		EG	
02-02	Richards	sandy sh	2591.98	10.30	24.59	4.89152	11.7500	2402.1	11.5266	2356.4	0.067	2525.7	b	KG	chipped
03-02	Taglu	sh	2880.84	9.10	24.02	4.12361	10.8510	2631.4	10.6250	2576.6	0.080	2801.9		EG	
03-02	Taglu	sh	2880.84	9.02	25.08	4.45483	9.7450	2187.5	9.6589	2168.2	0.028	2231.5	b	KG	chipped and thin
04-01	Taglu	ss	2891.17	12.60	25.21	6.28936	13.7210	2181.6	12.8300	2040.0	0.208	2575.2		EG	
04-01	Taglu	ss	2891.17	12.66	25.01	6.22140	13.7080	2203.4	12.9934	2088.5	0.169	2511.8	b	KG	rounded edges and flaking
04-02	Taglu	ss	2891.17	10.30	25.06	5.08030	11.3460	2233.3	10.6040	2087.3	0.214	2656.5		EG	
04-02	Taglu	ss	2891.17	7.95	25.03	3.91059	10.0380	2566.9	10.6498	2723.3	-0.230	2214.9	c	KG	flaking and big chip
05-01	Taglu	sh	2896.46	9.30	24.96	4.55053	11.5670	2541.9	11.2720	2477.1	0.095	2737.4		EG	
05-01	Taglu	sh	2896.46	9.31	24.97	4.56030			11.4320	2506.9				KG	
05-01	Taglu	sh	2896.46	8.70	24.97	4.25913	10.8000	2535.7	10.6242	2494.5	0.061	2655.2	a	KG	repolished
05-02	Taglu	sh	2896.46	12.80	24.93	6.24805	14.9600	2394.3	14.3890	2303.0	0.134	2659.5		EG	
05-02	Taglu	sh	2896.46	12.80	24.77	6.16570			14.6315	2373.0				KG	
05-02	Taglu	sh	2896.46	10.35	24.77	4.98870	12.2390	2453.3	11.8837	2382.1	0.104	2660.1	a	KG	repolished
05-03	Taglu	sh	2896.46	8.90	25.08	4.39678	10.4540	2377.6	10.1530	2309.2	0.100	2567.0		EG	
05-03	Taglu	sh	2896.46	8.52	25.07	4.20323			10.2891	2447.9				KG	
05-03	Taglu	sh	2896.46	8.81	25.07	4.35008	9.7430	2239.7	9.5860	2203.6	0.053	2326.8	c	KG	flaked, repolished
05-04	Taglu	sh	2896.46	8.78	24.89	4.27325			10.6973	2503.3			a	KG	
05-04	Taglu	sh	2896.46	7.28	24.89	3.54340	10.2180	2883.7	10.0250	2829.2	0.080	3074.9	c	KG	thin and wedge, repolished
TUKF-01-01	Fish River	sh	2171.37	13.60	24.98	6.66521	16.3230	2449.0	15.7490	2362.9	0.126	2704.6		EG	
01-01	Fish River	sh	2171.37	9.37	25.00	4.59949	11.5110	2502.7	11.3328	2463.9	0.057	2612.4	b	KG	chipped
02-01	Fish River	ss	2171.97	8.53	25.10	4.22072	10.6850	2531.6	10.5368	2496.4	0.052	2632.0	a	KG	
02-02	Fish River	ss	2171.97	11.40	25.02	5.60492	14.2030	2534.0	13.8680	2474.3	0.088	2712.1		EG	
02-02	Fish River	ss	2171.97	11.40	25.04	5.61142	14.1660	2524.5	14.0393	2501.9	0.033	2587.6	a	KG	
05-01	Mount Goodenough	sh	2784.60	12.50	24.99	6.13102	14.7610	2407.6	14.4180	2351.6	0.082	2561.9		EG	
05-01	Mount Goodenough	sh	2784.60	11.41	25.04	5.62004	13.5800	2416.4	13.4977	2401.7	0.021	2454.4	b	KG	2 chips
06-01	Mount Goodenough	ss	2872.83	10.40	25.19	5.18298	13.2590	2558.2	12.9240	2493.5	0.095	2754.8		EG	
06-01	Mount Goodenough	ss	2872.83	10.79	25.02	5.30255	13.2130	2491.8	13.0318	2457.6	0.050	2587.4	b	KG	chips
06-02	Mount Goodenough	ss	2872.83	10.50	25.13	5.20792	13.2330	2540.9	12.9340	2483.5	0.084	2712.0		EG	
06-02	Mount Goodenough	ss	2872.83	10.66	24.96	5.21476	13.1990	2531.1	13.0427	2501.1	0.044	2616.2	b	KG	chipped
TUKL-01-01	Mount Goodenough	ss	2607.75	9.90	24.99	4.85576	12.2450	2521.7	11.8960	2449.9	0.105	2738.7		EG	
01-01	Mount Goodenough	ss	2607.75	9.88	25.04	4.86537	12.1690	2501.1	12.0730	2481.4	0.029	2555.4	a	KG	
01-02	Mount Goodenough	ss	2607.75	12.60	25.06	6.21473	15.6240	2514.0	15.2310	2450.8	0.093	2701.4		EG	
01-02	Mount Goodenough	ss	2607.75	12.66	24.98	6.20330	15.5420	2505.4	15.3151	2468.9	0.054	2608.9	a	KG	
02-01	Mount Goodenough	shaly ss	2608.20	12.60	25.01	6.18996	14.9720	2418.8	14.6110	2360.4	0.086	2581.3		EG	
02-01	Mount Goodenough	shaly ss	2608.20	12.11	25.00	5.94203	14.6420	2464.1	14.7013	2474.1	-0.015	2438.4		KG	
02-01	Mount Goodenough	shaly ss	2608.20	11.77	25.00	5.77881	14.6420	2533.7	14.7013	2544.0	-0.015	2506.3	a	KG	repolished
02-02	Mount Goodenough	shaly ss	2608.20	13.80	25.00	6.77406	16.9540	2502.8	16.5470	2442.7	0.088	2678.8		EG	use TULK-02-02 dimensions
02-02	Mount Goodenough	shaly ss	2608.20	13.70	24.99	6.71714	16.9200	2518.9	16.7245	2489.8	0.043	2600.9	b	KG	edges rounded
TUKO-01-01	Atkinson Pt.	muddy ss	1988.40	12.70	24.97	6.21915	15.7230	2528.2	15.2440	2451.1	0.113	2763.4		EG	

Sample #	Rock Unit	Lithology	Depth (mKB)	Ave. Thick. (mm)	Ave. Diam. (mm)	Sample Volume (cm^3)	Wet Mass (g)	Wet Density (kg/m^3)	Dry Mass (g)	Dry Density (kg/m^3)	Porosity Fraction	Grain Density (kg/m^3)	Disk Qual.	Anal.	Comment
01-01	Atkinson Pt.	muddy ss	1988.40	12.74	25.00	6.25373	15.6050	2495.3	15.3976	2462.1	0.049	2588.1	a	KG	
01-02	Atkinson Pt.	muddy ss	1988.40	11.50	24.98	5.63602	14.0880	2499.6	13.6990	2430.6	0.101	2704.5		EG	
01-02	Atkinson Pt.	muddy ss	1988.40	11.54	24.97	5.64987	13.9560	2470.1	13.8671	2454.4	0.023	2512.4	b	KG	chip
02-01	Atkinson Pt.	muddy ss	1992.78	10.60	25.04	5.21993	9.9980	1915.4	9.4360	1807.7	0.158	2146.8		EG	dry & sat. wt uncertain, mislabelling
02-01	Atkinson Pt.	muddy ss	1992.78	8.69	24.98	4.25642	9.9520	2338.1	9.6578	2269.0	0.101	2525.1	a	KG	
02-02	Atkinson Pt.	muddy ss	1992.78	10.30	25.09	5.09247	13.0410	2560.8	12.6900	2491.9	0.101	2772.3		EG	
02-02	Atkinson Pt.	muddy ss	1992.78	10.63	24.97	5.20302	12.9850	2495.7	12.8433	2468.4	0.040	2571.2	a	KG	
03-01	Husky	ss	2099.03	12.00	24.95	5.86695	13.8120	2354.2	13.1340	2238.6	0.170	2695.7		EG	
03-01	Husky	ss	2099.03	11.94	24.93	5.82826	13.7660	2361.9	13.3375	2288.4	0.108	2565.1	b	KG	slight dome
03-02	Husky	ss	2099.03	8.60	24.94	4.20128	12.6880	3020.0	12.3310	2935.1	0.125	3353.1		EG	dry wt uncertain due to mislabelling
04-01	Husky	ss	2101.60	12.80	25.00	6.28319	15.0140	2389.6	14.2350	2265.6	0.182	2769.3		EG	
04-01	Husky	ss	2101.60	12.86	24.96	6.29123	14.9590	2377.8	14.4126	2290.9	0.127	2625.4	a	KG	
04-02	Husky	ss	2101.60	12.30	24.98	6.02809	14.1830	2352.8	13.4540	2231.9	0.177	2713.3		EG	
04-02	Husky	ss	2101.60	12.24	24.98	5.99991	14.1680	2361.4	13.6619	2277.0	0.124	2598.6	b	KG	rounded and chipped
TULK-01-01	Martin Creek	sh	2011.60	11.00	25.00	5.39961	13.9650	2586.3	13.7390	2544.4	0.061	2710.9		EG	
01-01	Martin Creek	sh	2011.60	11.07	24.92	5.39803	13.9300	2580.6	13.9034	2575.6	0.007	2594.4	b	KG	flaked
02-01	Martin Creek	ss	2023.03	12.30	25.15	6.11042	14.6150	2391.8	13.9320	2280.0	0.164	2727.3		EG	
02-01	Martin Creek	ss	2023.03	12.56	24.95	6.13829	14.5410	2368.9	14.4719	2357.6	0.017	2397.2	a	KG	
02-01	Martin Creek	ss	2023.03	11.77	24.95	5.75572	14.5410	2526.4	14.4719	2514.4	0.018	2559.4	a	KG	
02-02	Martin Creek	ss	2023.03	11.90	25.03	5.85543	13.6280	2327.4	12.9600	2213.3	0.167	2658.3		EG	use TUKL-02-02 dimensions
02-02	Martin Creek	ss	2023.03	11.85	24.93	5.78311	13.5310	2339.7	13.3029	2300.3	0.058	2441.6	a	KG	slight chip
ULUA-01-01	Fish River	ss	1474.99	11.80	25.03	5.80622	13.7160	2362.3	13.0760	2252.1	0.162	2686.5		EG	
01-01	Fish River	ss	1474.99	11.67	24.97	5.71353	13.6930	2396.6	13.4534	2354.7	0.062	2509.0	b	KG	rounded chipped
01-02	Fish River	ss	1474.99	12.40	24.97	6.07224	14.7340	2426.5	14.0620	2315.8	0.162	2764.7		EG	
01-02	Fish River	ss	1474.99	11.94	24.98	5.84921	14.1260	2415.0	13.8174	2362.3	0.077	2560.5	a	KG	
02-01	Permian (Longstick)	sh	2940.80	16.70	25.19	8.32267			24.7090	2968.9				EG	
02-01	Permian (Longstick)	sh	2940.80	14.13	24.90	6.87824	21.2840	3094.4	21.2747	3093.0	0.002	3099.2	a	KG	
03-01	Permian (Longstick)	sandy sh	2948.33	6.70	25.01	3.29149	8.3470	2535.9	8.1820	2485.8	0.074	2683.1		EG	
03-01	Permian (Longstick)	sandy sh	2948.33	6.35	24.96	3.10708	8.0160	2579.9	7.9962	2573.5	0.009	2597.8	a	KG	thin
03-02	Permian (Longstick)	sandy sh	2948.33	12.90	24.95	6.30697	16.2040	2569.2	15.9730	2532.6	0.054	2676.4		EG	
03-02	Permian (Longstick)	sandy sh	2948.33	12.91	24.97	6.32076	15.6350	2473.6	16.0866	2545.0	-0.105	2303.6		KG	
03-02	Permian (Longstick)	sandy sh	2948.33	12.47	24.97	6.10529	15.6350	2560.9	15.5765	2551.3	0.014	2587.7	a	KG	repolished
UNAB-01-01	Mount Goodenough	shaly ss	1198.04	7.80	25.00	3.82882	9.3390	2439.1	9.1080	2378.8	0.089	2609.8		EG	
01-01	Mount Goodenough	shaly ss	1198.04	7.79	24.98	3.81779			9.2178	2414.4				KG	
01-01	Mount Goodenough	shaly ss	1198.04	7.50	24.98	3.67444	9.0140	2453.2	8.9151	2426.2	0.039	2526.0	a	KG	thinning, repolished
03-01	Permian (Jungle Ck)	sh	2894.72	12.50	24.92	6.09672	15.6580	2568.3	15.4970	2541.9	0.039	2644.3		EG	
03-01	Permian (Jungle Ck)	sh	2894.72	9.53	24.86	4.62457			12.0897	2614.2				KG	
03-01	Permian (Jungle Ck)	sh	2894.72	9.18	24.86	4.45347	11.6960	2626.3	11.6799	2622.7	0.005	2636.6	a	KG	repolished
04-01	Permian (Jungle Ck)	sh	2898.19	10.40	24.95	5.08469	13.1410	2584.4	13.0440	2565.3	0.028	2639.2		EG	
04-01	Permian (Jungle Ck)	sh	2898.19	10.35	24.86	5.02137	13.1150	2611.8	13.1211	2613.0	-0.002	2608.4	a	KG	
04-02	Permian (Jungle Ck)	sh	2898.19	10.30	25.00	5.05600			13.0580	2582.7				EG	
04-02	Permian (Jungle Ck)	sh	2898.19	10.18	25.07	5.02635	13.0560	2597.5	13.0647	2599.2	-0.003	2592.7	b	KG	flaking and epoxied
UNAL-01-01	Kamik	ss	2046.65	10.20	25.01	5.01092	11.9050	2375.8	11.3720	2269.4	0.156	2689.1		EG	
01-01	Kamik	ss	2046.65	10.27	24.98	5.03321	11.8230	2349.0	11.3598	2257.0	0.135	2609.3	a	KG	

Sample #	Rock Unit	Lithology	Depth (mKB)	Ave. Thick. (mm)	Ave. Diam. (mm)	Sample Volume (cm^3)	Wet Mass (g)	Wet Density (kg/m^3)	Dry Mass (g)	Dry Density (kg/m^3)	Porosity Fraction	Grain Density (kg/m^3)	Disk Qual.	Anal.	Comment
01-02	Kamik	ss	2046.65	11.60	24.98	5.68503	13.3290	2344.6	12.7760	2247.3	0.143	2621.4		EG	
01-02	Kamik	ss	2046.65	10.11	24.97	4.94838	11.7010	2364.6	11.2322	2269.9	0.139	2636.3	a	KG	
03-02	Kamik	ss	2069.75	12.60	25.02	6.19491	14.7850	2386.6	14.0530	2268.5	0.173	2744.2		EG	
03-02	Kamik	ss	2069.75	12.68	24.96	6.20560	14.6650	2363.2	14.0805	2269.0	0.138	2632.8	b	KG	rounded 1/4 edge
05-01	Kamik	ss	2091.75	13.30	24.97	6.51296	15.4200	2367.6	14.6860	2254.9	0.165	2701.6		EG	
05-01	Kamik	ss	2091.75	13.21	24.94	6.45213	15.3470	2378.6	14.8720	2305.0	0.108	2584.1	a	KG	tiny chip
05-02	Kamik	ss	2091.75	12.90	24.95	6.30697	15.0090	2379.7	14.3050	2268.1	0.164	2712.3		EG	
05-02	Kamik	ss	2091.75	12.88	25.01	6.32629	14.9400	2361.6	14.4240	2280.0	0.120	2589.9	b	KG	rounded edge
06-01	Kamik	sh	2159.61	9.30	24.93	4.53960	10.9700	2416.5	10.8120	2381.7	0.051	2509.9		EG	
07-01	Kamik	ss	2163.18	10.60	25.04	5.21993	12.5110	2396.8	11.9550	2290.3	0.156	2714.5		EG	
07-01	Kamik	ss	2163.18	10.68	24.98	5.23292	12.4400	2377.3	12.3118	2352.8	0.036	2440.5	a	KG	
07-02	Kamik	ss	2163.18	9.40	25.02	4.62160	11.1120	2404.4	10.6090	2295.5	0.160	2731.7		EG	
07-02	Kamik	ss	2163.18	9.54	24.98	4.67545	11.0550	2364.5	10.8374	2317.9	0.068	2487.8	a	KG	
UNRL-02-01	Kugmallit	ss	2732.77	10.40	25.12	5.15421	13.1830	2557.7	12.9130	2505.3	0.077	2713.9		EG	
02-01	Kugmallit	ss	2732.77	10.45	25.03	5.14072	13.1540	2558.8	13.1279	2553.7	0.007	2572.9	b	KG	chipped
02-02	Kugmallit	ss	2732.77	9.80	25.18	4.88009	12.0930	2478.0	11.8780	2434.0	0.065	2602.2		EG	
02-02	Kugmallit	ss	2732.77	8.77	25.04	4.31998	11.1380	2578.3	11.0735	2563.3	0.022	2620.7	b	KG	shallow chip
03-01	Kugmallit	sh	2733.80	12.70	24.90	6.18432	15.4070	2491.3	14.9610	2419.2	0.106	2705.4		EG	labelled as UNRL 03-02 in lab book
03-01	Kugmallit	sh	2733.80	12.59	24.98	6.17144	15.3750	2491.3	15.1599	2456.5	0.051	2588.8	a	KG	
03-02	Kugmallit	sh	2733.80	11.40	24.96	5.57807	14.0670	2521.8	13.5890	2436.1	0.126	2786.5		EG	
03-02	Kugmallit	sh	2733.80	11.38	24.94	5.55936	13.9900	2516.5	13.7816	2479.0	0.055	2623.3	a	KG	
UNRLA-02-01	Kugmallit	ss	2955.95	11.70	24.96	5.72486	14.2750	2493.5	13.8440	2418.2	0.110	2718.5		EG	
02-01	Kugmallit	ss	2955.95	10.33	24.96	5.05329	12.7880	2530.6	12.6163	2496.7	0.050	2627.6	a	KG	
03-01	Kugmallit	ss	2967.43	11.90	25.02	5.85075	14.5220	2482.1	14.2100	2428.7	0.078	2634.9		EG	
03-01	Kugmallit	ss	2967.43	9.52	24.93	4.64455	12.0320	2590.6	11.9396	2570.7	0.029	2648.0	a	KG	
03-02	Kugmallit	ss	2967.43	12.40	25.00	6.08684	15.5100	2548.1	15.1300	2485.7	0.092	2736.3		EG	
03-02	Kugmallit	ss	2967.43	12.48	25.01	6.13224	15.4700	2522.7	15.2703	2490.2	0.048	2615.1	a	KG	
05-01	Kugmallit	sh	2977.95	12.90	24.94	6.30191	15.9300	2527.8	15.4930	2458.5	0.102	2736.9		EG	
05-01	Kugmallit	sh	2977.95	12.92	24.78	6.22855	15.8850	2550.4	15.6946	2519.8	0.045	2638.1	b	KG	rounded edges
05-02	Kugmallit	sh	2977.95	10.60	24.66	5.06270	12.9620	2560.3	12.5930	2487.4	0.107	2785.2		EG	
05-02	Kugmallit	sh	2977.95	10.60	24.88	5.15222	12.9300	2509.6	12.4762	2421.5	0.129	2780.9	b	KG	chip
06-01	Richards	ss	3873.67	11.70	24.60	5.56091	13.6540	2455.4	13.0330	2343.7	0.164	2802.9		EG	
06-01	Richards	ss	3873.67	11.66	24.97	5.70864	13.6420	2389.7	13.2255	2316.8	0.107	2594.5	a	KG	
06-02	Richards	ss	3873.67	12.00	24.97	5.87636	14.2340	2422.2	13.5520	2306.2	0.170	2779.5		EG	
06-02	Richards	ss	3873.67	11.94	24.96	5.84107	14.1690	2425.8	13.7789	2359.0	0.098	2615.2	a	KG	
07-01	Richards	ss	3893.55	9.10	24.96	4.45267	10.4810	2353.9	9.8170	2204.7	0.219	2822.2		EG	
07-01	Richards	ss	3893.55	9.16	24.98	4.48921	10.4190	2320.9	10.0048	2228.6	0.135	2577.5	a	KG	
09-01	Richards	sh	3917.29	9.20	24.75	4.42617	11.0630	2499.5	10.5960	2393.9	0.155	2832.4		EG	
09-01	Richards	sh	3917.29	9.22	24.80	4.45494	11.0450	2479.3	10.8336	2431.8	0.070	2613.8	a	KG	

Appendix B: Beaufort-Mackenzie dry thermal conductivity results

Sample	Rock Unit	Lithology	Depth (mKB)	[1]Single Measurements K_{dry} 1 (W/mK)	K_{dry} 2 (W/mK)	K_{dry} 3 (W/mK)	All Trials Ave K_{dry} (W/mK)	S. D. (W/mK)	Selected Trials Pref. Ave. K_{dry} (W/mK)	S. D. (W/mK)	# trials used	Por. Frac.	Plug Qual.	Analyst	Comments
ADL-01-01	Aklak	ss	1766.90	0.816	0.815	0.815	0.815	0.001					d	EG	disintegrated during saturation
ADL-01-01	Aklak	ss	1766.90						0.815	0.001	3				
ADL-01-02	Aklak	ss	1766.90	0.742	0.743	0.744	0.743	0.001				0.241		EG	water-saturation
ADL-01-02	Aklak	ss	1766.90	0.552	0.728	0.591	0.624	0.092				0.134	d	KG	disintegrated
ADL-01-02	Aklak	ss	1766.90				0.683	0.088	0.683	0.088	6	**0.241**	d		
ADL-01	Aklak	ss	1766.90				0.727	0.096	**0.727**	**0.096**	**9**	**0.241**	d		ave of both disks
ADL-02-01	Aklak	f.g. ss	1767.40	1.175	1.128	1.101	1.135	0.037				0.190		EG	
ADL-02-01	Aklak	f.g. ss	1767.40	1.232	1.236	1.072	1.180	0.094				0.140	a	KG	
ADL-02-01	Aklak	f.g. ss	1767.40				1.157	0.068	1.157	0.068	6	**0.190**	a		
ADL-02-02	Aklak	f.g. ss	1767.40	1.113	1.058	1.000	1.057	0.057				0.168		EG	
ADL-02-02	Aklak	f.g. ss	1767.40	0.935	1.308	0.929	1.057	0.217				0.141	a	KG	
ADL-02-02	Aklak	f.g. ss	1767.40				1.057	0.142	1.057	0.142	6	**0.168**	a		
ADL-02	Aklak	f.g. ss	1767.40				1.107	0.118	**1.107**	**0.118**	**12**	**0.179**	a		ave of both disks
ADL-03-01	Aklak	ss	1770.9	0.855	0.867	0.871	0.864	0.008				**0.273**	d	EG	very crumbly, destroyed during sat.
ADL-03-02	Aklak	ss	1770.9	0.756	0.767		0.762	0.008				**0.236**	d	EG	very crumbly
ADL-03	Aklak	ss	1770.9				0.823	0.057	**0.823**	**0.057**	**5**	**0.254**	d		ave of both disks
ADL-04-01	Aklak	mdst	1776.00	1.049	1.033	0.971	1.018	0.041				0.145		EG	broken and glued
ADL-04-01	Aklak	mdst	1776.00	0.825	1.364	1.412	1.200	0.326				0.139	c	KG	3 chips have been epoxied in
ADL-04-01	Aklak	mdst	1776.00				1.109	0.231	1.109	0.231	6	**0.145**	c	c	
ADL-04-02	Aklak	mdst	1776.00	0.907	0.895	0.891	0.898	0.008				0.158		EG	broken and glued
ADL-04-02	Aklak	mdst	1776.00	0.811	0.892	0.998	0.900	0.094				0.138	a	KG	
ADL-04-02	Aklak	mdst	1776.00				0.899	0.060	0.899	0.060	6	**0.158**	a		
ADL-04	Aklak	mdst	1776.00				1.004	0.194	**1.004**	**0.194**	**12**	**0.152**	c,a		ave of both disks
ADL-05-01	Aklak	sandy sh	1781.80	1.182	1.180	1.178	1.180	0.002				0.164		EG	
ADL-05-01	Aklak	sandy sh	1781.80	1.248	1.188	1.280	1.239	0.047				0.132	b	KG	1 chip, no epoxy
ADL-05-01	Aklak	sandy sh	1781.80				1.209	0.044	1.209	0.044	6	**0.164**	b		
ADL-05-02	Aklak	sandy sh	1781.80	1.336	1.301	1.267	1.301	0.035				0.167		EG	
ADL-05-02	Aklak	sandy sh	1781.80	1.083	1.095	1.162	1.113	0.043				0.129	a	KG	
ADL-05-02	Aklak	sandy sh	1781.80				1.207	0.109	1.207	0.109	6	**0.167**	a		
ADL-05	Aklak	sandy sh	1781.80				1.208	0.079	**1.208**	**0.079**	**12**	**0.166**	b,a		ave of both disks
ADL-06-01	Aklak	ss	1870.00	0.633	0.636	0.636	0.635	0.002				0.195		EG	water-saturation
ADL-06-01	Aklak	ss	1870.00	0.682	0.763	58.485	19.977	33.349	0.723	0.057	2	0.298	b	KG	losing grains, but whole
ADL-06-01	Aklak	ss	1870.00				10.306	23.603	0.670	0.056	5	**0.195**	b		
ADL-06-02	Aklak	ss	1870.00	0.778	0.779	0.784	0.780	0.003				0.241		EG	water-saturation
ADL-06-02	Aklak	ss	1870.00	0.651	0.752	0.886	0.763	0.118				0.343	d	KG	falling apart
ADL-06-02	Aklak	ss	1870.00				0.772	0.075	0.772	0.075	6	**0.241**	d		
ADL-06	Aklak	ss	1870.00				5.539	16.674	**0.725**	**0.083**	**11**	**0.218**	b,d		ave of both disks
ADL-07-01	Aklak	ss	1873.10	0.707	0.697		0.702	0.007				0.199		EG	water-saturation
ADL-07-01	Aklak	ss	1873.10	0.619	0.617	0.659	0.632	0.024				0.305	c	KG	large chip out and grains falling off
ADL-07-01	Aklak	ss	1873.10				0.660	0.042	0.660	0.042	5	**0.199**	c		
ADL-07-02	Aklak	ss	1873.10	0.776	0.779	0.812	0.789	0.020				0.227		EG	water-saturation
ADL-07-02	Aklak	ss	1873.10	0.880	1.167	1.417	1.155	0.269				0.283	b	KG	losing grains, but whole
ADL-07-02	Aklak	ss	1873.10				0.972	0.263	0.972	0.263	6	**0.227**	b		

Sample	Rock Unit	Lithology	Depth (mKB)	[1]Single Measurements K_{dry} 1 (W/mK)	K_{dry} 2 (W/mK)	K_{dry} 3 (W/mK)	All Trials Ave K_{dry} (W/mK)	S. D. (W/mK)	Selected Trials Pref. Ave. K_{dry} (W/mK)	S. D. (W/mK)	# trials used	Por. Frac.	Plug Qual.	Analyst	Comments
ADL-07-03	Aklak	ss	1873.10	0.831	0.828	0.830	0.830	0.002				0.189		EG	water-saturation
ADL-07-03	Aklak	ss	1873.10	0.865	1.045	1.279	1.063	0.208				0.263	b	KG	losing grains, but whole
ADL-07-03	Aklak	ss	1873.1				0.946	0.183	0.946	0.183	6	**0.189**	b		
ADL-07	Aklak	ss	1873.1				0.871	0.229	**0.871**	**0.229**	**17**	**0.205**	c,b,b		
AVK-01-01	Aklavik	ss	1588.88	2.156	2.171	2.181	2.169	0.013						EG	
AVK-01-01	Aklavik	ss	1588.88	3.195	3.038	3.479	3.237	0.224				0.052	a	KG	
AVK-01-01	Aklavik	ss	1588.88				2.703	0.602	2.703	0.602	6	**0.052**	a		
AVK-01-02	Aklavik	ss	1588.88	2.612	2.625	2.605	2.614	0.010				0.077		EG	
AVK-01-02	Aklavik	ss	1588.88	3.555	3.199	1.932	2.895	0.853				0.047	b	KG	edges slightly rounded
AVK-01-02	Aklavik	ss	1588.88				2.755	0.561	2.755	0.561	6	**0.077**	b		
AVK-01	Aklavik	ss	1588.88				2.729	0.555	**2.729**	**0.555**	**12**	**0.065**	a,b		
ATG-02-01	Arctic Red	sh	2306.50	1.166	1.162	1.157	1.162	0.005						EG	
ATG-02-01	Arctic Red	sh	2306.50	1.039	1.043	1.062	1.048	0.012				0.092	c	KG	epoxied and chipped
ATG-02-01	Arctic Red	sh	2306.50				1.105	0.063	1.105	0.063	6	**0.092**	c		
ATG-02-02	Arctic Red	sh	2306.50	1.364	1.368	1.363	1.365	0.003				0.080		EG	
ATG-02-02	Arctic Red	sh	2306.50	1.627	1.839	1.630	1.699	0.122				0.071	b	KG	edges slightly rounded and chipped
ATG-02-02	Arctic Red	sh	2306.50				1.532	0.198	1.532	0.198	6	**0.080**	b		
ATG-02	Arctic Red	sh	2306.50				1.318	0.263	**1.318**	**0.263**	**12**	**0.086**	c,b		
ATG-03-01	Arctic Red	sh	2306.85	1.775	1.779	1.776	1.777	0.002				0.092		EG	
ATG-03-01	Arctic Red	sh	2306.85	0.608	0.616	0.512	0.579	0.058				0.072	c	KG	chips/flaking and very thin
ATG-03-01	Arctic Red	sh	2306.85				1.178	0.657				**0.092**	c		
ATG-03-02	Arctic Red	sh	2306.85	1.222	1.224	1.224	1.223	0.001				0.095		EG	
ATG-03-02	Arctic Red	sh	2306.85	1.256	0.829	1.182	1.089	0.228				0.034	c	KG	epoxied and chipped
ATG-03-02	Arctic Red	sh	2306.85				1.156	0.162	1.156	0.162	6	**0.095**	c		
ATG-03	Arctic Red	sh	2306.85				1.167	0.456	**1.156**	**0.162**	**6**	**0.094**	c		
ATG-04-01	Mt. Goodenough (Siku)	sh	2723.2	0.625	0.628	0.625	0.626	0.002				0.036	d	EG	not very sturdy
ATG-04-02	Mt. Goodenough (Siku)	sh	2723.2	1.009	1.007	1.002	1.006	0.004				0.013	d	EG	not very sturdy, low grain density
ATG-04	Mt. Goodenough (Siku)	sh	2723.2				0.816	0.208	**1.006**	**0.004**	**3**	**0.036**	d		
ATG-05-01	Mt. Goodenough (Siku)	sh	2724.8										d	EG	chipped
ATG-05-02	Mt. Goodenough (Siku)	sh	2724.8	0.700	0.700	0.700	0.700	0.000					d	EG	split in half, epoxied
ATG-05	Mt. Goodenough (Siku)	sh	2724.8						**0.700**				d		
ATK-01-01	Atkinson Pt.	ss	2027.00	1.349	1.330	1.311	1.330	0.019						EG	
ATK-01-01	Atkinson Pt.	ss	2027.00	1.110	0.930	0.977	1.006	0.093				0.114	a	KG	
ATK-01-01	Atkinson Pt.	ss	2027.00				1.168	0.188	1.168	0.188	6	**0.114**	a		
ATK-01-02	Atkinson Pt.	ss	2027.00	0.907	0.868		0.888	0.028				0.139		EG	
ATK-01-02	Atkinson Pt.	ss	2027.00		1.248	1.162	1.205	0.061				0.096	a	KG	
ATK-01-02	Atkinson Pt.	ss	2027.00				1.046	0.187	1.046	0.187	4	**0.139**	a		
ATK-01	Atkinson Pt.	ss	2027.00				1.119	0.188	**1.119**	**0.188**	**10**	**0.126**	a		
ATK-02-01	Atkinson Pt.	ss	2030.40	1.723	1.715	1.703	1.714	0.010				0.090		EG	
ATK-02-01	Atkinson Pt.	ss	2030.40	1.677	1.737	1.750	1.721	0.039				0.105	b	KG	chipped
ATK-02-01	Atkinson Pt.	ss	2030.40				1.718	0.026	1.718	0.026	6	**0.098**	b		
ATK-02-02	Atkinson Pt.	ss	2030.40	1.434	1.375	1.112	1.307	0.171				0.147		EG	
ATK-02-02	Atkinson Pt.	ss	2030.40	2.010	1.960	1.877	1.949	0.067				0.093	c	KG	chipped
ATK-02-02	Atkinson Pt.	ss	2030.4				1.628	0.370	1.628	0.370	6	**0.147**	c		
ATK-02	Atkinson Pt.	ss	2030.4				1.673	0.255	**1.673**	**0.255**	**12**	**0.122**	b,c		

Sample	Rock Unit	Lithology	Depth (mKB)	[1]Single Measurements K_{dry} 1 (W/mK)	K_{dry} 2 (W/mK)	K_{dry} 3 (W/mK)	All Trials Ave K_{dry} (W/mK)	S. D. (W/mK)	Selected Trials Pref. Ave. K_{dry} (W/mK)	S. D. (W/mK)	# trials used	Por. Frac.	Plug Qual.	Analyst	Comments
BVR-01-01	Permian (Longstick)	sh	1479.00	1.371	1.383	1.384	1.379	0.007				0.039		EG	
BVR-01-01	Permian (Longstick)	sh	1479.00	2.017	2.191	2.363	2.190	0.173				0.014	a	KG	
BVR-01-01	Permian (Longstick)	sh	1479.00				1.785	0.458	1.785	0.458	6	**0.039**	a		
BVR-01-02	Permian (Longstick)	sh	1479.00	1.028	1.036	1.035	1.033	0.004				0.037		EG	
BVR-01-02	Permian (Longstick)	sh	1479.00	2.423	1.663	1.850	1.979	0.396				0.014	a	KG	
BVR-01-02	Permian (Longstick)	sh	1479.00				1.506	0.575	1.506	0.575	6	**0.037**	a		
BVR-01	Permian (Longstick)	sh	1479.00				1.645	0.517	**1.645**	**0.517**	**12**	**0.038**	a		
BVR-02-01	Permian (Longstick)	sh	4867.00	1.481	1.480	1.478	1.480	0.002				0.065		EG	
BVR-02-01	Permian (Longstick)	sh	4867.00	1.787	1.524	1.262	1.524	0.263				0.025	b	KG	chipped
BVR-02-01	Permian (Longstick)	sh	4867.00				1.502	0.168	1.502	0.168	6	**0.065**	b		
BVR-02-02	Permian (Longstick)	sh	4867.00	1.623	1.623	1.624	1.623	0.001				0.038		EG	
BVR-02-02	Permian (Longstick)	sh	4867.00	1.892	1.812	1.861	1.855	0.040				-0.014	b	KG	chipped
BVR-02-02	Permian (Longstick)	sh	4867.00				1.739	0.129	1.739	0.129	6	**0.038**	b		
BVR-02	Permian (Longstick)	sh	4867.00				1.621	0.189	**1.621**	**0.189**	**12**	**0.051**	b		
BLR-01-01	Albian flysch	f.g. ss	3386.94	1.296	1.312	1.321	1.310	0.013				0.017		EG	
BLR-01-01	Albian flysch	f.g. ss	3386.94	3.183	3.347	1.915	2.815	0.784				0.001	a	KG	
BLR-01-01	Albian flysch	f.g. ss	3386.94				2.062	0.962	2.062	0.962	6	**0.017**	a		
BLR-01-02	Albian flysch	f.g. ss	3386.94	0.652	0.665	0.675	0.664	0.012				0.021		EG	
BLR-01-02	Albian flysch	f.g. ss	3386.94	2.975	2.480	2.466	2.640	0.290				0.002	a	KG	
BLR-01-02	Albian flysch	f.g. ss	3386.94				1.652	1.098	1.652	1.098	6	**0.021**	a		
BLR-01	Albian flysch	f.g. ss	3386.94				1.857	1.007	**1.857**	**1.007**	**12**	**0.019**	a		
BLR-02-01	Albian flysch	sh	3387.67	1.457	1.456		1.457	0.001				0.022		EG	
BLR-02-01	Albian flysch	sh	3387.67	2.047	1.314	1.137	1.499	0.482				0.004	a	KG	
BLR-02-01	Albian flysch	sh	3387.67				1.482	0.342	1.482	0.342	5	**0.022**	a		
BLR-02-02	Albian flysch	sh	3387.67	0.916	0.920	0.923	0.920	0.004				0.014		EG	
BLR-02-02	Albian flysch	sh	3387.67	1.253	1.158	0.945	1.119	0.158				0.006	a	KG	one very tiny chip
BLR-02-02	Albian flysch	sh	3387.67				1.019	0.148	1.019	0.148	6	**0.014**	a		
BLR-02	Albian flysch	sh	3387.67				1.230	0.341	**1.230**	**0.341**	**11**	**0.018**	a		
ELL-01-01	Taglu	ss	1603.55	0.572	0.578	0.571	0.574	0.004				0.215		EG	
ELL-01-01	Taglu	ss	1603.55	0.894	1.084	1.156	1.045	0.135				0.164	a	KG	
ELL-01-01	Taglu	ss	1603.55				0.809	0.272	0.809	0.272	6	**0.215**	a		
ELL-01-02	Taglu	ss	1603.55	0.638	0.625	0.618	0.627	0.010				0.205		EG	
ELL-01-02	Taglu	ss	1603.55	0.879	1.064	1.025	0.989	0.098				0.150	a	KG	
ELL-01-02	Taglu	ss	1603.55				0.808	0.208	0.808	0.208	6	**0.205**	a		
ELL-01	Taglu	ss	1603.55				0.809	0.231	**0.809**	**0.231**	**12**	**0.210**	a		
ELL-02-01	Taglu	ss	1610.30	1.019	0.984	0.959	0.987	0.030				0.177		EG	
ELL-02-01	Taglu	ss	1610.30	0.990	1.195	1.493	1.226	0.253				0.120	a	KG	
ELL-02-01	Taglu	ss	1610.30				1.107	0.207	1.107	0.207	6	**0.177**	a		
ELL-02-02	Taglu	ss	1610.30	0.947	0.933	0.922	0.934	0.013				0.172		EG	
ELL-02-02	Taglu	ss	1610.30	0.872	0.887	1.000	0.920	0.070				0.135	a	KG	
ELL-02-02	Taglu	ss	1610.30				0.927	0.046	0.927	0.046	6	**0.172**	a		
ELL-02	Taglu	ss	1610.30				1.017	0.171	**1.017**	**0.171**	**12**	**0.174**	a		
ELL-03-01	Taglu	sh	1917.04	1.199	1.188	1.174	1.187	0.013				0.085		EG	
ELL-03-01	Taglu	sh	1917.04	0.938	1.128	1.626	1.231	0.355				0.052	a	KG	
ELL-03-01	Taglu	sh	1917.04				1.209	0.226	1.209	0.226	6	**0.085**	a		

Sample	Rock Unit	Lithology	Depth (mKB)	[1]Single Measurements K_{dry} 1 (W/mK)	K_{dry} 2 (W/mK)	K_{dry} 3 (W/mK)	All Trials Ave K_{dry} (W/mK)	S. D. (W/mK)	Selected Trials Pref. Ave. K_{dry} (W/mK)	S. D. (W/mK)	# trials used	Por. Frac.	Plug Qual.	Analyst	Comments
ELL-03-02	Taglu	sh	1917.04									0.096	d	EG	cracked, expoxied; dry wt uncertain
ELL-03	Taglu	sh	1917.04						**1.209**	**0.226**	**6**	**0.085**	a		
ELL-04-01	Taglu	sh	1918.65	0.922	0.928	0.931	0.927	0.005				0.101		EG	cracked, expoxied
ELL-04-01	Taglu	sh	1918.65	1.483	1.556	0.984	1.341	0.311				0.062	b	KG	epoxied
ELL-04-01	Taglu	sh	1918.65				1.134	0.300	1.134	0.300	6	**0.101**	b		
ELL-04-02	Taglu	sh	1918.65	0.768	0.765	0.764	0.766	0.002				0.110		EG	
ELL-04-02	Taglu	sh	1918.65	1.146	0.934	1.189	1.090	0.137				0.061	a	KG	
ELL-04-02	Taglu	sh	1918.65				0.928	0.197	0.928	0.197	6	**0.110**	a		
ELL-04	Taglu	sh	1918.65				1.031	0.265	**1.031**	**0.265**	**12**	**0.105**	b,a		
ELL-05-01	Taglu	sh	1921.33	1.143	1.143	1.145	1.144	0.001				0.091		EG	
ELL-05-01	Taglu	sh	1921.33	1.182	1.024	0.623	0.943	0.288				0.064	a	KG	
ELL-05-01	Taglu	sh	1921.33				1.043	0.213	1.043	0.213	6	**0.091**	a		
ELL-05-02	Taglu	sh	1921.33	1.203	1.216	1.214	1.211	0.007				0.080		EG	
ELL-05-02	Taglu	sh	1921.33	1.633	1.288	1.292	1.404	0.198				0.056	a	KG	
ELL-05-02	Taglu	sh	1921.33				1.308	0.164	1.308	0.164	6	**0.080**	a		
ELL-05	Taglu	sh	1921.33				1.176	0.228	**1.176**	**0.228**	**12**	**0.086**	a		
ELL-06-01	Taglu	shaly ss	1924.00	1.231	1.231	1.230	1.231	0.001				0.080		EG	
ELL-06-01	Taglu	shaly ss	1924.00	0.861	0.927	1.332	1.040	0.255				0.056	a	KG	
ELL-06-01	Taglu	shaly ss	1924.00				1.135	0.192	1.135	0.192	6	**0.080**	a		
ELL-06-02	Taglu	shaly ss	1924.00	1.509	1.509	1.508	1.509	0.001				0.081		EG	
ELL-06-02	Taglu	shaly ss	1924.00	1.018	1.360	1.196	1.191	0.171				0.055	a	KG	
ELL-06-02	Taglu	shaly ss	1924.00				1.350	0.205	1.350	0.205	6	**0.081**	a		
ELL-06	Taglu	shaly ss	1924.00				1.243	0.220	**1.243**	**0.220**	**12**	**0.080**	a		
FR-01-01	Albian flysch	sh, ss lam.	2447.85	0.808	0.812	0.815	0.812	0.004						EG	
FR-01-02	Albian flysch	sh, ss lam.	2447.85	1.306	1.307	1.311	1.308	0.003				0.016		EG	
FR-01	Albian flysch	sh, ss lam.	2447.85				1.060	0.272	**1.060**	**0.272**	**6**	**0.016**			
FR-02-01	Albian flysch	sh	2450.60	0.965	0.957	0.952	0.958	0.007				0.016		EG	
FR-02-02	Albian flysch	sh	2450.60	1.318	1.319	1.319	1.319	0.001				0.026		EG	
FR-02	Albian flysch	sh	2450.60				1.138	0.198	**1.138**	**0.198**	**6**	**0.021**			
FR-03-01	Rat River	sh	2631.40	0.997	0.996	1.000	0.998	0.002				0.036		EG	
FR-03-01	Rat River	sh	2631.40	1.044	0.939	1.055	1.013	0.064				0.026	b	KG	chips
FR-03-01	Rat River	sh	2631.40				1.005	0.041	1.005	0.041	6	**0.036**	b		
FR-03-02	Rat River	sh	2631.40	0.838	0.841	0.842	0.840	0.002	0.840	0.002	3	**0.027**		EG	Sat. wt mislabelled as FR03-01?
FR-03	Rat River	sh	2631.40				0.950	0.089	**0.950**	**0.089**	**9**	**0.032**	b		
FR-04-01	Rat River	ss	2632.32	2.449	2.469	2.477	2.465	0.014						EG	
FR-04-01	Rat River	ss	2632.32	1.989	2.635	2.804	2.476	0.430				0.015	b	KG	might need grinding
FR-04	Rat River	ss	2632.32				2.471	0.272	**2.471**	**0.272**	**6**	**0.015**	b		
FR-05-01	Rat River	sh	2633.00	1.152	1.154	1.151	1.152	0.002				0.032		EG	
FR-05	Rat River	sh	2633.00						**1.152**	**0.002**		**0.032**			
IKH-01-01	Kamik	ss	2302.31	1.139	1.116	1.091	1.115	0.024				0.079		EG	
IKH-01-01	Kamik	ss	2302.31	1.026	1.109	1.539	1.225	0.275				0.068	a	KG	
IKH-01-01	Kamik	ss	2302.31				1.170	0.185	1.170	0.185	6	**0.079**	a		
IKH-01-02	Kamik	ss	2302.31	1.463	1.453	1.440	1.452	0.012				0.077		EG	
IKH-01-02	Kamik	ss	2302.31	1.070	1.065	1.163	1.099	0.055				0.069	a	KG	small chip
IKH-01-02	Kamik	ss	2302.31				1.276	0.196	1.276	0.196	6	**0.077**	a		

Sample	Rock Unit	Lithology	Depth (mKB)	[1]Single Measurements K_{dry} 1 (W/mK)	K_{dry} 2 (W/mK)	K_{dry} 3 (W/mK)	All Trials Ave K_{dry} (W/mK)	S. D. (W/mK)	Selected Trials Pref. Ave. K_{dry} (W/mK)	S. D. (W/mK)	# trials used	Por. Frac.	Plug Qual.	Analyst	Comments
IKH-01	Kamik	ss	2302.31				1.223	0.190	**1.223**	**0.190**	**12**	**0.078**	a		
IKH-02-01	Kamik	ss	2308.50	2.245	2.193	2.157	2.198	0.044						EG	
IKH-02-01	Kamik	ss	2308.50	2.426	1.577	1.392	1.798	0.551				0.078	a	KG	
IKH-02-01	Kamik	ss	2308.50				1.998	0.413	1.998	0.413	6	**0.078**	a		
IKH-02-02	Kamik	ss	2308.50	1.227	1.212	1.186	1.208	0.021				0.049		EG	
IKH-02-02	Kamik	ss	2308.50	1.962	1.279	1.427	1.556	0.359				0.056	a	KG	
IKH-02-02	Kamik	ss	2308.50				1.382	0.297	1.382	0.297	6	**0.053**	a		
IKH-02	Kamik	ss	2308.50				1.690	0.470	**1.690**	**0.470**	**12**	**0.065**	a		
IVK-01-01	Richards	ss	2489.97	1.520	1.498	1.473	1.497	0.024				0.124	d	EG	very crumbly; no dry wt in lab book
IVK-01-02	Richards	ss	2489.97	1.183	1.167	1.157	1.169	0.013				0.115		EG	
IVK-01	Richards	ss	2489.97				1.333	0.180	**1.333**	**0.180**	**6**	**0.120**			
IVK-02-01	Richards	ss	2491.68	1.472	1.395	1.368	1.412	0.054				0.258		EG	dry k >> sat. k
IVK-02-01	Richards	ss	2491.68	0.942	0.903	1.220	1.022	0.173	1.022	0.173	3	0.247	d	KG	disintegrated
IVK-02-01	Richards	ss	2491.68				1.217	0.242	1.022	0.173	3	**0.258**	d		
IVK-02-02	Richards	ss	2491.68	1.766	1.709	1.640	1.705	0.063	1.705	0.063	3	**0.239**		EG	dry k >> sat. k
IVK-02	Richards	ss	2491.68				1.379	0.312	**1.022**	**0.173**	**3**	**0.248**	d		
IVK-03-01	Richards	ss	2688.18	1.330	1.307	1.298	1.312	0.017				0.251		EG	dry k >> sat. k
IVK-03-01	Richards	ss	2688.18	0.433	0.554		0.494	0.086				0.164	d	KG	
IVK-03-01	Richards	ss	2688.18				0.984	0.450	0.494	0.086	2	**0.251**			
IVK-03-02	Richards	ss	2688.18	1.530	1.504	1.456	1.497	0.038				0.254		EG	dry k >> sat. k
IVK-03-02	Richards	ss	2688.18	0.552	0.746	0.516	0.605	0.124				0.286	d	KG	
IVK-03-02	Richards	ss	2688.18				1.051	0.495	0.605	0.124	3	**0.254**	d		
IVK-03	Richards	ss	2688.18				1.021	0.453	**0.560**	**0.115**	**5**	**0.253**			
IVK-04-01	Richards	sh	2694.25	0.816	0.820	0.821	0.819	0.003	0.819	0.003	3			EG	
IVK-04-02	Richards	sh	2694.25	0.943	0.931	0.931	0.935	0.007				0.219		EG	
IVK-04-02	Richards	sh	2694.25	0.828	0.694	1.071	0.864	0.191				0.199	a	KG	
IVK-04-02	Richards	sh	2694.25				0.900	0.127	0.900	0.127	6	**0.219**	a		
IVK-04	Richards	sh	2694.25				0.873	0.108	**0.873**	**0.108**	**9**	**0.219**	a		
IVK-05-01	Richards	sh	3115.36	1.019	1.023	1.023	1.022	0.002	1.022	0.002	3			EG	
IVK-05-02	Richards	sh	3115.36	0.896	0.883	0.875	0.885	0.011				0.083		EG	
IVK-05-02	Richards	sh	3115.36	0.958	1.341	1.205	1.168	0.194				0.070	a	KG	
IVK-05-02	Richards	sh	3115.36				1.026	0.198	1.026	0.198	6	**0.083**	a		
IVK-05	Richards	sh	3115.36				1.025	0.157	**1.025**	**0.157**	**9**	**0.083**	a		
IVK-06-01	Richards	sh	3116.58	0.896	0.896	0.895	0.896	0.001						EG	
IVK-06	Richards	sh	3116.58						**0.896**	**0.001**					
IVK-07-01	Richards	sh	3199.09	1.245	1.240	1.230	1.238	0.008	1.238	0.008	3			EG	
IVK-07-02	Richards	sh	3199.09	1.331	1.321	1.319	1.324	0.006				0.098		EG	
IVK-07-02	Richards	sh	3199.09	0.570	0.861	0.939	0.790	0.194				0.082	a	KG	
IVK-07-02	Richards	sh	3199.09				1.057	0.317	1.057	0.317	6	**0.098**	a		
IVK-07	Richards	sh	3199.09				1.117	0.267	**1.117**	**0.267**	**9**	**0.098**	a		
IVK-08-01	Richards	sh	3200.70	0.986	0.989	0.990	0.988	0.002				0.095		EG	
IVK-08-01	Richards	sh	3200.70	0.943	1.061	1.368	1.124	0.219				0.082	a	KG	small chip
IVK-08-01	Richards	sh	3200.70				1.056	0.157	1.056	0.157	6	**0.095**	a		
IVK-08-02	Richards	sh	3200.70	1.246	1.243	1.237	1.242	0.005				0.099		EG	
IVK-08-02	Richards	sh	3200.70	76.736	1.267	0.970	26.324	43.658	1.119	0.210	2	0.074	a	KG	small chip

Sample	Rock Unit	Lithology	Depth (mKB)	[1]Single Measurements K_{dry} 1 (W/mK)	K_{dry} 2 (W/mK)	K_{dry} 3 (W/mK)	All Trials Ave K_{dry} (W/mK)	S. D. (W/mK)	Selected Trials Pref. Ave. K_{dry} (W/mK)	S. D. (W/mK)	# trials used	Por. Frac.	Plug Qual.	Analyst	Comments
IVK-08-02	Richards	sh	3200.70				13.783	30.841	1.193	0.125	5	**0.099**	a		
IVK-08	Richards	sh	3200.70				7.420	21.829	**1.118**	**0.154**	**11**	**0.097**	a		
IVKK-01-01	Richards	slty mdst	2924.90	0.645	0.646	0.727	0.673	0.047				0.112		EG	
IVKK-01-01	Richards	slty mdst	2924.90	0.772	0.809	0.571	0.717	0.128				0.113	b	KG	chipped
IVKK-01-01	Richards	slty mdst	2924.90				0.695	0.090	0.695	0.090	6	**0.113**	b		
IVKK-01-02	Richards	slty mdst	2924.90	0.829	0.757	0.745	0.777	0.045				0.124		EG	
IVKK-01-02	Richards	slty mdst	2924.90	0.597	0.563	0.569	0.576	0.018						KG	12 Feb 2004
IVKK-01-02	Richards	slty mdst	2924.90	0.824	0.970	0.635	0.810	0.168				0.120	a	KG	21 Dec 2004 repolished
IVKK-01-02	Richards	slty mdst	2924.90				0.721	0.140	0.721	0.140	9	**0.122**	a		
IVKK-01	Richards	slty mdst	2924.90				0.711	0.119	**0.711**	**0.119**	**15**	**0.117**	b,a		
KANG-01-01	Smoking Hills	bentonite	1196.00	0.609	0.606	0.606	0.607	0.002				0.296		EG	
KANG-01	Smoking Hills	bentonite	1196.00						**0.607**	**0.002**		**0.296**			
KANG-02-01	Smoking Hills	sh (bent.)	1199.20	0.685	0.681	0.679	0.682	0.003				**0.078**		EG	
KANG-02-02	Smoking Hills	sh (bent.)	1199.20	0.717	0.707	0.698	0.707	0.010				**0.041**		EG	
KANG-02	Smoking Hills	sh (bent.)	1199.20				0.695	0.015	**0.695**	**0.015**	**6**	**0.059**			
KANG-03-01	Smoking Hills	sh (bent.)	1199.40	0.749	0.745	0.740	0.745	0.005				0.019		EG	
KANG-03-02	Smoking Hills	sh (bent.)	1199.40	0.759	0.757	0.757	0.758	0.001				0.029		EG	
KANG-03	Smoking Hills	sh (bent.)	1199.40				0.751	0.008	**0.751**	**0.008**	**6**	**0.024**			
KUG-01-01	Kugmallit	sh	1756.17	1.535	1.455	1.361	1.450	0.087				0.058		EG	
KUG-01-01	Kugmallit	sh	1756.17	1.282	1.022	1.259	1.188	0.144				0.055	a	KG	small chip
KUG-01-01	Kugmallit	sh	1756.17				1.319	0.179	1.319	0.179	6	**0.058**	a		
KUG-01-02	Kugmallit	sh	1756.17	1.736	1.724	1.657	1.706	0.043				0.047		EG	
KUG-01-02	Kugmallit	sh	1756.17	1.860	1.828	1.854	1.847	0.017				0.082	a	KG	
KUG-01-02	Kugmallit	sh	1756.17				1.777	0.083	1.777	0.083	6	**0.047**	a		
KUG-01	Kugmallit	sh	1756.17				1.548	0.273	**1.548**	**0.273**	**12**	**0.053**	a		
KPKL-01-01	Smoking Hills	lam black sh	2007.60	0.674	0.691	0.706	0.690	0.016				0.012		EG	
KPKL-01-01	Smoking Hills	lam black sh	2007.60	0.663	0.680	0.541	0.628	0.076				0.017	c	KG	thin with chips/flaking
KPKL-01-01							0.659	0.060	0.659	0.060	6	**0.012**	c		
KPKL-01-02	Smoking Hills	lam black sh	2007.60	0.878	0.877	0.878	0.878	0.001				0.016		EG	
KPKL-01-02	Smoking Hills	lam black sh	2007.60	0.851	0.830	0.778	0.820	0.038				0.030	b	KG	few chips
KPKL-01-02							0.849	0.040	0.849	0.040	6	**0.016**	b		
KPKL-01							0.754	0.110	**0.754**	**0.110**	**12**	**0.014**	c,b		
KPKL-02-01	Smoking Hills	lam black sh	2011.68	0.425	0.423	0.424	0.424	0.001	0.424	0.001	3			EG	severely chipped
KPKL-02									**0.424**	**0.001**	**3**				
KPKL-03-01	Husky	sh	2264.34	0.560	0.557	0.555	0.557	0.003				0.012		EG	severely chipped; disintegrated
KPKL-03-02	Husky	sh	2264.34	0.546	0.540	0.538	0.541	0.004						EG	
KPKL-03							0.549	0.009	**0.549**	**0.009**	**6**	**0.012**			
KPKL-04-01	Permian	ss	2496.92	1.514	2.348	1.632	1.831	0.451				0.044		EG	
KPKL-04-01	Permian	ss	2496.92	2.908	2.904	2.406	2.739	0.289				0.025	a	KG	
KPKL-04-01							2.285	0.602	2.285	0.602	6	0.044	a		
KPKL-04-02	Permian	ss	2496.92	2.232	2.260	2.263	2.252	0.017				0.041		EG	
KPKL-04-02	Permian	ss	2496.92	2.301	2.543	2.526	2.457	0.135				0.023	a	KG	
KPKL-04-02							2.354	0.142	2.354	0.142	6	0.041	a		
KPKL-04							2.320	0.418	**2.320**	**0.418**	**12**	**0.042**	a		
KPKL-05-01	Permian	ss	2501.54	1.857	1.858	1.856	1.857	0.001				0.110		EG	

				[1]Single Measurements			All Trials		Selected Trials						
Sample	Rock	Lithology	Depth	K_{dry}	K_{dry}	K_{dry}	Ave		Pref. Ave.		#	Por.	Plug		
	Unit		(mKB)	1	2	3	K_{dry}	S. D.	K_{dry}	S. D.	trials	Frac.	Qual.	Analyst	Comments
				(W/mK)	(W/mK)	(W/mK)	(W/mK)	(W/mK)	(W/mK)	(W/mK)	used				
KPKL-05-01	Permian	ss	2501.54	1.466	1.610	2.556	1.877	0.592				0.075	a	KG	
KPKL-05-01							1.867	0.375	1.867	0.375	6	**0.110**	a		
KPKL-05-02	Permian	ss	2501.54	2.117	2.083	2.042	2.081	0.038				0.128		EG	
KPKL-05-02	Permian	ss	2501.54	1.945	1.942	1.941	1.943	0.002				0.077	a	KG	
KPKL-05-02							2.012	0.079	2.012	0.079	6	**0.128**	a		
KPKL-05							1.939	0.269	**1.939**	**0.269**	**12**	**0.119**	a		
KPKO-01-01	Smoking Hills	sh	1987.75	0.758	0.772	0.754	0.761	0.009						EG	
KPKO-01-01	Smoking Hills	sh	1987.75	0.860	0.866	0.867	0.864	0.004				0.014	a	KG	
KPKO-01-01							0.813	0.057	0.813	0.057	6	**0.014**	a		
KPKO-01-02	Smoking Hills	sh	1987.75	0.791	0.776	0.817	0.795	0.021						EG	
KPKO-01-02	Smoking Hills	sh	1987.75	0.628	0.803	0.782	0.738	0.096				0.016	c	KG	chips and ring around outside
KPKO-01-02							0.766	0.069	0.766	0.069	6	**0.016**	c		
KPKO-01							0.790	0.065	**0.790**	**0.065**	**12**	**0.015**	a,c		
KPKO-02-01	Smoking Hills	sh	1990.83	0.755	0.777	0.770	0.767	0.011						EG	
KPKO-02-01	Smoking Hills	sh	1990.83	0.821	0.791	0.740	0.784	0.041				0.014	a	KG	
KPKO-02-01							0.776	0.028	0.776	0.028	6	**0.014**	a		
KPKO-02-02	Smoking Hills	sh	1990.83	0.511	0.511	0.515	0.512	0.002						EG	
KPKO-02-02	Smoking Hills	sh	1990.83	0.836	0.807	0.843	0.829	0.019				0.018	b	KG	flakes getting thin
KPKO-02-02							0.671	0.174	0.671	0.174	6	**0.018**	b		
KPKO-02							0.723	0.131	**0.723**	**0.131**	**12**	**0.016**	a,b		
KPKO-03-01	Smoking Hills	sh	2122.78	0.760	0.806	0.765	0.777	0.025						EG	seriously chipped
KPKO-03-02	Smoking Hills	sh	2122.78	0.673	0.667	0.668	0.669	0.003						EG	seriously chipped
KPKO-03							0.723	0.061	**0.723**	**0.061**	**6**	**0.015**			use ave. porosity from -01 & -02
KPKO-05-01	Husky	sandy mdst	2953.02	1.637	1.645	1.644	1.642	0.004						EG	
KPKO-05-01	Husky	sandy mdst	2953.02	1.735	1.185	1.794	1.571	0.336				-0.205	b	KG	rounded edge
KPKO-05-01							1.607	0.216	1.607	0.216	6	**0.027**	b		
KPKO-05-02	Husky	sandy mdst	2953.02	1.522	1.530	1.533	1.528	0.006				0.027		EG	
KPKO-05-02	Husky	sandy mdst	2953.02	1.453	1.289	1.900	1.547	0.316				0.026	a	KG	
KPKO-05-02							1.538	0.200	1.538	0.200	6	**0.027**	a		
KPKO-05							1.572	0.202	**1.572**	**0.202**	**12**	**0.027**	b,a		
KPKO-06-01	Husky	sandy mdst	2955.50									0.020		EG	
KPKO-06-01	Husky	sandy mdst	2955.50	1.045	1.285	1.187	1.172	0.121				0.020	b	KG	small chips
KPKO-06-01									1.172	0.121	3	**0.020**	b		
KPKO-06-02	Husky	sandy mdst	2955.50	1.440	1.349	1.493	1.427	0.073				0.012		EG	
KPKO-06-02	Husky	sandy mdst	2955.50	1.306	1.196	1.480	1.327	0.143				0.023	a	KG	
KPKO-06-02							1.377	0.115	1.377	0.115	6	**0.018**	a		
KPKO-06							1.309	0.150	**1.309**	**0.150**	**9**	**0.019**	b,a		
KPKO-07-01	Permian	muddy ss	3098.14	2.261	2.275	2.281	2.272	0.010				0.030		EG	
KPKO-07-01	Permian	muddy ss	3098.14	3.405	2.213	2.832	2.817	0.596				0.018	a	KG	
KPKO-07-01							2.545	0.481	2.545	0.481	6	**0.030**	a		
KPKO-07-02	Permian	muddy ss	3098.14	2.594	2.203	2.644	2.480	0.241				0.030		EG	
KPKO-07-02	Permian	muddy ss	3098.14	1.868	2.322	2.450	2.213	0.306				0.020	a	KG	
KPKO-07-02							2.347	0.287	2.347	0.287	6	**0.030**	a		
KPKO-07							2.446	0.391	**2.446**	**0.391**	**12**	**0.030**	a		
KPKO-08-01	Permian	muddy ss	3101.04	2.144	2.149	2.310	2.201	0.094				0.031		EG	

Sample	Rock Unit	Lithology	Depth (mKB)	[1]Single Measurements K_{dry} 1 (W/mK)	K_{dry} 2 (W/mK)	K_{dry} 3 (W/mK)	All Trials Ave K_{dry} (W/mK)	S. D. (W/mK)	Selected Trials Pref. Ave. K_{dry} (W/mK)	S. D. (W/mK)	# trials used	Por. Frac.	Plug Qual.	Analyst	Comments
KPKO-08-01	Permian	muddy ss	3101.04	2.046	2.587	3.079	2.571	0.517				0.017	a	KG	
KPKO-08-01							2.386	0.389	2.386	0.389	6	**0.031**	a		
KPKO-08-02	Permian	muddy ss	3101.04	2.154	2.159	2.160	2.158	0.003						EG	
KPKO-08-02	Permian	muddy ss	3101.04	1.670	2.314	2.303	2.096	0.369				0.017	a	KG	
KPKO-08-02							2.127	0.236	2.127	0.236	6	**0.017**	a		
KPKO-08							2.256	0.335	**2.256**	**0.335**	**12**	**0.024**	a		
KUM-01-01	Taglu	sh	1370.08	0.604	0.597	0.569	0.590	0.019				0.122		EG	
KUM-01-01	Taglu	sh	1370.08	0.690	0.659	0.762	0.704	0.053				0.122	b	KG	slight chip and thin
KUM-01-01							0.647	0.072	0.647	0.072	6	**0.122**	b		
KUM-01-02	Taglu	sh	1370.08									0.113		EG	
KUM-01-02	Taglu	sh	1370.08	0.445	0.433	0.433	0.437	0.007				0.131	b	KG	thin and slight flaking
KUM-01-02									0.437	0.007	3	**0.113**	b		
KUM-01							0.577	0.119	**0.647**	**0.072**	**6**	**0.117**	b		
KUM-02-01	Taglu	ss	1373.73	1.043	1.013	0.972	1.009	0.036				0.195		EG	
KUM-02-01	Taglu	ss	1373.73	44.217	0.962	1.167	15.449	24.914	1.065	0.145	2	0.244	b	KG	thin
KUM-02-01							8.229	17.631	1.031	0.082	5	**0.195**	b		
KUM-02-02	Taglu	ss	1373.73	0.877	0.766	0.780	0.808	0.060				0.197		EG	
KUM-02-02	Taglu	ss	1373.73	0.904	1.265	1.069	1.079	0.181				0.240	a	KG	
KUM-02-02							0.944	0.191	0.944	0.191	6	**0.197**	a		
KUM-02							4.586	12.481	**0.983**	**0.152**	**11**	**0.196**	b,a		
KUM-03-01	Taglu	ss	1379.68	1.056	1.069	1.010	1.045	0.031				0.188		EG	
KUM-03-01	Taglu	ss	1379.68	1.083	1.390	1.413	1.295	0.184				0.171	a	KG	
KUM-03-01							1.170	0.181	1.170	0.181	6	**0.188**	a		
KUM-03-02	Taglu	ss	1379.68	1.204	1.173	1.149	1.175	0.028				0.177		EG	
KUM-03-02	Taglu	ss	1379.68	1.425	1.496	1.185	1.369	0.163				0.166	a	KG	
KUM-03-02							1.272	0.149	1.272	0.149	6	**0.177**	a		
KUM-03							1.221	0.167	**1.221**	**0.167**	**12**	**0.183**	a		
KUM-04-01	Taglu	ss	2174.44	1.372	1.494	1.479	1.448	0.067				0.170		EG	
KUM-04-01	Taglu	ss	2174.44	0.986	1.229	1.077	1.097	0.123				0.156	a	KG	
KUM-04-01							1.273	0.212	1.273	0.212	6	**0.170**	a		
KUM-04-02	Taglu	ss	2174.44	1.163	1.137	1.085	1.128	0.040				0.175		EG	
KUM-04-02	Taglu	ss	2174.44	1.363	1.456	1.135	1.318	0.165				0.162	a	KG	
KUM-04-02							1.223	0.149	1.223	0.149	6	**0.175**	a		
KUM-04							1.248	0.177	**1.248**	**0.177**	**12**	**0.173**	a		
KUM-05-01	Taglu	ss	2182.67	1.237	1.209	1.179	1.208	0.029				0.214		EG	
KUM-05-01	Taglu	ss	2182.67	1.270	1.330	1.136	1.245	0.099						KG	
KUM-05-01	Taglu	ss	2182.67	1.255	1.314	1.123	1.231	0.098				0.075	a	KG	repolished
KUM-05-01							1.228	0.073	1.228	0.073	9	**0.214**	a		
KUM-05-02	Taglu	ss	2182.67	1.221	1.004	1.187	1.137	0.117	1.137	0.117	3	**0.240**		EG	
KUM-05							1.205	0.090	**1.205**	**0.090**	**12**	**0.227**	a		
KUM-06-01	Taglu	ss	2296.12	1.581	1.627	1.659	1.622	0.039				0.133		EG	
KUM-06-01	Taglu	ss	2296.12	1.232	1.255	1.476	1.321	0.135				0.116	a	KG	
KUM-06-01							1.472	0.187	1.472	0.187	6	**0.133**	a		
KUM-06-02	Taglu	ss	2296.12	1.365	1.365	1.545	1.425	0.104				0.145		EG	
KUM-06-02	Taglu	ss	2296.12	1.072	1.617	1.416	1.368	0.276				0.130	a	KG	

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KUM-06-02							1.397	0.189	1.397	0.189	6	**0.145**	a		
KUM-06							1.434	0.184	**1.434**	**0.184**	**12**	**0.139**	a		
KUM-08-01	Taglu	shaly ss	2306.42	1.664	1.578	1.632	1.625	0.043				0.088		EG	
KUM-08-01	Taglu	shaly ss	2306.42	1.156	1.091	1.052	1.100	0.053				0.077	a	KG	slight rounded edge 1/4
KUM-08-01							1.362	0.291	1.625	0.043	3	**0.088**	a		
KUM-08-02	Taglu	shaly ss	2306.42	1.673	1.537	1.663	1.624	0.076				0.075		EG	
KUM-08-02	Taglu	shaly ss	2306.42	1.896	1.681	1.435	1.671	0.231				0.074	a	KG	
KUM-08-02							1.648	0.156	1.648	0.156	6	**0.075**	a		
KUM-08							1.505	0.268	**1.640**	**0.125**	**9**	**0.082**	a		
MAL-01-01	Richards	lam sh	2303.07	0.862	0.859		0.861	0.002				0.060		EG	
MAL-01-01	Richards	lam sh	2303.07	0.889	0.858	1.102	0.950	0.133				0.083	c	KG	epoxied and flaking
MAL-01-01							0.914	0.106	0.914	0.106	5	**0.060**	c		
MAL-01-02	Richards	lam sh	2303.07	0.961	0.963	0.963	0.962	0.001	0.962	0.001	3	**0.070**		EG	
MAL-01							0.932	0.084	**0.932**	**0.084**	**8**	**0.065**	c		
MAYG-01-01	Rat River	sandy mdst	2474.75	1.742	1.767	1.737	1.749	0.016				0.073		EG	
MAYG-01-01	Rat River	sandy mdst	2474.75	1.474	1.188	1.427	1.363	0.153				0.043	b	KG	chipped and rounded
MAYG-01-01							1.556	0.233	1.556	0.233	6	**0.073**	b		
MAYG-01-02	Rat River	sandy mdst	2474.75									0.051		EG	
MAYG-01-02	Rat River	sandy mdst	2474.75	1.660	1.372	1.674	1.569	0.170				0.036	a	KG	
MAYG-01-02									1.569	0.170	3	**0.051**	a		
MAYG-01							1.560	0.203	**1.560**	**0.203**	**9**	**0.062**	b,a		
MAYG-02-01	Rat River	muddy ss	2478.00	2.287	2.039	2.212	2.179	0.127				0.138		EG	
MAYG-02-01	Rat River	muddy ss	2478.00	1.381	2.649	2.622	2.217	0.724				0.113	a	KG	small chip
MAYG-02-01							2.198	0.466	2.198	0.466	6	**0.138**	a		
MAYG-02-02	Rat River	muddy ss	2478.00	2.173	2.107	1.047	1.776	0.632				0.141		EG	
MAYG-02-02	Rat River	muddy ss	2478.00	1.093	2.233	1.805	1.710	0.576				0.113	a	KG	small chip
MAYG-02-02							1.743	0.542	1.743	0.542	6	**0.141**	a		
MAYG-02							1.971	0.537	**1.971**	**0.537**	**12**	**0.140**	a		
MAYG-03-01	Rat River	muddy ss	2482.40	1.560	1.566	1.836	1.654	0.158				0.083		EG	
MAYG-03-01	Rat River	muddy ss	2482.40	1.045	1.158	1.376	1.193	0.168				0.031	c	KG	large chip
MAYG-03-01							1.424	0.292	1.424	0.292	6	**0.083**	c		
MAYG-03-02	Rat River	muddy ss	2482.40	2.139	1.899	1.888	1.975	0.142				0.102		EG	
MAYG-03-02	Rat River	muddy ss	2482.40	1.316	1.221	2.428	1.655	0.671				0.068	a	KG	
MAYG-03-02							1.815	0.468	1.815	0.468	6	**0.102**	a		
MAYG-03							1.619	0.424	**1.619**	**0.424**	**12**	**0.092**	c,a		
MAYG-04-01	Rat River	sandy sh	2485.45	1.125	1.375	1.371	1.290	0.143				0.036		EG	
MAYG-04-01	Rat River	sandy sh	2485.45	0.786	0.888	0.850	0.841	0.052				0.029	a	KG	
MAYG-04-01							1.066	0.264	1.066	0.264	6	**0.036**	a		
MAYG-04-02	Rat River	sandy sh	2485.45	1.372	1.365	1.364	1.367	0.004				0.031		EG	
MAYG-04-02	Rat River	sandy sh	2485.45	1.572	2.183	1.821	1.859	0.307				0.016	b	KG	rounded
MAYG-04-02							1.613	0.332	1.613	0.332	6	**0.031**	b		
MAYG-04							1.339	0.404	**1.339**	**0.404**	**12**	**0.034**	a,b		
MAYJ-01-01	Landry	frac. carbonate	2892.95	2.048	2.048	2.043	2.046	0.003				0.042		EG	
MAYJ-01-01	Landry	frac. carbonate	2892.95	2.205	2.095	2.580	2.293	0.254				0.017	a	KG	small chip, natural fissures
MAYJ-01-01							2.170	0.210	2.170	0.210	6	**0.042**	a		

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MAYJ-01-02	Landry	frac. carbonate	2892.95	1.685	1.701	1.712	1.699	0.014				0.013		EG	
MAYJ-01-02	Landry	frac. carbonate	2892.95	2.438	3.253	2.461	2.717	0.464				0.005	c	KG	large chip
MAYJ-01-02							2.208	0.630	2.208	0.630	6	**0.013**	c		
MAYJ-01							2.189	0.448	**2.189**	**0.448**	**12**	**0.028**	a,c		
MAYJ-02-01	Landry	frac. carbonate	2901.06	2.449	2.476	2.493	2.473	0.022				**0.015**		EG	
MAYJ-02-01	Landry	frac. carbonate	2901.06	2.644	4.598	2.492	3.245	1.174	2.568	0.107	2	0.002	a, b	KG	chip
MAYJ-02-01							2.859	0.855	2.511	0.077	5	**0.015**	a,b		
MAYJ-02-02	Landry	frac. carbonate	2901.06	2.645	2.644	2.646	2.645	0.001				0.018		EG	
MAYJ-02-02	Landry	frac. carbonate	2901.06	3.009	3.061	3.818	3.296	0.453				0.002	b	KG	rounded
MAYJ-02-02	Landry	frac. carbonate	2901.06									0.019	b	KG	rounded
MAYJ-02-02							2.971	0.457	2.645	0.001	3	**0.019**	b		
MAYJ-02							2.915	0.656	**2.561**	**0.090**	**8**	**0.017**	a,b		
MAYJ-03-01	Landry	carbonate	2903.57	1.602	1.609	1.613	1.608	0.006				0.024		EG	
MAYJ-03-01	Landry	carbonate	2903.57	2.564	2.642	2.124	2.443	0.279				0.002	b	KG	rounded
MAYJ-03-01							2.026	0.490	2.026	0.490	6	**0.024**	b		
MAYJ-03-02	Landry	carbonate	2903.57	1.852	1.803	1.801	1.819	0.029				0.017		EG	
MAYJ-03-02	Landry	carbonate	2903.57	1.902			1.902					0.002		KG	
MAYJ-03-02							1.840	0.048	1.840	0.048	4	**0.017**			
MAYJ-03							1.951	0.379	**1.951**	**0.379**	**10**	**0.020**	b		
MAYJ-04-01	Landry	frac. carbonate	2918.41	2.539	2.536	2.583	2.553	0.026				0.021		EG	
MAYJ-04-01	Landry	frac. carbonate	2918.41									0.001		KG	
MAYJ-04-01	Landry	frac. carbonate	2918.41									0.004		KG	
MAYJ-04-01									2.553	0.026	3	**0.021**			
MAYJ-04-02	Landry	frac. carbonate	2918.41	1.538	2.537	2.608	2.228	0.598				0.026		EG	
MAYJ-04-02	Landry	frac. carbonate	2918.41	7.902	4.766	6.635	6.434	1.578						KG	
MAYJ-04-02	Landry	frac. carbonate	2918.41	3.574	5.462	3.138	4.058	1.235	3.356	0.308	2	0.003	b	KG	chipped, repolished
MAYJ-04-02							4.240	2.105	2.679	0.765	5	**0.026**	b		
MAYJ-04							3.818	1.950	**2.632**	**0.582**	**8**	**0.023**	b		
MAYJ-05-01	Arnica (Road R)	carbonate	3682.60	1.462	1.076	1.797	1.445	0.361						KG	
MAYJ-05-01	Arnica (Road R)	carbonate	3682.60	2.375	2.080	2.149	2.201	0.154				0.015	a	KG	repolished
MAYJ-05-01							1.823	0.483	2.201	0.154	3	**0.015**	a		
MAYJ-05-02	Arnica (Road R)	carbonate	3682.60	3.655	2.368	2.347	2.790	0.749	2.790	0.749	3	**0.011**	a	KG	
MAYJ-05							2.145	0.721	**2.496**	**0.581**	**6**	**0.013**	a		
NAPF-01-01	Mount Goodenough	shaly ss	696.42	1.349	1.501	1.491	1.447	0.085				**0.117**		EG	
NAPF-01-01	Mount Goodenough	shaly ss	696.42	2.180	2.128	2.174	2.161	0.028				0.057	a	KG	
NAPF-01-01							1.804	0.395	1.804	0.395	6	**0.117**	a		
NAPF-01-02	Mount Goodenough	shaly ss	696.42	1.134	1.135	1.309	1.193	0.101				**0.125**		EG	
NAPF-01-02	Mount Goodenough	shaly ss	696.42	1.985	2.201	2.318	2.168	0.169				0.062	a	KG	
NAPF-01-02							1.680	0.549	1.680	0.549	6	**0.125**	a		
NAPF-01							1.742	0.460	**1.742**	**0.460**	**12**	**0.121**	a		
NAPF-02-01	Mount Goodenough	sandy sh	697.76	1.430	1.441	1.440	1.437	0.006				0.109		EG	
NAPF-02-01	Mount Goodenough	sandy sh	697.76	1.585	1.340	1.394	1.440	0.129				0.063	b	KG	chipped
NAPF-02-01							1.438	0.082	1.438	0.082	6	**0.109**	b		
NAPF-02-02	Mount Goodenough	sandy sh	697.76	1.699	1.717	1.765	1.727	0.034				0.109		EG	
NAPF-02-02	Mount Goodenough	sandy sh	697.76	1.858	1.837	1.556	1.750	0.169				0.061	a	KG	small chip

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NAPF-02-02							1.739	0.110	1.739	0.110	6	**0.109**	a		
NAPF-02							1.589	0.182	**1.589**	**0.182**	**12**	**0.109**	b,a		
NAPF-03-01	Permian (Jungle Ck)	sandy sh	1243.46	1.933	1.936	1.978	1.949	0.025				0.070		EG	
NAPF-03-01	Permian (Jungle Ck)	sandy sh	1243.46	1.726	1.395	1.745	1.622	0.197				0.045	a	KG	
NAPF-03-01							1.786	0.219	1.786	0.219	6	**0.070**	a		
NAPF-03-02	Permian (Jungle Ck)	sandy sh	1243.46	1.702	1.701	1.561	1.655	0.081				0.087		EG	
NAPF-03-02	Permian (Jungle Ck)	sandy sh	1243.46	1.587	1.896	1.801	1.761	0.158				0.052	a	KG	
NAPF-03-02							1.708	0.127	1.708	0.127	6	**0.087**	a		
NAPF-03							1.747	0.175	**1.747**	**0.175**	**12**	**0.078**	a		
NAPF-04-01	Permian (Jungle Ck)	shaly ss	1245.34	1.761	1.895	1.668	1.775	0.114						EG	
NAPF-04-01	Permian (Jungle Ck)	shaly ss	1245.34	1.849	1.416	1.716	1.660	0.222				0.074	a	KG	
NAPF-04-01							1.718	0.170	1.718	0.170	6	**0.124**	a		
NAPF-04-02	Permian (Jungle Ck)	shaly ss	1245.34	1.871	2.005	1.956	1.944	0.068				0.124		EG	
NAPF-04-02	Permian (Jungle Ck)	shaly ss	1245.34	2.076	1.284	1.737	1.699	0.397				0.081	a	KG	
NAPF-04-02							1.822	0.288	1.822	0.288	6	**0.124**	a		
NAPF-04							1.770	0.232	**1.770**	**0.232**	**12**	**0.124**	a		
NAPF-05-01	Permian (Jungle Ck)	ss	1255.57	1.915	2.104	2.129	2.049	0.117				0.150		EG	
NAPF-05-01	Permian (Jungle Ck)	ss	1255.57	1.841	1.594	1.816	1.750	0.136				0.095	a	KG	tiny chip
NAPF-05-01							1.900	0.199	1.900	0.199	6	**0.123**	a		
NAPF-05-02	Permian (Jungle Ck)	ss	1255.57	2.166	2.249	2.238	2.218	0.045				0.145		EG	
NAPF-05-02	Permian (Jungle Ck)	ss	1255.57	2.027	2.133	2.301	2.154	0.138				0.116	a	KG	small area on edge is rounded
NAPF-05-02							2.186	0.098	2.186	0.098	6	**0.130**	a		
NAPF-05							2.043	0.211	**2.043**	**0.211**	**12**	**0.126**	a		
NAPF-06-01	Carboniferous	lmst	1514.94	1.185	1.441	1.693	1.440	0.254				0.024		EG	
NAPF-06-01	Carboniferous	lmst	1514.94	3.280	1.607	3.064	2.650	0.910				0.002	a	KG	
NAPF-06-01							2.045	0.893	2.045	0.893	6	**0.024**	a		
NAPF-06-02	Carboniferous	lmst	1514.94									0.030		EG	
NAPF-06-02	Carboniferous	lmst	1514.94	2.942	2.785	2.042	2.590	0.481				0.004	a	KG	
NAPF-06-02							2.590	0.481	2.590	0.481	3	**0.030**	a		
NAPF-06							2.227	0.794	**2.227**	**0.794**	**9**	**0.027**	a		
NAPF-07-01	Carboniferous	lmst	1517.22	1.355	1.511	1.691	1.519	0.168				0.025		EG	
NAPF-07-01	Carboniferous	lmst	1517.22	1.493	1.781	3.321	2.198	0.983				0.004	a	KG	small flakes
NAPF-07							1.859	0.732	**1.859**	**0.732**	**6**	**0.025**	a		
NAPF-08-01	Carboniferous	ss	1517.85	1.999	1.990	1.653	1.881	0.197				0.023		EG	
NAPF-08-01	Carboniferous	ss	1517.85	2.699	3.247	2.568	2.838	0.360				0.002	a	KG	tiny chip
NAPF-08-01							2.359	0.585	2.359	0.585	6	**0.023**	a		
NAPF-08-02	Carboniferous	ss	1517.85	1.406	1.405	1.530	1.447	0.072				0.031		EG	
NAPF-08-02	Carboniferous	ss	1517.85	2.778	1.853	2.496	2.376	0.474				0.004	a	KG	
NAPF-08-02							1.911	0.592	1.911	0.592	6	**0.031**	a		
NAPF-08							2.135	0.608	**2.135**	**0.608**	**12**	**0.027**	a		
NAPF-09-01	Carboniferous	sh	1521.86	1.529	1.740	1.464	1.578	0.144				0.060		EG	
NAPF-09-01	Carboniferous	sh	1521.86	1.798	2.837	2.207	2.281	0.523				0.010	a	KG	
NAPF-09-01							1.929	0.516	1.929	0.516	6	**0.060**	a		
NAPF-09-02	Carboniferous	sh	1521.86	1.904	1.723	1.913	1.847	0.107				0.055		EG	
NAPF-09-02	Carboniferous	sh	1521.86	1.848	1.960	1.732	1.847	0.114				0.021	a	KG	

Sample	Rock Unit	Lithology	Depth (mKB)	[1]Single Measurements K_{dry} 1 (W/mK)	K_{dry} 2 (W/mK)	K_{dry} 3 (W/mK)	All Trials Ave K_{dry} (W/mK)	S. D. (W/mK)	Selected Trials Pref. Ave. K_{dry} (W/mK)	S. D. (W/mK)	# trials used	Por. Frac.	Plug Qual.	Analyst	Comments
NAPF-09-02							1.847	0.099	1.847	0.099	6	**0.055**	a		
NAPF-09							1.888	0.357	**1.888**	**0.357**	**12**	**0.058**	a		
NATK-01-01	Smoking Hills	mdst	1392.00	0.232	0.242	0.253	0.242	0.011				**0.219**		EG	
NATK-01-01	Smoking Hills	mdst	1392.00	0.536	0.485	0.517	0.513	0.026					d	KG	flaked, crushed beyond recognition
NATK-01-01	Smoking Hills	mdst	1392.00	0.529	0.514		0.522	0.011					d	KG	flaked, crushed beyond recognition
NATK-01							0.414	0.143	**0.414**	**0.143**	**8**	**0.219**	d		
NATK-02-01	Smoking Hills	mdst	1397.11	0.274	0.270	0.284	0.276	0.007				**0.198**		EG	
NATK-02-01	Smoking Hills	mdst	1397.11	0.446	0.455	0.430	0.444	0.013					d	KG	thin, chipped and cracked
NATK-02-01	Smoking Hills	mdst	1397.11	0.432	0.426	0.453	0.437	0.014				0.058	d	KG	thin, chipped and cracked
NATK-02-01							0.386	0.083	**0.386**	**0.083**	**9**	**0.198**	d		
NATK-02-02	Smoking Hills	mdst	1397.11	0.157	0.151	0.187	0.165	0.019						EG	broken on bedding plane
NATK-02-02	Smoking Hills	mdst	1397.11	0.324	0.381	0.288	0.331	0.047					d	KG	thin, chipped and cracked
NATK-02-02							0.248	0.096	**0.331**	**0.047**	**3**		d		
NATK-02							**0.331**	**0.110**	**0.386**	**0.083**	**9**	**0.198**	d	EG	
NATK-03-01	M. Ordovician	carbonate	1512.15	2.677	3.196	2.746	2.873	0.282				0.030		EG	
NATK-03-01	M. Ordovician	carbonate	1512.15	1.576	1.967	1.925	1.823	0.215				0.002	a	KG	
NATK-03-01							2.348	0.617	2.348	0.617	6	**0.030**	a		
NATK-03-02	M. Ordovician	carbonate	1512.15	2.221	2.723	2.715	2.553	0.288				0.027		EG	
NATK-03-02	M. Ordovician	carbonate	1512.15	2.108	2.398	1.837	2.114	0.281				0.002	a	KG	
NATK-03-02							2.334	0.350	2.334	0.350	6	**0.027**	a		
NATK-03							2.341	0.478	**2.341**	**0.478**	**12**	**0.028**	a		
NUNAA-01-01	Ronning	carbonate	3245.36	2.968	2.979	2.987	2.978	0.010				0.035		EG	
NUNAA-01-01	Ronning	carbonate	3245.36	3.369	1.771	1.882	2.341	0.892				0.007	b	KG	1 large chip, small holes
NUNAA-01-01							2.659	0.664	2.659	0.664	6	**0.035**	b		
NUNAA-01-02	Ronning	carbonate	3245.36	1.915	1.986	1.971	1.957	0.037				0.024		EG	
NUNAA-01-02	Ronning	carbonate	3245.36	1.650	1.296	1.615	1.520	0.195				0.012	b	KG	natural vacuoles and epoxied
NUNAA-01-02							1.739	0.270	1.739	0.270	6	**0.024**	b		
NUNAA-01-03	Ronning	carbonate	3245.36	2.156	2.483	2.633	2.424	0.244				0.033		EG	epoxied
NUNAA-01-03	Ronning	carbonate	3245.36	2.908	3.983	2.191	3.027	0.902				0.008	c	KG	epoxied, natural vacuoles
NUNAA-01-03							2.726	0.677	2.726	0.677	6	**0.033**	c		
NUNAA-01							2.375	0.708	**2.375**	**0.708**	**18**	**0.031**	b,c		
NUNAA-02-01	Ronning	carbonate	3249.84	2.299	2.274	2.262	2.278	0.019				**0.033**		EG	
NUNAA-02-01	Ronning	carbonate	3249.84	4.740	3.214	4.098	4.017	0.766				0.007	b	KG	chip
NUNAA-02-01							3.148	1.069	2.512	0.468	4	**0.033**	b		
NUNAA-02-02	Ronning	carbonate	3249.84	3.323	3.284	3.290	3.299	0.021				**0.039**		EG	
NUNAA-02-02	Ronning	carbonate	3249.84	9.474	5.134	4.161	6.256	2.829				0.005	b	KG	epoxied
NUNAA-02-02							4.778	2.413	3.299	0.021	3	**0.039**	b		
NUNAA-02-03	Ronning	carbonate	3249.84	3.037	3.051	3.029	3.039	0.011				**0.018**		EG	epoxied
NUNAA-02-03	Ronning	carbonate	3249.84	2.668	3.380	2.197	2.748	0.596				0.001	c	KG	epoxied and chipped
NUNAA-02-03							2.894	0.409	2.894	0.409	6	**0.018**	c		
NUNAA-02							3.606	1.684	**2.870**	**0.462**	**13**	**0.030**	b,c		anomalously high (> sat. K)
NUVO-01-01	Imperial	shaly ss	1050.15	2.766	2.756	2.835	2.786	0.043				**0.027**		EG	
NUVO-01-01	Imperial	shaly ss	1050.15	1.967	2.091	1.479	1.846	0.324						KG	
NUVO-01-01	Imperial	shaly ss	1050.15	3.154	3.482	3.047	3.228	0.227				0.001	b	KG	slight rounded edges, repolished
NUVO-01-01							2.620	0.643	2.620	0.643	9	**0.027**	b		

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NUVO-01-02	Imperial	shaly ss	1050.15	2.826	2.822	2.821	2.823	0.003				**0.048**		EG	
NUVO-01-02	Imperial	shaly ss	1050.15	1.314	2.640	2.772	2.242	0.806				0.002	a	KG	
NUVO-01-02							2.533	0.601	2.533	0.601	6	**0.048**	a		
NUVO-01							2.585	0.606	**2.585**	**0.606**	**15**	**0.037**	b,a		
NUVO-02-01	Imperial	ss	1053.36	2.655	2.570	2.300	2.508	0.185				**0.058**		EG	
NUVO-02-01	Imperial	ss	1053.36	1.644	1.926	3.521	2.364	1.012				0.023	b	KG	flake
NUVO-02-01							2.436	0.656	2.436	0.656	6	**0.058**	b		
NUVO-02-02	Imperial	ss	1053.36	2.963	2.868	2.767	2.866	0.098				**0.045**		EG	
NUVO-02-02	Imperial	ss	1053.36	3.989	2.868	4.222	3.693	0.724				0.020	a	KG	
NUVO-02-02							3.280	0.647	3.280	0.647	6	**0.045**	a		
NUVO-02							2.858	0.761	**2.858**	**0.761**	**12**	**0.052**	b,a		
NUVO-03-01	Imperial	sandy sh	1060.54	1.800	1.749	1.320	1.623	0.264				**0.060**		EG	
NUVO-03-01	Imperial	sandy sh	1060.54	1.788	1.420	1.135	1.448	0.327				0.012	a	KG	
NUVO-03-01							1.535	0.283	1.535	0.283	6	**0.060**	a		
NUVO-03-02	Imperial	sandy sh	1060.54	2.227	2.241	2.211	2.226	0.015				**0.045**		EG	
NUVO-03-02	Imperial	sandy sh	1060.54	1.912	1.575	1.940	1.809	0.203						KG	
NUVO-03-02	Imperial	sandy sh	1060.54	2.738	2.488	2.279	2.502	0.230				0.008	b	KG	slight rounded edges, repolished
NUVO-03-02							2.179	0.339	2.179	0.339	9	**0.045**	b		
NUVO-03							1.922	0.448	**1.922**	**0.448**	**15**	**0.052**	a,b		
ONGC-01-01	Husky	sandy sh	1198.17	1.289	1.305	1.366	1.320	0.041				**0.164**		EG	
ONGC-01-01	Husky	sandy sh	1198.17	1.432	1.765		1.599	0.235				0.068	a	KG	
ONGC-01-01							1.431	0.195	1.431	0.195	5	**0.164**	a		
ONGC-01-02	Husky	sandy sh	1198.17	1.315	1.321	1.310	1.315	0.006				**0.135**		EG	
ONGC-01-02	Husky	sandy sh	1198.17	0.861	0.930	1.032	0.941	0.086				0.062	b	KG	chip
ONGC-01-02							1.128	0.212	1.128	0.212	6	**0.135**	b		
ONGC-01							1.266	0.251	**1.266**	**0.251**	**11**	**0.149**	a,b		
ONGC-02-01	Husky	shaly ss	1200.44	1.262	1.326	1.610	1.399	0.185				**0.094**		EG	
ONGC-02-01	Husky	shaly ss	1200.44	2.697	1.881	2.934	2.504	0.552				0.040	a	KG	
ONGC-02-01							1.952	0.708	1.952	0.708	6	**0.094**	a		
ONGC-02-02	Husky	shaly ss	1200.44	1.515	1.514	1.487	1.505	0.016				**0.107**		EG	
ONGC-02-02	Husky	shaly ss	1200.44	1.785	1.094	1.066	1.315	0.407				0.021	b	KG	uneven, but getting thin
ONGC-02-02							1.410	0.278	1.410	0.278	6	**0.107**	b		
ONGC-02							1.681	0.586	**1.681**	**0.586**	**12**	**0.101**	a,b		
PARF-01-01	McGuire	sandy sh	2994.54	1.119	1.163	1.158	1.147	0.024				0.052		EG	
PARF-01-01	McGuire	sandy sh	2994.54	1.518	1.424	1.170	1.371	0.180					b	KG	chipped, repolished
PARF-01							1.259	0.168	**1.259**	**0.168**	**6**	**0.052**	b		
PARF-02-01	McGuire	sandy sh	2998.24	1.243	1.232	1.053	1.176	0.107				0.055		EG	
PARF-02-01	McGuire	sandy sh	2998.24	0.986	1.453	1.098	1.179	0.244				0.005		KG	
PARF-02-01	McGuire	sandy sh	2998.24	1.199	1.303	1.180	1.227	0.066				0.005	d	KG	wedge, repolished
PARF-02-01							1.194	0.139	1.194	0.139	9	**0.055**	d		
PARF-02-02	McGuire	sandy sh	2998.24	1.081	1.070	1.063	1.071	0.009				0.051		EG	
PARF-02-02	McGuire	sandy sh	2998.24	1.276	1.096	1.436	1.269	0.170				0.008	a	KG	
PARF-02-02							1.170	0.153	1.170	0.153	6	**0.051**	a		
PARF-02							1.185	0.140	**1.185**	**0.140**	**15**	**0.053**	d,a		
PARF-03-01	McGuire	ss	2998.59	2.264	1.565	1.982	1.937	0.352				0.058		EG	thickness not in lab book

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PARF-03-01	McGuire	ss	2998.59	2.368	1.696	1.962	2.009	0.338				0.016	a	KG	
PARF-03-01							1.973	0.311	1.973	0.311	6	**0.058**	a		
PARF-03-02	McGuire	ss	2998.59	1.850	1.347	1.340	1.512	0.292				0.083		EG	thickness not in lab book
PARF-03-02	McGuire	ss	2998.59	2.411	1.607	1.803	1.940	0.419				0.025	b	KG	chip
PARF-03-02							1.726	0.399	1.726	0.399	6	**0.083**	b		
PARF-03							1.850	0.365	**1.850**	**0.365**	**12**	**0.071**	a,b		
PARN-01-01	McGuire	sh	2844.29	0.996	0.952	0.988	0.979	0.023				**0.035**		EG	
PARN-01-01	McGuire	sh	2844.29	1.249	1.166	1.200	1.205	0.042				-0.004	a	KG	tiny chip, getting too thin
PARN-01							1.092	0.128	**1.092**	**0.128**	**6**	**0.035**	a		
PARN-02-01	McGuire	sh	2846.86	0.946	1.115	1.038	1.033	0.085				**0.070**		EG	thickness not in lab book
PARN-02-01	McGuire	sh	2846.86	1.721	3.297	1.580	2.199	0.953	1.651	0.100	2	0.017	b	KG	flake
PARN-02-01							1.616	0.880	1.280	0.347	5	**0.070**	b		
PARN-02-02	McGuire	sh	2846.86	1.088	0.988	1.053	1.043	0.051						EG	
PARN-02-02	McGuire	sh	2846.86	0.706	1.266	1.358	1.110	0.353				0.024	b	KG	small rounded edge
PARN-02-02							1.077	0.228	1.077	0.228	6	**0.070**	b		
PARN-02							1.346	0.675	**1.169**	**0.293**	**11**	**0.070**	b		
PARN-03-01	Martin Creek	ss	2853.44	1.385	1.407	1.412	1.401	0.014				0.128		EG	
PARN-03-01	Martin Creek	ss	2853.44	1.364	1.720	1.519	1.534	0.178				0.087	b	KG	small rounded edge
PARN-03-01							1.468	0.135	1.468	0.135	6	**0.128**	b		
PARN-03-02	Martin Creek	ss	2853.44	1.204	1.212	1.186	1.201	0.013				0.131		EG	
PARN-03-02	Martin Creek	ss	2853.44	1.630	1.295	1.980	1.635	0.343				0.085	a	KG	
PARN-03-02							1.418	0.322	1.418	0.322	6	**0.131**	a		
PARN-03							1.443	0.237	**1.443**	**0.237**	**12**	**0.130**	b,a		
PARN-04-01	Martin Creek	ss	2859.27	1.780	1.826	1.912	1.839	0.067				0.132		EG	
PARN-04-01	Martin Creek	ss	2859.27	1.475	1.372	1.570	1.472	0.099				0.101	a	KG	
PARN-04-01							1.656	0.215	1.656	0.215	6	**0.132**	a		
PARN-04-02	Martin Creek	ss	2859.27	1.856	2.005	2.013	1.958	0.088				0.133		EG	
PARN-04-02	Martin Creek	ss	2859.27	1.385	1.560	2.220	1.722	0.440				0.101	a	KG	
PARN-04-02							1.840	0.312	1.840	0.312	6	**0.133**	a		
PARN-04							1.748	0.273	**1.748**	**0.273**	**12**	**0.132**	a		
PARN-05-01	Martin Creek	ss	2869.77	1.624	1.637	1.639	1.633	0.008				0.160		EG	
PARN-05-01	Martin Creek	ss	2869.77	1.416	1.300	1.900	1.539	0.318				0.111	b	KG	rounded edge
PARN-05-01							1.586	0.208	1.586	0.208	6	**0.160**	b		
PARN-05-02	Martin Creek	ss	2869.77	1.761	1.790	1.810	1.787	0.025				0.144		EG	
PARN-05-02	Martin Creek	ss	2869.77	1.591	2.000	2.325	1.972	0.368				0.089	a	KG	
PARN-05-02							1.880	0.254	1.880	0.254	6	**0.144**	a		
PARN-05							1.733	0.269	**1.733**	**0.269**	**12**	**0.152**	b,a		
PIKE-02-01	Arctic Red	shaly ss	2389.70	0.977	1.009	1.413	1.133	0.243				0.068	a	KG	
PIKE-02-02	Arctic Red	shaly ss	2389.70	1.147	1.337	1.182	1.222	0.101				0.072	b	KG	chipped
PIKE-02							1.178	0.173	**1.178**	**0.173**	**6**	**0.070**	a,b		
PIKE-03-01	Arctic Red	shaly ss	2391.56	1.105	1.081	1.031	1.072	0.038				0.094		EG	
PIKE-03-01	Arctic Red	shaly ss	2391.56	1.342	1.434	1.432	1.403	0.053				0.032	a	KG	
PIKE-03-01							1.238	0.186	1.238	0.186	6	**0.094**	a		
PIKE-03-02	Arctic Red	shaly ss	2391.56	1.674	1.686	1.694	1.685	0.010				0.082		EG	
PIKE-03-02	Arctic Red	shaly ss	2391.56	2.467	2.885	2.830	2.727	0.227				0.023	b	KG	small chip

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PIKE-03-02							2.206	0.589	2.206	0.589	6	**0.082**	b		
PIKE-03							1.722	0.655	**1.722**	**0.655**	**12**	**0.088**	a,b		
PIKE-04-01	Atkinson Pt.	shaly ss	2472.12	1.384	1.341	1.276	1.334	0.054				0.115		EG	
PIKE-04-01	Atkinson Pt.	shaly ss	2472.12	1.650	1.619	2.136	1.802	0.290				0.037	a	KG	
PIKE-04-01							1.568	0.317	1.568	0.317	6	**0.115**	a		
PIKE-04-02	Atkinson Pt.	shaly ss	2472.12	0.810	0.916	1.365	1.030	0.295	1.365		1	0.064	a	KG	
PIKE-04							1.389	0.396	**1.539**	**0.299**	**7**	**0.115**	a		
PIKE-05-01	Atkinson Pt.	shaly ss	2475.43	1.206	0.952	1.268	1.142	0.167					c	KG	chipped and rounded
PIKE-05									**1.142**	**0.167**	**3**		c		
PIKE-06-01	Mount Goodenough	shaly ss	2591.26	1.597	1.805	1.825	1.742	0.126				0.055	a	KG	
PIKE-06-01	Mount Goodenough	shaly ss	2591.26						1.742	0.126	3	**0.103**	a		
PIKE-06-02	Mount Goodenough	shaly ss	2591.26	1.393	1.384	1.380	1.386	0.007				**0.103**		EG	
PIKE-06-02	Mount Goodenough	shaly ss	2591.26	2.291	2.234	1.632	2.052	0.365				0.049	b	KG	small uneveneness on surface
PIKE-06-02							1.719	0.432	1.719	0.432	6	**0.103**	b		
PIKE-06							1.727	0.348	**1.727**	**0.348**	**9**	**0.103**	a,b		
PIKM-01-01	Ronning	carbonate	1718.09	1.799	1.802	1.801	1.801	0.002				0.068		EG	
PIKM-01-01	Ronning	carbonate	1718.09	2.457	2.416	2.221	2.365	0.126				0.021	b	KG	epoxied vertically
PIKM-01-01							2.083	0.319	2.083	0.319	6	**0.068**	b		
PIKM-01-02	Ronning	carbonate	1718.09	2.110	2.230	2.224	2.188	0.068				0.066		EG	
PIKM-01-02	Ronning	carbonate	1718.09	2.586	2.075	2.925	2.529	0.428				0.017	a	KG	
PIKM-01-02							2.358	0.331	2.358	0.331	6	**0.066**	a		
PIKM-01							2.221	0.342	**2.221**	**0.342**	**12**	**0.067**	b,a		
SIKE-02-01	Kamik	ss	3046.31	1.286	1.258	1.218	1.254	0.034				0.161		EG	
SIKE-02-01	Kamik	ss	3046.31	2.483	2.180	1.883	2.182	0.300				0.113	a	KG	
SIKE-02-01							1.718	0.543	1.718	0.543	6	**0.161**	a		
SIKE-02-02	Kamik	ss	3046.31	0.885	0.823	0.798	0.835	0.045				0.177		EG	
SIKE-02-02	Kamik	ss	3046.31	1.510	1.636	2.317	1.821	0.434				0.139	a	KG	
SIKE-02-02							1.328	0.606	1.328	0.606	6	**0.177**	a		
SIKE-02							1.523	0.585	**1.523**	**0.585**	**12**	**0.169**	a		
TAGC-01-01	Richards	ss	2582.96	0.660	0.642	0.625	0.642	0.018				0.215		EG	
TAGC-01-01	Richards	ss	2582.96	0.711	0.788	1.098	0.866	0.205				0.139	b	KG	rounded edge and flaking
TAGC-01-01							0.754	0.179	0.754	0.179	6	**0.215**	b		
TAGC-01-02	Richards	ss	2582.96	0.709	0.697	0.687	0.698	0.011				0.195		EG	
TAGC-01-02	Richards	ss	2582.96	0.957	0.915	1.025	0.966	0.056				0.137	b	KG	flaking
TAGC-01-02							0.832	0.151	0.832	0.151	6	**0.195**	b		
TAGC-01							0.793	0.163	**0.793**	**0.163**	**12**	**0.205**	b		
TAGC-02-02	Richards	sandy sh	2591.98	0.795	0.794	0.795	0.795	0.001				0.143		EG	
TAGC-02-02	Richards	sandy sh	2591.98	1.009	0.828	0.985	0.941	0.098				0.067	b	KG	chipped
TAGC-02							0.868	0.101	**0.868**	**0.101**	**6**	**0.143**	b		
TAGC-03-02	Taglu	sh	2880.84	0.757	0.754	0.754	0.755	0.002				0.080		EG	
TAGC-03-02	Taglu	sh	2880.84	0.877	1.216	1.331	1.141	0.236				0.028	b	KG	chipped and thin
TAGC-03							0.948	0.259	**0.948**	**0.259**	**6**	**0.080**	b		
TAGC-04-01	Taglu	ss	2891.17	0.879	0.825	0.780	0.828	0.050				0.208		EG	
TAGC-04-01	Taglu	ss	2891.17	1.307	1.238	1.258	1.268	0.036				0.169	b	KG	rounded edges and flaking
TAGC-04-01							1.048	0.244	1.048	0.244	6	**0.208**	b		

Sample	Rock Unit	Lithology	Depth (mKB)	[1]Single Measurements K_{dry} 1 (W/mK)	K_{dry} 2 (W/mK)	K_{dry} 3 (W/mK)	All Trials Ave K_{dry} (W/mK)	S. D. (W/mK)	Selected Trials Pref. Ave. K_{dry} (W/mK)	S. D. (W/mK)	# trials used	Por. Frac.	Plug Qual.	Analyst	Comments
TAGC-04-02	Taglu	ss	2891.17	0.956	0.893	0.832	0.894	0.062				0.214		EG	
TAGC-04-02	Taglu	ss	2891.17	0.619			0.619					-0.230	c	KG	flaking and big chip
TAGC-04-02							0.825	0.146	0.825	0.146	4	**0.214**	c		
TAGC-04							0.959	0.231	**0.959**	**0.231**	**10**	**0.211**	b,c		
TAGC-05-01	Taglu	sh	2896.46	0.763	0.766	0.767	0.765	0.002				**0.095**		EG	
TAGC-05-01	Taglu	sh	2896.46	1.513	1.458	1.320	1.430	0.099				0.061	a	KG	repolished
TAGC-05-01							1.098	0.370	1.098	0.370	6	**0.095**	a		
TAGC-05-02	Taglu	sh	2896.46	0.797	0.795		0.796	0.001				**0.134**		EG	
TAGC-05-02	Taglu	sh	2896.46	1.156	1.396	1.249	1.267	0.121				**0.104**	a	KG	repolished
TAGC-05-02							1.079	0.272	1.079	0.272	5	**0.134**	a		
TAGC-05-03	Taglu	sh	2896.46									**0.100**		EG	
TAGC-05-03	Taglu	sh	2896.46	1.169	1.112	1.606	1.296	0.270				0.053	c	KG	flaked, repolished
TAGC-05-03							1.296	0.270	1.296	0.270	3	**0.100**	c		
TAGC-05-04	Taglu	sh	2896.46	1.077	1.078	1.220	1.125	0.082					a	KG	
TAGC-05-04	Taglu	sh	2896.46	1.133	1.379	2.213	1.575	0.566	1.256	0.174	2	0.080	c	KG	thin and wedge, repolished
TAGC-05-04							1.350	0.438	1.177	0.127	5	**0.105**	c		
TAGC-05							1.198	0.354	**1.145**	**0.269**	**19**	**0.102**	a,c		
TUKF-01-01	Fish River	sh	2171.37	0.411	0.407	0.374	0.397	0.020				0.126		EG	k too low
TUKF-01-01	Fish River	sh	2171.37	0.867	0.881	0.875	0.874	0.007				0.057	b	KG	chipped
TUKF-01							0.636	0.262	**0.874**	**0.007**	**3**	**0.126**	b		
TUKF-02-01	Fish River	ss	2171.97	1.460	1.461	2.206	1.709	0.430				0.052	a	KG	
TUKF-02-01	Fish River	ss	2171.97						1.709	0.430	3	**0.088**	a		
TUKF-02-02	Fish River	ss	2171.97	1.360	1.359	1.335	1.351	0.014				0.088		EG	
TUKF-02-02	Fish River	ss	2171.97	1.253	1.674	1.548	1.492	0.216				0.033	a	KG	
TUKF-02-02							1.422	0.157	1.422	0.157	6	**0.088**	a		
TUKF-02							1.517	0.287	**1.517**	**0.287**	**9**	**0.088**	a		
TUKF-05-01	Mount Goodenough	sh	2784.60	1.011	1.010	1.011	1.011	0.001				0.082		EG	
TUKF-05-01	Mount Goodenough	sh	2784.60	1.393	1.314	1.714	1.474	0.212				0.021	b	KG	2 chips
TUKF-05							1.242	0.287	**1.242**	**0.287**	**6**	**0.082**	b		
TUKF-06-01	Mount Goodenough	ss	2872.83	0.840	0.822	0.802	0.821	0.019				0.095		EG	
TUKF-06-01	Mount Goodenough	ss	2872.83	1.240	1.284	1.313	1.279	0.037				0.050	b	KG	chips
TUKF-06-01							1.050	0.252	1.279	0.037	3	**0.095**	b		
TUKF-06-02	Mount Goodenough	ss	2872.83	1.284	1.275	1.278	1.279	0.005				0.084		EG	
TUKF-06-02	Mount Goodenough	ss	2872.83	2.064	2.001	1.256	1.774	0.449				0.044	b	KG	chipped
TUKF-06-02							1.526	0.393	1.526	0.393	6	**0.084**	b		
TUKF-06							1.288	0.401	**1.444**	**0.335**	**9**	**0.090**	b		
TUKL-01-01	Mount Goodenough	ss	2607.75									0.105		EG	
TUKL-01-01	Mount Goodenough	ss	2607.75	1.779	1.522	1.492	1.598	0.158				0.029	a	KG	
TUKL-01-01							1.598	0.158	1.598	0.158	3	**0.105**	a		
TUKL-01-02	Mount Goodenough	ss	2607.75									0.093		EG	
TUKL-01-02	Mount Goodenough	ss	2607.75	1.718	1.955	1.647	1.773	0.161				0.054	a	KG	
TUKL-01-02							1.773	0.161	1.773	0.161	3	**0.093**	a		
TUKL-01							1.686	0.172	**1.686**	**0.172**	**6**	**0.099**	a		
TUKL-02-01	Mount Goodenough	shaly ss	2608.20									0.086		EG	
TUKL-02-01	Mount Goodenough	shaly ss	2608.20	1.540	1.659	1.297	1.499	0.185				-0.015	a	KG	repolished

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TUKL-02-01							1.499	0.185	1.499	0.185	3	**0.086**	a		
TUKL-02-02	Mount Goodenough	shaly ss	2608.20									0.088		EG	use TULK-02-02 dimensions
TUKL-02-02	Mount Goodenough	shaly ss	2608.20	1.315	1.713	1.493	1.507	0.199				0.043	b	KG	edges rounded
TUKL-02-02							1.507	0.199	1.507	0.199	3	**0.088**	b		
TUKL-02							1.503	0.172	**1.503**	**0.172**	**6**	**0.087**	a,b		
TUKO-01-01	Atkinson Pt.	muddy ss	1988.40									0.113		EG	
TUKO-01-01	Atkinson Pt.	muddy ss	1988.40	1.489	2.048	3.142	2.226	0.841	1.769	0.395	2	0.049	a	KG	
TUKO-01-01							2.226	0.841	1.769	0.395	2	**0.113**	a		
TUKO-01-02	Atkinson Pt.	muddy ss	1988.40									0.101		EG	
TUKO-01-02	Atkinson Pt.	muddy ss	1988.40	1.479	1.502	1.626	1.536	0.079				0.023	b	KG	chip
TUKO-01-02							1.536	0.079	1.536	0.079	3	**0.101**	b		
TUKO-01							1.881	0.655	**1.629**	**0.242**	**5**	**0.107**	a,b		
TUKO-02-01	Atkinson Pt.	muddy ss	1992.78									0.158		EG	dry & sat. wt uncertain, mislabelling
TUKO-02-01	Atkinson Pt.	muddy ss	1992.78	1.184	1.122	1.690	1.332	0.312				0.101	a	KG	
TUKO-02-01							1.332	0.312	1.332	0.312	3	**0.101**	a		
TUKO-02-02	Atkinson Pt.	muddy ss	1992.78									0.101		EG	
TUKO-02-02	Atkinson Pt.	muddy ss	1992.78	1.568	1.842	1.620	1.677	0.146				0.040	a	KG	
TUKO-02-02							1.677	0.146	1.677	0.146	3	**0.101**	a		
TUKO-02							1.504	0.288	**1.504**	**0.288**	**6**	**0.101**	a		
TUKO-03-01	Husky	ss	2099.03									0.170		EG	
TUKO-03-01	Husky	ss	2099.03	1.446	1.245	1.563	1.418	0.161				0.108	b	KG	slight dome
TUKO-03-01							1.418	0.161	1.418	0.161	3	**0.170**	b		
TUKO-03-02	Husky	ss	2099.03									0.125		EG	dry wt uncertain due to mislabelling
TUKO-03							1.418	0.161	**1.418**	**0.161**	**3**	**0.170**	b		
TUKO-04-01	Husky	ss	2101.60									0.182		EG	
TUKO-04-01	Husky	ss	2101.60	1.809	1.473	1.384	1.555	0.224				0.127	a	KG	
TUKO-04-01							1.555	0.224	1.555	0.224	3	**0.182**	a		
TUKO-04-02	Husky	ss	2101.60									0.177		EG	
TUKO-04-02	Husky	ss	2101.60	1.264	1.302	1.663	1.410	0.220				0.124	b	KG	rounded and chipped
TUKO-04-02							1.410	0.220	1.410	0.220	3	**0.177**	b		
TUKO-04							1.483	0.214	**1.483**	**0.214**	**6**	**0.180**	a,b		
TULK-01-01	Martin Creek	sh	2011.60									0.061		EG	
TULK-01-01	Martin Creek	sh	2011.60	1.183	0.987	1.422	1.197	0.218				0.007	b	KG	flaked
TULK-01							1.197	0.218	**1.197**	**0.218**	**3**	**0.061**	b		
TULK-02-01	Martin Creek	ss	2023.03									0.164		EG	
TULK-02-01	Martin Creek	ss	2023.03	1.418	1.254	1.254	1.309	0.095				0.017	a	KG	
TULK-02-01	Martin Creek	ss	2023.03	2.050	2.036	2.502	2.196	0.265				0.018	a	KG	
TULK-02-01							1.752	0.518	1.752	0.518	6	**0.164**	a		
TULK-02-02	Martin Creek	ss	2023.03									0.167		EG	use TUKL-02-02 dimensions
TULK-02-02	Martin Creek	ss	2023.03	1.799	1.835	1.804	1.813	0.020				0.058	a	KG	slight chip
TULK-02-02							1.813	0.020	1.813	0.020	3	**0.167**	a		
TULK-02							1.772	0.410	**1.772**	**0.410**	**9**	**0.166**	a		
ULUA-01-01	Fish River	ss	1474.99	0.668	0.671	0.664	0.668	0.004				0.162		EG	
ULUA-01-01	Fish River	ss	1474.99	1.002	0.945	1.204	1.050	0.136				0.062	b	KG	rounded chiped
ULUA-01-01							0.859	0.227	0.859	0.227	6	**0.162**	b		

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ULUA-01-02	Fish River	ss	1474.99	0.932	0.937	0.945	0.938	0.007				0.162		EG	
ULUA-01-02	Fish River	ss	1474.99	1.450	1.641	3.325	2.139	1.032	1.546	0.135	2	0.077	a	KG	
ULUA-01-02							1.538	0.926	1.181	0.340	5	**0.162**	a		
ULUA-01							1.199	0.734	**1.005**	**0.316**	**11**	**0.162**	b,a		
ULUA-02-01	Permian (Longstick)	sh	2940.80	1.057	1.055	1.054	1.055	0.002						EG	
ULUA-02-01	Permian (Longstick)	sh	2940.80	3.421	3.046	3.118	3.195	0.199				0.002	a	KG	
ULUA-02							2.125	1.179	**2.125**	**1.179**	**6**	**0.002**	a		
ULUA-03-01	Permian (Longstick)	sandy sh	2948.33	1.138	1.149	1.155	1.147	0.009				0.074		EG	
ULUA-03-01	Permian (Longstick)	sandy sh	2948.33	3.501	4.621	1.898	3.340	1.369				0.009	a	KG	thin
ULUA-03-01							2.244	1.480	1.335	0.375	4	**0.074**	a		
ULUA-03-02	Permian (Longstick)	sandy sh	2948.33	1.330	1.325	1.327	1.327	0.003				0.054		EG	
ULUA-03-02	Permian (Longstick)	sandy sh	2948.33	0.165	0.181	-0.227	0.040	0.231				-0.105		KG	
ULUA-03-02	Permian (Longstick)	sandy sh	2948.33	2.609	2.365	2.264	2.413	0.177				0.014	a	KG	repolished
ULUA-03-02							1.260	1.039	1.870	0.605	6	**0.054**	a		
ULUA-03							1.653	1.284	**1.656**	**0.572**	**10**	**0.064**	a		
UNAB-01-01	Mount Goodenough	shaly ss	1198.04	0.698	0.699	0.701	0.699	0.002	0.699	0.002	3	0.089		EG	
UNAB-01-01	Mount Goodenough	shaly ss	1198.04	0.079	0.097	0.095	0.090	0.010					a	KG	thinning, repolished
UNAB-01							0.395	0.334	0.699	0.002	3	**0.089**	a		too low
UNAB-03-01	Permian (Jungle Ck)	sh	2894.72	1.203	1.209	1.211	1.208	0.004				0.039		EG	
UNAB-03-01	Permian (Jungle Ck)	sh	2894.72	0.141	0.103	-0.067	0.059	0.111				0.005	a	KG	repolished
UNAB-03							0.633	0.633	1.208	0.004	3	**0.039**	a		low?
UNAB-04-01	Permian (Jungle Ck)	sh	2898.19	1.498	1.495	1.491	1.495	0.004				0.028		EG	
UNAB-04-01	Permian (Jungle Ck)	sh	2898.19	1.640	1.415	1.726	1.594	0.161				-0.002	a	KG	
UNAB-04-01							1.544	0.115	1.544	0.115	6	**0.028**	a		
UNAB-04-02	Permian (Jungle Ck)	sh	2898.19	1.433	1.435	1.437	1.435	0.002						EG	
UNAB-04-02	Permian (Jungle Ck)	sh	2898.19	1.665	1.407	1.564	1.545	0.130				-0.003	b	KG	flaking and epoxied
UNAB-04-02							1.490	0.102	1.490	0.102	6	**0.028**	b		
UNAB-04							1.517	0.108	**1.517**	**0.108**	**12**	**0.028**	a,b		
UNAL-01-01	Kamik	ss	2046.65	1.688	1.711	1.724	1.708	0.018				0.156		EG	
UNAL-01-01	Kamik	ss	2046.65	2.409	2.352	2.222	2.328	0.096				0.135	a	KG	
UNAL-01-01							2.018	0.345	2.018	0.345	6	**0.156**	a		
UNAL-01-02	Kamik	ss	2046.65	1.426	1.441	1.444	1.437	0.010				0.143		EG	
UNAL-01-02	Kamik	ss	2046.65	2.564	2.583	2.661	2.603	0.051				0.139	a	KG	
UNAL-01-02							2.020	0.639	2.020	0.639	6	**0.143**	a		
UNAL-01							2.019	0.490	**2.019**	**0.490**	**12**	**0.149**	a		
UNAL-03-02	Kamik	ss	2069.75	1.730	1.785	1.819	1.778	0.045				0.173		EG	
UNAL-03-02	Kamik	ss	2069.75	1.731	2.123	2.920	2.258	0.606	1.927	0.277	2	0.138	b	KG	rounded 1/4 edge
UNAL-03							2.018	0.466	**1.838**	**0.164**	**5**	**0.173**	b		
UNAL-05-01	Kamik	ss	2091.75	1.428	1.426	1.419	1.424	0.005				0.165		EG	
UNAL-05-01	Kamik	ss	2091.75	2.066	1.649	2.000	1.905	0.224				0.108	a	KG	tiny chip
UNAL-05-01							1.665	0.299	1.665	0.299	6	**0.165**	a		
UNAL-05-02	Kamik	ss	2091.75	1.435	1.436	1.432	1.434	0.002				0.164		EG	
UNAL-05-02	Kamik	ss	2091.75	1.802	1.907	1.913	1.874	0.062				0.120	b	KG	rounded edge
UNAL-05-02							1.654	0.244	1.654	0.244	6	**0.164**	b		
UNAL-05							1.659	0.260	**1.659**	**0.260**	**12**	**0.165**	a,b		

Sample	Rock Unit	Lithology	Depth (mKB)	[1]Single Measurements K_{dry} 1 (W/mK)	K_{dry} 2 (W/mK)	K_{dry} 3 (W/mK)	All Trials Ave K_{dry} (W/mK)	S. D. (W/mK)	Selected Trials Pref. Ave. K_{dry} (W/mK)	S. D. (W/mK)	# trials used	Por. Frac.	Plug Qual.	Analyst	Comments
UNAL-06-01	Kamik	sh	2159.61	1.137	1.134	1.139	1.137	0.003				0.051		EG	no disk remaining
UNAL-06									**1.137**	**0.003**	**3**	**0.051**			
UNAL-07-01	Kamik	ss	2163.18	1.495	1.523	1.540	1.519	0.023				0.156		EG	
UNAL-07-01	Kamik	ss	2163.18	1.844	3.140	4.558	3.181	1.357	1.844		1	0.036	a	KG	
UNAL-07-01							2.350	1.251	1.601	0.163	4	**0.156**	a		
UNAL-07-02	Kamik	ss	2163.18	1.424	1.414	1.406	1.415	0.009				0.160		EG	
UNAL-07-02	Kamik	ss	2163.18	1.824	1.797	3.441	2.354	0.941	1.811	0.019	2	0.068	a	KG	
UNAL-07-02							1.884	0.787	1.573	0.217	5	**0.160**	a		
UNAL-07							2.117	1.026	**1.585**	**0.184**	**9**	**0.158**	a		
UNRL-02-01	Kugmallit	ss	2732.77	0.991	0.980	0.965	0.979	0.013				0.077		EG	
UNRL-02-01	Kugmallit	ss	2732.77	1.862	1.549	1.475	1.629	0.205				0.007	b	KG	chipped
UNRL-02-01							1.304	0.379	1.304	0.379	6	**0.077**	b		
UNRL-02-02	Kugmallit	ss	2732.77	1.005	0.998	1.003	1.002	0.004				0.065		EG	
UNRL-02-02	Kugmallit	ss	2732.77	2.034	0.999	1.875	1.636	0.557				0.022	b	KG	shallow chip
UNRL-02-02							1.319	0.495	1.319	0.495	6	**0.065**	b		
UNRL-02							1.311	0.420	**1.311**	**0.420**	**12**	**0.071**	b		
UNRL-03-01	Kugmallit	sh	2733.80	0.766	0.764	0.763	0.764	0.002				0.106		EG	labelled as UNRL 03-02 in lab book
UNRL-03-01	Kugmallit	sh	2733.80	1.157	0.961	0.983	1.034	0.107				0.051	a	KG	
UNRL-03-01							0.899	0.162	0.899	0.162	6	**0.106**	a		
UNRL-03-02	Kugmallit	sh	2733.80	0.884	0.877	0.874	0.878	0.005				0.126		EG	
UNRL-03-02	Kugmallit	sh	2733.80	1.050	0.917	0.945	0.971	0.070				0.055	a	KG	
UNRL-03-02							0.925	0.067	0.925	0.067	6	**0.126**	a		
UNRL-03							0.912	0.119	**0.912**	**0.119**	**12**	**0.116**	a		
UNRLA-02-01	Kugmallit	ss	2955.95	0.960	0.961	0.962	0.961	0.001				0.110		EG	
UNRLA-02-01	Kugmallit	ss	2955.95	1.538	1.744	2.221	1.834	0.350				0.050	a	KG	
UNRLA-02							1.398	0.527	**1.398**	**0.527**	**6**	**0.110**	a		
UNRLA-03-01	Kugmallit	ss	2967.43	1.084	1.103	1.112	1.100	0.014				0.078		EG	
UNRLA-03-01	Kugmallit	ss	2967.43	2.132	1.820	2.328	2.093	0.256				0.029	a	KG	
UNRLA-03-01							1.597	0.568	1.597	0.568	6	**0.078**	a		
UNRLA-03-02	Kugmallit	ss	2967.43	1.322	1.368	1.419	1.370	0.049				0.092		EG	
UNRLA-03-02	Kugmallit	ss	2967.43	2.011	1.691	2.040	1.914	0.194				0.048	a	KG	
UNRLA-03-02							1.642	0.324	1.642	0.324	6	**0.092**	a		
UNRLA-03							1.619	0.441	**1.619**	**0.441**	**12**	**0.085**	a		
UNRLA-05-01	Kugmallit	sh	2977.95	0.886	0.884	0.883	0.884	0.002				0.102		EG	
UNRLA-05-01	Kugmallit	sh	2977.95	1.281	1.228	1.207	1.239	0.038				0.045	b	KG	rounded edges
UNRLA-05-01							1.062	0.196	1.062	0.196	6	**0.102**	b		
UNRLA-05-02	Kugmallit	sh	2977.95	0.967	0.965	0.963	0.965	0.002				0.107		EG	
UNRLA-05-02	Kugmallit	sh	2977.95	1.283	1.521	1.411	1.405	0.119				0.129	b	KG	chip
UNRLA-05-02							1.185	0.253	1.185	0.253	6	**0.107**	b		
UNRLA-05							1.123	0.225	**1.123**	**0.225**	**12**	**0.104**	b		
UNRLA-06-01	Richards	ss	3873.67	1.009	1.012	1.017	1.013	0.004				0.164		EG	
UNRLA-06-01	Richards	ss	3873.67	1.509	1.298	1.324	1.377	0.115				0.107	a	KG	
UNRLA-06-01							1.195	0.212	1.195	0.212	6	**0.164**	a		
UNRLA-06-02	Richards	ss	3873.67	0.984	1.009	1.001	0.998	0.013				0.170		EG	
UNRLA-06-02	Richards	ss	3873.67	1.746	1.367	1.234	1.449	0.266				0.098	a	KG	

Sample	Rock Unit	Lithology	Depth (mKB)	[1]Single Measurements K_{dry} 1 (W/mK)	K_{dry} 2 (W/mK)	K_{dry} 3 (W/mK)	All Trials Ave K_{dry} (W/mK)	S. D. (W/mK)	Selected Trials Pref. Ave. K_{dry} (W/mK)	S. D. (W/mK)	# trials used	Por. Frac.	Plug Qual.	Analyst	Comments
UNRLA-06-02							1.224	0.299	1.224	0.299	6	**0.170**	a		
UNRLA-06							1.209	0.248	**1.209**	**0.248**	**12**	**0.167**	a		
UNRLA-07-01	Richards	ss	3893.55	0.942	0.939	0.923	0.935	0.010				0.219		EG	
UNRLA-07-01	Richards	ss	3893.55	1.272	1.445	1.494	1.404	0.117				0.135	a	KG	
UNRLA-07							1.169	0.267	**1.169**	**0.267**	**6**	**0.219**	a		
UNRLA-09-01	Richards	sh	3917.29	0.594	0.593	0.595	0.594	0.001				0.155		EG	
UNRLA-09-01	Richards	sh	3917.29	0.939	1.100	1.109	1.049	0.096				0.070	a	KG	
UNRLA-09							0.822	0.257	**0.822**	**0.257**	**6**	**0.155**	a		

[1]Acceptable K_{dry} values highlighted in green; rejected values highlighted in yellow

Appendix C: Beaufort-Mackenzie heptane- and water-saturated thermal conductivity results

Sample	Rock Unit	Lithology	Depth (mKB)	[1]Single Measurements K_{sat} 1 (W/mK)	K_{sat} 2 (W/mK)	K_{sat} 3 (W/mK)	All Trials Ave K_{sat} (W/mK)	S. D. (W/mK)	Selected Trials Pref. Ave. K_{sat} (W/mK)	S. D. (W/mK)	# trials used	Por. Frac.	Plug Qual.	Analyst	Comments
ADL-01-02	Aklak	ss	1766.90	1.909	1.797	1.746	1.817	0.083				0.241	d	EG	water-saturation, disintegrated
ADL-01	Aklak	ss	1766.90						**1.817**	**0.083**	**3**	**0.241**	d		water-saturated
ADL-01-02	Aklak	ss	1766.90	1.112	1.149		1.131	0.026				0.134	d	KG	disintegrated; heptane-saturated
ADL-01	Aklak	ss	1766.90						**1.131**	**0.026**	**2**	**0.241**	d		heptane-saturated
ADL-02-01	Aklak	f.g. ss	1767.40	1.788	1.745	1.719	1.751	0.035				0.190		EG	
ADL-02-01	Aklak	f.g. ss	1767.40	1.185	1.154	1.114	1.151	0.036				0.140	a	KG	
ADL-02-01	Aklak	f.g. ss	1767.40				1.451	0.330	1.451	0.330	6	**0.190**	a		
ADL-02-02	Aklak	f.g. ss	1767.40	1.817	1.798	1.778	1.798	0.020				0.168		EG	
ADL-02-02	Aklak	f.g. ss	1767.40	1.504	1.362	0.829	1.232	0.356				0.141	a	KG	
ADL-02-02	Aklak	f.g. ss	1767.40				1.515	0.383	1.515	0.383	6	**0.168**	a		
ADL-02	Aklak	f.g. ss	1767.40				1.483	0.343	**1.483**	**0.343**	**12**	**0.179**	a		
ADL-03-01	Aklak	ss	1770.9									**0.273**	d	EG	very crumbly, destroyed during sat.
ADL-03-02	Aklak	ss	1770.9	0.956	1.097	1.302	1.118	0.174				**0.236**	d	EG	very crumbly
ADL-03	Aklak	ss	1770.9				1.118	0.174	**1.118**	**0.174**	**3**	**0.254**	d		
ADL-04-01	Aklak	mdst	1776.00	1.302	1.29	1.281	1.291	0.011				0.145		EG	broken and glued
ADL-04-01	Aklak	mdst	1776.00	1.502	1.148	0.827	1.159	0.338	1.325	0.250	2	0.139	c	KG	3 chips have been epoxied in
ADL-04-01	Aklak	mdst	1776.00				1.225	0.226	1.305	0.127	5	**0.145**	c		
ADL-04-02	Aklak	mdst	1776.00	1.056	1.035	1.017	1.036	0.020				0.158		EG	broken and glued
ADL-04-02	Aklak	mdst	1776.00	0.781	1.022	0.683	0.829	0.174	1.022		1	0.138	a	KG	
ADL-04-02	Aklak	mdst	1776.00				0.932	0.159	1.033	0.017	4	**0.158**	a		
ADL-04	Aklak	mdst	1776.00				1.079	0.241	**1.184**	**0.169**	**9**	**0.152**	c,a		
ADL-05-01	Aklak	sandy sh	1781.80	2.093	2.077	2.068	2.079	0.013				0.164		EG	
ADL-05-01	Aklak	sandy sh	1781.80	1.131	1.103	1.176	1.137	0.037				0.132	b	KG	1 chip, no epoxy
ADL-05-01	Aklak	sandy sh	1781.80				1.608	0.517	1.608	0.517	6	**0.164**	b		
ADL-05-02	Aklak	sandy sh	1781.80		2.041	2.027	2.034	0.010				0.167		EG	
ADL-05-02	Aklak	sandy sh	1781.80	1.136	1.54	1.135	1.270	0.234				0.129	a	KG	
ADL-05-02	Aklak	sandy sh	1781.80				1.576	0.450	1.576	0.450	5	**0.167**	a		
ADL-05	Aklak	sandy sh	1781.80				1.593	0.463	**1.593**	**0.463**	**11**	**0.166**	b,a		
ADL-06-01	Aklak	ss	1870.00	1.704	1.686	1.645	1.678	0.030	1.678	0.030	3	**0.195**	b	EG	water-saturation
ADL-06-02	Aklak	ss	1870.00	2.26	2.243	2.228	2.244	0.016	2.244	0.016	3	**0.241**	d	EG	water-saturation
ADL-06	Aklak	ss	1870.00				1.961	0.310	**1.961**	**0.310**	**6**	**0.218**	b,d		water-saturation
ADL-06-01	Aklak	ss	1870.00	83.203	79.792	53.099	72.031	16.484				0.298	b	KG	losing grains, but whole, hep.-sat.
ADL-06-02	Aklak	ss	1870.00	1.115	1.144	1.362	1.207	0.135	1.207	0.135	3	0.343	d	KG	falling apart; heptane-saturated
ADL-06	Aklak	ss	1870.00				36.619	40.169	**1.207**	**0.135**	**3**	**0.218**	b,d		heptane-saturation
ADL-07-01	Aklak	ss	1873.10	1.458	1.424	1.391	1.424	0.034	1.424	0.034	3	**0.199**		EG	water-saturation
ADL-07-02	Aklak	ss	1873.10	1.287	1.278	1.268	1.278	0.010	1.278	0.010	3	**0.227**		EG	water-saturation
ADL-07-03	Aklak	ss	1873.10	2.163	2.161	2.134	2.153	0.016	2.153	0.016	3	**0.189**		EG	water-saturation
ADL-07	Aklak	ss	1873.10				1.618	0.406	**1.618**	**0.406**	**9**	**0.205**	c,b,b		water-saturation
ADL-07-01	Aklak	ss	1873.10	112.867		1.174	57.021	78.979	1.174		1	0.305	c	KG	large chip, losing grains, hep.-sat.
ADL-07-02	Aklak	ss	1873.10	166.933	1.436	1.126	56.498	95.639	1.281	0.219	2	0.283	b	KG	losing grains, but whole, hep.-sat.
ADL-07-03	Aklak	ss	1873.10	1.357	1.404	1.55	1.437	0.101	1.437	0.101	3	0.263	b	KG	losing grains, but whole, hep.-sat.
ADL-07	Aklak	ss	1873.10				35.981	65.748	**1.341**	**0.162**	**6**	**0.205**	c,b,b		
AVK-01-01	Aklavik	ss	1588.88	3.882	3.907	3.911	3.900	0.016						EG	

Sample	Rock Unit	Lithology	Depth (mKB)	[1]Single Measurements K_{sat} 1 (W/mK)	K_{sat} 2 (W/mK)	K_{sat} 3 (W/mK)	All Trials Ave K_{sat} (W/mK)	S. D. (W/mK)	Selected Trials Pref. Ave. K_{sat} (W/mK)	S. D. (W/mK)	# trials used	Por. Frac.	Plug Qual.	Analyst	Comments
AVK-01-01	Aklavik	ss	1588.88	4.364	2.321	1.353	2.679	1.537				0.052	a	KG	
AVK-01-01	Aklavik	ss	1588.88				3.290	1.180	3.290	1.180	6	**0.052**	a		
AVK-01-02	Aklavik	ss	1588.88	2.601	2.592	2.575	2.589	0.013				0.077		EG	
AVK-01-02	Aklavik	ss	1588.88	4.102	2.318	1.761	2.727	1.223				0.047	b	KG	edges slightly rounded
AVK-01-02	Aklavik	ss	1588.88				2.658	0.777	2.658	0.777	6	**0.077**	b		
AVK-01	Aklavik	ss	1588.88				2.974	1.008	**2.974**	**1.008**	**12**	**0.065**	a,b		
ATG-02-01	Arctic Red	sh	2306.50	1.390	1.394	1.395	1.393	0.003						EG	
ATG-02-01	Arctic Red	sh	2306.50	1.214	1.228	0.949	1.130	0.157				0.092	c	KG	epoxied and chipped
ATG-02-01	Arctic Red	sh	2306.50				1.262	0.175	1.262	0.175	6	**0.092**	c		
ATG-02-02	Arctic Red	sh	2306.50	1.293	1.296	1.242	1.277	0.030				0.080		EG	
ATG-02-02	Arctic Red	sh	2306.50	2.131	1.324	1.261	1.572	0.485				0.071	b	KG	edges slightly rounded and chipped
ATG-02-02	Arctic Red	sh	2306.50				1.425	0.347	1.425	0.347	6	**0.080**	b		
ATG-02	Arctic Red	sh	2306.50				1.343	0.276	**1.343**	**0.276**	**12**	**0.086**	c,b		
ATG-03-01	Arctic Red	sh	2306.85	1.255	1.238	1.225	1.239	0.015				0.092		EG	
ATG-03-01	Arctic Red	sh	2306.85	0.968	0.662	0.728	0.786	0.161				0.072	c	KG	chips/flaking and very thin
ATG-03-01	Arctic Red	sh	2306.85				1.013	0.269	1.239	0.015	3	**0.092**	c		
ATG-03-02	Arctic Red	sh	2306.85	1.310	1.307	1.292	1.303	0.010				0.095		EG	
ATG-03-02	Arctic Red	sh	2306.85	1.584	0.925	1.647	1.385	0.400				0.034	c	KG	epoxied and chipped
ATG-03-02	Arctic Red	sh	2306.85				1.344	0.257	1.344	0.257	6	**0.095**	c		
ATG-03	Arctic Red	sh	2306.85				1.178	0.305	**1.309**	**0.210**	**9**	**0.094**	c		
ATG-04-01	Mt. Goodenough (Siku)	sh	2723.2	0.845	0.843	0.828	0.839	0.009				0.036	d	EG	not very sturdy
ATG-04	Mt. Goodenough (Siku)	sh	2723.2						**0.839**	**0.009**	**3**	**0.036**	d		
ATK-01-01	Atkinson Pt.	ss	2027.00	2.431	2.401	2.382	2.405	0.025						EG	
ATK-01-01	Atkinson Pt.	ss	2027.00	1.700	1.629	1.338	1.556	0.192				0.114	a	KG	
ATK-01-01	Atkinson Pt.	ss	2027.00				1.980	0.481	1.980	0.481	6	**0.114**	a		
ATK-01-02	Atkinson Pt.	ss	2027.00		1.441	1.386	1.414	0.039				0.139		EG	
ATK-01-02	Atkinson Pt.	ss	2027.00	1.456	1.882	1.522	1.620	0.229				0.096	a	KG	
ATK-01-02	Atkinson Pt.	ss	2027.00				1.537	0.199	1.537	0.199	5	**0.139**	a		
ATK-01	Atkinson Pt.	ss	2027.00				1.779	0.430	**1.779**	**0.430**	**11**	**0.126**	a		
ATK-02-01	Atkinson Pt.	ss	2030.40	2.607	2.611	2.616	2.611	0.005				0.090		EG	
ATK-02-01	Atkinson Pt.	ss	2030.40	1.506	1.432	302.190	101.709	173.621				0.105	b	KG	chipped
ATK-02-01	Atkinson Pt.	ss	2030.40				52.160	122.490	2.154	0.626	5	**0.098**	b		
ATK-02-02	Atkinson Pt.	ss	2030.40	1.694	1.633		1.664	0.043				0.147		EG	
ATK-02-02	Atkinson Pt.	ss	2030.40	2.054	2.048		2.051	0.004				0.093	c	KG	chipped
ATK-02-02	Atkinson Pt.	ss	2030.40				1.857	0.225	1.857	0.225	4	**0.147**	c		
ATK-02	Atkinson Pt.	ss	2030.40				32.039	94.922	**2.022**	**0.490**	**9**	**0.122**	b,c		
BVR-01-01	Permian (Longstick)	sh	1479.00	1.117	1.126	1.132	1.125	0.008				0.039		EG	
BVR-01-01	Permian (Longstick)	sh	1479.00	2.036	2.170	2.060	2.089	0.071				0.014	a	KG	
BVR-01-01	Permian (Longstick)	sh	1479.00				1.607	0.530	1.607	0.530	6	**0.039**	a		
BVR-01-02	Permian (Longstick)	sh	1479.00	2.060	2.061	2.058	2.060	0.002				0.037		EG	
BVR-01-02	Permian (Longstick)	sh	1479.00	2.217	2.090	2.537	2.281	0.230				0.014	a	KG	
BVR-01-02	Permian (Longstick)	sh	1479.00				2.171	0.190	2.171	0.190	6	**0.037**	a		
BVR-01	Permian (Longstick)	sh	1479.00				1.889	0.480	**1.889**	**0.480**	**12**	**0.038**	a		
BVR-02-01	Permian (Longstick)	sh	4867.00	0.886	0.889	0.893	0.889	0.004				0.065		EG	sat. k << dry k
BVR-02-01	Permian (Longstick)	sh	4867.00	1.918	1.272	1.808	1.666	0.346				0.025	b	KG	chipped

Sample	Rock Unit	Lithology	Depth (mKB)	[1]Single Measurements K_{sat} 1 (W/mK)	K_{sat} 2 (W/mK)	K_{sat} 3 (W/mK)	All Trials Ave K_{sat} (W/mK)	S. D. (W/mK)	Selected Trials Pref. Ave. K_{sat} (W/mK)	S. D. (W/mK)	# trials used	Por. Frac.	Plug Qual.	Analyst	Comments
BVR-02-01	Permian (Longstick)	sh	4867.00				1.278	0.478	1.666	0.346	3	**0.065**	b		
BVR-02-02	Permian (Longstick)	sh	4867.00	1.863	1.861	1.858	1.861	0.003				0.038		EG	
BVR-02-02	Permian (Longstick)	sh	4867.00	1.813	1.529	1.978	1.773	0.227				-0.014	b	KG	chipped
BVR-02-02	Permian (Longstick)	sh	4867.00				1.817	0.151	1.817	0.151	6	**0.038**	b		
BVR-02	Permian (Longstick)	sh	4867.00				1.547	0.440	**1.767**	**0.223**	**9**	**0.051**	b		
BLR-01-01	Albian flysch	f.g. ss	3386.94	1.837	1.838	1.839	1.838	0.001				0.017		EG	
BLR-01-01	Albian flysch	f.g. ss	3386.94	2.993	1.662	4.081	2.912	1.212	2.328	0.941	2	0.001	a	KG	
BLR-01-01	Albian flysch	f.g. ss	3386.94				2.375	0.966	2.034	0.891	5	**0.017**	a		
BLR-01-02	Albian flysch	f.g. ss	3386.94	1.356	1.373	1.378	1.369	0.012				0.021		EG	
BLR-01-02	Albian flysch	f.g. ss	3386.94	2.851	1.677	3.239	2.589	0.813				0.002	a	KG	
BLR-01-02	Albian flysch	f.g. ss	3386.94				1.979	0.843	1.979	0.843	6	**0.021**	a		
BLR-01	Albian flysch	f.g. ss	3386.94				2.177	0.889	**2.004**	**0.688**	**11**	**0.019**	a		
BLR-02-01	Albian flysch	sh	3387.67	1.455	1.457	1.458	1.457	0.002				0.022		EG	
BLR-02-01	Albian flysch	sh	3387.67	1.725	1.231	1.235	1.397	0.284				0.004	a	KG	
BLR-02-01	Albian flysch	sh	3387.67				1.427	0.183	1.427	0.183	6	**0.022**	a		
BLR-02-02	Albian flysch	sh	3387.67	1.091	1.092	1.091	1.091	0.001				0.014		EG	
BLR-02-02	Albian flysch	sh	3387.67	1.070	1.051	1.332	1.151	0.157				0.006	a	KG	one very tiny chip
BLR-02-02	Albian flysch	sh	3387.67				1.121	0.105	1.121	0.105	6	**0.014**	a		
BLR-02	Albian flysch	sh	3387.67				1.274	0.214	**1.274**	**0.214**	**12**	**0.018**	a		
ELL-01-01	Taglu	ss	1603.55	1.236	1.175	1.128	1.180	0.054				0.215		EG	
ELL-01-01	Taglu	ss	1603.55	1.523	1.719	1.688	1.643	0.105				0.164	a	KG	
ELL-01-01	Taglu	ss	1603.55				1.412	0.265	1.412	0.265	6	**0.215**	a		
ELL-01-02	Taglu	ss	1603.55	1.276	1.240	1.177	1.231	0.050				0.205		EG	
ELL-01-02	Taglu	ss	1603.55	79.137	1.679	85.013	55.276	46.510	1.679		1	0.150	a	KG	
ELL-01-02	Taglu	ss	1603.55				28.254	41.732	1.343	0.228	4	**0.205**	a		
ELL-01	Taglu	ss	1603.55				14.833	31.435	**1.384**	**0.240**	**10**	**0.210**	a		
ELL-02-01	Taglu	ss	1610.30	1.574	1.532	1.502	1.536	0.036				0.177		EG	
ELL-02-01	Taglu	ss	1610.30	1.376	1.958	1.333	1.556	0.349				0.120	a	KG	
ELL-02-01	Taglu	ss	1610.30				1.546	0.222	1.546	0.222	6	**0.177**	a		
ELL-02-02	Taglu	ss	1610.30	1.220	1.186	1.170	1.192	0.026				0.172		EG	
ELL-02-02	Taglu	ss	1610.30	1.695	1.331	1.199	1.408	0.257				0.135	a	KG	
ELL-02-02	Taglu	ss	1610.30				1.300	0.202	1.300	0.202	6	**0.172**	a		
ELL-02	Taglu	ss	1610.30				1.423	0.240	**1.423**	**0.240**	**12**	**0.174**	a		
ELL-03-01	Taglu	sh	1917.04	1.244	1.243	1.240	1.242	0.002				0.085		EG	
ELL-03-01	Taglu	sh	1917.04	1.925	0.735	1.179	1.280	0.601	1.552	0.528	2	0.052	a	KG	
ELL-03-01	Taglu	sh	1917.04				1.261	0.381	1.366	0.314	5	**0.085**	a		
ELL-03-02	Taglu	sh	1917.04									0.096	d	EG	cracked, expoxied; dry wt uncertain
ELL-03	Taglu	sh	1917.04				1.261	0.381	**1.366**	**0.314**	**5**	**0.085**	a		
ELL-04-01	Taglu	sh	1918.65	1.264	1.259	1.260	1.261	0.003				0.101		EG	cracked, expoxied
ELL-04-01	Taglu	sh	1918.65	1.470	1.466	1.832	1.589	0.210				0.062	b	KG	epoxied
ELL-04-01	Taglu	sh	1918.65				1.425	0.224	1.425	0.224	6	**0.101**	b		
ELL-04-02	Taglu	sh	1918.65	0.951	0.950		0.951	0.001				0.110		EG	
ELL-04-02	Taglu	sh	1918.65	1.690	1.100	1.733	1.508	0.354				0.061	a	KG	
ELL-04-02	Taglu	sh	1918.65				1.285	0.395	1.285	0.395	5	**0.110**	a		
ELL-04	Taglu	sh	1918.65				1.361	0.304	**1.361**	**0.304**	**11**	**0.105**	b,a		

Sample	Rock Unit	Lithology	Depth (mKB)	[1]Single Measurements Ksat 1 (W/mK)	Ksat 2 (W/mK)	Ksat 3 (W/mK)	All Trials Ave Ksat (W/mK)	S. D. (W/mK)	Selected Trials Pref. Ave. Ksat (W/mK)	S. D. (W/mK)	# trials used	Por. Frac.	Plug Qual.	Analyst	Comments
ELL-05-01	Taglu	sh	1921.33	1.089	1.088	1.086	1.088	0.002				0.091		EG	
ELL-05-01	Taglu	sh	1921.33	0.696	1.143	1.313	1.051	0.319				0.064	a	KG	
ELL-05-01	Taglu	sh	1921.33				1.069	0.203	1.069	0.203	6	**0.091**	a		
ELL-05-02	Taglu	sh	1921.33	1.246	1.245	1.245	1.245	0.001				0.080		EG	
ELL-05-02	Taglu	sh	1921.33	1.710	1.630	1.909	1.750	0.144				0.056	a	KG	
ELL-05-02	Taglu	sh	1921.33				1.498	0.291	1.498	0.291	6	**0.080**	a		
ELL-05	Taglu	sh	1921.33				1.283	0.327	**1.283**	**0.327**	**12**	**0.086**	a		
ELL-06-01	Taglu	shaly ss	1924.00	1.357	1.357	1.357	1.357	0.000				0.080		EG	
ELL-06-01	Taglu	shaly ss	1924.00	1.889	1.998	1.629	1.839	0.190				0.056	a	KG	
ELL-06-01	Taglu	shaly ss	1924.00				1.598	0.290	1.598	0.290	6	**0.080**	a		
ELL-06-02	Taglu	shaly ss	1924.00	1.572	1.567	1.557	1.565	0.008				0.081		EG	
ELL-06-02	Taglu	shaly ss	1924.00	1.253	1.560	1.819	1.544	0.283				0.055	a	KG	
ELL-06-02	Taglu	shaly ss	1924.00				1.555	0.180	1.555	0.180	6	**0.081**	a		
ELL-06	Taglu	shaly ss	1924.00				1.576	0.231	**1.576**	**0.231**	**12**	**0.080**	a		
FR-01-01	Albian flysch	sh, ss lam.	2447.85	0.876	0.877	0.876	0.876	0.001						EG	
FR-01-02	Albian flysch	sh, ss lam.	2447.85	1.026	1.026	1.027	1.026	0.001				0.016		EG	
FR-01	Albian flysch	sh, ss lam.	2447.85				0.951	0.082	**0.951**	**0.082**	**6**	**0.016**			
FR-02-01	Albian flysch	sh	2450.60	1.070	1.066	1.063	1.066	0.004				0.016		EG	
FR-02-02	Albian flysch	sh	2450.60	1.169	1.161	1.153	1.161	0.008				0.026		EG	
FR-02	Albian flysch	sh	2450.60				1.114	0.052	**1.114**	**0.052**	**6**	**0.021**			
FR-03-01	Rat River	sh	2631.40	0.718	0.712	0.700	0.710	0.009				0.036		EG	
FR-03-01	Rat River	sh	2631.40	1.551	1.328	0.981	1.287	0.287				0.026	b	KG	chips
FR-03-01	Rat River	sh	2631.40				0.998	0.364	0.998	0.364	6	**0.036**	b		
FR-03-02	Rat River	sh	2631.40	1.209	0.998	0.972	1.060	0.130	1.060	0.130	3	**0.027**		EG	Sat. wt mislabelled as FR03-01?
FR-03	Rat River	sh	2631.40				1.019	0.297	**1.019**	**0.297**	**9**	**0.032**	b		
FR-04-01	Rat River	ss	2632.32	2.674	2.667	2.659	2.667	0.008						EG	
FR-04-01	Rat River	ss	2632.32	4.486	2.579	4.237	3.767	1.037	2.579		1	0.015	b	KG	might need grinding
FR-04	Rat River	ss	2632.32				3.217	0.891	**2.645**	**0.044**	**4**	**0.015**	b		
FR-05-01	Rat River	sh	2633.00	1.217	1.211	1.213	1.214	0.003				0.032		EG	
FR-05	Rat River	sh	2633.00						**1.214**	**0.003**		**0.032**			
IKH-01-01	Kamik	ss	2302.31	1.801	1.783	1.766	1.783	0.018				0.079		EG	
IKH-01-01	Kamik	ss	2302.31	2.610	1.464	2.533	2.202	0.641				0.068	a	KG	
IKH-01-01	Kamik	ss	2302.31				1.993	0.466	1.993	0.466	6	**0.079**	a		
IKH-01-02	Kamik	ss	2302.31	1.682	1.669	1.589	1.647	0.050				0.077		EG	
IKH-01-02	Kamik	ss	2302.31	2.548	4.105	1.132	2.595	1.487	1.840	1.001	2	0.069	a	KG	small chip
IKH-01-02	Kamik	ss	2302.31				2.121	1.075	1.724	0.513	5	**0.077**	a		
IKH-01	Kamik	ss	2302.31				2.057	0.793	**1.871**	**0.483**	**11**	**0.078**	a		
IKH-02-01	Kamik	ss	2308.50	3.090	3.096	3.079	3.088	0.009						EG	
IKH-02-01	Kamik	ss	2308.50	2.790	1.952	2.183	2.308	0.433				0.078	a	KG	
IKH-02-01	Kamik	ss	2308.50				2.698	0.507	2.698	0.507	6	**0.078**	a		
IKH-02-02	Kamik	ss	2308.50	1.697	1.692	1.682	1.690	0.008				0.049		EG	
IKH-02-02	Kamik	ss	2308.50	2.663	2.647	2.663	2.658	0.009				0.056	a	KG	
IKH-02-02	Kamik	ss	2308.50				2.174	0.530	2.174	0.530	6	**0.053**	a		
IKH-02	Kamik	ss	2308.50				2.436	0.565	**2.436**	**0.565**	**12**	**0.065**	a		
IVK-02-01	Richards	ss	2491.68			1.124	1.124					0.258		EG	

Sample	Rock Unit	Lithology	Depth (mKB)	[1]Single Measurements K_{sat} 1 (W/mK)	K_{sat} 2 (W/mK)	K_{sat} 3 (W/mK)	All Trials Ave K_{sat} (W/mK)	S. D. (W/mK)	Selected Trials Pref. Ave. K_{sat} (W/mK)	S. D. (W/mK)	# trials used	Por. Frac.	Plug Qual.	Analyst	Comments
IVK-02-01	Richards	ss	2491.68	1.595	1.514	89.850	30.986	50.977	1.555	0.057	2	0.247	d	KG	disintegrated
IVK-02-01	Richards	ss	2491.68				23.521	44.220	1.411	0.252	3	**0.258**	d		
IVK-02-02	Richards	ss	2491.68	1.079	1.075	1.042	1.065	0.020	1.065	0.020	3	**0.239**		EG	
IVK-02	Richards	ss	2491.68				13.897	33.493	**1.238**	**0.248**	**6**	**0.248**	d		
IVK-03-01	Richards	ss	2688.18	0.836	0.812	0.787	0.812	0.025				0.251		EG	
IVK-03-01	Richards	ss	2688.18	121.165	0.749		60.957	85.147	0.749		1	0.164	d	KG	
IVK-03-01	Richards	ss	2688.18				24.870	53.831	0.796	0.037	4	**0.251**	d		bad
IVK-03-02	Richards	ss	2688.18	1.128	1.106	0.983	1.072	0.078				0.254		EG	
IVK-03-02	Richards	ss	2688.18	0.931	122.859		61.895	86.216	0.931		1	0.286	d	KG	
IVK-03-02	Richards	ss	2688.18				25.401	54.481	1.037	0.095	4	**0.254**	d		
IVK-03	Richards	ss	2688.18				25.136	51.060	**0.917**	**0.145**	**8**	**0.253**	d		
IVK-04-02	Richards	sh	2694.25			1.075	1.075					0.219		EG	
IVK-04-02	Richards	sh	2694.25	1.559	0.881	1.181	1.207	0.340				0.199	a	KG	
IVK-04	Richards	sh	2694.25				1.174	0.285	**1.174**	**0.285**	**4**	**0.219**	a		
IVK-05-01	Richards	sh	3115.36	1.150	1.145	1.145	1.147	0.003						EG	
IVK-05-02	Richards	sh	3115.36	1.314	1.432	1.322	1.356	0.066				0.070	a	KG	
IVK-05	Richards	sh	3115.36				1.251	0.122	**1.251**	**0.122**	**6**	**0.083**	a		
IVK-07-02	Richards	sh	3199.09	1.143	1.140	1.137	1.140	0.003				0.098		EG	
IVK-07-02	Richards	sh	3199.09	1.290	1.443	1.515	1.416	0.115				0.082	a	KG	
IVK-07	Richards	sh	3199.09				1.278	0.168	**1.278**	**0.168**	**6**	**0.098**	a		
IVK-08-01	Richards	sh	3200.70	1.401	1.395	1.391	1.396	0.005				0.095		EG	
IVK-08-01	Richards	sh	3200.70	1.563	1.199	1.625	1.462	0.230				0.082	a	KG	small chip
IVK-08-01	Richards	sh	3200.70				1.429	0.150	1.429	0.150	6	**0.095**	a		
IVK-08-02	Richards	sh	3200.70	1.467	1.461	1.457	1.462	0.005				0.099		EG	
IVK-08-02	Richards	sh	3200.70	1.638	1.358	1.718	1.571	0.189				0.074	a	KG	small chip
IVK-08-02	Richards	sh	3200.70				1.517	0.134	1.517	0.134	6	**0.099**	a		
IVK-08	Richards	sh	3200.70				1.473	0.143	**1.473**	**0.143**	**12**	**0.097**	a		
IVKK-01-01	Richards	slty mdst	2924.90	1.100	1.126	0.970	1.065	0.084				0.113	b	KG	chipped
IVKK-01-01	Richards	slty mdst	2924.90				1.065	0.084	1.065	0.084	3	**0.113**	b		
IVKK-01-02	Richards	slty mdst	2924.90	1.009	1.009	1.004	1.007	0.003				0.124		EG	
IVKK-01-02	Richards	slty mdst	2924.90	0.850	1.129	1.039	1.006	0.142				0.120	a	KG	21 Dec 04 repolished
IVKK-01-02	Richards	slty mdst	2924.90				1.007	0.090	1.007	0.090	6	**0.122**	a		
IVKK-01	Richards	slty mdst	2924.90				1.026	0.088	**1.026**	**0.088**	**9**	**0.117**	b,a		
KANG-01-01	Smoking Hills	bentonite	1196.00	0.473	0.458	0.453	0.461	0.010				0.296		EG	sat. k < dry k
KANG-01	Smoking Hills	bentonite	1196.00									**0.296**			
KANG-02-01	Smoking Hills	sh (bent.)	1199.20	0.558	0.558	0.555	0.557	0.002				0.078		EG	sat. k < dry k
KANG-02	Smoking Hills	sh (bent.)	1199.20									**0.059**			
KANG-03-01	Smoking Hills	sh (bent.)	1199.40	0.731	0.731	0.732	0.731	0.001				0.019		EG	
KANG-03-02	Smoking Hills	sh (bent.)	1199.40	0.483	0.480	0.471	0.478	0.006				0.029		EG	sat. k << dry k
KANG-03	Smoking Hills	sh (bent.)	1199.40				0.605	0.139	**0.731**	**0.001**	**3**	**0.024**			
KUG-01-01	Kugmallit	sh	1756.17	1.038	1.035	1.033	1.035	0.003				0.058		EG	
KUG-01-01	Kugmallit	sh	1756.17	1.229	2.957	1.817	2.001	0.879				0.055	a	KG	small chip
KUG-01-01	Kugmallit	sh	1756.17				1.230	0.767	1.230	0.767	6	**0.058**	a		
KUG-01-02	Kugmallit	sh	1756.17	1.913	1.768	1.996	1.892	0.115	1.892	0.115	3	0.082	a	KG	
KUG-01-02	Kugmallit	sh	1756.17						1.892	0.115	3	**0.047**			

Sample	Rock Unit	Lithology	Depth (mKB)	[1]Single Measurements K_{sat} 1 (W/mK)	K_{sat} 2 (W/mK)	K_{sat} 3 (W/mK)	All Trials Ave K_{sat} (W/mK)	S. D. (W/mK)	Selected Trials Pref. Ave. K_{sat} (W/mK)	S. D. (W/mK)	# trials used	Por. Frac.	Plug Qual.	Analyst	Comments
KUG-01	Kugmallit	sh	1756.17				1.643	0.637	**1.643**	**0.637**	**9**	**0.053**	a		
KPKL-01-01	Smoking Hills	lam black sh	2007.60	0.643	0.642	0.644	0.643	0.001				0.012		EG	
KPKL-01-01	Smoking Hills	lam black sh	2007.60	0.746	0.502	0.579	0.609	0.125	0.746		1	0.017	c	KG	thin with chips/flaking
KPKL-01-01							0.626	0.081	0.746		1	**0.012**	c		
KPKL-01-02	Smoking Hills	lam black sh	2007.60	0.611	0.604	0.603	0.606	0.004				0.016		EG	
KPKL-01-02	Smoking Hills	lam black sh	2007.60	0.786	0.787	1.523	1.032	0.425	0.787	0.001	2	0.030	b	KG	few chips
KPKL-01-02							0.819	0.356	0.787	0.001	2	**0.016**	b		
KPKL-01							0.723	0.266	**0.723**	**0.266**	**12**	**0.014**	c,b		
KPKL-04-01	Permian	ss	2496.92	2.547	2.548	2.544	2.546	0.002				0.044		EG	
KPKL-04-01	Permian	ss	2496.92	1.985	2.064	1.910	1.986	0.077				0.025	a	KG	
KPKL-04-01							2.266	0.311	2.266	0.311	6	**0.044**	a		
KPKL-04-02	Permian	ss	2496.92	2.707	2.700	2.688	2.698	0.010				0.041		EG	
KPKL-04-02	Permian	ss	2496.92	3.259	2.953	2.790	3.001	0.238				0.023	a	KG	
KPKL-04-02							2.850	0.224	2.850	0.224	6	**0.041**	a		
KPKL-04							2.558	0.399	**2.558**	**0.399**	**12**	**0.042**	a		
KPKL-05-01	Permian	ss	2501.54	2.427	1.365	2.121	1.971	0.547				0.075	a	KG	
KPKL-05-01	Permian	ss	2501.54						1.971	0.547	3	**0.110**	a		
KPKL-05-02	Permian	ss	2501.54	3.061	3.054	3.023	3.046	0.020				0.128		EG	
KPKL-05-02	Permian	ss	2501.54	1.958	2.964	2.606	2.509	0.510				0.077	a	KG	
KPKL-05-02							2.778	0.437	2.778	0.437	6	**0.128**	a		
KPKL-05							2.509	0.597	**2.509**	**0.597**	**9**	**0.119**	a		
KPKO-01-01	Smoking Hills	sh	1987.75	0.736	0.736	0.734	0.735	0.001						EG	
KPKO-01-01	Smoking Hills	sh	1987.75	1.051	0.905	0.891	0.949	0.089				0.014	a	KG	
KPKO-01-01							0.842	0.130	0.842	0.130	6	**0.014**	a		
KPKO-01-02	Smoking Hills	sh	1987.75	0.739	0.736	0.736	0.737	0.002						EG	
KPKO-01-02	Smoking Hills	sh	1987.75	0.781	0.718	0.777	0.759	0.035				0.016	c	KG	chips and ring around outside
KPKO-01-02							0.748	0.025	0.748	0.025	6	**0.016**	c		
KPKO-01							0.795	0.102	**0.795**	**0.102**	**12**	**0.015**	a,c		
KPKO-02-01	Smoking Hills	sh	1990.83	0.788	0.784	0.786	0.786	0.002						EG	
KPKO-02-01	Smoking Hills	sh	1990.83	0.876	0.980	0.889	0.915	0.057				0.014	a	KG	
KPKO-02-01							0.851	0.079	0.851	0.079	6	**0.014**	a		
KPKO-02-02	Smoking Hills	sh	1990.83	0.657	0.655	0.654	0.655	0.002						EG	
KPKO-02-02	Smoking Hills	sh	1990.83	0.970	0.876	0.638	0.828	0.171				0.018	b	KG	flakes getting thin
KPKO-02-02							0.742	0.144	0.742	0.144	6	**0.018**	b		
KPKO-02							0.796	0.124	**0.796**	**0.124**	**12**	**0.016**	a,b		
KPKO-05-01	Husky	sandy mdst	2953.02	1.977	1.954	1.852	1.928	0.067	1.928	0.067	3	-0.205	b	KG	rounded edge
KPKO-05-01	Husky	sandy mdst	2953.02						1.928	0.067	3	**0.027**	b		
KPKO-05-02	Husky	sandy mdst	2953.02	0.932	0.932	0.935	0.933	0.002				0.027		EG	sat. k << dry k
KPKO-05-02	Husky	sandy mdst	2953.02	1.474	1.891	1.957	1.774	0.262				0.026	a	KG	
KPKO-05-02							1.354	0.490	1.774	0.262	3	**0.027**	a		
KPKO-05							1.545	0.483	**1.851**	**0.190**	**6**	**0.027**	b,a		
KPKO-06-01	Husky	sandy mdst	2955.50	1.447	1.448	1.448	1.448	0.001				0.020		EG	
KPKO-06-01	Husky	sandy mdst	2955.50	1.498	1.609	1.192	1.433	0.216				0.020	b	KG	small chips
KPKO-06-01							1.440	0.137	1.440	0.137	6	**0.020**	b		
KPKO-06-02	Husky	sandy mdst	2955.50	1.805	1.796	1.788	1.796	0.009				0.012		EG	

Sample	Rock Unit	Lithology	Depth (mKB)	[1]Single Measurements K_{sat} 1 (W/mK)	K_{sat} 2 (W/mK)	K_{sat} 3 (W/mK)	All Trials Ave K_{sat} (W/mK)	S. D. (W/mK)	Selected Trials Pref. Ave. K_{sat} (W/mK)	S. D. (W/mK)	# trials used	Por. Frac.	Plug Qual.	Analyst	Comments
KPKO-06-02	Husky	sandy mdst	2955.50	2.200	1.707	2.176	2.028	0.278				0.023	a	KG	
KPKO-06-02							1.912	0.217	1.912	0.217	6	**0.018**	a		
KPKO-06							1.676	0.301	**1.676**	**0.301**	**12**	**0.019**	b,a		
KPKO-07-01	Permian	muddy ss	3098.14									0.030		EG	
KPKO-07-01	Permian	muddy ss	3098.14	3.525	3.344	3.048	3.306	0.241				0.018	a	KG	
KPKO-07-01									3.306	0.241	3	**0.030**	a		
KPKO-07-02	Permian	muddy ss	3098.14	2.986	2.968	2.956	2.970	0.015				0.030		EG	
KPKO-07-02	Permian	muddy ss	3098.14	3.273	3.402	2.519	3.065	0.477				0.020	a	KG	
KPKO-07-02							3.017	0.306	3.017	0.306	6	**0.030**	a		
KPKO-07							3.113	0.306	**3.113**	**0.306**	**9**	**0.030**	a		
KPKO-08-01	Permian	muddy ss	3101.04									0.031		EG	
KPKO-08-01	Permian	muddy ss	3101.04	2.969	2.486	3.168	2.874	0.351				0.017	a	KG	
KPKO-08-01									2.874	0.351	3	**0.031**	a		
KPKO-08-02	Permian	muddy ss	3101.04											EG	
KPKO-08-02	Permian	muddy ss	3101.04	2.639	2.012	2.383	2.345	0.315				0.017	a	KG	
KPKO-08-02									2.345	0.315	3	**0.017**	a		
KPKO-08							2.610	0.416	**2.610**	**0.416**	**6**	**0.024**	a		
KUM-01-01	Taglu	sh	1370.08	0.700	0.696	0.686	0.694	0.007				0.122		EG	
KUM-01-01	Taglu	sh	1370.08	0.789	1.257	0.879	0.975	0.248				0.122	b	KG	slight chip and thin
KUM-01-01							0.835	0.220	0.835	0.220	6	**0.122**	b		
KUM-01-02	Taglu	sh	1370.08	0.586	0.583	0.575	0.581	0.006				0.113		EG	
KUM-01-02	Taglu	sh	1370.08	0.505	0.350	0.556	0.470	0.107				0.131	b	KG	thin and slight flaking
KUM-01-02							0.526	0.091	0.526	0.091	6	**0.113**	b		
KUM-01							0.680	0.227	**0.835**	**0.220**	**6**	**0.117**	b		
KUM-02-01	Taglu	ss	1373.73			1.085	1.085					0.195		EG	
KUM-02-01	Taglu	ss	1373.73	1.342	1.068	1.044	1.151	0.166				0.244	b	KG	thin
KUM-02-01							1.135	0.139	1.135	0.139	4	**0.195**	b		
KUM-02-02	Taglu	ss	1373.73	1.310		1.062	1.186	0.175				0.197		EG	
KUM-02-02	Taglu	ss	1373.73	1.215	1.216	1.433	1.288	0.126				0.240	a	KG	
KUM-02-02							1.247	0.137	1.247	0.137	5	**0.197**	a		
KUM-02							1.197	0.142	**1.197**	**0.142**	**9**	**0.196**	b,a		
KUM-03-01	Taglu	ss	1379.68		1.442	1.412	1.427	0.021				0.188		EG	
KUM-03-01	Taglu	ss	1379.68	1.697	1.685	1.708	1.697	0.012				0.171	a	KG	
KUM-03-01							1.589	0.148	1.589	0.148	5	**0.188**	a		
KUM-03-02	Taglu	ss	1379.68		1.513	1.487	1.500	0.018				0.177		EG	
KUM-03-02	Taglu	ss	1379.68	1.394	1.787	1.830	1.670	0.240				0.166	a	KG	
KUM-03-02							1.602	0.194	1.602	0.194	5	**0.177**	a		
KUM-03							1.596	0.163	**1.596**	**0.163**	**10**	**0.183**	a		
KUM-04-01	Taglu	ss	2174.44		1.765	1.737	1.751	0.020				0.170		EG	
KUM-04-01	Taglu	ss	2174.44	1.269	1.282	1.358	1.303	0.048				0.156	a	KG	
KUM-04-01							1.482	0.248	1.482	0.248	5	**0.170**	a		
KUM-04-02	Taglu	ss	2174.44		1.689	1.675	1.682	0.010				0.175		EG	
KUM-04-02	Taglu	ss	2174.44	1.676	1.767	1.573	1.672	0.097				0.162	a	KG	
KUM-04-02							1.676	0.069	1.676	0.069	5	**0.175**	a		
KUM-04							1.579	0.200	**1.579**	**0.200**	**10**	**0.173**	a		

Sample	Rock Unit	Lithology	Depth (mKB)	[1]Single Measurements K_{sat} 1 (W/mK)	K_{sat} 2 (W/mK)	K_{sat} 3 (W/mK)	All Trials Ave K_{sat} (W/mK)	S. D. (W/mK)	Selected Trials Pref. Ave. K_{sat} (W/mK)	S. D. (W/mK)	# trials used	Por. Frac.	Plug Qual.	Analyst	Comments
KUM-05-01	Taglu	ss	2182.67			1.192	1.192					0.214		EG	sat. k < dry k
KUM-05-01	Taglu	ss	2182.67	1.600	1.761	1.628	1.663	0.086				0.075	a	KG	repolished
KUM-05-01							1.545	0.246	1.663	0.086	3	**0.214**	a		
KUM-05-02	Taglu	ss	2182.67			1.118	1.118					0.240		EG	sat. k < dry k
KUM-05							1.460	0.286	**1.663**	**0.086**	**3**	**0.227**	a		
KUM-06-01	Taglu	ss	2296.12		2.056	2.027	2.042	0.021				0.133		EG	
KUM-06-01	Taglu	ss	2296.12	1.866	2.213	1.866	1.982	0.200				0.116	a	KG	
KUM-06-01							2.006	0.146	2.006	0.146	5	**0.133**	a		
KUM-06-02	Taglu	ss	2296.12	1.879	1.848		1.864	0.022				0.145		EG	
KUM-06-02	Taglu	ss	2296.12	1.859	2.196	1.984	2.013	0.170				0.130	a	KG	
KUM-06-02							1.953	0.146	1.953	0.146	5	**0.145**	a		
KUM-06							1.979	0.140	**1.979**	**0.140**	**10**	**0.139**	a		
KUM-08-01	Taglu	shaly ss	2306.42	1.864	1.857	1.842	1.854	0.011				0.088		EG	
KUM-08-01	Taglu	shaly ss	2306.42	1.867	1.859	1.809	1.845	0.031				0.077	a	KG	slight rounded edge 1/4
KUM-08-01							1.850	0.022	1.850	0.022	6	**0.088**	a		
KUM-08-02	Taglu	shaly ss	2306.42	2.187	2.176	2.144	2.169	0.022				0.075		EG	
KUM-08-02	Taglu	shaly ss	2306.42	1.861	2.282	1.817	1.987	0.257				0.074	a	KG	
KUM-08-02							2.078	0.191	2.078	0.191	6	**0.075**	a		
KUM-08							1.964	0.176	**1.964**	**0.176**	**12**	**0.082**	a		
MAL-01-01	Richards	lam sh	2303.07	0.984	0.983	0.983	0.983	0.001				0.060		EG	
MAL-01-01	Richards	lam sh	2303.07	1.146	1.160	1.200	1.169	0.028				0.083	c	KG	epoxied and flaking
MAL-01-01							1.076	0.103	1.076	0.103	6	**0.060**	c		
MAL-01-02	Richards	lam sh	2303.07	0.981	0.972	0.967	0.973	0.007	0.973	0.007	3	**0.070**		EG	
MAL-01							1.042	0.096	**1.042**	**0.096**	**9**	**0.065**	c		
MAYG-01-01	Rat River	sandy mdst	2474.75	1.862	1.864	1.866	1.864	0.002				0.073		EG	
MAYG-01-01	Rat River	sandy mdst	2474.75	1.334	1.396	1.759	1.496	0.230				0.043	b	KG	chipped and rounded
MAYG-01-01							1.680	0.248	1.680	0.248	6	**0.073**	b		
MAYG-01-02	Rat River	sandy mdst	2474.75	1.675	1.669	1.656	1.667	0.010				0.051		EG	
MAYG-01-02	Rat River	sandy mdst	2474.75	1.553	1.847	2.082	1.827	0.265				0.036	a	KG	
MAYG-01-02							1.747	0.189	1.747	0.189	6	**0.051**	a		
MAYG-01							1.714	0.213	**1.714**	**0.213**	**12**	**0.062**	b,a		
MAYG-02-01	Rat River	muddy ss	2478.00	1.533		1.485	1.509	0.034				0.138		EG	
MAYG-02-01	Rat River	muddy ss	2478.00	2.560	2.747	2.329	2.545	0.209				0.113	a	KG	small chip
MAYG-02-01							2.131	0.587	2.131	0.587	5	**0.138**	a		
MAYG-02-02	Rat River	muddy ss	2478.00	3.051	3.047	3.045	3.048	0.003				0.141		EG	
MAYG-02-02	Rat River	muddy ss	2478.00	2.545	2.465	1.346	2.119	0.670				0.113	a	KG	small chip
MAYG-02-02							2.583	0.662	2.583	0.662	6	**0.141**	a		
MAYG-02							2.378	0.643	**2.378**	**0.643**	**11**	**0.140**	a		
MAYG-03-01	Rat River	muddy ss	2482.40	0.845	0.870	0.903	0.873	0.029				**0.083**		EG	sat. k << dry k
MAYG-03-01	Rat River	muddy ss	2482.40	95.574	1.748	1.640	32.987	54.202	1.694	0.076	2	0.031	c	KG	large chip
MAYG-03-01							16.930	38.530	1.694	0.076	2	**0.083**	c		
MAYG-03-02	Rat River	muddy ss	2482.40	2.540	2.521	2.444	2.502	0.051				0.102		EG	
MAYG-03-02	Rat River	muddy ss	2482.40	1.597	2.557	1.446	1.867	0.603				0.068	a	KG	
MAYG-03-02							2.184	0.517	2.184	0.517	6	**0.102**	a		
MAYG-03							9.557	27.096	**2.062**	**0.493**	**8**	**0.092**	c,a		

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MAYG-04-01	Rat River	sandy sh	2485.45	1.467	1.466	1.443	1.459	0.014				0.036		EG	
MAYG-04-01	Rat River	sandy sh	2485.45	1.073	1.133	0.978	1.061	0.078				0.029	a	KG	
MAYG-04-01							1.260	0.223	1.260	0.223	6	**0.036**	a		
MAYG-04-02	Rat River	sandy sh	2485.45		0.975	0.951	0.963	0.017				0.031		EG	
MAYG-04-02	Rat River	sandy sh	2485.45	1.809	2.161	1.899	1.956	0.183				0.016	b	KG	rounded
MAYG-04-02							1.559	0.559	1.559	0.559	5	**0.031**	b		
MAYG-04							1.396	0.418	**1.396**	**0.418**	**11**	**0.034**	a,b		
MAYJ-01-01	Landry	frac. carbonate	2892.95	2.350	2.347	2.341	2.346	0.005				0.042		EG	
MAYJ-01-01	Landry	frac. carbonate	2892.95	2.343	2.162	2.164	2.223	0.104				0.017	a	KG	small chip, natural fissures
MAYJ-01-01							2.285	0.094	2.285	0.094	6	**0.042**	a		
MAYJ-01-02	Landry	frac. carbonate	2892.95	2.473	2.471	2.471	2.472	0.001				0.013		EG	
MAYJ-01-02	Landry	frac. carbonate	2892.95	2.938	2.968	2.644	2.850	0.179				0.005	c	KG	large chip
MAYJ-01-02							2.661	0.236	2.661	0.236	6	**0.013**	c		
MAYJ-01							2.473	0.261	**2.473**	**0.261**	**12**	**0.028**	a,c		
MAYJ-02-01	Landry	frac. carbonate	2901.06	2.466	2.469	2.475	2.470	0.005				**0.015**		EG	
MAYJ-02-01	Landry	frac. carbonate	2901.06	2.437	2.196	2.981	2.538	0.402				0.002	a, b	KG	chip
MAYJ-02-01							2.504	0.257	2.504	0.257	6	**0.015**	a,b		
MAYJ-02-02	Landry	frac. carbonate	2901.06									**0.018**		EG	
MAYJ-02-02	Landry	frac. carbonate	2901.06									0.002	b	KG	rounded
MAYJ-02-02	Landry	frac. carbonate	2901.06	2.389	2.998		2.694	0.431				**0.019**	b	KG	rounded
MAYJ-02-02									2.694	0.431	2	**0.019**	b		
MAYJ-02							2.551	0.285	**2.551**	**0.285**	**8**	**0.017**	a,b		
MAYJ-03-01	Landry	carbonate	2903.57	2.242	2.244	2.245	2.244	0.002				0.024		EG	
MAYJ-03-01	Landry	carbonate	2903.57	3.183	2.099	2.399	2.560	0.560	2.249	0.212	2	0.002	b	KG	rounded
MAYJ-03-01							2.402	0.394	2.402	0.394	6	**0.024**	b		
MAYJ-03-02	Landry	carbonate	2903.57	1.909	1.907	1.903	1.906	0.003				0.017		EG	
MAYJ-03-02	Landry	carbonate	2903.57	1.913	2.025	2.087	2.008	0.088				0.002		KG	
MAYJ-03-02							1.957	0.079	1.957	0.079	6	**0.017**			
MAYJ-03							2.180	0.357	**2.088**	**0.174**	**11**	**0.020**	b		
MAYJ-04-01	Landry	frac. carbonate	2918.41	3.012	3.011	3.011	3.011	0.001				0.021		EG	
MAYJ-04-01	Landry	frac. carbonate	2918.41	2.215	2.651	2.704	2.523	0.268				0.004		KG	
MAYJ-04-01							2.767	0.317	2.767	0.317	6	**0.021**			
MAYJ-04-02	Landry	frac. carbonate	2918.41	1.834	1.832	1.831	1.832	0.002				0.026		EG	
MAYJ-04-02	Landry	frac. carbonate	2918.41	3.769	2.893	6.219	4.294	1.724	3.331	0.619	2	0.003	b	KG	chipped, repolished
MAYJ-04-02							3.063	1.734	2.432	0.877	5	**0.026**	b		
MAYJ-04							2.915	1.198	**2.615**	**0.623**	**11**	**0.023**	b		
MAYJ-05-01	Arnica (Road R)	carbonate	3682.60											KG	
MAYJ-05-01	Arnica (Road R)	carbonate	3682.60	2.378	2.812	2.112	2.434	0.353				0.015	a	KG	repolished
MAYJ-05-01									2.434	0.353	3	**0.015**	a		
MAYJ-05-02	Arnica (Road R)	carbonate	3682.60	2.469	4.718	2.575	3.254	1.269	2.522	0.075	2	**0.011**	a	KG	
MAYJ-05							2.844	0.946	**2.469**	**0.257**	**5**	**0.013**	a		
NAPF-01-01	Mount Goodenough	shaley ss	696.42	1.069	1.060	1.034	1.054	0.018				0.117		EG	sat. k < dry k
NAPF-01-01	Mount Goodenough	shaley ss	696.42	2.327	2.780	2.267	2.458	0.280				0.057	a	KG	
NAPF-01-01							1.756	0.789	2.458	0.280	3	**0.117**	a		
NAPF-01-02	Mount Goodenough	shaley ss	696.42	1.298	1.251	1.215	1.255	0.042				0.125		EG	

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NAPF-01-02	Mount Goodenough	shaley ss	696.42	3.951	2.471	2.513	2.978	0.843	2.492	0.030	2	0.062	a	KG	
NAPF-01-02							2.117	1.084	1.750	0.679	5	**0.125**	a		
NAPF-01							1.936	0.924	**2.015**	**0.648**	**8**	**0.121**	a		
NAPF-02-01	Mount Goodenough	sandy sh	697.76	1.075	1.067	1.054	1.065	0.011				**0.109**		EG	sat. k < dry k
NAPF-02-01	Mount Goodenough	sandy sh	697.76	1.514	1.393	1.311	1.406	0.102				0.063	b	KG	chipped, sat. k < dry k
NAPF-02-01							1.236	0.198				**0.109**	b		
NAPF-02-02	Mount Goodenough	sandy sh	697.76	1.958	1.948	1.913	1.940	0.024				**0.109**		EG	
NAPF-02-02	Mount Goodenough	sandy sh	697.76	1.925	1.845	1.946	1.905	0.053				0.061	a	KG	small chip
NAPF-02-02							1.923	0.041	1.923	0.041	6	**0.109**	a		
NAPF-02							1.579	0.384	**1.923**	**0.041**	**6**	**0.109**	b,a		
NAPF-03-01	Permian (Jungle Ck)	sandy sh	1243.46	1.801	1.782	1.772	1.785	0.015				**0.070**		EG	
NAPF-03-01	Permian (Jungle Ck)	sandy sh	1243.46	2.059	1.795	2.262	2.039	0.234				0.045	a	KG	
NAPF-03-01							1.912	0.203	1.912	0.203	6	**0.070**	a		
NAPF-03-02	Permian (Jungle Ck)	sandy sh	1243.46	2.172	2.172	2.168	2.171	0.002				**0.087**		EG	
NAPF-03-02	Permian (Jungle Ck)	sandy sh	1243.46	1.966	1.891	2.101	1.986	0.106				0.052	a	KG	
NAPF-03-02							2.078	0.122	2.078	0.122	6	**0.087**	a		
NAPF-03							1.995	0.182	**1.995**	**0.182**	**12**	**0.078**	a		
NAPF-04-01	Permian (Jungle Ck)	shaly ss	1245.34	1.757	1.770	1.773	1.767	0.009						EG	
NAPF-04-01	Permian (Jungle Ck)	shaly ss	1245.34	2.188	2.151	2.163	2.167	0.019				0.074	a	KG	
NAPF-04-01							1.967	0.220	2.167	0.019	3	**0.124**	a		
NAPF-04-02	Permian (Jungle Ck)	shaly ss	1245.34	2.133	2.125	2.057	2.105	0.042				**0.124**		EG	
NAPF-04-02	Permian (Jungle Ck)	shaly ss	1245.34	1.545	2.673	2.394	2.204	0.588				0.081	a	KG	
NAPF-04-02							2.155	0.376	2.155	0.376	6	**0.124**	a		
NAPF-04							2.061	0.310	**2.159**	**0.298**	**9**	**0.124**	a		
NAPF-05-01	Permian (Jungle Ck)	ss	1255.57	1.583	1.549	1.521	1.551	0.031				0.150		EG	sat. k < dry k
NAPF-05-01	Permian (Jungle Ck)	ss	1255.57	2.210	2.404	2.156	2.257	0.130				0.095	a	KG	tiny chip
NAPF-05-01							1.904	0.396	2.257	0.130	3	**0.123**	a		
NAPF-05-02	Permian (Jungle Ck)	ss	1255.57	1.626	1.567	1.476	1.556	0.076				0.145		EG	sat. k < dry k
NAPF-05-02	Permian (Jungle Ck)	ss	1255.57	2.807	2.503	2.432	2.581	0.199				0.116	a	KG	small area on edge is rounded
NAPF-05-02							2.069	0.577	2.581	0.199	3	**0.130**	a		
NAPF-05							1.986	0.479	**2.419**	**0.233**	**6**	**0.126**	a		
NAPF-06-01	Carboniferous	lmst	1514.94	0.859	0.867	0.870	0.865	0.006				0.024		EG	sat. k << dry k
NAPF-06-01	Carboniferous	lmst	1514.94	2.353	2.041	2.063	2.152	0.174				0.002	a	KG	
NAPF-06-01							1.509	0.713	2.152	0.174	3	**0.024**	a		
NAPF-06-02	Carboniferous	lmst	1514.94	1.159	1.157	1.151	1.156	0.004				0.030		EG	
NAPF-06-02	Carboniferous	lmst	1514.94	3.114	2.166	2.208	2.496	0.536				0.004	a	KG	
NAPF-06-02							1.826	0.809	2.496	0.536	3	**0.030**	a		
NAPF-06							1.667	0.746	**2.324**	**0.403**	**6**	**0.027**	a		
NAPF-07-01	Carboniferous	lmst	1517.22	1.171	1.170	1.170	1.170	0.001				0.025		EG	sat. k < dry k
NAPF-07-01	Carboniferous	lmst	1517.22	2.248	2.060	1.850	2.053	0.199				0.004	a	KG	small flakes
NAPF-07							1.612	0.499	**2.053**	**0.199**	**3**	**0.025**	a		
NAPF-08-01	Carboniferous	ss	1517.85	1.365	1.378	1.383	1.375	0.009				0.023		EG	
NAPF-08-01	Carboniferous	ss	1517.85	3.774	3.670	3.152	3.532	0.333				0.002	a	KG	tiny chip
NAPF-08-01							2.454	1.200	2.454	1.200	6	**0.023**	a		
NAPF-08-02	Carboniferous	ss	1517.85	1.421	1.424	1.426	1.424	0.003				0.031		EG	

Sample	Rock Unit	Lithology	Depth (mKB)	[1]Single Measurements K_{sat} 1 (W/mK)	K_{sat} 2 (W/mK)	K_{sat} 3 (W/mK)	All Trials Ave K_{sat} (W/mK)	S. D. (W/mK)	Selected Trials Pref. Ave. K_{sat} (W/mK)	S. D. (W/mK)	# trials used	Por. Frac.	Plug Qual.	Analyst	Comments
NAPF-08-02	Carboniferous	ss	1517.85	2.931	2.651	2.328	2.637	0.302				0.004	a	KG	
NAPF-08-02							2.030	0.691	2.030	0.691	6	**0.031**	a		
NAPF-08							2.242	0.959	**2.242**	**0.959**	**12**	**0.027**	a		
NAPF-09-01	Carboniferous	sh	1521.86	1.387	1.394	1.396	1.392	0.005				0.060		EG	
NAPF-09-01	Carboniferous	sh	1521.86	2.845	2.798	3.058	2.900	0.139				0.010	a	KG	
NAPF-09-01							2.146	0.831	2.146	0.831	6	**0.060**	a		
NAPF-09-02	Carboniferous	sh	1521.86	1.415	1.416	1.412	1.414	0.002				0.055		EG	
NAPF-09-02	Carboniferous	sh	1521.86	1.680	2.280	2.251	2.070	0.338				0.021	a	KG	
NAPF-09-02							1.742	0.418	1.742	0.418	6	**0.055**	a		
NAPF-09							1.944	0.662	**1.944**	**0.662**	**12**	**0.058**	a		
NATK-01-01	Smoking Hills	mdst	1392.00	0.241	0.234	0.229	0.235	0.006				0.219		EG	
NATK-01-01	Smoking Hills	mdst	1392.00										d	KG	flaked, crushed beyond recognition
NATK-01-01	Smoking Hills	mdst	1392.00										d	KG	flaked, crushed beyond recognition
NATK-01															
NATK-02-01	Smoking Hills	mdst	1397.11	0.199	0.192	0.188	0.193	0.006				**0.198**		EG	
NATK-02-01	Smoking Hills	mdst	1397.11	0.522			0.522					0.058	d	KG	thin, chipped and cracked
NATK-02							0.275	0.165	**0.522**		**1**	**0.198**	d		
NATK-03-01	M. Ordovician	carbonate	1512.15	2.074	2.070	2.067	2.070	0.004				0.030		EG	
NATK-03-01	M. Ordovician	carbonate	1512.15	3.735	3.289	2.479	3.168	0.637				0.002	a	KG	
NATK-03-01							2.619	0.723	2.619	0.723	6	**0.030**	a		
NATK-03-02	M. Ordovician	carbonate	1512.15	2.033	2.033	2.032	2.033	0.001				0.027		EG	
NATK-03-02	M. Ordovician	carbonate	1512.15	2.279	1.594	2.470	2.114	0.461				0.002	a	KG	
NATK-03-02							2.074	0.295	2.074	0.295	6	**0.027**	a		
NATK-03							2.346	0.599	**2.346**	**0.599**	**12**	**0.028**	a		
NUNAA-01-01	Ronning	carbonate	3245.36	3.297	3.302	3.300	3.300	0.003				**0.035**		EG	
NUNAA-01-01	Ronning	carbonate	3245.36	2.158	2.729	2.401	2.429	0.287				0.007	b	KG	1 large chip, small holes
NUNAA-01-01							2.865	0.510	2.865	0.510	6	**0.035**	b		
NUNAA-01-02	Ronning	carbonate	3245.36	2.591	2.583	2.569	2.581	0.011				0.024		EG	
NUNAA-01-02	Ronning	carbonate	3245.36	2.326	1.807		2.067	0.367				0.012	b	KG	natural vacuoles and epoxied
NUNAA-01-02							2.375	0.336	2.375	0.336	5	**0.024**	b		
NUNAA-01-03	Ronning	carbonate	3245.36	2.138	2.149	2.150	2.146	0.007	2.146	0.007	3	**0.033**	c	EG	epoxied
NUNAA-01							2.536	0.479	**2.536**	**0.479**	**14**	**0.031**	b,c		
NUNAA-02-01	Ronning	carbonate	3249.84	1.575	1.578	1.570	1.574	0.004				**0.033**	b	EG	
NUNAA-02-02	Ronning	carbonate	3249.84	2.844	2.866	2.869	2.860	0.014				**0.039**	b	EG	
NUNAA-02-03	Ronning	carbonate	3249.84	2.308	2.299	2.284	2.297	0.012				**0.018**	c	EG	epoxied
NUNAA-02							2.244	0.558	**2.244**	**0.558**	**9**	**0.030**	b,c		sat. k < dry k for all disks
NUVO-01-01	Imperial	shaly ss	1050.15	2.059	2.086	2.081	2.075	0.014	2.075	0.014	3	**0.027**	b	EG	
NUVO-01-02	Imperial	shaly ss	1050.15	1.942	1.953	1.959	1.951	0.009	1.951	0.009	3	**0.048**	a	EG	
NUVO-01							2.013	0.069	**2.013**	**0.069**	**6**	**0.037**	b,a		sat. k < dry k
NUVO-02-01	Imperial	ss	1053.36	1.982	1.974	1.975	1.977	0.004				**0.058**	b	EG	sat k < dry k
NUVO-02-02	Imperial	ss	1053.36	2.953	2.950	2.945	2.949	0.004				**0.045**	a	EG	
NUVO-02							2.463	0.533	**2.949**	**0.004**	**3**	**0.052**	b,a		
NUVO-03-01	Imperial	sandy sh	1060.54	1.523	1.520	1.516	1.520	0.004	1.520	0.004	3	**0.060**	a	EG	
NUVO-03-02	Imperial	sandy sh	1060.54	1.699	1.697	1.696	1.697	0.002	1.697	0.002	3	**0.045**	b	EG	
NUVO-03							1.609	0.097	**1.609**	**0.097**	**6**	**0.052**	a,b		sat. k < dry k

Sample	Rock Unit	Lithology	Depth (mKB)	[1]Single Measurements K_{sat} 1 (W/mK)	K_{sat} 2 (W/mK)	K_{sat} 3 (W/mK)	All Trials Ave K_{sat} (W/mK)	S. D. (W/mK)	Selected Trials Pref. Ave. K_{sat} (W/mK)	S. D. (W/mK)	# trials used	Por. Frac.	Plug Qual.	Analyst	Comments
ONGC-01-01	Husky	sandy sh	1198.17	1.122	1.110	1.092	1.108	0.015				0.164		EG	sat. k < dry k
ONGC-01-01	Husky	sandy sh	1198.17	1.261	2.021	2.164	1.815	0.485				0.068	a	KG	
ONGC-01-01							1.462	0.494	1.815	0.485	3	**0.164**	a		
ONGC-01-02	Husky	sandy sh	1198.17	0.991	0.978	0.969	0.979	0.011				0.135		EG	sat k. < dry k
ONGC-01-02	Husky	sandy sh	1198.17	1.267	1.425	1.159	1.284	0.134				0.062	b	KG	chip
ONGC-01-02							1.132	0.187	1.284	0.134	3	**0.135**	b		
ONGC-01							1.297	0.396	**1.550**	**0.431**	**6**	**0.149**	a,b		
ONGC-02-01	Husky	shaly ss	1200.44	1.001	0.985	0.962	0.983	0.020				0.094		EG	sat. k < dry k
ONGC-02-01	Husky	shaly ss	1200.44	2.068	2.352	2.120	2.180	0.151				0.040	a	KG	
ONGC-02-01							1.581	0.663	2.180	0.151	3	**0.094**	a		
ONGC-02-02	Husky	shaly ss	1200.44	0.562	0.557	0.542	0.554	0.010				0.107		EG	sat. k << dry k
ONGC-02-02	Husky	shaly ss	1200.44	2.365	2.666	2.694	2.575	0.182				0.021	b	KG	uneven, but getting thin
ONGC-02-02							1.564	1.113	2.575	0.182	3	**0.107**	b		
ONGC-02							1.573	0.874	**2.378**	**0.263**	**6**	**0.101**	a,b		
PARF-01-01	McGuire	sandy sh	2994.54	0.843	0.845	0.846	0.845	0.002				**0.052**	b	EG	
PARF-01												**0.052**	b		
PARF-02-01	McGuire	sandy sh	2998.24	1.005	1.008	1.011	1.008	0.003				**0.055**		EG	
PARF-02-01	McGuire	sandy sh	2998.24	1.529	1.702	1.408	1.546	0.148				0.005	d	KG	wedge, repolished
PARF-02-01							1.277	0.309	1.277	0.309	6	**0.055**	d		
PARF-02-02	McGuire	sandy sh	2998.24	0.944	0.935	0.930	0.936	0.007				**0.051**		EG	
PARF-02-02	McGuire	sandy sh	2998.24	1.427	1.838	1.579	1.615	0.208				0.008	a	KG	
PARF-02-02							1.276	0.394	1.276	0.394	6	**0.051**	a		
PARF-02							1.276	0.338	**1.276**	**0.338**	**12**	**0.053**	d,a		
PARF-03-01	McGuire	ss	2998.59	2.088	2.068	2.039	2.065	0.025				0.058		EG	thickness not in lab book
PARF-03-01	McGuire	ss	2998.59	2.543	2.658	2.115	2.439	0.286				0.016	a	KG	
PARF-03-01							2.252	0.274	2.252	0.274	6	**0.058**	a		
PARF-03-02	McGuire	ss	2998.59	1.520	1.481	1.394	1.465	0.065				0.083		EG	thickness not in lab book
PARF-03-02	McGuire	ss	2998.59	2.863	3.700	3.228	3.264	0.420				0.025	b	KG	chip
PARF-03-02							2.364	1.021	2.364	1.021	6	**0.083**	b		
PARF-03							2.308	0.715	**2.308**	**0.715**	**12**	**0.071**	a,b		
PARN-01-01	McGuire	sh	2844.29	0.694	0.693	0.693	0.693	0.001				0.035		EG	sat. k < dry k
PARN-01-01	McGuire	sh	2844.29	1.066	1.117	1.160	1.114	0.047				-0.004	a	KG	tiny chip, getting too thin
PARN-01							0.904	0.233	**1.114**	**0.047**	**3**	**0.035**	a		
PARN-02-01	McGuire	sh	2846.86	0.942	0.946	0.946	0.945	0.002				0.070		EG	thickness not in lab book
PARN-02-01	McGuire	sh	2846.86	1.642			1.642					0.017	b	KG	flake
PARN-02-01							1.119	0.349	1.119	0.349	4	**0.070**	b		
PARN-02-02	McGuire	sh	2846.86	1.499			1.499					0.024	b	KG	small rounded edge
PARN-02-02	McGuire	sh	2846.86						1.499		1	**0.070**	b		
PARN-02							1.195	0.346	**1.195**	**0.346**	**5**	**0.070**	b		
PARN-03-01	Martin Creek	ss	2853.44	1.230	1.181	1.145	1.185	0.043				0.128		EG	
PARN-03-01	Martin Creek	ss	2853.44	2.622	2.502	2.634	2.586	0.073				0.087	b	KG	small rounded edge
PARN-03-01							1.886	0.769	1.886	0.769	6	**0.128**	b		
PARN-03-02	Martin Creek	ss	2853.44	1.871	1.817	1.769	1.819	0.051				0.131		EG	
PARN-03-02	Martin Creek	ss	2853.44	2.139	2.584	1.884	2.202	0.354				0.085	a	KG	
PARN-03-02							2.011	0.309	2.011	0.309	6	**0.131**	a		

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PARN-03							1.948	0.563	**1.948**	**0.563**	**12**	**0.130**	b,a		
PARN-04-01	Martin Creek	ss	2859.27	1.805	1.752	1.710	1.756	0.048				0.132		EG	
PARN-04-01	Martin Creek	ss	2859.27	3.192	2.598	2.784	2.858	0.304				0.101	a	KG	
PARN-04-01							2.307	0.634	2.307	0.634	6	**0.132**	a		
PARN-04-02	Martin Creek	ss	2859.27	1.815	1.796	1.777	1.796	0.019				0.133		EG	
PARN-04-02	Martin Creek	ss	2859.27	2.806	3.200	3.150	3.052	0.215				0.101	a	KG	
PARN-04-02							2.424	0.701	2.424	0.701	6	**0.133**	a		
PARN-04							2.365	0.640	**2.365**	**0.640**	**12**	**0.132**	a		
PARN-05-01	Martin Creek	ss	2869.77	2.047	2.007	1.971	2.008	0.038				0.160		EG	
PARN-05-01	Martin Creek	ss	2869.77	2.022	2.359	2.323	2.235	0.185				0.111	b	KG	rounded edge
PARN-05-01							2.122	0.172	2.122	0.172	6	**0.160**	b		
PARN-05-02	Martin Creek	ss	2869.77	1.863	1.857	1.849	1.856	0.007				0.144		EG	
PARN-05-02	Martin Creek	ss	2869.77	2.295	1.551	2.682	2.176	0.575				0.089	a	KG	
PARN-05-02							2.016	0.404	2.016	0.404	6	**0.144**	a		
PARN-05							2.069	0.301	**2.069**	**0.301**	**12**	**0.152**	b,a		
PIKE-02-01	Arctic Red	shaly ss	2389.70	1.467	1.380	1.510	1.452	0.066				0.068	a	KG	
PIKE-02-02	Arctic Red	shaly ss	2389.70	1.683	1.365	1.497	1.515	0.160				0.072	b	KG	chipped
PIKE-02							1.484	0.115	**1.484**	**0.115**	**6**	**0.070**	a,b		
PIKE-03-01	Arctic Red	shaly ss	2391.56	1.358	1.333	1.310	1.334	0.024				0.094		EG	
PIKE-03-01	Arctic Red	shaly ss	2391.56	2.407	2.591	2.629	2.542	0.119				0.032	a	KG	
PIKE-03-01							1.938	0.666	1.938	0.666	6	**0.094**	a		
PIKE-03-02	Arctic Red	shaly ss	2391.56	1.648	1.610	1.553	1.604	0.048				**0.082**		EG	
PIKE-03-02	Arctic Red	shaly ss	2391.56	2.803	2.811	3.251	2.955	0.256				0.023	b	KG	small chip
PIKE-03-02							2.279	0.758	2.279	0.758	6	**0.082**	b		
PIKE-03							2.109	0.704	**2.109**	**0.704**	**12**	**0.088**	a,b		
PIKE-04-01	Atkinson Pt.	shaly ss	2472.12	1.185	1.176	1.128	1.163	0.031				0.115		EG	
PIKE-04-01	Atkinson Pt.	shaly ss	2472.12	2.840	2.245	1.573	2.219	0.634				0.037	a	KG	
PIKE-04-01							1.691	0.704	1.691	0.704	6	**0.115**	a		
PIKE-04-02	Atkinson Pt.	shaly ss	2472.12	1.703	2.166	2.376	2.082	0.344				0.064	a	KG	
PIKE-04-02	Atkinson Pt.	shaly ss	2472.12						2.082	0.344	3	**0.115**	a		
PIKE-04							1.821	0.615	**1.821**	**0.615**	**9**	**0.115**	a		
PIKE-05-01	Atkinson Pt.	shaly ss	2475.43	1.162	1.570	1.524	1.419	0.223					c	KG	chipped and rounded
PIKE-05									**1.419**	**0.223**	**3**		c		porosity unknown
PIKE-06-01	Mount Goodenough	shaly ss	2591.26	1.469	1.320	1.223	1.337	0.124				0.055	a	KG	
PIKE-06-01									1.337	0.124	3	**0.103**	a		
PIKE-06-02	Mount Goodenough	shaly ss	2591.26	1.786	1.748	1.719	1.751	0.034				**0.103**		EG	
PIKE-06-02	Mount Goodenough	shaly ss	2591.26	3.728	3.704	3.428	3.620	0.167				0.049	b	KG	small uneveneness on surface
PIKE-06-02							2.686	1.029	2.686	1.029	6	**0.103**	b		
PIKE-06							2.236	1.059	**2.236**	**1.059**	**9**	**0.103**	a,b		
PIKM-01-01	Ronning	carbonate	1718.09	1.193	1.196	1.198	1.196	0.003				0.068		EG	sat. k << dry k
PIKM-01-01	Ronning	carbonate	1718.09	2.390	3.634	2.634	2.886	0.659	2.512	0.173	2	0.021	b	KG	epoxied vertically
PIKM-01-01							2.041	1.015	2.512	0.173	2	**0.068**	b		
PIKM-01-02	Ronning	carbonate	1718.09	1.600	1.594	1.593	1.596	0.004				0.066		EG	sat. k << dry k
PIKM-01-02	Ronning	carbonate	1718.09	1.935	2.582	2.397	2.305	0.333				0.017	a	KG	
PIKM-01-02							1.950	0.442	2.305	0.333	3	**0.066**	a		

Sample	Rock Unit	Lithology	Depth (mKB)	[1]Single Measurements K_{sat} 1 (W/mK)	K_{sat} 2 (W/mK)	K_{sat} 3 (W/mK)	All Trials Ave K_{sat} (W/mK)	S. D. (W/mK)	Selected Trials Pref. Ave. K_{sat} (W/mK)	S. D. (W/mK)	# trials used	Por. Frac.	Plug Qual.	Analyst	Comments
PIKM-01							1.996	0.748	**2.388**	**0.275**	**5**	**0.067**	b,a		
SIKE-02-01	Kamik	ss	3046.31	1.470	1.622	1.521	1.538	0.077				0.161		EG	
SIKE-02-01	Kamik	ss	3046.31	2.495	2.650	2.216	2.454	0.220				0.113	a	KG	
SIKE-02-01							1.996	0.523	1.996	0.523	6	**0.161**	a		
SIKE-02-02	Kamik	ss	3046.31		1.217	1.177	1.197	0.028				0.177		EG	
SIKE-02-02	Kamik	ss	3046.31	3.209	1.994	2.764	2.656	0.615				0.139	a	KG	
SIKE-02-02							2.072	0.910	2.072	0.910	5	**0.177**	a		
SIKE-02							2.030	0.685	**2.030**	**0.685**	**11**	**0.169**	a		
TAGC-01-01	Richards	ss	2582.96	0.671	0.622	0.601	0.631	0.036				0.215		EG	sat. k < dry k
TAGC-01-01	Richards	ss	2582.96	1.409	1.423	1.140	1.324	0.160				0.139	b	KG	rounded edge and flaking
TAGC-01-01							0.978	0.393	1.324	0.160	3	**0.215**	b		
TAGC-01-02	Richards	ss	2582.96	0.749	0.808	0.777	0.778	0.030				0.195		EG	
TAGC-01-02	Richards	ss	2582.96	130.713	1.438	1.431	44.527	74.639	1.435	0.005	2	0.137	b	KG	flaking
TAGC-01-02							22.653	52.940	1.041	0.360	5	**0.195**	b		
TAGC-01							11.815	37.445	**1.147**	**0.321**	**8**	**0.205**	b		
TAGC-02-02	Richards	sandy sh	2591.98	0.693	0.690	0.682	0.688	0.006				0.143		EG	sat. k < dry k
TAGC-02-02	Richards	sandy sh	2591.98	1.156	1.384	1.266	1.269	0.114				0.067	b	KG	chipped
TAGC-02							0.979	0.326	**1.269**	**0.114**	**3**	**0.143**	b		
TAGC-03-02	Taglu	sh	2880.84	0.711	0.711	0.710	0.711	0.001				0.080		EG	
TAGC-03-02	Taglu	sh	2880.84	1.480	1.542	1.336	1.453	0.106				0.028	b	KG	chipped and thin
TAGC-03							1.082	0.412	**1.082**	**0.412**	**6**	**0.080**	b		
TAGC-04-01	Taglu	ss	2891.17	1.129	0.856	0.786	0.924	0.181				0.208		EG	
TAGC-04-01	Taglu	ss	2891.17	1.898	1.854	1.818	1.857	0.040				0.169	b	KG	rounded edges and flaking
TAGC-04-01							1.390	0.524	1.390	0.524	6	**0.208**	b		
TAGC-04-02	Taglu	ss	2891.17	0.787	0.768	0.734	0.763	0.027				0.214		EG	sat. k < dry k
TAGC-04-02	Taglu	ss	2891.17	1.342	1.153	1.352	1.282	0.112				-0.230	c	KG	flaking and big chip
TAGC-04-02							1.023	0.294	1.282	0.112	3	**0.214**	c		
TAGC-04							1.206	0.448	**1.354**	**0.422**	**9**	**0.211**	b,c		
TAGC-05-01	Taglu	sh	2896.46	0.668	0.665	0.658	0.664	0.005				**0.095**		EG	sat. k < dry k
TAGC-05-01	Taglu	sh	2896.46	1.518	1.522	1.469	1.503	0.030				0.061	a	KG	repolished
TAGC-05-01							1.083	0.460	1.503	0.030	3	**0.095**	a		
TAGC-05-02	Taglu	sh	2896.46	0.775	0.763	0.734	0.757	0.021				**0.134**		EG	sat. k < dry k
TAGC-05-02	Taglu	sh	2896.46	1.567	1.493	1.520	1.527	0.037				**0.104**	a	KG	repolished
TAGC-05-02							1.142	0.422	1.527	0.037	3	**0.134**	a		
TAGC-05-03	Taglu	sh	2896.46									**0.100**		EG	
TAGC-05-03	Taglu	sh	2896.46	1.092	1.236	1.323	1.217	0.117				0.053	c	KG	flaked, repolished
TAGC-05-03							1.217	0.117	1.217	0.117	3	**0.100**	c		
TAGC-05-04	Taglu	sh	2896.46	1.529	1.023	1.646	1.399	0.331	1.399	0.331	3	**0.080**	a	KG	
TAGC-05							1.134	0.376	**1.412**	**0.198**	**12**	**0.102**	a,c		
TUKF-01-01	Fish River	sh	2171.37	0.436	0.433	0.423	0.431	0.007				0.126		EG	k too low
TUKF-01-01	Fish River	sh	2171.37	0.935	0.854	1.089	0.959	0.119				0.057	b	KG	chipped
TUKF-01							0.695	0.299	**0.959**	**0.119**	**3**	**0.126**	b		
TUKF-02-01	Fish River	ss	2171.97	2.569	2.132	2.362	2.354	0.219	2.354	0.219	3	0.052	a	KG	
TUKF-02-01	Fish River	ss	2171.97						2.354	0.219	3	**0.088**	a		
TUKF-02-02	Fish River	ss	2171.97	1.584	1.565	1.533	1.561	0.026				**0.088**		EG	

Sample	Rock Unit	Lithology	Depth (mKB)	[1]Single Measurements K_{sat} 1 (W/mK)	K_{sat} 2 (W/mK)	K_{sat} 3 (W/mK)	All Trials Ave K_{sat} (W/mK)	S. D. (W/mK)	Selected Trials Pref. Ave. K_{sat} (W/mK)	S. D. (W/mK)	# trials used	Por. Frac.	Plug Qual.	Analyst	Comments
TUKF-02-02	Fish River	ss	2171.97	1.853	2.423	2.118	2.131	0.285				0.033	a	KG	
TUKF-02-02							1.846	0.361	1.846	0.361	6	**0.088**	a		
TUKF-02							2.015	0.398	**2.015**	**0.398**	**9**	**0.088**	a		
TUKF-05-01	Mount Goodenough	sh	2784.60	1.172	1.167	1.171	1.170	0.003				0.082		EG	
TUKF-05-01	Mount Goodenough	sh	2784.60	1.428	1.480	1.770	1.559	0.184				0.021	b	KG	2 chips
TUKF-05							1.365	0.243	**1.365**	**0.243**	**6**	**0.082**	b		
TUKF-06-01	Mount Goodenough	ss	2872.83	0.551	0.549	0.528	0.543	0.013				0.095		EG	sat. k < dry k
TUKF-06-01	Mount Goodenough	ss	2872.83	1.226	1.496	2.163	1.628	0.482				0.050	b	KG	chips
TUKF-06-01							1.086	0.668	1.628	0.482	3	**0.095**	b		
TUKF-06-02	Mount Goodenough	ss	2872.83	1.133			1.133					0.084		EG	
TUKF-06-02	Mount Goodenough	ss	2872.83	1.787	2.196	2.108	2.030	0.215				0.044	b	KG	chipped
TUKF-06-02							1.806	0.482	1.806	0.482	4	**0.084**	b		
TUKF-06							1.374	0.681	**1.730**	**0.450**	**7**	**0.090**	b		
TUKL-01-01	Mount Goodenough	ss	2607.75	1.568	1.563	1.552	1.561	0.008				0.105		EG	
TUKL-01-01	Mount Goodenough	ss	2607.75	2.265	2.159	2.362	2.262	0.102				0.029	a	KG	
TUKL-01-01							1.912	0.389	1.912	0.389	6	**0.105**	a		
TUKL-01-02	Mount Goodenough	ss	2607.75	1.330	1.291	1.267	1.296	0.032				0.093		EG	
TUKL-01-02	Mount Goodenough	ss	2607.75	2.965	2.500	2.761	2.742	0.233				0.054	a	KG	
TUKL-01-02							2.019	0.806	2.019	0.806	6	**0.093**	a		
TUKL-01							1.965	0.606	**1.965**	**0.606**	**12**	**0.099**	a		
TUKL-02-01	Mount Goodenough	shaly ss	2608.20	1.686	1.684	1.679	1.683	0.004				0.086		EG	
TUKL-02-01	Mount Goodenough	shaly ss	2608.20	2.857	2.754	2.638	2.750	0.110				-0.015	a	KG	
TUKL-02-01							2.216	0.588	2.216	0.588	6	**0.086**	a		
TUKL-02-02	Mount Goodenough	shaly ss	2608.20	0.715	0.715	0.713	0.714	0.001				0.088		EG	use TULK-02-02 dimensions
TUKL-02-02	Mount Goodenough	shaly ss	2608.20	2.029	2.253	2.214	2.165	0.120				0.043	b	KG	edges rounded
TUKL-02-02							1.440	0.798	1.440	0.798	6	**0.088**	b		
TUKL-02							1.828	0.782	**1.828**	**0.782**	**12**	**0.087**	a,b		
TUKO-01-01	Atkinson Pt.	muddy ss	1988.40	1.662	1.646	1.627	1.645	0.018				0.113		EG	
TUKO-01-01	Atkinson Pt.	muddy ss	1988.40	2.116	2.156	2.259	2.177	0.074				0.049	a	KG	
TUKO-01-01							1.911	0.295	1.911	0.295	6	**0.113**	a		
TUKO-01-02	Atkinson Pt.	muddy ss	1988.40	1.073	1.064	1.052	1.063	0.011				0.101		EG	
TUKO-01-02	Atkinson Pt.	muddy ss	1988.40	2.151	1.816	2.207	2.058	0.211				0.023	b	KG	chip
TUKO-01-02							1.561	0.561	2.058	0.211	3	**0.101**	b		
TUKO-01							1.736	0.465	**1.960**	**0.267**	**9**	**0.107**	a,b		
TUKO-02-01	Atkinson Pt.	muddy ss	1992.78	1.289	1.284	1.233	1.269	0.031				0.158		EG	dry & sat. wt uncertain, mislabelling
TUKO-02-01	Atkinson Pt.	muddy ss	1992.78	1.491	1.619	1.952	1.687	0.238				**0.101**	a	KG	
TUKO-02-01							1.478	0.275	1.687	0.238	3	**0.101**	a		
TUKO-02-02	Atkinson Pt.	muddy ss	1992.78	1.195	1.184	1.164	1.181	0.016				**0.101**		EG	no dry k data
TUKO-02-02	Atkinson Pt.	muddy ss	1992.78	1.702	1.495	1.852	1.683	0.179				0.040	a	KG	
TUKO-02-02							1.432	0.298	1.683	0.179	3	**0.101**	a		
TUKO-02							1.455	0.274	**1.685**	**0.188**	**6**	**0.101**	a		
TUKO-03-01	Husky	ss	2099.03	1.080	1.036	0.991	1.036	0.045				0.170		EG	no dry k data
TUKO-03-01	Husky	ss	2099.03	1.893	1.594	1.889	1.792	0.171				0.108	b	KG	slight dome
TUKO-03-01							1.414	0.429	1.792	0.171	3	**0.170**	b		
TUKO-03-02	Husky	ss	2099.03	0.892	0.887	0.882	0.887	0.005				0.125		EG	dry wt uncertain due to mislabelling

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TUKO-03							1.238	0.430	**1.792**	**0.171**	**3**	**0.170**	b		
TUKO-04-01	Husky	ss	2101.60	1.028	1.006	0.969	1.001	0.030				0.182		EG	no dry k data
TUKO-04-01	Husky	ss	2101.60	2.198	2.084		2.141	0.081				0.127	a	KG	
TUKO-04-01							1.457	0.626	2.141	0.081	2	**0.182**	a		
TUKO-04-02	Husky	ss	2101.60	1.218	1.189	1.141	1.183	0.039				**0.177**	b	EG	no dry k data
TUKO-04							1.354	0.495	**2.141**	**0.081**	**2**	**0.180**	a,b		
TULK-01-01	Martin Creek	sh	2011.60	0.772	0.788	0.806	0.789	0.017				0.061		EG	
TULK-01-01	Martin Creek	sh	2011.60									0.007	b	KG	flaked
TULK-01												**0.061**	b		
TULK-02-01	Martin Creek	ss	2023.03	1.319	1.226	1.182	1.242	0.070				0.164		EG	no dry EG k data (< KG dry k)
TULK-02-01	Martin Creek	ss	2023.03									0.017	a	KG	
TULK-02-01	Martin Creek	ss	2023.03									0.018	a	KG	
TULK-02-01												**0.164**	a		
TULK-02-02	Martin Creek	ss	2023.03	2.120	2.116	2.110	2.115	0.005				0.167		EG	used TUKL-02-02 dimensions
TULK-02-02	Martin Creek	ss	2023.03									0.058	a	KG	slight chip
TULK-02-02									2.115	0.005	3	**0.167**	a		
TULK-02							1.679	0.480	**2.115**	**0.005**	**3**	**0.166**	a		
ULUA-01-01	Fish River	ss	1474.99	0.977	0.967	0.957	0.967	0.010				0.162		EG	
ULUA-01-01	Fish River	ss	1474.99	1.460	1.464	1.438	1.454	0.014				0.062	b	KG	rounded chiped
ULUA-01-01							1.211	0.267	1.211	0.267	6	**0.162**	b		
ULUA-01-02	Fish River	ss	1474.99	1.113	1.111	1.093	1.106	0.011				0.162		EG	
ULUA-01-02	Fish River	ss	1474.99	1.795	1.898	1.769	1.821	0.068				0.077	a	KG	
ULUA-01-02							1.463	0.394	1.463	0.394	6	**0.162**	a		
ULUA-01							1.337	0.347	**1.337**	**0.347**	**12**	**0.162**	b,a		
ULUA-02-01	Permian (Longstick)	sh	2940.80	2.081	2.002	2.097	2.060	0.051				0.002	a	KG	
ULUA-02									**2.060**	**0.051**	**3**	**0.002**	a		
ULUA-03-01	Permian (Longstick)	sandy sh	2948.33	1.177	1.182	1.181	1.180	0.003				0.074		EG	
ULUA-03-01	Permian (Longstick)	sandy sh	2948.33	2.749	1.472	2.726	2.316	0.731				0.009	a	KG	thin
ULUA-03-01							1.748	0.775	1.748	0.775	6	**0.074**	a		
ULUA-03-02	Permian (Longstick)	sandy sh	2948.33	1.417	1.422	1.425	1.421	0.004				0.054		EG	
ULUA-03-02	Permian (Longstick)	sandy sh	2948.33	2.575		2.410	2.493	0.117				0.014	a	KG	repolished
ULUA-03-02							1.850	0.590	1.850	0.590	5	**0.054**	a		
ULUA-03							1.794	0.665	**1.794**	**0.665**	**11**	**0.064**	a		
UNAB-01-01	Mount Goodenough	shaly ss	1198.04	0.868	0.861	0.855	0.861	0.007				0.089		EG	poor dry measurements
UNAB-01-01	Mount Goodenough	shaly ss	1198.04	1.320	1.447	1.196	1.321	0.126				0.039	a	KG	thinning, repolished
UNAB-01							1.091	0.264	**1.321**	**0.126**	**3**	**0.089**	a		low?
UNAB-03-01	Permian (Jungle Ck)	sh	2894.72	1.362	1.361	1.362	1.362	0.001				0.039		EG	
UNAB-03-01	Permian (Jungle Ck)	sh	2894.72	2.185	2.201	2.284	2.223	0.053				0.005	a	KG	repolished
UNAB-03							1.793	0.473	**1.793**	**0.473**	**6**	**0.039**	a		
UNAB-04-01	Permian (Jungle Ck)	sh	2898.19	1.195	1.190	1.185	1.190	0.005				0.028		EG	
UNAB-04-01	Permian (Jungle Ck)	sh	2898.19	1.647	1.826	2.037	1.837	0.195				-0.002	a	KG	
UNAB-04-01							1.513	0.375	1.513	0.375	6	**0.028**	a		
UNAB-04-02	Permian (Jungle Ck)	sh	2898.19	2.008	1.760	1.700	1.823	0.163				-0.003	b	KG	flaking and epoxied
UNAB-04-02									1.823	0.163	3	**0.028**	b		
UNAB-04							1.616	0.344	**1.616**	**0.344**	**9**	**0.028**	a,b		

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UNAL-01-01	Kamik	ss	2046.65	1.805	1.791	1.775	1.790	0.015				0.156		EG	
UNAL-01-01	Kamik	ss	2046.65	2.138	2.822	2.032	2.331	0.429				0.135	a	KG	
UNAL-01-01							2.061	0.402	2.061	0.402	6	**0.156**	a		
UNAL-01-02	Kamik	ss	2046.65									0.143		EG	
UNAL-01-02	Kamik	ss	2046.65	3.024	2.287	3.560	2.957	0.639				0.139	a	KG	
UNAL-01-02							2.957	0.639	2.957	0.639	3	**0.143**	a		
UNAL-01							2.359	0.635	**2.359**	**0.635**	**9**	**0.149**	a		
UNAL-03-02	Kamik	ss	2069.75	1.766	1.703		1.735	0.045				0.173		EG	sat. k < dry k
UNAL-03-02	Kamik	ss	2069.75	2.295	2.805	2.428	2.509	0.265				0.138	b	KG	rounded 1/4 edge
UNAL-03							2.199	0.464	**2.509**	**0.265**	**3**	**0.173**	b		
UNAL-05-01	Kamik	ss	2091.75	2.207	2.023	1.930	2.053	0.141				0.165		EG	
UNAL-05-01	Kamik	ss	2091.75	2.458	2.483	2.966	2.636	0.286				0.108	a	KG	tiny chip
UNAL-05-01							2.345	0.377	2.345	0.377	6	**0.165**	a		
UNAL-05-02	Kamik	ss	2091.75	1.544	1.459	1.407	1.470	0.069				0.164		EG	
UNAL-05-02	Kamik	ss	2091.75	3.001	2.904	2.381	2.762	0.334				0.120	b	KG	rounded edge
UNAL-05-02							2.116	0.740	2.116	0.740	6	**0.164**	b		
UNAL-05							2.230	0.572	**2.230**	**0.572**	**12**	**0.165**	a,b		
UNAL-06-01	Kamik	sh	2159.61	1.090	1.084	1.081	1.085	0.005	1.085	0.005	3	0.051		EG	sat. k < dry k
UNAL-06									1.085	0.005	3	**0.051**			no disk remaining
UNAL-07-01	Kamik	ss	2163.18	2.093	2.059	2.057	2.070	0.020				0.156		EG	
UNAL-07-01	Kamik	ss	2163.18	3.662	3.230	3.311	3.401	0.230				0.036	a	KG	
UNAL-07-01							2.735	0.744	2.070	0.020	3	**0.156**	a		
UNAL-07-02	Kamik	ss	2163.18	2.062	2.045	2.026	2.044	0.018				0.160		EG	
UNAL-07-02	Kamik	ss	2163.18	2.160	2.214	1.828	2.067	0.209				0.068	a	KG	
UNAL-07-02							2.056	0.133	2.056	0.133	6	**0.160**	a		
UNAL-07							2.396	0.621	**2.060**	**0.106**	**9**	**0.158**	a		
UNRL-02-01	Kugmallit	ss	2732.77	1.437	1.417	1.392	1.415	0.023				0.077		EG	
UNRL-02-01	Kugmallit	ss	2732.77	2.004	2.227	2.182	2.138	0.118				0.007	b	KG	chipped
UNRL-02-01							1.777	0.403	1.777	0.403	6	**0.077**	b		
UNRL-02-02	Kugmallit	ss	2732.77	0.913	0.887	0.847	0.882	0.033				0.065		EG	sat. k < dry k
UNRL-02-02	Kugmallit	ss	2732.77	2.285	2.127	2.322	2.245	0.104				0.022	b	KG	shallow chip
UNRL-02-02							1.564	0.749	2.245	0.104	3	**0.065**	b		
UNRL-02							1.670	0.584	**1.933**	**0.399**	**9**	**0.071**	b		
UNRL-03-01	Kugmallit	sh	2733.80	0.955	0.955	0.955	0.955	0.000				0.106		EG	labelled as UNRL 03-02 in lab book
UNRL-03-01	Kugmallit	sh	2733.80	1.268	1.390	1.228	1.295	0.084				0.051	a	KG	
UNRL-03-01							1.125	0.194	1.125	0.194	6	**0.106**	a		
UNRL-03-02	Kugmallit	sh	2733.80	0.908	0.911	0.913	0.911	0.003				0.126		EG	
UNRL-03-02	Kugmallit	sh	2733.80	1.087	1.118	1.085	1.097	0.019				0.055	a	KG	
UNRL-03-02							1.004	0.103	1.004	0.103	6	**0.126**	a		
UNRL-03							1.064	0.161	**1.064**	**0.161**	**12**	**0.116**	a		
UNRLA-02-01	Kugmallit	ss	2955.95	0.639	0.603	0.575	0.606	0.032				0.110		EG	sat. k < dry k
UNRLA-02-01	Kugmallit	ss	2955.95	2.034	2.045	2.234	2.104	0.112				0.050	a	KG	
UNRLA-02							1.355	0.824	**2.104**	**0.112**	**3**	**0.110**	a		
UNRLA-03-01	Kugmallit	ss	2967.43	1.013	1.001	0.988	1.001	0.013				0.078		EG	
UNRLA-03-01	Kugmallit	ss	2967.43	2.653	2.868	2.391	2.637	0.239				0.029	a	KG	

Sample	Rock Unit	Lithology	Depth (mKB)	[1]Single Measurements K_{sat} 1 (W/mK)	K_{sat} 2 (W/mK)	K_{sat} 3 (W/mK)	All Trials Ave K_{sat} (W/mK)	S. D. (W/mK)	Selected Trials Pref. Ave. K_{sat} (W/mK)	S. D. (W/mK)	# trials used	Por. Frac.	Plug Qual.	Analyst	Comments
UNRLA-03-01							1.819	0.909	1.819	0.909	6	**0.078**	a		
UNRLA-03-02	Kugmallit	ss	2967.43	1.826	1.802	1.747	1.792	0.041				0.092		EG	
UNRLA-03-02	Kugmallit	ss	2967.43	2.610	2.780	2.696	2.695	0.085				0.048	a	KG	
UNRLA-03-02							2.244	0.499	2.244	0.499	6	**0.092**	a		
UNRLA-03							2.031	0.733	**2.031**	**0.733**	**12**	**0.085**	a		
UNRLA-05-01	Kugmallit	sh	2977.95	0.989	0.982	0.979	0.983	0.005				0.102		EG	
UNRLA-05-01	Kugmallit	sh	2977.95	1.310	1.437	1.483	1.410	0.090				0.045	b	KG	rounded edges
UNRLA-05-01							1.197	0.240	1.197	0.240	6	**0.102**	b		
UNRLA-05-02	Kugmallit	sh	2977.95	1.058	1.056	1.052	1.055	0.003				0.107		EG	
UNRLA-05-02	Kugmallit	sh	2977.95	1.350	1.638	1.321	1.436	0.175				0.129	b	KG	chip
UNRLA-05-02							1.246	0.236	1.246	0.236	6	**0.107**	b		
UNRLA-05							1.221	0.229	**1.221**	**0.229**	**12**	**0.104**	b		
UNRLA-06-01	Richards	ss	3873.67	0.942	0.907	0.879	0.909	0.032				0.164		EG	sat. k < dry k
UNRLA-06-01	Richards	ss	3873.67	1.526	1.657	1.617	1.600	0.067				0.107	a	KG	
UNRLA-06-01							1.255	0.381	1.600	0.067	3	**0.164**	a		
UNRLA-06-02	Richards	ss	3873.67	1.305	1.301	1.285	1.297	0.011				0.170		EG	
UNRLA-06-02	Richards	ss	3873.67	1.875	1.573	1.848	1.765	0.167				0.098	a	KG	
UNRLA-06-02							1.531	0.278	1.531	0.278	6	**0.170**	a		
UNRLA-06							1.393	0.349	**1.554**	**0.225**	**9**	**0.167**	a		
UNRLA-07-01	Richards	ss	3893.55	0.805	0.782	0.768	0.785	0.019				0.219		EG	sat. k < dry k
UNRLA-07-01	Richards	ss	3893.55	1.748	1.643	1.565	1.652	0.092				0.135	a	KG	
UNRLA-07							1.219	0.479	**1.652**	**0.092**	**3**	**0.219**	a		
UNRLA-09-01	Richards	sh	3917.29	0.707	0.693	0.686	0.695	0.011				0.155		EG	
UNRLA-09-01	Richards	sh	3917.29	1.107	1.176	1.066	1.116	0.056				0.070	a	KG	
UNRLA-09							0.906	0.233	**0.906**	**0.233**	**6**	**0.155**	a		

[1]Acceptable K_{sat} values highlighted in green; rejected values highlighted in yellow

Appendix D

Calculated rock matrix thermal conductivity

Table D.1 - Calculated rock matrix thermal conductivity (W/mK) for post-rift sandstones based on averaged dry thermal conductivity measurements

CONDUCTIVITY MODELS:
KP - PARALLEL (WEIGHTED ARITHMETIC MEAN) MODEL
KS - SERIES (WEIGHTED HARMONIC MEAN) MODEL
KG - WEIGHTED GEOMETRIC MEAN MODEL
KEF - SELF-CONSISTENT (EFFECTIVE MEDIUM THEORY) MODEL
KHS - HASHIN & SHTRIKMAN (1962) FORMULAS (MAXWELL MODEL)
KSY - SUGAWARA & YOSHIZAWA (1961) MODEL (EXPONENT = 2.500)

SAMPLE #	ROCK FORMATION	KP	KS	KG	KEF	KHS	KSY
Post-Rift (Upper Cretaceous-Cenozoic) sandstones							
ADL-01	Aklak	0.950	-0.088	2.147	1.115	1.809	1.449
ADL-02	Aklak	1.343	-0.125	2.552	1.499	2.518	1.859
ADL-03	Aklak	1.095	-0.080	2.742	1.303	2.152	1.706
ADL-06	Aklak	0.920	-0.102	1.875	1.057	1.703	1.354
ADL-07	Aklak	1.089	-0.108	2.199	1.240	2.040	1.571
TUKF-02	Fish_River	1.661	-0.303	2.263	1.742	2.782	1.965
ULUA-01	Fish_River	1.195	-0.146	2.069	1.315	2.155	1.607
UNRL-02	Kugmallit	1.409	-0.423	1.780	1.463	2.178	1.616
UNRLA-02	Kugmallit	1.568	-0.230	2.310	1.667	2.724	1.930
UNRLA-03	Kugmallit	1.767	-0.313	2.394	1.850	2.971	2.080
IVK-01	Richards	1.511	-0.207	2.305	1.617	2.658	1.893
IVK-02	Richards	1.351	-0.080	3.522	1.602	2.709	2.089
IVK-03	Richards	0.742	-0.085	1.627	0.877	1.372	1.149
TAGC-01	Richards	0.991	-0.109	1.954	1.127	1.829	1.429
UNRLA-06	Richards	1.447	-0.136	2.653	1.600	2.702	1.964
UNRLA-07	Richards	1.490	-0.094	3.476	1.721	2.946	2.202
ELL-01	Taglu	1.018	-0.105	2.061	1.162	1.896	1.479
ELL-02	Taglu	1.226	-0.132	2.239	1.362	2.255	1.683
ELL-06	Taglu	1.349	-0.364	1.752	1.407	2.123	1.572
KUM-02	Taglu	1.217	-0.112	2.430	1.376	2.293	1.731
KUM-03	Taglu	1.489	-0.120	2.944	1.668	2.843	2.076
KUM-04	Taglu	1.504	-0.129	2.852	1.671	2.843	2.063
KUM-05	Taglu	1.552	-0.090	3.806	1.806	3.103	2.323
KUM-06	Taglu	1.662	-0.169	2.775	1.802	3.052	2.152
KUM-08	Taglu	1.784	-0.327	2.392	1.865	2.983	2.088
TAGC-04	Taglu	1.209	-0.102	2.571	1.384	2.312	1.762
Average	Aklak (5)	1.079	-0.101	**2.303**	1.243	**2.044**	1.588
Std. Dev.	Aklak (5)	0.167	0.018	**0.344**	0.173	**0.319**	0.201
Average	Fish_River (2)	1.428	-0.225	**2.166**	1.529	**2.469**	1.786
Std. Dev.	Fish_River (2)	0.330	0.111	**0.137**	0.302	**0.443**	0.253
Average	Kugmallit (3)	1.581	-0.322	**2.161**	1.660	**2.624**	1.875
Std. Dev.	Kugmallit (3)	0.179	0.097	**0.333**	0.194	**0.406**	0.237
Average	Richards (6)	1.328	-0.146	**2.562**	1.485	**2.455**	1.829
Std. Dev.	Richards (6)	0.347	0.085	**0.719**	0.349	**0.611**	0.390
Average	Taglu (10)	1.401	-0.165	**2.582**	1.550	**2.570**	1.893
Std. Dev.	Taglu (10)	0.237	0.098	**0.565**	0.241	**0.439**	0.282
Average	all 26 samples	1.328	-0.165	**2.450**	1.473	**2.421**	1.800
Std. Dev.	all 26 samples	0.276	0.099	**0.547**	0.271	**0.476**	0.298

Table D.2 - Calculated rock matrix thermal conductivity (W/mK) for syn-rift sandstones based on averaged dry thermal conductivity measurements

CONDUCTIVITY MODELS:
KP - PARALLEL (WEIGHTED ARITHMETIC MEAN) MODEL
KS - SERIES (WEIGHTED HARMONIC MEAN) MODEL
KG - WEIGHTED GEOMETRIC MEAN MODEL
KEF - SELF-CONSISTENT (EFFECTIVE MEDIUM THEORY) MODEL
KHS - HASHIN & SHTRIKMAN (1962) FORMULAS (MAXWELL MODEL)
KSY - SUGAWARA & YOSHIZAWA (1961) MODEL (EXPONENT = 2.500)

SAMPLE #	ROCK FORMATION	KP	KS	KG	KEF	KHS	KSY
	Syn-Rift (Jurassic-Lower Cretaceous) sandstones						
AVK-01	Aklavik	2.917	-0.399	3.792	3.020	5.060	3.311
BLR-01	Albian_flysch	1.893	-3.875	2.020	1.910	2.344	1.965
PIKE-02	Arctic_Red	1.265	-0.450	1.579	1.312	1.903	1.447
PIKE-03	Arctic_Red	1.886	-0.296	2.601	1.978	3.230	2.232
ATK-01	Atkinson_Pt.	1.277	-0.201	1.947	1.371	2.204	1.615
ATK-02	Atkinson_Pt.	1.902	-0.196	3.017	2.039	3.473	2.392
PIKE-04	Atkinson_Pt.	1.736	-0.214	2.643	1.852	3.093	2.156
TUKO-01	Atkinson_Pt.	1.821	-0.232	2.700	1.933	3.223	2.230
TUKO-02	Atkinson_Pt.	1.670	-0.254	2.394	1.766	2.882	2.023
ONGC-02	Husky	1.867	-0.249	2.709	1.974	3.280	2.262
TUKO-03	Husky	1.704	-0.130	3.270	1.890	3.259	2.326
TUKO-04	Husky	1.803	-0.120	3.667	2.017	3.509	2.504
IKH-01	Kamik	1.324	-0.379	1.706	1.380	2.065	1.538
IKH-02	Kamik	1.806	-0.442	2.272	1.869	2.878	2.048
SIKE-02	Kamik	1.828	-0.130	3.542	2.027	3.522	2.492
UNAL-01	Kamik	2.368	-0.149	4.387	2.589	4.590	3.124
UNAL-03	Kamik	2.217	-0.124	4.555	2.468	4.375	3.045
UNAL-05	Kamik	1.982	-0.133	3.831	2.192	3.837	2.685
UNAL-07	Kamik	1.878	-0.141	3.479	2.065	3.586	2.513
PARN-03	Martin_Creek	1.655	-0.184	2.661	1.783	2.999	2.110
PARN-04	Martin_Creek	2.010	-0.176	3.355	2.170	3.749	2.573
PARN-05	Martin_Creek	2.039	-0.147	3.732	2.233	3.904	2.702
TULK-02	Martin_Creek	2.120	-0.131	4.172	2.346	4.136	2.877
PARF-03	McGuire	1.990	-0.384	2.579	2.066	3.292	2.282
NAPF-01	Mount_Goodenough	1.978	-0.197	3.142	2.120	3.626	2.484
PIKE-06	Mount_Goodenough	1.923	-0.242	2.822	2.036	3.406	2.338
TUKF-06	Mount_Goodenough	1.584	-0.298	2.165	1.664	2.643	1.881
TUKL-01	Mount_Goodenough	1.869	-0.255	2.690	1.973	3.271	2.256
TUKL-02	Mount_Goodenough	1.644	-0.308	2.229	1.723	2.741	1.941
MAYG-02	Rat_River	2.288	-0.161	4.040	2.485	4.374	2.971
MAYG-03	Rat_River	1.781	-0.282	2.481	1.872	3.047	2.122
FR-04	Rat_River	2.508	-4.471	2.652	2.527	3.130	2.585
Average	Albian/Arctic Red (3)	1.681	-1.540	**2.067**	1.733	**2.492**	1.881
Std. Dev.	Albian/Arctic Red (3)	0.361	2.023	**0.513**	0.366	**0.676**	0.399
Average	Atkinson_Pt. (5)	1.681	-0.219	**2.540**	1.792	**2.975**	2.083
Std. Dev.	Atkinson_Pt. (5)	0.242	0.024	**0.399**	0.256	**0.481**	0.294
Average	Husky (3)	1.791	-0.166	**3.215**	1.960	**3.349**	2.364
Std. Dev.	Husky (3)	0.082	0.072	**0.481**	0.065	**0.139**	0.125
Average	Kamik (7)	1.915	-0.214	**3.396**	2.084	**3.550**	2.492
Std. Dev.	Kamik (7)	0.334	0.136	**1.054**	0.400	**0.866**	0.555
Average	Martin_Creek (4)	1.956	-0.160	**3.480**	2.133	**3.697**	2.566
Std. Dev.	Martin_Creek (4)	0.206	0.025	**0.640**	0.244	**0.492**	0.328
Average	Mount_Goodenough (5)	1.800	-0.260	**2.610**	1.903	**3.137**	2.180
Std. Dev.	Mount_Goodenough (5)	0.175	0.045	**0.412**	0.199	**0.427**	0.260
Average	Rat_River (3)	2.192	-1.638	**3.058**	2.295	**3.517**	2.559
Std. Dev.	Rat_River (3)	0.373	2.454	**0.855**	0.367	**0.743**	0.425
Average	all 32 samples	1.892	-0.480	**2.963**	2.020	**3.332**	2.345
Std. Dev.	all 32 samples	0.335	0.977	**0.783**	0.359	**0.715**	0.442
Average	Aklavik/Husky/Kamik/Martin Ck (15)	1.968	-0.202	**3.409**	2.135	**3.650**	2.541
Std. Dev.	Aklavik/Husky/Kamik/Martin Ck (15)	0.361	0.111	**0.785**	0.382	**0.737**	0.456
Average	AP/McGuire/MG/Rat R (14)	1.855	-0.550	**2.679**	1.959	**3.172**	2.234
Std. Dev.	AP/McGuire/MG/Rat R (14)	0.299	1.130	**0.507**	0.303	**0.506**	0.331

Table D.3 - Calculated rock matrix thermal conductivity (W/mK) for pre-rift sandstones based on averaged dry thermal conductivity measurements

CONDUCTIVITY MODELS:
KP - PARALLEL (WEIGHTED ARITHMETIC MEAN) MODEL
KS - SERIES (WEIGHTED HARMONIC MEAN) MODEL
KG - WEIGHTED GEOMETRIC MEAN MODEL
KEF - SELF-CONSISTENT (EFFECTIVE MEDIUM THEORY) MODEL
KHS - HASHIN & SHTRIKMAN (1962) FORMULAS (MAXWELL MODEL)
KSY - SUGAWARA & YOSHIZAWA (1961) MODEL (EXPONENT = 2.500)

SAMPLE #	ROCK FORMATION	KP	KS	KG	KEF	KHS	KSY
	Pre-Rift (Paleozoic) sandstones						
NAPF-08	Carboniferous	2.194	-1.482	2.418	2.224	2.997	2.314
NUVO-01	Imperial	2.683	-0.834	3.094	2.735	4.099	2.887
NUVO-02	Imperial	3.013	-0.522	3.715	3.097	5.044	3.337
KPKL-04	Permian	2.421	-0.726	2.835	2.474	3.721	2.629
KPKL-05	Permian	2.198	-0.198	3.509	2.352	4.070	2.751
KPKO-07	Permian	2.521	-1.153	2.822	2.560	3.630	2.675
KPKO-08	Permian	2.311	-1.753	2.523	2.339	3.112	2.424
NAPF-04	Permian_(Jungle_Ck)	2.017	-0.190	3.254	2.166	3.722	2.546
NAPF-05	Permian_(Jungle_Ck)	2.334	-0.184	3.877	2.510	4.396	2.958
Average	Imperial (2)	2.848	-0.678	**3.405**	2.916	**4.572**	3.112
Std. Dev.	Imperial (2)	0.233	0.221	**0.439**	0.256	**0.668**	0.318
Average	Permian (6)	2.300	-0.701	**3.137**	2.400	**3.775**	2.664
Std. Dev.	Permian (6)	0.176	0.647	**0.503**	0.144	**0.433**	0.183
Average	all 9 samples	2.410	-0.782	**3.116**	2.495	**3.866**	2.725
Std. Dev.	all 9 samples	0.298	0.580	**0.514**	0.285	**0.631**	0.308

Table D.4 - Calculated rock matrix thermal conductivity (W/mK) for post-rift mudrocks based on averaged dry thermal conductivity measurements

CONDUCTIVITY MODELS:
KP - PARALLEL (WEIGHTED ARITHMETIC MEAN) MODEL
KS - SERIES (WEIGHTED HARMONIC MEAN) MODEL
KG - WEIGHTED GEOMETRIC MEAN MODEL
KEF - SELF-CONSISTENT (EFFECTIVE MEDIUM THEORY) MODEL
KHS - HASHIN & SHTRIKMAN (1962) FORMULAS (MAXWELL MODEL)
KSY - SUGAWARA & YOSHIZAWA (1961) MODEL (EXPONENT = 2.500)

SAMPLE #	ROCK FORMATION	KP	KS	KG	KEF	KHS	KSY
	Post-Rift (Upper Cretaceous-Cenozoic) mudrocks						
ADL-04	Aklak	1.180	-0.159	1.961	1.289	2.094	1.560
ADL-05	Aklak	1.444	-0.137	2.635	1.595	2.692	1.956
TUKF-01	Fish_River	0.997	-0.213	1.468	1.069	1.641	1.259
KUG-01	Kugmallit	1.633	-0.606	1.955	1.679	2.435	1.811
UNRL-03	Kugmallit	1.029	-0.237	1.470	1.096	1.671	1.277
UNRLA-05	Kugmallit	1.251	-0.260	1.755	1.324	2.059	1.522
IVK-04	Richards	1.111	-0.098	2.392	1.280	2.117	1.639
IVK-05	Richards	1.116	-0.369	1.440	1.165	1.701	1.307
IVK-07	Richards	1.236	-0.283	1.695	1.303	2.003	1.488
IVK-08	Richards	1.236	-0.287	1.689	1.302	1.997	1.485
IVKK-01	Richards	0.802	-0.255	1.114	0.854	1.237	0.996
MAL-01	Richards	0.995	-0.572	1.202	1.029	1.396	1.127
TAGC-02	Richards	1.009	-0.178	1.580	1.094	1.716	1.313
UNRLA-09	Richards	0.968	-0.161	1.572	1.059	1.666	1.286
KANG-01	Smoking_Hills (bentonite)	0.852	-0.066	2.361	1.057	1.677	1.410
KANG-02	Smoking_Hills	0.737	-0.923	0.858	0.759	0.949	0.825
KANG-03	Smoking_Hills	0.769	2.944	0.817	0.778	0.866	0.806
KPKL-01	Smoking_Hills	0.764	1.327	0.792	0.769	0.820	0.786
KPKO-01	Smoking_Hills	0.802	1.537	0.833	0.807	0.868	0.826
KPKO-02	Smoking_Hills	0.734	1.373	0.764	0.740	0.793	0.758
KPKO-03	Smoking_Hills	0.734	1.299	0.761	0.739	0.789	0.755
NATK-01	Smoking_Hills	0.523	-0.116	0.920	0.597	0.866	0.766
NATK-02	Smoking_Hills	0.475	-0.142	0.766	0.532	0.747	0.672
ELL-03	Taglu	1.319	-0.337	1.740	1.380	2.096	1.551
ELL-04	Taglu	1.149	-0.263	1.603	1.217	1.865	1.400
ELL-05	Taglu	1.284	-0.334	1.696	1.345	2.035	1.513
KUM-01	Taglu	0.730	-0.265	1.001	0.777	1.101	0.906
TAGC-03	Taglu	1.028	-0.404	1.305	1.072	1.526	1.197
TAGC-05	Taglu	1.272	-0.266	1.776	1.345	2.093	1.543
Average	Aklak (2)	1.312	-0.148	**2.298**	1.442	**2.393**	1.758
Std. Dev.	Aklak (2)	0.187	0.016	**0.477**	0.216	**0.423**	0.280
Average	Kugmallit (3)	1.442	-0.433	**1.855**	1.502	**2.247**	1.667
Std. Dev.	Kugmallit (3)	0.270	0.245	**0.141**	0.251	**0.266**	0.204
Average	Richards (8)	1.059	-0.275	**1.586**	1.136	**1.729**	1.330
Std. Dev.	Richards (8)	0.146	0.147	**0.390**	0.158	**0.306**	0.207
Average	Smoking_Hills(6)	0.757	1.260	**0.804**	0.765	**0.848**	0.793
Std. Dev.	Smoking_Hills(6)	0.027	1.241	**0.039**	0.026	**0.060**	0.032
Average	Smoking_Hills(8)	0.692	0.912	**0.814**	0.715	**0.837**	0.774
Std. Dev.	Smoking_Hills(8)	0.122	1.230	**0.056**	0.097	**0.063**	0.050
Average	Taglu (6)	1.130	-0.312	**1.520**	1.189	**1.786**	1.352
Std. Dev.	Taglu (6)	0.224	0.057	**0.306**	0.232	**0.399**	0.256
Average	all 29 samples	1.006	0.053	**1.446**	1.071	**1.570**	1.232
Std. Dev.	all 29 samples	0.274	0.826	**0.528**	0.293	**0.561**	0.357
Average	all but Smoking Hills	1.139	-0.284	**1.652**	1.214	**1.857**	1.407
Std. Dev.	all but Smoking Hills	0.210	0.130	**0.391**	0.219	**0.385**	0.255

Table D.5 - Calculated rock matrix thermal conductivity (W/mK) for syn-rift mudrocks based on averaged dry thermal conductivity measurements

CONDUCTIVITY MODELS:
KP - PARALLEL (WEIGHTED ARITHMETIC MEAN) MODEL
KS - SERIES (WEIGHTED HARMONIC MEAN) MODEL
KG - WEIGHTED GEOMETRIC MEAN MODEL
KEF - SELF-CONSISTENT (EFFECTIVE MEDIUM THEORY) MODEL
KHS - HASHIN & SHTRIKMAN (1962) FORMULAS (MAXWELL MODEL)
KSY - SUGAWARA & YOSHIZAWA (1961) MODEL (EXPONENT = 2.500)

SAMPLE #	ROCK FORMATION	KP	KS	KG	KEF	KHS	KSY
	Syn-Rift (Jurassic-Lower Cretaceous) mudrocks						
BLR-02	Albian_flysch	1.252	15.585	1.322	1.263	1.444	1.297
FR-01	Albian_flysch	1.077	3.556	1.127	1.085	1.204	1.111
FR-02	Albian_flysch	1.162	262.141	1.236	1.174	1.355	1.211
ATG-02	Arctic_Red	1.440	-0.324	1.921	1.508	2.335	1.697
ATG-03	Arctic_Red	1.273	-0.297	1.728	1.340	2.056	1.522
KPKO-05	Husky	1.615	-1.990	1.765	1.637	2.074	1.703
KPKO-06	Husky	1.334	-35.384	1.414	1.346	1.563	1.385
ONGC-01	Husky	1.483	-0.157	2.535	1.619	2.718	1.954
UNAL-06	Kamik	1.197	-0.762	1.399	1.228	1.653	1.321
TULK-01	Martin_Creek	1.273	-0.550	1.543	1.314	1.858	1.432
PARF-01	McGuire	1.327	-0.691	1.564	1.362	1.882	1.468
PARF-02	McGuire	1.250	-0.694	1.474	1.284	1.758	1.385
PARN-01	McGuire	1.131	-1.779	1.254	1.150	1.427	1.211
PARN-02	McGuire	1.255	-0.451	1.566	1.302	1.886	1.436
NAPF-02	Mount_Goodenough	1.780	-0.228	2.654	1.892	3.151	2.188
TUKF-05	Mount_Goodenough	1.351	-0.352	1.767	1.411	2.139	1.580
ATG-04	Mt._Goodenough_(Siku)	1.043	-1.905	1.157	1.061	1.303	1.119
MAYG-01	Rat_River	1.662	-0.483	2.056	1.716	2.577	1.874
MAYG-04	Rat_River	1.385	-1.442	1.543	1.409	1.808	1.481
FR-03	Rat_River	0.981	-3.448	1.073	0.996	1.188	1.044
FR-05	Rat_River	1.189	-2.080	1.309	1.208	1.490	1.266
Average	Albian_flysch (3)	1.164	93.761	**1.228**	1.174	**1.334**	1.206
Std. Dev.	Albian_flysch (3)	0.088	145.946	**0.098**	0.089	**0.121**	0.093
Average	Arctic_Red (2)	1.357	-0.311	**1.825**	1.424	**2.196**	1.610
Std. Dev.	Arctic_Red (2)	0.118	0.019	**0.136**	0.119	**0.197**	0.124
Average	Albian_flysch/Arctic_Red (5)	1.241	56.132	**1.467**	1.274	**1.679**	1.368
Std. Dev.	Albian_flysch/Arctic_Red (5)	0.136	115.347	**0.341**	0.162	**0.489**	0.239
Average	Husky (3)	1.477	-12.510	**1.905**	1.534	**2.118**	1.681
Std. Dev.	Husky (3)	0.141	19.830	**0.573**	0.163	**0.579**	0.285
Average	McGuire (4)	1.241	-0.904	**1.465**	1.275	**1.738**	1.375
Std. Dev.	McGuire (4)	0.081	0.595	**0.147**	0.089	**0.216**	0.115
Average	Mount_Goodenough (3)	1.391	-0.828	**1.859**	1.455	**2.198**	1.629
Std. Dev.	Mount_Goodenough (3)	0.370	0.934	**0.753**	0.417	**0.925**	0.536
Average	Rat_River (4)	1.304	-1.863	**1.495**	1.332	**1.766**	1.416
Std. Dev.	Rat_River (4)	0.290	1.244	**0.420**	0.306	**0.597**	0.353
Average	all 21 samples	1.308	10.870	**1.591**	1.348	**1.851**	1.461
Std. Dev.	all 21 samples	0.203	58.213	**0.423**	0.225	**0.519**	0.292

Table D.6 - Calculated rock matrix thermal conductivity (W/mK) for pre-rift mudrocks based on averaged dry thermal conductivity measurements

CONDUCTIVITY MODELS:
KP - PARALLEL (WEIGHTED ARITHMETIC MEAN) MODEL
KS - SERIES (WEIGHTED HARMONIC MEAN) MODEL
KG - WEIGHTED GEOMETRIC MEAN MODEL
KEF - SELF-CONSISTENT (EFFECTIVE MEDIUM THEORY) MODEL
KHS - HASHIN & SHTRIKMAN (1962) FORMULAS (MAXWELL MODEL)
KSY - SUGAWARA & YOSHIZAWA (1961) MODEL (EXPONENT = 2.500)

SAMPLE #	ROCK FORMATION	KP	KS	KG	KEF	KHS	KSY
	Pre-Rift (Paleozoic) mudrocks						
NAPF-09	Carboniferous	2.003	-0.499	2.470	2.064	3.179	2.242
NUVO-03	Imperial	2.026	-0.576	2.444	2.081	3.147	2.243
NAPF-03	Permian_(Jungle_Ck)	1.893	-0.344	2.511	1.974	3.165	2.199
UNAB-04	Permian_(Jungle_Ck)	1.560	-1.915	1.709	1.582	2.004	1.649
BVR-01	Permian_(Longstick)	1.709	-0.986	1.944	1.742	2.386	1.842
BVR-02	Permian_(Longstick)	1.707	-0.629	2.033	1.752	2.546	1.885
ULUA-02	Permian_(Longstick)	2.129	2.577	2.144	2.131	2.192	2.138
ULUA-03	Permian_(Longstick)	1.768	-0.454	2.212	1.828	2.796	2.001
Average	Permian_(Jungle_Ck) (2)	1.727	-1.130	**2.110**	1.778	**2.585**	1.924
Std. Dev.	Permian_(Jungle_Ck) (2)	0.235	1.111	**0.567**	0.277	**0.821**	0.389
Average	Permian_(Longstick) (4)	1.828	0.127	**2.083**	1.863	**2.480**	1.967
Std. Dev.	Permian_(Longstick) (4)	0.202	1.648	**0.119**	0.183	**0.256**	0.133
Average	all 8 samples	1.849	-0.353	**2.183**	1.894	**2.677**	2.025
Std. Dev.	all 8 samples	0.195	1.286	**0.284**	0.197	**0.465**	0.218

Table D.7 - Calculated rock matrix thermal conductivity (W/mK) for pre-rift carbonates based on averaged dry thermal conductivity measurements

CONDUCTIVITY MODELS:
KP - PARALLEL (WEIGHTED ARITHMETIC MEAN) MODEL
KS - SERIES (WEIGHTED HARMONIC MEAN) MODEL
KG - WEIGHTED GEOMETRIC MEAN MODEL
KEF - SELF-CONSISTENT (EFFECTIVE MEDIUM THEORY) MODEL
KHS - HASHIN & SHTRIKMAN (1962) FORMULAS (MAXWELL MODEL)
KSY - SUGAWARA & YOSHIZAWA (1961) MODEL (EXPONENT = 2.500)

SAMPLE #	ROCK FORMATION	KP	KS	KG	KEF	KHS	KSY	
	Pre-Rift (Paleozoic) carbonates							
MAYJ-05	Arnica_(Road_R)	2.529	-6.999	2.653	2.545	3.082	2.595	dolomite
NAPF-06	Carboniferous	2.288	-1.439	2.525	2.319	3.154	2.414	limestone
NAPF-07	Carboniferous	1.906	-1.936	2.078	1.930	2.490	2.003	limestone
MAYJ-01	Landry	2.251	-1.369	2.493	2.283	3.117	2.380	limestone
MAYJ-02	Landry	2.605	-3.093	2.776	2.627	3.350	2.695	limestone
MAYJ-03	Landry	1.990	-3.055	2.134	2.010	2.510	2.071	limestone
MAYJ-04	Landry	2.693	-1.689	2.940	2.725	3.711	2.820	limestone
NATK-03	M._Ordovician (Ronning)	2.408	-1.314	2.671	2.442	3.381	2.545	dolomite
NUNAA-01	Ronning	2.450	-1.113	2.751	2.489	3.532	2.605	dolomite
NUNAA-02	Ronning	2.958	-1.076	3.328	3.004	4.406	3.140	dolomite
PIKM-01	Ronning	2.379	-0.398	3.074	2.465	4.015	2.709	dolomite
Average	Carboniferous (2)	2.097	-1.688	**2.302**	2.125	**2.822**	2.209	
Std. Dev.	Carboniferous (2)	0.270	0.351	**0.316**	0.275	**0.470**	0.291	
Average	Landry (4)	2.385	-2.302	**2.586**	2.411	**3.172**	2.492	
Std. Dev.	Landry (4)	0.325	0.902	**0.353**	0.328	**0.504**	0.336	
Average	Ronning (4)	2.549	-0.975	**2.956**	2.600	**3.834**	2.750	
Std. Dev.	Ronning (4)	0.274	0.399	**0.303**	0.270	**0.468**	0.269	
Average	all 11 samples	2.405	-2.135	**2.675**	2.440	**3.341**	2.543	
Std. Dev.	all 11 samples	0.301	1.805	**0.371**	0.305	**0.577**	0.324	
Average	dolomite (Arnica, Ronning) (5)	2.545	-2.180	**2.895**	2.589	**3.683**	2.719	
Std. Dev.	dolomite (Arnica, Ronning) (5)	0.238	2.716	**0.295**	0.235	**0.526**	0.243	
Average	limestone (Landry, Carboniferous) (6)	2.289	-2.097	**2.491**	2.316	**3.055**	2.397	
Std. Dev.	limestone (Landry, Carboniferous) (6)	0.316	0.783	**0.341**	0.319	**0.479**	0.326	

Table D.8 - Calculated rock matrix thermal conductivity (W/mK) for post-rift sandstones based on averaged heptane-saturated thermal conductivity measurements

CONDUCTIVITY MODELS:
KP - PARALLEL (WEIGHTED ARITHMETIC MEAN) MODEL
KS - SERIES (WEIGHTED HARMONIC MEAN) MODEL
KG - WEIGHTED GEOMETRIC MEAN MODEL
KEF - SELF-CONSISTENT (EFFECTIVE MEDIUM THEORY) MODEL
KHS - HASHIN & SHTRIKMAN (1962) FORMULAS (MAXWELL MODEL)
KSY - SUGAWARA & YOSHIZAWA (1961) MODEL (EXPONENT = 2.500)

SAMPLE #	ROCK FORMATION	KP	KS	KG	KEF	KHS	KSY
	Post-Rift (Upper Cretaceous-Cenozoic) sandstones						
ADL-01	Aklak	1.451	-0.704	2.289	1.657	2.113	2.167
ADL-02	Aklak	1.780	-1.048	2.553	1.956	2.514	2.428
ADL-03	Aklak	1.457	-0.635	2.372	1.681	2.156	2.218
ADL-06	Aklak	1.509	-0.826	2.282	1.697	2.157	2.179
ADL-07	Aklak	1.655	-0.861	2.484	1.848	2.382	2.348
TUKF-02	Fish_River	2.198	-4.139	2.639	2.293	2.759	2.583
ULUA-01	Fish_River	1.572	-1.467	2.121	1.704	2.100	2.082
UNRL-02	Kugmallit	2.071	-15.268	2.386	2.141	2.476	2.362
UNRLA-02	Kugmallit	2.349	-2.117	2.989	2.482	3.137	2.870
UNRLA-03	Kugmallit	2.208	-4.579	2.636	2.301	2.756	2.582
IVK-02	Richards	1.606	-0.621	2.653	1.850	2.423	2.430
IVK-03	Richards	1.186	-0.770	1.812	1.355	1.658	1.790
TAGC-01	Richards	1.411	-0.997	2.041	1.569	1.949	1.994
UNRLA-06	Richards	1.841	-1.163	2.585	2.008	2.575	2.465
UNRLA-07	Richards	2.081	-0.663	3.424	2.361	3.238	3.032
ELL-01	Taglu	1.719	-0.800	2.635	1.929	2.516	2.460
ELL-02	Taglu	1.697	-1.157	2.384	1.857	2.351	2.295
ELL-06	Taglu	1.702	-54.284	1.968	1.766	2.010	1.968
KUM-02	Taglu	1.459	-1.057	2.085	1.614	2.008	2.035
KUM-03	Taglu	1.926	-0.946	2.835	2.125	2.792	2.648
KUM-04	Taglu	1.884	-1.066	2.694	2.064	2.674	2.548
KUM-05	Taglu	2.115	-0.620	3.575	2.416	3.341	3.121
KUM-06	Taglu	2.279	-1.374	3.100	2.450	3.200	2.924
KUM-08	Taglu	2.128	-5.789	2.516	2.213	2.621	2.475
TAGC-04	Taglu	1.683	-0.805	2.573	1.889	2.453	2.411
Average	Aklak (5)	1.570	-0.815	**2.396**	1.768	**2.264**	2.268
Std. Dev.	Aklak (5)	0.143	0.159	**0.120**	0.129	**0.175**	0.115
Average	Fish_River (2)	1.885	-2.803	**2.380**	1.999	**2.430**	2.333
Std. Dev.	Fish_River (2)	0.443	1.889	**0.366**	0.416	**0.466**	0.354
Average	Kugmallit (3)	2.209	-7.321	**2.670**	2.308	**2.790**	2.605
Std. Dev.	Kugmallit (3)	0.139	6.991	**0.303**	0.171	**0.332**	0.255
Average	Richards (5)	1.625	-0.843	**2.503**	1.829	**2.369**	2.342
Std. Dev.	Richards (5)	0.351	0.231	**0.626**	0.390	**0.609**	0.481
Average	Taglu (10)	1.859	-6.790	**2.637**	2.032	**2.597**	2.489
Std. Dev.	Taglu (10)	0.254	16.757	**0.468**	0.273	**0.440**	0.356
Average	all 25 samples	1.799	-4.150	**2.545**	1.969	**2.494**	2.417
Std. Dev.	all 25 samples	0.314	10.883	**0.419**	0.307	**0.433**	0.334

Table D.9 - Calculated rock matrix thermal conductivity (W/mK) for syn-rift sandstones based on averaged heptane-saturated thermal conductivity measurements

CONDUCTIVITY MODELS:
KP - PARALLEL (WEIGHTED ARITHMETIC MEAN) MODEL
KS - SERIES (WEIGHTED HARMONIC MEAN) MODEL
KG - WEIGHTED GEOMETRIC MEAN MODEL
KEF - SELF-CONSISTENT (EFFECTIVE MEDIUM THEORY) MODEL
KHS - HASHIN & SHTRIKMAN (1962) FORMULAS (MAXWELL MODEL)
KSY - SUGAWARA & YOSHIZAWA (1961) MODEL (EXPONENT = 2.500)

SAMPLE #	ROCK FORMATION	KP	KS	KG	KEF	KHS	KSY
	Syn-Rift (Jurassic-Lower Cretaceous) sandstones						
AVK-01	Aklavik	3.172	-4.843	3.712	3.275	4.027	3.587
BLR-01	Albian_flysch	2.040	2.849	2.115	2.057	2.145	2.115
PIKE-02	Arctic_Red	1.586	8.958	1.790	1.637	1.819	1.801
PIKE-03	Arctic_Red	2.301	-3.762	2.775	2.401	2.914	2.705
ATK-01	Atkinson_Pt.	2.018	-1.884	2.615	2.149	2.689	2.530
ATK-02	Atkinson_Pt.	2.286	-1.760	2.984	2.432	3.110	2.851
PIKE-04	Atkinson_Pt.	2.042	-2.285	2.585	2.161	2.671	2.513
TUKO-01	Atkinson_Pt.	2.180	-2.473	2.732	2.299	2.847	2.649
TUKO-02	Atkinson_Pt.	1.861	-3.926	2.261	1.952	2.324	2.233
ONGC-02	Husky	2.631	-2.237	3.317	2.769	3.533	3.169
TUKO-03	Husky	2.134	-1.004	3.103	2.338	3.110	2.879
TUKO-04	Husky	2.584	-0.821	4.010	2.859	4.012	3.553
IKH-01	Kamik	2.019	-9.155	2.356	2.094	2.441	2.330
IKH-02	Kamik	2.597	-7.870	2.998	2.679	3.177	2.933
SIKE-02	Kamik	2.418	-0.940	3.591	2.652	3.629	3.263
UNAL-01	Kamik	2.751	-1.078	3.958	2.982	4.117	3.597
UNAL-03	Kamik	3.008	-0.819	4.716	3.318	4.790	4.097
UNAL-05	Kamik	2.646	-0.933	3.955	2.899	4.034	3.552
UNAL-07	Kamik	2.424	-1.051	3.497	2.639	3.574	3.212
PARN-03	Martin_Creek	2.221	-1.595	2.944	2.373	3.048	2.806
PARN-04	Martin_Creek	2.706	-1.331	3.708	2.901	3.907	3.438
PARN-05	Martin_Creek	2.418	-1.124	3.433	2.623	3.526	3.173
TULK-02	Martin_Creek	2.512	-0.949	3.727	2.751	3.786	3.374
PARF-03	McGuire	2.475	-6.411	2.888	2.561	3.050	2.825
NAPF-01	Mount_Goodenough	2.275	-1.797	2.962	2.420	3.086	2.833
PIKE-06	Mount_Goodenough	2.479	-2.291	3.120	2.610	3.300	2.994
TUKF-06	Mount_Goodenough	1.889	-5.876	2.247	1.971	2.315	2.225
TUKL-01	Mount_Goodenough	2.167	-3.031	2.665	2.275	2.780	2.597
TUKL-02	Mount_Goodenough	1.990	-5.656	2.364	2.074	2.447	2.334
UNAB-01	Mount_Goodenough	1.438	28.251	1.666	1.496	1.681	1.685
MAYG-02	Rat_River	2.745	-1.195	3.852	2.959	4.039	3.536
MAYG-03	Rat_River	2.258	-3.437	2.744	2.362	2.876	2.674
FR-04	Rat_River	2.683	3.849	2.772	2.702	2.827	2.762
Average	Albian/Arctic Red (3)	1.976	2.682	**2.227**	2.032	**2.293**	2.207
Std. Dev.	Albian/Arctic Red (3)	0.362	6.362	**0.502**	0.383	**0.562**	0.459
Average	Atkinson_Pt. (5)	2.077	-2.466	**2.635**	2.199	**2.728**	2.555
Std. Dev.	Atkinson_Pt. (5)	0.163	0.866	**0.262**	0.180	**0.286**	0.225
Average	Husky (3)	2.450	-1.354	**3.477**	2.655	**3.552**	3.200
Std. Dev.	Husky (3)	0.274	0.770	**0.474**	0.278	**0.451**	0.338
Average	Kamik (7)	2.552	-3.121	**3.582**	2.752	**3.680**	3.283
Std. Dev.	Kamik (7)	0.310	3.703	**0.755**	0.378	**0.747**	0.558
Average	Martin_Creek (4)	2.464	-1.250	**3.453**	2.662	**3.567**	3.198
Std. Dev.	Martin_Creek (4)	0.202	0.278	**0.365**	0.224	**0.381**	0.285
Average	Mount_Goodenough (6)	2.040	1.600	**2.504**	2.141	**2.602**	2.445
Std. Dev.	Mount_Goodenough (6)	0.361	13.168	**0.530**	0.391	**0.584**	0.472
Average	Rat_River (3)	2.562	-0.261	**3.123**	2.674	**3.247**	2.991
Std. Dev.	Rat_River (3)	0.265	3.732	**0.632**	0.299	**0.686**	0.474
Average	all 33 samples	2.332	-1.140	**3.035**	2.475	**3.140**	2.873
Std. Dev.	all 33 samples	0.378	6.204	**0.698**	0.422	**0.721**	0.557
Average	Aklavik/Husky/Kamik Martin Ck (15)	2.549	-2.383	**3.535**	2.743	**3.647**	3.264
Std. Dev.	Aklavik/Husky/Kamik Martin Ck (15)	0.304	2.697	**0.557**	0.327	**0.560**	0.421
Average	AP/McGuire/MG/Rat R (15)	2.186	-0.661	**2.697**	2.295	**2.803**	2.616
Std. Dev.	AP/McGuire/MG/Rat R (15)	0.337	8.359	**0.485**	0.355	**0.528**	0.416

Table D.10 - Calculated rock matrix thermal conductivity (W/mK) for pre-rift sandstones based on averaged heptane-saturated thermal conductivity measurements

CONDUCTIVITY MODELS:
KP - PARALLEL (WEIGHTED ARITHMETIC MEAN) MODEL
KS - SERIES (WEIGHTED HARMONIC MEAN) MODEL
KG - WEIGHTED GEOMETRIC MEAN MODEL
KEF - SELF-CONSISTENT (EFFECTIVE MEDIUM THEORY) MODEL
KHS - HASHIN & SHTRIKMAN (1962) FORMULAS (MAXWELL MODEL)
KSY - SUGAWARA & YOSHIZAWA (1961) MODEL (EXPONENT = 2.500)

SAMPLE #	ROCK FORMATION	KP	KS	KG	KEF	KHS	KSY
	Pre-Rift (Paleozoic) sandstones						
NAPF-08	Carboniferous	2.301	4.302	2.430	2.329	2.491	2.422
NUVO-01	Imperial	2.086	4.927	2.241	2.121	2.299	2.236
NUVO-02	Imperial	3.104	-11.238	3.511	3.183	3.767	3.427
KPKL-04	Permian	2.665	19.587	2.922	2.718	3.062	2.886
KPKL-05	Permian	2.831	-1.544	3.771	3.012	4.024	3.520
KPKO-07	Permian	3.205	12.608	3.440	3.251	3.617	3.396
KPKO-08	Permian	2.671	5.200	2.814	2.701	2.899	2.797
NAPF-04	Permian_(Jungle_Ck)	2.447	-1.603	3.240	2.609	3.396	3.065
NAPF-05	Permian_(Jungle_Ck)	2.750	-1.427	3.717	2.938	3.938	3.460
Average	Imperial (2)	2.595	-3.156	**2.876**	2.652	**3.033**	2.832
Std. Dev.	Imperial (2)	0.720	11.430	**0.898**	0.751	**1.038**	0.842
Average	Permian (6)	2.762	5.470	**3.317**	2.872	**3.489**	3.187
Std. Dev.	Permian (6)	0.252	8.912	**0.399**	0.241	**0.457**	0.312
Average	all 9 samples	2.673	3.424	**3.121**	2.762	**3.277**	3.023
Std. Dev.	all 9 samples	0.359	8.946	**0.551**	0.377	**0.625**	0.473

Table D.11 - Calculated rock matrix thermal conductivity (W/mK) for post-rift mudrocks based on averaged heptane-saturated thermal conductivity measurements

CONDUCTIVITY MODELS:
KP - PARALLEL (WEIGHTED ARITHMETIC MEAN) MODEL
KS - SERIES (WEIGHTED HARMONIC MEAN) MODEL
KG - WEIGHTED GEOMETRIC MEAN MODEL
KEF - SELF-CONSISTENT (EFFECTIVE MEDIUM THEORY) MODEL
KHS - HASHIN & SHTRIKMAN (1962) FORMULAS (MAXWELL MODEL)
KSY - SUGAWARA & YOSHIZAWA (1961) MODEL (EXPONENT = 2.500)

SAMPLE #	ROCK FORMATION	KP	KS	KG	KEF	KHS	KSY
	Post-Rift (Upper Cretaceous-Cenozoic) mudrocks						
ADL-04	Aklak	1.374	-2.157	1.777	1.478	1.755	1.786
ADL-05	Aklak	1.886	-1.152	2.653	2.057	2.649	2.522
TUKF-01	Fish_River	1.080	52.353	1.290	1.140	1.271	1.338
KUG-01	Kugmallit	1.728	5.349	1.900	1.769	1.937	1.905
UNRL-03	Kugmallit	1.188	-185.101	1.413	1.249	1.402	1.451
UNRLA-05	Kugmallit	1.348	-32.109	1.594	1.413	1.598	1.619
IVK-04	Richards	1.469	-0.838	2.211	1.651	2.087	2.123
IVK-05	Richards	1.353	7.427	1.543	1.403	1.553	1.568
IVK-07	Richards	1.404	-57.921	1.648	1.466	1.658	1.670
IVK-08	Richards	1.618	-8.134	1.924	1.692	1.955	1.925
IVKK-01	Richards	1.146	40.338	1.359	1.205	1.347	1.401
MAL-01	Richards	1.106	2.173	1.209	1.135	1.208	1.240
TAGC-02	Richards	1.460	-2.276	1.874	1.564	1.864	1.873
UNRLA-09	Richards	1.050	-5.332	1.307	1.124	1.273	1.361
KANG-03	Smoking_Hills	0.746	0.832	0.764	0.752	0.762	0.777
KPKL-01	Smoking_Hills	0.732	0.777	0.741	0.735	0.740	0.749
KPKO-01	Smoking_Hills	0.805	0.867	0.818	0.809	0.817	0.826
KPKO-02	Smoking_Hills	0.807	0.874	0.821	0.811	0.819	0.829
NATK-02	Smoking_Hills	0.621	2.644	0.746	0.666	0.712	0.838
ELL-03	Taglu	1.481	22.943	1.709	1.539	1.728	1.725
ELL-04	Taglu	1.506	-7.440	1.805	1.581	1.822	1.815
ELL-05	Taglu	1.392	11.555	1.600	1.446	1.612	1.623
KUM-01	Taglu	0.929	3.606	1.076	0.974	1.058	1.131
TAGC-03	Taglu	1.165	3.373	1.307	1.205	1.306	1.341
TAGC-05	Taglu	1.558	-7.336	1.863	1.634	1.887	1.869
Average	Aklak (2)	1.630	-1.655	**2.215**	1.768	**2.202**	2.154
Std. Dev.	Aklak (2)	0.362	0.711	**0.619**	0.409	**0.632**	0.520
Average	Kugmallit (3)	1.421	-70.620	**1.636**	1.477	**1.646**	1.658
Std. Dev.	Kugmallit (3)	0.277	100.897	**0.246**	0.266	**0.271**	0.230
Average	Richards (8)	1.326	-3.070	**1.634**	1.405	**1.618**	1.645
Std. Dev.	Richards (8)	0.203	26.904	**0.348**	0.228	**0.330**	0.309
Average	Smoking_Hills(5)	0.742	1.199	**0.778**	0.755	**0.770**	0.804
Std. Dev.	Smoking_Hills(5)	0.076	0.809	**0.039**	0.060	**0.047**	0.039
Average	Taglu (6)	1.339	4.450	**1.560**	1.397	**1.569**	1.584
Std. Dev.	Taglu (6)	0.244	11.616	**0.308**	0.256	**0.323**	0.290
Average	all 25 samples	1.238	-6.187	**1.478**	1.300	**1.473**	1.492
Std. Dev.	all 25 samples	0.334	42.356	**0.488**	0.365	**0.488**	0.459
Average	all but Smoking Hills	1.362	-8.034	**1.653**	1.436	**1.649**	1.664
Std. Dev.	all but Smoking Hills	0.242	47.414	**0.373**	0.265	**0.372**	0.332

Table D.12 - Calculated rock matrix thermal conductivity (W/mK) for syn-rift mudrocks based on averaged heptane-saturated thermal conductivity measurements

CONDUCTIVITY MODELS:
KP - PARALLEL (WEIGHTED ARITHMETIC MEAN) MODEL
KS - SERIES (WEIGHTED HARMONIC MEAN) MODEL
KG - WEIGHTED GEOMETRIC MEAN MODEL
KEF - SELF-CONSISTENT (EFFECTIVE MEDIUM THEORY) MODEL
KHS - HASHIN & SHTRIKMAN (1962) FORMULAS (MAXWELL MODEL)
KSY - SUGAWARA & YOSHIZAWA (1961) MODEL (EXPONENT = 2.500)

SAMPLE #	ROCK FORMATION	KP	KS	KG	KEF	KHS	KSY
	Syn-Rift (Jurassic-Lower Cretaceous) mudrocks						
BLR-02	Albian_flysch	1.295	1.538	1.330	1.304	1.334	1.338
FR-01	Albian_flysch	0.964	1.068	0.983	0.970	0.983	0.992
FR-02	Albian_flysch	1.135	1.347	1.168	1.145	1.169	1.179
ATG-02	Arctic_Red	1.458	20.643	1.682	1.515	1.699	1.700
ATG-03	Arctic_Red	1.432	-592.020	1.673	1.494	1.687	1.693
KPKO-05	Husky	1.899	3.037	1.996	1.922	2.027	1.998
KPKO-06	Husky	1.706	2.220	1.763	1.720	1.778	1.768
ONGC-01	Husky	1.800	-1.498	2.416	1.941	2.432	2.340
PARF-02	McGuire	1.341	2.690	1.455	1.371	1.464	1.475
PARN-01	McGuire	1.150	1.575	1.207	1.166	1.209	1.224
PARN-02	McGuire	1.276	3.486	1.418	1.314	1.424	1.445
NAPF-02	Mount_Goodenough	2.143	-2.424	2.692	2.262	2.800	2.612
TUKF-05	Mount_Goodenough	1.476	14.156	1.693	1.531	1.712	1.710
MAYG-01	Rat_River	1.819	11.942	2.040	1.871	2.091	2.039
MAYG-04	Rat_River	1.441	2.198	1.521	1.461	1.532	1.533
FR-03	Rat_River	1.049	1.343	1.093	1.061	1.093	1.110
FR-05	Rat_River	1.250	1.719	1.310	1.266	1.314	1.325
Average	Albian_flysch (3)	1.131	1.318	**1.160**	1.140	**1.162**	1.170
Std. Dev.	Albian_flysch (3)	0.166	0.236	**0.174**	0.167	**0.176**	0.173
Average	Arctic_Red (2)	1.445	-285.689	**1.678**	1.505	**1.693**	1.697
Std. Dev.	Arctic_Red (2)	0.018	433.218	**0.006**	0.015	**0.008**	0.005
Average	Husky (3)	1.802	1.253	**2.058**	1.861	**2.079**	2.035
Std. Dev.	Husky (3)	0.097	2.417	**0.331**	0.122	**0.330**	0.288
Average	McGuire (3)	1.256	2.584	**1.360**	1.284	**1.366**	1.381
Std. Dev.	McGuire (3)	0.097	0.960	**0.134**	0.106	**0.137**	0.137
Average	Mount_Goodenough (2)	1.810	5.866	**2.193**	1.897	**2.256**	2.161
Std. Dev.	Mount_Goodenough (2)	0.472	11.724	**0.706**	0.517	**0.769**	0.638
Average	Rat_River (4)	1.390	4.301	**1.491**	1.415	**1.508**	1.502
Std. Dev.	Rat_River (4)	0.328	5.106	**0.406**	0.345	**0.428**	0.398
Average	all 17 samples	1.449	-30.999	**1.614**	1.489	**1.632**	1.617
Std. Dev.	all 17 samples	0.326	144.694	**0.464**	0.353	**0.486**	0.440

Table D.13 - Calculated rock matrix thermal conductivity (W/mK) for pre-rift mudrocks based on averaged heptane-saturated thermal conductivity measurements

CONDUCTIVITY MODELS:
KP - PARALLEL (WEIGHTED ARITHMETIC MEAN) MODEL
KS - SERIES (WEIGHTED HARMONIC MEAN) MODEL
KG - WEIGHTED GEOMETRIC MEAN MODEL
KEF - SELF-CONSISTENT (EFFECTIVE MEDIUM THEORY) MODEL
KHS - HASHIN & SHTRIKMAN (1962) FORMULAS (MAXWELL MODEL)
KSY - SUGAWARA & YOSHIZAWA (1961) MODEL (EXPONENT = 2.500)

SAMPLE #	ROCK FORMATION	KP	KS	KG	KEF	KHS	KSY
	Pre-Rift (Paleozoic) mudrocks						
NAPF-09	Carboniferous	2.056	22.380	2.304	2.112	2.382	2.290
NUVO-03	Imperial	1.691	4.787	1.853	1.730	1.887	1.860
NAPF-03	Permian_(Jungle_Ck)	2.153	-6.884	2.526	2.235	2.633	2.487
UNAB-03	Permian_(Jungle_Ck)	1.861	4.002	1.999	1.893	2.039	2.001
UNAB-04	Permian_(Jungle_Ck)	1.659	2.487	1.741	1.679	1.760	1.748
BVR-01	Permian_(Longstick)	1.959	4.374	2.104	1.992	2.152	2.103
BVR-02	Permian_(Longstick)	1.855	6.301	2.039	1.898	2.088	2.039
ULUA-02	Permian_(Longstick)	2.064	2.127	2.072	2.066	2.075	2.072
ULUA-03	Permian_(Longstick)	1.908	25.827	2.155	1.965	2.218	2.147
Average	Permian_(Jungle_Ck) (3)	1.891	-0.132	**2.089**	1.936	**2.144**	2.079
Std. Dev.	Permian_(Jungle_Ck) (3)	0.248	5.897	**0.400**	0.280	**0.446**	0.376
Average	Permian_(Longstick) (4)	1.947	9.657	**2.093**	1.980	**2.133**	2.090
Std. Dev.	Permian_(Longstick) (4)	0.089	10.914	**0.049**	0.069	**0.066**	0.046
Average	all 9 samples	1.912	7.267	**2.088**	1.952	**2.137**	2.083
Std. Dev.	all 9 samples	0.167	10.299	**0.232**	0.177	**0.258**	0.218

Table D.14 - Calculated rock matrix thermal conductivity (W/mK) for pre-rift carbonates based on averaged heptane-saturated thermal conductivity measurements

CONDUCTIVITY MODELS:
KP - PARALLEL (WEIGHTED ARITHMETIC MEAN) MODEL
KS - SERIES (WEIGHTED HARMONIC MEAN) MODEL
KG - WEIGHTED GEOMETRIC MEAN MODEL
KEF - SELF-CONSISTENT (EFFECTIVE MEDIUM THEORY) MODEL
KHS - HASHIN & SHTRIKMAN (1962) FORMULAS (MAXWELL MODEL)
KSY - SUGAWARA & YOSHIZAWA (1961) MODEL (EXPONENT = 2.500)

SAMPLE #	ROCK FORMATION	KP	KS	KG	KEF	KHS	KSY
	Pre-Rift (Paleozoic) carbonates						
MAYJ-05	Arnica_(Road_R)	2.500	3.299	2.569	2.515	2.608	2.563
NAPF-06	Carboniferous	2.385	4.624	2.522	2.414	2.589	2.511
NAPF-07	Carboniferous	2.102	3.439	2.207	2.126	2.249	2.204
MAYJ-01	Landry	2.541	5.512	2.696	2.573	2.781	2.680
MAYJ-02	Landry	2.593	3.877	2.688	2.613	2.745	2.679
MAYJ-03	Landry	2.128	3.101	2.212	2.147	2.248	2.210
MAYJ-04	Landry	2.674	5.007	2.810	2.702	2.893	2.794
NATK-03	M._Ordovician	2.410	4.903	2.554	2.441	2.626	2.542
NUNAA-01	Ronning	2.613	6.830	2.794	2.651	2.895	2.773
NUNAA-02	Ronning	2.310	4.818	2.455	2.341	2.522	2.445
PIKM-01	Ronning	2.551	-7.356	2.955	2.634	3.128	2.891
Average	Carboniferous (2)	2.244	4.032	**2.365**	2.270	**2.419**	2.358
Std. Dev.	Carboniferous (2)	0.200	0.838	**0.223**	0.204	**0.240**	0.217
Average	Landry (4)	2.484	4.374	**2.602**	2.509	**2.667**	2.591
Std. Dev.	Landry (4)	0.244	1.090	**0.266**	0.247	**0.286**	0.260
Average	Ronning (3)	2.491	1.431	**2.735**	2.542	**2.848**	2.703
Std. Dev.	Ronning (3)	0.160	7.676	**0.255**	0.174	**0.306**	0.231
Average	all 11 samples	2.437	3.459	**2.587**	2.469	**2.662**	2.572
Std. Dev.	all 11 samples	0.191	3.749	**0.236**	0.197	**0.268**	0.224
Average	dolomite (Arnica, Ronning) (5)	2.477	2.499	**2.665**	2.516	**2.756**	2.643
Std. Dev.	dolomite (Arnica, Ronning) (5)	0.119	5.650	**0.204**	0.131	**0.251**	0.183
Average	limestone (Landry, Carboniferous) (6)	2.404	4.260	**2.523**	2.429	**2.584**	2.513
Std. Dev.	limestone (Landry, Carboniferous) (6)	0.243	0.940	**0.259**	0.245	**0.278**	0.254

Table D.15 - Calculated rock matrix thermal conductivity (W/mK) for three post-rift sandstones based on averaged water-saturated thermal conductivity measurements

CONDUCTIVITY MODELS:
KP - PARALLEL (WEIGHTED ARITHMETIC MEAN) MODEL
KS - SERIES (WEIGHTED HARMONIC MEAN) MODEL
KG - WEIGHTED GEOMETRIC MEAN MODEL
KEF - SELF-CONSISTENT (EFFECTIVE MEDIUM THEORY) MODEL
KHS - HASHIN & SHTRIKMAN (1962) FORMULAS (MAXWELL MODEL)
KSY - SUGAWARA & YOSHIZAWA (1961) MODEL (EXPONENT = 2.500)

SAMPLE #	ROCK FORMATION	KP	KS	KG	KEF	KHS	KSY
Post-Rift (Upper Cretaceous-Cenozoic) sandstones							
ADL-01	Aklak	2.201	4.948	2.574	2.360	2.451	3.060
ADL-06	Aklak	2.338	5.184	2.719	2.496	2.600	3.175
ADL-07	Aklak	1.879	2.835	2.083	1.971	2.016	2.454
Average	Aklak (3)	2.139	4.322	**2.459**	2.276	**2.356**	2.896
Std. Dev.	Aklak (3)	0.236	1.293	**0.333**	0.272	**0.303**	0.387